

# PRCP schedule

*Environmental Protection Act 1994*

## PRCP schedule PRCP\_EPML00668613\_V1

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\_EPML00668613\_V1

#### PRCP schedule holder(s)

Name(s)	Registered address
Minerva Coal Pty Ltd	Level 34, Central Plaza One, 345 Queen Street BRISBANE CITY QLD 4000

#### Location details

Location(s)
ML70145 and ML70376

#### 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

21 May 2024

Date

Juliana McCosker  
Department of Environment, Science and Innovation  
Delegate of the administering authority  
*Environmental Protection Act 1994*

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**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 D - Non-use management areas

## 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 criterion stated in the schedule.
- PRCP2** 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. The holder must notify the administering authority of the proposed change, and an amendment by agreement will be initiated to amend the dates in the schedule.
- PRCP3** When an area achieves a rehabilitation milestone, it must be maintained and continue to comply with the rehabilitation milestone criteria for that rehabilitation milestone until the next rehabilitation milestone is achieved.
- PRCP4** Where an area has achieved the final rehabilitation milestone or improvement milestone, it must be maintained and continue to comply with the rehabilitation milestone or improvement milestone criteria for the final milestone and continue to be in a stable condition<sup>1</sup> until the area is progressively certified according to the requirements of the EP Act, or that area is surrendered.
- PRCP5** Monitoring and maintenance must be carried out in accordance with:
- i. The monitoring and maintenance program described in the rehabilitation planning part relating to this PRCP schedule; and
  - ii. Any requirement under this PRCP schedule.
- PRCP6** The holder must keep records in relation to relevant matters for a minimum of five years and provide such records to the administering authority on request.
- Relevant matters for this condition include, but are not necessarily limited to, the following:
- i. Rehabilitation activities and the results of these activities;
  - ii. Maintenance activities and the results of maintenance activities;
  - iii. Monitoring activities and the results of monitoring;

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<sup>1</sup> 'Stable condition' means land is in a stable condition if—the land is safe and structurally stable, and there is no environmental harm being caused by anything on or in the land, and the land can sustain a PMLU.

- iv. Designs, drawings, specifications or any similar documents required under the PRCP schedule; and
- v. Certifications, assessments, investigations, inspections, audits or any similar processes carried out in relation to rehabilitation milestones or milestone criteria.

**PRCP7** By 10 December 2025, the holder must undertake soil sampling across all existing and proposed disturbance areas to establish the characteristics of the soil quality and submit a report to the administering authority which proposes soil quality criteria to replace the interim values in **Appendix I – Soil quality criteria**.

**PRCP8** By 10 December 2026, the holder must submit a report to the administering authority which proposes surface water quality limits to replace the interim values identified in **Appendix VI Table 3 – Surface water quality limits**.

**PRCP9** By 10 December 2026, the holder must submit a report to the administering authority which proposes groundwater quality limits to replace the interim values identified in **Appendix VII Table 5 – Groundwater quality limits**.

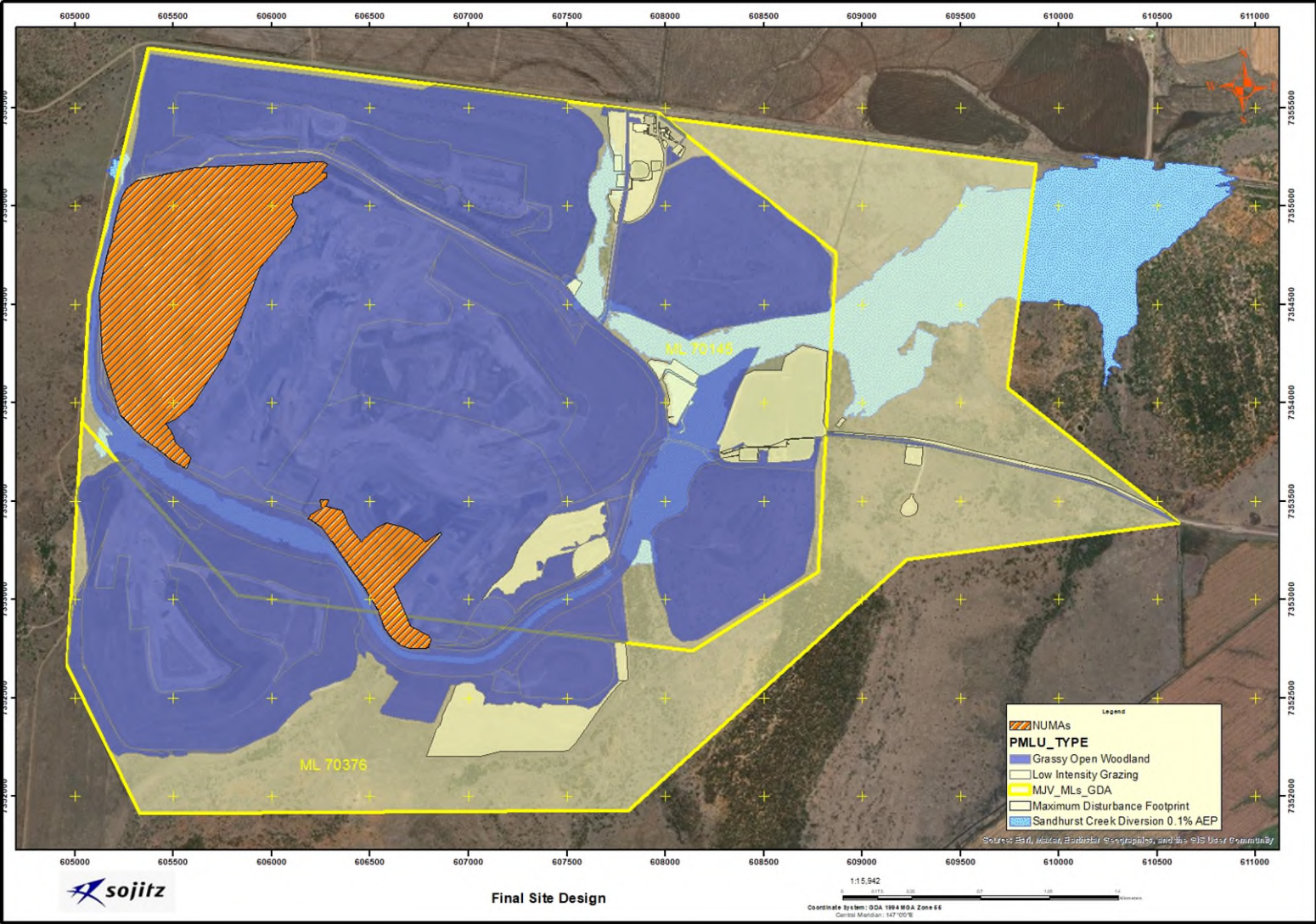
**PRCP10** Monitoring for the PRCP must demonstrate that surface and groundwater quality is on trajectory to meet water quality criteria and **condition PRCP9** prior to the final milestone for the PMLU.

**PRCP11** The following groundwater quality and levels must be demonstrated prior to the completion of the final milestone (**10 December 2050**):

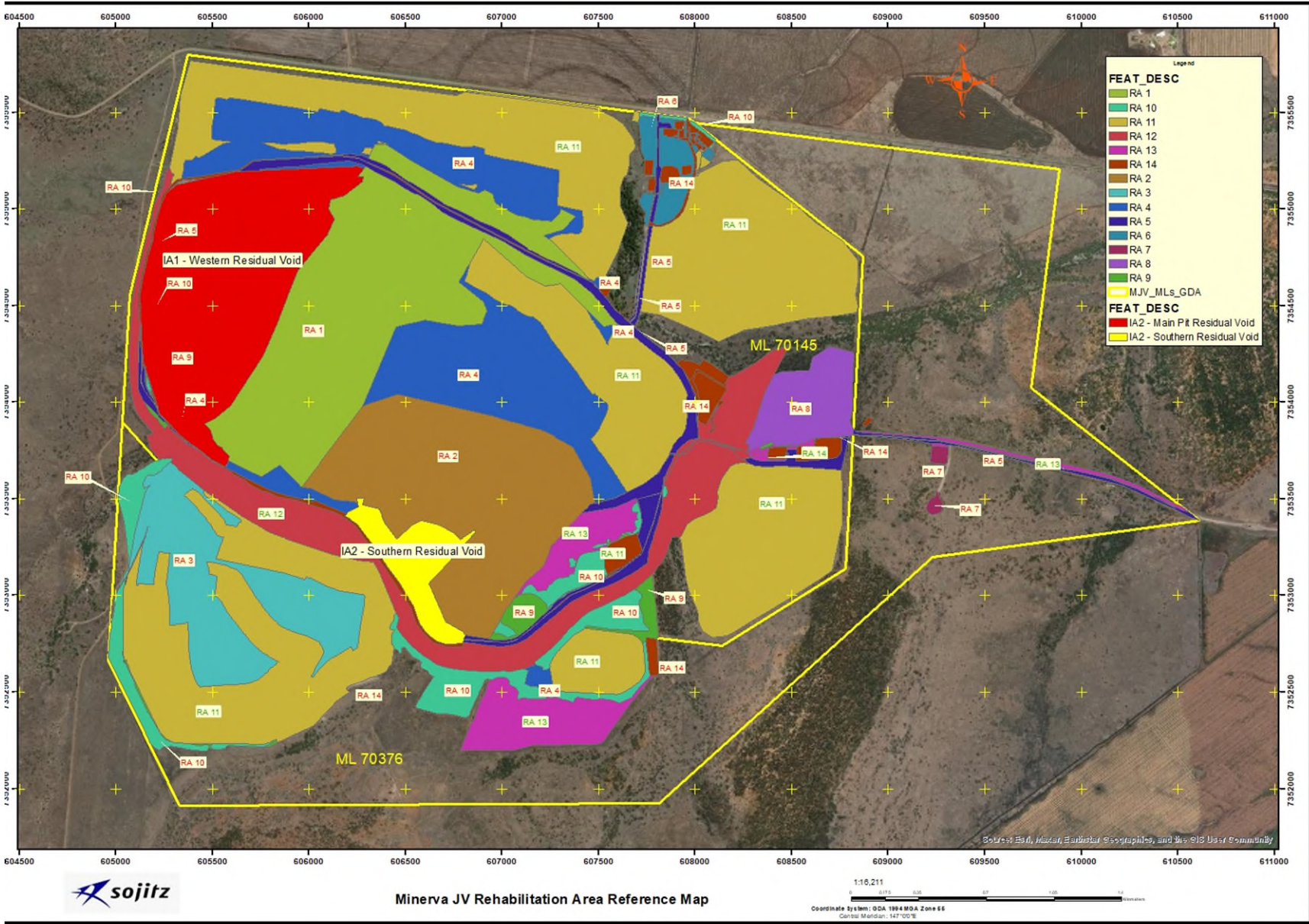
- i. Groundwater quality must be monitored quarterly at, but not limited to, compliance bores/locations specified in **Appendix VII Table 4 – Groundwater monitoring bores**, for all quality characteristics listed in **Appendix VII Table 5 – Groundwater quality limits**, for a minimum of five (5) consecutive years; and
- ii. Groundwater quality results must not exceed the limits in **Appendix VII Table 5 – Groundwater quality limits**, for three (3) consecutive results within a five-year period; and
- iii. Groundwater level is monitored quarterly at all bores and all results must not exceed a maximum drawdown of 2m, for a minimum of 10 consecutive years.

**END OF CONDITIONS**

Section B - Final site design and reference maps







**Section C – Post mining land uses**

**(RA1) Rehabilitation area 1**

Post-mining land uses (PMLU)										
Rehabilitation area		RA1 - Main Pit Low Wall								
Relevant activities		Rehabilitating pit low wall								
Total rehabilitation area size (ha)		126.3								
Commencement of first milestone: RM3		8/08/2031								
PMLU		Grassy Open Woodlands								
Date area is available	8/08/2031	10/12/2033	10/12/2034	10/12/2035	10/12/2040					
Cumulative area available (ha)	126.3	126.3	126.3	126.3	126.3					
Milestone completed by	10/12/2033	10/12/2034	10/12/2035	10/12/2040	10/12/2050					
Milestone Reference	Cumulative area achieved (ha)									
RM3	126.3									
RM4		126.3								
RM5			126.3							
RM6			126.3							
RM7				126.3						
RM9					126.3					

**(RA2) Rehabilitation area 2**

<b>Post-mining land uses (PMLU)</b>										
<b>Rehabilitation area</b>	RA2 - South Pit Low Wall									
<b>Relevant activities</b>	Rehabilitating pit low wall									
<b>Total rehabilitation area size (ha)</b>	97.4									
<b>Commencement of first milestone: RM3</b>	2/12/2027									
<b>PMLU</b>	Grassy Open Woodlands									
<b>Date area is available</b>	2/12/2027	10/12/2029	10/12/2031	10/12/2036						
<b>Cumulative area available (ha)</b>	97.4	97.4	97.4	97.4						
<b>Milestone completed by</b>	10/12/2029	10/12/2031	10/12/2036	10/12/2046						
<b>Milestone Reference</b>	<b>Cumulative area achieved (ha)</b>									
<b>RM3</b>	97.4									
<b>RM4</b>	97.4									
<b>RM5</b>		97.4								
<b>RM6</b>		97.4								
<b>RM7</b>			97.4							
<b>RM9</b>				97.4						



**(RA3) Rehabilitation area 3**

Post-mining land uses (PMLU)										
Rehabilitation area		RA3 - South West Dump								
Relevant activities		Rehabilitating out of pit dump								
Total rehabilitation area size (ha)		54.4								
Commencement of first milestone: RM3		19/04/2024								
PMLU		Grassy Open Woodlands								
Date area is available	19/04/2024	10/12/2026	10/12/2031							
Cumulative area available (ha)	54.4	54.4	54.4							
Milestone completed by	10/12/2026	10/12/2031	10/12/2041							
Milestone Reference	Cumulative area achieved (ha)									
RM3	54.4									
RM4	54.4									
RM5	54.4									
RM6	54.4									
RM7		54.4								
RM9			54.4							

**(RA4) Rehabilitation area 4**

Post-mining land uses (PMLU)										
Rehabilitation area		RA4 - External Dumps-Miscellaneous								
Relevant activities		Rehabilitating out of pit dumps								
Total rehabilitation area size (ha)		107								
Commencement of first milestone: RM3		19/02/2027								
PMLU		Grassy Open Woodlands								
Date area is available	19/02/2027	10/12/2028	10/12/2029	10/12/2034						
Cumulative area available (ha)	91.6	107	107	107						
Milestone completed by	10/12/2028	10/12/2029	10/12/2034	10/12/2044						
Milestone Reference	Cumulative area achieved (ha)									
RM3	91.6	15.4								
RM4		107								
RM5		107								
RM6		107								
RM7			107							
RM9				107						

**(RA5) Rehabilitation area 5**

Post-mining land uses (PMLU)										
Rehabilitation area		RA5 - Haul Roads								
Relevant activities		Rehabilitating haul roads								
Total rehabilitation area size (ha)		30								
Commencement of first milestone: RM3b		6/07/2032								
PMLU		Low-Intensity Grazing								
Date area is available	6/07/2032	10/12/2033	10/12/2038							
Cumulative area available (ha)	30	30	30							
Milestone completed by	10/12/2033	10/12/2038	10/12/2048							
Milestone Reference	Cumulative area achieved (ha)									
RM1	30									
RM2	30									
RM3	30									
RM5	30									
RM6	30									
RM8		30								
RM10			30							

**(RA6) Rehabilitation area 6**

<b>Post-mining land uses (PMLU)</b>										
<b>Rehabilitation area</b>	RA6 - Mine Industrial Area									
<b>Relevant activities</b>	Infrastructure removal and rehabilitation of land									
<b>Total rehabilitation area size (ha)</b>	9.3									
<b>Commencement of first milestone: RM1</b>	22/06/2032									
<b>PMLU</b>	Low-Intensity Grazing									
<b>Date area is available</b>	22/06/2032	10/12/2032	10/12/2038							
<b>Cumulative area available (ha)</b>	9.3	9.3	9.3							
<b>Milestone completed by</b>	10/12/2032	10/12/2038	10/12/2048							
<b>Milestone Reference</b>	<b>Cumulative area achieved (ha)</b>									
<b>RM1</b>	9.3									
<b>RM2</b>	9.3									
<b>RM3</b>	9.3									
<b>RM5</b>	9.3									
<b>RM6</b>	9.3									
<b>RM8</b>		9.3								
<b>RM10</b>			9.3							

**(RA7) Rehabilitation area 7**

Post-mining land uses (PMLU)										
Rehabilitation area		RA7 - Orica Compound								
Relevant activities		Rehabilitating laydown area								
Total rehabilitation area size (ha)		1.4								
Commencement of first milestone: RM3		5/08/2031								
PMLU		Low-Intensity Grazing								
Date area is available	5/08/2031	10/12/2031	10/12/2033	10/12/2038						
Cumulative area available (ha)	1.4	1.4	1.4	1.4						
Milestone completed by	10/12/2031	10/12/2033	10/12/2038	10/12/2048						
Milestone Reference	Cumulative area achieved (ha)									
RM1	1.4									
RM2	1.4									
RM3	1.4									
RM5		1.4								
RM6		1.4								
RM8			1.4							
RM10				1.4						



**(RA8) Rehabilitation area 8**

Post-mining land uses (PMLU)										
Rehabilitation area		RA8 - Run of Mine (ROM)								
Relevant activities		Infrastructure removal and rehabilitation of land								
Total rehabilitation area size (ha)		19.8								
Commencement of first milestone: RM3		24/07/2032								
PMLU		Low-Intensity Grazing								
Date area is available	24/07/2032	10/12/2032	10/12/2033	10/12/2038						
Cumulative area available (ha)	19.8	19.8	19.8	19.8						
Milestone completed by	10/12/2032	10/12/2033	10/12/2038	10/12/2048						
Milestone Reference	Cumulative area achieved (ha)									
RM1	19.8									
RM2	19.8									
RM3	19.8									
RM5		19.8								
RM6		19.8								
RM8			19.8							
RM10				19.8						

**(RA9) Rehabilitation area 9**

<b>Post-mining land uses (PMLU)</b>										
<b>Rehabilitation area</b>	RA9 - Stripped Topsoil									
<b>Relevant activities</b>	Rehabilitating areas that have been stripped of topsoil									
<b>Total rehabilitation area size (ha)</b>	7.5									
<b>Commencement of first milestone: RM3</b>	6/08/2031									
<b>PMLU</b>	Low-Intensity Grazing									
<b>Date area is available</b>	6/08/2031	10/12/2031	10/12/2033	10/12/2038						
<b>Cumulative area available (ha)</b>	7.5	7.5	7.5	7.5						
<b>Milestone completed by</b>	10/12/2031	10/12/2033	10/12/2038	10/12/2048						
<b>Milestone Reference</b>	<b>Cumulative area achieved (ha)</b>									
<b>RM3</b>	7.5									
<b>RM5</b>		7.5								
<b>RM6</b>		7.5								
<b>RM8</b>			7.5							
<b>RM10</b>				7.5						

**(RA10) Rehabilitation area 10**

Post-mining land uses (PMLU)										
Rehabilitation area		RA10 - Topsoil Stockpiles on Natural RL								
Relevant activities		Rehabilitating areas following topsoil stockpile removal								
Total rehabilitation area size (ha)		36.3								
Commencement of first milestone: RM3		24/05/2033								
PMLU		Low-Intensity Grazing								
Date area is available	24/05/2033	10/12/2033	10/12/2038							
Cumulative area available (ha)	36.3	36.3	36.3							
Milestone completed by	10/12/2033	10/12/2038	10/12/2048							
Milestone Reference	Cumulative area achieved (ha)									
RM3	36.3									
RM6	36.3									
RM8		36.3								
RM10			36.3							

**(RA11) Rehabilitation area 11**

Post-mining land uses (PMLU)										
<b>Rehabilitation area</b>		RA11 - Rehabilitated Dumps								
<b>Relevant activities</b>		Existing Rehabilitation Dumps								
<b>Total rehabilitation area size (ha)</b>		349.1								
<b>Commencement of first milestone: RM7</b>		19/04/2024								
<b>PMLU</b>		Grassy Open Woodlands								
<b>Date area is available</b>	19/04/2024	10/12/2029								
<b>Cumulative area available (ha)</b>	349.1	349.1								
<b>Milestone completed by</b>	10/12/2029	10/12/2039								
<b>Milestone Reference</b>	<b>Cumulative area achieved (ha)</b>									
<b>RM7</b>	349.1									
<b>RM9</b>		349.1								

**(RA12) Rehabilitation area 12**

Post-mining land uses (PMLU)										
<b>Rehabilitation area</b>		RA12 - Sandhurst Creek Diversion								
<b>Relevant activities</b>		Landform meeting completion criteria								
<b>Total rehabilitation area size (ha)</b>		69.1								
<b>Commencement of first milestone: RM7</b>		19/04/2024								
<b>PMLU</b>		Grassy Open Woodlands								
<b>Date area is available</b>	19/04/2024	10/12/2029								
<b>Cumulative area available (ha)</b>	69.1	69.1								
<b>Milestone completed by</b>	10/12/2029	10/12/2039								
<b>Milestone Reference</b>	<b>Cumulative area achieved (ha)</b>									
<b>RM7</b>	69.1									
<b>RM9</b>		69.1								



**(RA13) Rehabilitation area 13**

Post-mining land uses (PMLU)										
<b>Rehabilitation area</b>		RA13 - Other Areas								
<b>Relevant activities</b>		Existing Rehabilitation: East Irrigation Area, South Pit High Wall Rehabilitation, ROM Dam Surrounds, TLO Road								
<b>Total rehabilitation area size (ha)</b>		34								
<b>Commencement of first milestone: RM8</b>		19/04/2024								
<b>PMLU</b>		Low-Intensity Grazing								
<b>Date area is available</b>	19/04/2024	10/12/2029								
<b>Cumulative area available (ha)</b>	34	34								
<b>Milestone completed by</b>	10/12/2029	10/12/2039								
<b>Milestone Reference</b>	<b>Cumulative area achieved (ha)</b>									
<b>RM8</b>	34									
<b>RM10</b>		34								

**(RA14) Rehabilitation area 14**

Post-mining land uses (PMLU)										
<b>Rehabilitation area</b>		RA14 – Retained Infrastructure								
<b>Relevant activities</b>		Infrastructure to be retained post mining (access roads, infrastructure and site water dams for stock watering)								
<b>Total rehabilitation area size (ha)</b>		21.2								
<b>Commencement of first milestone: RM8</b>		22/06/2032								
<b>PMLU</b>		Low-Intensity Grazing								
<b>Date area is available</b>	22/06/2032	10/12/2032								
<b>Cumulative area available (ha)</b>	21.2	21.2								
<b>Milestone completed by</b>	10/12/2032	10/12/2042								
<b>Milestone Reference</b>	<b>Cumulative area achieved (ha)</b>									
<b>RM2</b>	21.2									
<b>RM10</b>		21.2								

Rehabilitation area milestones

Milestone reference	Rehabilitation milestone	Milestone criteria
RM1	Infrastructure Decommissioning and Removal	<p>1.1 With the exception of any infrastructure to remain as agreed by the landholder as evidenced by a signed landholder agreement, and with consent from the administering authority where the landholder or landowner is the EA holder, the following are complete:</p> <ul style="list-style-type: none"> <li>a) All services disconnected, terminated and removed.</li> <li>b) All buildings and associated infrastructure dismantled and removed offsite.</li> <li>c) All hardstand, concrete areas and roads (bitumen, blue metal, aggregate etc) removed.</li> <li>d) All fencing that is not part of PMLU requirements removed.</li> <li>e) All pipelines drained and removed.</li> <li>f) All waste removed from site.</li> <li>g) All surface water drainage infrastructure removed.</li> <li>h) All drillholes, bores, sediment ponds and sumps decommissioned except the bores required to comply with the monitoring requirements.</li> <li>i) All machinery and equipment removed from site.</li> <li>j) All dams dewatered and desilted.</li> </ul>
RM2	Identification, remediation and removal of contaminated land	<p>2.1 Site investigation report, as required under the Environmental Protection Act 1994, completed.</p> <p>2.2 Contaminated and hazardous material is either remediated in-situ or removed/transported to an approved landfill for disposal and waste tracking information recorded and submitted.</p> <p>2.3 Assessment of mine water dams is completed by an Appropriately Qualified Person (AQP)<sup>1</sup> and identified sediment and water management actions are completed.</p> <p>2.4 Validation testing confirms that contaminated and hazardous materials have been remediated or removed to an approved landfill for disposal and waste tracking information recorded and submitted.</p> <p><sup>1</sup>Appropriately qualified person (AQP) 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.</p>
RM3	Landform development and shaping	<p><b>External Batters (RA3, RA4)</b></p> <p>3.1 Landform profiled to a maximum slope gradient of <math>\leq 25\%</math>.</p> <p>3.2 Benches to be installed at 15m vertical lift intervals. Bench width dimensions ensure:</p> <ul style="list-style-type: none"> <li>a) The establishment of appropriate drainage containment bund structures to contain a maximum rainfall event; and</li> <li>b) Sufficient width for equipment to deliver topsoil.</li> </ul> <p>3.3 Rehabilitated surfaces designed to shed water to the drainage network in the receiving environment.</p>

Milestone reference	Rehabilitation milestone	Milestone criteria
		<p><b>Low Wall Spoil (RA1, RA2)</b>            3.4 Landform profiled to a maximum slope gradient of <math>\leq 25\%</math>.            3.5 Benches to be installed at 30m vertical lift intervals, width of benches to be 30m.            3.6 Shaping above 236RL near Western final void, with any fill below this level at angle of repose.            3.7 Shaping above 223RL near Southern final void, with any fill below this at angle of repose.</p> <p><b>RA5, RA6, RA7, RA8, RA9, RA10</b>            3.8 Landform profiled to a maximum slope gradient of <math>\leq 5\%</math>.</p> <p><b>All areas:</b>            3.9 Reinstate natural drainage lines with similar characteristics to pre-mining conditions.            3.10 Erosion and sediment control systems are installed as per the construction design and verified by an AQP.            3.11 An AQP certifies that the constructed landform achieves design criteria for geotechnical stability.            3.12 Final trim of all areas that require an even surface is completed prior to topsoil application.            3.13 The surface and groundwater monitoring network relevant to the RA is installed and monitoring underway.</p>
RM4	Rock Mulch Application	4.1 Haulage and placement of competent rock mulch onto shaped rehabilitated areas. 4.2 Competent rock mulch is applied at a minimum of 0.5m depth to all areas with slope gradient $> 5\%$ . 4.3 Rock mulched areas reshaped to surface $\leq 25\%$ .
RM5	Topsoil Application	5.1 Topsoil is applied at a depth of $\geq 0.1\text{m}$ to all rock mulched areas. 5.2 Topsoil is applied at a depth of $\geq 0.2\text{m}$ to all areas with slope gradient $< 5\%$ . 5.3 Topsoil health and suitability is tested and documented prior to placement on the landform under RM5.1 and RM5.2 to confirm: <ul style="list-style-type: none"> <li>a) Soil is suitable for target vegetation establishment to support the relevant PMLU as per this schedule; and</li> <li>b) Topsoil meets the parameters in Appendix I – Soil quality criteria.</li> </ul> 5.4 Where the topsoil tested under RM5.3 does not meet the criteria of Appendix I – Soil quality criteria, the topsoil is ameliorated and fertilised to achieve all criteria in Appendix I – Soil quality criteria for RM5. 5.5 The surface and groundwater monitoring network relevant to the RA is installed and monitoring underway.
RM6	Deep Ripping and Seeding	6.1 Areas deep ripped at least 300mm to mix topsoil into rock mulch substrate. 6.2 Areas deep ripped at least 300mm on the contour to provide seed bed and surface erosion

Milestone reference	Rehabilitation milestone	Milestone criteria
		<p>control.</p> <p><b>Grassy Open Woodlands (RA1, RA2, RA3, RA4)</b>                      6.3 Seeding is completed in accordance with Appendix II - Seed mix for grassy open woodlands PMLU at a seeding rate of 15kg/ha.                      6.4 Additional native species consistent with the technical description of RE11.8.4 and 11.8.5 can be incorporated into the seed mix specified in Appendix II - Seed mix for grassy open woodlands PMLU to meet a seeding rate of 15kg/ha.</p> <p><b>Low intensity Grazing (RA5, RA6, RA7, RA8, RA9, RA10)</b>                      6.5 Seeding is completed in accordance with Appendix III -Seed mix for low intensity grazing PMLU at a seeding rate of 15kg/ha.</p> <p><b>All areas</b>                      6.6 Stock exclusion fencing has been established to prevent stock from grazing newly seeded areas.</p>
<b>RM7</b>	Achievement of Surface Requirements (Grassy Open Woodlands)	7.1 Effective rooting depth >0.5 m. 7.2 No acid or saline seepage areas. 7.3 No rill or gully erosion present >0.3m depth. 7.4 No evidence of erosion classified as 'moderate' or 'severe' as defined by Appendix V Table 1 – Erosion classification framework. 7.5 Soil testing indicates the parameters in Appendix I – Soil quality criteria are met. 7.6 Vegetative ground cover of >40%. 7.7 Grassy open woodland areas must achieve the benchmark for RM7 which is 40% of the Reference site as per Appendix IV – Benchmark for grassy open woodlands PMLU and as measured by the 'BioCondition Assessment Methodology' by an AQP using the methodology outlined in the latest version of the Queensland's Herbarium's 'BioCondition Assessment Manual'. 7.8 Livestock excluded from the area. 7.9 Groundwater monitoring bores installed at locations and depths in accordance with Appendix VII Table 4 – Groundwater monitoring bores. 7.10 Surface water runoff is non-polluting to receiving waters and complies with Appendix VI Table 3 – Surface water quality limits.
<b>RM8</b>	Achievement of Surface Requirements (Low-intensity grazing)	8.1 Effective rooting depth >0.5 m. 8.2 No acid or saline seepage areas. 8.3 No rills or gully erosion present >0.3m depth. 8.4 No evidence of erosion classified as 'moderate' or 'severe' as defined by Appendix V Table 1 – Erosion classification framework.



Milestone reference	Rehabilitation milestone	Milestone criteria
		<p>8.5 Soil testing indicates the parameters in Appendix I – Soil quality criteria are met.</p> <p>8.6 Vegetative ground cover of &gt;40%.</p> <p>8.7 Land suitability assessment by an AQP certifies that land has achieved a post-mine land suitability class of 3 or better as defined in the ‘Guidelines for Agricultural Land Evaluation in Queensland’ (State Department of Queensland 2013).</p> <p>8.8 ≥ 4 palatable perennial pasture species present.</p> <p>8.9 Groundwater monitoring bores installed at locations and depths in accordance with Appendix VII Table 4 – Groundwater monitoring bores.</p> <p>8.10 Surface water runoff is non-polluting to receiving waters and complies with Appendix VI Table 3 – Surface water quality limits.</p>
<p><b>RM9</b></p>	<p>Achievement of a Stable Post Mining Land Use (Grassy Open Woodlands)</p>	<p>9.1 No evidence of erosion classified as ‘moderate’ or ‘severe’ as defined by Appendix V Table 1 – Erosion classification framework and verified by an APQ.</p> <p>9.2 No active gully erosion present &gt;0.3m deep.</p> <p>9.3 No acid or saline seepage areas.</p> <p>9.4 Certification from an AQP that the landform is geotechnically stable with FOS ≥ 1.5.</p> <p>9.5 Final landform survey confirms no built structures remain other than those that form part of a landholder agreement.</p> <p>9.6 Effective rooting depth &gt;0.5m.</p> <p>9.7 Weed presence is a maximum of 5% (with the exception of RA12 which is 10%) of total vegetative groundcover confirmed by an AQP in annual monitoring. Invasive plan management must be managed as per the general biosecurity obligation and recommendations to be provided in annual reports.</p> <p>9.8 Soil testing indicates the parameters in Appendix I – Soil quality criteria are met for RM9.</p> <p>9.9 A rehabilitation performance assessment is completed by an AQP using the methodology outlined in the latest version of the Queensland Herbarium’s ‘BioCondition Assessment Manual’.</p> <p>9.10 The rehabilitation performance assessment completed under RM9.10 for grassy open woodland areas must achieve the benchmark criteria for RM9 which is 60% of the Reference site as per Appendix IV – Benchmark for grassy open woodlands PMLU.</p> <p>9.11 All fencing used to prevent stock access to revegetation has been removed, except where fencing is agreed to be retained by the landholder as evidenced by a signed landholder agreement.</p> <p>9.12 Surface water runoff is non-polluting to receiving waters and complies with Appendix VI Table 3 – Surface water quality limits.</p> <p>9.13 Surface water quality results monitored monthly during flow at, but not limited to, downstream locations specified in Appendix VI Table 2 – Surface water monitoring locations, must not exceed the limits specified in Appendix VIII Table 3 – Surface water quality limits for a minimum of 5 consecutive years.</p>

Milestone reference	Rehabilitation milestone	Milestone criteria
		<p>9.14 If the surface water quality exceeds criteria 9.12, the applicable upstream/reference site must be compared to the downstream site result; and quality result measured at a downstream site must be equal to or less than the quality result measured at the applicable upstream/reference site<sup>2</sup>.</p> <p><b>Diversion (RA12)</b></p> <p>9.15 The Sandhurst Creek diversion demonstrates that the requirements of Water Licence 406741 have been satisfied as detailed below:</p> <ul style="list-style-type: none"> <li>a) An AQP confirms that: <ul style="list-style-type: none"> <li>i. the Sandhurst Creek diversion is designed to convey flow during a 0.1% AEP flood event.</li> <li>ii. the diversion will not impact the highwall stability of the final voids.</li> <li>iii. the drainage system is installed to allow natural non-erosive drainage on site.</li> <li>iv. The diversion is geotechnically stable with a FoS <math>\geq 1.5</math>.</li> </ul> </li> <li>b) An AQP has certified that the Sandhurst Creek diversion being retained in the landform continues to achieve the following: <ul style="list-style-type: none"> <li>i. Incorporate natural features (including geomorphic and vegetation) present at the location of the diversion.</li> <li>ii. Maintain the pre-existing hydrologic characteristics of surface water and groundwater systems for the area in which the watercourse diversion is located.</li> <li>iii. Maintain the hydraulic characteristics of the permanent watercourse diversion that are equivalent to other local watercourses and are suitable for the area in which the diversion is located without using artificial structures that require on-going maintenance.</li> <li>iv. Maintain sediment transport and water quality regimes that allow the diversion to be self-sustaining, while minimising any impacts to upstream and downstream water quality, geomorphology, or vegetation.</li> <li>v. Maintain equilibrium and functionality in all substrate conditions at the location of the diversion.</li> </ul> </li> </ul> <p><sup>2</sup> For pH, the quality result measured at the downstream location must be within the prescribed range. However, where pH at the downstream location is greater-than (&gt;) the highest limit in the range, the pH at the applicable upstream location must be greater-than or equal-to (<math>\geq</math>) the downstream location. Conversely, where pH at the downstream location is less than (&lt;) the lowest limit in the range, the upstream pH at the applicable upstream location must be less-than or equal-to (<math>\leq</math>) the downstream location.</p>
<p><b>RM10</b></p>	<p>Achievement of a Stable Post Mining Land Use (Low-intensity Grazing)</p>	<p>10.1 All areas have slopes <math>\leq 5\%</math>.</p> <p>10.2 Areas covered with minimum 0.2 m depth of topsoil.</p> <p>10.3 No evidence of erosion classified as 'moderate' or 'severe' as defined by Appendix V Table 1 – Erosion classification framework.</p> <p>10.4 No active gully erosion present &gt;0.3m deep.</p> <p>10.5 No acid or saline seepage areas.</p>

Milestone reference	Rehabilitation milestone	Milestone criteria
		<p>10.6 Vegetative ground cover <math>\geq</math> 50%.</p> <p>10.7 Certification from an AQP that the landform is geotechnically stable with FOS <math>\geq</math> 1.5.</p> <p>10.8 Final landform survey confirms no built structures remain other than those that form part of a written landholder agreement.</p> <p>10.9 Effective rooting depth <math>&gt;</math>0.5m.</p> <p>10.10 Weed presence is a maximum of 10% of total vegetative groundcover confirmed by an AQP in annual monitoring. Invasive plan management must be managed as per the general biosecurity obligation and recommendations to be provided in annual reports.</p> <p>10.11 Soil testing indicates the parameters in Appendix I – Soil quality criteria are met for RM10.</p> <p>10.12 Composition of the pasture cover must be predominantly 3P with a minimum of 4 palatable perennial grasses established.</p> <p>10.13 Land suitability assessment by an AQP certifies that land has achieved a post-mine land suitability class of 3 or better as defined in the Guidelines for Agricultural Land Evaluation in Queensland (State Department of Queensland 2013).</p> <p>10.14 Surface water runoff is non-polluting to receiving waters and complies with Appendix VI Table 3 – Surface water quality limits.</p> <p>10.15 Surface water quality results monitored monthly during flow at, but not limited to, downstream locations specified in Appendix VI Table 2 – Surface water monitoring locations, must not exceed the limits specified in Appendix VIII Table 3 – Surface water quality limits for a minimum of 5 consecutive years.</p> <p>10.16 If the surface water quality exceeds criteria 10.14, the applicable upstream/reference site must be compared to the downstream site result; and quality result measured at a downstream site must be equal to or less than the quality result measured at the applicable upstream/reference site<sup>3</sup>.</p> <p><b>Retained infrastructure (RA14)</b></p> <p>10.18 The RA is safe, with, safety hazards in rehabilitation similar to surrounding unmined landscapes to meet 0 (zero) significant difference as defined in AS/NZS ISO 31000:2018 Risk Management.</p> <p>10.19 Landholder formally accepts infrastructure for his/her ongoing beneficial use, with evidence of a written agreement provided for ownership transfer. Landholder accepts the condition of infrastructure, including its structural integrity through a legally binding written agreement executed by each party.</p> <p>10.20 Mine affected water will be either remediated, removed or disposed in accordance with relevant regulations.</p> <p>10.21 An AQP certifies that all contaminated sediment and water has been removed from all dams and disposed of at a licensed facility.</p>

Milestone reference	Rehabilitation milestone	Milestone criteria
		<p>10.22 Retained water storage water quality for quality characteristics to be below the trigger values for livestock drinking water defined in ANZECC &amp; ARMCANZ 2000 for a minimum of 5 years.</p> <p><sup>3</sup> For pH, the quality result measured at the downstream location must be within the prescribed range. However, where pH at the downstream location is greater-than (&gt;) the highest limit in the range, the pH at the applicable upstream location must be greater-than or equal-to (≥) the downstream location. Conversely, where pH at the downstream location is less than (&lt;) the lowest limit in the range, the upstream pH at the applicable upstream location must be less-than or equal-to (≤) the downstream location.</p>

**Section D – Non-use management areas**

**(IA1) Improvement area 1**

Non-use management area (NUMA)										
Rehabilitation area		IA1 - Western Residual Void								
Relevant activities		Western residual void and the exclusion area <sup>4</sup> meeting landform completion criteria <small><sup>4</sup> The exclusion area refers to the area between the high wall and the closure bund</small>								
Total rehabilitation area size (ha)		96.1								
Commencement of first milestone: MM1		10/12/2033								
NUMA		NUMA								
Date area is available	10/12/2033	10/12/2034								
Cumulative area available (ha)	96.1	96.1								
Milestone completed by	10/12/2034	10/12/2035								
Milestone Reference	Cumulative area achieved (ha)									
MM1	96.1									
MM2		96.1								

**(IA2) Improvement area 2**

<b>Non-use management area (NUMA)</b>										
<b>Rehabilitation area</b>		IA2 - Southern Residual Void								
<b>Relevant activities</b>		Southern residual void and the exclusion area meeting landform completion criteria								
<b>Total rehabilitation area size (ha)</b>		17.2ha								
<b>Commencement of first milestone: MM1</b>		10/12/2033								
<b>NUMA</b>		NUMA								
<b>Date area is available</b>	10/12/2033	10/12/2034								
<b>Cumulative area available (ha)</b>	17.2	17.2								
<b>Milestone completed by</b>	10/12/2034	10/12/2035								
<b>Milestone Reference</b>	<b>Cumulative area achieved (ha)</b>									
<b>MM1</b>	17.2									
<b>MM2</b>		17.2								

**Improvement area milestones**

Milestone reference	Management milestone	Milestone criteria
MM1	Achievement of surface requirements	<p>IA1.1 The following highwall and end wall maximum slope gradients are achieved:</p> <ul style="list-style-type: none"> <li>a) ≤60 degrees for competent rock, with a maximum of 70 degrees.</li> <li>b) ≤33 degrees (angle-of-repose) for incompetent rock.</li> </ul> <p>IA1.2 The maximum residual void surface area (measured at maximum water level) is 78ha for the Western Residual Void and 11.6ha for the Southern Residual Void.</p> <p>IA1.3 Closure bund installed and meets the following dimensions and requirements:</p> <ul style="list-style-type: none"> <li>a) Constructed from competent material.</li> <li>b) Height: ≥2m.</li> <li>c) Base width: ≥5m.</li> <li>d) Setback from pit crest: ≥ 50m.</li> <li>e) FoS of ≥1.5.</li> </ul> <p>IA1.4 The exclusion area meets the following requirements:</p> <ul style="list-style-type: none"> <li>a) Topsoil is applied at a depth of ≥ 0.2m to all areas.</li> <li>b) Topsoil health and suitability is tested and documented prior to placement on the landform under IA1.4a to confirm: <ul style="list-style-type: none"> <li>i. Soil is suitable for target vegetation establishment to support a grassy open woodland as per this schedule; and</li> <li>ii. Topsoil meets the parameters in Appendix I – Soil quality criteria.</li> </ul> </li> <li>c) Where the topsoil tested under IA1.4b does not meet the criteria of Appendix I – Soil quality criteria for MM1, the topsoil is ameliorated and fertilised to achieve all criteria in Appendix I – Soil quality criteria for MM1.</li> <li>d) Seeding is completed in accordance with Appendix II - Seed mix for grassy open woodlands PMLU and exclusion area at a seeding rate of 15kg/ha.</li> <li>e) Additional native species consistent with the technical description of RE11.8.4 and 11.8.5 can be incorporated into the seed mix specified in Appendix II - Seed mix for grassy open woodlands PMLU and exclusion area to meet a seeding rate of 15kg/ha.</li> </ul> <p>IA1.5 Fencing erected around the perimeter of the residual void to exclude humans and stock.</p> <p>IA1.6 Warning signage to deter public access and warn of void related risks are designed in accordance with the Australian Standard AS1319-1994 and are erected as specified intervals along the fence.</p> <p>IA1.7 The surface and groundwater monitoring network relevant to the IA is installed and monitoring underway.</p>

Milestone reference	Management milestone	Milestone criteria
MM2	Achievement of sufficient improvement	<p>IA2.1 Certification from an AQP that the:</p> <ul style="list-style-type: none"> <li>a) Residual void is safe to humans and livestock.</li> <li>b) Water level and quality in the void will not cause environmental harm to the surrounding environment.</li> <li>c) Residual void will not cause environmental harm outside of the relevant tenure boundary, as demonstrated by long-term groundwater level and quality monitoring.</li> </ul> <p>IA2.2 The residual void is located outside of the 0.1% AEP flood level under the upper climate change rainfall intensity event.</p> <p>IA2.4 The maximum water level in the voids is 35m below the spill point for the Western Residual Void and 42m below the spill point for the Southern Residual Void.</p> <p>IA2.5 Landforms are assessed by a RPEQ<sup>5</sup> as geotechnically and erosionally stable with a factor of safety <math>\geq 1.5</math>.</p> <p>IA2.6 Groundwater and void lake monitoring confirms the residual void acts as a sink in perpetuity.</p> <p><sup>5</sup>Registered Professional Engineer of Queensland (RPEQ) means a person who is an RPEQ under the provisions of the Professional Engineers Act 2002 and has demonstrated competency and relevant experience for the nominated subject matter.</p>



## Appendices

### Appendix I – Soil quality criteria (all RAs except RA11, RA12 and RA13)

Parameter	Criteria		
	RM5/MM1	RM7/8	RM9/RM10
pH	4.5 – 9	5 – 9	5 – 9
EC <sub>1:5</sub> (µS/cm)	<1000	<1000	<1000
Nitrate (mg/kg)	>5	>5	>5
Total Kjeldahl Nitrogen (mg/kg)	>500	>500	>500
Total Phosphorus (mg/kg)	≥50	≥100	≥150
Exchangeable Sodium Percentage [ESP] (%)	<15	<15	<15
Total Organic Carbon (%)	TBC	>1	>1

## Appendix II – Seed mix for grassy open woodland PMLU and exclusion area

Seed mix for grassy open woodland (all RAs with grassy open woodland except RA12) and exclusion area – RE 11.8.4/11.8.5

Trees	Shrubs	Grass	Forbs
Eucalyptus melanophloia	Alphitonia excelsa	Cymbopogon refractus	Brunoniella australis
Corymbia citriodora	Atalaya hemiglauca	Cymbopogon obtectus	Desmodium varians
Eucalyptus crebra	Eremophila mitchellii	Themeda triandra	Eremophila debilis
Corymbia erythrophloia	Macrozamia moorei	Heteropogon contortus	Glycine tabacina
Corymbia tessellaris	Acacia bancroftiorum	Dichanthium sericeum	Indigofera linifolia
Eucalyptus orgadophila	Alectryon diversifolius	Enneapogon lindelyanus	Neptunia gracilis
	Grewia latifolia	Panicum effusum	Rhynchosia minima
		Panicum decompositum	Tephrosia rufula
		Bothriochloa ewartiana	Wahlenbergia communis
		Dichanthium queenslandicum	
		Aristida leptopoda	
		Aristida latifolia	

Seed mix for drainage area/ riparian (RA12) – RE 11.3.25

Trees	Shrubs	Grass	Forbs
Eucalyptus camaldulensis		Heteropogon contortus	Lomandra longifolia
Eucalyptus tereticornis		Arundinella nepalensis	Bidens Pilosa
Corymbia tessellaris		Themeda triandra	Rumex brownie
Eucalyptus coolabah		Lomandra longifolia	Commelina diffusa
Casuarina cunninghamiana		Bothriocloa bladhii	Euphorbia dallachyana
Melaleuca bracteata		Themeda avenacea	Phyllanthus virgatus
Grewia latifolia		Eulalia aurea	Rhynchosia minima
		Dichanthium sericeum	Boerhavia sp.
		Paspalidium distans	Dianella sp.
		Eriochloa crebra	Breynia oblongifolia
		Chrysopogon fallax	Evolvulus alsinoides
			Galactia tenuiflora
			Glycine tabacina
			Glycine tomentella
			Wahlenbergia gracilis

## Appendix III – Seed mix for low intensity grazing PMLU

*Dichanthium* spp.

*Aristida* spp.

*Panicum* spp.

*Astrebla* spp.

*Stylosanthes scabra*

*Cynodon dactylon*

*Heteropogon contortus*

## Appendix IV – Benchmark for grassy open woodland PMLU

BioCondition benchmark data is provided below, as referenced by criterion (RM7 and RM9), for the respective Regional Ecosystem. The PMLU native ecosystem, must achieve the value given for each assessable attribute contained in the 11.8.4, 11.8.5 and 11.3.25 PRCP Benchmark.

All data is sourced from the Queensland Government's BioCondition benchmark database<sup>5</sup>. The revised PRCP benchmark includes a subset of the BioCondition assessable attributes as some attributes (i.e. large trees) are not likely to be attainable in the timeframe between revegetation and achievement of the PMLU.

### Specific benchmark for RA1, RA2, RA3, RA4

Regional Ecosystem	11.8.4/11.8.5 Reference		11.8.4/11.8.5 PRCP benchmark for RM7 (40% of the Reference site)	11.8.4/11.8.5 PRCP benchmark for RM9 (60% of the Reference site)
	RE 11.8.4 Eucalyptus melanophloia woodland to open woodland on Cainozoic igneous rocks.	RE 11.8.5 Eucalyptus orgadophila open woodland on Cainozoic igneous rocks	Rehabilitated Eucalyptus melanophloia woodland to open woodland and Eucalyptus orgadophila open woodland on Cainozoic igneous rocks.	Rehabilitated Eucalyptus melanophloia woodland to open woodland and Eucalyptus orgadophila open woodland on Cainozoic igneous rocks.
recruitment	100%	100%	Evidence of recruitment	Evidence of recruitment
Non native_plant_cover	0	0	<10% maximum	<10% maximum
native plant ground cover (%) (live)	NA	NA	30	30
litter_grd_cov (%) / plant ground cover (%) (dead)	24	15	10	10
tree_sp_richness*	4	3	2	2
shrub_sp_richness*	6	3	4	5
Grass and forb_sp_richness*	11	17	3	5
tree_canopy_cover (%)	27	13	10	20
native_per_grass (%)	53	59	30	40

\* Species richness must be based on species that occur in RE11.8.4 and RE11.8.5 as per the RE technical description

<sup>5</sup> Source: <https://www.qld.gov.au/data/assets/excel/doc/0023/170285/bioconditon-benchmark-database-table.xlsx>

## Specific benchmark for RA11, RA13

Regional Ecosystem	11.8.4/11.8.5 Reference		11.8.4/11.8.5 PRCP benchmark for RM7 (40% of the Reference site)	11.8.4/11.8.5 PRCP benchmark for RM9 (60% of the Reference site)
	RE 11.8.4 Eucalyptus melanophloia woodland to open woodland on Cainozoic igneous rocks.	RE 11.8.5 Eucalyptus orgadophila open woodland on Cainozoic igneous rocks	Rehabilitated Eucalyptus melanophloia woodland to open woodland and Eucalyptus orgadophila open woodland on Cainozoic igneous rocks.	Rehabilitated Eucalyptus melanophloia woodland to open woodland and Eucalyptus orgadophila open woodland on Cainozoic igneous rocks.
Short Description	RE 11.8.4 Eucalyptus melanophloia woodland to open woodland on Cainozoic igneous rocks.	RE 11.8.5 Eucalyptus orgadophila open woodland on Cainozoic igneous rocks	Rehabilitated Eucalyptus melanophloia woodland to open woodland and Eucalyptus orgadophila open woodland on Cainozoic igneous rocks.	Rehabilitated Eucalyptus melanophloia woodland to open woodland and Eucalyptus orgadophila open woodland on Cainozoic igneous rocks.
Recruitment	100%	100%	Evidence of recruitment	Evidence of recruitment
Non native_plant_cover	0	0	<10% maximum	<10% maximum
native plant ground cover (%) (live)	NA	NA	30	30
litter_grd_cov (%) / plant ground cover (%) (dead)	24	15	10	10
Tree and shrub_sp_richness*	4	3	2	2
Grass and forb_sp_richness*	5	9	2	4
tree_canopy_cover (%)	27	13	10	20
native_per_grass (%)	53	59	40	50

\* Species richness must be based on species that occur in RE11.8.4 and RE11.8.5 as per the RE technical description

**Specific benchmark for RA12 (Sandhurst Creek Diversion)**

Regional Ecosystem	11.3.25 Reference	11.3.25 PRCP benchmark for RM7 (40% of the Reference site)	11.3.25 PRCP benchmark for RM9 (60% of the Reference site)
<b>Short Description</b>	Eucalyptus tereticornis or E. camaldulensis woodland to open forest	Rehabilitated Eucalyptus tereticornis or E. camaldulensis woodland to open forest	Rehabilitated Eucalyptus tereticornis or E. camaldulensis woodland to open forest
<b>recruitment</b>	100%	Evidence of recruitment	Evidence of recruitment
<b>nn_plant_cover</b>	0	<10% maximum	<10% maximum
<b>native plant ground cover (%) (live)</b>	NA	30	30
<b>litter_grd_cov (%) / plant ground cover (%) (dead)</b>	21	10	10
<b>Tree and shrub_sp_richness*</b>	8	2	4
<b>Grass and forb_sp_richness*</b>	21	6	6
<b>tree_canopy_cover (%)</b>	34	10	20
<b>native_per_grass (%)</b>	35	20	30

\* Species richness must be based on species that occur in RE11.3.25 as per the RE technical description

## Appendix V – Erosion classification framework

Table 1: Erosion classification framework.

Erosion classification	Minor	Moderate	Severe
Sheet erosion	Shallow soil deposits downslope	Partial exposure of roots; moderate soil deposits downslope	Loss of surface horizon; subsoil exposure; root exposure; substantial soil deposits downslope
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	Absent	Absent	Present
Mass movement	Absent	Absent	Present

Source: NCST (2009) Australian Soil and Land Survey Field Handbook, 3rd edition. The National Committee on Soil and Terrain. CSIRO Publishing, Collingwood, Australia.



## Appendix VI – Surface water quality

Table 2: Surface water monitoring locations

Monitoring Locations	Receiving waters location description	Location		
		Latitude (decimal degree, GDA94)	Longitude (decimal degree, GDA94)	Location on a map
<b><i>Upstream monitoring locations</i></b>				<b><i>In accordance with Appendix VIII</i></b>
Up West - New	Sandhurst Creek west tributary, in the vicinity of LB1	-23.93181	148.02903	
Up East	Sandhurst Creek south tributary	-23.9281	148.0598	
<b><i>Downstream monitoring locations</i></b>				
SW-New 3	Unnamed tributary downstream of stockwater infrastructure	-23.92040	148.06327	
Wurba X	Sandhurst Creek, Wurba Road Culvert Gauging Board	-23.9117	148.088	

Table 3: Surface water quality limits

Quality characteristic (units)	Limit	Comment on limit
pH	6.5-9.0	Site-specific
Electrical Conductivity ( $\mu\text{S}/\text{cm}$ )	650*	Site-specific
Turbidity (NTU)	850 *	Site-specific
Sulphate (mg/L)	100*	Site-specific
Fluoride (mg/L)	0.5	Site-specific
Aluminium - dissolved ( $\mu\text{g}/\text{L}$ )	110	Site-specific
Arsenic - dissolved ( $\mu\text{g}/\text{L}$ )	13	ANZG 2018
Copper - dissolved ( $\mu\text{g}/\text{L}$ )	4	Site-specific
Iron - dissolved ( $\mu\text{g}/\text{L}$ )	155	Site-specific
Molybdenum - dissolved ( $\mu\text{g}/\text{L}$ )	34	ANZG 2018
Nickel - dissolved ( $\mu\text{g}/\text{L}$ )	11	ANZG 2018
Uranium - dissolved ( $\mu\text{g}/\text{L}$ )	0.5	ANZG 2018
Total recoverable hydrocarbons (C6-C9) ( $\mu\text{g}/\text{L}$ )	20	
Total recoverable hydrocarbons (C10-C36) ( $\mu\text{g}/\text{L}$ )	100	
Major ions (mg/L) Calcium, chloride, potassium, magnesium, sodium, bicarbonate, carbonate	For interpretation purposes only	
Hardness (mg/L)	For interpretation purposes only	

## 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.
- '\*' Denotes an interim value to be updated in accordance with PRCP8

## Appendix VII – Groundwater quality

Table 4: Groundwater monitoring bores

Monitoring Bore	Hydrogeological Unit	Location			
		Latitude (decimal degree, GDA94)	Longitude (decimal degree, GDA94)	Location on a map	
<b>Interpretation</b>					
1114 (LB1)	Tertiary Basalt	-23.933	148.0289	<i>In accordance with Appendix VIII</i>	
1116 (MB4)	Tertiary Basalt	-23.9488	148.0504		
MB7	Tertiary Basalt	-23.91158	148.02678		
MB8	Tertiary Basalt	-23.90328	148.01456		
<b>Compliance</b>					
MB02	Tertiary Basalt	-23.91923	148.03284		
1077 (MB10)	Tertiary Basalt	-23.9063	148.0391		
MB11	Tertiary Basalt	-23.89326	148.06322		
MB13	Tertiary Basalt	-23.9091	148.058		
MB14	Tertiary Basalt	-23.9117	148.07995		
GW-New 1	Tertiary Basalt	TBC*	TBC*		
GW-New2	Tertiary Basalt	TBC*	TBC*		

\*Note:

- GW-New-1 is to be downgradient of RA11 South east dump (within the environment of -23,9278, 148.0707)
- GW-New-2 is to be downgradient of RA11 North East Dump (within the environment of -23,9167, 148.0705)

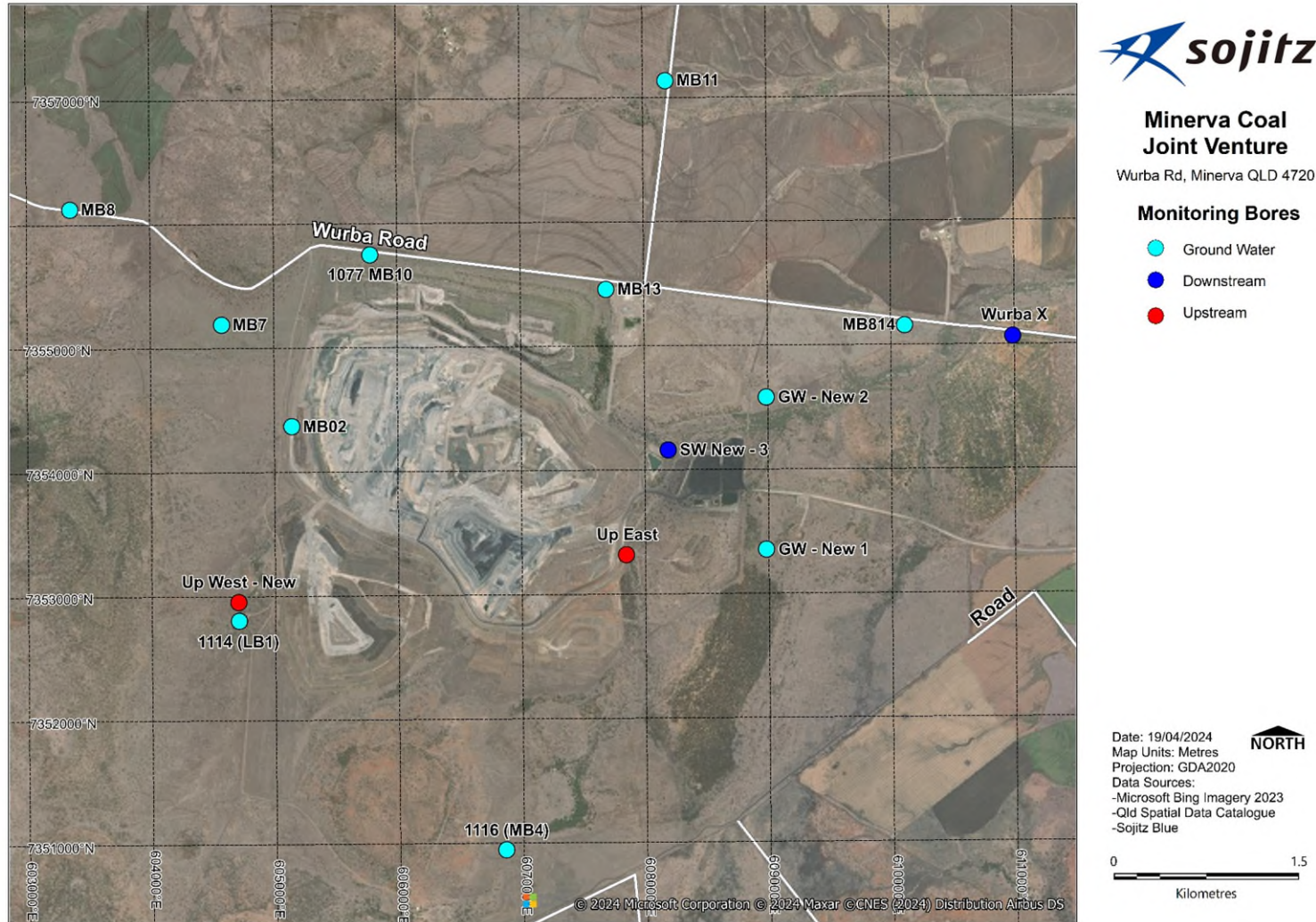
Table 5: Groundwater quality limits

Quality characteristic (units)	Monitoring Bore	Limit	Comment on limit
pH (pH units)	All bores	TBC*	Comet River sub basin freshwater WQO
Electrical conductivity ( $\mu\text{S}/\text{cm}$ )	All bores	1330	Site-specific
Sulfate (mg/L)	All bores	20	Site-specific
Fluoride (mg/L)	All bores	0.5	Site-specific
Aluminium - dissolved ( $\mu\text{g}/\text{L}$ ) <sup>2</sup>	All bores	TBC*	ANZG 2018
Arsenic - dissolved ( $\mu\text{g}/\text{L}$ ) <sup>2</sup>	All bores	TBC*	ANZG 2018
Copper - dissolved ( $\mu\text{g}/\text{L}$ ) <sup>2</sup>	All bores	TBC*	ANZG 2018
Iron - dissolved ( $\mu\text{g}/\text{L}$ )	All bores	TBC*	Zone 13 Shallow 80 <sup>th</sup> percentile Groundwater WQO
Molybdenum - dissolved ( $\mu\text{g}/\text{L}$ ) <sup>2</sup>	All bores	TBC*	ANZG 2018
Nickel - dissolved ( $\mu\text{g}/\text{L}$ ) <sup>2</sup>	All bores	TBC*	ANZG 2018
Uranium - dissolved ( $\mu\text{g}/\text{L}$ ) <sup>2</sup>	All bores	TBC*	ANZG 2018
Major ions (mg/L) Calcium, chloride, potassium, magnesium, sodium, bicarbonate, carbonate	All bores	For interpretation purposes only	
Hardness (mg/L)	All bores	For interpretation purposes only	

## 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.
  - \*Site specific limits to be provided to replace TBCs in accordance with Condition PRCP9.
1. DEHP (2011) Comet River Sub Basin WQO – surface water
  2. ANZG (2018) Aquatic ecosystem protection for moderately disturbed system (95% protection)

## Appendix VIII – Groundwater and Surface Water Monitoring Locations



END OF PRCP SCHEDULE