



Doc ID: EPR-03926

3/12/2025

Mr. Clinton Dubieniecki  
Trachre Pty Ltd  
79 King William Road  
Unley, SA, 5061

Via email: [clinton@orpheusuranium.com](mailto:clinton@orpheusuranium.com)

Dear Mr. Dubieniecki

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

In reference to your final submission dated 20 November 2025 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.

<b>Approval Granted to</b>	Trachre Pty Ltd
<b>Tenement Type &amp; Number</b>	Exploration License EL 6960
<b>Program Number</b>	EP 03926
<b>EPEPR Description</b>	Ongoing EPEPR to drill-test uranium targets in EL 6960.

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.

<b>1</b>	<b>PEPR Conditions</b> In accordance with section 70B(7a)(b) of the Mining Act, the approved EPEPR is subject to the conditions listed in the Notice of Approval Conditions – EP-03926 (Appendix 1)
<b>2</b>	<b>Public Liability Insurance</b>



	<p>Pursuant to Regulation 81 of the <a href="#">Mining Regulations 2020</a> (the Mining Regulations), you are required to provide a copy of a certificate evidencing the insurance coverage over the tenement(s).</p>
<b>3</b>	<p><b>Compliance Reporting</b> You are required to submit an annual exploration compliance report. The report is required to be submitted <b>within 2 months</b> after the anniversary of the date the licence/ease was granted, or in accordance with joint reporting requirements agreed to with the Minister. Please refer to the DEM <a href="#">website</a> for more information on the reporting requirements.</p> <p>You are reminded that a separate compliance report is required <b>2 months after</b> the expiry or surrender of the EL.</p>
<b>4</b>	<p><b>Work, Health and Safety Compliance</b> 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 <a href="#">SafeWork SA website</a>.</p>
<b>5</b>	<p><b>Water Licence</b> Under the requirements of the <i>Landscape South Australia Act 2019</i> a water affecting activity permit will be required for water wells. You are advised to consult with the Department for Environment and Water, Water Licensing Branch to seek further information regarding licensing requirements.</p>
<b>6</b>	<p><b>EPEPR Timeframe</b> The EPEPR is approved for the term of Exploration Licence 6960. A further 3 months after expiry of the program notification is provided to complete all rehabilitation.</p>

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:



<b>General enquiries</b>	Cobus Martins Assessment Officer, Exploration Regulation <a href="mailto:DEM.exploration@sa.gov.au">DEM.exploration@sa.gov.au</a>
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Yours sincerely

A handwritten signature in black ink, appearing to read 'SC' or similar initials.

Simon Constable  
**GENERAL MANAGER, MINERAL EXPLORATION**  
In accordance with delegated powers and functions

The Department's Regulatory Guidelines, Ministerial Determinations and Information Sheets are available at:  
[http://energymining.sa.gov.au/minerals/knowledge\\_centre](http://energymining.sa.gov.au/minerals/knowledge_centre)



## **Appendix 1**

### **Notice of Approval Conditions – EP - 03926**

In accordance with section 70B(7a)(b) of the *Mining Act 1971*, EP-03926 is approved subject to the following conditions:

#### **Notice of Approval Conditions – EP - 03926**

- |          |   |
|----------|---|
| <b>1</b> | Prior to conducting exploration operations an EPEPR Program Notification must be submitted to the Department for Energy and Mining in accordance with the approved EPEPR, 21 days prior to commencement of operations. Please lodge Program Notifications through the MERS online portal. |
|----------|---|

# Exploration PEPR - EPEPR | Ongoing PEPR

Reference Number: **EP-03926** • Status: **Submitted**

## Begin

PEPR Type

Ongoing PEPR

## **Applicant and General Details**

### **Applicant Details**

Kathryn Brown

**Full Name \***

Kathryn Brown

**Business Phone**

**Mobile Phone**

**Email \***

[kathryn@amets.com.au](mailto:kathryn@amets.com.au) (mailto:kathryn@amets.com.au)

**Project Supervisor**

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**General Details**

**Tenement Details**

Tenement Type	Tenement Name	Tenement Holder
Exploration Licence	EL 6960	Trachre Pty Ltd

**Operating Company**

Trachre Pty Ltd

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

Radium Hill South

### Mineral Model

The Radium Hill South Project is comprised of 1 tenement (EL6960) for which exploration activities primarily target sedimentary-hosted roll-front and/or tabular-style uranium mineralisation. Exploration activities will focus on areas associated with previously mapped palaeochannel drainage systems and the buried escarpment along the northeast–southwest-trending Anabama–Redan Fault, whilst working to identify areas of prospectivity of other regions within the tenure utilising updated interpretation models

Orpheus has revisited historical activities, to reassess sedimentation anomalies and refine the understanding of regional to local-scale geological features. Work sort in association with this approval looks to drill-test the most recent interpretation, along with planning for any further target areas that will be identified by accompanying in field activities such as geophysics or geological reconnaissance.

### Primary Commodities

Commodity Name ↑	Commodity Group
Uranium	Exploration

### Secondary Commodities

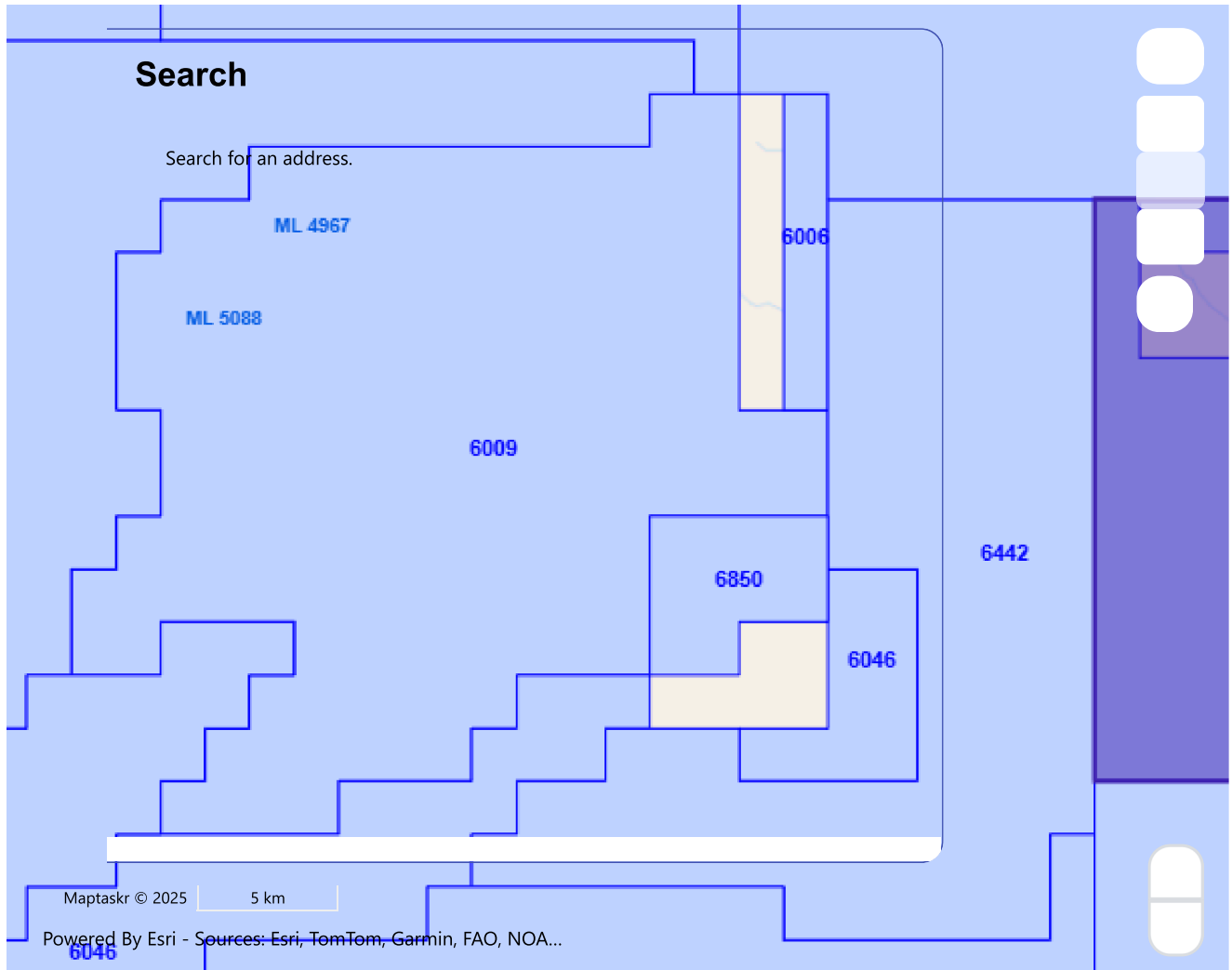
Commodity Name ↑	Commodity Group
There are no records to display.	

### Project Description

Work sort in association with this approval looks to drill-test the most recent interpretation. Naturally this provides a selection of prospects where more refined drilling will be undertaken, and could be considered classed as 'infill' drilling when considering the location of histoical holes. In addition to this, the submission oncorperates plans for any further, quasi-regional to regional targets areas that will be identified by accompanying in field activities such as geophysics or geological reconnaissance.

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

Mutooroo area is approximately 100km's west of broken hill

#### Area (Sqkm)

698.02

### Spatial Data Intersects - Summary Table

Show  entries

Search:

Spatial Layer Name	Category	Referral	Intersect Count
1:250K mapsheets	Other		1
Cadastral Parcels	Other		2
Determinations of Native Title	Other		1
Exploration licences (mineral/opal)	No-Go Area		6
Pastoral Lease Boundaries	Other		2
Registered Native Title Determination Applications	Other		1
Schedule of Native Title Claims	Other		1
Terrestrial - BOM Groundwater Dependant Atlas (GDE Atlas)	Other		31

Showing 1 to 8 of 8 entries

Previous 1 Next

### Spatial Data Intersects - Details Table

Show 10 entries

Search:

Spatial Layer Name	Shape	Primary Attribute	All Attributes	Category
1:250K mapsheets	Shape 1	OLARY	<a href="#">View attributes</a>	Other
Cadastral Parcels	Shape 1	H835400BL961	<a href="#">View attributes</a>	Other
Cadastral Parcels	Shape 1	H835400BL1153	<a href="#">View attributes</a>	Other
Determinations of Native Title	Shape 1	Wilyakali	<a href="#">View attributes</a>	Other
Exploration licences (mineral/opal)	Shape 1	EL 6670	<a href="#">View attributes</a>	No-Go Area
Exploration licences (mineral/opal)	Shape 1	EL 6877	<a href="#">View attributes</a>	No-Go Area
Exploration licences (mineral/opal)	Shape 1	EL 6115	<a href="#">View attributes</a>	No-Go Area
Exploration licences (mineral/opal)	Shape 1	EL 6965	<a href="#">View attributes</a>	No-Go Area
Exploration licences (mineral/opal)	Shape 1	EL 6960	<a href="#">View attributes</a>	No-Go Area
Exploration licences (mineral/opal)	Shape 1	EL 6850	<a href="#">View attributes</a>	No-Go Area

Showing 1 to 10 of 45 entries

Previous 1 2 3 4 5 Next

### Program Preparation

## Work Undertaken in Preparing the Proposal

Research and fieldwork undertaken in preparing the proposal include:

- Reinterpretation of historic downhole lithology, geophysical logs and associated geochemistry
- Reprocessing and reinterpretation of historical datasets for magnetic and gravity data
- Reinterpretation of geological and structural mapping
- Generation of 3D models and surfaces based on updated geological and geophysical interpretations
- Stakeholder engagement with the Mutooroo Pastoral Company for the Mutooroo and Lillydale Stations including in person visits
- Communication with surrounding Exploration Licence holders
- Contractor consultation including drilling, wireline logging, and earth moving
- Desktop studies and environmental reviews

As the exploration licence is located on two adjoining pastoral properties in Mutooroo and Lillydale (predominately overlapping Mutooroo), engagement has focused on developing a working relationship with Mutooroo Pastoral Company who own both properties. Due to their large land holding within the states east, they are familiar with exploration activities such as those being proposed.

## Operator Capability

Orpheus Uranium Limited has in place the following governance, policies, management and communication systems to ensure operations are conducted in a safe and environmentally focused and controlled approach.

### Manuals/SOP's

- Risk Management
- Heat Stress
- Personal Protective Equipment
- Fatigue Management
- Manual Handling
- Working in Remote Areas
- Fitness for Work
- Vehicle/Plant Wash Down
- Emergency Response Plan (ERP)

### Compliance

- Incidence Reporting and Investigation
- Document and Record Management
- Training and Competency Management
- Cultural Heritage Management
- Permit Review Checklist
- Induction Register

### Non-Compliance

- Incident Register (OIR)
- Incident Report

### Communication

- General Induction
- Pre-Shift Meetings
- Weekly Safety Talk Agenda

### Policies

- Health, Safety and Environmental Policy
- Stakeholder and Cultural Policy
- Risk Management Policy

### Plans

- Safety Management Plan
- Principal Mining Hazard Management Plan
- Radiation Management Plan

### Consultation

- Stakeholder Engagement Tracking

## 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 ar
CL 6209/248	H8354 00BL96 1	Freehold	Mutooroo Pastoral Station	Service of Notice of Entry	22/09/2025	21 B 22/09/2025	Checked
CL 1298/29	H8354 00BL11 53	Freehold	Mutooroo Pastoral Station	Service of Notice of Entry	22/09/2025	21 B 22/09/2025	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?

No

In which zone will activities be conducted?

Name	Are you intending to undertake work?	Closure start date	Closure end date
There are no records to display.			

Do you have a resource exploration permit in place?

—

Permit No.

—

What is the expiry date of the exploration permit?

—

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

—

### 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
Wilyakali	Native Title	RI 55479	Yes

**Provide any additional relevant information**

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. The registered NTMA, and our associated (upcoming) clearance identifies that we do not need to serve a NoE to the Wilyakali.

## 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 1298/29	H83540 0BL115 3	Mutooroo Pastoral Station			
CL 6209/248	H83540 0BL961	Mutooroo Pastoral Station			

## Consultation

<b>Stakeholder ↑</b>	<b>Land Use</b>	<b>Matters raised</b>	<b>Stakeholder concerns raised and how addressed</b>
Mutooroo Pastoral Company	Grazing	Ongoing communication with multiple representatives of the Mutooroo Pastoral Company both in person and via phone and email. No major concerns raised, expressed familiarity with exploration activities.	General conversations to occur with property managers about timing of activities based as to ensure ability to work around activities associated with running pastoral property.
Mutooroo Pastoral Station			
Mutooroo Pastoral Station			

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

N/A

**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.**

N/A

**Provide any additional relevant information.**

N/A

## **Description of Environment**

### **Proximity to Infrastructure and Housing**

## Proximity to infrastructure and housing

Settlements, roads and tracks:

- The nearest town is Olary, approximately 55km northwest of the project area (Figure 1). Olary can be accessed via the Barrier

Highway from Burra or Broken Hill. The population of Olary was 4 people as of the 2016 census.

- No stations, settlements or dwellings are in the project area. The nearest dwelling is Mutooroo Station located approximately 25km

north of the project area (Figure 1).

- The areas proposed for drilling comprise a good network of existing station tracks (Figure 5) that require only minor upgrades.

- New tracks required for access to drill sites will be formed in consultation with the relevant landowner.

Other human infrastructure:

- The pastoral stations have general station infrastructure to include fences, gates, windmills, bores, dams and tanks.

Railway lines, transmission lines, gas and water pipelines, communication lines:

- No Railway lines, transmission lines, gas and water pipelines, communication lines are in the project area.

Attach Files 

[Expand/Collapse](#)

File Name	File Size (Mb)	Created On	Download
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## 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.**

**Topography:**

The elevation of the project area ranges between 120m and 220m above median sea level (MSL) (Figure 8). The project area is broadly defined by a very low relief slope, increasing in elevation from the Murray Darling Depression to the southeast of the project area towards the Olary Ranges to the west of the project area. The exception is moderate relief rolling hills in the north of the project associated with outcropping volcanics and sediments.

The project area is located at the intersection of the Murray Darling Depression (Braemar Subregion), Broken Hill Complex (Barrier Range Subregion) and Flinders Lofty Block (Olary Spur Subregion) Bioregions (Figure 9) which are defined by varied landforms. Murray Darling Depression (Braemar Subregion):

An extensive gently undulating sand and clay plain of Tertiary and Quaternary age frequently overlain by aeolian dunes (Environment Australia, 2000). The region characteristically has few surface water bodies because its soils are highly permeable, and its climate promotes high evaporative losses. The Murray Darling Depression overlapping the project area gently slopes into NSW to the southeast, feeding into the Murray River.

**Broken Hill Complex (Barrier Range Subregion)**

In South Australia the bioregion is characterised by gently undulating plains, and occasional low hills, of mostly calcareous soils that are partially overlain with dunes (Neagle, 2003). Watercourses in the area drain southwards towards the Murray Darling Depression.

**Flinders Lofty Block (Olar Spur Subregion)**

The area of this bioregion overlapping with the project area is in the foothills of the Olary Spur. This area is defined by gentle foot slopes and pediments commonly forming extensive elongated intermontane plains with deeper duplex soils (Neagle, 2003).

**Erosion:**

Due to the low relief slope of the exploration tenement area, the expected water and wind erosion potential is low (Government of South Australia, Dept of Environment, Water and Natural Resources). To reduce local erosion, any new tracks or drill pads will be designed to minimise vegetation clearance and constructed away from erosion prone areas.

**Attach Files** ⓘ

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**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

Surface water within the Radium Hill South project area flows from north to south to south (Figure 11), flowing from the Olary Ranges towards

the Murray Darling Basin. Two (2) major non perennial creeks are in the project area:

- Olary Creek: ephemeral waterway traversing 110km from the Olary Ranges, spreading into a floodplain in the project area as it

reaches the Murray Darlin Depression. Olary Creek is fed by Wiawera Creek, Gall Well Creek, Blackfellows Creek and many

unnamed waterways to the north of the project area.

- West Creek: ephemeral waterway traversing 21km from immediately north of the project area, terminating upon meeting Turkey Plain

Creek at the eastern margin of the project area before flowing into Woolcunda Lake NSW. West Creek is fed by multiple unnamed

waterways.

Many minor and uncategorised ephemeral waterways are present within the Radium Hill South Project. No natural named waterbodies are

present in the project area. Small elongate ephemeral gilgai lakes are present. Approximately 20 manmade dams are present in the tenement,

used primarily as drinking water for stock.

Planned exploration sites are proximal to major and minor waterways within the project area. All waterways identified are ephemeral, and

exploration activities will only occur during periods of dry which will reduce potential impacts on waterways. Control strategies outlined in

Section 6 will be implemented to further reduce potential impacts.

## Indicate how you will avoid disturbance

No drilling will interfere with surface water bodies. Any drillholes near surface water bodies will be moved or left undrilled.

## 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.

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**Name**

**Applicable**

There are no records to display.

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## 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.

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

A large amount of bores are present within the project (Figure 12), however there is limited information on standing water level (Figure 13) and aquifer name (Figure 14) available within these bores. Given the presences of the bores, it will be assumed that water will be intersected at any depth.

Bore data indicates that groundwater is likely at the base of Tertiary aged sediments and multiple aquifers in Proterozoic aged bed rock.

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 formation name	Aquifer Interval/thickness (from-to) (m)	Aquifer Type	Aquifer salinity (TDS)	Depth to groundwater (m)	Comments
Mutooro	Tertiary: Ettrick Formation, Geera Clay, Loxton Sand, Renmark Group, etc.	150	Murray Darling Basin – unnamed	0-150	Unconfined	Well data from wells within 30km of the project area ranges between 10,000 – 11,500 mg/L TDS with an	0	No data in area to allow Depth to water level calculation
Mutooro	Neo-Paleoproterozoic : Emeroo Subgroup, Pualco Tillite, Willyerpa Formation, Willyama Supersuite, etc	150	Adelaide Fold Belt	0	Unconfined	Well data from wells within 30km of the project area ranges between 1,200 – 10,000 mg/L TDS	0	

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

As defined per Schedule 1 of the Environment Protection (Water Quality) Policy 2015:

Well data from wells within 30km of the project area indicates:

- The Murray Darling Basin aquifer ranges between 10,000 – 11,500 mg/L TDS with an average value of 10,706 mg/L TDS. The

Environment Protection (Water Quality) Policy 2015 – Schedule 1 indicates that the environmental value of the groundwater is for

use in Primary Industries as livestock drinking water or aquaculture and human consumption of aquatic foods.

- The Adelaide Fold Belt aquifer ranges between 1,200 – 10,000 mg/L TDS with an average value of 3,549 mg/L TDS. The

Environment Protection (Water Quality) Policy 2015 – Schedule 1 indicates that the environmental value of the groundwater is for

use in Primary Industries as livestock drinking water or aquaculture and human consumption of aquatic foods.

Mapping of the Murray Darling Basin aquifers does not identify the Tertiary or Neoproterozoic as productive aquifers (Figure 15; Doble et al, 2023).

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

**Aquatic GDEs**

In the project area all mapped areas with potential GDEs are associated with Olary and West Creeks, mostly comprised of low potential with some moderate and high potential GDEs mapped proximal to Olary Creek in the north of the project area. The dataset provided by the BOM provides little detail on the types of aquatic vegetation which may be dependent on groundwater.

**Terrestrial GDEs**

The south of the project area is covered by low potential terrestrial GDEs within the Murray Darling and Lower Mallee mapping areas. Minor moderate and high potential GDEs are mapped in the north of the project area proximal to the confluence of Olary and Blackfellows Creek.

Type: *Casuarina pauper* (mixed) woodland

Potential: Low

Location: Common throughout the southern project area

BOM Mapping Area: Darling River

Geomorphology: Plains with variable dune cover, claypans, saline swamps, and intermittent lakes in low-lying areas.

Type: *Maireana pyramidata* (mixed) shrubland <1m

Potential: Low

Location: Common throughout the southwest of the project area

BOM Mapping Area: Lower Mallee

Geomorphology: Plains with variable dune cover, claypans, saline swamps, and intermittent lakes in low-lying areas.

Type: *Dodonaea viscosa* ssp. *angustissima* (mixed) shrubland >1m

Potential: Low

Location: Present within the southeast project area

BOM Mapping Area: Darling River

Geomorphology: Plains with variable dune cover, claypans, saline swamps, and intermittent lakes in low-lying areas.

Type: *Maireana sedifolia* shrubland <1m

Potential: Low

Location: Present within west of project area

BOM Mapping Area:

Geomorphology:

Is the proposed program located within a prescribed wells area?

No

Select the prescribed wells

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

No

Select the prescribed water resource areas

---

Provide any additional information

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## Native Vegetation

Will you be working within areas of native vegetation?

Yes

**Provide the following information:**

Exploration activities will occur in areas of native vegetation. The following is a review of the South Australian native vegetation floristic areas, National Vegetation Information System (NVIS) database available from NatureMaps (Figure 18). A description of the database has been extracted from the website, URL: [https://location.sa.gov.au/LMS/Reports/ReportMetadata.aspx?p\\_no=898](https://location.sa.gov.au/LMS/Reports/ReportMetadata.aspx?p_no=898)

The project area overlaps the North Olary Plains (NP) and South Olary Plains (SP) of the Broken Hill Complex of the Rangeland Bioregions. (Neagle, N 2003).

NatureMaps identified seven major native vegetation groups in the proposed exploration lease area.

Low open shrubland < 1m of *Maireana sedifolia* low open shrubland over *Sclerolaena obliquicuspis* (mixed) low open shrubland  
Found in hill foot slopes, stony rises with shales and ironstone

Tall open shrubland > 1m of *Dodonaea viscosa* ssp. *angustissima* (mixed) tall open shrubland over *Maireana pyramidata* (mixed) low sparse shrubland and *Atriplex limbata* (mixed) low sparse shrubland  
Low open shrubland < 1m of chenopod shrubland emergent *Acacia victoriae* ssp. mid sparse shrubland over *Maireana pyramidata* (mixed)  
low open shrubland and *Tetragonia eremaea/tetragonoides* (mixed) low open forbland  
Found in stream channels and valleys, alluvial flood plains and along water courses

Low open shrubland < 1m of chenopod shrubland of *Atriplex vesicaria* ssp. (mixed) low open shrubland over *Enneapogon avenaceus* (mixed) low open shrubland  
Found in plains and Rises (low), pattern of bare scalds with a sparse cover of quartz pebbles

Low open woodland of *Casuarina* Woodland of *Casuarina pauper* (mixed) over *Senna artemisioides* ssp. *X coriacea* mid open shrubland and *Maireana sedifolia* low open shrubland and *Schismus barbatus* (mixed) low sparse shrubland  
Found in plains with sandy loam to clay loam

Low open tussock grassland of emergent *Alectryon oleifolius* ssp. *canescens* over *Maireana pyramidata* low sparse shrubland and *Enneapogon avenaceus* low open tussock grassland  
Varied environments

Low woodland of *Eucalyptus* forests and woodland of *Eucalyptus camaldulensis* ssp. low woodland over *Acacia victoriae* ssp. mid sparse shrubland and *Maireana pyramidata* (mixed) low sparse shrubland and *Brassica tournefortii* (mixed) low sparse forbland  
Found along stream channels and major watercourses

Known occurrences within 20km of the project area identified on NatureMaps (Figure 19)

*Acacia carneorum* Needle Wattle Vulnerable Vulnerable  
*Acacia loderi* Nealie Rare Not Rated  
*Microtis eremaea* Slender Onion-orchid Endangered Not Rated  
*Potamogeton ochreatus* Blunt Pondweed Rare Not Rated

Additional species identified by the EPBC Protected Matters Search Tool to be potentially present in project area

*Codonocarpus pyramidalis* Slender Bell-fruit, Camel Poison Endangered Vulnerable  
*Lepidium monoplacoides* Winged Pepper-cress Endangered Endangered  
*Pterostylis xerophila* Desert Greenhood Vulnerable Vulnerable  
*Solanum karsense* Menindee Nightshade Not Rated Vulnerable  
*Swainsona murrayana* Slender Darling-pea, Slender Swainson, Murray Swainson-pea  
Vulnerable Vulnerable

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

**Attach Files** 

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## Fauna

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

Searches of public fauna survey data in NatureMaps has identified 128 native fauna species within 20km of the project area (Figure 21A). The

listed significant fauna is outlined in the 'Significant Fauna' section of this EPEPR.

- Amphibians: One (1) species

Sudell's Frog.

- Birds: 87 species

Common species include Australian magpie, Australian Pipit, Australian Raven, Budgerigar, Crested Pigeon, Emu, Galah, Rufous

Fieldwren, Southern Whiteface and White-winged Fairywren

- Mammals: 12 species

Common species include Red Kangaroo and Western Kangaroo.

Multiple species of bats and marsupial and non-marsupial mice are present.

- Reptiles: 28 species

Common species include Adelaide Snake-eye (Saltbush Morethia Skink), Common Snake-eye (South-Eastern Morethia Skink),

Dwarf Skink and Eyrean Earless Dragon,

The public fauna surveys identified the following feral/ introduced species in decreasing order of prevalence: Goat, House Mouse, Rabbit, Fox,

Domestic Cat, Sheep, Feral Dog/ Dingo and Cattle

Known occurrences within 20km of the project area identified on NatureMaps (Figure 22)

*Falco hypoleucos* Grey Falcon Rare Vulnerable

*Pachycephala inornata* Gilbert's Whistler Rare Not Rated

*Pseudomys australis* Plains Mouse Vulnerable Vulnerable

Additional species identified by the EPBC Protected Matters Search Tool to be potentially present in project area

*Amytornis modestus* Thick-billed Grasswren Not Rated Vulnerable

*Aphelocephala leucopsis* Southern Whiteface Not Rated Vulnerable

*Calidris acuminata* Sharp-tailed Sandpiper Not Rated Vulnerable

*Calidris ferruginea* Curlew Sandpiper Endangered Critically Endangered

*Galaxias rostratus* Flathead Galaxias, Beaked Minnow, Flat-headed

Galaxias, Flat-headed Jollytail, Flat-headed

Minnow

Not Rated Critically

Endangered

*Gallinago hardwickii* Latham's Snipe, Japanese Snipe Rare Vulnerable

*Grantiella picta* Painted Honeyeater Rare Vulnerable

*Leipoa ocellata* Malleefowl Vulnerable Vulnerable

*Lophochroa leadbeateri* Major Mitchell's Cockatoo (eastern), Eastern Major

Mitchell's Cockatoo, Pink Cockatoo (eastern)

Rare Endangered

*Manorina melanotis* Black-eared Miner Endangered Endangered

*Melanodryas cucullata* South-eastern Hooded Robin, Hooded Robin (south-eastern)

Rare Endangered

*Neophema chrysostoma* Blue-winged Parrot Vulnerable Vulnerable

## **Significant Habitats, Flora and Fauna**

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

Yes

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.

<b>Species name/habitat</b>	<b>Common name</b>	<b>NPW Act Rating</b>	<b>EBPC Act Rating</b>
Acacia carneorum	Needle Wattle	Vulnerable (VU)	Vulnerable
Acacia loderi	Nealie	Vulnerable (VU)	Conservation dependent
Microtis eremaea	Slender Onion orchid	Endangered (EN)	Conservation dependent
Potamegeton ochreatus	Blunt Pondweed	Vulnerable (VU)	Vulnerable
Codonocarpus pyramidalis	Slender Bell fruit, Camel poison	Endangered (EN)	Vulnerable
Lepidium monoplacoides	Winged Pepper-cress	Endangered (EN)	Endangered
Pterostylis xerophila	Desert Greenhood	Vulnerable (VU)	Vulnerable
Solanum karsense	Menindee Nightshade	Least concern (LC)	Conservation dependent
Swainsona murrayana	Slender Darling-pea	Least concern (LC)	Conservation dependent
Falco hypoleucos	Grey Falcon	Vulnerable (VU)	Vulnerable
Pachycephala inornata	Gilberts Whisler	Least concern (LC)	Conservation dependent
Pseudomys australis	Plains mouse	Vulnerable (VU)	Vulnerable
Amytornis modestus	Thick Billed grass wren	Least concern (LC)	Vulnerable
Aphelocephala leucopsis	Southern Whiteface	Least concern (LC)	Vulnerable
Calidris acuminata	Sharptailed sandpiper	Least concern (LC)	Vulnerable
Calidris ferruginea	Curlew sandpiper	Endangered (EN)	Critically endangered
Galaxias rostratus	Flathead Galaxias, Beaked Minnow, Flat-headed Galaxias, Flat-headed Jollytail, Flat-headed Minnow	Least concern (LC)	Critically endangered
Gallinago hardwickii	Latham's snipe	Least concern (LC)	Vulnerable
Grantiella picta	Painted Honeyeater	Least concern (LC)	Vulnerable
Leipoa ocellata	Mallee Fowl	Vulnerable (VU)	Vulnerable
Lophochroa leadbeateri	Major Mitchell's Cockatoo (eastern), Eastern Major Mitchell's Cockatoo, Pink Cockatoo (eastern)	Least concern (LC)	Endangered
Manorina melanotis	Black eared miner	Endangered (EN)	Endangered
Melanodryas cucullata	South-eastern Hooded Robin, Hooded Robin (south-eastern)	Least concern (LC)	Endangered
Neophema chrysostoma	Blue Winged Parrot	Vulnerable (VU)	Vulnerable
Notomys fuscus	Dusky Hopping-mouse, Wilkiniti	Vulnerable (VU)	Vulnerable
Nyctophilus corbeni	Corben's Long-eared Bat, South-eastern Longeared Bat	Vulnerable (VU)	Vulnerable
Pedionomus torquatus	Plains Wanderer	Endangered (EN)	Critically endangered

Species name/habitat	Common name	NPW Act Rating	EBPC Act Rating
Rostratula australis	Australian Painted Snipe	Endangered (EN)	Endangered
Stagonopleura guttata	Diamond Firetail	Vulnerable (VU)	Vulnerable

### Attach Files

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SA_ORP_RHS_Fauna.png	8.03 Mb	04-09-2025 11:48:13	<a href="#">Download (MERS/EP-03926/Fauna/SA_ORP_RHS_Fauna_2025-09-04T02-18-14.231Z.png)</a>
SA_ORP_RHS_Fauna_2.png	0.67 Mb	04-09-2025 11:47:55	<a href="#">Download (MERS/EP-03926/Fauna/SA_ORP_RHS_Fauna_2_2025-09-04T02-17-57.443Z.png)</a>
SA_ORP_RHS_Rated Fauna.png	7.87 Mb	04-09-2025 11:48:49	<a href="#">Download (MERS/EP-03926/Fauna/SA_ORP_RHS_Rated Fauna_2025-09-04T02-18-49.982Z.png)</a>
SA_ORP_RHS_Rated Flora.png	7.9 Mb	04-09-2025 11:48:49	<a href="#">Download (MERS/EP-03926/Fauna/SA_ORP_RHS_Rated Flora_2025-09-04T02-18-49.987Z.png)</a>

### 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*).**

No mapped occurrences of Weeds of National Significance (WoNS) within the project area are identified in the Nature Maps search (Figure 20).

Two (2) species of WoNS are identified within 20km of the project area:

African Boxthorn - *Lycium ferocissimum*

Large dense perennial shrub with light green fleshy leaves, white and purple flowers, and round red berries which are poisonous to animals. Forms prickly thickets in native vegetation and pasture.

Athel Pine - *Tamarix aphylla*

Large perennial tree with spreading branches, grey-green shoots with tiny scale leaves that exude salt, and pale pink flowers.

Excludes native plants along watercourses.

Control Requirements – South Australia Arid Lands: Take reasonable steps to kill or prevent spread by manual or chemical removal.

The following species of WoNS have been identified proximal to nearby towns and major roads where more regular monitoring/ reporting

occurs which may be present in the project area:

Buffel Grass - *Cenchrus ciliaris/pennisetiformis*

Tussock grass up to 1.5m tall with 30cm long seeds which form a dense, hairy cylindrical spike. Invades rangeland, eliminates native species and is a fire hazard.

Boxing Glove Cactus - *Cylindropuntia fulgida var. mamillata*

Grey-green upright shrubs growing between 40cm and 1m tall. It has unique looking stems that twist and bend. Spines are 0.7-2cm

long and cream to brown in colour. Competes with native plants and form dense thickets which can injure animals.

Wheel Pear - *Opuntia robusta*

Perennial succulent with stems flattened into pad-shaped segments, dotted with large spines. Flowers form numerous petals in

various colours. Produce red, fleshy fruits. Competes with native plants and form dense thickets which can injure animals.

Control Requirements – South Australia Arid Lands: Take reasonable steps to kill or prevent spread by manual or chemical removal.

Vehicles will be inspected daily before entering exploration area.

**Attach Files** 

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SA_ORP_RHS_Weeds of National Significance.png	7.88 Mb	04-09-2025 11:51:06	<a href="#">Download (MERS/EP-03926/Weeds and Pathogens/SA_ORP_RHS_Weeds of National Significance_2025-09-04T02-21-06.967Z.png)</a>

**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.

In line with the established NTMA a 'Cultural Heritage Survey Request' was submitted and a heritage survey is planned for the period 9th to 15th October 2025. Any future drill programs will utilise areas surveyed within the upcoming Cultural Heritage Survey, or in subsequent surveys as per NTMA guidelines. Any areas identified with cultural significance will be excluded from the exploration program.

## 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.

—

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## Exploration Operations

### Exploration Scope

Describe all exploration methods to be covered by the PEPR

Drilling - Rotary Mud, Sonic and Diamond Core  
Geophysics - Airborne and Ground Surveys  
Geochem Survey

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

### **Exploratory Drilling Approach**

Drilling is exploratory in nature, with programs approved under this PEPR being guided by results from associated activities (e.g., geophysics), ongoing interpretation, and the remodelling of historical data. A regional target zone approximately 40 km in length has been interpreted within the southern portion of the tenements, trending NE–SE and connecting known historical prospects. Southern-trending palaeochannel systems, which show synergy with contemporary drainage systems, will also be targeted. Environmental and cultural heritage considerations will be incorporated into the planning and execution of drilling activities near contemporary drainage systems.

### **Regional Drilling Methodology**

In regional exploration areas, Rotary Mud drilling is expected to be conducted along transects oriented perpendicular to the interpreted redox front. Drill hole spacing across the front will range from 25 m to 400 m. Initial transects are expected to be spaced regionally (approximately 1 to 4 km apart), with infill drilling at closer spacing (100 m to 400 m) if areas of interest are identified.

### **Target Refinement Drilling**

Where drilling intersects features consistent with the target criteria—such as mineralisation, alteration, or redox changes—closer-spaced drilling (10 m to 100 m) will be undertaken using Rotary Mud Drilling to better define the refined target area or even closer to 'twin holes of interest and for data due diligence'. These can be further complimented by Diamond Core and/or Sonic Drilling. This tighter spacing is necessary due to the narrow and sinuous nature of the target mineralisation. Wherever practicable, drill pads or pits will be reused to minimise ground disturbance. Until mineralisation is confirmed, drilling will occur on an as-required basis.

### **Program Flexibility**

Given the real-time data provided by downhole geophysics and the adaptable nature of rotary mud drilling, it is intended that drilling programs remain somewhat dynamic. Nevertheless, all activities will conform to the scope and expectations set out in the relevant updated program notifications.

### **Drilling (Rotary Mud) and Downhole Geophysics – Renmark Group**

Rotary Mud drilling will be conducted to investigate uranium mineralisation within the Renmark Group, with individual drillholes typically reaching depths of 100 to 165 metres. Drill targeting will be guided by integrated interpretations of geophysical datasets, structural features, and palaeodrainage mapping, as well as follow-up to historical intersections of uranium mineralisation. Drillholes will primarily target roll-front uranium mineralisation within Tertiary palaeochannels. While average drilling depths are expected to range from 100 to 120 metres, some holes may extend to depths of approximately 150 metres where palaeochannel sequences are thicker and require drilling to the unconformity with the underlying Proterozoic basement. As such, total hole depth will vary according to the local stratigraphic context.

## **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 extent area covered by the tenement is shown on the included maps

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

Specific environments where exploration operations will not be conducted:

- Areas of cultural heritage
- Areas identified as having environmental significance

## 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.

Geologist 3 Orpheus Uranium Limited  
 Land access/ environmental 2 Orpheus Uranium Limited or suitable contractor  
 Field assistants/ technicians 4 Orpheus Uranium Limited or suitable contractor (will include safety advisor where applicable)  
 Drilling crew 6 Drilling Contractor (TBD)  
 Site preparation and rehabilitation 2 Suitable contractor (TBD)

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
Loader / Backhoe	TBA	Track clearance Drill pad clearance Sedimentation pit and suction pit excavation	Clearance requirements for advanced exploration activities Pit excavations to be surrounded by protective bunding barrier (to reduce impacts from sediment and/or water spills)
Drilling Rig/s: (Rotary Mud) (Sonic) (Diamond Core)	Drilling contractor TBD	Rotary mud drilling rig Sonic drilling rig Diamond or multi-purpose rig	Purposes of deep Rotary Mud drilling targeting the Renmark Group Purposes of coring or mineralised units where required using diamond or Sonic drilling
Support Vehicles Water truck Support truck	TBA Contractor Vehicles	HR support truck/s	Transport of diesel, water, drilling rods, consumables to drilling rig throughout drilling operations. May include unit for grouting holes
Geophysical Vehicle	Geophysical wireline contractor	1 4WD light vehicle with wireline logging unit	Wireline logging unit
Light Vehicles	Vehicle hire / company vehicles	3-4 4WD light vehicles	Transportation of personnel, consumables, general field equipment and samples

## 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.**

Rotary Mud, Diamond Drilling, Other

**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.**

Rotary Mud, Sonic, Diamond Core

All drill activities will follow

o Clearance of temporary access tracks will be kept to a minimum, where possible access will predominately be along existing station tracks, fence lines and historic drill lines.

Clearance of drill sites will be moderate. The drill pad size will be approximately ~30 m by 30 m to allow for the drilling rig and sedimentation pits or drilling sumps. Where applicable small-scale levelling of drill-sites will be required to create a safe work environment, however, this will be minimised as much as practically possible. On occasions where clearing is required, vegetation will be cleared with a raised blade, and stockpiled. On occasions where and surface levelling is required topsoil will be stockpiled in association with any vegetation, as to be spread over the drill site in accordance with guidelines upon rehabilitation of the drill sites,

o Due to the drilling technique (rotary mud and diamond) excavation of the drill sumps is necessary to contain drilling muds

and excess cuttings. Commonly two, however, up to three sumps may be constructed 5 metres by 2.5 metres to 1.5 metres depth.

o Due to the drilling technique (sonic) excavation of a drill sump may be required to contain excess water and drilling muds.

One sump may be constructed 5 metres by 2.5 metres to 1.5 metres depth.

o Where possible existing drill sites and sumps will be utilised for each of the drilling techniques

o Rehabilitation of drill pads will be conducted after the completion of drilling program. Time will be dependent on the ability

for the drilling sumps to completely dry prior to backfilling, and to allow for twin holes off the same drill pad where selected.

Clearance of native vegetation will be avoided wherever possible. Where vegetation clearance is necessary to establish a safe operational

area, it will be minimised to the greatest extent practicable. Any topsoil removed during exploration activities will be stockpiled separately and reinstated during site rehabilitation.

## **Drillhole Construction and Decommissioning**

## Drillhole construction and decommissioning

Rotary Mud, Diamond Core and Sonic method drillholes are vertical holes to max depth of 168m.

Rotary Mud drilling uses a rotating drill pipe with a hard-tooled drill bit attached at the bottom. Fluid is forced down through the drill pipe and then back up the borehole. It is then discharged at the surface through a ditch into a Sedimentation Pit. As the cuttings settle in the pit, the fluid overflows into a Suction Pit, where a pump recirculates the fluid back through the drill rods. Pit excavations will be surrounded by a protective bunding barrier (to reduce impacts from sediment and/or water spills).

The drilling fluid serves to: (1) cool and lubricate the bit, (2) stabilise the borehole wall, (3) carry the cuttings, and (4) prevent the inflow of formation fluids, thus minimising cross contamination of aquifers. The drill string is driven by a rotary table which unlike more conventional rigs (top driven) is located level with the wheels at the rear of the rig. No casing of the drillholes will be necessary for the Rotary Mud method.

Drillholes will be rehabilitated on completion of wireline logging, and prior to the drill rig moving to the next drill site, by grouting from base of the hole to surface.

Sonic or Diamond Core Method drillholes will be used to collect drill core for analysis. Sonic drilling is a technique that uses vibration frequencies to allow ease of penetration and provides for near complete and relatively undisturbed core samples from solid and unconsolidated materials. A hydraulic mechanism removes any need for drilling fluid to achieve minimal contamination of core samples. Sonic drilling is suited to uranium mineralisation in Tertiary palaeochannel sediment environments as it maximises core recovery in soft sediments compared to other coring techniques. Diamond Core drilling used a diamond-impregnated drill bit to cut through rock to produce a solid core. The core is captured in the hollow drill bit forming a continuous sample of rock.

**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.**

Rotary Mud drillholes are vertical holes to depths of approximately 168 metres. Rotary Mud drilling uses a rotating drill pipe with a hard-tooled drill bit attached at the bottom. Fluid is forced down through the drill pipe and then back up the borehole. It is then discharged at the surface through a ditch into a Sedimentation Pit. As the cuttings settle in the pit, the fluid overflows into a Suction Pit, where a pump recirculates the fluid back through the drill rods. Pit excavations will be surrounded by a protective bunding barrier (to reduce impacts from sediment and/or water spills).

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Suitably qualified and experienced drilling contractors will be commissioned to complete the drilling activities. All drilling contractors will be required to read and understand the Earth Resources Information Sheet M21, Mineral exploration drillholes – general specifications for construction and backfilling as part of the Site Induction. Drillers will hold a suitably classed licence as a minimum. No artesian groundwater is expected to be encountered.

**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.**

Rotary Mud, Diamond Core and Sonic drillholes will be rehabilitated by separating the relevant aquifers. Drillholes will be grouted in accordance with guidelines as to separate aquifers using cement/grout which will be completed within a reasonable timeframe following the completion of hole. Note that post drilling activities will include the completion of downhole wireline logging and preliminary review of chip samples to confirm the hole has been drilled to suitable depths and appropriate data captured, both of which will be completed prior to the hole being grouted.

Photographic monitoring of drill sites will be conducted post rehabilitation and reported in the Annual Compliance Report.

Attach Files 

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## 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.

—

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

## 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).**

Rotary Mud Method drill cuttings will be collected at 1–2 metre intervals using a bucket or shovel and laid out in rows on the drill pad. A representative sample (~500g) will be retained for geological and geochemical analysis. Larger samples may be collected for assay from mineralised intervals or where results are considered significant for interpreting the mineral system. All samples showing elevated levels of Naturally Occurring Radioactive Materials (NORM) will be sent to a NATA-accredited laboratory, in accordance with the Radiation Management Plan (RMP). Remaining drill cuttings will be disposed of in the drill sump following standard environmental procedures.

Sonic/Diamond Core Method drill core will be relocated to a Core Storage facility at the Laydown Area or near the Campsite and laid out for logging purposes. Where uranium mineralisation is intersected, core will be cut and sampled according to standard procedures, with samples sent to a NATA-accredited laboratory for chemical analysis. Drill core will be transported off-site on completion of the program.

As per Orpheus RMP Disposal of Radioactive Waste Materials

Where radioactive mud, cuttings or samples are present in mud pits, the pits will be allowed to dry and be covered by a minimum of 1 metre of compacted clean soil. For core cutting of radioactive samples, the waste slurry will be directed to a mud pit for disposal as above.

All samples will be removed from sample bags for disposal. Mineralised samples will be, where possible, returned to the drill hole (i.e. before other cuttings). The drill hole should then be rehabilitated in accordance with the PEPR and DEM Information Sheet; M21 Mineral exploration drillholes – General specifications for construction and backfilling. Where this is not possible, mineralised samples from individual drill holes will be buried in adjacent mud pits if available with at least 1 metre of compacted clean soil cover.

Transportation of radioactive samples will be conducted in accordance with the Radiation Management Plan, that states: Radioactive materials collected during exploration programs will be transported by the Company from the Radium Hill South project, to within

South Australia, in accordance with the following legislation:

- Code for the safe Transport of Radioactive Material (2019).

Radioactive samples collected during exploration programs will not be transported outside of South Australia.

Most exploration samples collected will be either (1) non-radioactive, or (2) low-level radioactive. Radioactive samples can usually be transported as an 'Excepted Package'. All transportation shipments of radioactive samples will be packaged and labelled according to the Transport Code.

## **Access Routes to Work Areas**

**Will existing tracks require upgrading and/or maintenance?**

Yes

### Detail the work required to upgrade/maintain existing tracks.

Most of the existing station tracks are in a good condition and may not require upgrading, however, ongoing monitoring and discussion with the landholder(s) will be undertaken as to ensure they remain in usable condition. It is envisaged track upgrading may be required in places, along old fence lines or overgrown sections of existing tracks. Existing track (including fence line tracks) upgrading will be undertaken using the following method:

- Where possible a loader applying the lifted bucket technique to scrape / demarcate the pre-existing track. However, subject to ongoing use and environmental conditions a grader may be utilised in consultation with the landholder to upgrade the tracks used within the proposed program.
- Watering down of tracks using a water truck may be required for extended periods of time, or where significant bull dust develops.
- Mitre drains will be installed for the purposes of surface water management.
- Track upgrading will be conducted in consultation with the landowner and take into consideration the requirements of the pastoralist as well as the requirements of the exploration program. Heavy vehicles such as water trucks require tracks of a suitable standard to prevent damage to equipment.
- Track upgrading will be contracted to a Landowner where practicable and possible.

Refer to Figure 1. Location map of the Radium Hill South project.

### 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.

Access off existing tracks for low-impact exploration is required for the following purposes:

1. Ground geochemical survey(s) traverse and grid pattern will be accessed using a light vehicle 4WD.
2. Ground geophysical survey(s) grid pattern will be accessed using an all-terrain light vehicle, quad bike.

Access off existing tracks for advanced exploration is required for the following purposes:

1. Temporary access tracks will be required for drill traverses.
  - a) Drill traverses will require the Loader applying the lifted bucket technique to scrape (i.e. leaving rootstock in ground, where possible and safe to do so) and demarcate the track and drill pad, and to excavate sedimentation pits.
  - b) Native vegetation will be avoided where possible, including limiting the removal of trees or clustered vegetation, for which trimming will be prioritised if required.
  - c) Excavation of the sedimentation pits will be moderate, and material stockpiled so that topsoil is preserved for rehabilitation.
2. Temporary access tracks required for advanced exploration activities will be consulted with relevant stakeholders.
3. Temporary access tracks will be cleared in accordance with the company's land clearance protocols, i.e. the temporary access tracks will first be traversed to determine whether there are any potential environmental risks such as: Aboriginal heritage, species of significance (flora) and habitats (fauna), or infrastructure that need to be avoided prior to clearance. The new access track will then be demarcated with flagging, picked up with GPS tracking and representative pre-clearance photographic monitoring recorded.
4. Details of the total area of disturbance for temporary tracks will be provided in the Program Notification.

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## Campsites and Equipment Laydown Areas

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

Staff and contractors will be accommodated in Mutooroo Homestead or Pine Creek Homestead.

What is the maximum number of personnel requiring accommodation?

15

Is a campsite required to be established?

No

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

—

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

—

Will native vegetation clearance required?

—

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

—

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

—

Will any excavations be required?

—

Describe the purpose of the excavation

—

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

—

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

—

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

—

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

<b>Proposed infrastructure</b>	<b>Quantity</b>	<b>Description / capacity</b>
There are no records to display.		

**Will laydown areas be required?**

Yes

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

No

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

Where possible, Orpheus intends to utilise existing cleared and levelled areas previously used by station operations, subject to agreement with the landholders, or alternatively where possible utilise, a location associated with a cleared drill site. If required a centralised area(s) will be cleared in accordance with the above considerations.

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

0.25

**Will native vegetation clearance be required?**

No

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

—

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

—

**Will any excavations be required?**

No

Describe the purpose of the excavation.

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

—

Proposed infrastructure (includes hydrocarbon and water storage requirements)

Proposed infrastructure	Quantity	Description / capacity
Transportable (shipping) container/s to hold drilling equipment	1	<ul style="list-style-type: none"><li>• The laydown area will be to contain drilling equipment located in an area that can be readily accessed during drilling operations.</li><li>• Shipping containers are used for the storage of maintenance equipment, drilling consumables and workshop equipment.</li></ul>
Portable Drill Additive and Cement Store	1	<ul style="list-style-type: none"><li>• Drill additives and cement will be containerised and stored on pallets.</li><li>• All drill additives are biodegradable as used commonly within the exploration industry.</li></ul>
Drilling Rods	1	An area at the laydown will be designated to store drilling rods.
Maintenance Area	1	<ul style="list-style-type: none"><li>• Any maintenance would be undertaken on top of plastic sheeting or other ground protection measures to prevent spills or leaks to the ground surface.</li></ul>
Waste Storage	1	Recyclables and waste drums will be stored at the proposed waste storage facility prior to collection and transport to an appropriately licensed waste and recycling facility.

## Other Exploration Methods and/or Ancillary Operations

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

Yes

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

Due to the drilling technique (sonic) excavation of a drill sump may be required to contain excess water and drilling muds. One sump may be constructed 5 metres by 2.5 metres to 1.5 metres depth.

o Where possible existing drill sites and sumps will be utilised for each of the drilling techniques  
o Rehabilitation of drill pads will be conducted after the completion of drilling program. Time will be dependent on the ability

for the drilling sumps to completely dry prior to backfilling, and to allow for twin holes off the same drill pad where selected.

Clearance of native vegetation will be avoided wherever possible. Where vegetation clearance is necessary to establish a safe operational

area, it will be minimised to the greatest extent practicable. Any topsoil removed during exploration activities will be stockpiled separately and reinstated during site rehabilitation.

## **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 for accommodation facilities and for drilling purposes will come from existing Bore Water systems sourced locally from the station in1 consultation with the Landowner.

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

Yes

**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.**

Yes

**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.**

Should a drillhole be converted to a waterbore, this will be done in consultation with the landholder, and an appropriate licence will be obtained prior to the construction of water from a waterbore constructed by Orpheus Uranium or associated contractor during a drill program.

## **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.**

—

**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?

Yes

Attach Files 

Expand/Collapse

<u>File Name</u>	<u>File Size (Mb)</u>	<u>Created On</u>	<u>Download</u>
20240527 Orpheus Uranium Limited_Frome project (EL6554, EL6555, EL6703, EL6900)_RMP endorsement letter.pdf	0.28 Mb	10-09-2025 14:06:45	<u>Download (MERS/EP-03926/Management of hazardous/20240527 Orpheus Uranium Limited_Frome project (EL6554, EL6555, EL6703, EL6900)_RMP endorsement letter_2025-09-10T04:36:47.367Z.pdf)</u>

File Name	File Size (Mb)	Created On	Download
20251028 Orpheus Uranium Limited_RMPv2.2 endorsement letter.pdf	0.16 Mb	31-10-2025 13:22:49	<a href="#">Download (MERS/EP-03926/Management of hazardous/20251028 Orpheus Uranium Limited_RMPv2.2 endorsement letter_2025-10-31T02-52-49.470Z.pdf)</a>
Radiation Management Plan_V3_202405.pdf	2.11 Mb	14-11-2025 15:14:18	<a href="#">Download (MERS/EP-03926/Management of hazardous/Radiation Management Plan_V3_202405_2025-11-14T04-44-19.462Z.pdf)</a>

**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.

### Drill Sites

- All equipment and waste demobilised off site.
- Drill collar will be grouted to 0.5 metres below surface and drill collar backfilled to allow for subsidence.
- Compacted areas will be ripped and contoured where necessary.
- Where possible, vegetation and sticks/trunks will be dragged across to reflect the surrounding environment, with sites scarified to promote seed germination and vegetation growth
- Photographic records will be collected as part of ongoing site monitoring.

### New Access Tracks

- Traversing to remove all waste
- Slight scarification to reduce compaction where necessary.
- Resurfaced/graded where necessary where bull dust has developed.
- Recontouring along the natural contour to reduce the likelihood of potential erosion rilling.
- Photographic records will be collected as part of ongoing site monitoring.

### Excavation sumps, Disposal pits and bunding

- Sumps will be allowed to dry completely prior to backfilling.
- Sumps will be backfilled with the material stockpiled from sump formation placing subsoil and topsoil in correct order to promote revegetation.
- A mound of material will be formed over the sump to allow for subsidence.
- Where possible, vegetation and sticks/trunks will be dragged across to reflect the surrounding environment.
- Radiation monitoring and inspections will be conducted in accordance with the Radiation Management Plan.
- Photographic records will be collected as part of ongoing site monitoring.

### Reporting

- Rehabilitation activities will be reported in the Annual Exploration Compliance Report submitted 60 days post the anniversary date of the combined reporting period for the Radium Hill South project.

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

The estimated budget required to rehabilitate all impacted sites for this ongoing EPEPR is approximately \$100,000.

- All infrastructure and waste will be removed on completion of drilling and on completion of the program, so that rehabilitation will be required for (1) drill sites, (2) new access tracks, (3) excavation sumps and bunding, (4) water source infrastructure, (5) campsite and laydown area and (6) Disposal Pit/s.
- The estimated budget of \$100,000 accounts for all ongoing activities proposed. An estimated annual budget is approximately \$30,000.

## 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
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.	<ul style="list-style-type: none"> <li>All vehicles accessing the site will be required to complete a Site Access Form, prior to mobilisation to ensure all equipment is clean, in good working order and will be operated by an appropriately licensed operator.</li> <li>Washdown facility in the proximal Broken Hill will be utilised where appropriate or alternatively wash down facilities will be provided in conjunction with accommodation at the relevant pastoral station if applicable a location will be provided at the Laydown area as so vehicles can arrive at site clean and wash down can be completed prior to departure.</li> <li>All employees and contractors to complete a Site Induction prior to site access. The Site Induction will provide a summary of flora and fauna (including listed species) and areas of restricted access.</li> <li>All employees to report any flora and fauna incidents, especially listed species.</li> <li>All employees and contractors to drive on designated tracks only.</li> <li>All employees and</li> </ul>	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: <ul style="list-style-type: none"> <li>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.</li> <li>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.</li> </ul>

**Environmental Aspect Receptor Potential Impact Control Strategies Risk Outcomes Outcome Measurement Criteria**

			<p>contractors to observe road speed limits. • Representative photographs will be taken before, during and after exploration • Operations to demonstrate no new weeds and pathogens have been introduced.</p>			
Soil	Soil	<p>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).</p>	<p>• Employees and contractors will be inducted to ensure management of exploration activities (e.g. construction of sumps, new tracks and drill pads; ground compaction at laydown areas and camps). • Excavations will stockpile the topsoil and subsoil separately to be used for rehabilitation purposes, returned in the correct order of placement. • Sumps and drillholes will be backfilled and mounded to allow for subsidence. • If the soil profile is impacted from drilling activities, rehabilitation will involve ripping the site and contouring to reduce potential impacts from erosion.</p>	Low	<p>Where soil disturbance occurs as a result of exploration activities, ensure topsoil quality and quantity is maintained • the soil profile and topography is reinstated to original conditions • there is no accelerated soil erosion.</p>	<p>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.</p>

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
Third party access	Soil/vegetation/farina	Degradation of rehabilitated access tracks caused by third party access (includes previously closed and rehabilitated access tracks).	<ul style="list-style-type: none"> <li>New temporary access tracks that are rehabilitated will, where possible have trees or other natural material at the entry to minimise the risk of third-party access.</li> <li>Consultation with the landowner regarding the location of rehabilitated temporary access tracks.</li> </ul>	Low	Rehabilitated access tracks remain permanently closed, unless prior approval under the relevant legislation is obtained.	<p>Maintain before and after photographic evidence demonstrating that all tracks are closed and rehabilitated 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.</p> <p>Representative photos are to be included within the annual exploration compliance report.</p> <p>Provide the information requested within the 'Rehabilitation' section of the annual exploration compliance report.</p>

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
Aboriginal heritage	Aboriginal heritage sites	Disturbance to Aboriginal heritage	<ul style="list-style-type: none"> <li>• Orpheus to conduct a Heritage Survey prior to advanced exploration activities with the native title party who are claimants of the determination area where those activities occur.</li> <li>• Site Supervisor to have read the Heritage Report and set up exclusion zones where necessary to avoid Aboriginal heritage sites identified during Heritage Survey/s and notify employees of the significance.</li> <li>• A Site Clearance Survey to be conducted prior to drilling rig and equipment access to scan for any additional Aboriginal heritage sites that may not have been identified during the Heritage Survey.</li> <li>• Employees and contractors will be inducted to ensure all works are restricted to prescribed areas and tracks only and to report any chance finds of Aboriginal heritage to the Site Supervisor.</li> <li>• In the event of an Aboriginal heritage site being discovered, works will cease in that area, and the site will be recorded and reported to the</li> </ul>	Mod erat e	No disturbanc e to Aboriginal artefacts or sites of significanc e 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: <ul style="list-style-type: none"> <li>• Heritage sites were not impacted during the conduct of the exploration program, unless prior approval was obtained under the appropriate legislation</li> <li>• Work ceased on discovery of a significant site and recommenced only after authorisation.</li> <li>• Aboriginal heritage sites identified during the exploration program were appropriately recorded and reported to authorities, if not previously known.</li> </ul>

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
			authorities in accordance with the Aboriginal Heritage Act 1988.			
Groundwater	Soil/vegetation/fauna	Discharge of groundwater into the surrounding environment.	<ul style="list-style-type: none"> <li>The Site Supervisor or a nominated representative will complete random audit inspections of drill sites to ensure that sumps are excavated to a suitable size for the drilling method and proposed depth.</li> <li>Employees and contractors will be inducted to notify them that no groundwater discharge into the surrounding environment is permitted. In an event of uncontrolled water discharge, operations will be ceased until containment and cleanup has been achieved.</li> </ul>	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.

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
Other	Sonic Drilling	Groundwater contamination: • contamination of aquifers through entry of pollutants from the surface • interconnection between aquifers • degradation of natural hydrostatic conditions (maintain pre-drilling pressures).	<ul style="list-style-type: none"> <li>• Driller/s will have read Earth Resources Information Sheet M21 Mineral Exploration Drillholes – General specifications for construction and backfilling, prior to commencement of drilling in addition to having undertaken the site induction. • Suitably classed drillers will be contracted for exploration program. No pressurised artesian groundwater is expected to be encountered. • At completion each drillhole will be decommissioned and capped in accordance with the requirements of DEM Guideline M21 (July 2012) prior to site rehabilitation. • Drillholes will be grouted in accordance with guidelines as to separate aquifers using cement/grout which will be completed within a reasonable timeframe following the completion of hole. Note that post drilling activities will include the completion of downhole wireline logging and preliminary review of chip samples to confirm the hole has been drilled to</li> </ul>		<p>Drillholes restored to controlling geological conditions that existed before the hole was drilled or, where it is intended to re-enter the hole after a prolonged period of time, if applicable the hole must be completed with casing of adequate strength so that all aquifers are isolated to prevent the movement of any fluids behind the casing. Alternatively drilling muds and fluids will be utilised to maintain hole condition.</p>	<p>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.</p>

**Environmental Aspect Receptor Potential Impact Control Strategies Risk Outcomes Outcome Measurement Criteria**

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
Fauna	All fauna	Entrapment of fauna through open drillholes and excavations.	<p>Drillholes will be capped on completion of drilling, prior to moving off the drill site, and until such time as rehabilitation, to avoid loss of fauna at the collar. • Drillholes will be plugged with a cement plug of appropriate diameter to permanently seal the drill hole and backfilled with locally sourced material to form a slight mound over the collar to allow for subsidence. • Sumps will be temporary, and where practicable one side will be dug at an angle suitable for the egress of fauna, if that is not possible, then the sumps will be barricaded with barrier mesh.</p>	Low	No fauna traps created as a result of exploration activities.	<p>Maintain before, during and after photographic evidence of all drillholes and/or excavations demonstrating that: • All drillholes were permanently or temporarily capped/plugged immediately upon completion. • No fauna and livestock became trapped in drillholes and/or excavations throughout the duration of the program. • All rehabilitation was completed within 3 months of 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. Representative photos are to be included within the annual exploration compliance report. Provide the information requested within the 'Rehabilitation' section of the annual exploration compliance report.</p>

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
Surface Water	Surface Water	Alteration to surface water – interference to surface drainage.	Drillholes will be capped on completion of drilling, prior to moving off the drill site, and until such time as rehabilitation, to avoid loss of fauna at the collar. • Drillholes will be plugged with a cement plug of appropriate diameter to permanently seal the drill hole and backfilled with locally sourced material to form a slight mound over the collar to allow for subsidence. • Sumps will be temporary, and where practicable one side will be dug at an angle suitable for the egress of fauna, if that is not possible, then the sumps will be barricaded with barrier mesh. No drilling will interfere with surface water bodies. Any drillholes near surface water bodies will be moved or left undrilled.	No	Provide before, during and after permanent modification to hydrological features caused by exploration activities without obtaining a water affecting permit from the relevant Landscape Board (under Landscapes Act SA 2019).	Provide before, during and after annual exploration compliance report demonstrating that original drainage contours (watercourses and lakes) are consistent with the natural relief post rehabilitation 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). Alternatively, provide copies of water affecting permits within the annual exploration compliance report.

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
Fire	Community/landowners	Damage to infrastructure and loss of income through fire.	<ul style="list-style-type: none"> <li>• The Site Supervisor or nominated representative will regularly conduct a site inspection to ensure area is suitably clear for drilling equipment, no loose dried grasses or other combustible materials to be located near hot machinery.</li> <li>• Employees and contractors will be inducted to ensure all works are restricted to prescribed areas and tracks only.</li> <li>• Fire extinguishers (and fire blankets) in designated work areas (drill site, refuelling station, campsite and in vehicles).</li> <li>• Communications must be available in all work areas.</li> <li>• Emergency Response Booklet to be kept in all vehicles.</li> </ul>	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
Contamination	Soil/vegetation/fault area	Soil/vegetation contamination (e.g. hydrocarbons, rubbish, drill samples/cuttings, ablutions, other sources)	<ul style="list-style-type: none"> <li>• Driller/s will have read Earth Resources Information Sheet M21 Mineral Exploration Drillholes – General specifications for construction and backfilling, prior to commencement of drilling in addition to having undertaken the site induction.</li> <li>• Suitably classed drillers will be contracted for exploration program. No pressurised artesian groundwater is expected to be encountered.</li> <li>• At completion each drillhole will be decommissioned and capped in accordance with the requirements of DEM Guideline M21 (July 2012) prior to site rehabilitation.</li> <li>• Drillholes will be grouted in accordance with guidelines as to separate aquifers using cement/grout which will be completed within a reasonable timeframe following the completion of hole. Note that post drilling activities will include the completion of downhole wireline logging and preliminary review of chip samples to confirm the hole has been drilled to</li> </ul>	No	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 PEPs approved for a period of 12 months), or 3 months after the expiry of a program notification (for PEPs approved for an ongoing period), and that all fuel and chemicals are stored in accordance with EPA requirements, by providing: <ul style="list-style-type: none"> <li>• The name, location and contact details of the authorised waste disposal facility.</li> <li>• 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.</li> <li>• 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: <ul style="list-style-type: none"> <li>• removed from site and disposed of at a licensed facility</li> <li>• 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</li> <li>• backfilled down the drillhole, within 3 months of the expiry of the PEPR approval (for PEPs approved for a period of 12 months), or 3 months after the expiry of a program notification (for PEPs approved for an ongoing period), unless otherwise authorised. Provide the information requested within</li> </ul> </li> </ul>	

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
			<p>suitable depths and appropriate data captured, both of which will be completed prior to the hole being grouted' • All chemicals, fuels and waste to be stored in appropriately contained facilities.</p> <ul style="list-style-type: none"> <li>• No disposal of any waste onsite.</li> </ul> <p>All exploration equipment and materials to be removed from site at completion of works.</p>			the 'Rehabilitation' section of the annual exploration compliance report.
General Public	General Public	Injury or death to members of the public as a result of exploration activities.	<ul style="list-style-type: none"> <li>• No unauthorised third-party access permitted to the drill site/s.</li> <li>• Signage at access track and at drill site installed to notify of warning of restricted access and danger associated with equipment.</li> <li>• Vehicle speed warnings along unsealed tracks.</li> <li>• All employees and contractors to observe road speed limits.</li> </ul>	Mod erat e	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
Native Vegetation	Flora and fauna and their habitats; includes Common wealth and state schedule d species.	Loss/modification of native vegetation and associated habitats through the clearance of vegetation.	<p>Personnel • Employees and contractors will be inducted to ensure all works are restricted to prescribed areas and tracks only.</p> <p>Vehicles and Equipment • All vehicles accessing site will be required to complete a Site Access Form, prior to mobilisation to ensure all equipment is clean, in good working order and will be operated by an appropriately licensed operator. • Vehicle speeds/signage will be implemented along access tracks to reduce dust, noise and other emissions. • All vehicles and equipment to be routinely inspected using checklists to identify possible hazards such as hydrocarbon leaks, to reduce risks from spills and potential fire sources. • All vehicles and equipment to be maintained in accordance with manufacturers specifications. • Vehicles will be audited on arrival to ensure adequately equipped. Rain Events • Significant rain events would limit access to sites, vehicle access on station tracks when in</p>	Mod erat e	No permanent loss/modification of native flora and fauna population s 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
						flood is not advised.
Groundwater users	Groundwater users	Interference to existing water users when extracting water from existing dams, water bores or mineral drillholes.	<ul style="list-style-type: none"> <li>• Consultation with the landowner regarding the location of, amount required, salinity levels for the extraction of groundwater for drilling and other ancillary purposes (campsite, washdown bay and tracks).</li> </ul>	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
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).	<ul style="list-style-type: none"> <li>• Driller/s will have read Earth Resources Information Sheet M21 Mineral Exploration Drillholes – General specifications for construction and backfilling, prior to commencement of drilling in addition to having undertaken the site induction.</li> <li>• Suitably classed drillers will be contracted for exploration program. No pressurised artesian groundwater is expected to be encountered.</li> <li>• At completion each drillhole will be decommissioned and capped in accordance with the requirements of DEM Guideline M21 (July 2012) prior to site rehabilitation.</li> <li>• Drillholes will be grouted in accordance with guidelines as to separate aquifers using cement/grout which will be completed within a reasonable timeframe following the completion of hole. Note that post drilling activities will include the completion of downhole wireline logging and preliminary review of chip samples to confirm the hole has been drilled to</li> </ul>		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.

**Environmental Aspect Receptor Potential Impact Control Strategies Risk Outcomes Outcome Measurement Criteria**

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suitable depths and appropriate data captured, both of which will be completed prior to the hole being grouted' • All chemicals, fuels and waste to be stored in appropriately contained facilities.  
• No disposal of any waste onsite.  
All exploration equipment and materials to be removed from site at completion of works.

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Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
Hazardous materials - Uranium	General public, employees, contractors and the environment	Contamination of the environment when exploring for known uranium and thorium deposits. Public and employee/contractor exposure to low level radiation.	<ul style="list-style-type: none"> <li>• Driller/s will have read Earth Resources Information Sheet M21 Mineral Exploration Drillholes – General specifications for construction and backfilling, prior to commencement of drilling in addition to having undertaken the site induction.</li> <li>• Suitably classed drillers will be contracted for exploration program.</li> <li>• At completion each drillhole will be decommissioned and capped in accordance with the requirements of DEM Guideline M21 (July 2012) prior to site rehabilitation, as well as the Radiation Management Act.</li> <li>• Drillholes will be grouted in accordance with regulatory guidelines as to backfill with Uranium mineralised core or rockchips.</li> <li>• All chemicals, fuels and waste to be stored in appropriately contained facilities.</li> <li>• No disposal of any waste onsite.</li> <li>• All exploration equipment and materials to be removed from site at completion of works.</li> </ul>	Low	No increase in background radiation levels, and employee/contractor exposure levels during the exploration program are within safe limits.	Maintain a database and provide a statement within the 'Compliance with approved programs' section of the annual exploration compliance report demonstrating that: <ul style="list-style-type: none"> <li>• Radiation levels post exploration and rehabilitation are consistent with pre-existing background levels.</li> <li>• Employee and contractors exposure levels were within safe limits during the exploration program.</li> </ul>

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
Stakeholders	Stakeholders	Stakeholders: - freehold land owners - perpetual lease holders - pastoral lease holders - Aboriginal land (Anangu Pitjantjatjara Yankunytjatjara and Maralinga Tjarutja lands) - Department of Defence - state government departments. - local government (councils) - federal government - native title parties.	<ul style="list-style-type: none"> <li>• Serving of regulatory forms and notices, agreements in accordance with the Mining Act.</li> <li>• Stakeholder engagement will be ongoing throughout the exploration program, for low-impact and advanced exploration activities.</li> <li>• Stakeholder consultation will be recorded in accordance with the company's Stakeholder Management Plan on the Stakeholder Consultation Register.</li> <li>• Stakeholder complaints will be recorded and actioned/remedied where required as soon as practicable.</li> <li>• The company will provide project updates to stakeholders.</li> <li>• Exploration activities that impact buildings, structures, existing tracks or other infrastructure will be monitored routinely to ensure interference is at a level expected by the stakeholder.</li> <li>• All employees, contractors and visitors will have conducted a Site Induction.</li> <li>• All employees, contractors and visitors will have conducted a Heritage Induction.</li> <li>• All employees,</li> </ul>	Mod erat e	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**

---

contractors and visitors will have completed the Site Access Forms, prior to mobilisation to site.

- Site activities will be supervised by a designated Site Supervisor who will conduct routine inspections to monitor land use, track degradation, waste control and the general aesthetic values of the area.

---

## Supporting Information

### Photos

Upload Photos 

[Expand/Collapse](#)

File Name	File Size (Mb)	Created On	Download
2025-09-22 - 21B ORP to Lillydale Station (ORP Signed).pdf	0.46 Mb	24-09-2025 11:18:30	<a href="#">Download (MERS/EP-03926/Supporting information /Photos/2025-09-22 - 21B ORP to Lillydale Station (ORP Signed)_2025-09-24T01-48-31.867Z.pdf)</a>
2025-09-22 - 21B ORP to Lillydale Station (Proof of Service - Signed).pdf	0.45 Mb	24-09-2025 11:18:30	<a href="#">Download (MERS/EP-03926/Supporting information /Photos/2025-09-22 - 21B ORP to Lillydale Station (Proof of Service - Signed)_2025-09-24T01-48-31.851Z.pdf)</a>
2025-09-22 - 21B ORP to Mutooroo Station (ORP Signed).pdf	0.46 Mb	24-09-2025 11:18:30	<a href="#">Download (MERS/EP-03926/Supporting information /Photos/2025-09-22 - 21B ORP to Mutooroo Station (ORP Signed)_2025-09-24T01-48-31.803Z.pdf)</a>

File Name	File Size (Mb)	Created On	Download
2025-09-22 - 21B ORP to Mutooroo Station (Proof of Service - Signed).pdf	0.44 Mb	24-09-2025 11:18:30	<a href="#">Download (MERS/EP-03926/Supporting information /Photos/2025-09-22 - 21B ORP to Mutooroo Station (Proof of Service - Signed)_2025-09-24T01-48-31.892Z.pdf)</a>
image.png	1.21 Mb	13-08-2025 13:21:22	<a href="#">Download (MERS/EP-03926/Supporting information /Photos/image_2025-08-13T03-51-23.092Z.png)</a>

Site identification	Date taken	Photo number & PEPR section reference	Easting (GDA94)	Northing (DGA94)	Zone	Details and comments	Document ID
Radium Hill South Drilling Location	20/07/2025	1	476810	6390344	54	Photo showing location of exploration area EL6960	1

## Supporting Maps

Upload Maps 

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File Name	File Size (Mb)	Created On	Download
ORP-P00020AC-J00004 - Land Holders.jpg	1.02 Mb	13-08-2025 13:17:45	<a href="#">Download (MERS/EP-03926/Supporting information/Maps/ORP-P00020AC-J00004 - Land Holders_2025-08-13T03-47-46.600Z.jpg)</a>
SA_ORP_RHS_Aquifer.png	7.96 Mb	13-08-2025 13:17:50	<a href="#">Download (MERS/EP-03926/Supporting information/Maps/SA_ORP_RHS_Aquifer_2025-08-13T03-47-51.464Z.png)</a>
SA_ORP_RHS_Bioregions.png	6.35 Mb	13-08-2025 13:17:45	<a href="#">Download (MERS/EP-03926/Supporting information/Maps/SA_ORP_RHS_Bioregions_2025-08-13T03-47-46.019Z.png)</a>
SA_ORP_RHS_Elevation.png	8.76 Mb	13-08-2025 13:17:44	<a href="#">Download (MERS/EP-03926/Supporting information/Maps/SA_ORP_RHS_Elevation_2025-08-13T03-47-45.839Z.png)</a>
SA_ORP_RHS_Fauna.png	8.03 Mb	13-08-2025 13:17:44	<a href="#">Download (MERS/EP-03926/Supporting information/Maps/SA_ORP_RHS_Fauna_2025-08-13T03-47-45.745Z.png)</a>

File Name	File Size (Mb)	Created On	Download
SA_ORP_RHS_GDEs_Aquatic.png	8.09 Mb	13-08-2025 13:17:45	<a href="#">Download (MERS/EP-03926/Supporting information/Maps/SA_ORP_RHS_GDEs_Aquatic_2025-08-13T03-47-46.222Z.png)</a>
SA_ORP_RHS_GDEs_Terrestrial.png	8.01 Mb	13-08-2025 13:17:45	<a href="#">Download (MERS/EP-03926/Supporting information/Maps/SA_ORP_RHS_GDEs_Terrestrial_2025-08-13T03-47-46.166Z.png)</a>
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SA_ORP_RHS_Map sheets.png	7.93 Mb	13-08-2025 13:17:45	<a href="#">Download (MERS/EP-03926/Supporting information/Maps/SA_ORP_RHS_Map sheets_2025-08-13T03-47-46.590Z.png)</a>
SA_ORP_RHS_Native Title.png	7.81 Mb	13-08-2025 13:17:45	<a href="#">Download (MERS/EP-03926/Supporting information/Maps/SA_ORP_RHS_Native Title_2025-08-13T03-47-46.602Z.png)</a>

File Name	File Size (Mb)	Created On	Download
SA_ORP_RHS_Pastoral Stations.png	6.62 Mb	13-08-2025 13:17:45	<a href="#">Download (MERS/EP-03926/Supporting information/Maps/SA_ORP_RHS_Pastoral Stations_2025-08-13T03-47-46.741Z.png)</a>
SA_ORP_RHS_Rated Fauna.png	7.87 Mb	13-08-2025 13:17:44	<a href="#">Download (MERS/EP-03926/Supporting information/Maps/SA_ORP_RHS_Rated Fauna_2025-08-13T03-47-45.816Z.png)</a>
SA_ORP_RHS_Rated Flora.png	7.9 Mb	13-08-2025 13:17:44	<a href="#">Download (MERS/EP-03926/Supporting information/Maps/SA_ORP_RHS_Rated Flora_2025-08-13T03-47-45.730Z.png)</a>
SA_ORP_RHS_Roads.png	8.13 Mb	13-08-2025 13:17:45	<a href="#">Download (MERS/EP-03926/Supporting information/Maps/SA_ORP_RHS_Roads_2025-08-13T03-47-45.980Z.png)</a>
SA_ORP_RHS_Surface Cover.png	8.13 Mb	13-08-2025 13:17:45	<a href="#">Download (MERS/EP-03926/Supporting information/Maps/SA_ORP_RHS_Surface Cover_2025-08-13T03-47-46.170Z.png)</a>

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SA_ORP_RHS_SWL.png	7.93 Mb	13-08-2025 13:17:45	<a href="#">Download (MERS/EP-03926/Supporting information/Maps/SA_ORP_RHS_SWL_2025-08-13T03-47-46.226Z.png)</a>
SA_ORP_RHS_Vegetation Type.png	1.51 Mb	13-08-2025 13:17:46	<a href="#">Download (MERS/EP-03926/Supporting information/Maps/SA_ORP_RHS_Vegetation Type_2025-08-13T03-47-46.916Z.png)</a>
SA_ORP_RHS_Watercourses and Waterbodies.png	8.5 Mb	13-08-2025 13:17:45	<a href="#">Download (MERS/EP-03926/Supporting information/Maps/SA_ORP_RHS_Watercourses and Waterbodies_2025-08-13T03-47-46.834Z.png)</a>
SA_ORP_RHS_Weeds of National Significance.png	7.88 Mb	13-08-2025 13:17:45	<a href="#">Download (MERS/EP-03926/Supporting information/Maps/SA_ORP_RHS_Weeds of National Significance_2025-08-13T03-47-46.610Z.png)</a>
SA_ORP_RHS_Well Data.png	8.16 Mb	13-08-2025 13:17:46	<a href="#">Download (MERS/EP-03926/Supporting information/Maps/SA_ORP_RHS_Well Data_2025-08-13T03-47-46.913Z.png)</a>

<b>Figure Description</b>	<b>Document ID</b>
Figure 1: Radium Hill South EL6960 – Project Location	Figure 1: Radium Hill South EL6960 – Project Location
Figure 2: Radium Hill South EL6960 – Project Location Mapsheets	Figure 2: Radium Hill South EL6960 – Project Location Mapsheets
Figure 3: Mega Hindmarsh Pty Ltd / CSIRO plan image	Figure 3: Mega Hindmarsh Pty Ltd / CSIRO plan image
Figure 4: Block diagram summarising the geological components where the source of uranium is the Ordovician granites and Precambrian bedrock, eroding south into the Murray-Darling Basin. Sandstone-hosted uranium deposits are formed when oxidised uranium is precipitated from fluid flowing in permeable sandstones in the Southern Curnamona Province (after Roach, 2012).	Figure 4:
Figure 5: Radium Hill South EL6960 – Roads	Figure 5: Radium Hill South EL6960 – Roads
Figure 6: Radium Hill South EL6960 – Pastoral Stations	Figure 6: Radium Hill South EL6960 – Pastoral Stations
Figure 7: Radium Hill South EL6960 – Native Title	Figure 7: Radium Hill South EL6960 – Native Title
Figure 8: Radium Hill South EL6960 – Elevation	Figure 8: Radium Hill South EL6960 – Elevation
Figure 9: Radium Hill South EL6960 – Bioregions	Figure 9: Radium Hill South EL6960 – Bioregions
Figure 10: Radium Hill South EL6960 – 1:100k Surface Cover	Figure 10: Radium Hill South EL6960 – 1:100k Surface Cover
Figure 11: Radium Hill South EL6960 – Watercourses and Waterbodies	Figure 11: Radium Hill South EL6960 – Watercourses and Waterbodies
Figure 12: Radium Hill South EL6960 – Well Data	Figure 12: Radium Hill South EL6960 – Well Data
Figure 13: Radium Hill South EL6960 – Standing Water Level (SWL)	Figure 13: Radium Hill South EL6960 – Standing Water Level (SWL)
Figure 14: Radium Hill South EL6960 – Aquifers	Figure 14: Radium Hill South EL6960 – Aquifers
Figure 15: Aquifers of the Murray Darling Basin (Doble et al, 2023). Red box indicates location of project area.	Figure 15: Aquifers of the Murray Darling Basin (Doble et al, 2023). Red box indicates location of p
Figure 16: Radium Hill South EL6960 – Groundwater Dependent Ecosystems – Aquatic	Figure 16: Radium Hill South EL6960 – Groundwater Dependent Ecosystems – Aquatic
Figure 17: Radium Hill South EL6960 – Groundwater Dependent Ecosystems – Terrestrial	Figure 17: Radium Hill South EL6960 – Groundwater Dependent Ecosystems – Terrestrial
Figure 18: Radium Hill South EL6960 – Vegetation Type	Figure 18: Radium Hill South EL6960 – Vegetation Type
Figure 19: Radium Hill South EL6960 – Rated Flora Sites	Figure 19: Radium Hill South EL6960 – Rated Flora Sites
Figure 20: Radium Hill South EL6960 – Weeds of National Significance	Figure 20: Radium Hill South EL6960 – Weeds of National Significance
Figure 21A: Radium Hill South EL6960 – Fauna Sites	Figure 21A: Radium Hill South EL6960 – Fauna Sites
Figure 21B: Radium Hill South EL6960 – Fauna Sites Legend	Figure 21B: Radium Hill South EL6960 – Fauna Sites Legend
Figure 22: Radium Hill South EL6960 – Rated Fauna Sites	Figure 22: Radium Hill South EL6960 – Rated Fauna Sites

## 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.

NOE 21B's -

2025-09-22 - 21B ORP to Lillydale Station (ORP Signed)

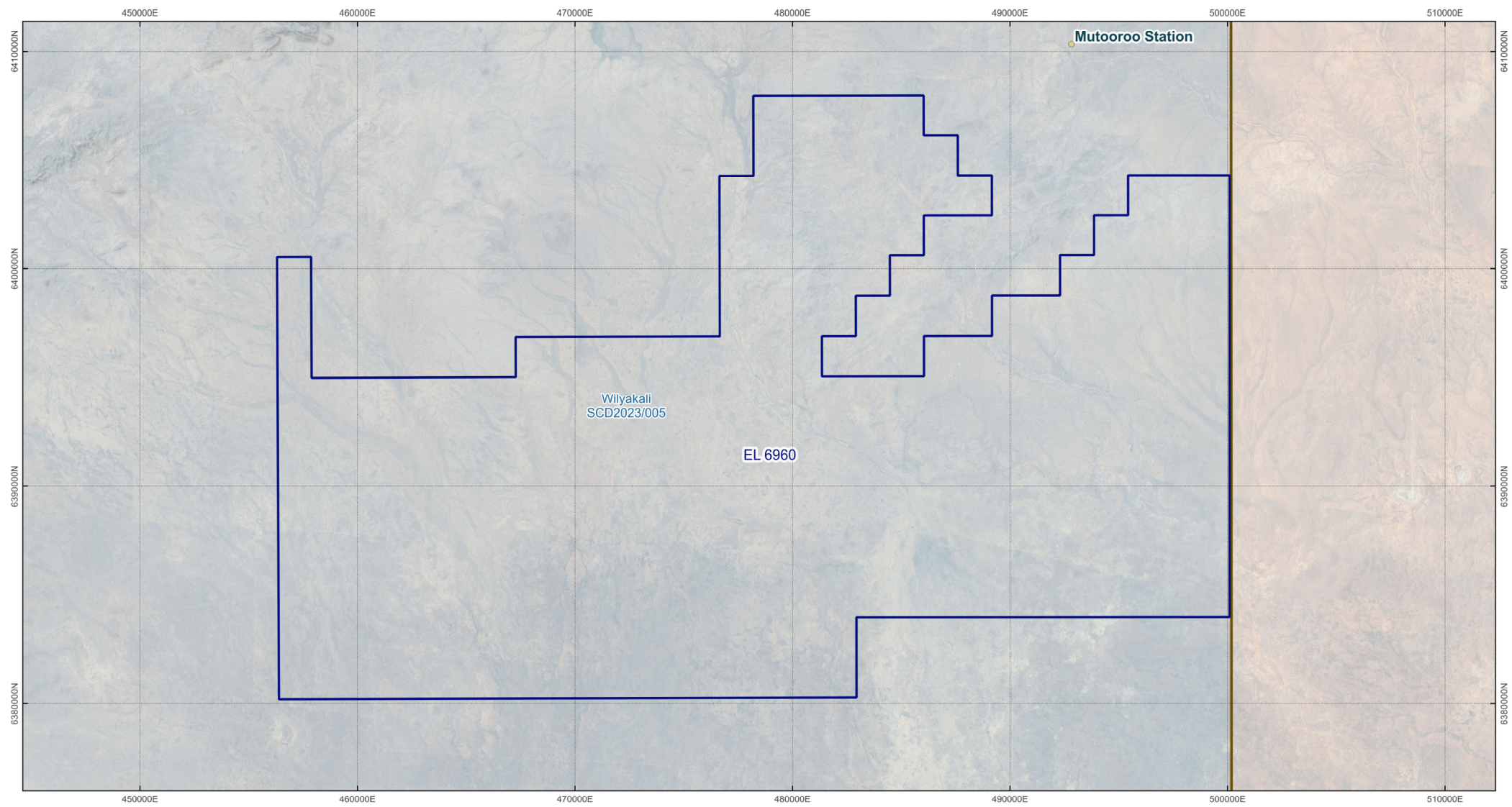
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2025-09-22 - 21B ORP to Mutooroo Station (ORP Signed)

2025-09-22 - 21B ORP to Mutooroo Station (Proof of Service - Signed)

Radiation Management Plan

Email from EPA confirming endorsement of Radiation Plan



**Tenements**  
**Mining Act**  
**Mineral Tenements - Exploration**  
 EL6960

**Topographic**  
**Towns & localities**  
 5  
**STATES\_indv**  
 SA state polygon

**Base Layers**  
**Google Satellite**  
**World Hillshade**



**Radium Hill South Project - EL6960**  
**EPEPR**  
 Native Title

**DATE: 21 AUGUST 2024**  
 Author: LR  
 EPSG:7854; Projection: GDA2020 / MGA zone 54

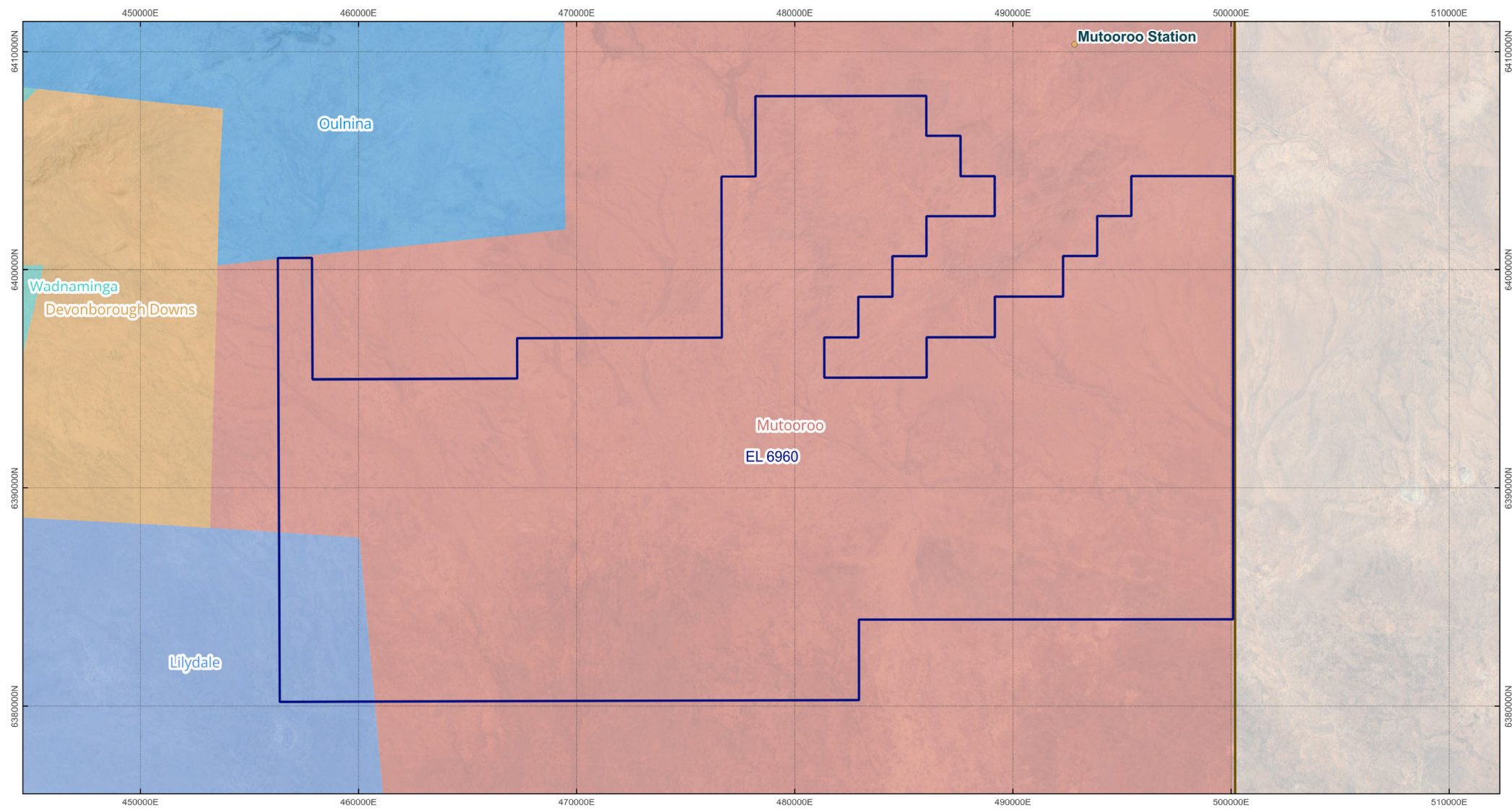
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Scale 1:235,285

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- Tenements**
- Mining Act**
  - Mineral Tenements - Exploration**
  - EL6960
  - Topographic**
  - Towns & localities**
  - 5

- Cadastral**
- SA\_PastoralStations**
  - Devonborough Downs
  - Lilydale
  - Mutooroo
  - Oulnina
  - Wadnaminga
  - STATES\_indv**
  - SA state polygon

- Base Layers**
- Google Satellite
  - World Hillshade

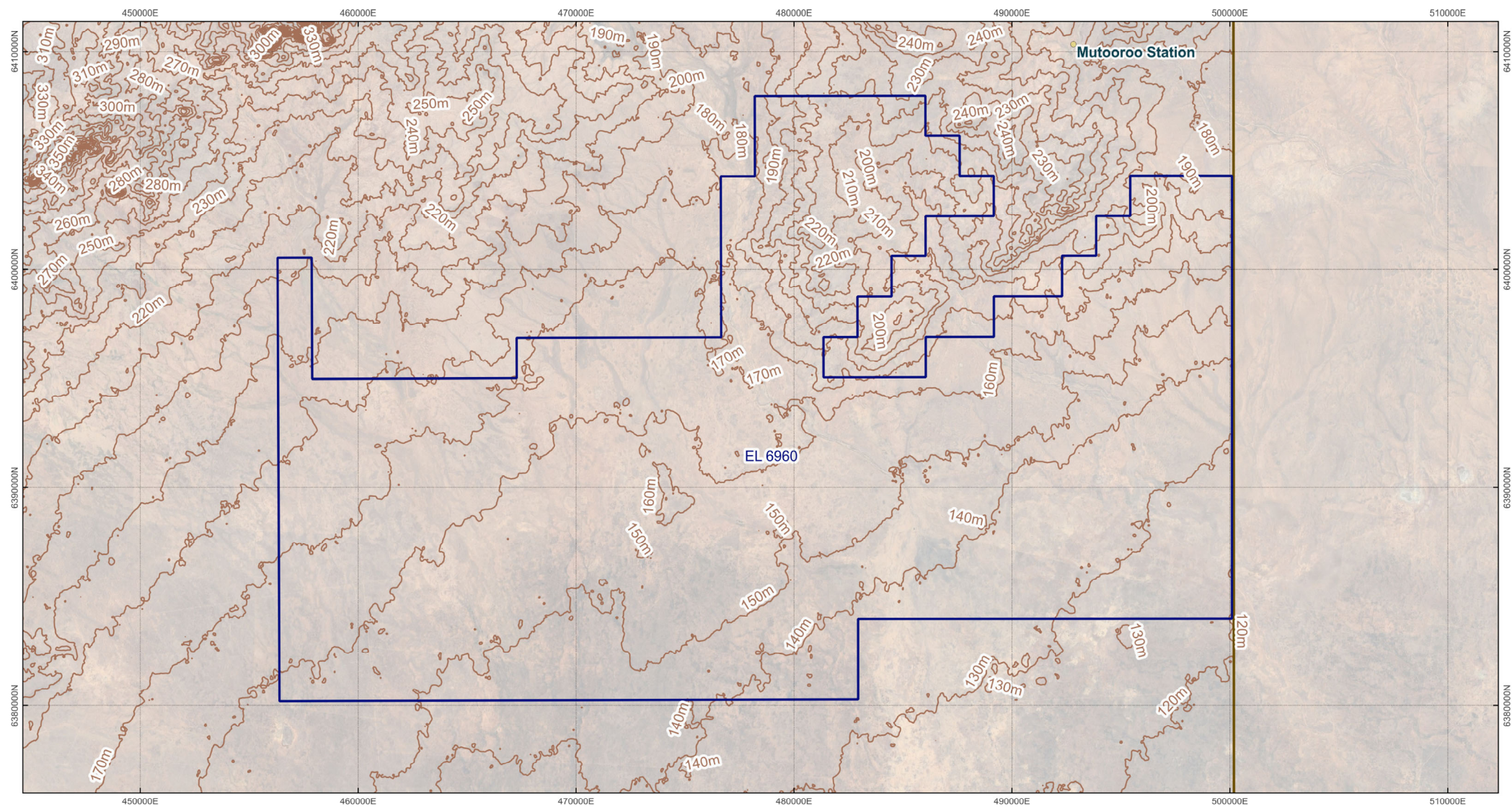


**Radium Hill South Project - EL6960**  
**EPEPR**  
**Pastoral Stations**

**DATE: 21 AUGUST 2024**  
 Author: LR  
 EPSG:7854; Projection: GDA2020 / MGA zone 54

0 2 4 6 8 10 km  
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**Tenements**  
**Mining Act**  
**Mineral Tenements - Exploration**  
 EL6960

**Topographic**  
**Towns & localities**  
 5  
**STATES\_indv**  
 SA state polygon

**Base Layers**  
 10m\_Contours  
**Google Satellite**  
**World Hillshade**



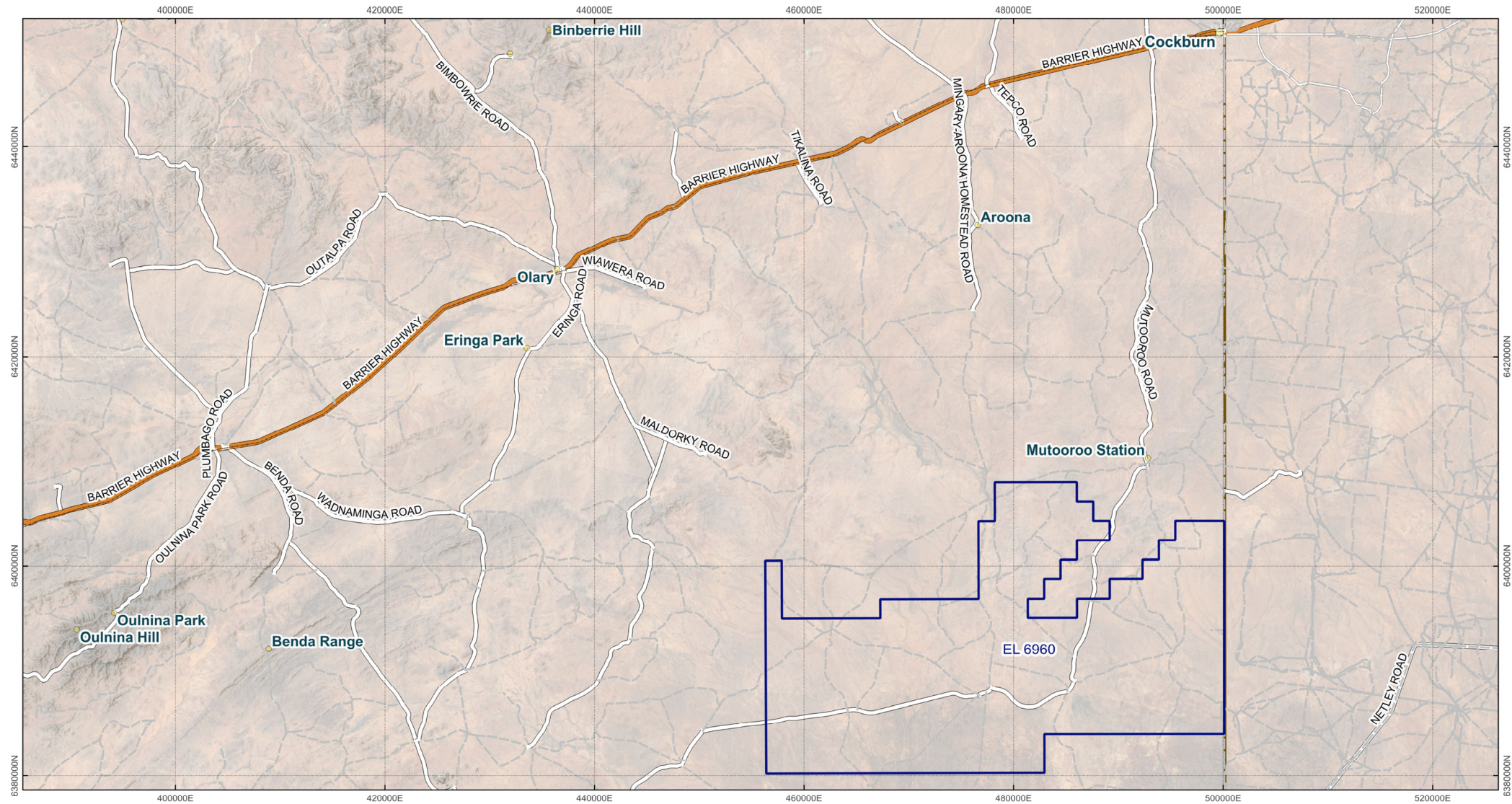
**Radium Hill South Project - EL6960**  
**EPEPR**  
**Elevation**

**DATE: 21 AUGUST 2024**  
 Author: LR  
 EPSG:7854; Projection: GDA2020 / MGA zone 54

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- Tenements**
- Mining Act**
- Mineral Tenements - Exploration**
- EL6960
- Topographic**
- Towns & localities**
- 4
- 5
- Railway

- Roads\_SA**
- Highway
- LOCL
- Minor
- TRK2
- Roads\_NSW**
- Highway
- Minor
- Suburban
- Private

- STATES\_indv**
- SA state polygon
- Base Layers**
- Google Satellite
- World Hillshade



**Radium Hill South Project - EL6960**  
**EPEPR**  
 Project Location

**DATE: 20 AUGUST 2024**  
 Author: LR  
 EPSG:7854; Projection: GDA2020 / MGA zone 54

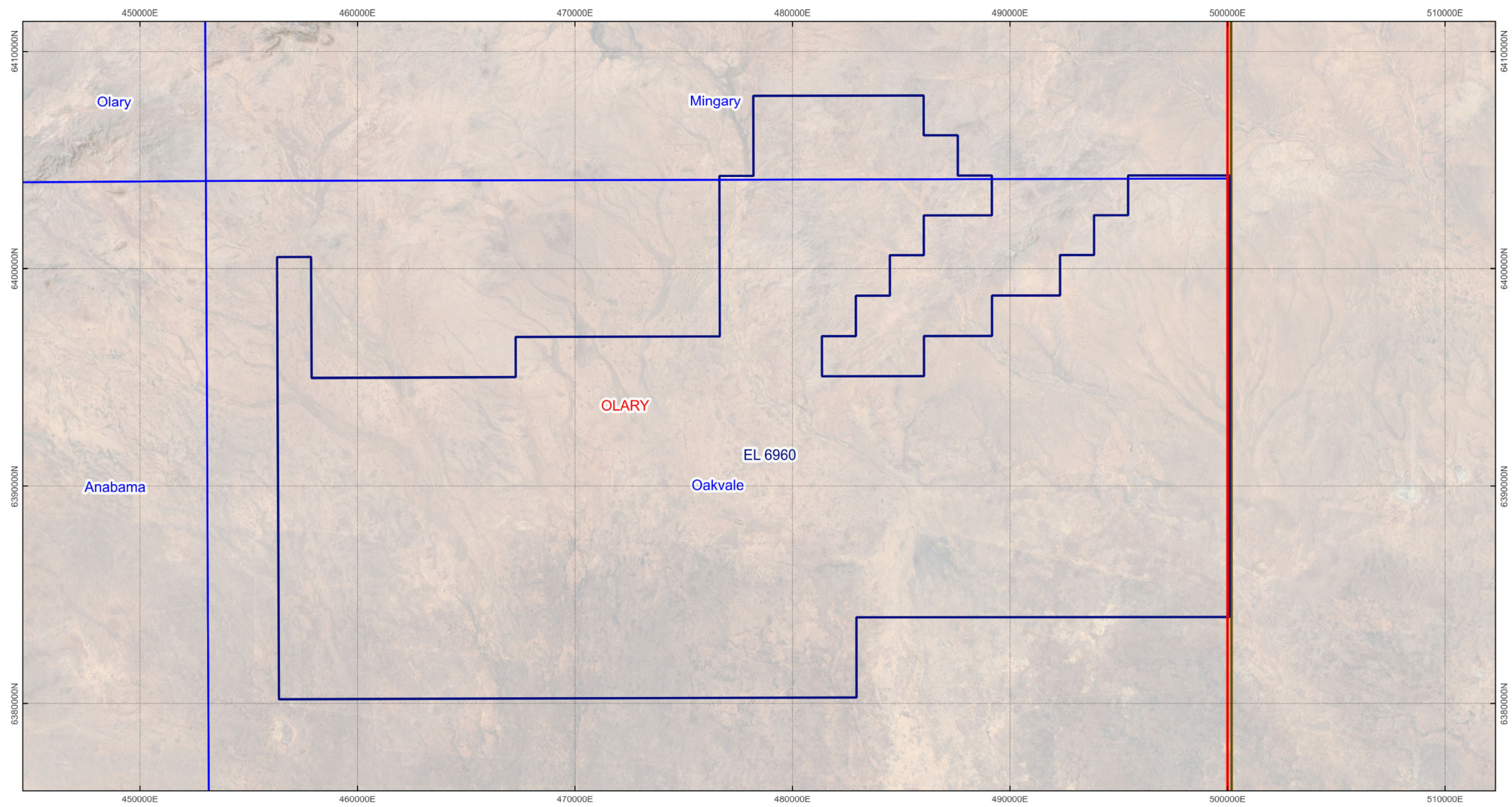
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0 4 8 12 16 20 km

Scale 1:489,374

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- 250K\_Mapsheets
  - 100K\_Mapsheets
- Tenements**
- Mining Act**
  - Mineral Tenements - Exploration**
  - EL6960

- STATES\_indv**
  - SA state polygon
- Base Layers**
- World Hillshade**
  - Google Satellite**



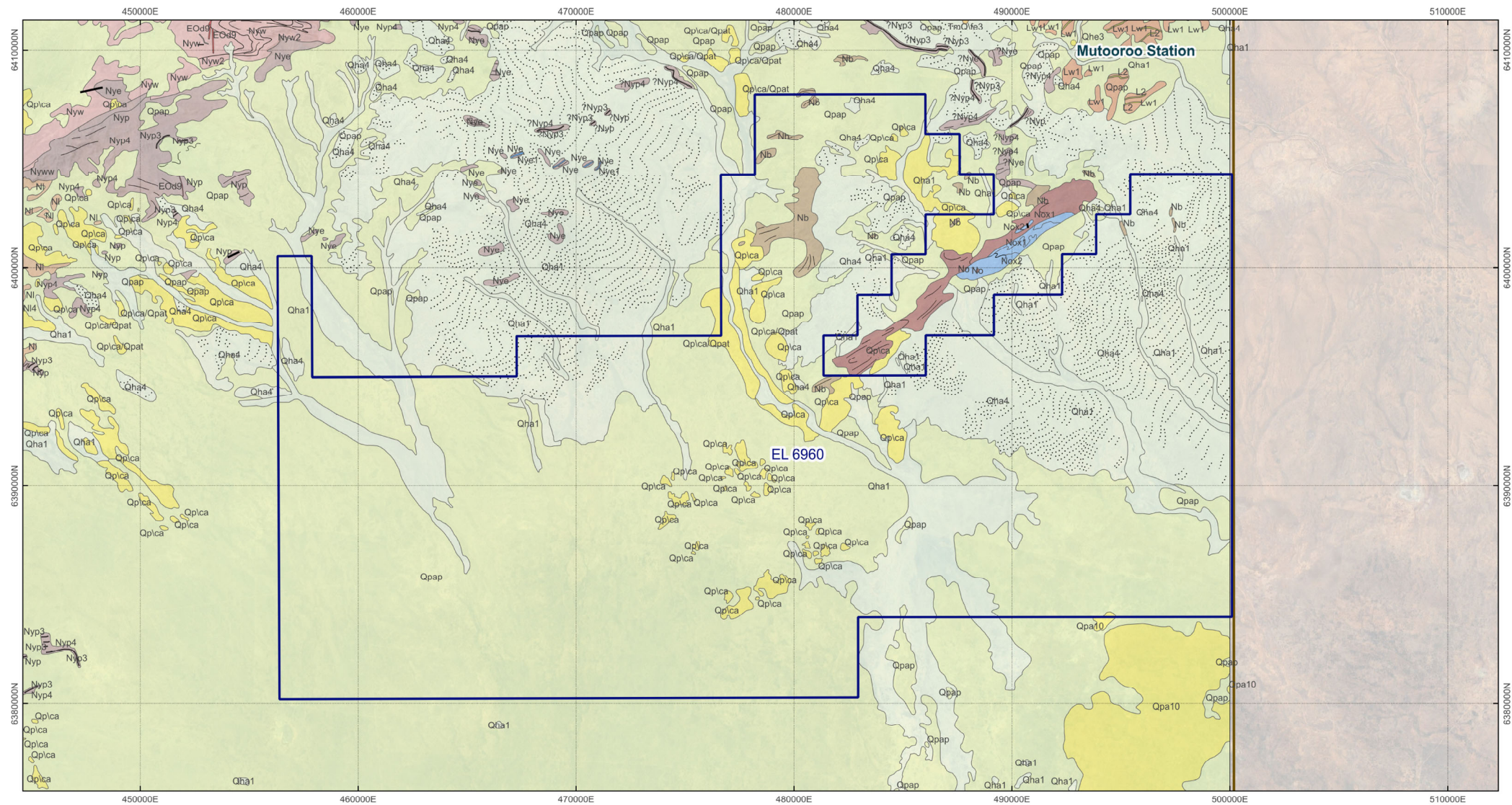
**Radium Hill South Project - EL6960**  
**EPEPR**  
**Mapsheets**

**DATE: 20 AUGUST 2024**  
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- Tenements**
- Mining Act**
- Mineral Tenements - Exploration**
- Topographic**
- Towns & localities**
- STATES\_indv**
- Surface Geology**

- 100K Linear Structures**
- 100K Geology boundaries**
- 100K Surface Geology**

- Qhe3
- Qp\ca
- Qpap
- Qpa10
- Qp\ca/Qpat
- TmQ\fe3
- EOD8
- EOD9
- Nye
- ?Nye
- Nyp
- ?Nyp
- Nyww

- Nyw
- Nye1
- Nyw2
- Nye2
- ?Nye2
- Nyp3
- ?Nyp3
- Nyp4
- ?Nyp4
- Nb
- Ni
- Ni4
- No

- Nox1
- Nox2
- L2
- Lw1
- Base Layers**
- Google Satellite**
- World Hillshade**



**Radium Hill South Project - EL6960**  
**EPEPR**  
 1:100k Surface Cover

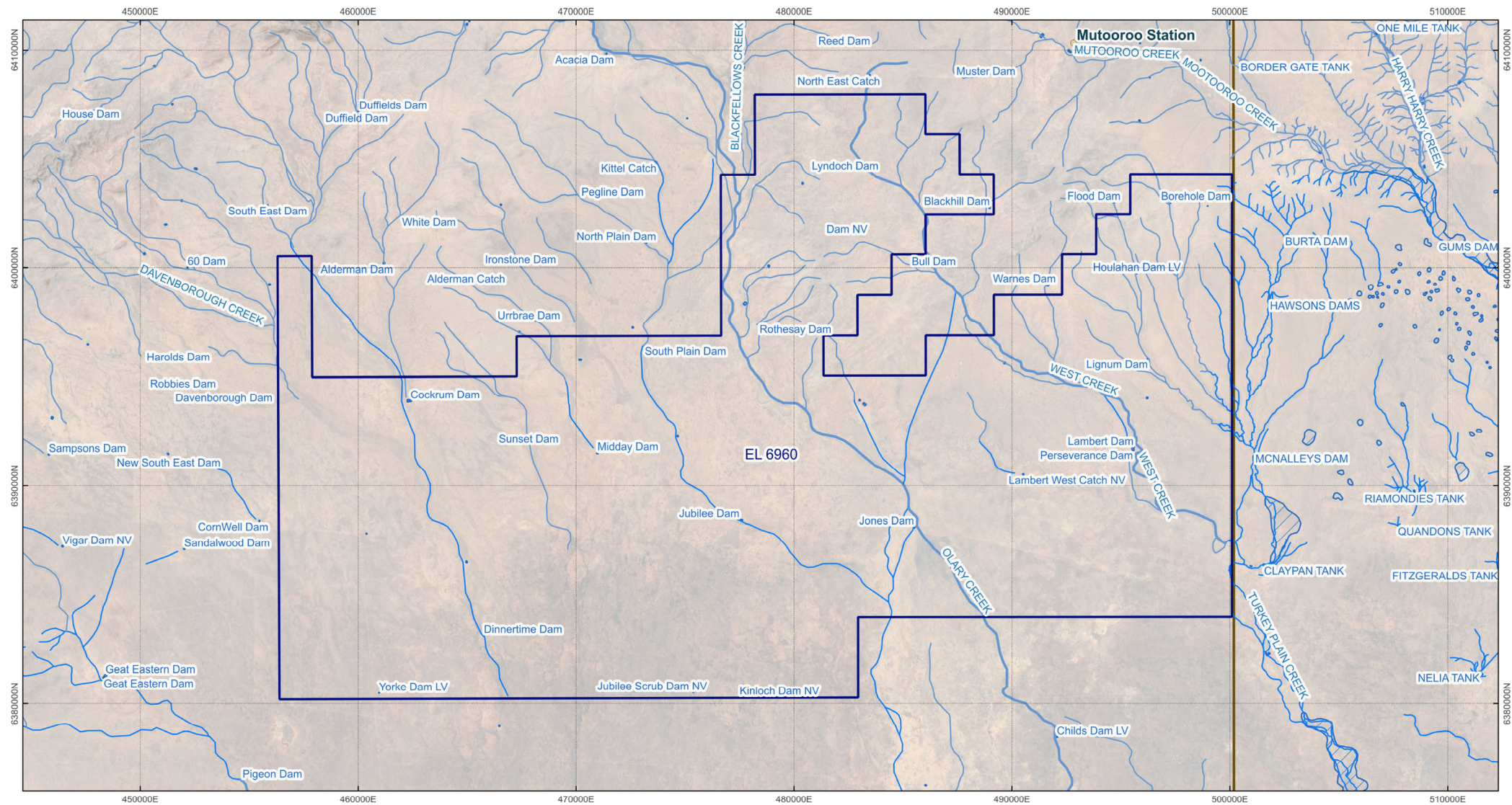
**DATE: 21 AUGUST 2024**  
 Author: LR  
 EPSG:7854; Projection: GDA2020 / MGA zone 54

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- Tenements**
- Mining Act
  - Mineral Tenements - Exploration
    - EL6960
  - Topographic
  - Towns & localities
    - 5
- Environmental**
- Watercourses
    - Major
    - Minor
  - Waterbodies
  - STATES\_indv
    - SA state polygon

- Base Layers**
- Google Satellite
  - World Hillshade



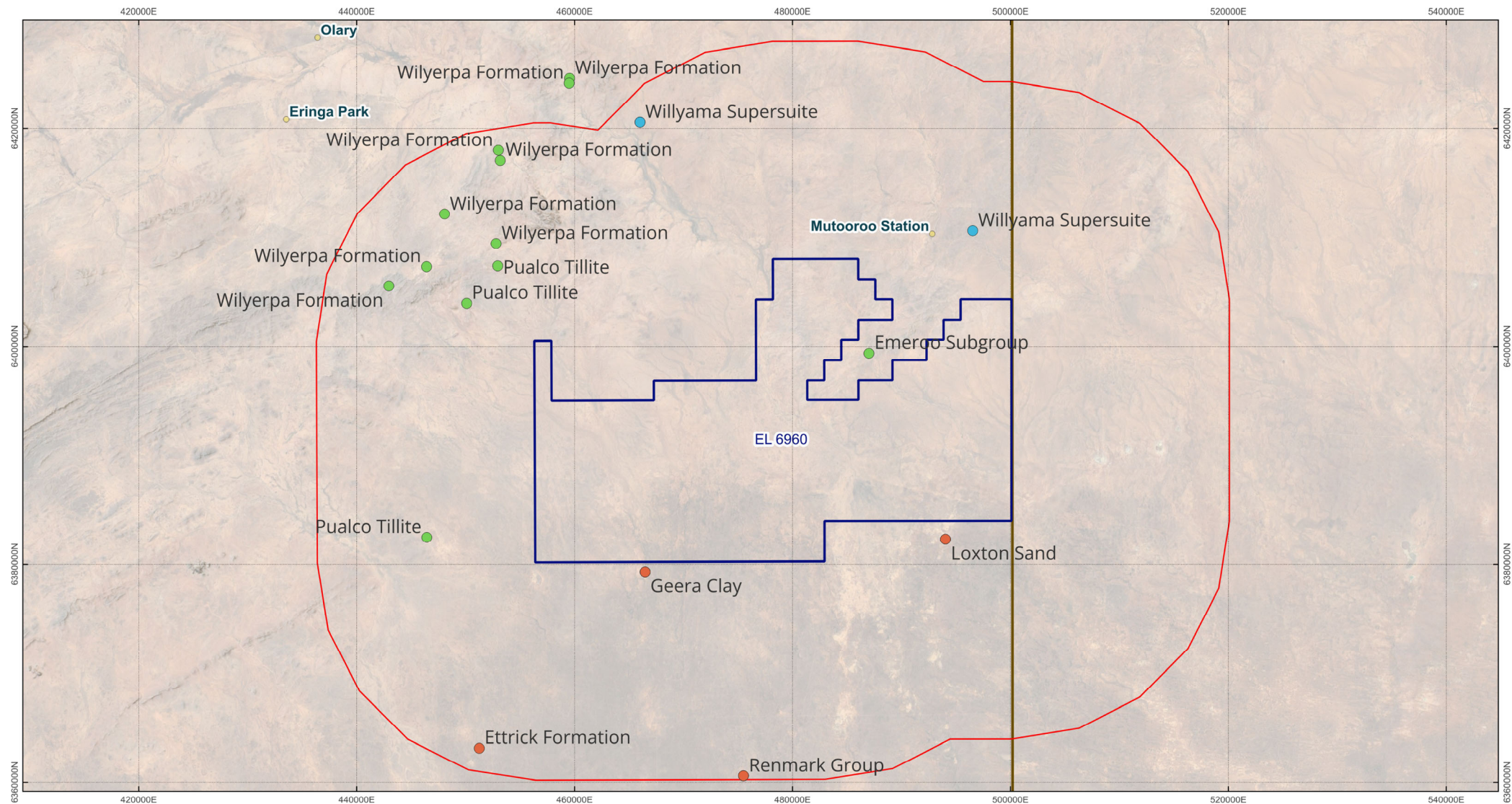
**Radium Hill South Project - EL6960**  
**EPEPR**  
**Watercourses and Waterbodies**

**DATE: 21 AUGUST 2024**  
 Author: LR  
 EPSG:7854; Projection: GDA2020 / MGA zone 54

0 2 4 6 8 10 km

Scale 1:235,285

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**Clients**  
 Orpheus  
 Radium Hill  
 Well Data  
 Radium Hill South\_WellDownload\_Aquifer

**Well Data**  
 ● Tertiary  
 ● Neoproterozoic  
 ● Paleoproterozoic

**Tenements**  
 Mining Act  
 Mineral Tenements - Exploration  
 ■ EL6960  
 ■ EL6960\_20km buffer

**Topographic**  
 Towns & localities  
 ● 5

**STATES\_indv**  
 ■ SA state polygon

**Base Layers**  
 Google Satellite  
 World Hillshade

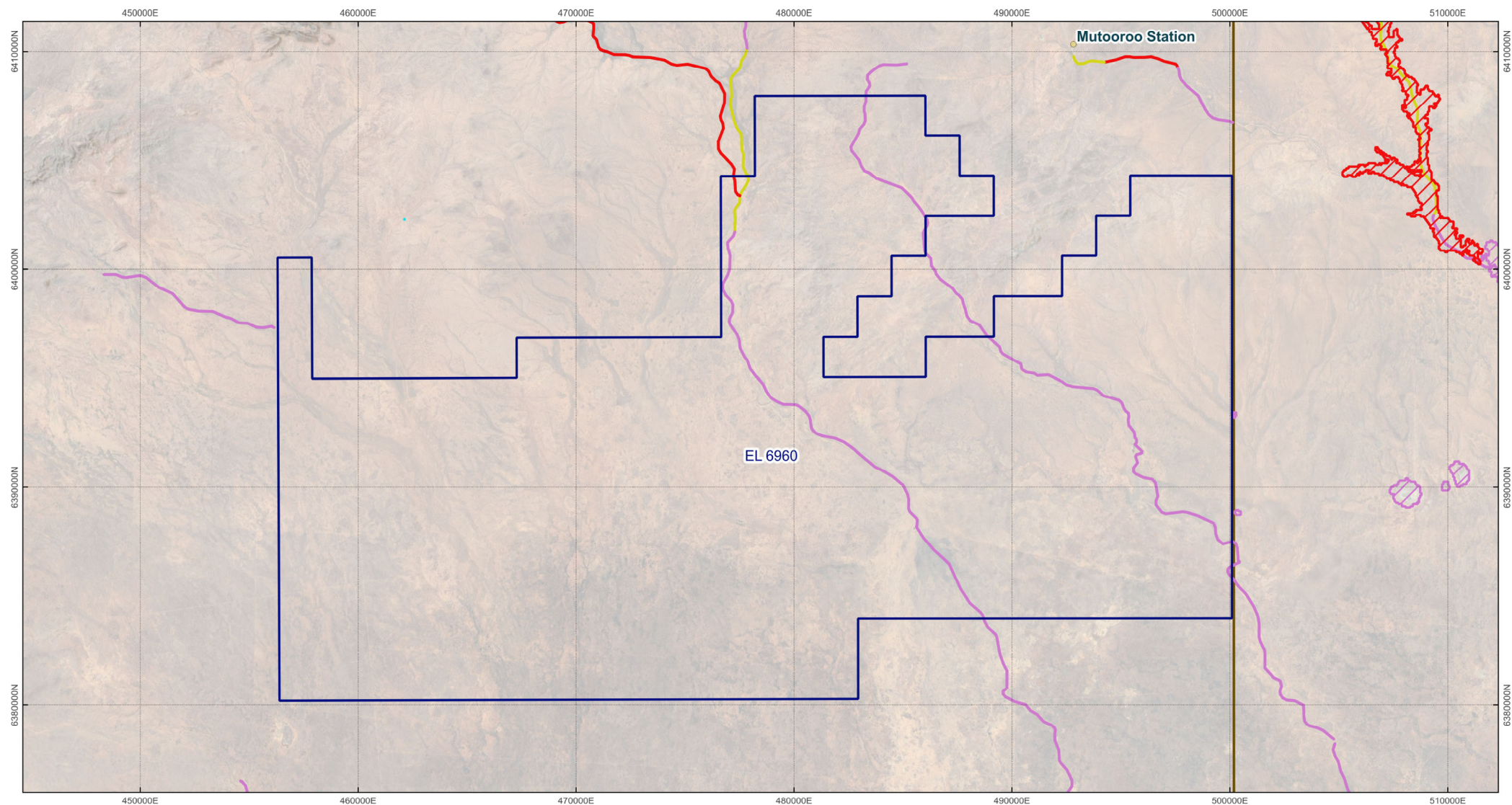


**Radium Hill South Project - EL6960  
 EPEPR  
 Aquifers**

**DATE: 19 SEPTEMBER 2024**  
 Author: LR  
 EPSG:7854; Projection: GDA2020 / MGA zone 54

0 4 8 12 16 20 km  
 Scale 1:470,569

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- Tenements**
- Mining Act**
  - Mineral Tenements - Exploration**
  - EL6960
  - Topographic**
  - Towns & localities**
  - 5

- Environmental**
- Groundwater Dependent Ecosystems**
  - Darling River**
  - Aquatic**
  - High potential GDE - from national assessment
  - Moderate potential GDE - from national assessment
  - Low potential GDE - from national assessment
  - Lower Mallee**
  - Aquatic**
  - Low potential GDE - from national assessment
  - Unclassified potential GDE - from regional studies

- STATES\_indv**
- SA state polygon
  - Base Layers**
  - Google Satellite
  - World Hillshade

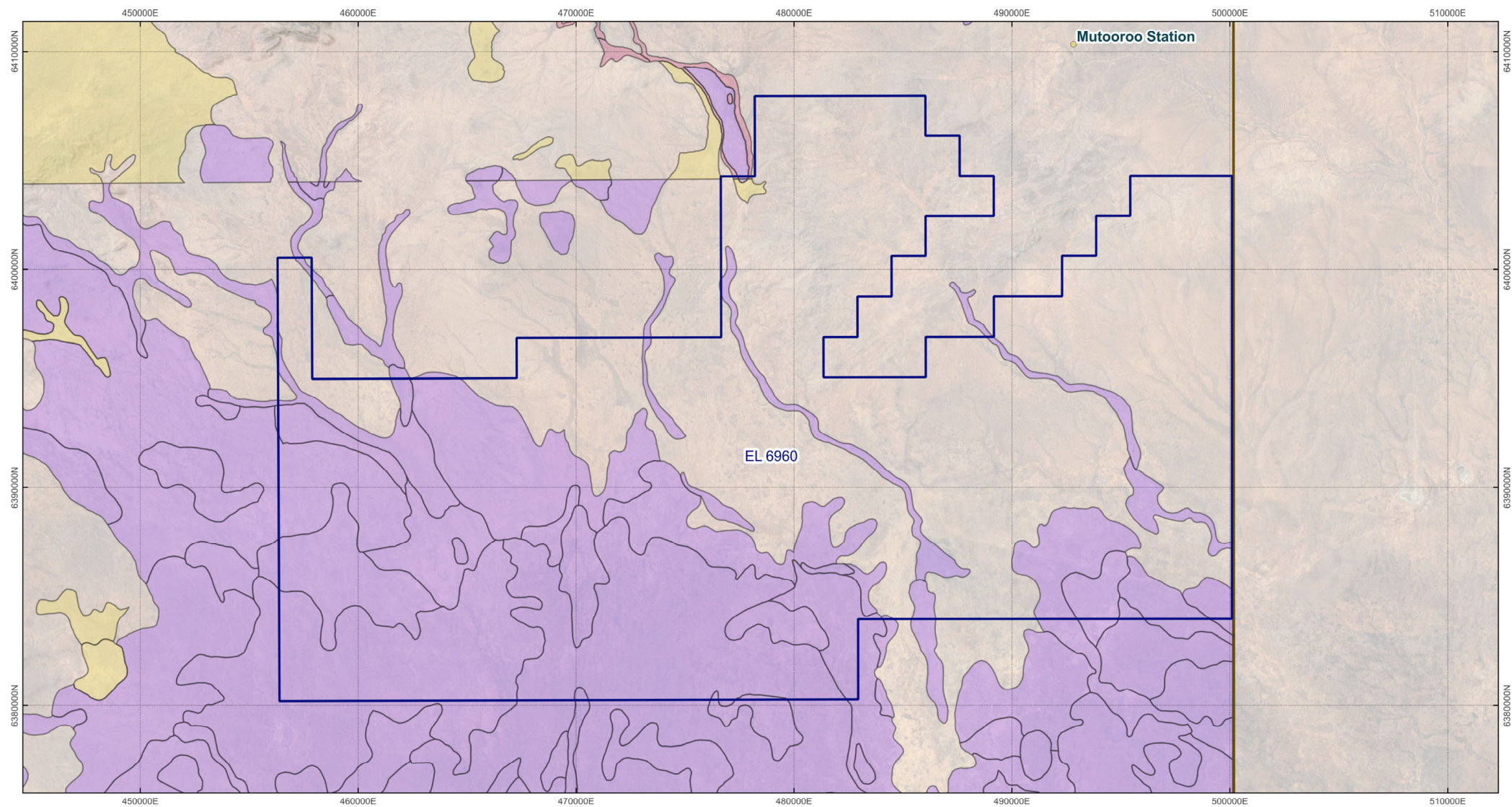


**Radium Hill South Project - EL6960**  
**EPEPR**  
**Aquatic Groundwater Dependent Ecosystems**

**DATE: 23 SEPTEMBER 2024**  
 Author: LR  
 EPSG:7854; Projection: GDA2020 / MGA zone 54

0 2 4 6 8 10 km  
 Scale 1:235,285

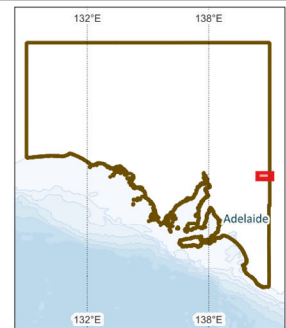
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- Tenements**
- Mining Act**
  - Mineral Tenements - Exploration**
  - EL6960
  - Topographic**
  - Towns & localities**
  - 5

- Environmental**
- Groundwater Dependent Ecosystems**
  - Darling River**
  - Terrestrial**
  - High potential GDE - from national assessment
  - Moderate potential GDE - from national assessment
  - Low potential GDE - from national assessment
  - Lower Mallee**
  - Terrestrial**
  - Moderate potential GDE - from national assessment
  - Low potential GDE - from national assessment

- STATES\_indv**
- SA state polygon
  - Base Layers**
  - Google Satellite
  - World Hillshade



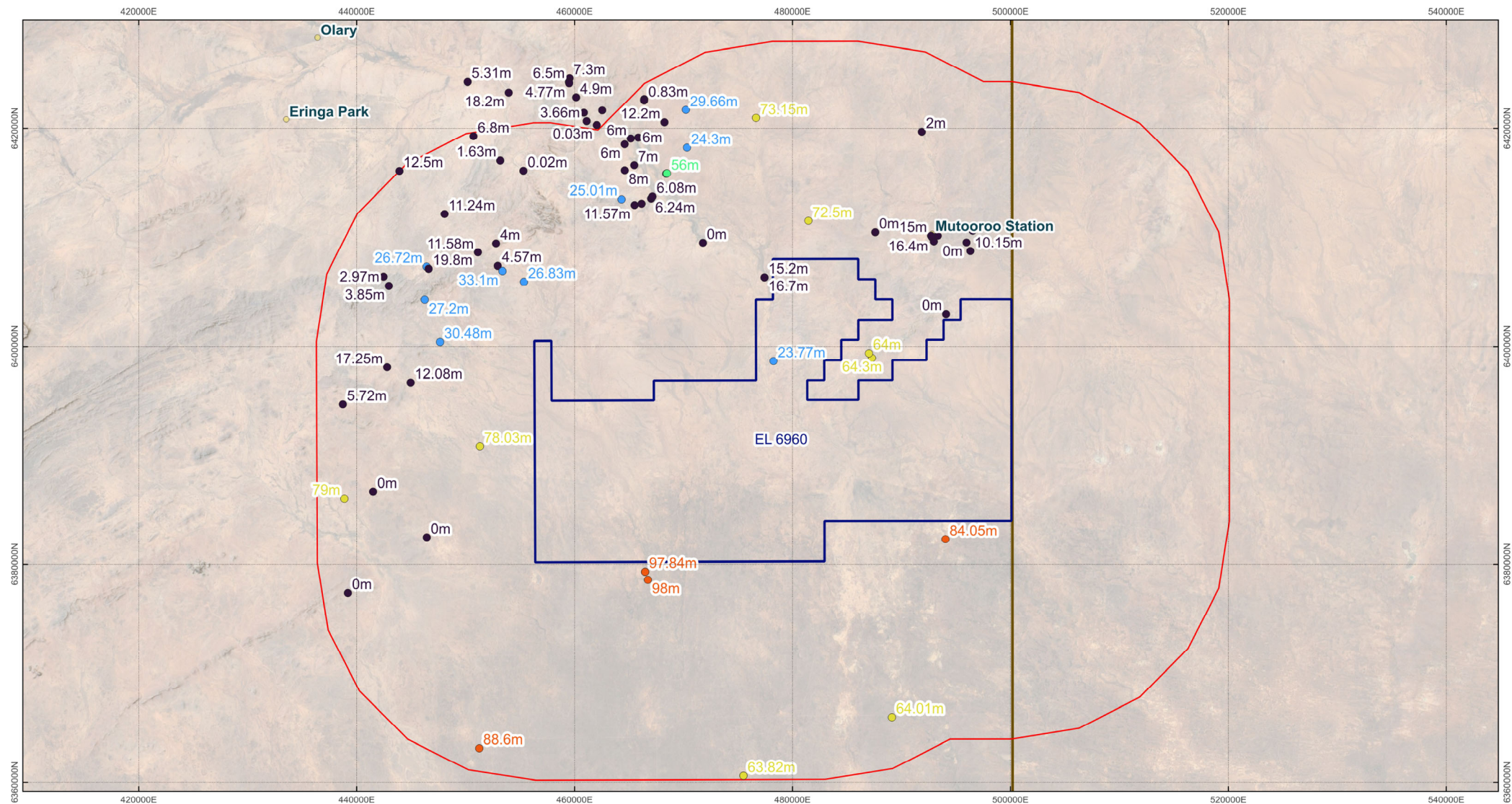
**Radium Hill South Project - EL6960**  
**EPEPR**  
**Terrestrial Groundwater Dependent Ecosystems**

**DATE: 23 SEPTEMBER 2024**  
 Author: LR  
 EPSG:7854; Projection: GDA2020 / MGA zone 54

0 2 4 6 8 10 km

Scale 1:235,285

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- Clients**  
 Orpheus  
 Radium Hill  
 Well Data
- Radium Hill South\_WellDownload\_SWL**
- 0 - 20
  - 20 - 40
  - 40 - 60
  - 60 - 80
  - 80 - 100
  - 100 - 120
- Tenements**  
 Mining Act  
 Mineral Tenements - Exploration  
 ■ EL6960  
 ■ EL6960\_20km buffer
- Topographic**  
 Towns & localities  
 ● 5
- STATES\_indv**  
 ■ SA state polygon

- Base Layers**  
 Google Satellite  
 World Hillshade



**Radium Hill South Project - EL6960  
 EPEPR  
 Standing Water Level (SWL)**

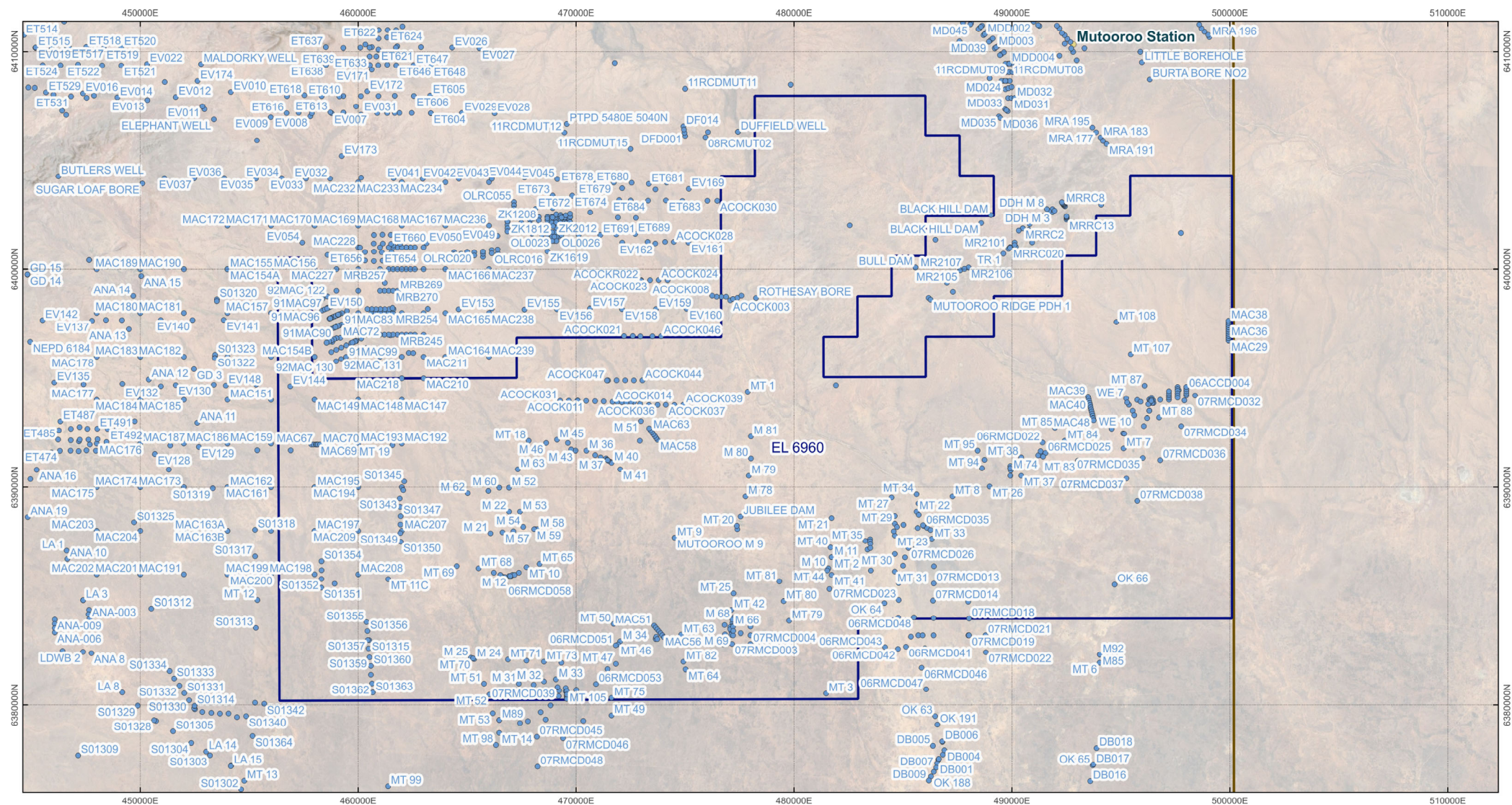
**DATE: 19 SEPTEMBER 2024**  
 Author: LR  
 EPSG:7854; Projection: GDA2020 / MGA zone 54

N

0 4 8 12 16 20 km

Scale 1:470,569

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- Clients**  
Orpheus  
Radium Hill South
- Well Data**  
● Radium Hill South\_WellDownload
- Tenements**  
**Mining Act**  
▭ EL6960

- Topographic**  
*World Hillshade*
- Towns & localities**  
● 5
- STATES\_indv**  
▭ SA state polygon
- Base Layers**  
*Google Satellite*



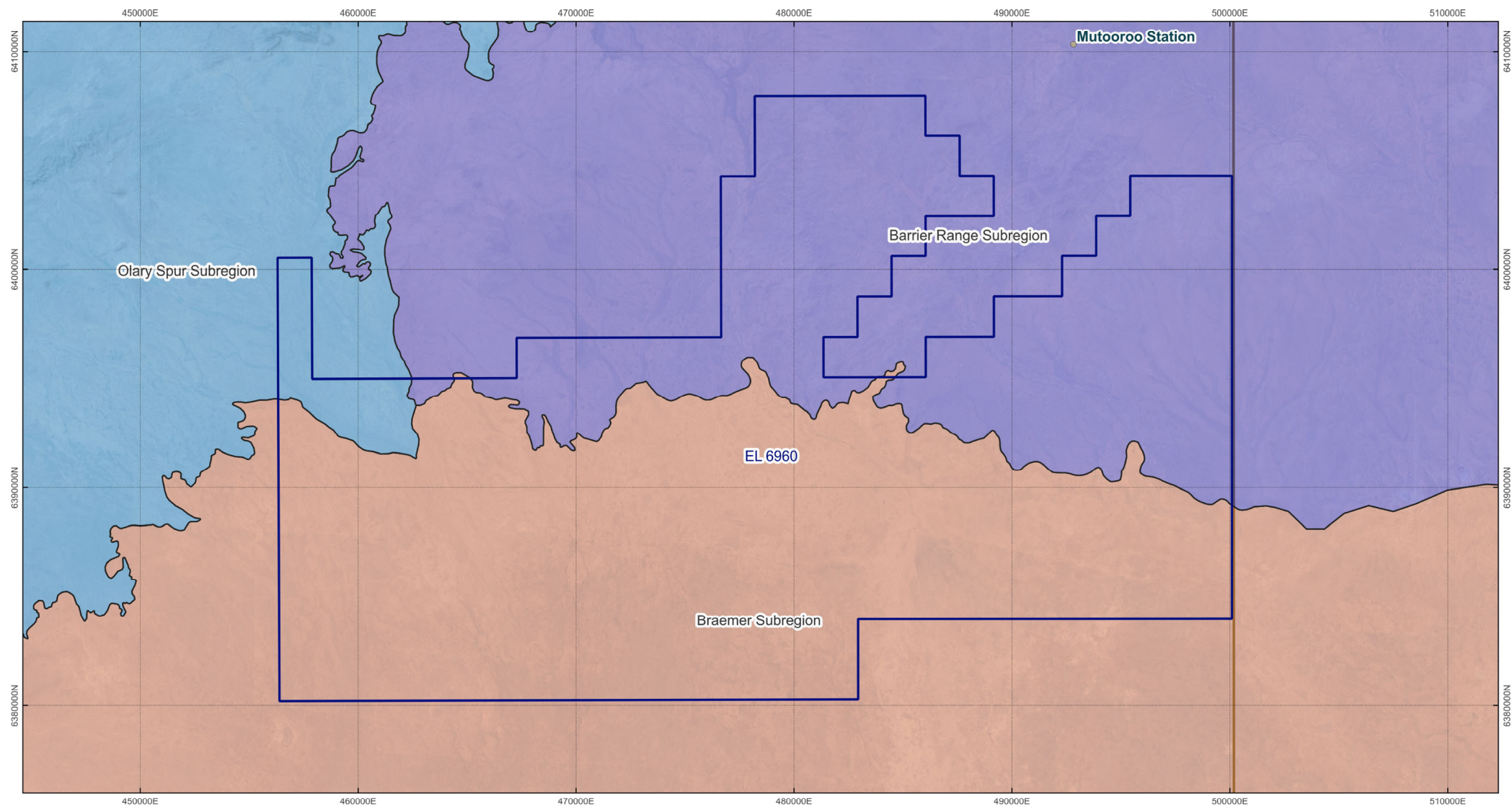
**Radium Hill South Project - EL6960**  
**EPEPR**  
**Well Data**

**DATE: 21 AUGUST 2024**  
Author: LR  
EPSG:7854; Projection: GDA2020 / MGA zone 54

0 2 4 6 8 10 km

Scale 1:235,285

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- Tenements**
- Mining Act**
  - Mineral Tenements - Exploration**
  - EL6960
  - Topographic**
  - Towns & localities**
  - 5

- Environmental**
- Bioregions**
  - ibra7\_subregions
  - IBRA7\_regions\_states**
  - Broken Hill Complex
  - Flinders Lofty Block
  - Murray Darling Depression
  - STATES\_indv**
  - SA state polygon

- Base Layers**
- Google Satellite
  - World Hillshade



**Radium Hill South Project - EL6960**  
**EPEPR**  
**Bioregions**

**DATE: 21 AUGUST 2024**  
 Author: LR  
 EPSG:7854; Projection: GDA2020 / MGA zone 54

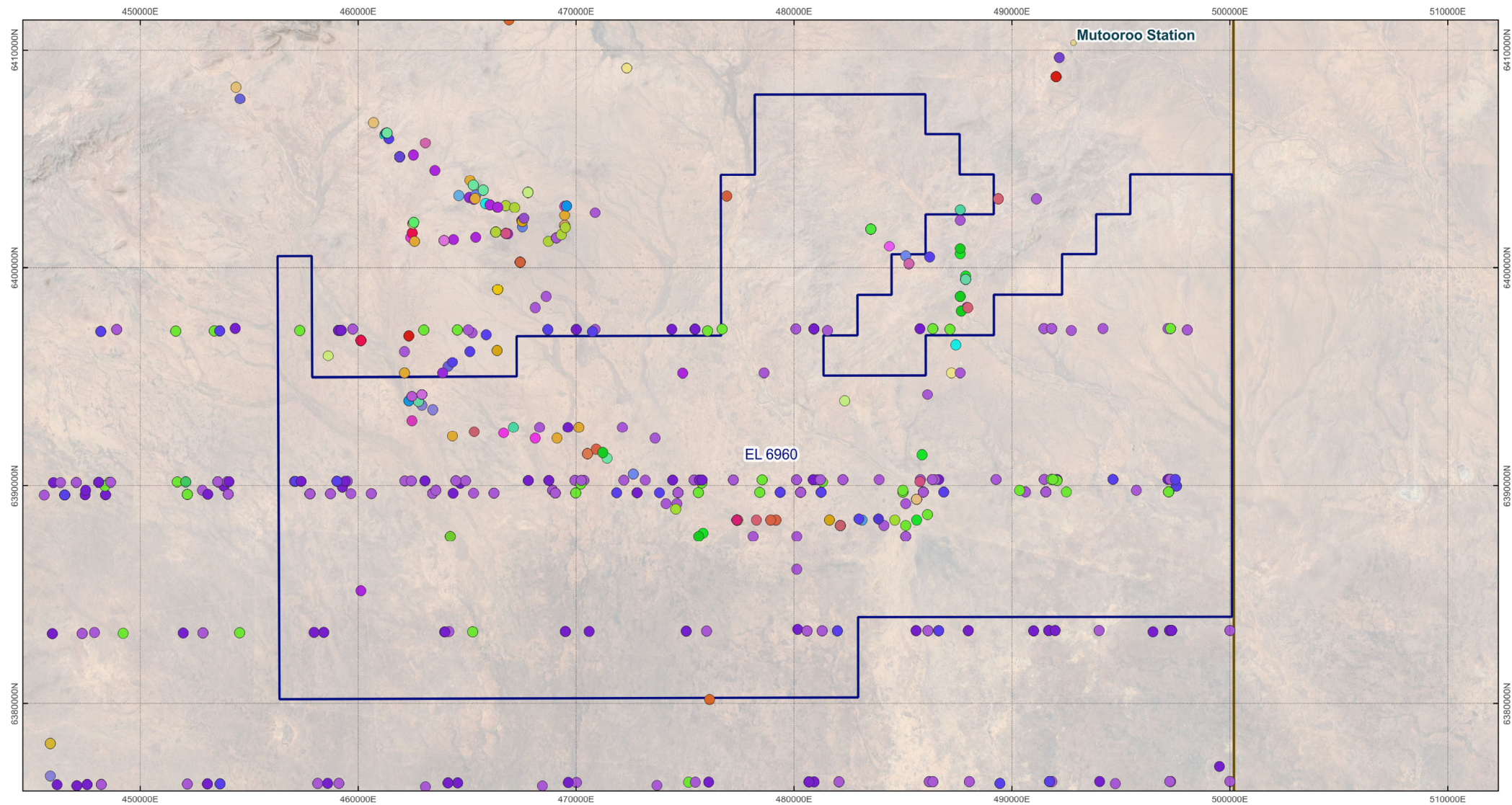
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Scale 1:235,285

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**Fauna Sites**

- Adelaide Snake-eye
- Apostlebird
- Australasian Grebe
- Australian Hobby
- Australian Magpie
- Australian Pipit
- Australian Pipit (most of SA)
- Australian Pratincole
- Australian Raven
- Australian Ringneck
- Banded Lapwing
- Beaked Gecko
- Black Honeyeater
- Black Kite
- Black-faced Cuckooshrike
- Black-faced Woodswallow
- Black-fronted Dotterel
- Black-tailed Nativehen
- Bluebonnet (Eastern and Naretha)
- Broad-banded Sandswimmer
- Brown Falcon
- Brown Goshawk
- Brown Songlark
- Budgerigar
- Bynoe's Gecko
- Central Bearded Dragon
- Chestnut-crowned Babbler
- Chestnut-rumped Thornbill
- Chirruping Wedgebill
- Cinnamon Quailthrush
- Cockatiel
- Common Barking Gecko
- Common Sandplain Ctenotus
- Common Snake-eye
- Common Starling
- Crested Bellbird
- Crested Pigeon
- Curl Snake
- Desert Wall skink
- Desert Wall Skink
- Domestic Cat (Feral Cat)
- Dwarf Skink
- Dwarf Three-toed Slider
- Eastern Bluebonnet (eastern and central SA)
- Eastern Desert Ctenotus
- Eastern Hooded Scaly-foot
- Eastern Striped Skink
- Eastern Tree Dtella
- Eastern Tree Skink
- Emu
- Eurasian Coot
- Euro
- Eyrean Earless Dragon
- Fat-tailed Dunnart
- Feral Dog, Dingo
- Fox (Red Fox)
- Galah
- Galah (most of SA)
- Gibber Gecko
- Goat (Feral Goat)
- Gould's Wattled Bat
- Grey Butcherbird
- Grey Teal
- Hoary-headed Grebe
- Hooded Robin
- Horsfield's Bronze Cuckoo
- House Mouse
- House Sparrow
- Inland Dotterel
- Inland Forest Bat
- Lesser Long-eared Bat
- Little Buttonquail
- Little Corella
- Little Crow
- Magpielark
- Major Mitchell's Cockatoo (LNE, MM)
- Mallee Black-headed Snake
- Maned Duck
- Masked Woodswallow
- Mulga Parrot
- Nankeen Kestrel
- Narrow-nosed Planigale
- Orange Chat
- Pacific Black Duck
- Pied Butcherbird
- Plains Mouse
- Purple-backed Fairywren
- Rabbit (European Rabbit)
- Rainbow Bee-eater
- Red Kangaroo
- Red-backed Kingfisher
- Red-capped Robin
- Red-kneed Dotterel
- Redthroat
- Rufous Fieldwren
- Rufous Fieldwren (NW, northern FR, NE, LNE)
- Saltbush Ctenotus
- Sand Goanna
- Short-legged Ctenotus
- Singing Honeyeater
- Singing Honeyeater (northern SA)
- Sleepy Lizard
- Southern Whiteface
- Spiny-cheeked Honeyeater
- stick-nest rats
- Striated Pardalote
- Stripe-faced Dunnart
- Stubble Quail
- Sudell's Frog
- Tessellated Gecko
- Tree Dtella
- Tree Martin
- Wedge-tailed Eagle
- Welcome Swallow
- Western Bluetongue
- Western Brown Snake
- Western Grey Kangaroo
- White-backed Swallow
- White-browed Babbler
- White-browed Woodswallow
- White-fronted Chat
- White-fronted Honeyeater
- White-plumed Honeyeater
- White-winged Fairywren
- White-winged Triller
- Willie Wagtail
- Yellow-rumped Thornbill
- Yellow-throated Miner (central eastern, mid-North, YP, FR)
- Yellow-throated Miner (complex)
- Zebra Finch



- |                                 |                               |                    |
|---------------------------------|-------------------------------|--------------------|
| <b>Tenements</b>                | <b>Topographic</b>            | <b>Base Layers</b> |
| Mining Act                      | <b>Towns &amp; localities</b> | Google Satellite   |
| Mineral Tenements - Exploration | 5                             | World Hillshade    |
| EL6960                          | <b>STATES_indv</b>            |                    |
|                                 | SA state polygon              |                    |

Fauna Sites on following page



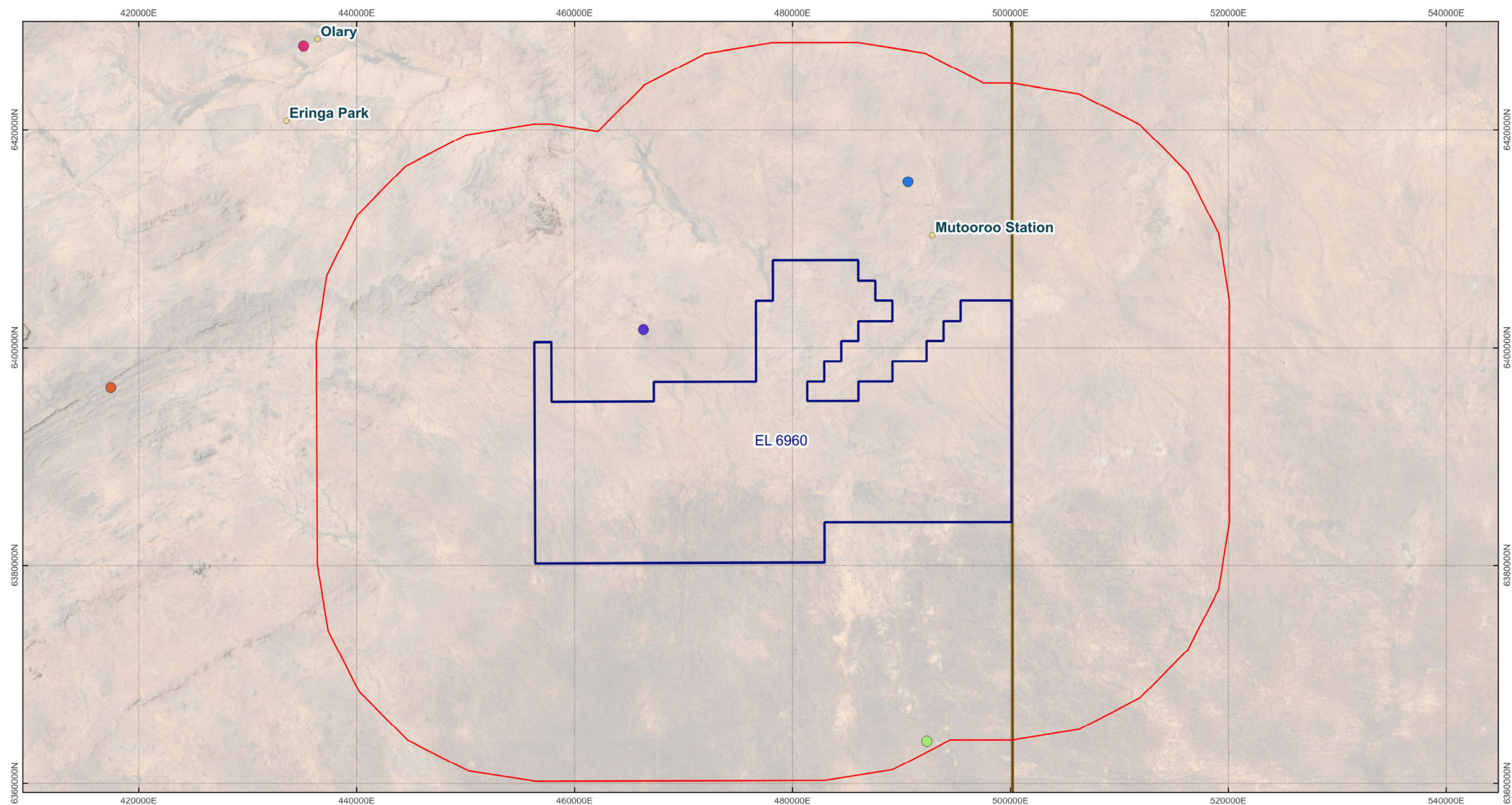
**Radium Hill South Project - EL6960**  
**EPEPR**  
**Fauna Sites**

**DATE: 19 SEPTEMBER 2024**  
 Author: LR  
 EPSG:7854; Projection: GDA2020 / MGA zone 54

0 2 4 6 8 10 km

Scale 1:235,285

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- Clients**  
**Orpheus**  
**Radium Hill**
- Rated Fauna Sites**
- Gilbert's Whistler
  - Grey Falcon
  - Little Eagle
  - Plains Mouse
  - White-winged Chough

- Tenements**  
**Mining Act**
- Mineral Tenements - Exploration**
- EL6960
  - EL6960\_20km buffer
- Topographic**
- Towns & localities**
- 5

- STATES\_indv**
- SA state polygon
- Base Layers**
- Google Satellite*
  - World Hillshade*



**Radium Hill South Project - EL6960**  
**EPEPR**  
**Rated Fauna Sites**

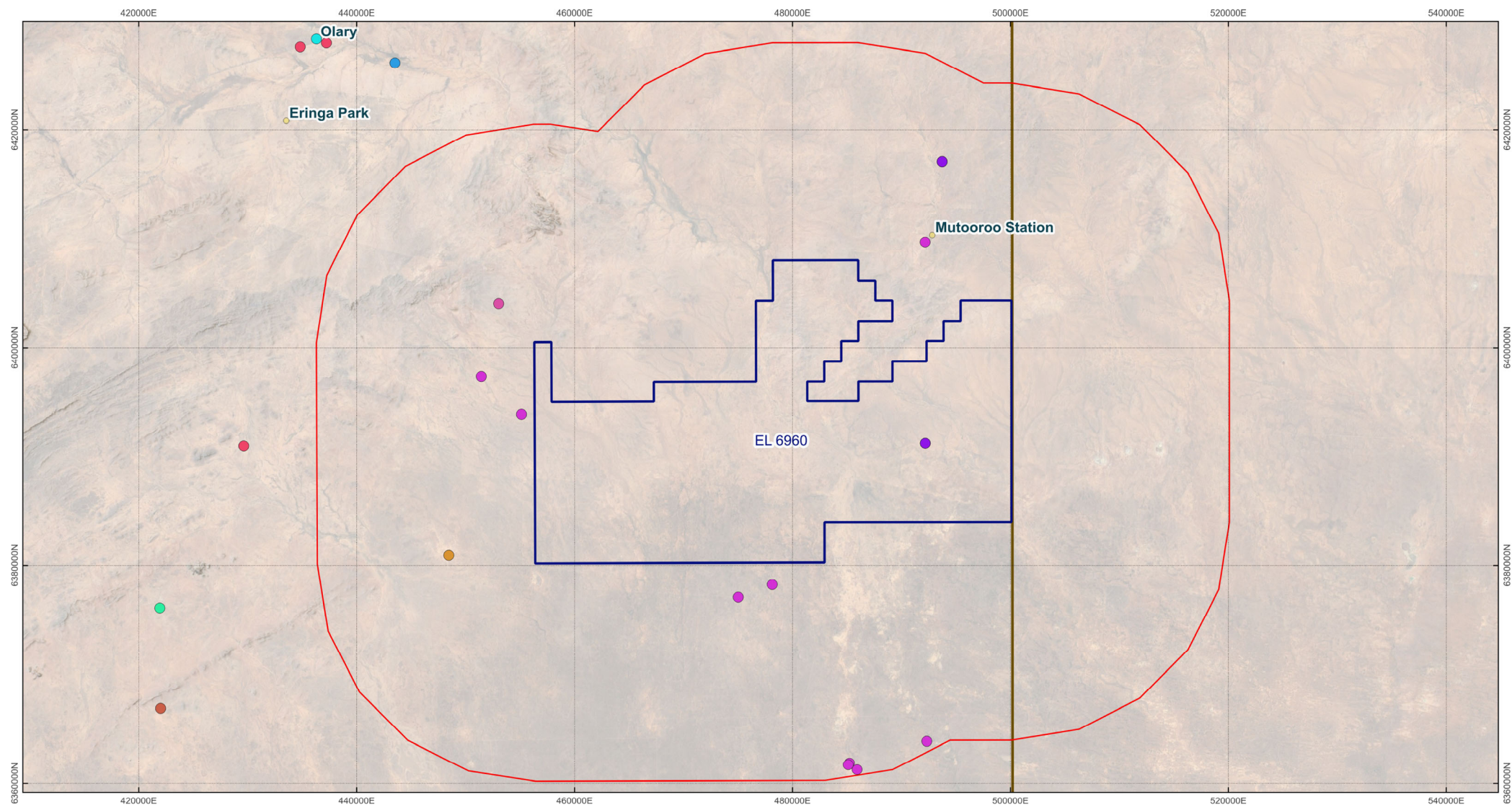
**DATE: 19 SEPTEMBER 2024**  
 Author: LR  
 EPSG:7854; Projection: GDA2020 / MGA zone 54

N

0 4 8 12 16 20 km

Scale 1:470,569

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- |                            |                                 |                    |
|----------------------------|---------------------------------|--------------------|
| <b>Clients</b>             | <b>Tenements</b>                | <b>Base Layers</b> |
| Orpheus                    | Mining Act                      | Google Satellite   |
| Radium Hill                | Mineral Tenements - Exploration | World Hillshade    |
| <b>Rated Flora Sites</b>   | EL6960                          |                    |
| Blunt Pondweed             | EL6960_20km buffer              |                    |
| Dark Green Swainson-pea    | <b>Topographic</b>              |                    |
| Flinders Range Spear-grass | <b>Towns &amp; localities</b>   |                    |
| Grassy Fringe-lily         | 5                               |                    |
| Nelialie                   | <b>STATES_indv</b>              |                    |
| Needle Wattle              | SA state polygon                |                    |
| Pale Flax-lily             |                                 |                    |
| Purple Love-grass          |                                 |                    |
| Slender Onion-orchid       |                                 |                    |



**Radium Hill South Project - EL6960**  
**EPEPR**  
**Rated Flora Sites**

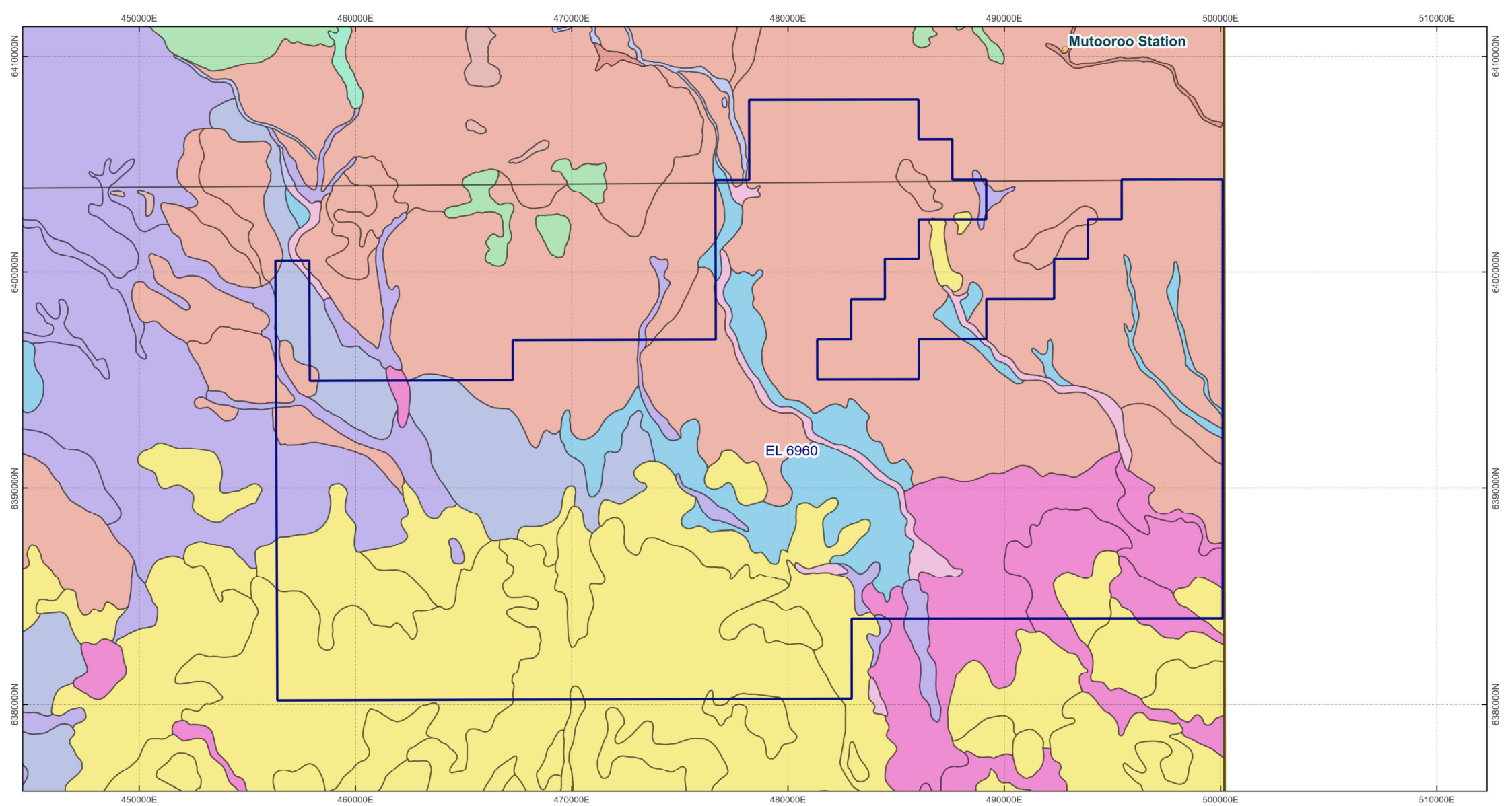
**DATE: 19 SEPTEMBER 2024**  
 Author: LR  
 EPSG:7854; Projection: GDA2020 / MGA zone 54

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0 4 8 12 16 20 km

Scale 1:470,569

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**Tenements**

**Mining Act**

**Mineral Tenements - Exploration**

EL6960

**Topographic**

**Towns & localities**

5

**Environmental**

**VEG\_SAVegetation\_GDA2020**

- NP0001
- NP0002
- NP0004
- NP0018
- NP0019
- NP0021
- NP0028
- NP0032
- SP0006
- SP0013
- SP0014
- SP0016

**STATES\_indv**

SA state polygon



**Radium Hill South Project - EL6960**

**EPEPR**

**Vegetation Type**

**DATE: 19 SEPTEMBER 2024**

Author: LR

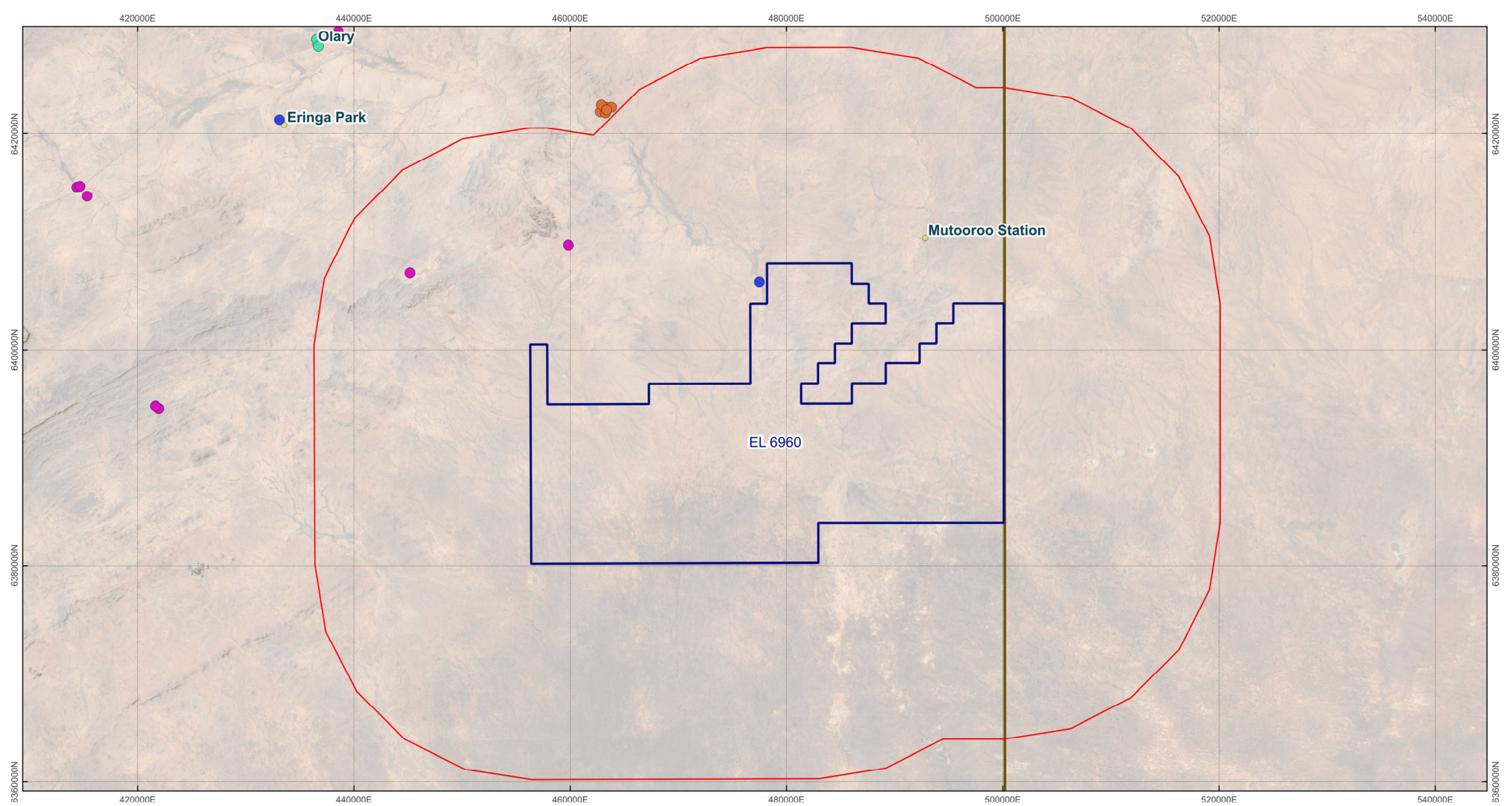
EPSG:7854; Projection: GDA2020 / MGA zone 54

0 2 4 6 8 10 km

Scale 1:235,285

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SA\_Orpheus\_EPEPR.dwg  
 C:\Users\lrr\OneDrive\AMETS\Mapping - Data\GIS\_Data\Workspaces\SA\_client\SA\_Orpheus\_EPEPR.dwg



- |   |   |   |
|---|---|---|
| <b>Clients</b><br><b>Orpheus</b><br><b>Radium Hill</b><br><b>Weeds of National Significance</b><br><ul style="list-style-type: none"> <li><span style="color: blue;">●</span> African Boxthorn</li> <li><span style="color: purple;">●</span> Athel Pine</li> <li><span style="color: orange;">●</span> <i>Cylindropuntia fulgida</i> var. <i>mamillata</i></li> <li><span style="color: green;">●</span> Wheel Pear</li> </ul> | <b>Tenements</b><br><b>Mining Act</b><br><b>Mineral Tenements - Exploration</b><br><ul style="list-style-type: none"> <li><span style="border: 1px solid blue; display: inline-block; width: 10px; height: 10px;"></span> EL6960</li> <li><span style="border: 1px solid red; display: inline-block; width: 10px; height: 10px;"></span> EL6960_20km buffer</li> </ul> <b>Topographic</b><br><b>Towns &amp; localities</b><br><ul style="list-style-type: none"> <li><span style="color: yellow;">●</span> 5</li> </ul> | <b>STATES_indv</b><br><ul style="list-style-type: none"> <li><span style="border: 1px solid brown; display: inline-block; width: 10px; height: 10px;"></span> SA state polygon</li> </ul> <b>Base Layers</b><br><b>Google Satellite</b><br><b>World Hillshade</b> |
|---|---|---|



**Radium Hill South Project - EL6960**  
**EPEPR**  
**Weeds of National Significance**

**DATE: 19 SEPTEMBER 2024**  
 Author: LR  
 EPSG:7854; Projection: GDA2020 / MGA zone 54

N

0 4 8 12 16 20 km

Scale 1:470,569

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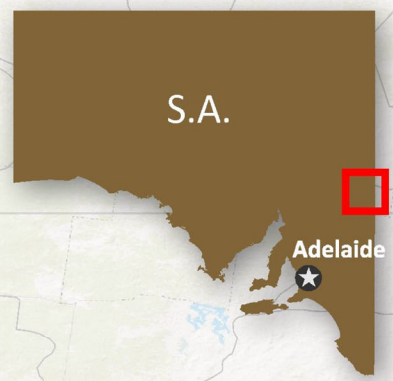
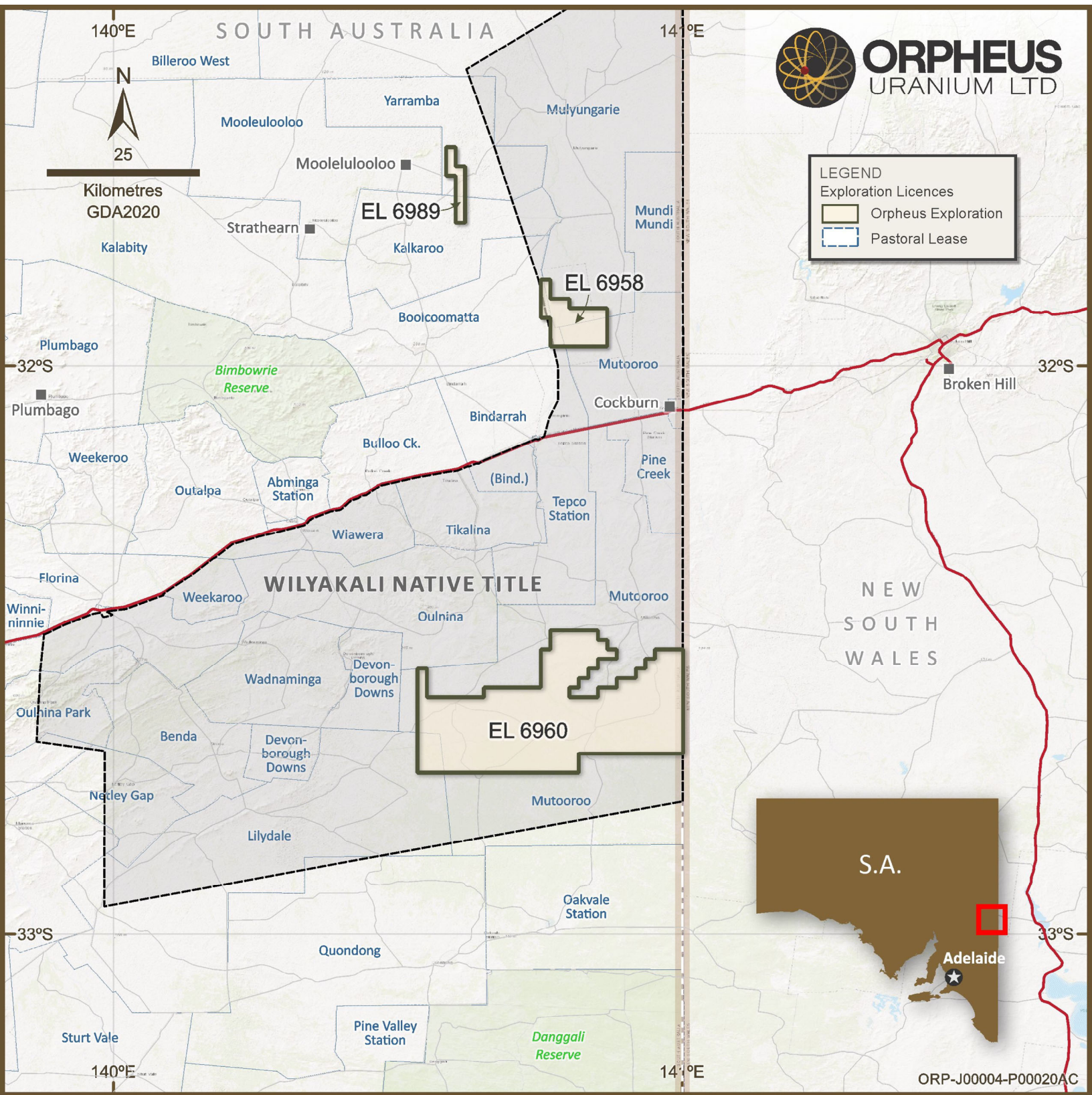
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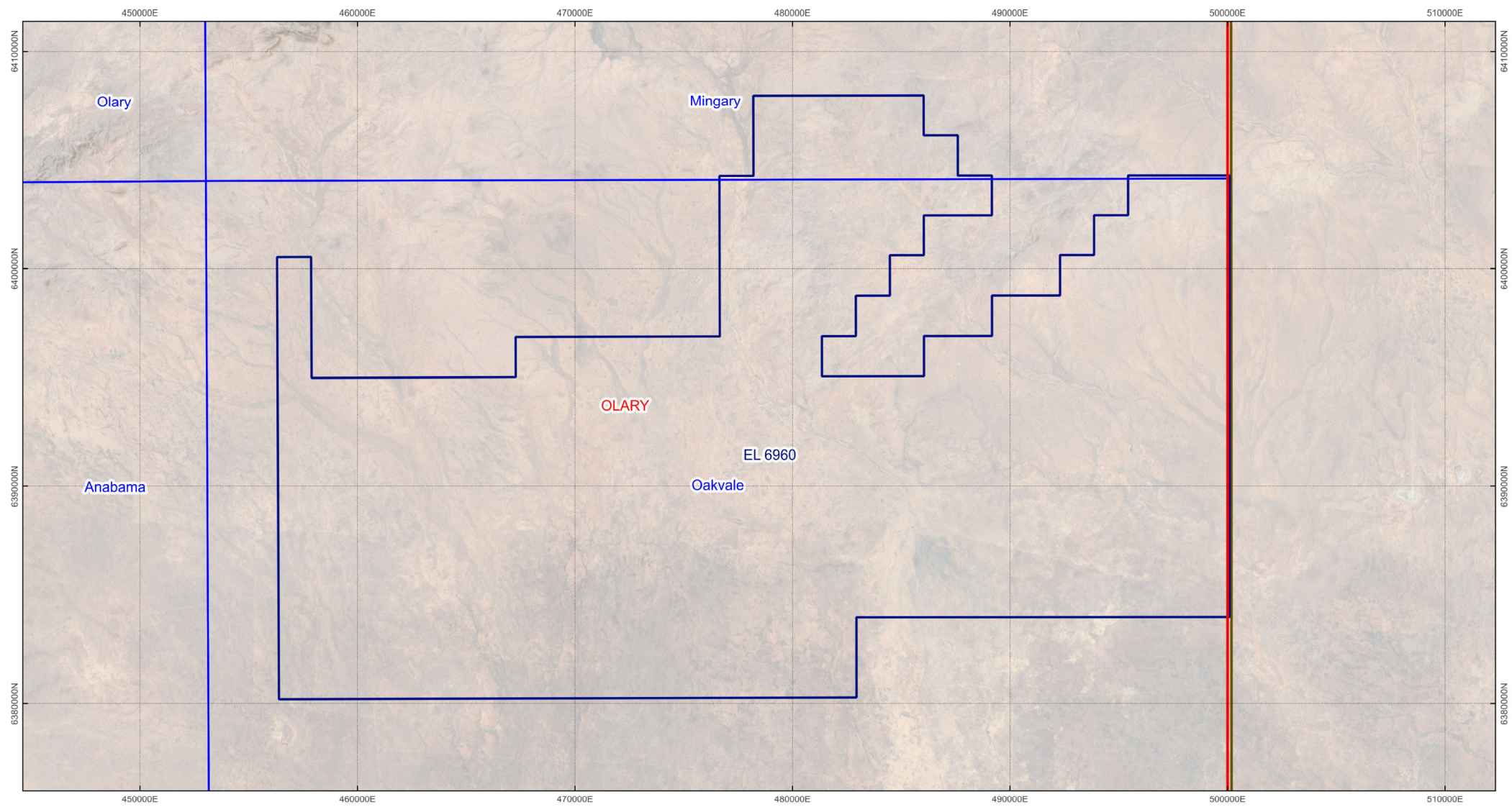
**ORPHEUS**  
URANIUM LTD

**LEGEND**  
Exploration Licences

- Orpheus Exploration
- Pastoral Lease



ORP-J00004-P00020AC



- 250K\_Mapsheets
  - 100K\_Mapsheets
- Tenements**
- Mining Act**
  - Mineral Tenements - Exploration**
  - EL6960

- STATES\_indv**
  - SA state polygon
- Base Layers**
- World Hillshade*
  - Google Satellite*



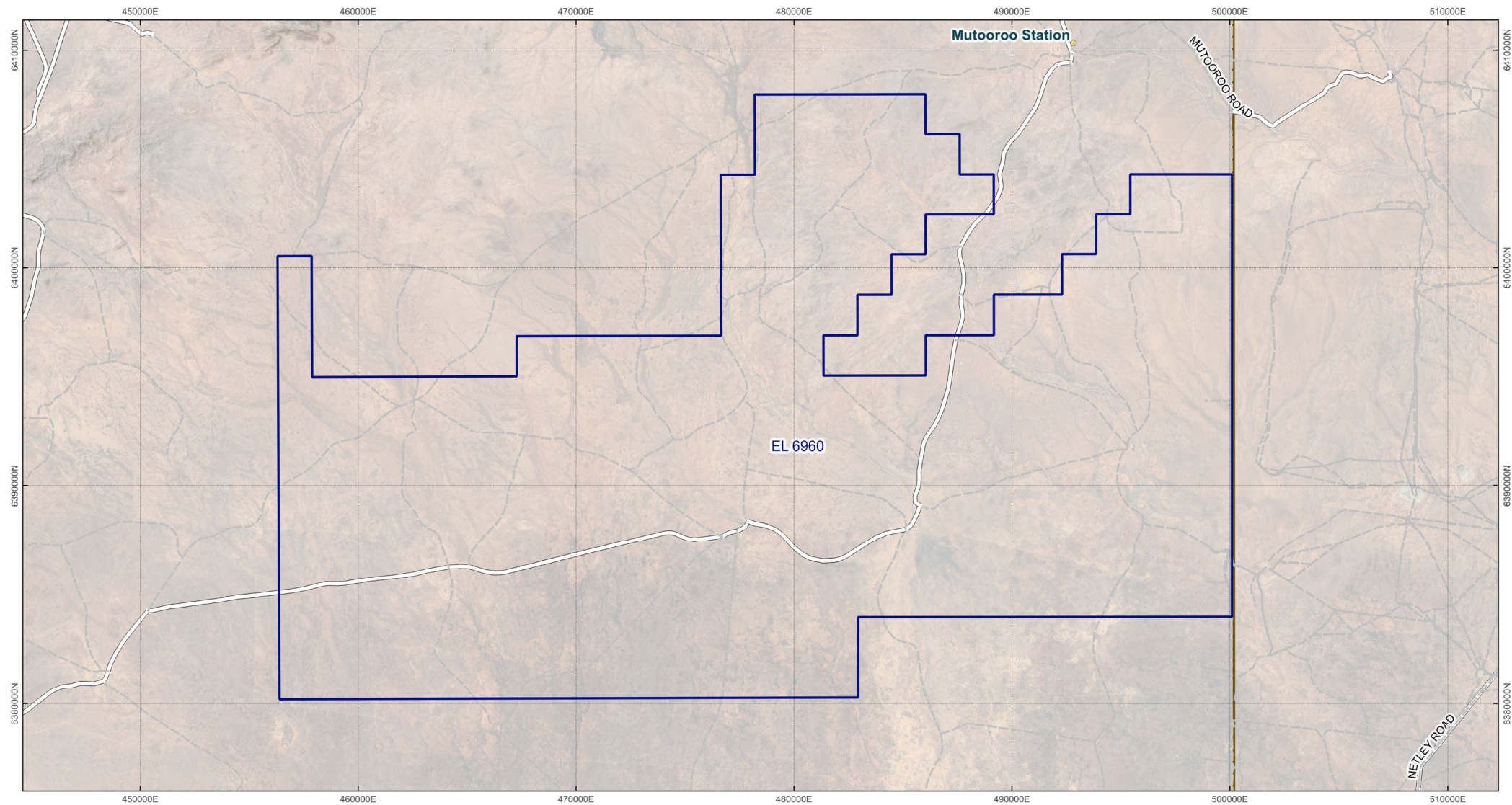
**Radium Hill South Project - EL6960**  
EPEPR  
Mapsheets

**DATE: 20 AUGUST 2024**  
 Author: LR  
 EPSG:7854; Projection: GDA2020 / MGA zone 54

Scale 1:235,285

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C:\Users\lrc\Documents\AMETS\Mapping\_Data\2\_GIS\_Data\Workspaces\SA\_state\SA\_State.mxd, EPEPR.gpx



- Tenements**
- Mining Act**
- Mineral Tenements - Exploration**
- EL6960
- Topographic**
- Towns & localities**
- 5

- Roads\_SA**
- LOCL
- Minor
- TRK2
- Roads\_NSW**
- Minor
- Private
- STATES\_indv**
- SA state polygon

- Base Layers**
- Google Satellite*
- World Hillshade*



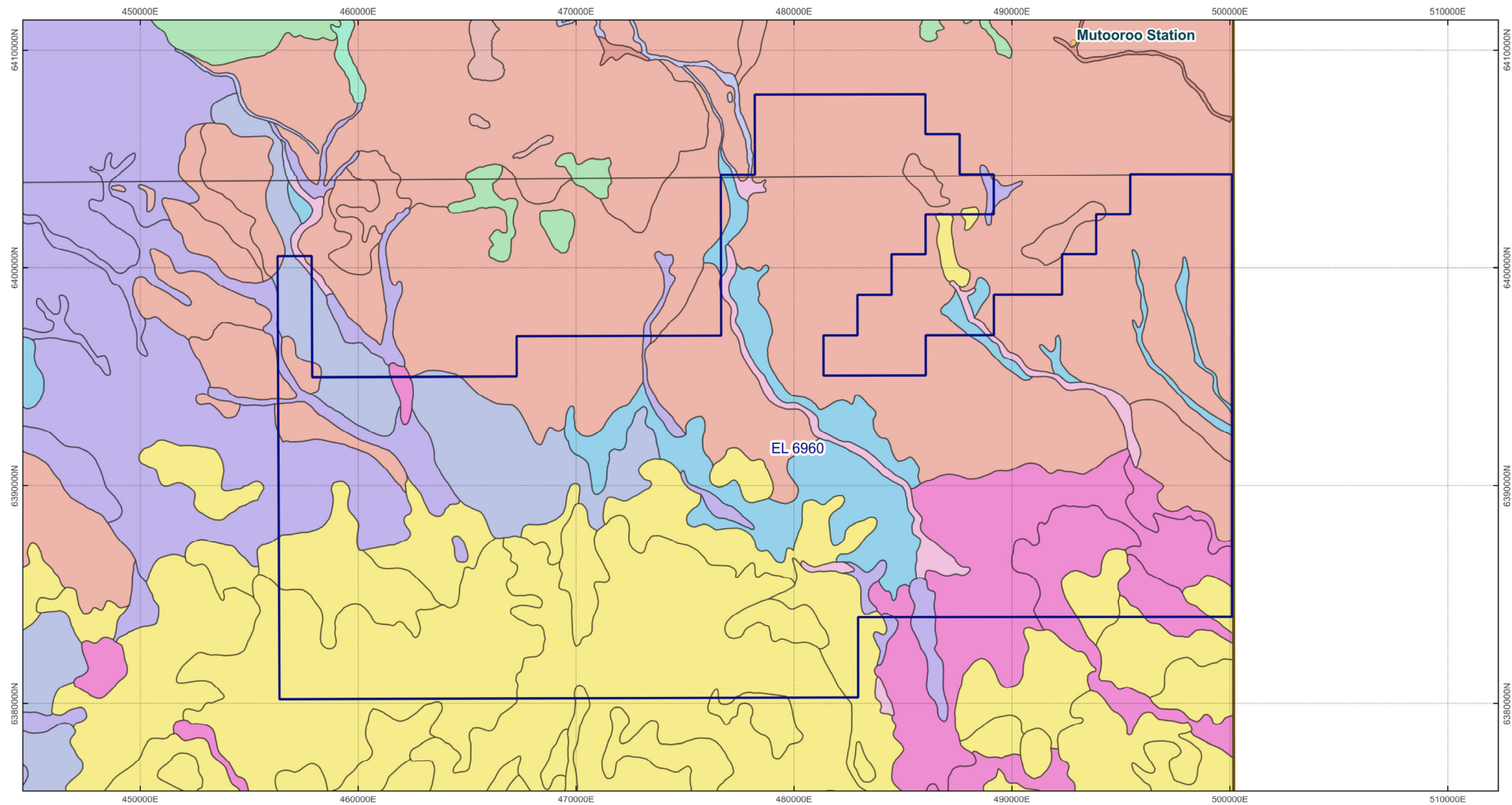
### Radium Hill South Project - EL6960 EPEPR Roads

**DATE: 21 AUGUST 2024**  
 Author: LR  
 EPSG:7854; Projection: GDA2020 / MGA zone 54

Scale 1:235,285

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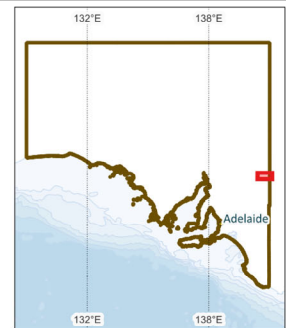
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- Tenements**
- Mining Act**
- Mineral Tenements - Exploration**
- EL6960
- Topographic**
- Towns & localities**
- 5

- Environmental**
- VEG\_SAVegetation\_GDA2020**
- NP0001
  - NP0002
  - NP0004
  - NP0018
  - NP0019
  - NP0021
  - NP0028
  - NP0032
  - SP0006
  - SP0013
  - SP0014
  - SP0016

- STATES\_indv**
- SA state polygon



**Radium Hill South Project - EL6960**  
**EPEPR**  
**Vegetation Type**

**DATE: 19 SEPTEMBER 2024**  
 Author: LR  
 EPSG:7854; Projection: GDA2020 / MGA zone 54

0 2 4 6 8 10 km

Scale 1:235,285

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