Government of South Australia
Department for Energy and Mining

11 February 2026

Mr Noel Witcher
Valrico Resources Pty Ltd
Level 10, 111 Gawler Place
ADELAIDE SA 5000

Via email: noel@ar3.com.au

Dear Mr Witcher

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

In reference to your final submission dated 4 February 2026, the EPEPR has been approved pursuant to section 70B(5) of the *Mining Act 1971* (the Mining Act).

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

Approval Granted to	**Valrico Resources Pty Ltd**
Tenement Type & Number	Exploration Licence EL 7079
Program Number	EP-04013
EPEPR Description	Undertake an air-core drilling program of up to 80 holes within the Overland Sedan Project area on the western margin of the Murray Basin to investigate subsurface stratigraphy and test for sedimentary-hosted uranium mineralisation.

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

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

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

1	**Public Liability Insurance** Pursuant to Regulation 81 of the *Mining Regulations 2020* (the Mining Regulations), you are required to provide a copy of a certificate evidencing the insurance coverage over the tenement.

2	**Land Access** EL7079 is subject to exempt land under the *Mining Act*. You are reminded that in accordance with section 9AA of the *Mining Act*, operations are not authorised to occur on exempt land, until such time as a waiver of exemption is in place.
3	**Compliance Reporting** You are required to submit an annual exploration compliance report. The report is required to be submitted **within 2 months** after the anniversary of the date the licence was granted, or in accordance with joint reporting requirements agreed to with the Minister. Please refer to the DEM website for more information on the reporting requirements. You are reminded that a separate compliance report is required 2 months after the expiry or surrender of the EL.
4	**Work, Health and Safety Compliance** In accordance with Chapter 10 of the *Work Health and Safety Regulations 2012* (SA), you must meet the requirements for mine operators in South Australia, which include a notification for mining operations, the establishment of a Safety Management System, the identification of Principal Mining Hazards and development of a Principal Mining Hazard Management Plan. Further information on your responsibilities, including a guide to Chapter 10, and the Mine Operator Notification Form, is available on the SafeWork SA website.
5	**EPEPR Timeframe** The EPEPR is approved for a period of twelve months from the date of this letter. A further 3 months after expiry of the 12-month period is provided to complete all rehabilitation.

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

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

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

General enquiries	Jason Perry Senior Assessment Officer, Exploration Regulation DEM.exploration@sa.gov.au

Yours sincerely

Simon Constable
DIRECTOR, MINERALS REGULATION
In accordance with delegated
powers and functions

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

Exploration PEPR - EPEPR | 12 Month PEPR

Reference Number: **EP-04013** • Status: **Submitted**

Select Applicable PEPR

Is historical?

◉ No ○ Yes

Previous PEPR ID

—

Search PEPRs

—

Applicant and General Details

Applicant Details

Sue McKay

Full Name *

Sue McKay

Business Phone

08 9381 5866

Mobile Phone

0416091507

Email *

sue@mmwc.com.au (mailto:sue@mmwc.com.au)

Project Supervisor

Chris Cockburn
Exploration Manager
Australian Rare Earths Ltd
L10/111 Gawler Place Adelaide SA 5000
0429 658 442
chris@ar3.com.au

General Details

Tenement Details *

Tenement Type	Tenement Name	Tenement Holder
Exploration Licence	EL 7079	Valrico Resources Pty Ltd

Operating Company

Australian Rare Earths Limited

If there is another Operating Company, please provide

Account Name	Entity Type	Registered Address	Registered Email

There are no records to display.

Project/prospect name

Overland (Sedan) Uranium

Mineral Model

Uranium is the primary commodity sought by Australian Rare Earths Ltd within the Murray Basin sedimentary sequence. The Overland Sedan Project targets sedimentary-hosted uranium within fluvial channel sands of the Renmark Beds and related units on the western margin of the Basin, where uranium-bearing groundwater has migrated through permeable sediments and precipitated under reducing conditions created by carbonaceous material and sulphides. These host horizons are confined by low-permeability clays and marls, including the Geera and Ettrick formations or their local equivalents, which provide the necessary barriers for the development of ISR-amenable uranium deposits.

Primary Commodities *

Commodity Name ↑	Commodity Group	Grade
Uranium	Exploration	

Secondary Commodities

Commodity Name ↑	Commodity Group	Grade
Rare Earths	Exploration	

Project Description

Australian Rare Earths Ltd proposes to conduct an air-core drilling program of up to 70 holes, totaling approximately 10,500 meters, within the Overland Sedan Project area on the western margin of the Murray Basin, South Australia. The program will investigate subsurface stratigraphy and test for sedimentary-hosted uranium mineralisation within fluvial channel sands and carbonaceous horizons of the Renmark Beds and associated formations. Drilling will utilise existing farm and station tracks wherever possible to minimise disturbance, with each site rehabilitated in accordance with MG21 upon completion.The intent of the program is to identify and characterise ISR-amenable uranium targets to guide future exploration and resource evaluation within the Overland Sedan South Project area.

Proposed Project Schedule

Start Date

02/03/2026

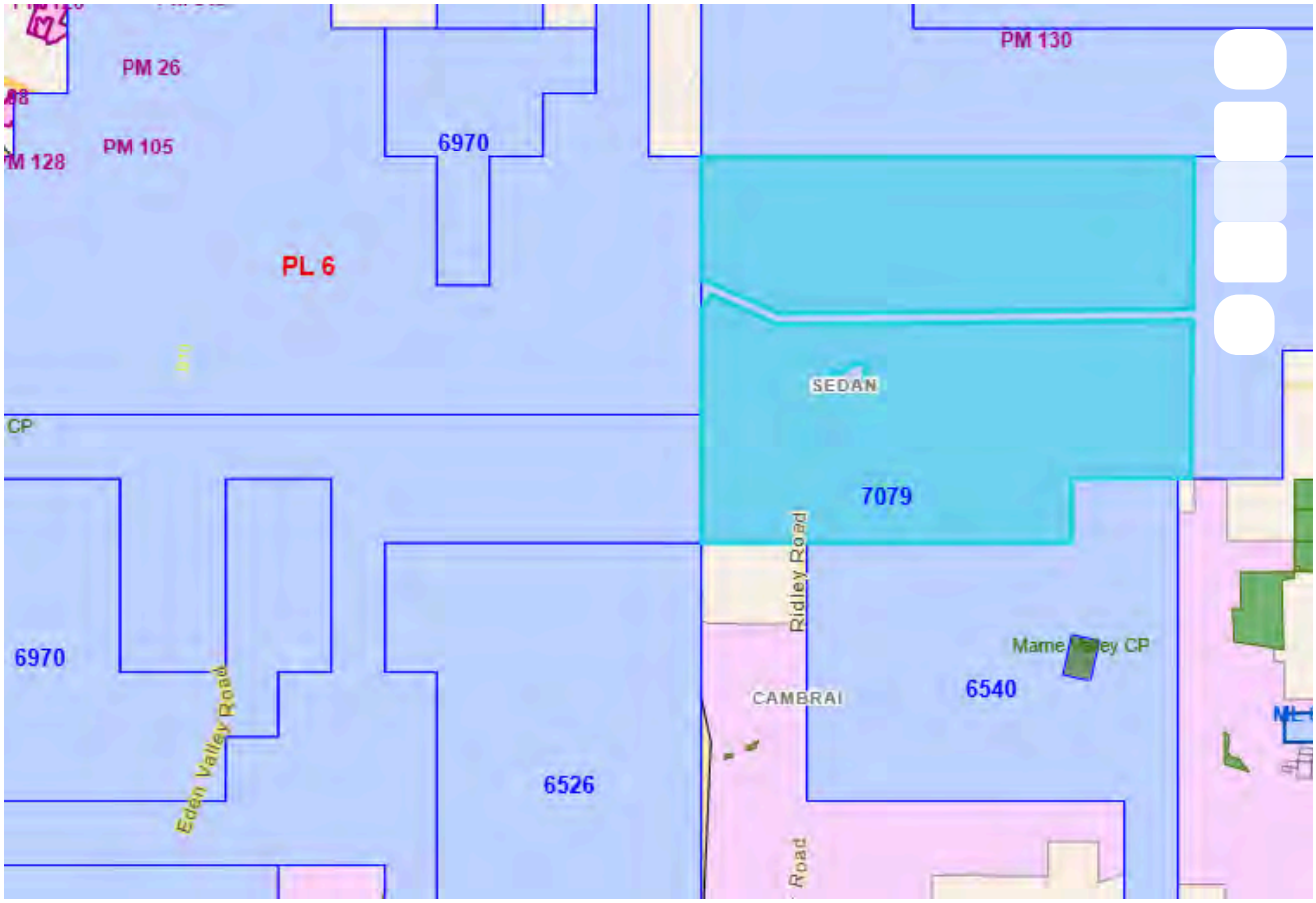
End date

01/03/2027

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



Maptaskr © 2026 5 km -34.588536, 139.076877

Powered By Esri - Sources: Esri, TomTom, Garmin, FAO, NOA...

Map Layer Intersects

Application Area Details

Location Description

Sedan area approximately 75km NE of Adelaide

Area (Sqkm)

145.91

Spatial Data Intersects - Summary Table

Show 10 entries Search:

Spatial Layer Name	Category	Referral	Intersect Count
1:250K mapsheets	Other		1
Cadastral Parcels	Other		102
Exploration licences (mineral/opal)	No-Go Area		1
Native Vegetation Heritage Agreements	Other	Yes - Advice	2

Spatial Layer Name	Category	Referral	Intersect Count
Registered Native Title Determination Applications	Other		1
Schedule of Native Title Claims	Other		1
Terrestrial - BOM Groundwater Dependant Atlas (GDE Atlas)	Other		48

Showing 1 to 7 of 7 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	ADELAIDE	View attributes	Other
Cadastral Parcels	Shape 1	H120200SE226	View attributes	Other
Cadastral Parcels	Shape 1	H121100SE26	View attributes	Other
Cadastral Parcels	Shape 1	H120200SE177	View attributes	Other
Cadastral Parcels	Shape 1	H120200SE181	View attributes	Other
Cadastral Parcels	Shape 1	H121100SE16	View attributes	Other
Cadastral Parcels	Shape 1	H120200SE70	View attributes	Other
Cadastral Parcels	Shape 1	H120200SE76	View attributes	Other
Cadastral Parcels	Shape 1	H120200SE83	View attributes	Other
Cadastral Parcels	Shape 1	F35438AL3	View attributes	Other

Showing 1 to 10 of 156 entries Previous 1 2 3 4 5 … 16 Next

Program Preparation

Work undertaken in preparing the proposal

Work completed in preparing the PEPR proposal included:
• Desktop review of the previous exploration programmes undertaken on the proposed exploration project areas.
• Desktop review of previously approved work plans for exploration projects of a similar type.
• Desktop review of groundwater setting in the area proposed for exploration.Contact made with appropriately qualified and experienced drilling and geophysical logging contractors, and initial equipment lists have been prepared.
• Field visits for reconnaissance and landowner consultation.
• A Radiation Management Plan has been developed by AR3 with review and input by external consultants specialising in Radiation Management. The Radiation Management Plan has been endorsed by SA EPA, 30 August 2024

Operator Capability

Australian Rare Earths have developed systems and processes to support the exploration program. These include:

- Spatial database identifying exempt land and where Notices of Entry and Waivers of Exemption are required
- Cloud based GIS portal including deployment of field tablets to allow real time data capture and accurate locations of exclusion zones and proposed drillholes
- Exploration Radiation Management Plan (ERMP) – AR3's ERMP identifies the specific radiological risks associated with uranium exploration project work, and details how these risks will be managed by AR3's personnel and contractors. This ERMP is designed to apply to any exploration activities within AR3's Exploration Licences that may contain an inherent radiological risk.
- Awareness induction for all employees and contractors and register of all inducted persons
- Inspection and documentation procedures for drill rigs and vehicles
- Job Hazard Analysis framework
- Prestart and Toolbox forms for daily operations
- Daily reporting template for drillhole reconciliation and incident reporting.

The induction process covers:

- Key safety requirements
- Key hazards and emergency response
- Emergency contact details
- Local and state government requirements
- Review of ERMP and key safety/operational aspects
- Key environmental requirements and constraints (EPEPR)
- Management strategies as outlined in the approved EPEPR
- Specific focus on weed and pest management, vehicle cleaning, identified heritage and conservation areas and waste management.
- Access requirements for private property
- License and training requirements
- Information and guidance regarding managing groundwater.

Safety Management System verification is required prior to engaging with the requisite drilling and geophysical contractors. This includes review of applicable SOPs, etc.

Daily records are kept of toolbox meetings, all personnel on site, and of bi-weekly safety meetings. A hardcopy EPEPR is located onsite at all times.

Infield supervision includes supervision controls and accountability around daily operations.

Exploration Manager has clearly identified accountabilities which include:

- Identification of exploration locations against the GIS portal.
- Ensuring relevant land access approvals are in place prior to commencement of on ground works.
- Engagement of landholders to ensure relevant approvals and/or waivers are in place prior to the commencement of on-ground works.
- Communication with landholders, prior, during and post activities are completed.

Field Operations Supervisor has clearly identified responsibilities which include:

- Prior to the commencement of on-ground activities, ensuring that the proposed collar locations are located in areas of 'exempt land' as defined in the GIS portal.
- In conjunction with the Exploration Manager, liaising with landholders to facilitate on ground activities in approved access locations.
- Safety and environmental management of the work site including conducting daily pre-start meetings.
- Management and tracking in accordance with chain of custody protocols, the collection and dispatch of samples.
- Rehabilitation management of the work site in conjunction with the Exploration manager and/or the landholder (on a required basis).

The Company records information required to report against EPEPR conditions as well as exploration data requirements, and these are reported on annually in the annual exploration compliance report, which is submitted to DEM.

The Company is committed to open and transparent communications with all impacted landholders and external parties. Guidance to the practices and procedures required for open and transparent communications are outlined in the Company's Community Engagement Plan, which also provides the foundation for its environmental and social governance principles.

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
CT 5928/586	H120200SE226						Unchecked
CT 5814/920	H121100SE26						Unchecked
CT 6122/977	H120200SE177						Unchecked
CT 5438/339	H121100SE16						Unchecked
CT 5226/22	H120200SE70						Unchecked
CT 5500/181	H120200SE76						Unchecked
CT 5313/646	F35438AL3						Unchecked
CT 5843/440	H120200SE126						Unchecked
CR 5572/119	H121100SE765						Unchecked
CT 5958/175	D67500AL541						Unchecked
CT 5183/382	F34035AL10						Unchecked
CT 5274/35	F149498AL5						Unchecked
CT 6122/155	F125765AL1						Unchecked
CT 5704/852	F209154AL778						Unchecked
CT 5789/416	F209156AL780						Unchecked
CT 5729/654	H120200SE63						Unchecked
CT 5313/653	F35439AL100						Unchecked
CT 5313/654	F35439AL101						Unchecked
CT 5273/761	F35440AL104						Unchecked
CR 5765/322	H120200SE271	Crown					Unchecked
CT 5797/630	H120200SE157N						Unchecked

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
CT 5671/495	H121100SE1						Unchecked
CT 5101/179	F100526AL6						Unchecked
CT 5789/596	H121100SE19						Unchecked
CT 5671/495	H121100SE4						Unchecked
CT 5499/947	H120200SE235						Unchecked
CT 5504/52	H120200SE57						Unchecked
CT 5740/117	H120200SE122						Unchecked
CT 5794/138	H120200SE55						Unchecked
CT 5381/256	H120200SE159						Unchecked
CT 5701/29	H120200SE175						Unchecked
CT 5833/676	F209054AL678						Unchecked
CT 5702/181	H120200SE227						Unchecked
CT 5814/921	H121100SE23						Unchecked
CT 5499/947	H120200SE240						Unchecked
CT 5517/137	H121100SE835						Unchecked
CT 6122/978	H120200SE178						Unchecked
CT 5226/21	H120200SE69						Unchecked
CT 5207/865	H120200SE71						Unchecked
CT 5273/766	F35438AL4						Unchecked
CT 5843/439	H120200SE125						Unchecked
CT 5660/431	H120200SE56						Unchecked
CT 5101/176	F100525AL5						Unchecked

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
CT 5814/919	H121100SE21						Unchecked
CT 5499/947	H120200SE234						Unchecked
CT 5226/20	H120200SE64						Unchecked
CT 5438/343	H120200SE65						Unchecked
CT 5274/36	H120200SE72						Unchecked
CT 5669/443	H121100SE6						Unchecked
CT 5273/761	F35440AL103						Unchecked
CT 5843/438	H120200SE123						Unchecked
CT 5273/762	F35440AL105						Unchecked
CT 5802/38	F209053AL677						Unchecked
CT 5499/947	H120200SE239						Unchecked
CT 5498/826	H121100SE8						Unchecked
CT 5354/33	H120200SE179						Unchecked
CT 629 /43	H121100SE17						Unchecked
CT 5594/173	H120200SE67						Unchecked
CT 5708/350	H120200SE62						Unchecked
CT 5593/71	H120200SE124						Unchecked
CT 5740/114	H120200SE127						Unchecked
CT 5494/136	H120200SE156						Unchecked
CT 5487/48	H120200SE172						Unchecked
CT 5552/538	H120200SE173						Unchecked
CT 5928/375	H120200SE174						Unchecked

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
CT 5273/763	F35440 AL106						Unchecked
CT 5726/983	H12110 0SE768						Unchecked
CT 5958/176	D67500 AL542						Unchecked
CT 5824/788	F20905 2AL676						Unchecked
CT 5829/425	F21474 9AL103						Unchecked
CT 5684/238	H12020 0SE257						Unchecked
CR 5572/120	H12110 0SE839						Unchecked
CT 5462/998	H12020 0SE180 W						Unchecked
CT 5723/575	H12020 0SE193						Unchecked
CT 6122/154	H12020 0SE66						Unchecked
CT 5810/679	H12020 0SE75						Unchecked
CT 5723/575	H12020 0SE155						Unchecked
CT 5273/764	F35440 AL107						Unchecked
CT 5151/188	F34035 AL11						Unchecked
CT 5226/26	F12576 6AL2						Unchecked
CT 5226/23	H12020 0SE68						Unchecked
CT 5341/654	H12020 0SE152						Unchecked
CT 5497/960	H12110 0SE10						Unchecked
CT 5438/337	R3155 ACA						Unchecked
CT 5552/539	H12020 0SE176	Freehold	Anthony Potts				Unchecked
CT 5558/322	H12020 0SE80	Freehold	DEREK ERWIN ATZE				Checked

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
CT 5289/562	H120200SE77	Freehold	DEREK ERWIN ATZE				Checked
CT 5289/564	H120200SE79	Freehold	DEREK ERWIN ATZE				Checked
CT 5558/319	F209157AL781	Freehold	DEREK ERWIN ATZE				Checked
CT 5558/317	F209155AL779	Freehold	DEREK ERWIN ATZE				Checked
CT 5289/563	H120200SE78	Freehold	DEREK ERWIN ATZE				Checked
CT 5240/672	F131657AL1	Freehold	MARK ANDREW SCHULTZ				Checked
CT 5240/671	H120200SE31	Freehold	MARK ANDREW SCHULTZ				Checked
CT 6246/840	D121957AL53	Freehold	MARK ANDREW SCHULTZ, CRAIG MATTHEW SCHULTZ,DAVID NEIL SCHULTZ,				Checked
CT 5146/815	H120200SE83	Freehold	MARK RONALD GROSSMAN JANE ELIZABETH GROSSMAN				Checked

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
CT 5802/40	F200134AL91	Freehold	MARK RONALD GROSSMAN JANE ELIZABETH GROSSMAN				Checked
CT 5146/819	H120200SE82	Freehold	MARK RONALD GROSSMAN JANE ELIZABETH GROSSMAN				Checked
CT 5146/818	H121100SE763	Freehold	MARK RONALD GROSSMAN JANE ELIZABETH GROSSMAN				Checked
CT 5463/872	F18315AL401	Freehold	SARAH JOY SEIDEL DANIEL LEIGH SEIDEL	Service of Notice of Entry	10/11/2025		Checked
CT 5710/457	H120200SE181	Freehold	WILLIAM JOSEPH KRUGER	Service of Notice of Entry	10/11/2025		Checked
CT 5179/943	H120200SE233	Freehold	WILLIAM JOSEPH KRUGER	Service of Notice of Entry	10/11/2025		Checked
CT 5803/948	H120200SE180E	Freehold	WILLIAM JOSEPH KRUGER	Service of Notice of Entry	10/11/2025		Checked
CT 5576/150	H120200SE171	Freehold	WILLIAM JOSEPH KRUGER	Service of Notice of Entry	10/11/2025		Checked
CT 5960/20	H120200SE170	Freehold	WILLIAM JOSEPH KRUGER	Service of Notice of Entry	10/11/2025		Checked
CT 5179/943	H120200SE232	Freehold	WILLIAM JOSEPH KRUGER	Service of Notice of Entry	10/11/2025		Checked

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
CT 5576/149	H120200SE192	Freehold	WILLIAM JOSEPH KRUGER	Service of Notice of Entry	10/11/2025		Checked

Is any of the application area 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.

Does the tenement holder hold a valid and current Resource Exploration Permit under the WPA Rule?

—

Permit No.

—

What is the expiry date of the 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

—

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
First Peoples of the River Murray and Mallee Region #2			No

Provide any additional relevant information

Of the 368 individual parcels of land we have identified in the proposed EPEPR area for EL 7079, all but 6 appear to be freehold land titles. Native title does not exist on freehold land.
The remainder parcels are Crown Records, being:

- CR 5251/233
- CR 5765/322
- CR 5756/705
- CR 5760/467
- CR 5760/466
- CR 5765/321

Native title may exist over these land parcels.
We have identified the location of these Crown Record land parcels listed above and will exclude them from any planned activities under this EPEPR

Exempt Land

Exempt Land

Has Exempt land been identified?

Yes

If a "Waiver of Exemption" has been reached to waive the benefit of the exemption, a notice of the agreement must be given to the Mining Registrar, either within 21 days after the agreement was entered into or when an application for the mineral tenement is made under the Mining Act.

In the table below enter the relevant instrument numbers for any Form 23C - Notice of wavier of exemption provided to the Mining Registrar.*

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
CT 5289/563	H120200SE78	DEREK ERWIN ATZE	Cultivated Field, plantation, orchard or vineyard	No	
CT 5558/322	H120200SE80	DEREK ERWIN ATZE	Cultivated Field, plantation, orchard or vineyard	No	
CT 5558/319	F209157AL781	DEREK ERWIN ATZE	Cultivated Field, plantation, orchard or vineyard	No	
CT 5558/317	F209155AL779	DEREK ERWIN ATZE	Cultivated Field, plantation, orchard or vineyard	No	
CT 5289/562	H120200SE77	DEREK ERWIN ATZE	Cultivated Field, plantation, orchard or vineyard	No	
CT 5289/564	H120200SE79	DEREK ERWIN ATZE	Cultivated Field, plantation, orchard or vineyard	No	
CT 5240/671	H120200SE31	MARK ANDREW SCHULTZ	Cultivated Field, plantation, orchard or vineyard	No	
CT 5240/672	F131657AL1	MARK ANDREW SCHULTZ	Cultivated Field, plantation, orchard or vineyard	No	
CT 6246/840	D121957AL53	MARK ANDREW SCHULTZ, CRAIG MATTHEW SCHULTZ,DAVID NEIL SCHULTZ,	Cultivated Field, plantation, orchard or vineyard	No	
CT 5146/818	H121100SE763	MARK RONALD GROSSMAN JANE ELIZABETH GROSSMAN	Cultivated Field, plantation, orchard or vineyard	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
CT 5146/815	H12020 0SE83	MARK RONALD GROSSMAN JANE ELIZABETH GROSSMAN	Cultivated Field, plantation, orchard or vineyard	No	
CT 5802/40	F20013 4AL91	MARK RONALD GROSSMAN JANE ELIZABETH GROSSMAN	Cultivated Field, plantation, orchard or vineyard	No	
CT 5146/819	H12020 0SE82	MARK RONALD GROSSMAN JANE ELIZABETH GROSSMAN	Cultivated Field, plantation, orchard or vineyard	No	
CT 5463/872	F18315 AL401	SARAH JOY SEIDEL DANIEL LEIGH SEIDEL	Cultivated Field, plantation, orchard or vineyard	No	
CT 5960/20	H12020 0SE170	WILLIAM JOSEPH KRUGER	Cultivated Field, plantation, orchard or vineyard	Yes	"Kruger_waiver of exemption.pdf" attached
CT 5179/943	H12020 0SE233	WILLIAM JOSEPH KRUGER	Land within 150 metres of a spring, well, reservoir or dam	No	
CT 5803/948	H12020 0SE180 E	WILLIAM JOSEPH KRUGER	Land within 150 metres of a spring, well, reservoir or dam	No	
CT 5179/943	H12020 0SE232	WILLIAM JOSEPH KRUGER	Land within 150 metres of a spring, well, reservoir or dam	No	
CT 5710/457	H12020 0SE181	WILLIAM JOSEPH KRUGER	Land within 150 metres of a spring, well, reservoir or dam	No	
CT 5576/150	H12020 0SE171	WILLIAM JOSEPH KRUGER	Land within 150 metres of a spring, well, reservoir or dam	No	
CT 5576/149	H12020 0SE192	WILLIAM JOSEPH KRUGER	Cultivated Field, plantation, orchard or vineyard	No	

Exempt Land Plan

Expand/Collapse

File Name	File Size (Mb)	Created On	Download
Exclusion Map_2025_12_19.png	7.52 Mb	19-12-2025 10:28:52	Download (MERS/EP-04013/Land Access and Consultation/Exempt Land/Exclusion Map_2025_12_19_2025-12-18T23-58-50.502Z.png)
Kruger_waiver of exemption.PDF	0.99 Mb	28-01-2026 16:13:51	Download (MERS/EP-04013/Land Access and Consultation/Exempt Land/Kruger_waiver of exemption_2026-01-28T05-43-52.245Z.PDF)

Consultation

Consultation

Stakeholder ↑	Land Use	Matters raised	Stakeholder concerns raised and how addressed
DEREK ERWIN ATZE	Cultivated Land	Conversation with Landowner, he was comfortable with proposed activities, dependent on location (need to avoid the feedlot) and manage timing of activities to avoid disturbing crops. Will progress in-person on site catch up early 2026	Commit to manage timing of activities to avoid disturbing crops
DEREK ERWIN ATZE			
DEREK ERWIN ATZE			
DEREK ERWIN ATZE			
DEREK ERWIN ATZE			
DEREK ERWIN ATZE			
MARK ANDREW SCHULTZ			
MARK ANDREW SCHULTZ	Cultivated Land	In person meeting with both landowners, main concern about implications of project extending to potential Mining and subsequent impacts of a mining activity, those aside – conversation led to the following actions; Provide a draft NOE for further discussion Timings of activities to avoid crops Dwellings in the area (including their own) that would generate areas of exemption Other interested parties/family members (provided details to share so family members can reach out in the first instance - will follow up) Concerns about potential impacts to their livestock accreditation process, especially with respect to the animals interaction with any uranium being brought to the surface, what sort of potential impacts that would remain at the site. Explained the nature of the procedures and our the regulatory approved Radiation Management Plan. They are also concerned about dust carrying material further afield – and these aspects and the procedures are included in our approved RMP need to be included in a NOE. They highlighted they have a house water bore for the garden etc. and they were concerned about any impacts there might be to the groundwater. Explained our abandonment procedures – these also need to be included (in detail) on the NOE.	Ensure timings of activities is managed to avoid impact to crops Provided details to share with other interested parties - family members -along with contact details so they can reach out in the first instance - will follow up with another in person meeting early 2026. Explained the nature of the procedures and AR3the regulatory approved Radiation Management Plan. Explained abandonment procedures – these also need to be included (in detail) in the NOE.

Stakeholder ↑	Land Use	Matters raised	Stakeholder concerns raised and how addressed
MARK ANDREW SCHULTZ, CRAIG MATTHEW SCHULTZ,DAVID NEIL SCHULTZ,		Shared land parcel between several family members, managed by one family member. In person meeting with group representative and part landowner (Mark Schultz), main concern about implications of project extending to potential Mining and subsequent impacts of a mining activity, those aside – conversation led to the following actions; Provide a draft NOE for further discussion Timings of activities to avoid crops Dwellings in the area (including their own) that would generate areas of exemption Other interested parties/family members (provided details to share so family members can reach out in the first instance - will follow up) Concerns about potential impacts to their livestock accreditation process, especially with respect to the animals interaction with any uranium being brought to the surface, what sort of potential impacts that would remain at the site. Explained the nature of the procedures and our the regulatory approved Radiation Management Plan. They are also concerned about dust carrying material further afield – and these aspects and the procedures are included in our approved RMP need to be included in a NOE. They highlighted they have a house water bore for the garden etc. and they were concerned about any impacts there might be to the groundwater. Explained our abandonment procedures – these also need to be included (in detail) on the NOE.	Ensure timings of activities is managed to avoid impact to crops Provided details to share with other interested parties - family members -along with contact details so they can reach out in the first instance - will follow up with another in person meeting early 2026. Explained the nature of the procedures and AR3the regulatory approved Radiation Management Plan. Explained abandonment procedures – these also need to be included (in detail) in the NOE.
MARK RONALD GROSSMAN JANE ELIZABETH GROSSMAN			
MARK RONALD GROSSMAN JANE ELIZABETH GROSSMAN			
MARK RONALD GROSSMAN JANE ELIZABETH GROSSMAN			

Stakeholder ↑	Land Use	Matters raised	Stakeholder concerns raised and how addressed
MARK RONALD GROSSMAN JANE ELIZABETH GROSSMAN			
SARAH JOY SEIDEL DANIEL LEIGH SEIDEL			
WILLIAM JOSEPH KRUGER	Cultivated Land	30/09/2025, Phone conversation with landowner to introduce proposed exploration project. Landowner keen to understand biosecurity protocols (weeds). 1/10/2025, Landowner phoned to ask further questions - regarding the project, why this location, what had directed us there? Had good conversation and promised to send follow up email today to provide some additional detail. - the location etc. Organized to meet Wed 15th Oct 15/10/2025 Met with Landowner, discussed land process, for exploration drilling, and had a good discussion, which generated the following actions; Provide a NOE by sometime next week Update the Map, to include additional areas suggested by landowner Landowner's highest priority and concern is Bio-security (weeds particularly Caltrop) ensure NOE and work procedures highlight this. Field team to ground truth and discuss biosecurity at least a week prior to drilling Landowner is interested in any groundwater we intersect, depths, yield, quality Indicated timing potentially early Dec, but most likely in the New Year. Will be in touch in December regardless to give update on timing 10/11/2025 emailed to notify landowner that we are looking at doing this work in the New Year, and will touch base again in January to update him of our plans. 19/12/2025 Email NOE 23A & 23B 22/12/2025 Phone conversation with landowner, he wanted to ensure that by signing the waiver he wasn't making it an open ended arrangement. I suggested we include a reference to only drilling where the map attached indicated and limited the waiver until end of April 28/12/2025 Email fully executed 23B returned	Update the Map, to include additional areas suggested by landowner Landowner's highest priority and concern is Bio-security (weeds particularly Caltrop) ensure NOE and work procedures highlight management strategies discussed with landowner. Field team to ground truth and again discuss biosecurity procedures at least a week prior to drilling Landowner is interested in any groundwater we intersect, depths, yield, quality will provide a report on groundwater findings Manage timing to avoid impacts to any ground activities/crops Include a reference to only drilling where the map attached indicated and limited the waiver until end of April
WILLIAM JOSEPH KRUGER			

Stakeholder ↑	Land Use	Matters raised	Stakeholder concerns raised and how addressed
WILLIAM JOSEPH KRUGER			
WILLIAM JOSEPH KRUGER			
WILLIAM JOSEPH KRUGER			
WILLIAM JOSEPH KRUGER			
WILLIAM JOSEPH KRUGER			

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

Mark and Jane Grossman have not yet been consulted, their contact details will be sought and contact made with them prior to any on ground activities, under an approved EPEPR, being undertaken

Provide any additional relevant information.

—

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.

The Overland Sedan South Project does not conflict with any known local council development plans or regional land-use initiatives, and the proposed exploration activities are considered compatible with existing agricultural operations in the district.
Australian Rare Earths is not aware of any future land use changes by other parties that would impact the area proposed for exploration within the Overland Uranium Project

Description of Environment

Proximity to Infrastructure and Housing

Provide the following information:

Settlements:
The Overland Sedan South Project area is located approximately 10 km south of the township of Sedan and about 35 km north-west of Blanchetown, South Australia. The nearest rural dwellings are scattered farm residences located on surrounding freehold and perpetual lease properties, typically more than 2 km from any proposed drill site. The nearest service townships are Sedan (population ~100) and Blanchetown, both providing basic community services and amenities.

Roads and Tracks:
The project area is serviced by a network of unsealed district council roads and farm access tracks connecting to the Sedan–Sandleton Road and Blanchetown–Sedan Road. Exploration activities will utilise existing fence lines and farm tracks wherever possible to access drill sites, thereby minimising the creation of new disturbance. No sealed roads will be traversed or modified. Temporary turning bays may be graded adjacent to existing tracks as agreed with landholders.

Other Human Infrastructure:
Land use across the area is broadacre cropping and livestock grazing, with associated rural infrastructure including farm sheds, machinery storage, fences, stockyards, water tanks, troughs, bores, and dams. No schools, hospitals, or industrial facilities occur within or adjacent to the project area.
Any private infrastructure such as sheds, pumps, or dams will be identified in consultation with landholders prior to ground-disturbing activities, and a minimum 150 m buffer will be maintained from all occupied residences, dams, and groundwater extraction points.

Services and Utilities:
There are no railway lines or major pipelines within the project area. Overhead powerlines associated with rural supply traverse sections of the region but do not cross any proposed drill sites.
No communication towers, fibre optic cables, or transmission easements are known to occur within or adjacent to the area.
Unmapped local utilities, if identified during site access planning, will be flagged and avoided following landholder consultation.

Attach Files

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File Name	File Size (Mb)	Created On	Download
Sedan_EPEPR_Utilities Infrastructure_19122025.png	11.91 Mb	12-01-2026 10:40:00	Download (MERS/EP-04013/Proximity to infrastructure/Sedan_EPEPR_Utilities Infrastructure_19122025_2026-01-12T00-09-56.766Z.png)

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.

Landform and Topography – Overland Sedan South Project

The Overland Sedan South Project area lies on the western margin of the Murray Basin, within the Murray Mallee (IBRA Subregion 214) of the Murray–Darling Depression bioregion.

The landscape is characterised by gently undulating calcareous plains, subdued eastward-draining slopes, and low linear sand dunes that trend north–south to north-west–south-east across the project area.

Elevation ranges from approximately 85 to 120 metres above sea level, with subtle local relief of less than 10 metres between dune crests and adjacent flats. The topography reflects the influence of Pleistocene aeolian and lacustrine processes that have reworked older Tertiary Murray Basin sediments.

The land surface comprises broad inter-dunal flats and low rises mantled by calcareous sandy loams and windblown quartz sands, underlain by Bakara Calcrete and Blanchetown Clay equivalents. These indurated layers form shallow benches and low escarpments that can locally outcrop along drainage depressions or road cuttings.

The area shows minimal surface dissection due to the low rainfall and limited surface runoff. Drainage is internally directed, with broad depressions acting as ephemeral sinks following heavy rainfall. There are no defined watercourses or drainage lines within the EPEPR boundary, and the landscape is generally stable under its current pastoral and cropping use.

While overall slope gradients are low (<3%), the region’s fine sandy soils are susceptible to wind erosion where vegetation or stubble cover is removed. Minor sheet erosion or scalding may occur in compacted inter-dunal areas following intense rainfall, but gully or channel erosion is not a significant risk.

Visually, the terrain appears as a mosaic of pale sandy rises, calcareous flats, and broad open plains, with sparse remnant vegetation on higher ground and cleared cropping paddocks dominating the lower-lying areas.

Soils and Surface Cover – Overland Sedan South Project

The Overland Sedan South Project area lies within the Sedan and Bakara Land Systems, typical of the western Murray Mallee region of South Australia. The landscape is dominated by calcareous sandy loams and siliceous sands developed over Bakara Calcrete and Blanchetown Clay equivalents, reflecting a long history of wind reworking and pedogenic carbonate accumulation.

Soil Types

1. Calcareous Sandy Loams (A4, A5 Soil Groups)
   - Occur on broad flats and gently undulating plains.
   - Typically 20–60 cm deep over highly calcareous clay or rubble.
   - These soils are well-drained but of low fertility, with moderate wind erosion risk when bare.
   - Shallow carbonate layers limit rooting depth and water storage.

2. Deep Siliceous Sands (H1, H2)
   - Found on low linear dunes and sandy rises.
   - Weakly structured, very permeable, and highly susceptible to wind erosion if disturbed.
   - These soils are the most fragile within the EPEPR boundary, requiring careful management of vegetation and surface cover.

3. Shallow Rubble-Calcareous Soils (B2, B3)
   - Present on calcrete rises or gently sloping benches.
   - Often stony, with a thin veneer (10–30 cm) of loam or sandy loam over hard calcrete.
   - Low compaction risk due to the stony surface but poor capacity for rehabilitation seeding due to shallow depth and low water-holding capacity.

4. Clayey Soils in Depressions (F1, F2)
   - Found in localised inter-dunal flats or shallow depressions where Blanchetown Clay is near surface.
   - Moderately structured brown clay loams; limited drainage and moderate to high compaction potential if trafficked when wet.
   - Low wind erosion risk but susceptible to surface sealing and shallow ponding after rain.

Soil Surface Cover and Stability

Surface materials range from fine siliceous sand on dunes to rubbly calcrete fragments on rises. In cropped areas, stubble and root residues provide seasonal protection against erosion. Remnant native vegetation and volunteer pasture species stabilise soil on non-cropped margins and fencelines.

Areas of rubbly calcrete or limestone fragments (gibber-like surface) occur sporadically and provide localised surface stability.

There are no true gibber plains or rocky outcrops within the EPEPR boundary.

Susceptibility and Environmental Considerations

Soil Issue	Relevance to Sedan South Project Area	Risk Level	Mitigation / Control Strategy

Wind erosion High on exposed sandy dunes or cropped paddocks post-harvest Moderate–High Retain surface stubble, restrict vehicle speeds, avoid disturbance during strong winds, rehabilitate promptly
Water erosion / runoff Minimal due to low relief and high infiltration Low Avoid concentrated flow; use sumps and silt traps at drill sites on slopes
Compaction Possible on clayey flats or where repeated traffic occurs Moderate Restrict access to dry conditions, use low-ground-pressure vehicles, rip compacted pads during rehab
Dust generation Likely on dry sandy surfaces during drilling and movement Moderate Wet drilling if necessary, water down tracks, limit vehicle speeds
Soil salinity / scalding Minor risk in isolated depressions Low Avoid siting drill pads in saline areas
Acid sulphate soils Not expected – regionally absent from elevated Mallee plains Negligible No management required
Summary
Soils within the Overland Sedan South EPEPR boundary are sandy, calcareous, and fragile, with wind erosion and compaction being the primary environmental risks during exploration. With appropriate access planning, use of existing tracks, and prompt rehabilitation under MG21, these risks can be effectively managed, ensuring soils are returned to a stable, non-eroding condition following completion of drilling activities.

Attach Files

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File Name	File Size (Mb)	Created On	Download
Sedan_EPEPR_Alluvial landforms_19122025.png	11.08 Mb	12-01-2026 10:44:15	Download (MERS/EP-04013/Landform, topography/Sedan_EPEPR_Alluvial landforms_19122025_2026-01-12T00-14-12.116Z.png)
Sedan_EPEPR_Depositional Plain_19122025.png	11.67 Mb	12-01-2026 10:43:54	Download (MERS/EP-04013/Landform, topography/Sedan_EPEPR_Depositional Plain_19122025_2026-01-12T00-13-51.355Z.png)
Sedan_EPEPR_Erosional Landforms_19122025.png	10.65 Mb	12-01-2026 10:43:49	Download (MERS/EP-04013/Landform, topography/Sedan_EPEPR_Erosional Landforms_19122025_2026-01-12T00-13-46.449Z.png)

Surface Water

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

No

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

—

Indicate how you will avoid disturbance

The Overland Sedan South Project area lies within the Murray–Darling Basin catchment, but outside the River Murray Protection Area defined under the River Murray Act 2003.

There are no permanent watercourses, lakes, wetlands, or floodplains within or immediately adjacent to the EPEPR boundary.
Surface drainage across the project area is poorly defined and internally directed, reflecting the region's low rainfall (approximately 300 mm per annum), very low relief, and highly permeable sandy soils.

Within the EPEPR boundary there are no mapped ephemeral drainage lines or defined flow paths according to DEW's Surface Hydrology and SARIG topographic datasets.

Runoff occurs only as short-lived sheet flow during heavy rainfall, with occasional temporary ponding in shallow depressions or inter-dunal flats that dry rapidly through infiltration and evaporation.

Drainage is generally eastward and south-eastward across a broad, low-gradient calcareous plain. There are no surface water features that would be intersected or altered by exploration activities. The nearest major watercourse is the River Murray, approximately 35 km east of the project area.

- Drilling activities will not interfere with any natural surface flow or depressions.
- Drill sites will be sited on stable ground away from low-lying areas, and no sumps or pads will be placed where inundation could occur.
- All drill sumps will maintain adequate freeboard, and any residual water will be allowed to infiltrate naturally prior to backfilling.
- Small earthen bunds or silt traps may be constructed where necessary to contain drill fluids and prevent sediment migration.
- All disturbed areas will be rehabilitated immediately after drilling, ensuring that natural surface stability and drainage characteristics are restored.

There are no surface water-dependent ecosystems (SDEs) within or adjacent to the EPEPR boundary, and the program poses no risk to surface hydrology or the River Murray system.

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?

No

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

Attach Files

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File Name	File Size (Mb)	Created On	Download
Sedan_EPEPR_Surface Water Features and Native Veg_19122025.png	12.06 Mb	12-01-2026 10:42:17	Download (MERS/EP-04013/Surface water/Sedan_EPEPR_Surface Water Features and Native Veg_19122025_2026-01-12T00-12-13.948Z.png)

Name	Applicable
There are no records to display.	

Groundwater

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

Yes

Provide evidence or any supporting information demonstrating this.

—

Description of the localites/areas where different groundwater conditions may be encountered

Hydrogeological Setting

The Overland Sedan South Project area is located on the western margin of the Murray Basin, where groundwater occurs primarily within the Murray Group Limestone and the underlying Renmark Group aquifers. These units are separated by low-permeability clays and marls of the Ettrick Formation. Local perched or discontinuous aquifers may also occur within shallow Quaternary sediments, including the Woorinen and Pooraka Formations.
The groundwater system in this region is structurally and hydraulically continuous with that of the broader Murray Basin, though depths to water are generally greater and salinity higher near the basin margin.

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/thinkness (from-to) (m)	Aquifer Type	Aquifer salinity (TDS)	Depth to groundwater (m)	Comments
Murray Basin	Quaternary (Holocene–Pleistocene)	20	Pooraka & Woorinen Formations (local sands and gravels)	Discontinuous	Unconfined	3,000 - 13,000 mg/L	15	The expected depth to groundwater in the project area is typically greater than 30 metres below ground level, based on nearby DEW WaterConnect monitoring bores west of Blanchetown and Sandleton. Groundwater Quality and Environme

Name ↑	Formation age and/or stratigraphic unit	Stratigraphic intervals (depth range) (m)	Aquifer formation name	Aquifer Interval/thinkness (from-to) (m)	Aquifer Type	Aquifer salinity (TDS)	Depth to groundwater (m)	Comments
								ntal Value According to the Environment Protection (Water Quality) Policy 2015, the groundwater within the Murray Group and Renmark Group aquifers in this region has an environmental value ranging from primary industry (livestock water) to unusable, with total

Name ↑	Formation age and/or stratigraphic unit	Stratigraphic intervals (depth range) (m)	Aquifer formation name	Aquifer Interval/thinkness (from-to) (m)	Aquifer Type	Aquifer salinity (TDS)	Depth to groundwater (m)	Comments
								dissolved solids typically exceeding 5,000 mg/L. The water quality is therefore unsuitable for human consumption or irrigation but supports limited pastoral and ecological uses.

Name ↑	Formation age and/or stratigraphic unit	Stratigraphic intervals (depth range) (m)	Aquifer formation name	Aquifer Interval/thinkness (from-to) (m)	Aquifer Type	Aquifer salinity (TDS)	Depth to groundwater (m)	Comments
Murray Basin	Miocene - Oligocene	70	Murray Group Limestone	Variable 10 - 40m	Confined	5,000 - 12,000 mg/L	50	Regionally extensive limestone aquifer with moderate to high salinity (TDS 5,000–12,000 mg/L). Water levels generally 30–50 m below ground. Not suitable for irrigation or potable use; limited to pastoral supply.

Name ↑	Formation age and/or stratigraphic unit	Stratigraphic intervals (depth range) (m)	Aquifer formation name	Aquifer Interval/thinkness (from-to) (m)	Aquifer Type	Aquifer salinity (TDS)	Depth to groundwater (m)	Comments
Murray Basin	Oligocene	90	Ettrick Formation (confining layer)	Variable 10 - 30m	Confined	5,000 - 12,000 mg/L	50	Marl and clay with very low permeability, acting as a hydraulic barrier between the Murray Group and Renmark Group aquifers. No water supply potential.

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
Murray Basin	Palaeocene–Eocene	250	Renmark Group (sand, silt, clay)	Greater than 100m	Confined	10,000 - 20,000 mg/L	70	Deep, regionally extensive aquifer of high salinity (TDS 10,000–20,000 mg/L). Depth to water typically >70 m. Yields low; water unsuitable for beneficial use. Groundwater flow direction generally eastward toward the River Murray.

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

The expected depth to groundwater in the project area is typically greater than 30 metres below ground level, based on nearby DEW WaterConnect monitoring bores west of Blanchetown and Sandleton.

Groundwater Quality and Environmental Value

According to the Environment Protection (Water Quality) Policy 2015, the groundwater within the Murray Group and Renmark Group aquifers in this region has an environmental value ranging from primary industry (livestock water) to unusable, with total dissolved solids typically exceeding 5,000 mg/L.
The water quality is therefore unsuitable for human consumption or irrigation but supports limited pastoral and ecological uses.

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

Because of the deep watertable (mostly greater than 40 m below ground over most of the region), there are no known groundwater dependent ecosystems (GDEs) with in the proposed area of activity.

There are no terrestrial or aquatic groundwater-dependent ecosystems (GDEs) mapped within or immediately adjacent to the Overland Sedan South Project area, according to the Bureau of Meteorology GDE Atlas and NatureMaps GDE datasets.

The area is characterised by a semi-arid climate, deep watertable (generally >30 m below ground level), and moderate to high groundwater salinity (5,000–20,000 mg/L), which preclude the persistence of groundwater-reliant vegetation or aquatic habitats.
The nearest mapped GDEs are low-potential aquatic ecosystems associated with ephemeral floodplain depressions and backwaters of the River Murray, located more than 15 km east of the EPEPR boundary.

Accordingly, the proposed exploration activities will have no interaction with, or impact on, groundwater-dependent ecosystems.

Is the proposed program located within a prescribed wells area?

No

Select the prescribed wells

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

No

Select the prescribed water resource areas

Provide any additional information

Potential Impacts and Management

Groundwater will not be used during the exploration program, and no abstraction or discharge of groundwater is proposed.

Air-core drilling may intersect shallow or perched groundwater at isolated locations, but drilling methods and rehabilitation procedures will ensure no cross-connection between aquifers.

All drillholes will be constructed, grouted, and backfilled in accordance with MG21 – Mineral Exploration Drillholes: Construction and Backfilling to ensure aquifer protection and to prevent vertical leakage.

In the event groundwater is encountered, drilling fluids will be contained within the designated sump and allowed to infiltrate on site following sediment settlement.

Sumps will not be located in low-lying areas, and freeboard will be maintained at all times to prevent overflow.

Rehabilitation of drillholes will be completed within days of drilling, ensuring no long-term hydraulic or contamination risk.

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File Name	File Size (Mb)	Created On	Download
Sedan_EPEPR_Aquatic Groundwater Dependent Ecosystems_19122025.png	12.02 Mb	12-01-2026 10:49:12	Download (MERS/EP-04013/Groundwater/Sedan_EPEPR_Aquatic Groundwater Dependent Ecosystems_19122025_2026-01-12T00-19-09.090Z.png)

File Name	File Size (Mb)	Created On	Download
Sedan_EPEPR_Terrestrial Groundwater Dependent Ecosystems_19122025.png	11.61 Mb	12-01-2026 10:45:54	Download (MERS/EP-04013/Groundwater/Sedan_EPEPR_Terrestrial Groundwater Dependent Ecosystems_19122025_2026-01-12T00-15-50.722Z.png)
Sedan_EPEPR_Waterwells_19122025.png	11.11 Mb	12-01-2026 10:46:05	Download (MERS/EP-04013/Groundwater/Sedan_EPEPR_Waterwells_19122025_2026-01-12T00-16-01.776Z.png)

Native Vegetation

Will you be working within areas of native vegetation?

Yes

Provide the following information:

The Overland Sedan South Project area is dominated by cleared agricultural land with scattered remnants of mallee woodland and chenopod shrubland.
The proposed exploration activities will avoid all native vegetation, and no clearance is required under the Native Vegetation Act 1991.

The Overland Sedan South Project area lies within the Murray Mallee (IBRA Subregion 214) of the Murray–Darling Depression bioregion, characterised by semi-arid mallee woodland and shrubland formations.

Formation and Structure

Native vegetation structure is predominantly open mallee woodland to low shrubland, shaped by the region's calcareous sandy soils, undulating plains, and extensive land clearance for agriculture.

Vegetation density varies with soil depth — mallee eucalypts and low shrubs dominate dune crests and calcareous rises, while chenopod and grassland communities occur on lower-lying flats.

The majority of the EPEPR boundary comprises cleared agricultural land, with remnant vegetation limited to narrow roadside strips, fenceline remnants, and small uncropped rises.

Dominant Species

Native vegetation across the district is typically composed of multi-stemmed mallee eucalypts including:
- Eucalyptus socialis (Red Mallee)
- Eucalyptus dumosa (White Mallee)
- Eucalyptus oleosa (Giant Mallee)
- Eucalyptus gracilis (Yorrell)

Common shrub and understorey species include:
- Acacia rigens (Needle Wattle)
- Melaleuca uncinata (Broom Honeymyrtle)
- Atriplex vesicaria (Bladder Saltbush)
- Rhagodia spinescens (Spiny Saltbush)
- Maireana sedifolia (Bluebush)
- Maireana pyramidata (Blackbush)
- Senna artemisioides (Silver Cassia)
- Enchylaena tomentosa (Ruby Saltbush)

In remnant patches, a sparse ground layer may include native grasses (Austrostipa spp., Enneapogon spp.) and ephemeral herbs that respond to seasonal rainfall.

Vegetation Condition

Vegetation condition within the Overland Sedan South EPEPR boundary is highly modified, reflecting long-term agricultural use.
Mapping from NatureMaps (NVIS / SA Vegetation 2023) indicates that >90% of the area is cleared or intensively farmed, with only small pockets of remnant native vegetation remaining along fencelines and dune crests.

No Heritage Agreement areas, conservation reserves, or Threatened Ecological Communities (TECs) listed under the EPBC Act 1999 or National Parks and Wildlife Act 1972 occur within or immediately adjacent to the project area.
The nearest listed TEC — the Buloke Woodland of the Riverina and Murray–Darling Depression — is located more than 20 km east, near Blanchetown.

All proposed exploration activities will be located in cleared agricultural paddocks and will not require the clearance or trimming of native vegetation.

Existing farm tracks will be used for access wherever possible, and a minimum 10 m buffer will be maintained around any isolated native shrubs or trees encountered.

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

—

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File Name	File Size (Mb)	Created On	Download
Sedan_EPEPR_Surface Water Features and Native Veg_19122025.png	12.06 Mb	12-01-2026 10:47:24	Download (MERS/EP-04013/Native Vegetation/Sedan_EPEPR_Surface Water Features and Native Veg_19122025_2026-01-12T00-17-21.090Z.png)

Fauna

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

The fauna within the Overland Sedan South Project area is dominated by common native woodland, open-country, and ground-dwelling species, with widespread feral species such as foxes, rabbits, and feral cats also present.
Habitat values within the cleared EPEPR boundary are low, and no species of national or state conservation significance are expected to be impacted.
Fauna Species Likely to Occur – Overland Sedan South Project
Native Fauna:
SPECIES (Scientific name) COMMON NAME
Macropus fuliginosus Western Grey Kangaroo
Vombatus ursinus Common Wombat
Tachyglossus aculeatus Short-beaked Echidna
Trichosurus vulpecula Common Brushtail Possum
Pseudomys australis Plains Mouse (occasional regional record)
Tiliqua rugosa Shingleback Lizard
Pogona vitticeps Central Bearded Dragon
Ctenotus robustus Eastern Striped Skink
Morethia boulengeri Boulenger's Skink
Pseudonaja textilis Eastern Brown Snake
Neobatrachus sudelli Sudell's Frog
Aquila audax Wedge-tailed Eagle
Falco cenchroides Nankeen Kestrel
Eolophus roseicapilla Galah
Corvus mellori Little Raven
Vanellus miles Masked Lapwing
Anthus novaeseelandiae Australian Pipit
Leipoa ocellata Malleefowl (regional species, unlikely within boundary)
Acanthagenys rufogularis Spiny-cheeked Honeyeater
Gymnorhina tibicen Australian Magpie
Psephotus haematonotus Red-rumped Parrot

Feral Fauna
Mus musculus House Mouse N
Rattus rattus Black Rat
Vulpes vulpes Red Fox
Oryctolagus cuniculus European Rabbit
Felis catus Feral Cat
Canis familiaris (feral/roaming) Wild Dog / Feral Dog

Significant Habitats, Flora & Fauna

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

No

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

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

Attach Files

Expand/Collapse

File Name	File Size (Mb)	Created On	Download
Sedan_EPEPR_Flora and Fauna.png	11.86 Mb	12-01-2026 15:04:59	Download (MERS/EP-04013/Fauna/Sedan_EPEPR_Flora and Fauna_2026-01-12T04-35-00.019Z.png)

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).

1. Overview
The Overland Sedan South Project area occurs within a mixed grazing and broadacre cropping landscape that has been subject to long-term agricultural use, resulting in widespread presence of naturalised pasture weeds and disturbance-tolerant annual species.
There are no recorded occurrences of Phytophthora cinnamomi (root-rot pathogen) or other listed plant pathogens within, or adjacent to, the EPEPR boundary.
The region's low rainfall (≈300 mm) and calcareous sandy soils create conditions generally unsuitable for the persistence or spread of Phytophthora or other soil-borne pathogens of national concern.

2. Weeds of National Significance (WoNS)
A search of NatureMaps (2024) and SA Weed Control Handbook (DEW, PIRSA 2023) identifies the following Weeds of National Significance (WoNS) as present or potentially occurring within the broader Sedan–Blanchetown district:
Species (WoNS) Common Name Local Status / Likelihood within EPEPR Boundary Control Responsibility / Notes
Cenchrus ciliaris Buffel Grass Not recorded within the EPEPR boundary. Localised populations occur along major highways east of Blanchetown (>25 km away). Unlikely to occur due to rainfall <350 mm and absence of rocky substrates. Declared under Landscape SA Act 2019; monitor access tracks during operations.
Opuntia spp. Prickly Pear May occur as isolated individuals around abandoned farm sites; low density if present. Declared species; remove or treat if encountered.
Lycium ferocissimum African Boxthorn Common across fence lines and paddock margins; widespread in the district. Declared species; landholders manage under regional programs.
Asparagus asparagoides Bridal Creeper Recorded in the Blanchetown–Truro corridor, but rare in Sedan area due to low soil moisture. Declared species; monitor shaded fence lines.
Tamarix aphylla Athel Pine Not recorded locally; potential only along the River Murray floodplain (>30 km east). Not relevant to project area.
Other naturalised agricultural weeds present include Ehrharta longiflora (Annual Veldt Grass), Medicago polymorpha (Burr Medic), Bromus diandrus (Great Brome), and Hordeum leporinum (Barley Grass).
These species are ubiquitous in cropping areas and do not present a specific environmental risk from exploration disturbance.

3. Pathogens of National Significance
- Phytophthora cinnamomi: No records occur within 50 km of the EPEPR boundary (NatureMaps, AAR database 2024). The low-rainfall, alkaline soils of the western Murray Mallee are not conducive to its survival or spread.
- Myrtle Rust (Austropuccinia psidii): Absent from the region; host vegetation (Myrtaceae-dominant closed forests) is not present.
- Other soil-borne pathogens (e.g., Ralstonia solanacearum, Fusarium oxysporum f. sp. cubense) are not relevant to this semi-arid environment.

4. Mitigation and Management
To prevent inadvertent spread of weeds or pathogens during exploration:
- All vehicles and drilling equipment will be cleaned prior to site entry and departure in accordance with AR3's Biosecurity Procedure.
- Access will use existing farm tracks and disturbed areas to avoid new ground disturbance.
- Inspection of entry points will be conducted for signs of Buffel Grass or Boxthorn, and any infestations will be reported to the landholder and Landscape SA (Murraylands & Riverland) for management.
- Any weed growth within drill pad disturbance areas will be monitored post-rehabilitation and treated if required to ensure no new spread results from exploration activities.

Attach Files

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File Name	File Size (Mb)	Created On	Download
Sedan_EPEPR_WoNS.png	6.87 Mb	15-01-2026 13:40:44	Download (MERS/EP-04013/Weeds and Pathogens/Sedan_EPEPR_WoNS_2026-01-15T03-10-45.745Z.png)

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.

1. No Survey has been conducted by the proponent,

2. There is one registered Native Title Claimant within in the proposed EPEPR boundary, The First Peoples of the River Murray and Mallee Region,
3. Of the 368 individual parcels of land in the proposed EPEPR area for EL 7079, all but 6 are freehold land titles. Native title does not exist on freehold land - all proposed activities with in this EPEPR are contained to the Freehold areas, where Native Title has been extinguished.
4. The remainder parcels are Crown Records, - no works are proposed to be conducted in these areas, until such time that AR3 have a native title agreement with the First Peoples of the River Murray and Mallee, the Crown Records being:
- CR 5251/233
- CR 5765/322
- CR 5756/705
- CR 5760/467
- CR 5760/466
- CR 5765/321

5. Australian Rare Earths have an operational Cultural Heritage Procedure in relation to the discovery of suspected anthropological material.

Of the 368 individual parcels of land in the proposed EPEPR area for EL 7079, all but 6 are freehold land titles. Native title does not exist on freehold land.

Environmentally Sensitive Locations

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

No

Name	Applicable
HA 1563	No

Are you likely to impact on the environmentally sensitive area?

—

Detail the likely effects the proposed program may have.

—

Attach Files

Expand/Collapse

File Name	File Size (Mb)	Created On	Download
Sedan_EPEPR_Native Title, National Conservation Parks and Protection Areas_19122025.png	9.77 Mb	12-01-2026 10:48:32	Download (MERS/EP-04013/Env sensitive locations/Sedan_EPEPR_Native Title, National Conservation Parks and Protection Areas_19122025_2026-01-12T00-18-28.632Z.png)

Exploration Operations

Equipment and Personnel requirements

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

Type of Personnel	Number	Name of contractor company (if applicable)
Geologists	2	AR3
Land access/environmental	1	AR3
Field assistants/technicians	2	AR3
Drilling Crew	3	Wallis Drilling (TBC)
Site Preparation and rehabilitation	2	AR3

Shifts worked per day	Hours worked per day	Days worked per week
1	10	7

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
Drilling Rig	Wallis (TBC)	Wallis Mantis 100 or 200 Aircore Drill Rig (or similar). Up to 200m depth penetration, onboard compressor 235cfm @ 175psi.	Installation of drill holes to provide sub-surface samples for characterization and assay.
Drillers support vehicle	Wallis Drilling (TBC)	Isuzu Canter, 4WD, dual cab, light truck or similar.	Carrying additional supplies, drill rods, transporting drilling fuel & water to drill site.
Geology logging vehicle and trailer	Australian Rare Earths	Landcruiser, 4WD, dual cab, light truck or similar with trailer.	Support geological logging and sample collection at drill rig.
Geology support vehicle and trailer	Australian Rare Earths	Landcruiser, 4WD dual cab, light truck or similar with trailer.	Support geological crew and rehabilitation.
CAT 420 backhoe loader (or similar)	Australian Rare Earths and/or local contractor	The CAT 420 backhoe loader is a 4-wheel-drive, mid-size construction machine with roughly 66–69 kW (≈92 hp) net engine power. It combines a front loader and rear backhoe for digging, trenching, loading, back-filling, and material handling. Typical specs include a loader bucket capacity around 0.96–1.25 m³, a maximum dig depth of about 4.3 m (≈14 ft), and an operating weight up to ~11 000 kg (24 250 lb) depending on configuration. It's well suited to general earthmoving and utility work on diverse sites. AR3 have used this machine for previous drilling campaigns and have confirmed it is fit for purpose.	Construction of drill pads and sumps, establishment and improvement of access tracks, and rehabilitation of disturbed areas.
Trailer mounted cement mixer and equipment	Wallis Drilling	Trailer mounted cement mixer and equipment	Allow for cementing of holes immediately after hole is complete.

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

Fill out the below table

Tenement	Drilling Types	Maximum number of drillholes	Maximum drillhole depth (m)	Number of drill pads	Maximum number of sumps required at each site	Maximum size of sumps (lenght x depth x width)	Average size of each drill pad	Number of sites requiring pad excavation	Average volume of material to be excavated
EL 7079	Aircore	80	150.00	80	2	9.00	400.00	0	0.00

Other Drilling Method(s)

—

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.

AR3's primary goal in the environmental management of its proposed exploration activities is to prevent unnecessary impacts and to reinstate sites where disturbance cannot be avoided. The environmental management of the proposed exploration activities is designed to restrict disturbance to vegetation and soils to the minimum necessary to achieve the exploration objectives. This will be achieved by minimising tracks and impacts caused by vehicular movements and minimising the amount of clearance using practices which minimise erosion and interference with natural drainage, while also preventing the introduction and spread of noxious weeds, soil diseases and feral animals. Any removal of vegetation or creation of access routes will be done in accordance with M33 Guidelines (Statement of Environmental Guidelines for Mineral Exploration in South Australia).

Vegetation clearance requirements and site levelling:
-Topography project is generally quite flat, so site levelling is only carried out if required (which is rare). Vegetation varies from dense to sparse in the region and as such, drill sites will be located in naturally sparse areas, therefore avoiding significant shrubs/trees.

-The majority of drill sites are located along, or close to, existing historic tracks and fence lines to minimise the need for clearing. It is anticipated that, in a worst-case scenario, proposed drill sites will be able to be prepared by simply using a loader with a raised blade to scrape the sparse vegetation where required. Any cleared vegetation/debris will be pushed to one end of the drill site, so it can be easily salvaged and re-spread during the rehabilitation process.

-An average drill pad size of 20m x 20m will allow for the creation of a safe work environment including adequate egress for the drill rig, drill support truck, geologists logging vehicle with sample trailer and loader.

-To prevent drill pads from being made larger than authorised, traffic cones or pin flags will be used to mark the corners of the drill pad during pad construction and maintained during drilling. Authorised pad size dimensions will be covered in the company's induction to inform all workers of the requirement.

-There will be some degree of flexibility for the location of the proposed drill collars. Preliminary reconnaissance prior to drilling will be conducted to choose sites that, wherever feasible, are located on the flattest terrain possible and free from dense vegetation, thereby minimising the need for excavation and levelling of terrain.

-The reconnaissance will be conducted well in advance of drilling to allow site selection and preparation to be completed without haste or time pressure prior to drilling activities. A portion of this reconnaissance has been completed during landholder engagement activities during October 2025.

-A photographic record before and after pad rehabilitation will be collected for all drill sites.

-Tarps will be used as required to contain any sample material to ensure it is returned to the sump particularly below the cyclone /sample splitter. This may also include a "turkeys' nest" so that all ground water can be channeled into the sump.

Procedures for the construction and closure of sumps:
-Each sump will be approximately 4m x 1.5 m x 1.5m and will be designed with one sloped wall to allow for fauna egress and temporary fencing and witches hats along the edges to alert all personnel.

-The topsoil will be removed from the working area and stockpiled separately to the subsoil, to contain and preserve the organic matter and seed resources, in a location where it will not be contaminated by other materials or damaged by vehicle movements.

-Each sump will be large enough to contain the drill cutting anticipated from the hole and have sufficient depth that material returned from the drill hole will be buried at least 1 m below the surface.

-Each drill pad will have one sump constructed prior to drilling, and additional sump, created in the same process, only if required to ensure all cuttings contained. It is expected that only one sump will be required per drill pad and a second sump will only be installed if required.

-On completion of drilling, the sumps are left to dry until the material in the bottom is both thick and viscous or dried/cracked and not in a condition where it will splash or move significantly during backfill.

-Sumps to be bunded / raised walls, adequate freeboard maintained in all drill sumps and no release of water from sumps.

-Rehabilitation undertaken of all drill sites within 4 weeks of completion of the drillhole (or prior to forecast of weather indicating inundation could be possible/likely, whichever is sooner).

-Sediment traps/silt fencing to be utilised downslope of all drillsites which occur on sloped areas.

-A photographic record of each sump will be taken before backfilling commences and a subsequent rehabilitation photo taken afterwards.

-The material excavated from the sumps is returned in the reverse sequence to its excavation, so as not to invert the soil profiles, leaving a slight mound over the top, to allow fill to naturally settle and compact over time and prevent localised ponding.

-The disturbed area over the sump will be covered with surface material which is then spread out over the sump by machine and hand raked over the sump and adjacent drill collar if required.

-Background radiation readings are also taken at every drill site prior to drilling for comparison against post-rehabilitation readings, to ensure that no radioactive material is left on the surface following rehabilitation. Radiation surveying and safety management are detailed in AR3's RMP.

Drillhole construction and decommissioning

Drillhole construction and decommissioning

See below for detail on drillhole construction and decommissioning.

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.

Air core drilling:

-Air Core drilling utilises high-pressure air and dual walled rods to penetrate the ground and return the sample to the surface through an inner tube.

-The sample travels from the bit face up the inner tube then through a flexible hose into the top of the cyclone before being split (~25%) by a cone splitter located at the bottom of the cyclone. A calico bag containing ~2.5kg of sample material is produced and considered representative of the 1m sample interval which is used for geological logging and analysis (see sample management section).

-The Air Core method to be employed in the upcoming drill program will require no casing or cement during construction.

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.

Decommissioning:
-Materials that will be used while decommissioning drillholes include surplus drill cuttings as backfill, cement grout (if confined aquifer conditions are encountered or, in the case of an unconfined aquifer, if the cuttings will not easily be returned to the hole due to the likely clayey nature of the cuttings) and a non-degradable plastic top of hole plug.

-Drillholes which penetrate a single unconfined aquifer will be backfilled with surplus drill cuttings or cement grout and plugged at least 30 cm below ground level with a non-degradable plug. Backfill above the plug will be compacted and mounded over the hole to allow for subsidence and limit the pooling of surface water.

-Drillholes that penetrate a single confined aquifer, or more than one aquifer, will be cemented from the bottom of the hole to no less than 15 meters above the shallowest confined aquifer encountered, then backfilled as described above.

-Pre and post radioactivity (gamma) of all drill sites using a scintillometer will be undertaken and recorded at the collar location, over sumps, logging areas, and randomly over the drill pad. These recordings will be digitally captured and stored on AR3's cloud-based GIS system.

-There is no intention for future re-entry, as such, drillholes will not be cased. Rehabilitation and backfilling of the drillhole will commence immediately after the drillhole is completed and final rehabilitation once the sumps have dried out, which is expected to take 2-4 days depending on moisture content of the cuttings and local weather conditions and no longer than 4 weeks upon completion of the drillhole (or prior to forecast of weather indicating inundation could be possible/likely, whichever is sooner).

Attach Files

Expand/Collapse

File Name	File Size (Mb)	Created On	Download
Backfilling Diagram.png	0.09 Mb	08-01-2026 14:05:07	Download (MERS/EP-04013/Drillhole construction and decommissioning/Backfilling Diagram_2026-01-08T03-35-08.725Z.png)

Costeans and bulk sample disposal pits

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

No

Tenement	Number of costeans/pits	Size of costean (length x width) (m2)	Average depth (m)	Volume excavated (m3)	Total Volume Excavated (m3)	Total area of disturbance

There are no records to display.

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

N/A

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).

Sampling:
-Samples will be collected from the bottom of the cyclone using a rig mounted adjustable splitter.

-The samples will be collected at 1m intervals and consist of ~25% split (1.5-2.5kg) of sample material.

-The ~75% split which is not collected from the 1m sampling interval will either fall on to a tarp below and progressively be emptied into the sump located next to the cyclone or be collected in green plastic UV bags and laid out in sequence during drilling.

-Each calico sample bag will be directly filled at the cyclone into a pre-numbered calico sample bag and passed to the geologist located outside the immediate drilling/rod handler work zone.

-The calico sample will be measured for natural gamma radiation.

-The geologist will log the 1m sample and place a handful (roughly 10-20g) of sample material into a plastic chip tray to create representative sample for the entire drillhole.

-The calico sample will be analysed with a pXRF at the drill rig once the geologist has logged the sample.

-After the calico sample has been logged and analysed with a pXRF the calico samples will be placed in a polyweave bag containing 6 calicos (2 x 3m drill rods worth of samples) and loaded into the sample trailer.

-The samples will be taken to the laydown area at the end of the day and samples will be selected/sorted for dispatch to the lab.

-On completion of drilling and after logging the remaining sample is returned to the hole, with excess materials placed in the sump.

-Emptied sample bags are removed, and the site rehabilitated.

-At regular frequency (every 1-2 weeks) samples stored at the laydown area will be sent either to the lab for analysis or transported back to the company’s long term storage facility in Adelaide.

Access routes to work areas

Will existing tracks require upgrading and/or maintenance?

Yes

Detail the work required to upgrade/maintain existing tracks.

It is unlikely that existing tracks will require upgrading / on-going maintenance including old disused station tracks or previously used temporary access tracks. However, any work of this type that is necessary will be completed in consultation with the key stakeholders prior to, during and on completion of the program.

Will access be required across adjoining tenements?

Yes

Detail the method(s) for gaining access, and if an agreement is in place with all stakeholders. Include the total area of disturbance required (i.e. length (km) and width (m) of tracks) and provide on a locality map.

Access across adjoining tenements will be along gazetted roads only.

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.

AR3's primary goal in the environmental management of its proposed exploration activities is to prevent unnecessary impacts and to reinstate sites where disturbance cannot be avoided.

The environmental management of the proposed exploration activities is designed to restrict disturbance of vegetation and soils to the minimum necessary to achieve the exploration objectives. This will be achieved by minimising tracks and impacts caused by vehicular movements and minimising the amount of clearance using practices which minimise erosion and interference with natural drainage, while also preventing the introduction and spread of noxious weeds, soil diseases and feral animals. Any removal of vegetation or creation of access routes will be done in accordance with M33 Guidelines (Statement of Environmental Guidelines for Mineral Exploration in South Australia).

Wherever possible, existing tracks and roads will be utilised to access drill hole locations. Additionally, drill hole locations may be moved to enable collar positioning to be less ground disturbing. Access tracks may be required to access some drill sites. The majority of these will consist of new light-vehicle / truck tracks driving across country, without the need for removal of vegetation, avoiding environmentally sensitive sites such as isolated stands of vegetation, watering holes, natural drainage lines, nesting areas, etc.

Where there are no established tracks and it is intended to traverse the same ground more than once, the same route will be used each time. In certain areas, the removal of some vegetation may be required. Rolling back vegetation or driving a backhoe back and forth in low scrub to crush stakes may be sufficient to remove vegetation whilst still retaining the rootstock, topsoil and seeds to encourage regeneration. If raised blade work is required, as little ground as possible will be disturbed and windrows will be avoided or minimised.

Approximately 5.0-10 Km of new track creation may be required. Tracks will be approximately 2.5-3.5m wide

Natural drainage lines will not be blocked and adequate erosion control structures on slopes, such as spur drains, spoon drains or contour banks will be installed at suitable intervals.

Any removal of vegetation or creation of access routes will be done in accordance with M33 Guidelines (Statement of Environmental Guidelines for Mineral Exploration in South Australia), and AR3 internal procedures. Copies of the M33 Guidelines will be made available to field crews and as part of their induction they will need to agree they have read and understood them.

The attached map shows the proposed drilling traverses, which are predominantly located along existing fence lines.

Additional traverses may be incorporated into the exploration program subject to results. Where further traverses are required, they will, wherever practicable, be positioned along existing fence lines and established tracks. Any new access created will be minimised and is expected to total less than 10 km.

Attach Files

Expand/Collapse

File Name	File Size (Mb)	Created On	Download
Proposed Traverses V2.pdf	0.47 Mb	08-01-2026 14:40:47	Download (MERS/EP-04013/Access routes to work areas/Proposed Traverses V2_2026-01-08T04-10-49.642Z.pdf)

Campsites and equipment laydown areas

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

The crew will be accommodated in the nearby towns of Sedan or Nuriootpa.

What is the maximum number of personnel requiring accommodation?

8

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.

N/A

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

0.00

Will native vegetation clearance be required?

No

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

0.00

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

N/A

Will any excavations be required?

No

Describe the purpose of the excavation

N/A

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

0.00

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

No

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

Crews will be accommodated in suitable motel-style accommodation with appropriate ablution facilities. In addition, a portable toilet will be provided at the drill site, or alternatively, arrangements will be made to allow crews to access public toilet facilities in the nearby township of Sedan during scheduled breaks.

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

Proposed infrastructure	Quantity	Description / capacity
Motel	1	Motel to accommodate crew

Will laydown areas be required?

Yes

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

Yes

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

A small laydown area will be established either at the crew's accommodation or at a location agreed with the relevant landholder. The laydown area will be located within a previously cleared area and will be minimal in scale, consisting of approximately 3–6 pallets of consumables within a total area of no more than ~400m². The location and access arrangements will be agreed in advance to ensure operations are conducted safely and without unnecessary disturbance.

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

0.40

Will native vegetation clearance be required?

No

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

0.00

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

Laydown areas will be located entirely within previously cleared and disturbed areas, and no additional vegetation clearance will be required. Preparation of laydown areas will be limited to minor surface trimming or levelling, where necessary, using light equipment to provide a safe and stable working surface. No excavation or ground disturbance beyond what is required for safety and access will be undertaken.

Additional laydown areas may be considered as the program progresses; however, any such areas will be confined to existing cleared locations and will only be established following prior discussion and agreement with the relevant landholders

Will any excavations be required?

No

Describe the purpose of the excavation.

N/A

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

0.00

Proposed infrastructure (includes hydrocarbon and water storage requirements)

Proposed infrastructure	Quantity	Description / capacity
Driller's trailer or equivalent	2	Mobile tool trailer utilised by drillers for tools and equipment.
AR3 light vehicle dual axel sample trailer	1	Sample trailer to be stored at laydown area during breaks and at end of shift.
Pallets containing consumables	6	Pallets containing sample bags, drillhole plugs and various safety equipment for AR3 employees.

Attach Files

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

Other exploration methods and/or ancillary operations

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

No

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

—

Water supply and management

Will camp and/or drilling water be required?

Yes

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

Water will be required for drilling which is estimated to be between 1000 to 4000L/day depending on drilling conditions. It is expected that on average 2000L of water will used per day. Water will be sourced from town supply of Sedan or Nuriootpa from town water mains.

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

No

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

No

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

—

Groundwater investigation and water affecting activities

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

No

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

N/A

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

No

Attached Files

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

Management of hazardous materials

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

Yes

Attach Files

Expand/Collapse

File Name	File Size (Mb)	Created On	Download
Apendix 1 - RMP endorsement letter.pdf	0.1 Mb	08-01-2026 15:32:52	Download (MERS/EP-04013/Management of hazardous/Apendix 1 - RMP endorsement letter_2026-01-08T05-02-53.236Z.pdf)
RMP ARE Final 28_June_2024_V2.pdf	3.01 Mb	08-01-2026 15:33:31	Download (MERS/EP-04013/Management of hazardous/RMP ARE Final 28_June_2024_V2_2026-01-08T05-03-32.294Z.pdf)

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.

N/A

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.

AR3's primary goal in the environmental management of its proposed exploration activities is to prevent unnecessary impacts and to reinstate sites where disturbance cannot be avoided.

The environmental management of the proposed exploration activities is designed to restrict disturbance to vegetation and soils to the minimum necessary to achieve the exploration objectives by minimising tracks and impacts caused by vehicular movements and minimising the amount of clearance using practices which minimise erosion and interference with natural drainage, while also preventing the introduction and spread of noxious weeds, soil diseases and feral animals. Any removal of vegetation or creation of access routes will be done in accordance with M33 Guidelines (Statement of Environmental Guidelines for Mineral Exploration in South Australia).

Existing Tracks:

-Proposed drilling and primary access to drill sites will be largely carried out on existing tracks. If rehabilitation is required, tracks will be restored to at least their prior condition on completion of the proposed work.

-Employees will be briefed on traveling along existing tracks covered within AR3's site induction.

New Tracks:
-New tracks will be kept to a minimum, currently estimated at 5-10 km of potential new track creation.

-Tracks will be sited to minimise vegetation impacts, and disturbance by machinery to both vegetation and soils will be only sufficient to obtain access/egress.

-New tracks will be installed and rehabilitated in accordance with M33 guidelines.

Drill sites – General Information:

-To facilitate minimum disturbance and best rehabilitation, drill collars will be moved to accommodate site conditions (e.g. avoiding trees, drainage lines etc. will be considered at all sites).

-Prior to the commencement of work, multiple photos and a baseline radiation survey will be recorded over the proposed drill site.

-Photos and radiation survey details will be geographically referenced, and time stamped using field tablets and saved to AR3's cloud-based database.

-On completion of drilling and initial rehabilitation a wooden peg marked with the drill hole number and depth is placed at the drill collar and a second series of photos and radiation survey taken as a record.

-The initial drill hole rehabilitation will occur immediately after drilling has completed and before moving to the next drill site.

Rehabilitation will commence immediately after the drill hole is completed and final rehabilitation once the sumps have dried out, which is expected to take 2-4 days depending on moisture content of the cuttings and local weather conditions and no longer than 4 weeks upon completion of the drill hole (or prior to forecast of weather indicating inundation could be possible/likely, whichever is sooner).

On completion of drilling and subsequent downhole logging all machinery and equipment will be removed and excess samples removed from the site. If plastic UV bags are used, then the sample material will be emptied into the sump and the UV sample bag removed from site.

Once the initial rehabilitation has been completed a site survey for radiation will be conducted and recorded digitally with field tablets.

laydown areas:

AR3, with prior consultation and approval from landholders, will utilise preexisting sites already established as laydown areas for the station activities therefore no new disturbance areas will be created for laydown areas.

Photographs showing before and after the laydown area was used will be captured.

Photos will be geographically referenced, and time stamped using field tablets and saved to AR3's cloud-based database.

Baseline radiation survey before, and second radiation survey after the laydown has been rehabilitated will be captured with field tablets.

The laydown areas will be rehabilitated once work is completed and will include removal of all consumables and equipment from the laydown area.

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

The cost to rehabilitate 80 drill holes is estimated at $34,400. This is based on 4 weeks' time for two field technicians, machine time, and associated costs.

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.

—

System

Tenement Name ↑	Tenement Holder	Tenement Operators	Grant Date	Expiry Date	Tenement Type	Location Description	Tenement Area	Tenement Status	Shape Identifier
EL 7079	Valrico Resources Pty Ltd		05/11/2025	04/11/2031	Exploration Licence	Fisher area, approximately 50 km east of Nuriootpa	974.00	Active	

Management of Environmental Impacts

Applicable environmental aspects and potential impacts

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
Stakeholders	Stakeholders	Interference to: • existing or permissible land use (includes loss of income, noise, dust, light and other emissions). • buildings, structures, existing tracks or other infrastructure. • aesthetic values of an area. Noncompliance with legislative requirements.	Control strategies will include: • Commencing early and regular consultation with Landholders, relevant Native Title parties all other relevant stakeholders via phone, email and/or face-to-face meetings to discuss scope of planned programs and ascertain any concerns or issues. • Ongoing communication with Landholders and relevant stakeholders regarding program progress to continue to ensure all parties remain well informed and a good working relationship is built and maintained, and any issues that may arise are dealt with in a timely manner. • Community Engagement Plan for exploration in place outlining complaints and grievance resolution procedures and timeframes. • Confirm no underground utilities, pipelines, or fibre cables within proposed access tracks prior to mobilisation; flag and avoid any unmapped farm services. Field Crews will hold daily prestart meetings and weekly toolbox		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
			meetings to allow for communication of any issues raised during the program. Regular meetings will allow for any issues raised to have corrective measures implemented and be resolved in a timely manner. • The Exploration Manager and Manager of Community and Land will both be available points of contact for resolution of any issues. Contact details for both will be provided to landholders/stakeholders during community engagement meetings. • Vehicle speed limits will be imposed to reflect local road conditions and the proximity to any infrastructure or livestock. • Travel to and from exploration sites will be kept to the minimum required. • Enforce speed limits, supply maps and tablets with GPS land access tracks to all employees and contractors. • Limit movement of heavy vehicles as much as practically possible, coordinate vehicle use to minimise track disturbance. • A buffer zone of 150m around sheds/dams and 400m around houses will be			

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
			implemented unless waivers are obtained. • All proposed activities contained to the Perpetual Leases and Freehold areas where Native Title has been extinguished within the EPEPR Boundary, these areas are identified in the attached Tenement Map Fig 2.			

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
Aboriginal heritage	Aboriginal heritage sites	Disturbance to Aboriginal heritage	• All authorised activities in this EPEPR will be contained to the Perpetual Leases and Freehold areas where Native Title has been extinguished within the EPEPR Boundary. See Tenement Map Fig 2. • No Aboriginal artefacts or sites of significance have been identified in the area proposed for exploration at this stage. • All personnel will be inducted in requirements of the Cultural Heritage Procedure in relation to the discovery of suspected anthropological material, during a toolbox/induction session with photographs of what they may look like, and the importance of following the Cultural Heritage procedures of not disturbing such sites and notifying their supervisor. • If any artefacts/sites are discovered during the program, work will be halted and the discovery reported. • If buried bones are discovered during excavation, all site works will cease and SAPOL will be notified – in line with AR3's Discovery of Suspected Archaeological	Low	No disturbance to Aboriginal artefacts or sites of significance unless prior approval under the relevant legislation is obtained.	Maintain a database and provide a statement within the 'Compliance with approved programs' section of the annual exploration compliance report demonstrating that: • Heritage sites were not impacted during the conduct of the exploration program, unless prior approval was obtained under the appropriate legislation • Work ceased on discovery of a significant site and recommenced only after authorisation. • Aboriginal heritage sites identified during the exploration program were appropriately recorded and reported to authorities, if not previously known.

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk Outcomes	Outcome Measurement Criteria
			Material Protocol document.		

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
General Public	General Public	Injury or death to members of the public as a result of exploration activities.	• Ensure work areas are clearly sign posted • Landowner to be informed of activities and relevant safety measures. • Ensure speed limits are adhered to. • It is noted that exploration will take place in a relatively remote region, public interaction would be rare outside of informed landholders. • Only inducted personnel who have direct need to be in the work area of drilling rigs or other heavy equipment will be permitted in close proximity to the operations. • Drill crew members will be notified to keep an eye out for any approaching members of the public. • Any visitors to the drilling operations who have not been inducted will be required to be accompanied by a fully inducted staff member. • Warning signs, highlighting the hazards of drilling operations will be erected around the drill site. • Where practical the start of new access tracks coming off existing tracks will be doglegged and blocked at the entrance to reduce visibility and prevent third party access. • Open	Moderate	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
			excavations (drill sumps) will be designed as follows; • Installation of safety barriers or fencing to prevent unauthorised access and protect workers from falls • A safe means of entry and exit such as a ramped entry/exit • Will be regularly inspected and monitored to maintain safety			
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).	• All drillholes are anticipated to be grouted immediately after the hole is completed as the grouting process requires that the hole is cemented progressively as the drill rods are pulled. • Grouting will ensure aquifers remain isolated and will be abandoned in accordance with Earth Resources Information Sheet M21 guidelines. • Ensure drilling operations keep clear of existing water bores by utilising AR3's GIS portal which will map exclusion zones of 150m around existing water bores. • No large quantities of fuels or chemicals to be stored on site.	Moderate	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
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.	• Vehicle hygiene in accordance with AR3 Biosecurity Procedure before entering and exiting site • Ensure vehicles are clean & free of weeds prior to entering site. • Vehicles are washed before entering new sites where the risks warrant it (i.e. between exploration areas of different weed profiles; or where surveys indicate potential risk; or if there are specific landholder concerns). • Vehicles hygiene logs will demonstrate that all vehicles are clean and free of plant and mud material before entering properties associated with exploration activity. • Vehicle inspection logs will contain photos of vehicles and uploaded to AR3's cloud-based GIS portal. • Photos before and after of all drill pads will document landscape before and after work programs. • Personnel will be inducted in weed species identification and procedures in relation to management of weeds. • Any weeds identified will be discussed with the landholder and dealt with in	Low	No introduction of new species of weeds and plant pathogens, nor increase in abundance of existing weeds species.	Provide a statement within the 'Compliance with approved programs' section of the annual exploration compliance report, confirming that: • Vehicle logs were kept during the exploration program, demonstrating that all vehicles are clean and free of plant and mud material prior to entering properties† within the tenement areas, unless otherwise agreed to with the relevant landowners. • Photographic evidence before and during exploration operations and after rehabilitation of disturbed sites was captured, demonstrating that no new weeds and plant pathogens were introduced, nor an increase in abundance of existing weeds recorded.

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
			consultation with the Landholders.. • Any declared weeds identified will be recorded and reported to PIRSA • Inspect access routes for African Boxthorn (Lycium ferocissimum) and Buffel Grass (Cenchrus ciliaris); report to landholder and Landscape SA if detected.			
Groundwater	Soil/vegetation/fauna	Discharge of groundwater into the surrounding environment.	• Typically, one sump is adequate for Air core drilling However, provision is made in drill pad design/footprint for a second sump to be constructed if required. This may be required to contain any groundwater discharge. • A loader and operator will be available on the drill site at all times during drilling to widen sumps as required • If required, drilling operations will cease to ensure no groundwater discharges beyond the drill pad. • All employees with be informed of importance to contain ground water as part of the induction.		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
Groundwater users	Groundwater users	Interference to existing water users when extracting water from existing dams, water bores or mineral drillholes.	• Maintain appropriate consultation with Landowner on the use of existing water sources. • Relevant landholders will be consulted prior to sourcing any water from dams and bores located within the property with subsequent sources only to be used with the landholder's authority. • Ensure drilling operations keep clear of existing water bores and dams. • Water requirements will be sourced from approved external sources, such as the purchase of water from council standpipes and water supply companies	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
Contamination	Soil/vegetation/fauna	Soil/vegetation contamination (e.g. hydrocarbons, rubbish, drill samples/cuttings, ablutions, other sources)	• Pre-start checks (safety and environment) will be undertaken on equipment to identify any leaks. • Spill kits kept at drill rig & in exploration vehicles. • Fuel storage units appropriately bunded (as per EPA 080/07 guidelines). • All spills immediately cleaned up & all contaminated soil is removed off site and disposed of at a registered waste management facility. • Bulka bags used to contain rubbish and removed as required to an appropriate waste transfer area or disposed of at a licensed facility. • Excess drill cuttings replaced down hole or buried in adjacent mud pits and covered by at least 1m of compacted soil. • Sumps to be bunded / raised walls, adequate freeboard maintained in all drill sumps and no release of water from sumps • Rehabilitation will commence immediately after the drillhole is completed and final rehabilitation once the sumps have dried out, which is expected to take 2-4 days depending on moisture content of	Low	No contamination of soil and vegetation as a result of exploration activities.	Demonstrate that all domestic or industrial waste (includes general rubbish and hydrocarbons) is disposed of in accordance with the Environment Protection Act 1993 within 3 months of the expiry of the PEPR approval (for PEPRs approved for a period of 12 months), or 3 months after the expiry of a program notification (for PEPRs approved for an ongoing period), and that all fuel and chemicals are stored in accordance with EPA requirements, by providing: • The name, location and contact details of the authorised waste disposal facility. • A statement within the ‘Compliance with approved programs’ section of the annual exploration compliance report confirming domestic and industrial waste was removed from all exploration sites and disposed of at an authorised waste disposal facility. • Photographic evidence within the annual exploration compliance report demonstrating that all fuel and chemical storage facilities were managed in accordance with EPA requirements. Maintain photographs of all exploration sites and provide representative photos within the annual exploration compliance report demonstrating that drill cuttings are: • removed from site and disposed of at a licensed facility • buried under a minimum of 30 cm of soil, or in accordance with EPA guideline, Radiation protection guidelines on mining in South Australia: mineral exploration, available on the EPA website, or • backfilled down the drillhole, within 3 months of the expiry of the PEPR approval (for PEPRs approved for a period of 12 months), or 3 months after the expiry of a program notification (for PEPRs approved for an ongoing period), unless otherwise authorised. Provide the information requested within

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk Outcomes	Outcome Measurement Criteria
			the cuttings and local weather conditions and no longer than 4 weeks upon completion of the drillhole (or prior to forecast of weather indicating inundation could be possible/likely, whichever is sooner). • Sediment traps/silt fencing to be utilised downslope of all drillsites which occur on sloped areas • Regional radiation baseline measurements established prior to program commencing. • Radiation monitoring of each drill site before site preparation, during drilling and following rehabilitation. • Photos before and after of all drill pads to document landscape before and after. • Portable toilets used; • waste disposed at licensed facility; • no greywater discharge to ground		the 'Rehabilitation' section of 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.	• Contact list on site at all times • listing Emergency Contact phone numbers. • Hot work prohibited on days rated Extreme or Catastrophic under the Australian Fire Danger Rating System (AFDRS). • Daily CFS checks and on-site firefighting unit required for the day will be reviewed each morning at prestart • The storage of flammable material will be undertaken in accordance with Australian standards and EPA Guidelines. • Portable fire extinguishers to be located at drilling site, and within vehicles. • A fire suppression unit or adequate fire extinguishers will be fitted to large plant such as the drill rig.	Moderate	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.
Other	N/A	N/A	N/A	Low	N/A	N/A

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk	Outcomes	Outcome Measurement Criteria
Soil	Soil	Disturbance to the soil profile and topography, and accelerated soil erosion caused by exploration activities (e.g. construction of sumps, new tracks and drill pads; ground compaction at laydown areas and camps).	• Disturbance to the soil profile is minimised/managed in the following ways: • Driving in the field restricted to existing and temporary access tracks and drill pads. • Suspend ground-disturbing activities during heavy rainfall or strong wind events; resume only when surfaces have dried to prevent compaction or erosion • Areas of likely compaction (i.e access tracks, drill pads and camp site) are scarified following program completion. • Topsoil/vegetation is stockpiled separately during site preparation activities & re-spread following rehabilitation to promote regrowth. • Where possible, access tracks are planned to follow topographic contours rather that cut across them, in order to prevent potential channelling and scour erosion in the event of heavy rainfall. • Drillholes are sited on flattest ground possible, to avoid wheel ruts and erosion. • Boggy ground will be avoided to avoid wheel ruts and bogging. • Complete any rehabilitation required of existing tracks as per MG	Moderate	Where soil disturbance occurs as a result of exploration activities, ensure that: • topsoil quality and quantity is maintained • the soil profile and topography is reinstated to original conditions • there is no accelerated soil erosion.	Maintain before, during and after photographic evidence of all excavations, drillsites, camps, laydown areas and new tracks demonstrating that: • The soil profile and topography is reinstated to original conditions and is consistent with natural surroundings within 3 months of the expiry of the PEPR approval (for PEPRs approved for a period of 12 months), or 3 months after the expiry of a program notification (for PEPRs approved for an ongoing period), unless otherwise authorised. • Where required, sufficient topsoil is removed (depending on soil profile), stored separately from subsoil and reinstated (in the correct order) within 3 months of the expiry of the PEPR approval (for PEPRs approved for a period of 12 months), or 3 months after the expiry of a program notification (for PEPRs approved for an ongoing period), unless otherwise authorised. • There are no signs of accelerated soil erosion during and post rehabilitation of disturbed sites. Representative photos to be included within the annual exploration compliance report. Provide the information requested within the ‘Rehabilitation’ section of the annual exploration compliance report.

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk Outcomes	Outcome Measurement Criteria
			33 Guidelines upon completion of drilling • Any removal of vegetation or creation of access routes will be done in accordance with M33 Guidelines (Statement of Environmental Guidelines for Mineral Exploration in South Australia)		

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/modificatio n of native vegetation and associated habitats through the clearance of vegetation.	•All staff will undergo a site induction outlining appropriate work practices, drill pad clearing procedure, and note sensitive flora and fauna in the EPEPR area to be avoided. • Always use existing tracks where possible. • If new tracks are required, they will be sited to avoid vegetation removal as much as possible and will pass around larger trees. • Access tracks/drill sites planned in a manner that avoids significant vegetation. • No significant vegetation (e.g. trees & large shrubs) cleared during program. • Regular toolbox meetings with all AR3 staff and contractors communicating key EPEPR requirements and any potential/identified site issues. • Drill sites will only be cleared if necessary and pads will not exceed dimensions specified for the applicable drilling technique in the “drill site preparation” section of this EPEPR. • Progressive rehabilitation works will restore land to a stable condition that will facilitate	Low	No permanent loss/modifi cation of native flora and fauna populations and their habitats through: • clearance • fire • other unless prior approval under the relevant legislation is obtained.	Maintain before, during and after photographic evidence of all exploration sites (e.g. drillsites, new track exit/entry points off existing tracks, costeans, campsites) demonstrating that: • The area and method of disturbance is consistent with that described in the PEPR. • No uncontrolled fires* occurred as a result of exploration activities. Representative photos to be included within the annual exploration compliance report.

Environmental Aspect	Receptor	Potential Impact	Control Strategies	Risk Outcomes	Outcome Measurement Criteria
			land use consistent with that established prior to implementing the exploration program of work. Remediation works will promote natural regeneration of vegetation. • To prevent drill pads from being made larger than authorised, traffic cones will be used to mark the corners of the drill pad during pad construction and maintained during drilling. Authorised pad size dimensions will be covered in the company's induction to inform all workers of the requirement.		

Supporting Information

Photos

Upload Photos

Expand/Collapse

File Name	File Size (Mb)	Created On	Download
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Kunde_347050mE_6177460mN_Look_E.jpg	5.32 Mb	15-01-2026 10:32:09	Download (MERS/EP-04013/Supporting information/Photos/Kunde_347050mE_6177460mN_Look_E_2026-01-15T00-02-08.561Z.jpg)
Seidel_D_343450mE_6174730mN_look_S.jpg	3.36 Mb	15-01-2026 10:31:57	Download (MERS/EP-04013/Supporting information/Photos/Seidel_D_343450mE_6174730mN_look_S_2026-01-15T00-01-56.683Z.jpg)

Site identification	Date taken	Photo number & PEPR section reference	Easting (GDA94)	Northing (DGA94)	Zone	Details and comments	Document ID
Typical agricultural paddock used for drilling	01/10/2025		343450	6174730	54		Seidel_D_343450mE_6174730mN_look_S
Typical agricultural paddock used for drilling	01/10/2025		351390	6177500	54		Kruger_W_351390mE_6177500mN_look_W
Typical agricultural paddock used for drilling			351390	6177500	54		Kunde_347050mE_6177460mN_Look_E

Supporting Maps

Upload Maps

Expand/Collapse

File Name	File Size (Mb)	Created On	Download
Addendum to Australian Rare Earths RMP V4_Sedan.pdf	0.91 Mb	29-01-2026 13:28:39	Download (MERS/EP-04013/Supporting information/Maps/Addendum to Australian Rare Earths RMP V4_Sedan_2026-01-29T02-58-41.009Z.pdf)
Apendix 1 - RMP endorsement letter.pdf	0.1 Mb	22-01-2026 16:23:41	Download (MERS/EP-04013/Supporting information/Maps/Apendix 1 - RMP endorsement letter_2026-01-22T05-53-43.342Z.pdf)

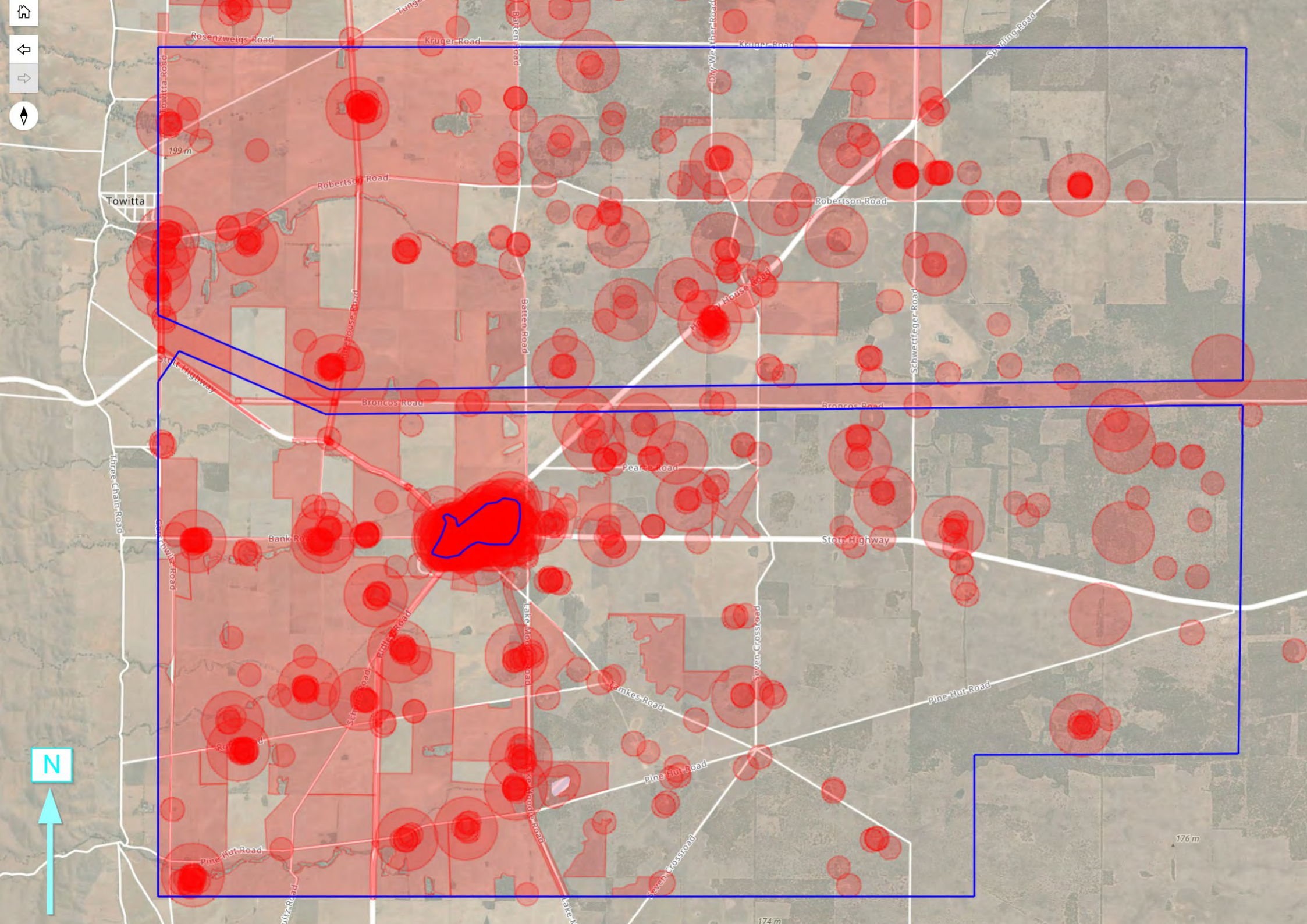
File Name	File Size (Mb)	Created On	Download
RMP ARE Final 28_June_2024_V2.pdf	3.01 Mb	22-01-2026 16:23:41	Download (MERS/EP-04013/Supporting information/Maps/RMP ARE Final 28_June_2024_V2_2026-01-22T05-53-43.336Z.pdf)
Sedan_EPEPR_Project Location.png	10.4 Mb	15-01-2026 10:34:25	Download (MERS/EP-04013/Supporting information/Maps/Sedan_EPEPR_Project Location_2026-01-15T00-04-24.185Z.png)

Figure Description	Document ID
Project location map	Sedan_EPEPR_Project Location

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.

RMP and endorsement letter has been uploaded to the map section of this application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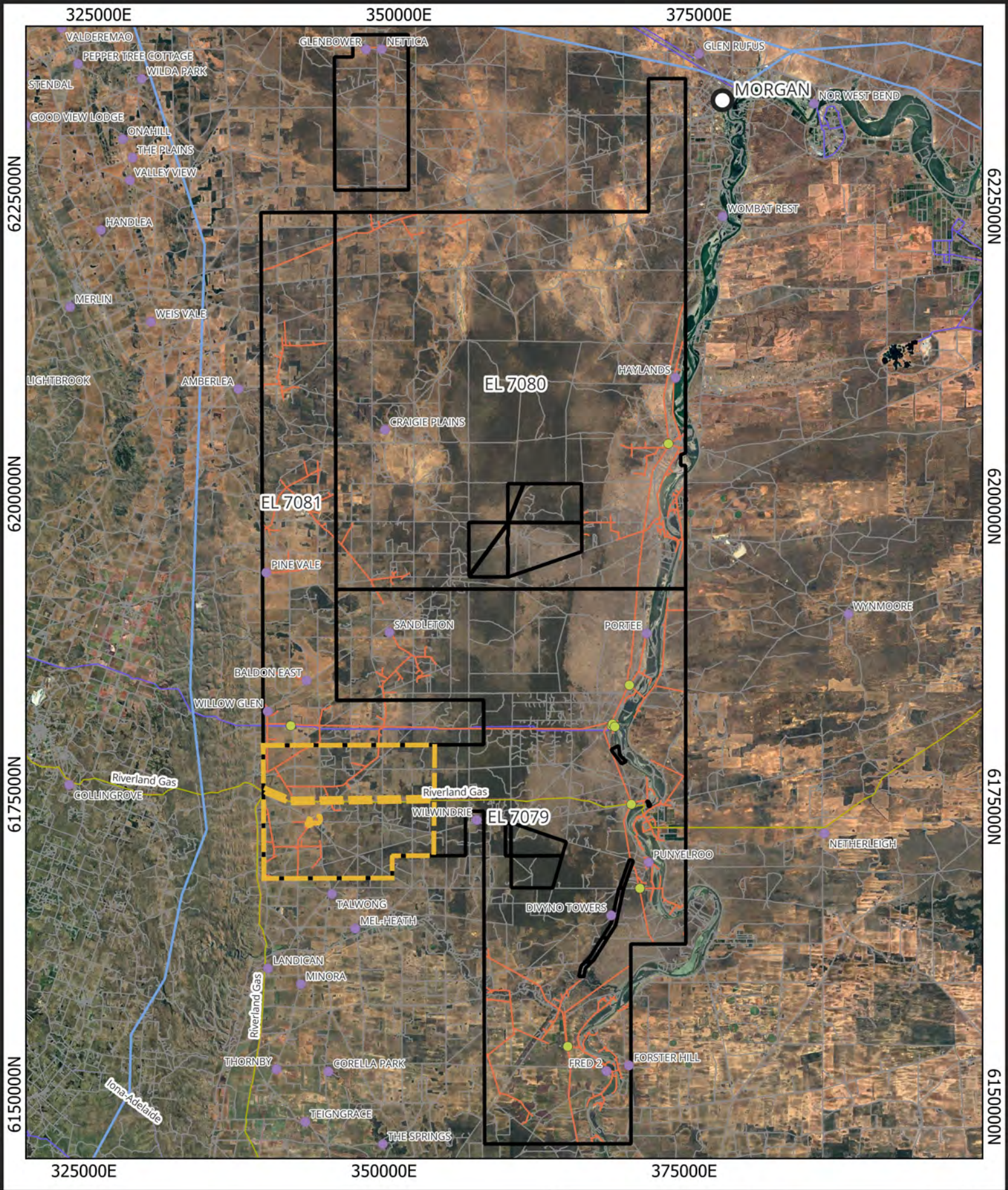


Legend

- Exploration Licence
- Sedan EPEPR boundary
- Towns
- Roads
- Electricity Transmission Lines
- Gas pipelines
- Water pipelines
- SAPN Substations
- SAPN SubTransmission
- homesteads

Sedan Project: Utilities and Infrastructure

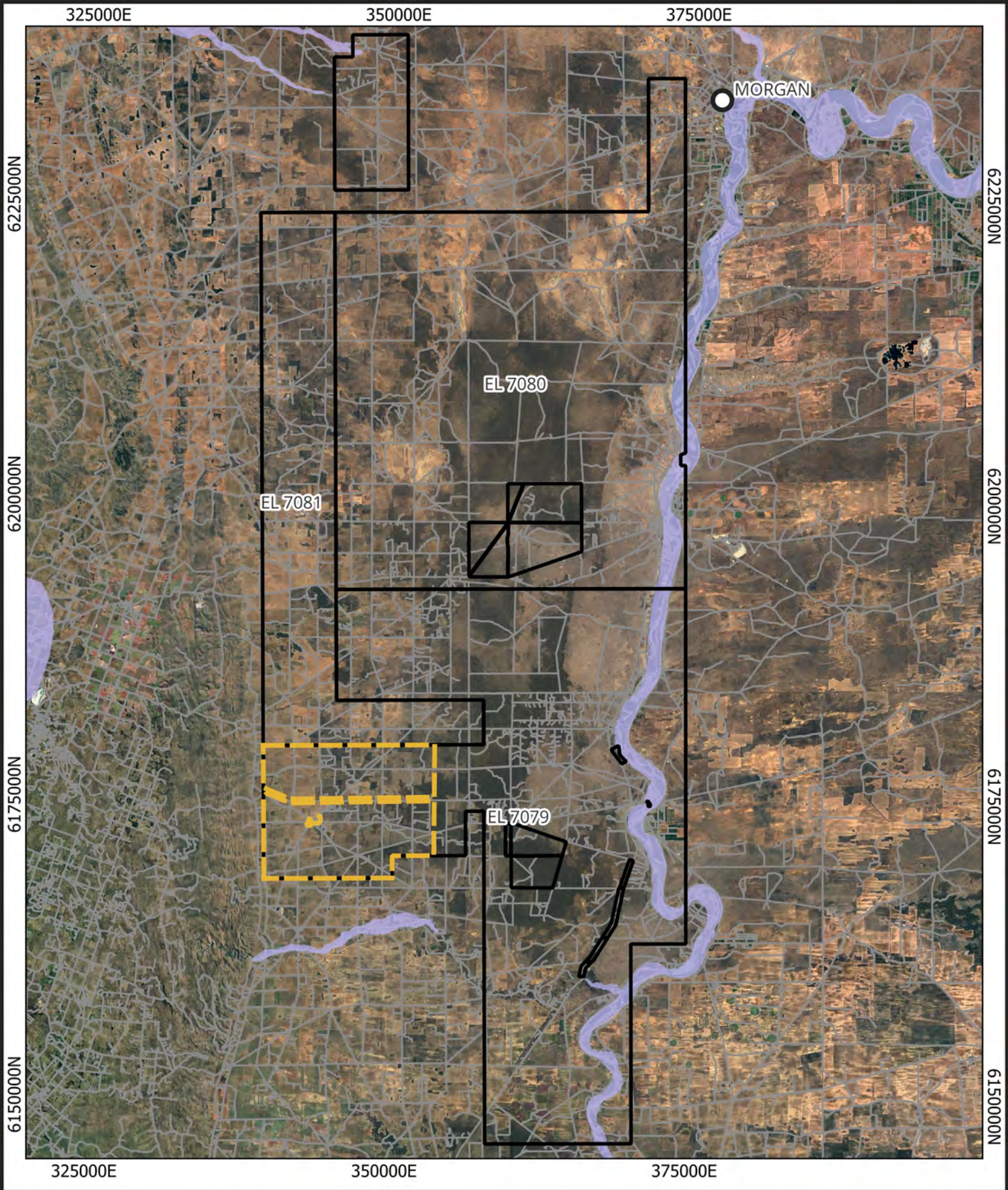
Scale 1:400000
GDA 2020

0 5 10 km

Author: AF

Date: 19/12/2025

AUSTRALIAN RARE EARTHS
Metals for our future



Legend

- Exploration Licence
- Sedan EPEPR
- Towns
- Roads
- Alluvial landforms

Sedan Project: Alluvial Landforms

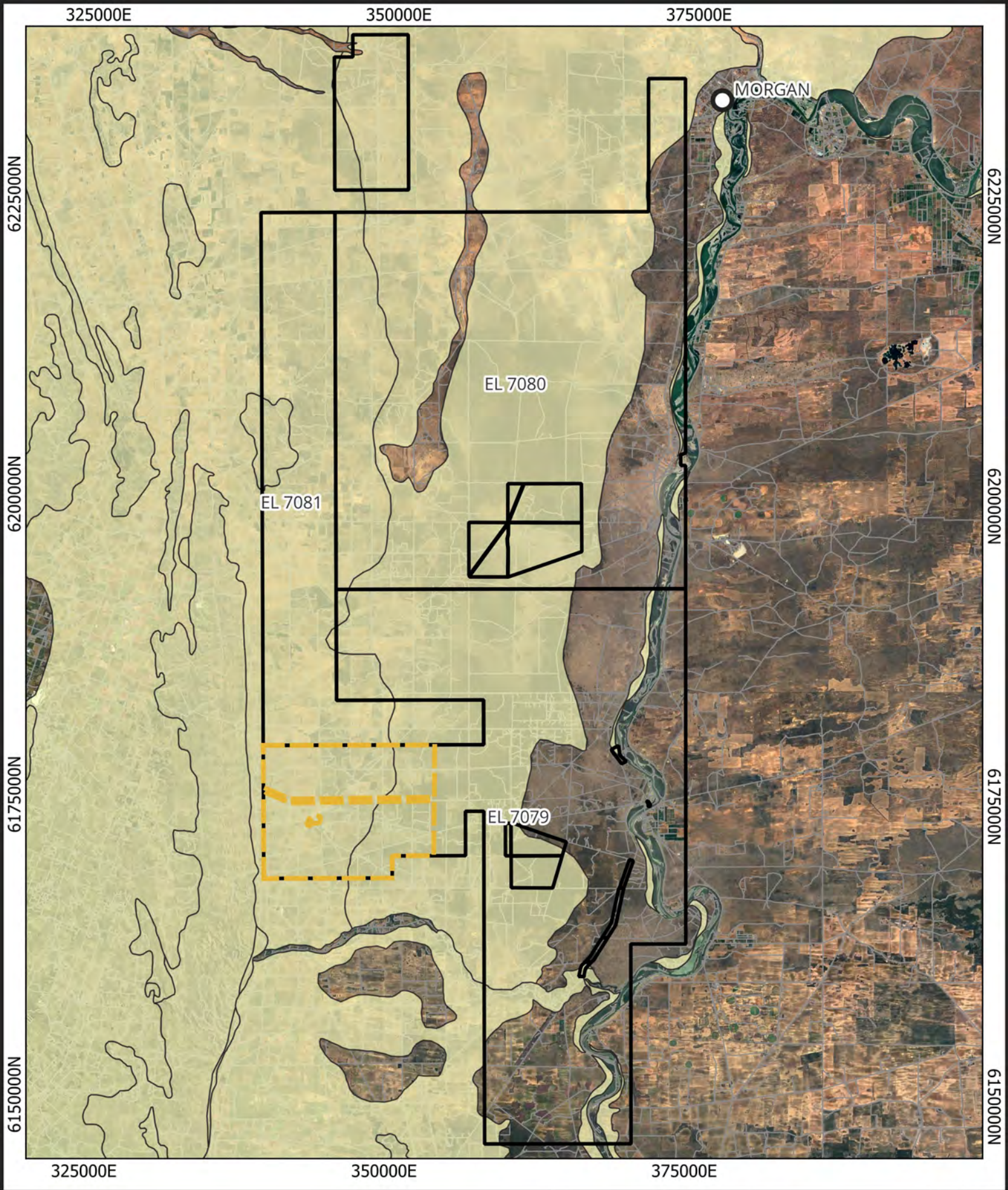
Scale 1:400000
GDA 2020

0 5 10 km

Author: AF

Date: 19/12/2025

AUSTRALIAN RARE EARTHS
Metals for our future



Legend

- Exploration Licence
- Sedan EPEPR boundary
- Towns
- Roads
- Erosional landforms

Sedan Project: Erosional landforms

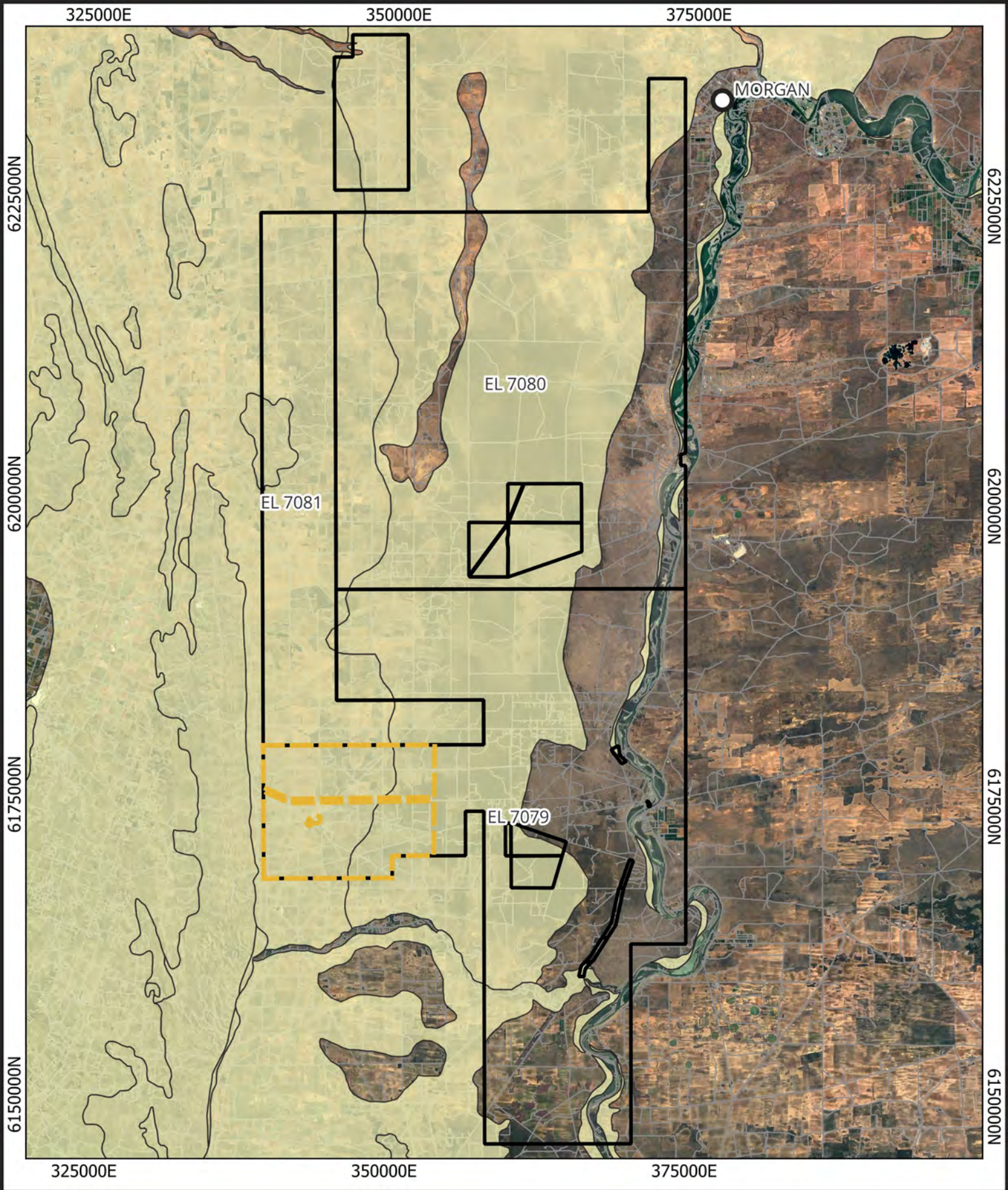
Scale 1:400000
GDA 2020

0 5 10 km

Author: AF

Date: 19/12/2025

AUSTRALIAN RARE EARTHS
Metals for our future



Legend

- Exploration Licence
- Sedan EPEPR boundary
- Towns
- Roads
- Erosional landforms

Sedan Project: Erosional landforms

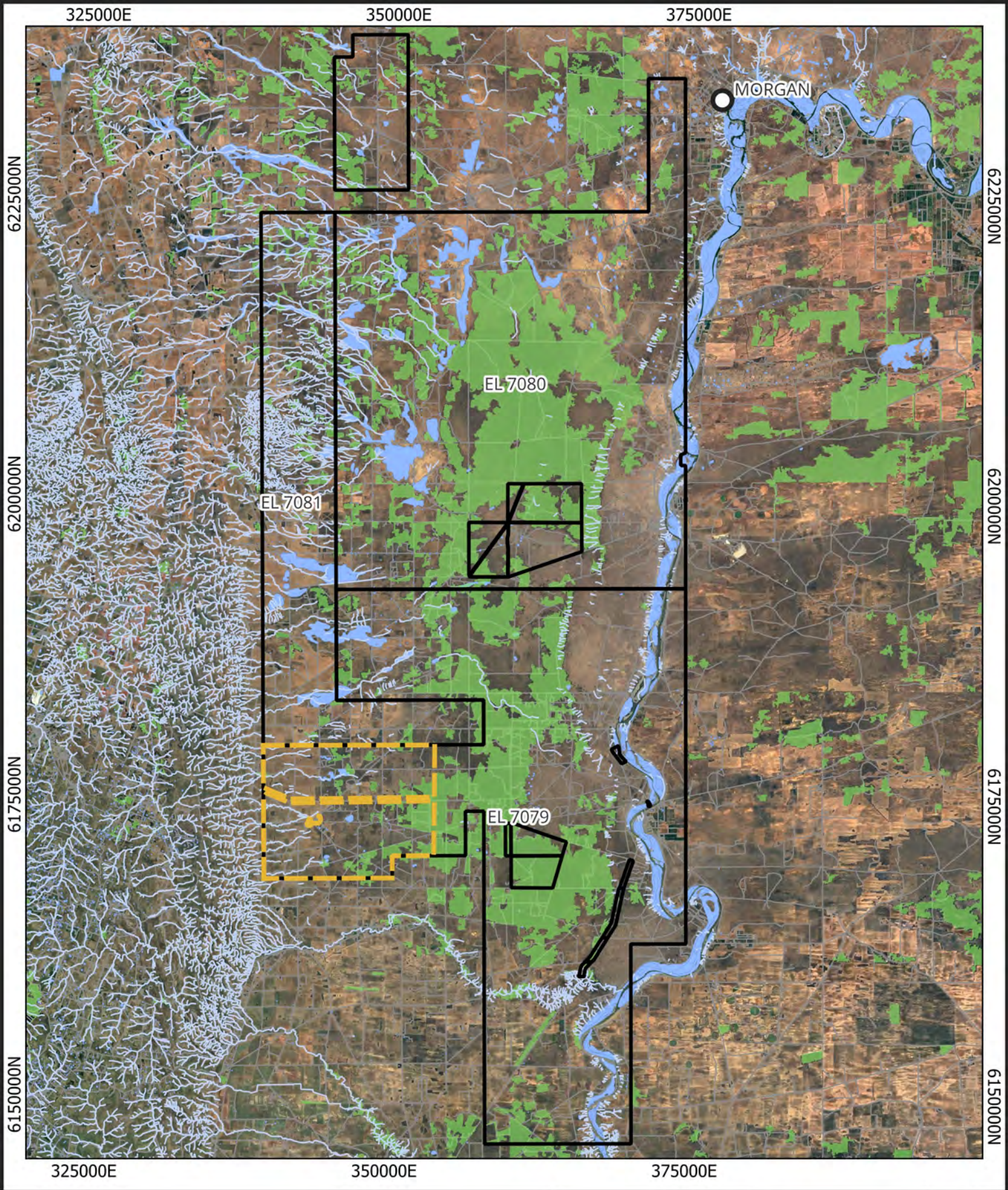
Scale 1:400000
GDA 2020

0 5 10 km

Author: AF

Date: 19/12/2025

AUSTRALIAN RARE EARTHS
Metals for our future



Legend

- Exploration Licence
- Sedan EPEPR boundary
- Towns
- Roads
- Waterbodies
- Native Vegetation
- Watercourses

Sedan Project: Surface Water Features & Native vegetation

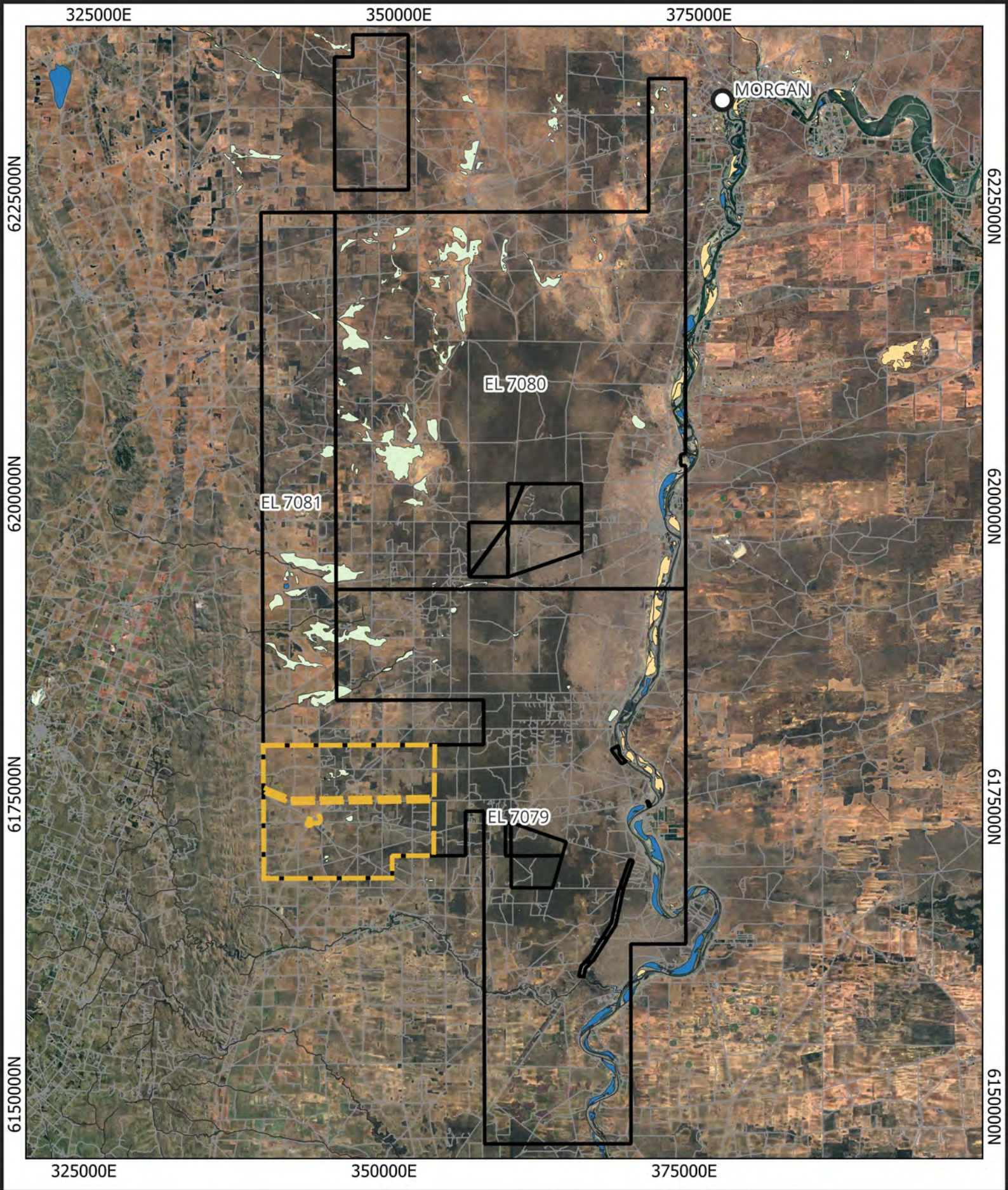
Scale 1:400000
GDA 2020

0 5 10 km

Author: AF

Date: 19/12/2025

AUSTRALIAN RARE EARTHS
Metals for our future



Legend

- Exploration Licence
- Sedan EPEPR boundary
- Towns
- Roads

Aquatic Groundwater Dependent Ecosystems

- High potential GDE - from national assessment
- Known GDE - from regional studies
- Low potential GDE - from national assessment
- Moderate potential GDE - from national assessment
- Unclassified potential GDE - from regional studies

Sedan Project: Aquatic Groundwater Dependent Ecosystems

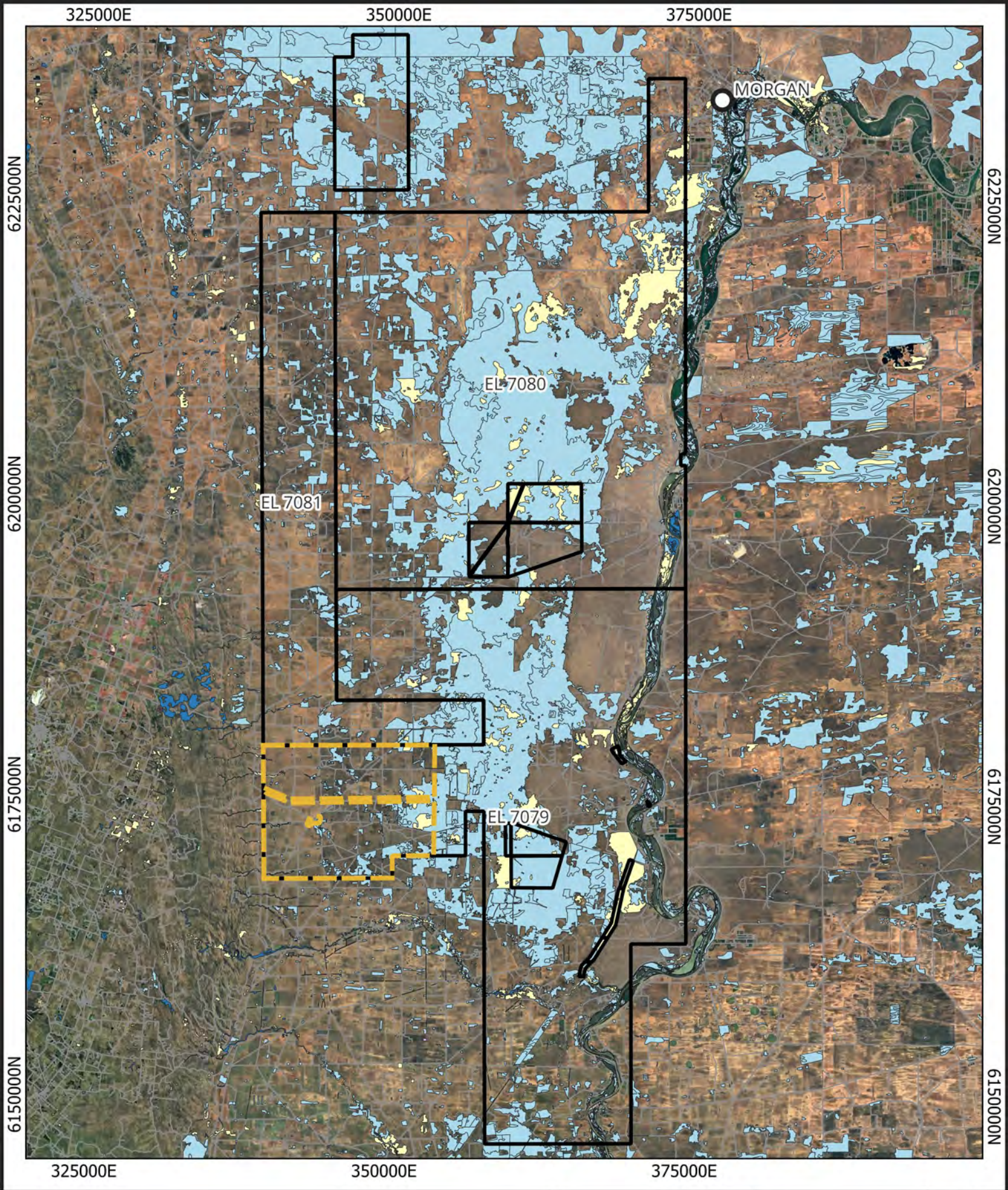
Author: AF

Date: 19/12/2025

Scale 1:400000
GDA 2020

0 5 10 km

AUSTRALIAN RARE EARTHS
Metals for our future



Legend

- Exploration Licence
- Sedan EPEPR boundary
- Towns
- Roads

Terrestrial Groundwater Dependent Ecosystems

- High potential GDE - national assessment
- Low potential GDE - national assessment
- Moderate potential GDE - national assessment
- Unclassified potential GDE - national assessment

Sedan Project: Terrestrial Groundwater Dependent Ecosystems

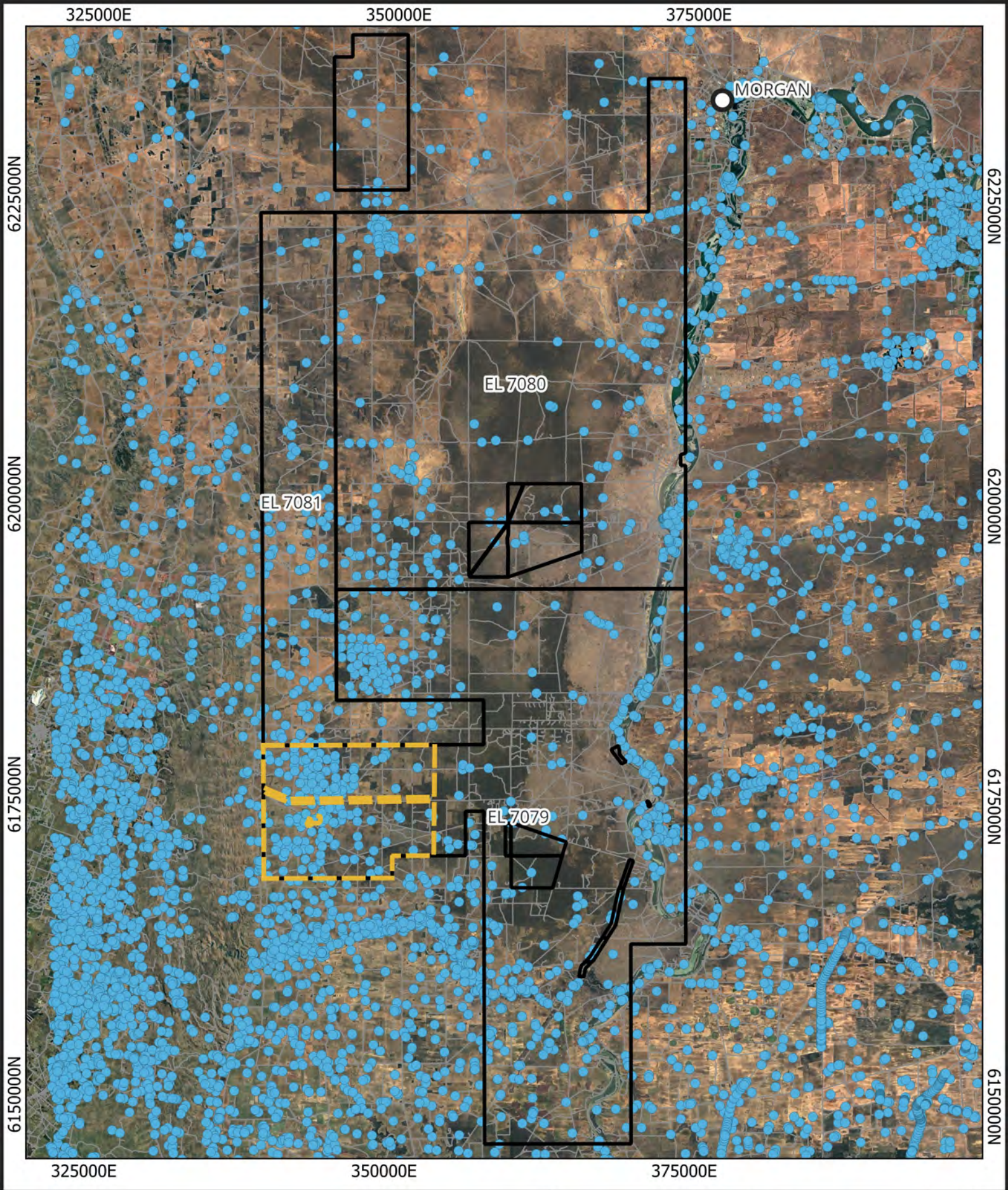
Scale 1:400000
GDA 2020

0 5 10 km

Author: AF

Date: 19/12/2025

AUSTRALIAN RARE EARTHS
Metals for our future



Legend

- Exploration Licence
- Sedan EPEPR boundary
- Towns
- Roads
- Sedan Waterwells

Sedan Project:
Waterwells

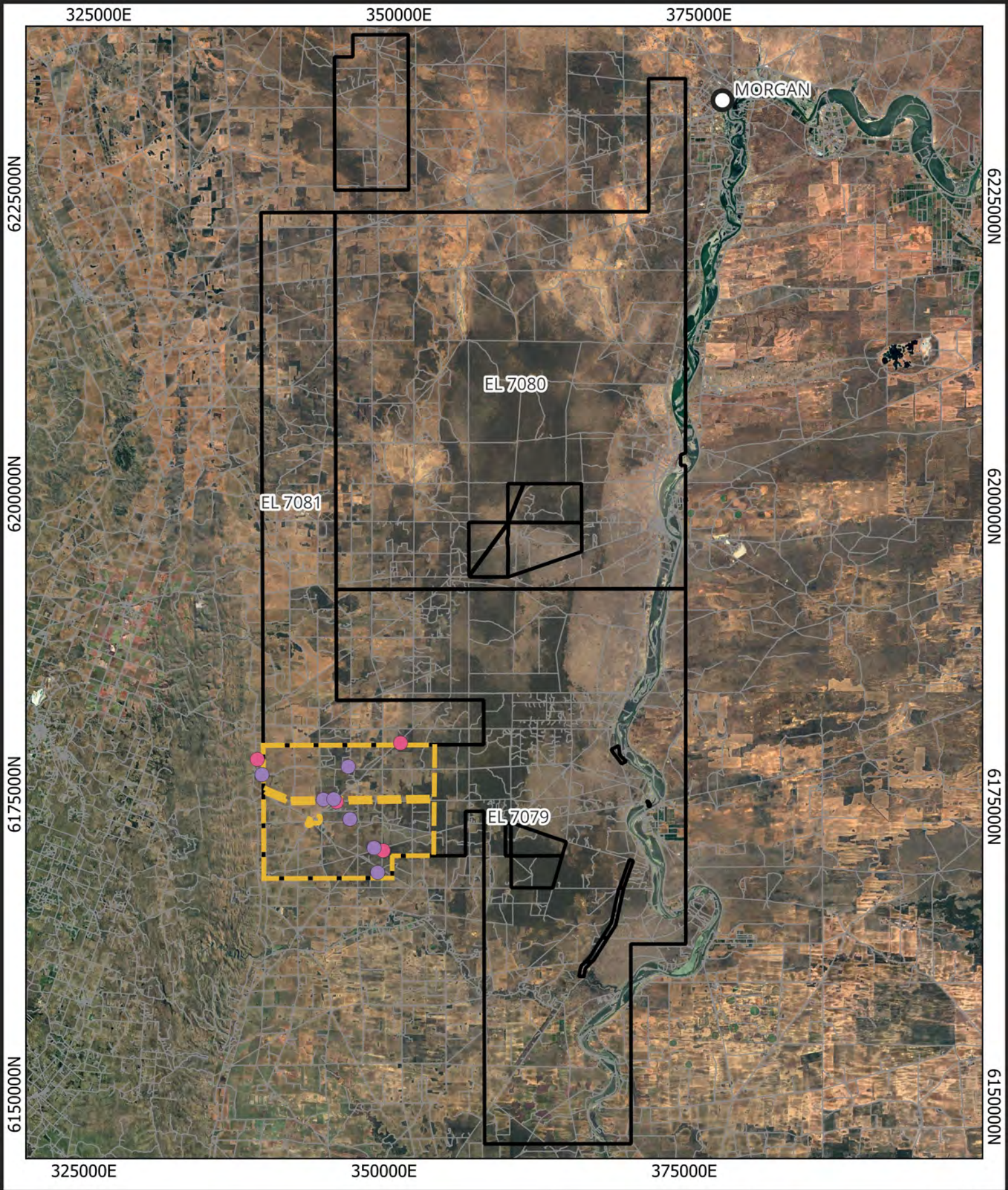
Scale 1:400000
GDA 2020

0 5 10 km

Author: AF

Date: 19/12/2025

AUSTRALIAN RARE EARTHS
Metals for our future



Legend

- Exploration Licence
- Sedan EPEPR boundary
- Towns
- Roads
- Flora
- Fauna

Sedan Project: Flora and Fauna

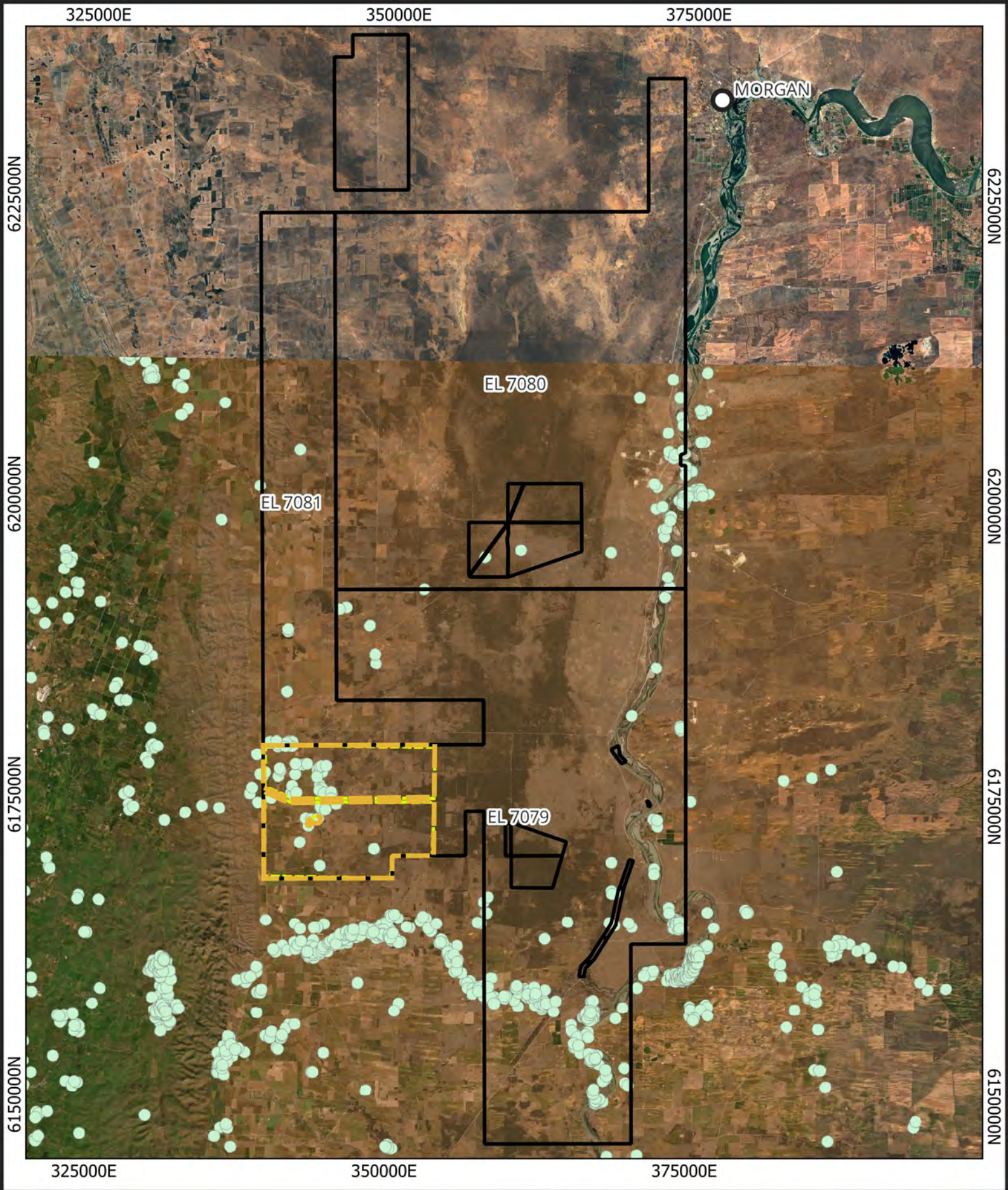
Scale 1:400000
GDA 2020

0 5 10 km

Author: AF

Date: 12/01/2025

AUSTRALIAN RARE EARTHS
Metals for our future



Legend

- Exploration Licence
- Sedan EPEPR boundary
- Towns
- Weeds of National Significance

Sedan Project: Weeds of National Significance

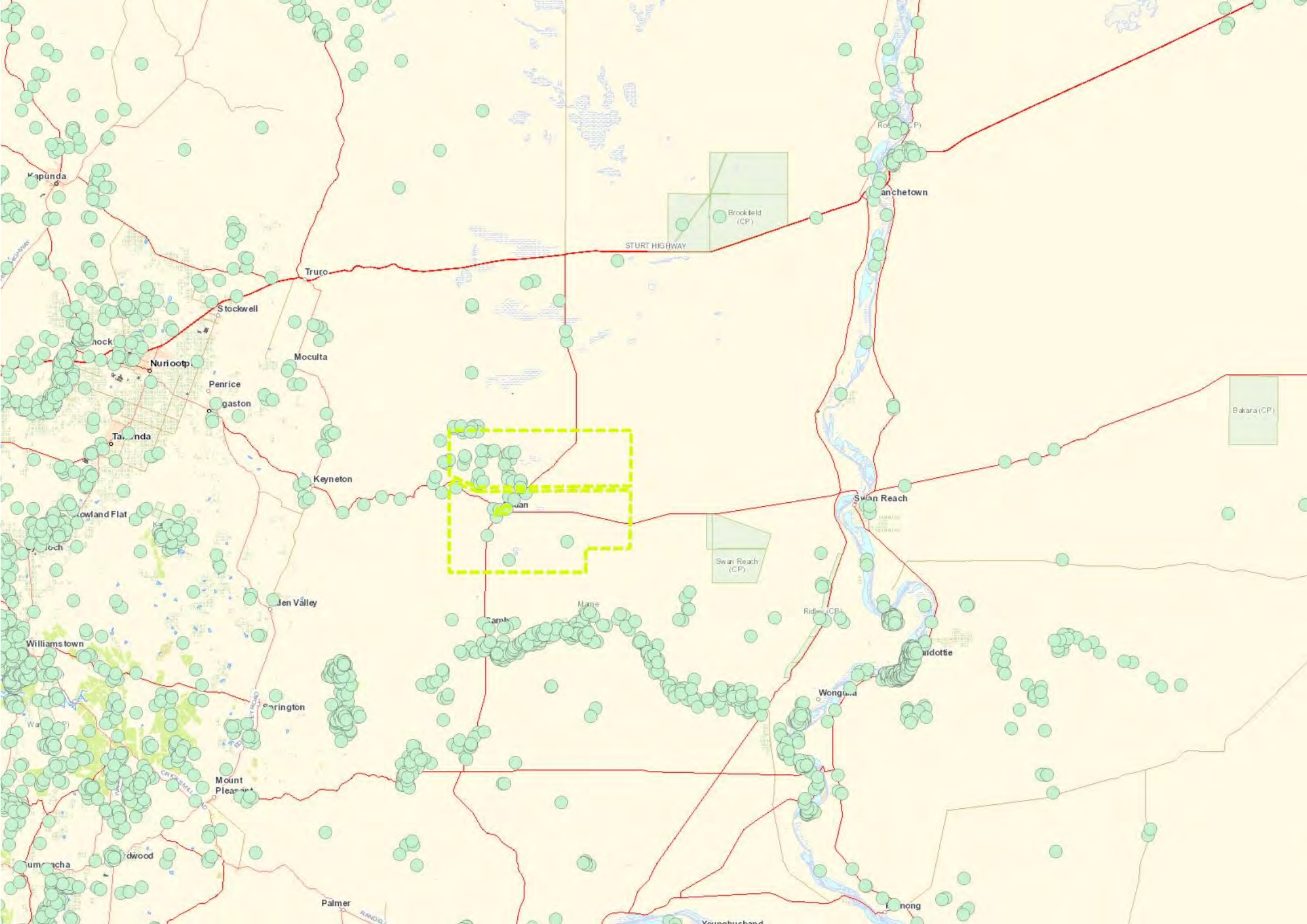
Scale 1:400000
GDA 2020

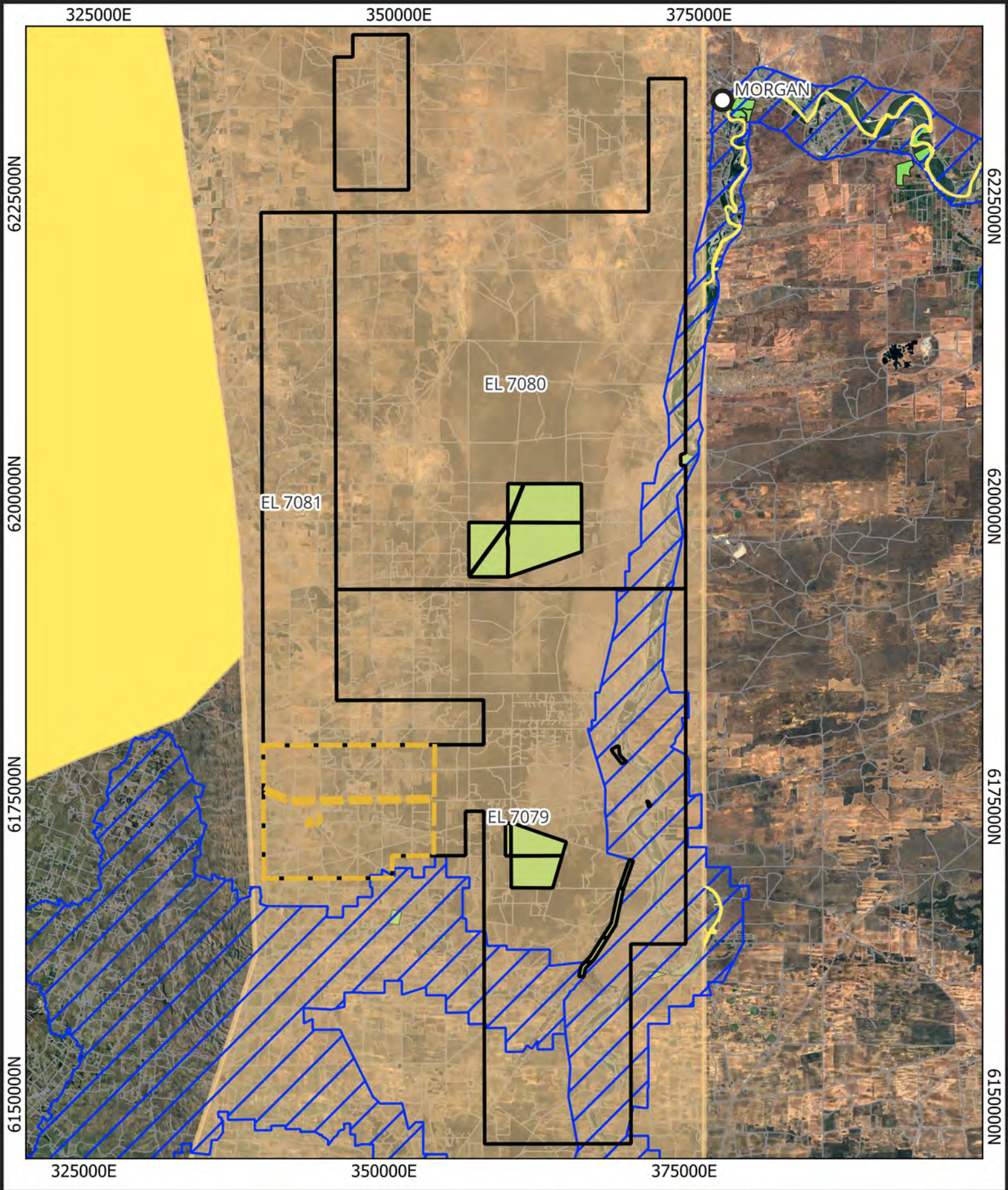
0 5 10 km

Author: AF

Date: 15/01/2025

AUSTRALIAN RARE EARTHS
Metals for our future


STURT HIGHWAY
Truro
Stockwell
Moculta
Penrice
Keyneton
Swan Reach
Swan Reach (CP)
Brookfield (CP)
Bakara (CP)
Williamstown
Mount Pleasant
Palmer



Legend

- Exploration Licence
- Sedan EPEPR boundary
- Towns
- Roads
- Native Title
- Native Title Applications
- National, Recreation and Conservation Parks
- River Murray Protection Area

Sedan Project: Native Title, National & Conservation Parks and Protection Areas

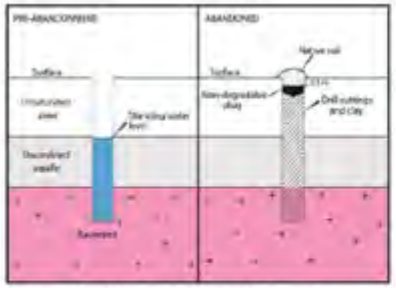
Scale 1:400000
GDA 2020

0 5 10 km

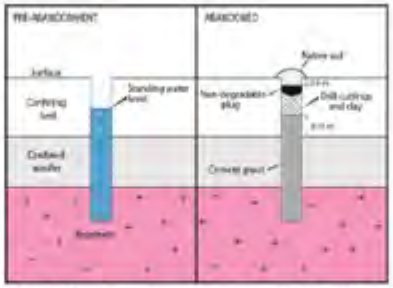
Author: AF

Date: 19/12/2025

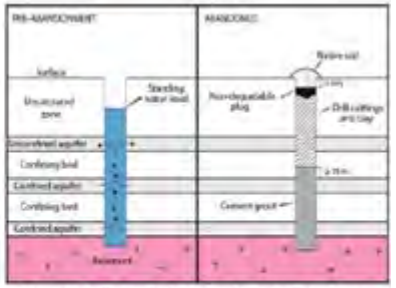
AUSTRALIAN RARE EARTHS
Metals for our future



Above: Drillholes which penetrate a single unconfined aquifer will be backfilled with surplus drill cuttings, clean fill containing clay, or cement.

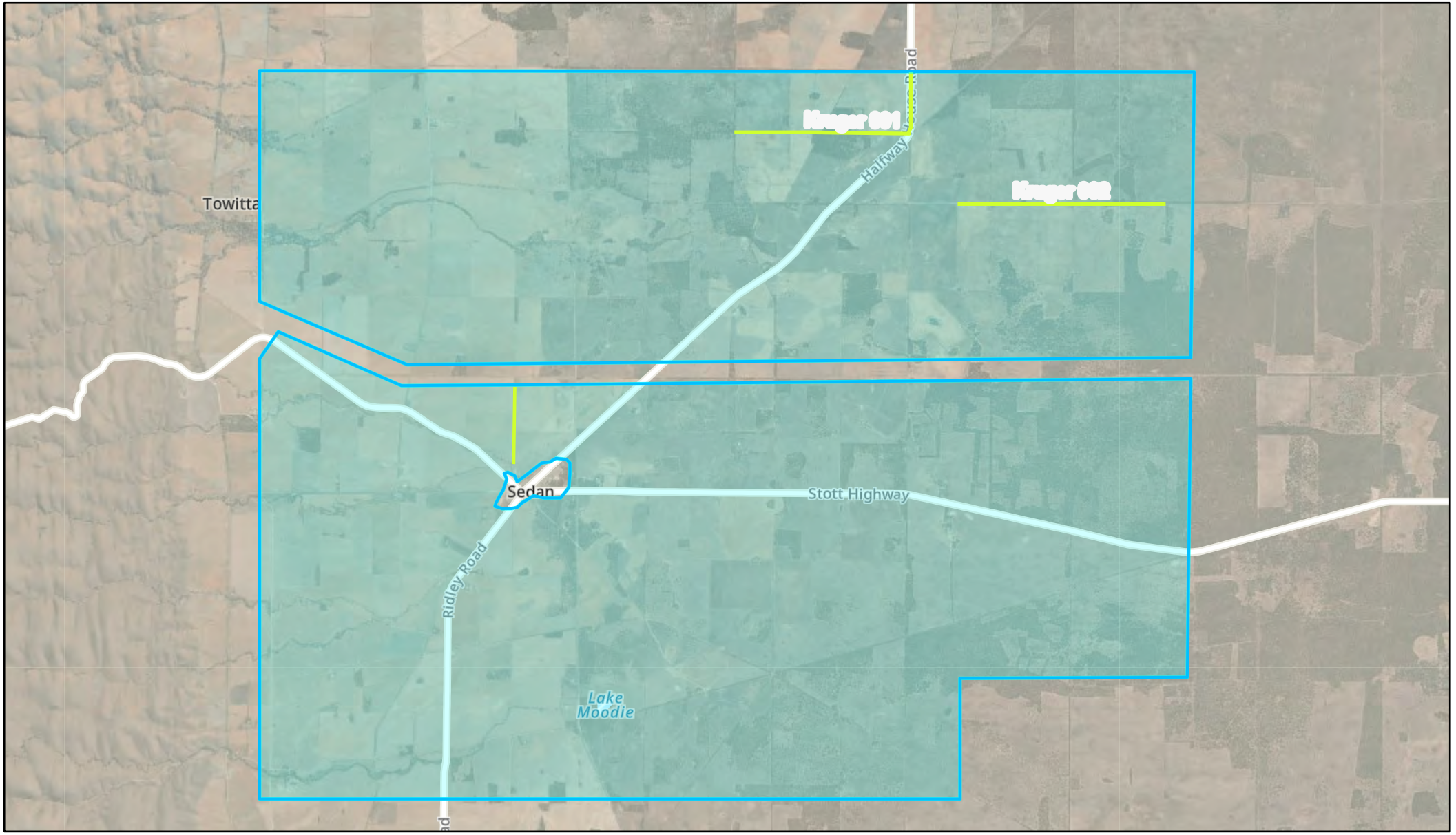


Above: Drillholes which penetrate a single confined aquifer will be cemented from the bottom of the hole to a minimum of 15 metres into the confining bed above, then backfilled.



Above: Drillholes that penetrate more than one aquifer, will be cemented from the bottom of the hole to no less than 15 metres above the shallowest confined aquifer encountered, then backfilled.

Proposed Traverses



Proposed Traverses (existing fenceline tracks)

ARE - EPEPR Boundary

1:100k

0 0.5 1 2 mi

0 1 2 4 km

Earthstar Geographics, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

C. Cockburn

Exploration Radiation Management Plan

Australian Rare Earths

ACN 632 645 302

Contents

Radiation Management Plan: Document Outline

Consistent with the South Australian EPA Code of Compliance (2022) for radiation management plans this Radiation Management Plan (RMP) is set out in the same order and with the same headings as per the Code requirements. Additional exploration-specific aspects of the RMP with a focus on risks to the environment are incorporated as per the SAEPA guideline (Feb 2010).

The RMP mentions the use of portable XRF as a tool and this is covered in a separate RMP document. Similarly, should downhole PFN (or other active source) technology be used, that will be covered by the RMP of the downhole logging contractor.

Document Control

Overland Version #	Review Trigger	Author/Reviewers	Date to SAEPA
1.1	Project Commencement	MvA/CC, AF, MM (SA Radiation)	
1.2	2nd review before submission	MvA,CC,AF,MJ (SA Radiation)	28/06/2024

Definitions

Term	Definition
ARE	Australian Rare Earths Pty Ltd
ELA	Exploration License Area
EPEPR	Exploration Programs for Environment Protection and Rehabilitation
Geiger-Müller	Describes a tube used in a radiation detector for monitoring radiation. Equipment can be designed for particular levels of sensitivity and even be built into downhole probes. This **does not** use an active source.
LLAA	Long-lived alpha activity
Milli Sievert	One thousandth of a Sievert or 0.001 Sieverts (mSv)
Micro Sievert	One millionth of a Sievert or 0.000001 Sieverts (µSv)
NaI	A sodium iodide based crystal in a scintillometer used for monitoring gamma in a drill-hole **without** using an active source.
NORM	naturally occurring radioactive material
PFN	Prompt Fission Neutron: relates to a radiation survey technique using an active source in a downhole logging probe. Active source tools are not covered in this RMP but should they be used they will be covered by the RMP of a licenced contractor.
RDP	Radon decay product
RMP	Radiation Management Plan
RSO	Radiation Safety Officer
SCO	Surface contaminated object (see ARPANSA Code 2019)
SA EPA	South Australian Environment Protection Agency
Sievert	A SI unit of measure for radiation dose equivalent, equal to an effective dose of a joule of energy per kilogram of recipient mass. (Sv)
ISR	In Situ-Recovery: Relates to mining method for recovery of uranium through leaching uranium into solution and extracting through a series of injection and extraction boreholes.

PART ONE – SA EPA Code of Compliance RMP Requirements:

1(a) Details of the premises, radiation sources and radiation risks

Project Operators

This RMP relates to the operations of:

Company: Australian Rare Earths Pty Ltd

ACN: 632 645 302

Project: Overland Uranium Project

Head Office Address: 10th Floor 111 Gawler Place Adelaide, SA 5000

Company Web Site: https://ar3.com.au/

ASX Code: AR3

Contact - Exploration Manager: Chris Cockburn chris@ar3.com.au

Contact – Chief Technical Officer: Rick Pobjoy rick@ar3.com.au

Project Introduction

This RMP is designed to support early-stage mineral exploration for ISR amenable sedimentary uranium on mineral exploration license tenements east of Burra, South Australia.

There are no ore-grade sedimentary uranium deposits known around the margin of the Murray Basin in the vicinity of the proposed exploration areas.

Due to the likely depth to potentially mineralised horizons, the exploration work will be dominated by subsurface exploration using drilling and geophysical techniques relative to surface exploration such as mapping, surface sampling, trenching, etc.

Exploration Project Field Locations

Australian Rare Earths (ARE) have applied for three Exploration License Applications (ELA's) located in South Australia north of the township of Morgan, SA (Figure 1). The ELA's listed in Table 1 define the Overland project and exploration is initially planned once these ELA's are granted in H2 2024.

This RMP will also apply to future exploration tenement areas in the name of Australian Rare Earths involving early stage exploration within South Australia. Additional details covering location, geology and any site-specific factors will be covered in the various EPEPRS on those new tenements.

***Table 1**- List of Australian Rare Earths ELA's for the Overland Project. The ELA's will be updated with EL's once granted. The location and size of the tenure is not expected to vary significantly from below. The Radiation Management Plan is intended to cover the below ELA's and subsequent EL's.*

ELA	Name	Km^2
ELA2024/22	Overland	995
ELA2024/14	Overland	993
ELA2024/15	Overland	992

Exploration for sedimentary uranium will take place on these relatively remote areas in pastoral, sheep and cattle country approximately north of Morgan and east of Burra in South Australia.

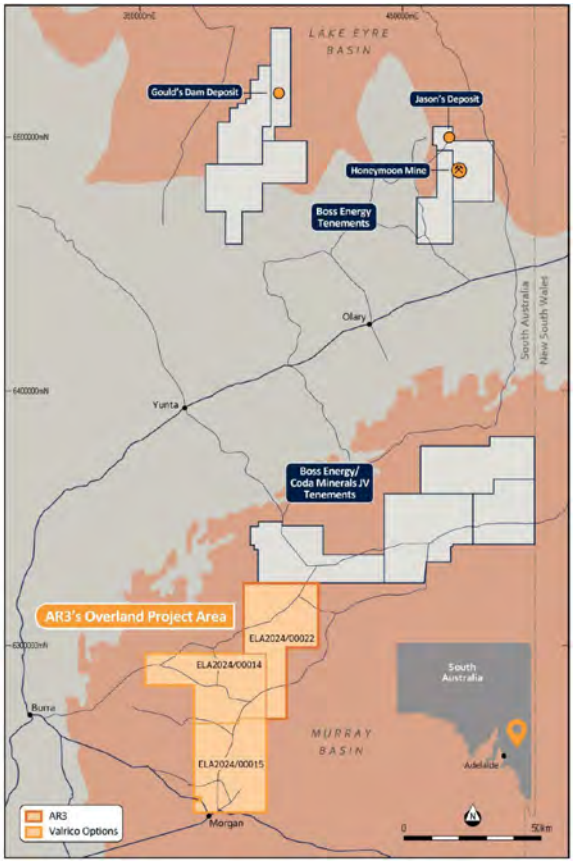


***Figure 1**- Overland project location map and notable Uranium explorers in the region.*

General Project Geology

Geological units identified in the basement rocks, both at the basin margin and buried beneath the basin sediments, provide potential sources of uranium. The target Renmark Group sediments have permeable sedimentary pathways and sources of reductants to host and trap ISR amenable uranium mineralization. In addition to the reductants within the Renmark Group sediments, Australian Rare Earths are also targeting gaseous hydrocarbon emissions along the margin of the Nadda Basin, a

petroleum basin set within the Overland prospect area, which has the potential to generate Kazak style uranium mineralization along a 50km long corridor.

Project Workgroups

At a general level, workgroups involved in the project during the early exploration stage may include:

- Company Directors and Management: Providing high level directions, management and resourcing.
- Project Management and Work-site Coordination: exploration planning and coordination staff to liaise with property owners about the project, including resourcing the RSO.
- Geographic Information System and Field Data Management Consultants: providing real-time satellite GPS-linked and time-stamped, field mapping, data capture, data-networking, operational environment management and operational drilling-management support.
- External Radiation Safety Consultants: providing training, facilitating personal monitoring and dust in air survey work, providing mentoring of RSO and having oversite and review inputs to radiation safety as required.
- Geophysical Survey Crews: Using professional geophysics consultancies, government agencies, researchers.
- Drill site preparation and physical rehabilitation: Preferably using property owners as contractors.
- Drilling Contractors: Supplying drill rigs (Aircore and/or Mud Rotary), supervisors, driller and offsiders. Responsible for setting up drill sites, drilling holes, providing drill samples, running selected wireline tools, cementing drill holes, rig wash-down and cleaning.
- Exploration Field Crew: For geological oversight, sample logging, site photography, radiation monitoring, pXRF analysis of samples, drill sample management, supervising the containment drill materials, supervising sump use, sample transport within exploration lease areas, drill sample packaging and storage.
- Transport Contractors: Transporting samples from field to laboratory, laboratory to storage and storage to disposal sites. Transport of samples may also be completed by AR3.
- Analytical Laboratories: testing drill samples for elemental, mineralogical, and leach-chemistry parameters and short to medium-term sample storage.
- Geological Services Consultancies: providing field staff, field equipment, and short to medium-term sample storage.
- External Resource Geology and Metallurgy Consultants: To assist with interpreting exploration data.

Premises - Facilities: Sample Storage

Sample Types

The main sample types that will be collected are described in Table 2. Sample material will be generated from drilling and occasionally, a significantly lesser portion of samples, derived from surface sampling.

Table 2 *Sample types generated from drilling.*

Sample Type	Location Generated / Initial Packaging	Sample Size	First Layer of Packaging	Additional packaging
a) Pre-Numbered Calico Bag Sample:	Drill Site or Field	1.5 to 2kg	Calico Bag	~6 Calico Bags placed into a zip-lock tied polyweave bag, placed within a Bulk Bag for shipment (approx. 200-800 samples per bulka bag).
b) **Reference Sample** from sample a)	Drill Site	40 to 80g	Black Plastic 10 or 20 slot Chip Tray	Boxes or polyweave bags
c) DEM sample From sample a)	Laydown area or drills site	~200g	Per DEM storage requirements typically paper or plastic sample bag	Boxes or polyweave bags
d) **Assay Pulp:** Split from dried & pulverised sample a)	Assay Laboratory	200 grams for 0.2g assay charge.	Pulp: Readily dried heavy paper envelopes	Cardbord box
e) **Assay Residue** from dried & pulverised sample a)	Assay Laboratory	Approx. 1.2-1.7kg	Returned to original Calico Bag	Steel Drums on Pallets
f) Research Samples	Assay Laboratory	~2.0 kg	Calico bag or paper/plastic sample bag	Polyweave bag

The majority of the samples will be calico sample bags derived from the drill rig. It is expected that ~25% of the samples collected from drilling will be submitted for assay (generating samples d/e) and ~5-10% submitted to the SA Department of Mining and/or research samples (generating sample c/f). Research laboratories may include chemical and mineralogical testing facilities such as CSIRO, ANSTO, and universities.

Where drill samples are known to be mineralized, often after they have been assayed at a laboratory and need to be kept in storage prior to additional analysis, they will be stored temporarily at Bureau Veritas, Cormac Rd Wingfield. Adelaide. S.A. (Figure 2).

***Figure 2**- Storage location for samples that can be transported as exempted packages and having elemental concentrations that are deemed as radioactive. [Google earth image accessed 24th June 2024].*

Alternatively mineralised samples may be potentially stored at facilities such as Challenger Exploration Services Pty Ltd, Edwardstown. Adelaide. S.A. for any medium to longer term storage of un-mineralised samples, and the storage of small reference-samples, they will be housed at a warehouse site at Naracoorte at the corner of Brighton Drive and Riddoch Highway at Naracoorte (Figure 3).

***Figure 3**- Storage location for samples that can be transported as exempted packages and having elemental concentrations such that samples can be deemed as non-radioactive. [Google earth image accessed 24th June 2024]*

In the first instance, it is expected that sample material will be classified as an accepted package for road transport.

Upon discovery of an ISR amenable sedimentary uranium deposit, sample storage may need to be relocated to a fit-for-purpose or purpose-built facility at an appropriate location and subject to a site-specific licence and RMP review.

Exploration drilling activity, typically has requirements to provide a select number of small reference samples to the South Australia Drill Core Reference Library at Tonsley, Adelaide, operated by the Geological Survey of South Australia (Table 2-Sample type C).

Guidelines for the submission and storage of radioactive samples are published as:

> Department of State Development (2016) *Radioactive core storage and handling – standard operating procedure*. Minerals Regulatory Guidelines MG20, resources and Energy group. V 1.0. Department of State Development, South Australia, Adelaide.

Such sample submission will be specified in the EPEPR, comply with the SOP, and typically limited to small samples of the order of 200g/metre from representative drill-holes that will reveal most value in lithological and stratigraphic variation. The Department of State Development report (2016) specifies the core or sample submitted to the library must be classified as 'friable' or 'non-friable', have particular radiation survey, labelling, storage and data recording requirements.

Radiation Sources

Naturally occurring radioactive materials from relatively deeply buried sedimentary uranium deposits (yet to be discovered) are potential sources of radiation in the exploration areas. In keeping with the SA EPA guideline 2010, radiation protection measures must be available, prepared for and able to be implemented as soon as mineralisation in encountered. Exploration may proceed from initially encountering trace levels of radiation to sampling more anomalous values if investigations are able to home-in on mineralisation. In keeping with a graded approach to radiation safety (SA EPA Code 2022) radiation safety measures may need to cover a range of risk scenarios from very low-risk to low-medium risk and have control measures in place for encountering a range of trace to anomalous levels of mineralisation.

The project plans to use an x-ray tube-based pXRF and this is covered by a separate RMP and site-specific procedures.

The project will measure down hole gamma using either Geiger-Müller or NaI detector-based equipment or similar. Active source downhole tools are not covered in this RMP and if used will be under the RMP of a licenced contractor under an approved RMP.

General: Radiation Dose

When radiation is absorbed by matter it causes damage to the chemical molecules making up the material, and the amount of damage is proportional to the energy delivered per unit mass. Because radiation can ionize atoms, it can damage chemical structures in living cells, such as DNA, the information-carrying molecules that control what the cell does. The biological damage to living tissue by radiation energy is described as "dose".

General: Dose Units

Radiation dose to humans is measured in units called sieverts (Sv). One (1) sievert is an extremely large dose, and therefore in normal situations, doses are discussed in units of millisieverts (mSv), which equal one-thousandth of a sievert, and micro-sieverts (µSv), which equal one millionth of a sievert.

General: Radiation Dose Limits

Radiation dose limits are based on the observed health effects in people exposed to radiation in the past (e.g.) Japanese atom bomb survivors, overexposed medical patients and radiologists. A dose of 1 sievert is assumed to produce a risk of radiation-caused cancer of 5% in the exposed person's lifetime. Accordingly

The International Commission on Radiological Protection (ICRP) recommends 1 Sievert of dose as the lifetime limit for radiation workers and, assuming fulltime work for 50 years in a "radiation job", has set one-fiftieth of a Sievert as the yearly dose maximum. This is equal to 20 millisieverts per year for radiation workers.

General: Quantities and durations required to receive a 1mSv dose

To receive a 1mSv dose requires either of the following:

Radiation Source	Quantity **Inhaled** (grams)	Quantity **Ingested** (grams)	**Externally Exposed** 1m from a 200L drum (hours)
Uranium product	0.004	14	233
Monazite	0.03	7	29
Uranium tailings	0.5	29	847
Uranium Ore (800 ppm U)	1.6	143	1942
Heavy minerals concentrate	2.4	417	1821
Heavy minerals sand	24	3800	17241

[Source: SA Radiation Training Workbook (2023)

General: Example of Radiation from a Box of Drillcore

For reference in the case of radioactive drill core, at HQ diameter at 64mm, density of 2.7 g/cm^3, and 3.6m per box, the anticipated dose rates and uranium concentrations can be estimated in the table below.

Scenario	Dose Rate (5cm above tray, µSv/hr)	Uranium in Core (ppm)
Mineralised HQ diameter core in a core-box (3.6m)	0.5	120
	5	1,200
	50	12,000

[Pers. comm. Mathieu Messeiller 24 June 2024 ref. https://www.wise-uranium.org/index.html]

General: Typical Doses for Radiation Workers

Most full-time radiation workers receive an annual dose generally less than 1 millisieverts per year. Typical professions are uranium miners, mineral sand mine separation plant operators, industrial pipeline radiographers, medical radiologists, nurses, and radiotherapy technicians.

It has been noted that full time work on a drill rig on a mineralised uranium prospect could result in a dose of approximately 0.2 to 0.6 mSv in a year, depending mainly on dust control and ore grade (Alligator, 2023). Exploration is planned where no mineralised deposits are known. In such early-stage exploration and with the planned controls it is anticipated that exposures of <300 µSv/yr will occur including all anticipated pathways. Where ISR grade U mineralisation is discovered, the project methods and the RMP would be reviewed.

General: Radiation Dose Delivery Pathways

There are four possible pathways for the delivery of radiation doses to the human body that should be considered in any mining/exploration situation. These pathways require active control, depending on the circumstances.

- **Inhalation**: radon and radon decay products (RDP), and airborne dust containing long-lived alpha activity (LLAA)
- **Ingestion**: contamination on hands and face from radioactive dust and water contamination where that contains high concentrations of radionuclides – being transferred to mouth whilst eating, placing objects in the mouth and smoking.
- **External radiation** (gamma radiation from mineralised drill cuttings, core, sludges or radiation sources), and
- **Absorption** (through broken skin - cuts and abrasions).

The potential for inhalation of radon decay progeny (RDP) will generally be low in pre-mining activities such as exploration. Precautions and controls will need to put in place where mineralised samples are placed in small, contained or poorly ventilated atmospheres.

See activities and potential exposures below. Controls listed in section 1f.

All routes of exposure:

- Incidents where radioactive materials are not labelled, stored or transported correctly;
- Situations where an accident, spill or rupture of packaging occurs and radioactive materials become uncontrolled;
- Where monitoring and planning for working with radioactive materials is poor or fails to identify risk;
- Where there is environmental contamination.

Long Lived Alpha Activity (LLAA) & Radon Decay Product (RDP) <u>inhalation</u> routes of exposure:

- Inhalation of dusts generated at the cyclone or drill collar when drilling through radioactive sediments;
- Getting clothing covered in mud or dust that contains radioactive material and that material drying out, being disturbed and generating dusts close to the breathing zone;
- Transferring radioactive dusts to other fabric materials such as car seats, soft furnishings and non-work clothing ;

- Opening sealed bags of mineralized sample and breathing dust;
- Using a poorly ventilated shipping container for storage of radioactive material;

Ingestion: Activities posing risk when around mineralized dust/sample material

- Eating, drinking when the hands and face have not been washed;
- Storing drink bottles, and food in dusty areas;
- Drinking from containers having dust that can contact the lips;
- Hand to mouth activity including smoking/vaping, wiping, putting pens or other objects in the mouth, and licking lips;
- Mouth breathing, and swallowing dust containing mucus at the back of the nose.

External Radiation Gamma and X-ray routes of exposure:

- Discovery and handling of large quantities of high-grade core samples and drill cuttings;
- Working inside or near a core storage area containing radioactive material;
- Using the XRF analyser; (covered by separate RMP);
- Using a borehole logging source, (covered by Contractors RMP);
- Keeping or transporting radioactive samples in occupied areas or in the cabin or a vehicle.

Absorption: following an activity that has generated radioactive dusts and materials:

- Getting cuts and abrasions that are filled by dirt and dust;
- Handling of dusty clay and powdery materials causing cracking of skin and then getting exposed to radioactive muds and dusts;
- Not cleaning wounds and cuts adequately.

In this Project, potential **inhalation** and **ingestion** of dust containing LLAA are the most probable pathways for radiation dose exposure.

General: Performance Requirements

The following dose limits are applicable:

- **1 mSv** per year for a member of the public.
- **20 mSv** per year, averaged over a period of 5 consecutive calendar years, for a worker. The dose for a worker may not exceed 50 mSv in any one year.
- Doses shall also be ALARA (As Low As Reasonably Achievable) with social and economic considerations taken into account.

1(b) Roles and responsibilities of relevant persons in discharging the radiation management plan and legal responsibilities

The workforce for exploration programs on the above tenements will typically comprise between about 6 to 10 personnel, including geologists, field assistants, drilling contractors, earthmoving contractors, wireline loggers, and ARE management.

Work crews will be encouraged to stop work and notify all employees of any potential unsafe work practice.

The company will engage SA Radiation, Kent Town, Adelaide as an external consultancy specializing in radiation safety management to advise, review safety and train personnel. SA Radiation will also serve as ARE's interim RSO until a company representative is trained and licenced as an RSO.

The RP will be Australian Rare Earths.

Roles of Responsible Person (RP):

- Compliance with legislation
- Maintaining exposures below regulatory limits
- Ensuring equipment, PPE supplied by company is adequate and in good working order
- Ensuring staff are trained commensurate with risk and tasks
- Ensuring procedures are being followed
- Ensuring company and people are licenced where necessary e.g. XRF, downhole loggers and storage of > 100kg radioactive material etc.
- Ensuring systems and monitoring equipment are adequate to manage risk
- Ensure that all work is planned and conducted in a safe manner
- Be aware of best practice in radiation safety
- Seek advice on monitoring and radiation safety from specialist consultants when required
- Ensure radiation safety is adequately resourced
- Participate in any Incident investigations

Roles of Radiation Safety Officer (RSO):

- To be nominated when mineralization is intersected (80ppm U).
- Advising ARE on changes of legislation, codes, guidelines
- Maintain copies of radiation licences for field work teams
- Implementing the RMP
- Seek and attend ongoing radiation safety training and mentoring to maintain an up-to-date and relevant understanding of radiation safety
- Performing monitoring
- Dosimetry records
- Inductions, awareness training delivery
- Observe work being carried out to assess additional measures that may be introduced consistent with ALARA

Roles of site geologist :

- Supervise and manage all potential land disturbance, drilling, sampling
- Ensure all equipment used in the field for monitoring radiation is operating correctly and has current calibration certificates
- Manage prestart meetings to ensure that among other things all work plans for the day and safety topics are addressed.

Roles for all Workers:

- Report hazards, incidents, spillage, injury, equipment faults, sickness;
- Are fit for work;
- Have all their needs met with respect to vision, stature, hearing, ability to fit and wear PPE correctly and ability to communicate clearly;
- Are clean shaven for employees proximal to the drill rig and in dusty conditions
- Follow procedures;
- Have the right to stop work if unsafe
- Wear and use PPE correctly;
- Have access to radiation monitoring equipment at work sites;
- Actively involved in training, safety management, pre-start meetings, JSA discussions;

The Exploration Manager, and external radiation safety consultants will approve, and reviewing the radiation management plan.

1(c) Contractual arrangements, such as with other companies and contractors, that are required in discharging responsibilities under 4(b).

Australian Rare Earths Pty Ltd do not have ongoing contracts which outsource/discharge responsibilities relating to radiation safety.

ARE has consulted SA Radiation for guidance and drafting of this RMP and are available for future consultation should they be required.

All workers for ARE employed by contractors, consultants etc. will be required to be trained, use PPE, have safe systems of work etc. as per any other worker.

Should ARE employ a drill-hole logging contractor to use an active radioactive source, then ARE will ensure that the contractor/company and operators are licensed and that they have an up-to-date RMP and procedures on site.

1(d) Organisational and worker competencies to meet radiation safety obligations including competency assessment, qualifications, induction, training, and continuing development and reassessment.

ARE's Chief Technical Officer has prior sedimentary uranium exploration and development experience in South Australia.

Radiation science and safety advice will be provided by SA Radiation Pty Ltd, which is a consultancy based at Kent Town Adelaide and includes professional staff trained and having experience and expertise in radiation safety and monitoring, radiation training, and radiation monitoring associated with sedimentary uranium. This consultancy also provides well-illustrated and comprehensive radiation safety training manuals (Messeiller et al., 2023).

Training for 2-3 staff members of Australian Rare Earths staff by SA Radiation Pty Ltd is available should future (more advanced) exploration warrant additional training.

All workers will be trained and inducted in relation to field work, drilling method, skills required and radiation risk management and the use of PPE that is specific to the work project. A module for radiation specific, site specific and project specific risks will be added to the usual aircore drilling induction.

The geologist on site managing drilling, the Exploration Manager, and RSO will be professional graduates and have appropriate experience.

Aspects of training, risk communication and ongoing safety review will routinely be addressed in daily prestart meetings, JSA documents and at monthly safety toolbox meetings.

All workers will be evaluated as competent to manage safety and use PPE as required.

Should increasing concentrations and frequencies and amounts of naturally occurring radioactive material (NORM) be encountered then procedures may need to be reviewed and more detailed training provided.

1(e) Arrangements for supervision of workers.

All drilling, sample handling and rehabilitation work will be supervised directly by the field geologist with indirect supervision by the Exploration Manager, Radiation Safety Officer, and high-level oversight by the Chief Technical Officer.

1(f) Details of quality assurance programs for radiation sources and controls.

Quality Assurance: Site Monitoring

Before drilling commences, the drill site will be surveyed for any surface contamination using a fit for purpose, calibrated contamination meter. Monitoring will be ongoing during drilling and again upon completion of the drilling and site rehabilitation.

A similar contamination meter will be used to screen 1.5 to 2kg calico bag samples as they are collected. This dose meter will have a current calibration.

Drill holes will be surveyed with a continuous gamma probe which will measure downhole gamma radiation which will identify anomalous gamma activity.

Aircore drill samples being recovered in calico bags will also be analysed by portable XRF (having a separate RMP) soon after (preferably at the drill site) for the presence of naturally occurring radioactive elements such as uranium and thorium.

Samples suspected of containing anomalous uranium and thorium will tested with pXRF which has an approx. detection limit of 4-12 ppm U and 20-40ppm Th depending on analysis count time and sample matrix.

Verification of the sensitivity of analysis at lower concentrations above background will include reference to spectral data on the pXRF and the analysis of NORM standard reference materials (e.g. OREAS299, 52ppm U, OREAS120 41ppm U, OREAS100a 135ppm etc.). Where higher grades are encountered, OREAS standard reference materials of similar U, Th concentrations will be tested in routine QAQC, options include:

- OREAS120 40.8ppm U
- OREAS100a 135ppm U
- OREAS121 215ppm U
- OREAS122 423ppm U
- OREAS123 858ppm U
- OREAS124 1845ppm U

Field data from gamma screening an pXRF on calico bag sample materials will be verified by laboratory analysis of selected 1.5-2kg calico bag samples. This will also provide a check on the sensitivity and specificity of downhole gamma readings.

QAQC for other sources

The pXRF will have checks of lights, radiation labels, tube-shutdown speed, proximity detectors and standard radiation scatter measurements, in addition to other matters will be tested six monthly as per the RMP for that equipment.

Quality Assurance: Respiratory Protection Controls

The suitability of a P2 mask having a minimum protection factor of x10 in settings where there is a LLAA exposure of < 2 µSv/hr (with no PPE or 0.2/hr µSv/hr with a P2 disposable mask) is expected to provide protection under the following dust conditions:

- 4000ppm U in dust in air conditions (dust at 1 mg/m^3)
- 400ppm U in extreme dust in air conditions (dust at 10 mg/m^3)- dust storm conditions

Workers will be trained in the appropriate use of PPE and able to check and demonstrate that dust masks fit.

If an intersection of mineralization equivalent to 5m averaging >800ppm U is encountered personal dosimetry and the monitoring of dust concentrations will be implemented.

Quality Assurance: Radiation Survey Measurement Controls

The program will utilise a suitable dose rate survey meter that is calibrated annually. See section 2e for details.

Exploration Drilling: Radiation Risks Requiring Management and Control

Drilling will initially be looking for horizons containing anomalous uranium and then attempt to home-in-on and drill and discover areas containing greater uranium concentrations.

Sedimentary uranium deposits can typically contain 200-1000ppm in situ uranium, substantially lower than 'hard-rock' uranium deposits which can contain percent level U.

Areas to be addressed, and include:

Administration and Planning:

- Ensure that all legislation, codes of practice, regulatory approvals, and licenses are in compliance and that guidelines are followed with the intention of adopting an ALARA approach to managing radiation risks;
- Make strategic selections and assessments of drilling methods, equipment, contractors and personnel with ongoing considerations of levels of training, safety and risk minimisation;
- Expand and develop in-house expertise and expertise of contractors with competency assessment, training, mentoring and professional development;
- Invest in careful site-selection for drill pads including site reconnaissance to ensure drill sites are in the best locations and have the optimal layout;
- Have data and safety management systems that document procedures, risk assessments, pre-start meetings, job safety analyses, incident reports, monitoring data, contracts, communications with stakeholders, daily operational reports and work instructions
- Adequately train and assess personnel in relation to radiation risk, risk communication and agency for workers and stakeholders to have appropriate access to risk-related information;
- Provide work systems that eliminate risk and hard-engineer the elimination and reduction of risk before relying on PPE.
- Have documentation systems for the recording of monitoring and site-conditions for drill sites and closure reports for disposal pit areas as per the SAEPA (2010) Radiation protection guidelines on mining in South Australia: Mineral exploration. (p.11) and EPEPR;
- Carry out risk assessments that enquire into possible routes of exposure to radiation and that identify hierarchy of options available to control the risk and ensure those controls are evaluated and ALARA is applied;

- Routinely use and refer to professional expertise in radiation safety and the latest scientific, regulatory and industry-best-practice guidance information.

Actions:

- Sufficient sensitivity and frequency of monitoring needs to be carried out and with monitoring being able to be carried out at a range of workstations to detect, monitor and report radiation;
- Ensure the public and workers do not come into contact with unrecognised, uncharacterised, insecure or unlabelled radioactive naturally occurring drilling samples, drill cuttings or drill-hole fluids;
- Use tarps and containment procedures, general 'housekeeping' and cleaning practice to protect the drill-site surface from contamination from drill-hole cuttings and liquids;
- Have drill-site monitoring and documentation systems that will be able to show the before and after condition of drill-sites and demonstrate radiation surveys before and after drilling and identify any failures in containment of drill cuttings;
- Construct sumps so that during drilling they will have adequate size, and depth for sediment infill, groundwater and so they can be rehabilitated as per the EPEPR and SAEPA (2010) mineral exploration guidelines;
- Ensure that site-selection for drill-pads, sumps or disposal pits eliminates or significantly minimises the potential for geotechnical failure or erosion causing a loss of containment of drill cuttings;
- Ensure all radiation monitoring is carried out using a good methodology and calibrated monitoring equipment that is sufficiently sensitive and fit-for-purpose;
- Ensure that where there is the potential for people to be exposed to naturally occurring radioactive materials, there is sufficient training, monitoring, communication and reporting to ensure that all workers understand the risk controls and how to identify uncontrolled risk;
- Provide adequate supplies of new, clean, comfortable to use, and well maintained PPE in a range offering increasing levels of protection as may be required to be used where greater risks need to be controlled;
- Ensure all workers are clean shaven and can demonstrate that respiratory protection devices have an apparent face-seal; and that alternative respiratory protection devices are available where the face seal is poor;
- Provide wash water that is available for cleaning hands and faces prior to eating and drinking;
- Have well-resourced first-aid materials;
- Where risk-levels increase, with a potential exposure above 1mSv/yr have personal dosimetry monitoring, breathing zone monitoring monitoring tools available to test work settings to ensure that individuals are not being exposed above regulated limits, that PPE and other controls and choices are optimised to protect safety consistent with ALARA;

- Minimise the duration and close-proximity of workers potentially being exposed in or adjacent to atmospheres containing radioactive naturally occurring materials;
- Ensure that any radiation barriers, access or proximity restriction distances, packaging and signage warning of the presence of radiation are adequate and durable;
- Have shutdown, reporting, monitoring and incident response procedures in case there is a release of sediments and drill-hole products containing radioactive materials onto the land-surface at a drill-site;
- Ensure that objects, containers, materials, clothing, vehicles etc. being taken from the drill-sites are not covered by dusts, muds or sediments that may be contaminated by radioactive materials. See section 2c in this RMP;
- Launder work clothing separate from other materials during early-stage exploration drilling;
- Have procedures related to transport of samples containing naturally containing radioactive materials from drill-sites to the analytical laboratory and from the laboratory to storage or disposal sites that include incident responses;
- Transport of goods will meet the requirements of the Code of Practice for the Safe Transport of Radioactive Material;
- Store samples in secure, cleanable settings, monitor their condition, record the materials stored, monitor radiation and ensure people are not exposed in the storage setting.
- Have procedures to manage incidents (see section 2f)

1(g) Measures to protect the security of radioactive sources including storage and transport.

Database of Radioactive/Mineralized Samples.

AR3 will have a database of all samples. The location of the samples at any time will also be captured in the database.

The database will progressively be updated as results arrive during and after drilling. This data may include:

- field screening with surface contamination meter
- pXRF U (& Th) screening
- downhole gamma data
- analytical laboratory assay including for U (& Th)

Security: On-site

Depending on exploration success, potentially radioactive source materials include samples in calico bags and drill-cuttings in sumps or sample disposal pits.

The SA EPA “Radiation protection guidelines on mining in South Australia: Mineral exploration” (Feb. 2010) specify depths below which radioactive NORM materials may be placed in drill-holes, the bottom of drill sumps and in disposal pits.

Drill-sites, adjoining sumps and disposal pits need to be located on what are visually geotechnically stable sites away from areas susceptible to erosion.

The SAEPA guideline recommends that any radioactive drill-hole cuttings be stored below 1m depth in sumps and below 2m in sample disposal pits. These sumps and pits are to be backfilled with compacted clean fill >1 or 2m thick respectively, excluding the required thickness of uncompacted soil cover. An additional consideration is that backfill material should include non-swelling clays and rock material as opposed to easily scoured or eroded materials like loose sands.

Between completion of drilling and backfilling, the sumps will be fenced while the drill cutting sediments dry out. The water and muds in sumps may take 1 to 3 months to dry depending on the amount of rain and hot-weather. See section 2c for before and after radiation surveying.

Security: Transport

Two kilogram samples of drill cuttings will be in new calico bags. Up to six calico bag samples will then be placed in new polyweave sacks at the drill site. Samples will be assessed and split into categories that will be packaged separately:

1) Non-mineralised: and not going to the laboratory.
2) Anomalously mineralised: to be assessed for compliant transport packaging and labelling and transferred to the laboratory.

Samples from a days drilling, say 100-250 samples x 2kg may be transported within the exploration license area to a lay-down or staging area prior to another phase of sorting and packaging based on decision to send material to the laboratory and U data from the sample register before being transported on public roads. An initial expectation is that some 10-25% of samples drilled will be sent for assay at an analytical laboratory.

Samples will be packaged such that high grade mineralized samples (~800ppm U) will be placed in the center of the package so that they are shielded by other samples. The max dose measurement of the package will be below **< 5µSv/hr** at the surface and checked before sending.

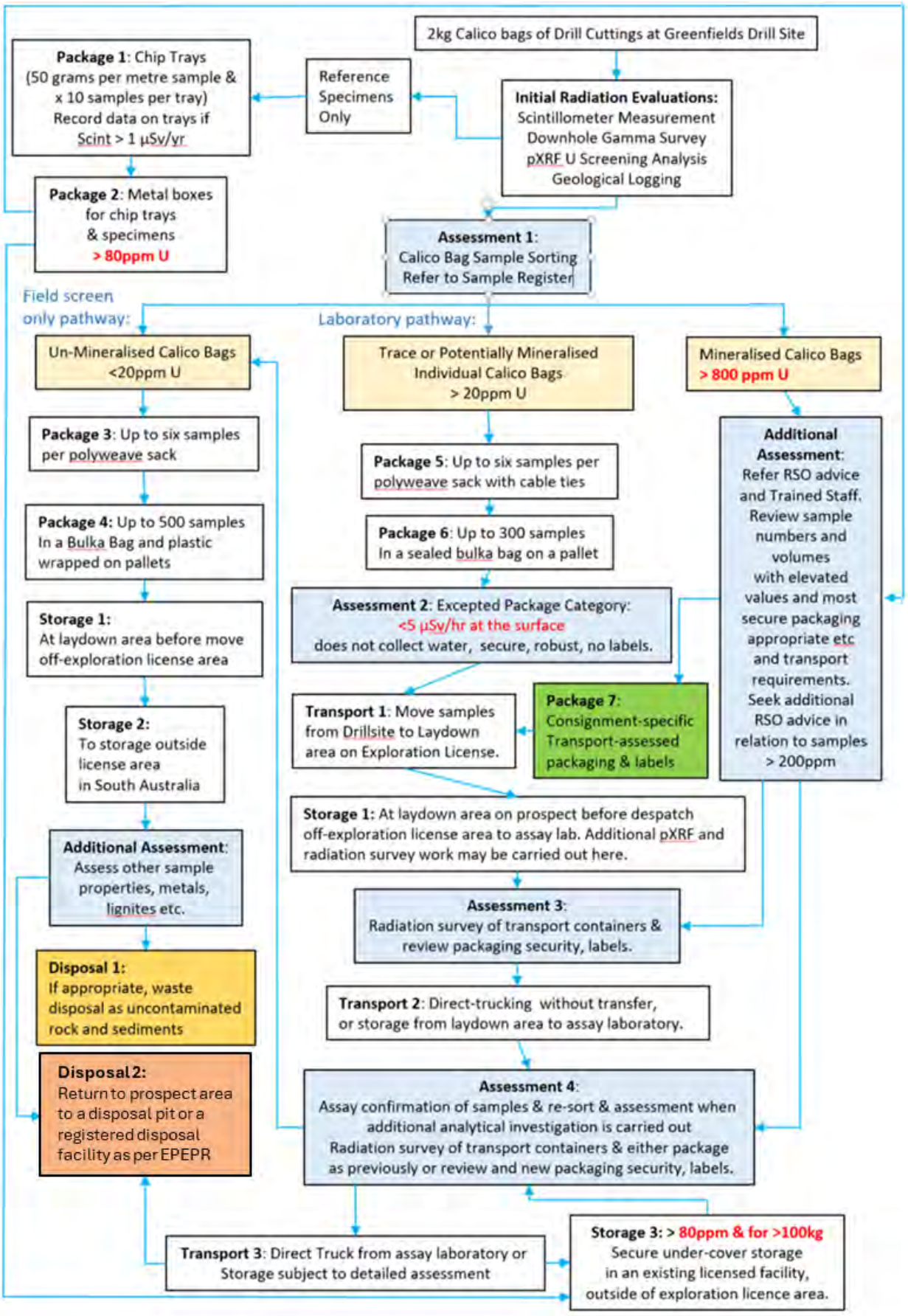


Figure 4 *General drill-sample storage, transport and disposal pathways.*

Security: Storage

Materials will be transported directly to the storage facilities where possible.

Sample materials will be stored at either of these locations:

> **Storage 1**: Temporary Storage: Laydown or staging area in the field on the exploration area ground for less than one month.
>
> **Storage 2**: Un-mineralised Samples: calico bags and chip tray specimens.
>
> **Analytical Laboratory**: Samples will be retained for periods of 1-6 months until the assay data has been validated at a secondary laboratory and QAQC has been assessed. Laboratories frequently have 24/7 operations and continuous security.
>
> Selected laboratories must have licences and registrations that allow the handling and processing of radioactive material. Verifications of licensing will be made before submitting samples.
>
> **Storage 3:** Mineralised Sample Residues: Once mineralised samples have departed the exploration license area, their storage will be in a shed with a cement floor out of the weather and they will potentially remain in their transport packaging unless samples are being sorted for additional laboratory analysis. This shed will be locked, and behind secure fencing. Where greater than 100kg of mineralised samples are in storage the storage will have the required licenses and registrations. The SAEPA (2010) '*Radiation protection guideline on mining in South Australia: Mineral exploration*.' (p.15) provides additional guidance on off-site storage of radioactive samples. **Samples and Storage Areas:** require labelling and signage consistent with the Code of Compliance (SAEPA, 2022).

1(h) Measures for lifecycle management of radioactive material including radioactive waste management.

i - Description of applicable regulations and codes and how they will be complied with.

The SAEPA (2010) '*Radiation protection guideline on mining in South Australia: Mineral exploration*.' Provides guidance on disposal of radioactive waste materials generated in the course of a drilling program (p.10-12). Drill-sites, sumps and disposal pits and the requirements for before, during and after monitoring will be as per the SAEPA guideline (2010) and EPEPR requirements.

Seventy-five percent of all drill cuttings and drilling slurrys will be placed in drill sumps at the time of drilling for burial with a layer of compacted clean fill greater than 1m thick. This may include anomalously radioactive materials.

Where calico bags comprised of 25% drill cuttings contain radioactive/mineralized samples, they will be returned to the exploration licence area from the lab and placed (without sample bags and containers) in a disposal pit for burial with a layer of compacted clean fill greater than 2m thick. The disposal pit will be constructed and documented as per the SAEPA (2010) guideline and EPEPR requirements.

The lifecycle of the pXRF will be managed as per the separate ARE RMP suffice to say that pXRF equipment must be maintained in good working order, with the license to possess maintained and disposed of according to the SA RPC Act 2021 and SA Regs. 2022.

1(i) Description of applicable regulations and codes and how they will be complied with.

Definition of Radioactive Materials

What is defined as radioactive in the context of NORM in South Australia is:

> Ores containing uranium or thorium with an activity concentration and an activity in excess of:
>
> **South Australia Definition:**
>
> 1 Bq/g (80ppm U) & 2.5 kBq (U-238)
>
> 1 Bq/g (240ppm Th) & 4.7 kBq (Th-232)
>
> If over only the activity concentration or activity limit it is defined as a prescribed low risk radioactive material in South Australia.
>
> **Transport Definition:**
>
> 1 Bq/g (80ppm U) & 1 kBq (U-Nat)
>
> 1 Bq/g (240ppm Th) & 1 kBq (Th-Nat)

Surface contaminated objects (SCO) surface contamination in excess of:

- 0.4 Bq/cm^2 for beta and gamma emitters and low toxicity alpha emitters
- 0.04 Bq/cm^2 for other alpha emitters

However, a geological sample that emits radiation at a level not more than 5 µSv/h measured at a distance of 10 cm from its surface is exempt (not considered radioactive), as per Schedule 4 of the Regulations.

It is also useful to recognise legislated categories, thresholds or decision points for naturally occurring U and Th in South Australia include :

Uranium (ppm)	**Thorium (ppm)**	**Category**	
< 80	<240	= 1 Bq/g	Not radioactive in South Australia
80-800	240-2400	Exempt under the Transport Code	Radioactive in South Australia
>800	2400	= 10 Bq/g	Radioactive under the Transport Code

The applicable regulations, codes and guidelines are as follows:

- SAEPA 2010 Radiation protection guidelines on mining in South Australia: Mineral exploration
- SAEPA 2022 Code of Compliance for radiation management plans. COC-1
- SAEPA 2023 Transport of radioactive material. Guidance Document.
- SAEPA 2022 Code of compliance for labelling and signage of ionising radiation sources COC-7
- SAEPA 2023 Portable XRF apparatus. Guideline EPA 1148/23. (see separate ARE RMP)
- ARPANSA 2005 Code of Practice and Safety Guide. Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing. RSP No.9. [Amended Tables}
- ARPANSA 2019 Code for the Safe Transport of radioactive Material.
- ARPANSA 2020 Code for Radiation Protection in Planned Exposure Situations.
- Radiation Protection and Control Act 2021
- Radiation Protection and Control Regulations 2022.
- South Australian Mining Act 1971 and Regulations 2020
- DEM (2022) Mineral exploration PEPRs and compliance: Guidelines MG22.

PART TWO – SA EPA Code of Compliance RMP Requirements:

The radiation management plan must include information about the following where relevant to the activities being undertaken, premises or facility and subject to a graded approach:

2(a) Details of the procedures for radiation safety and the optimisation of protection.

Drill-site personnel-specific: Radiation-specific procedures

PPE needed at all times at the drill-rig include:

P2 disposable mask, gloves, high visibility workware, boots, hard hat, safety glasses, hearing protection

Additional options for PPE includes protective overalls.

Routine radiation surveys will use a handheld survey meter and contamination meter. Dose rates will be assessed to ensure that the external dose to anyone remains below 300 µSv/hr.

Sample materials at greater than 80ppm need to be handled and managed as radioactive material.

Where there is a grade-average of more than 800ppm over 5 metres or equivalent in one drill hole, this will trigger dust monitoring and the wearing of personal radiation dosimetry (OSL/TLD) badges.

1) Ample spare and replacement PPE are to be available at the drill-site so that workers can access new clean PPE or upgrade PPE protection levels as need arises.
2) Are clean shaven and wearing a P2 disposable masks for employees proximal to the drill rig and in dusty conditions
3) Work is carried out with the support of JSA processes and daily inductions and no person is permitted on site without having a prestart briefing. Radiation safety is required to be an ongoing matter for review and consideration in JSA and pre-start meeting agenda. And featured at monthly toolbox meetings.
4) Nominated members of the drill contractor crew and field sampling crew will have access to gamma monitoring equipment and surface contamination meters at all times.
5) Any member of a work crew can request a pause in drilling to survey or measure radiation levels in more detail in samples, on surfaces, on clothing etc.
6) Where area monitoring or sample monitoring for radiation levels is carried out, that information is to be available to all workers on site. This contrasts with where personal radiation monitoring is carried out, the availability of that information to the individual and the privacy of that data is as per regulations.
7) All workers are to commence work with unsoiled clothing and have work clothing laundered separate from non-workware and bedding.
8) Where coveralls are required to keep mud and dust contamination off clothing and are heavily soiled (e.g. offsiders working on a sample-cyclone) these are overalls are to be removed prior to traveling in vehicle cabins and disposed of as per clearance test requirements.
9) Due to the '*personal dust cloud*' effect, any time a worker has mud or dust soiled clothing associated with drilling a U mineralised interval they are advised to wear the appropriate level of respiratory protective protection until such time as any soiled outer clothing is removed.
10) When drilling using the aircore method and a well-mineralised interval is identified (e.g. >800 ppm) workers are to check surface radiation levels on clothing at the end of the drill-hole and more regularly as appropriate.
11) Wash water and detergents are to be provided at all locations for workers that may potentially encounter radioactive materials so they can wash their hands, arms and face prior to eating etc.
12) Hand to mouth activity including smoking or vaping or placing any other object in the mouth is not permitted on drill-pads or in storage facilities containing mineralized samples.
13) Meal-times will be planned for so that there is adequate time to wash and clean hands and face etc.
14) In work areas and storage facilities for radioactive materials, signage needs to show the prohibition of eating, drinking or smoking other than in designated areas.
15) Eating and drinking outside of meal-times will be precluded when there is high probability of high-grade intersections and after ore-grade materials have been intersected and prior to site clean-up.
16) Professional radiation monitoring consultancies will be available to provide advice direct to the field workers and provide more -detailed monitoring services as necessary to manage changing conditions where there is potentially greater risk.

The specific operational response levels risk-controls and particular PPE/monitoring combinations are addressed under Radiation Monitoring Procedures below.

During Drilling: Radiation Monitoring & U, Th measurement Procedures.

1) Radiation levels plus U and Th concentrations will be measured, monitored and recorded as follows:
    a. A gamma log will be obtained for the entire hole at the end of drilling. The gamma log is based on a wireline Geiger-Muller or NaI type gamma probe running inside the drill-rods.
    b. A geologist and offsiders will monitor the visual appearance of cuttings and samples during drilling in real-time, looking for a colour-change in samples to grey or black colouration to indicating a change to a reducing environment and the potential for U mineralisation based on knowledge acquired in nearby drilling.
    c. Each calico bag will typically be monitored at the chip-logging station on the drill-site using a surface contamination meter within 1-2 minutes of being drilled.
    d. If the drill-rig is using 3m long drill-rods and calico bag samples are tested for every metre, the driller is not to continue drilling if they are ahead of the sample radiation screening by more than 3 samples.
    e. Where drilling a suspected mineralised horizon, the driller is not to continue drilling if they are ahead of the sample radiation screening by more than 2 samples, if practicable.
    f. If an elevated gamma screening value is found for a sample, drilling will pause until all samples drilled up to that time have been screened and any necessary upgrades to PPE are implemented.
    g. All anomalous 1m sample intervals in calico bags containing suspected mineralisation from having a dose rate survey meter reading 2x background for the hole will be analysed by pXRF for U and Th preferably within 30 minutes and no more than 48 hours of being drilled.
    h. Samples from intervals of prospective horizons and or already identified by gamma screening and pXRF screening will be sent to an assay laboratory for more sensitive analysis of U and Th. Results for laboratory U and Th are expected within 6-8 weeks and will be reconciled with all other data.
    i. In settings having > 800 ppm U samples over 5m or equivalent grade thickness[¥], highest risk individuals will have personal monitoring dosimetry.
    [¥ this could be modified by pre-start, JSA, safety-toolbox discussions and external radiation safety professional advice to be more proactive]

The pXRF data and site radiation external dose and surface contamination surveying will be reviewed in real-time by the field geologist and will be reviewed daily or on request by the Exploration Manager or Chief Technical Officer. These reviews will have an exploration objective and a site-safety component to them.

Drilling may become entirely predictable and only have the potential for the intersection of elevated radiation at particular depths. In that situation, with the agreement of the EM and RSO it may be possible to drill the un-mineralised part of the hole without additional radiation-specific controls but to be prepared for full implementation of radiation controls prior to approaching the mineralised interval.

The approximate site-specific association between amounts of U (ppm) and dose at surface (µSv/hr) will be refined during exploration. This will take into account actual sample density, sample mass, moisture content, instrument being used and testing method. This will need to be

reviewed and refined in a site-specific manner consistent also with the sensitivity and response of particular monitoring equipment and size of samples being tested. Similarly, gamma-log downhole radiation survey values will need to be calibrated against other field measurements.

Drill Rig Specific Controls

Note that the hierarchy of controls in relation to aircore drilling would direct people to take measures prior to adding more-protective PPE control including:

- Drilling Method Choice*:* These procedures are related to drilling to discover a roll-front-like sedimentary U target in a greenfield-setting where mineralisation has not yet been discovered and where potential dust-related radiation risk needs to be controlled. The procedures are also in the context of staged drilling campaigns for example drilling 5000-10,000m at each phase that may be the subject of a new EPEPR and method review. Exploration expects to progressively home-in on mineralisation and also needs to be prepared for mineralisation to be encountered at any time. Upon discovery of significant mineralisation in a localised setting, (say 5m >800ppm U or equivalent) the transition to wet-drilling methods such as rotary-mud will be considered in subsequent programs. Wet drilling methods have the potential to substantially lower radiation risk from dust emissions.
- Planning: develop ground surface coverage plans with tarp sizes and materials and drill-pad layouts that will assist to prevent drill cuttings being deposited on the ground surface (see the next section for more detail);
- setup the drill-rig orientation, drillers position, cyclone, logging area with the prevailing wind-direction in mind where possible;
- ensure that if risk increases, better trained and better skilled personnel are in key positions;
- conduct optimal water injection down the rods and dust suppression in the cyclone to minimise dust generation where practical;
- place additional height on the stack above the cyclone to disperse dusts away from workers;
- prepare for drilling to plan to drill at a steady-pace where there is adequate time for people to move away from or relocate upwind of any dusty locations at regular intervals;
- if carrying out compressed air cleaning of engine air-filters do this preferably after a mineralised interval has been intersected and before the wet wash-down of the rig prior to moving off the drill-site, not at the start of shift on a clean drill-site;
- carry out bag-numbering/rig maintenance and any other discretionary tasks before a target mineralisation interval is intersected on a drill-pad;
- Ensure that people minimise the times when they are in close-proximity to radioactive sample materials and where there is a choice, handle calico sample bags by the loose-neck of the bag rather than by lifting or cradling them.

In an aircore drilling setting the following classifications of workers apply to guide risk, beginning with greatest potential risk:

- Anyone within 4m of the cyclone, downwind of the cyclone or handling loose-powdery drill cuttings.
- Driller and other offsiders
- Sample logging and sample sorting

Where tarps or bags/buckets of drill cuttings are emptied into sumps, people are 'running bags' etc. this too would be the same category as working at the cyclone.

The modification of the PPE and method responses to increase PPE and protections can be carried out by JSA or other review but not made weaker.

2(b) Details of how radiation exposures are identified, assessed recorded and reported.

The controls implemented are such that drilling an interval having a U grade equivalent of 5m at say 800ppm will trigger the adoption of personal dosimetry monitoring and a safety review.

What may occur in some settings is that U concentrations progressively increase or may predictably change with the horizon or lithology as you get closer to mineralisation while drilling a hole. Similarly, precautions need to also consider how to manage higher-levels of radiation that may be encountered unexpectedly or sooner than anticipated.

One of the key assessments to apply is whether, consistent with the principle of maintaining exposures as low as reasonably practicable (ALARA) whether there are readily-applied controls that will reduce exposures and that these are always implemented.

Radiation safety will be reviewed at the prestart meeting every day. This will record the previous day the U sample grades, PPE worn, gamma survey results and assessment of protection levels. After that summary and assessment for the previous day, a plan for drilling and any refinement of radiation safety controls for the current day will be made by the field geologist or RSO.

2(c) Details of monitoring and reporting programs for the environment

Drilling procedures including site radiation monitoring and photographic documentation before-during-after drilling: Including Area and Equipment Radiation Monitoring Procedures.

Drilling management will be assisted by the use of a Tablet containing a mapping system that records property boundaries, tenement boundaries, proposed drill-sites, exclusion areas, and photograph and monitoring locations among other things. The tablet-based satellite GPS linked drill-hole data-management system also assists photographic site monitoring and radiation monitoring such that inspections, measurements and images will automatically be located in a time-stamped fashion at a

point on a map and regularly update network data. All monitoring on drill-sites will be recorded in this system.

The drilling procedures are summarised to show the sequence of considerations and where monitoring work is slotted in with the program. **The monitoring stages and situations where environmental data are produced are shown in bold text.** It excludes the sampling process.

1) Select drilling method:

   Factors: Once mineralised materials are encountered, methods such as rotary mud drilling may replace aircore drilling. The advantage of aircore drilling is sample recovery, speed and cost per-metre, making this a method of choice during greenfield exploration stages.

2) Select drill pad location:

   Drill pad locations will be nominated in the EPEPR. These sites will initially be selected near roads and on easy-to-access sites requiring least disturbance and taking vegetation cover and landowner interests into account. The site will be such that sump areas will not be susceptible to erosion and foreseeable geotechnical failures.

3) Drill pad layout and design:

   This will be to a general size and layout specified in the EPEPR

4) Sump Design

   Designed sump size will consider hole, depth, the disposal of excess drill cuttings and will be constructed as per the EPEPR.

5) **Drill Pad Before and After Survey**: [Pre-disturbance]

   After the collar peg location has been finalised and the drill-site marked with corner pegs and prior to equipment entering the drill area, the following will be documented:
   Photography: Six Images: 4 Images from the edge of the drill-pad looking towards the collar-peg looking North, East, South and West. One image from the 30m up the access track towards the collar or similar and one image from the collar towards the marked-out planned sump location. These images will show pegs that outline the planned drill-pad corners and sump location.
   Surface Radiation Survey: A surface contamination survey with probe at the ground-surface level at four points. Test the collar, probable cyclone location and two points at the sump location. These gamma readings will be entered into the data tablet and will be time-stamped and geo-located as per the images.

6) Drill Pad Preparation:

   As per EPEPR specifications. If necessary preferably use roller to generate a flat working area or access as opposed to breaking the soil. If there is any slope on the drill pad, the sump needs to be on the downhill side of the collar-peg and cyclone location.

7) Drill Pad Mobilisation and Setup: [When rig is on site]

   Equipment will arrive on site in clean condition free of any accumulated mud and dirt.

Assess wind-direction before rig setup & start of drilling to ensure that if the rig orientation could be refined that as many of the sampling and drilling crew can be located upwind from the hole-collar location as possible.

Place dedicated bunded tarps primarily to catch any possible hydraulic oil leaks. Place separate tarps around the collar and under the cyclone to catch cuttings and any cyclone water or muds. Create 'turkeys nests' as appropriate to contain any water from the cyclone and allow drill cuttings to be channelled to the sump. Setup a contained water channel from the cyclone to the sump.

Only bring what is needed on site. Designate an area on the drill site for parking vehicles and the storage of cement and consumables sufficiently away from the cyclone and collar that it is unlikely to be dust contaminated. Ensure that any vehicles to be used for site-travel, medical-evacuation etc. are parked > 15m from the drill collar and upwind from the rig free from possible dust from the drill-rig.

8) Preparation to Drill:

All workers are to be trained, inducted and contribute to and be at the daily safety and operational planning pre-start meetings, JSA meetings and be actively involved with and contributing to radiation safety at monthly toolbox meetings.
Complete vehicle and rig pre-starts, routine servicing, routine maintenance and preparations for sampling prior to drilling. The site geologist along with the driller assess the site preparations and readiness to drill. One of the objectives of the site setup is to ensure that down-hole materials are unlikely to be spilled on the site surface and all tarps for protecting the surface are checked for coverage and soundness prior to commencement.

Monitoring: Take a wide-angle photo including drill-pad, rig, cyclone and sump locations and showing tarps in position before drilling commences.

9) Preparation for dust, site drainage and 'collaring' the drill-hole:

Ensure that prior to drilling mineralised layers that vehicle windows are closed, all access to vehicle cabins are minimised and choose to have a lunch break before rather than after where possible.
Where aircore drilling is conducted without installing a collar any water ejected out of the hole will largely run from the cyclone via a contained channel to the sump. Installing a collar with the objective of better-controlling groundwater may be considered.
Where anomalous or ore-grade mineralisation is expected below the water-table, one option for the drainage line from the collar and cyclone to the sump may be a shovel able metal chute made from say 2mm thick section of galvanised iron.

10) Drill the hole:

The objective of drilling practice is to ensure that housekeeping on the drill-pad using tarps eliminates drill-hole cuttings and drill-hole fluids contacting the ground-surface. Where there is the potential for or any materials spill, it will be important to stop

work, contain the situation, assess whether a radiation spill has occurred. **If an incident occurs the monitoring steps include photography, additional radiation monitoring and remediation planning before putting a remediation in place and taking additional precautionary measures to avoid a repeat occurrence.**

Sampling at 1m intervals will produce up to 8 kg of sample per metre. Sample will be split with 25% going into calico bags and 75% going into containers that will be emptied into base of the sump. The containers for the 75% of each metre interval will be either buckets or green bags which will be stored on tarps and transferred over tarps before being emptied to the base of the sump.

Note the depth where groundwater is intersected and record on drill log. Drilling below the water table may generate lower dust emissions.

Clean-up and maintenance of the tarp cover has to be ongoing and commenced at the earliest opportunity during drilling to ensure that materials are not dispersed and materials become uncontrolled or spread by foot-traffic or machinery.

11) **Run a downhole gamma survey inside the drill rods**:

On completion of the drill-hole to final depth a gamma survey is carried out through the drill rods. This survey will be a second-layer of measurement to identify any anomalous radiation that has been encountered in the hole. Other measurement on site includes the recording of radiation using a radiation survey meter on the calico bags and pXRF analysis of samples for U.

The results of the downhole gamma survey will be processed and communicated to the drill crew ASAP and checked against the prior 1m interval sample-based measurements.

12) Decommissioning of drillholes:

Drillholes will be backfilled according to Information Sheet M21 and detailed within the EPEPR. All sample material which is not removed from the drill site will either be disposed of within the drill sump or returned to the drillhole.

Cementing and grouting of the drillhole may be required to satisfy the M21 requirements, particularly if confined aquifers are intersected or if the sample material will not easily be returned to the drillhole.

If cementing/grouting is used to decommission the holes, this will happen progressively as the drill rods are pulled out upon completion of the drillhole.

13) Rig clean-up before de-mobilisation:

All equipment leaving the drill pad that has been near the cyclone and drill collar have to be cleaned and washed down, with any washings being directed into the sump.

Surface radiation measurements on equipment will be carried out if downhole values > 80 ppm U were encountered.

A geo-located and time-stamped record from surface monitoring of equipment and photographs of the site and cleaned equipment will be obtained on the data Tablet. The photograph and monitoring schedule is detailed below. This schedule is to ensure that as mineralisation concentrations increase, additional monitoring of site and rig clean-up is applied.

Clearence Surveys include:

Risk Category: < 80ppm U (based on 5 x 1m interval samples)

- cyclone splitter accessible internal surface is visibly clean
- (no radiation monitoring of equipment for A & B)
- photograph the cleaned cyclone and splitter internals
- photograph the cleaned mast and drillers control panel area of the drill rig
- Don't demobilise until the OK is given by the geologist and driller.

Risk Category: > 80 ppm U (based on 5 x 1m sample interval)

- All of the above
- radiation survey of cyclone and machinery surfaces at rear of rig 4x readings
- radiation survey tarp surface for each tarp before stowing on rig
- radiation survey cleaned buckets or green bags used for sample storage if they are to be disposed of or taken to a new drill pad, at least test 3 bags from the most mineralised interval in the hole
- radiation survey boots and clothing of the person in the dustiest work location

Site clean-up records need to be logged in the daily drilling report, communicated at the prestart for the following day and used as a day-by-day tool to guide the more-intensive use of PPE and to review drilling safety.

14) Tarp demobilisation and management:

Bunding under the rig to catch leaks from fuels, hydraulics, compressors and engines will be separate to those used for catching drill-cuttings. Should a hydraulic leak occur this should be repaired and cleaned up for example before drilling resumes so that there is no risk of generating mixed-wastes.

Tarps will be lifted, cleaned and radiation surveyed prior to transfer from the drill-site. The initial site clean-up will focus on ensuring materials from downhole do not visibly remain on the surface of the land. Material on the surface should be removed and disposed of in sumps rather than allowed to mix with the soil.

Separate tarps and bunds will catch cuttings around the collar and washings from the rear of the rig. Tarps will be set-up to allow materials to be washed, tipped or channelled into the sump. Foot-traffic through any accumulated cuttings is to be

eliminated particularly after any anomalous mineralisation has been drilled and before this is cleaned up.

The rig and cyclone may be repositioned closer to the sump and with modified tarp cover should the rig require significant cleaning such as pressure washing. Pressure washing must be controlled so that it does not disperse materials in an uncontrolled way.

15) Sump Management:

Sumps (as per EPEPR) need to be sufficiently deep to ensure that – mineralised materials >80ppm U or ore-grade materials be encountered for example that radioactively anomalous materials from the drill-hole are going to be greater than 1m deep below the surface under compacted clean fill and the 1m of compacted clean fill will also allow for an additional layer of uncompacted soil over the sump. Only materials that have come from the drill-hole are to be put in the sump.
Mineralised materials may also be disposed of in a dedicated sample disposal pit (see EPEPR) if there is no current drilling. Disposal pits must contain at least 2m of clean and compacted cover among other detailed requirements over any radioactive materials (p,11 RP guidelines on mining in SA: Mineral exploration. SAEPA 2010).
Sumps will be fenced at all times and allowed to dry-out. After drying out, sumps will be filled such that >1m of compacted, clean fill and then a soil layer is placed on the sump.

16) Demobilisation from Drill-site:

All materials being taken from site will be checked using a radiation survey meter to ensure they are free from anomalous radiation and drilling materials, and rubbish will be removed from site. Plastic bags, or any other waste materials are to be disposed of offsite after being demonstrated to be free from radiation and cleaned as necessary. The site geologist and field assistant will clear all vehicles, items and personnel to leave site after radiation survey. (see separate section).

17) Waste Disposal:

In relation to any plastic bags, and used PPE, refer to p.11 RP guidelines on mining in SA: Mineral exploration. SAEPA 2010. The disposal of site rubbish at a municipal tip should be able to be verified by a receipt or photographic documentation.

18) Post drilling Image and Radiation Survey:

When the rig and vehicles leave the drill-site and an initial remediation involving cleaning off tarpaulins has been carried out a gamma-survey will make repeat measurements as per the before drilling locations and at a selection of any disturbed points having the greatest potential for spillage of drill cuttings. At least 3 radiation survey points will be made.
A post drilling photo-survey identical to the before images is also carried out.

19) Post Sump-Drying Survey

After the sump has dried, and prior to backfilling, a measurement of the radioactivity at the surface of the sump will be carried out if there is access for a gamma dose meter to be safely positioned on top of the settled muds and sediments. The depth to surface will be measured to ensure it is greater than 1m below ground level and this depth is recorded. A target depth of 1.2m will allow for 1m of compacted clean fill and 0.2m of uncompacted soil. Where the entire drill-hole is confirmed to have cuttings that are no more than 80ppm U, the thickness of compacted clean fill will not need to be > 1m. The before/after survey will still need to demonstrate that the site has not been contaminated.

20) Post Sump-Backfill Survey

After the sump has been filled with compacted clean fill, disturbed surfaces over the centreline of the sumps will be surveyed at the surface with a surface contamination and gamma dose meter at four locations.

The completed sump backfill site will be photographed including the sump in the foreground and towards the collar and including the drill-pad area.

21) Site Rehabilitation Survey

After any additional subsequent rehabilitation, such as a stage of surface ripping of a drill pad area site to facilitate water infiltration and revegetation, or after a period of natural regeneration, additional sets of geo-located drill-pad images may be taken. The ripping of a drill sump location should not disturb the >1m of compacted fill over the sump.

2(d) Dose constraints where applicable.

Any time where it is suspected that:

- An annual dose of 1000 µSv is possible or foreseeable in a year for person;

then personal radiation dosimetry and dust monitoring must commence under the supervision of a radiation safety specialist to estimate radiation exposures and compare doses with the limit for a member of the public at 1mSv/year and for a radiation worker at 20mSv per year.

2(e) Details of safety devices, PPE and radiation monitoring equipment.

The contamination survey meter will be suited for contamination checks on hands, clothing, PPE, and also able to detect dose rates. The device has an open window and is capable of measuring alpha beta and gamma particles.

The Ranger EXP contamination survey meter is a suitable meter for this work and details of the device are included below.

ADVANCED TECHNOLOGY FOR A SAFER WORLD

RADIATION ALERT
Ranger EXP

NEW Bluetooth Option. Observer App & Rad Responder Compatible.

detection
radiation

The Ranger EXP offers maximum performance in a lightweight, rugged solution for using your survey meter in the field. The Ranger EXP has been designed specifically for individuals that are operating in harsh environments. The Ranger is a small, handheld instrument that offers excellent sensitivity to low levels of alpha, beta, gamma and x-rays. The digital readout is displayed with a red count light and a beeper sounds with each count detected. Other features include an adjustable timer, selectable alert and with the free Observer USB Software Family, you can download your data from the internal memory, set computer alarms and calibrate the instrument.

Detector
RAP-RS1 Probe - External Halogen-quenched, uncompensated GM tube with thin mica window, 1.4-2.0 mg/cm2 areal density. Effective diameter of window is 45 mm (1.75 in.).

Operating Range
mR/hr - .001 (1µR) to 100 CPM - 0 to 350,000
µSv/hr - .01 to 1000 CPS - 0 to 5000
Total/Timer - 1 to 9,999,000 counts

Accuracy
(Referenced to Cs137) Typically ±15% from factory. ±10% with NIST Source Calibration

Energy Sensitivity
3340 CPM/mR/hr referenced to Cs137
- Detects Alpha down to 2 MeV.
- Detects Beta down to .16 MeV; typical detection efficiency at 1 MeV is approx. 25%.
- Detects Gamma down to 10 KeV through the end window.
- Smallest detectable level for I125 is .02 µCi at contact.

Display
Graphic LCD with Backlight

Alert Set Range
mR/hr .001 - 100 and CPM 1 - 350,000.
70db @ 1m.

Count Light
Red LED flashes with each radiation event.

Audio Indicator
Internally mounted beeper
(can be switched off for silent operation)

Built-In Efficiencies
^{35}Sulfur (S35), ^{90}Strontium (Sr/y90), ^{137}Cesium (Cs137), ^{32}Phosphorus (P32), ^{14}Carbon (C14), ^{131}Iodine (I131), ^{60}Cobalt (Co60), and Alpha

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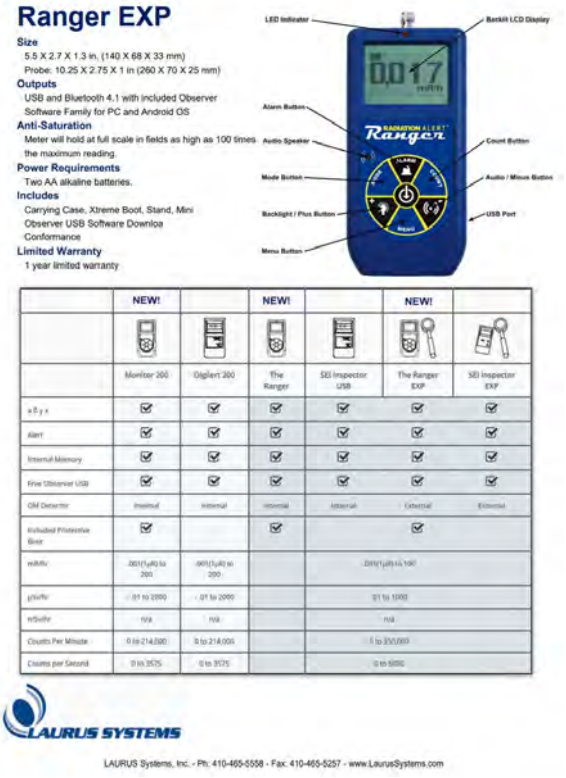

Ranger EXP

Size
5.5 X 2.7 X 1.3 in. (140 X 68 X 33 mm)
Probe: 10.25 X 2.75 X 1 in (260 X 70 X 25 mm)

Outputs
USB and Bluetooth 4.1 with included Observer Software Family for PC and Android OS

Anti-Saturation
Meter will hold at full scale in fields as high as 100 times the maximum reading.

Power Requirements
Two AA alkaline batteries.

Includes
Carrying Case, Xtreme Boot, Stand, Mini Observer USB Software Downloa
Conformance

Limited Warranty
1 year limited warranty

	NEW!		NEW!		NEW!	
	Monitor 200	Digilert 200	The Ranger	SEI Inspector USB	The Ranger EXP	SEI Inspector EXP
α β γ x	☑	☑	☑	☑	☑	☑
Alert	☑	☑	☑	☑	☑	☑
Internal Memory	☑	☑	☑	☑	☑	☑
Free Observer USB	☑	☑	☑	☑	☑	☑
GM Detector	Internal	Internal	Internal	Internal	External	External
Included Protective Boot	☑		☑		☑	
mR/hr	.001(1µR) to 200	.001(1µR) to 200		.001(1µR) to 100		
µSv/hr	.01 to 2000	.01 to 2000		.01 to 1000		
mSv/hr	n/a	n/a		n/a		
Counts Per Minute	0 to 214,000	0 to 214,000		0 to 350,000		
Counts per Second	0 to 3575	0 to 3575		0 to 5000		

LAURUS SYSTEMS

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Should personal monitoring dosimetry be required, then Landauer OSL badges will be acquired as per the brochure below:

LANDAUER

Luxel®+ Dosimeter for X, Gamma, Beta, and Neutron Radiation

Luxel+ dosimetry service provides x, gamma, and beta radiation monitoring with optically stimulated luminescence (OSL) technology. OSL technology is the newest advancement in passive radiation protection dosimetry that improves on the best features of traditional film and TLD technologies. Neutron detection, processed with Track Etch® technology, is optional where the CR-39 is incorporated within the Luxel+ dosimeter's clear plastic pack. Luxel+ can be packaged for personnel monitoring, area monitoring, emergency response or other specialized services.

Luxel+ offers complete reanalysis to confirm the radiation dose measurement, imaging of unique filter patterns that provide diagnostic capabilities to identify static or dynamic states during radiation exposure, increased sensitivity and precision, a wide dynamic range of measurement, and excellent long-term stability. In addition to these technological advancements, Luxel+ can be customized to meet the administrative needs of a radiation monitoring program through graphic, color, and packaging design options.

Landauer's comprehensive full service provides automatic exchange out of dosimeters for each wear period, accredited dose of record processing and analysis, data management, reporting of exposure results, and customer service and technical support programs. In addition to Landauer's full range of diagnostic evaluation and reporting services, many ancillary services are available including direct computer access via the Internet to Landauer's database for exposure reports, shipment tracking and account maintenance transactions.

ANTHONY WEBSTER RADIOLOGY UNIVERSITY MEDICAL CENTER

Administrative Design Features

The look of Luxel+ can be specialized through the selection of various combinations of graphic formats and background options to help identify groups and wear dates. Optional features such as department (series) color-coding, company logos, and custom instructions that can further specialize dosimeters are available for an additional charge.

The name of the account and worker, and a dosimeter placement icon indicating correct placement of the dosimeter is shown on the front of the Luxel+ basic design. The account and participant numbers, wear date, dosimeter use location, serial number, and the dosimeter and component bar codes, all ensuring chain of custody, appear on the back of the dosimeter.

Background and Graphic Format Options

Choose between any combination of four background options and three graphic formats. Background options are no background (default), Dogs, Sky or Trees. Graphic formats are Side Bar (default), Corner or Cross. The graphic formats change in color with each exchange frequency and each season has its own unique icon to help distinguish wear dates.

Department Groupings (Series)

Shipments are sent to a central location or can be divided into separate groups for shipping to one site or to multiple sites (series) at the same address or to different addresses. Series within accounts are segregated on dosimetry reports; the site name is printed on the face of the dosimeter, and a series code is printed on the back of the dosimeter. The site name on the face of the dosimeter is printed over a gray line graphic (default) or can be color coded for easy identification in a choice of six different colors.

Dosimeter Placement Icons

Icons on the face of the dosimeter identify the correct placement of the dosimeter, and a written description is included on the back of the dosimeter for verification. Icons include all whole body and extremity use, area monitoring, and a special icon designed for fetal monitoring.

Sample Graphic Formats/ Background Options

Side Bar/Default
Side Bar/Trees
Cross/Sky
Corner/Dogs

Holder

A Finite Element Analysis (FEA) study was used to develop the most durable holder available. The dosimeter simply snaps into the holder.

The standard holder has an alligator clip for secure fastening to clothing. In areas where no metal material is allowed, a clip made from all plastic can replace the standard plastic and metal alligator clip. Area monitor holders have Velcro® tabs with adhesive backing for easy surface placement.

Packaging

Luxel+ can be packaged for personnel monitoring, area monitoring, emergency response or other specialized services. Standard packaging ships each dosimeter individually wrapped in cellophane along with a card containing account and worker information that can be customized with a message to the entire account, a department (series), or a specific worker.

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LANDAUER

Luxel®+ Dosimeter for X, Gamma, Beta, and Neutron Radiation

Luxel+ and OSL Technology

Landauer grows the specially formulated aluminum oxide ($Al_2O_3:C$) crystalline detector material. The Al_2O_3 detector is then configured into a thin strip sandwiched within a multi-element filter pack. The filter pack is heat sealed within a laminated, light-tight paper wrapper creating an integrated, self-contained packet that is RF (radio-frequency) sealed inside a tamper-proof plastic blister pack to eliminate possible mishandling, light leakage, or lost detection elements.

Luxel+ may be used for up to one year. It is unaffected by heat, moisture, and pressure when the clear blister pack is uncompromised.

Radiation exposure is measured in Landauer's laboratory by stimulating the Al_2O_3 material with selected frequencies of laser light causing it to luminesce in proportion to the radiation dose and the intensity of stimulation light. The luminescence measured is applied to a dose algorithm that relies on the response ratios between different filter positions within the dosimeter to discriminate between beta and photon (x and gamma) radiation fields to determine exposure results.

N-144

Analysis

The Al_2O_3 detector can be restimulated numerous times to confirm the accuracy of a radiation dose measurement. A full reanalysis is automatically performed for every measurement yielding a dose in excess of 500 mrem (5 mSv).

The filter pack imaging area renders unique filter patterns that provide qualitative information about conditions during exposure. Imaging to identify static, dynamic, or contamination conditions is automatically performed for low-energy photon measurements yielding a dose in excess of 500 mrem (5 mSv). Imaging capabilities are inconclusive at energies exceeding 150 keV.

Imaging Filter
Static Exposure
Dynamic Exposure

Reanalysis or imaging at doses less than 500 mrem (5 mSv) can be requested. Imaging is not available for doses less than 50 mrem (500 µSv).

A static exposure image indicates the dosimeter may not have been worn at the time of exposure. This is verified by the distinct grid patterns in the filter pack imaging area. A static exposure implies that an accidental exposure may have occurred with the dosimeter.

A dynamic exposure image indicates the dosimeter was moving at the time of exposure. This is verified by the blurred grid patterns in the filter pack imaging area. A dynamic exposure implies that the dosimeter was worn at the time of exposure, and the reported dose is valid.

Technical Specifications

Radiations Measured	Photon (X and Gamma Ray)	Beta Particle	Neutron
Detector	Al_2O_3 (Aluminum Oxide)	Al_2O_3 (Aluminum Oxide)	Optional Neutrak® detector inside dosimeter (CR-39)
Analysis Method	Optically Stimulated Luminescence (OSL)	Optically Stimulated Luminescence (OSL)	Chemical etching followed by track counting (Track Etch®)
Energies Detected	5 keV to in excess of 40 MeV	150 keV to in excess of 10 MeV (Expressed as Average Energy)	Fast: 40 keV to 40 MeV Thermal/Intermediate: 0.25 eV to 40 keV
Dose Measurement Range	1 mrem to 1000 rem (10 µSv to 10 Sv)	10 mrem to 1000 rem (100 µSv to 10 Sv)	Fast: 20 mrem to 25 rem (200 µSv to 250 mSv) Thermal/Intermediate: 10 mrem to 5 rem (100 µSv to 50 mSv)
Accuracy	**Deep Dose** (Hp 10) ± 15% at the 95% confidence interval for photons above 20 keV **Shallow Dose** (Hp 0.07) ± 15% at the 95% confidence interval for photons above 20 keV and beta particles above 200 keV		
Accreditations, Approvals, Licenses	**NVLAP** (NVLAP Lab Code 100518-0) for Whole Body (ANSI/ HPS N13.11-2001) in the comprehensive subcategory "General" in all categories including VI when neutron component is added; and for extremity (ANSI/ HPS N13.32-1995). **HSE** (Health and Safety Executive) United Kingdom approved for Whole Body (OSL) and Whole Body Neutrons. **DOELAP** (Department of Energy Laboratory Accreditation Program). **CNSC** (Canadian Nuclear Safety Commission) Dosimetry Service License.		

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2(f) Description of incident and accident identification, response, investigation and reporting.

Emergency Procedures

In the event of an incident or emergency involving radioactive substances, implement control measures to minimise the exposure time of personnel to the source and maximise the distance of personnel from the potential source:

- Evacuate: personnel to a safe distance from the spill or potential source of radiation.
- Secure: the area by best means available to ensure additional exposures do not occur
- Advise: the site supervisor and the Radiation Safety Officer, seek additional advice if warranted
- Clean up: people first, then environment, then equipment and treat cleaning equipment as waste. Monitor waste and dispose accordingly.
- Verify Clean-up using a site specific clearance survey
- Record: the incident, and in the case of a spill for example include:
    - time, date and place
    - the names of persons involved
    - quantities and nature of materials involved

- note any dispersal of a radioactive substance
- the duration where materials were out of control
- probable cause of incident
- dose estimates for workers

Notifiable Incidents

- Workers shall report incidents to their supervisor or manager immediately via phone/email and followed up with a written report within 48 hours of the incident occurring.
- Notifiable incidents must be reported to the SA EPA

The following incidents are foreseeable for ionizing radiation sources at Australian Rare Earths:

- Stolen/missing XRF machine or radioactive material - orally report to regulator within 24h, written report within 7 days.
- Worker or member of public exceeding annual dose limits (via misuse of an XRF or radioactive sources) - orally report to regulator ASAP, written report within 7 days.
- Damage to XRF - orally reported to supervisor or manager ASAP, written report within 7 days.

The following incidents are foreseeable at Australian Rare Earths related to working at a drill-site:

- A person not wearing or incorrectly wearing a dust mask or respiratory protection in a dusty area. This is a non-reportable incident.

- Where radioactive materials may cause environmental damage (e.g. spill of uncontrolled radioactive materials to the environment at more than 100 times the exempt activity), the regulator shall be notified orally immediately, with a written report within 7 days. Specialist advice will also be required.

- Errors in classifying materials and packages containing radioactive materials resulting in inappropriate storage handling, proximity of workers or members of the public and labelling.

Specialist Advice

ARE has access to the following specialist advice when dealing with potential radiation incidents:

SA Radiation Pty Ltd

Dr. Kent Gregory 0410 388 018 kent@saradiation.com.au

Mathieu Messeiller 0490 770 110 matt@saradiation.com.au

2(g) Process and frequency for review of the radiation management plan.

The RMP will be reviewed at the commencement of each drilling program along with the EPEPR documentation for the proposed work program. RMP documents will also be reviewed if the exploration location changes and introduces new risks such as outcrop sampling, . Similarly should sedimentary uranium be discovered at Overland at potential concentrations and volumes amenable for ISR; a review of the RMP will be triggered to allow for potential changes including:

- Changing drill method to rotary mud drilling
- Making the RSO position a more stand-alone safety role
- Training and competency requirements will be reviewed
- Rolling out personal monitoring badges to all workers at drill rigs or handling samples
- Compiling and refining all site-specific radiation survey, downhole gamma logging, and U-assay data to improve radiation safety.
- Incorporating some method-related refinements to facilitate well-fluid monitoring and sample handling.

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Appendices

1) Database of mineralized samples >80ppm and storage locations
2) pXRF Radiation Management Plan for Australian Rare Earths and Licenses
3) pXRF field use procedure
4) Drill site contamination monitoring procedure
5) Procedure for shipping of NORM materials

Addendum to Australian Rare Earths (ARE) Radiation Management Plan (RMP)

Version 4.0

Jan 29th, 2026

C. Cockburn

Introduction: AR3 has a current RMP which has been endorsed by the EPA detailing exploration and drilling procedures for Uranium. The project is located in South Australia within the NW portion of the Murray Basin. This RMP was endorsed by the EPA on August 30th 2024.

A RMP is required for this style of mineral exploration and is a supplement to ARE's approved and pending EPEPR's issued by Department for Energy and Mining (DEM).

Since endorsement of ARE's RMP on August 30th 2024 ARE has acquired additional tenure in the region and intends to explore these areas (Figures 1-3). Aside from the additional tenure all elements of the exploration program and management of mineralized sample material will remain the same as detailed in the endorsed RMP.

The purpose of this addendum is to update AR3's RMP with current EL's and additional tenure for inclusion.

Updates to RMP:

Exploration Project Field locations (P.5 &6) Updated Table 1 and Figure 1&2 below.

Table 1*- List of Australian Rare Earths ELA's for the Overland Project. The ELA's will be updated with EL's once granted. The location and size of the tenure is not expected to vary significantly from below. The Radiation Management Plan is intended to cover the below ELA's and subsequent EL's.*

ELA	Name	Km^2
ELA2024/22 (EL7005)	Overland	995
ELA2024/14 (EL7001)	Overland	993
ELA2024/15 (EL7003)	Overland	992
EL6678	Overland/Sheer Gold	990
EL7079	Overland/Sedan	974
EL7080	Overland/Sedan	972
EL7081	Overland/Sedan	318

Exploration for sedimentary uranium will take place on these relatively remote areas in pastoral, sheep and cattle country approximately north and south of Morgan, east of Burra and North of Sedan in South Australia.

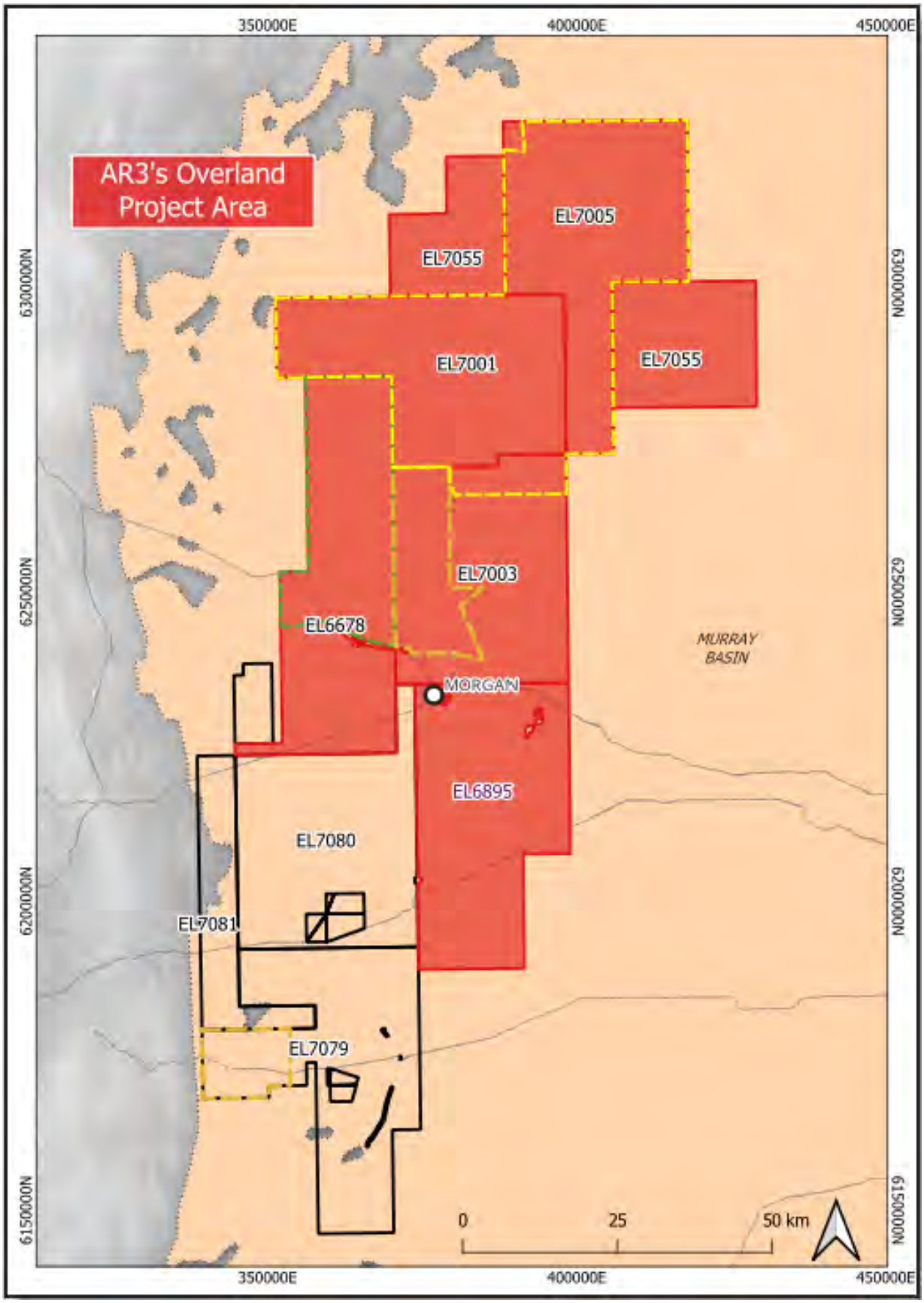


***Figure 1**- Overland project location map showing EL's and approved/proposed EPEPRs (current Jan 2026).*

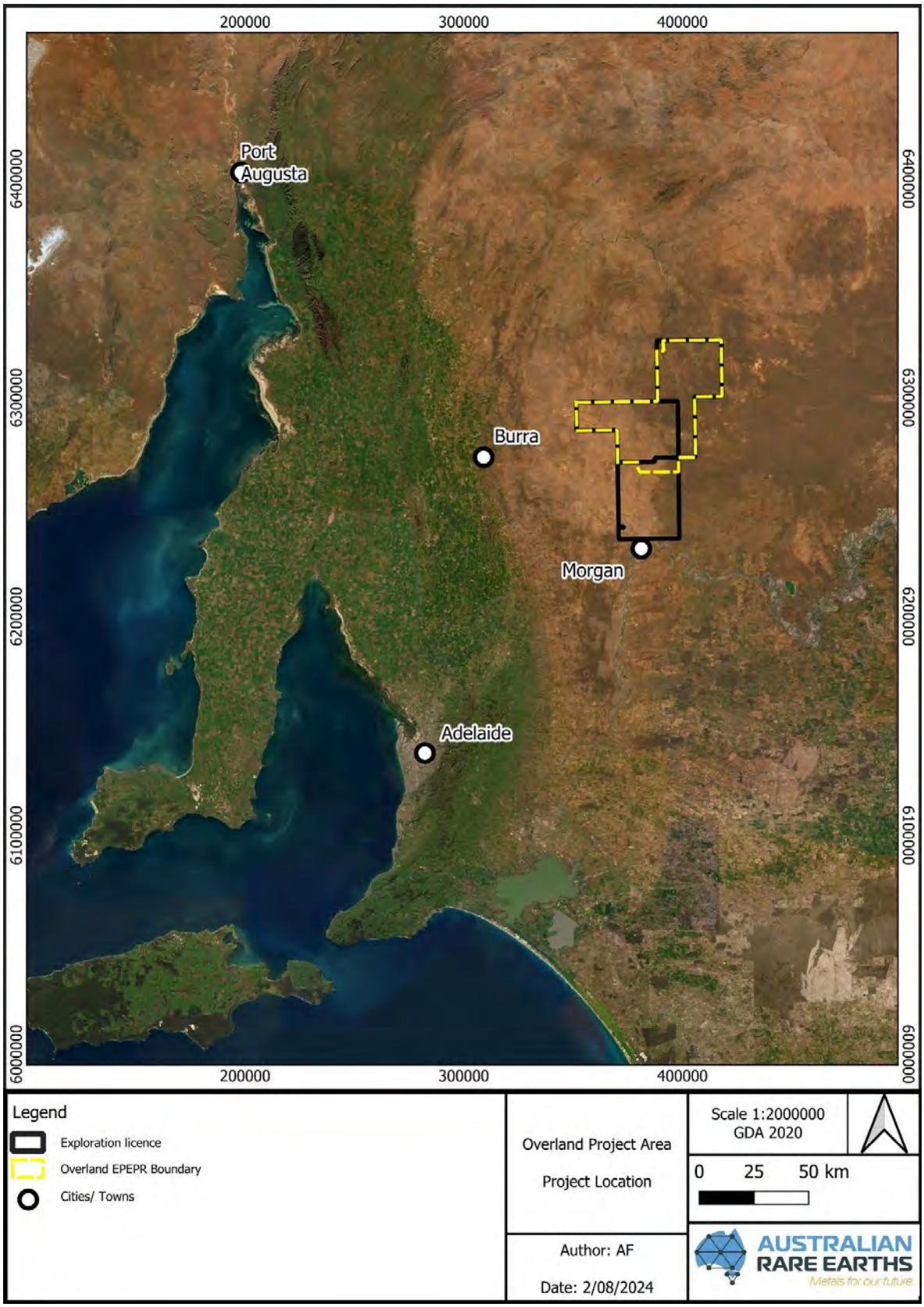


Figure 2 *– AR3's EPEPR 2024-027 Area (approved June 18th, 2025).*

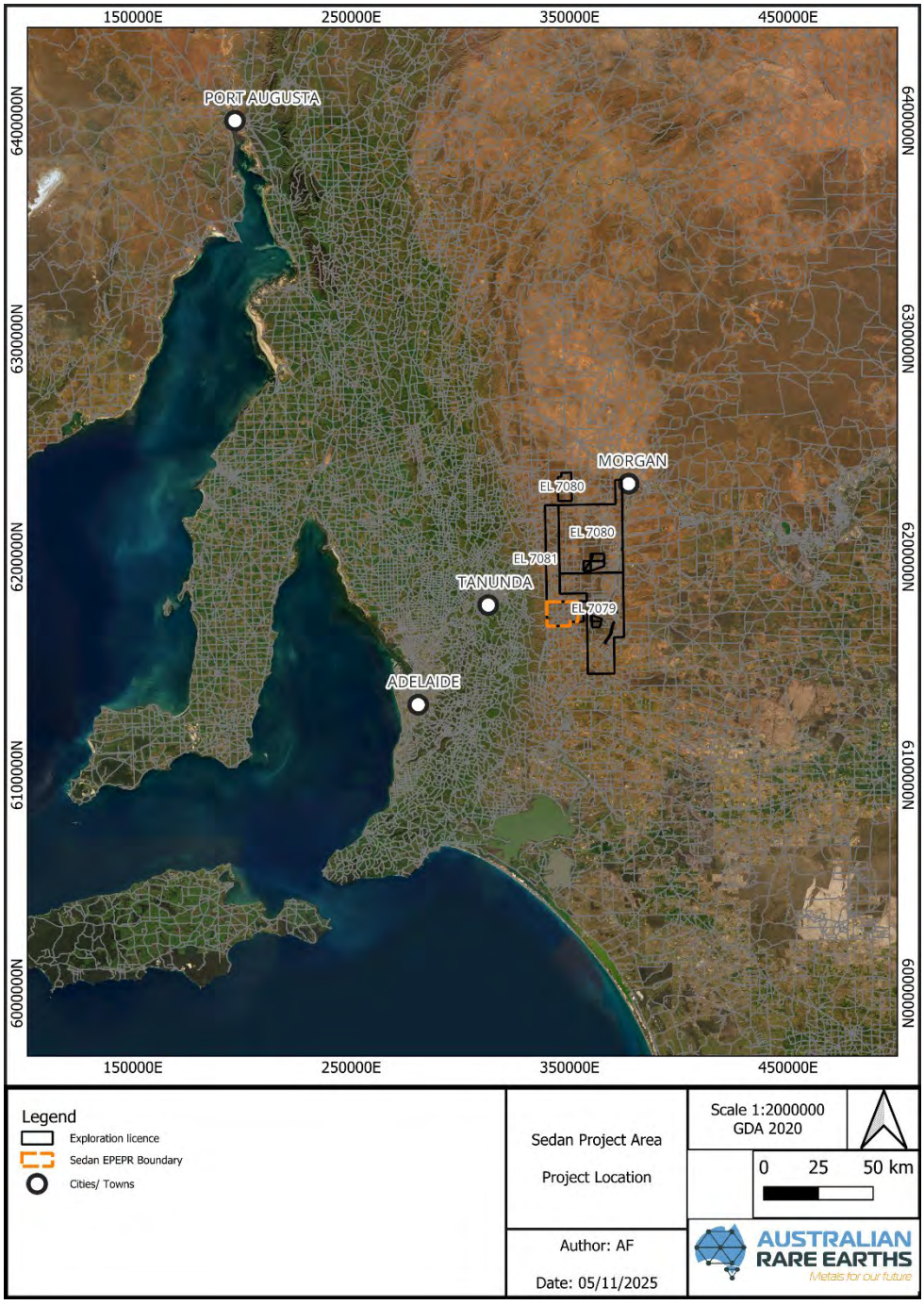


***Figure 3**- Overland/Sedan (EL7079, 7080, 7081) area and with EPEPR boundary application area (29/01/2025).*

Environment Protection Authority

GPO Box 2607 Adelaide SA 5001
T (08) 8204 2004
Country areas 1800 623 445

EPA R/exploration RMP

Chrsitopher Cockburn
Geologist
Australian Rare Earths Ltd
111 Gawler Place,
Adelaide SA 5000

Dear Chris

RE: Endorsement of Exploration Radiation Management Plan

I refer to your email of 19 August 2024 regarding the application for endorsement of exploration Radiation Management Plan (eRMP) for the support of the upcoming Overland Uranium Project (early drilling exploration programme) - exploration licence areas EL7001, EL7003, and EL7005; undertaking exploratory drilling operations for ISR amenable sedimentary uranium north of Morgan, SA.

The revised eRMP supplied to the EPA labelled 28 June 2024 V2 is endorsed for the purposes of the Radiation protection guidelines on mining in South Australia: Mineral exploration 2010 published by the EPA.

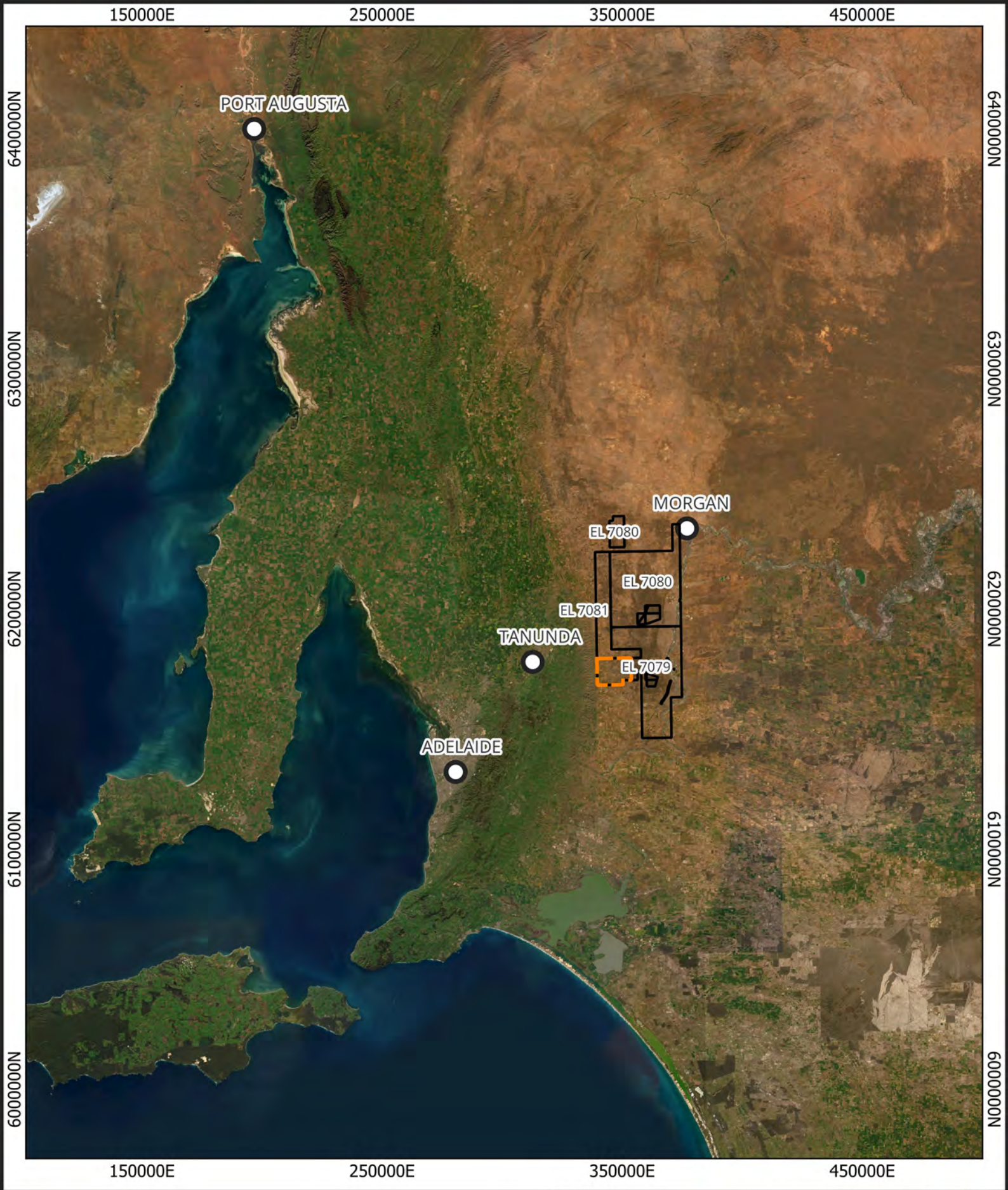
For further information on this matter, please contact me directly via email or phone.

Yours sincerely,

Raj Sardana
Radiation Protection Officer,

Authorised Officer
Mining and Radiation
ENVIRONMENT PROTECTION AUTHORITY

Date: 30 Aug 2024



Legend

- Exploration licence
- Sedan EPEPR Boundary
- Cities/ Towns

Sedan Project Area

Project Location

Scale 1:2000000
GDA 2020

0 25 50 km

Author: AF

Date: 13/11/2025

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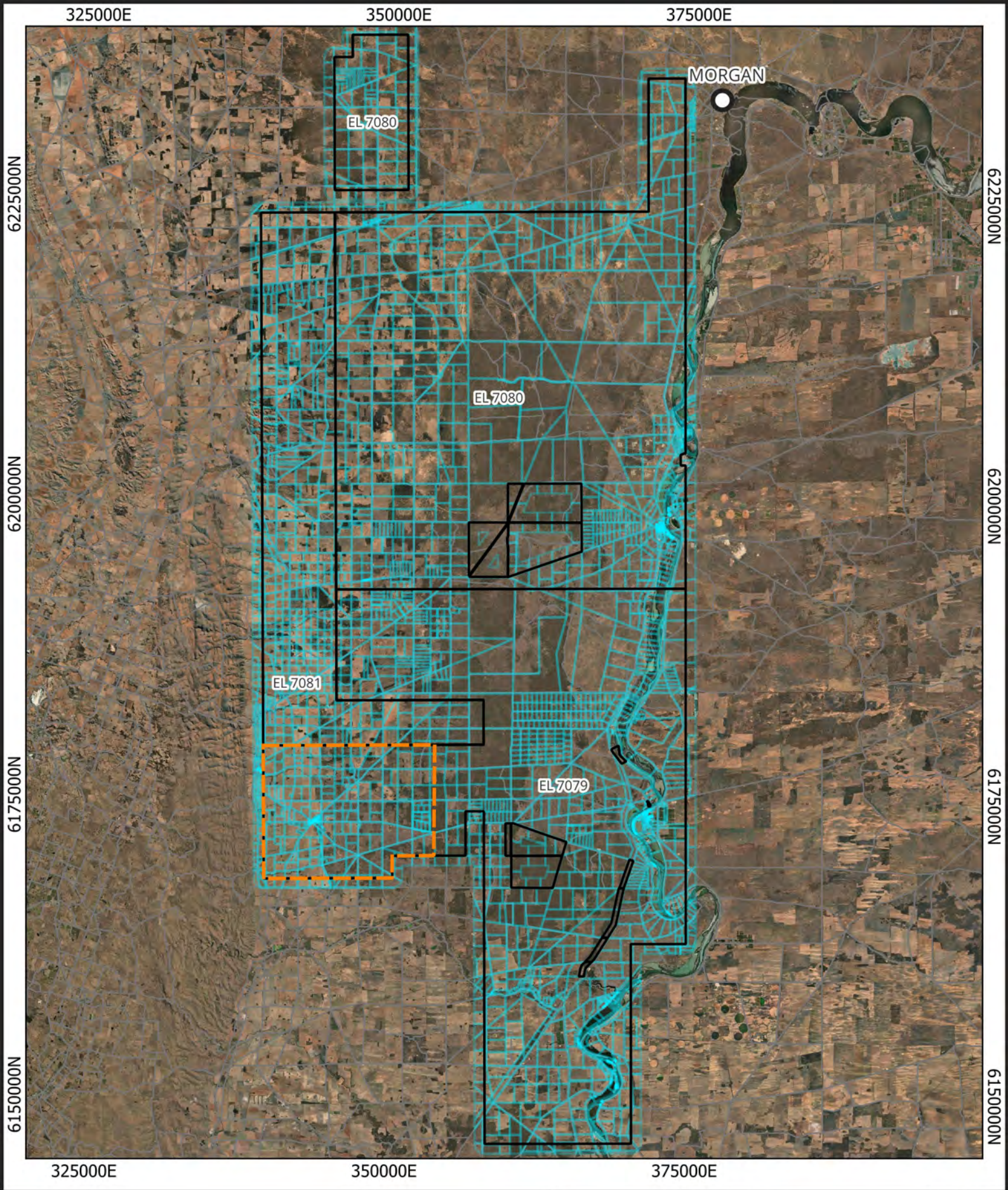
Metals for our future



Legend

- Exploration licence
- Sedan EPEPR Boundary
- Towns
- Roads
- Property titles

Sedan Project Area

Property Cadastre

Author: AF

Date: 13/11/2025

Scale 1:400000
GDA 2020

0 5 10 km

AUSTRALIAN RARE EARTHS
Metals for our future