PRCP schedule

Environmental Protection Act 1994

PRCP schedule PRCP_EPML02840015_v2

This is the approved form for a PRCP schedule issued by the administering authority under Chapter 5 of the Environmental Protection Act 1994*.*

PRCP schedule: PRCP_EPML02840015_v2

PRCP schedule holder(s)

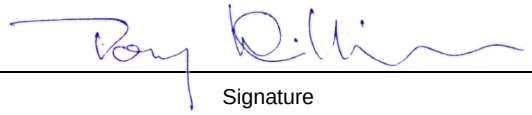
Name(s)	Registered address
Round Oak Minerals Pty Limited ACN: 130 641 691	Level 6, 120 Edward Street, Brisbane QLD 4006

Location details

Location(s)
Mining Lease (ML) 90241

Take effect

In accordance with section 202B of the *Environmental Protection Act 1994* (EP Act), the PRCP schedule has effect on the day the environmental authority for carrying out relevant activities on land to which the schedule relates takes effect. Pursuant to section 202C of the EP Act, a PRCP schedule continues in force until the environmental authority for the relevant activities to which the PRCP schedule relates is cancelled or surrendered, even if the resource tenure expires or is cancelled and even if the relevant environmental authority is suspended under Chapter 5, part 11 or 11A of the EP Act.



Signature

4 October 2024

Date

Tony Williams
Department of Environment, Science and Innovation
Delegate of the administering authority
Environmental Protection Act 1994

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Queensland Government

Obligations under the *Environmental Protection Act 1994*

Pursuant to section 202E of the EP Act, if there is an inconsistency between an environmental authority and a PRCP schedule, the environmental authority prevails to the extent of the inconsistency.

Pursuant to section 285 of the EP Act:

- the holder of a PRCP schedule must commission an audit of the schedule by a rehabilitation auditor for the following periods (each an audit period) —

  (a) the 3-year period starting on the day the schedule takes effect

  (b) each 3-year period starting on the day after the previous audit period ended.

- the holder must, within 4 months after the end of each audit period, give the administering authority -

  (a) the rehabilitation auditor's report (an audit report) about the audit that complies with section 286 of the EP Act, and

  (b) a declaration for the audit report that complies with section 285 of the EP Act.

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

PRCP schedule

The PRCP schedule incorporates the following sections:

- Section A - Conditions of PRCP schedule
- Section B - Final site design and reference maps
- Section C - Post mining land uses

Section A - Conditions of PRCP schedule

Pursuant to section 206A of the EP Act:

- it is a condition of this PRCP schedule that, in carrying out a relevant activity under the schedule, the holder must comply with a requirement stated in the environmental authority relevant to carrying out the activity.
- it is a condition of this PRCP schedule that the holder must comply with the following matters stated in the schedule -

  (a) each rehabilitation milestone and management milestone

  (b) when each rehabilitation milestone and management milestone is to be achieved

There are no conditions beyond those contained in section 206A of the *Environmental Protection Act 1994* that apply to this PRCP schedule.

General conditions

PRCP1 The holder must comply with each milestone criteria stated in the schedule.

PRCP2 Where a milestone criterion requires any of the following, the holder must keep records of the actions taken to comply with the criterion as well as the results and provide a copy of this information to the Administering Authority on request –

(a) certifications or assessments to be undertaken;

(b) monitoring or maintenance to be carried out;

(c) final design plans and/or specifications to be developed; and

(d) reports such as contaminated land investigations, rehabilitation reports (including monitoring records), validation reports, Quality Assurance/Quality Control reports.

PRCP3 Where land becomes available for rehabilitation earlier than the nominated 'Date area is available', progressive rehabilitation for that land must commence as soon as practicable. Progressive rehabilitation commenced early under this condition must be carried out in accordance with the milestones and criteria in this schedule, except that each of the dates by which milestones are to be completed is brought forward by the same amount of time as the commencement was brought forward.

PRCP4 Disturbance due to exploration activities in areas not authorised to be mined must be rehabilitated in accordance with the provisions detailed in the *Eligibility criteria and standard conditions for exploration and mineral development projects* or its successor, with the exception that land must be rehabilitated to a stable condition[1] that achieves the relevant PMLU as indicated by **Figure 2** Final Site Design.

PRCP5 As part of cover construction, a minimum of 2 locations will be randomly selected for installation of soil, water and weather monitoring equipment. At each location this instrumentation must include:

(a) a minimum of three (3) soil moisture sensors installed in the cover system profile;
(b) a minimum of three (3) matric suction sensors installed in the cover system profile;
(c) one (1) field weather station to measure air temperature, relative humidity, wind speed, wind direction, solar radiation and rainfall; and
(d) one (1) lysimeter for measuring runoff, evaporation, transpiration and drainage.

PRCP6 All monitoring equipment will be maintained in an operational condition as per manufacturer's specifications.

[1] stable condition is defined by section 111A of the *Environmental Protection Act 1994*.

END OF CONDITIONS

Section B - Final site design and reference maps

1. Reference map
2. Final site design and land use

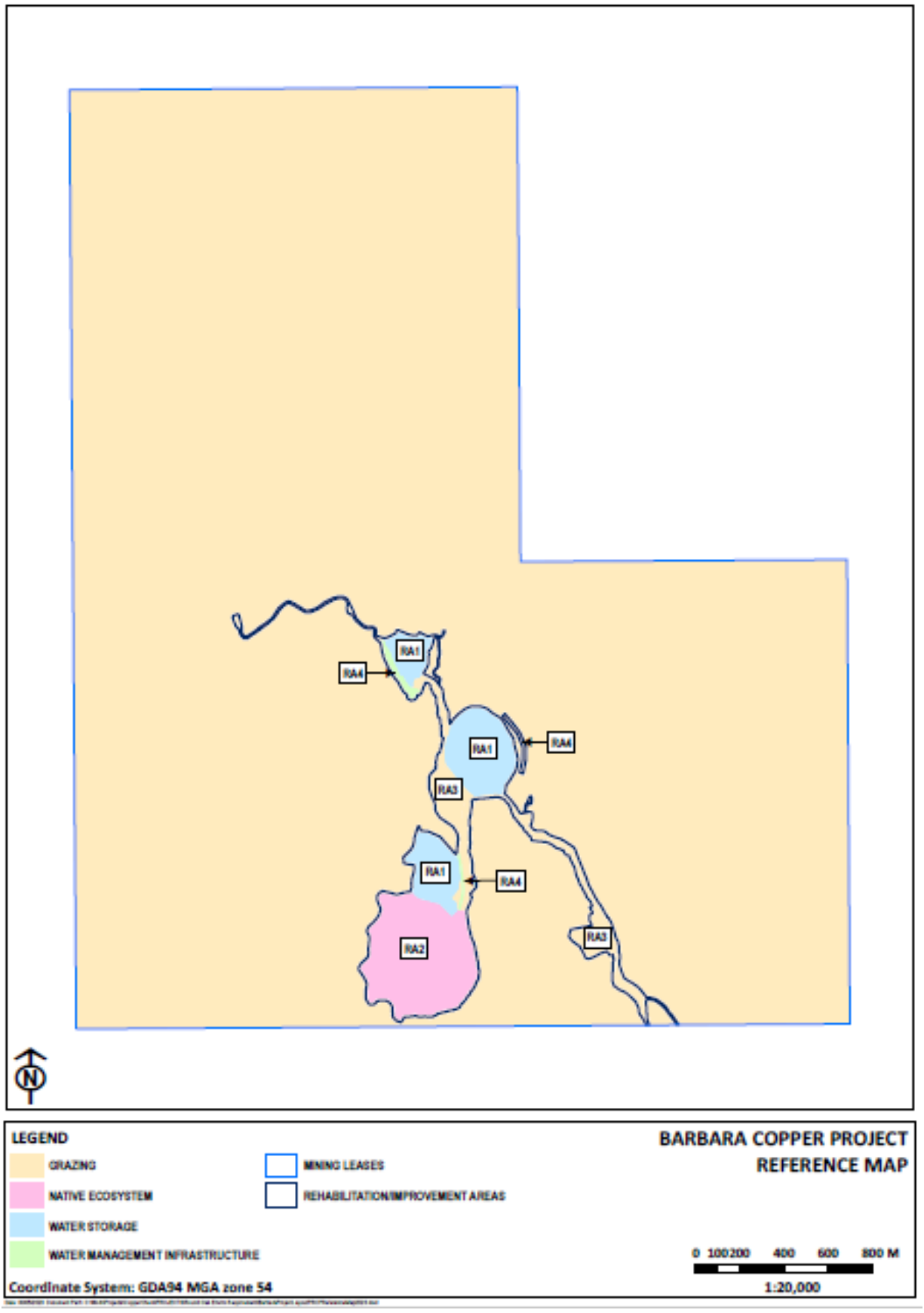

Figure 1 Reference Map

Figure 2 Final site design and land use

Section C – Post mining land uses

(RA1) Rehabilitation area 1

Post-mining land uses (PMLU)										
Rehabilitation area	RA1									
Relevant activities	North Pit, South Pit (Portal & Vent), WRD Sediment Dam									
Total rehabilitation area size (ha)	19.5									
Commencement of first milestone: RM1	10/12/2026									
PMLU	Water Storage for Stock Water									
Date area is available	10/12/2026	10/12/2028								
Cumulative area available (ha)	19.5	19.5								
Milestone completed by	10/12/2028	10/12/2033								
Milestone Reference	**Cumulative area achieved (ha)**									
RM1	19.5									
RM3	19.5									
RM4	19.5									
RM7	19.5									
RM11		19.5								

(RA2) Rehabilitation area 2

Post-mining land uses (PMLU)										
Rehabilitation area	RA2									
Relevant activities	Waste Rock Dump (WRD)									
Total rehabilitation area size (ha)	23.4									
Commencement of first milestone: RM1	10/12/2026									
PMLU	Native Ecosystem									
Date area is available	10/12/2026	10/12/2028	10/12/2033							
Cumulative area available (ha)	23.4	23.4	23.4							
Milestone completed by	10/12/2028	10/12/2033	10/12/2038							
Milestone Reference										
RM1	23.4									
RM14	23.4									
RM3	23.4									
RM4	23.4									
RM5	23.4									
RM8		23.4								
RM12			23.4							

(RA3) Rehabilitation area 3

Post-mining land uses (PMLU)										
Rehabilitation area	RA3									
Relevant activities	Ancillary Infrastructure, ROM Pad, Roads, Exploration, Abandonment Bund									
Total rehabilitation area size (ha)	18.4									
Commencement of first milestone: RM1	10/12/2026									
PMLU	Low Intensity Grazing									
Date area is available	10/12/2026	10/12/2028	10/12/2033							
Cumulative area available (ha)	18.4	18.4	18.4							
Milestone completed by	10/12/2028	10/12/2033	10/12/2038							
Milestone Reference	**Cumulative area achieved (ha)**									
RM1	18.4									
RM2	18.4									
RM3	18.4									
RM4	18.4									
RM6	18.4									
RM9		18.4								
RM13			18.4							

(RA4) Rehabilitation area 4

Post-mining land uses (PMLU)										
Rehabilitation area	RA4									
Relevant activities	Water infrastructure (retain North Pit Creek Diversion and Levee, Diversion Northeast of North Pit, Diversion east of WRD Sediment Dam. Decommission all other diversions)									
Total rehabilitation area size (ha)	1.4									
Commencement of first milestone: RM1	10/12/2026									
PMLU	Water Management Infrastructure									
Date area is available	10/12/2026	10/12/2028								
Cumulative area available (ha)	1.4	1.4								
Milestone completed by	10/12/2028	10/12/2033								
Milestone Reference	**Cumulative area achieved (ha)**									
RM1	1.4									
RM3	1.4									
RM6	1.4									
RM10		1.4								

Rehabilitation area milestones

Milestone reference	Rehabilitation milestone	Milestone criteria
RM1	Infrastructure Decommissioning	1. All services disconnected to redundant infrastructure. 2. All road materials (bitumen, concrete, gravel) removed (ripped and revegetated) where not to be retained. 3. All pipelines drained and removed unless otherwise agreed with landowner. 4. All fencing that is not part of the PMLU removed. 5. All buildings are demolished and removed. 6. Any remaining infrastructure to be removed unless agreed to be retained by the landholder. 7. All machinery and equipment removed. 8. All surface water drainage infrastructure including foundations not required in the PMLU has been removed (Where drains or bunding are not required for flood and/or erosion protection they will be levelled or used as fill). 9. All diversions and levees not to be retained are removed. 10. All waste material, explosives, hazardous chemicals and dangerous goods to be handled, removed, and disposed of in accordance with environmental authority (EA) EPML02840015. 11. Areas which contained ancillary infrastructure cannot contaminate receiving waters or surface waters or cause offsite environmental impacts. 12. The portal is backfilled (minimum 50 m down the decline) with benign waste rock and a shotcrete bulkhead is placed in front of the backfill. An inert bund will be installed just outside the portal entrance and a metal grate gate fitted at the portal. 13. The surface vent fan is decommissioned and sealed.
RM2	Remediation of contaminated land	1. All hazardous and contaminated materials including sediments from the WRD sedimentation dam have been assessed and identified by an Appropriately Qualified Person (AQP)[1], and disposed of lawfully. 2. ROM pad excavated to 1m (or refusal) and benign surface recontoured. 3. A contaminated land investigation has been undertaken, and an accompanying report prepared by an AQP confirming that land is not contaminated and is suitable for the proposed PMLU.
RM3	Landform Development and Reshaping/Reprofiling	1. All earthworks completed. 2. All erosion and sediment control systems have been installed.

		3. Bunds and check dams installed across contours. 4. Landform shaped to be gently sloping characteristic of the natural landform and reinstates natural drainage lines (RA3, RA4). 5. The final landform surveyed and certified by an AQP as per the construction designs. 6. Landform of ≥1.5 factor of safety and non batter angles of <25% for final landform design of RA2 (WRD). WRD determined to be geotechnically stable assessed by an AQP.
RM4	Surface Preparation	1. Exposed surfaces ripped and seeded to improve ground cover. 2. For revegetated areas, growth media has been applied and spread (to a depth up to 150 mm). 3. An assessment of the placed growth media health and suitability completed by an AQP to confirm soil is suitable for target vegetation establishment. 4. Any fertilisers/ameliorants recommended as a result of the soil assessment have been applied at the rate recommended by the AQP. 5. Ripping and/or surface contouring (up to depth of 300mm - depending on compaction of soil) has been undertaken (tyne spacing varies depending on slope) where necessary. 6. Waste Rock Dump (RA2) is capped and growth media applied and spread to a minimum depth of 300 mm. 7. Soil testing indicates the following parameters are met: a) Rootzone EC <1.5 dS/m (1,500 uS/cm), b) Soil pH <9 and >6 as measured at any part of the root zone, c) Exchangeable Sodium Percentage (ESP%) <6% (at 0-10cm depth).
RM5	Revegetation (Native ecosystem)	1. Seeding has been completed with recommended seeding mix in **Tables 1 and 2** at a rate of 1-5 kg/ha.
RM6	Revegetation (Water management infrastructure / Low intensity grazing)	2. Seeding has been completed with recommended species mix in **Tables 1 and 2** at a rate of 1-5 kg/ha.
RM7	Achievement of surface requirements (Water Storage for Stock Water)	1. The voids have been certified as geotechnically stable by an AQP. 2. Annual RPEQ inspections of regulated structure (until de-registered). 3. Residual Voids have restricted access by means of: a) Fence and abandonment bund unless existing topographical barriers exist; and b) Appropriate signage.

RM8	Achievement of surface requirements (Native ecosystem)	1. Measured indices at rehabilitated sites for Native Ecosystems within a 50x5m plot: a) At least three of the tree and shrub species, and three of the ground cover species listed in RM5 are present; b) Flora cover[4] ≥ 50% of that recorded at the analogue sites described in **Table 8** (for RE1.11.8 and RE1.11.2/1.11.3); c) Groundcover[5] ≥ 50% of the percentage groundcover recorded at analogue sites described in **Table 8** (RE1.11.8 and RE1.11.2/1.11.3); d) Species richness ≥ 50% of that recorded at analogue sites described in **Table** 8 (RE1.11.8 and RE1.11.2/1.11.3); e) Fauna habitat features equivalent to analogue sites described in **Table 8**; and f) Evidence that fauna is not compromising the integrity of the cover system when assessed by an AQP. g) Declared weeds are no more than 10% greater than the percentage cover at analogue sites. 2. Where there are erosion features on a landform, they must not prevent reinstatement of the nominated post mining land use. No signs of active erosion >30cm wide or >30cm deep[2]. 3. Average erosion rate is less than 5 t/ha/y. 4. Soil testing indicates the following parameters are met: a) Rootzone EC <1.5 dS/m (1,500 uS/cm), b) Soil pH <9 and >6 as measured at any part of the root zone, c) Exchangeable Sodium Percentage (ESP%) <6% (at 0-10cm depth). 5. Safe to humans and wildlife - Safety hazards in rehabilitation are not significantly different to surrounding unmined landscapes subject to the same land use.
RM9	Achievement of surface requirements (Low intensity grazing)	1. Exploration disturbances are capped, backfilled and grouted (if required) and disturbance areas are scarified for revegetation. 2. Measured indices at rehabilitated sites for Low Intensity Grazing within a 50x5m plot: a) At least three of the tree and shrub species, and three of the ground cover species listed in **RM6** are present; b) ≥50% of the productivity (carrying capacity measured as pasture biomass) of that recorded at analogue sites described in **Table 8**; and

		c) Percentage ground cover[5] ≥ 50% of that recorded at analogue sites described in **Table 8** (RE1.11.2/1.11.3). 3. Category 3 restricted invasive plant species[3] are no more than 10% greater than the percentage cover at analogue sites described in **Table 8**. 4. Where there are erosion features on a landform, they must not prevent reinstatement of the low intensity grazing PMLU. No signs of active erosion >30cm wide or >30cm deep[2]. 5. Safe to humans and wildlife - Safety hazards in rehabilitation are not significantly different to surrounding unmined landscapes subject to the same land use. 6. Stable - rehabilitation is geotechnically stable (factor of safety ≥1.5).
RM10	Achievement of post mining land use (Water management infrastructure)	1. An AQP has certified that the retained levees and diversions have the design capacity for 0.1% AEP (annual exceedance probability) rainfall event. 2. Certified as conforming with design documents and functioning as designed when assessed by an AQP. 3. Certification from an AQP that the area has achieved a safe and stable condition with no signs of active erosion >30 cm wide or >30 cm deep[2]. 4. Geomorphology of the receiving environment has not been altered when assessed by an AQP. 5. Certification by an AQP that a stable low intensity grazing PMLU has been achieved.
RM11	Achievement of post mining land use (Water Storage for Stock Water)	1. Access to the residual void is restricted by the installation of an appropriate abandonment barrier (bund and/or fence), or use of natural topography. as shown in **Figure 3.** 2. Sediment and erosion control structures removed once disturbed areas are stabilised. 3. The water storages (RA1) will be monitored quarterly over a minimum of five (5) consecutive years and will have no exceedances of water quality limits as specified in **Table 5.** 4. Certification from an AQP that the water storages have achieved a safe and stable condition suitable for use as water storages. 5. North and South Pits demonstrated by an AQP to be acting as groundwater sinks.

RM12	Achievement of post mining land use (Native ecosystem)	1. Sediment and erosion control structures removed once disturbed areas are stabilised. 2. No active areas of rills or gully erosion and drainage follows intended and appropriate drainage paths. 3. No evidence of erosion classified as Moderate and Severe[2]. 4. Certification from an AQP the WRD cover system is performing as required to achieve a non-polluting landform based on the water balance. 5. The cover system monitoring program by predictive modelling has confirmed the performance criteria, for dry (117mm), average (463mm) and wet (1,198mm) years rainfall, has met average seepage < 6% of rainfall based on 10 year duration rolling average. 6. A BioCondition assessment is completed by an AQP using the methodology outlined in the latest version of the Queensland Herbarium's BioCondition Assessment Manual. 7. The BioCondition Assessment demonstrates achievement that vegetation communities are equal to or greater than comparable species to the analogue site and demonstrate diversity, functionality and sustainability by measured indices at rehabilitated sites for Native Ecosystems within a 50x5m plot: a) Flora cover[4] ≥27% (RE1.11.8) and ≥48% (RE1.11.2/1.11.3) and comparable to the analogue sites described in **Table 8**; b) Percentage groundcover[5] ≥70% (RE1.11.8) and ≥40% (RE1.11.2/1.11.3) and comparable to the analogue sites described in **Table 8**; c) Species richness - ≥15% for RE1.11.8 and ≥20% for RE1.11.2/1.11.3 and comparable to the analogue sites described in **Table 8**; d) Fauna habitat features equivalent to analogue site as described in **Table 8**; and e) Certification by an AQP that Category 3 invasive plant species are no more than 10% greater than the percentage cover at analogue sites described in **Table 8**. 8. Soil testing indicates the following parameters are met: a) Rootzone EC <1.5 dS/m (1,500 uS/cm), b) Soil pH <9 and >6 as measured at any part of the root zone, c) Exchangeable Sodium Percentage (ESP%) <6% (at 0-10cm depth).

		9. Surface water quality monitored monthly during flow at, but not limited to, downstream locations specified in **Table 3** must not exceed the limits in **Table 6,** for a minimum of 5 consecutive years. 10. If the surface water quality exceeds criteria 9 above, the applicable reference site must be compared to the downstream site result; and quality results measured at a downstream site must be equal to or less than the quality result measured at the applicable reference site. 11. For a minimum of five consecutive years groundwater quality must be monitored quarterly at, but not limited to, compliance bores specified in **Table 4**, for all quality characteristics listed in **Table 7**. 12. Groundwater quality results must not exceed the limits in **Table 7,** for three consecutive results**.** 13. Rehabilitated landforms have achieved a factor of safety (≥1.5). 14. Rehabilitated landforms have achieved a stable condition when assessed by an AQP for: a) Differential settlement; b) No evidence of salt rise; and c) All infrastructure to remain, are fit for purpose (including culverts).
RM13	Achievement of post mining land use (Low intensity grazing)	1. Sediment and erosion control structures removed after disturbed areas are classed as stable. 2. Erosion assessment of final landform: no subsidence or significant (>1m deep) erosion gullies for at least three (3) consecutive years); drainage follows intended and appropriate drainage paths. 3. Average sediment erosion rate of less than 5 t/ha/y has been achieved. 4. Soil testing indicates the following parameters are met: a) Rootzone EC <1.5 dS/m (1,500 uS/cm), b) Soil pH <9 and >6 as measured at any part of the root zone, c) Exchangeable Sodium Percentage (ESP%) <6% (at 0-10cm depth). 5. Land suitability class of ≤3, based on the latest version of the 'Guidelines for Agricultural Land Evaluation in Queensland' as assessed by an AQP. 6. Measured indices at rehabilitated sites for Low Intensity Grazing within a 50x5m plot: a) ≥70% of the productivity (carrying capacity measured as pasture biomass) of that recorded at analogue sites described in **Table 8;** b) Flora cover[4] ≥48% and comparable to the analogue sites described in **Table 8;**

		c) Percentage groundcover[5] ≥40% and comparable to the analogue sites described in **Table 8**; and d) Category 3 restricted invasive plant species[3]are no more than 10% greater than the percentage cover at analogue sites. 7. Maintenance requirements for rehabilitated land is no greater than that required for the land prior to its disturbance. 8. No evidence of erosion classified as Moderate and Severe[2]. 9. Surface water quality monitored monthly during flow at, but not limited to, downstream locations specified in **Table 3** must not exceed the limits in **Table 6,** for a minimum of 5 consecutive years. 10. If the surface water quality exceeds criteria 9 above, the applicable reference site must be compared to the downstream site result; and quality measured at a downstream site must be equal to or less than the quality measured at the applicable reference site. 11. For a minimum of five consecutive years groundwater must be monitored quarterly at, but not limited to, compliance bores specified in **Table 4**, for all quality characteristics listed in **Table 7**. 12. Groundwater quality results must not exceed the limits in **Table 7,** for three consecutive results.
RM14	Installation of cover system/cap	1. WRD batter slopes $\leq$ 37 degrees to prevent erosion. 2. All potentially acid forming materials placed within the WRD is completely encapsulated by compacted non-acid forming material of at least 5 m thickness. 3. All PAF material has been placed within the WRD to ensure the distance from the external batter to the encapsulated PAF will not allow seepage or sub-surface lateral flow of PAF contaminated water to be expressed along the external batters or toe. 4. A "store and release" cover system has been constructed as per design criteria and certified by an AQP. 5. Drainage rates from the cover system into the WRD are $<1x10^{-8}$ m/s. 6. Soil oxygen levels are at concentrations that will not cause oxidation of PAF. 7. Additional parameters will be measured by an AQP during cover construction and will include (at a minimum): a) In-situ hydraulic conductivity or infiltrability of each layer of the cover system (mean±sd);

		b) Sampling for and subsequent measurement of soil moisture characteristic for each layer of the cover system; and c) Sampling for and measurement of physical properties of each layer of the cover system including (at a minimum) texture/PSA, aggregate stability, bulk density (mean±sd). 8. Representative sampling of capping material demonstrates absence or below trigger levels of PAF or other contaminated material as assessed by an AQP. 9. Groundwater and surface water (including seepage) monitoring programs confirm the constructed cover is functioning as designed and there is no migration of contaminants. 10. WRD sedimentation dam has been dewatered and sediment removed.

[1] 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.

[2] Erosion classification framework:

Erosion classification	Minor	Moderate	Severe
Sheet erosion	Shallow soil deposits downslope	Partial exposure of roots; moderate soil deposits downslope, etc.	Loss of surface horizon; root exposure, etc
Rill/gully erosion	<15 rills and <0.3m deep	15-30 rills and <0.3m deep	>30 rills and/or any >0.3m deep.
Tunnel erosion	-	-	Present
Mass movement	-	-	Present

[3] Australia and New Zealand Environment and Conservation Council, and Agriculture and Resource Management Council of Australia and New Zealand 2000 water quality guidelines.

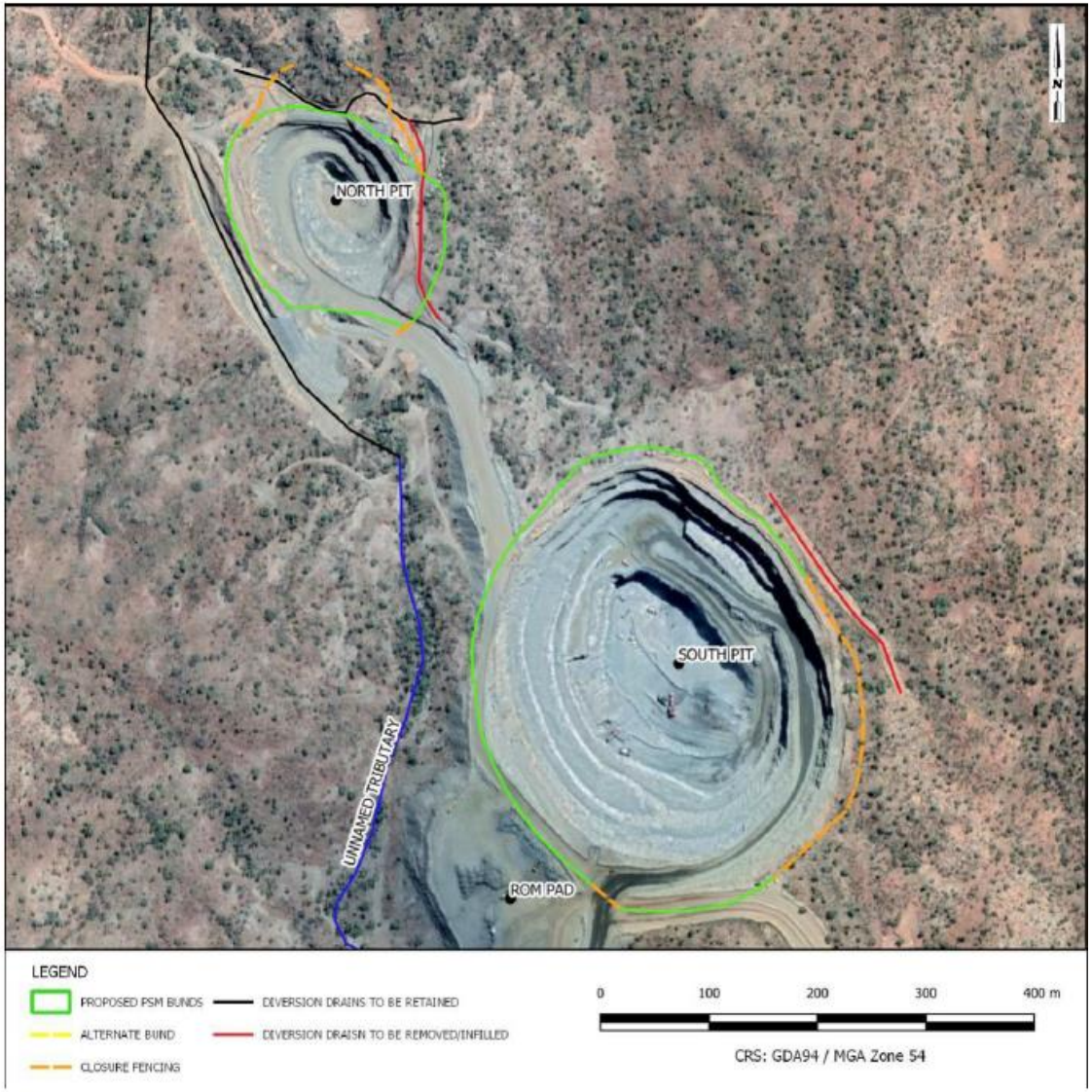

Figure 3: Abandonment bund and fence locations for North and South Pits

Table 1 Seeding Mix for the Rehabilitation of the Project Site

Scientific Name	Common Name	Note
Triodia pungens (D)	Soft Spinifex	Community 1 (RE 1.11.2d), Community 2 (RE 1.11.3), Community 3 (RE 1.3.6x1b)
Cymbopogon bombycinus (A)	Citronella Grass	Community 5 (RE 1.11.2x4) – rocky outcrops
Triodia bitextura (D)	Feathertop Spinifex	Community 6 (RE 1.11.2x1b)
Eriachne mucronata	N/A	Native species
Themeda triandra	Kangaroo Grass	Native pasture species
Dicanthium sericium	Queensland Bluegrass	Native pasture species
Sorghum spp.	Annual Sorghum	Single-generation quick establishing groundcover
Rhynchosia minima	Least snout-bean	Legume suited to north-west Queensland
Vigna savi	Cowpea	Legume suited to north-west Queensland

Table 2 Tree and Shrub Species

Scientific Name	Common Name	Note
Tree Layer		
Eucalyptus leucophloia (D)	Snappy Gum	Community 1 (RE 1.11.2d), Community 2 (RE 1.11.3),
Corymbia terminalis (A)	Western Bloodwood	Community 1 (RE 1.11.2d), Community 2 (RE 1.11.3), Community 3 (RE 1.3.6x1b)
Terminalia aridicola (A)	Arid Peach	Community 1 (RE 1.11.2d), Community 2 (RE 1.11.3),
Eucalyptus leucophylla (O)	Cloncurry box	Community 1 (RE 1.11.2d), Community 2 (RE 1.11.3), Community 3 (RE 1.3.6x1b)
Corymbia aparrerinja (O)	Ghost Gum	Community 1 (RE 1.11.2d),
Atalaya hemiglauca	Whitewood	Suited to north-west Queensland
Shrub Layer		

Scientific Name	Common Name	Note
Acacia holosericea (D/A)	Soapbush Wattle	Community 1 (RE 1.11.2d), Community 2 (RE 1.11.3), Community 3 (RE 1.3.6x1b)
Acacia phlebocarpa (D)	Tabletop Wattle	Community 1 (RE 1.11.2d), Community 2 (RE 1.11.3),
Acacia chisholmii (SD)	Turpentine	Community 1 (RE 1.11.2d), Community 2 (RE 1.11.3), Community 3 (RE 1.3.6x1b)
Senna artmeisiodes subsp. helmsii	Crinkled Cassia	Suited to north-west Queensland
Senna artemisioides subsp. oligophylla	Limestone Cassia	Suited to north-west Queensland
Senna notabilis	Cockroach Bush	Suited to north-west Queensland

Key: D = Dominant, SD = Sub-dominant, A = Associated

Table 3 Surface water monitoring site locations

Monitoring Site	Site Description	Easting (GDA94 Zone 54)	Northings (GDA94 Zone 54)
Reference sites			
BASW09	Drainage feature outside and northeast of disturbance footprint catchment	377540	7738673
BASW05	Drainage feature southwest and outside of disturbance footprint catchment	380736	7742273
Downstream sites			
BASW01	Watercourse at Mining Lease west boundary	378513	7743286
BASW04	Watercourse downstream of North Pit	379491	7742440
BASW08	Drainage feature at the top of the catchment (Mining Lease entry)	380776	7740396
BASW11	Drainage feature upstream of junction with watercourse	379884	7743040

Table 4 Groundwater monitoring bore locations

Monitoring Point	Location (GDA94 – Zone 54)		Surface RL (m)[a]	Total Depth (mbgl)[b]	Screened interval (mbgl)
	Easting	Northing			
Compliance bores					
BAWB05	380948	7740252	377.32	102	35-102
Bore E	380022	7738827	334.23	85	28-83
BAWB01	380432	7742097	352.68	104	20-101
BAWB02	379480	7742395	310.59	104	96-102
BAWB03	379834	7741692	329.50	104	50-102
BAWB04	380043	7742054	329.14	100	94-100
BAWB07	379849	7741936	328.74	127	18-146
BAWBR1	380292	7740939	334.49	14	5-6
BAWBR2	379912	7741279	322.98	14	2-3
BAWBR3	379991	7741485	326.02	14	3-4
Seepage bores					
Seepage Bore 1a	380084	7741046	336.819	6	1-5
Seepage Bore 1b	380084	7741048	336.487	16	5-15
Seepage Bore 2a	380025	7741117	331.218	6	1-5
Seepage Bore 2b	380023	7741116	331.342	16	5-15
Seepage Bore 3a	379985	7741133	332.189	6	1-5
Seepage Bore 3b	379986	7741135	331.962	16	5-15
Seepage Bore 4a	380711	7740798	355.061	6	1-5
Seepage Bore 4b	380711	7740800	355.111	16	5-15

[a] RL must be measured to the nearest 5cm from top of the bore casing

[b] Metres below ground level

Table 5 Water quality limits for North and South Pits, and WRD Sedimentation Dam

Quality Characteristic	Water Quality Limit (mg/L)
pH (pH units)	5-9
Total Dissolved Solids	5,000
Arsenic	0.5
Cadmium	0.01
Calcium	500
Copper	1
Fluoride	2
Iron	10
Lead	0.1
Magnesium	150
Manganese	1
Nitrate	100
Nitrite	3
Sulfate	2,000
Total hardness	1,000 (as CaCO3)
Zinc	20

Limits for metals and metalloids apply to total results.

Table 6 Water Quality limits for Surface water

Quality Characteristic	Limit
pH (pH units)	7.5-9
Electrical Conductivity (µS/cm)	500
Turbidity (NTU)	55
Sulfate (mg/L)	10
Fluoride (mg/L)	2
Arsenic (mg/L)	0.013
Barium (mg/L)	0.047
Bismuth (mg/L)	0.0007
Cobalt (mg/L)	0.0014
Chromium (mg/L)	0.001
Copper (mg/L)	0.0036
Molybdenum (mg/L)	0.034
Nickel (mg/L)	0.011
Selenium (mg/L)	0.011
Uranium (mg/L)	0.0005
Major ions (mg/L) (calcium, chloride, magnesium, potassium, sodium, bicarbonate, carbonate)	NA

Notes:

- All metals and metalloids must be measured as 'dissolved' (from analysis of a field filtered sample) and total (unfiltered).
- Limits for metals and metalloids apply to dissolved results.

Table 7 Groundwater quality limits

Quality Characteristic [a]	Bore(s)	Limit [b]
pH (pH units)	BAWB01, BAWB02, BAWB03, BAWB04, BAWB05, BAWB07, BAWBR1, BAWBR2, BAWBR3, Bore E	7.0 – 8.5
EC (µS/cm)	BAWB01, BAWB02, BAWB07	1,365
	BAWB03, BAWB04, BAWB05, BAWBR1, BAWBR2, BAWBR3, Bore E	1,010
Sulfate (mg/L)	BAWB01, BAWB03, BAWB05, BAWB07, BAWBR1, BAWBR2, BAWBR3, Bore E	73
	BAWB02	200
	BAWB04	21
Fluoride (mg/)	BAWB02, BAWB03, BAWB04, BAWB05, BAWBR1, BAWBR2, BAWBR3	0.9
	BAWB01, BAWB07, Bore E	1.7
Arsenic (mg/L)	BAWB01, BAWB02, BAWB03, BAWB04, BAWB05, BAWB07, BAWBR1, BAWBR2, BAWBR3, Bore E	0.13 [c]
Barium	BAWB01, BAWB02, BAWB03, BAWB07, BAWBR1, BAWBR2, BAWBR3, Bore E	0.17
	BAWB04	0.42
	BAWB05	0.30
Bismuth	BAWB01, BAWB02, BAWB03, BAWB04, BAWB05, BAWB07, BAWBR1, BAWBR2, BAWBR3, Bore E	0.0007 [d]
Cobalt	BAWB02, BAWB03, BAWB04, BAWB05, BAWB07, BAWBR1, BAWBR2, BAWBR3, Bore E	0.0014 [d]
Chromium	BAWB01, BAWB02, BAWB03, BAWB04, BAWB05, BAWB07, BAWBR1, BAWBR2, BAWBR3, Bore E	0.001 [c]
Copper	BAWB01, BAWB02, BAWB03, BAWB04, BAWB05, BAWB07, BAWBR1, BAWBR2, BAWBR3, Bore E	0.008
Molybdenum	BAWB01, BAWB02, BAWB03, BAWB04, BAWB05, BAWB07, BAWBR1, BAWBR2, BAWBR3, Bore E	0.034 [c]

Quality Characteristic [a]	Bore(s)	Limit [b]
Nickel	BAWB01, BAWB02, BAWB03, BAWB04, BAWB05, BAWB07, BAWBR1, BAWBR2, BAWBR3, Bore E	0.011 [c]
Selenium	BAWB01, BAWB02, BAWB03, BAWB04, BAWB05, BAWB07, BAWBR1, BAWBR2, BAWBR3, Bore E	0.011 [c]
Uranium	BAWB01, BAWB02, BAWB03, BAWB04, BAWB05, BAWB07, BAWBR1, BAWBR2, BAWBR3, Bore E	0.007
Major cations	BAWB01, BAWB02, BAWB03, BAWB04, BAWB05, BAWB07, BAWBR1, BAWBR2, BAWBR3, Bore E	For interpretation only
Major anions	BAWB01, BAWB02, BAWB03, BAWB04, BAWB05, BAWB07, BAWBR1, BAWBR2, BAWBR3, Bore E	
Total Hardness	BAWB01, BAWB02, BAWB03, BAWB04, BAWB05, BAWB07, BAWBR1, BAWBR2, BAWBR3, Bore E	

Notes:

a All metals and metalloids must be measured as 'dissolved' (from analysis of a field filtered sample) and total. Limits for metals and metalloids apply to dissolved results.

b Derived from site-specific values, based off dissolved concentration of metals (95th percentiles).

c ANZG 2018 95%aquatic species protection level for slightly to moderately disturbed ecosystem.

d ANZG low reliability metals and metalloids.

Table 8 Analogue sites

DOMAIN(S)	POST-MINE LAND USE	DESCRIPTION	ANALOGUE SITE ID	PROPOSED LOCATION (GDA94)	
				LATITUDE	LONGITUDE
Waste rock dump (WRD)	Native ecosystem	Areas field verified as RE 1.11.8, with steep slopes which are sparsely vegetated, representative of the side batters of the WRD (37 degrees).	A1.1	-20.401979	139.839381
			A1.2	-20.403388	139.839455
			A2.1	-20.417144	139.846550
			A2.2	-20.417395	139.845081
		Areas field verified as RE 1.11.2/1.11.3. Areas of flatter terrain will be selected, representative of the top of the WRD.	A3.1	-20.414892	139.844226
			A4.1	-20.413167	139.843531
			A4.2	-20.413241	139.842382
Ancillary infrastructure (ROM pad, roads, exploration)	Low intensity grazing	Areas field verified as RE 1.11.2/1.11.3. Areas of undulating terrain with native grass species (preferred by cattle) will be selected, to represent low intensity grazing.	A5.1	-20.420619	139.835723
			A5.2	-20.418974	139.834563
			A6.1	-20.428476	139.859263
			A6.2	-20.430010	139.859301

END OF **PRCP** SCHEDULE