Permit

Environmental Protection Act 1994
Environmental authority EPML00559513

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

Environmental authority number: EPML00559513

Environmental authority takes effect on **20 April 2022**

Environmental authority holder(s)

Name(s)	Registered address
SOJITZ BLUE PTY LTD	Level 27,Central Plaza One, 345 Queen Street BRISBANE CITY QLD 4000 Australia
Endocoal Limited	Rowes Arcade Level 4 235 Edward St BRISBANE CITY QLD 4000 Australia

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Ancillary 63 - Sewage Treatment 1: Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of (a-i) 21 to 100EP if treated effluent is discharged from the works to an infiltration trench or through an irrigation scheme	ML70452
Ancillary 16 - Extraction and Screening 2: Extracting, other than by dredging, in a year, the following quantity of material (b) more than 100,000t but not more than 1,000,000t	ML70452
Schedule 3 13: Mining black coal	ML70452
Ancillary 08 - Chemical Storage 3: Storing more than 500 cubic metres of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c)	ML70452

ABN 46 640 294 485

Additional information for applicants

Environmentally relevant activities

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

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

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

Contaminated land

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

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

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

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

Take effect

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

a) if the authority is for a prescribed ERA and it states that it takes effect on the day nominated by the holder of the authority in a written notice given to the administering authority-on the nominated day; or

b) if the authority states a day or an event for it to take effect-on the stated day or when the stated event happens; or

c) otherwise-on the day the authority is issued.

However, if the EA is authorising an activity that requires an additional authorisation (a relevant tenure for a resource activity, a development permit under the *Sustainable Planning Act 2009* or an SDA Approval under the *State Development and Public Works Organisation Act 1971*), this EA will not take effect until the additional authorisation has taken effect.

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

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

Alisha Stewart
Department of Environment and Science
Delegate of the administering authority
Environmental Protection Act 1994

Date issued: 20 April 2022

Enquiries:
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Obligations under the *Environmental Protection Act 1994*

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

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

Conditions of environmental authority

Department interest: General	
Condition number	**Condition**
A1	This environmental authority authorises environmental harm referred to in the conditions. Where there is no condition or this environmental authority is silent on a matter, the lack of a condition or silence does not authorise environmental harm.
A2	In carrying out the mining activity authorised by this environmental authority, the holder of this environmental authority must comply with **Schedule 1 - Figure 1: Meteor Downs Life of Mine Disturbance.**
A3	The holder of this environmental authority must: a) install all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority; b) maintain such measures, plant and equipment in a proper and efficient condition; c) operate such measures, plant and equipment in a proper and efficient manner; and d) ensure all instruments and devices used for the measurement or monitoring of any parameter under any condition of this environmental authority are properly calibrated.
A4	**Monitoring** Except where specified otherwise in another condition of this authority, all monitoring records or reports required by this environmental authority must be kept for a period of not less than **five (5) years**.
A5	**Risk management** The holder of this environmental authority must develop and implement a risk management system for mining activities which mirrors the content requirement of the Standard for Risk Management (ISO 31000:2009), or the latest edition of an Australian standard for risk management, to the extent relevant to environmental management, prior to the commencement of **project stage 2**.
A6	**Notification of emergencies, incidents and exceptions** The holder of this environmental authority must notify the administering authority by written notification within **twenty four (24) hours**, after becoming aware of any emergency or incident which results in the release of contaminants not in accordance, or reasonably expected to be not in accordance with the conditions of this environmental authority.
A7	Within **ten (10) business days** following the initial notification of an emergency or incident, or receipt of monitoring results, whichever is the latter, further written advice must be provided to the administering authority, including the following: a) results and interpretation of any samples taken and analysed; b) outcomes of actions taken at the time to prevent or minimise unlawful environmental harm; and c) proposed actions to prevent a recurrence of the emergency or incident.
A8	**Complaints** The holder of this environmental authority must record all environmental complaints received about the mining activities including: a) name, address and contact number of the complainant;

	b) time and date of complaint; c) reasons for the complaint; d) investigations undertaken; e) conclusions formed; f) actions taken to resolve the complaint; g) any abatement measures implemented; and h) person responsible for resolving the complaint.
A9	The holder of this environmental authority must, when requested by the administering authority, undertake relevant specified monitoring within a reasonable timeframe nominated or agreed to by the administering authority to investigate any complaint of environmental harm. The results of the investigation (including an analysis and interpretation of the monitoring results) and abatement measures, where implemented, must be provided to the administering authority within **ten (10) business days** of completion of the investigation, or no later than **ten (10) business days** after the end of the timeframe nominated by the administering authority to undertake the investigation.
A10	**Third-party reporting** The holder of this environmental authority must: a) within **one (1) year** of the commencement of this authority, obtain from a suitably qualified and experienced third party a report on compliance with the conditions of this environmental authority; b) obtain further such reports at regular intervals not exceeding **three (3) years** from the completion of the report referred to above; and c) provide each report to the administering authority within **ninety (90) days** of its completion.
A11	Where a condition of this environmental authority requires compliance with a standard, policy or guideline published externally to this environmental authority and the standard is amended or changed subsequent to the issue of this environmental authority the holder of this environmental authority must: a) comply with the amended or changed standard, policy or guideline within **two (2) years** of the amendment or change being made, unless a different period is specified in the amended standard or relevant legislation, or where the amendment or change relates specifically to regulated structures referred to in **Condition I36** the time specified in that condition; and b) until compliance with the amended or changed standard, policy or guideline is achieved, continue to remain in compliance with the corresponding provision that was current immediately prior to the relevant amendment or change.

Department interest: Air	
Condition number	**Condition**
B1	**Dust nuisance** Dust and particulate matter must not exceed the following levels when measured at any sensitive or commercial place: a) Dust deposition of 120 milligrams per square metre per day, averaged over **one (1) month**, when monitored in accordance with the most recent version of *Australian Standard AS3580.10.1 Methods for sampling and analysis of ambient air—Determination of particulate matter—Deposited matter – Gravimetric method*. b) A concentration of particulate matter with an aerodynamic diameter of less than 10 micrometres (PM_{10}) suspended in the atmosphere of 50 micrograms per cubic metre over a 24-hour averaging time, when monitored in accordance with the most recent version of either: i) *Australian Standard AS3580.9.6 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—PM10 high volume sampler with size-selective inlet – Gravimetric method*, or ii) *Australian Standard AS3580.9.9 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—PM10 low volume sampler—Gravimetric method*. c) A concentration of particulate matter with an aerodynamic diameter of less than 2.5 micrometres ($PM_{2.5}$) suspended in the atmosphere of 25 micrograms per cubic metre over a 24-hour averaging time, when monitored in accordance with the most recent version of *AS/NZS3580.9.10 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—PM (sub) 2.5(/sub) low volume sampler—Gravimetric method*. d) A concentration of particulate matter suspended in the atmosphere of 90 micrograms per cubic metre over a 1 year averaging time, when monitored in accordance with the most recent version of *AS/NZS3580.9.3:2003 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—Total suspended particulate matter (TSP)—High volume sampler gravimetric method*.
B2	When requested by the administering authority or as a result of a complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer), dust and particulate monitoring (including dust deposition, total suspended particles (TSP), PM_{10} and $PM_{2.5}$) must be undertaken, and the results thereof notified to the administering authority within **fourteen (14) days** following completion of monitoring. This includes providing interim reports if the monitoring lasts for more than one month. Monitoring must be carried out at a place(s) relevant to the potentially affected dust sensitive place. Monitoring must be conducted in accordance with the appropriate standards.

B3	If the monitoring which is carried out in accordance with **Condition B2** indicates an exceedance of the relevant limits in **Condition B1**, then the environmental authority holder must investigate whether the exceedance is due to emissions from the activity. If the mining activity is found to be the cause of the exceedance then the environmental authority holder must: a) address the complaint including the use of appropriate dispute resolution if required; and b) immediately implement dust abatement measures so that emissions of dust from the activity do not result in further environmental nuisance.
B4	The environmental authority holder must notify the administering authority within **seven (7) days** of an exceedance of the relevant limits in **Condition B1**.
B5	**Odour nuisance** The release of noxious or offensive odour(s) or any other noxious offensive airborne contaminant(s) resulting from the mining activity must not cause an environmental nuisance at any nuisance sensitive or commercial place.
B6	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 complaints (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 **fourteen (14) days** to the administering authority following completion of monitoring.
B7	If the administering authority determines the odour released to constitute an environmental nuisance, then the environmental authority holder must: a) address the complaint including the use of appropriate dispute resolution if required; and b) immediately implement odour abatement measures so that emissions of odour from the activity do not result in further environmental nuisance

Department interest: Waste management	
Condition number	**Condition**
C1	Unless otherwise permitted by the conditions of this environmental authority or with prior approval from the administering authority and in accordance with a relevant standard operating procedure, waste must not be burnt.
C2	The holder of this environmental authority may burn vegetation cleared in the course of carrying out extraction activities provided the activity does not cause environmental harm at any sensitive place or commercial place.
C3	A waste rock and spoil disposal plan must be developed by a suitably qualified and experienced person and implemented prior to the commencement of mining activities (waste rock management plan).
C4	The waste rock management plan must include, where relevant, at least: a) effective characterisation of the waste rock and spoil to predict under the proposed placement and disposal strategy the quality of runoff and seepage generated concerning potentially environmentally significant effects including salinity, acidity, alkalinity and dissolved metals, metalloids and non-metallic inorganic substances; b) a program of progressive sampling and characterisation to identify dispersive and non-dispersive spoil and the salinity, acid and alkali producing potential and metal concentrations of waste rock; c) a materials balance and disposal plan demonstrating how potentially acid forming and acid forming waste rock will be selectively placed and/or encapsulated to minimise the potential generation of acid mine drainage; d) where relevant, a sampling program to verify encapsulation and/or placement of potentially acid-forming and acid-forming waste rock; e) how often the performance of the plan will be assessed; and f) the indicators or other criteria on which the performance of the plan will be assessed.

Department interest: Noise	
Condition number	**Condition**
D1	The holder of this environmental authority must ensure that noise generated by the mining activities does not cause the criteria in **Table D1: Noise limits** to be exceeded at a sensitive place or commercial place.

Table D1: Noise limits

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

Note: *Table D1: Noise limits:*

1. *CV = Critical Value*
2. *AV = Adjustment Value*
3. *To calculate noise limits in Table D1:*

   If bg ≤ (CV – AV):

   Noise limit = bg + AV

   If (CV – AV) < bg ≤ CV:

   Noise limit = CV

   If bg > CV:

   Noise limit = bg + 0
4. *In the event that measured bg (**LA90, adj, 15 mins**) is less than 30 dB(A), then 30 dB(A) can be substituted for the measured background level*
5. *bg = background noise level (**LA90, adj, 15 mins**) measured over 3-5 days at the nearest sensitive receptor*
6. *If the project is unable to meet the noise limits as calculated above alternative limits may be calculated using the processes outlined in the "Planning for Noise Control" guideline.*

D2	The holder of this environmental authority must ensure that blasting does not cause the limits for peak particle velocity and air blast overpressure in **Table D2: Blasting noise limits** to be exceeded at a sensitive place or commercial place.

Table D2: Blasting noise limits

Blasting noise limits	**Sensitive or commercial place blasting noise limits**	
	7am to 6pm	**6pm to 7am**
Airblast overpressure	115 dB (Linear) Peak for 9 out of 10 consecutive blasts initiated and not greater than 120 dB (Linear) Peak at any time	No blasting
Ground vibration peak particle velocity	5mm/second peak particle velocity for 9 out of 10 consecutive blasts and not greater than 10 mm/second peak particle velocity at any time	No blasting

D3	Noise monitoring and recording must include the following descriptor characteristics and matters: a) LAN,T (where N equals the statistical levels of 1, 10 and 90 and T = 15 mins); b) background noise LA90; c) the level and frequency of occurrence of impulsive or tonal noise and any adjustment and penalties to statistical levels; d) atmospheric conditions including temperature, relative humidity and wind speed and directions; e) effects due to any extraneous factors such as traffic noise; f) location, date and time of monitoring; and g) if the complaint concerns low frequency noise, Max LpLIN,T and one third octave band measurements in dB(LIN) for centre frequencies in the 10 – 200 Hz range.

Department interest: Groundwater	
Condition number	**Condition**
E1	The holder of this environmental authority must not release contaminants to groundwater.
E2	The holder of this environmental authority must develop and implement a groundwater monitoring program prior to the commencement of **project stage 2**.
E3	The groundwater monitoring program required by **Condition E2**, must: a) be able to detect a change in groundwater quality values (consistent with the current suitability of the groundwater for domestic, agricultural and industrial use) due to activities that are part of this mining activity. b) be able to detect changes to groundwater values as a result of mining activities where groundwater is hydraulically linked to Naroo Dam. c) Ensure all determinations of groundwater monitoring are performed by an appropriately qualified person.
E4	Groundwater quality and standing water levels must be monitored at the locations and frequencies defined in **Table E1 – Groundwater monitoring locations and frequency**, and for quality characteristics identified in **Table E2 –Groundwater quality limits.**
E5	Water levels must be reported as both metres below top of casing (mbtoc) and metres above the Australian Height Datum (mAHD).
E6	The results and analysis of groundwater monitoring conducted under **Condition E4** and **Condition E5** must be submitted to the administering authority via WaTERS by 1 April each year for the monitoring conducted in the calendar year prior.

Table E1: Groundwater monitoring locations and frequency

Monitoring Point[1]	Aquifer type	Location		Elevation RL (m)[1]		Screen Interval (mbgl)	Monitoring Frequency
		Easting (GDA94, z55)	Northing (GDA94, z55)	Top of casing	Ground surface		
Compliance bores							
MW1S	Basalt	636797	7297783	274.60	273.52	16 - 21.5	Quarterly (groundwater quality and groundwater levels)
MW2S	Basalt	638593	7297358	243.21	242.14	38.5 - 44.5	Quarterly (groundwater quality and groundwater levels)
MW3S	Basalt	638584	7299994	266.06	265.36	12 - 21.5	Quarterly (groundwater quality and groundwater levels)
MW4	Basalt	638669	7299616	257.22	256.68	21 - 27	Quarterly (groundwater quality and groundwater levels)
MW7S	Colluvium & weathered Permian coal measures	638439	7298686	244.21	243.73	9 - 12	Quarterly (groundwater quality and groundwater levels)
MW14S	Colluvium & weathered Permian coal measures	638917	7299145	245.34	244.83	14 - 20	Quarterly (groundwater quality and groundwater levels)
MW15S	Colluvium & weathered Permian coal measures	638897	7298485	244.83	244.35	11 - 14	Quarterly (groundwater quality and groundwater levels)
MW16S	Basalt	638843	7298370	247.14	246.63	10 - 13	Quarterly (groundwater quality and groundwater levels)
MW17S	Basalt	637454	7299835	263.4	262.95	8 - 11	Quarterly (groundwater quality and groundwater levels)
MW18S	Basalt	637590	7301762	275.14	274.69	48 - 51	Quarterly (groundwater quality and groundwater levels)

Notes: 1. RL must be measured to the nearest 5 cm from the top of bore casing.

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Table E2: Groundwater quality limits

Analyte	ANZG (2018)	Basalt unit					Colluvium unit				
		MW1S	MW2S*	MW3S	MW4	MW16S	MW17S	MW18S	MW7S	MW14S	MW15S
pH	6 - 8.5	6.5 - 8	6 - 8.5	6.5 - 8	6.5 - 8	6.5 - 8	6 - 8.5	6.5 - 8	6.5 - 8	6.5 - 8	6.5 - 8
EC (µS/cm)	500	1778	903	1075	867	960	1159	1434	1661	1302	4063
Major ions (Ca, Mg, Na, K, SO_4, Cl, HCO_3, CO_3)		#	#	#	#	#	#	#	#	#	#
Sulfate (mg/L)		35	18	41	20	9	52	36	21	44	101
Aluminium (mg/L) *	0.055	0.74	0.055	0.17	0.25	0.18	62.6	0.739	10.41	0.35	1.33
Arsenic (mg/L) *	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013
Boron (mg/L) *	0.37	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.28	0.12
Cadmium(mg/L) *	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Chromium (mg/L) *	0.001	0.001	0.001	0.001	0.001	0.001	0.184	0.004	0.084	0.001	0.045
Cobalt (mg/L) *	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.1326	0.0014	0.0076	0.0014	0.0014
Copper (mg/L) *	0.0014	0.0265	0.005	0.015	0.0069	0.0085	0.277	0.0102	0.0173	0.012	0.0188
Fluoride (mg/L) *	2.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.3	0.3
Lead (mg/L) *	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034	0.0185	0.0034	0.011	0.0034	0.011
Mercury(mg/L) *	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006
Molybdenum (mg/L) *	0.034	0.004	0.004	0.004	0.004	0.004	0.008	0.009	0.004	0.004	0.009
Nickel (mg/L) *	0.011	0.011	0.011	0.011	0.011	0.011	0.4035	0.011	0.044	0.011	0.033
Selenium(mg/L) *	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Zinc (mg/L) *	0.008	0.119	0.008	0.05	0.05	0.05	0.354	0.05	0.05	0.05	0.05

Notes: ** All results for metals and metalloids must be analysed and reported for both the dissolved and total phases.*

 # For interpretation purposes only.

E7	Groundwater quality measured for compliance bores identified in **Table E1 - Groundwater monitoring locations and frequency** must not exceed any of the Contaminant Limits specified in **Table E2 - Groundwater quality limits** on three (3) consecutive sampling occasions.
E8	Groundwater levels measured for compliance bores identified in **Table E1 - Groundwater monitoring locations and frequency** must not exceed the groundwater level thresholds specified in **Table E3 – Groundwater level monitoring**.
E9	**Exceedance notification** If a non-compliance of **Condition E7** or **Condition E8** is identified, the holder of this environmental authority must notify the administering authority of the non-compliance within **fourteen (14) days** of receiving the analysis results.
E10	**Exceedance investigation** For each non-compliance with **Condition E7** or **Condition E8**, an investigation must be completed that: a) compares the results to baseline data and other relevant data; b) determines the potential for environmental harm, and c) determines if the exceedance is the result of: i. activities authorised under this environmental authority; or ii. natural or seasonal variation; or iii. a neighbouring land use, resulting in groundwater impacts.
E11	The exceedance investigation under **Condition E10** must be completed and submitted to the administering authority within **three (3) months** of notifying the administering authority under **Condition E9.**

Table E3: Groundwater level trigger thresholds

Monitoring location	Level trigger threshold	Water level (mAHD) at commencement of mining[1]
MW1S	25m total	258.15
MW2S	50m total	233.71
MW3S	9m total	253.97
MW4	10m total	244.15
MW7S	2.5m per year	233.03
MW14S	2.5m per year	235.63
MW15S	2.5m per year	236.02
MW16S	45m total	238.64
MW17S	18m total	258.15
MW18S	2m per year	252.99

Note:
1. The first water level recorded for the relevant monitoring bore in 2018 as reported to WaTERS.

E12	Where it is identified that there is actual or potential for environmental harm, an action plan to address the harm or mitigate potential harm must be developed by an appropriately qualified person and implemented within **three (3) months** of the completion of the investigation under **Condition E6**. The action plan must be provided to the administering authority on request.
E13	**Bore construction and maintenance and decommissioning** The construction, maintenance and management of groundwater bores (including groundwater monitoring bores) must be undertaken in a manner that prevents or minimises impacts to the environment and ensures the integrity of the bores to obtain accurate monitoring.

Department interest: Water	
Condition number	**Condition**
F1	**Contaminant release** Contaminants that will, or have the potential to cause environmental harm must not be released directly or indirectly to any waters as a result of the authorised mining activities, except as permitted under the conditions of this environmental authority.
F2	Unless otherwise permitted under the conditions of this environmental authority, the release of mine affected water to waters must only occur from the release points specified in **Table F1: Mine affected water release points, sources and receiving waters**.

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

Release Point	Easting (GDA94, Zone 55)	Northing (GDA94, Zone 55)	Mine affected water source and location	Monitoring point	Receiving waters description
RP1	637,516	7,298,733	Mine Water Dam Spillway Overflow	Pipe Outlet	Meteor Creek via Spring Creek

F3	The release of mine affected water to internal water management infrastructure installed and operated in accordance with a water management plan that complies with **Conditions F33** to **F37** inclusive is permitted.
F4	The release of mine affected water to waters in accordance with **Condition F2** must not exceed the release limits stated in **Table F2: Mine affected water release limits** when measured at the monitoring points specified in **Table F1: Mine affected water release points, sources and receiving waters** for each quality characteristic.

Table F2: Mine affected water release limits

Quality Characteristic	Release Limits	Monitoring
Electrical Conductivity (µS/cm)	Release limits specified in **Table F4: Mine affected water release during flow events** during flow events for variable flow criteria.	Daily during release (the first sample must be taken within two hours of commencement of release)
pH (pH Unit)	6.5 (minimum) 9.0 (maximum)	Daily during release (the first sample must be taken within two hours of commencement of release)
Turbidity (NTU)	Current limit or limit derived from suspended solids limit and demonstrated correlation between turbidity to suspended solids historical monitoring data for dam water*	Daily during release* (first sample within two hours of commencement of release)
Suspended solids (mg/L)	Limit to be determined based on receiving water reference data and achievable best practice sedimentation control and treatment*	Daily during release* (first sample within two hours of commencement of release)
Sulphate (SO_4^{2-}) (mg/L)	Release limits specified in **Table F4: Mine affected water release during flow events** during flow events for variable flow criteria.	Daily during release* (first sample within two hours of commencement of release)

Note: **Limit for suspended solids can be omitted if turbidity limit is included. Limit for turbidity not required if suspended solids limit included. Both indicators should be measured in all cases.*

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

Table F3 - Release contaminant trigger investigation levels

Quality characteristic	Trigger levels (µg/L)	Comment on trigger level	Monitoring frequency
Aluminium	55	For aquatic ecosystem protection, based on SMD guideline	Commencement of release and thereafter weekly during release
Arsenic	13	For aquatic ecosystem protection, based on SMD guideline	
Cadmium	0.2	For aquatic ecosystem protection, based on SMD guideline	
Chromium	1	For aquatic ecosystem protection, based on SMD guideline	
Copper	2	For aquatic ecosystem protection, based on LOR for ICPMS	
Iron	300	For aquatic ecosystem protection, based on low reliability guideline	
Lead	4	For aquatic ecosystem protection, based on SMD guideline	
Mercury	0.2	For aquatic ecosystem protection, based on LOR for CV FIMS	
Nickel	11	For aquatic ecosystem protection, based on SMD guideline	
Zinc	8	For aquatic ecosystem protection, based on SMD guideline	
Boron	370	For aquatic ecosystem protection, based on SMD guideline	
Cobalt	90	For aquatic ecosystem protection, based on low reliability guideline	
Manganese	1900	For aquatic ecosystem protection, based on SMD guideline	
Molybdenum	34	For aquatic ecosystem protection, based on low reliability guideline	
Selenium	10	For aquatic ecosystem protection, based on LOR for ICPMS	
Silver	1	For aquatic ecosystem protection, based on LOR for ICPMS	
Uranium	1	For aquatic ecosystem protection, based on LOR for ICPMS	
Vanadium	10	For aquatic ecosystem protection, based on LOR for ICPMS	
Ammonia	900	For aquatic ecosystem protection, based on SMD guideline	
Nitrate	1100	For aquatic ecosystem protection, based on ambient Qld WQ Guidelines (2006) for TN	
Petroleum hydrocarbons (C6-C9)	20		
Petroleum hydrocarbons (C10-C36)	100		
Fluoride (total)	2000	Protection of livestock and short term irrigation guideline	

Notes:
1. All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered). Trigger levels for metal/metalloids apply if dissolved results exceed trigger.
2. The quality characteristics required to be monitored as per **Table F3** can be reviewed once the results of two years monitoring data is available, or if sufficient data is available to adequately demonstrate negligible environmental risk. It may be determined that a reduced monitoring frequency is appropriate or certain quality characteristics can be removed from **Table F3** by amendment.
3. SMD—slightly moderately disturbed level of protection, guideline refers ANZECC & ARMCANZ (2000).
4. LOR—typical reporting for method stated. ICPMS/CV FIMS—analytical method required to achieve LOR.

F6	If quality characteristics of the release exceed any of the trigger levels specified in **Table F3: Release contaminant trigger investigation levels**, the environmental authority holder must compare the downstream results in the receiving waters to the trigger values specified in **Table F3: Release contaminant trigger investigation levels** and: 1) where the trigger values are not exceeded then no action is to be taken; or 2) where the downstream results exceed the trigger values specified **Table F3: Release contaminant trigger investigation levels** for any quality characteristic, compare the results of the downstream site to the data from background monitoring sites and; a) if the result is less than the background monitoring site data, then no action is to be taken; or b) if the result is greater than the background monitoring site data, complete an investigation into the potential for environmental harm and provide a written report to the administering authority in the next annual return, outlining: i) details of the investigations carried out; and ii) actions taken to prevent environmental harm. ***Note:*** *Where an exceedance of a trigger level has occurred and is being investigated, in accordance with* ***Condition F6 (2)(b)*** *of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.*
F7	If an exceedance in accordance with **Condition F6 2) b)** is identified, the holder of the authority must notify the administering authority within **fourteen (14) days** of receiving the result.
F8	**Mine affected water release events** The holder must ensure a stream flow gauging station(s) is installed, operated and maintained to determine and record stream flows at the locations and flow recording frequency specified in **Table F4: Mine affected water release during flow events**.

Table F4: Mine affected water release during flow events

Receiving Waters / stream	Release Points (RP)	Gauging Station	Gauging station Easting (GDA94, Zone 55)	Gauging station Northing (GDA94, Zone 55)	Receiving water flow recording frequency	Receiving water flow criteria for discharge (m3/s)	Maximum release rate (for all combined RP flows)	Electrical conductivity and sulphate release limits
Spring Creek	RP1 (Mine Water Dam)	Monitoring point 6 (Spring Creek 900 metres downstream of RP1)	638,650	7,297,175	Continuous (minimum daily)	**Low Flow** <1m^3/s For a period of 28 days after natural flow events that exceed 1m^3/s	1.00 m^3/s	Electrical conductivity (µS/cm): <700µS/cm Sulphate (SO_4^{2-}): 250 mg/L
						Medium Flow >1m^3/s	0.17m^3/s	Electrical conductivity (µS/cm): <1500µS/cm Sulphate (SO_4^{2-}): 250mg/L
						High Flow >5m^3/s	0.60m^3/s	Electrical conductivity (µS/cm): <2500µS/cm Sulphate (SO_4^{2-}): 250mg/L
						Flood Flow >20m^3/s	1.08 m^3/s	Electrical conductivity (µS/cm): <5000µS/cm Sulphate (SO_4^{2-}): 250mg/L

F9	Notwithstanding any other condition of this environmental authority, the release of mine affected water to waters in accordance with **Condition F2** must only take place during periods of natural flow events in accordance with the receiving water flow criteria for discharge specified in **Table F4: Mine affected water release during flow events** for the release point(s) specified in **Table F1: Mine affected water release points, sources and receiving waters**.
F10	The release of mine affected water to waters in accordance with **Condition F2** must not exceed the electrical conductivity and sulphate release limits or the maximum release rate (for all combined release point flows) for each receiving water flow criteria for discharge specified in **Table F4: Mine affected water release during flow events** when measured at the monitoring points specified in **Table F1: Mine affected water release points, sources and receiving waters**.
F11	The daily quantity of mine affected water released from each release point must be measured and recorded at the monitoring points in **Table F1: Mine affected water release points, sources and receiving waters**.
F12	Releases to waters must be undertaken so as not to cause erosion of the bed and banks of the receiving waters, or cause a material build-up of sediment in such waters.
F13	**Notification of release event** The environmental authority holder must notify the administering authority as soon as practicable and no later than **twenty four (24) hours** after commencing to release mine affected water to the receiving environment. Notification must include the submission of written advice to the administering authority of the following information: a) release commencement date/time; b) expected release cessation date/time; c) release point(s); d) release volume (estimated); e) receiving water(s) including the natural flow rate; and f) any details (including available data) regarding likely impacts on the receiving water(s). ***Note:*** *Notification to the administering authority must be addressed to the Manager and Project Manager of the local administering authority via email.*
F14	The environmental authority holder must notify the administering authority as soon as practicable (nominally within **twenty four (24) hours** after cessation of a release event) of the cessation of a release notified under **Condition F13** and within **twenty eight (28) days** provide the following information in writing: a) release cessation date/time; b) natural flow volume in receiving water; c) volume of water released; d) details regarding the compliance of the release with the conditions of agency interest—water of this environmental authority (i.e. contamination limits, natural flow, discharge volume); e) all in-situ water quality monitoring results; and f) any other matters pertinent to the water release event. ***Note:*** *Successive or intermittent releases occurring within **24 hours** of the cessation of any individual release can be considered part of a single release event and do not require individual notification for the purpose of compliance with C**onditions F13** and **F14**, provided the relevant details of the release are included within the notification provided in accordance with **Conditions F13** and **F14**.*

F15	**Notification of release event exceedance** If the release limits defined in **Table F2: Mine affected water release limits** when measured at the monitoring points' are exceeded, the holder of the environmental authority must notify the administering authority within **twenty four (24) hours** of receiving the results.
F16	The authority holder must, within **twenty eight (28) days** of a release that exceeds the conditions of this authority, 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; d) any general observations; e) all calculations; and f) any other matters pertinent to the water release event.
F17	**Monitoring of water storage quality** Water storages stated in **Table F5: Water storage monitoring** which are associated with the release points must be monitored for the water quality characteristics specified in **Table F6: Onsite water storage contaminant limits** at the monitoring locations and at the monitoring frequency specified in **Table F5: Water storage monitoring**.

Table F5: Water storage monitoring

Water Storage Description	Northing (GDA94, Zone 55)	Easting (GDA94, Zone 55)	Monitoring Location	Frequency of monitoring
Mine Water Dam (RP1)	7,297,450	636,740	To be negotiated- will depend on the individual storage structure volume. This will deal with stratification – depth profiles and be appropriate to in situ quality characteristics.	Quarterly

F18	In the event that waters storages defined in **Table F5: Water storage monitoring** exceed the contaminant limits defined in **Table F6: Onsite water storage contaminant limits**, the holder of the environmental authority must implement measures, where practicable, to prevent access to waters by all livestock.

Table F6: Onsite water storage contaminant limits

Quality Characteristic	Test Value	Contaminant Level
pH (pH unit)	Range	Greater than 4, less than 9[#]
EC (µS/cm)	Maximum	5970*
Sulphate (mg/L)	Maximum	1000*
Fluoride (mg/L)	Maximum	2*
Aluminium (mg/L)	Maximum	5*
Arsenic (mg/L)	Maximum	0.5*
Cadmium (mg/L)	Maximum	0.01*
Cobalt (mg/L)	Maximum	1*
Copper (mg/L)	Maximum	1*
Lead (mg/L)	Maximum	0.1*
Nickel (mg/L)	Maximum	1*
Zinc (mg/L)	Maximum	20 [1]

Note:

[#] Contaminant limit based on ANZECC & ARMCANZ (2000) stock water quality guidelines.

[*] Page 4.2–15 of ANZECC & ARMCANZ (2000) 'Soil and animal health will not generally be affected by water with pH in the range of 4–9'.

Note: Total measurements (unfiltered) must be taken and analysed

F19	**Receiving environment monitoring and contaminant trigger levels** The quality of the receiving waters must be monitored at the locations specified in **Table F7: Receiving water upstream background sites and downstream monitoring points** for each quality characteristic and at the monitoring frequency stated in **Table F8: Receiving waters contaminant trigger levels**.

Table F7: Receiving water upstream background sites and downstream monitoring points

Monitoring points	Receiving waters location description	Northing (GDA94, Zone 55)	Easting (GDA94, Zone 55)
Upstream background monitoring points			
Monitoring point 2	Spring Creek 900 metres upstream of RP1	7,296,630	636,210
Downstream monitoring points			
Monitoring point 6	Spring Creek 900 metres downstream of RP1	7,297,175	638,650

Table F8: Receiving waters contaminant trigger level

Quality characteristic	Trigger level	Monitoring frequency
pH	6.5–8.5	Daily during the release
Electrical conductivity (µS/cm)	1000	
Suspended solids (mg/L)	57.4	
Sulphate (SO_4^{2-}) (mg/L)	250	

F20	If quality characteristics of the receiving water at the downstream monitoring points exceed any of the trigger levels specified in **Table F8: Receiving waters contaminant trigger levels** during a release event the environmental authority holder must compare the downstream results to the upstream results in the receiving waters and: a) where the downstream result is the same or a lower value than the upstream value for the quality characteristic then no action is to be taken; or b) where the downstream results exceed the upstream results, complete an investigation into the potential for environmental harm and provide a written report to the administering authority in the next annual return, outlining: i) details of the investigations carried out; and ii) actions taken to prevent environmental harm. ***Note:*** *Where an exceedance of a trigger level has occurred and is being investigated, in accordance with* ***Condition F20 b)*** *of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.*

F21	All determinations of water quality and biological monitoring must be performed by an appropriately qualified person.
F22	**Receiving environment monitoring program (REMP)** The environmental authority holder must develop and implement a REMP to monitor, identify and describe any adverse impacts to surface water environmental values, quality and flows due to the authorised mining activity. This must include monitoring the effects of the mine on the receiving environment periodically (under natural flow conditions) and while mine affected water is being discharged from the site. For the purposes of the REMP, the receiving environment is the waters of the Spring Creek and connected or surrounding waterways within 5km downstream of the release. The REMP should encompass any sensitive receiving waters or environmental values downstream of the authorised mining activity that will potentially be directly affected by an authorised release of mine affected water.
F23	The REMP must: a) assess the condition or state of receiving waters, including upstream conditions, spatially within the REMP area, considering background water quality characteristics based on accurate and reliable monitoring data that takes into consideration temporal variation (e.g. seasonality); b) be designed to facilitate assessment against water quality objectives for the relevant environmental values that need to be protected; c) include monitoring from background reference sites (e.g. upstream or background) and downstream sites from the release (as a minimum, the locations specified in **Table F7**); d) specify the frequency and timing of sampling required in order to reliably assess ambient conditions and to provide sufficient data to derive site specific background reference values in accordance with the *Queensland Water Quality* Guidelines *2009*. This should include monitoring during periods of natural flow irrespective of mine or other discharges; e) include monitoring and assessment of dissolved oxygen saturation, temperature and all water quality parameters listed in **Table F6: Onsite water storage contaminant limits** and **Table F3: Release contaminant trigger investigation levels**); f) include, where appropriate, monitoring of metals/metalloids in sediments (in accordance with ANZECC & ARMCANZ 2000, BATLEY and/or the most recent version of AS5667.1 *Guidance on Sampling of Bottom Sediments*); g) include, where appropriate, monitoring of macroinvertebrates in accordance with the AusRivas methodology; h) apply procedures and/or guidelines from ANZECC and ARMCANZ 2000 and other relevant guideline documents; i) describe sampling and analysis methods and quality assurance and control; and j) incorporate stream flow and hydrological information in the interpretations of water quality and biological data.
F24	A REMP Design Document that addresses each criterion presented in **Conditions F22** and **F23** must be prepared and submitted to the administering authority prior to the first of the following; i) commencement of project stage 2 activities, or ii) 31 December 2016. Due consideration must be given to any comments made by the administering authority on the REMP Design Document and subsequent implementation of the program.

F25	A report outlining the findings of the REMP, including all monitoring results and interpretations in accordance with **Conditions F22** and **F23** must be prepared annually and made available on request to the administrating authority. This must include an assessment of background reference water quality, the condition of downstream water quality compared against water quality objectives, and the suitability of current discharge limits to protect downstream environmental values.
F26	**Water reuse** Mine affected water may be piped or trucked or transferred by some other means that does not contravene the conditions of this environmental authority and deposited into artificial water storage structures, such as farm dams or tanks, or used directly at properties owned by the environmental authority holder or a third party (with the consent of the third party).
F27	If the responsibility for mine affected water is given or transferred to another person in accordance with **Condition F26**: a) the responsibility for the mine affected water must only be given or transferred in accordance with a written agreement (the third party agreement); and b) the third party agreement must include a commitment from the person utilising the mine affected water to use it in such a way as to prevent environmental harm or public health incidents and specifically make the persons aware of the General Environmental Duty (GED) under section 319 of the *Environmental Protection Act 1994,* environmental sustainability of the water disposal and protection of environmental values of waters; and c) the third party agreement must be signed by both parties to the agreement.
F28	Mine affected water may be irrigated to land for the purposes of evaporation, provided that: a) Consideration has been given to the waste and resource management hierarchy, and documented that disposal (via irrigation) is the only viable option; b) It is only applied within the 'designated irrigation area' identified in **Figure 3 – Designated Irrigation Area**; c) It does not result in runoff beyond the designated irrigation area identified in **Figure 3 – Designated Irrigation Area**; d) Any runoff is captured and redirected to internal water management infrastructure which is installed and operated in accordance with the Water Management Plan required by **Condition F33**; e) Soil Sampling (of top soil and subsoils) is undertaken within 12 months after the commencement of irrigation, and annually thereafter, and includes at a minimum; i) an assessment of soil contamination; ii) an assessment of soil physical and chemical properties; and iii) demonstration of future viability of the growth medium; f) Any contaminated soil is removed or ameliorated, and the area is rehabilitated prior to relinquishment, and g) It does not cause harm to vegetation within, or surrounding, the designated irrigation area identified in **Figure 3 – Designated Irrigation Area**.

F29	All determinations of water quality and biological monitoring must be: a) performed by a person or body possessing appropriate experience and qualifications to perform the required measurements; and b) made in accordance with methods prescribed in the latest edition of the Department of Environment and Heritage Protection's *Monitoring and Sampling Manual*. ***Note: Condition F29** requires the* Monitoring and Sampling Manual *to be followed and where it is not followed because of exceptional circumstances this should be explained and reported with the results.* *a) collected from the monitoring locations identified within this environmental authority, within 2 hours of each other where possible;* *b) carried out on representative samples; and* *c) analysed at a laboratory accredited (e.g. NATA) for the method of analysis being used*.
F30	The release of any contaminants as permitted by this environmental authority, directly or indirectly to waters, other than internal water management infrastructure that is installed and operated in accordance with a water management plan that complies with **Conditions F33** to **F35** inclusive: 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.
F31	**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 mine affected water released from all release points; e) the release flow rate at the time of sampling for each release point; f) the results of all monitoring and details of any exceedances of the conditions of this environmental authority; and g) water quality monitoring data must be provided to the administering authority in the specified electronic format upon request.
F32	**Temporary interference with waterways** Temporarily destroying native vegetation, excavating, or placing fill in a watercourse, lake or spring necessary for and associated with mining operations must be undertaken in accordance with Department of Natural Resources and Mine's *Guideline - Activities in a Watercourse, Lake or Spring Associated with Mining Activities.*
F33	**Water Management Plan** A Water Management Plan must be developed by an appropriately qualified person and implemented prior to the commencement of **project stage 2**.

F34	The Water Management Plan must: a) provide for effective management of actual and potential environmental impacts resulting from water management associated with the mining activity carried out under this environmental authority; and b) be developed in accordance with the administering authority's guideline *Preparation of Water Management Plans for Mining Activities* (EM324) and include: iv) a study of the source of contaminants; v) a water balance model for the site; vi) a water management system for the site; vii) measures to manage and prevent saline drainage; viii) measures to manage and prevent acid rock drainage; ix) contingency procedures for emergencies; and x) a program for monitoring and review of the effectiveness of the water management plan.
F35	The water management plan must be reviewed each calendar year and a report prepared by an appropriately qualified person. The report must: a) assess the plan against the requirements under **Condition F34**; b) include recommended actions to ensure actual and potential, environmental impacts are effectively managed for the coming year; and c) identify any amendments made to the water management plan following the review.
F36	The holder of this environmental authority must attach to the review report required by **Condition F35**, a written response to the report and recommended actions, detailing the actions taken or to be taken by the environmental authority holder on stated dates: a) to ensure compliance with this environmental authority; and b) to prevent a recurrence of any non-compliance issues identified.
F37	The review report required by **Condition F35** and the written response to the review report required by **Condition F36** must be submitted to the administering authority with the subsequent annual return under the signature of the appointed signatory for the annual return.
F38	**Stormwater and water sediment controls** An Erosion and Sediment Control Plan must be developed by an appropriately qualified person and implemented for all stages of the mining activities on the site to minimise erosion and the release of sediment to receiving waters and contamination of stormwater.
F39	Stormwater, other than mine affected water, is permitted to be released to waters from: a) erosion and sediment control structures that are installed and operated in accordance with the Erosion and Sediment Control Plan required by **Condition F38**; and b) water management infrastructure that is installed and operated, in accordance with a Water Management Plan that complies with **Conditions F33** to **F37** inclusive, for the purpose of ensuring water does not become mine affected water.
F40	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.

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

Table G1: Contaminant release limits to land

Contaminant	Unit	Release limit	Limit type	Frequency
5 day Biochemical oxygen demand (BOD)1	mg/L	20	Maximum	Monthly
Total suspended solids	mg/L	30	Maximum	Monthly
Nitrogen	mg/L	30	Maximum	Monthly
Phosphorus	mg/L	15	Maximum	Monthly
E-coli	Organisms/100ml	1000	Maximum	Monthly
pH	pH units	6.0 – 9.0	Range	Monthly

G2	The application of treated effluent to land must be carried out in a manner such that: a) vegetation is not damaged; b) there is no surface ponding of effluent; and c) there is no run-off of effluent.
G3	If areas irrigated with effluent are accessible to employees or the general public, prominent signage must be provided advising that effluent is present and care should be taken to avoid consuming or otherwise coming into unprotected contact with the effluent.
G4	All sewage effluent released to land must be monitored at the frequency and for the parameters specified in **Table G1: Contaminant release limits to land**.
G5	The daily volume of effluent release to land must be measured and records kept of the volumes of effluent released.
G6	When circumstances prevent the irrigation or beneficial reuse of treated sewage effluent such as during or following rain events, waters must be directed to a wet weather storage or alternative measures must be taken to store/lawfully dispose of effluent.
G7	Treated sewage effluent must only be supplied to another person or organisation that has a written plan detailing how the user of the treated sewage effluent will comply with their general environmental duty under section 319 of the *Environmental Protection Act 1994* whilst using the treated sewage effluent.

Department interest: Land and rehabilitation	
Condition number	**Condition**
H1	Land disturbed by mining must be rehabilitated in accordance with **Schedule 2 - Table H1: Rehabilitation Goals, Indicators and Completion Criteria**, attached to this environmental authority.
H2	Rehabilitation must commence progressively in accordance with the Plan of Operations.
H3	**Contaminated land** Before applying for surrender of a mining lease, the holder must (if applicable) provide to the administering authority a site investigation report under the *Environmental Protection Act 1994*, in relation to any part of the mining lease which has been used for notifiable activities or which the holder is aware is likely to be contaminated land, and also carry out any further work that is required as a result of that report to ensure that the land is suitable for its final land use.
H4	Before applying for progressive rehabilitation certification for an area, the holder must (if applicable) provide to the administering authority a site investigation report under the Act, in relation to any part of the area the subject of the application which has been used for notifiable activities or which the holder is aware is likely to be contaminated land, and also carry out any further work that is required as a result of that report to ensure that the land is suitable for its final land use under **Condition H1**.
H5	**Impacts to Prescribed Environmental Matters** Significant residual impacts to prescribed environmental matters are not authorised under this environmental authority or the *Environmental Offsets Act 2014* unless the impact(s) is specified in **Table H2 - Significant residual impacts to prescribed environmental matters**.

Table H2 - Significant residual impacts to prescribed environmental matters

Prescribed environmental matter	**Maximum extent of impact**	**Environmental offset required**
Endangered regional ecosystem – 11.8.15	3 ha	Yes
Of concern regional ecosystem – 11.8.11*	186 ha	No
Of concern regional ecosystem – 11.8.11a	17 ha	Yes
Regional ecosystem within a defined distance from the defining banks of a relevant watercourse 11.8.11	5 ha	Yes
Regional ecosystem within a defined distance from the defining banks of a relevant watercourse 11.8.11a	7 ha	Yes
Regional ecosystem within a defined distance from the defining banks of a relevant watercourse 11.8.5	3 ha	Yes
Habitat for an animal that is vulnerable – Squatter pigeon*	240.54 ha	No
Habitat for a plant that is vulnerable – *Dichanthium queenslandicum**	426.53 ha	No

*these matters will be offset under EPBC Act approval conditions (EPBC 2013/6799)

H6	Records demonstrating that each impact to a prescribed environmental matter not listed in **Table H2 - Significant residual impacts to prescribed environmental matters** did not, or is not likely to, result in a significant residual impact to that matter must be: a) completed by an appropriately qualified person; and b) kept for the life of the environmental authority.
H7	An environmental offset made in accordance with the *Environmental Offsets Act 2014* and Queensland Environmental Offsets Policy, as amended from time to time, must be undertaken for the maximum extent of impact to each prescribed environmental matter authorised in **Table H2 - Significant residual impacts to prescribed environmental matters**, unless a lesser extent of the impact has been approved in accordance with condition **H8**.
H8	The notice of election for the environmental offset required by condition **H7**, if applicable, must be provided to the administering authority no less than three months before the proposed commencement of the significant residual impacts for which the environmental offset is required.

Department interest: Regulated Structures	
Condition number	**Condition**
I1	**Assessment of Hazard Category** The hazard category of any structure must be assessed by a suitably qualified and experienced person: a) in accordance with the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams (EM365)*; and b) in any of the following situations: i) prior to the design and construction of the structure; or ii) prior to any change in its purpose or the nature of its stored contents; and iii) in accordance with the *Manual for assessing Hazard Categories and Hydraulic Performance of Dams.*
I2	A hazard assessment report and certification must be prepared for any structure assessed and the report may include a hazard assessment for more than one structure.
I3	The holder must, on receipt of a hazard assessment report and certification, provide to the administering authority one paper copy and one electronic copy of the hazard assessment report and certification.
I4	Certification must be provided by the suitably qualified and experienced person who undertook the assessment, in the form set out in the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams (EM635)*.
I5	The holder must take reasonable and practical measures so that each dam associated with the mining activity is designed, constructed, operated and maintained in accordance with accepted engineering standards and is fit for the purpose for which it is intended.
I6	**Design and construction of a regulated structure** All regulated structures must be designed by, and constructed under the supervision of, a suitably qualified and experienced person in accordance with the requirements of the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams (EM635)*.
I7	Construction of a regulated structure is prohibited unless the holder has: a) submitted a hazard category assessment report and certification to the administering authority; b) commissioned a suitably qualified and experienced person to prepare a design plan for the structure; and c) received the certification from a suitably qualified and experienced person for the design and design plan and the associated operating procedures in compliance with the relevant condition of this authority.
I8	Certification must be provided by the suitably qualified and experienced person who oversees the preparation of the design plan, in the form set out in the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams (EM635)*.

I9	Regulated structures must: a) be designed and constructed in accordance with and conform to the requirements of the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams (EM635);* and b) be designed and constructed with due consideration given to ensuring that the design integrity would not be compromised on account of: i) floodwaters from entering the regulated dam from any watercourse or drainage line; and ii) wall failure due to erosion by floodwaters arising from any watercourse or drainage line.
I10	The design plan for a regulated structure must include, but is not limited to: 1) certification that the design plan: a) is in accordance with the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams (EM635)*, including subsidiary certifications if necessary; and b) addresses the requirements in **Conditions I10 2)** to **I10 8)** inclusive. 2) a design report which provides: a) a description of all the documents which constitute the design plan; b) a statement of: i) the applicable standards including engineering criteria, industry guidelines, relevant legislation and regulatory documents, relied upon in preparing the design plan; ii) all relevant facts and data used in preparing the design plan, including any efforts made to obtain necessary facts and data, and any limitations or assumptions to facts and data used in preparing the design plan; iii) the hazard category of the regulated structure; and iv) setting out the reasoning of the suitably qualified and experienced person who has certified the design plan, as to how the design plan provides the necessary required performance; c) documentation of hydrological analyses and estimates required to determine all elements of the design including volumes and flow capacities; d) detailed criteria for the design, operation, maintenance and decommissioning of the regulated structure, including any assumptions; and e) design, specification and operational rules for any related structures and systems used to prevent failure scenarios; 3) drawings showing the lines and dimensions, and locations of built structures and land forms associated with the regulated structure; 4) consideration of the interaction of the pit design with the levee or regulated dam design; 5) an operational plan that includes: a) normal operating procedures and rules (including clear documentation and definition of process inputs in the DSA allowance); b) contingency and emergency action plans including operating procedures designed to avoid and/or minimise environmental impacts including threats to human life resulting from any overtopping or loss of structural integrity of the regulated structure; 6) a plan for the decommissioning and rehabilitation of the regulated structure at the end of its operational life; 7) details of reports on investigations and studies done in support of the design plan; and 8) any other matter required by the suitably qualified and experienced person.

I11	Certification by the suitably qualified and experienced person who supervises the construction must be submitted to the administering authority on the completion of construction of the regulated structure, and state that: a) the 'as constructed' drawings and specifications meet the original intent of the design plan for that regulated structure; and b) construction of the regulated structure is in accordance with the design plan.
I12	Where a regulated dam is to be managed as part of an integrated containment system and the DSA volume is to be shared across the integrated containment system, the design and operating rules for the system as a whole must be documented in a system design plan that is certified by a suitably qualified and experienced person.
I13	The system design plan must contain: a) the design plans; b) the 'as constructed' plans; c) the operational rules for each individual regulated dam that forms part of the integrated system; d) the standards of serviceability and accessibility of water transfer equipment or structures; and e) the operational rules for the system as a whole.
I14	**Operation of a regulated structure** Operation of a regulated structure is prohibited unless: a) the holder has submitted to the administering authority: i) one paper copy and one electronic copy of the design plan and certification of the 'design plan' in accordance with **Condition I10**, and ii) a set of 'as constructed' drawings and specifications, and iii) certification of those 'as constructed drawings and specifications' in accordance with **Condition I10**, and iv) where the regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, a copy of the certified system design plan. b) the requirements of this authority relating to the construction of the regulated structure have been met; and c) relevant details for the dam have been included in **Table I1: Location of regulated structures** and **Table I2: Basic details of regulated dams** of this authority.

Table I1: Location of regulated structures

Name of Regulated Structure	Control Points		Levees only
	Northing (GDA 94, Zone 55)	Easting (GDA 94, Zone 55)	Unique Location ID
PMF Levee	7,297,330	638,620	1
Mine Water Dam (RP1)	7,297,440	636,608	-

Table I2: Basic Details of Regulated Dams

Name of Regulated Dam	Hazard Category	Maximum Surface area of dam (ha)	Maximum volume of dam (ML)	Maximum depth of dam (m)	Spillway Level (mAHD)	Use of dam
Mine Water Dam	Significant (dam break only)	8ha	400ML	6m	265mAHD	Storage of dewatered mine water.

I15	Each regulated structure must be maintained and operated in a manner that is consistent with the current design plan, the current operational plan, and the associated certified '*as constructed*' drawings for the duration of its operational life until decommissioned and rehabilitated.
I16	The holder must take reasonable and practicable control measures to prevent the causing of harm to persons, livestock or wildlife through the construction and operation of a regulated structure. Reasonable and practicable control measures may include, but are not limited to: a) the secure use of fencing, bunding or screening; and b) escape arrangements for trapped livestock and fauna.
I17	**Mandatory reporting level** The Mandatory Reporting Level (the MRL) must be marked on a regulated dam in such a way that during routine inspections of that dam, it is clearly observable.
I18	The holder must, as soon as practical and **within forty-eight (48) hours** of becoming aware, notify the administering authority when the level of the contents of a regulated dam reaches the MRL.
I19	The holder must, immediately on becoming aware that the MRL has been reached, act to prevent the occurrence of any unauthorised discharge from the regulated dam.
I20	**Annual inspection report** Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.

I21	At each annual inspection, the condition and adequacy of all components of the regulated structure must be assessed: a) against the most recent hazard assessment report and design plan (or system design plan); b) against recommendations contained in previous annual inspections reports; c) against recognised dam safety deficiency indicators; d) for changes in circumstances potentially leading to a change in hazard category; e) for conformance with the conditions of this authority; f) for conformance with the 'as constructed' drawings; g) for the adequacy of the available storage in each regulated dam, based on an actual observation or observations taken after **31 May** each year but prior to **1 November** of that year, of accumulated sediment, state of the containment barrier and the level of liquids in the dam (or network of linked containment systems); and h) for evidence of conformance with the current operational plan.
I22	A suitably qualified and experienced person must prepare an annual inspection report containing details of the assessment and including recommended actions to ensure the integrity of the regulated structure.
I23	The suitably qualified and experienced person who prepared the annual inspection report must certify the report in accordance with the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams (EM635)*.
I24	The holder must: a) upon receipt of the annual inspection report, consider the report and its recommendations and take action to ensure that the regulated structure will safely perform its intended function; and b) within **twenty (20) business days** of receipt of the annual inspection report, notify the administering authority in writing, of the recommendations of the inspection report and the actions being taken to ensure the integrity of each regulated structure.
I25	A copy of the annual inspection report must be provided to the administering authority upon request and within **ten (10) business days**.
I26	**Design storage allowance** On **1 November** of each year, storage capacity must be available in each regulated dam (or network of linked containment systems with a shared DSA volume), to meet the Design Storage Allowance (DSA) volume for the dam (or network of linked containment systems).
I27	The holder must, as soon as possible and within **forty-eight (48) hours** of becoming aware that the regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on **1 November** of any year, notify the administering authority.
I28	The holder must, immediately on becoming aware that a regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on **1 November** of any year, act to prevent the occurrence of any unauthorised discharge from the regulated dam or linked containment systems.

I29	**Performance review** The holder must assess the performance of each regulated dam or linked containment system over the preceding November to May period based on actual observations of the available storage in each regulated dam or linked containment system taken prior to **1 July** of each year.
I30	The holder must take action to modify its water management or linked containment system so as to ensure that the regulated dam or linked containment system will perform in accordance with the requirements of this authority, for the subsequent November to May period. ***Note:*** *Action may include seeking the necessary approvals for physical modification of a regulated dam.*
I31	**Transfer arrangements** The holder must provide a copy of any reports, documentation and certifications prepared under this authority, including but not limited to any Register of Regulated Structures, hazard assessment, design plan and other supporting documentation, to a new holder and the administering authority on transfer of this authority.
I32	**Decommissioning and rehabilitation** Prior to the cessation of the environmentally relevant activity, each regulated structure must be decommissioned such that: a) ongoing environmental harm is minimised by the regulated structure: i) becoming a safe site for humans and animals at the completion of rehabilitation; or ii) becoming a stable landform, that no longer contains flowable substances and minimises erosion impacts; or iii) not allowing for acid mine drainage; or iv) being approved or authorised under relevant legislation for a beneficial use; or v) being a void authorised by the administering authority to remain after decommissioning; and b) the regulated structure is compliant with all other relevant rehabilitation requirements of this authority.
I33	**Regulated structure location and performance** Each regulated structure named in **Table I1: Location of regulated structures** must be wholly located within the control points for that structure.
I34	Each regulated dam named in **Table I2: Basic details of regulated dams** must be consistent with the details noted in **Table I2: Basic details of regulated dams** for that dam.
I35	Each regulated dam named in **Table I1: Location of regulated structures**, must meet the hydraulic performance criteria noted in **Table I3: Hydraulic performance of regulated dams** for that dam.

Table I3: Hydraulic performance of regulated dams

Name of Regulated Structure	Spillway Capacity AEP	Design Storage Allowance AEP	Mandatory Reporting Level AEP
Mine Water Dam	1:1000 AEP	N/A (low hazard for failure to contain and contaminant concentration)	N/A (low hazard for failure to contain and contaminant concentration)

I36	Each regulated levee named in **Table I4: Basic details of regulated levees**, must be consistent with the details noted in **Table I4: Basic details of regulated levees** for that levee.

Table I4: Basic details of regulated levees

Name of Regulated Levee	Design AEP	Design Flood Level1 (mAHD)	Minimum Levee Level1 (mAHD)	Table I1 Location ID[1]	Use of levee
PMF Levee	Probable Maximum Flood (PMF)	243.0mAHD	243.5mAHD	1	Protection of active mining pit and final void from flooding up to and including the PMF event.

Note: *[1] Design flood levels, and hence regulated levee levels, are expected to vary along the length of that levee. The location IDs listed (Column 5) must correspond with location IDs listed in* ***Table I1****, define the minimum design level envelope for the longitudinal crest of the structure.*

I37	**Register of Regulated Dams** A Register of Regulated Dams must be established and maintained by the holder and include, as a minimum, the following information for each regulated dam: a) date of entry in the register; b) name of the dam, its purpose and intended/actual contents; c) location of the dam defined by coordinates (latitude and longitude in GDA94) within five metres at any point from the outside of the dam including its storage area; d) the hazard category of the dam as assessed using *the Manual for Assessing Hazard Categories and Hydraulic Performance of Dams* (EM635); e) dates, names, and reference numbers of all document(s) lodged as part of a design plan for the dam; f) name and qualifications of the suitably qualified and experienced person who certified the design plan and 'as constructed' drawings; g) for the regulated dam, other than in relation to any levees: i) the dimensions (metres) and surface area (hectares) of the dam measured at the footprint of the dam; ii) dam crest volume (megalitres); iii) spillway crest level (metres AHD). iv) maximum operating level (metres AHD); v) storage rating table of stored volume versus level (metres AHD); vi) design storage allowance (megalitres) and associated level of the dam (metres AHD); and vii) mandatory reporting level (metres AHD); h) the design plan title and reference relevant to the dam; i) the date construction was certified as compliant with the design plan;

	j) the name and details of the suitably qualified and experienced person who certified that the constructed dam was compliant with the design plan; k) details of the composition and construction of any liner; l) the system for the detection of any leakage through the floor and sides of the dam; m) dates when the regulated dam underwent an annual inspection for structural and operational adequacy, and to ascertain the available storage volume for **1 November** of any year; n) dates when recommendations and actions arising from the annual inspection were provided to the administering authority; and o) dam water quality as obtained from monitoring required under this authority as at **1 November** of each year.
I38	The holder must provisionally enter the required information in the Register of Regulated Dams when a design plan for a regulated dam is submitted to the administering authority.
I39	The holder must make a final entry of the required information in the Register of Regulated Dams once compliance with **Condition I14** has been achieved.
I40	The holder must ensure that the information contained in the Register of Regulated Dams is current and complete on any given day.
I41	All entries in the Register of Regulated Dams must be approved by the chief executive officer for the holder of this authority, or their delegate, as being accurate and correct.
I42	The holder must, at the same time as providing the annual return, supply to the administering authority a copy of the records contained in the Register of Regulated Dams, in the electronic format required by the administering authority.

END OF CONDITIONS

Definitions

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

'acid rock drainage' means any contaminated discharge emanating from a mining activity formed through a series of chemical and biological reactions, when geological strata is disturbed and exposed to oxygen and moisture.

'administering authority' means the Department of Environment and Heritage Protection 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).

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

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

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

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

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

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

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

'associated works' means in relation to a dam,

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

b) any land used for those operations.

'authority' means an environmental authority.

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

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

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

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

'certification' means assessment and approval must be undertaken by a suitably qualified and experienced person in relation to any assessment or documentation required by this manual, including design plans, 'as constructed' drawings and specifications, construction, operation or an annual report regarding regulated structures, undertaken in accordance with the Board of Professional Engineers of Queensland Policy Certification by RPEQs (ID: 1.4 (2A)).

'certifying', '**certify' or 'certified'** have a corresponding meaning as 'certification'.

'chemical' means:

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

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

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

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

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

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

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

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

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

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

   vi) manufacture of plastic or synthetic rubber.

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

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

'dam' means a land-based structure or a void that contains, diverts or controls flowable substances, and includes any substances that are thereby contained, diverted or controlled by that land-based structure or void and **associated works**. A dam does not mean a fabricated or manufactured tank or container, designed and constructed to an Australian Standard that deals with strength and structural integrity of that tank or container.

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

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

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

'disturbance' of land includes:

a) compacting, removing, covering, exposing or stockpiling of earth;

b) removal or destruction of vegetation or topsoil or both to an extent where the land has been made susceptible to erosion;

c) carrying out mining within a watercourse, waterway, wetland or lake;

d) the submersion of areas by tailings or hazardous contaminant storage and dam/structure walls;

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

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

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

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

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

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

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

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

'EC' means electrical conductivity.

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

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

'**environmental authority'** means 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.

'flowable substance' means matter or a mixture of materials which can flow under any conditions potentially affecting that substance. Constituents of a flowable substance can include water, other liquids fluids or solids, or a mixture that includes water and any other liquids fluids or solids either in solution or suspension.

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

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

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

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

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

'land' in the 'land schedule' of this document means land excluding waters and the atmosphere, that is, the term has a different meaning from the term as defined in the *Environmental Protection Act 1994*. For the purposes of the *Acts Interpretation Act 1954*, it is expressly noted that the term 'land' in this environmental authority relates to physical land and not to interests in land.

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

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

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

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

'm' means metres.

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

'mine affected water':

1) means the following types of water:
    a) pit water, tailings dam water, processing plant water;
    b) water contaminated by a mining activity which would have been an environmentally relevant activity under Schedule 2 of the Environmental Protection Regulation 2008 if it had not formed part of the mining activity;
    c) rainfall runoff which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated, excluding rainfall runoff discharging through release points associated with erosion and sediment control structures that have been installed in accordance with the standards and requirements of an Erosion and Sediment Control Plan to manage such runoff, provided that this water has not been mixed with pit water, tailings dam water, processing plant water or workshop water;
    d) groundwater which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated;
    e) groundwater from the mine's dewatering activities;
    f) a mix of mine affected water (under any of paragraphs i)-v) and other water.
2) does not include surface water runoff which, to the extent that it has been in contact with areas disturbed by mining activities that have not yet been completely rehabilitated, has only been in contact with:
    a) land that has been rehabilitated to a stable landform and either capped or revegetated in accordance with the acceptance criteria set out in the environmental authority but only still awaiting maintenance and monitoring of the rehabilitation over a specified period of time to demonstrate rehabilitation success; or
    b) land that has partially been rehabilitated and monitoring demonstrates the relevant part of the landform with which the water has been in contact does not cause environmental harm to waters or groundwater, for example:
        i) areas that are been capped and have monitoring data demonstrating hazardous material adequately contained with the site;
        ii) evidence provided through monitoring that the relevant surface water would have met the water quality parameters for mine affected water release limits in this environmental authority, if those parameters had been applicable to the surface water runoff; or
    c) both.

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

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

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

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

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

'operational plan' for a dam 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.

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

'Probable Maximum Flood (PMF)' means the flood that may be expected from the most severe combination of critical meteorological and hydrologic conditions that are reasonably possible in a particular drainage area.

'project stage 1' means project activities carried out prior to commencement of significant ground disturbance, including:

a) pre-construction surveying and technical assessment including geotechnical, establishment of site security arrangements (including signs, fences, safety barriers, and temporary security personnel facilities) and maintenance of existing roads and tracks;

b) installation of facilities for the purpose of environmental monitoring compliance; and

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

d) groundwater monitoring bore installation;

e) activities ordinarily authorised under an Exploration Permit to determine the existence, quality and quantity of coal.

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

a) removal of existing structures, site clearance

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

c) removal and stockpiling of overburden and/or excavation of a drift for underground mining.

d) commencement of dewatering operations.

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

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

b) a World Heritage Area.

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

a) a watercourse;

b) groundwater; and

c) an area of land that is not specified in Schedule 1 – Figure 1 of this environmental authority.

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

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

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

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

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

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

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

'sensitive place' means:

a) a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or

b) a motel, hotel or hostel; or

c) an educational institution; or

d) a medical centre or hospital; or

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

f) a public park or gardens.

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

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

For example, a township (occupied by the mine employees, contractors and their families for multiple mines that are held by different companies) would be a sensitive place, even if part or all of the township is constructed on land owned by one or more of the companies.

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

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

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

b) for regulated levees, an RPEQ who is a civil engineer with the required qualifications in the design of flood protection embankments.

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

'structure' in relation to regulated structures means dam or levee.

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

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

'µS/cm' means micro siemens per centimetre.

'Void' means any constructed, open excavation in the ground.

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

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

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

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

'wet season' means the time of year, covering one or more months, when most of the average annual rainfall in a region occurs. For the purposes of DSA determination this time of year is deemed to extend from 1 November in one year to 31 May in the following year inclusive.

END OF DEFINITIONS

Schedule 1—Approved plans

Figure 1: Meteor Downs Life of Mine Disturbance

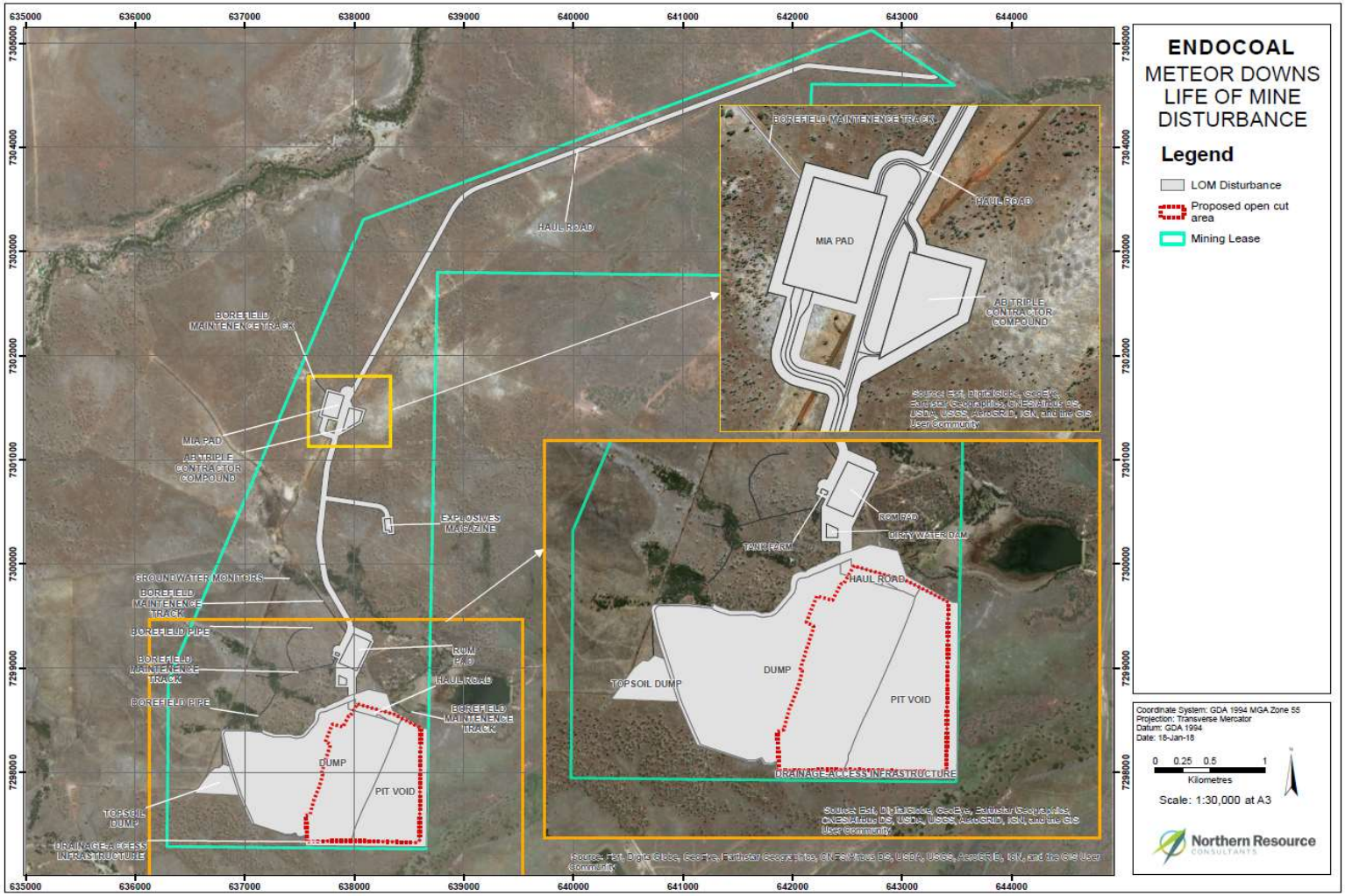


Figure 2: Monitoring Points - Water

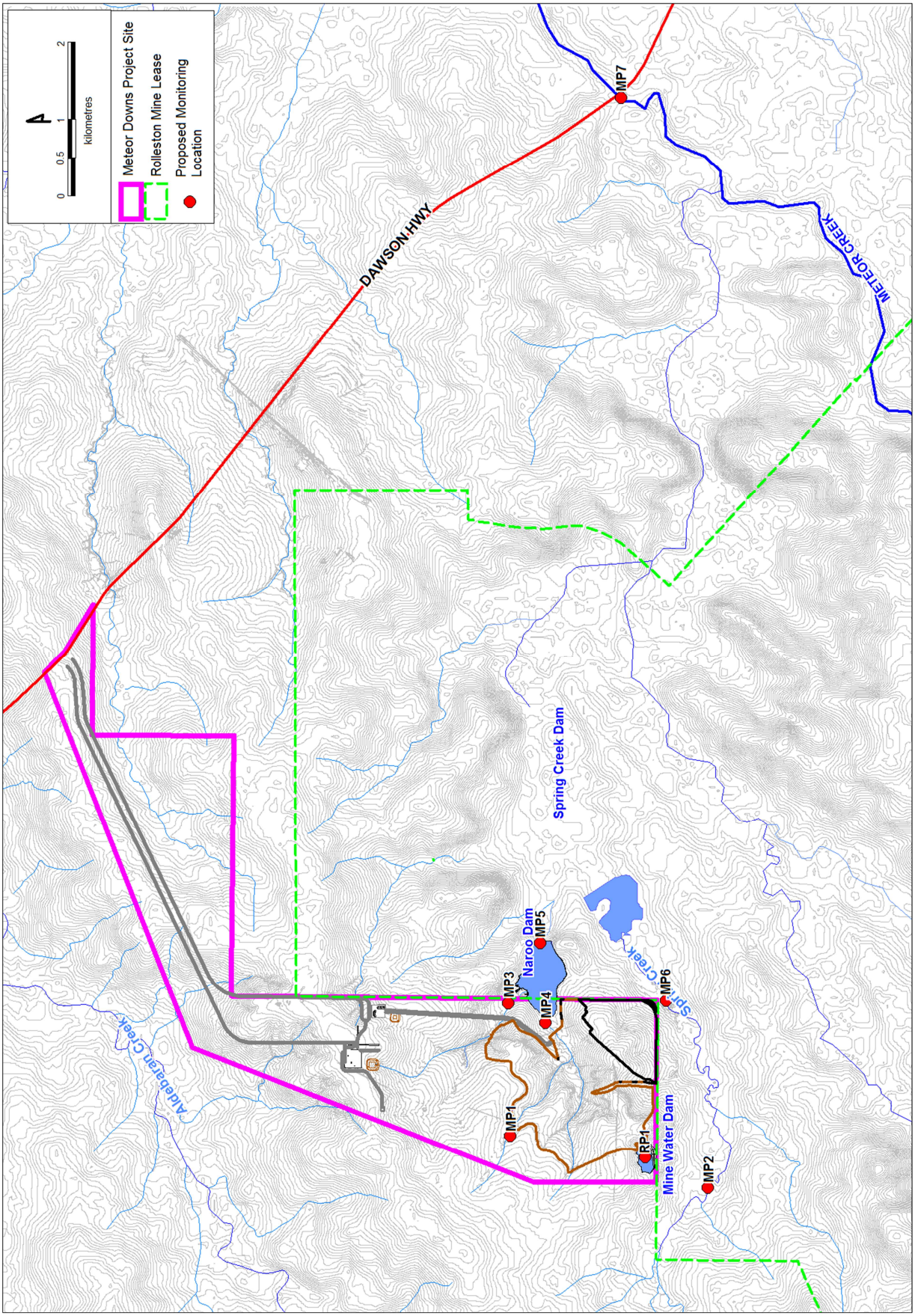
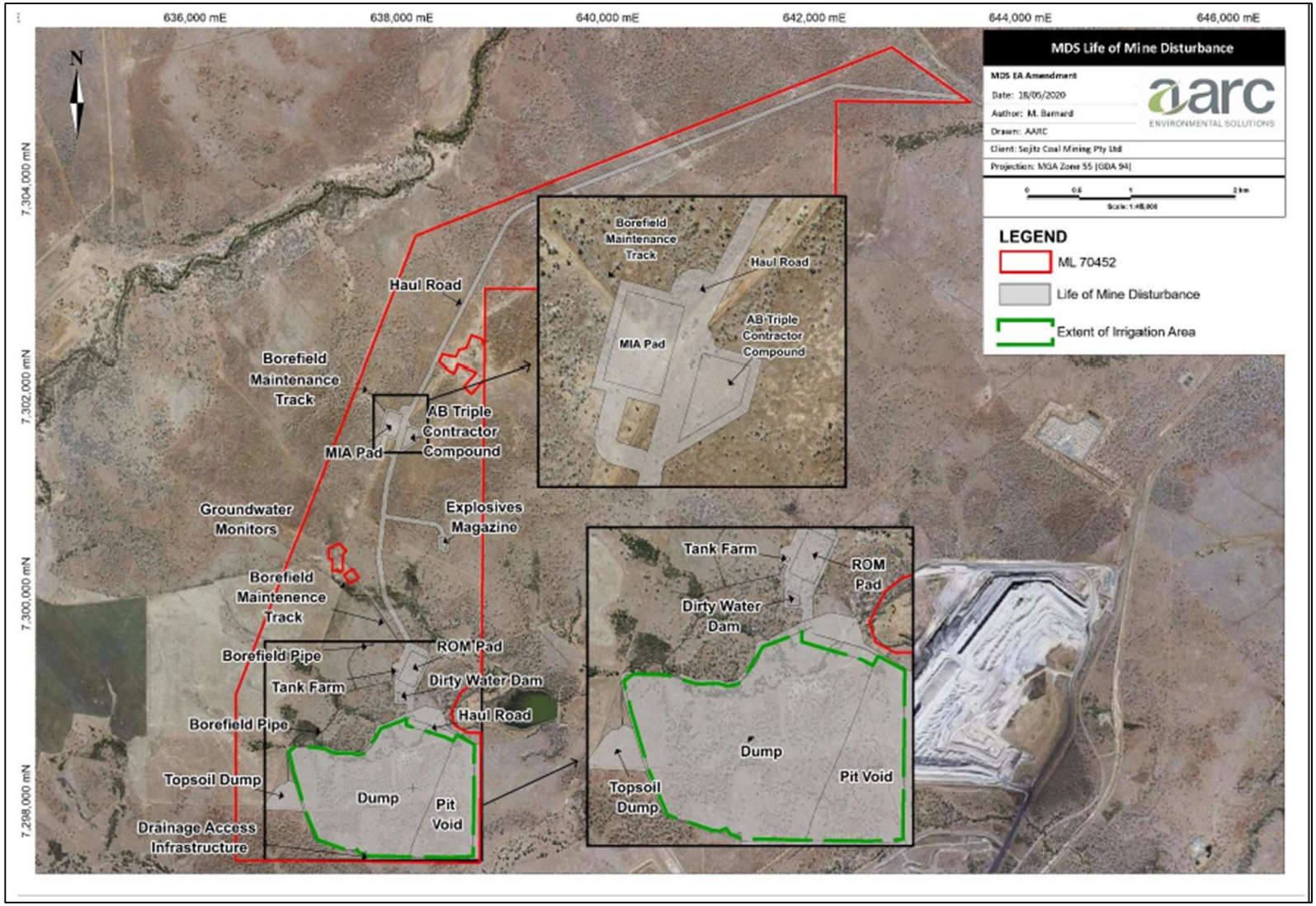


Figure 3 – Designated Irrigation Area



Schedule 2 — Rehabilitation

Table H1: Rehabilitation Goals, Indicators and Completion Criteria

Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
FINAL VOID				
Final Void	Long-term safety	Site is safe for humans and animals now and in the foreseeable future.	• Presence and/or absence of physical risk factors which could result in injury or death. • Geotechnical Study report • Risk Assessment documentation.	• A Geotechnical study has been completed within 3 years prior to mine closure to confirm: a) that Highwall slopes are stable and safe; and b) the criteria of 12 degrees for Lowwall and an average of 40 degrees for Highwall slopes are achievable and sustainable over the long term. • A safety assessment of Highwall slopes that are >30 Degrees and >5m in height has been conducted. • Risk assessment relative to safety of humans, stock and wildlife completed and risk mitigation measures have been implemented in accordance with relevant guidelines and Australian Standards such as ISO31000 Risk Management. • Completion of a Rehabilitation Report by an appropriate and qualified person at the end of the mine life to ensure successful rehabilitation of the final void and other landforms. This Rehabilitation Report has been completed in accordance with the relevant guidelines and Australian standards.
Final Void	Long-term safety	Site is safe for humans and animals now and in the foreseeable future.	• Presence and availability of heavy metals and other toxic material or other introduced contaminants.	• The identification of potential hazardous materials during mine life through water quality monitoring and material characterisation has been conducted. • During the 5 years prior to mine closure surface water monitoring and leaching tests have been undertaken in compliance with guidelines derived from ANZECC 2000. • Hydrological modelling has been conducted of the groundwater environment in the vicinity of the final void to establish relationship between water in the final void and the groundwater.

Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
				• Evidence has been included in decommissioning records of elimination of any exposed carboniferous material that may present a spontaneous combustion risk. • Evidence in decommissioning records that carboniferous material has been encapsulated within an inert cover.
Final Void	Long-term safety	Site is safe for humans and animals now and in the foreseeable future.	• Adequacy and long term performance of safety barriers, etc.	• Final void design has included: a) Bund walls; b) Remediated waterways; c) Fencing; and d) Signage. • Cattle have been excluded from accessing bunding. • A Landholder program has been conducted. • Where risk mitigation measures include fencing and appropriate signage around a perimeter to restrict access; these have been erected in accordance with relevant guidelines and Australian Standards.
Final Void	Non -polluting	Polluted water contained on site.	• Water quality. • Leachate and drainage control	• Surface water monitoring has been conducted with water quality criteria derived from ANZECC 2000 for 3 years post mining operation. • Evidence that effective leachate prevention has been conducted through testing of mining waste and management in accordance with a documented Mine Waste Management Plan. • Evidence from surface water monitoring that successful prevention measures have been implemented for poor quality leachate or discharge mobilisation from the void to watercourses. • A groundwater study has been conducted on the long-term groundwater levels and on the post-mining aquifer recovery (once the details of the final void for mine closure has been finalised).

Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
				• Evidence that no significant difference in water quality has occurred relative to historic (background) groundwater quality. • Successful establishment of adequate drainage control between the Final Void edge and location of bunds has been made to redirect any runoff away from the edge of the void. • Evidence in the Rehabilitation Report that the void water levels have remained similar to modelled scenarios and the risk of void overflow have been maintained as minimal where appropriate.
Final Void	Non -polluting	Hazardous and toxic materials are not buried within the mine area.	• A life of mine hazardous materials register indicating the volumes used and disposal methods is available.	• Evidence has been included in Rehabilitation Report that required waste management measures have been implemented. • An audit of the hazardous materials register has been conducted to identify the location, use and disposal of potentially hazardous materials during the life of the mine.
Final Void	Stable	Very low probability of subsidence, slope slippage or degradation of the Highwall.	• Laboratory and field studies conducted to determine probabilities of landform failure.	• A Geotechnical study has been completed and assessment that Highwall slopes are stable and safe by appropriately qualified persons has been conducted. • Safety assessment has been made of Highwall slopes that are >30 Degrees and>5m in height. • Completion of an assessment report by a Registered Professional Engineer of Queensland (RPEQ) on the geotechnical issues and erosivity of the proposed final landforms, including final voids, to demonstrate long-term landform stability. Reference has been made to the Queensland Mining Guidelines (or subsequent reprints) during the completion of this assessment.
Final Void	Stable	• Landform design achieves appropriate erosion rates. • Rates of soil loss will reduce over a three year	• Rate of soil loss will be similar to sites in the general area surrounding the mine.	• Benchmark erosion study has been conducted based on rainfall and sediment run-off rates in undisturbed region (to be conducted by appropriately qualified persons). • Spray-on barriers (mulch) if required has been applied.

Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
		period post-closure to acceptable levels.		• The erosion rates on disturbed land are similar to rates on the analogue sites surrounding undisturbed region within 3 years of cessation of mining.
Final Void	Stable	• Vegetation cover established on the lowwall. • Establish specified self-sustaining natural vegetation and habitats.	• Self-sustaining vegetation assemblage growing on the Lowwall over a period of 3 years post-mine closure. • Presence of key local species and diversity.	• Groundcover species have been sown into the Lowwall and species which may include Buffel, Panic and Rhodes Grasses and associated legumes. • Compatible with the rehabilitation program outlined below, standard establishment techniques have included Contour deep ripping; and a) Small shrub species have been established; b) Medium shrub species have been established; c) Small tree species have been established; and d) Tree species have been established. • Environmental Audit has been conducted by appropriately qualified persons to grade success of: a) Erosion mitigation program; b) Vegetation program; c) Water monitoring program; and d) Weed management.
Final Void	Sustainable land use	Post mine land use for the residual voids is water storage.	• Physical and Chemical properties of contained water.	• Final void water quality: pH in range 6.0 to 9.0, Electrical Conductivity less than 5000uS/cm.
Final Void	Sustainable land use	Post mine land use for areas between Final Void crest and safety bund walls is be vegetation establishment, which excludes cattle.	• Groundcover and erosion.	• Evidence has shown ground cover between the void crests and bunds as being >70% where ground cover is defined as any cover that assists in controlling erosion and may include live cover. • Results have shown that significant active erosion features are not present and that any initial erosion has been stabilised by vegetation cover.

Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
ELEVATED LANDFORMS (INCLUDING OVERBURDEN DUMPS, QUARRY AND SECTIONS OF ROM/CRUSHING AND SCREENING AREAS)				
Elevated Landform	Long-term safety	Site is safe for humans and animals now and in the foreseeable future.	• Presence and or absence of physical risk factors which could result in injury or death. • Risk assessment documentation	• A Geotechnical study has been completed within 3 years prior to mine closure to confirm: • that elevated landform slopes are stable and safe; and • the criteria of 12 degrees (approx. 20%) for landform slopes are achievable and sustainable over the long term. • A safety assessment of elevated sections of the landform has been conducted. • Evidence that landform final landform construction has met the design requirements of Rehabilitation Management Plan. • Risk assessment relative to safety of humans, stock and wildlife completed and risk mitigation measures have been implemented in accordance with relevant guidelines and Australian Standards such as ISO 31000 Risk Management.
Elevated Landforms	Long-term safety	Site is safe for humans and animals now and in the foreseeable future.	• Exposure to and availability of heavy metals and other toxic material or other introduced contaminants.	• Potential hazardous materials have been identified during mine life and removed, or selected capping material has been applied with cover thickness appropriate to the contaminant. • Leaching tests have been conducted to complement the analyses undertaken and reported under the Overburden Assessment section of the MDS Soils, Land, Overburden and Process Waste Study; as well as ongoing overburden and reject characterisation programs. • Surface water monitoring has been conducted consistent with guidelines derived from ANZECC 2000 for the final 5 years of mine operation and for 3 years post mine operation • Local program of fire control and proscribed weeds and woody weeds control have been conducted.

Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
Elevated Landforms	Long-term safety	Site is safe for humans and animals now and in the foreseeable future.	• Adequacy and long term performance of safety barriers.	• Fencing and appropriate signage is in place to restrict access has been conducted. • Cattle are excluded • Where risk mitigation measures include fencing and appropriate signage around a perimeter to restrict access, these have been erected in accordance with relevant guidelines and Australian Standards.
Elevated Landforms	Non -polluting	Hazardous overburden materials adequately handled.	• A program of identification of hazardous and benign overburden materials.	• Selective burial of hazardous materials and covering of landforms with benign materials including topsoil has been conducted. • If required, a selection of an appropriate "barrier layer" beneath the top capping suitable to the level of sulphides or other contaminants not removed, has been applied. • Compliance with the site's Topsoil Management Plan; • Average broad range topsoil pH range of 6 to 9 and an Electrical Conductivity of less than 1dS/cm.
Elevated Landforms	Non -polluting	Tailings and rejects: Hazardous overburden materials adequately handled.	*Note: The site has no on-site tailings storage facilities.*	*No decommissioning or capping of tailings storage facilities is required.*
Elevated Landforms	Non -polluting	Elimination of all permanent water storages on the site outside the final void.	• Polluted water contained on site. • Leachate and drainage control	• Mine water has been transferred to the final mining void at cessation of operations. • Surface and groundwater water monitoring has been conducted according to guidelines derived from ANZECC 2000 for 5 years during mine operation and for 3 years post mine operation. • Minor drainage works to reinforce and consolidate natural drainage to the north of site as part of final landform have been completed. • Evidence in the Rehabilitation Report, as prepared by an appropriately qualified person, that the rock lined drains have remained stable.

Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
				• Average broad range topsoil pH range has been achieved of 6 to 9 and an Electrical Conductivity of less than 1dS/cm with reference to the MDS Soils, Land, Overburden and Process Waste Study.
Elevated Landforms	Stable	Very low probability of subsidence or slope slippage.	• Design criteria. • Safety assessment. • Erosion rate. • Slope stability.	• A Geotechnical study and assessment that the elevated landforms are stable and safe has been conducted by qualified entity. • All elevated landforms regraded to 12 Degrees overall where possible. • Evidence provided in the Rehabilitation Report that the reshaping of elevated sections of the landform have complied with the site's final landform design criteria. • Erosion rates from disturbed areas and rehabilitated areas are comparable with reference (undisturbed) areas. • Evidence that the reshaping of the upper surface of the elevated landforms has been to a stable gradient to direct runoff to the rock-lined waterway and prevent gully erosion. • Slopes on elevated sections of the landform are geotechnically stable enough to maintain covers constructed for containment of hazardous material and for ecosystem support.
Elevated Landforms	Stable	Landform design achieves appropriate erosion rates.	• Slope angle and length.	• All elevated sections of the landform have been graded to 12 Degrees (approximately 20%). • Greater than 12 Degree slopes have been subject to a geotechnical assessment and drainage plan. • Vertical intervals between slope breaks are 10m so that the length of slope will be approximately 50m. • Slope breaks include a waterway and a graded bank. constructed at a slope of less than 2%.
Elevated Landforms	Stable	Landform design achieves appropriate erosion rates.	• Rate of soil loss.	• A benchmark erosion study has been conducted based on rainfall and sediment run- off rates in undisturbed region (to be conducted by qualified entity).

Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
				• Drainage points have been established approximately every 50 meters on exposed slopes. • Spray-on barriers (mulch) have been applied if required. • Erosion rates similar to the surrounding undisturbed region have been achieved within 3 years of cessation of mining • Results have shown that significant active erosion features are not present and that any initial erosion has been stabilised by vegetation cover; • Evidence has been included in Rehabilitation Report.
Elevated Landforms	Stable	• Vegetation cover to minimise erosion. • Resilience to Disturbance. • A perennial, self-sustaining ground cover is maintained that is resilient to environmental stresses such as fire, drought and pest species is extensive enough to control erosion; and contributes to the integrity of constructed covers.	• Vegetation type and density.	• Scarification with direct seeding and fertiliser (primary grasses and legumes) has been completed. • Contour ripping has been completed. • Revegetation works have been implemented in accordance with the Rehabilitation Management Plan and standard establishment techniques have included contour deep ripping: and a) Shrub species have been established; and b) Tree species have been established. • Desirable grass species comprise at least 60% of total grass cover. Tree density and height of >25 stems per 5ha each being >2m in height have been established. • The relevant management programs and completion criteria to be implemented as part of the final rehabilitation plan as outlined in Chapter 5 of the Flora, Fauna and Freshwater Ecology Assessment Report have been conducted. • Evidence of utilised revegetation techniques has been included in the Rehabilitation Report.
Elevated Landforms	Sustainable land use	Soil properties to support the final land use proposed to be a self-sustaining native ecosystem comprising of	• Physical and Chemical properties of surface materials.	• Testing to confirm achievement of pH in range 6.0 to 9.0. • Testing to confirm achievement of Electrical Conductivity of less than 1dS/cm.

Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
		local native vegetation assemblages.		
Elevated Landforms	Sustainable land use	Establish specified self-sustaining natural vegetation and habitats.	• Presence of key species. • Species type and diversity. • Weeds.	• Environmental Audit has been conducted by qualified entity to grade success of: a) Erosion mitigation program; b) Vegetation program; c) Water monitoring program; and d) Weed management. • The following species forming the vegetation communities referenced in Table 5 of " Flora, fauna and freshwater ecology assessment of the Meteor Downs South Project, near Rolleston, Central Queensland 2012" have been introduced into the revegetation seed mix and establishment has been attempted: *a) Melaleuca bracteata;* *b) Eucalyptus orgadophila;* *c) Corymbia erythrophloia;* *d) E. melanophloia;* *e) Themeda triandra;* *f) Heteropogon contortus;* *g) Aristida spp;* *h) Chloris divaricata;* *i) Iseilema vaginiflorum;* *j) Eucalyptus populnea; and* k) *Paspalidium caespitosum.*
Elevated Landforms	Sustainable land use	Establish land use with comparable management requirements to similarly used non-mined land.	• Initial establishment of native species to form the basis of a longer term	• Baseline Land Suitability Class has been determined in accordance with *Technical Guidelines for Environmental Management of Exploration and Mining Queensland* (QDME 1995).

Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
			self-sustaining native ecosystem.	• Environmental audit conducted by appropriately qualified persons to a) Establish progress towards a native ecosystem; b) Identify the Land Suitability Class; and c) Establish adequacy and predicted long-term performance of safety barriers.
MIA (INCLUDING INFRASTRUCTURE, CRUSHING EQUIPMENT, SCREENING EQUIPMENT, ROM AREAS, & ROADS) AT THE APPROXIMATE ORIGINAL CONTOUR				
MIA and Infrastructure areas	Long-term safety	Site is safe for humans and animals now and in the foreseeable future.	• Unless the subsequent landholder agrees in writing to assume responsibility for infrastructure components such as roads, the final rehabilitation plan will include the following indicators and activities. • Removal of all constructed structures including dams, concrete to a depth of 1m, disused industrial equipment and materials.	• Excavations have been backfilled. • Risk assessment relative to safety of humans, stock and wildlife completed and risk mitigation measures have been implemented in accordance with relevant guidelines and Australian Standards such as ISO 31000 Risk Management. • Any remaining infrastructure has written agreement with post-mining landholder.
MIA and Infrastructure areas	Long-term safety	Site is safe for humans and animals now and in the foreseeable future.	• Exposure to and availability of heavy metals and other toxic material or other introduced contaminants.	• The identification of potential hazardous materials during mine life and their removal, or selected capping material applied with cover thickness appropriate to the contaminant. • Topsoil has been spread over disturbed areas in accordance with the site Topsoil Management Plan. • Surface water monitoring has been conducted and complies with guidelines derived from ANZECC 2000 FOR 5 years during mine operation and for 3 years post mine operation. • Local program of fire control and proscribed weeds and woody weeds control has been implemented.

Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
MIA and Infrastructure areas	Long-term safety	Site is safe for humans and animals now and in the foreseeable future.	• Adequacy and long term performance of safety barriers.	• Fencing and appropriate signage around a perimeter is in place to restrict access; these have been erected in accordance with relevant guidelines and Australian Standards.
MIA and Infrastructure areas	Non -polluting	Hazardous material adequately handled.	• Technical design of capping. • Compliance with risk assessment documentation.	• Capping requirement has been established over mine life. • If required, an appropriate "barrier layer" has been selected and implemented beneath the top capping suitable to the level of sulphides or other contaminants not removed. • Average broad range topsoil pH range of 6 to 9 and an Electrical Conductivity of less than 1dS/cm has been achieved. • Appropriate storage of all chemicals and fuels has been undertaken in accordance with AS10940 – *The Storage and Handling of Flammable and Combustible Liquids*. • Evidence has shown removal of all infrastructure including concrete, steel and timber. • Compliance with the Rehabilitation Management Plan. • Completion of a post-mine contamination assessment report. • Evidence of decommissioning has been included in the Rehabilitation Report.
MIA and Infrastructure areas	Non -polluting	Polluted water contained on site.	• Surface, groundwater and downstream monitoring.	• Mine water transferred to the final mining void at cessation of operations. • Surface water monitoring in accordance with guidelines derived from ANZECC 2000 has been conducted for 5 years during mine operation and for 3 years post mine operation. • Minor drainage works to reinforce and consolidate natural drainage has been implemented.

Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
MIA and Infrastructure areas	Stable	Very low probability of subsidence or slope failure.	• Design criteria of slopes regraded to a maximum of 12 Degrees (average) overall where required.	• Completion of a Geotechnical study and assessment that rehabilitated MIA areas are stable and safe by qualified entity.
MIA and Infrastructure areas	Stable	Landform design achieves appropriate erosion rates.	• Slope angle and length.	• All slopes have been regraded to 12 Degrees (average). • Greater than 12 Degree slopes have been subjected to a geotechnical assessment and drainage plan.
MIA and Infrastructure areas	Stable	Landform design achieves appropriate erosion rates.	• Rate of soil loss.	• A benchmark erosion study has been conducted based on rainfall and sediment run- off rates in undisturbed region (to be conducted by qualified entity). • Drainage points approximately every 50 meters on exposed slopes have been established. • Spray-on barriers (mulch) have been applied if required. • Evidence in Rehabilitation Report that erosion rates are compatible with surrounding undisturbed region within 5 years of cessation of mining. • Compliance with the site's Topsoil Management Plan.
MIA and Infrastructure areas	Stable	Vegetation cover to minimise erosion and to re-establish the pre-mine agricultural capability.	• Vegetation type and density to support cattle grazing at the same standard as the pre-mining grazing activity.	• Scarification with direct seeding and fertilizer (primarily grasses and legumes) has been conducted. • Contour deep ripping, establish grasses and legumes to support cattle grazing has been implemented. • The success of the final land use is measured by live weight gain in grazing cattle on mining infrastructure lands. • Evidence in the Rehabilitation Report that measured erosion rates have shown to be comparable to unmined land in the same locality. • Results have shown that significant active erosion features are not present and that any initial erosion has been stabilised by vegetation cover; • Evidence has been included in Rehabilitation Report.

Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
MIA and Infrastructure areas	Sustainable land use	All infrastructure to be removed or retained where applicable	• Beneficial land use – low intensity grazing - is established and proven to be sustainable.	• Predicted economics and /or benefits have been defined and agreed by the stakeholders. • Buildings, water management structures, roads (except those used by the public) and other infrastructure have been removed unless stakeholders have entered into formal written agreements for their retention. • Where practicable, area accomplishes and remains as sustainable grazing. *To the extent that some Naroo Dam water impinges on the MDS mining lease, water quality in that water body will have been monitored for contaminants; and the grazing water quality criteria in the relevant Water Quality Guidelines will have been used as criteria for water management.*
MIA and Infrastructure areas	Sustainable land use	Soil properties to support eventual use as grazing land.	• Physical and Chemical properties of surface materials.	• Testing to confirm achievement of pH in range 6.0 to 9.0 for semi-arid grazing practices has been conducted. • Testing to confirm achievement of an Electrical Conductivity in soils of less than 1dS/cm for semi-arid grazing practices has been achieved. • Water testing has been conducted of surface water (ANZECC 2000) to ensure livestock standards achieved.
MIA and Infrastructure areas	Sustainable land use	Soil properties to support eventual use as grazing land.	• Physical properties.	• Regrading to an appropriate gradient has been undertaken for dry-land grazing practices.
MIA and Infrastructure areas	Sustainable land use	Establish specified self-sustaining natural vegetation and habitats.	• Presence of key species. • Species type and diversity. • Weeds.	• Environmental Audit has been conducted by qualified entity to grade success of: a) Erosion mitigation program; b) Vegetation program; c) Water monitoring program; and d) Weed management.

Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
				• Documented usage of re-vegetation methods as per the Rehabilitation Management Plan • Evidence of revegetation work with species forming the vegetation communities referenced in Table 5 of "Flora, fauna and freshwater ecology assessment of the Meteor Downs South Project, near Rolleston, Central Queensland 2012" to be included in Rehabilitation Report.
MIA and Infrastructure areas	Sustainable land use	Establish land use with comparable management requirements to similarly used non-mined land.	• Dryland grazing similar to grazing activities on surrounding unmined lands.	• Baseline Land Suitability Class has been determined in accordance with *Technical Guidelines for Environmental Management of Exploration and Mining Queensland* (QDME 1995). • Environmental audit has been conducted by appropriately qualified persons to: a) establish suitability of all areas for dryland grazing practices within 3 years of cessation of mining b) ensure post-mining land is of a Suitability Class; (QDME 1995) similar to the pre-mining Class as determined by the baseline study – MDS Soils, Land, Overburden and Process Waste Study; and c) there is long-term performance of safety barriers.

END OF PERMIT