

Permit¹

Environmental Protection Act 1994
Environmental Authority (Mining Activities) Non Code Compliant Level 1 Mining Project

Permit¹ Number: MIN100883909 – Cheetham Salt Limited

*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 257** of the Environmental Protection Act 1994.*

Takes Effect From: 20 July 2012

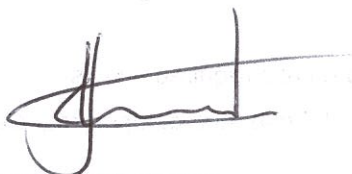
Details

Permit Holder(s)	Name	Address
Principal Holder	Cheetham Salt Limited	Level 4, 565 Bourke Street Melbourne VIC 4000

Activity(s)	Location(s)
Level 1 mining project, other than a level 1 mining project mentioned in items 1 to 11 <i>Environmental Protection Regulations 2008 – Schedule 6</i>	ML5783 ML5784 ML5785 ML5787 ML5788 ML5790 ML5796 ML5797
ERA 31 Mineral Processing <i>Environmental Protection Regulations 2008 – Schedule 2</i>	ML5798 ML5799 ML5822
ERA 8 Chemical Storage <i>Environmental Protection Regulations 2008 – Schedule 2</i>	

The anniversary date of the environmental authority is **29 July**.

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



Christopher Loveday
Delegate of administering authority
Environmental Protection Act 1994
20 July 2012

Enquiries:
Permit and Licence Management
Implementation & Support Unit
GPO Box 2454
Brisbane Queensland 4001

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

Department interest: General

A1 Financial assurance

The environmental authority holder is to give the administering authority a financial assurance in the amount and form and at a time required by the administering authority prior to the commencement of activities proposed under this environmental authority. This financial assurance is in respect of the authority holder's rehabilitation obligation.

Note: The calculation of financial assurance for condition A1 must be in accordance with the administering authority's Guideline – Calculating financial assurance for mining projects, 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.

A3 Maintenance of measures, plant and equipment

The environmental authority holder must ensure:

- a) that all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority are installed;
- b) that such measures, plant and equipment are maintained in a proper condition; and
- c) that such measures, plant and equipment are operated in a proper manner.

A4 Monitoring and records

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, using the *Monitoring & Sampling Manual 2009* (administering authority 2010)

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or more recent editions.

- A6** Where a condition of this environmental authority requires compliance with a standard published externally to this environmental authority and the standard is amended or changed subsequent to the issues of this environmental authority the holder this environmental authority must:
- a) comply with the amended or changed standard within 2 years of the amendment or change being made, unless a different period is specified in the amended standard or relevant legislation; and
 - b) until compliance with the amended or changed standard is achieved, continue to remain in compliance with the standard that was current immediately prior to the relevant amendment or change.

A7 Storage and handling of flammable and combustible liquids

Spillage of all flammable and combustible liquids 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 the current version of AS 1940 - *Storage and Handling of Flammable and Combustible Liquids*.

- A8** Spillage of all chemicals must be contained within an on-site containment system and controlled in a manner that prevents environmental harm.

A9 Notification of emergencies, incidents and exceptions

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 administering authority must be notified of the release by telephone, facsimile or email.

- A10** The notification of emergencies or incidents as required by condition A9 must include but not be limited to the following:

- a) the holder of the environmental authority;
- b) the location of the emergency or incident;
- c) the number of the environmental authority;
- d) the name and telephone number of the designated contact person;
- e) the time of the release;
- f) the time the holder of the environmental authority became aware of the release;
- g) the suspected cause of the release;
- h) the environmental harm caused, threatened, or suspected to be caused by the release; and
- i) actions taken to prevent any further release and mitigate any environmental harm caused by the release.

A11 Not more than fourteen days following the initial notification of an emergency or incident, written advice must be provided of the information supplied in accordance with condition A9 in relation to:

- a) proposed actions to prevent a recurrence of the emergency or incident; and
- b) outcomes of actions taken at the time to prevent or minimise environmental harm.

A12 As soon as practicable, but not more than six weeks following the conduct of any environmental monitoring performed in relation to the 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, written advice must be provided of the results of any such monitoring performed to the administering authority.

A13 Definitions

Words and phrases used throughout this environmental authority are defined in the Definitions section of this 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 policies must be used.

Department interest: Air

B1 The release of dust or particulate matter or both resulting from the mining or mineral processing activity must not cause an environmental nuisance, at any sensitive or commercial place.

B2 Subject to condition B3, the release of noxious or offensive odour(s) or any other noxious or offensive airborne contaminant(s) resulting from the mining or mineral processing activity must not cause an environmental nuisance at any sensitive or commercial place.

B3 When requested by the administering authority, monitoring of noxious or offensive odour(s) or any other noxious or offensive air borne contaminant releases to the atmosphere must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint of air contamination (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) and the results must be notified within 14 days to the administering authority following completion of monitoring.

B4 If monitoring indicates Condition B2 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.

- B5** Contaminants must not be released to the atmosphere, other than in accordance with the following;
- from a release points shown in Table 1- *Release of Contaminants Table* and
 - in accordance with the criteria shown in Table 1- *Release of Contaminants Table*; and
 - directed vertically upwards, with no impedance (excluding the crusher dust collector).
- B6** If the environmental authority holder can provide evidence through monitoring that the limits in Table 1- *Release of Contaminants Table* are not being exceeded then the holder is not in breach of B5.
- Monitoring must include:
- monitoring provisions for the release points listed in Table 1 - *Release of Contaminants Table* must comply with AS 4323.1 'Stationary source emissions Method 1: Selection of sampling positions' of 1995 or current version.
 - the following tests must be performed for each required determination specified in Table 1- *Release of Contaminants Table*:
 - gas velocity and volume flow rate; and
 - temperature;
 - particulates and
 - water vapour concentration (moisture content),
 - any sampling of contaminants released to the atmosphere must be representative of the emissions;
 - during the sampling period the following additional information must be gathered:
 - relevant process rate at the time of sampling; and
 - operating or mixing temperature of contaminant releases; and
 - reference to the actual test methods and accuracies.

Table 1 - Release of Contaminants Table

Release Point	Minimum Release Height (m)	Minimum Velocity (m/sec)	Contaminant Released	Maximum Release Limit	Sampling Frequency
Refinery Dust Collector Exhaust – Wet Scrubber	9.5	25	*N/A	*N/A	*N/A
Crusher Dust Collector	5	*N/A	*N/A	*N/A	*N/A

Note (*) limits are to be provided by 30 November 2012.

Department interest: Water

- C1** Contaminates that will or have the potential to cause environmental harm must not be released directly or indirectly to any waters except as permitted under the conditions of this environmental authority.
- C2** Process water and stormwater contaminated by mining activities must be monitored at the monitoring points and frequencies defined in Table 2 - *End of Pipe Monitoring / Release Point Locations and Frequency Table* and comply with the contaminant limits defined in Table 3 - *Contaminant Compliance Limits Table*.

Table 2 - End of Pipe Monitoring / Release Point Locations and Frequency Table

Monitoring / Release Point	Monitoring Frequency	Easting (GDA94)	Northing (GDA94)
Monitoring Point M1 (Release from brine collector drains)	Daily when discharging	Bajool: 267786 Port Alma: 275350	Bajool: 7386115 Port Alma: 7388269
Monitoring Point M2 (Release from brine collector drains)	Daily when discharging	Port Alma: 275350	Port Alma: 7388269
Monitoring Point M3 (Release from triple interceptor servicing vehicle wash down pad)	Quarterly	Bajool: 267945	Bajool: 7385747

Table 3 - Contaminant Compliance Limits Table

Quality characteristic	Units	Minimum	Annual Median	Maximum	Monitoring Frequency
pH	pH units	6.5	-	8.5	Daily during controlled release
Electrical Conductivity @ 25°C	µS/cm	-	-	190	
Temperature #	°C	NA	-	N/A	
Dissolved Oxygen	mg/L	2.0	-	-	
Dissolved Oxygen #	% Saturation	-	-	N/A	
Total Nitrogen (as N) *	mg/L	-	12.0 (M1) 19 (M2)	26.0 (M1) 30.8 (M2)	At the commencement of controlled release and thereafter weekly during controlled release
Ammonia (as N) *	mg/L	-	1.3 (M1) 2.5 (M2)	3.2 (M1) 2.9 (M2)	
Nitrate (as N)	mg/L	-	-	72	
Aluminium (total) *	µg/L	-	-	2100 (M1) 250 (M2)	
Suspended Solids	mg/L	-	-	50	
Turbidity	NTU	-	-	80	
Chlorophyll-a	µg/L	-	-	15	

Note (*) Different total compliance limits apply at M1 and M2 - refer to monitoring points as identified in Table 2

Note (#) No limits apply however parameters are required to be monitored and records kept.

Note – Based on the nature of operations at the time of assessment, the maximum limits for Ammonia and Total Nitrogen have been set higher than *QLD Water Quality Guidelines 2009*. Taking into consideration the infrequent and low volume discharge (based on data submitted with Application dated 15 November 2011), the administering authority has allowed for higher maximum limits. However an annual mean limit has been set for Ammonia and Total Nitrogen to allow for long term compliance. The mean should be determined yearly and reported with the annual return.

C3 The release of excess saline waters from concentration and crystalliser ponds must only occur from the release points specified in Tables 4 – *Release Point Locations for Port Alma Site* and Table 5 – *Release Point Locations for Bajool Site*, with locations depicted in Figure 1 – *Port Alma Release Points* and Figure 2 – *Bajool Release points* attached to this environmental authority. Excess water from these release point locations are not required to be monitored.

Table 4 – Release Point Locations for Port Alma Site

Release point (RP)	Contaminant source and Location	Easting (GDA94)	Northing (GDA94)
RP 1 (QPR1)	Pond D3A	56274905	7386468
RP 2 (QPR2)	D3A	56275107	7386197
RP 3 (QPR3)	D3B	56275332	7385981
RP 4 (QPR4)	D1B	56274007	7385463
RP 5 (QPR5)	D1B	56273525	7385520
RP 6 (QPR6)	D1B	56273325	7385568
RP 7 (QPR7)	D1A	56273080	7385628
RP 8 (QPR8)	12	56272684	7385708
RP 9 (QPR9)	12	56272641	7385507
RP 10 (QPR10)	D1A	56272753	7384712
RP 11 (QPR11)	D1A	56272603	7384302
RP 12 (QPR12)	D1A	56272696	7384067
RP 13 (QPR13)	C4B	56273911	7383221
RP 14 (QPR14)	C4B	56273326	7383956
RP 15 (QPR15)	C4B	56273367	7384000
RP 16 (QPR16)	C4B	56273629	7384146
RP 17 (QPR18)	C2	56277315	7382495
RP 18 (QPR20)	C4B	56273269	7384054
RP 19 (QPR21)	D2A	56273909	7384799
RP 20 (QPR22)	D1A	56272870	7385273
RP 21 (QPR27)	C4B	56273784	7383361

RP 22 (QP01)	D1A	56273007	7384144
RP 23 (QP02)	D2A	56274078	7384825
RP 24 (QP03)	C3	56275465	7384713
RP 25 (QP04)	C1	56274241	7383134
RP 26 (QPX1)	Crystallisers B1+B2+B3	56277752	7389982
RP 27 (QPX2)	B1+B2+B3+B4+B5+B6	56277557	7390168
RP 28 (QPX3)	B4+B5+B6	56277363	7390352
RP 29 (QPX4)	B4+B5+B6	56277128	7390116
RP 30 (QPX5)	B4+B5+B6	56276877	7389858
RP 29 (QPX6)	B7+B8	56276519	7389863
RP 30 (QPX7)	B8	56276328	7390047
RP 29 (QPX8)	B8+A8	56275989	7389702
RP 30 (QPX9)	A8	56275627	7389315
RP 29 (QPX10)	A7+A8	56275822	7389132
RP 30 (QPX11)	A4+A5+A6	56275823	7388762
RP 29 (QPX12)	A4+A5+A6	56275512	7388437
RP 30 (QPX13)	A4+A5+A6	56275368	7388273
RP 29 (QPX14)	A1+A2+A3+A4+A5+A6	56275560	7388087
RP 30 (QPX15)	A1+A2A3	56275754	7387903
RP 29 (QPX16)	Brine Launder	56276759	7388856
RP 30 (QPX17)	Brine Launder	56276770	7388864
RP 30 (QPW1)	Harvest washplant	56276558	7389135

Table 5 – Release Point Locations for Bajool Site

Release point (RP)	Contaminant source and Location	Easting (GDA94)	Northing (GDA94)
RP 1 (QJR1)	Pond 4B	56265254	7385434
RP 2 (QJR2)	4A	56265387	7385654
RP 3 (QJR3)	5A	56266431	7385549
RP 4 (QJR4)	3	56265807	7386354
RP 5 (QJR6)	2A	56267774	7386510
RP 6 (QJR7)	D	56267839	7386524
RP 7 (QJR8)	C	56269216	7386953
RP 8 (QJR9)	C	56269869	7388305
RP 9 (QJR10)	B	56268742	7388791

RP 10 (QJR11)	HP3	56267791	7386148
RP 11 (QJR12)	Stormwater drain	56266570	7385563
RP 12 (QJR13)	Stormwater drain	56267947	7385791
RP 13 (QJO1)	3	56266289	7386883
RP 14 (QJO2)	2B	56266652	7386607
RP 15 (QJO3)	1	56266526	7387109
RP 16 (QJO4)	A	56268122	7388101
RP 17 (QJX1)	Crystalliser X6	56267779	7386116
RP 18 (QJX2)	X7	56267930	7385949
RP 19 (QJX3)	X8	56267929	7385978
RP 20 (QJX4)	X8	56267908	7386132
RP 21 (QJX5)	X8	56268143	7386176
RP 22 (QJX6)	X10	56268165	7386179
RP 23 (QJX7)	X10	56268432	7386217
RP 24 (QJX8)	X10	56268469	7386020
RP 25 (QJX9)	X9	56268475	7386000
RP 26 (QJX10)	X9	56268496	7385842

- C4** The release of hydrocarbon contaminants to waters must not to exceed trigger values as stated in Table 6 – *Hydrocarbon Contaminant Trigger Values*. Where trigger values in Table 6 – *Hydrocarbon Contaminant Trigger Values* are exceeded, additional analyses outlined in Table 7 – *Hydrocarbon Contaminant Receiving Environment Investigation Limits* need to be undertaken. Additional analyses must occur from the same samples collected for the initial assessment.

Table 6 – Hydrocarbon Contaminant Trigger Values

Quality characteristic	Trigger Value (mg/L)	Monitoring Locations	Monitoring frequency
Petroleum hydrocarbons (C6-C9)*	20	M3	At the commencement of controlled release and thereafter weekly during controlled release
Petroleum hydrocarbons (C10-C36)	100	M3	

Note (*) The Volatile Organic Carbon (VOC) fraction (i.e. the C6-C9 fraction) requires specialised sampling technique and sampling vessel – refer to the most recent edition of the *Monitoring and Sampling Manual* (2009) for instruction.

Table 7 – Hydrocarbon Contaminant Receiving Environment Investigation Limits

Quality characteristic (Water)	Investigation Limit (µg/L)	Monitoring frequency
Benzene	500	When triggered from Table 6 – C6-C6 category
Toluene	180	
Ethylbenzene	5	
<i>o</i> -xylene	350	
<i>m</i> -xylene	75	
<i>p</i> -xylene	200	
Quality characteristic (Water)	Investigation Limit (µg/L)	Monitoring frequency
Anthracene	0.01	When triggered from Table 6 – C10-C36 category
Benzo(<i>a</i>)pyrene	0.1	
Fluoranthene	1	
Naphthalene	16	
Phenanthrene	0.6	
Quality characteristic (Sediment)	Investigation Limit (mg/kg)	Monitoring frequency
Anthracene	85	When triggered from Table 6 – C10-C36 category
Benzo(<i>a</i>)pyrene	430	
Fluoranthene	19	
Naphthalene	160	
Phenanthrene	240	

- C5** If trigger values as stated in Table 7 - *Hydrocarbon Contaminant Receiving Environment Investigation Limits* are exceeded, the authority holder must, within 28 days of a release provide a report to the administering authority detailing:
- a) the reason for the release
 - b) the location of the release
 - c) all water quality monitoring results and associated metadata (e.g. discharge rate, timing with tidal cycle, etc.)
 - d) any general observations and supporting photographs
 - e) all calculations used to derive conclusions from raw data
 - f) any other matters pertinent to the water release event.
- C6** If the Chlorophyll-a limit as stated in Table 3 - *Contaminant Compliance Limits Table* are exceeded, algal cell counts and algal species identification must be undertaken. Where an exceedence has been identified, results must be provided to the administering authority within 28 days.
- Note:** Reference is made to the *Monitoring & Sampling Manual 2009* (administering authority 2010) or more recent editions for advice on sampling, storage and preservation requirements for chlorophyll-a and algae sampling.
- C7** The controlled release of contaminants to waters must only take place in accordance with Cheetham Salt's Standard Operating Procedure (SOP), *Procedure for Process, Bitterns, Algal and Effluent Water Storage and Release, Revision 4, dated 1 April 2009*.
- Note:** Where there is any inconsistency between the SOP and the environmental authority (EA), the EA prevails to the extent of any inconsistency.
- C8** All reasonable and practicable erosion protection measures and sediment control measures must be implemented and maintained to minimise erosion and the release of sediment, including but not limited to release waters must not cause erosion of bed or banks in the receiving waters, or cause sediment build up in the receiving waters.
- C9** The holder of this environmental authority must conduct inspections of earthen bunds at a minimum frequency of once per month to check their integrity and implement control measures where necessary.
- C10** Spillage of all chemicals and fuels must be contained within an on-site containment system and controlled and maintained in accordance with Section 5.9 of AS 1940 - *Storage and Handling of Flammable and Combustible Liquids of 1993*.
- C11** Any spillage of wastes, contaminants or other materials must be cleaned up as quickly as practicable to minimise the release of wastes, contaminants or materials to any stormwater drainage system or receiving waters.

C12 The maintenance and cleaning of any vehicles, plant or equipment must not be carried out in areas from which contaminants can be released into any receiving waters.

C13 All wastewater from the vehicle washdown pad must be treated prior to being released to waters.

C14 The release of wastewater to the environment is not permitted from any sewage treatment facility at the licensed place.

C15 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 with each annual return:

- 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 the contaminants 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 exceedance with the conditions of this environmental authority.
- g) Water quality monitoring data must be provided to the administering authority in the specified electronic format upon request.

C16 All determinations of water quality must be:

- a) performed by a person or body possessing appropriate experience and qualifications to perform the required measurements;
- b) made in accordance with methods prescribed in the latest edition of the administering authority *Monitoring and Sampling Manual 2009* or latest edition;
- c) collected from the monitoring locations identified within this environmental authority, within 10 hours of each other where possible;
- d) carried out on samples representative of the water body or discharge; and
- e) laboratory testing must be undertaken using a laboratory accredited (e.g. NATA) for the method of analysis being used.

Note: The Monitoring and Sampling Manual must be followed and where it is not followed because of exceptional circumstances this should be explained and reported with the results.

- C17** The release of contaminants directly or indirectly to waters:
- a) must not produce any visible discolouration of receiving waters; and
 - b) must not produce any slick or other visible or odorous evidence of oil, grease or petrochemicals nor contain visible floating oil, grease, scum, litter or other objectionable matter.

C18 Saline drainage

The holder of this environmental authority must ensure proper and effective measures are taken to avoid or otherwise minimise the generation and/or release of saline drainage.

C19 Acid rock drainage

The holder of this environmental authority must ensure proper and effective measures are taken to avoid or otherwise minimise the generation and/or release of acid rock drainage.

Department interest: Noise and vibration

- D1** Subject to Conditions D2 and D3 noise from the mining activity must not cause an environmental nuisance, at any sensitive or commercial place.
- D2** When requested by the administering authority, noise 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.
- D3** If the environmental authority holder can provide evidence through monitoring that the limits defined in Table 8 – *Noise limits Table*, is not being exceeded then the holder is not in breach of Condition D1.
- Monitoring must include:
- a) LA, max adj, T ; and
 - b) the level and frequency of occurrence of impulsive or tonal noise; and
 - c) atmospheric conditions including wind speed and direction; and
 - d) location, date and time of recording.

Table 8 - Noise Limits Table

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'						
LA10, adj, 10mins	b/g+5	b/g+5	b/g+5	b/g+5	b/g+5	b/g+5
LA10, adj, 10mins	b/g+10	b/g+10	b/g+5	b/g+10	b/g+10	b/g+5
Noise measured at a 'Commercial place'						
LA10, adj, 10mins	b/g+10	b/g+10	b/g+10	b/g+10	b/g+10	b/g+10
LA10, adj, 10mins	b/g+15	b/g+15	b/g+10	b/g+15	b/g+15	b/g+10

NOTE: The method of measurement and reporting of noise levels must comply with the latest editions of the administering authority's Noise Manual.

D4 If monitoring indicates exceedence of the limits in Table 8 – *Noise Limits Table*, then the environmental authority holder must:

- a) address the complaint including the use of appropriate dispute resolution if required; or
- 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 administering authority's *Noise Measurement Manual*.

Department interest: Waste

- E1** All regulated waste including, but not limited to waste oil, tyres, lead based batteries and asbestos: must be disposed of in accordance with the *Environmental Protection Act 1994*.
- E2** Regulated waste must be removed from the licensed place by a person that can legally transport this waste under the *Environmental Protection Act 1994*.
- E3** Regulated waste must only be removed to a place that can legally accept this waste under the *Environmental Protection Act 1994*.
- E4** Tyres stored awaiting disposal should be stockpiled in volumes less than 3m in height and 200m² in area and at least 10m from any other tyre storage area or combustible or flammable material, including vegetation.

- E5** 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.
- E6** All other waste from the site must be removed to a facility licensed to accept such waste, unless approved by the administering authority to be remediate at an approved remediation area on site.
- E7** No burning of waste is permitted onsite.

Department interest: Land

F1 Preventing contaminant release to land

Contaminates that will or have the potential to cause environmental harm must not be released directly or indirectly to any lands except as permitted under the conditions of this environmental authority.

- F2** All areas significantly disturbed by mining activity must be rehabilitated to the final land use description as defined in Table 9 - *Final Land Use and Rehabilitation Schedule*.

Table 9 - Final Land Use and Rehabilitation Schedule

Tenure ID	Disturbance and Land Type	Projective surface area (ha)	Post-mine land description	Post mine land capacity classification	Reference site identification
ML5784	Low island, grassed land.	101.4	Low island, grassed land. Strategic Roads	VIII	A01= Easting 265759.71740 Northing 7385029.98195 A02= Easting 269727.4510, Northing 7385812.00014 A03= Easting 276660.82515 Northing 7388637.94673 A04= Easting 269955 Northing 7386022
ML5785	Low island, grassed land.	153.375	Low island, grassed land. Strategic Roads	VIII	A01= Easting 265759.71740 Northing 7385029.98195 A02= Easting 269727.4510, Northing 7385812.00014 A03= Easting 276660.82515 Northing 7388637.94673 A04= Easting 269955 Northing 7386022
ML5787	Crystallisers, workshop/office, mudflats,	2555.99	Mudflats Rehab roads Rehabilitation	VIII	A01= Easting 265759.71740 Northing 7385029.98195

	mangroves, concentrators		Pads Strategic Roads		A02= Easting 269727.4510, Northing 7385812.00014 A03= Easting 276660.82515 Northing 7388637.94673 A04= Easting 269955 Northing 7386022
ML5788	Crystallisers, mudflats, mangroves,	197.49	Mudflats Rehab roads Rehabilitation Pads	VIII	A01= Easting 265759.71740 Northing 7385029.98195 A02= Easting 269727.4510, Northing 7385812.00014 A03= Easting 276660.82515 Northing 7388637.94673 A04= Easting 269955 Northing 7386022
ML5796	Mudflats, mangroves, waterways.	2972	Mudflats, and waterways mangroves	VIII	A01= Easting 265759.71740 Northing 7385029.98195 A02= Easting 269727.4510, Northing 7385812.00014 A03= Easting 276660.82515 Northing 7388637.94673 A04= Easting 269955 Northing 7386022
ML5797	Mudflats, mangroves	495	Mudflats, mangroves	VIII	A01= Easting 265759.71740 Northing 7385029.98195 A02= Easting 269727.4510, Northing 7385812.00014 A03= Easting 27.6660.82515 Northing 7388637.94673 A04= Easting 269955 Northing 7386022
ML5798	Mudflats, mangroves, waterways.	429.9	Mudflats and waterways Rehab Roads Rehabilitation Pads	VIII	A01= Easting 265759.71740 Northing 7385029.98195 A02= Easting 269727.4510, Northing 7385812.00014 A03= Easting 276660.82515 Northing 7388637.94673 A04= Easting 269955 Northing 7386022
ML5799	Mudflats, mangroves, waterways.	155.2	Mudflats and waterways	VIII	A01= Easting 265759.71740 Northing 7385029.98195 A02= Easting 269727.4510, Northing 7385812.00014 A03= Easting 276660.82515 Northing 7388637.94673 A04= Easting 269955 Northing 7386022
ML5783	Administration	0.405	Mudflats Rehab roads	VIII	A01= Easting 265759.71740

			Rehabilitation pads		Northing 7385029.98195 A02= Easting 269727.4510, Northing 7385812.00014 A03= Easting 276660.82515 Northing 7388637.94673 A04= Easting 269955 Northing 7386022
ML5790	Evaporation ponds, crystallisers, refinery, crusher and stockpile areas.	1079	Mudflats Rehab roads Strategic roads Rehabilitation pads	VIII	A01= Easting 265759.71740 Northing 7385029.98195 A02= Easting 269727.4510, Northing 7385812.00014 A03= Easting 276660.82515 Northing 7388637.94673 A04= Easting 269955 Northing 7386022
ML5822	Concentrators	73.4	Mudflats Rehab roads	VIII	A01= Easting 265759.71740 Northing 7385029.98195 A02= Easting 269727.4510, Northing 7385812.00014 A03= Easting 276660.82515 Northing 7388637.94673 A04= Easting 269955 Northing 7386022

Note: Rehabilitation of bund walls will be determined following completion of the investigation in accordance with condition F5.

- F3** All infrastructure, constructed by or for the environmental authority holder during the mining activities must be removed from the site prior to mining lease surrender, except where agreed in writing by the post mining land owner / holder.

Note: However if the mining lease holder is the landowner than this condition does not apply.

- F4** All Areas which are to be rehabilitated to native ecosystems must comply with the following outcomes;
- (a) achievement of a self sustaining native ecosystem with species composition and distribution similar to analogue sites cited in Table 9 - *Final Land Use and Rehabilitation Schedule*.; and
 - (b) all areas significantly disturbed by mining activities must be rehabilitated to the landform design criteria defined in Table 10 - *Landform Design Table*; and
 - (c) landforms are stable and have been reshaped as close as practicable to the aspect orientation of analogue sites in Table 9 - *Final Land Use and Rehabilitation Schedule*.

Table 10 - Landform Design Table

Disturbance and Land Type	Slope range (%)	Projective Surface area (ha)
ML5784 & ML5785- Low island, clay pit.	Surface level 0-1% Bund walls (to be determined following completion of condition L4)	254.775
ML5787- Crystallisers, workshop/office, mudflats, mangroves, concentrators	Surface level 0-1% Bund walls (to be determined following completion of condition L4)	2555.99
ML5788 - Crystallisers, mudflats, mangroves.	Surface level 0-1% Bund walls (to be determined following completion of condition L4)	197.49
ML5796, ML5797, ML5798, ML5799- mudflats, mangroves and waterways.	Surface level 0-1%	4052.1
ML5783 -Administration.	Surface level 0-1%	0.405
ML5790 - Evaporation ponds, crystallisers, refinery, crusher and stockpile areas.	Surface level 0-1% Bund walls (to be determined following completion of condition F5).	1079
ML5822- Concentrators.	Surface level 0-1% Bund walls (to be determined following completion of condition F5)	73.4

Note: Rehabilitation of bund walls will be determined following completion of the investigation in accordance with condition F5

F5 The holder of this environmental authority must complete an investigation into rehabilitation of disturbed areas (The Site Rehabilitation Plan) and submit a report to the administering authority by 30 June 2004 proposing:

- acceptance criteria to meet the outcomes in Table 9 - *Final Land Use and Rehabilitation Table* and the landform design criteria defined in Table 10 - *Landform Design Table*; and
- financial assurance as required under condition A1.

The holder of this environmental authority must provide a financial assurance of \$208 750 within three months of the issue of this environmental authority. On acceptance of the report in writing by the administering authority the findings of the report must be used to recalculate the financial assurance in the Plan of Operations and the adjusted amount provided to the administering authority in accordance with condition A1.

F6 The holder of this environmental authority must complete an investigation into the location and impacts of legacy waste disposal sites at the licensed place and submit a report to the administering authority proposing measures to minimize any potential for environmental harm. The report must be submitted to the administering authority by 30 July 2004.

F7 Remediation Areas

Remediation areas must be approved by the administering authority before use. A remediation management plan must be submitted to the administering authority detailing what waste will be buried and how the waste will be treated.

Note: Remediation areas are not landfill sites.



- F8** The remediation area must be bunded so that the capacity of the bund is sufficient to contain runoff from a 1 in 10 year storm event.
- F9** The remediation area bund must be constructed of clay material to minimise the release of contaminants to the environment. The base and walls of all bunded areas must be maintained to ensure maximum retention of contaminants.
- F10** Stormwater and liquid collected within the remediation area bund must be regarded as contaminated.
- F11** Wastewater collected within the remediation area bund is not to be discharged to the stormwater drainage system.
- F12** Stormwater runoff from adjacent areas must be diverted around the remediation area bund.
- F13** Soil from the remediation area(s) must be tested and analysed by a qualified person for alkanes and monocyclic aromatics. The soil must be no greater than the following maximum levels prior to material being removed from the remediation area(s) for use. The maximum levels are:

a) alkanes:	C6-C9	100 mg/kg
	C10-C14	100 mg/kg
	C15-C28	1000 mg/kg
	C29-C36	1000 mg/kg
b) monocyclic aromatic hydrocarbons:	BTEX	7 mg/kg
	benzene only	1 mg/kg

- F14** The holder of this environmental authority must only conduct soil remediation within the remediation area(s). The holder of this environmental authority must only remediate soil contaminated with total petroleum hydrocarbons in the remediation area(s).

F15 Acid Sulfate Soils

Prior to disturbing any Acid Sulfate Soils for a major soil disturbance, Acid Sulfate Soils must be investigated in accordance with the *Guidelines for Sampling and Analysis of Lowland Acid Sulfate Soils in Queensland 1998* produced by the Queensland Acid Sulfate Soil Investigation Team within the Department of Natural Resources and the Department of Environment and Heritage or any latter versions of this document. The holder of this environmental authority must provide the administering authority with the results of the investigation prior to commencing any acid sulphate soil disturbance.

- F16** The holder of this environmental authority may complete an investigation into management of acid sulphate soils (the Acid Sulfate Soils Management Plan) and submit a plan to the administering authority and must address items including:
- a) effects arising from existing pond and bank infrastructure;
 - b) site operations and processes;
 - c) management practices for high risk sources;
 - d) a plan for assessing areas based on identified risk profiles; and
 - e) proposed operational procedures and controls.

Until acceptance of the report in writing by the administering authority, acid sulphate soils must be managed in accordance with conditions F16, F18 and F19. Following acceptance of the report by the administering authority, the approved management plan will replace conditions F16, F18 and F19 (for the activities addressed by the plan). The holder of this environmental authority must comply with the approved management plan.

- F17** Manage any acid sulphate soils identified for a major soil disturbance in accordance with the *Instructions for the Treatment and Management of Acid Sulfate Soils 2001* produced by the Environmental Protection Agency, Department of Natural Resources and Mines and Department of Primary Industries or any latter versions of this document.

- F18** Manage any acid sulphate soils identified for a minor soil disturbance in accordance with the *Instructions for the Treatment and Management of Acid Sulfate Soils 2001* produced by the Environmental Protection Agency, Department of Natural Resources and Mines and Department of Primary Industries or any latter versions of this document.

Notwithstanding the above instructions, minor soil disturbances may be treated assuming a bulk density of one tonne per cubic metre at a rate of one tonne of high quality fine aglime per 10 cubic metres of soil.

Notwithstanding the above instructions, internal bund walls are excluded from any acid sulfate soil treatment.

F19 Fire prevention

All reasonable and practicable fire prevention measures must be implemented.

Department Interest: Community

H1 Complaint response

All complaints received must be recorded including details of complainant, reasons for the complaint, investigations undertaken, conclusions formed and actions taken. This information must be made available for inspection by the administering authority on request.

END OF CONDITIONS

Figure 1 – Bajool Release Points



Figure 2 – Port Alma Release Points



Definitions

Words and phrases used throughout this licence are defined below except where identified in the *Environmental Protection Act 1994 (EP 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*.

“acceptance criteria” means the measures by which the actions implemented to rehabilitate the land are deemed to be complete. The acceptance criteria indicate the success of the rehabilitation outcome or remediation of areas which have been significantly been disturbed by the mining activities. Acceptance criteria may include information regarding:

- a) vegetation establishment, survival and succession
- b) vegetation productivity, sustained growth and structure development
- c) fauna colonisation and habitat development
- d) 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
- e) microbiological studies including recolonisation by mycorrhizal fungi, microbial biomass and respiration
- f) effects of various establishment treatments such as deep ripping, topsoil handling, seeding and fertiliser application on vegetation growth and development
- g) resilience of vegetation to disease, insect attack, drought and fire
- h) vegetation water use and effects on ground water levels and catchment yields.

“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 as a result of mining activity.

“administering authority” means the Department of Environment and Resource Management or its successor.

“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).

“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.

“ANZECC” means the *Australian and New Zealand Guidelines for Fresh Marine Water Quality 2000*.

“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 relative to the subject matter using the relevant protocols, standards, methods or literature.

“authority” means environmental authority (mining activities) under the *Environmental Protection Act 1994*.

“assessed” or **“assess”** 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 taken together with any attached or appended documents referenced in that declaration, all of the following aspects are addressed and are sufficient to allow an independent audit at any time:

- a) exactly what has been assessed and the precise nature of that assessment
- 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
- d) the reasoning on which the assessment has been based using the relevant data and facts, and the relevant criteria.

“bed and banks” for a waters, river, creek, stream, lake, lagoon, pond, swamp, wetland or dam means land over which the water of the waters, lake, lagoon, pond, swamp, wetland or dam normally flows or that is normally covered by the water, whether permanently or intermittently; but does not include land adjoining or adjacent to the bed and banks that is from time to time covered by floodwater.

“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.

“bunded” means within bunding consistent with Australian Standard 1940.

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

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

“chemical” means:

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

- b) A dangerous good under the dangerous goods code.
- c) A lead hazardous substance within the meaning of the *Work Health and Safety Regulation 2011*.
- 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.
- e) any substance used as, or intended for use as:
 - i. a pesticide, insecticide, fungicide, herbicide, rodenticide, nematocide, miticide, fumigant or related product.
 - ii. a surface active agent, including, for example, soap or related detergent
 - iii. a paint solvent, pigment, dye, printing ink, industrial polish, adhesive, sealant, food additive, bleach, sanitiser, disinfectant, or biocide
 - iv. a fertiliser for agricultural, horticultural or garden use
- f) a substance used for, or intended for use for:
 - i. mineral processing or treatment of metal, pulp and paper, textile, timber, water or wastewater
 - ii. manufacture of plastic or synthetic rubber.

“commercial place” means a work place 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.

“competent person” means a person with the demonstrated skill and knowledge required to carry out the task to a standard necessary for the reliance upon collected data or protection of the environment.

“contaminate” means to render impure by contact or mixture.

“contaminated” means the substance has come into contact with a contaminant.

“contaminant” - a contaminant can be:

- a) a gas, liquid or solid
- b) an odour
- c) an organism (whether alive or dead), including a virus
- d) energy, including noise, heat, radioactivity and electromagnetic radiation
- e) a combination of contaminants.

“control measure” means any action or activity that can be used to prevent or eliminate a hazard or reduce it to an acceptable level.

“cover material” means any soil or rock suitable as a germination medium or landform armouring.

“density of cover” In reference to trees and/or shrubs, it means the number of trees or shrubs in a specified area (e.g. 50 trees per square kilometre). With reference to understorey plant species (e.g. grasses and forbs), it means the percentage of surface area covered by a particular species.

“design plan” is the documentation required to describe the physical dimensions of the dam, the materials and standards to be used for construction of the dam, and the criteria to be used for operating the dam. The documents must include design and investigation reports, specifications and certifications, together with the planned decommissioning and rehabilitation works and outcomes. A design plan may include ‘as constructed’ drawings.

“development approval” means a development approval under the *Sustainable Planning Act 2009* in relation to a matter that involves an environmentally relevant activity under the *Environmental Protection Act 1994*.

“disturbed” means any area that has had its natural state altered by the action or interference of carrying out an activity associated with the exploration project.

“domestic waste” means waste, other than domestic clean-up waste, green waste, recyclable waste, interceptor waste or waste discharged to a sewer, produced as a result of the ordinary use or occupation of domestic premises.

“dwelling” means any of the following structures or vehicles that is principally used as a residence:

- a) a house, unit, motel, nursing home or other building or part of a building
- b) a caravan, mobile home or other vehicle or structure on land
- c) a water craft in a marina.

“effluent” means treated waste water discharged from sewage treatment plants.

“end of pipe” means the location at which water is released to waters or land.

“environmental authority” means an environmental authority granted in relation to an environmentally relevant activity under the *Environmental Protection Act 1994*.

“environmental authority holder” means the holder of this environmental authority.

“environmentally relevant activity” means an environmentally relevant activity as defined under Section 18 of the *Environmental Protection Act 1994* and listed under Schedule 2 of the *Environmental Protection Regulation 2008*.

“financial assurance” means a security required under the *Environmental Protection Act 1994* by the administering authority to cover the cost of rehabilitation or remediation of disturbed land or to secure compliance with the environmental authority.

“floodwater” means water overflowing, or that has overflowed, from waters, river, creek, stream, lake, pond, wetland or dam onto or over riparian land that is not submerged when the watercourse or lake flows between or is contained within its bed and banks.

“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.

“foreseeable future” is the period used for assessing the total probability 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 probability of failure before that time.

“general waste” means waste other than regulated waste.

“hazardous waste” means a substance, whether liquid, solid or gaseous that, if improperly treated, stored, disposed of or otherwise managed, is likely to cause environmental harm.

“infrastructure” means water storage dams, roads and tracks, buildings and other structures built for the purpose of mining activities but does not include other facilities required for the long term management of mining impacts or the protection of potential resources. Such other facilities include dams, waste rock dumps, voids, or ore stockpiles and buildings as well as 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.

“ $L_{A\ 10, \text{adj}, 10 \text{ mins}}$ ” means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 10% of any 10-minute measurement period, using Fast response.

“ $L_{A\ 1, \text{adj}, 10 \text{ mins}}$ ” means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 1% of any 10-minute measurement period, using Fast response

“ $L_{A, \text{max adj}, T}$ ” means the average maximum A-weighted sound pressure level, adjusted for noise character and measured over any 10 minute period, using Fast response.

“lake” includes:

- a) lagoon, swamp or other natural collection of water, whether permanent or intermittent; and
- b) the bed and banks and any other element confining or containing the water.

“**land**” in the “**land schedule**” of this document means land excluding waters and the atmosphere.

“**land capability**” as defined in the *Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland* (DME 1995).

“**land suitability**” as defined in the *Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland* (DME 1995).

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

“**landfill**” means land used as a waste disposal site for lawfully putting solid waste on the land.

“**levee**” means a dam, dyke or bund that is designed only to provide for the containment and diversion of stormwater or flood flows from a contributing catchment, or containment and diversion of flowable materials resulting from unplanned releases from other works of infrastructure, during the progress of those stormwater or flood flows or those unplanned releases; and does not store any significant volume of water or flowable substances at any other times.

“**mg/L**” means milligrams per litre.

“**mineral**” means a substance which normally occurs naturally as part of the earth’s crust or is dissolved or suspended in water within or upon the earth’s crust and includes a substance which may be extracted from such a substance, and includes:

- a) clay if mined for use for its ceramic properties, kaolin and bentonite
- b) foundry sand
- c) hydrocarbons and other substances or matter occurring in association with shale or coal and necessarily mined, extracted, produced or released by or in connection with mining for shale or coal or for the purpose of enhancing the safety of current or future mining operations for coal or the extraction or production of mineral oil there from
- d) limestone if mined for use for its chemical properties
- e) marble
- f) mineral oil or gas extracted or produced from shale or coal by in situ processes
- g) peat
- h) salt including brine
- i) shale from which mineral oil may be extracted or produced
- j) silica, including silica sand, if mined for use for its chemical properties
- k) rock mined in block or slab form for building or monumental purposes.

But does not include:

- l) living matter
- m) petroleum within the meaning of the *Petroleum Act 1923*
- n) soil, sand, gravel or rock (other than rock mined in block or slab form for building or monumental purposes) to be used or to be supplied for use as such, whether intact or in broken form
- o) water.

“mine water” means process water and contaminated stormwater.

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

“native vegetation” means vegetation that occurs naturally in a certain area.

“nature” includes:

- a) ecosystems and their constituent parts
- b) all natural and physical resources
- c) natural dynamic processes.

“noxious” means harmful or injurious to health or physical well being.

“offensive” means causing reasonable offence or displeasure; is disagreeable to the sense; disgusting, nauseous or repulsive, other than trivial harm.

“operational land” means the land associated with the project for which this environmental authority has been issued.

“operational plan” means a document that amongst other things sets out procedures and criteria to be used for operating a dam during a particular time period. The operational plan as defined herein may form part of a plan of operations or plan otherwise required in legislation.

“palletised” means stored on a movable platform on which batteries are placed for storage or transportation.

“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 (mms^{-1}).

“progressive rehabilitation” means rehabilitation (defined below) undertaken progressively or a staged approach to rehabilitation as mining operations are ongoing.

“protected area” means:

- a) a protected area under the *Nature Conservation Act 1992*
- b) a marine park under the *Marine Parks Act 2004*
- c) a World Heritage Area.

“process water” means water used or produced during the mineral development activities.

“receiving environment” means all groundwater, surface water, land, and sediments that are not disturbed areas authorised by this environmental authority.

“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.

“receiving waters” means all groundwater and surface water that are not disturbed areas authorised by this environmental authority.

“recycled water” means appropriately treated effluent and urban stormwater suitable for further use.

“reference site” (or analogue site) may reflect the original location, adjacent area or another area where rehabilitation success has been completed for a similar biodiversity. Details of the reference site may be as photographs, computer generated images and vegetation models etc.

“regulated waste” means non-domestic waste mentioned in schedule 7 of the *Environmental Protection Regulation 2008* (whether or not it has been treated or immobilised), and includes:

- a) for an element – any chemical compound containing the element
- b) anything that has contained the waste.

“rehabilitation” 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.

‘remediate’, contaminated land, means—

- (a) rehabilitate the land; or
- (b) restore the land; or
- (c) take other action to prevent or minimise serious environmental harm being caused by the hazardous

contaminant contaminating the land.

“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.

“saline drainage” the movement of waters, contaminated with salt(s), as a result of the mining activity.

“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” means:

- a) a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises
- b) a motel, hotel or hostel
- c) an educational institution
- d) a medical centre or hospital
- e) a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 2004* or a World Heritage Area
- f) a public park or gardens.

“sewage” means the used water of person's to be treated at a sewage treatment plant.

“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.

“stable” in relation to land, 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 (trafficability), erosion resistance and geochemical stability with respect to seepage, leachate and related contaminant generation.

“storm water” means all surface water runoff from rainfall.

“suitably qualified and experienced person” in relation to dams means one who is a Registered Professional Engineer of Queensland (RPEQ) under the provisions of the *Professional Engineers Act 2002*, OR registered as a National Professional Engineer (NPER) with the Institution of Engineers Australia, OR holds equivalent professional qualifications to the satisfaction of the administering authority for the Act; AND the administering authority for the Act is satisfied that person has knowledge, suitable experience and demonstrated expertise in relevant fields, as set out below:

- a) knowledge of engineering principles related to the structures, geomechanics, hydrology, hydraulics, chemistry and environmental impact of dams
- b) a total of five years of suitable experience and demonstrated expertise in at least four of the following categories, with the 'geomechanics of dams' category being compulsory:
 - i. geomechanics of dams with particular emphasis on stability, geology and geochemistry
 - ii. investigation, design or construction of dams
 - iii. operation and maintenance of dams
 - iv. hydrology with particular reference to flooding, estimation of extreme storms, water management or meteorology
 - v. hydraulics with particular reference to sediment transport and deposition, erosion control, beach processes
 - vi. hydrogeology with particular reference to seepage, groundwater
 - vii. solute transport processes and monitoring thereof
 - viii. dam safety

“trackable waste” means a waste or combination of waste stated in Schedule 1 of the *Environmental Protection (Waste Management) Regulation 2000*.

“trivial harm” means environmental harm which is not material or serious environmental harm and will not cause actual or potential loss or damage to property of an amount of, or amounts totalling more than \$5,000.

“tolerable limits” means a range of parameters regarded as being sufficient to meet the objective of protecting relevant environmental values. For example, a range of settlement for a tailings capping, rather than a single value, could still meet the objective of draining the cap quickly, preventing pondage and limiting infiltration and percolation.

“void” means any man-made, open excavation in the ground.

“waste” as defined in section 13 of the *Environmental Protection Act 1994*.

“waste management hierarchy” has the meaning given by the *Environmental Protection (Waste Management) Regulation 2000*.

“waste management principles” has the meaning given by the *Environmental Protection (Waste Management) Regulation 2000*.

“water” means:

- a) water in waters or spring
- b) underground water

- c) overland flow water
- d) water that has been collected in a dam.

“waste water” means used water from the activity, process water or contaminated storm water.

“water quality” means the chemical, physical and biological condition of water.

“waters” includes:

- a) river, creek, stream in which water flows permanently or intermittently either:
 - i. in a natural channel, whether artificially improved or not
 - ii. in an artificial channel that has changed the course of the river, creek or stream
- b) lake, lagoon, pond, swamp, wetland, dam
- c) unconfined surface water
- d) storm water channel, storm water drain, roadside gutter
- e) bed and banks and any other element of a river, creek, stream, lake, lagoon, pond, swamp, wetland, storm water channel, storm water drain, roadside gutter or dam confining or containing water
- f) groundwater
- g) non-tidal or tidal waters (including the sea)
- h) any part-thereof.

“µg/L” means micrograms per litre.

“µS/cm⁻¹” means microsiemens per centimetre.

END OF DEFINITIONS / ENVIRONMENTAL AUTHORITY

