PRCP schedule

Environmental Protection Act 1994

PRCP Schedule P-PRCP-100734616 Saraji

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

PRCP schedule: P-PRCP_100734616_V2

PRCP schedule holder(s)

Name(s)	Registered address
QCT Mining Pty Ltd Mitsubishi Development Pty Ltd QCT Resources Pty Ltd BHP Queensland Coal Investments Pty Ltd QCT Investment Pty Ltd Umal Consolidated Pty Ltd BHP Coal Pty Ltd	Level 14, 480 Queen Street Brisbane City, QLD 4000

Location details

Location(s)
ML1775, ML1782, ML1784, ML2360, ML2410, ML70142, ML70294, ML70298, ML70328, ML700021.

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.

	2 April 2026
Signature	Date

Jason Dunlop

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

Enquiries:

Coal Business Centre
PO Box 3028, Emerald QLD 4720
Phone: 07 4987 9320
Email: CRMining@detsi.qld.gov.au

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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:

1. Section A - Conditions of PRCP schedule
2. Section B - Final site design and reference maps
3. Section C - Definitions
4. Section D - Post mining land uses
5. Section E - Non-use management areas.
6. Section F - Appendices

PRCP schedule

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1 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 Mining disturbance authorised under environmental authority EPML00862313 cannot be undertaken until an associated rehabilitation or improvement outcome has been provided in the PRCP schedule.

PRCP2 The holder must, for each rehabilitation and improvement area, achieve the corresponding rehabilitation or management milestone criterion (milestone reference):

a) for the cumulative area available specified in this schedule; and

b) by the milestone completion date specified in this schedule.

PRCP3 Where land becomes available for rehabilitation/improvement earlier than the nominated date in the schedule, the holder must:

a) notify the administering authority in writing within 30 days of the land becoming ‘available for rehabilitation’;

b) describe in the notification why or why not it considers that it would be reasonable and appropriate to amend this schedule; and

c) unless otherwise agreed to by the administering authority in writing, amend this schedule in a way that maximises the progressive rehabilitation to a stable condition within the timeframe specified by the administering authority.

Note:

1) Reference to "earlier than the nominated date in the schedule" means a date that is greater than 5 years prior to the date nominated in the schedule.
2) The written notification must include precise details of the relevant land area and the date when that land became ‘available for rehabilitation’.
3) Assessment of land becoming available is undertaken on a nominally annual basis.
4) Rehabilitation of land size must be practicable and economical.
5) The dates by which milestones are to be completed is brought forward, to the extent it is reasonably practicable to do so, by the same amount of time as the commencement was brought forward.

PRCP4 The holder must maintain a risk register that identifies the risks to not achieving:

a) a stable condition for post-mining land uses;

b) sufficient improvement for non-use management areas; and

c) how the risks are being managed or minimised.

PRCP5 The risk register (**PRCP4**) must be reviewed 5-yearly and include consideration of the outcomes of PRCP monitoring data.

PRCP6 Where an area achieves a rehabilitation or management milestone, the holder must continue to achieve the milestone criteria for that area until a surrender is approved.

PRCP7 The holder must carry out monitoring in accordance with:

a) the monitoring and maintenance program described in the rehabilitation planning part for the activity version 'BMA-SRM-PRCP-v5' 26 February 2026 or more recent version of the PRC plan relating to this schedule;

b) any requirement under this schedule; and

c) as necessary to demonstrate achievement of each rehabilitation milestone or management milestone criteria.

Note: Where there is any inconsistency between this schedule and the rehabilitation planning part the schedule criteria prevail to the extent of the inconsistency.

PRCP8 The holder must make, and keep until the final milestone criteria has been met or progressive rehabilitation certification has been achieved, up to date records on:

a) achievement and maintenance of each rehabilitation/improvement milestone criteria of this schedule;
b) rehabilitation/improvement activities and the results of these activities (including but not limited to, actions taken, date, location, methods, data collected and additional records where relevant e.g. QA/QC, photos, waste tracking and disposal records, appropriately qualified person details and assumptions);
c) maintenance of rehabilitation/improvement and the results of maintenance activities;
d) monitoring of rehabilitation/improvement and the results of monitoring;
e) details and results of rehabilitation trials;
f) designs, drawings, specifications and any similar documents developed in accordance with good professional practice in relation to rehabilitation/improvement milestones or milestone criteria;
g) all documents in relation to the requirements of this schedule, including reports (e.g. site investigation report), statements (e.g. site suitability statement), certifications, assessments, investigations, inspections, audits or any similar documents developed in relation to rehabilitation/improvement milestones or milestone criteria;
h) landholder agreements; and
i) details of community consultation in the community consultation register relating to rehabilitation/improvement and closure activities.

PRCP9 A summary report of key records under **PRCP8** must be maintained until the relevant environmental authority has been surrendered or progressive rehabilitation certification is achieved.

PRCP10 Records made under **PRCP8** must be provided to the administering authority in the specified format within 20 business days of a written request or a longer duration as agreed by the administering authority.

PRCP11 All AQP designs, specifications, certifications, assessments and any similar documents, must:

a) include documented consideration of any relevant guideline or publication material, including material published by the administering authority;
b) detail the boundary conditions (of any model);
c) detail any assumptions made, limitations and areas of uncertainty; and
d) must contain sufficient detail to allow for independent peer review and substantiation.

PRCP12 Disturbance due to exploration and minor ancillary activities in areas not planned to be mined and not within a Rehabilitation Area in this schedule 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 and achieves the pre-disturbance land use as detailed in **Figure 1: Final Site Design**.

PRCP13 With respect to groundwater:

a) The monitoring bores listed in **Appendix 11: Groundwater monitoring locations** must be installed by 2050;

b) The holder must develop site-specific groundwater quality limits by 2055 for the bores listed in **Appendix 11: Groundwater monitoring locations** to update the **Appendix 12: Interim groundwater quality limits**;

c) Following monitoring bore installation as per **PRCP13(a)**, groundwater quality must be monitored six monthly at the bores specified in **Appendix 11: Groundwater monitoring locations** for all quality characteristics listed in **Appendix 12: Interim groundwater quality limits** as an interim measure until **PRCP13.b)** is fulfilled; and

d) The groundwater model and water balance model must be recalibrated, and predictions rerun at least every five years commencing from 2050.

PRCP14 With respect to groundwater:

a) Groundwater quality results for compliance bores have not exceeded the site-specific groundwater quality limits specified in **Appendix 12: Interim groundwater quality limits**, for three (3) consecutive results within the five-year period immediately prior to surrender; and

b) Predictive groundwater modelling as per the Australian Groundwater Modelling Guidelines (current version), undertaken at the completion of all mining, confirms the network of residual voids will collectively develop into groundwater sinks and prevent environmental harm through the release of contaminants from the void lakes beyond the tenure boundary post-closure.

PRCP15 With respect to surface water:

a) The holder must install monitoring equipment at the relevant surface water monitoring locations specified in **Appendix 9: Surface water monitoring locations** by 2050; and

b) Following completion of **PRCP15.a)**, surface water quality must be monitored at least once per month during flow at downstream locations specified in **Appendix 9: Surface water monitoring locations** when flows at the downstream gauging station record 1m^3/second for Phillips Creek and Hughes Creek and 0.5m^3/second for One Mile Creek, when safe to collect samples; and

c) Surface water quality monitoring as per **PRCP15.b)** must be carried out for all parameters listed in the **Appendix 10: Interim surface water quality limits** as an interim measure until **PRCP15.d)** is fulfilled; and

d) The holder must develop site-specific surface water quality limits by 2055 for the watercourses listed in **Appendix 9: Surface water monitoring locations** to update **Appendix 10: Interim surface water quality limits**.

PRCP16 With respect to surface water:

a) Surface water quality monitored as per **PRCP15.b)** must not exceed surface water quality limits specified in **Appendix 10: Interim surface water quality limits** within the five (5) year period immediately prior to surrender; and

b) If the surface water quality exceeds criteria **PRCP16.a)**, the applicable upstream 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 site.

PRCP17 Where the surface water quality at the downstream site exceeds the upstream site result as per **PRCP16.b)**, an AQP must complete an assessment of the cause of the exceedance and risk of rehabilitation not achieving a stable condition within the schedule timeframe and:

a) Where there is a low risk to achieving a stable condition from the mining tenure (ML1775, ML1782, ML1784, ML2360, ML2410, ML70142, ML70294, ML70298, ML70328, ML700021), then no further action is to be taken; or

b) Where there is a risk greater than low to achieve a stable condition, then an assessment of potential environment harm and any changes or rectification actions to rehabilitation activities must be determined and implemented;

c) The EA holder will be non-compliant with **PRCP16.a)**, if **PRCP17.b)** is triggered more than three (3) times over five (5) consecutive years prior to surrender and **PRCP16.a)** is reset; and

d) The assessment/s under **PRCP17** must be completed and provided to the administering authority within six (6) months of receiving the relevant sampling results.

PRCP18 With respect to the improvement area (IA1), the holder must develop a 'Groundwater Level Monitoring Network' (GLMN) inclusive of the following steps:

a) Identify by 2094 (or 4-years prior to the planned end of mining at SRM), relevant regional aquifers (hydrogeological units) likely to be affected/connected individually or collectively by each residual void in IA1;

b) Identify by 2094 (or 4-years prior to the planned end of mining at SRM), relevant existing groundwater bores (from **Appendix 11: Groundwater monitoring locations**) and new additional groundwater monitoring bores if determined by an AQP as required to ensure sufficient monitoring coverage for each regional aquifer mapped in accordance with **PRCP18.a)**;

c) Independent AQP endorse the proposed GLMN as per **PRCP18.a)** and **PRCP18.b)** is fit for purpose – that is, to monitor and support predictions of the residual voids' behaviour as a sink;

d) For existing groundwater monitoring bores identified in accordance with **PRCP18.b)** and approved as per **PRCP18.c)**, update **Appendix 11: Groundwater monitoring locations** before the end of 2097 (or within 3 years of completion of **PRCP18.b)**) to reflect water level (mAHD) for the relevant bores; and

e) Depending on outcomes of **PRCP18.b)** and **PRCP18.c)**, update **Appendix 11: Groundwater monitoring locations** before the end of 2097 (or within 3 years of completion of **PRCP18.b)**) with new additional groundwater monitoring bores' location co-ordinates, hydrogeological unit and water level (mAHD).

PRCP19 Groundwater level must be monitored annually, at the bores identified under the GLMN (**PRCP18**), starting from 2098 or within 1 year of the end of SRM mining, whichever is earlier.

PRCP20 The holder may develop site-based criteria with which to assess tunnel erosion within 5 years of the approval of the transitional PRCP schedule (4 September 2024). Criteria should be sufficient to quantify where tunnel erosion exists within the landscape which would not pose risk to final landform stability. The criteria should be supported by evidence and reviewed and approved by an AQP.

END OF CONDITIONS

PRCP schedule

Environmental Protection Act 1994

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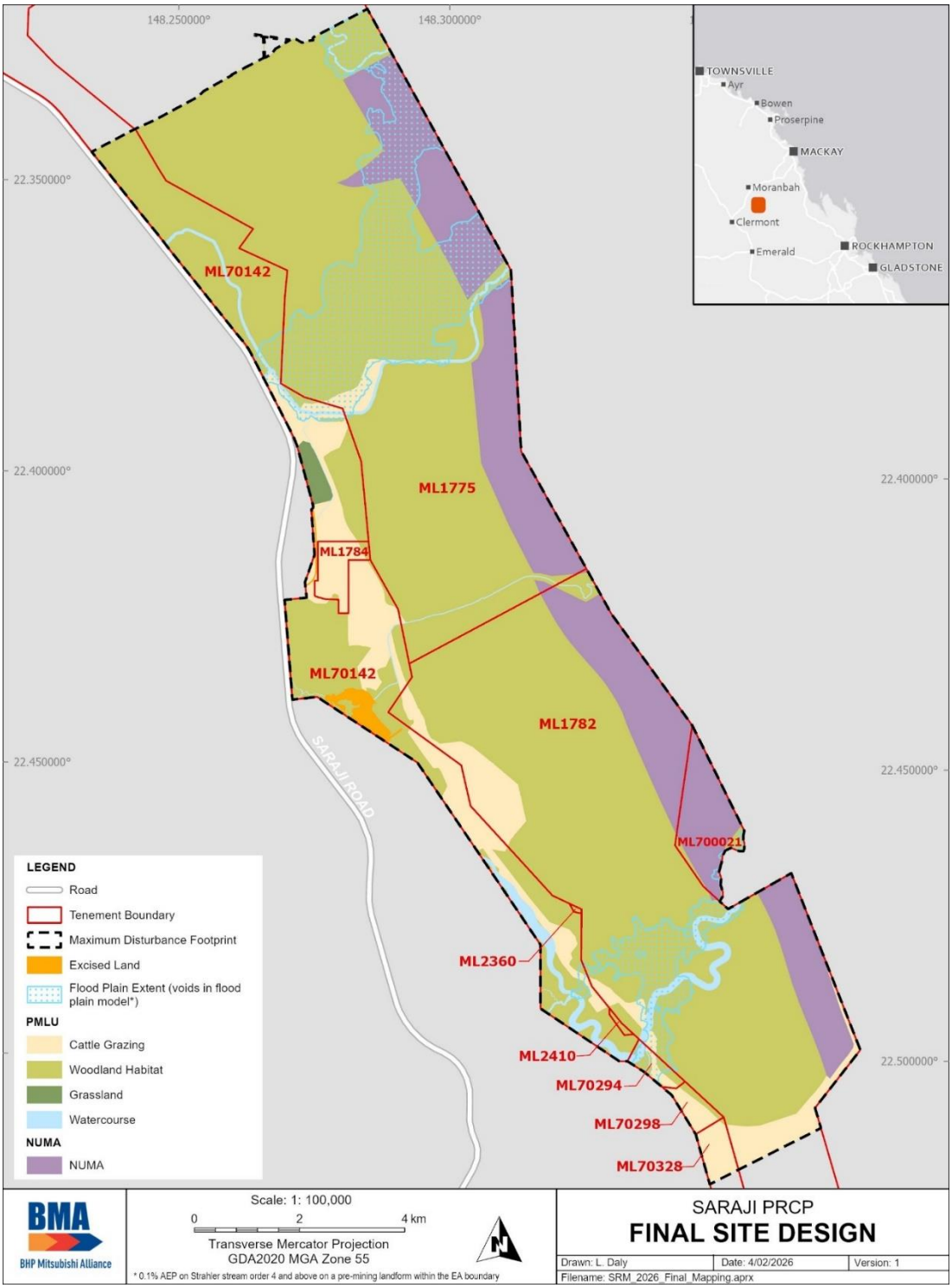
2 Section B – Final Site design and Reference Map

Figure 1 – Final Site Design



PRCP schedule

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Figure 2 – Rehabilitation Areas (PMLU) and Improvement Areas (NUMA)

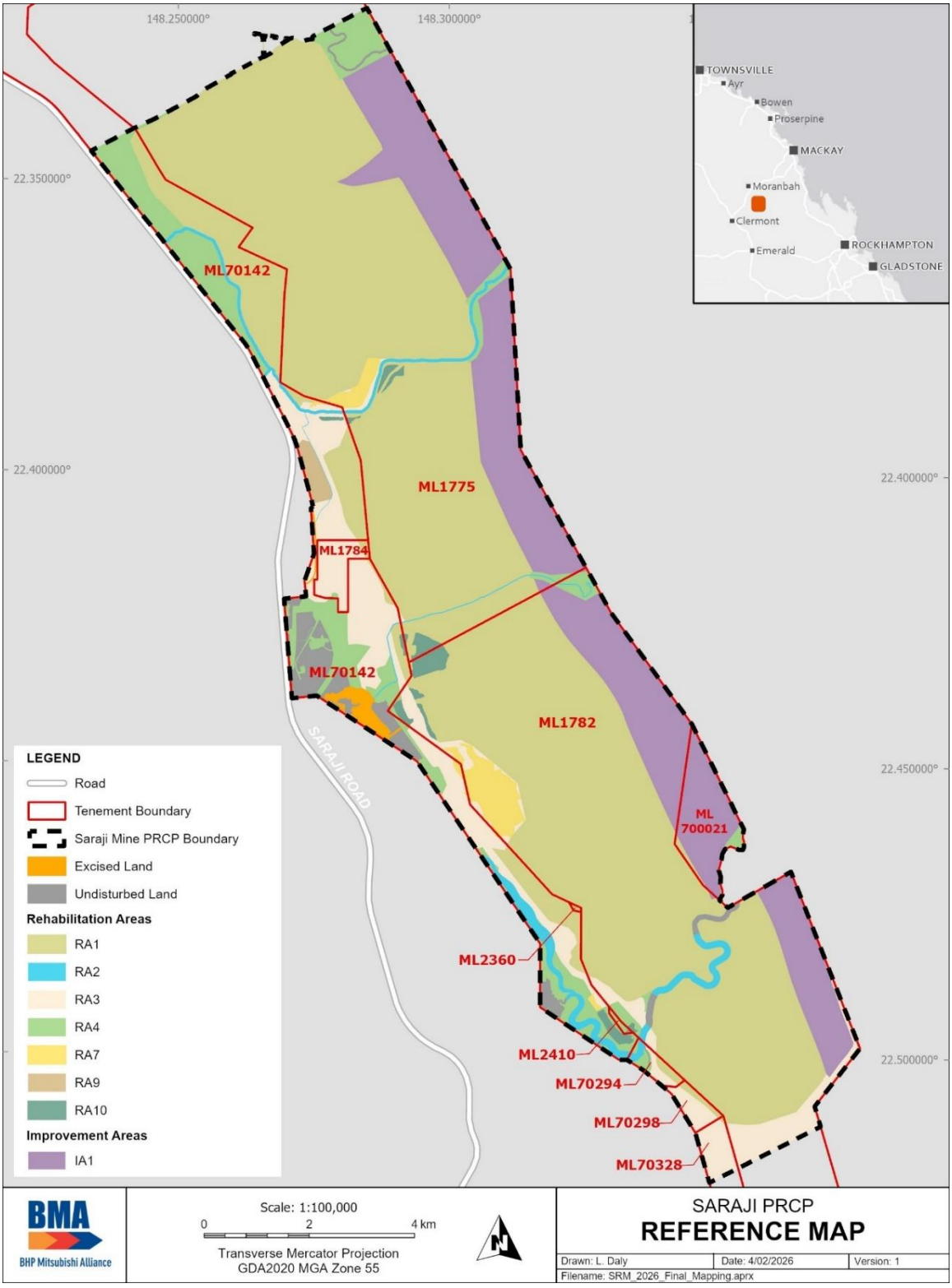
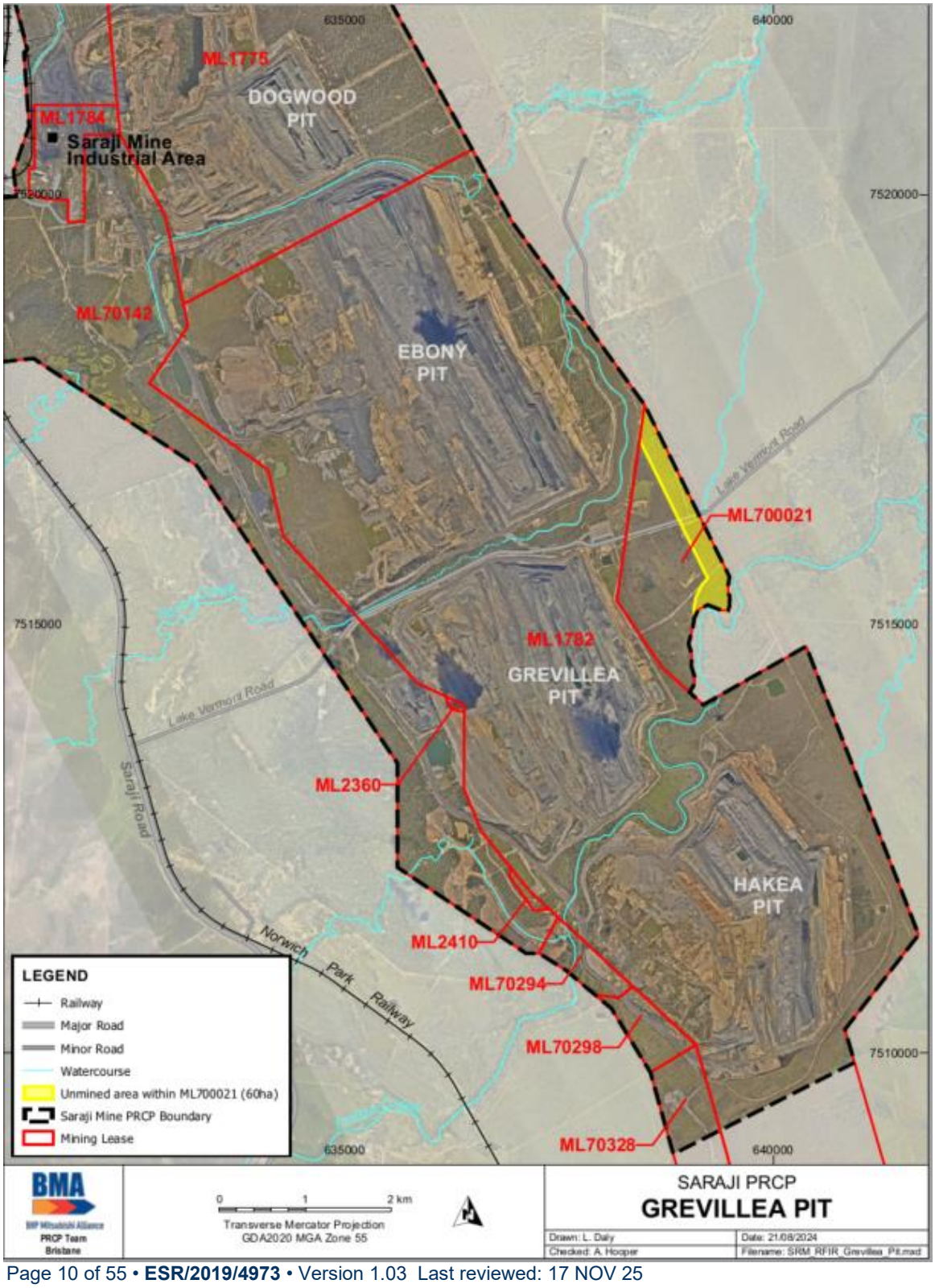


Figure 3 – Area to remain unmined (60ha) on ML700021 *(refer criteria IA2.5)*



3 Section C – Definitions

3P grasses	perennial, productive and palatable grasses.
Appropriately qualified person (AQP)	means a person who has professional qualifications, training, skills and experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis on performance relative to the subject matter using the relevant protocols, standards, methods or literature.
Activity (EP Regulation)	includes that part, if any, of an activity relating to the following— (a) preparing a place for the activity before carrying out the activity; (b) rehabilitating a place after it has been used for carrying out the activity.
BioCondition	refers to the *BioCondition Assessment Manual* (Eyre, T.J., Kelly, A.L, Neldner, V.J., Wilson, B.A., Ferguson, D.J., Laidlaw, M.J. and Franks, A.J. (2015)) and *BioCondition: A Condition Assessment Framework for Terrestrial Biodiversity in Queensland. Assessment Manual. Version 2.2* (Queensland Herbarium, Department of Science, Information Technology, Innovation and Arts, Brisbane) or later versions thereof.
Contaminants	can be a gas, liquid or solid; or an odour; or an organism (whether alive or dead), including a virus; or energy, including noise, heat, radioactivity and electromagnetic radiation; or a combination of contaminants.
Contaminated Land Investigation Document	as defined in section 387 of the *Environmental Protection Act 1994* (Qld) (EP Act).
Environmental harm	as defined in section 14 of the *Environmental Protection Act 1994* (Qld) (EP Act).
Growth media	is defined as all soil and soil-like material that will support the final vegetation cover. This includes the topsoil and subsoil where these materials are applied independently. Where the topsoil is incorporated into the underlying subsoil/spoil, topsoil refers to the depth of incorporation and the remaining depth is regarded as subsoil. The total depth of growth media is nominally considered to be the effective plant root zone.
Groundcover	anything in contact with the soil surface, for example, live cover, standing dry cover, organic litter (including leaves, hay, woody debris) or rocks.
Gully	a gully is a channel excavated by water, more than 0.3 m deep.
Independent AQP	is an AQP who is a third party, and has not previously provided advice on the matter the subject of the review.
Index of Diversion	for watercourse rehabilitation not within a diversion (i.e. crossings/culverts), a

Condition modified method	modified Index of Diversion Condition (IDC) method with a reduced number of monitoring points within each reach will be used.
Minor ancillary activities	includes roads, access tracks and culverts, fences, underground services, low-impact telecommunication facilities, electrical sub-stations and switch yards, transmission grid works and supply network works, storage depots, pipelines and pumps, groundwater bores, gas drainage bores, monitoring and investigation works and exploration activities.
Rehabilitation activity	means any activity that the holder is required to carry out in relation to this PRCP schedule.
Representative	representative means a sample set that covers the variance in monitoring or other data due to either natural changes or operational phases of the mining activities.
Rill	a rill is a channel excavated by water, less than 0.3m deep.
Unacceptable risk of environmental harm	means as defined in section 14 (1) and (2) of the *Environmental Protection Act* 1994 (Qld).
Stabilised	means one or both of the following conditions apply: no evidence of sediment movement; sides and/or floors of erosion form are revegetated (Australian Soil and Land Survey Field Handbook Fourth Edition).
Stable condition	as defined in section 111A of the *Environmental Protection Act 1994:* 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.
Suitably qualified person (SQP)	for performing a regulatory function under chapter 7, part 8 (Contaminated Land) of the EP Act or another function prescribed under a regulation, means a person who— (a) has qualifications and experience relevant to performing the function; and (b) if a regulation prescribes an organisation for this paragraph—is a member of the organisation.
Vegetation groundcover	means plants, plant litter, tree leaf litter, twigs and woody debris capable of protecting the soil surface from erosion.

4 Section D – Post mining land uses

4.1 (RA1) Rehabilitation area 1

Post-mining land uses (PMLU)											
Rehabilitation area	RA1										
Relevant activities	Spoil Dumps										
Total rehabilitation area size (ha)	6775										
Commencement of first milestone: RM2	10/12/2023										
PMLU	Woodland Habitat										
Date area is available	10/12/2023	10/12/2028	10/12/2033	10/12/2038	10/12/2043	10/12/2048	10/12/2053	10/12/2058	10/12/2063	10/12/2068	10/12/2073
Cumulative area available (ha)	51	193	431	582	794	1030	1303	1703	2343	2743	3143
Milestone completed by	10/12/2028	10/12/2033	10/12/2038	10/12/2043	10/12/2048	10/12/2053	10/12/2058	10/12/2063	10/12/2068	10/12/2073	10/12/2078
Milestone Reference	**Cumulative area achieved (ha)**										
RM2	51	193	431	582	794	1030	1303	1703	2343	2743	3143
RM3		51	193	431	582	794	1030	1303	1703	2343	2743
RM5		51	193	431	582	794	1030	1303	1703	2343	2743
RM8		51	193	431	582	794	1030	1303	1703	2343	2743
RM11				51	193	431	582	794	1030	1303	1703
RM14						51	193	431	582	794	1030

Date area is available	10/12/2078	10/12/2083	10/12/2088	10/12/2093	10/12/2098						
Cumulative area available (ha)	3663	4722	5161	5461	6775						
Milestone completed by	10/12/2083	10/12/2088	10/12/2093	10/12/2098	10/12/2103	10/12/2108	10/12/2113	10/12/2118	10/12/2123	10/12/2128	10/12/2133
Milestone Reference	**Cumulative area achieved (ha)**										
RM2	3663	4722	5161	5461	6775						
RM3	3143	3663	4722	5161	5461	6123	6775				
RM5	3143	3663	4722	5161	5461	6123	6775				
RM8	3143	3663	4722	5161	5461	6123	6775				
RM11	2343	2743	3143	3663	4722	5161	5461	6123	6775		
RM14	1303	1703	2343	2743	3143	3663	4722	5161	5461	6123	6775

(RA2) Rehabilitation area 2

Post-mining land uses (PMLU)											
Rehabilitation area	RA2										
Relevant activities	Creek diversions and crossings										
Total rehabilitation area size (ha)	211										
Commencement of first milestone: RM1	10/12/2042										
PMLU	Watercourse										
Date area is available	10/12/2042	10/12/2052	10/12/2062	10/12/2065	10/12/2079	10/12/2082	10/12/2085	10/12/2099	11/12/2104		
Cumulative area available (ha)	41	89	128	128	176	176	176	178	211		
Milestone completed by	10/12/2045	10/12/2055	10/12/2065	10/12/2075	10/12/2082	10/12/2085	10/12/2092	10/12/2102	10/12/2107	10/12/2112	10/12/2117
Milestone Reference	**Cumulative area achieved (ha)**										
RM1	41	89	128		176			178	211		
RM3	41	89	128		176			178	211		
RM6	41	89	128		176			178	211		
RM9	41	89	128		176			178	211		
RM12		41	89	128			176			178	211
RM15			41	89		128		176			
Date area is available											
Cumulative area											

available (ha)											
Milestone completed by	10/12/2122	10/12/2127									
Milestone Reference	**Cumulative area achieved (ha)**										
RM1											
RM3											
RM6											
RM9											
RM12											
RM15	178	211									

(RA3) Rehabilitation area 3

Post-mining land uses (PMLU)													
Rehabilitation area	RA3												
Relevant activities	Infrastructure Areas - CHPP, MIA, workshop, dams, coal stockpiles, roads, general infrastructure												
Total rehabilitation area size (ha)	906												
Commencement of first milestone: RM1	10/12/2099												
PMLU	Cattle Grazing												
Date area is available	10/12/2099	10/12/2104											
Cumulative area available (ha)	693	906											
Milestone completed by	10/12/2102	10/12/2107	10/12/2112	10/12/2114	10/12/2117	10/12/2119	10/12/2122	10/12/2124	10/12/2127	10/12/2129	10/12/2134	10/12/2139	10/12/2144
Milestone Reference	**Cumulative area achieved (ha)**												
RM1	693	906											
RM2			665		860		888		906				
RM3				665		860		888		906			
RM4				665		860		888		906			
RM7				665		860		888		906			
RM10								665		860	888	906	
RM13										665	860	888	906

(RA4) Rehabilitation area 4

Post-mining land uses (PMLU)												
Rehabilitation area	RA4											
Relevant activities	Roads, creek corridor areas, exploration and general infrastructure											
Total rehabilitation area size (ha)	707											
Commencement of first milestone: RM1	10/12/2026											
PMLU	Woodland Habitat											
Date area is available	10/12/2026	10/12/2028	10/12/2031	10/12/2036	10/12/2099	10/12/2101	10/12/2104					
Cumulative area available (ha)	105				448		707					
Milestone completed by	10/12/2028	10/12/2031	10/12/2041	10/12/2051	10/12/2101	10/12/2104	10/12/2106	10/12/2109	10/12/2114	10/12/2119	10/12/2124	10/12/2129
Milestone Reference	**Cumulative area achieved (ha)**											
RM1	105				448		707					
RM3		105				448		707				
RM5		105				448		707				
RM8		105				448		707				
RM11			105						448	707		
RM14				105							448	707

(RA7) Rehabilitation area 7

Post-mining land uses (PMLU)										
Rehabilitation area	RA7									
Relevant activities	Existing Rehabilitation – spoil dumps									
Total rehabilitation area size (ha)	161									
Commencement of first milestone: RM10	10/12/2023									
PMLU	Cattle Grazing									
Date area is available	10/12/2023									
Cumulative area available (ha)	161									
Milestone completed by	10/12/2033	10/12/2038								
Milestone Reference	**Cumulative area achieved (ha)**									
RM10	161									
RM17		161								

(RA9) Rehabilitation area 9

Post-mining land uses (PMLU)										
Rehabilitation area	RA9									
Relevant activities	Tailing Storage Facility (TSF) no. 3									
Total rehabilitation area size (ha)	41									
Commencement of first milestone: RM1	10/12/2023									
PMLU	Grassland									
Date area is available	10/12/2023	10/12/2033	10/12/2036	10/12/2046	10/12/2104					
Cumulative area available (ha)	24	24	24	24	41					
Milestone completed by	10/12/2033	10/12/2036	10/12/2046	10/12/2056	10/12/2106	10/12/2116	10/12/2119	10/12/2129	10/12/2139	
Milestone Reference	**Cumulative area achieved (ha)**									
RM1	24				41					
RM2	24					41				
RM3		24					41			
RM4		24					41			
RM7		24					41			
RM19			24					41		
RM20				24					41	

(RA10) Rehabilitation area 10

Post-mining land uses (PMLU)										
Rehabilitation area	RA10									
Relevant activities	Existing Rehabilitation									
Total rehabilitation area size (ha)	96									
Commencement of first milestone: RM8	10/12/2023									
PMLU	Woodland Habitat									
Date area is available	10/12/2023									
Cumulative area available (ha)	96									
Milestone completed by	10/12/2023	10/12/2025	10/12/2033	10/12/2035	10/12/2038	10/12/2043	10/12/2045			
Milestone Reference	**Cumulative area achieved (ha)**									
RM8	54	96								
RM11	49		54	96						
RM18					49	54	96			

4.2 Rehabilitation area milestones

Milestone reference	Rehabilitation milestone	Milestone criteria
RM1	Infrastructure decommissioning and removal	**1.1** All infrastructure to be retained onsite must be safe, stable and not cause environmental harm. **1.2** All infrastructure and services to be retained onsite must have a signed landholder statement, declaring that they will accept responsibility for the infrastructure (except for those items in RM1.3). **1.3** Below-ground infrastructure, services and waste (as per the Environmental Authority (EPML00862313) waste schedule) deeper than 0.5m in relation to the final landform surface can be retained provided it can meet the following: a) All pipelines have been drained; b) All below-ground infrastructure (installed after the approval date of the transitional PRCP (4 September 2024) to be retained must be mapped; and c) The intended PMLU is not compromised. **1.4** With the exception of RM1.2 and RM1.3 above, the following are complete: a) All services disconnected, terminated and removed; b) All buildings and associated infrastructure dismantled and removed; c) All hardstand, concrete areas and roads (bitumen, blue metal, aggregate) removed; d) All pipelines drained and removed; e) All waste, not authorised under the Environmental Authority (EPML00862313) waste schedule, removed; f) All surface water drainage infrastructure removed; g) All drillholes, bores, sediment ponds and sumps decommissioned; h) All machinery and equipment not required for rehabilitation works removed from site; i) Mine water dams are decommissioned; and j) Watercourse crossings and culverts removed. **1.5** Assessment of mine water dams to be retained post closure is completed by an AQP and identified sediment and water management actions to ensure the dams are safe and stable for post mine use are completed.
RM2	Remediation and/or management of contaminated land	**2.1** Contaminated Land Investigation Document completed in accordance with the *Environmental Protection Act 1994*, including a site investigation report, and, where required, a Validation Report and/or a draft Site Management Plan.

		2.2 The Contaminated Land Investigation Document confirms the area within the mining leases (ML1775, ML1782, ML1784, ML2360, ML2410, ML70142, ML70294, ML70298, ML70328, ML700021) does not present an unacceptable risk to the post-mining land use. **2.3** Despite 2.1 and 2.2, where contaminated land investigations are undertaken for individual areas of progressive rehabilitation that do not cover an entire Lot on Plan, the investigations will be undertaken by a Suitably Qualified Person to a standard, that at the time of investigation, would be suitable to form part of a future *Environmental Protection Act 1994* compliant Contaminated Land Investigation Document for that property, and does not need to achieve all requirements for a contaminated land submission to the administering authority.
RM3	Landform development and reshaping	**All rehabilitation areas** **3.1** Erosion and sediment control systems are designed by an AQP, installed, and fit for purpose. **3.2** Appropriate mitigative measures in place for outer landform slopes that interact with flood waters up to a 0.1% AEP, as modelled on the closure landform, and designed by an AQP to minimise potential instability of the landforms from interaction with floodwaters. **3.3** The reshaped landforms are geotechnically stable with RA1 and RA9 achieving FoS ≥1.5 **Woodland Habitat (RA1, RA4)** **3.4** Landforms reshaped with: a) RA1: ≤30% slopes, with slopes >15% slopes covered with minimum 0.5m rock b) RA1: Runoff to be restricted from the top of the landform onto the batter slopes if required using appropriate measures of erosion control as advised and designed by an AQP c) RA1: Rejects to be covered with at least 2m of competent benign spoil, unless alternative depth is justified by an AQP d) RA4: ≤15% slopes. **Watercourses (RA2)** **3.5** Disturbed natural watercourse bed and banks returned to a profile similar to the pre-disturbance condition. **Cattle Grazing (RA3)** **3.6** Landforms are reshaped with slopes: ≤12%. **Grassland (RA9) - Installation of cover** **3.7** An AQP to determine appropriate cover which at minimum achieves the following: a) Tailings to be capped with at least 2m of competent benign spoil;

		b) Reduces risk of upward movement of contaminants into the topsoil layer above the cover and reduce risk of environmental harm from contaminated seepage; c) Landforms are reshaped with slopes ≤30%; d) >15% slopes to be covered with minimum 0.5m rock, unless an alternative is justified by an AQP; and e) Landform surface to be free draining. **3.8** An independent AQP to endorse installation of the cover system as per RM3.7. **Retained water structure** **3.9** Water storages are safe for stock access and have vegetated banks.
RM4	Surface preparation (cattle grazing and grassland)	**4.1** Topsoil placed at minimum depth of 150mm in areas where topsoil has previously been removed. **4.2** Assessment of growth media characteristics is completed by an AQP: a) To target land suitability class ≤3 as per PRCP schedule **Appendix 6: Regional land suitability framework for beef cattle grazing PMLU rehabilitation in the Bowen Basin (Short, 2025) (RA3); and** b) For target vegetation establishment suitable for designated PMLU (RA9). **4.3** Ameliorant and physical treatments are applied as identified in criteria RM4.2. **4.4** Rip at least 300mm into soil/subsoil profile along contour of slopes.
RM5	Surface preparation (woodland habitat)	**5.1** Topsoil placed at minimum depth of 100mm, or alternative growth media at minimum depth of 300mm, in areas where topsoil has previously been removed. **5.2** Assessment of growth media characteristics is completed by an AQP for target vegetation establishment suitable for designated PMLU. **5.3** Ameliorant and physical treatments are applied as identified in criteria RM5.2. **5.4** Rip at least 300mm into soil/subsoil profile along contour of slopes.
RM6	Surface preparation (watercourse)	**6.1** Topsoil placed at minimum depth of 150mm in areas where topsoil has previously been removed. **6.2** Assessment of growth media characteristics is completed by an AQP for target vegetation establishment suitable for designated PMLU. **6.3** Ameliorant and physical treatments are applied as identified in criteria RM6.2. **6.4** Rip at least 300mm into soil/subsoil profile along contour of slopes.

RM7	Revegetation (cattle grazing and grassland)	**7.1** Completed seeding in accordance with PRCP schedule **Appendix 1: Recommended species list and seeding rates for cattle grazing and grassland PMLU**. **7.2** For cattle grazing PMLU, at least four (4) species of 3P pasture species and two (2) species of legumes from PRCP schedule **Appendix 1**: **Recommended species list and seeding rates for cattle grazing and grassland PMLU**.
RM8	Revegetation (woodland habitat)	**8.1** Completed seeding in accordance with PRCP schedule **Appendix 2: Recommended species list and seeding rates for woodland habitat (RA1)***, or as recommended by an AQP where vegetation is targeting a specific regional ecosystem (RA4)**. **If recommended species are not available, substitute with species from RE11.5.3, RE 11.5.9, RE 11.10.1, or RE 11.10.3.* ***Seed application may not be required in all RA4 areas.*
RM9	Revegetation (watercourse)	**9.1** Completed seeding in accordance with PRCP schedule **Appendix 3: Recommended species list and seeding rates for watercourse PMLU – upper and mid banks** and PRCP schedule **Appendix 4: Recommended species list and seeding rates for watercourse PMLU – lower banks**.
RM10	Achievement of surface requirements (cattle grazing)	**10.1** >50% vegetation groundcover (RA7), of which ≥50% of dry matter yield is 3P pasture species as listed in PRCP schedule **Appendix 1: Recommended species list and seeding rates for cattle grazing PMLU** (RA3). **10.2** Surface water runoff has been collected across representative areas of rehabilitation when surface flows occur and it is safe to do so, and the results are not significantly different to upstream values for pH, EC and turbidity (RA3). **10.3** With respect to erosion in rehabilitated landforms: a) All erosion as per PRCP schedule **Appendix 8: Erosion classification framework** is assessed by an AQP and repaired if assessed as requiring intervention to ensure the stable PMLU is achieved, and evidence that it is repaired as per AQP advice; and b) Mass movement and tunnel erosion are absent.
RM11	Achievement of surface requirements (woodland habitat)	**11.1** Groundcover: a) >15% slopes must achieve ≥80% groundcover, or b) ≤15% slopes must achieve ≥50% groundcover. **11.2** Vegetation meets the following: a) BioCondition score of ≥18/60 based on the averaged benchmarks for the representative regional ecosystems as listed in PRCP schedule **Appendix 7: BioCondition benchmarks and scoring of site-based attributes for representative regional ecosystems** and as assessed by an by an AQP using the modified 'BioCondition Assessment Manual' (version 2.2) methodology (RA1, RA4), or b) Species richness of ≥2 native trees, ≥3 native shrubs and ≥4 grasses (exotic or native) (RA10).

		11.3 Surface water runoff has been collected across representative areas of rehabilitation when surface flows occur and it is safe to do so, and the results are not significantly different to upstream values for pH, EC and turbidity (RA1, RA4). **11.4** With respect to erosion in rehabilitated landforms: a) All erosion inclusive of tunnel erosion as per PRCP schedule **Appendix 8: Erosion classification framework** is assessed by an AQP and repaired if assessed as requiring intervention to ensure the stable PMLU is achieved, and evidence that it is repaired as per AQP advice; and b) Mass movement is absent.
RM12	Achievement of surface requirements (watercourse)	**12.1** Landform slopes must achieve ≥50% groundcover. **12.2** Geomorphic index score: greater than or equal to upstream or downstream values (Index of Diversion Condition modified method). **12.3** Vegetation meets the following: a) Species richness: i. ≥2 native trees; ii. ≥2 native shrubs representative of riparian vegetation RE 11.3.25; and iii. ≥2 grasses (exotic or native). **12.4** With respect to erosion in rehabilitated landforms: a) All erosion as per PRCP schedule **Appendix 8: Erosion type classification framework** is assessed by an AQP and repaired if assessed as requiring intervention to ensure the stable PMLU is achieved, and evidence that it is repaired as per AQP advice; and b) Mass movement and tunnel erosion are absent.
RM13	Achievement of post-mining land use to a stable condition (cattle grazing – RA3)	**13.1** Hazard assessment completed by an AQP to confirm safety hazards in rehabilitation are not significantly different to surrounding unmined landscapes subject to the same land use. **13.2** Groundcover: >50% vegetation groundcover, with ≥50% of dry matter yield is 3P grasses as listed in PRCP schedule **Appendix 1: Recommended species list and seeding rates for cattle grazing PMLU**. **13.3** Achievement of land suitability class ≤3 as per PRCP schedule **Appendix 6: Regional land suitability framework for beef cattle grazing PMLU rehabilitation in the Bowen Basin (Short, 2025)**, or ≥4 if not different to pre-mining land class. **13.4** With respect to erosion in rehabilitated landforms: a) No evidence of erosion classified as moderate or severe as defined by PRCP schedule **Appendix 8: Erosion classification framework**; and b) Mass movement and tunnel erosion are absent; and

		c) An AQP determines that any erosion present will not compromise the achievement of the PMLU to a stable condition. **13.5** Surface water runoff has been collected across representative areas of rehabilitation when surface flows occur and it is safe to do so, and the results are not significantly different to upstream values for pH, EC and turbidity. **13.6** Restricted invasive plants (as defined in the *Biosecurity Act 2014*) comprise ≤5% of vegetation groundcover, with the exception of *Parthenium hysterophorus* which must not exceed 10% vegetation groundcover and assessed by an AQP as appropriately managed. **13.7** Final landform survey confirms no built infrastructure remains other than those that form part of a landholder agreement and meets exception as per RM1.3. **Retained infrastructure / Water storage** **13.8** Infrastructure to be transitioned to a future landholder is deemed fit for purpose, safe and stable by an AQP and accepted, by signed agreement with the future landholder. **13.9** All retained dams are safe, stable for native animals and stock access and have vegetated banks. **13.10** Water storages monitored for water quality annually must meet ANZECC 2000 stock water guideline values, for a minimum of five (5) consecutive years.
RM14	Achievement of post-mining land use to a stable condition (woodland habitat – RA1, RA4)	**14.1** Hazard assessment completed by an AQP to confirm safety hazards in rehabilitation are not significantly different to surrounding unmined landscapes subject to the same land use. **14.2** Rehabilitation is assessed as geotechnically stable by an AQP with FoS ≥1.5 (RA1). **14.3** With respect to erosion in rehabilitated landforms: a) No evidence of erosion classified as moderate or severe as defined by PRCP schedule **Appendix 8: Erosion classification framework**; and b) Mass movement is absent; and c) An AQP determines that any erosion present, including tunnel erosion, will not compromise the achievement of the PMLU to a stable condition. **14.4** Groundcover: a) >15% slopes must achieve ≥80% groundcover, or b) ≤15% slopes must achieve ≥50% groundcover **14.5** Vegetation meets the following: BioCondition score of ≥35/60 based on the averaged benchmarks for the representative regional ecosystems as listed in PRCP schedule **Appendix 7: BioCondition benchmarks and scoring of site-based attributes for representative regional ecosystems** and as assessed by an AQP using the modified 'BioCondition Assessment Manual' (version 2.2) methodology.

		14.6 Restricted invasive plants (as defined in the *Biosecurity Act 2014*) comprise ≤5% of vegetation groundcover, with the exception of *Parthenium hysterophorus* which must not exceed 10% vegetation groundcover and assessed by an AQP as appropriately managed. **14.7** Surface water runoff has been collected across representative areas of rehabilitation when surface flows occur and it is safe to do so, and the results are not significantly different to upstream values for pH, EC and turbidity. **14.8** Final landform survey confirms no built infrastructure remains other than those that form part of a landholder agreement and meets exception as per RM1.3.
RM15	Achievement of post-mining land use to a stable condition (watercourse – RA2)	**15.1** Hazard assessment completed by an AQP to confirm safety hazards in rehabilitation are not significantly different to surrounding unmined landscapes subject to the same land use. **15.2** With respect to erosion in rehabilitated landforms: a) No evidence of erosion classified as moderate or severe as defined by PRCP schedule **Appendix 8: Erosion classification framework**; and b) Mass movement and tunnel erosion are absent; and c) An AQP determines that any erosion present will not compromise the achievement of a PMLU to a stable condition. **15.3** Geomorphic index score: greater than or equal to upstream or downstream values (Index of Diversion Condition modified method). **15.4** Watercourse vegetation meets the following: a) Riparian vegetation index score: greater than or equal to upstream or downstream values (Index of Diversion Condition modified method) b) Species richness: i. ≥2 native trees; ii. ≥2 native shrubs; and iii. ≥2 grasses (native or exotic) c) Tree canopy cover ≥13%. **15.5** Restricted invasive plants (as defined in the *Biosecurity Act 2014*) comprise ≤5% of vegetation groundcover, with the exception of *Parthenium hysterophorus* which must not exceed 10% vegetation groundcover and assessed by an AQP as appropriately managed. **15.6** Diversion has an IDC score >10 as defined in 'Criteria for functioning river landscape units in mining and post-mining landscapes' (ACARP Project number C20017). **15.7** AQP must consider the following in closure design determination for diversions being retained in the landform: a) Incorporate natural features (including geomorphic and vegetation) present at the location of the diversion; b) Maintain the pre-existing hydrologic characteristics of surface water for the area in which the watercourse diversion is located;

		c) Maintain the hydraulic characteristics of the local watercourses without requiring on-going maintenance; d) 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; e) Maintain equilibrium and functionality in all substrate conditions at the location of the diversion; and f) Geotechnically and erosionally stable. **15.8** Final landform survey confirms no built infrastructure remains other than those that form part of landholder agreement and meets exception as per RM1.3.
RM17	Achievement of post-mining land use to a stable condition (cattle grazing - existing rehabilitation – RA7)	**17.1** Hazard assessment completed by an AQP to confirm safety hazards in rehabilitation are not significantly different to surrounding unmined landscapes subject to the same land use. **17.2** With respect to erosion in rehabilitated landforms: a) No evidence of erosion classified as moderate or severe as defined by PRCP schedule **Appendix 8: Erosion classification framework**; and b) Mass movement and tunnel erosion are absent; and c) An AQP determines that any erosion present will not compromise the achievement of the PMLU to a stable condition. **17.3** Final landform survey confirms no built infrastructure remains other than those that form part of a landholder agreement and meets exception as per RM1.3. **17.4** Groundcover: >50% vegetation groundcover, of which ≥50% of dry matter yield is 3P pasture species. **17.5** Land condition: assessed as Good (A) or Fair (B) condition using PRCP schedule **Appendix 5: Grazing Land Management ABCD Land Condition Framework (DES, 2022a)**. **17.6** *Leucaena leucocephala* plants >2m high do not exceed stem density of 250 stems per hectare (1 per 40m^2) mean of total area. **17.7** Restricted invasive plants (as defined in the *Biosecurity Act 2014*) comprise ≤5% of vegetation groundcover, with the exception of *Parthenium hysterophorus* which must not exceed 10% vegetation groundcover and assessed by an AQP as appropriately managed.
RM18	Achievement of post-mining land use to a stable condition (woodland habitat - existing rehabilitation – RA10)	**18.1** Hazard assessment completed by an AQP to confirm safety hazards in rehabilitation are not significantly different to surrounding unmined landscapes subject to the same land use. **18.2** Groundcover: a) >15% slopes must achieve ≥80% groundcover, or b) ≤15% slopes must achieve ≥50% groundcover. **18.3** Vegetation meets the following:

		a) Species richness: i. ≥2 native trees, ii. ≥3 native shrubs, and iii. ≥4 grasses (exotic or native) b) Tree canopy cover ≥16%. **18.4** Restricted invasive plants (as defined in the *Biosecurity Act 2014*) comprise ≤5% of vegetation groundcover, with the exception of *Parthenium hysterophorus* which must not exceed 10% vegetation groundcover and assessed by an AQP as appropriately managed. **18.5** With respect to erosion in rehabilitated landforms: a) No evidence of erosion classified as moderate or severe as defined by PRCP schedule **Appendix 8: Erosion classification framework**; and b) Mass movement is absent; and c) An AQP determines that any erosion present, including tunnel erosion, will not compromise the achievement of the PMLU to a stable condition.
RM19	Achievement of surface requirements (grassland)	**19.1** Groundcover: a) >15% slopes: ≥80% groundcover, b) ≤15% slopes: ≥50% groundcover, c) ≤5% slopes: ≥50% groundcover, consisting of at least 50% vegetation groundcover. **19.2** With respect to erosion in rehabilitated landforms: a) All erosion as per PRCP schedule **Appendix 8: Erosion classification framework** is assessed by an AQP and repaired if assessed as requiring intervention to ensure a stable PMLU is achieved, and evidence that it is repaired as per AQP advice; and b) Mass movement and tunnel erosion are absent. **19.3** Surface water runoff has been collected across representative areas of rehabilitation when surface flows occur and it is safe to do so, and the results are not significantly different to upstream values for pH, EC and turbidity.
RM20	Achievement of post-mining land use to a stable condition (grassland –RA9)	**20.1** Hazard assessment completed by an AQP to confirm safety hazards in rehabilitation are not significantly different to surrounding unmined landscapes subject to the same land use. **20.2** Rehabilitation is assessed as geotechnically stable by an AQP with FoS ≥1.5. **20.3** With respect to erosion in rehabilitated landforms:

		a) No evidence of erosion classified as moderate or severe as defined by PRCP schedule **Appendix 8: Erosion classification framework**; and b) Mass movement and tunnel erosion are absent; and c) An AQP determines that any erosion present will not compromise the achievement of the PMLU to a stable condition. **20.4** Vegetation: ≥2 grass species (native or exotic). **20.5** Groundcover: a) >15% slopes: ≥80% groundcover, b) ≤15% slopes: ≥50% groundcover, c) ≤5% slopes: ≥50% groundcover, consisting of at least 50% vegetation groundcover. **20.6** Surface water runoff has been collected across representative areas of rehabilitation when surface flows occur and it is safe to do so, and the results are not significantly different to upstream values for pH, EC and turbidity. **20.8** Restricted invasive plants (as defined in the *Biosecurity Act 2014*) comprise ≤5% of vegetation groundcover, with the exception of *Parthenium hysterophorus* which must not exceed 10% vegetation groundcover and assessed by an AQP as appropriately managed.

5 Section E – Non-use management areas

5.1 (IA1) Improvement area 1

Non-use management area (NUMA)										
Improvement area	IA1									
Relevant activities	Voids and set-backs									
Total size (ha)	1838									
Commencement of first milestone: MM1	10/12/2085									
NUMA	NUMA									
Date area is available	10/12/2085	10/12/2087	10/12/2098	10/12/2105						
Cumulative area available (ha)	624	1080	1335	1838						
Milestone completed by	10/12/2087	10/12/2089	10/12/2100	10/12/2107	10/12/2144					
Milestone Reference	**Cumulative area achieved (ha)**									
MM1	624	1080	1335	1838						
MM2	624	1080	1335	1838						
MM3					1838					

5.2 Improvement area milestones

Milestone reference	Management milestone	Milestone criteria
MM1	Achievement of structural stability	**1.1** Highwall landforms must: a) Prevent surface flow of floodwater into the void b) Be geotechnically stable when floodwater is against the watercourse-side batter c) Prevent seepage flow of floodwater into the void d) Not be constructed with dispersive material e) Have maximum 30% slopes with rock for scour protection f) Minimum height to include appropriate freeboard for flood heights and materials. **1.2** The final design for highwall landform must be completed by an AQP based on the latest flood modelling and materials data prior to construction. **1.3** Final residual voids are not subject to inundation from floodwaters up to and including the 0.1% AEP. **1.4** The high-wall, end-wall and low-wall achieve a FoS ≥1.5 within the NUMA extents as determined by an AQP. **1.5** A minimum distance of 50m is to be designed between the residual void crest and the toe of the safety bund, where against an external perimeter mining lease (ML1775, ML1782, ML1784, ML2360, ML2410, ML70142, ML70294, ML70298, ML70328, ML700021) boundary or a watercourse. **1.6** The location of the voids and associated safety bunds does not cause instability or degradation to the land outside of the mining lease (ML1775, ML1782, ML1784, ML2360, ML2410, ML70142, ML70294, ML70298, ML70328, ML700021) boundary. **1.7** Low-walls are free draining into the void lake with a maximum 37degree slopes. **1.8** Residual voids must not overtop. **1.9** Flood mitigation as per MM1.3 have appropriate scour protection to sustain flood velocities. **1.10** Residual voids collectively act as groundwater sinks within the relevant mining lease (ML1775, ML1782, ML1784, ML2360, ML2410, ML70142, ML70294, ML70298, ML70328, ML700021) boundary post-closure as demonstrated by groundwater modelling defined in condition PRCP14.

MM2	Achievement of surface requirements	**2.1** Competent safety bund or equivalent landform in place around the perimeter of the residual void to prevent access to the residual void, at the geotechnical set-back distance. **2.2** Fencing erected, where required to prevent access to the residual void, around the perimeter of the safety bund. **2.3** Warning signage placed along the fence line (nominally one sign every 100m). **2.4** A minimum distance of 25m is to be designed between the residual void low-wall crest within the NUMA and the safety bund or equivalent landform in MM2.1. **2.5** An area of 60ha of unmined land is retained between Grevillea residual void and the eastern boundary of mining lease ML700021, as shown in **Reference Maps - Figure 3**. **2.6** Despite MM2.5, the safety bund can be positioned within the 60ha area and located as close to the high wall as necessary to enable the eastern side of the bund wall to retain its current land use.
MM3	Achievement of sufficient improvement	**3.1** Certification from an AQP that: a) The residual void is safe to humans and livestock b) Residual voids are monitored for water level annually, in conjunction with condition PRCP19, and are shown to be on a trajectory to the establishment of a residual void sink at surrender c) The water level and quality in the void will not cause environmental harm to the surrounding environment, as demonstrated by residual void water level, groundwater level, quality monitoring and modelling d) Voids retain flood immunity, supported by flood modelling re-run at end of life and calibrated against the final landform e) The highwall landform has been constructed in accordance with the final design as per MM1.2 f) Erosion and sediment control measures have been installed and are operating as per design g) Appropriate safety infrastructure at the geotechnical set-back distance has been installed to prevent access to the NUMA h) The residual void will not present an unacceptable risk of environmental harm outside of the relevant external perimeter mining lease (ML1775, ML1782, ML1784, ML2360, ML2410, ML70142, ML70294, ML70298, ML70328, ML700021) boundary i) Erosion of the landform within the NUMA area will not negatively impact on the stability of any adjacent rehabilitation areas, or their ability to sustain their PMLU. **3.2** Monitoring and maintenance of exclusion fences and bunds to be carried out to ensure they remain effective.

END OF PRCP SCHEDULE

6 Section F – Appendices

List of Appendices

Appendix 1: Recommended species list and seeding rates for cattle grazing and grassland PMLUs.

Appendix 2: Recommended species list and seeding rates for woodland habitat PMLU.

Appendix 3: Recommended species list and seeding rates for watercourse PMLU – upper and mid banks.

Appendix 4: Recommended species list and seeding rates for watercourse PMLU – lower banks.

Appendix 5: Grazing Land Management ABCD Land Condition Framework (DES, 2022a).

Appendix 6: Regional land suitability framework for beef cattle grazing PMLU rehabilitation in the Bowen Basin (Short, 2025).

Appendix 7: BioCondition benchmarks and scoring of site-based attributes for representative regional ecosystems.

Appendix 8: Erosion classification framework.

Appendix 9: Surface water monitoring locations.

Appendix 9.1: Surface water monitoring locations.

Appendix 10: Interim surface water quality limits.

Appendix 11: Groundwater monitoring locations.

Appendix 11.1: Groundwater monitoring locations.

Appendix 12: Interim groundwater quality limits.

Appendix 1: Recommended species list and seeding rates for cattle grazing and grassland PMLU

Scientific name	Common name	Topsoil suitability		Seeding rate (kg/ha)	
		Cracking clays & heavy loams/clays	Light loams/ sands	Cattle grazing	Grassland
Grass species					
Astrebla lappulacea, A, squarrosa, A. elymoides	Mitchell grasses (curly, bull and hoop)	✓	-	2[c] (per species)	5[c] (per species)
Bothriochloa bladhii	forest blue grass	-	✓	4[c]	5[c]
Bothriochloa insculpta cvv. *Bisset**	Bisset creeping blue grass	✓	✓	4[c]	5[c]
Chloris gayana cvv. Callide*	Callide Rhodes grass	✓	✓	4[c]	5[c]
Chloris gayana cvv. Katambora*	Katambora Rhodes grass	✓	✓	4[c]	5[c]
Dichanthium sericeum subsp. sericeum	Queensland blue grass	✓	-	4[c]	5[c]
Digitaria brownii	cotton panic	-	✓	2[c]	5[c]
Heteropogon contortus	black spear grass	✓	✓	2[c]	5[c]
Megathyrsus maximus var. *pubiglumis**	green panic	-	✓	4[c]	5[c]
*Panicum coloratum var. makarikariense**	bambatsi Panic	✓	-	4[c]	5[c]
*Setaria incrassata**	purple pigeon	✓	-	4[c]	5[c]
*Urochloa mosambicensis**	Sabi grass	-	✓	4[c]	5[c]
Grass species - Total seed weight (coated)				**16[c]**	**25[c]**
Legume species					
*Stylosanthes seabrana**	stylo	✓	-	2	-
*Macroptilium bracteatum**	burgundy bean	✓	-	2	-
*Stylosanthes hamata**	shrubby stylo	-	✓	2	-
*Chamaecrista rotundifolia**	Wynn cassia	-	✓	2	-
Rhynchosia minima var. minima	rhynchosia	✓	✓	2	-
Rhynchosia minima var. australis	rhynchosia	✓	✓	2	-
Legume species - Total seed weight (uncoated)				**4**	**0**
Crop cover					
Echinochloa esculenta	Japanese millet	✓	✓	5	10

[c] *Seeding rate for coated seed. If not coated, use half the prescribed rate;*

* *Naturalised exotic pasture species*

Appendix 2: Recommended species list and seeding rates for woodland habitat PMLU

Species* name	Common name	Life form and functional group code	Cracking clays & heavy loams/ clays	Light loams/ sands	Seed rates (kg/ha - uncoated weight)
Framework tree species					
Acacia catenulata	bendee	LLA	✓	✓	1 - 2
Acacia rhodoxylon	rosewood	LLA	-	✓	0.3 - 1
Acacia shirleyi	lancewood	LLA	-	✓	0.3 – 1
Allocasuarina littoralis	black she oak	NE/NA	-	✓	0.3 – 0.5
Allocasuarina luehmannii	bull oak	NE/NA	-	✓	0.3 – 0.5
Alphitonia excelsa	red ash	NE/NA	✓	✓	0.3 – 0.5
Angophora leiocarpa	smooth barked apple	E/C	-	✓	0.3 – 0.5
Atalaya hemiglauca	whitewood	NE/NA	✓	✓	0.3 – 0.5
Callitris glaucophylla	cypress pine	NE/NA	✓	✓	0.3 – 0.5
Casuarina cristata	belah	NE/NA	✓	✓	0.3 - 0.5
*Corymbia citriodora subsp. citriodora***	lemon scented gum	E/C	✓	✓	0.6 - 2
Corymbia clarksoniana	Clarkson's bloodwood	E/C	✓	✓	0.3 - 1
Corymbia dallachiana	Dallachy's gum	E/C	✓	✓	0.3 – 0.5
Corymbia erythrophloia	red bloodwood	E/C	✓	✓	0.3 - 1
Eucalyptus cambageana	Dawson gum	E/C	✓	✓	0.2 – 0.5
Eucalyptus crebra	narrow leafed ironbark	E/C	✓	✓	0.6 - 2
Eucalyptus decorticans	gum-top ironbark	E/C	-	✓	0.3 – 0.5
Eucalyptus exserta	Queensland peppermint	E/C	-	✓	0.3 – 0.5
Eucalyptus melanophloia	silver leaved ironbark	E/C	✓	✓	0.3 - 1
Eucalyptus populnea	poplar box	E/C	✓	✓	0.3 – 0.5
Eucalyptus thozetiana	Thozets gum	E/C	✓	✓	0.3 - 0.5
Lysiphyllum carronii	red bauhinia	NE/NA	✓	✓	0.3 – 0.5
Lysiphyllum hookeri	white bauhinia	NE/NA	✓	-	0.2 – 0.5
Terminalia oblongata	yellowwood	NE/NA	✓	-	0.2 – 0.5
Framework tree species - total seed weight (uncoated)					**6**
Woody understory species					
Acacia conferta	crowded-leaf wattle	SU	-	✓	0.3 – 0.5
Acacia crassa	curracabah	ILA	-	✓	0.3 – 0.5

Species* name	Common name	Life form and functional group code	Cracking clays & heavy loams/ clays	Light loams/ sands	Seed rates (kg/ha - uncoated weight)
Acacia excelsa	ironwood wattle	LLA	✓	✓	0.3 – 0.5
Acacia flavescens	yellow wattle	LLA	-	✓	0.3 – 0.5
Acacia holosericea	silver wattle	LLA	-	✓	0.3 – 0.5
Acacia leiocalyx	black wattle	LLA	-	✓	0.3 – 0.5
Acacia sericophylla	desert oak	ILA	-	✓	0.3 – 0.5
Alstonia constricta	bitterbark	SU/NE/NA	✓	✓	0.3 – 0.5
Atriplex nummularia	oldman saltbush	SU	✓	✓	0.3 – 0.5
Capparis lasiantha, C. canescens, C. loranthifolia.	wait-a-while	V/C	✓	✓	0.2 – 0.5
Breynia oblongifolia	coffee bush	SU	✓	✓	0.3 – 0.5
Carissa ovata	currant bush	GCS	✓	✓	0.3 – 1
*Cassia brewsteri***	Leichhardt bean	SU	✓	✓	0.3 – 0.5
*Dodonaea viscosa***	sticky hop bush	SU	✓	✓	0.3 – 0.5
Eremophila mitchellii	false sandalwood	SU/NE/NA	✓	✓	0.3 – 0.5
Erythroxylon australe	cocaine tree	SU	✓	✓	0.2 – 0.5
Geijera parvifolia	wilga	SU	✓	✓	0.2 – 0.5
Grevillea striata	beefwood	SU/NE/NA	-	✓	0.3 – 0.5
Grewia latifolia	dogs balls	SU	✓	✓	0.3 – 0.5
Hakea lorea	bootlace oak	SU/NE/NA	✓	✓	0.3 – 0.5
Jasminum didymum	native jasmine	V/C	✓	✓	0.3 – 0.5
Myoporum acuminatum	waterbush	SU	✓	✓	0.3 – 0.5
Myoporum montanum	waterbush	SU	✓	✓	0.3 – 0.5
Petalostigma pubescens	quinine	SU/NE/NA	✓	✓	0.3 – 0.5
Pittosporum angustifolium	Gumby Gumby	SU/NE/NA	✓	✓	0.3 – 0.5
Senna artemisioides	silver cassia	SU	✓	✓	0.3 – 0.5
Woody understory species - total seed weight (uncoated)					**4**
Grass species					
Aristida spp. (i.e. *A. calycina, A. latifolia, A. ramosa, A. caput-medusae, A. jerichoensis, A. personata, A. calycina*)	three awned spear grass	NG	-	✓	1 - 2
Bothriochloa bladhii	forest bluegrass	NG	✓	-	1 – 2
Bothriochloa decipiens var. decipiens	pitted bluegrass	NG	✓	✓	1 - 2
Bothriochloa ewartiana	desert bluegrass	NG	✓	✓	1 - 2

Species* name	Common name	Life form and functional group code	Cracking clays & heavy loams/ clays	Light loams/ sands	Seed rates (kg/ha - uncoated weight)
Chloris truncata	windmill grass	NG	✓	✓	1 – 2
Chrysopogon fallax	golden beard grass	NG	✓	✓	1 - 2
Cymbopogon refractus	barbwire grass	NG	✓	✓	1 - 2
*Cynodon dactylon var. dactylon***	couch	IG	✓	✓	2
Panicum decompositum	native millet	NG	✓	✓	1 – 2
Panicum effusum	hairy panic	NG	✓	✓	1 - 2
Paspalidium distans	shot grass	NG	-	✓	1 - 2
Themeda triandra	kangaroo grass	NG	✓	✓	1 - 2
Grass species - total seed weight (uncoated)					**10**
Crop cover					
Echinochloa esculenta	Japanese millet	Cover crop	✓	✓	5

** If recommended species are not available, substitute species from RE 11.5.3, RE 11.5.9, RE 11.10.1 or RE 11.10.3*

*** Species adapted to moderate to high salinity tolerance* (DERM, 2011)

Appendix 3: Recommended species list and seeding rates for watercourse PMLU – upper and mid banks

Species name	Common name	Life form and functional group code	Seed rate (kg/ha - uncoated weight)
Framework tree species			
*Acacia stenophylla**	river myall	LLA	0.5 - 1
Alphitonia excelsa	red ash	NE/NA	0.5 - 1
Angophora floribunda	rough barked apple	E/C	0.5 - 1
Angophora leiocarpa	smooth barked apple	E/C	0.5 - 1
Angophora subvelutina	broadleaf apple	E/C	0.5 - 1
*Casuarina cristata**	belah	E/C	0.5 - 1
*Casuarina cunninghamiana**	river she oak	NE/NA	0.5 - 1
*Corymbia tessellaris**	Moreton Bay ash	NE/NA	0.5 - 1
Eucalyptus camaldulensis subsp. *obtusa**	river red gum	E/C	1 - 2
Eucalyptus coolabah subsp. *coolabah*	Coolabah	E/C	1 - 2
Eucalyptus melanophloia	silver leaved ironbark	E/C	0.5 - 1
Eucalyptus populnea	poplar box	E/C	0.5 - 1
Eucalyptus tereticornis subsp. *tereticornis**	Queensland blue gum	E/C	0.5 - 1
Lysiphyllum hookeri	white bauhinia	NE/NA	0.5 - 1
*Melaleuca bracteata**	black tea tree	NE/NA	0.5 - 1
Terminalia oblongata	yellowwood	NE/NA	0.5 - 1
Framework tree species - total seed weight (uncoated)			**6**
Woody understorey species			
Carissa ovata	current bush	GCS	0.5 - 1
Acacia excelsa	ironwood wattle	ILA	0.5 - 1
Acacia fasciculifera	scaly bark	ILA	0.5 - 1
*Cassia brewsteri**	Leichardt bean	SU	0.5 - 1
Dodonaea viscosa	sticky hop bush	SU	0.5 - 1
Eremophila mitchellii	false sandalwood	SU	0.5 - 1
Erythroxylum australe	cocaine tree	SU	0.5 - 1
Ficus coronata	creek sandpaper fig	SU	0.5 - 1
Ficus fraseri	white sandpaper fig	SU	0.5 - 1
Ficus opposita	sandpaper fig	SU	0.5 - 1
Grevillea striata	beefwood	SU	0.5 - 1
Grewia latifolia	dogs balls	SU	0.5 - 1
Hakea lorea	bootlace oak	SU	0.5 - 1
Mallotus philippensis	red kamala	SU	0.5 - 1
Petalostigma pubescens	quinine	SU	0.5 - 1
Woody understorey species - total seed weight (uncoated)			**4**

Species name	Common name	Life form and functional group code	Seed rate (kg/ha - uncoated weight)
Ground species			
Cymbopogon refractus	barbwire grass	NG	1 - 2
Bothriochloa bladhii	forest blue grass	NG	1 - 2
Capillipedium spicigerum	scented top	NG	1 - 2
*Cynodon dactylon**	couch	IG	2
Dichanthium sericeum subsp. sericeum	Queensland bluegrass	NG	1 - 2
Digitaria brownii	cotton panic	NG	1 - 2
Eulalia aurea	silky brown top	NG	1 - 2
Eustrephus latifolius	wombat vine	V/C	1 - 2
Heteropogon contortus	black speargrass	NG	1 - 2
Jasminum simplicifolium subsp. australiense	stiff jasmine	V/C	0.2 - 0.5
Lomandra longifolia	mat rush	NG	0.2 - 0.5
Panicum effusum	hairy panic	NG	1 - 2
Paspalidium distans	shot grass	NG	1 - 2
Rhynchosia minima	Rhynchosia	V/C	1 - 2
Themeda triandra	kangaroo grass	NG	1 - 2
Ground species - total seed (uncoated)			**10**
Crop cover			
Echinochloa esculenta	Japanese millet	Cover crop	5

** Species adapted to moderate to high salinity tolerance (DERM, 2011)*

Appendix 4: Recommended species list and seeding rates for watercourse PMLU – lower banks

Species name	Common name	Life form and functional group code	Seed rate (kg/ha - uncoated weight)
Framework tree species			
*Casuarina cunninghamiana**	river she oak	NE/NA	0.5 - 1
*Melaleuca bracteata**	black tea tree	NE/NA	0.5 - 1
Melaleuca fluviatilis	weeping tea-tree	NE/NA	0.5 - 1
*Melaleuca linariifolia**	snow in summer	NE/NA	0.5 - 1
*Melaleuca leucadendra**	broad-leaved tea tree	NE/NA	0.5 - 1
*Melaleuca viminalis**	red bottlebrush	NE/NA	0.5 - 1
Melaleuca trichostachya	flax-leaf paperbark	NE/NA	0.5 - 1
Lophostemon suaveolens	swamp box	NE/NA	0.5 - 1
Framework tree species - total seed weight (uncoated)			**5**
Ground species			
Cymbopogon refractus	barbwire grass	NG	0.5 - 1
Dichanthium sericeum subsp. sericeum	Queensland bluegrass	NG	1 – 2
Themeda triandra	kangaroo grass	NG	0.5 - 1
Bothriochloa bladhii subsp. bladhii	forest blue grass	NG	1 – 2
Lomandra longifolia	spiny-headed mat rush	NG	2 - 3
Eustrephus latifolius	wombat vine	V/C	0.5 - 1
*Cyperus spp. (C. gracilis, C. polystachyos)***	sedge	NG	2 - 3
*Cynodon dactylon**	couch	IG	2 - 3
Ground species - total seed weight (uncoated)			**10**
Crop cover			
Echinochloa esculenta	Japanese millet	Cover crop	5

** Species adapted to moderate to high salinity tolerance (DERM, 2011);*

*** Bank toe area only*

Appendix 5: Grazing Land Management ABCD Land Condition Framework (DES, 2022a)

Land Condition	Land Condition Features
Good – A	A condition land has all of the following features: • most land types in good condition will typically have at least 50% and often above 70% ground cover at the end of the dry season • good density of perennial grasses dominated by those species considered to be 3P grasses for that land type, little bare ground (less than 30 % in most years) • few weeds and no significant infestations • good soil condition: no erosion, good surface condition
Fair – B	B condition land has at least one or more of the following features, but otherwise is similar to A condition land: • land types will typically have at least 50% ground cover and less than 70% in most years at the end of the dry season • some decline of grasses that are 3P grasses, increase in other species (less favoured grasses, weeds) and/or bare ground (more than 30% but less than 50% in most years) • some decline in soil condition, some signs of previous erosion and current susceptibility to erosion
Poor – C	C condition land has one or more of the following features, but otherwise is similar to B condition land: • land with poor or degraded condition will typically have less than 50% ground cover at the end of the dry season • general decline of grasses that are 3P grasses, large amounts of less favoured species and/or bare ground (greater than 50% in most years) • obvious signs of past erosion and/or current susceptibility to erosion is high
Degraded – D	D condition land has one or more of the following features: • generally less than 20% ground cover • general lack of any perennial grasses or forbs • severe erosion or scalding, resulting in hostile environment for plant growth • often no long-term ability to carry stock

Appendix 6: Regional land suitability framework for beef cattle grazing PMLU rehabilitation in the Bowen Basin (Short, 2025)

Limitation	Indicator	Suitable			Unsuitable	
		Class 1	Class 2	Class 3	Class 4	Class 5
Water availability	Soil water storage (mm)	>75	75 - 60	<60 - 40	<40 - 30	<30
Nutrient deficiency	Available-P (mg/kg) in 0 - 0.1m depth increment	>20	20 - 14	<14 - 8	<8 - 4	<4
Nutrient availability and toxicity	pH in 0 - 0.1m depth increment	7.3 - 6.6	< 6.6 - 6.0 >7.3 - 7.9	<6.0 - 5.6 >7.9 - 8.4	<5.6 - 5.0 >8.4 - 9.0	<5.0 >9.0
Surface condition	Surface condition	Fine (peds <10mm)	Coarse (peds >10mm)	Surface crust	Very hard setting	Massive
Salinity	ECe (dS/m) in effective rooting depth (ERD) (0-0.6m depth increment)	<2	2 - 4	>4 - 10	>10 - 16	>16
Rockiness	Gravel, 20 - 60mm (%) Cobble, 60 - 200mm (%) Stone, 200 - 600mm (%) Boulders, >600mm (%)	<20 <10 <2 0	20 - 50 10 - 20 2 - 10 <2	>50 - 70 >20 - 50 >10 - 20 2 - 10	>70 - 85 >50 - 75 >20 - 50 >10 - 20	>85 >75 >50 >20
Slope gradient	Slope gradient (%)	<5	5 - 10	<10 - 15	>15 - 20	>20
Microrelief	Vertical (m)	0	<0.2	0.2 - 0.4	>0.4 - 0.6	>0.6
Water erosion	Slope (%), ESP <6 (%) in 0-0.1m soil depth increment Slope (%), ESP >6 - 14 (%) in 0-0.1m soil depth increment	<5 <3	5 - 8 3 - 6	> 8 - 12 >6 - 10	>12 - 18 >10 - 12	>18 >12

Limitation	Indicator	Suitable			Unsuitable	
		Class 1	Class 2	Class 3	Class 4	Class 5
	Slope (%), ESP >14 (%) in 0-0.1m soil depth increment	<1	1 - 2	>2 - 4	>4 - 6	>6
Sub-soil erosion	ESP (%) at 0.5m depth	<6	6 - 14	> 14 - 23	>23 - 34	>34
Potentially acid forming materials	Strongly acid conditions (pH < 4.5) within (x) m depth	>3	3 - 2	<2 - 0.9	<0.9 - 0.6	<0.6

Short. (2025). *Rehabilitated mined land suitability for beef cattle grazing in the Bowen Basin: Technical Paper.* Office of the Queensland Mine Rehabilitation Commissioner, Queensland Government, Brisbane.

Appendix 7: BioCondition benchmarks and scoring of site-based attributes for representative regional ecosystems

Representative regional ecosystems	Maximum score for attributes	Benchmarks*				Averaged benchmarks
		RE 11.5.3	RE 11.5.9	RE 11.10.1	RE 11.10.3	Combined regional ecosystems
Recruitment of dominate canopy species (%)	5	100	100	100	100	100
Native plant species richness - trees (#)	5	6	3	4	3	4
Native plant species richness - shrubs (#)	5	6	6	4	4	5
Native plant species richness - grasses (#)	5	6	9	9	7	8
Native plant species richness – forbs/other (#)	5	10	11	17	9	12
Tree canopy height (m)	5	16	17	24	15	18
Tree canopy cover (%)	5	20	25	30	41	20**
Shrub layer cover (%)	5	3	10	13	3	7
Native perennial grass cover (%)	5	19	26	16	23	21
Litter cover (%)	5	20	30	50	32	33
Non-native plant cover (%)	10	0	0	0	0	0
Maximum site score	**60**					

* *Benchmarks for each applicable site-based attribute for the representative REs* (State of Queensland, 2024)

** *Tree canopy cover reduced to 20% as agreed with the administering authority.*

Appendix 8: Erosion classification framework

Erosion classification[1]	Minor	Moderate	Severe
Sheet erosion	Shallow soil deposits downslope	Partial exposure of roots; moderate soil deposits downslope, etc	Loss of surface horizon; root exposure; moderate substantial soil deposits downslope
Rill erosion (≤0.3m deep)	<15 rills pre transect* or Occasional rills	15-30 rills per transect* or Common rills	>30 rills per transect* or Numerous rills forming corrugated ground surface.
Gully erosion	Gullies are isolated, linear, discontinuous and restricted to primary or minor drainage lines; less than 1.5m maximum depth	Gullies are linear, continuous, and restricted to primary and minor draining lines; maximum depth of 1.5m-3m	Gullies are continuous or discontinuous and either tend to branch away from primary drainage lines and on to foot slopes, or have multiple branches within primary drainage features; greater than 3m maximum depth.

Source: NCST (2024) Australian Soil and Land Survey Field Handbook, 4th edition. The National Committee on Soil and Terrain. CSIRO Publishing, Collingwood, Australia.

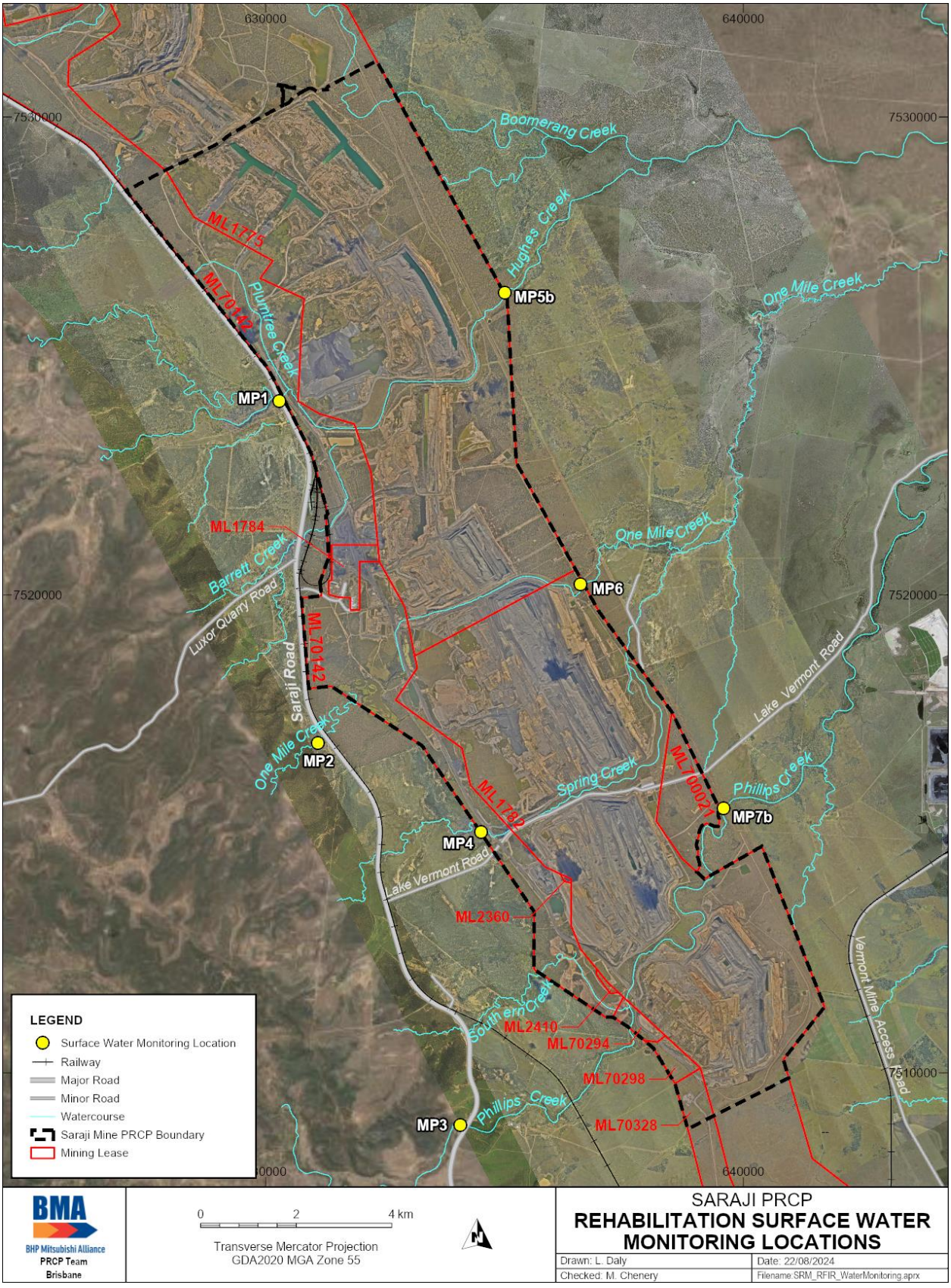
**Transect linear 100 m across the contour (Source: Tongway, D. J. and Hindley, N. L. 2005. Landscape Function Analysis: Procedures for Monitoring and Assessing Landscapes. CSIRO Publishing, Canberra, Australia)*

[1] *Erosion classification definitions* (CSIRO, 2009)

Appendix 9: Surface water monitoring locations

Monitoring point ID	Monitoring location description	Easting (MGA2020 Zone 55)	Northing (MGA2020 Zone 55)
Upstream monitoring locations			
MP1	Hughes Creek upstream adjacent to Dysart – Moranbah Road.	630290	7524051
MP2	One Mile Creek upstream adjacent to Dysart – Moranbah Road.	631096	7516901
MP3	Phillips Creek upstream adjacent to Dysart – Moranbah Road.	634068	7508901
MP4	Spring Creek upstream.	634503	7515043
Downstream monitoring locations			
MP5b	Hughes Creek downstream adjacent to lease boundary.	635008	7526316
MP6	One Mile Creek downstream adjacent to lease boundary and existing creek crossing.	636583	7520215
MP7b	Phillips Creek downstream adjacent to lease boundary.	639579	7515541

Appendix 9.1: Surface water monitoring locations



Appendix 10: Interim surface water quality limits

Quality characteristic (units)	Limit	Comment on limit
pH	6.5-8.5	WQO for Upper Isaac River catchment waters applied
Electrical Conductivity (µS/cm)	670	Site-specific. 95th percentile of upstream data.
Turbidity (NTU)	50	No data. Therefore, WQO for Upper Isaac River catchment waters applies.
Sulphate (mg/L)	26	Site-specific. 95th percentile of upstream data, excluding outlier (MP3 8/2/2020)
Aluminium - dissolved (µg/L)	430	Site-specific. 95th percentile of downstream data (upstream > downstream)
Arsenic - dissolved (µg/L)	13	All data < ANZG 2018. Therefore, ANZG 2018 applies
Cobalt - dissolved (µg/L)	1.4	No data. Therefore, ANZG 2018 applies
Chromium – dissolved (µg/L)	1	All data < ANZG 2018. Therefore, ANZG 2018 applies
Copper – dissolved (µg/L)	2	Site-specific
Iron – dissolved (µg/L)	310	Site-specific. 95th percentile of downstream data (upstream > downstream)
Manganese – dissolved (µg/L)	1900	No data. Therefore, ANZG 2018 applies
Molybdenum - dissolved (µg/L)	34	No data. Therefore, ANZG 2018 applies
Nickel - dissolved (µg/L)	11	No data. Therefore, ANZG 2018 applies
Selenium - dissolved (µg/L)	5	All data < ANZG 2018. Therefore, ANZG 2018 applies
Uranium - dissolved (µg/L)	0.5	Less than 8 data points > ANZG 2018. Therefore, ANZG 2018 applies.
Zinc - dissolved (µg/L)	8	With 2 outliers removed, all other data < ANZG 2018
Nitrate (µg/L)	1100	
Total recoverable hydrocarbons (C6-C9) (µg/L)	20	Limit of reporting (LoR)
Total recoverable hydrocarbons (C10-C36) (µg/L)	100	Limit of reporting (LoR)
Major ions (mg/L)		
Calcium, chloride, potassium, magnesium, sodium, bicarbonate, carbonate	For interpretation purposes only	
Hardness (mg/L)	For interpretation purposes only	
pH	6.5-8.5	WQO for Upper Isaac River catchment waters applied

Notes:

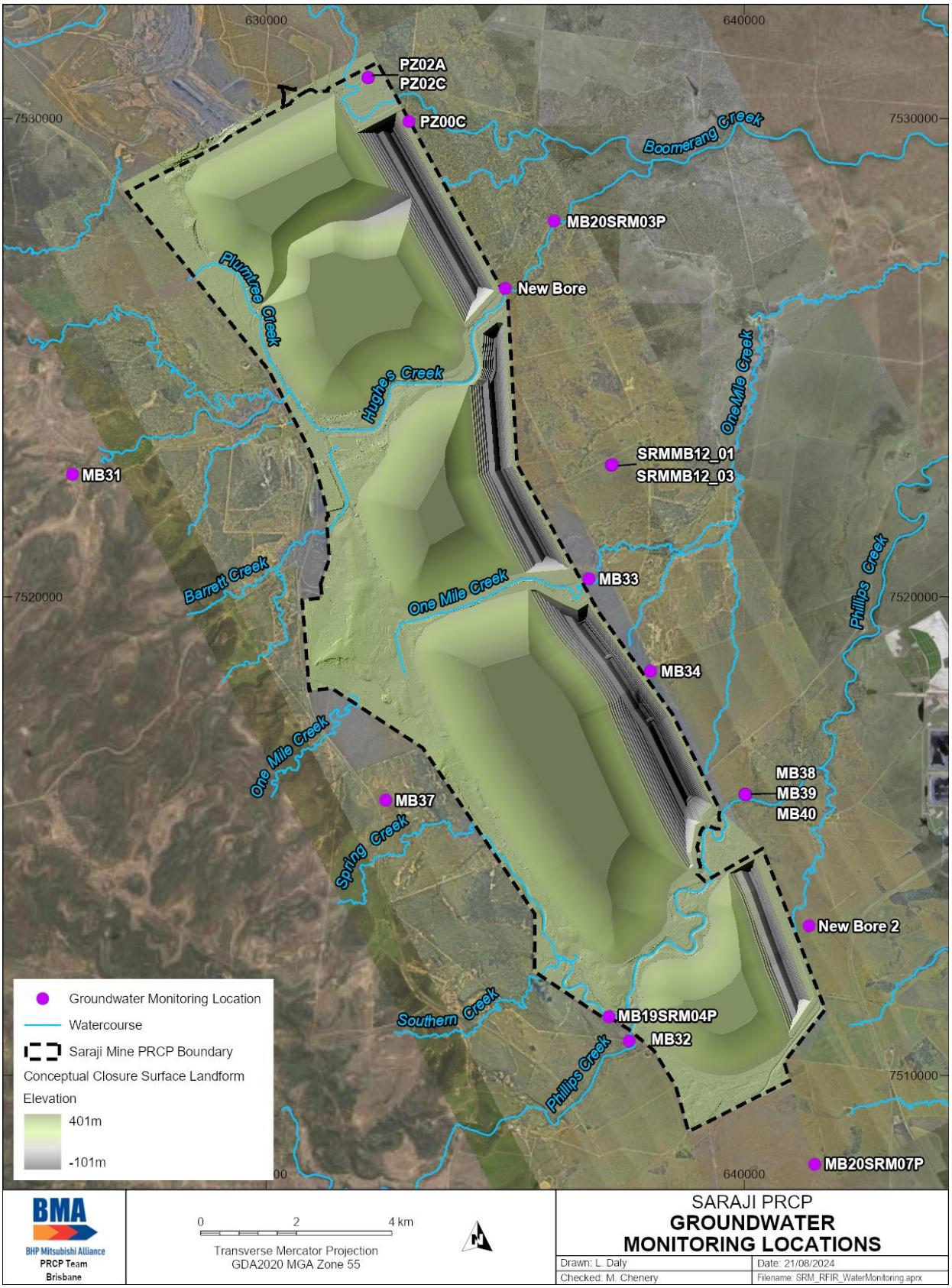
- *All metals and metalloids must be measured as 'dissolved' (from analysis of a field filtered sample) and total (unfiltered).*
- *Limits for metals and metalloids apply to dissolved results.*
- *ANZG (2018) Aquatic ecosystem protection for moderately disturbed system (95% protection)*
- *WQOs - Upper Isaac River catchment waters*
- *Site-specific – 95th percentile of upstream data (MP4 and MP24)*

Appendix 11: Groundwater monitoring locations

Hydro-geologic unit	Monitoring location ID	Monitoring location description	Easting (MGA2020 Zone 55)	Northing (MGA2020 Zone 55)
Alluvium	MB32	Philips Creek upstream - existing bore	637596	7510717
	MB38/ SRMMB19_ 01A	Philips Creek downstream – existing bore	640033	7515861
Tertiary and Quaternary sediments and weathered material	PZ02A	Undifferentiated weathered material. North of the Jacaranda/Bauhinia Void – existing bore	632134	7530857
	PZ00C	Tertiary sediments. Immediately to the east of the Jacaranda/Bauhinia Void – existing bore	632986	7529936
	SRMMB12_ 01	Undifferentiated weathered material. East of Coolabah/Dogwood Void – proposed new bore	637219	7522753
	MB40/ MB19SRM0 2T	Tertiary sediments. Adjacent to Philips Creek downstream of SRM – existing bore	640027	7515868
Permian Coal Measures	PZ02C	North-eastern corner, to the north-east of Jacaranda/Bauhinia	632128	7530854
	MB31	West of Jacaranda/Bauhinia and Coolabah/Dogwood voids – existing bore	625943	7522561
	MB20SRM0 3P	East of Jacaranda/Bauhinia Void – existing bore	636021	7527857
	SRMMB12_ 03	East of Coolabah/Dogwood Void – proposed new bore	637241	7522760
	MB19SRM0 4P	West of Hakea Void – existing bore	637169	7511225
	MB33	West of Ebony/Grevillea	636755	7520381
	MB34	West of Ebony/Grevillea	638041	7518451

Hydro-geologic unit	Monitoring location ID	Monitoring location description	Easting (MGA2020 Zone 55)	Northing (MGA2020 Zone 55)
	MB37	West of Ebony/Grevillea	632504	7515753
	MB39/ MB19SRM03P	East of Ebony/Grevillea and Hakea voids and immediately north of Phillips Creek – existing bore	640019	7515877
	MB20SRM07P	South of Hakea Void – existing bore	641475	7508140
	New Bore 1	East of Bauhinia Pit – new proposed bore	635005	7526450
	New Bore 2	East of Hakea Void – new proposed bore	641354	7513125

Appendix 11.1: Groundwater monitoring locations



Appendix 12: Interim groundwater quality limits

Compliance Bores	Hydrogeological Unit	Electrical conductivity (µS/cm)	Sulfate (mg/L)	Iron – dissolved (µg/L)	Comment
PZ02A	Undifferentiated weathered material	15,360	1,830	190	95th percentile of MB37 Tertiary bore
PZ02C	Permian Coal Measures	8,132	1,213	1,880	95th percentile of MB31 Permian bore
PZ00C	Tertiary sediments	15,360	1,830	190	95th percentile of MB37 Tertiary bore
MB20SRM03P	Permian Coal Measures	8,132	1,213	1,880	95th percentile of MB31 Permian bore
SRMMB12_01	Undifferentiated weathered material	15,360	1,830	190	95th percentile of MB37 Tertiary bore
SRMMB12_03	Permian Coal Measures	8,132	1,213	1,880	95th percentile of MB31 Permian bore
MB33	Permian Coal Measures	24,807	2,210	3,320	95th percentile of bore data
MB34	Permian Coal Measures	30,513	68	940	95th percentile of bore data
MB38	Alluvium	1,422	66	2,930	95th percentile of MB32 alluvium bore
MB39	Permian Coal Measures	10,243	317	120	95th percentile of bore data
MB40	Tertiary sediments	2,680	100	1,926	95th percentile of bore data
MB20SRM07P	Permian Coal Measures	8,132	1,213	1,880	95th percentile of MB31 Permian bore
New Bore 1	Permian Coal Measures	8,132	1,213	1,880	95th percentile of MB31 Permian bore
New Bore 2	Permian Coal Measures	8,132	1,213	1,880	95th percentile of MB31 Permian bore

Quality characteristic (units)	Monitoring Bore	Limit	Comment
pH (pH units)	All compliance bores	6.5 – 8.5	WQO
Aluminium - dissolved (µg/L)	All compliance bores	55	All data < ANZG 2018. Therefore, ANZG 2018 applies. 95th percentile of all data is 46.5ug/L
Arsenic - dissolved (µg/L)	All compliance bores	13	All data < ANZG 2018. Therefore, ANZG 2018 applies. 95th percentile of all data is 6ug/L
Cobalt - dissolved (µg/L)	All compliance bores	1.4	No data. Therefore, ANZG 2018 applies
Chromium - dissolved (µg/L)	All compliance bores	6	Site-specific. 95th percentile of all data, excluding outliers
Copper - dissolved (µg/L)	All compliance bores	5	Site-specific. 95th percentile of all data, excluding outliers
Manganese – dissolved (µg/L)	All compliance bores	1900	No data. Therefore, ANZG 2018 applies
Molybdenum - dissolved (µg/L)	All compliance bores	34	No data. Therefore, ANZG 2018 applies
Nickel - dissolved (µg/L)	All compliance bores	11	No data. Therefore, ANZG 2018 applies
Selenium - dissolved (µg/L)	All compliance bores	5	All data < ANZG 2018. Therefore, ANZG 2018 applies
Uranium - dissolved (µg/L)	All compliance bores	4	Site-specific. 95th percentile of all data, except MB40

Quality characteristic (units)	Monitoring Bore	Limit	Comment
Uranium - dissolved (µg/L)	MB40	15	Site-specific. 95th percentile of all MB40 data.
Zinc - dissolved (µg/L)	All compliance bores	50	Site-specific. 95th percentile of all data, excluding outliers
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	
Level (m AHD)	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.
- ANZG (2018) Aquatic ecosystem protection for moderately disturbed system (95% protection)

END OF **PRCP** SCHEDULE