



14 July 2026

Mr Aaron Brown
Director of Exploration
Marmota Limited
Marmosa Pty Ltd
Unit 6, 79-81 Brighton Road
GLENELG SA 5045

Via email: aaron@marmota.com.au

Dear Mr Brown,

Notification of Approved Exploration Program for Environment Protection and Rehabilitation (EPEPR)

In reference to your final submission dated 29 June 2026, the EPEPR has been approved pursuant to section 70B(5) of the [Mining Act 1971](#) (the Mining Act).

The approved EPEPR will be made publicly available on the Mining Register and the Department for Energy and Mining (DEM) website. Details of the approved EPEPR are listed below.

Approval Granted to	Marmota Limited
Tenement Type & Number	EL 6166
Program Number	EP-04125
EPEPR Description	For exploration, infill drilling and resource definition drilling at the Muckanippie titanium mineral sands

You are reminded that you must always implement and comply with this approved EPEPR.

This approval does not constitute endorsement of the systems that you have in place to manage the mining operations in compliance with the Mining Act. Whilst your capability to undertake this activity has been considered in this approval, the responsibility for compliance with the Mining Act always remains with the tenement holder.

The legislative requirements associated with the EPEPR are outlined below, and certain requirements must be actioned prior to commencement of operations authorised by the EPEPR.

1	PEPR Conditions In accordance with section 70B(7a)(b) of the Mining Act 1971, the approved EPEPR is subject to the conditions listed in the Notice of Approval Conditions – EP-04125 (Appendix 1).
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MINERALS REGULATION



2	Public Liability Insurance Pursuant to Regulation 81 of the Mining Regulations 2020 , you are required to provide a copy of a certificate evidencing the insurance coverage over the tenement.
3	Compliance Reporting You are required to submit an annual exploration compliance report. The report is required to be submitted within 2 months after the anniversary of the date the EL 6166 was granted, or in accordance with joint reporting requirements agreed to with the Minister. Please refer to the DEM website for more information on the reporting requirements. You are reminded that a separate compliance report is required 2 months after the expiry or surrender of the EL.
4	Work, Health and Safety Compliance In accordance with Chapter 10 of the <i>Work Health and Safety Regulations 2012</i> (SA), you must meet the requirements for mine operators in South Australia, which include a notification for mining operations, the establishment of a Safety Management System, the identification of Principal Mining Hazards and development of a Principal Mining Hazard Management Plan. Further information on your responsibilities, including a guide to Chapter 10, and the Mine Operator Notification Form, is available on the SafeWork SA website .
5	Protection of Aboriginal sites The <i>Aboriginal Heritage Act 1988</i> protects all Aboriginal sites, objects and ancestral remains throughout South Australia. Under the requirements of that Act, an authorisation will be required to damage, disturb or interfere with Aboriginal heritage, or to excavate for uncovering of an Aboriginal site, object or remains. You are advised to consult with the Attorney-General's Department, Aboriginal Affairs and Reconciliation Division to seek further information regarding Aboriginal heritage matters.
6	EPEPR Timeframe EP-04125 is approved for the term of Exploration Licence: EL 6166. A further 3 months after expiry of the program notification is provided to complete all rehabilitation.

Please note, proposed changes to exploration operations stated in the approved EPEPR may require a EPEPR review to be submitted for assessment. Where a EPEPR review is required, implementation of the operational changes can only occur after the revised EPEPR is approved. Further information on when an exploration PEPR review is required can be found in Departmental guideline [MG22 Conducting mineral exploration](#).

In addition to the requirements under the Mining Act, you are reminded that your operation will have other legislative requirements that you will need to comply with.

If you have any further queries, please contact DEM staff as below:

General enquiries	Mark O'Brien Senior Assessment Officer, Exploration Regulation DEM.exploration@sa.gov.au
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MINERALS REGULATION



Yours sincerely

A handwritten signature in black ink, appearing to read "MS".

Michael Smith
A/EXECUTIVE DIRECTOR, REGULATION AND COMPLIANCE
In accordance with delegated powers and functions

Att.:
1. Appendix 1

CC: Access Liaison Officer - Woomera Test Range Woomera.Enquiries@defence.gov.au

The Department's Regulatory Guidelines, Ministerial Determinations and Information Sheets are available at:
<https://energymining.sa.gov.au/industry/minerals-and-mining/forms-legislation-and-guidance>



Appendix 1

Notice of Approval Conditions - EP-04125

In accordance with section 70B(7a)(b) of the *Mining Act 1971*, EP-04125 is approved subject to the following conditions:

Notice of Approval Conditions – EP-04125

- | | |
|----------|---|
| 1 | Prior to conducting exploration operations an EPEPR Program Notification must be submitted to the Department for Energy and Mining via MERS Portal in accordance with the approved EPEPR, 21 days prior to commencement of operations. |
|----------|---|

The EPEPR notification must be submitted using the [MERS Portal](#).

Exploration PEPR - EPEPR | Ongoing PEPR

Reference Number: EP-04125 • Status: Assessment

Begin

PEPR Type

Ongoing PEPR

Region

—

Request for Information

Select Applicable PEPR

Previous MERS EPEPR?

☒ No ☐ Yes

Previous PEPR ID

—

Search PEPRs

—

Applicant and General Details

Applicant Details

Aaron Brown

Full Name *

Aaron Brown

Business Phone

Mobile Phone

0413020134

Email *

aaron@marmota.com.au (mailto:aaron@marmota.com.au)

Project Supervisor

Aaron Brown. Director of Exploration- Marmota Limited.

General Details

Tenement Details

Tenement Type	Tenement Name	Tenement Holder
Exploration Licence	EL 6166	Marmota Limited

Operating Company

Marmota Limited

If there is another Operating Company, please provide

Account Name	Entity Type	Registered Address	Registered Email
There are no records to display.			

Project/prospect name

Muckanippie titanium mineral sands project

Mineral Model

Titanium bearing mineral sands

Primary Commodities

Commodity Name ↑	Commodity Group
Titanium	Exploration

Secondary Commodities

Commodity Name ↑	Commodity Group
Titanium	Exploration

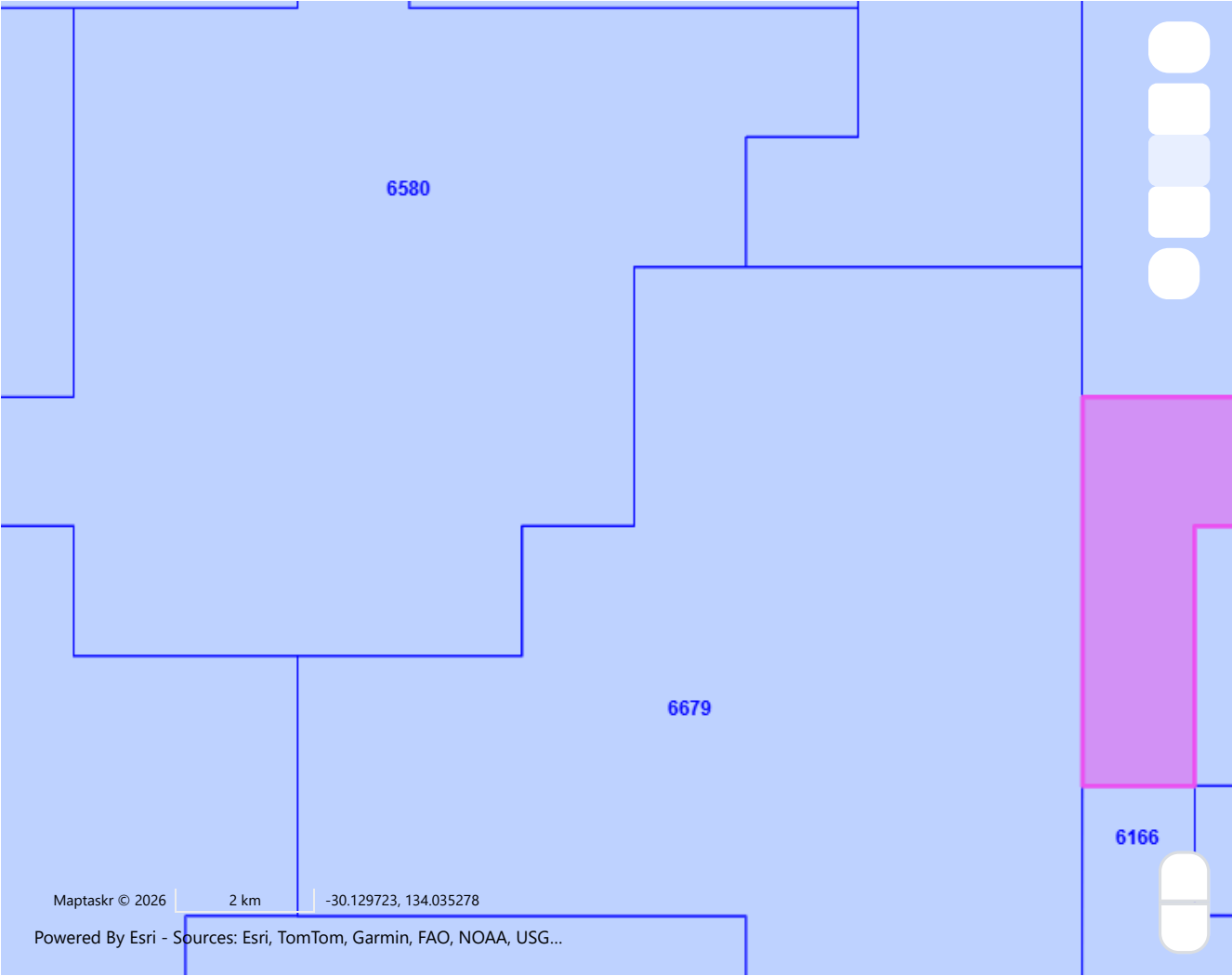
Project Description

Exploration, infill drilling and resource definition drilling at the Muckanippie titanium mineral sands project

Clearly describe why a PEPR review is required, summarise all content changes made to the approved PEPR, and provide appropriate justification where a time extension is required.

—

Identify Application Area



Map Layer Intersects

Application Area Details

Location Description

Muckannipie Area approximately 170km SW of Coober Pedy

Area (Sqkm)

11.86

Spatial Data Intersects - Summary Table

Show 10 entries

Search:

Spatial Layer Name	Category	Referral	Intersect Count
1:250K mapsheets	Other		1
Cadastral Parcels	Other		1
Determinations of Native Title	Other		1
Exploration licences (mineral/opal)	No-Go Area		3

Spatial Layer Name	Category	Referral	Intersect Count
Pastoral Lease Boundaries	Other		1
Registered and Notified ILUAs	Other		2
Schedule of Native Title Claims	Other		1
Terrestrial - BOM Groundwater Dependant Atlas (GDE Atlas)	Other		3
Woomera Prohibited Area - access zones	Restricted Land		1

Showing 1 to 9 of 9 entries

Previous1Next

Spatial Data Intersects - Details Table

Show10▼entries

Search:

Spatial Layer Name	Shape	Primary Attribute	All Attributes	Category
1:250K mapsheets	Shape 1	TARCOOLA	View attributes	Other
Cadastral Parcels	Shape 1	D28564AL2	View attributes	Other
Determinations of Native Title	Shape 1	Antakirinja Matu-Yankunyjtjajara	View attributes	Other
Exploration licences (mineral/opal)	Shape 1	EL 6855	View attributes	No-Go Area
Exploration licences (mineral/opal)	Shape 1	EL 6166	View attributes	No-Go Area
Exploration licences (mineral/opal)	Shape 1	EL 6715	View attributes	No-Go Area
Pastoral Lease Boundaries	Shape 1	MUCKANIPPIE	View attributes	Other
Registered and Notified ILUAs	Shape 1	Antakirinja Area Minerals Exploration ILUA	View attributes	Other
Registered and Notified ILUAs	Shape 1	Muckanippie Pastoral ILUA	View attributes	Other
Schedule of Native Title Claims	Shape 1	Antakirinja Matu-Yankunyjtjajara Aboriginal Corporation RNTBC	View attributes	Other

Showing 1 to 10 of 14 entries

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Program Preparation

Work Undertaken in Preparing the Proposal

Marmota intends complete drilling at the Muckanippie titanium mineral sands project and has undertaken desktop reviews including:

- Protected Matter Search Tool – Department of Agriculture, Water and the Environment
- Nature maps
- SARIG
- BOM (Ground Water) and Water Connect

Marmota is currently seeking contractors for proposed works

Operator Capability

Marmota and all contractors working onsite operate within the bounds of Marmota's field procedures and consultant specific field procedures, to ensure safe completion and environmentally sound operation and completion of all field programs. (Field Safety Operations Manual.doc 2015 WHS Manual.doc 2014.) A review of the field operations manual has recently been completed. Marmota staff monitor adherence to safety and environmental compliance, and Marmota has procedures in place to report safety or environmental issues. (Incident report or damage.doc, 2017, Incident Investigation Checklist.doc, 2017) Where issues arise that require reporting in accordance with regulation, Marmota will notify the department. All staff and contractors are required to complete a site induction prior to work commencing. The induction covers site orientation safety and environmental requirements. If and where issues arise staff or contractors are reminded of the need for compliance with procedures and steps will be taken to remediate any breaches. Marmota is in contact with all stake holders as required by legislation notices of entry and keeps a register of communications with stakeholder to ensure concerns are raised and actioned as required. Beyond required notifications, Marmota is in regular contact with Tom Wheelhouse at Commonwealth Hill Station and Mulgathing station with regard to proposed programs and any potential issues, to avoid complaints due to field activities (Stakeholder Engagement.xlsx)

Lease Conditions

N/A

Land Access

Identify the Owners of Land and authority to access land

Land Title Reference	Plan Parcel Reference	Type of Land	Owner of Land ↑	Land Access Authorisation Method	Date of Form 21 or Agreement Signed	Instrument or Uploaded Document Id	Uncheck land not applicable to your application or
CL 6212/558	D28564 AL2						Checked

Regulation 4 Consent – Exercise a right over a road, street or highway

No

Woomera Prohibited Area (WPA)

Will activities be conducted within the WPA?

Yes

In which zone will activities be conducted?

Name	Are you intending to undertake work?	Closure start date	Closure end date
Defence infrequent zone	No		

Do you have a resource exploration permit in place?

Yes

Permit No.

REX 007-14-3

What is the expiry date of the exploration permit?

02/12/2028

Does the Exploration Permit allow the operator to conduct exploration operations in the WPA?

Yes

Other Land Owned or Controlled by the Commonwealth Department of Defence

Indicate if you are intending to undertake exploration operations within the identified defence land?

No

Other Commonwealth Defence Land

Defence Land	Applicable
There are no records to display.	

Do you have a Deed of Access with Defence?

—

Expiry date of the Deed of Access

—

Enter the date the Range Control Officer granted permission to conduct the proposed exploration operations

—

Describe the results of consultation and how any concerns raised were addressed

Native Title

Does 'Native Title land' exist within the application area?

Yes

Using the table below, describe how you have complied with the requirements of Part 9B of the Mining Act for each tenement.

Name of Determined / Claimant Group	Agreement Type	Instrument Number	Applicable
Antakirinja Matu-Yankunytjatjara			No
Antakirinja Area Minerals Exploration ILUA			No
Muckanippie Pastoral ILUA			No
Antakirinja Matu-Yankunytjatjara Aboriginal Corporation RNTBC	Native Title		Yes

Provide any additional relevant information

Exempt Land

Has Exempt land been identified?

No

Land Title	Plan Parcel	Owner of Land that has benefit of exemption ↑	Why is the land exempt land?	Waiver of exemption(s) been negotiated	Instrument Number or Uploaded Document Id
CL 6212/558	D28564 AL2				

Consultation

Stakeholder ↑	Land Use	Matters raised	Stakeholder concerns raised and how addressed
AMYAC	Other (e.g. historic mining)	Request for further information, Surveys which covers exploration programs.	Marmota responded that proposed exploration works have been planned within Heritage Cleared areas and surveys used to prepare PEPR
Jumbuck Pastoral Mulgathing Station	Grazing	None	N/A

If any individual or group of similar affected persons were not able to be consulted, what steps were taken to consult with them?

Describe any council policies (or out of council) or development plans that may impact the program area and a description of any known plans for future land use changes by other parties.

Provide any additional relevant information.

Description of Environment

Proximity to Infrastructure and Housing

Proximity to infrastructure and housing

The Muckanippie Titanium Project is located on Mulgathing station approximately 15km NE of the Homestead, and approximately 100km of the Stuart Highway.

Access Roads and tracks exist to the proposed drill and no additional tracks will be required to access the project area.

Other Human infrastructure exists in the general area; however all are generally some kilometres from the proposed exploration activities. Communication between Marmota and the relevant Station Managers will be ongoing during planning and drilling. Drilling will not interfere with any stock work or infrastructure.

Attach Files ⓘ

				Expand/Collapse
File Name	File Size (Mb)	Created On	Download	
Figure 1 Overview of the Proposed Work area and Proximity to infrastructure.jpg	1.44 Mb	29-04-2026 12:23:48	Download (MERS/EP-04125/Proximity to infrastructure/Figure 1 Overview of the Proposed Work area and Proximity to infrastructure_2026-04-29T02-53-46.662Z.jpg)	

Landform, Topography, Soil and Surface Cover

Describe the topography and soil and surface cover (e.g. gibber) of the general area affected by the exploration program. Include details on the susceptibility to compaction, erosion, dust, runoff and visual attributes (steep or undulating slopes, plains, rocky outcrops, dunes, saltpans, claypans etc) any other characteristics (e.g. acid sulphate soils) that may require control strategies to reduce environmental impacts during operations or rehabilitation.

EL 6166 is characterised by low hills and sand plains with low susceptibility to erosion and no visual disturbance after rehab.

Attach Files ⓘ

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File Name	File Size (Mb)	Created On	Download
No Files Uploaded			

Surface Water

Will the proposed program interfere with surface water bodies and natural drainage (e.g. drainage lines, creeks, floodplains, wetlands)?

No

Describe the potential interference and surface water bodies and natural drainage on maps

Indicate how you will avoid disturbance

Each drillhole location will be accessed prior to drilling if drilling holes are within drainage lines/creeks they will be adjusted to a minimum of 50m from drainage line and/or creek or if no suitable location can be established they will not be included in the drilling.

Is the program area located within water protection areas defined under the River Murray Act 2003?

No

Select the name(s) of protected water areas

Is the program area located within any prescribed watercourses or prescribed surface water areas under the Landscape South Australia Act 2019?

No

Select the name(s) of the prescribed watercourses or prescribed surface water areas under the Landscape South Australia Act 2019.

Name	Applicable
There are no records to display.	

File Name	File Size (Mb)	Created On	Download
No Files Uploaded			

Groundwater

Is groundwater likely to be intersected when conducting the exploration program?

Yes

Provide evidence or any supporting information why groundwater is unlikely to be intersected.

Drilling to date of shallow holes targeting Titanium bearing Heavy minerals has intercepted no ground water to date. Due to the planned depth of holes in this location this is not expected to change.

Description of the localities/area where different groundwater conditions may be encountered

Due to the shallow planned depth of holes and based Marmota's experience with recent drilling in the area, it is anticipated that no groundwater will be intercepted during drilling operations in this area.

Add the different groundwater conditions for each localities/areas to the table below.

Name ↑	Formation age and/or stratigraphic unit	Stratigraphic intervals (depth range) (m)	Aquifer formatio n name	Aquifer Interval/thinkn ess (from-to) (m)	Aquif er Type	Aquifer salinity (TDS)	Depth to groundw ater (m)	Com ment s
Muckani ppie	NA	0	Na	0	Uncon fined	0	0	No groun dwate r interc epted in drillin g carrie d out to date

Provide the environmental value of each aquifer present determined according to the current Environment Protection (Water Quality) Policy.

During drilling of shallow holes targeting Heavy mineral bearing sediments Marmota has encountered no groundwater in work area .

Provide a description of the existence, location and value of all Groundwater Dependent Ecosystems (GDE) within and immediately surrounding the project area

Aquatic GDE
There is no Aquatic GDE within the proposed work area or immediately surround the project

Terrestrial GDE
The work areas are either in no or Low Potential GDE – vegetation consisting of Acacia Woodland and low-lying Alluvial plains and salt lakes with some dunes of the Gairdner Region.

Is the proposed program located within a prescribed wells area?

No

Select the prescribed wells

Is the proposed program located within a prescribed water resource area?

No

Select the prescribed water resource areas

Provide any additional information

Attach Files ⓘ

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No Files Uploaded			

Native Vegetation

Will you be working within areas of native vegetation?

Yes

Provide the following information:

The area is predominantly an scattered Acacia woodland, other flora identified in the proposed work area are listed below. The understory varies in response to landscape position along with changes in the near surface regolith materials and hydrology.

- Atriplex vesicaria Bladder Saltbush
- Maireana aphylla Cotton-bush
- Maireana astrotricha Low Bluebush
- Maireana pyramidata Black Bluebush
- Maireana sedifolia Bluebush
- Maireana triptera Three-wing Bluebush
- Ptilotus obovatus (NC) Silver Mulla Mulla
- Acacia aneura complex Mulga
- Sida calyxhymenia Tall Sida
- Eucalyptus socialis ssp. socialis Beaked Red Mallee
- Austrostipa sp. Spear-grass
- Eremophila rotundifolia Round-leaf Emubush

No flora of national or state significance occurs within the proposed work area.

Indicate why you will not be working within areas of native vegetation?

Attach Files ⓘ

Expand/Collapse			
File Name	File Size (Mb)	Created On	Download
Figure 2 ES Rating Extracted from Nature Maps (ABOVE) Showing no ES Act Status Rating as per Nature Maps.jpg	1.46 Mb	29-04-2026 12:39:44	Download (MERS/EP-04125/Native Vegetation/ Figure 2 ES Rating Extracted from Nature Maps (ABOVE) Showing no ES Act Status Rating as per Nature Maps_2026-04-29T03-09-42.077Z.jpg)

File Name	File Size (Mb)	Created On	Download
Figure 3 NPW Act Rating Extracted from Nature Map (ABOVE). No NPW or EPBC Act Rating for any Flora.jpg	1.45 Mb	29-04-2026 12:39:44	Download (MERS/EP-04125/Native Vegetation/Figure 3 NPW Act Rating Extracted from Nature Map (ABOVE). No NPW or EPBC Act Rating for any Flora_2026-04-29T03-09-41.989Z.jpg)

Fauna

Describe the native and feral fauna that may be present in the application area, including feral species.

Native fauna in the area includes Red Kangaroo and Emu.
Introduced Feral fauna is limited Red Fox.

Artamus personatus Masked Woodswallow
Dromaius novaehollandiae Emu
Epthianura tricolor Crimson Chat
Pomatostomus superciliosus White-browed Babbler
Psophodes occidentalis Chiming Wedgebill
Macropus (Osphranter) rufus Red Kangaroo
Vulpes vulpes Fox (Red Fox)
Morethia adelaidensis Adelaide Snake-eye

No significant Fauna is present within the proposed work area.

Significant Habitats, Flora and Fauna

Are there any significant habitats, flora and fauna within the project area?

No

Use the table below to list any significant habitats and any rare or endangered flora and fauna species located or reported to have been in the area that may be impacted by the proposed program. Include known sightings of listed species on a locality plan/map.

Species name/habitat	Common name	NPW Act Rating	EBPC Act Rating
There are no records to display.			

Attach Files ⓘ

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File Name	File Size (Mb)	Created On	Download	
No Files Uploaded				

Weeds and Pathogens

Provide information of the extent the area is affected or potentially affected by weeds and pathogens (e.g. phytophthora; buffel grass Cenchrus ciliaris).

The exploration area occurs within the Arid Lands Natural Resources Management Region and within the KINGOONYA NRM District weed strategy (Reviewed June 2015). The Area is within a known Buffel Grass region- Zone 2 and Zone 3 on the SA Buffel Grass Strategic Plan 2019-2024. When looking at the map and Nature maps of known locations of Buffel Grass it is dominantly located along bitumen Stuart Highway and southern railway line. There are no known pathogens within the proposed drilling area.
If any infestations of Buffel Grass or other weed species are encountered during the program, cleaning procedures will be implemented when leaving the area and the infestation will be avoided and reported.

Attach Files ⓘ

				Expand/Collapse
File Name	File Size (Mb)	Created On	Download	
Fig. 4 Weeds of National significance.pdf	1.36 Mb	29-04-2026 12:47:43	Download (MERS/EP-04125/Weeds and Pathogens/Fig. 4 Weeds of National significance_2026-04-29T03-17-41.557Z.pdf)	

Aboriginal Heritage

Describe the steps taken to identify Aboriginal heritage sites within the proposed area of exploration. Include a statement advising if an Aboriginal heritage survey has been conducted by the proponent and if so, the results of the survey.

Heritage Survey has been completed over the proposed work areas with no exclusion zones identified Figure 7. The Survey also specifies no drilling with 50m of water drainage or within granite outcrops, clay pans. Marmota will ensure that during pegging of tracks and drill holes, these areas and available on maps, GPS and conveyed in inductions to ensure no disturbance to exclusion zones or general exclusions conditions (water drainage lines, clay plans and granite outcrops).

Environmentally Sensitive Locations

Indicate if you are intending to undertake exploration operations within the environmentally sensitive locations listed.

No

Name	Applicable
There are no records to display.	

Are you likely to impact on the environmentally sensitive area?

—

Detail the likely effects the proposed program may have.

—

Attach Files ⓘ

				Expand/Collapse
File Name	File Size (Mb)	Created On	Download	
Figure 5 Heritage exclusion zones.jpg	1.46 Mb	29-04-2026 12:50:08	Download (MERS/EP-04125/Env sensitive locations/Figure 5 Heritage exclusion zones_2026-04-29T03-20-06.133Z.jpg)	

Exploration Operations

Exploration Scope

Describe all exploration methods to be covered by the PEPR

Exploration may involve RAB, AC, RC or DDH drilling with RM pre-collars.

Describe the extent of exploration operations – e.g. drillhole spacing and drill line density.

Hole spacing will be variable with infill spacing to 10m x 10m grids. and broader spaced exploration holes to test for further mineralisation

Describe the geographic extent of the area covered by the PEPR, including a general locality plan with tenement details, landowner boundaries and areas with environmental classifications or sensitivities.

The exploration area is located ~ 15km N of Mulgathing station, within the Northern Portion of EL 6166

Describe the specific environments where exploration operations will not be conducted – e.g. parks, reserves, salt lakes etc.

There are no parks, reserves or salt lakes within the Proposed work area (EL6166)
There are no heritage exclusion zones exist within the Proposed work area (EL6166)

Equipment and Personnel Requirements

Describe the maximum composition of field crews (operator, contractors, and geologists) and proposed working hours/days for each type of activity.

Marmota will have a maximum of 5 personnel onsite at any time with a geologist, field assistant and Site Prep contractor.
The drilling contractor will have a maximum of 6 personnel onsite at any time with a Driller and Offsiders.

Using the table below, describe the equipment (size, number and contractor details) required to conduct the proposed operations.

Name	Owner/Operator	Description/capacity	Activity/purpose
Diamond Drilling rig	Drill contractor	Diamond Drilling rig capable of RM pre-collars and drilling NQ to PQ sized core.	Diamond Drilling for the collection of core samples
Drilling Rig (AC/RC)	Drill contractor	6x6 Toyota Landcruiser mounted drilling rig - 7m x 2m x 3m (LxWxH)	AC/RC Drilling
Compressor Truck	Drill contractor	4x4 Mitsubishi Canter mounted compressor truck OR 6X6 Landcruiser mounted compressor	Compressor for AC/RC Drilling
Landcruisers	Drill contractor	Utility	Support Vehicle for Drillers and offsiders
Offroad Caravans	Marmota Ltd or Contractor	Caravans	Field personnel accommodation.
fuel and diesel support truck	Drill contractor	Support Truck with Fuel cells	Fuel and diesel support truck
Landcruiser and Trailer	Marmota Ltd	Utility and trailer	Support Vehicle for Geologists and trailer for samples
RC drill rig	Drill contractor	Schramm 450WS RC Drill Rig. (35t) Or RAB/AC/RC Rig (or Equivalent)	Drill Rig (RAB, RC, AC) Subject to Availability
Support Truck Air	Drill contractor	6x6 Man Air Truck (22t) or Equivalent	Compressor and Booster truck
Support Truck	Drill contractor	8x8 Merc Support Truck or Equivalent	Support truck water/ diesel
Support Truck	Drill contractor	8x8 Merc Support Truck or Equivalent	Support truck, Drilling rods etc.

Low Impact Exploration Activities

Will low impact exploration operations be conducted that are not covered by the Generic program for environment protection and rehabilitation – low impact mineral exploration in South Australia, (generic PEPR)?

No

Describe each type of low impact operations proposed.

Drilling Operations

Will exploration drilling operations be conducted?

Yes

Identify all the drilling methods that will be used.

Aircore, Rotary Air Blast, Rotary Mud, Reverse Circulation, Diamond Drilling, Aircore with Diamond Tails, Rotary Air Blast with ... ▼

Where 'Other' drilling method is selected, provide a description of the drilling method.

Drillsite Preparation

If exploration drilling activities are proposed, describe the methods used to prepare sites, including vegetation clearance requirements, site levelling and digging of sumps.

when using low impact 6x6 mounted AC/RC rig there will be no requirement for track track preparation, drill site preparation or clearing of vegetation is expected. No sump will be required, where water is intersected the hole will be stopped and hence no sumps or pads are required.

If conducting drilling using larger rigs for AC RC RM-DD, tracks pads and sumps may be required

PRIOR TO CLEARING PADS:

- drill holes are anticipated to be carried out along the previous drill lines, and on sections between previous drill lines, with drill pads created alongside previous or proposed tracks.
- Drill pads and clearing will be sited before commencing; Including reviewing and determining locations of heritage exclusion zones within proximity of drill locations and delineating exclusions where required.
- No tracks or drill pads will be created in drainage lines or creeks, drill sites will be relocated 50 metres minimum from creeks or drainage line if no appropriate alternative can be located the hole and access track will not be cleared and drilled.
- Tracks and Drill pads will not be created within 200m of clay pans
- Tracks and pad locations will be sited to minimise vegetation removal and will pass around larger trees and isolated vegetation.
- Drill pads will be created alongside proposed access tracks.

DRILL PADS AND SUMPS

- Drill pads will be cleared up to 20m x 20m (400m²) with a minimum of one sump per Drill hole (2.5m x 2.5m x 2.5m) for water which maybe encountered. If large amounts of water are intercepted water will be diverted to adjacent sumps or an additional sump will be excavated if needed,
- Drill pads will be cleared using raised blade clearing retaining the root stock.
- Topsoil will be retained to re-spread at the surface during rehabilitation.
- The drill pad will be cleared to allow drill rig and support vehicles to sit on adjacently on a drill pad allowing access around the drill rig.

Drillhole Construction and Decommissioning

Drillhole construction and decommissioning

Drill holes diameter will vary depending on drilling method with holes ranging from ~100 to 150mm in diameter. When using 6x6 mounted AC/RC rig no collars will be required. If using larger AC RC RM-DD drill rigs the top 3-6 metres will be cased using PVC. In the unlikely case of drillholes intercepting confined aquifers. the drillhole will be plugged from the level at which the aquifer was penetrated with cement grout back to a minimum of 15 m into the confining bed above; and then back-filled with drill cutting and stockpiled material and topsoil re-spread. (fig 10b). In the unlikely event of drillholes intercepting multiple confined aquifers, each aquifer will be separated by a a cement grout plug to a minimum of 15m in to the confining beds above each aquifer and then back-filled with drill cutting and stockpiled material and topsoil re-spread. (fig 10c)

Have the personnel responsible for implementing the proposed program read and understood the Earth Resources Information Sheet M21, Mineral exploration drillholes – general specifications for construction and backfilling?

Yes

Describe how drillholes will be constructed, including the casing material to be used, depth of casing, if the casing will be cemented, cementing intervals and the class of driller that will install the casing.

Drill holes diameter will vary depending on drilling method with holes ranging from ~100 to 150mm in diameter. When using 6x6 mounted AC/RC rig no collars. If using larger AC RC RM-DD drill rigs the top 3-6 metres will be cased using PVC. In the unlikely case of drillholes intercepting confined aquifers. the drillhole will be plugged from the level at which the aquifer was penetrated with cement grout back to a minimum of 15 m into the confining bed above; and then back-filled with drill cutting and stockpiled material and topsoil re-spread. (fig 10b). In the unlikely event of drillholes intercepting multiple confined aquifers, each aquifer will be separated by a a cement grout plug to a minimum of 15m in to the confining beds above each aquifer and then back-filled with drill cutting and stockpiled material and topsoil re-spread. (fig.s 10, 10b, 10c)

When describing drillhole decommissioning requirements, include the materials to be used, stratigraphic intervals where cement plugs will be placed, if the casing will be removed and when decommissioning will occur after drilling is completed.

After completion of drilling, AC and RC holes will be temporarily plugged/capped until such time it is decided the bulk drill cuttings are no longer required for further geochemical analysis (typically 1-3 months), the drill hole will be back-filled with drill cuttings. A plastic plug will be inserted 0.5 – 2m below the surface and back-filled with native top soil. Surface casing will be removed after hole has been back-filled with cuttings. Open sumps may be used to dispose of excess drill cutting where they will not fit back down the drill hole of origin. Cuttings will be buried 1m below surface where required. See Figure 10 for drill hole decommissioning example.

In the case of RM and DDH drilling, the holes will be temporarily plugged/capped upon completion of drilling. During rehabilitation of these holes the collar will be cut and a plastic plug will be inserted 0.5 – 2m below the surface and back-filled with native top soil. Open sumps will be back-filled with stockpiled material and topsoil re-spread.

In the unlikely case of drillholes intercepting confined aquifers. the drillhole will be plugged from the level at which the aquifer was penetrated with cement grout back to a minimum of 15 m into the confining bed above; and then back-filled with drill cutting and stockpiled material and topsoil re-spread. (fig 10b). In the unlikely event of drillholes intercepting case of multiple confined aquifers, each aquifer will be separated by a a cement grout plug to a minimum of 15m in to the confining beds above each aquifer and then back-filled with drill cutting and stockpiled material and topsoil re-spread. (fig 10c)

Attach Files ⓘ

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File Name	File Size (Mb)	Created On	Download
Fig 10b decomisiosning confined aquifers_20260223_13_55_23.png	0.04 Mb	28-04-2026 15:51:31	Download (MERS/EP-04125/Drillhole construction and decomissioning/Fig 10b decomisiosni ng_confined aquifers_202 60223_13_5 5_23_2026- 04-28T06- 21- 31.221Z.png)
Fig 10c decomisiosning confined aquifers_20260223_13_55_23(1).png	0.04 Mb	28-04-2026 15:52:00	Download (MERS/EP-04125/Drillhole construction and decomissioning/Fig 10c decomisiosni ng_confined aquifers_202 60223_13_5 5_23(1)_202 6-04-28T06- 22- 00.505Z.png)
Figure 10 -decomissioning drillhole_20250915_12_23_52_20251126_13_49_21_20251224_15_49_34.jpg	0.08 Mb	28-04-2026 15:50:20	Download (MERS/EP-04125/Drillhole construction and decomissioning/Figure 10 - decomissioni ng drillhole_202 50915_12_2 3_52_20251 126_13_49 21_2025122 4_15_49_34 _2026-04- 28T06-20- 20.466Z.jpg)

Costeans and Bulk Sample Disposal Pits

Will costeans/bulk sample disposal pits be required for the proposed program?

No

Indicate the maximum dimensions and size of pits and costeans.

0.00

Describe site preparation methods, vegetation clearance, and safety and maintenance requirements

NA

Sample management

Describe the size of samples collected (including drilling samples and bulk sampling), collection methods, materials used when collecting the sample, sample disposal methods (including removal of sample bags), safety management and any other sample management requirements at the exploration site (e.g. tarps or matting used to contain cuttings). Include requirements for on-site geological sample management (splitting of archive samples, bag farms, core processing and storage).

Sample Collection

- For AC and RC drilling, bulk drill cuttings will be collected in large plastic bags at 1m intervals down the entire drill hole.
- From these bags, 4m composite samples will be collected in calico sample bags and submitted to a laboratory for geochemical analysis.
- surplus bulk drill cuttings will be left at each drill site until all geochemical results have been received from the laboratory to ensure no samples need to be resubmitted.
- The surplus bulk samples will then be used to back-fill the holes followed by a non-degradable plug at 0.5 – 2m downhole and then topsoil back-filled to surface. The remaining bulk samples will be removed from the plastic sample bag and disposed of in a nearby sump.
- Plastic bags and surplus calico bags from 1m splits will be disposed of separately at a designated waste dump. All sample bags will be rehabilitated within the requested approval time monitoring for bag degradation.
- Sample material that cannot be returned downhole will be disposed in a sump.

All sample bags will be rehabilitated within 3 months following expiry of the relevant Program Notification.

Diamond Drilling

- Core will be collected into core trays at the rig.
- Core will be logged onsite and then taken offsite for cutting and processing.

Access Routes to Work Areas

Will existing tracks require upgrading and/or maintenance?

No

Detail the work required to upgrade/maintain existing tracks.

—

Will access off existing tracks be required?

Yes

Detail the method(s) for gaining access and if vegetation clearance is required. Details of the total area of disturbance (includes drill traverses and seismic lines) required off existing tracks (i.e. length (km) and width (m) of new tracks) must be provided in the program notification.

For 6x6 Mounted AC-RC drill rig no track clearing will be required.

For other drill methods access tracks of existing tracks will be cleared using raised blade clearing retaining the root stock, and topsoil and vegetation will be retained to re-spread at the surface during rehabilitation.

Track width will be determined based on the size and type of drill rig used in a specific program.

Access tracks will be closed of after rehabilitation to discourage use by others.

Track locations if required will be updated in the relevant Program Notification.

Attach Files ⓘ

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Campsites and Equipment Laydown Areas

Indicate where staff and contractors will be accommodated during the exploration program.

A campsite will be established in a previously cleared/open area to the south of the proposed work area, within EL 6166.

What is the maximum number of personnel requiring accommodation?

10

Is a campsite required to be established?

Yes

Provide a description and justification of the camp location (e.g. previously cleared areas etc.), and any other relevant information.

A campsite will be established in a previously cleared/open area to the south of the proposed work area within EL 6166.

What will be the total area (ha) of the campsite(s)?

0.20

Will native vegetation clearance required?

Yes

What will be the total area (ha) of vegetation clearance for the campsite?

0.20

Describe the methods used to prepare the campsite including vegetation requirements and site levelling.

If is clearing is required, it will be carried out using a backhoe - Any clearing of vegetation will be carried out using a raised blade to preserve root stock.

Will any excavations be required?

Yes

Describe the purpose of the excavation

A small sump will be dug at the campsite to contain grey water runoff

Describe the maximum volume (m3) of material to be excavated.

8.00

Provide confirmation that the proposed ablution facilities have been endorsed for use by the Department of Health or local council, where applicable.

Yes

Indicate why endorsement approval is not required by the Department of Health or local council.

The program is consistent with the inquiry made to SA Health Response (Mark Nash) on 7/12/2022. Mark Nash provide advice that "Please consider your proposal as 'satisfying the Department for Health and Ageing Requirements'.

Proposed Infrastructure (includes caravans, tents, offices, hydrocarbon and water storage requirements etc)

Proposed infrastructure	Quantity	Description / capacity
Caravans/Camper Trailers	5	a maximum of 5 Caravans for Marmota personnel and drilling contractors

Will laydown areas be required?

Yes

Will the laydown area(s) be located at the same location as the campsite?

Yes

Provide a description and justification of the laydown area location (e.g. previously cleared areas etc.), and any other relevant information.

Laydown area will be within the area cleared for camp.

What will be the maximum area (ha) required for the laydown area(s)?

0.00

Will native vegetation clearance be required?

No

What will be the total area (ha) of vegetation clearance for the laydown area?

0.00

Describe the methods used to prepare the laydown area including vegetation requirements and site levelling.

—

Will any excavations be required?

Yes

Describe the purpose of the excavation.

A small sump will be excavated at the campsite for the collection of grey water.

What will be the volume (m3) of material to be excavated.

8.00

Proposed infrastructure (includes hydrocarbon and water storage requirements)

Proposed infrastructure	Quantity	Description / capacity
Fuel Tanker	1	Fuel Tanker for Hydrocarbon Storage
Water Trailer (Camp)	1	Water tanker for potable water supplies

Other Exploration Methods and/or Ancillary Operations

Are any other proposed exploration methods (e.g. seismic) and/or ancillary exploration operations required?

No

Describe the activity(s), site preparation, vegetation clearance, and safety and maintenance requirements.

—

Water Supply and Management

Will camp and/or drilling water be required?

Yes

Describe how and where water will be sourced for drilling, track maintenance and camping purposes (e.g. groundwater, surface water, mains). Indicate how wastewater and/or runoff water will be managed.

Water will be brought to site in a water tanker with fresh supplies trucked to site as needed.
Grey water at camp will be contained in a small sump and allowed to soak into the ground.

Will surface water and/or mineral drillholes be used as a water source/supply?

No

Indicate if a licence for water extraction/usage is required (refer to relevant Natural Resources Management water allocation plan available on the Department for Environment and Water (DEW) website.

No

Attach a copy of the licence or include a statement confirming that a licence will be obtained before the extraction and/or usage of water.

Groundwater Investigation and Water Affecting Activities

Will any water investigation (e.g. pump testing, water monitoring sites, water storage, turkey nests/dams) and/or water affecting activities, be undertaken (refer to s. 127 of the Landscape South Australia Act 2019)?

No

Describe the water investigation and/or water affecting activities, including site preparation, vegetation clearance, and safety and maintenance requirements.

Indicate if water affecting activities permits (eg well and water extraction/discharge permits) have been obtained and in accordance with the Landscape South Australia Act 2019.

No

Attach a copy of the permit(s) or include a statement confirming that permits will be obtained prior to the commencement of the water investigation activities.

Management of Hazardous Materials

Will activities be conducted in areas of known uranium and thorium mineralisation?

No

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Will any other hazardous material be encountered when exploring in the area?

No

List the types of hazardous materials and provide a management plan on how these materials will be managed.

Rehabilitation

Detail all the activities and strategies relating to the remediation of all impacts associated with the proposed exploration operations (includes exploration camps and laydown areas, tracks). Completion of rehabilitation must be achieved within 3 months after the expiry of each program notification.

For 4wd Mounted AC/RC drilling, holes will be rehabilitated on completion with cuttings returned downhole.

For other drilling if needed,

Drill Pads and Samples

- For AC and RC drilling, bulk drill cuttings will be collected in large plastic buckets or green bags at 1-4m intervals down the entire drill hole. From these buckets or samples bags, further sub samples will be collected in calico sample bags or green and submitted to a laboratory for geochemical analysis. The green bags or calico bags containing 1m splits will be retained at site for the collection of additional samples for geochemical assay.

1) Plastic bags and surplus calico bags from 1m splits will be disposed of separately at a designated waste dump (example - photo 1).

2) All sample bags will be rehabilitated within 3 months following expiry of the relevant Program Notification.

- A non-degradable plug at 0.5 – 2m downhole will be placed into the open hole and then topsoil backfilled to surface.
- The remaining bulk samples will be removed from the plastic sample bag and disposed of in existing sumps on the hole it was drilled.
- If drill pads have been compacted by machinery, the drill holes or track will be ripped along the contour to loosen the soil.
- Topsoil which has been stockpiled will be re-spread to facilitate growth.

For Diamond Drilling

- Core Samples will be collected directly from the rig, and no samples will remain at the drill hole location.
- Drillholes will be temporarily plugged/capped upon completion of drilling. During rehabilitation of these holes the collar will be cut and a plastic plug will be inserted 0.5 – 2m below the surface and back-filled with native top soil. Open sumps will be back-filled with stockpiled material and topsoil re-spread.

In the unlikely case of drillholes intercepting confined aquifers, the drillhole will be plugged from the level at which the aquifer was penetrated with cement grout back to a minimum of 15 m into the confining bed above; and then back-filled with drill cutting and stockpiled material and topsoil re-spread. (fig 10b). In the unlikely event of drillholes intercepting case of multiple confined aquifers, each aquifer will be separated by a cement grout plug to a minimum of 15m in to the confining beds above each aquifer and then back-filled with drill cutting and stockpiled material and topsoil re-spread. (fig 10c)

Sumps

- Drilling waters will be contained within sumps, with sumps back filled after water has evaporated.
- Bulk samples will be disposed of downhole with excess samples disposed of in the sumps and covered with sub and topsoil in the correct order.
- excess sub-soil material will be added where possible to allowing for compaction
- Topsoil which has been stockpiled will be re-spread to facilitate growth

Tracks and Pads

- Will be rehabilitated to near original condition to facilitate revegetation after drilling
- If tracks have been compacted by machinery, the drill holes or track will be ripped along the contour to loose the soil.
- Topsoil and vegetation will be respread over the top to facilitate revegetation
- Obstacles such as mounds, tree trucks and branches across will be used to restrict access along rehabilitated tracks off major roads and station tracks.

Campsite

All rubbish will be removed and any cleared areas rehabilitated.

any grey water sumps will be back filled and if clearing is required topsoil and vegetation will be respread.

State the estimated budget required to rehabilitate all impacted sites. Include a breakdown of the cost associated with each rehabilitation component.

Rehabilitation will be ~\$200 per hole including all sample media, pads, sumps and tracks

Vegetation Clearance

Will any area of cleared native vegetation be unrehabilitated after the authorised period?

No

Provide a map and description of the vegetation present in the application area, the extent of any proposed vegetation clearance and the likelihood of the presence of threatened flora.

State the estimated quantum of significant environmental benefit (SEB) to be gained in exchange for the proposed native vegetation clearance and describe how the SEB will be provided.

Management of Environmental Impacts

Applicable environmental aspects and potential impacts

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
Stakeholders	Stakeholders	Interference to: • existing or permissible land use (includes loss of income, noise, dust, light and other emissions). • buildings, structures, existing tracks or other infrastructure. • aesthetic values of an area. Noncompliance with legislative requirements.	Landowners and Marmota personnel discuss drilling programs, access tracks, camps usage well in advance to ensure drilling activities will not interfere with station work and that our actions will not cause unnecessary disturbance to the environment. If concerns are raised, Marmota and the landowners work together to form an outcome that suits both parties. Other stakeholders including Native Title Parties, State Government Departments, Department of defence etc are always provided with the correct information to raise any issues prior to work commencing. Mitigation and rehabilitation strategies used to reduce the land use impact include but are not limited to: • Discussions with Mulgathing Station with regards to camp setup and location.along with monitoring of track conditions for deterioration • Wetting tracks if deterioration occurs, this water will be sourced from onsite water trailer and replenished from water storage at the Aurora Tank Camp. Based on previous work in the area minimal water (3000l) will be required for wetting of tracks. • Using an	Low	Stakeholders are fully informed and satisfied with the proposed methods used to conduct exploration activities on their land, and all prescribed forms are served and agreements obtained in accordance with the Mining Act.	Provide the information requested within the 'Complaints' section of the annual exploration compliance report demonstrating that all reasonable complaints from stakeholders are resolved to the satisfaction of both parties prior to and ongoing during the course of exploration program, without the involvement of DEM. Provide the information requested within the 'Landowner details and liaison' section of the annual exploration compliance report demonstrating that prescribed forms were served and agreements obtained in accordance with the Mining Act prior to the commencement of exploration activities.

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
			alternate route • Vehicle speed limits will be imposed to reflect road conditions and proximity to any infrastructure or livestock • Planning and coordination will be used to minimise the number of individual vehicle movements • Rehabilitating new and existing tracks to the satisfaction of the landowner • Being informed of mustering and not interfere with these areas • Constructing and rehabilitating drill holes, tracks, camps etc inline with information sheets M21 and M33. Undertaking photo monitoring before, during and after exploration activities.			

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
Fire	Community/landowners	Damage to infrastructure and loss of income through fire.	All fire bans, regulations and directions from the Country Fire Service will be observed. Fires will not be permitted on fire ban days. Strict precautions will always be observed to prevent accidental fires, including correct disposal of cigarettes. All vehicles are fitted with appropriate fire extinguishers. Drillers will have Hot Works Permits for welding, cutting, and oxy-cutting and will provide a copy of that permit to Marmota. The drill rig has relevant fire suppression units fitted which are regularly checked to be in good working order. Camp/Laydowns: Fuel stoves, servicing areas, and kitchens should be sited on ground cleared to bare earth with a firebreak sufficient to isolate it from the surrounding vegetation. Fire extinguishers fitted or available in required areas.	Low	No loss of infrastructure or income through fire as a result of exploration activities.	Provide a statement within the 'Compliance with approved programs' section of the annual exploration compliance report confirming that no uncontrolled fires* occurred. Alternatively, provide a report on the independent investigation of all uncontrolled fires* demonstrating that the licensee could not have reasonably prevented the fire through the implementation of precautionary measures.

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
Native Vegetation	Flora and fauna and their habitats; includes Common wealth and state scheduled species.	Loss/modification of native vegetation and associated habitats through the clearance of vegetation.	vegetation in this region is predominantly an open to very open acacia woodland with a variable understory of Senna, Saltbush, Bluebush and other flora identified in Native Vegetation tables of this PEPR Application. Mitigation and rehabilitation strategies used to reduce disturbance to native vegetation include but are not limited to; • Unnecessary vegetation disturbance will be avoided with implementation of methods consistent with DEM guidelines and requirements of the Mining Act 1971 • Site access will use existing tracks where possible in consultation with the landowners to reduce new track lengths. • Clearing of understory vegetation and mechanical clearing of tracks will be avoided • Where mechanical clearing is required, rootstock will be preserved. • New tracks will be sited to minimise the amount of vegetation removal and will pass around larger trees • Access track will be dog legged of existing tracks and continuous straight lines will be avoided. • Drill sites will only be cleared if necessary, with holes sighted on non-vegetated ground if possible, •	Low	No permanent loss/modification of native flora and fauna populations and their habitats through: • clearance • fire • other unless prior approval under the relevant legislation is obtained.	Maintain before, during and after photographic evidence of all exploration sites (e.g. drillsites, new track exit/entry points off existing tracks, costeans, campsites) demonstrating that: • The area and method of disturbance is consistent with that described in the PEPR. • No uncontrolled fires* occurred as a result of exploration activities. Representative photos to be included within the annual exploration compliance report.

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
			Traffic will be restricted to one track, and contractors are reminded at the start of each program and during programs as needed to stick to existing tracks and turn around areas. • Tracks that will not be used again once rehabilitated. • ruts levelled and vegetation debris removed during clearing and topsoil respread over track area. • Rehabilitation will aim to restore the land to a stable condition that will facilitate land use consistent with that established prior to implementing the exploration program. • All vehicles carry fire extinguishers in the event of a fire. Smoking will only be permitted on the drill site away from vegetation and all cigarette stubs will be disposed of in a designated container. Hot points on vehicles and machinery will avoid dry vegetation. Marmota will aim to position drill holes to ensure minimal disturbance to native vegetation. No trees are anticipated to be disturbed during the proposed drilling works, with minimal damage expected to saltbush and bluebush at drill pads and along access tracks. If clearing is required, it will be done by raised bucket and will aim to leave			

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
			rootstocks intact to allow for revegetation. Drill pads and tracks will be lightly scarified upon completion of works if required.			
Groundwater	Soil/vegetation/fauna	Discharge of groundwater into the surrounding environment.	All ground water that is brought to surface will be captured and contained within sumps. Bunding around the collar of the rig leading to the sump will be used to direct any uplifted water coming to the surface around the collar, to the sump. Water and drilling sludge in the sump will be allowed to dry and then be buried in the sump. A minimum of 1 sump per hole will be allocated with additional sumps dug only if needed to contain excess groundwater. If needed a shallow shovel width channel may be dug between sumps on closely spaced holes to allow for excess groundwater to drain into adjacent sumps.	Low	No discharge of groundwater outside of the exploration site (e.g. drillsite) into the surrounding environment and no discharge of water into a watercourse, unless prior approval under the relevant legislation is obtained.	Maintain photographic evidence of all drillsites demonstrating that groundwater was not discharged into the surrounding environment, unless water affecting activity permits were obtained allowing the discharge of groundwater into watercourses and/or lakes. Representative photos and water affecting activity permits (where applicable) to be included within the annual exploration compliance report.
Groundwater users	Groundwater users	Interference to existing water users when extracting water from existing dams, water bores or mineral drillholes.	No extraction of water required from dams, water bore or mineral drill holes	Low	No public nuisance impacts resulting from the extraction of water for exploration purposes, unless prior approval under the relevant legislation is obtained.	Provide the information requested within the 'Complaints' section of the annual exploration compliance report demonstrating that all reasonable complaints from stakeholders were resolved to the satisfaction of both parties, prior to and ongoing during the course of the exploration program without the involvement of DEM. Where permits are required for the extraction and/or usage of groundwater, provide copies of the licence or permit within the annual exploration compliance report.

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
Soil	Soil	Disturbance to the soil profile and topography, and accelerated soil erosion caused by exploration activities (e.g. construction of sumps, new tracks and drill pads; ground compaction at laydown areas and camps).	There will be minimal compaction along the drill access tracks due to the nature of the soils in the area. • Drill tracks, sumps, drill pads will be rehabilitated within the approved time via scarification and spreading of vegetation debris to the individual landholder's specifications. • Vehicle speeds will be under 80km/hr on established station tracks and will be set lower to suit local conditions on all other access tracks. • Access tracks from camp to the main work are via an existing station track resulting in no significant rutting or other damage to the track to date. • Tight corners will be avoided to minimize rutting in corners. • Access points to rehabilitated tracks will be blocked with fallen vegetation. • Due to the remote nature of the area included in this PEPR, no general public access or traffic is expected. • Sumps at drill sites used to contain discharges and will be constructed by firstly removing topsoil followed by the sub soil and stockpiled separately. Upon rehabilitation, the sumps will be filled with the sub soil first followed by the topsoil for spreading on completion of the drilling program. • Cleared vegetation	Low	Where soil disturbance occurs as a result of exploration activities, ensure that: • topsoil quality and quantity is maintained • the soil profile and topography is reinstated to original conditions • there is no accelerated soil erosion.	Maintain before, during and after photographic evidence of all excavations, drillsites, camps, laydown areas and new tracks demonstrating that: • The soil profile and topography is reinstated to original conditions and is consistent with natural surroundings within 3 months of the expiry of the PEPR approval (for PEPRs approved for a period of 12 months), or 3 months after the expiry of a program notification (for PEPRs approved for an ongoing period), unless otherwise authorised. • Where required, sufficient topsoil is removed (depending on soil profile), stored separately from subsoil and reinstated (in the correct order) within 3 months of the expiry of the PEPR approval (for PEPRs approved for a period of 12 months), or 3 months after the expiry of a program notification (for PEPRs approved for an ongoing period), unless otherwise authorised. • There are no signs of accelerated soil erosion during and post rehabilitation of disturbed sites. Representative photos to be included within the annual exploration compliance report. Provide the information requested within the 'Rehabilitation' section of the annual exploration compliance report.

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
			kept and subsequently spread back over drill pads, tracks, and sumps during rehabilitation to assist with seed capture and regeneration. • Raised blade clearing to retain rootstock during clearing to facilitate revegetation and regrowth. • Tracks drill pads and sumps will be lightly scarified as needed with any removed topsoil respread. • Movement in and around drill pads will be kept to a minimum with vehicles to remain stationary after setting up unless absolutely necessary. Ensuring no off track driving around drill pads will be re-enforced in pre-starts, site induction and monitored by the supervising Marmota personnel. Where necessary temporary flagging will be installed to restrict access. • Sumps will be allowed to dry prior to backfilling and a mound of excess topsoil laid over the excavation to allow for subsidence and compaction. • Camp and laydown will be placed on level ground in an area of no vegetation. • The Campsite is within a previously cleared area, with ample space for accommodation and Vehicles. Contractors and staff and informed not to extend beyond the cleared			

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
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			area during site induction.			
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Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
Weeds and Pathogens	All flora and fauna, especially listed species.	Loss/modification of the environment (biological, social and economic) through the introduction of weeds and pathogens.	The area is within a known Buffel Grass region however infestations are not located anywhere close to the area proposed for drilling. The ongoing management plan for Zone 2 - contain spread is To prevent the ongoing spread of Buffel Grass into clean or priority areas within or beyond Zone 2, aiming for a significant reduction in all infestations. The ongoing Management plan for Zone 3 - To significantly reduce the extent of buffel grass in Zone 3, locating and destroying all infestations aiming for local eradication at feasible sites. To prevent the ongoing spread of Buffel grass mitigation and rehabilitation strategies will include but are not limited to; • Marmota staff and contractors will be made aware of Buffel grass, and a copy of the strategic plan will be on site for staff to refer to • Marmota will ensure vehicles, equipment and footwear are free of clods of soil and plant material particularly when off-road machinery enter the site. If any infestations of Buffel Grass are encountered during the drilling program, cleaning procedures will be implemented when leaving the infestation and the area of infestation	Low	No introduction of new species of weeds and plant pathogens, nor increase in abundance of existing weeds species.	Provide a statement within the 'Compliance with approved programs' section of the annual exploration compliance report, confirming that: • Vehicle logs were kept during the exploration program, demonstrating that all vehicles are clean and free of plant and mud material prior to entering properties† within the tenement areas, unless otherwise agreed to with the relevant landowners. • Photographic evidence before and during exploration operations and after rehabilitation of disturbed sites was captured, demonstrating that no new weeds and plant pathogens were introduced, nor an increase in abundance of existing weeds recorded.

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
			avoided. • Surveys indicate potential risk, or if the landowner raises any concern over the spread of weeds. Discussions with Landholders has raised no concerns about the presence or spread of weeds due to Marmota's activities to date. This is an ongoing discussion with the landholders prior to each field program to ensure Marmota is aware of any issued relevant to the sites accessed for field work. • Vehicles will be washed and clean before entering new sites where the risks warrant it (i.e. between exploration areas of different weed profiles)			
Aboriginal heritage	Aboriginal heritage sites	Disturbance to Aboriginal heritage	No Aboriginal Heritage sites or exclusion zones have been identified at Muckanippie (EL 6166)	Low	No disturbance to Aboriginal artefacts or sites of significance unless prior approval under the relevant legislation is obtained.	Maintain a database and provide a statement within the 'Compliance with approved programs' section of the annual exploration compliance report demonstrating that: • Heritage sites were not impacted during the conduct of the exploration program, unless prior approval was obtained under the appropriate legislation • Work ceased on discovery of a significant site and recommenced only after authorisation. • Aboriginal heritage sites identified during the exploration program were appropriately recorded and reported to authorities, if not previously known.

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
Contamination	Soil/vegetation/fauna	Soil/vegetation contamination (e.g. hydrocarbons, rubbish, drill samples/cuttings, ablutions, other sources)	All general waste material including plastic sample bags, plastic sheeplaced under rig to catch spills and any other drilling related rubbish will be collected and brought back to Coober Pedy or Adelaide or Port Augusta and disposed of accordingly. • The drill rig is equipped with a hydrocarbon spill kit and all drillers and offsideers are trained to deal with any spills as quickly and efficiently as possible, and waste will be disposed of at the nearest Waste Transfer Station on completion of works. • A hydrocarbon spill kit will be stationed at the filling area adjacent to the Diesel tank to minimise risk of hydrocarbon contamination during refuelling. • Pre-start checks (safety and environment) will be undertaken on equipment to identify any leaks. • Site inspections will be undertaken, and corrective actions implemented before project sign-off is completed. • Camp waste will be contained, and either taken to Coober Pedy dump, or if not, possible they will be brought back to Adelaide or Port Augusta and disposed of accordingly. • Drill cuttings will be	Low	No contamination of soil and vegetation as a result of exploration activities.	Demonstrate that all domestic or industrial waste (includes general rubbish and hydrocarbons) is disposed of in accordance with the Environment Protection Act 1993 within 3 months of the expiry of the PEPR approval (for PEPRs approved for a period of 12 months), or 3 months after the expiry of a program notification (for PEPRs approved for an ongoing period), and that all fuel and chemicals are stored in accordance with EPA requirements, by providing: • The name, location and contact details of the authorised waste disposal facility. • A statement within the 'Compliance with approved programs' section of the annual exploration compliance report confirming domestic and industrial waste was removed from all exploration sites and disposed of at an authorised waste disposal facility. • Photographic evidence within the annual exploration compliance report demonstrating that all fuel and chemical storage facilities were managed in accordance with EPA requirements. Maintain photographs of all exploration sites and provide representative photos within the annual exploration compliance report demonstrating that drill cuttings are: • removed from site and disposed of at a licensed facility • buried under a minimum of 30 cm of soil, or in accordance with EPA guideline, Radiation protection guidelines on mining in South Australia: mineral exploration, available on the EPA website, or • backfilled down the drillhole, within 3 months of the expiry of the PEPR approval (for PEPRs approved for a period of 12 months), or 3 months after the expiry of a program notification (for PEPRs approved for an ongoing period), unless otherwise authorised. Provide the information requested within the 'Rehabilitation' section of the annual exploration compliance report.

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
			disposed of by backfilling of drill-holes, with excess cutting disposed of within drill sumps close to each drill site. • Plastic drilling bags, calico drill bags and Rehabilitated PVC drill collars will be removed from site and disposed of at Coober Pedy waste dump. Drill cuttings will be buried in line with DEM guidelines Some cuttings will be used to backfill the drill hole prior to plugging. No cuttings will be visible at surface following rehabilitation and the sumps will be backfilled in the order that they were excavated - i.e., subsoil and then topsoil on top. Drilling is expected to be campaigned based and may have additional campaigns. After each campaign all caravans, tents and generators are removed from site and the toilet facilities are backfilled and rehabilitated. Shower Facilities are provided in caravans brought to site for the program, with grey water allowed to drain into a small hand dug sump and allowed to seep freely into sandy soil within 5m of the campsite, with the sump rehabilitated after each program. Toilet facilities for each campaign consist of a ~6m deep drillhole with privacy tent and			

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
			field toilet seat placed above it, A new hole will be drilled and used as a toilet facility for each drill program. If the frequency of site activities increases, leading to more permanent camp requirements, an amendment to this PEPR will be made, including advice from Health SA, regarding the need for upgraded sewage and grey water treatment. As per ISM-33 Waste Pits will be constructed and used in such a manner as to prevent the dispersal of rubbish by wind and scavengers. Pits for disposing of sewerage and domestic waste will be of sufficient size to contain all waste and allow for burial to be minimum depth of 1 m. Pits will be located away from water courses. Wastewater from kitchens and ablutions trailers will be conveyed to earth drains constructed specifically for that purpose. Earth drains will be constructed to allow: 1) rapid infiltration into the soil 2) containment of all effluent 2) direction of effluent away from the camp areas frequented by personnel or vehicles.			
Other	NA	NA	NA	Low	Not Applicable	

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
General Public	General Public	Injury or death to members of the public as a result of exploration activities.	Due to the remote location of the work area, over 50km from the closest public access route, and within the Woomera Prohibited Area, the likelihood of the general public being at the work are during or after exploration activities in very unlikely. The only public access would be station workers, and Marmota will be in regular contact to inform drill locations and concerns before, during and after the drilling. Regardless of this all-work areas will be monitored for unauthorised access during field activities to ensure members of the public, Station owners and other land users are kept away from hazards such as heavy vehicle, drilling equipment, power generators and drillholes. Appropriate signage will be displayed at drill locations and all members of the public or not associated with drill program to be escorted by rig inducted person at all times. As per rig procedures if a member of the public approaches the drill rig (work exclusion distance as per the rig induction ~50m) the rig will be shut down and person(s) approached, and drilling will resumed only when personnel have moved out of area.	Low	No accidents involving the public that could have been reasonably prevented by the licensee.	Provide a statement within the 'Compliance with approved programs' section of the annual exploration compliance report confirming no accidents occurred involving the public during and after the exploration program. If an accident involving the public did occur, provide a copy of the independent investigation report within the annual exploration compliance report demonstrating that the licensee could not have reasonably prevented the accident through the implementation of precautionary measures.

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
Groundwater	Groundwater/aquifer	Groundwater contamination: • contamination of aquifers through entry of pollutants from the surface • interconnection between aquifers • degradation of natural hydrostatic conditions (maintain pre-drilling pressures).	Based on Drilling to date no significant ground water is expected to be intercepted in drillholes in this area, in part due to the shallow depth of the majority of holes. If aquifers are intersected, then procedures for decommissioning of drillholes as per South Australia Earth Resources Information Sheet M21 will be adhered to including cementing or grouting as needed. However, this is deemed extremely unlikely as drilling to the relatively shallow depth of drilling planned for this project.		Drillholes restored to controlling geological conditions that existed before the hole was drilled or, where it is intended to re-enter the hole, the hole must be completed with casing of adequate strength and the casing cemented so that all aquifers are isolated to prevent the movement of any fluids behind the casing.	Maintain evidence demonstrating that drillholes are decommissioned in accordance with Earth Resources Information Sheet M21, Mineral exploration drillholes – general specifications for construction and backfilling, and/or specific conditions from DEW (Groundwater) within 3 months of the expiry of the PEPR approval (for PEPRs approved for a period of 12 months), or 3 months after the expiry of a program notification (for PEPRs approved for an ongoing period), unless otherwise authorised. Provide the information requested within the 'Groundwater' section of the annual exploration compliance report.

Not applicable environmental aspects and potential impacts

Environmental Aspect	Potential Impact	Show/Hide Outcome
Hazardous materials - Uranium	Contamination of the environment when exploring for known uranium and thorium deposits. Public and employee/contractor exposure to low level radiation.	Hide
Surface Water	Alteration to surface water – interference to surface drainage.	Hide
Other (Hazardous Materials)		Hide
Fauna	Entrapment of fauna through open drillholes and excavations.	Hide
Heritage and scientific sites	Disturbance to European heritage sites and sites of scientific and environmental significance (e.g. geological monuments, fossil reserves).	Hide
Third party access	Degradation of rehabilitated access tracks caused by third party access (includes previously closed and rehabilitated access tracks).	Hide

Supporting Information

Photos

Upload Photos ⓘ

					Expand/Collapse	
File Name		File Size (Mb)		Created On		Download
6x6 mounted rig.png		0.29 Mb		29-04-2026 13:14:37		Download (MERS/EP-04125/Supporting information/Photos/6x6 mounted rig_2026-04-29T03-44-35.604Z.png)
DJI_0612.JPG		6.51 Mb		29-04-2026 13:08:56		Download (MERS/EP-04125/Supporting information/Photos/DJI_0612_2026-04-29T03-38-54.355Z.JPG)
DJI_0624.JPG		6.31 Mb		29-04-2026 13:09:30		Download (MERS/EP-04125/Supporting information/Photos/DJI_0624_2026-04-29T03-39-29.489Z.JPG)

Site identification	Date taken	Photo number & PEPR section reference	Easting (GDA94)	Northing (DGA94)	Zone	Details and comments	Document ID
Mucnanippie Low hills	28/09/2024	DJI_0612				Representative image of Low hills	DJI_0612
Muckanippie low relief Plains	28/10/2024	DJI-0624				Representative drone Image of plains within work area	DJI_0624
6x6 mounted AC/RC rig	18/03/2025	6x6 Mounted Rig				example of low impact 6x6 mounted drill rig.	6x6 Mounted Rig

Supporting Maps

Upload Maps ⓘ

Expand/Collapse

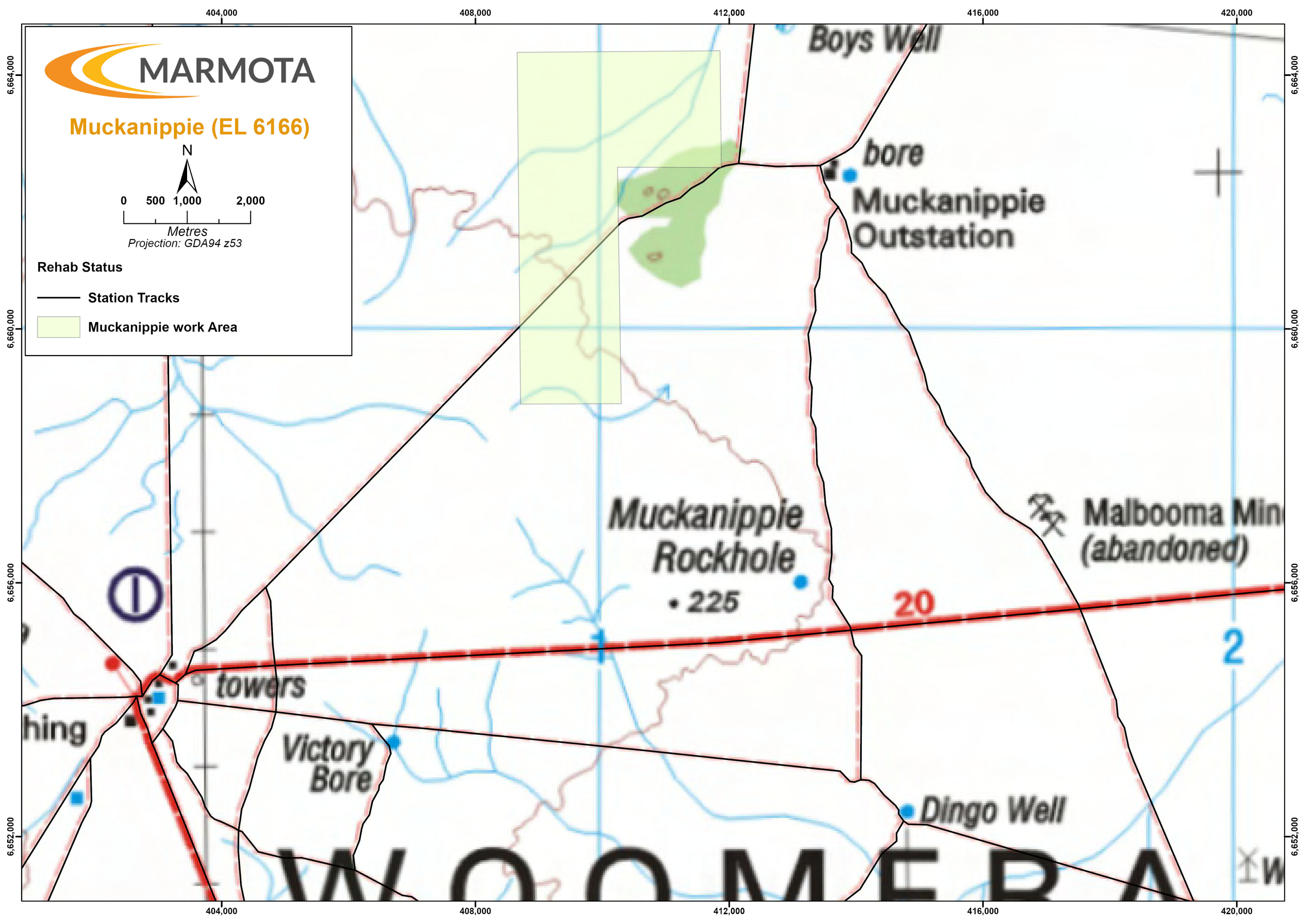
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Figure 1 Overview of the Proposed Work area and Proximity to infrastructure.jpg	1.44 Mb	29-04-2026 13:13:48	Download (MERS/EP-04125/Supporting information/Maps/Figure 1 Overview of the Proposed Work area and Proximity to infrastructure 2026-04-29T03-43-46.245Z.jpg)

Figure Description	Document ID
Proposed work area and proximity to infrastructure	Figure 1 Overview of the Proposed Work area and Proximity to infrastructure

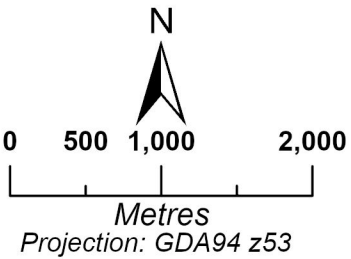
Additional Information

List any other supporting information and/or documents submitted with the application, including land access approvals/permits required to conduct the proposed exploration program.

NA



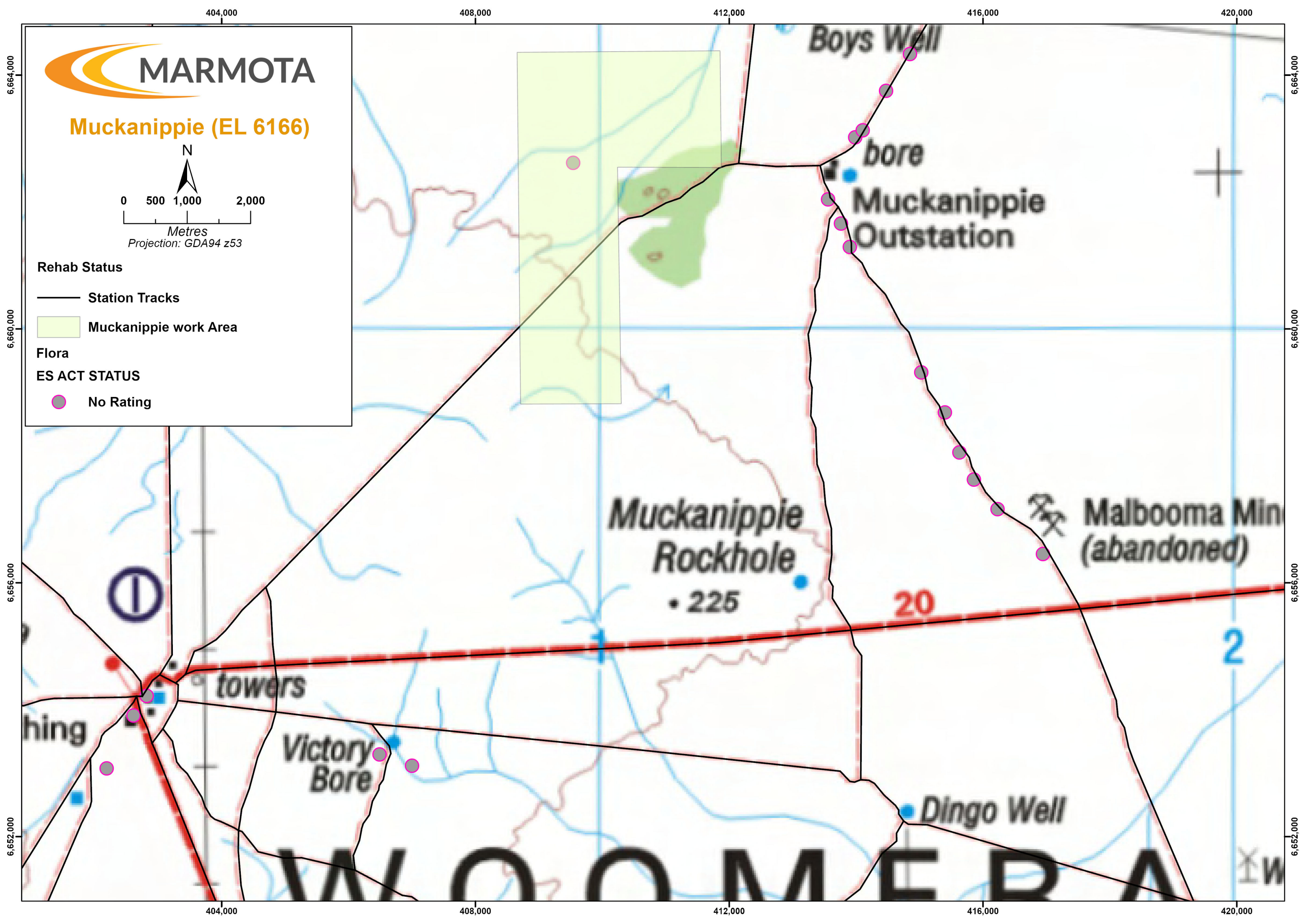
Muckanippie (EL 6166)



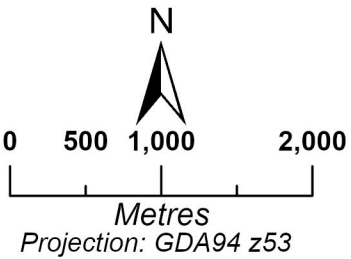
Rehab Status

— Station Tracks

■ Muckanippie work Area



Muckanippie (EL 6166)



Rehab Status

— Station Tracks

■ Muckanippie work Area

Flora

ES ACT STATUS

● No Rating

**Muckanippie
Rockhole**
• 225

**Malbooma Min
(abandoned)**

Boys Well

bore

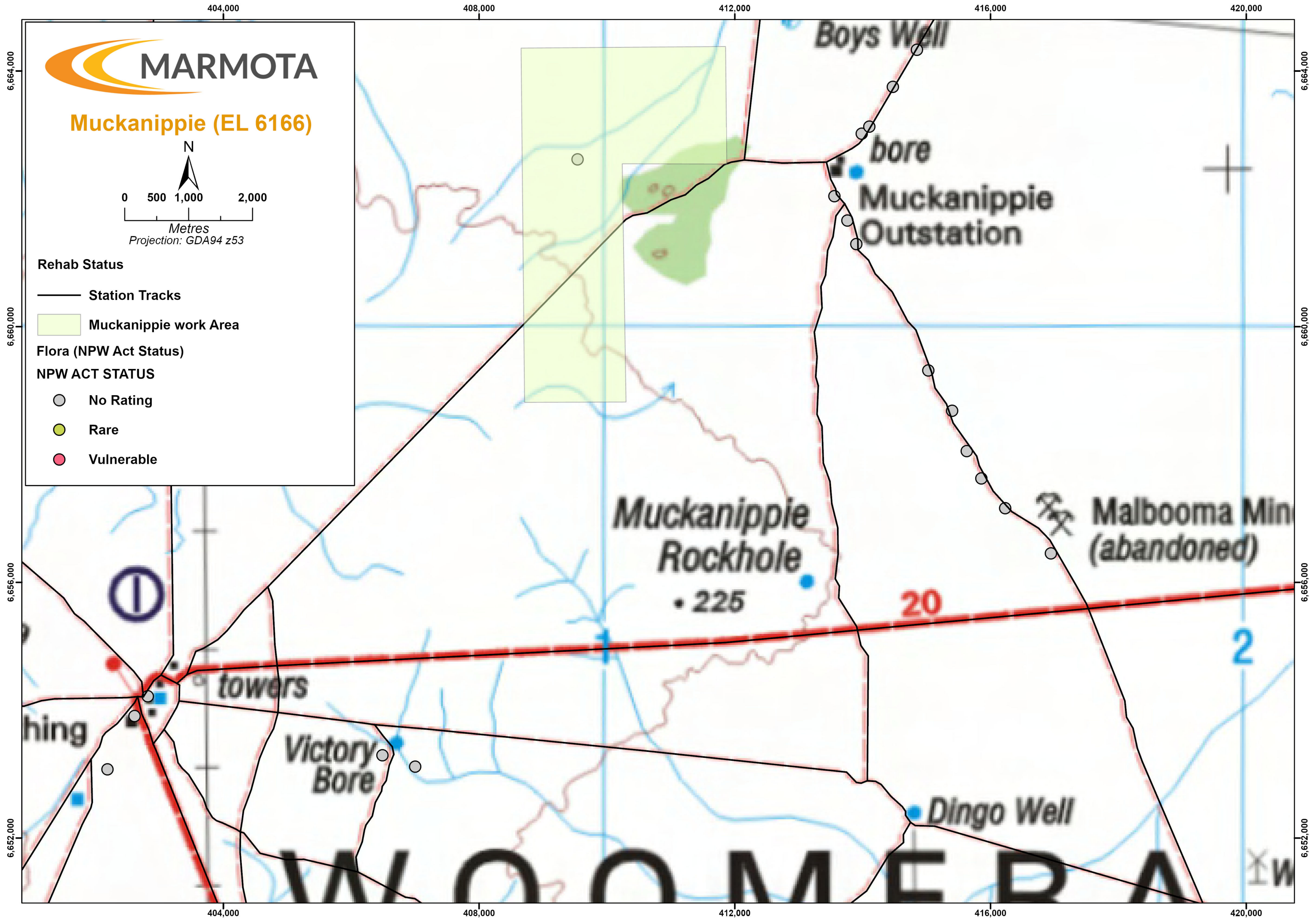
**Muckanippie
Outstation**

towers

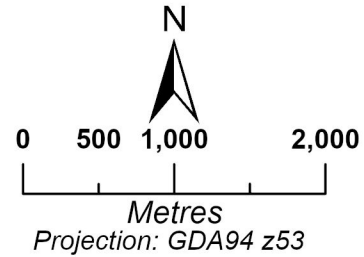
**Victory
Bore**

Dingo Well

hing



Muckanippie (EL 6166)



Rehab Status

— Station Tracks

■ Muckanippie work Area

Flora (NPW Act Status)

NPW ACT STATUS

- No Rating
- Rare
- Vulnerable

**Muckanippie
Rockhole**
• 225

**Malbooma Mine
(abandoned)**

**Victory
Bore**

Dingo Well

Boys Well

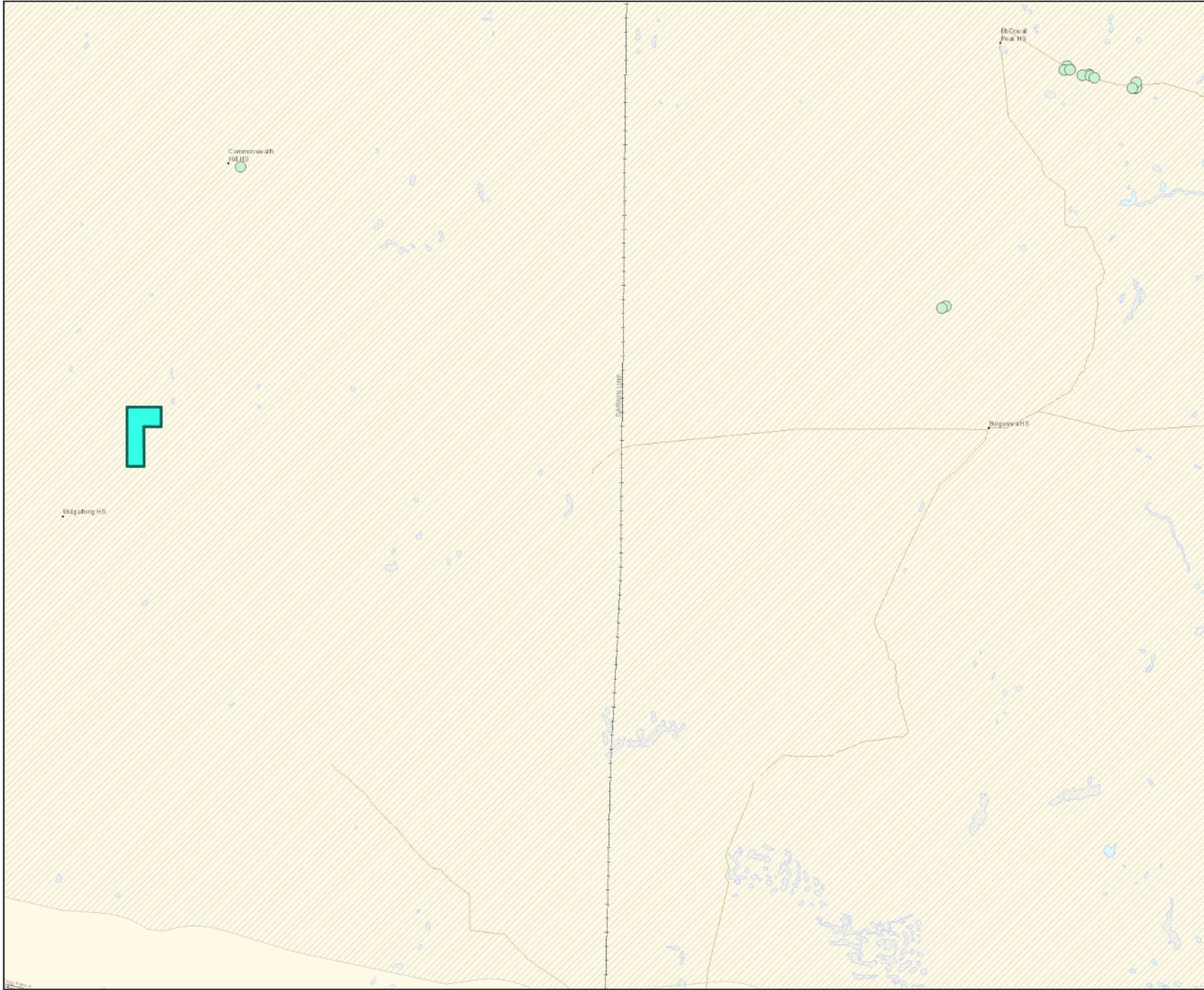
bore

**Muckanippie
Outstation**

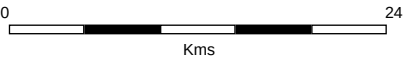
towers

hing

W O O M E R A

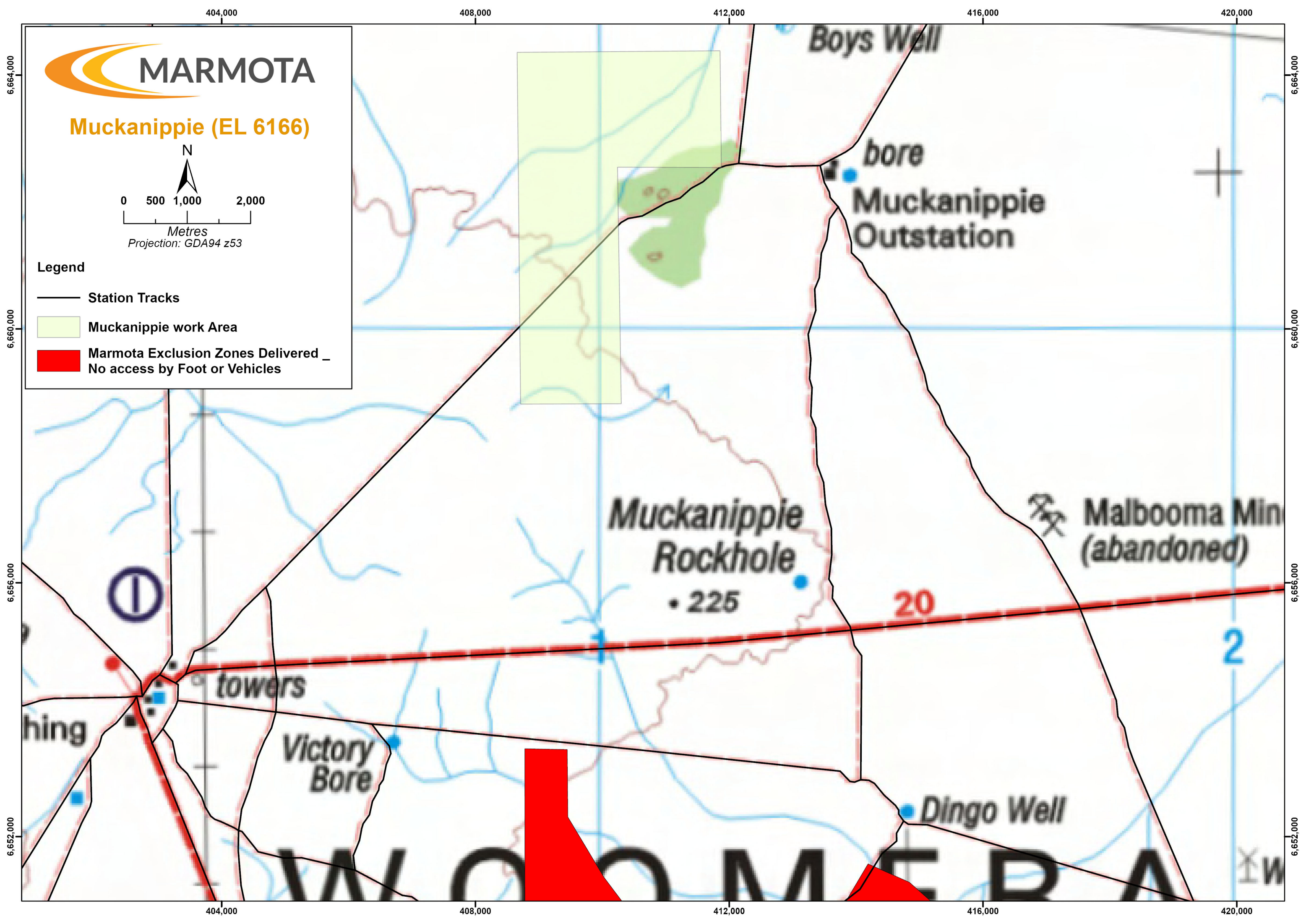


■ Weeds of National Significance and buffel grass

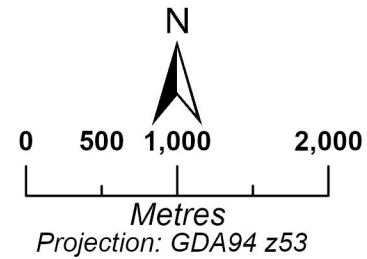


Compiled: 28-Apr-2026
Generated at: www.naturemaps.sa.gov.au
Datum: Geocentric Datum of Australia, 2020
Projection: Web Mercator (Auxiliary Sphere)

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Muckanippie (EL 6166)



Legend

- Station Tracks
- Muckanippie work Area
- Marmota Exclusion Zones Delivered _
No access by Foot or Vehicles

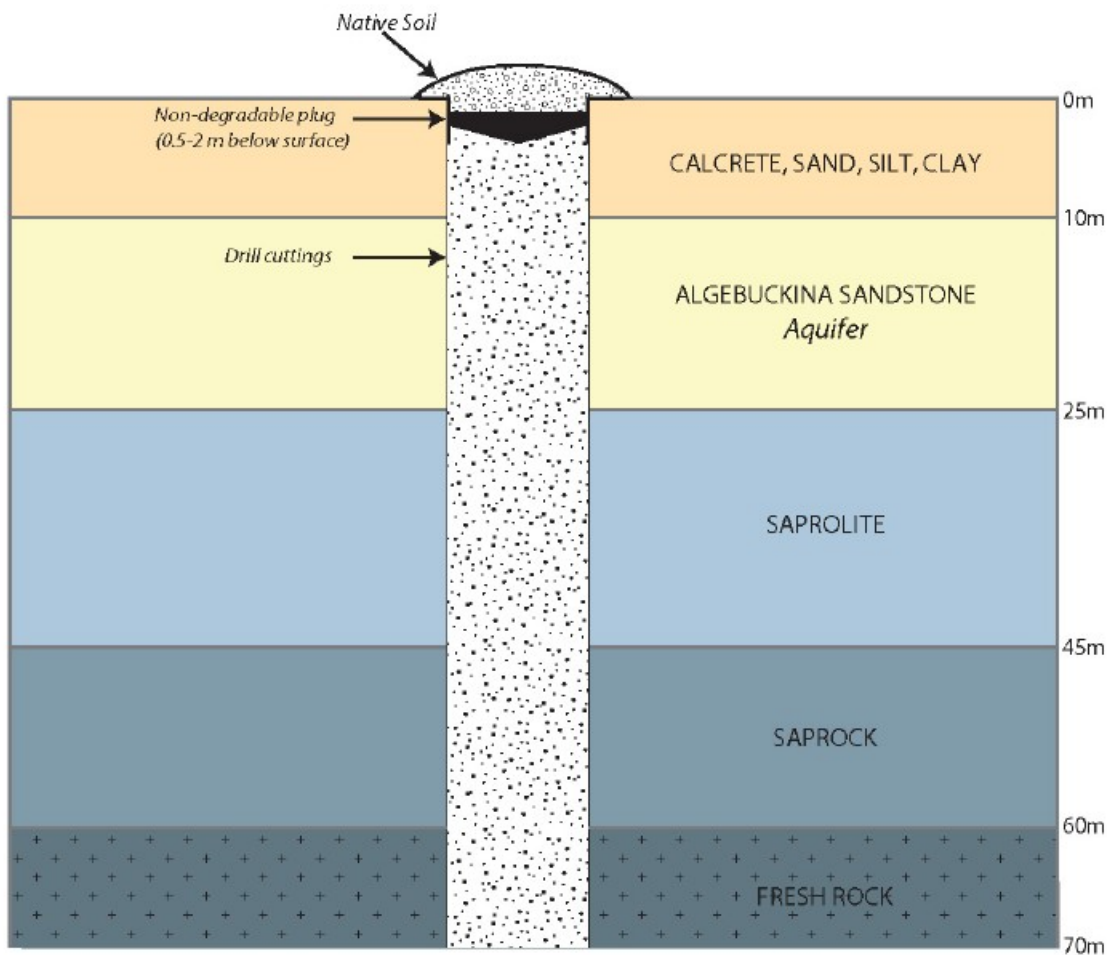


Figure 10 – Decommissioning Drill Hole

PRE-ABANDONMENT

ABANDONED

Surface

Confining bed

Standing water level

Confined aquifer

Basement

Native soil

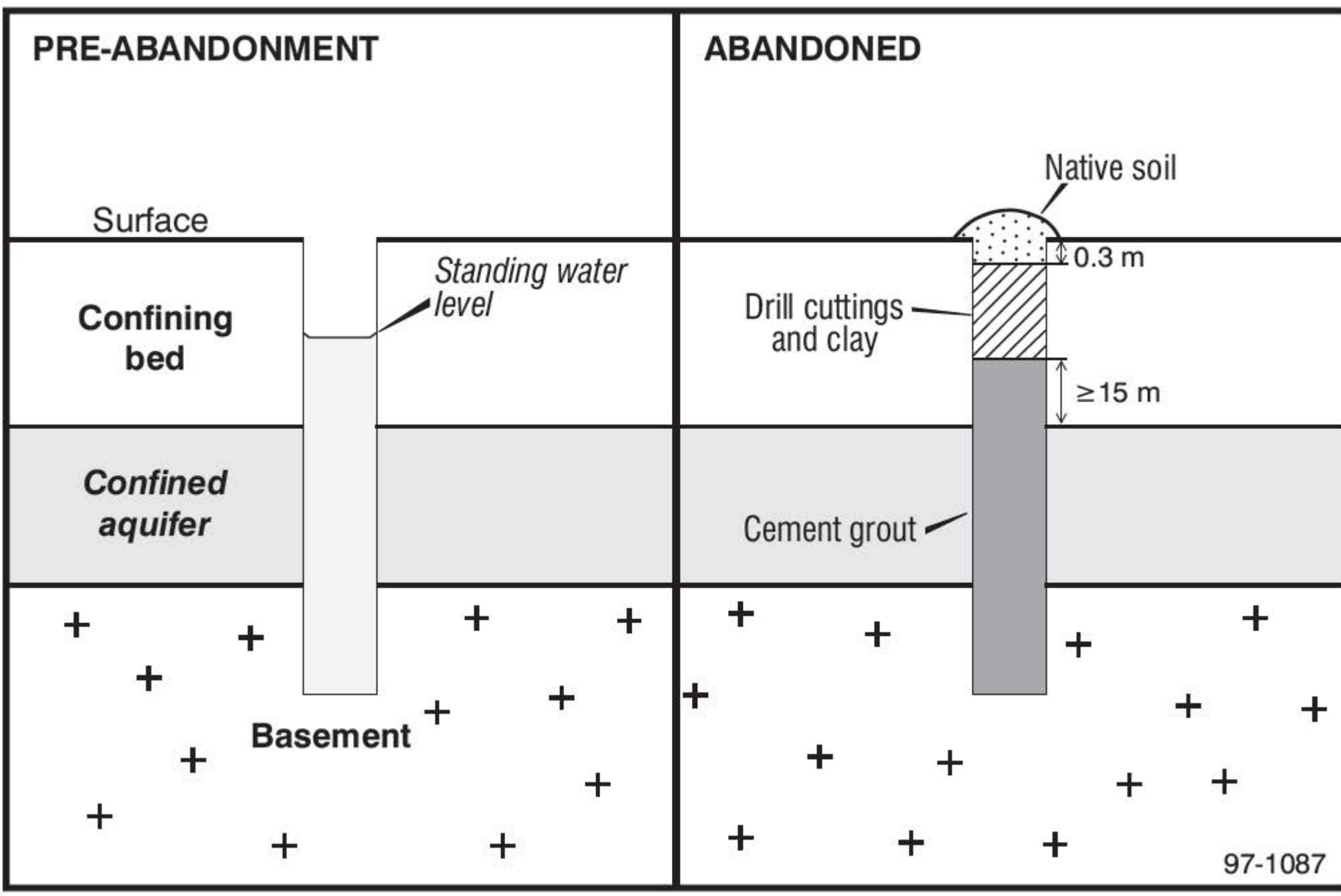
0.3 m

Drill cuttings and clay

≥ 15 m

Cement grout

97-1087



PRE-ABANDONMENT

ABANDONED

Surface

Confining bed

Standing water level

Confined aquifer

Basement

Native soil

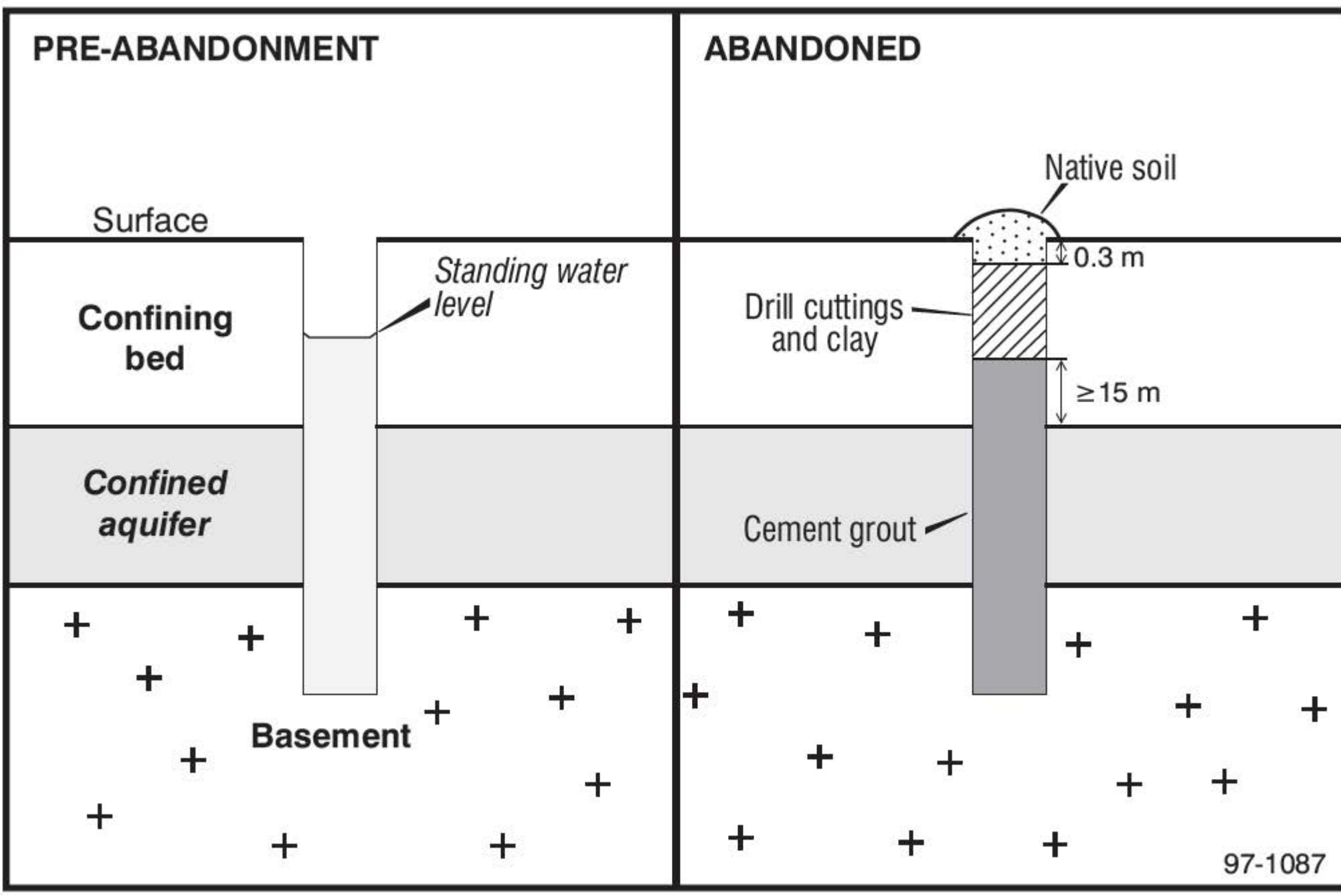
0.3 m

Drill cuttings and clay

≥ 15 m

Cement grout

97-1087





6x6 Landcruiser rig

A small, compact, powerful drill rig with onboard air capable of Aircore
RAB, auger, mud, hammer, drilling

Minimal environmental impact, go anywhere rig!



