STRATEGIC MINERALS CORPORATION

PROGRESSIVE REHABILITATION AND CLOSURE PLAN

BIG VEIN SOUTH GOLD PROJECT

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Acronyms and Abbreviations

Abbreviation/Acronym	Definition
AEP	Annual Exceedance Probability
AHD	Australian Height Datum
AMD	Acid Mine Drainage
ANC	Acid Neutralising Capacity
AQP	Appropriately Qualified Person
BoM	Bureau of Meteorology
BVS	Big Vein South
°C	Degrees Celsius
CIL	Carbon In-Leach
cm	Centimetres
C-WRD	Central Watse Rock Dump
DETSI	Department of the Environment, Tourism, Science and Innovation
DLGWV	Department of Local Government, Water and Volunteers
DNRME	The former Queensland Department of Natural Resources, Mines and Energy (now the Queensland Department of Natural Resources and Mines, Manufacturing and Regional and Rural Development)
DNRMMRRD	Queensland Department of Natural Resources and Mines, Manufacturing and Regional and Rural Development
DRDMW	The former Queensland Department of Regional Development, Manufacturing and Water (now the Queensland Department of Local Government, Water and Volunteers)
EA	Environmental Authority
EAR	Environmental Assessment Report
EC	Electrical Conductivity
EP Act	*Environmental Protection Act 1994*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
EPM	Exploration Permit – Minerals other than Coal
EP Regulation	*Environmental Protection Regulation 2019*
ERA	Environmentally Relevant Activity
ESP	Exchangeable Sodium Percentage
ha	Hectares
HEC	Hansen Environmental Consulting

Abbreviation/Acronym	Definition
IA	Improvement Area
km	Kilometres
LOM	Life of Mine
m	Metre
mAHD	Metres AHD
MAW	Mine affected water
mg/L	Milligrams per litre
MIA	Mine infrastructure area
ML	Mining Lease
MLES	Matters of Local Environmental Significance
Mm^3	Million cubic metres
mm	Millimetres
MWMMP	Mine Waste Material Management Plan
MNES	Matters of National Environmental Significance
MSES	Matters of State Environmental Significance
Mt	Million tonnes
Mtpa	Million tonnes per annum
NAF	Non Acid Forming
NATA	National Association of Testing Authorities
NC Act	*Nature Conservation Act 1992*
NW Regional Plan	*North West Regional Plan 2010-2031*
NUMA	Non-Use Management Area
PAF	Potentially Acid Forming
PAWC	Plant available water capacity
PAMD	Preventing Acid and Metalliferous Drainage
PMLU	Post-Mining Land Use
ppm	Parts per million
PRCP	Progressive Rehabilitation and Closure Plan
RA	Rehabilitation Area
RE	Regional Ecosystem
RM	Rehabilitation Milestones

Abbreviation/Acronym	Definition
RMP	Rehabilitation Monitoring Program
ROM	Run-of-Mine
RPEQ	Registered Professional Engineer of Queensland
RSC	Richmond Shire Council
SMC	Strategic Minerals Corporation
SPC	Soil Profile Class
SQP	Suitably Qualified Person
TSC	Tailings Storage Cell
TDS	Total Dissolved Solids
VM Act	*Vegetation Management Act 1999*
Water Act	*Water Act 2000*
WRD	Waste Rock Dump

Glossary

Term	Definition
Alluvium	Sediment deposited by a flowing stream, consisting of unconsolidated materials including gravel, clay, silt and sand.
Annual Exceedance Probability	The probability of a flood event occurring in any year.
Aquifer	Rock or sediment in a formation, group of formations or part of a formation that is saturated and sufficiently permeable to transmit economic quantities of water to wells and springs.
Australian Height Datum	The official vertical height datum of Australia and the datum to which all vertical control for mapping is to be referred.
Bureau of Meteorology	Australia's national weather, climate and water agency that provides regular forecasts, warnings, monitoring and advice across the Australian region and Antarctic territory.
Catchment	The surface drainage area from which a river, stream or reservoir receives its water.
Channel	A watercourse with a definite bed and banks, through which water flows.
Confluence	Where two or more flowing bodies of water join together to form a single channel.
Crown Land	Land that is lease or dedicated to the public as a road or reserve; or the subject of a permit to occupy or licence; or unallocated State land. This is also known as State land under *the Land Act 1994*.
Decommission	Safe removal of plant and equipment following the completion of mining operations.
Dewatered Tailings	Tailings that have a moisture content that is less than the liquid limit.
Drainage Diversion	A constructed embankment and diversion channel to divert drainage features.
Drainage feature	A natural landscape feature, including a gully, drain, drainage depression or other erosion feature that: • Is formed by the concentration of, or operates to confine or concentrate, overland flow water during and immediately after rainfall events; and • Flows for only a short duration after a rainfall event, regardless of the frequency of flow events; and • Commonly, does not have enough continuing flow to create a riverine environment.
Ecosystem	An interacting system of animals, plants, other organisms and non-living parts of the environment.
Electrical conductivity	A measure of the amount of electrical current a material can carry.

Term	Definition
Environmentally Relevant Activity	An activity that requires approval and monitoring by either Local Government or State Government due to its potential to impact the environment.
Ephemeral	A watercourse, with defined bed and banks, which flows only intermittently after rain.
Eromanga Basin	A large Mesozoic sedimentary basin located in central-eastern Australia that covers 1,000,000km^2.
Erosion	The wearing away of land surface by wind or water, intensified by land clearing practices related to farming, residential or industrial development, road building, or logging.
Gazetted road	A sealed or unsealed road that the general public have unlimited rights of access to and is regularly maintained by a local, state or government body or council.
Geochemical	Chemical compositions related to the geology of an area or sample.
Geological	Relating to the earth, the rocks of which it is composed, and the changes which it has undergone or is undergoing.
Geology	The study of the materials that make up the Earth.
Gold doré	Solid bars containing gold alloy.
Hydraulic groundwater gradient	The slope of the water surface of the groundwater table.
Hydrogeology	The field of geology associated with the movement and distribution of water.
Leachate	The process of removing soluble matter(s) from soil or rock by water.
Leaching	The process of extracting a substance from a soli material that has come into contact with a liquid.
Macroinvertebrate	Animals without backbones large enough to be seen by the naked eye.
Macrophyte	An aquatic plant that is large enough to be visible to the naked eye.
Mine Life	The BVS project will have a mine life of approximately 11 years.
Mine Waste Material Management Plan	A plan that involves management measures for identifying, handling, storing and monitoring any potentially acid-forming mine waste materials.
Regional Ecosystem	A vegetation community in a bioregion that is consistently associated with a particular combination of geology, landform and soil.
Rehabilitation	Reshaping of a disturbed area to a geotechnically and geochemically stable condition, followed by revegetation.

Term	Definition
Remnant Vegetation	Native vegetation remaining after an area has otherwise been cleared: consisting of more than 50% of the undisturbed predominant canopy; averaging more than 70% of the vegetation's undisturbed height; and composed of species characteristic of the vegetation's undisturbed predominant canopy.
Salinity	The concentration of dissolved salts within a body of water.
Sediment	Solid particles which tend to settle in a liquid.
Subsoil	The soil that is immediately under the topsoil.
Topography	The surface features of an area of land.
Topsoil	The upper most layer of soil where the highest concentration of organic matter and microorganisms are found. Often referred to as the "A" horizon.

1 Introduction

Hansen Environmental Consulting (HEC) was commissioned by Strategic Minerals Corporation Pty Ltd (SMC) (the proponent) to develop a Progressive Rehabilitation and Closure Plan (PRCP) for the Big Vein South Gold Project (the project). This PRCP accompanies a site specific Environmental Authority (EA) application for the project.

This PRCP has been prepared in accordance with the *Environmental Protection Act 1994* (EP Act) and the following guidelines and information sheets prepared by the Queensland Department of the Environment, Tourism, Science and Innovation (DETSI):

- *Statutory Guideline: Progressive Rehabilitation and Closure Plans (PRC Plans) – version 3.02*
- *Information Sheet: Non-Use Management Areas – version 1.03*
- *Information Sheet: Common Issues with PRCP Applications - version 1.02*
- *Information Sheet: Voids in Flood Plains – version 1.03*
- *Information Sheet: Community Consultation for PRCP – version 1.03.*

The main report of this PRCP provides the rehabilitation planning part of the PRCP. The PRCP schedule is provided in Appendix A. The PRCP is structured as follows:

- Section 1: Introduction
- Section 2: Project Planning
- Section 3: Community Consultation
- Section 4: Post-Mining Land Use
- Section 5: Non-Use Management Areas
- Section 6: Rehabilitation Management Methodology
- Section 7: Risk Assessment
- Section 8: Rehabilitation Trials
- Section 9: Monitoring and Maintenance
- Appendices including:
  - Appendix A: PRCP Schedule
  - Appendix B: PRCP Spatial Data
  - Appendix C: Groundwater Report
  - Appendix D: Soils Report
  - Appendix E: Central WRD Conceptual Design Report
  - Appendix F: Geochemistry Report
  - Appendix G: Final Void Stability Report
  - Appendix H: Surface Water Report
  - Appendix I: Mine Waste Storage Facilities Geotechnical Stability Report

- Appendix J: Final Landform Flood Modelling Report
- Appendix K: Public Interest Consideration Report.

2 Project Planning

2.1 Project Description

The project involves the construction and operation of an open cut gold mine on a greenfield site in North Queensland. The project site covers an area of approximately 2,281 ha and is located approximately 100 km north of Richmond and 380 km west of Townsville (Figure 1).

Open cut mining will be conducted using excavators and trucks. Gold ore will be processed on site to produce gold doré (solid bars containing gold alloy). The mine's peak production rate will be up to 1.95 million tonnes per annum (Mtpa) of run of mine (ROM) gold ore, yielding up to approximately 100,000 ounces of gold doré per annum. The mine life will be approximately 11 years.

The following mining and ore processing activities will be undertaken as part of the project:

- Developing three open cut pits, as follows:
  - The main Big Vein South Pit (BVS Pit) located in the centre of the project site (Figure 2). Waste rock from this pit will be hauled by truck and stored in the Central and Southern Waste Rock Dumps (WRDs).
  - Two small satellite pits, BV1 Pit and BV2 Pit, located in the northern part of the project site (Figure 2). Waste rock from these pits will be stored in the Northern WRD.
- Transporting mined ore in haul trucks from the open cut pits to the ROM area ore stockpiles located near the mine processing facilities at the southern end of the project site (Figure 2).
- Processing ore from the BV1 and BV2 Pits in the first 2 years of mining using Heap Leach Pads and gold elution. Processing ore mined from the BVS Pit in an on-site Carbon In-Leach (CIL) Plant from Year 3 onwards. The heap leaching process will generate spent heap leach residues. These residues will be reprocessed in the CIL Plant over the life of the mine. The CIL Plant will generate wet tailings and dewatered tailings. Wet tailings will be pumped to a Tailings Storage Cell. Dewatered tailings will be stored with waste rock in the Central WRD.
- Transporting doré bars from the site via plane to a refinery.

The majority of the mine infrastructure will be located at the southern end of the project site (Figure 2). Key mine infrastructure will include ore processing facilities, workshop, warehouse, administration buildings, haul roads and access roads, vehicle servicing, refuelling and wash down facilities, fuel storage facilities, diesel and solar power station, water supply and water management infrastructure. Workforce accommodation and a private airstrip will also be located at the southern end of the project site.

The staged layouts for the project are shown in Figure 3 to 8.

Under Schedule 3 of the *Environmental Protection Regulation 2019* (EP Regulation), the project is classified as resource activity 16 – Mining Gold Ore. The following Environmentally Relevant Activities (ERAs) under Schedule 2 of the EP Regulation are proposed to be undertaken as part of this resource activity and are referred to as ancillary activities:

- ERA 8(2) – Chemical Storage for storing 50 t or more of chemicals of dangerous goods class 6, division 6.1 under subsection (1)(b)

- ERA 8(3) – Chemical Storage for storing more than 500 m3 of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods under class 3 under subsection (1)(c)
- ERA 8(4) – Chemical Storage for storing 200 t or more of chemicals that are solids or gases, other than chemicals mentioned in items 1 to 3, under subsection (1)(d)
- ERA 14(2a) – Electricity Generation for generating 10 MW electrical to 150 MW electrical
- ERA 15 – Fuel Burning using fuel burning equipment that is capable of burning at least 500 kg of fuel in an hour
- ERA 31(2b) – Mineral Processing for processing, in a year, more than 100,000 t of mineral products, other than coke
- ERA 33 – Crushing, Milling, Grinding or Screening for crushing, griding, milling or screening more than 5,000 t of material in a year
- ERA 63(1)(b)(i) – Sewage Treatment for operating a sewage treatment works, other than no-release works, with a total daily peak design capacity of more than 100 but not more than 1,500 Equivalent Persons (EP) if treated effluent is discharged from the works to an infiltration trench or through an irrigation scheme.

ERA 64 – Water Treatment is not applicable as the BVS water treatment plant will filter, UV sterilise and disinfect raw water to make it potable.

2.2 Resource Tenements

Table 1 lists the resource tenements within the project site, all of which are held by the proponent.

Table 1 Resource Tenements Within the Project Site

Tenement	Tenement Holder	Total Area of Tenement (ha)	Figure Reference
Mining Leases (MLs)			
ML 2729	Strategic Minerals Corporation Pty Ltd	128.0	Figure 9
ML 2739	Strategic Minerals Corporation Pty Ltd	128.0	Figure 9
ML 90238	Strategic Minerals Corporation Pty Ltd	882.6	Figure 9
ML 100236	Strategic Minerals Corporation Pty Ltd	1,144.0	Figure 9
Exploration Permit – Minerals other Than Coal (EPM)			
EPM 9599	Strategic Minerals Corporation Pty Ltd	10,313.2	Figure 10
EPM 13942	Strategic Minerals Corporation Pty Ltd	966.6	Figure 10
EPM 14060	Strategic Minerals Corporation Pty Ltd	9,018.3	Figure 10
EPM 14209	Strategic Minerals Corporation Pty Ltd	12,887.9	Figure 10

2.3 Site Topography

2.3.1 Regional

The regional topography is dominated by the south-western end of the Gregory Range, the Woolgar River and its tributaries. Rivers and creeks in the region have eroded the landscape, leaving behind isolated, elevated plateaus and elevated ranges. The flatter land in the region is substantially used for grazing while large sections of the elevated ranges are protected national and state land along the ranges such as the Rungulla National Park, Blackbraes National Park, Rungulla Resources Reserve, Bellfield Nature Refuge and forestry consent areas.

2.3.2 Local

The project site is situated on the south-western edge of the Gregory Range at elevations of between approximately 360 m and 450 m Australian Height Datum (AHD). The eastern edge of the project site is characterised by a mosaic of sandstone scarps dissected by streams and gullies, while the western portion of the project site is flatter, sloping gradually towards the Woolgar River. The Woolgar River flows in a south-westerly direction and forms the northern and north-western boundary of the project site.

The local topography and surface drainage are shown in Figure 3.

2.4 Climate

2.4.1 Regional

The climate of the region is dominated by intense rainfall events throughout the summer months of each year. More than 90% of rainfall typically falls between November and April. Consequently, the region exhibits distinct wet and dry seasons. Average annual evaporation in the region is approximately 3,000 mm. The annual maximum temperature in the region is approximately 36°C while the annual minimum temperature is approximately 18°C.

The Future Climate Dashboard from DETSI shows the mean temperature in the region increasing by approximately 3°C by 2070, with increases in the maximum temperature by approximately 2.7°C and increases in the minimum temperature by approximately 3.0°C. Evaporation is predicted to increase by approximately 2 mm/day by 2070 and rainfall is due to increase by approximately 0.15 mm/day by 2070.

2.4.2 Local

The nearest Bureau of Meteorology (BoM) weather station to the project site with long-term rainfall monitoring data is the Gilberton Station (BoM weather station number 030019), located approximately 84.6 km from the project site, with data available from November 1917 to February 2022. Mean monthly rainfall recorded at the Gilberton weather station ranges from 4.0 mm in August to 199.4 mm in January, with a mean annual rainfall of 688.9 mm. Total average rainfall recorded during the wet season (November to April) is 641.8 mm. Total average rainfall recorded during the dry season (May to October) is 66 mm. The DETSI SILO data for the project site indicates that mean annual lake evaporation is 1,930 mm resulting in a net average annual evaporation of approximately 1,338 mm.

Temperature data has been collected from the BoM weather station at Richmond Airport (BoM station number 030161) from March 1998 to February 2022. The highest daily maximum temperature recorded at the Richmond Airport weather station over this period is 45.1°C, recorded in December 2019. The lowest daily minimum temperature is -1.0°C, recorded during June 2005.

During winter months, the mean recorded daily minimum temperatures range from 9.1°C to 10.2°C and the mean recorded daily maximum temperatures range from 26.7°C to 29.2°C. During summer months, the mean recorded daily minimum temperatures range from 22.9°C to 23.7°C and the mean recorded daily maximum temperatures range from 36.3°C to 38.5°C.

2.5 Geological Setting

The project site is located at the northern margin of the Eromanga Basin, a sedimentary basin that was deposited in the Mesozoic era. Locally, the Eromanga Basin overlies a Proterozoic basement. The Proterozoic basement is part of the North Australian Craton, one of Australia's major mineral provinces.

The Eromanga Basin and Proterozoic basement have been extensively modified by weathering and erosion. The weathered profile extends to depths of up to 40 m below ground level in the project site (Figure 11 and Figure 12).

The project site stratigraphy includes the following (in descending order) (Figure 11 and Figure 12):

- alluvium associated with the Woolgar River and its floodplain
- the weathered in-situ rocks of the Eromanga Basin and Proterozoic basement (i.e. the 'weathered profile')
- fresh (i.e. unweathered) Jurassic strata of the Eromanga Basin
- fresh Proterozoic basement rocks, including the target gold ore.

2.6 Site Hydrology and Fluvial Networks

This section provides an overview of the catchment and drainage setting for the project.

2.6.1 Woolgar River

The project site is located in the Woolgar River catchment, part of the Flinders River Basin (Figure 13). The dominant land use in the Woolgar River catchment is cattle grazing. These activities have extensively modified and disturbed the Woolgar River catchment.

The Woolgar River commences approximately 46 km upstream of the project site. The Woolgar River traverses the northern and western boundaries of the project site, flowing in a south-westerly direction (Figure 14). The Woolgar River joins the Stawell River approximately 73 km downstream of the project site. The Stawell River enters the Flinders River approximately 56 km downstream of the Woolgar River confluence. The Woolgar River is a watercourse, as defined under the *Water Act 2000* (Water Act).

Near the project site, the Woolgar River has a well-defined channel that is set within a narrow, discontinuous floodplain. The river channel contains a braided low flow channel with sand sheet deposits, bars and islands that have been formed by the extensive suspended sediment deposition during flow events.

The Woolgar River exhibits ephemeral, short duration, surface water flows that are typically associated with significant rainfall events in the wet season (i.e. November to April). Therefore, the volume and timing of surface water flow in the river varies significantly between years depending on rainfall.

2.6.2 Local Drainage

The local topography transitions from elevated rocky plateaus and ridgelines to the flatter, low-lying Woolgar River (Figure 14).

Several plateaus and ridgelines extend into the project site and form local catchment boundaries (Figure 14). The local catchments within the project site are all influenced by cattle grazing and land disturbance associated with mining exploration and access roads, with each catchment summarised as follows:

- The northern catchment covers an area of approximately 4.2 km^2 and includes the unnamed Woolgar River tributaries of Drainage Feature 4 and Drainage Feature 5.
- The central catchment covers an area of approximately 19.4 km^2 and includes the unnamed Woolgar River tributaries of Drainage Feature 1, Drainage Feature 2 and Drainage Feature 3.
- The southern catchment covers an area of approximately 53.7 km^2, with no defined channels, associated with this catchment, traversing the project site.
- Local catchment areas that drain directly to the Woolgar River channel.

The unnamed Woolgar River tributaries coalesce on the flatter ground that is located between the plateaus and ridgelines and drain towards the Woolgar River valley. The Queensland Department of Local Government, Water and Volunteers (DLGWV, previously the Department of Regional Development, Manufacturing and Water (DRDMW)) have declared that the unnamed tributaries meet the Water Act definition of a 'drainage feature'.

Surface water flow duration, frequency and quality in the drainage features have similar characteristics as the Woolgar River, being highly ephemeral, with short duration flows that contain elevated suspended sediment loads. This is expected given the catchment features and geology setting.

2.7 Groundwater

The geological setting of the project site is described in Section 2.5.

Regionally, the Jurassic strata are the main groundwater-bearing formation. However, the Jurassic strata are frequently dry in the vicinity of the project site (Figure 11). Where groundwater is present locally, the Jurassic strata are typically only partially saturated and yield low volumes of groundwater. Hence, the Jurassic sediments do not form a productive aquifer within the project site and its surrounds (Figure 12).

In the elevated plateau areas, shallow groundwater may also occur in thin permeable layers within the weathered profile (Figure 12). Where this occurs, the shallow groundwater is located above the regional groundwater table. Hence, the shallow groundwater and regional groundwater table are hydraulically

disconnected. Outcrop springs fed by shallow groundwater occur in the elevated plateau areas to the east of the project site. The *Groundwater Report* (Appendix C) details how these springs are fed by perched groundwater seepage from the weathered profile and how there is no hydraulic connection between the springs and the underlying groundwater table located within the Jurassic strata and Proterozoic basement.

The groundwater levels and properties are summarised in Table 2.

Table 2 Groundwater Levels and Properties

Local Ground-water Regime	Ground-water Levels	Groundwater Properties				
		Distribution	**Hydro-geological Parameters**	**Recharge, Flow and Discharge**	**Groundwater Quality**	**Groundwater Yield and Use**
Localised alluvium associated with the Woolgar River	Floodplain alluvium is above the groundwater table meaning the alluvium is dry and unsaturated.	Sand and gravel deposits in the narrow Woolgar River floodplain – thickness ranges from a few cm to approximately 10 m.	High hydraulic conductivity ranging between 1 m/day and 10 m/day.	Recharge is via localised and episodic and intermittent flow or flood events. Discharge occurs laterally down-gradient and vertically into the underlying weathered profile. Groundwater flow occurs to the south-west along the flow direction of the Woolgar River.	Brackish to saline, pH neutral with typically low concentration of dissolved metals.	There are no groundwater supply bores in the alluvium within the project site or surrounding 5 km.
Weathered Profile	345 – 348 mAHD.	Extensive over the project site and varies between 4 m to 25 m in the vicinity of the proposed pits.	1.7 m/day.	Recharge is via rainfall when rainfall exceeds evaporation (December to February). Discharge occurs vertically into the underlying Jurassic strata or Proterozoic basement. Locally, discharge also occurs via springs to the east of the project site. The springs are fed by seepage from perched groundwater within the weathered profile in the elevated plateau area. The springs emanate from stratigraphic weaknesses associated with gullies on the slopes of the elevated plateau area. There is no connection between the springs and the regional groundwater table. Groundwater flow occurs to the south-west, closely following topography.	Fresh with measured TDS values ranging from 118 ppm to 198 ppm. pH is slightly acidic and there are low concentrations of dissolved metals and minerals.	There are no groundwater supply bores in the weathered profile within the project site. There is one water supply bore within 5 km of the project site that is used for stock watering.

Local Ground-water Regime	Ground-water Levels	Groundwater Properties				
		Distribution	**Hydro-geological Parameters**	**Recharge, Flow and Discharge**	**Groundwater Quality**	**Groundwater Yield and Use**
Fresh Jurassic Strata	350 – 354 mAHD.	Highly variable across the project site and within the vicinity of the proposed pits has a maximum thickness of 30 m.	Ranges from 7x10-2 m/day to 5 m/day.	Recharge occurs via vertical migration through the overlying weathered profile. Typically this occurs when rainfall exceeds evaporation (December to February). Discharge occurs vertically into the underlying Proterozoic basement. Groundwater flow occurs to the south-west, closely following topography.	Fresh to brackish with measured TDS values ranging from 220 ppm to 699 ppm. pH is typically neutral to slightly alkaline and there are low concentrations of dissolved metals and minerals.	There are no groundwater supply bores in the Jurassic strata within the project site. There is one water supply bore within 5 km of the project site that is used for stock watering.
Fresh Proterozoic Basement	315 – 368 mAHD.	Aquiclude present across the entire site.	Ranges from 1x10-5 m/day to 2 m/day.	Recharge occurs via vertical migration through the overlying weathered profile and Jurassic strata (where present) where these units are unsaturated. Typically this occurs when rainfall exceeds evaporation (December to February). Slow downward seepage from saturated areas of the weathered profile and Jurassic strata into the Proterozoic basement occur all year round. Groundwater flow and discharge occurs to the south-west, closely following topography.	Fresh to saline with measured TDS values ranging from 442 mg/L to 10,740 mg/L. pH is typically slightly acidic to slightly alkaline with generally low concentrations of dissolved metals and minerals.	There are no groundwater supply bores in the Proterozoic basement within the project site or surrounding 5 km.

2.8 Soils

Table 3 summarises the soil types (including their associated properties and productivity) present within the project site. A detailed description of the soils is provided in the *Soils Report* (Appendix D). Proposed soil stripping depths and soil amelioration measures are provided in Section 6.1.3.

Table 3 Soil Types

Soil Profile Class (SPC)	SPC Concept Description	Australian Soil Classification (Major Order/ Sub-order)	Area (ha)	Agricultural Land Class
1	Moderately deep, slightly acidic, black loam and brown sandy loam subsoil.	Brown Kandosol	499	B – suitable of a narrow range of crops or pastures
2	Moderately deep, moderately acidic, black firm sandy loam with brown sandy loam to strongly alkaline, extremely sodic, sandy clay loam subsoil.	Red Kandosol	80	B – suitable of a narrow range of crops or pastures
3	Very shallow, rocky, strongly acidic, black sandy loam on steep hills on sedimentary rock.	Leptic Rudosol	189	C3 – suitable for light grazing of native pastures in accessible areas
4	Moderately deep, moderately acidic, brown loamy sand on red, moderately alkaline, sandy clay loam subsoil.	Red Kandosol	132	B – suitable of a narrow range of crops or pastures
5	Shallow, hard-setting, slightly acidic, brown sands on brown sandy clay loam on sedimentary rock.	Brown Kandosol	208	C2 – suitable for grazing of native pastures, with or without the introduction of pasture species
6	Moderately deep, firm, moderately alkaline, grey clay loam on strongly alkaline, extreme salinity and sodic, brown clay loam subsoil.	Brown Kandosol	23	C2 – suitable for grazing of native pastures, with or without the introduction of pasture species
7	Deep, soft, moderately acidic, reddish brown sandy loam on red sandy clay loam subsoil.	Red Kandosol	961	B – suitable of a narrow range of crops or pastures
8	Shallow, hard setting, neutral, brown sandy loam with red sandy loam subsoil on metamorphic rock.	Red Tenosol	80	C2 – suitable for grazing of native pastures, with or without the

Soil Profile Class (SPC)	SPC Concept Description	Australian Soil Classification (Major Order/ Sub-order)	Area (ha)	Agricultural Land Class
				introduction of pasture species
9	Very shallow, hard setting, strongly acidic, yellowish-brown sandy clay loam on sedimentary rock.	Leptic Rudosol	93	C3 – suitable for light grazing of native pastures in accessible areas

2.8.1 Land Stability

As shown in Table 3, the majority of the soil on the project site is SPC 1 and SPC 7. SPC 1 is non-sodic and has a low potential for dispersion. SPC 7 is non-sodic and there is a low potential for dispersion in the topsoil which increase to a slight to moderate potential for dispersion in the deeper subsoil. These characteristics are also similar to the majority of other SPCs present in smaller areas within the project site.

SPC 6 is the only soil that has sodic and dispersive topsoil and extremely sodic and completely dispersive subsoils. However, there is only a very small amount of this soil (23 ha) present in the project site with only a small proportion (approximately 1.2 ha) to be impacted by mining activities. SPC 9 is also strongly sodic however, the potential for dispersion is low.

2.9 Flora and Vegetation Communities

A total of 350 flora species were recorded within the project site during the terrestrial ecology field surveys. This included 315 (90%) native species and 35 (10%) exotic species representing 68 families and 191 genera. The dominant family groups exemplify the overall composition and condition of vegetation within the study area. The dominant family groups were *Poaceae*, *Fabaceae*, *Myrtaceae*, *Malvaceae*, *Mimosaceae*, *Cyperaceae*, and *Convolvulaceae*. One Vulnerable species (*Drummondita calida*) and two Near Threatened species (*Labichea brassii* and *Leptospermum pallidum)* listed under the *Nature Conservation Act 1992* (NC Act), were assessed as being likely occur in the project site.

Field surveys identified inconsistencies between the currently mapped and on-ground vegetation communities. The extent of the ground-truthed vegetation was submitted to the Queensland Herbarium for validation. The *Vegetation Management Act 1999* (VM Act) status Regional Ecosystems (REs) of the Herbarium validated vegetation are listed in Table 4.

Three exotic species recorded in the project site, namely Rubber Vine (**Cryptostegia grandiflora*), Prickly Acacia (**Vachellia farnesiana*) and Parkinsonia (**Parkinsonia aculeata*), are listed Category 3 restricted invasive plants under Queensland's *Biosecurity Act 2014*.

Table 4 Regional Ecosystems within the Project Site

RE	Short Description	VM Act Status	Biodiversity Status	Total Area Within the Project Site (ha)
2.3.21j	*Eucalyptus leptophleba* and/or *Corymbia polycarpa* and/or C. *confertiflora* woodland to open woodland on levees and active Quaternary alluvial plains of upper tributary watercourses in the east of the bioregion.	Least concern	Of concern	218.0
2.3.26b	*Eucalyptus camaldulensis* woodland, commonly with *Melaleuca fluviatilis*. Occurs on fringes of major watercourses in the south-east of the bioregion on alluvial sands and loams.	Least concern	Of concern	50.8
2.3.40	*Eucalyptus microtheca* and/or *E. microneura* and/or *Lysiphyllum spp.* open woodland on active Quaternary alluvium plains	Least concern	Of concern	180.0
2.3.41	*Aristida dominii, Eriachne spp., Chloris lobata +/- Eragrostis basedowii, Iseilema sp* tussock grassland on active Quaternary alluvial plains of major watercourses	Least concern	Of concern	52.3
2.3.50a	Bare sand and rock with scattered shrubs and patches of grasses, forbs and sedges. Occurs in the channels of major watercourses..	Least concern	Of concern	18.8
2.5.9	*Eucalyptus microneura* woodland on plains and plateaus on earths, podsolics and skeletal soils.	Least concern	No concern at present	152.5
2.5.18a	*Corymbia setosa* low open woodland to woodland, commonly with *Erythrophleum chlorostachys*. Occurs on broad, gently undulating, Tertiary sand sheets in the south-east of the bioregion. Brown sands and sandy loams.	Least concern	No concern at present	387.3
2.5.20	*Eucalyptus similis* and/or *E. chartaboma +/- Erythrophleum chlorostachys, Corymbia spp.* woodland on undulating Tertiary sand sheets, moderately high in the landscape.	Least concern	No concern at present	507.1
2.7.2a	*Eucalyptus microneura* low open woodland to low woodland. Occurs on low rises and outcrops of ferricrete.	Least concern	No concern at present	79.3
2.10.1a	*Eucalyptus microneura* low open woodland to low woodland on plains and low rises of Mesozoic sandstone, commonly exposed by erosion of Tertiary outwash plains.	Least concern	No concern at present	36.9

RE	Short Description	VM Act Status	Biodiversity Status	Total Area Within the Project Site (ha)
2.10.2x5a	*Corymbia serendipita* woodland to open woodland, commonly with a lower tree layer of *Acacia shirleyi*. Occurs on slopes, gullies and stepped scarps in Mesozoic sandstone ranges.	Least concern	No concern at present	140.9
2.10.4	*Eucalyptus microneura* or *E. provetca* +/- *Corymbia pocillum* open woodland on sandstone ranges.	Least concern	No concern at present	89.5
2.10.13	*Eucalyptus crebra* or *E. whitei* low open woodland on slopes of sandstone ranges.	Least concern	No concern at present	12.5
2.11.1c	*Eucalyptus provecta* low woodland, occasionally with *Corymbia pocillum, C. dallachiana* and *E. microneura*. Occurs on steep Metamorphic footslopes. Skeletal, pale, sandy to pebbly soil.	Least concern	No concern at present	354.9
TOTAL				**2,280.7**

2.10 Fauna

A total of 182 fauna species were recorded during the fauna survey, comprising 103 species of birds, 33 species of mammals, 30 species of reptiles, and 9 species of amphibians. An additional six introduced species were also recorded. Overall, most of the fauna recorded within the project site are not listed as threatened under Commonwealth or State legislation and are typical of the fauna that occurs in the region surrounding the project site. The following listed species were recorded or assessed as potentially occurring within the project site:

- Koala (*Phascolarctos cinereus*) listed as Endangered under the EPBC Act and Vulnerable under the NC Act
- Squatter Pigeon (Southern) (*Geophaps scripta scripta*) listed as Vulnerable under the EPBC Act and NC Act
- Fork-tailed Swift (*Apus pacificus*) listed as Migratory under the EPBC Act and Special Least Concern under the NC Act
- Short-beaked Echidna (*Tachyglossus aculeatus*) listed as Special Least Concern under the NC Act.

2.11 Pre-Mining Land Use

Pastoral activities, specifically cattle grazing, are the dominant land use in the project site. Both of the properties within the project site are subject to lease agreements with the Queensland Government for pastoral purposes. There are two farm dams located in the central-western portion of the project site, which provide water sources for cattle.

The Peterfield road reserve is also a stock route (Stock Route ID: 139RICH). The stock route is classified as "minor and unused".

Remnant mining areas from historic gold mining activities exist within the project site, with approximately 47 known historic sites predominantly located in the northern end of the project site.

2.12 Landholders

The project site is located within two parcels of crown land that are leased by separate landholders as shown in Figure 15 and described in Table 5. The proponent has agreements in place with the landholders in relation to access to the land within the project mining leases, for mining activities. The sensitive receptors within 15 km of the project site are shown in Figure 16.

Table 5 Land Ownership within the Project Site

Figure Reference	Lot and Plan	Registered Lessee	Land Tenure
Figure 15	2 on WLR12	Burnett Holdings (NQ) Pty Ltd	Crown Land – Leased
Figure 15	2414 on SP289336	Indigenous Land and Sea Corporation	Crown land – Leased

2.13 Rehabilitation and Closure

The project is on a greenfield site, therefore, no rehabilitation has been conducted to date.

The final landform for the project will contain both Post-Mining Land Uses (PMLUs) and Non-Use Management Areas (NUMAs) (Figure 17). Rehabilitation methods and milestone criteria for the Native Vegetation and Low Intensity Grazing PMLU, Engineered Drainage Diversion PMLU, Engineered Waste Storage Facility PMLU, and improvements for the NUMAs are discussed in Section 4 and Section 5, respectively.

A large portion of the project site will be undisturbed by the project (Figure 17). Undisturbed areas have a current pre-mining land use of grazing and as there is no disturbance to rehabilitate, they are not discussed further in this PRCP.

Currently, all the infrastructure within the project site is proposed to be decommissioned and removed as part of mine closure. However, should this approach change in the future, landholder approval will be obtained for any infrastructure proposed to be retained.

3 Community Consultation

3.1 PRCP Community Consultation and Register

Section 126C(1)(c) of the EP Act includes the following requirements regarding community consultation in relation to the PRC Plan:

- (iii) requires that the PRC Plan – Rehabilitation Planning Part include details of community consultation undertaken in development of the PRCP Plan; and
- (iv) requires that the PRC Plan – Rehabilitation Planning Part include details as to how ongoing community consultation will be undertaken regarding rehabilitation.

The DETSI information sheet "*Community Consultation for Progressive Rehabilitation and Closure Plan – ESR/20196/5101*" (the Consultation Guideline) provides specific detail on identifying relevant parties and the nature of their interest, to enable relevant community consultation as required. A relevant party for the purposes of PRCP community consultation is a party identified as having a *genuine interest* in:

- the land where the activities are occurring; and/or
- the land adjacent to where the activities are occurring; and/or
- the land/amenities surrounding where the activity will occur that are likely to be impacted by the activity (e.g. groundwater/drinking water users within the surrounding area or community located upstream or downstream of the activity).

The Consultation Guideline provides a list of seven *genuine interests* (which must be demonstrable and legitimate), all of which have been considered for the project as follows:

- **Direct interest** (e.g. underlying and adjacent landholders):
  - The underlying and adjacent landholders (see also Section 2.12) listed below have been identified as a relevant party for the purposes of PRCP community consultation:
    - underlying landholder of Lot 2 on WLR12 – Mt Norman Station
    - underlying landholder of Lot 2414 on SP289336 – Middle Park Station
    - underlying landholder of Local Road Reserve – Richmond Shire Council
    - adjacent landholder of Lot 2071 on PH824 – Peterfield Station.
- **Cultural interest** (e.g. Indigenous communities, traditional owners including Native Title Holders):
  - There are no Native Title claims over the project area. The proponent has undertaken consultation with the former native title claimants as a relevant party for the purposes of PRCP community consultation.
- **Heritage interest** (e.g. state or local government or relevant community groups where heritage value is identified on the land the activity is to occur):
  - Heritage surveys were completed within the project area. There were no specific heritage values within the project area that lead to the identification of a particular community group or state or

local government body that would have a genuine interest in the rehabilitation process and final land outcomes for the project.

- **Environmental interest** (e.g. state or local government or relevant community groups where environmental value is identified on the land the activity is to occur):
  - There are no specific environmental values within the project area that lead to the identification of a particular community group or state or local government body that would have a genuine interest in the rehabilitation process and final land outcomes for the project.
- **Recreational interest** (e.g. relevant community groups who use the immediate, adjacent, upstream or downstream land for recreational purposes):
  - The reach of the Woolgar River adjacent, upstream and downstream of the project area, runs through and is surrounded by privately held land parcels, which are used for cattle grazing (see Section 2.11). There are no specific community groups in the surrounding region which utilise that stretch of the Woolgar River as it is ephemeral. As such, there are no identified relevant community groups that would have a genuine interest in the rehabilitation process and final land outcomes for the project.
- **Land use interest** (e.g. overlapping tenure holders, agricultural entities or local government where a planning scheme for the land is in place):
  - The adjoining exploration tenements are held by the proponent or related parties and are not impacted by the mining or rehabilitation activities proposed within the project area. There are no overlapping agricultural entities, and no overlapping petroleum or gas tenements.
  - The Richmond Shire Council has been identified as having a genuine interest in the project and has been included as relevant party for the purposes of PRCP community consultation by virtue of being an underlying landholder of the Local Road Reserves.
- **Health interest** (e.g. state or local government or relevant community groups who have health concerns relating to the rehabilitation processes and final land outcomes for the project):
  - There are no known community groups or state or local government bodies which have health specific concerns relating to the rehabilitation processes and final land outcomes for the project.

Considering the seven interests listed above, there are five relevant parties that have a genuine interest for the purposes of PRCP community consultation:

- Underlying landholder of Lot 2 WLR12 – Mt Norman Station
- Underlying landholder of Lot 2414 SP289336 – Middle Park Station
- Underlying landholder of Local Road Reserves – Richmond Shire Council
- Adjacent landholder of Lot 2071 PH824 – Peterfield Station
- Traditional Owners of the area.

A register of the consultation undertaken with each of these relevant parties is presented in Table 6. For completeness, the register includes PRCP consultation (e.g. regarding rehabilitation, the PRCP, PMLUs, NUMAs, landforms, schedules etc) which is highlighted in the table, as well as consultation unrelated to the PRCP (e.g. consultation that pre-dates PRCP requirements, Conduct and Compensation Agreements,

exploration and general project consultation). The register includes the date and nature of the consultation, what information was provided and discussed, any comments or issues raised by the party, and how those comments or issues are addressed in the PRCP (where applicable).

Where applicable the results of the consultation undertaken with the relevant parties has been incorporated into this PRCP. Given no significant issues have been raised by stakeholders, the PMLUs and NUMAs are considered by SMC to be generally supported by the local community and consistent with the outcomes of the PRCP consultation.

Table 6 PRCP Community Consultation Register

Community Member or Interest Group	Consultation Date	Consultation Type and Location	Details of Consultation and Information Provided	Issues / Comments from Community Member or Interest Group	How issues are considered in PRCP	Consultation Outcomes and Commitments
Underlying Landholder Mt Norman Station Lot 2 WLR12	9 Dec 2010	Consent and Compensation Agreement for ML2729 (Burnett Holdings (NQ) Pty Ltd)				
	19 Mar 2021	Consent and Compensation Agreement for ML90238 and ML100236 (Burnett Holdings (NQ)) Pty Ltd)				
	4-6 June 2021	Site visit with landholder	Mine, planning, approvals status and schedule	-	-	-
	15-30 Apr 2022	Email exchange	Environmental water	-	-	-
	20-30 Oct 2022	Email exchange	Environmental water	-	-	-
	20-30 Jan 2023	Email exchange	Environmental water	-	-	-
	26 Nov 2023	Meeting at homestead	- Update on BVS project and provided PRCP figure showing life-of-mine project layout - Proposed PMLU reflects the existing grazing operations and there will be NUMAs unavailable for grazing (WRDs, TSC and voids). PRCP figures which landholder kept showing final landforms, PMLU areas and all NUMAs. - Workforce and fly-in-fly-out direct to site camp via airstrip. Workforce will be higher during construction and camp is sized	- Landholder agreed with a PMLU that reflects the existing grazing operations as the best and preferred option. - Landholder understood NUMAs will not be available for grazing. - Landholder expressed desire for dams to be retained post mining for their use. - Landholder expressed desire for other project related improvements (roads, tracks, hardstands, sheds) to be retained post mining for their use.	- PMLU that reflects the existing grazing operations is proposed in PRCP. - PRCP currently does not propose to retain infrastructure (all rehabilitated); however, a pathway for retention of infrastructure post mining by the landholder is detailed within	SMC agreed to keep landholder informed of approvals process and project updates, as well as to provide more detailed infrastructure layout/designs once available.

Community Member or Interest Group	Consultation Date	Consultation Type and Location	Details of Consultation and Information Provided	Issues / Comments from Community Member or Interest Group	How issues are considered in PRCP	Consultation Outcomes and Commitments
			accordingly. Update on approvals process.	- Landholder expressed interest in work opportunities and trainee programs as the project progresses to construction and operations. - Landholder sought clarification on potential for surface ground contamination. - Landholder was positive on the project and keen for commencement.	the PRCP (e.g. written agreement and amendment of the PRCP). - Rehabilitation Milestone Criteria include specific Phase 1 and Phase 2 (if required) contaminated land assessments, with subsequent remediation and validation (if required).	
	29 Nov 2023	Email exchange	- SMC emailed a summary of meeting. - Landholder requested further clarification if dams can be retained post mining for their use and if the ground will be contaminated. - SMC indicated no ground contamination once rehabilitation is completed and reiterated that the final void lake water quality is expected to be unsuitable for livestock. - Landholder emailed thanks and appreciation.			

Community Member or Interest Group	Consultation Date	Consultation Type and Location	Details of Consultation and Information Provided	Issues / Comments from Community Member or Interest Group	How issues are considered in PRCP	Consultation Outcomes and Commitments
	12 June 2026	Email exchange and letter	SMC provided information on the revised final landform including new PMLU areas and the reduction in NUMAs. This information was documented in a letter that described the changes and showed the final landform on a figure.	Landholder appreciated changes in the final landform that will result in a decrease in NUMAs and parts of the land being returned back to a PMLU. Landholder queried how much land will be left as a NUMA.	Revised PMLU areas and final landform will be included in the PRCP and the rehabilitation timeframes in the PRCP schedule.	SMC agreed to keep landholder informed of the approvals process and committed to providing more detailed infrastructure layout/designs once available.
Richmond Shire Council (RSC) **Underlying Landholder (Road Reserve) and Local Council**	3 Mar 2021	Consent and Compensation Agreement for road reserve in ML100236 (Richmond Shire Council)				
	4-6 Jun 2021	Meeting with RSC Mayor and Councillor at Richmond	Mine, planning, approval status and schedule. Further specific discussion on mine related investment, infrastructure and opportunities in Richmond.	-	-	-
	27-29 Aug 2021	Meeting with RSC Mayor and Deputy at Richmond	Discussion on specific development and investment opportunities in Richmond.	-	-	-
	28 Jul 2022	Meeting with RSC Mayor at Richmond	Discussion regarding mine, planning, approval status and estimated commencement. Further specific discussion on mine related investment,	-	-	-

Community Member or Interest Group	Consultation Date	Consultation Type and Location	Details of Consultation and Information Provided	Issues / Comments from Community Member or Interest Group	How issues are considered in PRCP	Consultation Outcomes and Commitments
			infrastructure and opportunities in Richmond.			
	29 Jul 2022	Tour with RSC Mayor of Richmond and industrial opportunities	Tour of Richmond and the Richmond industrial Estate. Specific site inspection for potential mine related development in Richmond.	-	-	-
	27 Aug 2022	Meeting with RSC Mayor at Richmond community event	Discussion of general mine updates and opportunities.	-	-	-
	27 Nov 2023	Meeting with RSC Mayor and RSC CEO at RSC chambers	- Update on BVS project and provided PRCP figure showing life-of-mine project layout - Proposed PMLU reflects the existing grazing operations and there will be NUMAs unavailable for grazing (WRDs, TSC and voids). PRCP figures showing final landforms, PMLU areas and all NUMAs retained by landholder. - Workforce fly-in-fly-out direct to site camp via airstrip. Workforce will be	- RSC confirmed layout was fine including road re-alignment as per CCA. - RSC understood PMLU reflects the existing grazing operations and that NUMAs will not be available for grazing. - RSC understood fly-in-fly-out and camp. - RSC confirmed strong support for the project and was appreciative of SMC having provided regular updates.	No issues raised	SMC agreed to keep RSC informed of approvals process and project updates.

Community Member or Interest Group	Consultation Date	Consultation Type and Location	Details of Consultation and Information Provided	Issues / Comments from Community Member or Interest Group	How issues are considered in PRCP	Consultation Outcomes and Commitments
			higher during construction and camp is sized accordingly. - Update on approvals process.			
	20 January 2026	Council briefing	Presentation to Richmond Shire Council on BVS Gold Project including information on project approvals, proposed project layout, PMLU and final landform, community impact and project timeline.	RSC focused on project schedule and opportunities for community benefits, local road realignment, water and power. No issues raised with the proposed PMLUs or NUMAs. RSC continues to be supportive of the BVS project.	No issues raised.	SMC to continue to maintain communication with RSC as the project moves towards construction.
	22 May 2026	Meeting with RSC Mayor	Meeting with Richmond Shire Council representative John Wharton (Mayor) to discuss revised final landform including additional PMLU areas and the reduction in NUMAs.	No issues raised and the Mayor of RSC continues to support the BVS project.	Revised PMLU areas and final landform will be included in the PRCP and the rehabilitation timeframes in the PRCP schedule.	SMC committed to ongoing consultation as the BVS approvals process progresses.
	12 June 2026	Email letter to RSC	Letter to Richmond Shire Council detailing revised	No issues raised and RSC continue to support the BVS project.	Revised PMLU areas and final landform will be included in the	SMC committed to ongoing consultation as

Community Member or Interest Group	Consultation Date	Consultation Type and Location	Details of Consultation and Information Provided	Issues / Comments from Community Member or Interest Group	How issues are considered in PRCP	Consultation Outcomes and Commitments
			PMLU, NUMA and final landform.		PRCP and the rehabilitation timeframes in the PRCP schedule.	the BVS approvals process progresses.
Underlying Landholder and Sub-Lessee Middle Park Station Lot 2414 SP289336	30 Aug 2010	Consent and Compensation Agreement for ML 2729 and ML 2739 (as well as ML 2642, ML 2728 and ML 2793) (Woolgar				
	July 2015	Consent and Compensation Agreement for ML 90238 (Woolgar Valley Aboriginal Corporation)				
	4-6 June 2021	Site visit with landholder representative	Planning, approval status and schedule.	-	-	-
	28 Nov 2023	Meeting with representative of landholder at Richmond	- Update on BVS project and provided PRCP figure showing life-of-mine project layout - Proposed PMLU reflects the existing grazing operations and there will be NUMAs unavailable for grazing (WRDs, TSC and voids). PRCP figures showing final landforms, PMLU areas and all NUMAs retained by landholder representative.	- Representative reviewed plans and agreed with a PMLU that reflects the existing grazing operation as the best and preferred option. - Representative understood NUMAs will not be available for grazing and did not raise any concerns with final landforms. - Representative	PMLU that reflects the existing grazing operations is proposed in PRCP	SMC agreed to keep representative informed of approvals process and project updates.

Community Member or Interest Group	Consultation Date	Consultation Type and Location	Details of Consultation and Information Provided	Issues / Comments from Community Member or Interest Group	How issues are considered in PRCP	Consultation Outcomes and Commitments
	29 Nov 2023	Email exchange with representative delegate	- SMC emailed a summary of meeting. - Representative delegate confirmed receipt	informed SMC of a change in the agistee licence for Middle Park Station. - Representative confirmed they are the correct point of contact for landholder. - Representative indicated that employment from project is a priority and is supportive of the project.		
	23 May 2026	Site visit with representative delegate.	Meeting with representative delegate to discuss revised final landform including additional PMLU areas and the reduction in NUMAs.	Representative informed SMC that they are the sub-lessee and not the agistee for Middle Park Station. SMC explained the PRCP and outlined the final landform areas that would be PMLU and NUMAs.	Revised PMLU areas and final landform will be included in the PRCP and the rehabilitation timeframes in the PRCP schedule.	SMC committed to ongoing consultation as the BVS approvals process progresses.
	12 June 2026	Email exchange including letter detailing revised PMLU, NUMA and final landform	Letter emailed to landholder representative detailing revised PMLU, NUMA and final landform. Letter included a figure that illustrated the final proposed landform.	No issues were raised.	Revised PMLU areas and final landform will be included in the PRCP and the rehabilitation	No additional commitments or outcomes.

Community Member or Interest Group	Consultation Date	Consultation Type and Location	Details of Consultation and Information Provided	Issues / Comments from Community Member or Interest Group	How issues are considered in PRCP	Consultation Outcomes and Commitments
					timeframes in the PRCP schedule.	
Adjacent landholder (Peterfield Station) Lot 2071 PH824	4-6 Jun 2021	Meeting with landholder	Mine, planning, approval status and schedule.	-	-	-
	25 Jul 2022	Meeting at Richmond	Continued engagement and discussion regarding mine, planning, approval status and estimated commencement. Additional discussion on current earthmoving scopes and opportunities for additional contracting on the mine.	-	-	-
	28 Aug 2022	Site visit to Peterfield Station (adjacent to MLs)	Continued engagement and discussion regarding mine, planning, approval status and estimated commencement.	-	-	-
	25 Nov 2023	Meeting at Richmond	Introduction of new SMC team	- Landholder reviewed plans and agreed with a	PMLU that reflects the	SMC agreed to keep landholder informed of

Community Member or Interest Group	Consultation Date	Consultation Type and Location	Details of Consultation and Information Provided	Issues / Comments from Community Member or Interest Group	How issues are considered in PRCP	Consultation Outcomes and Commitments
	26 Nov 2023	Meeting at landholder homestead	- Update on BVS project and provided PRCP figure showing life-of-mine project layout - Proposed PMLU reflects the existing grazing operations and there will be NUMAs unavailable for grazing (WRDs, TSC and voids). PRCP figures showing final landforms, PMLU areas and all NUMAs were retained by the landholder. - Workforce fly-in-fly-out direct to site camp via airstrip. Workforce will be higher during construction and camp is sized accordingly.	PMLU that reflects the existing grazing operation as the best and preferred option. - Landholder understood NUMAs will not be available for grazing and did not raise any concerns with final landforms. - Landholder expressed desire for project to commence and offered assistance with any earthmoving that may be required during construction. - Landholder offered his private airstrip as an option if required. - Landholder expressed no concerns, was positive and supportive of the project and keen for commencement.	existing grazing operations is proposed in PRCP	approvals process and project updates.
	29 Nov-3 Dec 2023	Email exchange	- SMC emailed a summary of meeting. - Landholder emailed their appreciation for SMC visit and conveyed support for project.			
	30 June 2026	Phone call and follow up email exchange	Letter emailed to landholder detailing revised PMLU, NUMA and final landform.	No issues were raised.	Revised PMLU areas and final landform will be	SMC committed to ongoing consultation as

Community Member or Interest Group	Consultation Date	Consultation Type and Location	Details of Consultation and Information Provided	Issues / Comments from Community Member or Interest Group	How issues are considered in PRCP	Consultation Outcomes and Commitments
		including sending a letter describing the revised final landform including a figure that shows the final landform.			included in the PRCP and the rehabilitation timeframes in the PRCP schedule.	the BVS approvals process progresses.
Traditional Owners	26 July 2022	Various meetings with Traditional Owner representatives including site visits to Woolgar province exploration area.	Discussed cultural heritage protection and the proposed exploration and project development approach.	-	-	-
	July 2022	Site visit and meetings with Traditional Owner representatives.	Engagement commenced in relation to cultural heritage surveys.	-	-	-
	28 Nov 2023	Meeting with Traditional Owners at Richmond	- Update on BVS project and provided PRCP figure showing life-of-mine project layout	- Representative reviewed plans and agreed with a PMLU that reflects the existing grazing operation	PMLU that reflects the existing grazing operations is	SMC agreed to keep Traditional Owners informed of approvals

Community Member or Interest Group	Consultation Date	Consultation Type and Location	Details of Consultation and Information Provided	Issues / Comments from Community Member or Interest Group	How issues are considered in PRCP	Consultation Outcomes and Commitments
			- Confirmed proposed PMLU reflects the existing grazing operations and that there will be NUMAs unavailable for grazing (WRDs, TSC and voids). PRCP figures showing final landforms, PMLU areas and all NUMAs were retained by the representatives.	as the best and preferred option. - Representative understood NUMAs will not be available for grazing and did not raise any concerns with final landforms. - Representative confirmed they are the correct point of contact for TO.	proposed in PRCP	process and project updates.
	29 Nov 2023	Email exchange with representative delegate	- SMC emailed a summary of meeting. - Representative delegate confirmed receipt			
	22 July 2026	Letter provided by email.	Letter detailing revised PMLU, NUMA and final landform.	No issues were raised.	Revised PMLU areas and final landform will be included in the PRCP and the rehabilitation timeframes in the PRCP schedule.	No additional commitments or outcomes.

3.2 PRCP Community Consultation Plan

A PRCP consultation plan for the relevant PRCP parties is presented in Table 7. The purpose of the PRCP consultation plan is to document a framework for ongoing and future PRCP consultation with the relevant PRCP parties during the preparation, implementation and review of the PRCP. The Plan outlines how relevant stakeholders, including landholders, Traditional Owners and local government, will be informed and provided with opportunities for consultation during the rehabilitation and closure planning.

The objectives of further community consultation under this consultation plan are to ensure that all relevant PRCP parties are engaged on the plan for the mine, PMLUs and NUMAs, disturbance areas, rehabilitation and management methods, progressive rehabilitation, closure timeframes, and the socio-economic and environmental impacts related to mine closure and that their views are appropriately considered.

Table 7 PRCP Community Consultation Plan

Community Member	Engagement Type	Objective	Frequency	Released Information	How Feedback/Comments are Considered
Underlying Landholders **Mt Norman Station** **Middle Park Station**	Ongoing discussion via periodic face-to-face meetings in relation to the use of the land within the MLs for mining activities and particulars pertaining to rehabilitation and the PMLU.	To maintain transparent, respectful and collaborative relationships with landholders by providing ongoing opportunities to discuss mining activities and ensuring landholder knowledge, interests and feedback are considered in rehabilitation and closure planning where relevant.	As required (typically at least annually), in accordance with existing Landholder agreements, or as part of PRCP amendment process where there is a material change to the PRCP outcomes.	As required, details of rehabilitation work and schedules, material changes or updates to the PRCP outcomes	In accordance with the existing agreement between the Landholders and SMC
Local Council **Richmond Shire Council**	Ongoing discussion via periodic face-to-face meetings pertaining to road reserves and road access as well as general project related issues.	To foster a constructive and collaborative relationship with Richmond Shire Council through ongoing engagement ensuring relevant information is shared, local knowledge is considered, and rehabilitation and closure planning is informed by regional priorities and community interests where appropriate.	As required (typically at least annually), in accordance with existing agreements and requests, or as part of PRCP amendment process where there is a material change to the PRCP outcomes.	As required, details of rehabilitation work and schedules, material changes or updates to the PRCP outcomes	In collaboration with the Richmond Shire Council
Adjacent Landholder **Peterfield Station**	Ongoing discussion via periodic face-to-face meetings in relation to the use of the land within the MLs	To build and maintain positive relationships with adjacent landholders through open and ongoing	As required (typically at least annually) or as part of PRCP amendment process where	As required, details of rehabilitation work and schedules, material changes or	As part of planning and design

Community Member	Engagement Type	Objective	Frequency	Released Information	How Feedback/Comments are Considered
	for mining activities and particulars pertaining to the PMLU.	communication, ensuring they are informed about impacting activities, and that their feedback is considered to reduce the impact.	there is a material change to the PRCP outcomes	updates to the PRCP outcomes	
Traditional Owners	Ongoing discussion via periodic face-to-face meetings in relation to the use of the land within the MLs for mining activities and particulars pertaining to the PMLU.	To establish a respectful, culturally appropriate and collaborative relationship with Traditional Owners through ongoing engagement that recognises their rights, interests and cultural knowledge, ensuring their perspectives are considered.	As required (typically at least annually) or as part of PRCP amendment process where there is a material change to the PRCP outcomes	As required, details of rehabilitation work and schedules, material changes or updates to the PRCP outcomes	As part of planning and design

4 Post-Mining Land Use

The EP Act requires that land disturbed by mining activities be rehabilitated to a stable condition, defined in Section 111A of the EP Act as satisfying all of the below:

- Land that is safe and structurally stable
- There is no environmental harm being caused by anything on or in the land
- The land can sustain a PMLU.

A PMLU is defined under Section 112 of the EP Act as the purpose for which the land will be used after all relevant activities have ceased. In accordance with Section 126C(1)(d) of the EP Act, the PMLU must be consistent with the outcome of consultation with the community and any strategies for the land of a local government, the State or Commonwealth.

Where a landform does not satisfy the "stable condition", it is classified as a NUMA. With the exception of the three residual voids discussion in Section 5, all other areas disturbed by mining activities can be rehabilitated to a PMLU.

This section describes the proposed PMLU for the project including an options analysis of the most suitable PMLUs (Section 4.1) and the proposed rehabilitation areas (Section 4.2), and a description of each PMLU including rehabilitation methods and milestones (Sections 4.3, 4.4 and 4.5).

4.1 PMLU Options Analysis

An analysis of the most potentially suitable PMLU options was undertaken for all areas of the project site disturbed during the LOM to determine the most suitable PMLUs. The options assessment considered the PRCP performance outcomes outlined in Schedule 8A of the EP Regulation requirement that each PMLU:

(a) Is viable having regard to the use of land in the surrounding region, and

(b) Satisfies at least one of the following:

(i) the use is consistent with how the land was used before a mining activity was carried out on the land;

(ii). the use is consistent with a development approval relating to the land;

(iii). the use is consistent with a use of the land, other than a use that is mining, permitted under a State or Commonwealth Act, including, for example, a planning instrument under the *Planning Act 2016*; and

(iv). the use will deliver, or is aimed at delivering, a beneficial environmental outcome.

As described in Section 2.12 and Section 3, the land within and surrounding the project site is Crown land comprising two significant landholdings (other than the RSC road reserve) that are leased by the State to two separate landholders (Figure 15). Both landholders operate large scale cattle grazing operations. Both leases are subject to existing lease agreements with the Queensland Government, that have the following conditions:

- Lot 2 on WLR12 (Mt Norman) lease conditions:
  a) Description of land: "*No forestry entitlement area*."
- Lot 2414 on SP289336 (Middle Park):
  a) Description of land: "*No forestry entitlement area*."
  b) Description of land: "*Purpose for which the lease is granted: Pastoral*."
  c) Stated condition #1: "*The lessee must use the leased land for pastoral proposes*."

Forestry and cropping activities have therefore been discounted as potential PMLUs requiring further consideration. The final void water quality is unlikely to meet the requirements for livestock drinking water and has therefore been discounted as a potential PMLU for the residual voids (refer to Section 5). The project site is remote and is approximately 2 hours drive from the closest township of Richmond. Due to is remote location, the project site is also considered unsuitable to support industrial or landfill PMLUs. As such the following PMLUs have been identified as being potentially suitable:

- Native vegetation with low intensity cattle grazing
- Engineered Drainage Diversion
- Engineered Waste Storage Facility
- Grazing
- Native ecosystems.

In order to undertake a comparative assessment of potential PMLU options, a range of criteria required consideration (including applicable criteria required by the *Progressive Rehabilitation and Closure Plans Guideline*). A result of "0" or "1" was allocated for each criteria (where 1 is feasible/desirable/applicable and 0 is prohibitive/undesirable/not applicable), with the sum used to compare PMLU options.

The assessment is presented in Table 8 and indicates that Native Vegetation with Low Intensity Grazing was the most suitable PMLU for the majority of rehabilitated areas with the Engineered Drainage Diversion and Engineered Waste Storage Facility the most appropriate PMLUs for those specific features. These were determined by considering the pre-mining land-use, surrounding land-use, rehabilitation objectives, consultation with the relevant parties, as well as environmental, economic, and social benefits.

It is noted that the first criteria "Landholder consultation" is highlighted. As per Section 3 all landholders identified the current land use as the "best and preferred" PMLU option for rehabilitated areas, with any other option therefore being counter to that consultation.

As discussed in Section 5, there are no feasible alternative PMLUs to the proposed final void NUMAs. Unlike strip mining methods that involve progressive backfilling of previously mined strips as mining progresses, hard rock mining requires bench and berm excavation of the ore body. This method requires the mine pit to get deeper and wider as mining progresses and does not allow any waste rock to be stored in-pit. Consequently, all of the waste rock from hard rock mining is stored in out-of-pit dumps. Given that backfilling of the final void would require rehandling of the total life-of-mine waste rock volume, it is not economically viable to backfill the final voids at the end of the mine life.

Table 8 Assessment of PMLU Options

Criteria	PMLU Options					Justification
	Native Vegetation with Low Intensity	Engineered Drainage Diversion	Engineered Waste Storage Facility	Grazing	Native ecosystem	
Landholder consultation	1	1	1	0	0	As per Section 3 community consultation has indicated that for the underlying landholder, the adjacent landholders, the traditional owners and the local council, the preferred PMLU option is Native Vegetation with Low Intensity Grazing for the majority of the project site. This PMLU is consistent with the pre-mining and current land use. Exclusive grazing as a PMLU is inconsistent with the pre-mining land-use and would entail significant additional cost on the landholders related to ongoing soil amelioration to sustain grazing pastures. The Engineered Drainage Diversion will continue to convey water flows as per the pre-mining drainage features that were diverted into the drainage feature. Following rehabilitation, both engineered features will resemble the aesthetic appearance of the surrounding landscape. Consultation undertaken to date has not raised objections or significant issues on the proposed PMLU's and as such, the Engineered Drainage Diversion and Engineered Waste Storage Facility are considered to be generally supported by the PRCP stakeholders and consistent with the outcomes of the PRCP consultation.
Pre mining land use	1	1	1	0	0	The underlying landholders operate large scale cattle grazing properties. Areas of native vegetation co-exist within that grazing land use but are not isolated from livestock and are therefore part of the pre-existing grazing land use. As such, the existing pre-mining land use within the project site is native vegetation with low intensity cattle grazing rather than exclusive grazing. Land within the MLs is traversed by a number of drainage features that convey flows to the Woolgar River. The north-eastern section of the BVS Pit footprint is traversed by Drainage Features 1 and 2, hence the proposed PMLU of Engineered Drainage Diversion is consistent

Criteria	PMLU Options					Justification
	Native Vegetation with Low Intensity	Engineered Drainage Diversion	Engineered Waste Storage Facility	Grazing	Native ecosystem	
						with the pre mining land use as the purpose of the diversion is to act as a new drainage feature and divert water flows around the BVS Pit and residual void. The TSC will have a maximum embankment height of 16 m. The current landscape consists of rolling hills and land within the north-eastern section of the project area includes sandstone scarps of a similar scale and profile to the proposed TSC embankments. Hence, the proposed PMLU of Engineered Waste Storage Facility is not inconsistent with the pre-mining topography and following revegetation, the structure will not be inconsistent with the pre-mining landscape.
Compatibility with surrounding land use	1	1	1	0	0	The underlying landholders are also the surrounding landholders as their cattle grazing properties extend beyond the ML boundaries: ~50km to the north, ~10km to the south, ~ 7km to the north-west and ~3km to the east. The closest surrounding property landholder (Peterfield Station ~ 3km to the east) was part of the PRCP community consultation detailed in Section 3. Peterfield station is also a large scale cattle grazing property. All of the surrounding cattle grazing properties are characterised by native woodlands with grassy understories that permit low density grazing. Hence, the Native Vegetation with Low Intensity Grazing in particular is a suitable PMLU and the Engineered Waste Storage Facility and Engineered Drainage Diversion PMLUs are not inconsistent with the surrounding land-use when considering the topography and the aesthetic appearance of the landscape.
Regulatory Constraints/ Objectives	1	1	1	1	1	There are no regulatory constraints on, or objectives for the project site. There are no Commonwealth matters relevant to the land use within, or surrounding, the project site. The nearest Commonwealth land is the Rungulla National Park which is approximately 40 km north of the project site. There is no State legislation relevant to the land use within, or surrounding, the project site. The nearest protected/conservation-significant State lands are

Criteria	PMLU Options					Justification
	Native Vegetation with Low Intensity	Engineered Drainage Diversion	Engineered Waste Storage Facility	Grazing	Native ecosystem	
						the Rungulla Resources Reserve which is approximately 25 km north of the project site, the Bellfield Nature Refuge which is approximately 35 km north of the project site and the Forestry Consent Area which is approximately 25 km to the west of the project site. There are no decided or current Development Applications for the land within the project site. The project site does not contain any contaminated land and therefore, there are no site management plans. There are no registered heritage places within the project site. Mitigation measures and offsets are proposed for impacts on MSES and MNES and these do not pose a constraint to the proposed PMLUs.
Compatibility with planning instruments	1	1	1	1	1	The project is within the rural zone of the Richmond Shire Council Planning Scheme 2021. The purpose of the rural zone is to: • provide for rural uses and activities • (b) provide for other uses and activities that are compatible with ○ (i) existing and future rural uses and activities ○ (ii) the character and environmental features of the zone ○ (iii) maintain the capacity of land for rural uses and activities by protecting and managing significant natural resources and processes. All PMLU options are compatible with RSC planning instruments.
Environmental benefit	1	1	1	0	1	The establishment of Native Vegetation with Low Intensity Grazing will provide a coverage of vegetation, which will minimise the chance of erosion from runoff. The establishment of native vegetation and grasses will also limit fuel loads, reducing the impact of potential bushfires, relative to an exclusive native ecosystem. In addition, the Native Vegetation with

Criteria	PMLU Options					Justification
	Native Vegetation with Low Intensity	Engineered Drainage Diversion	Engineered Waste Storage Facility	Grazing	Native ecosystem	
						Low Intensity Grazing PMLU is likely to provide a form of food and shelter resources for native fauna which will support local ecosystems. The Engineered Waste Storage Facility will be seeded with grass species which will prevent erosion and sedimentation. The PMLU will be fenced to ensure the ongoing integrity of the capping layer is not compromised by cattle access and to avoid erosion caused by overgrazing, removal of grass cover, trampling of vegetation and the formation of worn open tracks. The surface of the Engineered Drainage Diversion will also be revegetated with native species to minimise erosion. However, some sections of the PMLU will require rock armouring for structural stability and these areas won't be revegetated. Although stock may traverse the PMLU, similar to other drainage features in the surrounding area, it will not be suitable for low intensity grazing. As such, erosion along the PMLU will be minimised.
Relative cost	1	1	1	0	0	Following consultation with DETSI, achieving an exclusive grazing PMLU that would be acceptable would require establishment of a land suitability class of ≤3 which includes significant initial and ongoing costs associated with continued soil amelioration and is unlikely to be feasible. Attempting to establish dedicated areas of native ecosystems where livestock are excluded (especially on areas previously used for grazing), would require significant costs associated with establishing and maintaining the native ecosystem, as well as extensive fencing installation and maintenance (to isolate those areas of vegetation from livestock and to promote successful establishment of the ecosystem). Hence, the most cost effective PMLUs are Native Vegetation with Low Intensity Grazing, which are similar to the pre-mining land use and the Engineered Drainage Diversion and

Criteria	PMLU Options					Justification
	Native Vegetation with Low Intensity	Engineered Drainage Diversion	Engineered Waste Storage Facility	Grazing	Native ecosystem	
						Engineered Waste Storage Facility that will have been primarily established during operations.
Physical constraints	1	1	1	1	0	There are no physical constraints to the establishment of the proposed Engineered Drainage Diversion and Engineered Waste Storage Facility PMLUs as these will largely be established during operations and only require rehabilitation following mining activities. The are no physical constraints to establishing the Native Vegetation with Low Intensity Grazing PMLU and as outlined in Section 6.1.4, there is sufficient available topsoil within the disturbance areas to complete the rehabilitation required for the Native Vegetation with Low Intensity Grazing PMLU. However, a physical constraint does exist in attempting to establish dedicated areas of native ecosystem where livestock are prevented access (if livestock have access the land use reverts to low intensity grazing). As such extensive installation and maintenance of fencing would be required to establish a native ecosystem land use that excluded stock.
Chemical constraints	1	1	1	1	1	The proposed Native Vegetation with Low Intensity Grazing PMLU is present throughout the region and as such the subsoil and topsoil are considered inherently suitable to re-instate the pre-mining land uses. Although fertiliser and amelioration would be required during rehabilitation and ongoing, as required, there are no chemical constraints to establishing this PMLU. The constructed drainage diversion will not cause any environmental harm or have any chemical constraints as there will be no contaminants used during construction. The Engineered Waste Storage Facility will be a lined containment structure which will ensure that there is no seepage of tailings water to groundwater following mine closure.

Criteria	PMLU Options					Justification
	Native Vegetation with Low Intensity	Engineered Drainage Diversion	Engineered Waste Storage Facility	Grazing	Native ecosystem	
						The TSC will also be capped, topsoiled and revegetated. Hence, after rehabilitation it does not pose risks from airborne contamination/dust or erosion and sediment runoff on surface waters. There are no chemical constraints applicable to the Engineered Waste Storage Facility PMLU. In contrast, given the facility stores tailings and PAF material, establishing an alternate PMLU would lead to the integrity of the cover system being compromised (e.g. for a grazing or native ecosystem PMLU).
Available materials	1	1	1	1	1	The proposed rehabilitation methods for the PMLU areas involve replacement of topsoil/subsoil stripped from the mine disturbance areas. The topsoil/subsoil balance indicates there will be sufficient available soil for the rehabilitation of the proposed PMLUs.
Available rehabilitation methods	1	1	1	0	0	Previous consultation with DETSI determined a commercial cattle grazing PMLU would be unsuitable. However, it was determined that a PMLU of Native Vegetation with Low Intensity Grazing better reflects the pre mining land use and would avoid commercial grazing rehabilitation criteria that is likely to be unachievable. The rehabilitation of the WRDs is based on proven methods used successfully in the Australian mining industry and are appropriate for the geochemistry of the mine wastes. The Engineered Drainage Diversion will be designed and certified by an RPEQ and the detailed design of the diversion will consider relevant aspects of the Department of Natural Resources, Mines and Energy (DNRME) Guideline: *Works that interfere with water in a watercourse for a resource activity*, in order to replicate aquatic habitat features of the diverted drainage feature reaches, as far as practicable. However, as the intent of the drainage diversion was to divert water around the main pit during operations, and to continue to divert water from the post-mining residual void, rock armouring or similar will be required for structural stability which constrains rehabilitation options.

Criteria	PMLU Options					Justification
	Native Vegetation with Low Intensity	Engineered Drainage Diversion	Engineered Waste Storage Facility	Grazing	Native ecosystem	
						The Engineered Waste Storage Facility will be designed and certified by an Appropriately Qualified Person (AQP) to provide a safe and structurally stable PMLU in perpetuity. The rehabilitation methods are considered best practice and are consistent with proven methods for tailings waste storage facilities rehabilitation in the Australian mining industry.
Economic benefit for community or landholder	1	0	0	1	0	Current and future landowners will likely be pastoralists as per the pre-mining and surrounding land uses. Rehabilitating the majority of the disturbed areas to the pre-mining land-use of native vegetation with low-intensity grazing will provide additional grazing areas, leading to a direct increase in the economic benefit to the future landholder. Although cattle will be excluded from the Engineered Waste Storage Facility, the reduction in areas available for grazing will be minimal.
Social value (recreation or employment)	1	1	0	0	0	Both underlying properties are run as commercial cattle grazing businesses, with no community recreational value. Future landholders will likely be pastoralists and as such, social value relates to reinstating the majority of the disturbed land to Native Vegetation with Low Intensity Grazing that is consistent with pre-mining and surrounding land uses
Total Score	13	12	11	6	5	

4.2 PMLU Areas

The footprint of the individual features in each rehabilitation area, within each PMLU, and improvement area is provided in Table 9 and shown in Figure 18.

Table 9 Schedule of Disturbance

Mine Domain	Mine Feature	Mining Lease	Maximum Disturbance Area (ha)
POST-MINING LAND USE – NATIVE VEGETATION WITH LOW INTENSITY GRAZING			
RA1 - Dams	Mine Water Dam 1	90238	5.6
	Mine Water Dam 2	90238 & 100236	11.4
	Raw Water Dam	90238 & 100236	29.1
	MIA Dam	100236	3.8
	Process Water Dam	100236	1.0
	Heap Leach Ponds	100236	8.5
	TSC Storm Water Pond	100236	7.7
SUBTOTAL			**67.1**
RA2 – Haul Roads and Access Tracks	Haul Roads and Access Roads	90238, 100236 & 2729	**64.4**
RA3 - Waste Rock Dumps	NWRD (incl drains and sed dams)	2729 & 90238	20.8
	CWRD (incl drains and sed dams)	90238 & 100236	281.5
	SWRD (incl drains and sed dams)	100236	61.8
SUBTOTAL			**364.1**
RA4 - Mine Infrastructure	Northern MIA	2729	0.5
	MIA (incl workshop, offices/warehouse, CIL plant, ROM stockpile)	100236	23.7
	Woolgar River Pump Station	100236	0.7
	Explosives Magazine	90238	2.1
	Communication Tower	100236	0.1
	Fuel Farm	100236	0.7
	Powerstation	100236	1.6

Mine Domain	Mine Feature	Mining Lease	Maximum Disturbance Area (ha)
	Construction Camp/ Shut Down Camp	100236	3.9
	Operations Camp	100236	4.1
	Solar Farm	100236	2.6
	Airstrip	100236	52.1
	Laydown Area	100236	0.3
	Heap Leach Pads	100236	16.6
SUBTOTAL			**109.0**
RA5 – Cleared Areas	Cleared Areas	90238, 100236 & 2729	**534.0**
TOTAL PMLU			**1,138.6**
POST-MINING LAND USE – ENGINEERED DRAINAGE DIVERSION			
Drainage Diversion		90238	**10.5**
POST-MINING LAND USE – ENGINEERED WASTE STORAGE FACILITY			
Tailings Storage Cell		100236	**53.0**
NON-USE MANAGEMENT AREAS			
IA1 - Final Voids	BVS Void	90238	126.6
	BV1 Void	2729 & 90238	6.5
	BV2 Void	2729	5.7
TOTAL NUMA			**138.8**
TOTAL DISTURBANCE AREA (PMLUS AND NUMAS)			**1,340.9**

4.3 Native Vegetation with Low Intensity Grazing PMLU

The PMLU for the majority of the project site will be Native Vegetation with Low Intensity Grazing consistent with the landholders current pre-mining land use, with the exception of areas designated as Engineered Drainage Diversion, Engineered Waste Storage Facility and the final void NUMAs (Figure 17).

This section describes the proposed Native Vegetation with Low Intensity Grazing PMLU for the project including an overview of the PMLU (Section 4.3.1), a description of the various disturbance areas within the PMLU (Section 4.3.2) and the rehabilitation methods and milestones for the PMLU (Section 4.3.3).

4.3.1 PMLU Overview

Land within the project MLs is currently part of large-scale cattle grazing and the preferred PMLU for the project site will enable the resumption of cattle grazing following the cessation of mining activities.

The existing use of the land is most closely aligned to a PMLU of Native Vegetation with Low Intensity Grazing. Consultation with DETSI confirmed this as the preferred PMLU. Therefore, for the majority of the project area, a PMLU of Native Vegetation with Low Intensity Grazing has been adopted to reflect the pre mining land use and to support rehabilitation completion criteria that are realistic and achievable for the site, which would not be the case for a PMLU of grazing.

The majority of the site (i.e. WRDs, dams, haul roads and access tracks, mine infrastructure areas, and cleared areas) will be rehabilitated to a stable landform (safe and structurally stable, does not cause environmental harm, and can sustain a PMLU) with a PMLU of Native Vegetation with Low Intensity Grazing (Figure 17 and Figure 18).

There are no physical constraints for the adoption of the Native Vegetation with Low Intensity Grazing PMLU.

The Native Vegetation with Low Intensity Grazing PMLU will be structurally stable as any major earthworks will be completed with an 'as constructed' survey plan showing surveyed area contours, finished slopes and conformance to designed landform and drainage.

The Native Vegetation with Low Intensity Grazing PMLU will meet the following definition of being in a 'stable condition' in accordance Section 111A of the EP Act, as:

- The land is safe and structurally stable – Native Vegetation with Low Intensity Grazing land will provide a safe and structurally stable PMLU. The Native Vegetation with Low Intensity Grazing PMLU will be structurally stable as any major earthworks will be completed with an 'as constructed' survey plan confirming the following:
  - finished slopes
  - installed drainage
  - a maximum allowable slope of 20%, with most areas having a maximum of 12%
  - revegetation.
- There is no environmental harm being caused by anything on or in the land – the rehabilitated Native Vegetation with Low Intensity Grazing land will not cause any environmental harm as all contaminants will be appropriately placed in the properly designed and rehabilitated Engineered Waste Storage Facility during decommissioning and rehabilitation and this will be segregated from the Native Vegetation with Low Intensity Grazing PMLU.
- The land can sustain a PMLU – the majority of the rehabilitated landforms proposed to be used for Native Vegetation with Low Intensity Grazing are similar to the pre-mining landforms and will be able to maintain a Native Vegetation with Low Intensity Grazing PMLU.

Contaminated materials within this PMLU (including PAF mine wastes) will be stored in the Central WRD. The Central WRD has been designed with a benign material cover on the PAF mine wastes so that the surface of the WRD can support revegetation and low intensity grazing. The WRD is also designed to prevent any groundwater or surface water contamination.

Detailed rehabilitation methods for the PMLU are provided in Table 10. These rehabilitation methods and final landform designs are well established, successful methods widely used in the mining industry.

The Native Vegetation with Low Intensity Grazing PMLU is consistent with the following Queensland strategies and plans:

- The *North West Regional Plan 2010-2031* (NW Regional Plan) promotes the sustainable use and management of the natural environment, and aims to manage mining activities to maximise economic opportunities while minimising negative environmental and social impacts. The project's Native Vegetation with Low Intensity Grazing PMLU is consistent with the NW Regional Plan as follows:
- The NW Regional Plan recognises that community involvement in decisions that relate to rehabilitation is important and will assist to achieve long-term outcomes for PMLUs that are supported by the community. The PMLUs for the project have been chosen to minimise environmental and social impacts while being consistent with the broader expectations of landholders and the proponent's agreements with the landholders.
- A key land use policy in the NW Regional Plan is to identify and protect key strategic mineral resources from incompatible development and other land use activities that would impact on the development of these resources. This highlights the importance of mining activities within the region that seek a balance between mining and minimising negative environmental and social impacts. A Native Vegetation with Low Intensity Grazing PMLU for the majority of disturbed areas seeks to achieve this balance.
- The NW Regional Plan recognises that the region has a strong agricultural base that includes grazing as a predominant land use. The project's Native Vegetation with Low Intensity Grazing PMLU is therefore consistent with the predominant land use of the region.
- The NW Regional Plan recognises that good agricultural land is a limited resource. Management of the region's natural resources to enhance regional prosperity is a desired outcome of the NW Regional Plan. The project's Native Vegetation with Low Intensity Grazing PMLU is consistent with this desired outcome.
- A number of plans, strategies and initiatives have been developed by the State government to encourage further exploration and facilitate future development of new mining projects in Queensland, particularly for new economy minerals projects within the North West Queensland Region. Gold is a new economy mineral. The project will contribute to the continued growth of the region's resources sector, and support efforts to build on the strength, prosperity and resilience of the region into the future. Establishing a PMLU of Native Vegetation with Low Intensity Grazing for the majority of the disturbance areas balances the regional growth in the resources sector whilst minimising environmental impacts into the future. The project is, therefore, consistent with State plans and strategies. Relevant State plans and strategies include:
- *A Strategic Blueprint for Queensland's North West Minerals Province: Supporting Strong and Prosperous Regional Communities* (Queensland Government, 2017)
- *Research and Development Priorities for Minerals in Queensland* (Queensland Government, 2020b)
- *New Economy Minerals: Investment Opportunities in Queensland's Minerals Provinces* (Queensland Government, 2020a)

- *Queensland Resources Industry Development Plan* (Queensland Government, 2022).

4.3.2 Disturbance Areas

The mine disturbance areas that will have a Native Vegetation with Low Intensity Grazing PMLU once rehabilitated are as follows:

- Dams
- Haul roads and access tracks
- WRDs
- Mine infrastructure
- Cleared areas.

The following sections provide an overview of the WRDs. Rehabilitation methods and milestones for each of disturbance areas within the Native Vegetation with Low Intensity Grazing PMLU are presented in Section 4.3.3.

WASTE ROCK DUMPS

CENTRAL AND SOUTHERN WASTE ROCK DUMPS

The Central and Southern WRDs will store waste rock mined from the Big Vein South (BVS) Pit. The Central WRD will have a capacity of approximately 100 Mm^3 with an ultimate footprint of approximately 260 ha and a maximum height of approximately 60 m. The Southern WRD will have a capacity of approximately 15 Mm^3 with an ultimate footprint of approximately 55 ha and a maximum height of approximately 50 m. The WRDs will be constructed with maximum final landform slopes of 5H:1V (Figure 8).

Geochemical characterisation of waste rock and tailings was conducted as part of the project environmental assessment (*Geochemistry Report* [Appendix F]). The characterisation concluded that the large majority of waste rock from the BVS Pit (approximately 98%) will be non-acid forming (NAF) with significant excess acid neutralising capacity. The bulk waste rock stored in the Central WRD will therefore have a high factor of safety with respect to potential for acid generation. There will be no tailings and only NAF waste rock stored in the Southern WRD and as such, it will have a high factor of safety with respect to potential for acid generation. Due to the benign geochemistry of the waste rock, no specific handling or storage measures are required for waste rock in the Southern WRD.

Approximately 2% of the waste rock and the dewatered tailings produced in the CIL Plant may have some potential for acid generation if stored in isolation. These materials will be stored in a central co-placement cell within the Central WRD that will be surrounded by NAF waste rock. The co-placement cell waste materials will make up approximately 15% of the total waste stored in the Central WRD. The conceptual design of the Central WRD, including the co-placement cell, is described in the *Central WRD Conceptual Design Report* (Appendix E).

Runoff and any seepage from the waste materials in the Central WRD co-placement cell will be contained, collected and transferred to the mine water management system for containment or re-use. The final rehabilitation of the Central WRD will involve the capping and revegetation of the co-placement cell so that it is suitable for the Native Vegetation with Low Intensity Grazing PMLUs.

SMC commits to developing a Mine Waste Material Management Plan (MWMMP) will be developed for the project in accordance with anticipated EA conditions. The MWMMP will include management measures for identifying, handling, storing and monitoring any potentially acid-forming mine waste materials and operating procedures for the Central WRD co-placement cell. The MWMMP monitoring program will include testing and analysis to confirm the geochemistry of the waste rock and tailings as they are produced in order to identify potentially acid forming waste rock that requires selective handling and storage within the Central WRD co-placement cell.

The WRDs (other than the co-placement cell) will be designed and operated to shed surface runoff and limit infiltration. Surface runoff and seepage quality from the WRDs will therefore not be adversely affected by the geochemistry of the waste rock. Geochemical testing indicates that drainage from NAF WRD slopes is likely to be pH neutral to slightly alkaline, with low salinity and low concentrations of metals and metalloids (*Geochemistry Report* (Appendix F)). However, as a precautionary measure, drainage from the NAF WRD slopes will be captured in perimeter toe collection drains and directed to catch dams for storage and re-use, or controlled release.

Rehabilitation of the WRDs will be progressive (Figure 19) and will involve topsoiling of the final slopes and dump crest areas, and subsequent revegetation by seeding. SMC commits to undertaking LEM of the final landform of the WRDs based on site specific data within 5 years of the commencement of the project to confirm the landform stability of the C-WRD.

NORTHERN WASTE ROCK DUMP

The Northern WRD will store waste rock mined from BV1 Pit and BV2 Pit. It will have a capacity of approximately 2 Mm^3 with an ultimate footprint of approximately 18 ha and a maximum height of approximately 20 m (Figure 8).

The geochemical test results indicate that all of the waste rock from the BV1 and BV2 Pits will be NAF with significant excess acid neutralising capacity. The bulk waste rock stored in the Northern WRD will therefore have a high factor of safety with respect to potential for acid generation. Due to the benign geochemistry of the waste rock, no specific handling or storage measures are required for waste rock from the BV1 and BV2 pits in the Northern WRD. Nonetheless, the MWMMP will include progressive monitoring of the waste rock during mining in order to confirm the benign nature of these materials and identify any unexpected geochemistry.

Drainage from the Northern WRD will have the same characteristics as drainage from the NAF waste rock stored in the Southern and Central WRDs, and will be managed using the same drainage design and water management strategies.

The landform, drainage and rehabilitation of the Northern WRD will be similar to the Central and Southern WRDs. Rehabilitation of the Northern WRD will commence following the cessation of mining in BV1 and BV2 pits (project year 3) and will be completed by project year 5.

4.3.3 Rehabilitation Methods and Milestones

The rehabilitation methods and milestone criteria for each rehabilitation area (RA) within the Native Vegetation with Low Intensity Grazing PMLU are summarised in Table 10 and described in detail in the *PRCP*

Schedule (Appendix A). The RAs are shown in Figure 18. The duration of each relevant activity and the nature of any progressive rehabilitation is provided in Table 11 and in the *PRCP Schedule* (Appendix A).

The rehabilitation methods for dams, haul roads and access tracks, mine infrastructure, and cleared areas with a Native Vegetation with Low Intensity Grazing PMLU includes reprofiling the surface to the design landform, replacing topsoil to a depth of 0.3 m and re-establishing endemic vegetation species. It is expected that the rehabilitation will be successful as the topsoil is inherently capable of supporting a Native Vegetation with Low Intensity Grazing PMLU and the revegetation species.

The rehabilitation methods for the WRDs with a Native Vegetation with Low Intensity Grazing PMLU includes:

- Maximum 20% overall slope;
- Installed slope drainage;
- Installed store and release cover on co-placement cell of the C-WRD as per the detailed design;
- WRDs will be ripped as required, topsoiled to a depth of 0.3 m, fertilised and seeded with native species; and
- Temporary stock fencing will be installed during the establishment of revegetation (if required) to exclude cattle and will be removed once the rehabilitation achieves the PMLU and is stable.

Table 10 Native Vegetation with Low Intensity Grazing PMLU Rehabilitation Methods and Milestone Criteria

Rehabilitation Areas & Relevant Activities	Rehabilitation Methods	Milestone Criteria
RA1 – Dams	The dams will be dewatered with any mine affected water being pumped into the BVS pit and any clean water being released into the surrounding environment in accordance with the EA. A contaminated land investigation will be completed in accordance with the EP Act. Any contaminated soil will be remediated in situ or removed from the dam footprint and disposed of in the Tailings Storage Cell (TSC) prior to it being capped. The walls of the dams will be removed, and the areas reshaped to achieve the final landform design. The maximum slope will be 20% (11.5°) for the final landform unless an alternate slope is recommended by an RPEQ. Drainage works will be completed. The dams will then be ripped as required, topsoiled with a minimum of 0.3 m using topsoil with characteristics suitable for rehabilitation, and seeded with a mixture of native species (Section 6.1.8) applied at a rate recommended by an AQP. If necessary, amelioration such as lime, fertiliser, gypsum and/or organic material will be applied at rates determined by an appropriately qualified person. Temporary fencing will be installed, as necessary, to exclude cattle from the revegetation areas and will be removed once the rehabilitation achieves the PMLU and is stable.	• Achievement of all rehabilitation methods specific to each RA and relevant activity. • Germination monitoring, completed within 12 months of completion of revegetation, determines that adequate vegetation has been established to indicate successful germination (minimum 30% groundcover of revegetation species [Section 6.1.8]). • Vegetation establishment monitoring, 2 years after completion of revegetation, indicates: • Mean groundcover ≥50% or > the reference site mean minus one standard deviation (whichever is the highest). • A minimum of 3 revegetation species (Section 6.1.8) must be present. • Proportion of Category 3 restricted invasive plant species not >10% of total vegetative groundcover (or not > the % of invasive plants at the reference site where > 10%). • Rectification of active rill and gully erosion completed within 12 months of achieving successful vegetation establishment. • Each of the below criteria is certified as having been achieved by a person who is appropriately qualified to assess that criteria, with the combined certifications confirming that the rehabilitation achieves the PMLU and is stable (as defined in the EP Act): • Established and persistent vegetative groundcover ≥50% of the reference sites mean minus one standard deviation (whichever is the highest). • Proportion of Category 3 restrictive invasive plants species not >10% of total vegetative groundcover (or not > the % of invasive plants at the reference site where >10%).
RA2 – Haul roads and access tracks	All of the haul roads and access tracks will be earthen and require grading to a maximum slope of 20% (11.5°) for the final landform unless an alternate slope is recommended by an RPEQ, drainage work, topsoiling with a minimum of 0.3 m (in areas where it has been	

Rehabilitation Areas & Relevant Activities	Rehabilitation Methods	Milestone Criteria
	stripped), ripping and seeding with a mixture of native species (Section 6.1.8) applied at a rate recommended by an AQP. If necessary, amelioration such as lime, fertiliser, gypsum and/or organic material will be applied at rates determined by an appropriately qualified person. Temporary fencing will be installed, as necessary, to exclude cattle from the revegetation areas and will be removed once the rehabilitation achieves the PMLU and is stable.	• No evidence of erosion classified as 'moderate' or 'severe', as defined in Appendix 2 – Erosion classification framework, is present. • No contamination causing the land to be unsuitable for the use is present. • Removal of any temporary stock fencing after criteria above is satisfied.
RA4 – Mine Infrastructure	The mine infrastructure will be decommissioned by: • Removing all machinery and equipment not required for rehabilitation works from the stie; • Disconnecting and terminate all services, including water, electricity and gas; • Demolishing and removing any buildings and infrastructure, including the processing plant; • Removing bitumen, aggregate, concrete, etc and disposing of it in the pre-rehabilitated TSC or WRDs; • Completing a contaminated land investigation document in accordance with the EP Act. • Remediating any contaminated soil in situ or removing and disposing of it in the TSC. Prior to decommissioning, any remaining spent heap leach ore in the heap leach pads will be reprocessed through the CIL Plant and any pregnant leaching solutions will be pumped to the gold elution circuit within the CIL Plant for metal extraction. Therefore, at decommissioning both the heap leach pads and the heap leach ponds will be empty and only the	

Rehabilitation Areas & Relevant Activities	Rehabilitation Methods	Milestone Criteria
	heap leach pads and heap leach ponds liners will remain. The liners will be decontaminated and removed, and any contaminated material from the liners would be disposed of in the TSC • Reshaping the infrastructure areas (where a significant change in the natural topography was required for the construction of the infrastructure) to achieve final landform design with a maximum slope of 20% unless an alternate slope is recommended by an RPEQ. The mine infrastructure areas will then undergo ripping as required, topsoiling to a depth of 0.3 m using topsoil with characteristics suitable for rehabilitation (only where the topsoil has been previously stripped), fertilising and seeding the areas with a mixture of native species (Section 6.1.8) applied at a rate recommended by an AQP. If necessary, amelioration will be added to the topsoil prior to being spread. Temporary fencing will be installed, as necessary, to exclude cattle from the revegetation areas and will be removed once the rehabilitation achieves the PMLU and is stable.	
RA5 – Cleared Areas	The cleared areas will be reshaped (where a significant change in the natural topography was required for the cleared areas) to achieve final landform design with a maximum slope of 20% unless an alternate slope is recommended by an RPEQ. The cleared areas will then be ripped as required, topsoiled to a depth of 0.3 m using topsoil with characteristics suitable for rehabilitation (only where topsoil has been previously stripped), fertilised and seeded with a mixture of native	

Rehabilitation Areas & Relevant Activities	Rehabilitation Methods	Milestone Criteria
	species (Section 6.1.8) applied at a rate recommended by an AQP. If necessary, amelioration will be added to the topsoil prior to being spread. Temporary fencing will be installed, as necessary, to exclude cattle from the revegetation areas and will be removed once the rehabilitation achieves the PMLU and is stable.	
RA3 – Northern, Southern and Central Waste Rock Dumps	The final landform design, including LEM and slope drainage, will be completed and approved by an AQP. An AQP will also undertake a geotechnical assessment prior to the construction of the WRDs which confirms that the landform design will achieve long-term stability. The WRDs will be shaped to a maximum 20% slope or lower as recommended by an AQP. A store and release cover conceptual design for the co-placement cell of the C-WRD is described in Section 10.3.1 of the *Central WRD Conceptual Design Report* (Appendix E). The detailed design of the cover will be completed as part of the C-WRD detailed design process. All major earthworks will be completed to achieve the final landform design. The WRDs will then be ripped as required, topsoiled to a depth of 0.3 m using topsoil with characteristics suitable for rehabilitation, fertilised and seeded with a mixture of native species (Section 6.1.8) applied at a rate recommended by an AQP. If necessary, amelioration will be added to the topsoil prior to being spread. Temporary fencing will be installed, as necessary, to exclude cattle from the revegetation areas	• Achievement of all rehabilitation methods specific to the WRDs. • Germination monitoring, completed within 12 months of completion of revegetation, determines that adequate vegetation has been established to indicate successful germination (minimum 30% groundcover of revegetation species (Section 6.1.8)). • Vegetation establishment monitoring, 2 years after completion of revegetation, indicates: • Mean groundcover ≥50% or > the reference site mean minus one standard deviation (whichever is the highest). • A minimum of 3 revegetation species (Section 6.1.8) must be present. • Proportion of Category 3 restricted invasive plant species not >10% of total vegetative groundcover (or not > the % of invasive plants at the reference site where > 10%). • Rectification of active rill and gully erosion completed within 12 months of achieving successful vegetation establishment. • Decommission C-WRD seepage pipe after the cessation of seepage or if monitoring indicates continuing seepage, redirect the seepage pipe to the BVS final void. • Certification from an appropriately qualified person that the WRDs have achieved a geotechnically stable condition. • Groundwater quality must be monitored quarterly at, but not limited to, the groundwater monitoring bore locations for the required groundwater quality

Rehabilitation Areas & Relevant Activities	Rehabilitation Methods	Milestone Criteria
	and will be removed once the rehabilitation achieves the PMLU and is stable. This is best practice given the geochemical assessment of the materials that will be stored in the WRDs.	characteristics for a minimum of 5 consecutive years prior to the milestone completion date. • Groundwater quality results must not exceed the groundwater quality limits for 3 consecutive results, for a minimum of 5 consecutive years immediately prior to the milestone completion date. • Surface water quality monitored monthly during flow at, but not limited to, the downstream surface water monitoring locations, must not exceed the surface water quality limits for a minimum of 5 consecutive years immediately prior to the milestone completion date. • If the surface water quality exceeds surface water quality criteria, the applicable upstream site must be compared to the downstream site result and the quality result measured at the downstream site must be equal to or less than the quality result measured at the applicable upstream site. • Where the surface water quality at the downstream site exceeds the upstream site result, an AQP must complete an assessment of the cause and risk of the rehabilitation not achieving a stable condition within the schedule timeframe and: • Where the likelihood of the rehabilitation not achieving a stable condition is low, then no further action is to be taken. • Where the likelihood of the rehabilitation not achieving a stable condition is moderate or high, then an assessment of potential environmental harm by the AQP and their recommended rectification actions to rehabilitation activities must be determined and implemented. • The assessment/s conducted when the surface water quality at the downstream site exceeds the upstream site result, must be completed and provided to the administering authority by 1 November each year. • The 5 year timeframe for the surface water quality not exceeding the surface water quality limits is reset for the affected rehabilitation area/s, by a single

Rehabilitation Areas & Relevant Activities	Rehabilitation Methods	Milestone Criteria
		occurrence of a moderate or high likelihood of rehabilitation not achieving a stable condition. • Removal of any temporary stock fencing after criteria above is satisfied.

Table 11 Rehabilitation Summary for Native Vegetation with Low Intensity Grazing PMLU

Rehabilitation Area & Relevant Activities	Size (ha)	Progressive Rehabilitation Availability
RA1 – Dams	67.1	The dams will be required for the life of the mine. The dams will, therefore, not be available for rehabilitation until the start of project year 12 (i.e. after the completion of mining).
RA2 – Haul Roads and Access Tracks	64.4	The haul roads and access tracks will be required for the life of the mine and for the first 3 years of rehabilitation. The haul roads and access tracks will, therefore, not be available for rehabilitation until the start of project year 15 (i.e. after the completion of mining).
RA3 – Waste Rock Dumps	Northern WRD: 20.8 Central WRD: 281.5 Southern WRD: 61.8	Northern WRD: The Northern WRD will be completed by project year 2, when rehabilitation will commence. Rehabilitation will be completed by the end of project year 27. The Central WRD will be progressively rehabilitated, as follows: • Stage 1 will begin rehabilitation at the start of project year 8. • Stage 2 will begin rehabilitation at the start of project year 13. Rehabilitation of the Central WRD will be completed by the end of project year 27. The Southern WRD will be progressively rehabilitated, as follows: • Stage 1 will begin rehabilitation at the start of project year 8. • Stage 2 will begin rehabilitation at the start of project year 13. Rehabilitation of the Southern WRD will be completed by the end of project year 27.
RA4 – Mine Infra-structure	123.2	The mine infrastructure will be required for the life of the mine. The mine infrastructure will, therefore, not be available for rehabilitation until the start of project year 12 (i.e. after the completion of mining).

Rehabilitation Area & Relevant Activities	Size (ha)	Progressive Rehabilitation Availability
RA5 – Cleared Areas	519.8	The cleared areas will be required for the life of the mine. The cleared areas will, therefore, not be available for rehabilitation until the start of project year 12 (i.e. after the completion of mining).

4.4 Engineered Drainage Diversion

This section describes the proposed Engineered Drainage Diversion PMLU for the project (Section 4.4.1) and the associated rehabilitation methods and milestones (Section 4.4.2).

4.4.1 PMLU Overview

Land within the project MLs is traversed by a number of drainage features. The north-eastern part of the BVS Pit footprint is traversed by Drainage Features 1 and 2 (Figure 2). Prior to commencement of mining operations, a permanent Drainage Diversion will be constructed to divert Drainage Features 1 and 2 around the BVS Pit. Hence the proposed PMLU of Engineered Drainage Diversion is consistent with the pre mining land use. As stated in Section 3.2, given the lack of any significant issues raised by PRCP stakeholders during consultation, the Drainage Diversion PMLU is considered to be neutral by the landholders and consistent with the outcomes of the PRCP consultation.

The conceptual alignment of the Drainage Diversion is shown in Figure 2. The Drainage Diversion is approximately 2.1 km long and extends around the eastern and northern sides of BVS Pit. A diversion drain inlet embankment will be constructed across Drainage Feature 1 and 2 upstream of the BVS Pit. The inflowing surface water will be directed to the diversion drain located at the northern end of the inlet works. Surface water will flow along the diversion drain to the diversion drain outlet on Drainage Feature 1. The Drainage Diversion will have design capacity to carry the 0.1% (1 in 1,000 year) AEP flow event. The Drainage Diversion will be designed and certified by an RPEQ. The Drainage Diversion will ensure that drainage from the upstream catchment areas do not flow into the BVS pit final void, post mine closure. Whilst the Drainage Diversion does not require authorisation under the *Water Act 2000*, the detailed design of the diversion will consider relevant aspects of the Department of Natural Resources, Mines and Energy (DNRME) Guideline: *Works that interfere with water in a watercourse for a resource activity*, in order to replicate aquatic habitat features of the diverted drainage feature reaches, as far as practicable.

The milestone criteria for the Engineered Drainage Diversion PMLU requires the construction and stabilisation of the drainage diversion in accordance with a Design Plan prepared by a RPEQ. The RPEQ Design Plan will include diversion stabilisation measures, together with a monitoring and maintenance program, to ensure the long-term stability and functionality of the drainage diversion following mine closure.

As part of the construction of the Drainage Diversion, the surface of the diversion will be prepared (e.g. preparation and placement of topsoil with ameliorants (as necessary) and deep ripping) and revegetated where applicable (e.g. varying degrees of rock armouring will be required for structural stability and these areas cannot be revegetated) with appropriate native species that will establish along the diversion. Therefore, the rehabilitation of the Drainage Diversion is generally limited to ensuring that the structure has been constructed and stabilised in accordance with the RPEQ Design Plan.

Whilst the Drainage Diversion will be located within the Native Vegetation with Low Intensity Grazing PMLU, the diversion itself requires the PMLU designation of Engineered Drainage Diversion because it will have different characteristics to the Native Vegetation with Low Intensity Grazing PMLU. Although cattle may traverse the area of the drainage diversion, similar to other drainage features in the surrounding area, it will not be suitable for low intensity grazing.

As stated in Section 4.3.1, the NW Regional Plan promotes the sustainable use and management of the natural environment, and aims to manage mining activities to maximise economic opportunities while

minimising negative environmental and social impacts. While the NW Regional Plan does not mention drainage diversions, it does include key land use policy to identify and protect key strategic mineral resources from incompatible development and other land use activities that would impact on the development of these resources. This highlights the importance of mining activities, such as the project, within the region.

As stated in Section 4.3.1, there are other State plans, strategies and initiatives that encourage the development of new mining projects, particularly for new economy minerals such as gold. These plans, strategies and initiatives also highlight the importance of mining activities, such as the project, within the region.

The Engineered Drainage Diversion will meet the following definition of being in a 'stable condition' in accordance with Section 111A of the EP Act, as:

- The land is safe and structurally stable – the Engineered Drainage Diversion will be designed and certified by an RPEQ to be safe and structurally stable.
- There is no environmental harm being caused by anything on or in the land – the constructed Drainage Diversion will not cause any environmental harm as there will be no contaminants used during construction.
- The land can sustain a PMLU – the Drainage Diversion will be perform a similar function to the pre-mining drainage features and the land will therefore be able to sustain the Engineered Drainage Diversion PMLU.

4.4.2 Rehabilitation Methods and Milestones

The rehabilitation methods and milestone criteria for the Engineered Drainage Diversion PMLU are described in Table 12 and in the *PRCP Schedule* (Appendix A). The duration of each relevant activity and the nature of any rehabilitation is provided in Table 13 and in the *PRCP Schedule* (Appendix A).

As discussed in Section 4.4.1, the primary objective of the rehabilitation of the Drainage Diversion is limited to ensuring that the structure has been constructed and stabilised in accordance with the RPEQ Design Plan.

Table 12 Engineered Drainage Diversion PMLU Rehabilitation Methods and Milestone Criteria

Rehabilitation Areas & Relevant Activities	Rehabilitation Methods	Milestone Criteria
Drainage Diversion	The Drainage Diversion will be constructed prior to the commencement of mining operations. Whilst the Drainage Diversion does not require authorisation under the Water Act, the detailed design of the diversion will consider relevant aspects of the Department of Natural Resources and Mines, Manufacturing and Regional and Rural Development Guideline: *Works that interfere with water in a watercourse – watercourse diversions*, in order to replicate aquatic habitat features of the diverted drainage feature reaches, as far as practicable. The Drainage Diversion will remain in perpetuity after the cessation of mining.	AQP has certified that the Drainage Diversion has been constructed and stabilised in accordance with the RPEQ design plan. Removal of any temporary stock fencing after criteria above is satisfied.

Table 13 Rehabilitation Summary for Engineered Drainage Diversion PMLU

Rehabilitation Area & Relevant Activities	Predicted Duration	Size (ha)	Progressive Rehabilitation Availability
Drainage Diversion	Project commencement (start of project year 1) - perpetuity	10.5	The drainage diversion will be built at the commencement of the project and will remain in perpetuity.

4.5 Engineered Waste Storage Facility

This section describes the proposed Engineered Waste Storage Facility PMLU for the project TSC (Section 4.5.1) and the associated rehabilitation methods and milestones (Section 4.5.2).

4.5.1 PMLU Overview

Wet tailings will be produced by the CIL Plant in project year 3, prior to the commissioning of the tailings filter press, and over the remaining life of the mine in periods where the filter press is not operational (approximately 20% of the annual CIL Plant tailings). Wet tailings will be stored in the TSC, a lined containment structure with a nil external catchment. It will store approximately 3.15 Mm^3 of tailings (settled solids) produced in the CIL Plant over the life of the mine. The *Mine Waste Storage Facilities Geotechnical Stability Report* (Appendix I) includes a geotechnical stability assessment of the TSC.

Geochemical characterisation of the tailings was conducted as part of the project environmental assessment (*Geochemistry Report* [PRCP Appendix F]). The tailings geochemical composition will be variable, and range from non-acid forming material with excess acid neutralising capacity to material that may have some potential for acid generation. The geochemical testing results to date show that water from the stored tailings will be pH neutral to slightly alkaline, with low salinity and low concentrations of metals and metalloids. Progressive monitoring of the tailings stored in the TSC will be conducted during the operation of the mine in accordance with the MWMMP, that will be developed prior to the commencement of mining activities.

The TSC will be lined to prevent seepage of tailings water to groundwater. The configuration and specification of the liner system will be determined through detailed engineering design, based on the characteristics of the tailings and tailings water, site-specific geotechnical and hydrogeological conditions, and the assessed consequences of seepage. Conceptually, the liner system will comprise:

- A low permeability liner designed to minimise seepage of tailings water through the floor and sides of the TSC and Storm Water Pond.
- Seepage management measures, which may include leak detection, secondary containment and/or seepage collection and interception systems, as determined during detailed design. Any collected TSC seepage water will be monitored and returned to the TSC Storm Water Pond. Appropriately prepared and compacted subgrade materials to provide a stable foundation for the liner system.

The TSC will have final external embankment slopes of 3H:1V (33%) with a maximum embankment height of 16 m. The TSC will be rehabilitated and decommissioned at mine closure. This will involve allowing the deposited tailings solids to dry after the cessation of mining operations prior to covering the dried tailings with 1 m to 3 m thick benign capping material (e.g. suitable subsoil or NAF waste rock) to provide a revegetation growth medium. The surface of the capping layer will be dome shaped with maximum slopes of 5% to promote runoff and minimise infiltration. The final surface will be topsoiled, scarified and revegetated with native grass species to prevent erosion. These measures will ensure containment of the tailings solids and any tailings moisture in the long-term following mine closure.

SMC commits to undertaking landform evolution modelling of the TSC final landform based on site specific data within 5 years of the commencement of the project to confirm the stability of the TSC final landform.

The TSC, plus a buffer for the installation of external drainage works, will be fenced with 4 strand barbed wire stock fencing, to exclude cattle. The TSC will have a final footprint of approximately 53 ha.

The TSC will be operational over the entire mine life and therefore, will not be available for progressive rehabilitation.

As discussed in Section 4.1, the most feasible and productive PMLU for majority of the project site is Native Vegetation with Low Intensity Grazing; however, the TSC will not be able to sustain a PMLU of Native Vegetation with Low Intensity Grazing into perpetuity because:

- Maintaining the integrity of the TSC capping layer is fundamental to ensuring the tailings solids remain covered and contained (i.e. as part of ensuring no environmental harm as per the above criterion); however, cattle grazing is a cause of erosion due to overgrazing, removing grass cover, trampling of vegetation and the formation of worn open tracks.
- As such, cattle grazing on the surface of the rehabilitated TSC would pose a risk to the ability of the landform to self-sustain the integrity of the capping layer into perpetuity.

The TSC is therefore proposed to be seeded with native grass species to prevent erosion, fenced to exclude cattle and be defined as a separate PMLU (Engineered Waste Storage Facility). As stated in Section 3.2, given the lack of any significant issues raised by PRCP stakeholders during consultation, the TSC PMLU is considered to be generally supported by the local community and consistent with the outcomes of the PRCP consultation.

As indicated in the *Surface Water Report* (PRCP Appendix H), the TSC will be a regulated structure. Hence, the standard EA regulated structures conditions will be applicable to the TSC. These include the following:

- Design and construction in accordance with the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures* (ESR/2016/1933)
- A TSC design report:
  - referencing and addressing all relevant design standards including the *Global Industry Standard on Tailings Management* (GISTM)
  - based on site-specific geotechnical investigations and testing of construction material properties
  - addressing the detailed design of the liner and leak collection/detection system and embankments
  - operating plan addressing tailings deposition and dewatering strategy, monitoring and maintenance
  - decommissioning and final rehabilitation plan including cover material testing and specification
  - geotechnical stability assessment
- certification of the design by an appropriately qualified RPEQ prior to the commencement of TSC construction
- certification that the construction of the TSC is in accordance with the certified design plan.

As outlined in Section 4.3.1, the NW Regional Plan promotes the sustainable use and management of the natural environment and aims to manage mining activities to maximise economic opportunities

while minimising negative environmental and social impacts. While the NW Regional Plan does not mention TSCs, it does include key land use policy to identify and protect key strategic mineral resources from incompatible development and other land use activities that would impact on the development of these resources. This highlights the importance of balancing mining activities, such as the project, within the region and minimising environmental impacts. As the Engineered Waste Storage Facility will include tailings PAF material, segregation from the surrounding Native Vegetation with Low Intensity Grazing PMLU is required so that stock grazing does not compromise the integrity of the TSC capping layer. Hence, the Engineered Waste Storage Facility PMLU is consistent with the intent of the NW Regional Plan.

As stated in Section 4.3.1, there are other State plans, strategies and initiatives that encourage the development of new mining projects, particularly for new economy minerals such as gold. These plans, strategies and initiatives also highlight the importance of mining activities, such as the project, within the region.

An assessment of the TSC against the definition of a 'stable condition' in accordance with Section 111A of the EP Act, is as follows:

- The land is safe and structurally stable – the TSC will provide a safe and structurally stable PMLU in perpetuity. The Engineered Waste Storage Facility PMLU will be structurally stable as a geotechnical assessment will be undertaken by an AQP prior to construction to confirm that the landform design will achieve long-term stability including the following:
  - Detailed design of the TSC liner system, to manage the risk of leakage of tailings water and potential groundwater contamination, including liner design, under-drainage and leakage collection system;
  - Final embankment slopes battered to 3H:1V and a maximum 5% capped dome slope;
  - A detailed cover system design will be completed by an AQP and will be installed. It will include capping the tailings surface with 1 m to 3 m thickness of growth medium (subsoil/waste rock); and
  - Free drainage will be established on the surface of the capped tailings and engineered slope drainage will be installed.
  - Revegetation to manage surface erosion.
- There is no environmental harm being caused by anything on or in the land – the TSC will be a lined containment structure which will ensure that there is no seepage of tailings water to groundwater following mine closure. The TSC will be capped, topsoiled and grassed, therefore, there are no risks following improvements from airborne contamination/dust or erosion and sediment runoff on surface waters.
- The land can sustain a PMLU – the land can sustain the PMLU of an Engineered Waste Storage Facility.

4.5.2 Rehabilitation Methods and Milestones

The rehabilitation methods and milestone criteria for the Engineered Waste Storage Facility PMLU are described in Table 14 and in the *PRCP Schedule* (Appendix A). The duration of each relevant activity and

the nature of any progressive rehabilitation is provided in Table 15 and in the *PRCP Schedule* (Appendix A).

Table 14 Engineered Waste Storage Facility PMLU Rehabilitation Methods and Milestone Criteria

Rehabilitation Areas & Relevant Activities	Rehabilitation Methods	Milestone Criteria
Tailings Storage Cell	Detailed design of the TSC prior to the commencement of construction by an AQP including: • liner system to manage the risk of leakage and potential groundwater contamination • final landform erosional stability, including LEM and slope drainage • geotechnical stability assessment to confirm the landform design will achieve long-term stability • Capping layer that includes 1 m to 3 m thickness of growth medium (subsoil/NAF waste rock). The TSC embankment slopes will be shaped to a maximum 3H:1V and the capped dome to a maximum 5% slope. The TSC will be left to dry to ensure that the final tailings surface can be capped. A free draining surface on the capped tailings will be established and engineered slope drainage installed on the TSC. The TSC will then be ripped as required, topsoiled to a depth of 0.3 m using topsoil with characteristics suitable for rehabilitation, fertilised and seeded with a mixture of native grass species (Section 6.1.8) applied at a rate recommended by an AQP. If necessary, amelioration will be added to the topsoil prior to being spread. Stock fencing will be installed to exclude cattle from the revegetation areas.	• Achieve all rehabilitation methods specific to the TSC. • Germination monitoring, completed within 12 months of completion of revegetation, determines that adequate vegetation has been established to indicate successful germination (minimum 30% groundcover of revegetation species (Section 6.1.8)). • Vegetation establishment monitoring, 2 years after completion of revegetation, indicates: • Mean groundcover ≥50% or > the reference site mean minus one standard deviation (whichever is the highest). • A minimum of 3 revegetation species (Section 6.1.8) must be present. • Proportion of Category 3 restricted invasive plant species not >10% of total vegetative groundcover (or not > the % of invasive plants at the reference site where > 10%). • Rectification of active rill and gully erosion completed within 12 months of achieving successful vegetation establishment. • Certification from an appropriately qualified person that a geotechnically stable condition has been achieved. • Groundwater quality must be monitored quarterly at, but not limited to, the groundwater monitoring bore locations for the required groundwater quality characteristics for a minimum of 5 consecutive years prior to the milestone completion date. • Groundwater quality results must not exceed the groundwater quality limits for 3 consecutive results, for a minimum of 5 consecutive years immediately prior to the milestone completion date. • Surface water quality monitored monthly during flow at, but not limited to, the downstream surface water monitoring locations, must not exceed the

Rehabilitation Areas & Relevant Activities	Rehabilitation Methods	Milestone Criteria
		surface water quality limits for a minimum of 5 consecutive years immediately prior to the milestone completion date. • If the surface water quality exceeds surface water quality criteria, the applicable upstream site must be compared to the downstream site result and the quality result measured at the downstream site must be equal to or less than the quality result measured at the applicable upstream site. • Where the surface water quality at the downstream site exceeds the upstream site result, an AQP must complete an assessment of the cause and risk of the rehabilitation not achieving a stable condition within the schedule timeframe and: • Where the likelihood of the rehabilitation not achieving a stable condition is low, then no further action is to be taken; or • Where the likelihood of the rehabilitation not achieving a stable condition is moderate or high, then an assessment of potential environmental harm by the AQP and their recommended rectification actions to rehabilitation activities must be determined and implemented. • The assessment/s conducted when the surface water quality at the downstream site exceeds the upstream site result, must be completed and provided to the administering authority by 1 November each year. • The 5 year timeframe for the surface water quality not exceeding the surface water quality limits is reset for the affected rehabilitation area/s, by a single occurrence of a moderate or high likelihood of rehabilitation not achieving a stable condition.

Table 15 Rehabilitation Summary for Engineered Waste Storage Facility PMLU

Rehabilitation Area & Relevant Activities	Predicted Duration	Size (ha)	Progressive Rehabilitation Availability
Tailings Storage Cell	Project commencement (start of project year 1) – end of the life of the project (end of project year 11)	53.0	The TSC will be required for the life of the mine. The TSC will, therefore, not be available for improvement until the start of project year 12 (i.e. after the completion of mining).

5 Non-Use Management Areas

The EP Act requires that land disturbed by mining activities be rehabilitated to a stable condition, defined in Section 111A of the EP Act as satisfying all of the below:

- Land that is safe and structurally stable
- There is no environmental harm being caused by anything on or in the land
- The land can sustain a PMLU.

Where a landform does not satisfy all three of these criteria to be considered in a "stable condition", the EP Act then defines the landform as a NUMA as per Section 112 of the EP Act, which defines a NUMA as "*an area of land the subject of a PRC Plan that cannot be rehabilitated to a "stable condition" after all relevant activities for the PRC Plan carried out on the land have ended*".

For clarity, this does not mean that NUMAs do not undergo any rehabilitation. A landform may undergo rehabilitation but if one aspect of the definition of "stable" is not satisfied, the landform cannot be defined as anything other than a NUMA.

Further to the above with regard to NUMAs, Section 126D(2) of the EP Act stipulates that the PRCP Schedule may state that land is a NUMA only if the below is/are satisfied:

- Rehabilitating the land would cause a greater risk of environmental harm than not rehabilitating or
- Both of the following apply:

a) The risk of environmental harm as a result of not carrying out rehabilitation of the land is confined to the area of the relevant resource tenures; and

b) The applicant considers, having regard to each public interest consideration, that it is in the public interest for the land not to be rehabilitated to a stable condition.

There is one NUMA proposed for the project: the three open cut pit final voids. This section describes:

- How the final voids *cannot* be rehabilitated to a stable condition under Section 111A of the EP Act, and therefore are defined by the EP Act as a NUMA;
- As required by Section 126D(2) of the EP Act, this section also describes a) how the risk of environmental harm as a result of not carrying out rehabilitation at each of the final voids is confined to the project site MLs, and b) that it is in the public interest for the land not to be rehabilitated to a stable condition; and
- How best practice measures will be implemented for this NUMA.

5.1 Final Voids (Improvement Area 1)

5.1.1 Final Voids Overview

The project involves open cut mining of waste rock and gold ore from three open cut pits. The majority of the gold ore will be mined from the BVS pit, which will be active over the life of the mine. The BV1 and BV2 pits are small satellite pits that will produce gold ore during the first 2 years of the project. All three pit final voids are proposed to be NUMAs.

Unlike strip mining methods that involve progressive backfilling of previously mined strips as mining progresses, hard rock mining requires bench and berm excavation of the ore body. This method requires the mine pit to get deeper and wider as mining progresses and does not allow any waste rock to be stored in-pit. Consequently, all of the waste rock from hard rock mining is typically stored in out-of-pit dumps. Given that that backfilling of the residual voids would require rehandling the total life-of-mine waste rock volume, it is not economically viable to backfill the final voids at the end of the mine life.

The final voids will have the following final dimensions:

- BVS: approximately 750 m wide by 1,900 m long with a maximum depth of approximately 220 m. The overall slopes of the pit walls will be approximately 33°.
- BV1 and BV2: each pit will be approximately 110 m wide by 500 m long. The BV1 and BV2 pits will be approximately 35 m below natural ground level. The overall slopes of the BV1 pit walls will range from approximately 42° to 46° and the slopes of the BV2 pit walls will range from approximately 40° to 44°.

The location and extent of the final voids is governed by the location of the gold resource, the existing ML boundaries, the topography and the requirements for the waste rock dumps. Pits have been designed to recover the most amount of ore with the least amount of waste rock (i.e. smallest pit) and as such are optimised.

Mining in the BV1 and BV2 pits will be completed at project year 3, and then used for mine water storage during the remainder of the life of the mine. As such, they will not be available for improvements until the end of the life of the mine. Mining in the BVS pit will be completed at the cessation of the mine life.

Improvements to the three final voids, after the completion of mining, will include a geotechnical assessment of the final pit geometries to confirm the final setback distances for the geotechnical stability buffer (exclusion) zones. An initial assessment of the geotechnical stability of the final void designs has been completed and the results are provided in the *Final Void Stability Report* (PRCP Appendix G). The assessments provide the current estimated geotechnical stability buffer (exclusion) zones for each final void. Bunds and/or safety fencing will be installed around the voids at the geotechnical stability buffer zone boundary with safety warning signs posted every 100 m along the fences. The extent of the proposed final void NUMAs includes the currently modelled geotechnical stability buffer (exclusion) zones that extend to the limit of the potentially unstable zone beyond the pit crests (Figures 8 and 18). The geotechnical stability buffer zone (i.e. between the pit crest and the bund and/or fencing located at the geotechnical stability buffer zone boundary) will be ripped, topsoiled, fertilised and seeded with grass where required to aid in the prevention of erosion.

The *Groundwater Report* (Appendix C) states that post mining, water levels within the BVS Pit final void are predicted to recover to a quasi-equilibrium level of approximately 230 m AHD, which is approximately 120 m below the pre-mining groundwater level at the BVS Pit. The final void water level predictions are presented

Surface Water Report (Appendix H). This difference in groundwater elevation means that there will be a post mining hydraulic gradient that induces groundwater flow towards the BVS final void. On this basis, the final void will remain a permanent groundwater sink and there will be a zone of drawdown around the final void in perpetuity and groundwater flow within this zone will be towards the final void.

The BVS final void lake will comprise runoff from the final void catchment, direct rainfall to the final void and groundwater inflows. Water will evaporate from the BVS final void lake surface. Evaporation from the lake surface will concentrate salts, and other contaminants, in the lake slowly over time. Ultimately, salts will continue to concentrate with the maximum concentration only limited by the solubility of the constituent salts within the lake. This is conceptually the case for any comparable water body receiving inflow, which experiences evaporation as either the only outflow or at a rate exceeding all other outflows. As such, the water quality in BVS final void is predicted to ultimately be unsuitable for any use. The gradual increase in salinity will not pose a risk to the surrounding groundwater systems as the BVS final void will remain a permanent groundwater sink. As a result, surrounding groundwater quality will not be impacted post closure.

Post mining, a shallow pool of water may accumulate intermittently at the base of the BV1 and BV2 final voids, following sustained rainfall. There is also likely to be an accumulation of salts over time due to repeated drying-filling cycles of the voids. As such, any temporary lakes present will ultimately be unsuitable for any use. A small amount of intermittent void water may dissipate via infiltration through the BV1 and BV2 void floors. However, the volume and rate of infiltration will be limited by the low permeability and low porosity the pit floor geology (Proterozoic basement). Hence, the proportion of water that infiltrates the void floors and recharges the local groundwater will be negligible and will not pose a significant risk to the surrounding groundwater quality.

The BVS Pit final void will be a permanent groundwater sink. The hydraulic groundwater gradient around the BVS Pit final void will induce groundwater flow in the surrounding area towards the final void. The BV1 and BV2 pit final voids are located hydraulically upgradient of the BVS Pit final void and the associated groundwater sink. Hence, any limited water seepage from the satellite pit final voids into the underlying geology will therefore migrate towards the BVS Pit over time. This will further reduce the likelihood that any seepage from the BV1 and BV2 pit final voids will have any adverse effect on groundwater quality.

5.1.2 Final Voids NUMA Assessment

An assessment of the three final voids against the definition of a 'stable condition' in accordance with Section 111A of the EP Act, is as follows:

- Land that is safe and structurally stable:
  - As described in *Final Void Stability Report* (Appendix G), the void stability has been modelled to identify the areas outside of the pit crest within the geotechnical stability buffer zone. The buffer zone component of the final void NUMA area will be secured with bunds and/or safety fencing, as such the three final voids will be safe and structurally stable post closure.
- There is no environmental harm being caused by anything on or in the land:
  - As described in Section 5.1.1, the BVS Pit final void will be a groundwater sink in the post mining phase and any limited seepage from the BV1 and BV2 final voids would migrate over time to the BVS final void. Hence, groundwater quality surrounding the three final voids will not be adversely impacted post closure.

- The final void water balance modelling presented in the *Surface Water Report* (Appendix H) indicates that the final void lake levels for all three pits are well below the void overflow levels and the pits are not expected to overflow in the closure phase.

- The land can sustain a PMLU:

- The *Research Brief – Research Scoping and Stakeholder Feedback: Best Practice Approaches for Rehabilitation and Management of Mine Voids* by the Office of the Queensland Mine Rehabilitation Commissioner states that examples of potential PMLUs for final voids can include irrigation of crops, provision of stock drinking water, pumped storage of hydropower, aquaculture or development of recreational areas. There are no crops, hydropower requirements, aquaculture needs or the potential for the development of any recreational areas within the project site or project surrounds. The three final voids within the project site cannot meet the PMLU of stock drinking water due to the following:

    - As described in the *Groundwater Report* (Appendix C) and the *Surface Water Report* (Appendix H), the BVS final void lake will form a groundwater sink thereby concentrating the salts, and other contaminants, in the lake through evapo-transpiration. Ultimately, salts will continue to concentrate with the maximum concentration only limited by the solubility of the constituent salts within the lake. This is conceptually the case for any comparable water body receiving inflow, which experiences evaporation as either the only outflow or at a rate exceeding all other outflows. As such, the water quality in BVS final void is predicted to ultimately be unsuitable for any use, including stock watering. Being a permanent groundwater sink the increase in salinity will not pose a risk to the surrounding groundwater systems, as the groundwater flow is towards to void.

    - As described in the *Groundwater Report* (Appendix C), post mining the BV1 and BV2 final voids will intermittently accumulate shallow pools of water following sustained rainfall. Evaporation from the water surface will concentrate the salts in these voids slowly over time due to repeated drying-filling cycles in the void. As such, any temporary lake present will ultimately be unsuitable for any use, including stock watering. Therefore, due to the lack of permanent water and the increased salinity in the BV1 and BV2 final voids, these final voids will not be able to sustain a PMLU of stock drinking water.

As described in the *Final Void Stability Report* (Appendix G) the proposed long term stability of the final voids is in accordance with the 1997 Western Australian guidelines: *Safety Bund Walls Around Abandoned Open Pit Mines,* which is considered best practice. Additionally, as per the requirements of Section 126D(2):

- The risk of environmental harm, as a result of not carrying out rehabilitation of the final voids, is confined to the area of the relevant resource tenures: As described in the *Groundwater Report* (Appendix C) the risk of harm is confined to the MLs with the establishment of a permanent groundwater sink and gradient toward the BVS void, therefore, the risk of environmental harm from not rehabilitating the final voids is confined to the project site.

- SMC considers, having regard to each public interest consideration outlined in Section 126E of the EP Act, that it is in the public interest for the project to proceed with final void NUMAs. Backfilling of the final voids would require rehandling of the total life-of-mine waste rock volume as a campaign project at the end of operations which is not economically viable. Therefore, the project would not be economically viable if the voids are required to be backfilled. The relevant project environmental impact assessments conclude that the final void NUMAs are not expected to result in any significant environmental impacts in the post mining phase and any impacts would be confined to the project site.

The project would result in significant economic benefits for the local, regional and Queensland economies. These significant benefits would be forgone if the project was not to proceed. As such, SMC considers it is in the public interest for the final voids to be NUMAs.

The Final Void Infrastructure Areas are shown in Figure 19. Table 16 summarises NUMA requirements under the EP Act and the DETSI PRC Plans Guidelines. As per the PRCP Plans Guideline, a report addressing public interest consideration of the residual void NUMAs is provided in Appendix K.

Table 16 Final Voids NUMA Assessment

EP Act and PRCP Guideline Requirements	BVS Information
• Reasons why the area cannot be rehabilitated to a stable condition. This can be due to either of the following reasons:	
• Carrying out rehabilitation of the land would cause greater risk of environmental harm than not carrying out the rehabilitation; or	Not applicable.
• Both of the following: · The risk of environmental harm as a result of not carrying out rehabilitation of the land is confined to the area of the relevant resource tenure; and	As per *Final Void Stability Report* (Appendix G), with the establishment of a geotechnical stability buffer zone, secured with bunds and/or safety fencing, the three final voids will be safe and structurally stable post closure. As per the *Groundwater Report* (Appendix C), the BVS final void will remain a permanent groundwater sink post mining. There will be a zone of drawdown around the BVS final void in perpetuity and groundwater flow within this zone (including limited water seepage from the BV1 and BV2 pit final voids) will be towards the BVS Pit final void. As a result, the groundwater quality surrounding the BVS, BV1 and BV2 final voids, will not be significantly impacted post closure. The *Final Void Stability Report* (Appendix G) indicates that the extent of the final voids will remain within the MLs in perpetuity.
· The applicant considers, having regard to each public interest consideration mentioned in Section 126E of the EP Act, that it is in the public interest for the land not to be rehabilitated to a stable condition.	The proponent considers that it is in the public interest for the final voids not to be rehabilitated to a stable condition with regard to each public interest considerations (defined under Section 126E of the EP Act): • The benefit, including the significant of the benefit, to the community resulting from the project: the project will provide numerous positive benefits to the community including: • Job opportunities for the Richmond community and North Queensland region via direct and indirect employment • Economic stimulus for the region through the payment of wages, support of local businesses and providing opportunities to enhance local and regional supply chains • Significant economic benefits including government taxes and royalties.

EP Act and PRCP Guideline Requirements	BVS Information
	• Any impacts, including long-term impacts for the environment or the community, that may reduce the benefit or have other negative impacts on the environment or community: • Final void stability – with the inclusion of bunds and/or safety fencing around the geotechnical stability buffer zone, the three final voids will be safe and structurally stable post closure • Groundwater – no significant short term or long-term groundwater quality or quantity impacts, as discussed previously • Surface water – no significant short term or long-term surface water impacts, as discussed previously • Terrestrial ecology – environmental offsets will be provided as required • Aquatic ecology – no impacts are associated with the voids, as disruption of drainage channels has already occurred during establishment and operation of the pits • Air quality – voids will not generate significant dust emissions • Noise and vibration – voids will not generate any noise • Visual amenity – voids will not be visible from the sensitive receptors • Cultural heritage – voids will not result in cultural heritage impacts as any such impacts occur and are mitigated during the development of the pit, not the retention of a void. • Whether there are any alternative options to approving the final voids as a NUMA having regard to: • The costs or other consequences of the alternative options: The total footprint of the final voids is governed by the location of the ore body within the existing ML boundaries. If the final voids were required to be backfilled the costs associated with rehandling all of the LOM waste rock would result in the project not being economically viable. There are no other alternative options for the creation of a PMLU in the final void areas. • Whether the benefit to the community, weighed against the impacts, is likely to justify the approval of the NUMA having regard to any alternative options: In SMC's opinion, the significant economic benefit of the project to the community, weighed against the project's impacts, justifies the approval of the final void NUMAs – specifically when the costs of backfilling the voids and the effect on the financial viability of the project are considered. • Another matter prescribed by regulation. At this point in time, there are no other matters prescribed by the EP Regulation.

EP Act and PRCP Guideline Requirements	BVS Information
• Reports or other evidence relied upon for each NUMA.	The following reports are relied upon for the proposed final void NUMAs: • *Groundwater Report* (Appendix C) • *Geochemistry Report* (Appendix F) • *Surface Water Report* (Appendix H) • *Final Void Stability Report* (Appendix G).
• The extent to which the proposed NUMA is consistent with the outcome of consultation with the community in developing the PRCP.	As stated in Section 3.1, the final landform including the NUMAs has been communicated with the PRCP stakeholders during consultation and no objections or significant issues have been raised. SMC will continue to consult with the landholders over the over the life of the mine in relation to operations, rehabilitation, mine closure and the resumption of cattle grazing within the project site (following relinquishment of the MLs), with due consideration to the existing landholder agreements.
• The extent to which the NUMA is consistent with any strategies or plans for the land of a local government, State or Commonwealth.	As stated in Section 4, the NW Regional Plan promotes the sustainable use and management of the natural environment, and aims to manage mining activities to maximise economic opportunities while minimising negative environmental and social impacts. While the NW Regional Plan does not mention NUMAs, it does include a key land use policy to identify and protect key strategic mineral resources from incompatible development and other land use activities that would impact on the development of these resources. This highlights the importance of mining activities, such as the project, within the region. As stated in Section 4, there are other State plans, strategies and initiatives that encourage the development of new mining projects, particularly for new economy minerals such as gold. These plans, strategies and initiatives also highlight the importance of mining activities, such as the project, within the region.
• Description of how the NUMA will be managed in a way that complies with best practice standards and strategies and minimises risks to the environment;	The improvement methods for final voids are discussed in Section 5.1.1 and include bunds and/or safety fencing installed around the geotechnical stability buffer zone of each final void with safety warning signs posted ever 100 m along the fences. The areas between the pit crest and the bund and/or fencing (located at the geotechnical stability buffer zone boundary) will be ripped, topsoiled, fertilised and seeded with grass where required to aid in the prevention of erosion.
• Justification as to why the proposed NUMA footprint is as small as possible;	As stated in Section 5.1.1, consistent with sound mine planning practice, pits have been designed to recover the most amount of ore with the least amount of waste rock and as such are optimised (i.e. are as small as possible allowing for

EP Act and PRCP Guideline Requirements	BVS Information
	safe mining operations). In addition, as explained in Section 5.1.1, unlike strip mining, it is not possible to partially backfill the voids over the life of the mine.
• An assessment of the NUMA location options, having regard to the constraint of the resource location, with an analysis of the potential environmental harm and sensitivity of the surrounding environment of each option;	The locations of the final voids are constrained by the minimum operating size and the location of the gold ore. There are, therefore, no other viable locations within the project site for the final voids.
• Description of the proposed location of each NUMA and the environmental values of the surrounding environment; and	The BSV final void is located in the central southern area of the project site (Figure 17). Along the eastern and northern boundaries of the BVS final void will be the Drainage Diversion, which will remain in perpetuity. Along the western boundary of the BVS final void will be the Central WRD. Immediately to the south of the BVS final void will be an area of Native Vegetation with Low Intensity Grazing PMLU. Further south will be the TSC and the Southern WRD. The BV1 and BV2 final voids are located in the north of the project site within an area of sandstone outcrops (Figure 17). The BV1 final void is directly north of the BV2 final void. Immediately to the west of both the BV1 and BV2 final voids will be the Northern WRD. To the east of both final voids and to the north of BV1 final void will be grazing land that was not disturbed by the project.
• Evidence showing how the proposed location will prevent or minimise environmental harm having regard to: • All reasonably practical alternatives for the location;	The location of the pits is constrained by the location of the gold ore. There are, therefore, no other viable locations within the project site for the pits and therefore, for the final voids.
• The nature of the environmental harm that may be caused because of the proposed location; and	There will be no environmental harm caused specifically because of the proposed final void pit locations. The post mining groundwater impacts from the final voids are discussed in Section 5.1.1.

EP Act and PRCP Guideline Requirements	BVS Information
• The sensitivity of the environment surrounding the proposed location.	Within the project site, the Woolgar River and the drainage features are sensitive environmental features. The three final voids are all outside of the Q1,000 floodplain of the relevant watercourses (i.e. the Woolgar River and a small section of stream order 4 in the south-west of the project site) (*Surface Water Report* (Appendix H)). Drainage features 1 and 2 will be diverted around the BVS pit and final void in perpetuity. The drainage diversion will be designed by an AQP and constructed in accordance with a certified design plan to ensure that it is stable in the long term post mining. There are no other sensitive environmental features near the final void NUMA locations.
• Detailed description of the proposed NUMAs, including, but not limited to: • Description of the land at surrender;	Section 5.1.1 provides a description of the final voids at surrender.
• Any relevant safety features; and	As described in Section 5.1.1, the final voids will be fenced to exclude humans and stock.
• Completion criteria for measuring whether the NUMA has achieved sufficient improvement.	See Table 17 and Table 18.
• Confirm that on achieving sufficient improvement of a NUMA, each of the following is minimised: • The risk of the area collapsing, eroding or subsiding;	Upon achieving the final void improvements, including the establishment of the geotechnical stability buffer zone, the risk that the final voids will collapse will be minimised. No underground mining is proposed as part of this PRCP Plan and therefore there will be no subsidence of the final voids.
• The need to actively manage the area; and	Upon achieving the final void improvements, the need to actively manage the final voids will be minimised as the final voids will be: • Safe and structurally stable; • Bunded and/or fenced to exclude humans and stock; and • The areas between the pit crest and the bund and/or fencing (located at the geotechnical stability buffer zone boundary) will be ripped, topsoiled, fertilised and seeded with grass where required to aid in the prevention of erosion.

EP Act and PRCP Guideline Requirements	BVS Information
• Access to the area by an animal or person by, for example, fencing the boundary of the area.	Upon achieving the final void improvements, access to the final voids by an animal or person will be minimised as bunding and/or safety fencing will be installed around the perimeter of the final voids.

The final void improvement methods and milestone criteria are listed in Table 17. The final void progressive improvement summary is provided in Table 18.

Table 17 Final Voids (Improvement Area 1) - Improvement Methods and Milestone Criteria

Improvement Methods	Milestone Criteria
• BVS final void approximately 750 m wide by 1,900 m long with a maximum depth of approximately 220 m. • The BV1 and BV2 final voids will each be approximately 110 m wide by 500 m long with maximum depths of approximately 35 m). • Geotechnical assessment of final pit geometry to confirm the location of the geotechnical stability buffer zone. • Rip, topsoil, fertilise and seed with native species the geotechnical stability buffer zone. • Install safety bunds and/or safety fencing around the geotechnical stability buffer zone. • Install safety warning signs every 100 m along the fence.	• Achievement of all improvement methods. • Geotechnical assessment of the final void geometry to confirm the location of the geotechnical buffer zone. • Certification from an AQP that the geotechnical stability buffer zone has a mean groundcover of ≥50% or > the reference site mean minus one standard deviation (whichever is the highest). • Certification from an AQP that the final NUMA landform complies with the below: • Erosion occurring within the NUMA landform will not adversely impact the stability of adjacent rehabilitation areas, or their ability to sustain their PMLU. • An AQP demonstrates with void water level and modelling data that the voids do not pose a risk of overflow and will not cause environmental harm to the receiving environment. • An AQP demonstrates with water level and modelling data, that all the residual voids function collectively as a groundwater sink post closure and won't result in any impact on groundwater resources. • Voids retain flood immunity, supported by flood modelling re-run at end of life and calibrated against the final landform. • The residual voids will not present an unacceptable risk of environmental harm.

Table 18 Final Voids (Improvement Area 1) - Improvement Summary

Predicted Duration	Size (ha)	Progressive Improvement Availability
Project commencement (start of project year 1) – end of the life of the project (end of project year 11)	138.8	After the completion of mining in the BV1 and BV2 pits, BV1 and BV2 pits will be improved at the start of project year 3 to achieve their final landform design. These pits will be used as mine water storage for the remainder of the life of the mine. Therefore, these pits will not be available for the remainder of the improvement methods (i.e. MM2 and MM3) until the start of project year 12 (i.e. after the completion of mining).

Predicted Duration	Size (ha)	Progressive Improvement Availability
		The BVS pit will be mined for the life of the project and will not be available for improvement until the start of project year 12 (i.e. after the completion of mining).

5.2 Voids in Flood Plains

Final voids located within floodplains is not an acceptable NUMA as it would cause an unacceptable risk of environmental harm. Floodplains are defined under Section 41C(3) of the EP Regulation as the land within the 0.1 % AEP (Q1,000) flood extent of a relevant watercourse. The definition of relevant watercourses includes stream orders 4 or higher. The Woolgar River is a stream order 6 and a small section of the downstream end of Drainage Feature 1 is a stream order 4 (Figure 19). These are the only features within the project site that have a stream order of 4 or higher and thereby meet the definition of a relevant watercourse. The 0.1 % AEP flood extent in relation to the final voids is shown in Figure 3.3 of the *Baseline Flooding Report* (Appendix A of the *Surface Water Report* [PRCP Appendix H]). The 0.1% AEP flood mapping shows that the final voids are above the Q1,000 flood levels of the relevant watercourses.

6 Rehabilitation Management Methodology

This section provides the justification for the rehabilitation methods for PMLUs and management methods for NUMAs described in Section 4.

The progressive rehabilitation and closure methods have considered the following aspects in the design of the mine site:

- Location of mine features/infrastructure, having regard to the following considerations:
  - Protection of environmental values of the site and receiving environment, including Matters of National Environmental Significance (MNES), Matters of State Environmental Significance (MSES) and Matters of Local Environmental Significance (MLES): The mine disturbance footprint has been designed to minimise impacts on MNES and MSES to the greatest extent possible while still allowing for the extraction of the gold resource and sufficient room in the location of mine infrastructure and mining operations.
  - Surrounding land uses and proximity to sensitive receptors: The surrounding land use is consistent with the land use within the project site – i.e. pastoral activities, specifically grazing. The majority of the project site will be rehabilitated to grazing land which is consistent with the current land use in the project site and the surrounding area. There are three sensitive receptors within 15 km of the project site (Figure 16). The largest elements of the final landform are the three WRDs, which will be rehabilitated and revegetated as per the methods outlined in Section 6.1.8 and will have minimal visual impact. These project elements areas (the infrastructure itself will be removed at the completion of mining) will not be visible from any of the three sensitive receptors due to screening of views by intervening topography and vegetation.
  - Local and regional topography: As stated in Section 2.3, the project site is situated on the south-western edge of the Gregory Range at elevations of between approximately 360 m and 450 m AHD. The eastern edge of the project site is characterised by a mosaic of sandstone scarps. The WRDs will be of similar height to the sandstone scarps and will, therefore, be consistent with the local and regional topography.
  - Surface and ground water features (quality, quantity and seasonal variation).
  - Geotechnical conditions (i.e. soil/rock characteristics) are suitability for the construction of mine facilities including the mine waste storage facilities. This includes proximity of WRDs to final void NUMAs.
  - Visual impact: As discussed above, only three sensitive receptors are located within 15 km of the project site and could therefore be subject to visual impacts from the project's final landform. Only the WRDs are potentially visible from the three sensitive receptors, however the rehabilitation measures outlined in Section 4.3.3 will minimise visual impact on these locations. The project infrastructure areas (following infrastructure removal) are not visible from the three sensitive receptors. Therefore, the project will not have a significant visual impact on the three sensitive receptors.
- Size, shape and design of mine features/infrastructure (e.g. waste rock dump design).

- Mining methods: underground mining methods are not viable for the project's resource given the shallow nature of the resource. Open cut mining is, therefore, the only viable mining method for the project.

6.1 General Rehabilitation Practices

6.1.1 Hydrogeology

Section 2.7 provides a description of the groundwater setting in the project site.

A detailed groundwater assessment is provided in the *Groundwater Report* (Appendix C), including a conceptual model of the project site's groundwater systems. The groundwater assessment considered the following:

- Groundwater occurrence including the existence of, and depth to, aquifers and aquitards
- Groundwater recharge and discharge locations locally and regionally
- Groundwater quality within each of the aquifers
- Current groundwater use including existing groundwater supply bores
- Groundwater flow direction, including field tests to determine hydraulic conductivity
- Potentiometric mapping and hydro stratigraphic cross sections
- Groundwater modelling to determine potential changes to groundwater levels due to mining.

The key conclusions of the groundwater assessment are as follows:

- Maximum groundwater drawdown at the end of mining operations will be localised in the vicinity of the BVS Pit and will not extent to the Woolgar River alluvium or any water supply bores. BV1 and BV2 pits are above the water table.
- Post mining the groundwater levels will recover in line with the formation of a pit lake in the BVS final void, which will remain a groundwater sink. The BV1 and BV2 final voids will be above the water table, in the Proterozoic basement aquiclude. BV1 and BV2, therefore, will not have a significant effect on groundwater.
- There will be no impact on GAB aquifers, groundwater bores, the Woolgar River alluvium, outcrop springs or stygofauna.
- The mine infrastructure and mine waste storage facilities have been designed to prevent groundwater contamination, hence there are no adverse impacts on groundwater quality.
- Ongoing monitoring will confirm the groundwater modelling predictions and detect any unexpected impacts.

As described in Section 5.1, final void modelling indicates that the BVS final void will be a groundwater sink and will therefore, not result in contamination of groundwater due to seepage of final void water (e.g. the difference in pre and post mining groundwater elevation means that there will be a post mining hydraulic gradient that induces groundwater flow towards the final void. On this basis, the final void will remain a permanent groundwater sink. There will be a zone of drawdown around the final void in perpetuity and groundwater flow within this zone will be towards the final void).

6.1.2 Flooding

As stated in Section 5.2, there are no final voids located, wholly or partially, within a flood plain. A detailed flood assessment is provided in the *Baseline Flooding Report* (Appendix A of the *Surface Water Report* [PRCP Appendix H]). The flood modelling indicates that the majority of the project site is above the Woolgar River 0.1% (1 in 1,000) AEP flood extent and all mine infrastructure and final voids are above the 0.1% (1 in 1,000) AEP flood extent.

A flood assessment of the Woolgar River and the local drainage features that flow through the project site was conducted in order to assess the susceptibility of the mine features within the final landform to flooding. The *Final Landform Flood Assessment Report* is included in Appendix J. The key conclusions of the *Final Landform Flood Assessment Report* are as follows:

- The proposed final landforms for the project are not susceptible to either local or regional flooding for flood events up to the 0.1% AEP flood event.
- The BVS Pit drainage diversion (including the flood protection levee) is required to provide flood protection to the BVS final void from the local Drainage Features 1 and 2. The drainage diversion will be designed to safely convey the 0.1% AEP flood flows from Drainage Features 1 and 2 around the BVS void.
- The northern end of the Southern WRD and north-east corner of the Central WRD landforms will be at risk of minor flood interactions during the local catchment PMF event. The maximum depth of PMF flooding at these locations is only expected to be 0.75 to 1 m which is a relatively shallow flow depth of flooding. The PMF event is not considered an appropriate flood event for the design of final landforms because of the exceptionally low probability of this upper limiting flood event (1:1,000,000 to 1:10,000,000 AEP).

6.1.3 Waste Characterisation

The geochemistry of the waste rock, tailings, spent heap leach, low grade ore and high grade ore is provided in the *Geochemistry Report* (Appendix F). The key objectives of the geochemical assessment were to:

- Investigate the geochemical characteristics of the waste materials
- For each of these materials, assess the risk of acid generation, the presence of soluble metals and salts and the potential risks of leachate from these materials
- Identify any rehabilitation and environmental management issues related to the geochemical and physical properties of these materials.

Contemporary best practice geochemical sampling and characterisation was undertaken in accordance with the Australian Government's handbook *Preventing Acid and Metalliferous Drainage* (the PAMD Handbook). The PAMD Handbook was published in 2016 and established the current overarching national framework for the assessment and management of acid and metalliferous drainage (AMD) across the mining industry. The PAMD Handbook is regarded as leading practice for AMD in Australia.

The project geochemical sampling and characterisation program has been undertaken in accordance with the PAMD Handbook. Section 4.2 of the PAMD Handbook requires that a risk-based, site-specific material characterisation program is undertaken prior to mining, based primarily on the geological and geochemical variability of the in-situ rock and the consequences of misclassifying materials. Section 4.2 of the PAMD

Handbook specifically recommends that the program should be designed to be representative rather than achieve a specific minimum sampling frequency or density.

For projects at this stage of development, the PAMD Handbook methodology involves:

- An initial desktop assessment to establish the geological variability and any known AMD risks
- An initial screen of the in-situ rock for potential AMD risks
- A targeted sampling of the in-situ rock and/or mine materials to confirm the screening results and confirm the potential AMD risks.

The following sections describe the site-specific geochemistry sampling and characterisation program that has been undertaken for the project, in accordance with the risk-based approach required by the PAMD Handbook.

DESKTOP STUDY AND SAMPLING PROGRAM DESIGN

The desktop review considered published geology mapping and SMC's geological exploration database, comprising approximately 40,000 m of logged drill core collected from 90 drill holes within the BVS Pit, 39 holes within the BV1 Pit and 27 holes within the BV2 Pit (refer to Map 4 of the *Geochemistry Report* [Appendix F]). Based on this review, it was concluded that:

- The waste rock in all three pits is dominated by weathered sediments overlying unmineralised Proterozoic rock (mainly dolerite, granite and metamorphic schist/gneiss) accounting for more than 90% of the total rock in each pit).
- All three pits contain a narrow band of mineralised rock that hosts the target gold ore.

The in situ geology is relatively uniform across the gold resource and the geology within each pit is similar. Hence, the waste rock and ore from each pit is expected to be consistent and predictable. Based on these geological conditions, it is highly probable that the only potential AMD risks would be associated with the mineralised rock rather than the weathered sediments or unmineralised Proterozoic rock.

SCREENING ASSESSMENT

A screening assessment was undertaken to confirm the geological interpretation from the desktop study.

In total, the screening assessment considered:

- 10,003 geochemistry assay samples collected from the BVS Pit (i.e. an average of one result for approximately every 3.6 m of drilling in BVS Pit)
- 1,208 additional geochemistry assay samples collected from the BV1 and BV2 Pit waste rock profiles.

Each geochemical assay sample was tested for a multi-element analysis for a broad suite of parameters (35 elements) including total/speciated sulfur and a range of metals and metalloids. These results span the entire waste rock profile in BVS Pit, BV1 Pit and BV2 Pit and represent all relevant rock types present in all three pits. These results were evaluated to assess AMD potential. 196 samples which contained over 1% Ca and Mg were analysed for ANC (Acid Neutralising Capacity). The measured ANC values were used with measured Ca and Mg data to derive correlations for inferred ANC values for the entire database. The maximum potential acidity (MPA) was calculated from total sulfur results in the assay database, which were then balanced against the

inferred ANC values to determine the net acid producing potential (NAPP) of all assay datapoints in the assay database.

The findings of the initial screening assessment are consistent with the geological interpretation and confirm that:

- The waste rock in BVS Pit is overwhelmingly (98%) non-acid forming (NAF) rock with significant buffering capacity and is likely to be acid consuming.
- The waste rock in the satellite pits is NAF with significant buffering capacity and is likely to be acid consuming.
- Potentially acid-forming (PAF) material within the waste rock is mineralised rock that is very closely associated with the orebody (typically within a few metres). PAF material is not correlated to any specific lithology and is not widely distributed throughout the waste rock profile away from the mineralised zone.

SAMPLING PROGRAM

Between 2010 and 2021, SMC drilled several hundred exploration drill holes within the extent of the proposed BVS, BV1 and BV2 Pits. SMC's exploration geologists logged, sampled and assayed the exploration holes and provided RGS with the exploration database to identify exploration samples representative of the waste rock material from the three pits that will be stored in the relevant WRDs.

The following mine waste samples and selected assay results were selected for use in this assessment:

- For BVS Pit, a total of 10,213 samples comprising:
  - 10,003 geochemistry assay samples (exploration samples) collected from a total of 90 exploration drill holes
    - This includes a subset of 196 representative exploration drill chip samples (Sample 1 to Sample 196) that were selected from 60 (of the 90) exploration drill holes selected by RGS for targeted geochemical testing.
  - 14 drill core samples (Sample 197 to Sample 210)
- For BV1 and BV2 pits, a total of 1,226 samples comprising:
  - 1,208 geochemistry assay samples (exploration samples) collected from a total of 66 exploration drill holes
  - 18 drill core samples from a total of 4 exploration drill holes (Sample 211 to Sample 228)
  - 2 composite samples representing waste rock from BV1 Pit (sample IDs 2021057_C003 and 2021057_C004, herein shortened to waste rock samples C003 and C004)
  - 2 composite samples representing waste rock from BV2 Pit (sample IDs 2021057_C005 and 2021057_C006, herein shortened to waste rock samples C005 and C006)
- A total of seven (7) ore and mine waste samples were prepared by SMC for use in the geochemical assessment as follows:
  - 3 tailings samples (called Tailings Sample 1 to 3)

- 2 spent heap leach residue samples (Spent Heap Leach Residue Sample 1 and 2)
- 1 low-grade ore sample
- 1 high-grade ore sample.

Map 4 of the *Geochemistry Report* (PRCP Appendix F) shows the location of the drill holes that were sampled.

GEOCHEMICAL TESTING

Geochemical testing was undertaken to identify the presence of sulphides, assess the potential for oxidation of sulphides and acid generation, and confirm the potential for leaching of soluble metals/metalloids and salts. The geochemical testing also included the characterisation of standard soil parameters including pH, salinity, sodicity, cation exchange capacity, exchangeable sodium percentage, and major metal concentrations. Testing was undertaken at National Association of Testing Authorities (NATA) accredited laboratories.

The geochemical testing comprised:

- Initial screening of all 235 samples for pH, electrical conductivity, total sulfur content, maximum potential acidity and acid neutralising capacity and net acid producing potential. Additional testing of acid generation potentially using chromium reducible sulfur and net acid generation tests on any samples with a total sulfur content of more than 0.1% (20 samples in total).
- Multi-element testing of 207 samples for total and soluble metals and metalloids.
- Water extract (i.e. static leachate) testing of four representative ore and tailings samples. Testing included pH, electronic conductivity, dissolved metals and cyanide.
- Kinetic leach column tests of 16 representative waste rock, ore, and tailings samples. The water extracted from the kinetic leach columns was tested for pH, electrical conductivity, acidity and alkalinity, dissolved metals and major ions.

GEOCHEMISTRY OF WASTE MATERIALS

The initial screening and multi-element test results of the WRD and tailings material are summarised in Table 19.

Table 19 Geochemical Test Results

PARAMETER	UNITS	BVS PIT WASTE ROCK	BV1 PIT WASTE ROCK	BV2 PIT WASTE ROCK	TAILINGS	HIGH GRADE ORE	LOW GRADE ORE
Initial Screening Tests[1]							
pH	pH units	9.3	8.3	9.6	8.8	7.0	8.0
EC	µS/cm	260	45	106	951	799	187
Total Sulfur	% S	0.6	0.1	0.1	1.3	2.0	0.8
Chromium Reducible Sulfur	% S	0.5	0.2	0.2	1.0	1.7	0.7

PARAMETER	UNITS	BVS PIT WASTE ROCK	BV1 PIT WASTE ROCK	BV2 PIT WASTE ROCK	TAILINGS	HIGH GRADE ORE	LOW GRADE ORE
Maximum Potential Acidity (MPA)	kg H2SO4/t	18.5	1.9	9.6	30.1	50.8	20.2
Acid Neutralising Capacity (ANC)	kg H2SO4/t	63.6	31.6	106.0	24.6	18.9	35.6
Net Acid Producing Potential	kg H2SO4/t	-45.1	-29.6	0.1	5.5	31.9	-15.4
ANC to MPA Ratio	Unitless	8.9	21.6	0.2	1.0	0.4	1.8
NAG pH	pH units	9.6	10.8	9.6	4.5	2.6	8.1
NAG Capacity pH 4.5	kg H2SO4/t	<0.1	<0.1	<0.1	12.8	30.5	<0.1
NAG Capacity pH 7	kg H2SO4/t	<0.1	<0.1	<0.1	17.1	35.8	<0.1
Multi-Element Tests – Total Metals							
Aluminium	%	1.5	1.0	2.0	0.4	0.4	0.5
Calcium	%	1.7	0.4	0.6	0.6	0.4	0.8
Iron	%	3.8	2.1	4.2	2.5	3.2	2.7
Potassium	%	0.5	0.2	0.8	0.3	0.3	Not tested
Magnesium	%	0.9	0.4	1.1	0.3	0.5	0.5
Sodium	%	0.04	0.02	0.06	0.04	0.01	0.01
Antimony	mg/kg	4.9	2.7	0.3	2.5	3.8	4.7
Arsenic	mg/kg	28	25	21	69	34	84
Boron	mg/kg	11	<10	<10	<10	<10	<10
Cadmium	mg/kg	5.2	0.1	0.3	9.1	1.9	4.5
Chromium	mg/kg	27	23	44	203	7	9
Cobalt	mg/kg	14	7	17	9	13	13
Copper	mg/kg	37	8	36	54	60	54
Lead	mg/kg	201	11	26	459	95	203
Manganese	mg/kg	754	334	522	460	711	313

PARAMETER	UNITS	BVS PIT WASTE ROCK	BV1 PIT WASTE ROCK	BV2 PIT WASTE ROCK	TAILINGS	HIGH GRADE ORE	LOW GRADE ORE
Mercury	mg/kg	1.0	0.1	0.1	0.1	0.02	0.06
Molybdenum	mg/kg	1.9	2.1	1.5	14	3.6	0.5
Nickel	mg/kg	28	14	34	114	24	27
Selenium	mg/kg	Not tested	0.2	0.3	0.2	<0.2	<0.2
Thorium	mg/kg	20.0	10	14	9	11	15
Uranium	mg/kg	10.0	1.5	2.6	3.1	4.4	5.1
Vanadium	mg/kg	35.1	20	41	6	6	5
Zinc	mg/kg	220.9	37	199	503	151	264

A full analysis and interpretation of these results is provided in the *Geochemistry Report* (Appendix F). In summary, the results show that:

- The waste rock from BVS Pit which will be stored in the Central and Southern WRDs is approximately 98% non-acid forming (NAF) with significant excess acid neutralising capacity. The Central and Southern WRDs will, therefore, have a high factor of safety with respect to potential for acid generation.
- PAF mine wastes, including dewatered tailings and PAF waste rock, will be stored in a co-placement cell in the centre of the Central WRD surrounded by a perimeter of NAF waste rock. The co-placement cell will have a seepage collection pad and a store and release cover to limit infiltration. The design of the Central WRD will limit rainfall infiltration and ensure any seepage from the PAF mine wastes stored in the co-placement cell will be collected and contained in the post closure phase.
- The waste rock from BV1 and BV2 pits is NAF with significant excess acid neutralising capacity. Due to the benign geochemistry of the waste rock, no specific handling or storage measures are required for the Northern WRD.
- The TSC will be a lined containment structure to store tailings produced by the CIL plant. The tailings composition is variable, and ranges from NAF material with excess acid neutralising capacity to material that may have some potential for acid generation. The final surface of the tailings will be covered with a capping layer of benign material from 1 m to 3 m thick to enable free drainage of the final surface and to provide growth medium.
- The heap leach pads will be lined containment areas. The spent heap leach residue will be fed through the CIL plant over the life of the mine, producing dewatered tailings. The tailings produced by the spent heap leach residue will be stored in the Central WRD and will have a similar geochemistry to the rest of the tailings produced by the CIL plant and will be managed within the WRD. No spent heap leach residue will remain at the end of the mine life and the heap leach pad areas will be decommissioned, decontaminated and rehabilitated at mine closure.
- Low grade ore will be stockpiled on dedicated pads prior to processing during mining operations and no low grade ore will be present at mine closure. Geochemical test results indicate that all of the low grade ore is non-acid forming with excess acid neutralising capacity. The low grade ore will, therefore,

have a high factor of safety with respect to potential for acid generation. Due to the benign geochemistry of the low grade ore, no specific handling or storage measures are required. The low grade ore stockpile area is within the footprint of the Central WRD.

- Hi grade ore will be stockpiled in the MIA for processing during mining operations and no high grade ore will be present at mine closure. The high grade ore may have some inherent potential for acid generation, however, the geochemistry results to date indicate that these materials will generate more benign drainage with low concentrations or metals. The MIA ore stockpile area will be decommissioned, decontaminated and rehabilitated at mine closure.

A MWMMP will be developed for the project prior to the commencement of mining. The MWMMP will include an operational geochemical sampling and testing program for waste rock and tailings materials to confirm the geochemistry and AMD risk classifications are as expected and to ensure the appropriate storage and handling of the mine wastes. The MWMMP will also include estimated inventories of mine waste types, classified in accordance with geochemical risk and handling/storage requirements (block model), based on the initial and ongoing mine waste geochemical characterisation.

6.1.4 Topsoil and Capping Material

Section 2.8 provides a summary of the identified soil resources within the project site. The *Soils Report* (Appendix D) confirmed that the majority of the soils within the project site disturbance footprint are suitable for salvaging for rehabilitation with SCP 6 and 9 requiring amelioration to be suitable. The suitable topsoil and subsoil stripping depths and any amelioration requirements are summarised in Table 20. All the identified SPCs would benefit from the application of organic matter and/or fertilizer to assist revegetation.

It is estimated that there is a total of approximately 2.46 Mm^3 of topsoil within the project disturbance area for use in rehabilitation. The available topsoil from each SPC is shown in Table 20.

Table 20 Topsoil and Subsoil Stripping Depths and Amelioration Requirements

SPC	Stripping Depth	Amelioration Requirements	Approximate Area to be Stripped (ha)	Estimated Maximum Volume Available (m^3)
1	Topsoil: 0.30 m	None required.	133.4	400,236
	Subsoil: 0.70 m	None required.		933,884
2	Topsoil: 0.35 m	None required.	0.45	1,582
	Subsoil: 0.65 m	Visual inspection required prior to reuse of subsoil to confirm that there are no signs of dispersion or erosion. If the visual inspection identifies dispersion and/or erosion, the application of gypsum is required to reduce the sodicity/dispersive attributes of this		2,938

SPC	Stripping Depth	Amelioration Requirements	Approximate Area to be Stripped (ha)	Estimated Maximum Volume Available (m^3)
		subsoil. The gypsum application rate will be determined by an appropriately qualified person prior to the use of this subsoil in rehabilitation. Avoid placement on steeply sloping ground.		
3	Topsoil: 0.15 m	In order to increase the pH level of this topsoil for use in rehabilitation activities, the application of agricultural lime is required or alternatively, blending of this topsoil with topsoil from SPC 1, 2, 4, 5 and/or 8. If lime is required, the lime application rate will be determined by an AQP prior to the use of this topsoil in rehabilitation.	12.00	17,957
	Subsoil: none present	Not applicable.		-
4	Topsoil: 0.20 m	None required.	5.53	11,051
	Subsoil: 0.80 m	None required.		44,204
5	Topsoil: 0.15 m	None required.	80.66	120,985
	Subsoil: 0.30m	Visual inspection required prior to reuse of subsoil to confirm that there are no signs of dispersion or erosion. If the visual inspection identifies dispersion and/or erosion, the application of gypsum is required to reduce the sodicity/dispersive attributes of this subsoil. The gypsum application rate will be determined by an appropriately qualified person prior to the use of this subsoil in rehabilitation. Avoid placement on steeply sloping ground.		241,970
6	Topsoil: 0.15 m	The application of gypsum is required to reduce the sodicity/dispersive attributes of this topsoil. The gypsum application rate will be determined by an appropriately qualified person prior to the use of this topsoil in rehabilitation.	1.16	1,744
	Subsoil: not suitable	Not applicable.		-

SPC	Stripping Depth	Amelioration Requirements	Approximate Area to be Stripped (ha)	Estimated Maximum Volume Available (m^3)
	for use in rehab			
7	Topsoil: 0.30 m	None required.	622.96	1,868,871
	Subsoil: 1.2 m	None required.		7,475,483
8	Topsoil: 0.35 m	None required.	2.48	8,667
	Subsoil: none present	Not applicable.		-
9	Topsoil: 0.10 m	The application of gypsum is required to reduce the sodicity/dispersive attributes of this topsoil. The gypsum application rate will be determined by an appropriately qualified person prior to the use of this topsoil in rehabilitation.	29.00	28,997
	Subsoil: none present	Not applicable.		-
Total			**Topsoil**	**2,460,090**
			Subsoil	**8,698,480**

The nominated topsoil application thickness for rehabilitation areas is 0.3 m. This results in a total rehabilitation topsoil requirement of approximately 2.33 Mm^3. Hence, there is sufficient available topsoil within the disturbance areas to complete the rehabilitation within the project disturbance areas described in Section 4. The proposed 0.3 m of applied topsoil in rehabilitation areas is similar to the maximum natural topsoil depth in the project site and will therefore be suitable for the proposed revegetation species (Section 6.1.8).

The external surfaces of the WRDs will be constructed of NAF waste rock only. Hence, topsoil will be spread directly onto the WRD surface. Once seeded with native species, the topsoiled surface will be progressively revegetated to stabilise the external slopes.

The TSC has been identified as requiring capping with 1 m to 3 m of benign material prior to the application of 0.3 m of topsoil (as previously described in Section 6.1.3). The 1 m to 3 m of benign capping material will be the subsoil salvaged from within the footprint of the TSC/other project disturbance areas. The estimated TSC capping material volume is 1.06 Mm^3. There is more than sufficient available subsoil for salvage from the mine disturbance areas to complete the capping of the TSC. Following application of topsoil, the TSC will be revegetated with grass species for stabilisation purposes. The proposed topsoil application thickness for the

TSC will be sufficient to support the establishment of a durable, self-sustaining vegetation cover to provide the required stabilisation.

6.1.5 Landform Design

The project final landform will be safe and structurally stable and is shown in Figure 8. The final landform has been designed to be consistent with the proposed PMLUs and the surrounding topography, where possible. Landform stability will be achieved by ensuring the final landform meets the required design slopes and the successful establishment of groundcover to aide in the prevention of erosion and sedimentation.

The final landform reflects the planning approach and has been developed in consideration of the following constraints:

- No final voids in the floodplain (Q 1,000 limit) of a relevant watercourse including stream orders 4 or higher
- Minimising the footprint of the WRDs and final voids
- Containment of process water and runoff from the heap leach facility and TSC
- Minimising impacts to the Woolgar River riparian zone
- Minimising impacts to vegetation and habitat for listed threatened species.

The final landform design for the RAs with a Native Vegetation with Low Intensity Grazing PMLU is discussed in Section 4. The final landform design of the NUMAs is discussed in Section 5. The predicted long-term stability of the final voids is assessed in *Final Void Stability Report* (Appendix G). The predicted long-term stability of the WRDs and the TSC are assessed in *Mine Waste Storage Facilities Geotechnical Stability Report* (Appendix I), with the location, footprint, and height/depth of these structures further discussed in Section 4. Section 4 also discusses whether the mine waste storage facilities require lining, material placement, whether the structures are 'water retaining' or 'water shedding', material available for improvements, slopes, vegetation, hydrological and hydrogeological assessments, monitoring, etc. These structures have been designed to minimise visual impacts from the sensitive receptors and are similar in scale to the surrounding natural landforms (e.g. isolated, elevated plateaus), as far as practicable.

6.1.6 Cover Design

As outlined in Section 4.5, rehabilitation of the TSC will include capping with 1 m to 3 m of benign material. The capping will have a free draining surface to minimise infiltration and will provide a growth medium for revegetation. The geochemistry results for the tailings material is provided in the *Geochemistry Report* (Appendix F). As stated in Section 6.1.4, there is suitable sub-soil present within the site to provide 1 m to 3 m thickness of benign material to cover the TSC. As stated in Section 4.5, the TSC will be topsoiled, fertilised and vegetated with grass species (Section 6.1.8) to aid in the prevention of erosion and sedimentation. Grass species have shallow roots that will easily be able to grow in the 0.3 m of topsoil and the benign capping material to stabilise the TSC final landform. The TSC will not be available for rehabilitation until the end of the life of the mine, therefore, there will be no staging of the rehabilitation of the TSC.

As indicated in the *Surface Water Report* (Appendix H), the TSC will also be a regulated structure. Hence, the TSC will need a design report, including a plan for decommissioning and final rehabilitation, certified by a

suitably qualified RPEQ prior to the commencement of TSC construction. The certified design would be prepared in accordance with relevant standards.

The conceptual design of the store and release cover for the Central WRD is described in Sections 3.10.1 of the *Central WRD Conceptual Design Report* (Appendix E). The detailed design will be completed as part of the Central WRD detailed design process.

The Northern and Southern WRDs will contain only NAF waste rock and hence the rehabilitation of these WRDs will not require a cover system.

6.1.7 Water Management

Post mining, the project will generate the following waters:

- Final void water, comprising runoff from final void catchments and any groundwater inflows to final voids
- Runoff from the rehabilitated surface of the TSC
- Drainage from the rehabilitated WRDs
- Runoff from rehabilitated mine infrastructure and cleared areas.

The following sections discuss the management of these waters, including potential for contamination of the receiving environment, and management/monitoring requirements. The BVS Pit diversion drain is also addressed below.

FINAL VOID WATER

As discussed in Section 5.1.1, the BVS final void lake will be a mix of direct rainfall/runoff into the void and groundwater inflows. Water from the BVS final void lake will evaporate from the lake surface which will concentrate the salts, and other contaminants, in the lake slowly over time. The BVS final void will remain a permanent groundwater sink post mining, and therefore, the surrounding groundwater quality will not be impacted by the void lake water quality post closure. Final void water balance modelling results (*Surface Water Report* [Appendix H]) indicate that the BVS final void lake will reach a quasi-equilibrium level that is well below the void spill level and hence there is a very low risk of overflow from the BVS void lake to the receiving environment.

As discussed in Section 5.1.1, following sustained rainfall, shallow pools of water may accumulate intermittently post mining at the base of the BV1 and BV2 final voids. The final void water balance modelling indicates that the maximum void lake levels are well below the void spill levels and hence there is a very low risk of overflow from the BV1 and BV2 voids to the receiving environment. Evaporation from the surface of ponded water in the voids will concentrate salts, and other contaminants, slowly over time. A small amount of intermittent void water may dissipate via infiltration through the BV1 and BV2 void floors. However, the volume and rate of infiltration will be limited by the low permeability and low porosity the Proterozoic basement. Hence, the proportion of water that infiltrates the void floors and enters the local groundwater system will be negligible and will not pose a risk to the surrounding groundwater quality. The BV1 and BV2 final voids are also hydraulically upgradient of the BVS final void. Hence, any limited infiltration from the satellite pit voids would migrate over time to the BVS final void and groundwater sink.

The post closure groundwater monitoring program described in Section 9.2 and Appendix 3 of the PRCP Schedule (Appendix A), includes monitoring bores that would confirm the groundwater levels in the vicinity of the final voids and the hydraulic gradient to the BVS final void, and detect any unexpected groundwater contamination. Operational pit water monitoring and final void water quality monitoring would confirm the potential contaminants of concern.

TAILINGS STORAGE CELL RUNOFF

As discussed in Section 4.5, the TSC will be fully lined to prevent seepage of tailings water to groundwater and will include a seepage collection and leak detection system. During decommissioning the deposited tailings will be allowed to dry before being capped with inert material. The final rehabilitated TSC surface will be dome shaped with a maximum slope of 5% to establish free drainage and minimise rainfall infiltration. Hence, there will be a low risk of seepage from the TSC post closure.

The TSC surface will be topsoiled and revegetated with grass species to aid in the prevention of erosion. Following the completion of rehabilitation of the TSC, the runoff from the TSC is expected to be similar quality to natural runoff.

The post closure groundwater monitoring program described in Section 9.2 and Appendix 3 of the PRCP Schedule (Appendix A), includes monitoring bores that would detect any unexpected groundwater contamination from the TSC. The TSC water quality monitoring included in the operational surface water monitoring program and further tailings kinetic leachate testing conducted in accordance with the MWMMP would confirm the potential contaminants of concern.

WASTE ROCK DUMP DRAINAGE

As discussed in Section 4.3, the WRD final landforms have been designed to shed surface runoff and limit infiltration. The store and release cover on Central WRD CPC is also specifically designed to limit infiltration to the stored PAF wastes in the CPC. Following the completion of rehabilitation and revegetation, drainage from the WRDs is expected to be similar to natural runoff. Any seepage from the Central WRD CPC that persists after final rehabilitation of the Central WRD will drain via a pipeline to the BVS final void for containment in the final void lake.

The post closure groundwater monitoring program described in Section 9.2 and Appendix 3 of the PRCP Schedule (Appendix A), includes monitoring bores that would detect any unexpected groundwater contamination from the WRDs. Similarly, the post closure surface water monitoring program (Appendix 4 of the PRCP Schedule [Appendix A]) would detect any unexpected surface water contamination from the WRDs. Operational surface water monitoring and further waste rock and tailings kinetic leachate testing conducted in accordance with the MWMMP would confirm the potential contaminants of concern for WRD drainage and seepage monitoring.

RUNOFF FROM INFRASTRUCTURE AND CLEARED AREAS

As discussed in Section 4.3.3, the rehabilitation of infrastructure and cleared areas will include decontamination, where necessary, regrading to stable slopes and revegetation. Runoff from the rehabilitated areas is expected to have a similar quality to runoff from the natural catchments and, therefore, does not require any ongoing management measures or treatments.

The post closure groundwater and surface water monitoring programs described in Section 9.2 and Appendices 3 and 4 of the PRCP Schedule (Appendix A), would detect any unexpected groundwater or surface water contamination from the rehabilitated infrastructure and cleared areas. The key contaminant of concern for surface water would be suspended sediment.

BVS PIT DIVERSION DRAIN

As discussed in Section 4.4, the BVS Pit diversion drain will remain in perpetuity in the post closure phase. It will be designed by an RPEQ in accordance with relevant design guidelines, including the DNRME Guideline: *Works that interfere with water in a watercourse for a resource activity*. The diversion design plan prepared by the RPEQ will include diversion stabilisation measures as well as a monitoring and maintenance program to ensure the diversion achieves a stable condition following construction.

There are no ongoing water management requirements or treatments required for the post mining landform.

6.1.8 Revegetation

This section provides a revegetation plan for establishing self-sustaining vegetation cover that is appropriate for the intended PMLUs of Native Vegetation with Low Intensity Grazing, Engineered Drainage Diversion, Engineered Waste Storage Facility and the grass-stabilised geotechnical stability buffer zones of the final void NUMAs. The revegetation plan includes the establishment of native species occurring within the project site and surrounding area. The revegetation objective for the project site is to revegetate the PMLU areas with native vegetation, stabilise the TSC with grasses and stabilise the final void buffer areas with native vegetation. This is consistent with the rehabilitation milestones identified in the PRCP schedule.

The establishment of the Native Vegetation with Low Intensity Grazing PMLU will also provide habitat value for various fauna known and likely to occur within the project site (e.g. the riparian vegetation along the Woolgar River is likely to provide habitat for the Koala and the majority of the rehabilitated project site will provide habitat for the Squatter Pigeon (Southern)) along with a range of other native fauna species including bird, reptiles and small mammals. The provision of fauna habitat values, while not a milestone criteria of the PMLUs for the project site, will be an incidental and positive outcome of establishing native vegetation species as part of the revegetation of the PMLUs.

The TSC, the three WRDs and the gentle slopes within the geotechnical stability buffer zone of the three final voids will be topsoiled, fertilised and revegetated with native species to aid in the prevention of erosion and sedimentation. The steep slopes of the three final voids cannot be revegetated due to an inability to topsoil, rip, and seed due to the steepness of the slopes. In addition, the floor of the BVS final void will not be revegetated as the groundwater model predicts that the BVS pit final void will hold water in perpetuity. The BVS 1 and BVS 2 pit final voids will also accumulate water intermittently following sustained rainfall which will then evaporate slowly over time. Therefore, the floor of the BVS 1 and BVS2 pits will also not be revegetated as any planted vegetation is likely to be inundated during periods when the final voids contain water.

Key revegetation species will comprise native plants and tree and shrub species occurring within the project site, that are suitable for the proposed Native Vegetation with Low Intensity Grazing PMLU, Engineered Drainage Diversion, Engineered Waste Storage Facility and to stability of the geotechnical stability buffer zone of the NUMAs include, but are not limited to, those species included in Table 21.

Table 21 Key Native Revegetation Species

Native Grass/Herb Species	Native Shrub Species	Native Tree Species
Narrow-leaved Indigo (*Indigofera linifolia*)	Black Tea Tree (*Melaleuca bracteate*)*	Rough-leaved Bloodwood (*Corymbia setosa)*
Aristida ingrata	Yellow Paperbark (*Melaleuca nervosa*)*	Inland Bloodwood (*Corymbia terminalis*)
Forest Bluegrass (*Bothriochloa bladhii* subsp. *Bladhii*)	*Melaleuca stenostachya**	Weeping Paperbark (*Melaleuca leucadendra*)
Bothriochloa decipiens var. *cloncurrensis*	*Petalostigma banksii*	Weeping Tea Tree (*Melaleuca fluviatilis*)
Kangaroo Grass *(Themeda triandra*)	Coffee Bush (*Breynia oblongifolia*)	Molly Red Box (*Eucalyptus leptophleba*)
Gummy Spinifex (*Triodia pungens*)	Konkerberry (*Carissa lanceolata*)	Woollybutt (*Eucalyptus miniata*)
Black Speargrass (*Heteropogon contortus*)	Hammond's Wattle *(Acacia hammondii*)*	River Red Gum (*Eucalyptus camaldulensis* subsp. *obtuse*)
	White-barked Wattle (*Acacia platycarpa*)*	Red Ash (*Alphitonia excels*)
		False Sandalwood (*Eremophila mitchellii*)*

**These species are classified as either shrubs or trees.*

No flora species of conservation significance were recorded within the project site. The only flora species of conservation significance with a moderate potential to occur on the project site was *Drummondita calida*. This distinctive shrub prefers altitudes of 200 m to 700 m and shallow soils on the sides of rocky hills and ridges. If this species occurs within the project site, it would only be present in very limited areas and in low numbers. This species is, therefore, not representative of the pre-mining land use and is not suitable as a PMLU revegetation species.

Seed will either be purchased from local commercial seed suppliers or collected from the local area. Collection of seed may only take place where the collector has the relevant permission and/or permits for the area from which they are collecting. Any seed requiring storage prior to planting is kept in a cool, dry area and protected from insects.

Seeding will ideally be undertaken immediately prior to the onset of the wet season (i.e. in September or October). This gives the seed the best chance of striking, as soil moisture will be at its highest in the late wet season and avoids costs for additional irrigation. Seeding will be undertaken utilising an agricultural-class tractor and spreader, where available.

Topsoil requirements (i.e. presence on site, required depth for successful rehabilitation and any required amelioration) are discussed in Section 6.1.4.

If necessary, temporary stock fencing will be erected around revegetated areas to exclude stock.

Visual monitoring of the revegetation will commence within one month from the application of seed. Within 12 months of seeding, a determination will be made as to whether sufficient germination from the initial seeding has occurred, or if re-seeding is required. Formal monitoring of revegetated areas will commence after at least one wet season has passed following completion of the revegetation works and will be undertaken in conjunction with monitoring of non-mine affected reference (analogue) sites as detailed in Section 9.

Weed management will also be undertaken during the establishment of revegetation in accordance with a Weed Management Plan and the results of rehabilitation monitoring.

6.2 Tailings Storage Cell

The TSC will be a lined containment structure that will store tailings (settled solids) produced in the CIL Plant. The TSC design is discussed in detail in Section 4.5.

The TSC will be required for the life of the mine and therefore, will not be available for progressive rehabilitation.

6.3 Voids

Section 5.1 describes the improvements that will be made to the final voids after mine closure. It also includes a discussion of the final landform, groundwater and surface water assessments for the final voids. No voids within the project site will be rehabilitated (i.e. backfilled).

6.4 Underground Mining

The project does not involve underground mining.

6.5 Built Infrastructure

Section 4 discusses the built infrastructure that will be decommissioned, demolished, salvaged and/or disposed. As stated in Section 2.13, all the infrastructure within the project site is proposed to be decommissioned and removed from site as part of mine closure. However, should this approach change in the future, landholder approval will be obtained for any infrastructure proposed to be retained.

As indicated in the rehabilitation milestones in the *PRCP Schedule* (Appendix A), rehabilitation of the infrastructure areas will include the following components:

- Remove all waste not authorised to be disposed of on-site under the EA.
- All machinery and equipment not required for rehabilitation works removed from site.
- Disconnect and terminate services, including water, electricity and gas.
- Demolish and remove buildings, including the processing plant.
- Remove bitumen, aggregate, concrete, etc and dispose in the TSC or WRDs.
- Desilt dams and pump mine affected water to the BVS pit.

- Complete contaminated land investigation document 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.
- Contaminated and hazardous material either remediated in-situ or removed/transported to facility lawfully able to accept the material.
- Remove any contaminated soil that cannot be remediated in-situ and dispose of in the TSC.
- A declaration from a SQP that no contamination remains.
- All major earthworks completed to achieve final landform design.
- 20% (11.5°) maximum slope achieved on batters (unless an alternate slope is recommended by an RPEQ).
- Drainage works within rehabilitation areas completed.
- Assessment of topsoil characteristics and the development of an amelioration and physical treatment plan is completed by an AQP.
- Application of soil ameliorants to topsoil such as lime, fertiliser, gypsum and/or organic matter at rates to be determined by an AQP.
- Deep ripping to <400 mm (or refusal*) into soil/subsoil profile along contour of slopes, as required.
- Placement of a minimum of 300 mm of topsoil where topsoil has been stripped.
- Direct seeding with native species, at a rate recommended by an AQP.
- Install temporary stock fencing to exclude cattle from revegetation areas, if required.

Table 22 provides the disturbance areas for each of the rehabilitation areas.

Table 22 Built Infrastructure Schedule of Disturbance

Mine Domain	Mine Feature	Mining Lease	Disturbance Area (ha) (Figure 18)
RA1 - Dams	Mine Water Dam 1	90238	5.6
	Mine Water Dam 2	90238, 100236	11.4
	Raw Water Dam	90238, 100236	29.1
	MIA Dam	100236	3.8
	Process Water Dam	100236	1.0
	Heap Leach Ponds	100236	8.5
	TSC Storm Water Pond	100236	7.7
RA2 – Haul Roads and Access Tracks	Haul Roads and Access Roads	90238, 100236, 2729	64.4
RA4 – Mine Infrastructure	Northern MIA	2729	0.5
	MIA (incl workshop, offices/warehouse, CIL plant, ROM stockpile)	100236	23.7
	Woolgar River Pump Station	100236	0.7
	Explosives Magazine	90238	2.1
	Communication Tower	100236	0.1
	Fuel Farm	100236	0.7
	Powerstation	100236	1.6
	Construction Camp/ Shut Down Camp	100236	3.9
	Operations Camp	100236	4.1
	Solar Farm	100236	2.6
	Airstrip	100236	52.1
	Laydown Area	100236	0.3
	Heap Leach Pads	100236	16.6
TOTAL BUILT INFRASTRUCTURE AREA			**240.5**

7 Risk Assessment

This section provides a risk assessment to identify and assess potential risks to the achievement of a stable condition for land with a nominated PMLU and potential risks associated with the retention of NUMAs. It also includes the definitions for the likelihood and consequence categories, and the risk assessment matrix.

The likelihood categories are defined as:

- Rare: may occur only in exception circumstances (1 per 1,000 years).
- Unlikely: could occur at some time (1 per 100 years).
- Possible: might occur at some time (1 per 10 years).
- Likely: will probably occur in most circumstances (1 per year).
- Almost Certain: this event is expected to occur in most circumstances (1 per month).

The consequence categories are defined in Table 23.

Table 23 Consequence Definitions

Loss Type	Insignificant	Minor	Moderate	Major	Catastrophic
People Injury or Illness	Slight injury or health effects – first aid/minor medical treatment level.	Minor injury or health effects – restricted work or minor lost workday case.	Major injury or health effects – permanent disability.	Permanent total disabilities, single fatality.	Multiple fatalities.
Damage and Consequential Loss	Easily addressed or rectified by immediate corrective action. No loss of production. No damage to equipment.	Minor or superficial damage to equipment and/or facility. No loss of production.	Moderate damage to equipment and/or facility. Loss of production < one week.	Major damage to facility requiring significant corrective/ preventative action. Loss of production < 6 months.	Future operations at site seriously affected. Urgent corrective/ remedial action. Loss of production > 6 months.
Reputation, Community Regulatory Compliance	• Slight impact – public awareness may exist but no public concern. • Slight impact – Traditional Owner awareness may exist by no Traditional Owner concern.	• Limited impact – some local public concern. • Limited impact – some Traditional Owner concern.	• Considerable impact – regional concern. • Considerable impact – Traditional Owner concern.	• National impact – national public concern. • Major impact – Traditional Owner Elders involved.	• International impact – international public concern. • Major impact – stop work direction from Traditional Owners.
Environmental Impact	Environmental nuisance, no clean up, aesthetic impact only.	Minor clean up, no legal breach, minimal impact, minor non-conformance.	Major clean up, license breach, business disruption at a site level.	Local ecosystem damage, legal/ statutory breach.	Regional ecosystem damage, major rehabilitation failure, mine closure.
Financial/ Commercial	< AUD $10,000	AUD $10,000 - $100,000	AUD $100,000 to $1M	AUD $1M to $10M	>AUD $10M

Table 24 provides the risk matrix used in the risk assessment and Table 25 provides the details of the risk assessment.

Table 24 Risk Assessment Matrix

		Consequence				
Likelihood		1 – Insignificant	2 – Minor	3 – Moderate	4 – Major	5 – Catastrophic
	A – Almost Certain	Medium (M)	High (H)	H	Extreme (E)	E
	B – Likely	M	M	H	E	E
	C – Possible	Low (L)	M	H	H	E
	D – Unlikely	L	L	M	H	H
	E - Rare	L	L	L	M	H

Table 25 Risk Assessment

Risk	Impact	Inherent Risk			Selected Control/ Treatment	Control/ Treatment Justification	Resource Required	Performance Measures	Reporting and Monitoring	Residual Risk		
		Consequence	Likelihood	Risk Rating						Consequence	Likelihood	Risk Rating
PMLU: Native Vegetation with Low Intensity Grazing – RAs other than WRDs												
Constructed landform does not conform to design	Constructed landform does not meet rehabilitation criteria	3	C	H	Appropriate design by an AQP and QA check of as-constructed landform	QA check of the constructed landform against the landform criteria/design	Technical Services Personnel	Achievement of the PRCP Milestone Criteria as per Section 4 of the PRC Plan	Monitoring and reporting as outlined in Section 9 of the PRC Plan	3	E	L
Designed erosion and sediment control/drainage structures are inadequately sized/configured	Failure of drainage structures, erosion of final landform, rehabilitation is not achieved	2	C	H	Appropriate design by an AQP and QA check of as-constructed landform	QA check of the landform design against the landform criteria/design	Technical Services Personnel	Achievement of the PRCP Milestone Criteria as per Section 4 of the PRC Plan	Monitoring and reporting as outlined in Section 9 of the PRC Plan	2	E	L
Erosion and sedimentation from rehabilitation areas	Downstream water quality impacts	2	C	H	Appropriately designed and maintained erosion and sediment control/drainage structures	QA check of the landform design against the landform criteria	Technical Services Personnel	Achievement of the PRCP Milestone Criteria as per Section 4 of the PRC Plan	Monitoring and reporting as outlined in Section 9 of the PRC Plan	2	E	L
Weed contamination	Excessive growth of	2	C	M	Topsoil Management Plan incorporates weed	Management of weed establishment on	Environmental Personnel	Achievement of the PRCP	Monitoring and reporting	2	D	L

Risk	Impact	Inherent Risk			Selected Control/ Treatment	Control/ Treatment Justification	Resource Required	Performance Measures	Reporting and Monitoring	Residual Risk		
		Consequence	Likelihood	Risk Rating						Consequence	Likelihood	Risk Rating
from respread topsoil or vehicles	non-desired species within prepared areas				management requirements for topsoil stockpiles	topsoil stockpile reduces likelihood of establishment following respreading		Milestone Criteria as per Section 4 of the PRC Plan	as outlined in Section 9 of the PRC Plan			
Failure to establish required surface conditions to achieve PMLU	Rehabilitation does not meet groundcover requirements, acceptance criteria unable to be achieved	2	C	M	Ad-hoc and 6-monthly visual inspections following topsoil spreading	Routine documented inspections will note any issues with groundcover establishment	Environmental Personnel	Achievement of the PRCP Milestone Criteria as per Section 4 of the PRC Plan	Monitoring and reporting as outlined in Section 9 of the PRC Plan	2	D	L
					Secondary seeding (if required) to be undertaken before following wet season	If first strike vegetation fails, a second seeding may be required	Environmental Personnel Seeding Contractor					
	Rectification of active erosion unable to be achieved	2	C	M	Livestock excluded until erosion can be rectified	Sufficient time is required for native species to become established and self-sustaining to aid in the prevention of erosion	-	Achievement of the PRCP Milestone Criteria as per Section 4 of the PRC Plan	Monitoring and reporting as outlined in Section 9 of the PRC Plan	2	D	L
					Appropriate design by an AQP and QA check of as-constructed landform	QA check of the constructed landform against the landform criteria/design	Technical Services Personnel	Achievement of the PRCP Milestone Criteria as per Section 4 of the PRC Plan	Monitoring and reporting as outlined in Section 9 of the PRC Plan	2	D	L

Risk	Impact	Inherent Risk			Selected Control/ Treatment	Control/ Treatment Justification	Resource Required	Performance Measures	Reporting and Monitoring	Residual Risk		
		Consequence	Likelihood	Risk Rating						Consequence	Likelihood	Risk Rating
Damage to rehabilitation from premature livestock grazing	Permanent reduction of ground cover, acceptance criteria unable to be achieved	2	C	M	Livestock to be excluded until ≥50% groundcover has been established for a minimum of 2 successive years, as measured by annual rehabilitation monitoring	Sufficient time is required for native species to become established and self-sustaining prior to the introduction of cattle onto rehabilitated areas	-	Achievement of the PRCP Milestone Criteria as per Section 4 of the PRC Plan	Monitoring and reporting as outlined in Section 9 of the PRC Plan	2	E	L
Surface roughness (rockiness, depressions)	Safety risk to human, stock and wildlife	2	C	M	Appropriate design by an AQP and QA check of as-constructed landform	QA check of the constructed landform against the landform criteria/design	Technical Services Personnel	Achievement of the PRCP Milestone Criteria as per Section 4 of the PRC Plan	Monitoring and reporting as outlined in Section 9 of the PRC Plan	2	E	L
Surface water contamination from buildings and processing areas	Impacts on downstream receiving water	4	C	H	Removal of buildings/infrastructure, site contamination assessment, remediation of any contamination	AQP contamination report/décontamination certification	AQP for contamination assessment/remediation	Achievement of the PRCP Milestone Criteria as per Section 4 of the PRC Plan	Monitoring and reporting as outlined in Section 9 of the PRC Plan	2	D	L
PMLU: Native Vegetation with Low Intensity Grazing - WRDs												
PAF waste rock and tailings geochemistry results in surface water/	Contamination of downstream surface water	3	C	H	Operational geochemical testing of waste rock and selective handling and disposal of PAF waste rock and	NAF waste rock has significant acid neutralising capacity that will prevent acid drainage	Geotechnical Contractor	Achievement of the PRCP Milestone Criteria as per Section	Monitoring and reporting as outlined in Section 9 of the PRC Plan	3	E	L

Risk	Impact	Inherent Risk			Selected Control/ Treatment	Control/ Treatment Justification	Resource Required	Performance Measures	Reporting and Monitoring	Residual Risk		
		Consequence	Likelihood	Risk Rating						Consequence	Likelihood	Risk Rating
groundwater contamination					tailings in Central WRD co-placement cell			4.3 of the PRC Plan				
Constructed landform does not conform to design	Constructed landform does not meet improvement criteria	3	C	H	Appropriate design by an AQP and QA check of as-constructed landform	QA check of the constructed landform against the landform criteria/design	Technical Services Personnel	Achievement of the PRCP Milestone Criteria as per Section 4.3 of the PRC Plan	Monitoring and reporting as outlined in Section 9 of the PRC Plan	3	E	L
Constructed landform does not conform to geotechnical stability design	Significant slope failure	3	C	H	Geotechnical stability assessment of final void by an AQP	AQP will assess stability and confirm/ delineate geotechnical stability buffer zone	AQP	Achievement of the PRCP Milestone Criteria as per Section 4.3 of the PRC Plan	Monitoring and reporting as outlined in Section 9 of the PRC Plan	3	E	L
Designed erosion and sediment control/drainage structures are inadequately sized/configured	Failure of drainage structures, erosion of final landform, rehabilitation is not achieved	2	C	H	Redesign of erosion and sediment control/drainage structures Completion of QA check for landform design	QA check of the landform design against the landform criteria	Technical Services Personnel	Achievement of the PRCP Milestone Criteria as per Section 4.3 of the PRC Plan	Monitoring and reporting as outlined in Section 9 of the PRC Plan	2	E	L
Erosion and sedimentation from	Downstream water quality impacts	2	C	H	Erosion and sediment control/drainage	QA check of the landform design against	Technical Services Personnel	Achievement of the PRCP Milestone	Monitoring and reporting as outlined in	2	E	L

Risk	Impact	Inherent Risk			Selected Control/ Treatment	Control/ Treatment Justification	Resource Required	Performance Measures	Reporting and Monitoring	Residual Risk		
		Consequence	Likelihood	Risk Rating						Consequence	Likelihood	Risk Rating
rehabilitation areas					structures designed by an AQP	the landform criteria/design		Criteria as per Section 4.2 of the PRC Plan	Section 9 of the PRC Plan			
Weed contamination from respread topsoil and/or vehicles	Excessive growth of non-desired species within prepared areas	2	C	M	Topsoil Management Plan incorporates weed management requirements for topsoil stockpiles Vehicle washdown procedures	Management of weed establishment on topsoil stockpile reduces likelihood of establishment following respreading Vehicle washdown procedures will minimise the spread of weeds	Environmental Personnel	Achievement of the PRCP Milestone Criteria as per Section 4.3 of the PRC Plan	Monitoring and reporting as outlined in Section 9 of the PRC Plan	2	D	L
Failure to establish required surface conditions to achieve PMLU	Rehabilitation does not meet ground cover requirements, acceptance criteria unable to be achieved	2	C	M	Ad-hoc and 6-monthly visual inspections following topsoil spreading	Routine documented inspections will note any issues with ground cover establishment	Environmental Personnel	Achievement of the PRCP Milestone Criteria as per Section 4.3 of the PRC Plan	Monitoring and reporting as outlined in Section 9 of the PRC Plan	2	D	L
					Secondary seeding (if required) to be undertaken before following wet season	If first strike vegetation fails, a second seeding may be required	Environmental Personnel Seeding Contractor					
	Rectification of active erosion	2	C	M	Livestock excluded until erosion can be rectified	Sufficient time is required for native species to become	-	Achievement of the PRCP Milestone	Monitoring and reporting as outlined in	2	D	L

Risk	Impact	Inherent Risk			Selected Control/ Treatment	Control/ Treatment Justification	Resource Required	Performance Measures	Reporting and Monitoring	Residual Risk		
		Consequence	Likelihood	Risk Rating						Consequence	Likelihood	Risk Rating
	unable to be achieved					established and self-sustaining to aid in the prevention of erosion		Criteria as per Section 4.2 of the PRC Plan	Section 9 of the PRC Plan			
Surface roughness (rockiness, depressions)	Safety risk to human, stock and wildlife	2	C	M	Appropriate design by an AQP and QA check of as-constructed landform	QA check of the landform design against the landform criteria/design	Technical Services Personnel	Achievement of the PRCP Milestone Criteria as per Section 4.2 of the PRC Plan	Monitoring and reporting as outlined in Section 9 of the PRC Plan	2	E	L
PMLU: Engineered Drainage Diversion												
Failure to establish required surface conditions to achieve PMLU	Erosional instability of diversion channel, downstream sedimentation	3	C	H	AQP has certified that the diversion drain has been constructed and stabilised in accordance with the RPEQ Design Plan	RPEQ Design Plan includes design and monitoring program to achieve stability	AQP	Certification from RPEQ	As per RPEQ Design and Monitoring Program	2	D	L
PMLU: Engineered Waste Storage Facility												
Inadequate dewatering of tailings prior to	Inability to apply capping material using	3	C	H	Decant pumping system to be maintained over the life of the mine	Proper functioning of the decant pump will facilitate tailings	Mining Manager	Achievement of the PRCP Milestone	Monitoring and reporting as outlined in	2	D	L

Risk	Impact	Inherent Risk			Selected Control/ Treatment	Control/ Treatment Justification	Resource Required	Performance Measures	Reporting and Monitoring	Residual Risk		
		Consequence	Likelihood	Risk Rating						Consequence	Likelihood	Risk Rating
placement of capping material	in the preferred method/ with the preferred equipment					consolidation over the mine life		Criteria as per Section 4.5 of the PRC Plan	Section 9 of the PRC Plan			
					Allow tailings surface dying time after de-commissioning	Surface drying will increase shear strength prior to capping	Mining Manager					
					Capping to be undertaken by experienced personnel	Personnel experienced with capping/ managing TSC materials will be utilised for the placement of the capping material	Mining Manager					
Inadequate capping and/or topsoiling material depth placed	Inadequate capping material and/or topsoil for rehabilitated	2	C	M	Benign NAF waste rock or subsoil will be sourced	Soil survey and geochemistry assessment confirm there is adequate sub soil/waste rock available	Survey Personnel	Achievement of the PRCP Milestone Criteria as per Section 4.5 of the PRC Plan	Monitoring and reporting as outlined in Section 9 of the PRC Plan	2	D	L

Risk	Impact	Inherent Risk			Selected Control/ Treatment	Control/ Treatment Justification	Resource Required	Performance Measures	Reporting and Monitoring	Residual Risk		
		Consequence	Likelihood	Risk Rating						Consequence	Likelihood	Risk Rating
	landform to meet criteria, rework required				Spot-checks of capping and topsoil material depth during placement	Survey/spot checks of applied capping material thickness within improvement areas will be undertaken during spreading to ensure an adequate depth is respread	Environmental Personnel					
Surface water contamination from exposed tailings	Run-off to surface waters exceeds water quality requirements, completion criteria unable to be achieved	3	D	M	Establish vegetation	To minimise erosion	-	Achievement of the PRCP Milestone Criteria as per Section 4.5 of the PRC Plan	Monitoring and reporting as outlined in Section 9 of the PRC Plan	3	E	L
					Exclusion of cattle	To prevent cattle trampling/ tracking initiating erosion	Environmental Personnel					
					Monitoring of successful revegetation and erosion	To confirm effective revegetation and erosion control	Environmental Personnel					
Groundwater contamination	Seepage to groundwater exceeds water	3	D	M	Construction of a liner in the TSC	To prevent seepage to groundwater	Construction Manager	Achievement of the PRCP Milestone	Monitoring and reporting as outlined in	3	E	L

Risk	Impact	Inherent Risk			Selected Control/ Treatment	Control/ Treatment Justification	Resource Required	Performance Measures	Reporting and Monitoring	Residual Risk		
		Consequence	Likelihood	Risk Rating						Consequence	Likelihood	Risk Rating
from tailings seepage	quality requirements, completion criteria unable to be achieved				Dewatering of tailings over the mine life	Minimise the contained tailings water	Operations manager	Criteria as per Section 4.5 of the PRC Plan	Section 9 of the PRC Plan			
					Establish a domed surface on the capping layer	To promote surface runoff and minimise seepage	Environmental Personnel					
Constructed landform does not conform to design	Constructed landform does not meet improvement criteria	3	C	H	Appropriate design by an AQP and QA check of as-constructed landform	QA will confirm the constructed landform against the landform criteria/design	Technical Services Personnel	Achievement of the PRCP Milestone Criteria as per Section 4.5 of the PRC Plan	Monitoring and reporting as outlined in Section 9 of the PRC Plan	3	E	L
Constructed landform does not conform to geotechnical stability design	Significant slope failure	3	C	H	Geotechnical stability assessment completed by AQP as part of detailed design	QA will confirm the constructed landform against the landform criteria	Technical Services Personnel	Achievement of the PRCP Milestone Criteria as per Section 4.3 of the PRC Plan	Monitoring and reporting as outlined in Section 9 of the PRC Plan	3	E	L
Weed contamination from respread topsoil and/or vehicles	Excessive growth of non-desired species within prepared areas	2	C	M	Topsoil Management Plan incorporates weed management requirements for topsoil stockpiles	Management of weed establishment on topsoil stockpile reduces likelihood of establishment following respreading	Environmental Personnel	Achievement of the PRCP Milestone Criteria as per Section 4.5 of the PRC Plan	Monitoring and reporting as outlined in Section 9 of the PRC Plan	2	D	L

Risk	Impact	Inherent Risk			Selected Control/ Treatment	Control/ Treatment Justification	Resource Required	Performance Measures	Reporting and Monitoring	Residual Risk		
		Consequence	Likelihood	Risk Rating						Consequence	Likelihood	Risk Rating
					Vehicle washdown procedures	Vehicle washdown procedures will minimise the spread of weeds						
Erosion and sedimentation from rehabilitation areas	Downstream water quality impacts	2	C	H	Erosion and sediment control/drainage structures designed by an AQP	QA check of the landform design against the landform criteria/design	Technical Services Personnel	Achievement of the PRCP Milestone Criteria as per Section 4.4 of the PRC Plan	Monitoring and reporting as outlined in Section 9 of the PRC Plan	2	E	L
Failure to establish required surface conditions to achieve PMLU	Improvements do not meet ground cover requirements, acceptance criteria unable to be achieved	2	C	M	Ad-hoc and 6-monthly visual inspections following topsoil spreading	Routine documented inspections will note any issues with ground cover establishment	Environmental Personnel	Achievement of the PRCP Milestone Criteria as per Section 4.5 of the PRC Plan	Monitoring and reporting as outlined in Section 9 of the PRC Plan	**2**	D	**L**
					Secondary seeding (if required) to be undertaken before following wet season	If first strike vegetation fails, a second seeding may be required	Environmental Personnel Seeding Contractor					
	Rectification of active erosion unable to be achieved	2	C	M	Livestock excluded until erosion can be rectified	Sufficient time is required for native species to become established and self-	-	Achievement of the PRCP Milestone Criteria as per	Monitoring and reporting as outlined in Section 9 of the PRC Plan	2	D	L

Risk	Impact	Inherent Risk			Selected Control/ Treatment	Control/ Treatment Justification	Resource Required	Performance Measures	Reporting and Monitoring	Residual Risk		
		Consequence	Likelihood	Risk Rating						Consequence	Likelihood	Risk Rating
						sustaining to aid in the prevention of erosion		Section 4.4 of the PRC Plan				
Surface roughness (rockiness, depressions)	Safety risk to human, stock and wildlife	2	C	M	Appropriate design by an AQP and QA check of as-constructed landform	QA check of the landform design against the landform criteria/design	Technical Services Personnel	Achievement of the PRCP Milestone Criteria as per Section 4.4 of the PRC Plan	Monitoring and reporting as outlined in Section 9 of the PRC Plan	2	E	L
NUMA: Final Voids												
Unstable final void slopes	Collapse of the final void walls	3	C	H	Final void stability assessment with bunds/fences around the areas outside the pit crest and geotechnical stability buffer zone	The bund/fence will prevent access to areas outside the pit crest that would be affected by any slope failures with the geotechnical stability buffer zone	Geotechnical Contractor	Achievement of the PRCP Milestone Criteria as per Section 5.1of the PRC Plan	Monitoring and reporting as outlined in Section 9 of the PRC Plan	2	C	M
Surface water contamination from pit lake overflows	Contamination of the downstream surface water quality	3	D	M	Final void water balance modelling	Modelling indicates the voids are not likely to overflow under worst case rainfall scenarios Flood modelling indicates the void crests	Environmental Personnel	Achievement of the PRCP Milestone Criteria as per Section 5.1 of the PRC Plan	Monitoring and reporting as outlined in Section 9 of the PRC Plan	3	E	L

Risk	Impact	Inherent Risk			Selected Control/ Treatment	Control/ Treatment Justification	Resource Required	Performance Measures	Reporting and Monitoring	Residual Risk		
		Consequence	Likelihood	Risk Rating						Consequence	Likelihood	Risk Rating
					Final void flood modelling	are above the 0.1% AEP flood levels						
Groundwater contamination due to seepage from the final void pit lake	Seepage to groundwater exceeds water quality requirements, completion criteria unable to be achieved	3	C	H	Groundwater assessment to determine likelihood of seepage	Assessment concluded BVS void would be a groundwater sink with no seepage away from the void and minimal seepage from BV1/BV2 voids due to low permeability strata	-	Achievement of the PRCP Milestone Criteria as per Section 5.1 of the PRC Plan	Monitoring and reporting as outlined in Section 9 of the PRC Plan	3	E	L
Erosion and sedimentation from improvement areas	Downstream water quality impacts	2	C	H	Erosion and sediment control/drainage structures for final void buffer zones designed by an AQP	QA check of the landform design against the landform criteria/design	Technical Services Personnel	Achievement of the PRCP Milestone Criteria as per Section 5.1 of the PRC Plan	Monitoring and reporting as outlined in Section 9 of the PRC Plan	2	E	L

8 Rehabilitation Trials

The rehabilitation methods proposed are standard practice in the mining industry and there are no novel or unproven rehabilitation methods proposed. Topsoil and seeding on the Northern WRD will commence from project Year 3. Monitoring of these areas will be undertaken to confirm success, with adjustments made to the methodology to improve success, where necessary.

The same revegetation methodology is proposed for the other WRDs, the TSC and the Native Vegetation with Low Intensity Grazing PMLU areas. As such at least 5 years of monitoring data will be available on the success of the proposed revegetation methodology, prior to commencement of rehabilitation of other areas of the mine. Hence, there are no rehabilitation trials currently proposed.

9 Monitoring and Maintenance

Following completion of rehabilitation in an area, its progress towards achieving rehabilitation milestone criteria will be monitored over the proceeding years. The ongoing monitoring activities will identify any maintenance that is required to be undertaken to enable the milestone criteria to be met, these maintenance actions will be scheduled and undertaken within set timeframes.

This section describes the:

- Rehabilitation monitoring, including rehabilitation completion criteria
- Groundwater and surface water monitoring programs
- Weed management
- Maintenance and remedial actions.

9.1 Rehabilitation Monitoring

This section describes the following:

- Rehabilitation monitoring timing
- Rehabilitation monitoring survey intensity
- Selection of suitable references sites for rehabilitation monitoring
- Rehabilitation monitoring parameters
- Rehabilitation monitoring reporting
- Monitoring program
- Rehabilitation and improvement area milestone tracking
- Rehabilitation completion criteria.

9.1.1 Rehabilitation Monitoring Timing

Rehabilitation monitoring will be undertaken annually following the wet season, or at an alternate frequency based on recommendations from a suitably qualified person. Monitoring and assessment of rehabilitation areas will only commence after a minimum of one wet season has passed following completion of rehabilitation works. This will allow monitoring to better assess the performance of the rehabilitation including rates of growth, areas of erosion, and other issues.

An assessment of germination success will be within 12 months of the completion of revegetation activities, to ensure that pasture establishment continues on a trajectory to achieving the rehabilitation milestones.

Sediment and erosion control monitoring will be undertaken within 12 months of the completion of successful germination to ensure that any active rill and gully erosion is rectified. Vegetation establishment monitoring will be undertaken 2 years following the completion of revegetation. This monitoring will seek to confirm that the following criteria is achieved within 2 years of the completion of revegetation:

- Mean groundcover ≥50% or > the reference site mean minus one standard deviation (whichever is the highest).

- A minimum of 3 revegetation species must be present.
- Proportion of Category 3 restricted invasive plant species not >10% of total vegetative groundcover (or not > the % of invasive plants at the reference site where > 10%).

Rectification of active rill and gully erosion will be completed within 12 months of achieving the vegetation establishment criteria.

9.1.2 Rehabilitation Monitoring Survey Intensity

A 1:15,000 monitoring scale (or approximately one (1) observation per nine (9) hectares) will be adopted, as this allows for a detailed assessment of the land. This may be scaled up or down, depending on the level of detail required as recommended by a suitably qualified person.

Rehabilitation areas will be broken into discrete management units to facilitate data management and planning for rehabilitation monitoring. Management units will be delineated based on the age of the rehabilitation, waste type, and rehabilitation methodology.

9.1.3 Rehabilitation Monitoring Reference Sites

Reference/analogue sites established in undisturbed areas with similar vegetation to the project site will be used to account for seasonal fluctuations when assessing the performance of the rehabilitated areas with regard to ground cover, weeds and vegetation condition.

Monitoring reference sites will be chosen by an AQP to be appropriate analogues to the areas being monitored and on-the-ground assessments will be required to select the most appropriate locations. The land use of the reference sites will align with the proposed PMLU of the rehabilitation area(s) being monitored. The location of reference sites will be determined during monitoring works but can be altered based on the dynamic nature of ephemeral landscapes that are, or have been, historically used for cattle grazing. The location of reference sites may also change based on landholder access restrictions and usage.

The rehabilitation criteria for revegetation areas within the Native Vegetation with Low Intensity Grazing PMLU and other PMLUs, are not seeking to replicate the pre-mining ecosystems. There are specific milestone criteria related to successful revegetation and reference/analogue sites within undisturbed areas are not proposed to demonstrate ecosystem or vegetation mix replication, but to be used as comparisons to account for seasonal fluctuations.

9.1.4 Rehabilitation Monitoring Parameters

The following rehabilitation attributes will be assessed within the rehabilitation monitoring areas at the timing described in Section 9.1.1:

- Vegetation
- Other.

These attributes are discussed in the following sections.

VEGETATION

Vegetation assessments at each monitoring site will be conducted using 50 m transects to confirm that the Native Vegetation with Low Intensity Grazing PMLU and Engineered Waste Storage Facility PMLU have been achieved as well as the groundcover requirements in the geotechnical stability buffer zone of the NUMAs. A consistent length transect of 50 m will allow repeatable assessments within and between sampling events. Note, if the sites are unable to accommodate a 50 m transect, a truncated transect will be used and data collection and analysis adjusted accordingly. These transects will serve as fixed monitoring lines along which vegetation data will be collected at regular intervals. The start and end coordinates of each transect will be recorded to ensure consistent monitoring across consecutive events.

Annual photo point monitoring will be undertaken at the start point (0 m) of each transect during each survey event. Photos will be taken in each cardinal direction (north, east, south, west) in landscape orientation. Sites will be chosen by a suitably qualified person undertaking the work and are landform dependent. The following parameters will be measured:

- The native and non-native flora species present and the number of individuals of each species present within each quadrat along the transect will be measured to determine richness recruitment and the proportion of revegetation species present.
- Groundcover and shrub cover (for plants <1 m tall) will be measured along each transect within each 1 m square quadrat. Data from all five quadrats will be averaged to assess compliance with the groundcover completion criteria (i.e. ≥50% or > the reference site mean minus one standard deviation (whichever is the higher)). This measurement will also include characterisation of the groundcover (e.g. vegetation type (grass, herbs, forbs), woody debris, rock, etc.).
- Vegetation structure including height and canopy cover of revegetation species.
- Species showing evidence of fruiting or flowering are to be noted.
- Category 3 restrictive invasive plant species will be measured to assess compliance with the weed completion criteria (i.e. the proportion of Category 3 restrictive invasive plants species is not > 10% of total vegetative groundcover (or not > the % of invasive plants at the reference site where >10%)).

OTHER

Other data collected during monitoring is as follows:

- Evidence of any slope failure or rock falls
- Evidence of any rills, gully erosion, sheet erosion, tunnel erosion or mass movement
- Evidence of pest animals
- Note any leachate observed originating from rehabilitated TSC and WRDs.

Monitoring will be conducted in accordance with appropriate quality assurance and data management processes and systems.

9.1.5 Rehabilitation Reporting

Following annual monitoring (or at any other frequency recommended by a suitably qualified person), a report will be prepared summarising the data collected and assess progress towards meeting the relevant milestone criteria. These reports will be reviewed to assess the progression of rehabilitation establishment and to determine the readiness of the rehabilitated areas for certification. Monitoring reports will also be used to identify the need to amend or optimise rehabilitation practices, prior to future rehabilitation works.

9.1.6 Rehabilitation Monitoring Program

A Rehabilitation Monitoring Program (RMP) will be developed and implemented for the project site. The RMP will incorporate the monitoring measures described in Section 9, will address rehabilitation areas (broken down into management units) and reference sites and will collect the information required to confirm achievement of the rehabilitation completion criteria.

Monitoring will be conducted annually (or at any other frequency recommended by a suitably qualified person) and the data collected from each subsequent monitoring event will be used to assess rehabilitation against completion criteria, identify time-series trends, areas for improvement and to recommend corrective actions to address any potential issues.

9.1.7 Rehabilitation and Improvement Area Milestones

The progress of rehabilitation works against the rehabilitation milestones will be monitored to ensure the timeframes in the PRCP Schedule are achieved. Table 26 details the monitoring, documentation and assurance activities that will be undertaken for each rehabilitation milestone to document and track the timely completion of rehabilitation at the project site.

Table 26 Rehabilitation Milestone Tracking

Milestone Criteria	PRCP Section Reference	Monitoring	Records/Documentation	Review and Assurance
Rehabilitation Milestone 1 (RM1): Mine infrastructure decommissioning and removal (RA1 – dams, RA2 – haul roads/access tracks, RA4 – mine infrastructure)				
a) Remove all waste not authorised to be disposed of on-site under the EA.	Section 4	• Infrastructure survey to form basis of Decommissioning Management Plan • Post-removal survey • Validation sampling as required post-remediation	• Decommissioning Management Plan • Decommissioning progress reports • Validation sampling results	• Progress reporting against Milestone in Annual Return
b) All machinery and equipment not required for rehabilitation works removed from site.				
c) Disconnect and terminate services including water, electricity and gas.				
d) Demolish and remove buildings, including the processing plant.				
e) Remove bitumen, aggregate, concrete, etc and dispose in the TSC or WRDs.				
f) Desilt dams and pump mine affected water to the BVS pit.				
g) Remove fencing.				
Rehabilitation Milestone 2 (RM2): Identification, remediation and removal of contaminated land (RA1 - dams, RA4 – mine infrastructure)				
a) 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.	Section 4	• Contaminated land assessment	• Contaminated land investigation document, including site investigation report and, where required, a	• Progress reporting against Milestone in Annual Return

Milestone Criteria	PRCP Section Reference	Monitoring	Records/Documentation	Review and Assurance
b) Contaminated and hazardous material either remediated in-situ or removed/transported to facility lawfully able to accept the material.		• Validation sampling as required post-remediation	validation report and/or draft site management plan • Records of contaminated land remediation or removal • Validation sampling results • Declaration from SQP	
c) Remove any contaminated soil that cannot be remediated in-situ and dispose of in the TSC.				
d) A declaration from a SQP that no contamination remains.				
Rehabilitation Milestone 3 (RM3): Landform development, shaping and profiling				
RM3.1 (RA1 - dams, RA2 – haul roads/access tracks), RA4 – mine infrastructure), RA5 (cleared areas)				
a) All major earthworks completed to achieve final landform design.	Section 4	• Detailed survey to be undertaken at the completion of RM3	• 'As constructed' survey plan showing surveyed area contours, finished slope and conformance to designed landform and drainage for each sub-area • GIS shapefile created for areas that have been shaped and contoured (called the Rehabilitation Map File)	• Progress reporting against Milestone in Annual Return
b) 20% (11.5°) maximum slope achieved on batters (unless an alternate slope is recommended by an RPEQ).				
c) Drainage works within rehabilitation areas completed.				
RM3.2 (RA3 - WRDs)				

Milestone Criteria	PRCP Section Reference	Monitoring	Records/Documentation	Review and Assurance
a) Final landform design, including LEM and slope drainage, has been completed and approved by an AQP.	Section 4	• Detailed survey to be undertaken at the completion of RM3 • Rehabilitation monitoring as described in Sections 9.1.1 to 9.1.4	• 'As constructed' survey plans showing WRDs contours, finished slopes and conformance to slope requirements • Record of fencing construction	• Progress reporting against Milestone in Annual Return
b) Geotechnical assessment undertaken by an AQP prior to construction confirms that the landform design will achieve long-term stability.				
c) Maximum 20% slope or lower as recommended by an AQP.				
d) Install store and release cover on co-placement cell of the C-WRD as per C-WRD Construction Monitoring and Management Plan.				
e) All major earthworks completed to achieve final landform design.				
RM3.3 (RA6 – TSC)				
a) Final landform design, including LEM and slope drainage, has been completed and approved by an AQP.	Section 4.5	• Detailed survey to be undertaken at the completion of RM3 • Rehabilitation monitoring as described in Sections 9.1.1 to 9.1.4	• 'As constructed' survey plans showing TSC contours, finished slopes and conformance to slope requirements • Record of fencing construction	• Progress reporting against Milestone in Annual Return
b) Geotechnical assessment undertaken by an AQP prior to construction confirms that the landform design will achieve long-term stability.				
c) Maximum 3H:1V embankment slope and maximum 5% capped dome slope.				
d) Achieve sufficient drying of final tailings surface to enable capping.				

Milestone Criteria	PRCP Section Reference	Monitoring	Records/Documentation	Review and Assurance
e) Detailed cover system design completed by an AQP, and includes capping the tailings surface with 1 m to 3 m thickness of growth medium (subsoil/waste rock).				
f) The cover system has been installed as per design.				
g) Establish free draining surface on capped tailings.				
h) Install engineered slope drainage.				
Rehabilitation Milestone 4 (RM4): Surface Preparation (RA1 - dams, RA2 – haul roads/access tracks, RA3 (WRDs), RA4 – mine infrastructure, RA5 – cleared areas, RA6 - TSC)				
a) Assessment of topsoil characteristics and the development of an amelioration and physical treatment plan is completed by an AQP every 3 years, in order to achieve the following: (i) Soil pH within the range of 6.0 and 9.0. (ii) Electrical conductivity (saturated extract) < 1.2 (dS/cm). (iii) Nitrate (mg/kg) – as per appropriately qualified person recommendation. (iv) Total Kjeldahl nitrogen (mg/kg) – as per appropriately qualified person recommendation. (v) Total phosphorus (mg/kg) – as per appropriately qualified person recommendation. (vi) Exchangeable Sodium Percentage (ESP) <6%. (vii) Total Organic Carbon (%) - as per appropriately qualified person recommendation. (viii) Emerson aggregate class >3.	Section 4	• Topsoil characteristics sampling • Qualitative assessment of compaction and ripping recommendation • Spot-checks of topsoil application area respreading thickness	• GIS shapefile of Rehabilitation Map File to be updated with topsoil spreading area • Topsoil Register to be updated with respreading date and volume	• Progress reporting against Milestone in Annual Return

Milestone Criteria	PRCP Section Reference	Monitoring	Records/Documentation	Review and Assurance
b) Application of soil ameliorants to topsoil such as lime, fertiliser, gypsum and/or organic matter at rates to be determined by an AQP.				
c) Deep ripping to <400 mm (or refusal*) into soil/subsoil profile along contour of slopes, as required.				
d) Placement of a minimum of 300 mm of topsoil where topsoil has been stripped.				
Rehabilitation Milestone 5 (RM5): Revegetation				
RM5.1 (RA1 - dams, RA2 – haul roads/access tracks, RA3 – WRDs, RA4 – mine infrastructure, RA5 – cleared areas)				
e) Direct seeding with native species listed in PRCP Schedule Appendix 1 – Species List and Seeding Rates, at a rate recommended by an AQP.	Section 4	• Rehabilitation monitoring as described in Sections 9.1.1 to 9.1.4	• GIS shapefile of Rehabilitation Map File to be updated with seeded areas, ameliorated areas and areas with temporary stock fencing • Rehabilitation Monitoring Reports detail seeding, ameliorant and temporary stock fencing	• Progress reporting against Milestone in Annual Return
f) For Native Vegetation with Low Intensity Grazing PMLU, the seed mix should comprise a minimum of: (i) 100% native species. (ii) 2 native grass species. (iii)2 native shrub species. (iv)2 native tree species.				
g) Install temporary stock fencing to exclude cattle from revegetation areas, if required.				
RM5.2 (RA6 – TSC)				

Milestone Criteria	PRCP Section Reference	Monitoring	Records/Documentation	Review and Assurance
a) Direct seeding with native grass species listed in Appendix 1 – Species List and Seeding Rates, at a rate recommended by an AQP. b) Install stock fencing to exclude cattle from revegetation areas.	Section 4	Rehabilitation monitoring as described in Sections 9.1.1 to 9.1.4	• GIS shapefile of Rehabilitation Map File to be updated with seeded areas, ameliorated areas and areas with temporary stock fencing Rehabilitation Monitoring Reports detail seeding, ameliorant and temporary stock fencing	• Progress reporting against Milestone in Annual Return
Rehabilitation Milestone 6 (RM6): Achievement of surface requirements (RA1 - dams, RA2 – haul roads/access tracks, RA3 – WRDs, RA4 – mine infrastructure, RA5 – cleared areas, RA6 - TSC)				
a) Germination monitoring completed within 12 months of completion of RM5 determines that adequate vegetation has been established to indicate successful germination (minimum 30% groundcover of revegetation species). b) Vegetation establishment monitoring 2 years after completion of RM5 indicates: (i) Mean groundcover ≥50% or > the reference site mean minus one standard deviation (whichever is the highest). (ii) A minimum of 3 revegetation species must be present. (iii) Proportion of Category 3 restricted invasive plant species not >10% of total vegetative groundcover	Section 4	• Scheduled and ad-hoc inspections of rehabilitation establishment to determine: reseeding requirements, additional ameliorant requirements, invasive plant species spraying and rill and gully rectification requirements • Soils testing conducted within 5	• GIS shapefile of Rehabilitation Map File to be updated with reseeding areas, additional ameliorant areas, invasive plant spraying areas, rill and gully rectification areas • Seed provenance records including weed declaration • Rehabilitation Monitoring reports detailing groundcover	• Progress reporting against Milestone in Annual Return

Milestone Criteria	PRCP Section Reference	Monitoring	Records/Documentation	Review and Assurance
(or not >the % of invasive plants at the reference site where > 10%).		years of completion of RM5	establishment and erosion issues	
c) Rectification of active rill and gully erosion completed within 12 months of achieving RM6.1b.				
d) Decommission C-WRD seepage pipe after the cessation of seepage or if monitoring indicates continuing seepage, redirect the seepage pipe to the BVS final void.				
Rehabilitation Milestone 7 (RM7): Achievement of PMLU to stable condition				
RM7.1 (RA1 - dams, RA2 – haul roads/access tracks, RA4 – mine infrastructure, RA5 – cleared areas)				
Each of the below listed criteria is certified as having been achieved by a person who is appropriately qualified to assess that criteria, with the combined certifications confirming that the rehabilitation achieves the PMLU and is stable (as defined in the EP Act): a) Established and persistent vegetative groundcover ≥50% of the reference sites mean minus one standard deviation (whichever is the highest).	Section 4	• Rehabilitation monitoring as described in Sections 9.1.1 to 9.1.4 • Contamination assessment • Site inspection to confirm fencing removed	• Rehabilitation Monitoring reports detailing progress against acceptance criteria and erosion issues • AQP Certification documentation • Contamination report/s	• Progress reporting against Milestone in Annual Return
b) Proportion of Category 3 restrictive invasive plants species not >10% of total vegetative groundcover (or not > the % of invasive plants at the reference site where >10%).				
c) No evidence of erosion classified as 'moderate' or 'severe', as defined in Appendix 2 – Erosion Classification Framework, is present.				

Milestone Criteria	PRCP Section Reference	Monitoring	Records/Documentation	Review and Assurance
d) No contamination causing the land to be unsuitable for the use is present.				
e) Removal of any temporary stock fencing after criteria above is satisfied.				
RM7.2 (RA3 – WRDs, RA6 – TSC)				
f) Certification from an appropriately qualified person that the TSC and WRDs have achieved a geotechnically stable condition.	Section 4	• Surface water, aquatic ecology and groundwater monitoring program • Geotechnical Stability reports	• Certified documentation	• Progress reporting against Milestone in Annual Return • Receipt of certifications
g) Groundwater quality must be monitored quarterly at, but not limited to, the monitoring locations specified in Appendix 3 – Groundwater Monitoring Bores, for all quality characteristics listed in Appendix 4 – Groundwater Quality Limits, for a minimum of 5 consecutive years prior to the milestone completion date.				
h) Groundwater quality results must not exceed the limits in Appendix 4 – Groundwater Quality Limits, for 3 consecutive results, for a minimum of 5 consecutive years immediately prior to the milestone completion date.				
i) Surface water quality monitored monthly during flow at, but not limited to, downstream locations specified in Appendix 6 – Surface Water Monitoring Locations, must not exceed the limits in Appendix 7 – Surface Water Quality Limits, for a minimum of 5 consecutive years immediately prior to the milestone completion date.				

Milestone Criteria	PRCP Section Reference	Monitoring	Records/Documentation	Review and Assurance
j) If the surface water quality exceeds criteria in RM7.2d, the applicable upstream site must be compared to the downstream site result and the quality result measured at the downstream site must be equal to or less than the quality result measured at the applicable upstream site.				
k) Where the surface water quality at the downstream site exceeds the upstream site result, an AQP must complete an assessment of the cause and risk of the rehabilitation not achieving a stable condition within the schedule timeframe and: (i) Where the likelihood of the rehabilitation not achieving a stable condition is low, then no further action is to be taken; or (ii) Where the likelihood of the rehabilitation not achieving a stable condition is moderate or high, then an assessment of potential environmental harm by the AQP and their recommended rectification actions to rehabilitation activities must be determined and implemented.				
l) The assessment/s under RM7.2f must be completed and provided to the administering authority by 1 November each year.				
m) The 5 year timeframe under RM7.2d is reset for the affected rehabilitation area/s, by a single occurrence of RM7.2f(ii).				
n) Removal of any temporary stock fencing after criteria above is satisfied.				

Milestone Criteria	PRCP Section Reference	Monitoring	Records/Documentation	Review and Assurance
RM7.3 (RA7 – drainage diversion)				
a) AQP has certified that the diversion drain has been constructed and stabilised in accordance with the RPEQ Design Plan. b) Removal of any temporary stock fencing after criteria above is satisfied.	Section 4.3	• Drainage Diversion inspection program	• 'As constructed' survey plans • Drainage Diversion inspection records • Rehabilitation Monitoring reports detailing progress against acceptance criteria and erosion issues • Certification documentation	• Drainage Diversion inspection records
Improvement Area Milestone 1 (MM1): Achievement of final landform design (IA1 – final voids)				
a) Geotechnical assessment of final pit geometry to confirm the location of the geotechnical stability buffer zone. b) Rip, placement of a minimum of 300 mm of topsoil where topsoil has been stripped, fertilise and seed with native species*, at a rate recommended by an AQP, in the geotechnical stability buffer zone.	Section 5	• Detailed survey to be undertaken at the completion of MM1 • Rehabilitation monitoring of the surface areas between the pit crests and the bund and/or stock fencing as described in Sections 9.1.1 to 9.1.4	• 'As constructed' survey plans showing the contours of the final voids, finished slopes and conformance to slope requirements • Record of fencing construction (if required)	• Progress reporting against Milestone in Annual Return
Improvement Area Milestone 2 (MM2): Achievement of safety requirements (IA1 – final voids)				
a) Safety bunds and/or safety fencing around the geotechnical stability buffer zone.	Section 5			

Milestone Criteria	PRCP Section Reference	Monitoring	Records/Documentation	Review and Assurance
b) Any safety bunds constructed around the geotechnical stability buffer zone, meet the following dimensions and requirements: (i) Height ≥ 2m. (ii) Base width ≥ 4m.		• Detailed survey to be undertaken at the completion of MM2	• Record of fencing construction and posting signs	• Progress reporting against Milestone in Annual Return
c) Safety warning signs posted every 100 m along the safety fence.				
Improvement Area Milestone 3 (MM3): Achievement of sufficient improvement (IA1 – final voids)				
a) AQP certification that the geotechnical stability buffer zone has a mean groundcover ≥50% or > the reference site mean minus one standard deviation (whichever is the highest).	Section 5	• Final void environmental harm report • Final void safety report • Final void groundwater and surface water monitoring/modelling	• Certification documentation	• Progress reporting against Milestone in Annual Return • Receipt of certifications
b) Certification from an AQP that the final NUMA landform complies with the below: (i) Erosion occurring within the NUMA landform will not adversely impact the stability of adjacent rehabilitation areas, or their ability to sustain their PMLU. (ii) An AQP demonstrates with water level and modelling data that the voids are not likely to overflow and do not pose a risk of environmental harm to the receiving environment. (iii) An AQP demonstrates with water level and modelling data, that all the residual voids function collectively as a groundwater sink post closure.				

Milestone Criteria	PRCP Section Reference	Monitoring	Records/Documentation	Review and Assurance
(iv)Voids retain flood immunity, supported by flood modelling re-run at end of life and calibrated against the final landform. (v) The residual voids will not present an unacceptable risk of environmental harm.				

9.1.8 Rehabilitation Completion Criteria

Rehabilitation will be considered functionally complete once the milestone criteria have been achieved and the associated performance verification works have been undertaken. Assessments and certifications that will be undertaken are outlined in Table 27.

Table 27 Assessments and Certifications

Task	Description	Timing
Engineering assessment	Confirmation/certification that the final WRD and TSC final void landforms meet the design criteria and are therefore stable/geotechnically sound.	Confirmation: Upon completion of the final landform earthworks in a given area, a survey will be undertaken to confirm that the area has been shaped in accordance with the completion criteria (i.e. the slope criteria is achieved). This will be undertaken using internal engineering/survey resources using either ground or aerial survey equipment and mine planning software
		Certification: As part of overall certification that a stable landform has been achieved, verification of the landform satisfying the design criteria will be obtained from an RPEQ.
Geotechnical studies	Certification that the final landforms are geotechnically stable.	Following completion of rehabilitation of the WRDs and TSC, and following the completion of mining for the final voids.
Surface and groundwater monitoring	Monitoring is to be undertaken to identify occurrence of any potential downstream impacts.	During rehabilitation works and following completion of works until rehabilitation is certified.
Soils assessment	Monitoring of topsoil is to be undertaken in order to determine chemical, physical and biological properties remain appropriate for the proposed land use.	Within 5 years of completion of revegetation.
Final rehabilitation report	Report outlining compliance with conditions of the EA, achievement against completion criteria, the extent and success of the rehabilitation, ongoing environmental management and monitoring requirements, and residual risk.	Following completion of rehabilitation works, to be submitted in order to discharge Financial Assurance.
Compliance statement	Details compliance with EA conditions and confirms the accuracy of the Final Rehabilitation Report.	To be submitted with the Final Rehabilitation Report.

9.2 Groundwater and Surface Water Monitoring

Groundwater and surface water monitoring will be conducted in the post closure phase after the cessation of mining operations in order to confirm that the decommissioned mine site is not causing harm to the receiving environment. The groundwater and surface water monitoring locations are provided in Appendices 3 and 4 of the PRCP Schedule (Appendix A), respectively. Groundwater and surface water quality limits, applicable to RM7, will be developed based on suitable baseline groundwater and surface water quality datasets and taking into consideration the contaminants of concern for the project.

9.3 Weed Management

Weed management will be undertaken in accordance with a Weed Management Plan.

Where weed control is required, a licensed and qualified professional will undertake herbicide treatment (including selection of appropriate herbicides and application) with a focus on priority weed species. Weed control will be an ongoing process and will likely require repeated treatments.

Weed prevention is more effective and economical than weed treatment; therefore, efforts will be made to prevent the spread of weeds into rehabilitation areas. These will include:

- Limiting the area of soil disturbed at any one time to minimise exposure of bare ground
- Using mulches and establish preferred groundcover as quickly as practicable
- Avoiding importing or using soils where their origins and seedbanks are unknown
- Avoiding re-using weed infested topsoils, if possible
- Ensuring that any seed mixes used for rehabilitation are weed free
- Ensuring stockpiled topsoil material is weed-free prior to use.

Priority weed species recorded within the project site include Rubber Vine (**Cryptostegia grandiflora*), Prickly Acacia (**Vachellia farnesiana*), and Parkinsonia (**Parkinsonia aculeata*).

9.4 Rehabilitation Maintenance

Maintenance requirements for completed rehabilitation areas will be identified during ongoing rehabilitation monitoring, as well as during scheduled and ad-hoc inspections of rehabilitation areas. Where issues are noted, they will be assessed on a case by case basis to determine appropriate remedial actions.

Table 28 details examples of potential issues that may arise and possible remedial actions which would be considered should these occur.

Table 28 Potential Issues and Remedial Actions

Issue	Potential Remedial Action
Seeds fail to germinate or groundcover dies following early establishment	Investigate topsoil quality. Consider different seed species for future rehabilitation using this topsoil. Reseed rehabilitated areas as required.
Rapid die-off of groundcover	Investigate cause, and reseed rehabilitation as required.
Groundcover species are failing to thrive	Investigate soil quality, consider the suitability of applying additional or different fertilisers.
Water stress – wilting foliage, heavy insect damage, die back	Apply water to the rehabilitation area until signs of stress have been alleviated.
Water logging – stem rot, fungal infection	Ensure that drainage features are installed correctly. Where additional drainage is required, instate drainage features. Cease, or cut back, any watering regime being undertaken. Reassess the use of fertiliser.
Extensive exotic weed cover	Assess the viability of undertaking additional weed management actions in order to ensure that revegetation species can undertake secondary succession.
No germination or die-off of direct seeding	Assess the seed being used and consider reseeding with a different species. Assess soil quality and consider the requirement for fertilisation.
Erosion or Slippage in rehabilitation areas	Investigate for failures in drainage features and reinstate or add additional drainage as required. Repair rill erosion by ripping and re-contouring. Repair gully erosion by filling and recontouring.

FIGURES

STRATEGIC MINERALS
CORPORATION

Figure 1 Location Plan

Figure 2 Project Layout

Figure 3 Existing Topography

Figure 4 Project Layout Year 1

Figure 5 Project Layout Year 5

Figure 6 Project Layout Year 8

Figure 7 Project Layout Year 11

Figure 8 Final Landform

Figure 9 Projct Site Mining Leases

Figure 10 Exploration Permits for Minerals other Than Coal (EPM)

Figure 11 Local Geology

Figure 12 Conceptual Groundwater Regime Cross Sections

Figure 13 Regional Catchment Setting

Figure 14 Local Catchment Setting

Figure 15 Land Ownership

Figure 16 Sensitive Receptors

Figure 17 Post-Mining Land Use (PMLUs) and Non-Use Management Areas (NUMAs)

Figure 18 Post-Mining Land Use (PMLUs) and Rehabilitation Areas (RAs)

Figure 19 Project Layout and 0.1% AEP Flood Extent

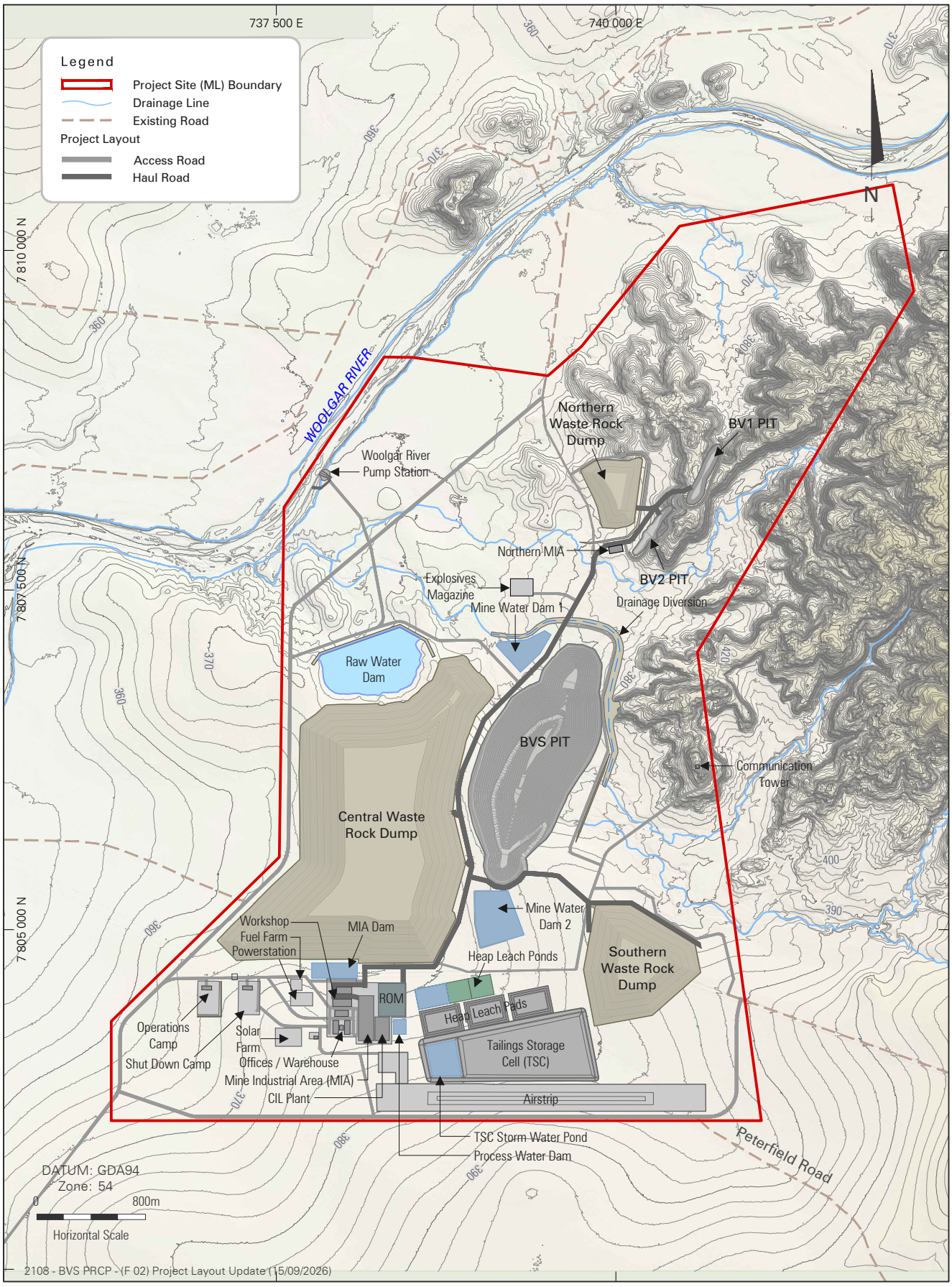


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BIG VEIN SOUTH GOLD PROJECT
PROGRESSIVE REHABILITATION AND CLOSURE PLAN

Location Plan

FIGURE 1

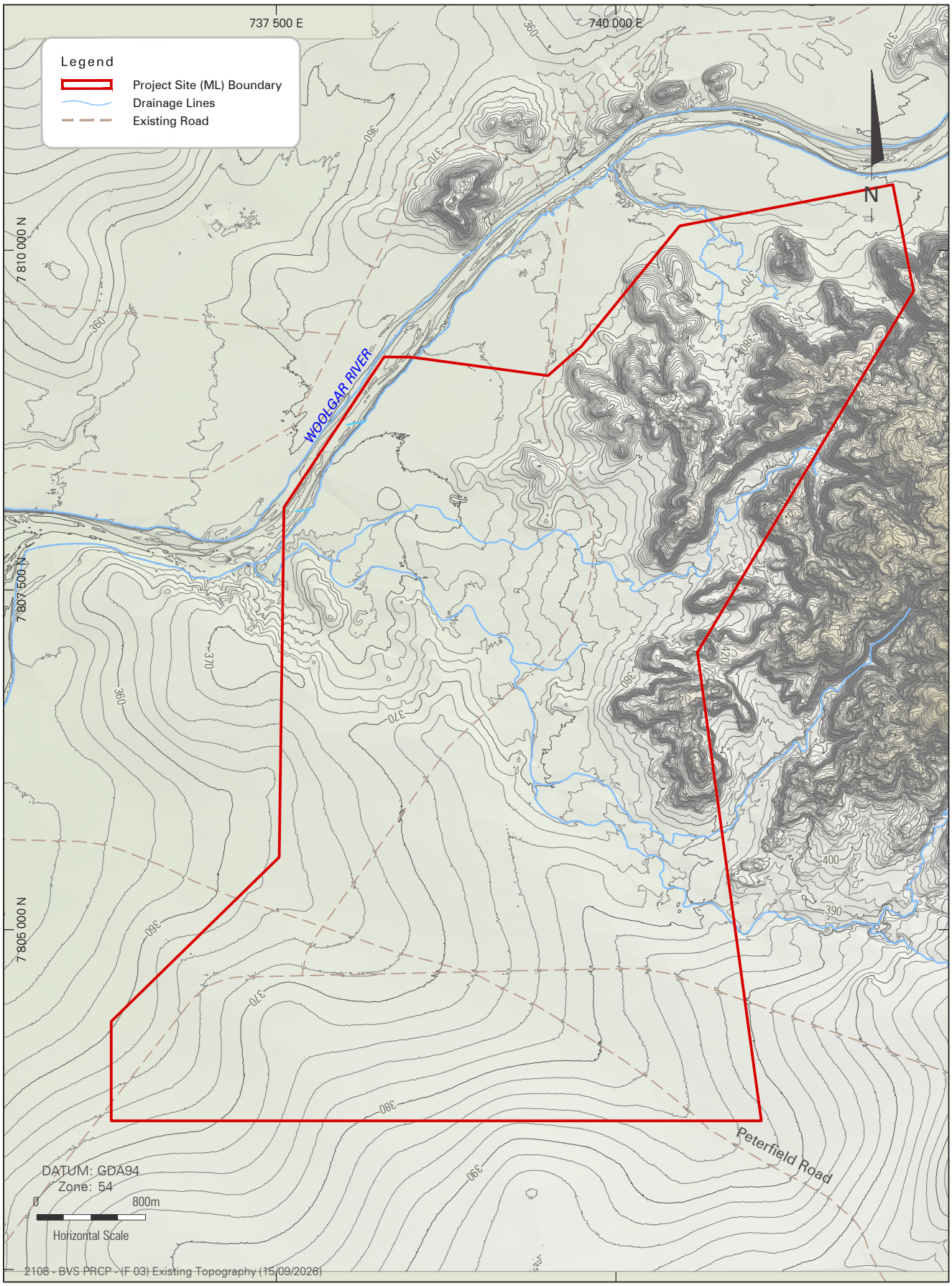


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BIG VEIN SOUTH GOLD PROJECT
PROGRESSIVE REHABILITATION AND CLOSURE PLAN

Project Layout

FIGURE 2

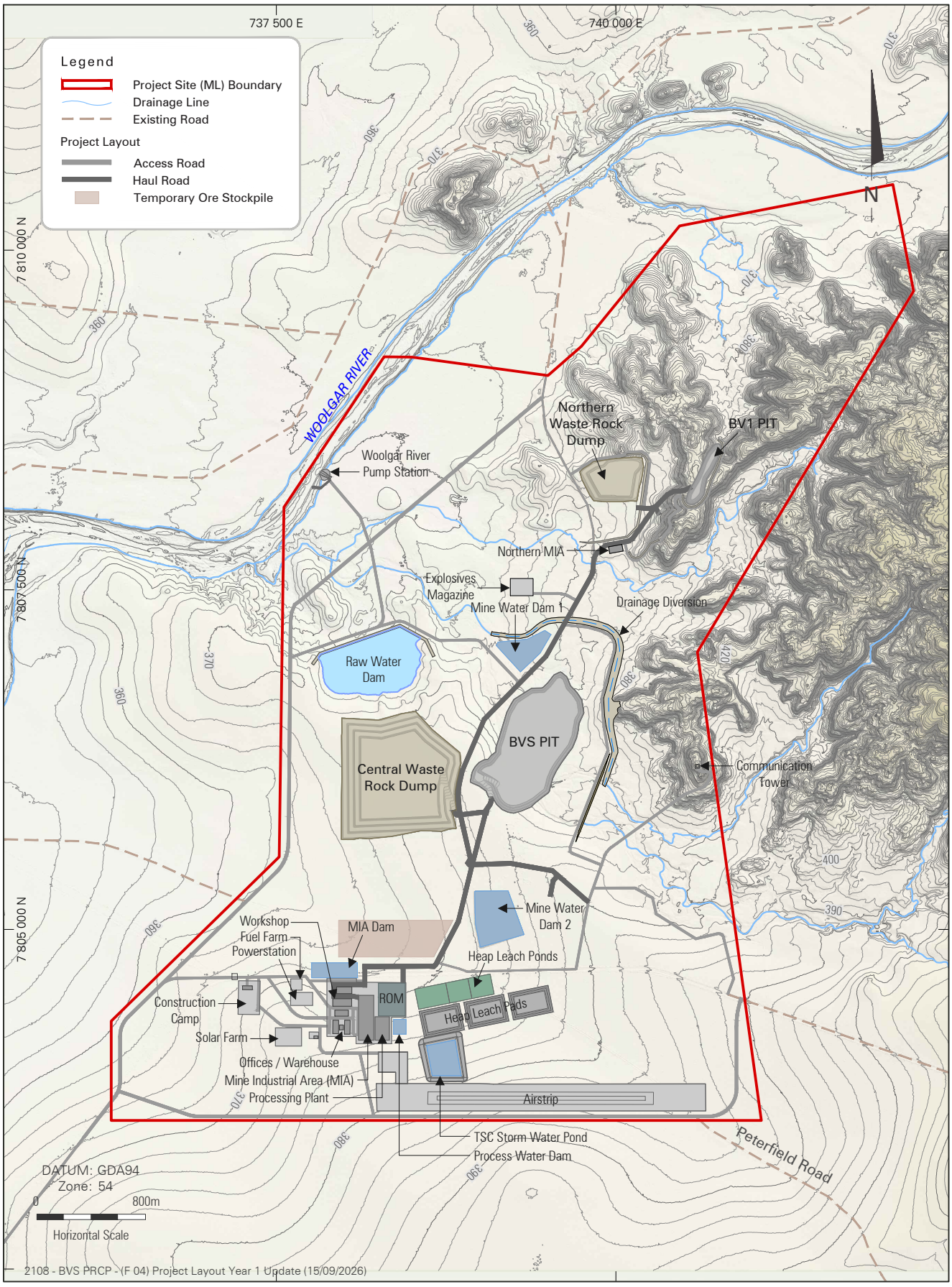


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BIG VEIN SOUTH GOLD PROJECT
PROGRESSIVE REHABILITATION AND CLOSURE PLAN

Existing Topography

FIGURE 3

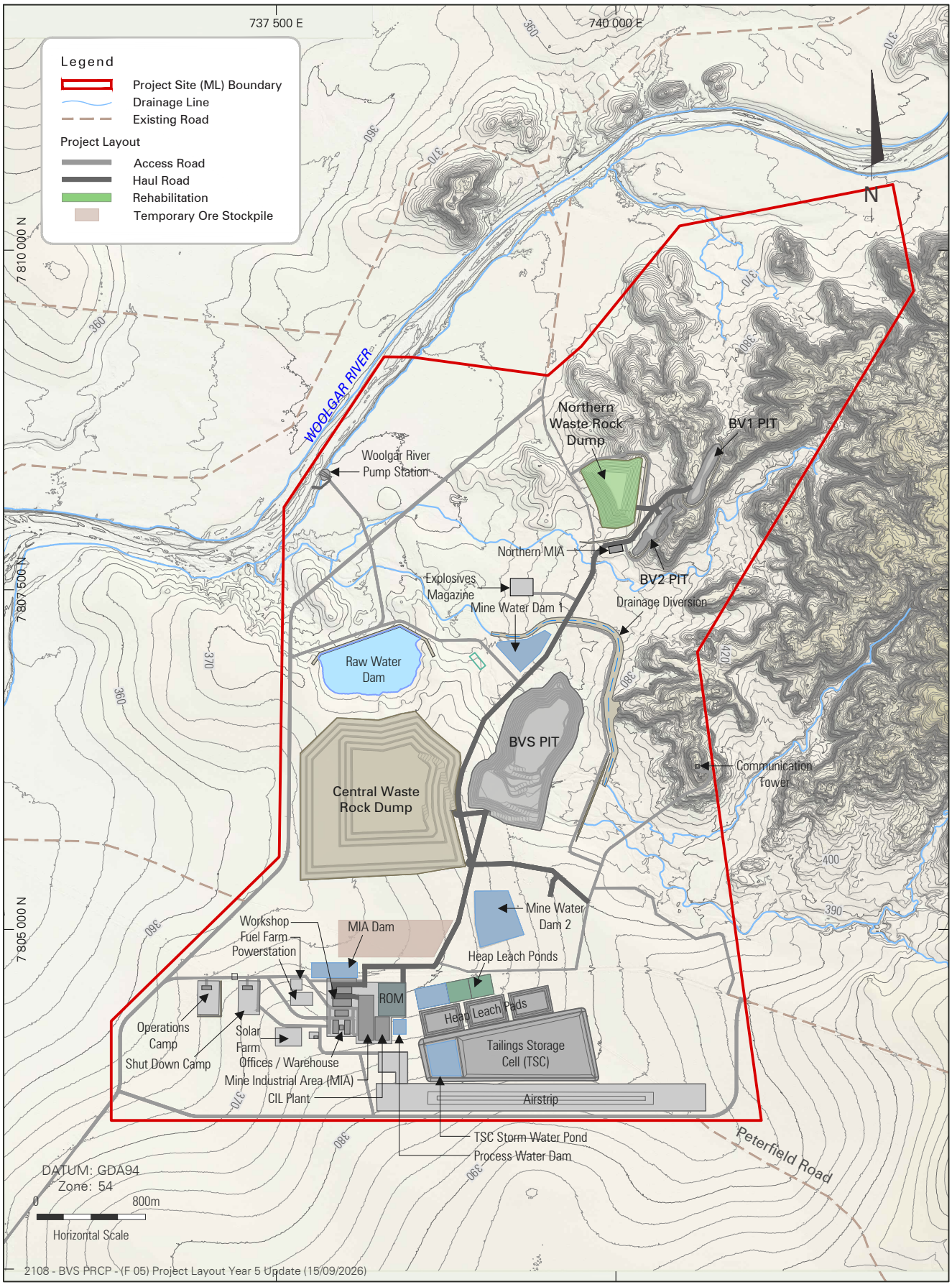


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BIG VEIN SOUTH GOLD PROJECT
PROGRESSIVE REHABILITATION AND CLOSURE PLAN

Project Layout Year 1

FIGURE 4

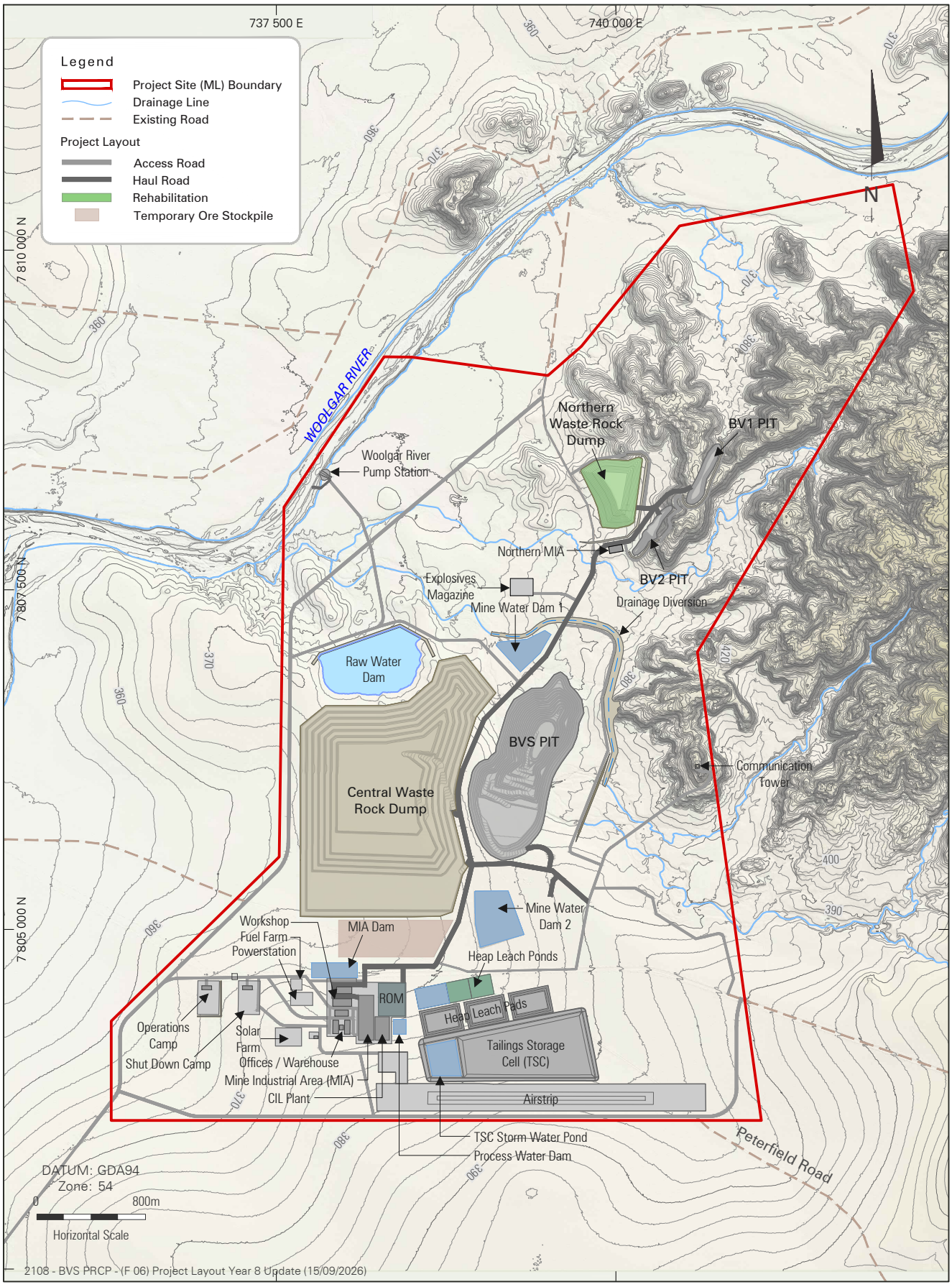


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PROGRESSIVE REHABILITATION AND CLOSURE PLAN

Project Layout Year 5

FIGURE 5

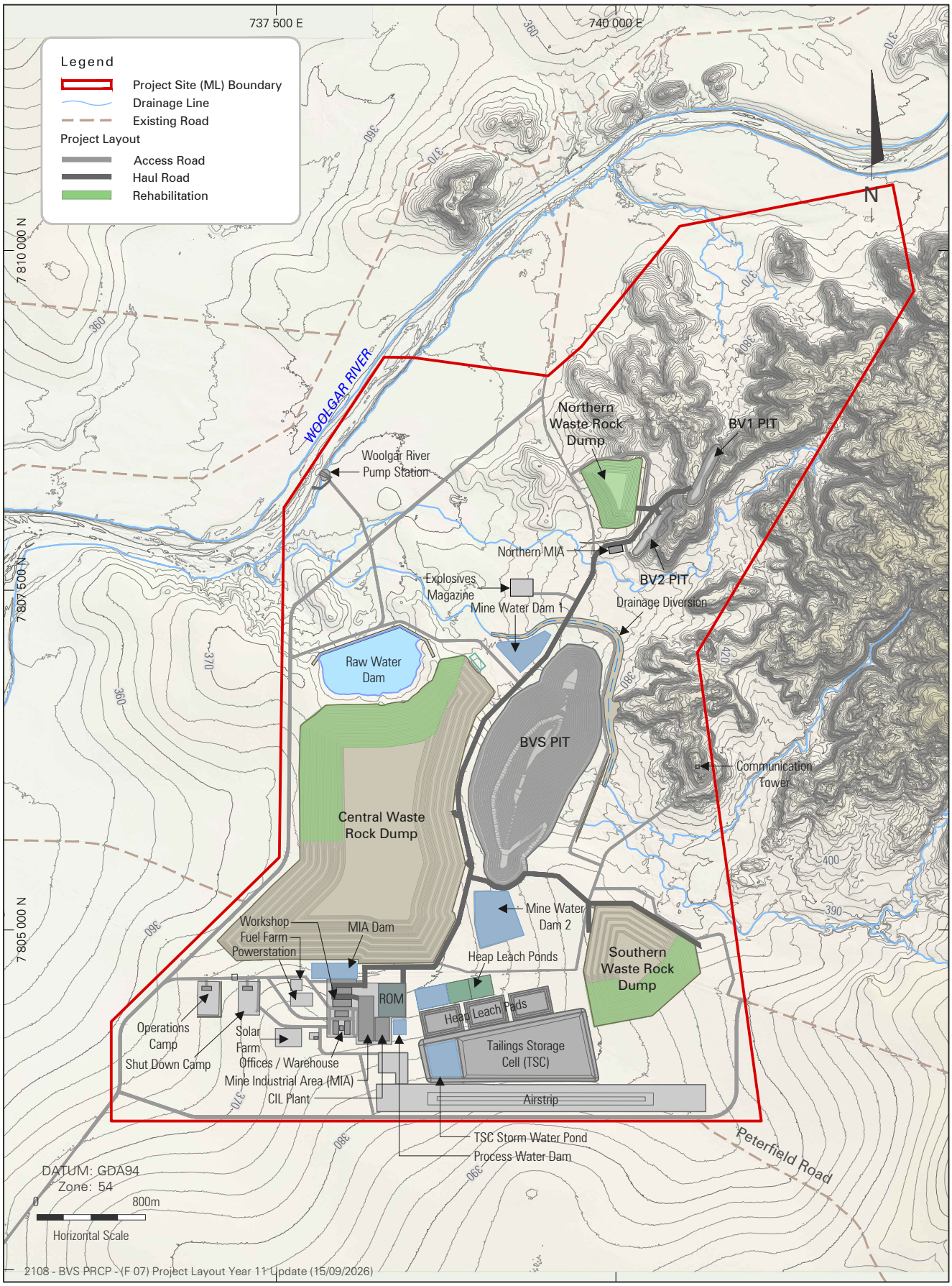


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BIG VEIN SOUTH GOLD PROJECT
PROGRESSIVE REHABILITATION AND CLOSURE PLAN

Project Layout Year 8

FIGURE 6

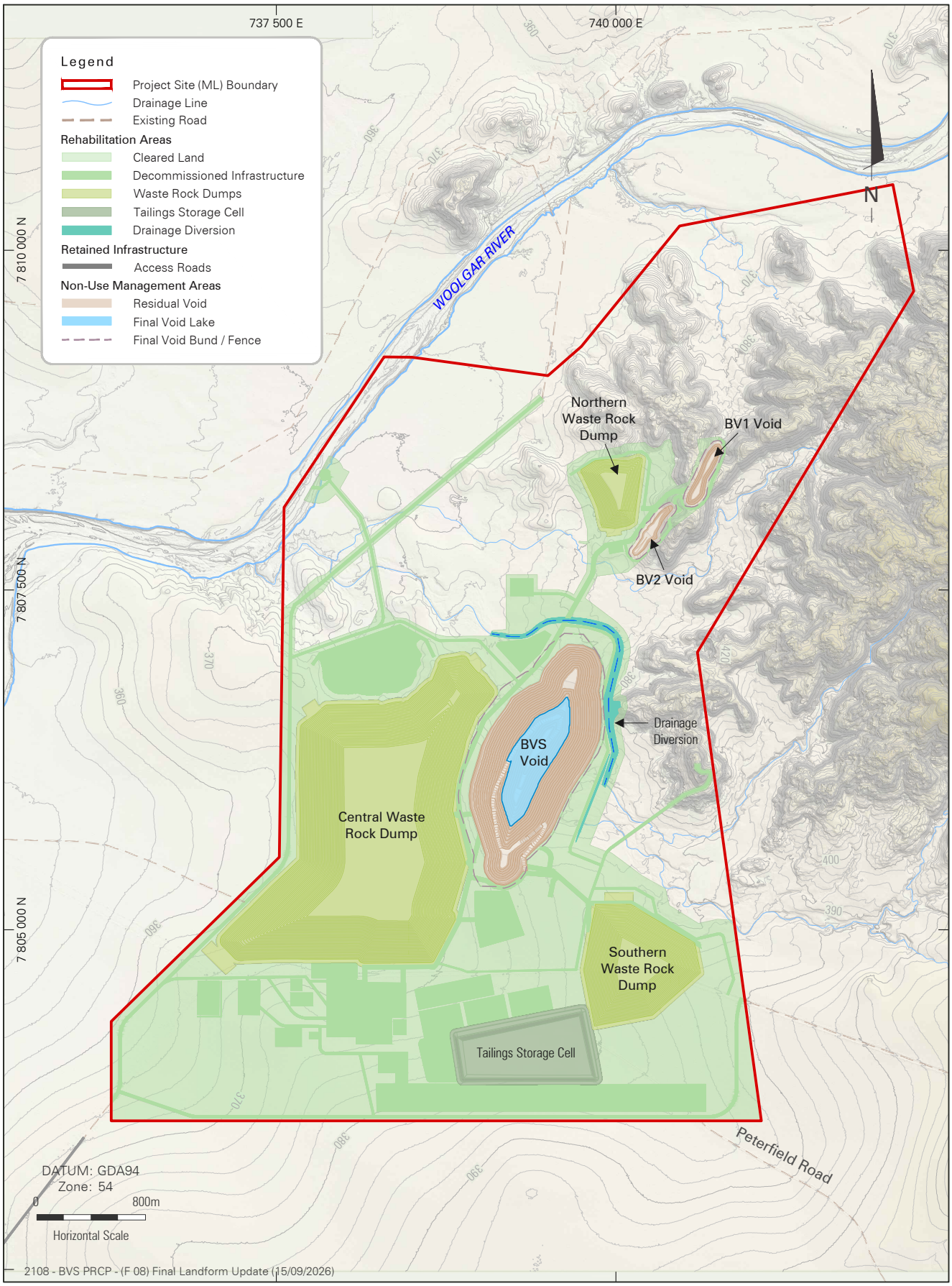


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BIG VEIN SOUTH GOLD PROJECT
PROGRESSIVE REHABILITATION AND CLOSURE PLAN

Project Layout Year 11

FIGURE 7

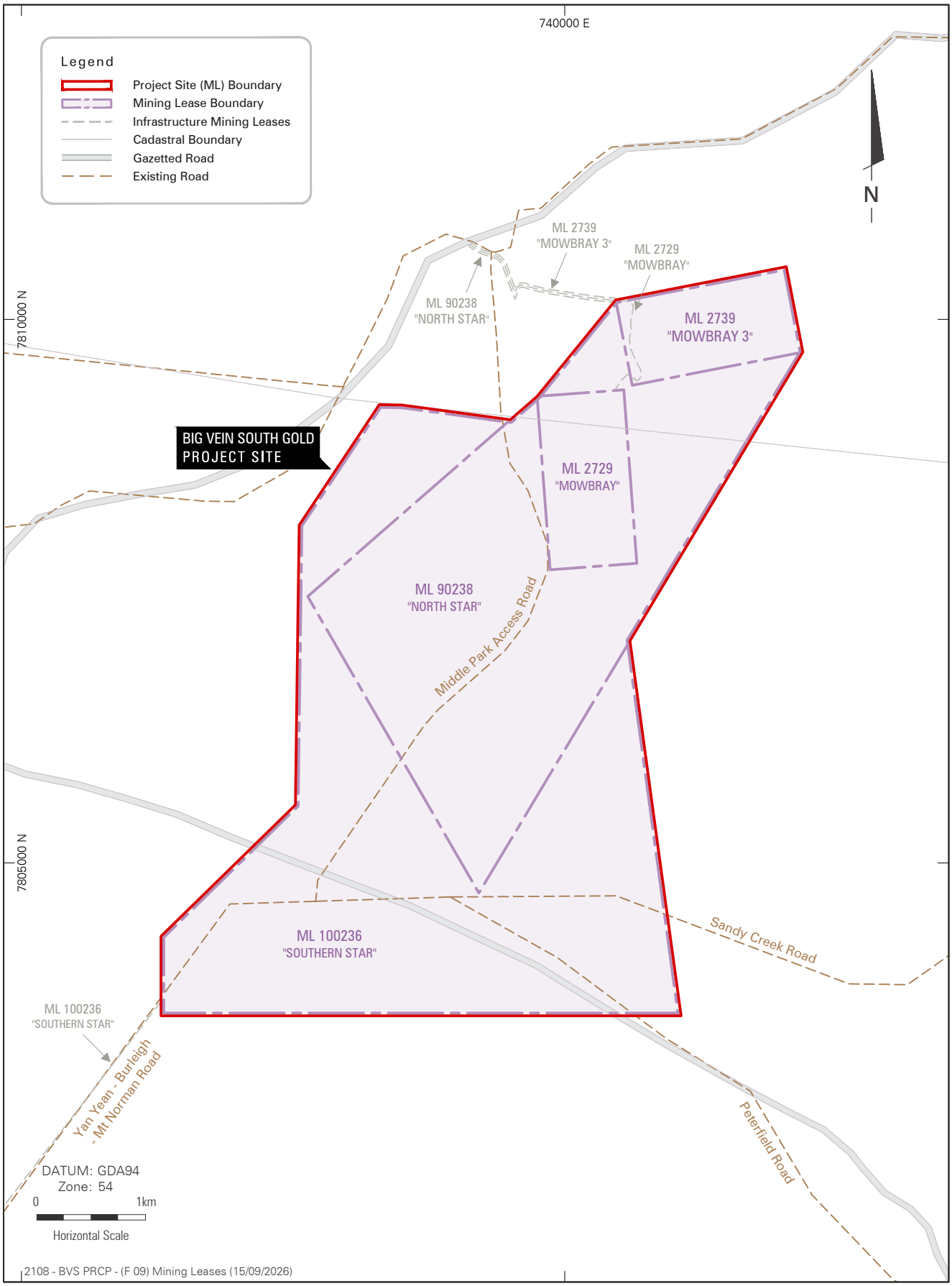


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BIG VEIN SOUTH GOLD PROJECT
PROGRESSIVE REHABILITATION AND CLOSURE PLAN

Final Landform

FIGURE 8

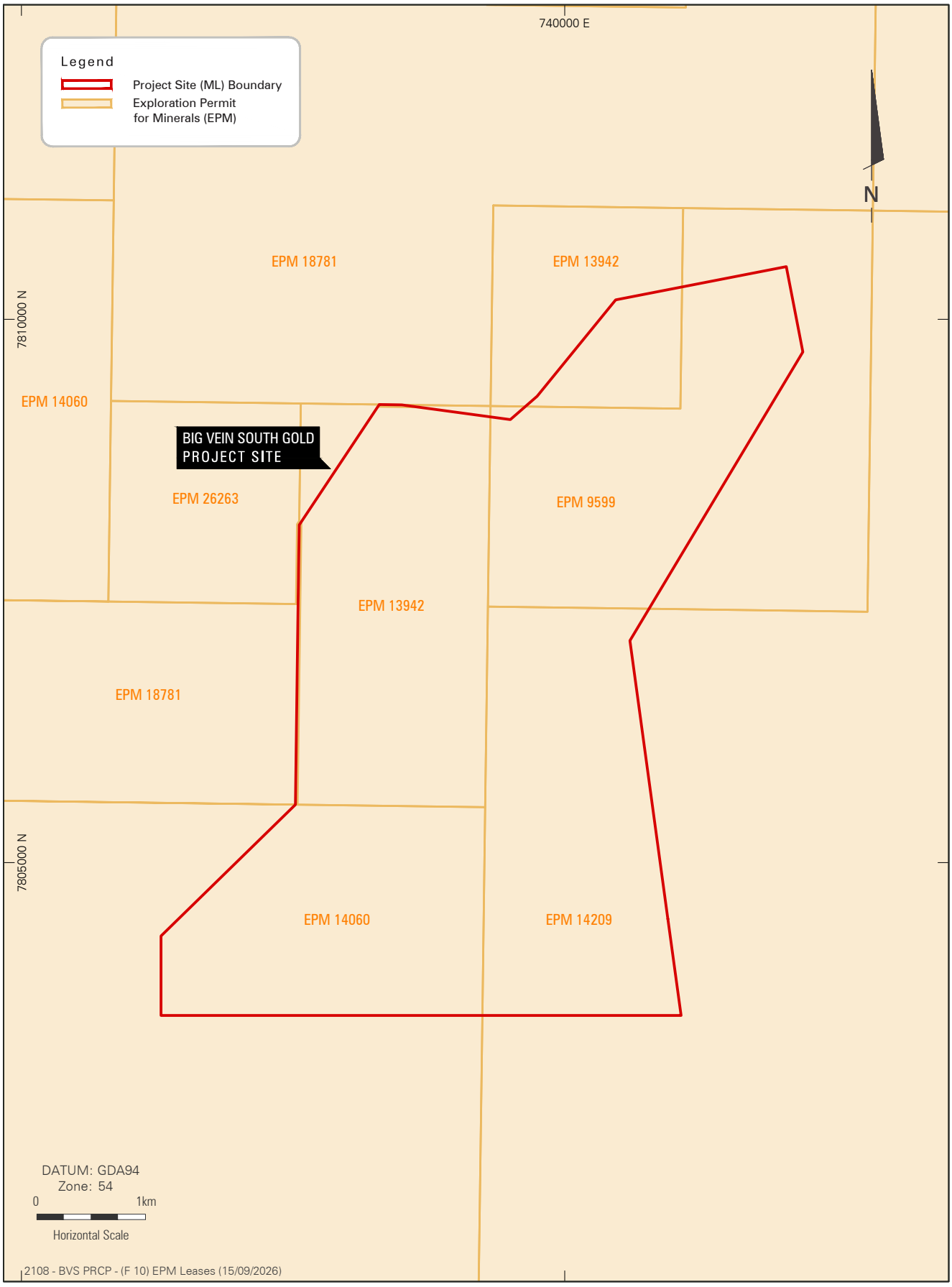


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BIG VEIN SOUTH GOLD PROJECT
PROGRESSIVE REHABILITATION AND CLOSURE PLAN

Project Site Mining Leases

FIGURE 9

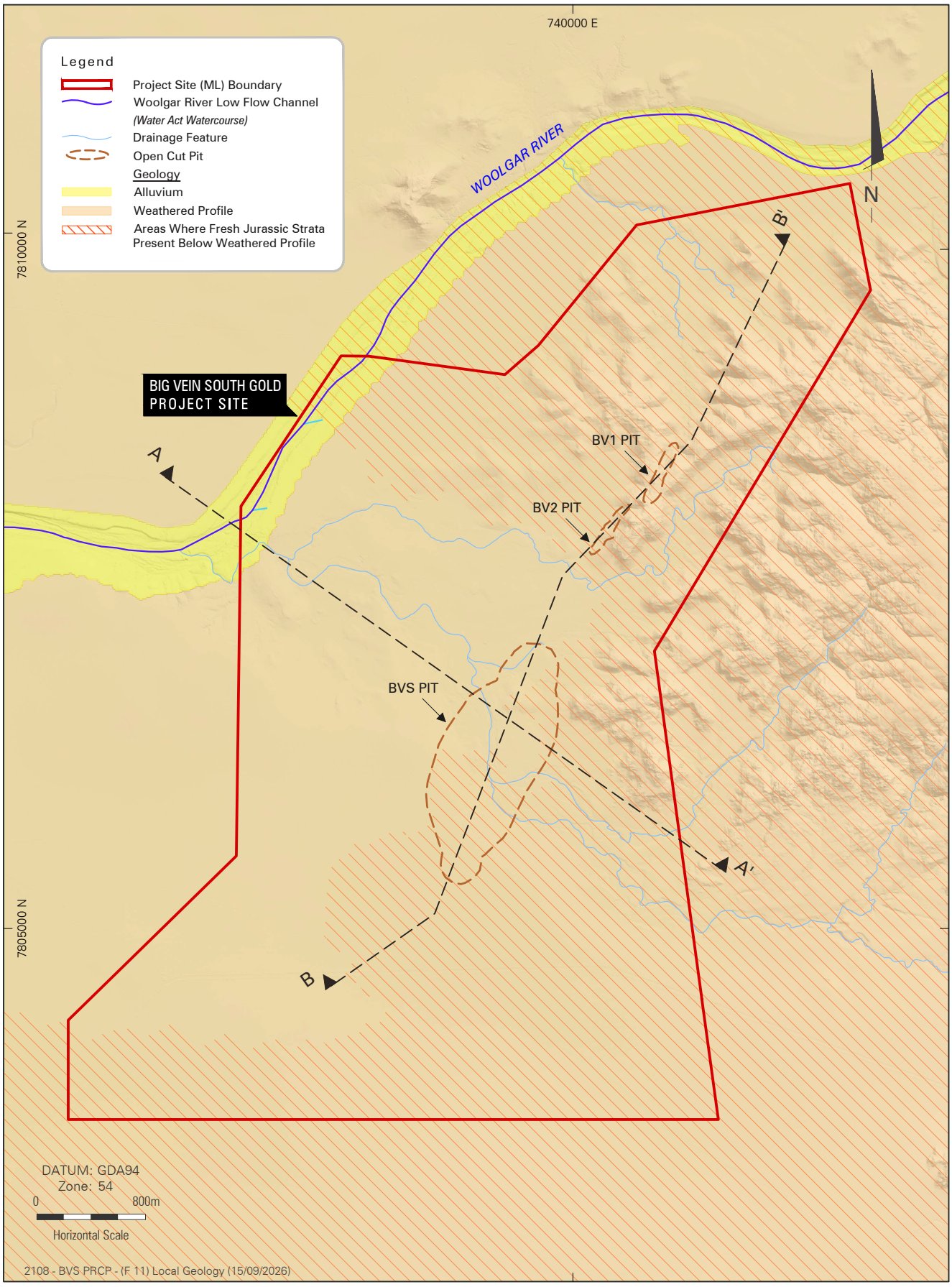


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BIG VEIN SOUTH GOLD PROJECT
PROGRESSIVE REHABILITATION AND CLOSURE PLAN

Exploration Permits for Minerals other than Coal

FIGURE 10

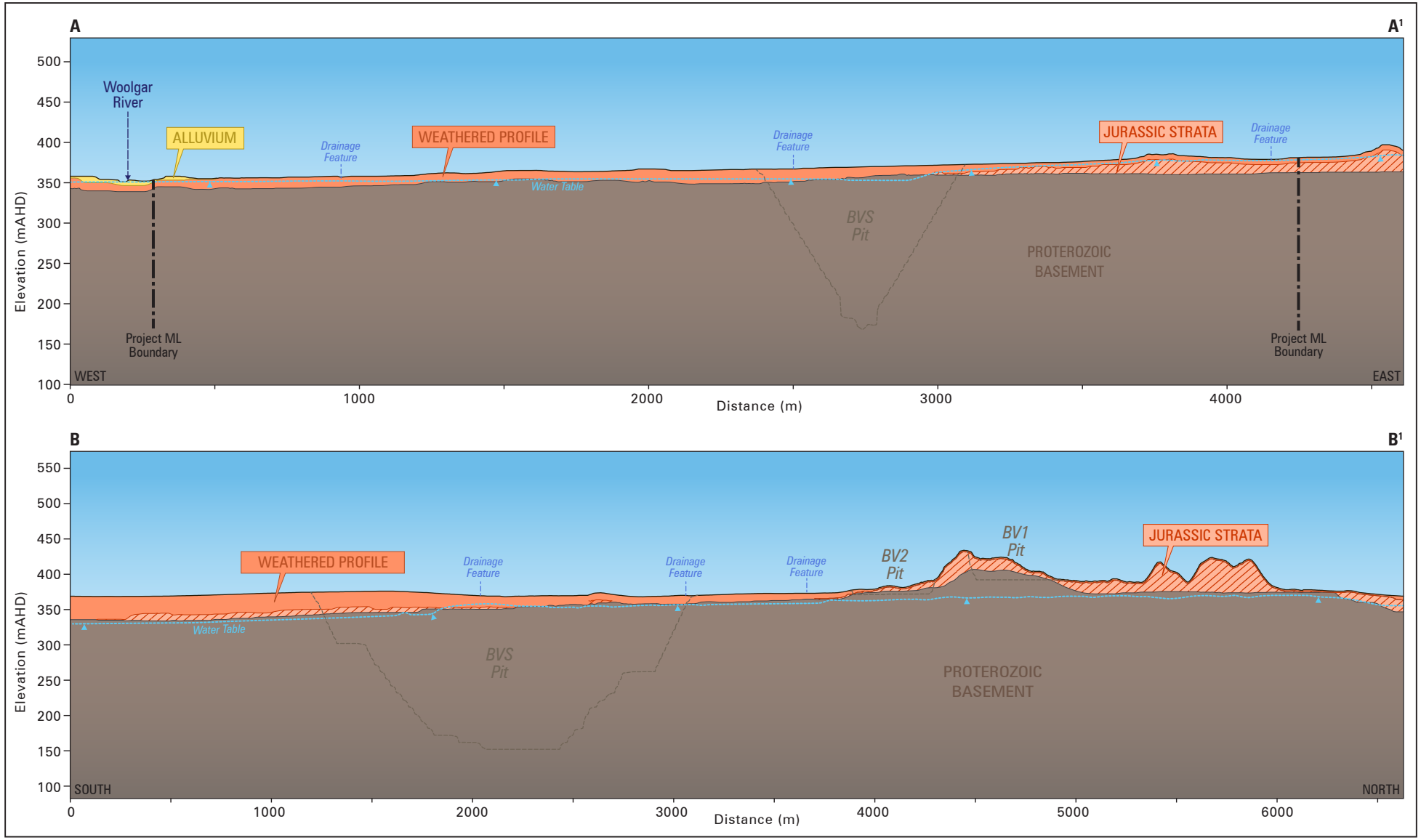


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BIG VEIN SOUTH GOLD PROJECT
PROGRESSIVE REHABILITATION AND CLOSURE PLAN

Local Geology

FIGURE 11

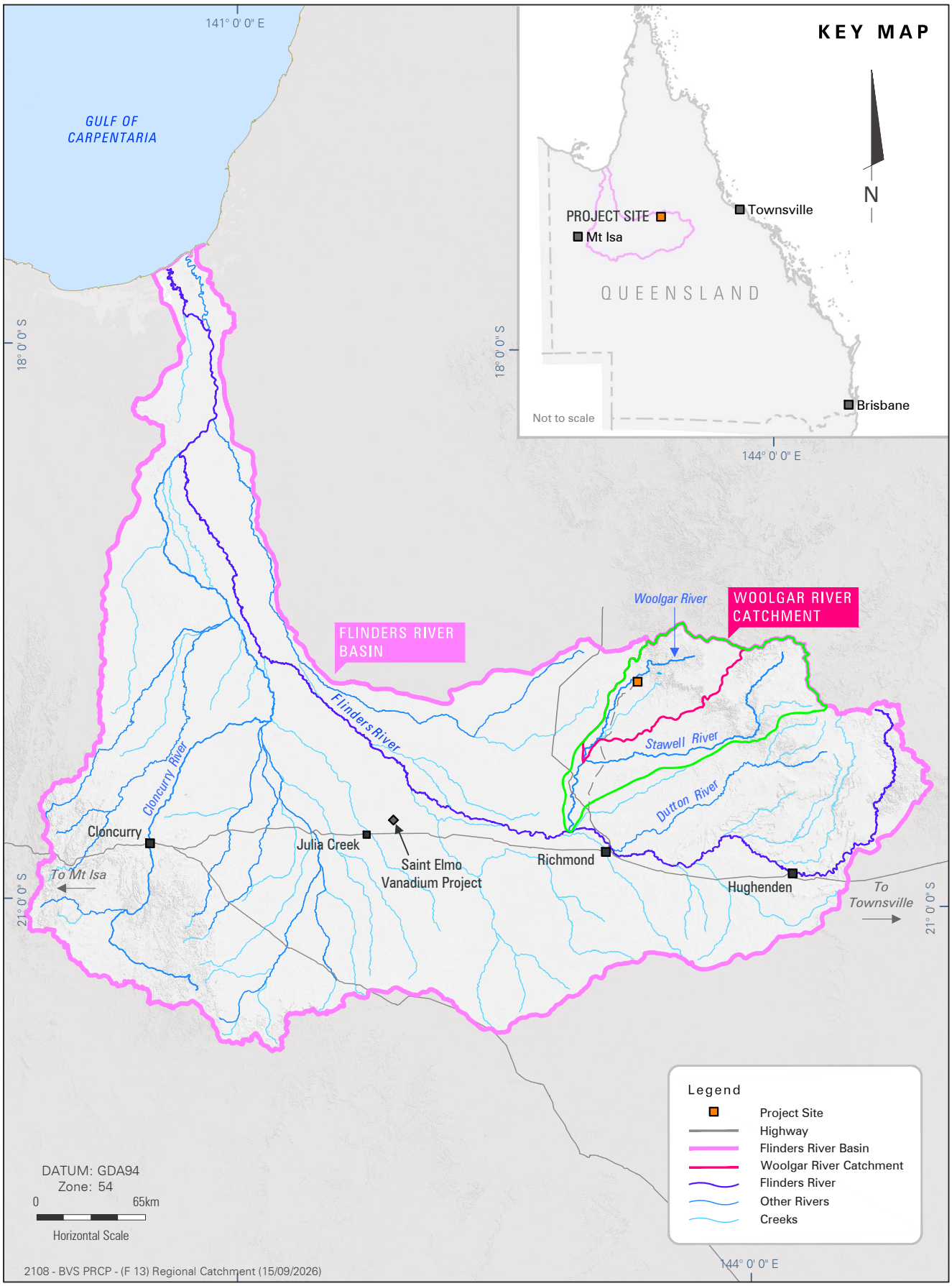


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BIG VEIN SOUTH GOLD PROJECT
PROGRESSIVE REHABILITATION AND CLOSURE PLAN

Conceptual Groundwater Regime Cross Sections

FIGURE 12

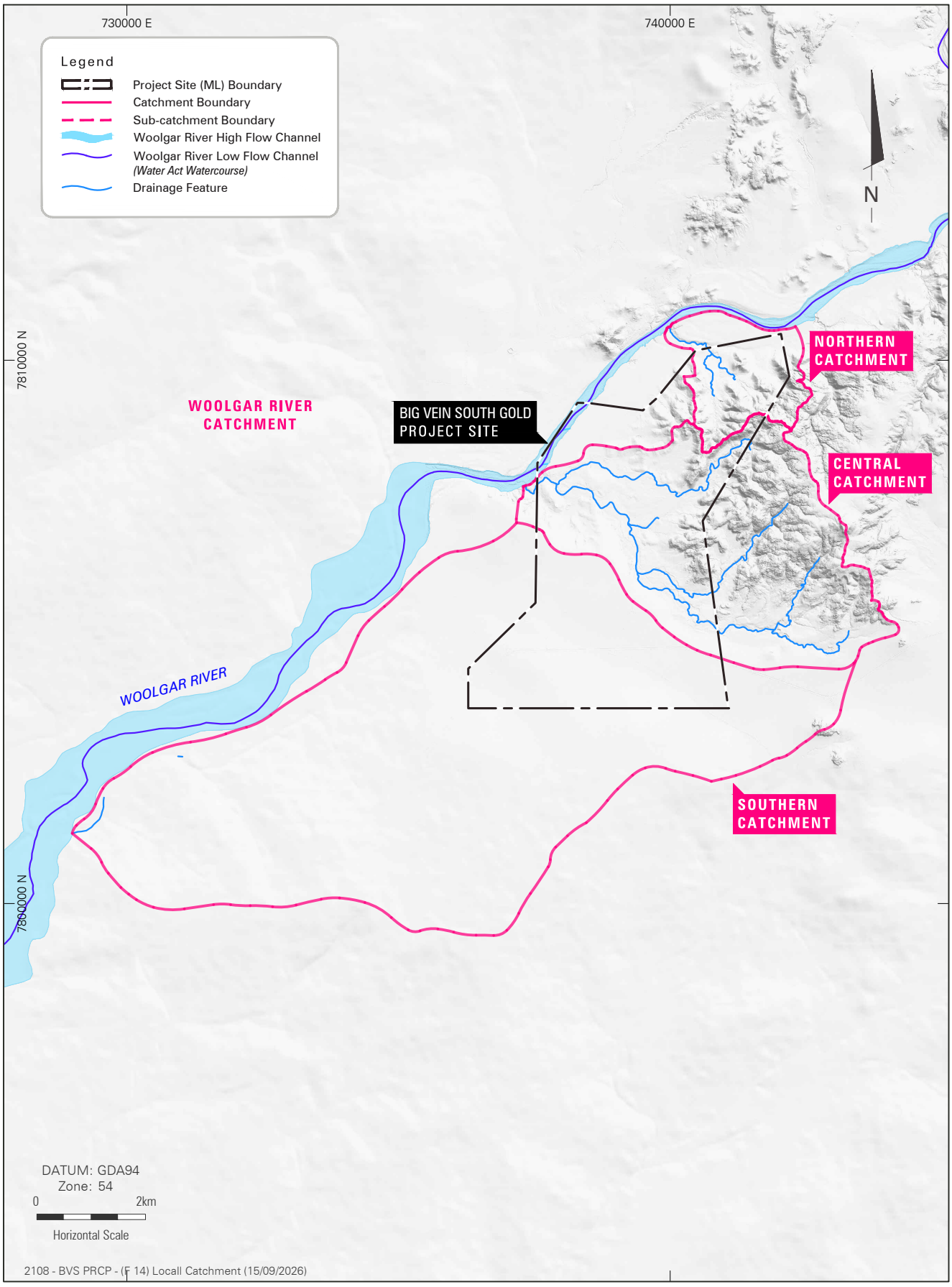


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BIG VEIN SOUTH GOLD PROJECT
PROGRESSIVE REHABILITATION AND CLOSURE PLAN

Regional Catchment Setting

FIGURE 13

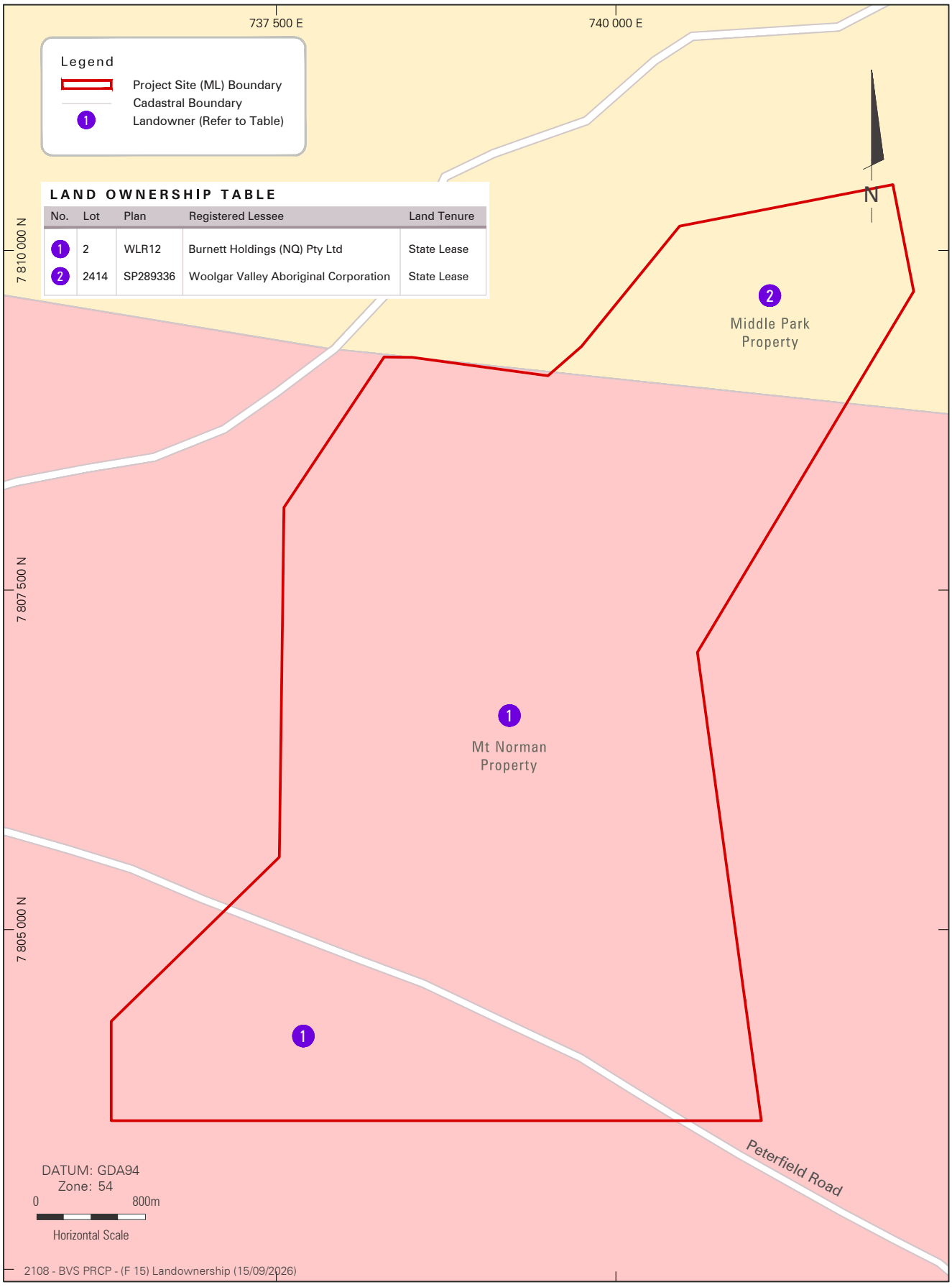


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BIG VEIN SOUTH GOLD PROJECT
PROGRESSIVE REHABILITATION AND CLOSURE PLAN

Local Catchment Setting

FIGURE 14

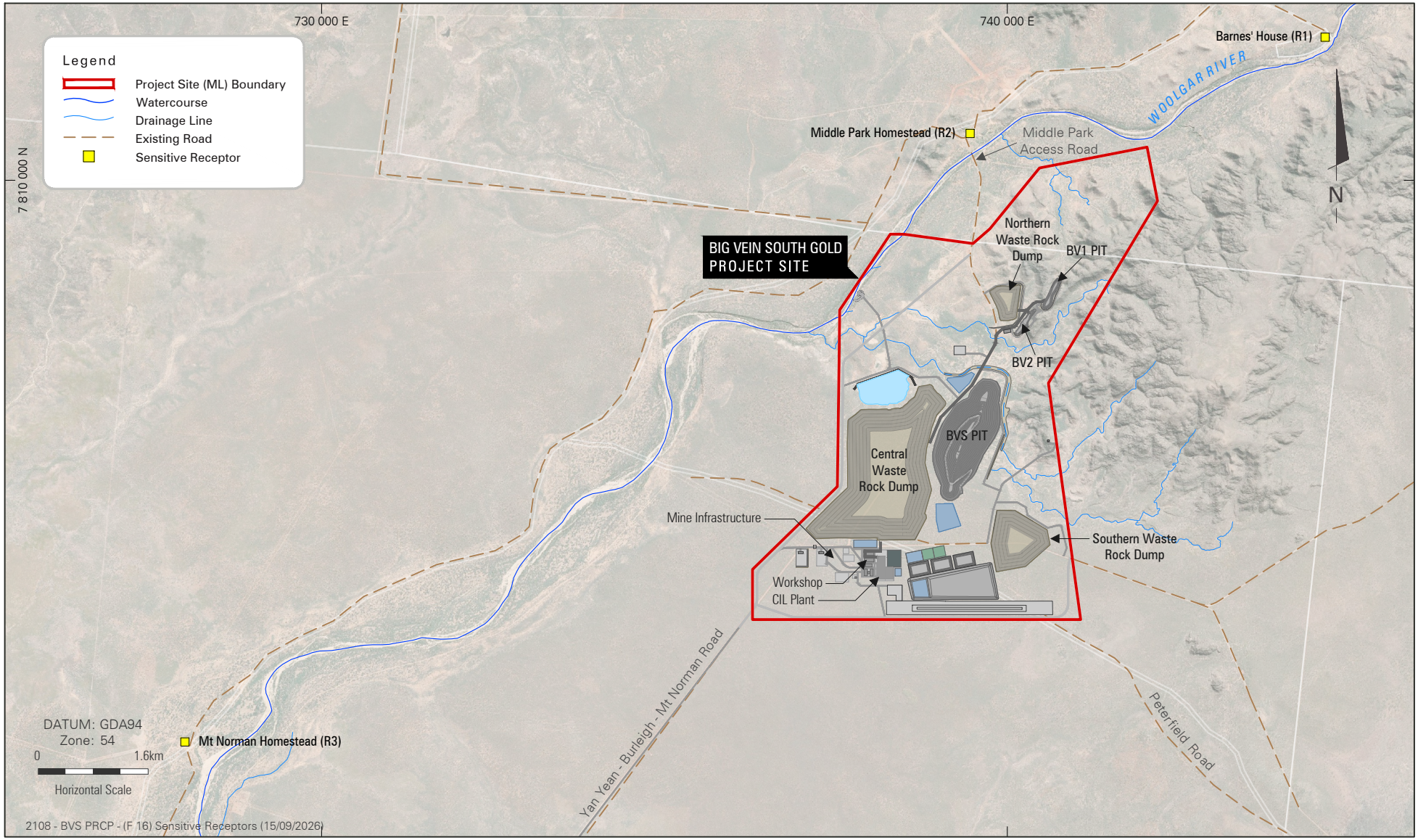


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BIG VEIN SOUTH GOLD PROJECT
PROGRESSIVE REHABILITATION AND CLOSURE PLAN

Land Ownership

FIGURE 15

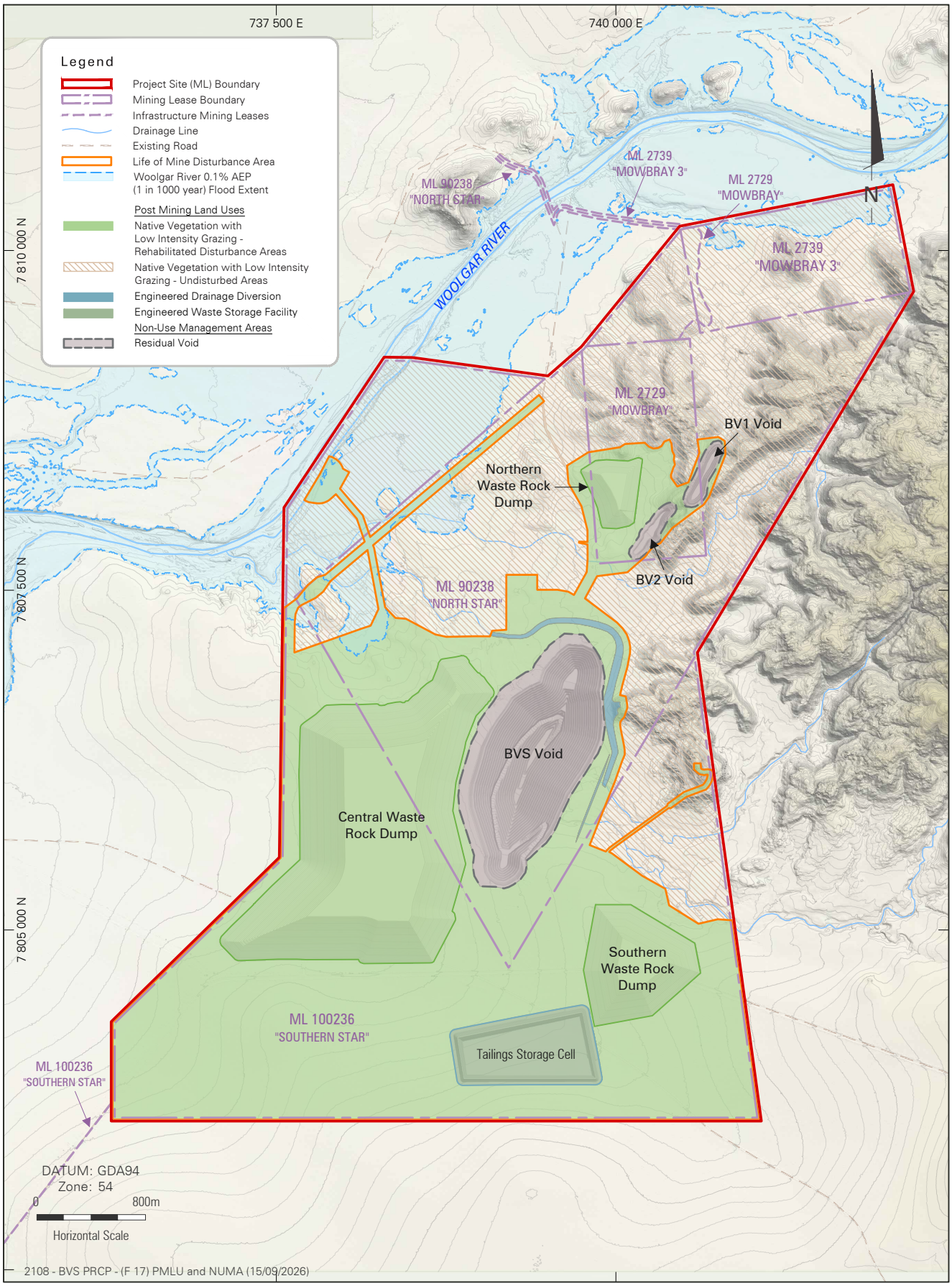


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BIG VEIN SOUTH GOLD PROJECT
PROGRESSIVE REHABILITATION AND CLOSURE PLAN

Sensitive Receptors

FIGURE 16

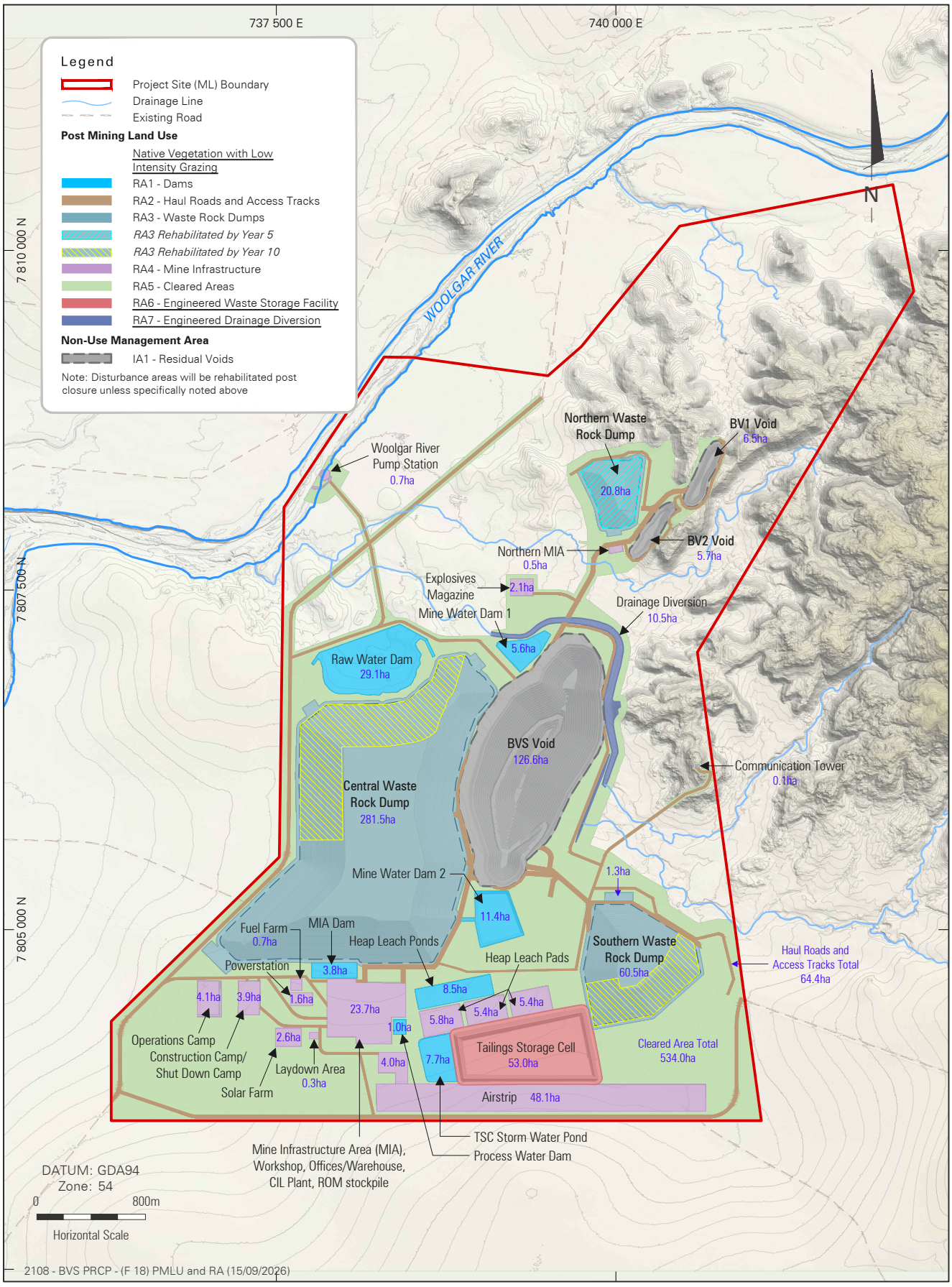


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BIG VEIN SOUTH GOLD PROJECT
PROGRESSIVE REHABILITATION AND CLOSURE PLAN

Post Mining Land Use and Non-Use Management Areas

FIGURE 17

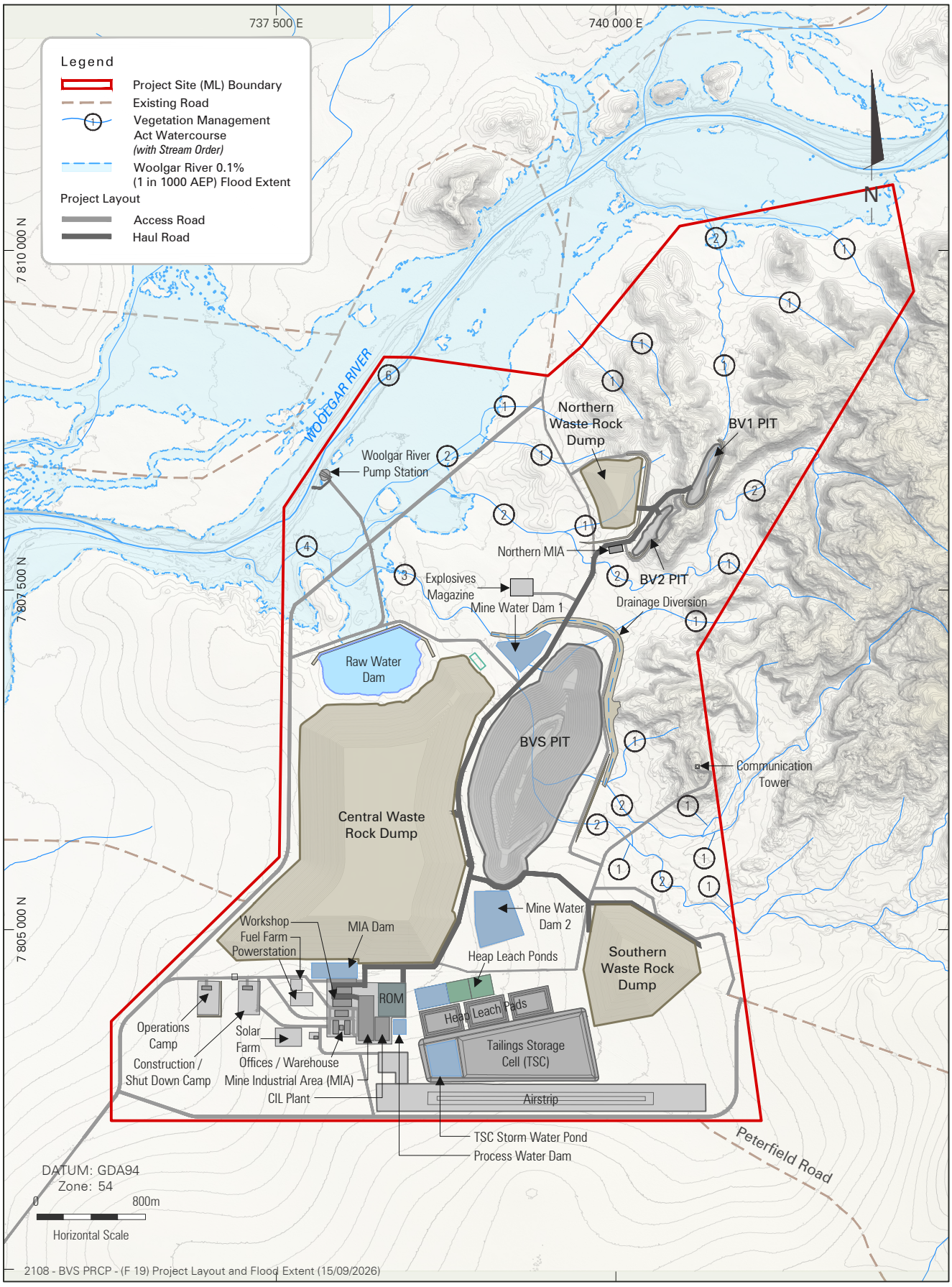


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PROGRESSIVE REHABILITATION AND CLOSURE PLAN

Post Mining Land Use and Rehabilitation Areas

FIGURE 18



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BIG VEIN SOUTH GOLD PROJECT
PROGRESSIVE REHABILITATION AND CLOSURE PLAN

Project Layout and 0.1 % AEP Flood Extent

FIGURE 19

APPENDIX A

Progressive Rehabilitation and Closure Plan Schedule

STRATEGIC MINERALS
CORPORATION

POST-MINING LAND USES

PMLU Summary

Milestone References	Rehabilitation Milestone Descriptions	Rehabilitation Areas						
		Native Vegetation with Low Intensity Grazing PMLU					**Engineered Waste Storage Facility PMLU**	**Engineered Drainage Diversion PMLU**
		RA1 - Dams	**RA2 – Haul Road / Access Tracks**	**RA3 - WRDs**	**RA4 – Mine Infrastructure**	**RA5 – Cleared Areas**	**RA6 - TSC**	**RA7 – Drainage Diversion**
RM1	Mine infrastructure decommissioning and removal							
RM2	Identification, remediation and removal of contaminated land							
RM3	Landform development, shaping and profiling							
RM4	Surface preparation							
RM5	Revegetation							
RM6	Achievement of surface requirements							
RM7	Achievement of PMLU to a stable condition							

Rehabilitation Area 1 (RA1)

Post-mining land uses (PMLU)								
Rehabilitation area				RA1				
Relevant activities				Dams				
Total rehabilitation area size (ha)				67.1				
Commencement of first milestone: RM1				Start of Project Year 12				
PMLU				Native Vegetation with Low Intensity Grazing				
Date area is available	Start of Project Year 12 (10/1/2038)	Start of Project Year 14 (10/1/2040)	Start of Project Year 15 (10/1/2041)	Start of Project Year 17 (10/1/2043)	Start of Project Year 18 (10/1/2044)	Start of Project Year 20 (10/1/2046)	Start of Project Year 22 (10/1/2048)	Start of Project Year 27 (10/1/2054)
Cumulative area available (ha)	55.7	55.7	55.7	55.7	67.1	67.1	67.1	67.1
Milestone completed by	End of Project Year 13 (9/1/2040)	End of Project Year 14 (9/1/2041)	End of Project Year 16 (9/1/2043)	End of Project Year 21 (9/1/2048)	End of Project Year 19 (9/1/2046)	End of Project Year 21 (9/1/2048)	End of Project Year 26 (9/1/2053)	End of Project Year 31 (9/1/2058)
Milestone Reference	**Cumulative area achieved (ha)**							
RM1	55.7				67.1			
RM2	55.7				67.1			
RM3		55.7				67.1		
RM4			55.7			67.1		
RM5			55.7			67.1		
RM6				55.7			67.1	
RM7							55.7	67.1

Rehabilitation Area 2 (RA2)

Post-mining land uses (PMLU)			
Rehabilitation area		RA2	
Relevant activities		Haul Roads and Access Tracks	
Total rehabilitation area size (ha)		64.4	
Commencement of first milestone: RM1		Start of Project Year 15	
PMLU		Native Vegetation with Low Intensity Grazing	
Date area is available	Start of Project Year 15 (10/1/2041)	Start of Project Year 18 (10/1/2044)	Start of Project Year 23 (10/1/2049)
Cumulative area available (ha)	64.4	64.4	64.4
Milestone completed by	End of Project Year 17 (9/1/2044)	End of Project Year 22 (9/1/2049)	End of Project Year 27 (9/1/2054)
Milesone Reference	**Cumulative area achieved (ha)**		
RM1	64.4		
RM3	64.4		
RM4	64.4		
RM5	64.4		
RM6		64.4	
RM7			64.4

Rehabilitation Area 3 (RA3)

Post-mining land uses (PMLU)							
Rehabilitation area			RA3				
Relevant activities			Waste Rock Dumps				
Total rehabilitation area size (ha)			364.1				
Commencement of first milestone: RM3			Start of Project Year 3				
PMLU			Native Vegetation with Low Intensity Grazing				
Date area is available	Start of Project Year 3 (10/1/2029)	Start of Project Year 8 (10/1/2034)	Start of Project Year 8 (10/1/2034)	Start of Project Year 13 (10/1/2039)	Start of Project Year 13 (10/1/2039)	Start of Project Year 18 (10/1/2044)	Start of Project Year 23 (10/1/2049)
Cumulative area available (ha)	20.8	20.8	103.5	103.5	364.1	364.1	364.1
Milestone completed by	End of Project Year 7 (9/1/2034)	End of Project Year 12 (9/1/2039)	End of Project Year 12 (9/1/2039)	End of Project Year 17 (9/1/2044)	End of Project Year 17 (9/1/2044)	End of Project Year 22 (9/1/2049)	End of Project Year 27 (9/1/2054)
Milestone Reference	**Cumulative area achieved (ha)**						
RM3	20.8		103.5		364.1		
RM4	20.8		103.5		364.1		
RM5	20.8		103.5		364.1		
RM6		20.8		103.5		364.1	
RM7							364.1

Rehabilitation Area 4 (RA4)

Post-mining land uses (PMLU)				
Rehabilitation area			RA4	
Relevant activities			Mine Infrastructure	
Total rehabilitation area size (ha)			109.0	
Commencement of first milestone: RM1			Start of Project Year 12	
PMLU			Native Vegetation with Low Intensity Grazing	
Date area is available	Start of Project Year 12 (10/1/2038)	Start of Project Year 14 (10/1/2040)	Start of Project Year 17 (10/1/2043)	Start of Project Year 22 (10/1/2048)
Cumulative area available (ha)	109.0	109.0	109.0	109.0
Milestone completed by	End of Project Year 13 (9/1/2040)	End of Project Year 16 (9/1/2043)	End of Project Year 21 (9/1/2048)	End of Project Year 26 (9/1/2053)
Milestone Reference	**Cumulative area achieved (ha)**			
RM1	109.0			
RM2	109.0			
RM3		109.0		
RM4		109.0		
RM5		109.0		
RM6			109.0	
RM7				109.0

Rehabilitation Area 5 (RA5)

Post-mining land uses (PMLU)			
Rehabilitation area		RA5	
Relevant activities		Cleared Areas	
Total rehabilitation area size (ha)		534.0	
Commencement of first milestone: RM3		Start of Project Year 12	
PMLU		Native Vegetation with Low Intensity Grazing	
Date area is available	Start of Project Year 12 (10/1/2038)	Start of Project Year 17 (10/1/2043)	Start of Project Year 22 (10/1/2048)
Cumulative area available (ha)	534.0	534.0	534.0
Milestone completed by	End of Project Year 16 (9/1/2043)	End of Project Year 21 (9/1/2048)	End of Project Year 26 (9/1/2053)
Milestone Reference	**Cumulative area achieved (ha)**		
RM3	534.0		
RM4	534.0		
RM5	534.0		
RM6		534.0	
RM7			534.0

Rehabilitation Area 6 (RA6)

Post-mining land uses (PMLU)			
Rehabilitation area		RA6	
Relevant activities		Tailings Storage Cell	
Total rehabilitation area size (ha)		53.0	
Commencement of first milestone: RM3		Start of Project Year 12	
PMLU		Engineered Waste Storage Facility	
Date area is available	Start of Project Year 12 (10/1/2038)	Start of Project Year 17 (10/1/2043)	Start of Project Year 22 (10/1/2048)
Cumulative area available (ha)	53.0	53.0	53.0
Milestone completed by	End of Project Year 16 (9/1/2043)	End of Project Year 21 (9/1/2048)	End of Project Year 26 (9/1/2053)
Milestone Reference	**Cumulative area achieved (ha)**		
RM3	53.0		
RM4	53.0		
RM5	53.0		
RM6		53.0	
RM7			53.0

Rehabilitation Area 7 (RA7)

Post-mining land uses (PMLU)	
Rehabilitation area	RA7
Relevant activities	Drainage Diversion
Total rehabilitation area size (ha)	10.5
Commencement of first milestone: RM7	Start of Project Year 22
PMLU	Engineered Drainage Diversion
Date area is available	Start of Project Year 22 (10/1/2048)
Cumulative area available (ha)	10.5
Milestone completed by	End of Project Year 26 (9/1/2053)
Milestone Reference	**Cumulative area achieved (ha)**
RM7	10.5

Rehabilitation Area Milestones

Milestone reference	Rehabilitation milestone	Milestone criteria	
RM1	Mine infrastructure decommissioning and removal	1.1	**RA1 (dams), RA2 (haul roads/access tracks) and RA4 (mine infrastructure)** a) Remove all waste not authorised to be disposed of on-site under the EA. b) All machinery and equipment not required for rehabilitation works removed from site. c) Disconnect and terminate services, including water, electricity and gas. d) Demolish and remove buildings, including the processing plant. e) Remove bitumen, aggregate, concrete, etc and dispose in the TSC or WRDs. f) Desilt dams and pump mine affected water to the BVS pit. g) Remove fencing.
RM2	Identification, remediation and removal of contaminated land	2.1	**RA1 (dams) and RA4 (mine infrastructure)** a) 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. b) Contaminated and hazardous material either remediated in-situ or removed/transported to facility lawfully able to accept the material. c) Remove any contaminated soil that cannot be remediated in-situ and dispose of in the TSC. d) A declaration from a SQP that no contamination remains.
RM3	Land development, shaping and profiling	3.1	**RA1 (dams), RA2 (haul roads/access tracks), RA4 (mine infrastructure) and RA5 (cleared areas)** a) All major earthworks completed to achieve final landform design. b) 20% (11.5°) maximum slope achieved on batters (unless an alternate slope is recommended by an RPEQ). c) Drainage works within rehabilitation areas completed.
		3.2	**RA3 (WRDs)**

Milestone reference	Rehabilitation milestone	Milestone criteria	
			a) Final landform design, including LEM and slope drainage, has been completed and approved by an AQP. b) Geotechnical assessment undertaken by an AQP prior to construction confirms that the landform design will achieve long-term stability. c) Maximum 20% slope or lower as recommended by an AQP. d) Install store and release cover on co-placement cell of the C-WRD as per C-WRD Construction Monitoring and Management Plan. e) All major earthworks completed to achieve final landform design.
		3.3	**RA6 (TSC)** a) Final landform design, including LEM and slope drainage, has been completed and approved by an AQP. b) Geotechnical assessment undertaken by an AQP prior to construction confirms that the landform design will achieve long-term stability. c) Maximum 3H:1V embankment slope and maximum 5% capped dome slope. d) Achieve sufficient drying of final tailings surface to enable capping. e) Detailed cover system design completed by an AQP, and includes capping the tailings surface with 1 m to 3 m thickness of growth medium (subsoil/waste rock). f) The cover system has been installed as per design. g) Establish free draining surface on capped tailings. h) Install engineered slope drainage.
RM4	Surface preparation	4.1	**RA1 (dams), RA2 (haul roads/access tracks), RA3 (WRDs), RA4 (mine infrastructure), RA5 (cleared areas) and RA6 (TSC)** a) Assessment of topsoil characteristics and the development of an amelioration and physical treatment plan is completed by an AQP every 3 years, in order to achieve the following: (i) Soil pH within the range of 6.0 and 9.0. (ii) Electrical conductivity (saturated extract) < 1.2 (dS/cm).

Milestone reference	Rehabilitation milestone	Milestone criteria	
			(iii)Nitrate (mg/kg) – as per appropriately qualified person recommendation. (iv)Total Kjeldahl nitrogen (mg/kg) – as per appropriately qualified person recommendation. (v) Total phosphorus (mg/kg) – as per appropriately qualified person recommendation. (vi)Exchangeable Sodium Percentage (ESP) <6%. (vii) Total Organic Carbon (%) - as per appropriately qualified person recommendation. (viii) Emerson aggregate class >3. b) Application of soil ameliorants to topsoil such as lime, fertiliser, gypsum and/or organic matter at rates to be determined by an AQP. c) Deep ripping to <400 mm (or refusal*) into soil/subsoil profile along contour of slopes, as required. d) Placement of a minimum of 300 mm of topsoil where topsoil has been stripped. *refusal refers to the depth at which bedrock is intersected.
RM5	Revegetation	5.1	**RA1 (dams), RA2 (haul roads/access tracks), RA3 (WRDs), RA4 (mine infrastructure) and RA5 (cleared areas)** a) Direct seeding with native species listed in Appendix 1 – Species List and Seeding Rates, at a rate recommended by an AQP. b) For Native Vegetation with Low Intensity Grazing PMLU, the seed mix should comprise a minimum of: (i) 100% native species. (ii) 2 native grass species. (iii)2 native shrub species. (iv)2 native tree species. c) Install temporary stock fencing to exclude cattle from revegetation areas, if required.
		5.2	**RA6 (TSC)** a) Direct seeding with native grass species listed in Appendix 1 – Species List and Seeding Rates, at a rate recommended by an AQP.

Milestone reference	Rehabilitation milestone	Milestone criteria	
			b) Install stock fencing to exclude cattle from revegetation areas.
RM6	Achievement of surface requirements	6.1	**RA1 (dams), RA2 (haul road/access tracks), RA3 (WRDs), RA4 (mine infrastructure), RA5 (cleared areas) and RA6 (TSC)** a) Germination monitoring completed within 12 months of completion of RM5 determines that adequate vegetation has been established to indicate successful germination (minimum 30% groundcover for revegetation species*). b) Vegetation establishment monitoring 2 years after completion of RM5 indicates: (i) Mean groundcover ≥50% or > the reference site mean minus one standard deviation (whichever is the highest). (ii) A minimum of 3 revegetation species* must be present. (iii) Proportion of Category 3 restrictive invasive plants species** not >10% of total vegetative groundcover (or not > the % of invasive plants at the reference site where >10%). c) Rectification of active rill and gully erosion completed within 12 months of achieving RM6.1b. d) Decommission C-WRD seepage pipe after the cessation of seepage or if monitoring indicates continuing seepage, redirect the seepage pipe to the BVS final void. *Revegetation species are as defined in Appendix 1 – Species List and Seeding Rates. **Defined by *Biosecurity Act 2014*.
RM7	Achievement of PMLU to stable condition	7.1	**RA1 (dams), RA2 (haul roads/access tracks), RA4 (mine infrastructure) and RA5 (cleared areas)** Each of the below listed criteria is certified as having been achieved by a person who is appropriately qualified to assess that criteria, with the combined certifications confirming that the rehabilitation achieves the PMLU and is stable (as defined in the EP Act): a) Established and persistent vegetative groundcover ≥50% of the reference sites mean minus one standard deviation (whichever is the highest). b) Proportion of Category 3 restrictive invasive plants species not >10% of total vegetative groundcover (or not > the % of invasive plants at the reference site where >10%).

Milestone reference	Rehabilitation milestone	Milestone criteria	
			c) No evidence of erosion classified as 'moderate' or 'severe', as defined in Appendix 2 – Erosion Classification Framework, is present. d) No contamination causing the land to be unsuitable for the use is present. e) Removal of any temporary stock fencing after criteria above is satisfied.
		7.2	**RA3 (WRDs) and RA6 (TSC)** a) Certification from an appropriately qualified person that the TSC and WRDs have achieved a geotechnically stable condition. b) Groundwater quality must be monitored quarterly at, but not limited to, the monitoring locations specified in Appendix 3 – Groundwater Monitoring Bores, for all quality characteristics listed in Appendix 5 – Groundwater Quality Limits, for a minimum of 5 consecutive years prior to the milestone completion date. c) Groundwater quality results must not exceed the limits in Appendix 5 – Groundwater Quality Limits, for 3 consecutive results, for a minimum of 5 consecutive years immediately prior to the milestone completion date. d) Surface water quality monitored monthly during flow at downstream locations specified in Appendix 4 – Surface Water Monitoring Locations, must not exceed the limits in Appendix 6 – Surface Water Quality Limits, for a minimum of 5 consecutive years immediately prior to the milestone completion date. e) If the surface water quality exceeds criteria in RM7.2d, the applicable upstream site must be compared to the downstream site result and the quality result measured at the downstream site must be equal to or less than the quality result measured at the applicable upstream site.* f) Where the surface water quality at the downstream site exceeds the upstream site result, an AQP must complete an assessment of the cause and risk of the rehabilitation not achieving a stable condition within the schedule timeframe and: (i) Where the likelihood of the rehabilitation not achieving a stable condition is low, then no further action is to be taken; or (ii) Where the likelihood of the rehabilitation not achieving a stable condition is moderate or high, then an assessment of potential environmental harm by the AQP and their recommended rectification actions to rehabilitation activities must be determined and implemented.

Milestone reference	Rehabilitation milestone	Milestone criteria	
			g) The assessment/s under RM7.2f must be completed and provided to the administering authority by 1 November each year. h) The 5 year timeframe under RM7.2d is reset for the affected rehabilitation area/s, by a single occurrence of RM7.2f(ii). i) Removal of any temporary stock fencing after criteria above is satisfied. *For pH, the quality result measured at the downstream location must be within the prescribed range. However, where pH at the downstream location is > the highest limit in the range, the pH at the applicable upstream location may be ≥ the downstream location. Conversely, where pH at the downstream location is < the lowest limit in the range, the upstream pH at the applicable upstream location must be ≤ the downstream location.
		7.3	**RA7 (drainage diversion)** a) AQP has certified that the diversion drain has been constructed and stabilised in accordance with the RPEQ Design Plan. b) Removal of any temporary stock fencing after criteria above is satisfied.

NON-USE MANAGEMENT AREAS

Improvement Area 1 (IA1)

Non-use management area (NUMA)			
Improvement area		IA1	
Relevant activities		3 residual voids	
Total size (ha)		138.8	
Commencement of first milestone: MM1		Start of Project Year 3	
NUMA		Non-use management area	
Date area is available	Start of Project Year 3 (10/1/29)	Start of Project Year 12 (10/1/2038)	Start of Project Year 17 (10/1/2043)
Cumulative area available (ha)	12.2	138.8	138.8
Milestone completed by	End of Project Year 7 (9/1/2034)	End of Project Year 16 (9/1/2043)	End of Project Year 21 (9/1/2048)
Milestone Reference	**Cumulative area achieved (ha)**		
MM1	12.2	138.8	
MM2		138.8	
MM3			138.8

Improvement Area Milestones

Milestone reference	Management milestone	Milestone criteria	
MM1	Achievement of final landform design	1.1	a) Geotechnical assessment of final pit geometry to confirm the location of the geotechnical stability buffer zone. b) Rip, placement of a minimum of 300 mm of topsoil where topsoil has been stripped, fertilise and seed with native species*, at a rate recommended by an AQP, in the geotechnical stability buffer zone. *Revegetation species are as defined in Appendix 1.
MM2	Achievement of safety requirements	2.1	a) Safety bunds and/or safety fencing around the geotechnical stability buffer zone. b) Any safety bunds constructed around the geotechnical stability buffer zone, meet the following dimensions and requirements: (i) Height ≥ 2m. (ii) Base width ≥ 4m. c) Safety warning signs posted every 100 m along the safety fence.
MM3	Achievement of sufficient improvement	3.1	a) AQP certification that the geotechnical stability buffer zone has a mean groundcover ≥50% or > the reference site mean minus one standard deviation (whichever is the highest). b) Certification from an AQP that the final void NUMA landform complies with the below: (i) Erosion occurring within the NUMA landform will not adversely impact the stability of adjacent rehabilitation areas, or their ability to sustain their PMLU. (ii) Void lake water level and void water balance modelling demonstrates that the voids are unlikely to overflow and do not pose a risk of environmental harm to the receiving environment. (iii)Groundwater level monitoring and groundwater modelling demonstrates that the residual voids will function collectively as a groundwater sink post closure. (iv)Voids retain flood immunity from the 0.1 % AEP flood, supported by flood modelling re-run at end of life, based on the final landform. (v) The residual voids will not present an unacceptable risk of environmental harm.

APPENDICES

Appendix 1 - Species List and Seeding Rates

Scientific Name	Common Name	Seeding Rate (kg/ha)
Native Grasses/Herb Species		
Indigofera linifolia	Narrow-leaved Indigo	As recommended by an AQP.
Aristida ingrata		
Bothriochloa bladhii subsp. *Bladhii*	Forest Bluegrass	
Bothriochloa decipiens var. *cloncurrensis*		
Themeda triandra	*Kangaroo Grass*	
Triodia pungens	Gummy Spinifex	
Heteropogon contortus	Black Speargrass	
Native Shrub Species		
*Melaleuca bracteate**	Black Tea Tree	As recommended by an AQP.
*Melaleuca nervosa**	Yellow Paperbark	
*Melaleuca stenostachya**		
Petalostigma banksii		
Breynia oblongifolia	Coffee Bush	
Carissa lanceolata	Konkerberry	
*Acacia hammondii**	Hammond's Wattle	
*Acacia platycarpa**	White-barked Wattle	
Native Tree Species		

Scientific Name	Common Name	Seeding Rate (kg/ha)
Corymbia setosa	Rough-leaved Bloodwood	As recommended by an AQP.
Corymbia terminalis	Inland Bloodwood	
Melaleuca leucadendra	Weeping Paperbark	
Melaleuca fluviatilis	Weeping Tea Tree	
Eucalyptus leptophleba	Molly Red Box	
Eucalyptus miniata	Woollybutt	
Eucalyptus camaldulensis subsp. *Obtuse*	River Red Gum	
Alphitonia excels	Red Ash	
*Eremophila mitchellii**	False Sandalwood	
Minimum total seeding rate		As recommended by an AQP.

These species are classified as either shrubs or trees

Appendix 2 – Erosion Classification Framework

Erosion Classification	Minor	Moderate	Severe
Sheet Erosion	Indicators may include shallow soil deposits in downslope sediment traps (fence lines, farm dams). Often very difficult to assess as evidence may be lost with cultivation, pedoturbation or revegetation.	Indicators may include partial exposure of roots, moderate soil deposits in downslope sediment traps (fence lines, farm dams).	Indicators may include loss of surface horizons, exposure of subsoil horizons, pedestalling, root exposure, substantial soil deposits in downslope sediment traps (fence lines, farm dams).
Rill*	<15 rills per transect/100 m.	15 – 30 rills per transect line/ 100 m.	>30 rills per transect line/ 100 m.
Gully Erosion	Absent	Absent	Present > 0.3 m deep

Erosion Classification	Minor	Moderate	Severe
			Gullies are continuous or discontinuous and either tend to branch away from primary drainage lines and on to foot slopes, or have multiple branches with primary drainage lines.
Tunnel Erosion	Absent	Absent	Present
Mass Movement	Absent	Absent	Present

Erosion form definitions: NCST (2004) Australian Soil and Land Survey Field Handbook, 3rd edition. The National Committee on Soil and Terrain. CSIRO Publishing, Collingwood, Australia.
**Rill frequency assessed on the contour over entirety of rehabilitation area (not only features that intersect a monitoring transect).*

Appendix 3 – Groundwater Monitoring Bores

Monitoring Bore	Hydrogeological Unity	Latitude (decimal degree, GDA2020)	Longitude (decimal degree, GDA2020)
As per EAR Table 5-3			

Appendix 4 – Surface Water Monitoring Locations

Monitoring Site	Receiving Waters Location Description	Latitude (decimal degree, GDA2020)	Longitude (decimal degree, GDA2020)
Upstream Monitoring Locations			
DF1-MP1	Drainage Feature 1 – Upstream	As per EAR Figure 6-6	As per EAR Figure 6-6
DF3-MP1	Drainage Feature 3 - Upstream	As per EAR Figure 6-6	As per EAR Figure 6-6
WR-US	Woolgar River - Upstream	As per EAR Figure 6-6	As per EAR Figure 6-6
Downstream Monitoring Locations			
DF1-MP2	Drainage Feature 1 - Downstream	As per EAR Figure 6-6	As per EAR Figure 6-6
DF1-MP3	Drainage Feature 1 – Upstream WR	As per EAR Figure 6-6	As per EAR Figure 6-6

Monitoring Site	Receiving Waters Location Description	Latitude (decimal degree, GDA2020)	Longitude (decimal degree, GDA2020)
DF3-MP2	Drainage Feature 3 - Downstream	As per EAR Figure 6-6	As per EAR Figure 6-6
WR-DS	Woolgar River - Downstream	As per EAR Figure 6-6	As per EAR Figure 6-6

APPENDIX B

Progressive Rehabilitation and Closure Plan Spatial Data

File Included: EPML00000000_PRCP_PY_14092026.zip

STRATEGIC MINERALS CORPORATION