4. Rehabilitation Objectives and Rehabilitation Completion Criteria

4.1 Rehabilitation Objectives and Rehabilitation Completion Criteria

Table 12 presents the rehabilitation objectives and rehabilitation completion criteria for individual final land use domains at the Mine Site. Final land use domains and their respective mining domains are shown on **Plan 1.**

4.2 Rehabilitation Objectives and Rehabilitation Completion Criteria – Stakeholder Consultation

Table 11 presents a summary of consultation undertaken with relevant stakeholders with regards to the rehabilitation objectives, rehabilitation completion criteria and proposed final land uses and landforms presented in this Plan. This table will be updated with each revision to this Plan to include details of further consultation with relevant and interested stakeholders.

Table 11
Community Consultation Activities

Page 1 of 2

Stakeholder	Consultation Activities
Bogan Shire Council	• Form of Consultation: Letter (email transmission).[1] • Date: XX • Matters Subject to Consultation: Rehabilitation Objectives and Rehabilitation Completion Criteria, and Final Land Use Domain Plans. • Outcomes: XX.
Heritage NSW	• Form of Consultation: Letter (email transmission).[1] • Date: 30 November 2022. • Matters Subject to Consultation: Rehabilitation Objectives and Rehabilitation Completion Criteria, and Final Land Use Domain Plans. • Outcomes: Response received 5 December 2022. No comments provided. Request to ensure consultation regarding heritage is maintained where relevant.
NSW Biodiversity, Conservation and Science Directorate	• Form of Consultation: Letter (email transmission).[1] • Date: 30 November 2022. • Matters Subject to Consultation: Rehabilitation Objectives and Rehabilitation Completion Criteria, and Final Land Use Domain Plans. • Outcomes: Response received 5 December 2022. No comments or actions required.

Table 11 (Cont'd)
Community Consultation Activities

Stakeholder	Consultation Activities
NSW DPE Water	• Form of Consultation: Letter (email transmission).[1] • Date: 30 November 2022. • Matters Subject to Consultation: Rehabilitation Objectives and Rehabilitation Completion Criteria, and Final Land Use Domain Plans. • Outcomes: XX
Nyngan Local Aboriginal Land Council	• Form of Consultation: Letter (email transmission).[1] • Date: 30 November 2022. • Matters Subject to Consultation: Rehabilitation Objectives and Rehabilitation Completion Criteria, and Final Land Use Domain Plans. • Outcomes: Response received 21 December 2022. No actions required. General comment to ensure consideration of *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (NSW DECCW 2010)
Crown Lands	• Form of Consultation: Letter (email transmission).[1] • Date: 30 November 2022. • Matters Subject to Consultation: Rehabilitation Objectives and Rehabilitation Completion Criteria, and Final Land Use Domain Plans. • Outcomes: Response received 10 January 2023. No comments or actions required. .
Note 1: An example of this consultation letter is provided as **Appendix XX**	

Table 12
Rehabilitation Objectives and Completion Criteria

Reference	Proposed Rehabilitation Objective	Indicator	Proposed Rehabilitation Completion Criteria	Validation Method
Final Land Use Domain Infrastructure Area **Mining Domain** Infrastructure Area **Spatial Reference**[1] I1	***Decommissioning Phase***			
	All infrastructure and services not required for the final land use are removed.	Presence of services	All relevant services disconnected.	Single occurrence relinquishment inspection and report, including photographs, following decommissioning (unless follow up actions are identified).
		Presence of infrastructure	All relevant infrastructure removed.	
	Domain is free from hazardous materials and contaminants.	Presence of contaminated land	Contaminated land identified and remediated. Assessment indicates contamination within established NEPM criteria (applicable to final land use).	Contamination report prepared by qualified person following decommissioning with follow up validation testing, as required.
		Presence of hazardous materials.	All hazardous materials removed.	Assessment, identification and removal of hazardous materials (such as asbestos, radiation devices, chemicals, etc). Documented report by suitably qualified person verifying all materials removed.
		Presence of waste	All rubbish and waste materials are removed from site or disposed of in areas designated in this plan.	Single occurrence relinquishment inspection and report, including photographs, following decommissioning (unless follow up actions are identified). Waste tracking documentation for required waste streams removed from site.
	Landform Establishment Phase			
	Roads/tracks to be retained for a lawful final land use reduced in width / size to that suitable for final land use.	Retained access road is in suitable condition.	Roads not required for final land use rehabilitated unless specified to be retained.	Single occurrence relinquishment inspection and report, including photographs and post closure plans
			Road to be retained are reduced to 4m width suitable for final land use.	
	Free draining, stable and permanent landform established and suitable for a lawful final land use.	Visual evidence of erosion.	Erosion within the landscape is not limiting final land use. Erosion does not exceed the natural erosion rate.	Visual inspections undertaken and documented on a quarterly basis until site relinquishment. Records of any required corrective actions undertaken. Visual inspections undertaken following significant rainfall events (i.e. ≥25mm of rainfall within 24 hours).
	Rehabilitation Completion / Relinquishment Phase			
	Relinquish lease and return of rehabilitation security.	Demonstrated compliance with all performance indicators.	Demonstrated compliance with all completion criteria.	Relinquishment report prepared by suitably qualified or experienced person(s).

Table 12 (Cont'd)
Rehabilitation Objectives and Completion Criteria

Reference	Proposed Rehabilitation Objective	Indicator	Proposed Rehabilitation Completion Criteria	Validation Method
Final Land Use Domain Water Storage Area **Mining Domain** Infrastructure Area, Water Management Area – Clean Water, Water Management Area – Contaminated Water **Spatial Reference[1]** G3	***Decommissioning Phase***			
	All infrastructure not suitable for lawful final land use will be removed.	Presence of infrastructure	All infrastructure not required for final land use to be removed.	Single occurrence relinquishment inspection and report, including photographs, following decommissioning (unless follow up actions are identified).
	Contamination is not limiting final land use.	Presence of contaminated land.	Contaminated land identified and remediated. Assessment indicates contamination within established NEPM criteria (applicable to final land use).	Contamination report prepared by qualified person with follow up validation testing as required.
	Landform Establishment Phase			
	Retained water management structures are stable and permanent overflow drainage is constructed.	Presence of suitable water management structures.	Water management structures are capable of retaining and conveying water without causing pollution.	Single occurrence relinquishment inspection and report, including photographs, following decommissioning (unless follow up actions are identified).
		Maintenance requirements (cost and frequency of works)	After 5 years maintenance levels for retained water management structures are commensurate with maintenance requirements for farm dams.	Review of dam maintenance recorded in annual reporting and comparison against local farm dam maintenance requirements (determined through interview with local landholders).
	Retained water management structures are not a source of pollution.	Domain is non-polluting	Monitoring of water discharged from the Mine Site indicates that water quality is suitable for final land use through compliance with the ANZECC (2000) trigger values for slightly-moderately disturbed ecosystems or is consistent with ambient water quality.	Water quality testing, as per the *Water Management Plan 2016*, occurring monthly during and immediately following operations with frequency to be reduced progressively post-closure. Comparison (and documentation) of results against completion criteria
	Rehabilitation Completion / Relinquishment Phase			
	Relinquish lease and return of rehabilitation security.	Demonstrated compliance with all performance indicators.	Demonstrated compliance with all completion criteria.	Relinquishment report prepared by suitably qualified or experienced person(s).

Table 12 (Cont'd)
Rehabilitation Objectives and Completion Criteria

Reference	Proposed Rehabilitation Objective	Indicator	Proposed Rehabilitation Completion Criteria	Validation Method
Final Land Use Domain Final Void Area **Mining Domain** Void **Spatial Reference**[1] J5	***Decommissioning Phase***			
	All infrastructure not suitable for lawful final land use will be removed.	Presence of infrastructure	All infrastructure not required for final land use to be removed.	Single occurrence relinquishment inspection and report, including photographs, following decommissioning (unless follow up actions are identified).
		Presence of waste	All rubbish and waste materials are removed from site or disposed of in areas designated in this plan.	Single occurrence relinquishment inspection and report, including photographs, following decommissioning (unless follow up actions are identified).
	Landform Establishment Phase			
	Stable and permanent landform established.	Geotechnical stability of terminal benches/pit walls	Geotechnical assessment, by suitability qualified geotechnical engineer, based on site specific review, determines that the retained slopes are not likely to actively erode or 'slip' to an extent requiring further earthworks and profiling.	Single occurrence geotechnical review / report plan(s) prepared by surveyor and photographs included in relinquishment report, following completion of final landform establishment (unless further earthworks required).
	Safe landform established.	Access to open cut and portal	Access to open cut, portal and decline sealed.	Single occurrence relinquishment inspection and report, including photographs, following decommissioning (unless follow up actions are identified).
		Presence of safety bunds and fencing	Final void perimeter safety bund and fencing constructed to provide appropriate exclusion of access.	Visual inspection completed by site personnel, as part of regular site operation. Single occurrence relinquishment inspection and report, including photographs, following decommissioning (unless follow up actions are identified).
	Minimisation of final void catchments.	Presence of water management infrastructure	Final void perimeter safety bund and other water diversion structures constructed to minimise the catchment entering the void.	

Table 12 (Cont'd)
Rehabilitation Objectives and Completion Criteria

Reference	Proposed Rehabilitation Objective	Indicator	Proposed Rehabilitation Completion Criteria	Validation Method
Final Land Use Domain Final Void Area **Mining Domain** Void **Spatial Reference**[1] J5	Non-polluting landform established.	Residual void does not risk serious environmental harm to land, surface waters groundwater, other than the environmental harm constituted by the existence of the residual void itself.	Safety bunding of the final void limits ingress of clean water to the void.	Visual inspection completed by site personnel, as part of regular site operation. Single occurrence relinquishment inspection and report, including photographs, following decommissioning (unless follow up actions are identified).
			Final Void water balance and groundwater modelling conducted by suitably qualified person(s) verify the final void will be a groundwater sink.	Modelling report prepared by suitably qualified person(s) prior to completion of mining.
			Surrounding landholders ability to use groundwater resources is not compromised.	Monthly water quality testing, as per the *Water Management Plan 2016*, during and immediately following operations with frequency to be reduced progressively post-closure.
	Rehabilitation Completion / Relinquishment Phase			
	Relinquish lease and return of rehabilitation security.	Demonstrated compliance with all performance indicators.	Demonstrated compliance with all completion criteria.	Relinquishment report prepared by suitably qualified or experienced person(s).
Final Land Use Domain Native Ecosystems – Grassland **Mining Domain** Heap Leach Pads (referenced as Tailings Storage Facility in the portal) **Spatial Reference**[1] A2	***Decommissioning Phase***			
	All infrastructure not suitable for lawful final land use will be removed.	Presence of infrastructure.	All exposed pipework and infrastructure removed, where it is safe to do so.	Single occurrence relinquishment inspection and report, including photographs, following decommissioning (unless follow up actions are identified).
	Contamination is not limiting final land use.	Presence of waste	All rubbish and waste materials are removed from site or disposed of in areas designated within this Plan.	Single occurrence relinquishment inspection and report, including photographs, following decommissioning (unless follow up actions are identified).
		Presence of contaminated land	Contaminated land assessment indicates landform is acceptable for final land use.	Contamination report prepared by qualified person with follow up validation testing as required.

Table 12 (Cont'd)
Rehabilitation Objectives and Completion Criteria

Reference	Proposed Rehabilitation Objective	Indicator	Proposed Rehabilitation Completion Criteria	Validation Method
Final Land Use Domain Native Ecosystems – Grassland **Mining Domain** Heap Leach Pads (referenced as Tailings Storage Facility in the portal) **Spatial Reference**[1] A2	Contamination is not limiting final land use. (Cont'd)	Contamination of groundwater is contained or remediated.	Known groundwater contamination in the vicinity of the Heap Leach Pads is contained within the mining lease ML1280. Groundwater quality is consistent with criteria levels established in the *Water Management Plan 2016,* or is consistent with ambient water quality.	Water quality testing, as per the *Water Management Plan 2016*, occurring monthly during and immediately following operations with frequency to be reduced progressively post-closure. Groundwater contamination report prepared by qualified person.
	Landform Establishment Phase			
	Free-draining, stable and non-polluting landform established.	Presence of domestic grazing animals or pest species	Domestic grazing animals are excluded from the rehabilitation areas via protective fencing	Annual pest species inspection report (and subsequent control program, if required) included in annual rehabilitation revegetation reporting.
		Landform suitable for growth media establishment.	Landform to be constructed to the following specifications. • Heap Leach Pad final landform to be no greater than approximately 20m in height. • Drainage network to be constructed in accordance with surface water design specifications.	Landform as presented in as constructed 'as built' survey plans is consistent with engineering design specifications and surface water drainage plans. Geotechnical report of final landform indicates adequate stability to achieve final land use. Inspection and testing report, including photographs, prepared by a qualified person during and following landform construction.
		Construction of overlying store and release cover of Heap Leach Pads with appropriate geochemical and geotechnical composition of surface materials for final land use.	Heap Leach Pads are capped in accordance with engineered design specifications[1] including a minimum 400mm covering of NAF waste rock or other suitable material.	Landform as presented in as constructed 'as built' survey plans is consistent with engineering design specifications. Geotechnical report and geochemical characterisation of capping material indicate adequate composition to achieve final land use. Inspection and testing report, including photographs, prepared by a qualified person during and following landform construction.

[1] See O'Kane Consulting, 2018. Murrawombie HLF Cover System and Landform Design. Prepared for Aeris Resources 28 August 2018.

Table 12 (Cont'd)
Rehabilitation Objectives and Completion Criteria

Reference	Proposed Rehabilitation Objective	Indicator	Proposed Rehabilitation Completion Criteria	Validation Method
Final Land Use Domain Native Ecosystems – Grassland **Mining Domain** Heap Leach Pads (referenced as Tailings Storage Facility in the portal) **Spatial Reference[1]** A2	Free-draining, stable and non-polluting landform established. (Cont'd)	Landform is non-polluting.	Surface water (rainfall runoff) captured on the Heap Leach Pad surface is captured in a water management structure and diverted to the Open Cut Void. An engineered drain with a 1 in 100 year ARI capacity would be used to direct surface water to the Open Cut Void in accordance with surface water designs[1]. No pooling of water on upper surface of the Heap Leach Pad facility is observed.	Landform as presented in 'as constructed' survey plans is consistent with engineering surface water design and specifications. Inspection and testing report, including photographs, prepared by a qualified person during and following landform construction.
			Contour/catch banks and drop-down water diversion structures are constructed at locations and as specified in engineering design plans and specifications[1].	Landform as presented in as constructed survey plans is consistent with engineering surface water design and specifications. Inspection (document) and repair (record) of any corrective actions to repair erosion.
	Growth Medium Development Phase			
	Establish soil / growing medium suitable for grassland establishment.	Growth medium depth	Minimum growth medium depth of 100mm spread over domain.	Photographs included in a relinquishment report following growth medium spreading.
		Key soil characteristics	Analysis of growth medium indicates suitability for optimum vegetation growth of target communities including:[2]. • pH between 5.6 and 7.3 • Organic matter levels at 4.5% • Available Phosphorous is 50mg/kg Or, analysis of representative soil samples indicates these parameter are within 20% of analogue sites.	Soil testing program and report, undertaken every year (or as specified by soil scientist) as part of regular rehabilitation monitoring and reporting, until revegetation criteria achieved.

[2] Primary performance indicators have been established through previous rehabilitation monitoring and sampling at analogue sites. See DnA Environmental 2020 Rehabilitation Monitoring Report. Secondary performance indicators are monitored to inform remediation requirements. See section XXXX for more information.

Table 12 (Cont'd)
Rehabilitation Objectives and Completion Criteria

Reference	Proposed Rehabilitation Objective	Indicator	Proposed Rehabilitation Completion Criteria	Validation Method
Final Land Use Domain Native Ecosystems – Grassland **Mining Domain** Heap Leach Pads (referenced as Tailings Storage Facility in the portal) **Spatial Reference[1]** A2	***Ecosystem and Land Use Establishment and Development Phase***			
	Successful revegetation with suitable groundcover species.	Vegetation dominated by shallow rooted grassland species	Revegetation monitoring reports confirm that the mix of species spread/planted in revegetated areas can provide a minimum of 50% perennial ground cover and is capable of supporting the store and release cover system	Monitoring of revegetation success will involve a combination of quarterly visual assessments of plant establishment, groundcover and erosion by site personnel. Rehabilitation monitoring and reporting prepared by a suitably qualified person on rehabilitation condition, with results reported on in the Annual Rehabilitation Report, every year and for a minimum of 5 years post-closure or otherwise until site relinquishment.
		Vegetation is self-sustaining	Revegetation monitoring reports confirm that revegetated areas achieve the following vegetation community characteristics[3]. • Landscape function analysis indices for landscape organisation, stability, infiltration and nutrient recycling are within 25% of analogue grassland sites or consistently trending towards them. • Perennial plant cover is at a minimum of 50% to support store and release function of landform cover. • The presence of reproductive structures provides evidence that the ecosystem is maturing, capable of recruitment and is self-sustaining	
		Presence of weeds	Foliage cover of non-native and non-target species (weeds) is no greater than the surrounding vegetation / grassland analogue sites not disturbed by mining activities or impacting rehabilitated area.	Biannual weed inspection report (and subsequent control program, if required) included in annual rehabilitation revegetation reporting.

[3] Primary performance indicators have been established through previous rehabilitation monitoring and sampling at analogue sites. See DnA Environmental 2020 Rehabilitation Monitoring Report. Secondary performance indicators are monitored to inform remediation requirements. See section XXXX for more information.

Table 12 (Cont'd)
Rehabilitation Objectives and Completion Criteria

Reference	Proposed Rehabilitation Objective	Indicator	Proposed Rehabilitation Completion Criteria	Validation Method
Final Land Use Domain Native Ecosystems – Grassland **Mining Domain** Heap Leach Pads (referenced as Tailings Storage Facility in the portal) **Spatial Reference[1]** A2	***Ecosystem and Land Use Establishment and Development Phase***			
	Successful revegetation with suitable groundcover species. (Cont'd)	Presence of domestic grazing animals or pest species	Access by domestic grazing animals is limited to ensure only controlled grazing may occur in rehabilitated area. Feral and native animal control programs implemented. Pest species actively managed in consultation with neighbours.	Annual pest species inspection report (and subsequent control program, if required) included in annual rehabilitation revegetation reporting.
	Rehabilitation Completion / Relinquishment Phase			
	Relinquish lease and return of rehabilitation security.	Demonstrated compliance with all performance indicators.	Demonstrated compliance with all completion criteria.	Relinquishment report prepared by suitably qualified or experienced person(s).
Final Land Use Domain Native Ecosystems – Woodland **Mining Domain** Murrawombie Waste Rock Emplacement **Spatial Reference[1]** A4	***Decommissioning Phase***			
	All infrastructure not suitable for lawful final land use will be removed.	Presence of infrastructure.	All infrastructure removed, where it is safe to do so.	Single occurrence relinquishment inspection and report, including photographs, following decommissioning (unless follow up actions are identified).
	Contamination is not limiting final land use.	Presence of waste	All rubbish and waste materials are removed from site or disposed of in areas designated within this plan.	Single occurrence relinquishment inspection and report, including photographs, following decommissioning.
		Presence of contaminated land	Contaminated land identified and remediated. Assessment indicates contamination within established NEPM criteria (applicable to final land use).	Contamination report prepared by qualified person with follow up validation testing as required.

Table 12 (Cont'd)
Rehabilitation Objectives and Completion Criteria

Reference	Proposed Rehabilitation Objective	Indicator	Proposed Rehabilitation Completion Criteria	Validation Method
Final Land Use Domain Native Ecosystems – Woodland **Mining Domain** Murrawombie Waste Rock Emplacement **Spatial Reference[1]** A4	***Landform Establishment Phase***			
	Appropriate geochemical, geotechnical composition of surface materials for final land use.	Murrawombie Waste Rock Emplacement is constructed of suitable material to achieve the final land use.	Geotechnical and geochemical characterisation, and (growth zone) soil sampling of surface material indicates adequate composition, fertility and parameters to achieve final land use.	Geotechnical, geochemical characterisation and soil analysis report verifies that there are no impediments for achieving the final land use. Inspection and testing report, including photographs, prepared by a qualified person during and following landform construction. Relinquishment inspection and report, including photographs upon closure.
	Free-draining, stable and non-polluting landform established.	Landform suitable for growth media establishment.	Murrawombie Waste Rock Emplacement constructed with three tiers each with a 10m vertical height.	Landform as presented in as constructed survey plans is consistent with engineering design specifications and surface drainage plan. Landform evolution modelling of final landform. Geotechnical report of final landform indicates adequate composition and stability to achieve final land use. Inspection and testing report, including photographs, prepared by a qualified person during and following landform construction. Relinquishment inspection and report, including photographs upon closure.
			Murrawombie Waste Rock Emplacement would remain stable post-closure.	
		Suitable erosion and sediment controls are installed and operating effectively.	No pooling of water on upper surface of the Murrawombie Waste Rock Emplacement is observed. Contour/catch banks and drop-down water diversion structures are constructed at locations and as specified in engineering design specifications.	

Table 12 (Cont'd)
Rehabilitation Objectives and Completion Criteria

Reference	Proposed Rehabilitation Objective	Indicator	Proposed Rehabilitation Completion Criteria	Validation Method
Final Land Use Domain Native Ecosystems – Woodland **Mining Domain** Murrawombie Waste Rock Emplacement **Spatial Reference[1]** A4	***Growth Medium Development Phase***			
	Establish soil / growing medium suitable for woodland establishment.	Compacted surfaces	Compacted surfaces deep ripped along contour.	Photographs included in a relinquishment report following deep ripping.
		Growth medium depth	Minimum growth medium depth of 100mm spread over domain.	Photographs included in a relinquishment report following growth medium spreading.
		Key soil characteristics	Analysis of growth medium indicates suitability for optimum vegetation growth of target communities according to recommended agricultural guidelines including[4]. • pH between 5.6 and 7.3 • Organic matter levels at 4.5% • Available Phosphorous is 50mg/kg Or, analysis of representative soil samples indicates these parameter are within 20% of analogue sites.	Soil testing program and report, undertaken every year (or as specified by soil scientist) as part of regular rehabilitation monitoring and reporting, until criteria achieved.
	Ecosystem and Land Use Establishment and Development Phase			
	Establishment of vegetation communities with a similar species composition to the surrounding native vegetation communities.	Revegetation species mix applied in accordance with species listed in **Table XX**.	Revegetation monitoring reports confirm that revegetated areas achieve the following vegetation community characteristics[5]. • Landscape function analysis indices for stability and landscape organisation are within 25% of the woodland analogue sites or are trending in that direction • Diversity of species is within 25% of woodland analogue sites. • The composition of species comprising the vegetation community is within 25% of analogue sites (ecosystem composition). • The density of species is within 25% of the woodland analogue sites.	Monitoring of revegetation success will involve a combination of quarterly visual assessments of plant establishment, groundcover and erosion by site personnel. Rehabilitation monitoring reporting prepared by a suitably qualified person on rehabilitation condition, with results reported on in the Annual Rehabilitation Monitoring Report, every year and for a minimum of 5 years post-closure or otherwise until site relinquishment.

[4] Primary performance indicators have been established through previous rehabilitation monitoring and sampling at analogue sites. See DnA Environmental 2020 Rehabilitation Monitoring Report. Secondary performance indicators are monitored to inform remediation requirements. See section XXXX for more information.

Table 12 (Cont'd)
Rehabilitation Objectives and Completion Criteria

Reference	Proposed Rehabilitation Objective	Indicator	Proposed Rehabilitation Completion Criteria	Validation Method
Final Land Use Domain Native Ecosystems – Woodland **Mining Domain** Murrawombie Waste Rock Emplacement **Spatial Reference[1]** A4	Establishment of vegetation communities with a similar species composition to the surrounding native vegetation communities. (Cont'd)	Vegetation is self-sustaining	Revegetation monitoring reports confirm that revegetated areas achieve the following vegetation community characteristics[5]. • Landscape function analysis indices for infiltration and nutrient recycling are within 25% of the woodland analogue sites or trending in that direction. • Perennial plant cover, total groundcover and groundcover diversity are within 25% of the woodland analogue sites • Vegetation structure, composition and tree density and diversity are within 25% of the woodland analogue sites • The presence of reproductive structures such as buds, flowers or fruit provides evidence that the ecosystem is maturing, capable of recruitment and can provide habitat resources comparable to the local remnant vegetation.	
		Presence of weeds	Rehabilitation monitoring of rehabilitation area confirms the diversity and foliage cover of non-native and non-target species (weeds) is equivalent to or less than surrounding vegetation / analogue sites not disturbed by mining activities or impacting rehabilitated area.	Biannual weed inspection report (and subsequent control program, if required) included in annual rehabilitation revegetation reporting.

[5] Primary performance indicators have been established through previous rehabilitation monitoring and sampling at analogue sites. See DnA Environmental 2020 Rehabilitation Monitoring Report. Secondary performance indicators are monitored to inform remediation requirements. See section XXXX for more information.

Table 12 (Cont'd)
Rehabilitation Objectives and Completion Criteria

Reference	Proposed Rehabilitation Objective	Indicator	Proposed Rehabilitation Completion Criteria	Validation Method
Final Land Use Domain Native Ecosystems – Woodland **Mining Domain** Murrawombie Waste Rock Emplacement **Spatial Reference[1]** A4	Establishment of vegetation communities with a similar species composition to the surrounding native vegetation communities. (Cont'd)	Presence of domestic grazing animals or pest species	Domestic grazing animals are excluded from the rehabilitation areas via protective fencing. Feral and native animal control programs implemented in consultation with neighbours. Revegetation monitoring reports confirm grazing pressures are consistent with analogue sites not disturbed by mining. Monitoring confirms that, after 2 years pest species and abundance consistent with analogue sites.	Annual pest species inspection report (and subsequent control program, if required) included in annual rehabilitation revegetation reporting.
	Rehabilitation Completion / Relinquishment Phase			
	Relinquish lease and return of rehabilitation security.	Demonstrated compliance with all performance indicators.	Demonstrated compliance with all completion criteria.	Relinquishment report prepared by suitably qualified or experienced person(s).
Final Land Use Domain Agricultural Area – Grazing **Mining Domain** Infrastructure Area, Water Management Area – Contaminated Water, Mine-Related Disturbance, Topsoil Stockpile Area, Rehabilitation Area **Spatial Reference[1]** B1, B3, B8a, B8b, B8c	***Decommissioning Phase***			
	All infrastructure not suitable for lawful final land use will be removed.	Any remaining infrastructure removed.	All infrastructure removed, where it is safe to do so.	Single occurrence relinquishment inspection and report, including photographs, following decommissioning (unless follow up actions are identified).
	Contamination is not limiting final land use.	Presence of waste	All rubbish and waste materials are removed from site or disposed of in areas designated within this Plan.	Single occurrence relinquishment inspection and report, including photographs, following decommissioning.
		Presence of contaminated land	Contaminated land assessment indicates landform is acceptable for final land use.	Contamination report prepared by qualified person with follow up validation testing as required.
	Landform Establishment Phase			
	Free draining, stable and permanent landform established.	Drainage structures or dams.	Surface water and groundwater monitoring indicates that water quality is suitable for final land use through compliance with the ANZECC (2000) trigger values for slightly-moderately disturbed ecosystems or is consistent with ambient water quality.	Water quality testing, as per the *Water Management Plan 2016*, occurring monthly during and immediately following operations with frequency to be reduced progressively post-closure based on performance.

Table 12 (Cont'd)
Rehabilitation Objectives and Completion Criteria

Reference	Proposed Rehabilitation Objective	Indicator	Proposed Rehabilitation Completion Criteria	Validation Method
Final Land Use Domain Agricultural Area – Grazing **Mining Domain** Infrastructure Area, Water Management Area – Contaminated Water, Mine-Related Disturbance, Topsoil Stockpile Area, Rehabilitation Area **Spatial Reference**[1] B1, B3, B8a, B8b, B8c	Free draining, stable and permanent landform established. (Cont'd)	Drainage structures or dams. (Cont'd)	Decommissioned dams have been backfilled and landform constructed to blend with surrounding topography.	Single occurrence relinquishment inspection and report, including photographs, following decommissioning (unless follow up actions are identified).
		Presence of stockpiled material	All stockpiled material removed or surface appropriately profiled.	Single occurrence relinquishment inspection and report, including photographs, following completion of final landform establishment (unless follow up actions are identified).
		Construction of final landform.	Suitable erosion and sediment controls are installed and operating effectively.	Single occurrence relinquishment inspection and report, including photographs, following completion of final landform establishment (unless follow up actions are identified).
	Growth Medium Development Phase			
	Establish soil / growing medium suitable for grassland establishment.	Compacted surfaces	Compacted surfaces deep ripped along contour.	Photographs included in a relinquishment report following deep ripping.
		Growth medium depth	Minimum growth medium depth of 100mm spread over domain.	Photographs included in a relinquishment report following growth medium spreading.
		Key soil characteristics	Analysis of growth medium indicates suitability for optimum vegetation growth of target communities according to recommended agricultural guidelines including[6]. • pH between 5.6 and 7.3 • Organic matter levels at 4.5% • Available Phosphorous is 50mg/kg Or, analysis of representative soil samples indicates these parameter are within 20% of analogue sites.	Photographs included in a relinquishment report following growth medium spreading annually until site relinquishment. Soil testing program and report, undertaken every year (or as specified by soil scientist) as part of regular rehabilitation revegetation reporting, until criteria achieved.

[6] Primary performance indicators have been established through previous rehabilitation monitoring and sampling at analogue sites. See DnA Environmental 2020 Rehabilitation Monitoring Report. Secondary performance indicators are monitored to inform remediation requirements. See section XXXX for more information.

Table 12 (Cont'd)
Rehabilitation Objectives and Completion Criteria

Reference	Proposed Rehabilitation Objective	Indicator	Proposed Rehabilitation Completion Criteria	Validation Method
Final Land Use Domain Agricultural Area – Grazing **Mining Domain** Infrastructure Area, Water Management Area – Contaminated Water, Mine-Related Disturbance, Topsoil Stockpile Area, Rehabilitation Area **Spatial Reference**[1] B1, B3, B8a, B8b, B8c	***Ecosystem Establishment and Development Phase***			
	Establishment of vegetation communities with a species composition conducive to grazing land use.	Revegetation species mix applied in accordance with species listed in **Table XX**.	Revegetation monitoring reports confirm that revegetated areas achieve the following vegetation community characteristics[7]. • Landscape function analysis indices for stability and landscape organisation are within 25% of the woodland analogue sites or are trending in that direction • Diversity of species is within 25% of woodland analogue sites. • The composition of species comprising the vegetation community is within 25% of analogue sites (ecosystem composition). • The density of species is within 25% of the woodland analogue sites.	Monitoring of revegetation success will involve a combination of quarterly visual assessments of plant establishment, groundcover and erosion by site personnel. Rehabilitation monitoring reporting prepared by a suitably qualified person on rehabilitation condition, with results reported on in the Annual Rehabilitation Monitoring Report, every year and for a minimum of 5 years post-closure or otherwise until site relinquishment.
		Vegetation is self-sustaining	Revegetation monitoring reports confirm that revegetated areas achieve the following vegetation community characteristics[7]. • Landscape function analysis indices for infiltration and nutrient recycling are within 25% of the woodland analogue sites or trending in that direction. • Perennial plant cover, total groundcover and groundcover diversity are within 25% of the woodland analogue sites • Vegetation structure, composition and tree density and diversity are within 25% of the woodland analogue sites • The presence of reproductive structures such as buds, flowers or fruit provides evidence that the ecosystem is maturing, capable of recruitment and can provide habitat resources comparable to the local remnant vegetation.	

[7] Primary performance indicators have been established through previous rehabilitation monitoring and sampling at analogue sites. See DnA Environmental 2020 Rehabilitation Monitoring Report. Secondary performance indicators are monitored to inform remediation requirements. See section XXXX for more information.

Table 12 (Cont'd)
Rehabilitation Objectives and Completion Criteria

Reference	Proposed Rehabilitation Objective	Indicator	Proposed Rehabilitation Completion Criteria	Validation Method
Final Land Use Domain Agricultural Area – Grazing **Mining Domain** Infrastructure Area, Water Management Area – Contaminated Water, Mine-Related Disturbance, Topsoil Stockpile Area, Rehabilitation Area **Spatial Reference[1]** B1, B3, B8a, B8b, B8c	Establishment of vegetation communities with a species composition conducive to grazing land use. (Cont'd)	Presence of weeds	Rehabilitation monitoring of rehabilitation area confirms the diversity and foliage cover of non-native and non-target species (weeds) is equivalent to or less than surrounding vegetation / analogue sites not disturbed by mining activities or impacting rehabilitated area.	Biannual weed inspection report (and subsequent control program, if required) included in annual rehabilitation revegetation reporting.
		Presence of domestic grazing animals or pest species	Domestic grazing animals are excluded from the rehabilitation areas via protective fencing. Feral and native animal control programs implemented in consultation with neighbours. Revegetation monitoring reports confirm grazing pressures are consistent with analogue sites not disturbed by mining. Monitoring confirms that, after 2 years pest species and abundance consistent with analogue sites.	Annual pest species inspection report (and subsequent control program, if required) included in annual rehabilitation revegetation reporting.
	Land capability similar to pre-mining capability (Class V or Class VI).	Land capability	Land capability, assessed in accordance with OEH 2012, of Class V or Class VI.	Assessment report, included in relinquishment report, prepared by suitably qualified consultant.
		Agricultural productivity	Agricultural productivity trending towards analogue sites and consistent with Land Capability Class established in OEH, 2012.	Single occurrence production report, prepared a suitable independent person, post closure (unless further activities required).
	Rehabilitation Completion / Relinquishment Phase			
	Relinquish lease and return of rehabilitation security.	Demonstrated compliance with all performance indicators.	Demonstrated compliance with all completion criteria.	Relinquishment report prepared by suitably qualified or experienced person(s).

Note 1: Refer to **Plan 1**

5. Final Landform and Rehabilitation Plan

5.1 Final Landform and Rehabilitation Plan

Plan 1 presents the final landform features for the Mine Site and **Plan 2** presents the final landform contours for the Mine Site.

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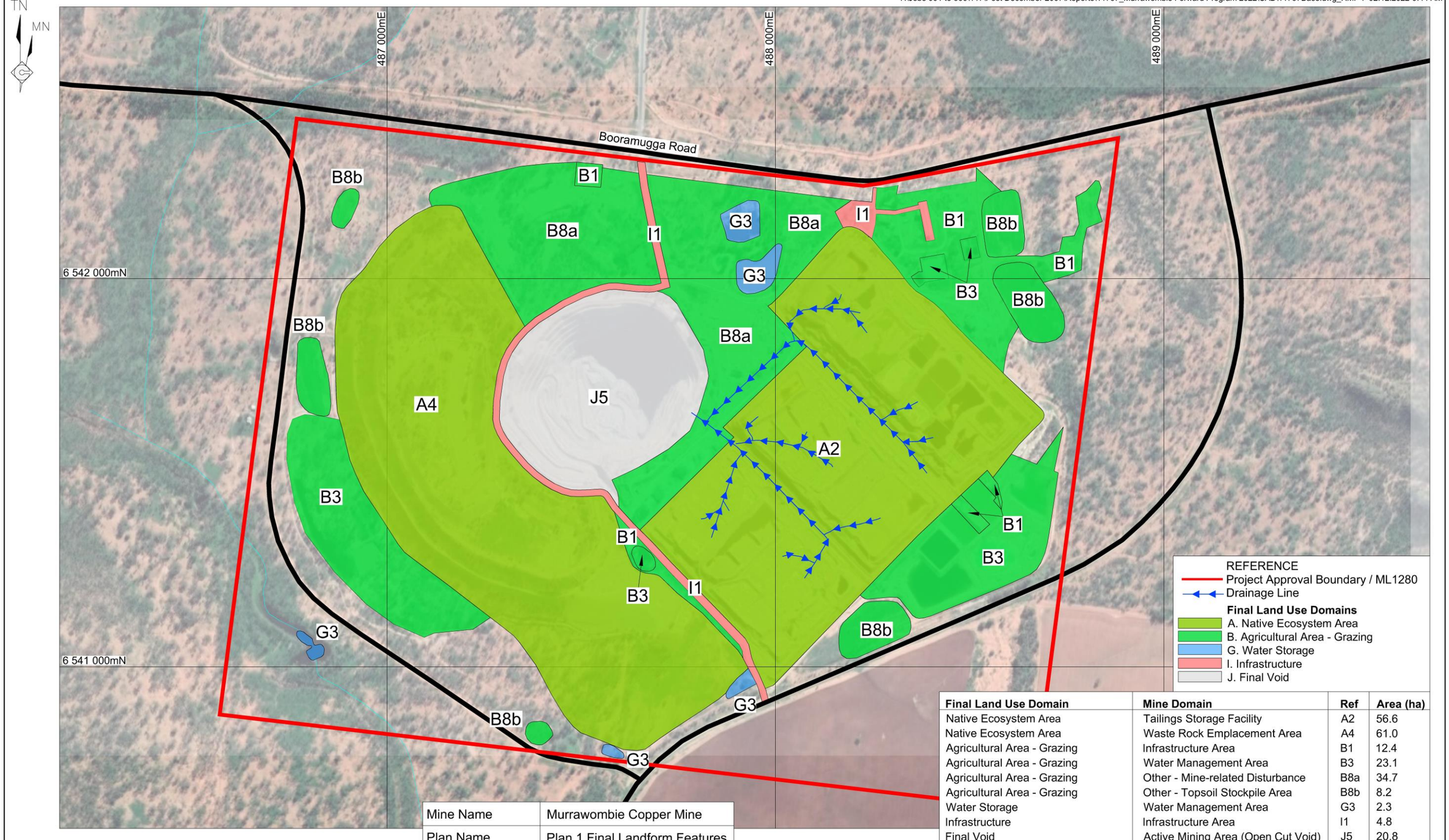

REFERENCE
- Project Approval Boundary / ML1280
- Drainage Line

Final Land Use Domains
- A. Native Ecosystem Area
- B. Agricultural Area - Grazing
- G. Water Storage
- I. Infrastructure
- J. Final Void

Final Land Use Domain	Mine Domain	Ref	Area (ha)
Native Ecosystem Area	Tailings Storage Facility	A2	56.6
Native Ecosystem Area	Waste Rock Emplacement Area	A4	61.0
Agricultural Area - Grazing	Infrastructure Area	B1	12.4
Agricultural Area - Grazing	Water Management Area	B3	23.1
Agricultural Area - Grazing	Other - Mine-related Disturbance	B8a	34.7
Agricultural Area - Grazing	Other - Topsoil Stockpile Area	B8b	8.2
Water Storage	Water Management Area	G3	2.3
Infrastructure	Infrastructure Area	I1	4.8
Final Void	Active Mining Area (Open Cut Void)	J5	20.8

Mine Name	Murrawombie Copper Mine
Plan Name	Plan 1 Final Landform Features
Anticipated Year of Relinquishment	2033
Date Plan Created	2 December 2022
Data Theme Submission ID Numbers	3727

SCALE 1:10 000 (A3)

100 0 100 200 300 400 500 m

Base Photo Source: Google Earth (11 May 2020)

Plan 1
MURRAWOMBIE COPPER MINE - FINAL LANDFORM FEATURES

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Mine Name	Murrawombie Copper Mine
Plan Name	Plan 2 Final Landform Contours
Anticipated Year of Relinquishment	2033
Date Plan Created	2 December 2022
Data Theme Submission ID Numbers	3728

REFERENCE
- Project Approval Boundary / ML1280
- Final Contour (mAHD)(Interval = 1m)
- Drainage Line

SCALE 1:10 000 (A3)

100 0 100 200 300 400 500 m

Base Map Source: Minstaff Survey (2014)

Plan 2
MURRAWOMBIE COPPER MINE -
FINAL LANDFORM CONTOURS