Government of South Australia
Department for Energy and Mining

19 June 2025

Mr Rick Pobjoy
Chief Technical Officer
Valrico Resources Pty Ltd
Level 10, 111 Gawler Place
ADELAIDE SA 5000

Mr Rick Pobjoy
Chief Technical Officer
WRDBD Developments Pty Ltd
Ground Floor, 189 Hay Street
SUBIACO WA 6008

rick@ar3.com.au

Dear Mr Pobjoy,

Approval Notification - Exploration Program for Environment Protection and Rehabilitation (EPEPR2024-027) Review EL7001, EL7003, EL7005

The program review for EL7001, EL7003 and EL7005 final version submitted on 11 June 2025 to extend the drilling program into areas cleared via the ERD Court determination at Overland Uranium Project, has been approved in accordance with Section 70C of the *Mining Act, 1971 (the Act)*.

You are reminded that:

1. You must at all times implement and comply with the approved EPEPR.
2. The approved EPEPR will be made publicly available on the Mining Register.
3. Exploration operations on “native title land” (as defined in the *Native Title (South Australia) Act, 1994)* must be conducted in accordance with Part 9B of the Act.
4. In accordance with Section 70C of the Act, the licensee must review the EPEPR on request of the Minister’s Delegate within a time specified in the request and submit the revised EPEPR for approval.
5. As the operator for the approved EPEPR you must take all reasonable and practical measures to avoid undue damage to the environment and meet all the approved outcomes (when measured against the approved criteria) listed within the EPEPR.
6. In accordance with regulation 78 of the *Mining Regulations 2020* and Terms of Reference 012 (TOR 012), the licensee must submit an Exploration Compliance Report to the Mineral Exploration Branch each year, within 60 days after the anniversary of the date the licence was granted, and 60 days after the expiry or surrender of the EL, or in accordance with joint reporting requirements agreed to with the Minister.
7. In accordance with regulation 16(4) of the *Mining Regulations 2020*, drillhole and geological samples must be kept in accordance with guidelines issued by the Department for the term of the relevant tenement and for 7 years after the expiry, surrender, cancellation or forfeiture of the tenement to which the sample relates. Furthermore, samples must be retained by the tenement holder, or provided to the Director, in accordance with those guidelines (unless the Minister has authorised, on application by

the tenement holder in a manner and form set out in the guidelines, the destruction or disposal of the samples).

8. The EPEPR Review is approved for a period of twelve months from the date of this letter.

This approval does not constitute endorsement of the systems that you have in place to manage your exploration operations in compliance with the Act and licence conditions. In granting the approval, the EPEPR and your capacity to undertake the proposed activities have been considered. However, responsibility for compliance with the Act and the licence conditions, remains at all times with the licensee.

This approval relates only to the requirements of the Act. Other legislation relevant to this application includes the *South Australian Work Health and Safety Act, 2012* and Regulations. For example, Chapter 10 of the *Work Health and Safety Regulations, 2012 (SA)* introduced new requirements for mine operators in South Australia. The new requirements include a notification for mining operations and the establishment of a Safety Management System. For further information on your responsibilities, including a guide to Chapter 10 and the Mine Operator Notification Form, contact SafeWork SA on 08 8303 0255 or via its website at www.safework.sa.gov.au.

The proposed program may be subject to the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Mineral exploration industry-specific information is contained in an appendix in the EPBC Matters of National Environmental Significance – Significant impact guidelines 1.1. This document is available on the Australian Government's Department for Agriculture, Water and the Environment website at http://www.environment.gov.au/resource/significant-impact-guidelines-11-matters-national-environmental-significance. For further information, contact the Department for Agriculture, Water and the Environment, or visit its website at www.environment.gov.au/.

Proposed changes to exploration operations stated in the approved EPEPR may require a *PEPR review* to be submitted for assessment. Where a *PEPR 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.*

If you require any further information, please contact Jason Perry on 8177 3413 or Simon Constable on 8429 2516 or email DEM.exploration@sa.gov.au.

Yours sincerely

Simon Constable
GENERAL MANAGER MINERAL EXPLORATION REGULATION & COMPLIANCE
In accordance with delegated
Ministerial powers and functions

The Department's Regulatory Guidelines, Ministerial Determinations and Information Sheets are available at: http://energymining.sa.gov.au/minerals/knowledge_centre

APPLICATION Mining Act 1971 and Mining Regulations 2020

EXPLORATION PROGRAM FOR ENVIRONMENT PROTECTION AND REHABILITATION (PEPR)

Government of South Australia
Department for Energy and Mining

USE THIS TEMPLATE TO: Apply to conduct mineral exploration operations not covered by the Generic PEPR (Adopted Program) for a 12 month period of time on one or more exploration licences (ELs), retention leases (RLs) or mineral claims (MCs) in South Australia.

Refer to the Exploration PEPR Terms of Reference and Minerals Regulatory Guidelines MG22 when completing this application. Further information on exploration requirements in South Australia is available on the Department for Energy and Mining (DEM) Minerals website www.energymining.sa.gov.au .

SECTION A – GENERAL DETAILS

Operational approval period	**12-month approval period, with an additional 3 months to complete all rehabilitation**
Tenement details	EL7001, EL7003, EL7005
Tenement holder(s) (for each tenement)	EL7001, Valrico Resources Pty Ltd EL7003, Valrico Resources Pty Ltd EL7005, WRDBD Developments Ltd – a wholly owned subsidiary of Australian Rare Earths Ltd
Operating company	Australian Rare Earths Ltd (AR3) L10/111 Gawler Place Adelaide SA 5000
Agency agreement (if applicable)	Letters to the Mining Registrar, requesting AR3 be added to the approved Operators list for the above-mentioned tenements, has been submitted. (RI 54698 & RI 54699) 11/10/2024 Administrative changes (in red) to Overland EPEPR V5 (this document) Section B, Consultation 20/02/2025 - Updated Activities description to Overland V6 (this document) to include a further 50 drill holes and an increase in subsequent temporary access tracks, all updated content in green. Administrative change to Section B, Consultation 04/06/2025 Updated all relevant sections and references relating to Native Title ERD court Determinations received for areas subject to Part 9B of the Act. And also to extend the drill program to include a further 80 drill holes and an increase in subsequent temporary access tracks (All these updates in orange).
PEPR prepared by	Rick Pobjoy - Chief Technical Officer, Chris Cockburn - Exploration Manager, Jacqui Owen - Manager Community and Land. Australian Rare Earths Ltd L10/111 Gawler Place Adelaide SA 5000
Project supervisor/contact person(s)	Chris Cockburn Exploration Manager Australian Rare Earths Ltd L10/111 Gawler Place Adelaide SA 5000 0429 658 442 chris@ar3.com.au BSc (Hons) Geology 20 years experience
Project/prospect name	Overland Uranium Project
Location details	The Overland Uranium Project is centred approximately 50 km north of Morgan, in the Chowilla region of South Australia, located on the northern side of the Murray River about 250 kilometres to the north-east of the capital city of Adelaide South Australia (Figure 1-Section J).
Project description, commodity type and mineralisation model	Provide a concise description of the proposed program, including the type of operations proposed, commodity type and mineralisation model.> Uranium is the primary commodity being sought by Australian Rare Earths in this project area. The region is prospective for sedimentary hosted deposits of uranium within the Murray Basin sedimentary sequence. Sedimentary hosted uranium deposits occur in medium to coarse-grained sedimentary sequences deposited in a continental fluvial or marginal marine sedimentary environment. Impermeable shale/mudstone units are interbedded in the sedimentary sequence and often occur immediately above and below the mineralised sediments. Uranium is precipitated under reducing conditions caused by a variety of reducing agents within the permeable sediments including carbonaceous material (detrital plant debris, amorphous humate, marine algae), sulphides (pyrite, H2S), and hydrocarbons.

	These keys to the deposition of a sedimentary hosted uranium deposit, relying on 3 main elements; a source rock shedding uranium in solution, a pathway via permeable sediments into a host basin with overlying and underlying impermeable barriers, and reductants (a trap) in place to precipitate the uranium from solution, are available in the area proposed for exploration. A prospective horizon of Murray Basin sediments has been identified which have all the key ingredients for ISR amenable uranium deposits. Exploration for sedimentary uranium in the northern margin of the Murray Basin in South Australia has comprised airborne radiometric and scintillometer surveys, geochemical surveys of water bores, rotary drilling to basement, chemical and radioactivity analyses of drill cuttings and core, and stratigraphic and structural mapping of Tertiary and Quaternary sediments. Anomalous uranium has previously been identified in carbonaceous clay and lignite of the Winnambool Formation and Geera Clay (Murray Group), within the basin margin, but outside of the area proposed here for exploration. The North-western Murray Basin is prospective for paleochannel hosted roll front deposits with fluvial channel sands of the Renmark beds for the following reasons; • Drainage into the northern Murray Basin sources granites and meta sediments anomalous in uranium from the Olary Ranges Willyama Complex • Basal Tertiary sediments of the Murray Basin include the Onley formation and channel fill Warina Sand. The Warina Sand is an ideal host for uranium mineralisation and forms the primary target for this exploration program. o Deposited in a fluvial environment o Medium to coarse grained quartz sands o Interbedded clays and carbonaceous material (variably pyritised) Australian Rare Earths is proposing an Aircore drilling program of up to 80 holes for 20,000m testing for uranium mineralisation in the NW portion of the Murray Basin, SA.

Proposed project schedule	Start date	20 June 2025	End date	20 June 2026

DECLARATION

I, the tenement holder, declare under regulation 84 of the Mining Regulations 2020, that I have taken reasonable steps to review the information in this PEPR/revised PEPR to ensure its accuracy.

Name	Travis Beinke, EL7005, WRDBD Developments Ltd	Signature (digital allowed)	
Position	Director	Date	10 June 2025

Name	Rick Pobjoy, EL7003, Valrico Resources Pty Ltd	Signature (digital allowed)	
Position	Director	Date	10 June 2025

Name	Rick Pobjoy, EL7001, Valrico Resources Pty Ltd	Signature (digital allowed)	
Position	Director	Date	10 June 2025

Copy and paste the above table if there is more than 1 tenement holder.

Note: An authorised representative from each tenement holder must sign the declaration (e.g. in accordance with the Corporations Act 2001).

SECTION B – PROGRAM PREPARATION AND ACCESS TO LAND

Work undertaken in preparing the proposal

Summarise the research and fieldwork undertaken in preparing the proposal including:
desktop reviews of existing information
field visits for reconnaissance
contractor consultation (i.e. equipment scale, type)
other information used when planning the proposed program.

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.
• Meetings held with Operations Manager, Wallis Drilling and Drilling Inspector, Department of Environment, Water and Natural Resources to review program and M21 (Mineral Exploration Drillholes — General specifications for construction and back filling) requirements.
• Desktop review of Eastern District Soil Conservation Board District Plan, May 2002.
• Engaged with the Murraylands and Riverland Landscape Board to identify our activities in the region.
• 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 was submitted to the EPA on 28th of June 2024 and endorsed on August 30th – see Figure 26.

Consultation (r. 64)

Using the table below, provide a summary of the individual or group of similarly affected persons and summarise the results of consultation that has been undertaken on the proposed operation. Types of interested or affected parties include residents, council, government agencies etc (exclude native title groups and defence owned or controlled lands – refer to relevant sections below).

Tenement	Stakeholder	Land tenure	Land use	Date and type of NOE served	Type of exempt land	Date waiver obtained	Date consultation/access agreement and/or permits signed/authorised	Stakeholder concerns raised and how addressed
								<Tab to add rows.>
EL7005	Landholder 1	Pastoral	Grazing	07/08/2024 Form 21B			*10/04/2024 phone* *15/04/2024 email* *06/05/2024 In-person meeting*	*Introductory phone conversation with Landowner based in Adelaide.* *AR3 sent intro email with - Overland Project information and SARIG maps.* *In-person meeting -Discussed property management and activities along with AR3 project. No issues raised, gave property managers contact details Agreed to liaise regularly, especially nearer to planned operations.*

Tenement	Stakeholder	Land tenure	Land use	Date and type of NOE served	Type of exempt land	Date waiver obtained	Date consultation/access agreement and/or permits signed/authorised	Stakeholder concerns raised and how addressed
								Phone advised that we would like to discuss logistics for potential drill activity on the property in October – owners advised AR3 to liaise directly with managers whilst keeping them in the loop going forward. *Agreed to liaise regularly, especially nearer to planned operations.*
							15/07/2024 Phone *18/09/2024 Email* *20/11/2024 Email* *23/05/2025 Phone*	*AR3 called to give update regarding next week's visit to establish suitable areas for exp. drilling and access tracks etc. discussed EPEPR development and NOE.* *18/09/2024 email communication regarding EPEPR approval and delay in activities due to native title approval process.* *20/11/2024 email project update with 2x ASX announcements attached* *23/05/2025 Left message to advise Cultural Heritage outcomes and intention to commence as per NOE from July 1. Will follow up with via email once EPEPR approved and in person meeting to ground truth.*
EL7005	Landholder 2	Pastoral	Grazing	07/08/2024 Form 21B			*8/05/24 in person meeting* *25/07/24 in person meeting* *21/08/2024 Phone* *29/08/2024 Text* *03/10/2024 email*	*No Issues raised agreed to liaise regularly, especially nearer to planned operations.* *Met with Manager at the property to discuss logistics for potential drill activity on the property in October – ground truthed with manager. Discussed potential for laydown areas and logistic/operational support if required.* *No issues raised, Agreed to liaise regularly, especially nearer to planned operations* *21/08/2024 AR3 called and left message that we will be out there next week.* *29/08/2024 text update re the change to program due to Native Title process,* *03/10/2024 email regarding activity delay and sent EPEPR Link and ASX release about EPEPR approval*

Tenement	Stakeholder	Land tenure	Land use	Date and type of NOE served	Type of exempt land	Date waiver obtained	Date consultation/access agreement and/or permits signed/authorised	Stakeholder concerns raised and how addressed
							20/11/2024 email *23/05/2025 phone*	*20/11/2024 email project update with 2x ASX announcements attached* *23/05/2025 Left message to advise Cultural Heritage outcomes and intention to commence as per NOE from July 1. Will follow up with via email once EPEPR approved and in person meeting to ground truth. No issues raised.*
EL7005	Landholder 3	Pastoral	Grazing				*24/04/2024 phone call* *24/04/2024 email* *6/05/2024 in person meeting* *20/11/2024 email*	*Intro phone call to introduce company and project* *AR3 sent intro email with - Overland Project information and SARIG maps.* *Meeting with property owners CEO and property managers in their Adelaide office, discussed the ILUA on the property and their conservation efforts.* *As the property only just overlaps the boundary of AR3 tenements it is highly unlikely that AR3 will explore in this area.* *No issues raised* *Agreed to liaise regularly, especially nearer to planned operations* *20/11/2024 email project update with 2x ASX announcements attached*
EL7005	Landholder 4	Pastoral	Grazing				*24/04/2024 phone* *24/04/2024 email* *18/09/2024 email* *19/09/2024 phone*	*Intro phone call to introduce company and project* *AR3 sent intro email with - Overland Project information and SARIG maps.* *No Issues raised* *No activities planned on this property at this time.* *18/09/2024 email communication regarding EPEPR approval and delay in activities due to native title approval process.* *landholder has requested no catch up until activities are proposed on their property, but happy to be kept updated via email.* *No issues raised*

Exploration PEPR application – 12-month period

Tenement	Stakeholder	Land tenure	Land use	Date and type of NOE served	Type of exempt land	Date waiver obtained	Date consultation/access agreement and/or permits signed/authorised	Stakeholder concerns raised and how addressed
							20/11/2024 email	*20/11/2024 email project update with 2x ASX announcements attached*
EL7005	Landholder 5	Pastoral	Grazing	*08/08/2024 Form 21B*			*24/04/2024 phone call* *24/04/2024 email* *8/05/20 meeting* *25/07/24 meeting* *08/08/2024 phone* *08/08/2024 email* *18/09/2024 email* *03/10/2024 email and phone* *20/11/2024 email* *23/05/2025 Phone*	*Intro phone call to introduce company and project* *AR3 sent intro email with - Overland Project information and SARIG maps.* *Met with Landholder and discussed the project - No Issues raised agreed to liaise regularly, especially nearer to planned operations.* *No issues raised.* *Met with Landholder on property and discussed potential drilling locations and access for October 2024.* *Ground truthed locations* *Will continue to liaise closely.* *08/08/2024 Phone conversation to confirm best email for communications, discussed on ground drilling activity, prior to sending NOE via email* *08/08/2024 Email NOE* *18/09/2024 Email advising EPEPR Approval and copy of ASX release and EPEPR* *03/10/2024 Email and phone message with Activity update notifying delay due to Native Title process expect to be with them sometime next year.* *20/11/2024 email project update with 2x ASX announcements attached* *23/05/2025 Left message to advise Cultural Heritage outcomes and intention to commence as per NOE from July 1. Will follow up with via email once EPEPR approved and in person meeting to ground truth. No issues raised.*

Exploration PEPR application – 12-month period

Tenement	Stakeholder	Land tenure	Land use	Date and type of NOE served	Type of exempt land	Date waiver obtained	Date consultation/access agreement and/or permits signed/authorised	Stakeholder concerns raised and how addressed
EL7005 EL7003 EL7001	Local Business -Elders						*10/04/2024 phone*	*Phone conversation to introduce AR3 and proposed Overland Project- discussed pastoral activities in the region. No Issues raised.*
EL7005 EL7001	Landholder 6	Pastoral	Grazing	07/08/2024 Form 21B			*11/04/2024 phone call* *15/04/2024 email* *16/04/2024 email* *7//05/24 in person meeting* *24/07/2024* in person meeting 01/08/2024 *07/08/2024 phone* *07/08/2024 email* *20/08/2024 phone*	*Landowner called having received info from Elders (as per AR3 request).* *Asked a few questions, has experience of Gold Exploration on the property previously.* *Offered their Shearers quarters for drilling accommodation.* *AR3 sent intro email with ASX release regarding AR3 Tenements Acquisition - Overland Project and SARIG maps* *Landowner emailed to give availability for catch up. Confirmed we have property boundary correct.* *Introductory meeting at their home (off property) - no issues raised* In person meeting *No Issues raised regarding proposed drill sites and access for the October 2024 drilling project.* *A General discussion about the road and the potential impacts of increased traffic, i.e. churning up the road if it is wet or creating breakup and bull dust holes if it is dry, as a result of project.* *AR3 stated that they would be obliged to manage any potential impacts from their activities – these are outlined in the EPER and that in the event of any such disturbance they would reinstate before leaving. Will continue to work closely with landowner.* *Phone call to discuss potential accommodation at Shearers Quarters* *Will continue to liaise closely.* *07/08/2024 Call to discuss NOE before sending out.* *07/08/2024 Email NOE sent*

Tenement	Stakeholder	Land tenure	Land use	Date and type of NOE served	Type of exempt land	Date waiver obtained	Date consultation/access agreement and/or permits signed/authorised	Stakeholder concerns raised and how addressed
							29/08/2024 in person 18/09/2024 emailed 03/10/2024 phone 20/11/2024 email	20/08/2024 -call to confirm when guys will be onsite next week - she will confirm if Dave will be available to show them through the accommodation 29/08/2024- onsite to look over Station for accom option.. Follow up closer to program start 18/09/2024 Emailed EPEPR approval 03/10/2024 Called to explain delay due to Native Title process. 20/11/2024 email project update with 2x ASX announcements attached
EL7001	Landholder 7	Pastoral	Grazing	07/08/2024 Form 21B			19/7/24 phone 23/7/24 phone and email 24/07/2024 In-person 06/08/2024 phone 07/08/2024 email 20/08/2024 phone 29/08/2024 in person 18/09/2024 in person 18/09/2024 email 3/10/2024 phone 20/11/2024 email 24/11/2024 phone 2-Dec 24 in person	Introduced project & arranged meeting Email further information ASX release regarding AR3 Tenements Acquisition - Overland Project and maps Introduced project and discussed potential drill locations and access on their property for October 2024. No Issues raised, this is a new landowner who has only recently taken possession of the property, agreed to liaise regularly, especially nearer to planned operations. 06/08/2024 Call to discuss NOE and confirm contact details 07/08/2024 Email NOE Sent 20/08/2024 called letting him know AR3 will be on site next week doing some reconnaissance- 29/08/2024- met on station, update on the program start and number of holes 18/09/2024 AR3 called in for chat. 18/09/2024 email through EPEPR Approval 3/10/2024 called to let know guys will be in area next week starting drill prep and digging sumps. 20/11/2024 email project update with 2x ASX announcements attached 24/11/2024 Phone Conversations to discuss Farm in area and recent ASX announcements - arranged to meet to discuss extending drilling into Farm-in area on his property. 2/12/2025 Caught up to discuss extending drilling into Farm-in area on his property 20/12/2024 Email NOE

Tenement	Stakeholder	Land tenure	Land use	Date and type of NOE served	Type of exempt land	Date waiver obtained	Date consultation/access agreement and/or permits signed/authorised	Stakeholder concerns raised and how addressed
							20/12/2024 email *21/01/2025 in person* *05/02/2025 text* *23/05/2025 Phone*	*21/01/2025 Catch up to discuss farm in project and meet son* *05/02/2025 Text re timing update for proposed works* *23/05/2025 Chat to advise Cultural Heritage outcomes and intention to commence as per NOE from July 1. Will follow up with via email once EPEPR approved and in person meeting to ground truth. No issues raised.*
EL7001	Landholder 8	Crown Lessee	Grazing	14/10/2024 Form 21B		23/10/2025	*02/10/2024 Phone* *03/10/24 email* *10/10/2024 In-person* *14/10/2024 email* *23/10/2024 email* *20/11/2024 email* *15/11/2025 Text* *21/02/2025 In-person* *23/05/2025 Phone*	*02/10/2024 AR3 Phoned and spoke to landholder introduced AR3 and project - requested email address to send through some information. Will call again to make time to catch up in Burra next week.* *03/10/2024 AR3 Emailed introductory info re project with link to ASX release .* *10/10/2024 AR3 Met with Landowners discussed the project and proposed drilling activities on their station. No issues raised.* *14/10/2024 Form 21B sent to Landholder* *23/10/2024 Email received from Landholder waiving 42 Notice.* *23/10/2024 AR3 Reply Email with link to recently updated approved EPEPR* *20/11/2024 AR3 email project update with 2x ASX announcements attached* *15/11/2024 Text conversation to discuss on ground works, timing and confirm access details.* *21/02/2025 Meeting with landholder to discuss additional drilling and access tracks. No issues raised* *23/05/2025 Chat to advise Cultural Heritage outcomes and intention to commence as per NOE from July 1. Will follow up with via email once EPEPR approved and in person meeting to ground truth. No issues raised.*

Exploration PEPR application – 12-month period

Tenement	Stakeholder	Land tenure	Land use	Date and type of NOE served	Type of exempt land	Date waiver obtained	Date consultation/access agreement and/or permits signed/authorised	Stakeholder concerns raised and how addressed
EL7001	Landholder 9	Pastoral	Grazing	07/08/2024 Form 21B			*24/04/2024 phone call and follow up email* *8/5/2024 in person meeting* *24/07/2024* *24/7/2024 in person* *07/08/2024 phone* *07/08/2024 email* *29/08/2024- in person* *18/09/2024 in person* *18/09/2024 email* *2/10/2024 text* *20/11/2024 email* *23/05/2025 Phone*	*Intro phone call and follow up email to introduce company and project and to make a meeting time.* *No issues raised* *Intro meeting on property discussed project, past operations on their property, met property managers no issues raised* *In person meeting to discuss site locations and access for upcoming drilling in October.* *Ground truthing undertaken with landowner and manager - no issues raised* *Discussed potential laydown area and other infrastructure support.* *no issues raised* *24/7/2024 Meeting re ground truthing, owners also explained that the land is leased (not the homestead), Introduced AR3 to lessee. Manager will forward Lessee contact details to AR3 in due course.* *07/08/2024 Phone call to discuss NOE and request contact details for lessee* *07/08/2024 Email NOE Sent to owners (still awaiting details for lessee)* *29/08/2024- met with landowner and drove around checking all proposed holes on his property.* *18/09/2024 called in for chat.* *18/09/2024 Emailed EPEPR approval* *2/10/2024 text to say guys will be around next week to start prep for drilling - said they'll be in touch* *20/11/2024 email project update with 2x ASX announcements attached.* *23/05/2025 Chat to advise Cultural Heritage outcomes and intention to commence as per NOE from July 1. Will follow up with via email once EPEPR approved* *and in person meeting to ground truth. No issues raised.*
EL7001	Landholder 10	Pastoral	Grazing	07/08/2024 Form 21B			*8/5/2024 in person meeting*	*Met property managers on property discussed project, past operations on their property, no issues raised*

Tenement	Stakeholder	Land tenure	Land use	Date and type of NOE served	Type of exempt land	Date waiver obtained	Date consultation/access agreement and/or permits signed/authorised	Stakeholder concerns raised and how addressed
							10/05/2024 email	*Follow up email and project information /maps as discussed during meeting*
							24/07/2024 in-person	*In person meeting to discuss site locations and access for upcoming drilling in October.* *Ground truthing undertaken with landowner and manager - no issues raised* *Discussed potential laydown area and other infrastructure support.* *No issues raised* *-Landowner 9 has requested direct communications them as opposed to their manager/employee (Landowner 10) in first instance. AR3 continue to liaise with manager on site.*
EL7003 EL7001	Landholder 11	Pastoral	Grazing	07/08/2024 Form 21B			*10/04/2024 phone* *11/04/2024 phone*	*10/04/2024 intro phone call, left a message.* *11/04/2024 phone call, had brief intro chat agreed to call back next week to make a time to catch up, in about 3 weeks - will send through some info in the meantime.*
							15/04/2024 email	*Sent intro email with ASX release regarding AR3 Tenements Acquisition - Overland Project and SARIG maps.*
							30/04/2024 phone call	*30/04/2024 Left Message & text through some meeting times.*
							9/05/2024 In person	*9/05/2024 Intro meeting on property, landholder advised previous issue with overuse of roads on their property impacting the road surface and gates being left open. Discussed how we might mitigate such issues on the ground - including potentially accommodating staff on their property to reduce traffic.*
							26/07/2024 In person	*Meeting on property, discussed proposed drilling and access on their property. Ground truthed with landholder.* *Discussed accommodation options and other infrastructure and operational support (Water, fuel*

Tenement	Stakeholder	Land tenure	Land use	Date and type of NOE served	Type of exempt land	Date waiver obtained	Date consultation/access agreement and/or permits signed/authorised	Stakeholder concerns raised and how addressed
								etc.) No issues raised – will continue to work closely with landowner.
							07/08/2024 phone	*07/08/2024 called and left message re NOE*
							20/08/2024 phone	*20/08/2024 left message with Sonya requested call back to discuss support services for project accommodation.*
							21/08/2024 phone	*21/08/2024 left message re: camp accommodation.*
							21/08/2024 phone	*21/08/2024 spoke with James and they are shearing, next week but we can stop by the shearing shed and someone will be there, would like to know where we are going, although if we stick to tracks like last time should be OK.*
							28/08/2024 in person	*28/08/2024- dropped in and got a tour of shearing shed, confirmed catch up for the following day*
							29/08/2024- in person	*29/08/2024- updated them with the delay to program and discussed accomodation. Landholder happy to accommodate AR3 when needed*
							04/10/2024 phone	*04/10/2024 - gave update re Cultural Heritage process delay.*
							20/11/2024 phone	*20/11/2024 email project update with 2x ASX announcements attached*
							23/05/2025 Phone	*23/05/2025 Chat to advise Cultural Heritage outcomes and intention to commence as per NOE from July 1. Will follow up with via email once EPEPR approved*
								Landholder mentioned concerns re state of the roads following long drought AR3 will be sure to catch up in person meeting to ground truth.
EL7003	Landholder 13	Pastoral	Grazing	*17/09/2024 NOE*			*12/0402024 phone*	*Intro phone call to introduce company and project, landholder advised that most of the land to the west of the pastoral boundary next to them belongs to them also no issues raised – arranged meeting*
				20/12/2024 Email NOE			*15/04/2024 email*	*Intro email with ASX release regarding AR3 Tenements Acquisition - Overland Project and SARIG maps*
							9/05/2024 In-person	*Meeting on property, looked at maps and confirmed boundaries, discussed project, Landholder advised of an Environment report/survey that they were happy to*

Tenement	Stakeholder	Land tenure	Land use	Date and type of NOE served	Type of exempt land	Date waiver obtained	Date consultation/access agreement and/or permits signed/authorised	Stakeholder concerns raised and how addressed
								share with AR3 to give some in-depth Environment information for the area. Too large to email so arranged to collect next time we're in town.
							17/07/24 phone	*Phone update to advise that no drilling planned on their property at this time.* *No Issues raised agreed to liaise regularly, especially nearer to planned operations.* *Arranged pick up of Environment report – Eastern Districts, Soil Conservation Board, District Plan, May 2002*
							24/07/2024 in person *04/09/2024 phone* *12/09/2024 in person*	*24/07/2024 catch up arranged to give project update* *04/09/2024 Called to discuss neighbour activities and advise we are extending the drilling area and would now like to drill a few holes on their property* *12/09/2024 - Meeting on property, discussed exploration drilling opportunities on their property and Notice of Entry Process. No issues identified.*
							17/09/2024 email *3/10/2024 email* *20/11/2024 email* *26/11/24 phone and text* *2/12/2024 in person* *20/01/2025*	*17/09/2024 NOE issued via email* *3/10/2024 Email EPEPR approval info* *20/11/2024 email project update with 2x ASX announcements attached* *26/11/24 phone and text conversations to discuss Farm in area and recent ASX announcements - arranged to meet to discuss extending drilling on their property, into Farm-in area* *2-Dec 24 Caught up to discuss extending drilling into Farm-in area on his property* *20/12/2024 Email NOE*
EL7003	Landholder 14	Pastoral	Grazing				*15/04/2024 phone* *15/04/2024 email* *7/05/2024 In person meeting*	*Phone intro landholder will look at map to confirm boundary.* *Intro email with ASX release regarding AR3 Tenements Acquisition - Overland Project and SARIG maps.* *Meeting with landowner and son discussed their land use and general overview of neighbouring activity on tenement but off the pastoral unincorporated area. Intro meeting at Terminus Hotel in Morgan*

Tenement	Stakeholder	Land tenure	Land use	Date and type of NOE served	Type of exempt land	Date waiver obtained	Date consultation/access agreement and/or permits signed/authorised	Stakeholder concerns raised and how addressed
								No Issues raised agreed to liaise regularly, especially nearer to planned operations. Indicated they would be interested in providing support to any Field Operations – earth moving, track maintenance, water supply etc. This property is within the EL but outside of activity area considered for this EPEPR.
EL7003	Landholder 16	Pastoral	Grazing, Orchard				*16/04/2024 Phone call* *16/04/2024 Email* *7/05/2025 In person meeting*	*Phone call to introduce Overland and AR3.* *Emailed through some info and a map so he can confirm property boundary.* *Introduction Meeting with at business premises Nikalapko Rd,* *No Issues raised agreed to liaise regularly, especially nearer to planned operations.* This property is within the EL but outside of activity area considered for this EPEPR.
EL7003	Landholder 21	Pastoral	Grazing				*15/04/2024 Phone* *15/04/2024 Email* *9/5/2024 In person meeting*	*Intro phone call with new owner of the property (3 years) lives in Truro –* *Intro email with ASX release regarding AR3 Tenements Acquisition - Overland Project and SARIG maps.* *Intro Catch up to discuss project* *No Issues raised agreed to liaise regularly, especially nearer to planned operations.* This property is within the EL but outside of activity area considered for this EPEPR.
EL7001	*Landholder 22*	*Lessee*	*Grazing*	*13/08/2024 Form 21B*			*24/07/2024 in person* *9/08/2024 Phone* *9/08/2024 Email* *13/08/2024 email* *18/09/2024 email* *3/10/2024*	*Landholder 21 leases his land (not the homestead) to landholder 22, introduced AR3 to the lessee at the property. AR3 discussed the project with him – no issues raised.* *AR3 called and then exchanged emails to confirm contact details for NOE* *13/08/2024 NOE Sent via email* *18/09/2024 email communication regarding EPEPR approval and delay in activities due to native title approval process.*

Tenement	Stakeholder	Land tenure	Land use	Date and type of NOE served	Type of exempt land	Date waiver obtained	Date consultation/access agreement and/or permits signed/authorised	Stakeholder concerns raised and how addressed
							20/11/2024 email	*3/10/2024 called to let him know guys in the area next week to commence drill prep and dig sumps.* *20/11/2024 email project update with 2x ASX announcements attached*
EL7005 EL7003 EL7001	DEM						*23/05/2024 Meeting*	*Meeting to discuss the Overland Uranium project and the preparation of the EPEPR*
EL7005 *EL7003* *EL7001*	*Mid-Murray Council*						*28/08/2024 Phone* *29/08/2024 Email*	*Phone call with Dave Hassett , Director of Infrastructure about possibility of drilling in the road reserves of the roads they manage in the area.* *Email requested they provide an up to date map or shape file indicating the roads that they maintain in this area.*
EL7005 *EL7003* *EL7001*	*Dept. Infrastructure and Transport*						*28/08/2024 Phone* *29/08/2024 Email*	*Phone call with Tina Moat, Asset Manager for DIT to discuss possibility of drilling in the road reserves of the roads they manage in the area.* *Email requesting they provide an up to date map or shape file indicating the roads that they maintain in this area.*
EL7005 EL7003 EL7001	Landscape Board						*30/07/2024 Meeting* *08/08/2024*	*Teams Meeting with the Senior Project Officer for Planning and Policy, she advised of the Landscape Boards ongoing Living Landscapes Project in the area. Australian Rare Earths will work closely with the Landscape Board to understand the project and any potential for impacts from the proposed activities.* *AR3 received an email advising that there is no active project work being undertaken in the area that AR3 are proposing to explore.* *Australian Rare Earths will keep the Landscape Board updated as the project progresses.*
EL7005 EL7003 EL7001	Wallis Drilling						*31/07/2024 Meeting*	*Teams meeting with Mark Jackson, Wallis Drilling Operations Manager for Eastern Australia to discuss program and capability of the rig to cement/grout drillholes in accordance with M21 guidelines.*

Tenement	Stakeholder	Land tenure	Land use	Date and type of NOE served	Type of exempt land	Date waiver obtained	Date consultation/access agreement and/or permits signed/authorised	Stakeholder concerns raised and how addressed
								Outcome was that Mark confirmed that our proposed program and regulatory requirements (specifically regarding cementing and grouting of holes) will be achievable with the Wallis Rig Mantis 200 (See Photo in section I).
EL7005 EL7003 EL7001	Wallis Drilling & SA Drilling Inspector for DEW						*1/08/2024 Meeting*	*Teams meeting with Mark Jackson, Wallis Drilling Operations Manager for Eastern Australia and Steve Bodey, Drilling Inspector Department of Environment and Water. AR3 provided an overview of the expected groundwater to be encountered during the program and Wallis described proposed cementing and grouting techniques. Outcome was general agreement that the proposed rehabilitation of drillholes will allow for the M21 guidelines to be met.*
EL7005 EL7003 EL7001	EPA & SA Radiation Pty. Ltd.						*21/06/2024- Workshop* *28/06/2024 – Teams meeting.*	*Workshop with Mathieu Messeiller (Radiation consultant) from SA Radiation Pty Ltd. Workshop was for review of AR3's draft Radiation Management Plan. Outcomes included streamlining radiation safety to allow for easy implementation of procedures in the field. All proposed safety measures were endorsed. Follow up meeting on 28/06/2024 allowed for a final review by SA Radiation and submission to EPA on 28/06/2024.*
EL7005 EL7003 EL7001	South Australian Native Title Services Ltd (SANTS)						*12/04/2024 Phone* *16/04/2024 Email* *17/04/2024 Email* *30/04/2024 Email* *01/05/2024 Phone*	*AR3 Called and spoke with Caleb Sweeting Communications Officer, he advised the Ngadjuri are for the most part an independent group who are quite well organised and have a CEO* *He advised they work a lot with the 'River Murrey group" and he will send through the lawyer who does all their dealings.* *AR3 emailed project information to Caleb requesting contact details etc.* *Caleb emailed to advise AR3 of correct contact emails re Ngadjuri and First Peoples of the River Murray* *AR3 sent introduction email with maps* *Daniel called back, he advised that the maps we sent included all current Native Title Claims in the area,*

Tenement	Stakeholder	Land tenure	Land use	Date and type of NOE served	Type of exempt land	Date waiver obtained	Date consultation/access agreement and/or permits signed/authorised	Stakeholder concerns raised and how addressed
								and that the government would consult with them prior to issue of the licence and that our obligation was to negotiate with them if and when we want to do work, specifically in that area only. Agreed I would call him back if and when that happens.
							26/08/2024 Phone	*26/08/2024 AR3 called to discuss the Form 27 process and requirements*
							02/10/2024 email	*02/10/2024 email to advising AR3 are commencing the form 27 process and giving details regarding granting of ELs and proposal to conduct operation on EL7003 which overlaps First Peoples #2 claim area. Requested a meeting with First Peoples*
							08/10/2024 Email	*08/10/2024 Email received inviting AR3 attend FPRMMR Meeting*
							14/10/2024 email	*14/10/2024 Notice Initiating Negotiations Pursuant Mining Act 1997 Part B Section 63M sent*
							1/11/2024 email	*1/11/2024 Email receipt acknowledging receipt of Notice to Initiate Negotiations -Part B Section 63M Mining Act 1971. and requesting further information regarding the project and ELs 7001 and 7003.*
							29/11/2024 Email	*29/11/2024 Further information re project sent through*
							13/12/2024 Meeting	*13/12/2024 Meeting with the FPRMMR#2 to present on the project and answer questions.*
							10/01/2025 Email	*19/12/2024 Email requesting how we might work together to conduct some Cultural Heritage Training.*
							20/01/2025 Email	*10/01/2025 Email received suggesting Liaise directly with the FPRMMR#2 re training*
								20/01/2025 Email received Draft Native Title Agreement for Mineral Exploration
EL7005 EL7003 EL7001	Department for Energy & Mining (DEM) Registrar			*Form 21 B 15/08/2024*			*15/08/2024 Email*	*Emailed copies of NOE 21Bs to Mining Registrar*
							19/08/2024	*Emailed copies of NOE 21Bs to Mining Registrar*
							11/10/2024	*Submitted EPEPR (this document) Update*
							22/10/2024	*Emailed copies of NOE 21Bs to Mining Registrar*
							28/11/2024	*Site inspection conducted by DEM representatives who noted large boxthorn in the area – AR3 spoke to landholder who is aware and is dealing with the weeds on the property.*

Exploration PEPR application – 12-month period

Tenement	Stakeholder	Land tenure	Land use	Date and type of NOE served	Type of exempt land	Date waiver obtained	Date consultation/access agreement and/or permits signed/authorised	Stakeholder concerns raised and how addressed
EL7005 EL7003 EL7001	*Valrico*	*EL 7001, EL 7003,*					*3/04/2025*	*03/04/2025 Court Orders received demonstrating that AR3 (through its subsidiaries) has now complied with the provisions of Part 9B of the Mining Act regarding acquiring the right of entry to, and conduct of operations (that affect native title) on, the native title land within those tenements that is not subject to a native title claim or determination. Registered Instruments now recorded on the Mining Register in relation to ELs 7001 and 7003 respectively.*
EL7005 EL7003 EL7001	*WRDBD Developments Ltd*	*EL 7005*					*3/04/2025*	*03/04/2025 Court Orders received demonstrating that AR3 (through its subsidiaries) has now complied with the provisions of Part 9B of the Mining Act regarding acquiring the right of entry to, and conduct of operations (that affect native title) on, the native title land within those tenements that is not subject to a native title claim or determination. Registered Instruments now recorded on the Mining Register in relation to EL 7005.*
EL7005 EL7003 EL7001	*Valrico*	*EL 7001, EL 7003*					*2/05/2025*	*02/05/2025 Email confirmation received of Registered Instruments now recorded on the Mining Register in relation to ELs 7001 and 7003, respectively. To take effect as at the date of the Court Orders.*
EL7005 EL7003 EL7001	*WRDBD Developments Ltd*	*EL 7005*					*2/05/2025*	*02/05/2025 Email confirmation received of Registered Instruments now recorded on the Mining Register in relation to EL 7005. to take effect as at the date of the Court Orders.*

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

All landholders in the area of the proposed exploration activities have been contacted directly, along with landholders on neighbouring properties, and with a view to keeping the broader community informed about the Overland Project. Australian Rare Earths intend to place information posters on local noticeboards in the townships of Burra and Morgan. Additionally Australian Rare Earths will place an Advertorial in the Plains Producer and the River News Newspapers, advising of the Tenement Acquisition and planned activities, with a contact number for more information, prior to on ground activities commencing.

Provide any additional relevant information.

There are currently no registered Native Title Claimants within in the proposed EPEPR Boundary:

1. All proposed activities in this EPEPR will be contained to the Perpetual Leases and areas where Native Title has been extinguished within the EPEPR Boundary, these areas are identified in the attached Native Title Table 1 Fig 24 and Tenements Map Fig 2

2. For the Pastoral Leases within the EPEPR Boundary, where Native Title has not been extinguished, Australian Rare Earths *has received an ERD Court Determination and Orders have now been registered with the Mining Registrar demonstrating that AR3 (through its subsidiaries) has complied with the provisions of Native Title, Part 9B of the Mining Act regarding acquiring the right of entry to, and conduct of operations (that affect native title) on, the native title land within those tenements that is not subject to a native title claim or determination,* See Native Title Table 2 Fig 25.

SECTION C – DESCRIPTION OF THE ENVIRONMENT

Include a description of the features of the environment that are expected to be affected by the proposed operations. Each of the elements of the existing environment listed below must be described only to the extent that they may need to be considered in assessing the impacts that the proposed exploration operations are reasonably expected to have on the environment. If the element is not likely to be impacted by the operation, a statement to that effect must be included.

Where the terms and conditions of an RL include environmental outcomes, include any new baseline environmental data relevant to the control strategies or measurement criteria, and where changes to the environment are identified, provide an updated description of the environment to describe the changes.

Proximity to infrastructure and housing

Provide the following information:

Settlements – indicate the name and distance of the nearest town, and residences within, or near the proposed exploration operations.

Roads and tracks – indicate existing fence lines, roads and tracks, including those which are to be used in the exploration program.

Other human infrastructure such as schools, hospitals, commercial or industrial sites, roads, sheds, bores, dams, ruins, pumps, scenic lookouts.

Railway lines, transmission lines, gas and water pipelines, communication lines – e.g. fibre optic cables etc., if these may be impacted by the exploration operations.

Provide this information on a locality plan/map.

No exploration activity will occur within 500m of the River Murray Zone buffered floodplain, c, 1956 flood level or 500m from the main Channel or Tributaries Zone – tributaries plus floodplain ~500m, whichever is greater.

Settlements:

The proposed Exploration Area is centred approximately 50km North of the township of Morgan and 80km East of the township of Burra, refer (Section J, Maps. Figures 1,2)

Privately-Owned Residences

The proposed Exploration Area is within the Pastoral Unincorporated Area (PUA) of the Eastern Pastoral District with in Old Koomooloo, Koomooloo, Woolgangi, Balah, Sturt Vale, and Parcoola Pastoral Leases. (Section J, Maps. Figure 3)

Roads and tracks:

Wherever possible, exploration locations will be accessed using public roads, existing station tracks and fence lines, as negotiated with the landowner. (Section J, Maps. Figures 3,4)
Tracks will be maintained as required (in consultation with the landowners) and exploration work will be conducted in ways to ensure no disruption to water wells or dams.

Powerlines:

There are only two sections of powerlines within the vicinity of the planned exploration activities. This network supplies Balah, Koomooloo and Woolgangi stations. No activities or machinery will come within 10m of any powerlines. Unmapped local infrastructure will be identified in consultation with station owners/managers and avoided. (Section J, Maps. Figure 3)

Other infrastructure:

Groundwater extraction wells, water tanks, water pipelines and dams are the only other pieces of infrastructure to be found within the exploration area. These will be identified in consultation with station owners/managers and avoided. A 150m buffer will be set for all groundwater extraction wells and dams. No minimum set buffers around water pipelines and tanks will be implemented - interaction with this infrastructure will be avoided through consultation with the landholders prior to work commencing.

Land use and tenure

Using the table below, select the land tenure and land use that the proposed exploration activities will occur in. Include additional information where prompted.

Land tenure/type	Applicable
Freehold	☐
Pastoral lease	☒
Perpetual lease	☒
Crown land	☐
Mining reserve	☐
Aboriginal freehold/leasehold land (e.g. Anangu Pitjantjatjara Yankunytjatjara and Maralinga Tjarutja lands)	☐
Forestry reserve	☐
Marine parks	☐
National parks, conservation parks, conservation reserves, regional reserves*	☐
Adelaide Dolphin Sanctuary	☐
Murray Darling Basin	☒
<If park/reserve is selected, please provide the name of the park>	
Other*	☐
<If other is selected, describe the land tenure here.>	

Land use	Applicable
Grazing	☒
Cultivated land	☐
Residential	☐
Township	☐
Industrial	☐
Tourism	☐
Conservation	☐
Defence activity	☐
Road reserve	☐
Sites of scientific significance (geological monuments, fossil reserves etc.)	☐
Orchard/vineyard	☐
*Native vegetation heritage agreements	☐
<Provide the name of the area>	
*European heritage sites	☐
<Provide the name of the site>	
*Other (e.g. historic mining)	
<Provide the name of the site>	

* Indicates more information required in field immediately below.

Describe any council policies (or out of council) or development plans that may impact the program area.

The Overland Uranium Exploration activities proposed in the PEPR are constrained to the Pastoral Unincorporated area and as such a search of Plan SA did not highlight any council policies or development plans that would impact the area proposed for exploration within Overland Uranium Project

Provide a description of any known plans for future land use changes by other parties.

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

Provide any additional relevant information.

The Overland Uranium Exploration activities proposed in the PEPR are completely constrained to the Pastoral Unincorporated Area

Woomera Prohibited Area (WPA)

Will activities be conducted within the WPA	Yes ☐	No ☒	Do you have a resource exploration permit in place?	Yes ☐	No ☐
In which zone will activities be conducted?					
Does the Exploration Permit allow the operator to conduct exploration operations in the WPA?				Yes ☐	No ☐
What is the expiry date of the resource exploration permit?					
Identify closure periods that may impact on the exploration program.					
N/A					

Other land owned or controlled by the Commonwealth Department of Defence

Lands in South Australia that are owned or controlled by the Commonwealth Department of Defence, which they manage either as a training or test area, include the Port Wakefield Proof and Experimental Establishment, Murray Bridge Training Area, and Cultana Training Area.

These lands remain to be mineral land under the Mining Act 1971 (SA) and can be accessed for mineral exploration and mining subject to certain restrictions and conditions under the Defence Act 1903 (Cth) and the Defence Regulation 2016 (Cth).

Will operations be conducted within the Port Wakefield Proof and Experimental Establishment, Murray Bridge Training Area, or Cultana Training Area?	Yes ☐	No ☒
<If yes, indicate which area.>		
Do you have a Deed of Access with Defence?	Yes ☐	No ☒
What is the expiry date of the Deed of Access?		
Provide the date the Range Control Officer granted access permission to conduct the proposed exploration operations. Describe the results of consultation and how any concerns raised were addressed.		
<Include text here.>		

Native title

Using the table below, describe how you have complied with the requirements of Part 9B of the Mining Act for each tenement (for further information refer to Minerals Regulatory Guidelines MG22).

Native title			
Is the proposed area of exploration located on native title land?	Yes ☐ No ☒ (If no, no further information in this section required.)		
Are there registered native title party/parties in the area of proposed exploration?	Yes ☐ No ☒	<Provide the names of the determined/claimant group>	If no, an Environment, Resources and Development (ERD) Court determination is required.
Have you negotiated a native title mining agreement?	Yes ☐ No ☐	Is the agreement registered?* Yes ☐ No ☐	<List the tenements covered by the agreement>
Have you accepted an Indigenous land use agreement (ILUA)?	Yes ☐ No ☐	Is the ILUA registered?* Yes ☐ No ☐	<List the tenements covered by the ILUA>
Have you obtained ERD Court determination?†	Yes ☒ No ☐	Is the determination registered?* Yes ☒ No ☐	EL 7001, EL 7003, EL 7005

* The registration date refers to the date the agreement, determination or ILUA was registered with DEM.

† An ERD Court determination cannot be conjunctive (i.e. cannot apply to subsequent licences).

Provide any additional relevant information.

There are no registered Native Title Claimants within the EPEPR Boundary

A search of the SANTs Data base identified the following areas of Native Title Determinations and ILUAs which overlap the Exploration Tenements, however there are no activities planned within these areas – see (Section J, Maps. Figure 12)

Determinations of Native Title
SC2011/002 Ngadjuri Nation #2
SC2019/001 First Peoples of the River Murray and Mallee Region#2

Registered and Notified Indigenous Land Use Agreements (ILUA)
SI 2005/005 Ngadjuri Faraway Hill Pastoral ILUA
SI2011/025 The River Murray and Crown Lands ILUA

A search conducted by the Heritage Information Team, Aboriginal Affairs and Reconciliation, of the central archive, which includes the Register of Aboriginal Sites and Objects (the Register), administered by Aboriginal Affairs and Reconciliation (AAR), most recently on the 22nd April 2024 – indicated no entries for Aboriginal sites in the area of the proposed exploration.
There are currently no registered Native Title Claimants within in the proposed EPEPR Boundary:

1. All proposed activities in this EPEPR that are contained to the Perpetual Leases and areas where Native Title has been extinguished within the EPEPR Boundary, are identified in the attached Native Title Table 1 Fig 24 and Tenements Map Fig 2
2. For the Pastoral Leases within the EPEPR Boundary, where Native Title has not been extinguished, Australian Rare Earths have completed the public notification requirements and have now received an ERD court Determination allowing the activities subject to this EPEPR to be carried out in those areas. See Native Title Table 2 Fig 25:

Landform and topography

Describe the topography of the general area affected by the exploration program. Include the susceptibility to erosion and visual attributes (steep or undulating slopes, plains, rocky outcrops, dunes, saltpans, claypans etc.).

The Overland Tenements are located in the Murray Darling Depression (MDD IBRA7 Region 49) overlapping the Braemer and South Olary Sub regions.
This land type is described as depositional or bare rock, with a depositional plain landscape.
The landform consists of plains with variable dune cover, from dune formations with relatively small plains between, to plains with isolated tracts of dunes. Claypans, saline soils, swamps, and intermittent lakes in low-lying areas
(Section J, Maps. Figures 6,7,8)

Soil and surface cover

Describe soil types and soil surface cover - e.g. gibber, rocky - in the general area affected by the exploration program. Include details on the susceptibility to compaction, erosion, dust, runoff and any other soil characteristics – e.g. acid sulphate – that may require control strategies to reduce environmental impacts during operations or rehabilitation.

Geology
Exposed caliche & crusty loamy soils; colluvial sand, silt, clay & gravel along footslopes of Olay Spur. Evaporite deposits; gypsum & halite

Soils in the region range from :

Brown Calcareous Earths:
- Compaction: Moderate susceptibility
- Erosion: Moderate susceptibility
- Dust: Low susceptibility
- Runoff: Moderate susceptibility
- Other: Rich in calcium carbonate (calcareous)

Highly Calcareous Loamy Earths:
- Compaction: Low susceptibility
- Erosion: Low susceptibility
- Dust: Low susceptibility
- Runoff: Low susceptibility
- Other: High calcium carbonate content

Cracking Clays:
- Compaction: High susceptibility
- Erosion: High susceptibility
- Dust: High susceptibility
- Runoff: High susceptibility
- Other: Prone to cracking when dry

Yellow Grey, Hard Setting Loamy Soils with Red Clayey Subsoils
- Compaction: Moderate susceptibility
- Erosion: Moderate susceptibility
- Dust: Moderate susceptibility
- Runoff: Moderate susceptibility
- Other: Hard setting when dry, red clayey subsoils

These descriptions provide insights into the soil behaviour and will guide exploration drilling location decisions to minimise impacts. When working in areas with different soil types, it's important to implement specific controls to manage the susceptibilities and characteristics of each type. Controls are identified in Section F – Management of Environmental Impacts, and are in accordance with the M33 Guidelines – Statement of Environmental Objectives and Environmental Guidelines for Mineral Exploration Activities in South Australia

Surface water

Will the proposed program interfere with surface water bodies and natural drainage (e.g. drainage lines, creeks, floodplains, wetlands)? If yes, describe the potential interference and surface water bodies and natural drainage on maps. If no, indicate why.	Yes ☐	No ☒
Ephemeral drainage lines exist within the work area (**Section J, Maps. Figure 5**). No interference of drainage lines is proposed with drill sites to be modified should they fall within a previously unidentified drainage line. Locations will be sighted by senior field personnel to ensure drainage and surface water sites are not disturbed.		
Is the program area located within water protection areas defined under the *River Murray Act 2003*? If yes, provide the name(s).	Yes ☐	No ☒
<If yes, provide the name(s)>		
Is the program area located within any prescribed watercourses or prescribed surface water areas under the *Landscape South Australia Act 2019*? If yes, provide the name(s).	Yes ☐	No ☒

Groundwater

Is groundwater likely to be intersected when conducting the exploration program? If yes, use the table below to describe the expected groundwater (hydrogeological) conditions, and identify groundwater aquifers in the exploration area(s) that may be affected. Indicate the approximate depth of drillholes in each area. Copy and paste a new table for each area where different groundwater conditions are expected. If no, provide evidence or any supporting information demonstrating this.	Yes ☒	No ☐
<Include text here.>		

Description of the locality/area where different groundwater conditions may be encountered					
Groundwater conditions across the Project area are relatively consistent, there are 3 main aquifers that could potentially be encountered in the Project area; 1. localised shallow perched aquifers, 2. shelly layers and sand lenses forming local aquifers which yield small supplies of mostly unusable water in the Winnambool Formation/Geera Clay, and 3. aquifers within the regionally extensive Renmark group sediments. The later two regionally extensive units are separated by a regionally extensive confining layer, the Ettrick Formation. *A map of wells in the area proposed for exploration is provided as Figure 11, Section J with data sourced from WaterConnect SA.*					
Formation age and/or stratigraphic unit	**Stratigraphic intervals (depth range) (m)**	**Aquifer formation name**	**Aquifer interval/thickness (from–to) (m)**	**Type of aquifer(s) intersected (e.g. unconfined, confined, artesian)**	**Provide aquifer salinity, depth to water level and any other relevant comments**
Pleistocene alluvial/fluvial sediments	*0-20*	*Pooraka and Woorinen Formations*	*unknown*	*unconfined*	*Shallow unconfined, and discontinuous, perched aquifers in the Pleistocene alluvial/fluvial sediments are shown to be suitable for Primary Industry – livestock drinking water, aquaculture and human consumption of aquatic foods (i.e., TDS values of 3,000 – 13,000 mg/L).*
Pliocene	*0-60m*	*Pliocene Sands aquifer*	unknown	*n/a in the area proposed*	*The Loxton-Parilla Sands unit comprises fine to coarse sands with silt and clay layers. It is saturated only in the eastern part of the region, outside of the Project area. (See Figure15)*
Late Oligocene-Middle Miocene	*20-120*	*Winnambool Formation/Geera Clay Confining Layers*	*unknown*	*Confining Layers*	*These units are the lateral time equivalents of the marine Murray Group Limestone. The Winnambool Formation occurs as a grey-green fossiliferous marl which laterally grades into the black to grey carbonaceous Geera Clay, both of Oligo-Miocene age. (See Figure16)*

					The units are generally considered aquicludes, shelly layers and sand lenses form local aquifers which yield small supplies of mostly unusable water. Salinities range from 12,000 to 20 000 mg/L with occasional values of up to 24,500 mg/L. Values generally decrease toward the basin margin reflecting the recharge effects from run-off.
Late Oligocene-Middle Miocene	*n/a*	*Murray Group Limestone aquifer*	*n/a*	*n/a in the area proposed*	*This aquifer occurs only south of area proposed for exploration and is confined by the overlying Bookpurnong Formation (where it occurs) or interdigitating low permeability marls of the Winnambool Formation (See Figure14)* *The groundwater salinity distribution is similar to the Winnambool/Geera confining layer with a general range of values from 10,000 – 16,000 mg/L and a trend of increasing salinity toward the south.* *At its northern-most extent, nearest to the proposed area of exploration, the limestone aquifer is also at its thinnest as it wedges out against the lower permeability units. The salinities of about 11,000 mg/L are lower than the adjacent Winnambool - Geera confining layer and are similar to the underlying confined aquifer.*
Oligocene-Early Miocene	*80-140*	*Ettrick Formation (confining layer)*	~10-30		*Consisting of glauconitic and fossiliferous marl, the low permeability layer sits between the Murray Group Limestone and the underlying Renmark Group aquifer. Thickness in the Project region varies from 10 to 30 m and it deepens to the east.*
Palaeocene-Eocene	*90-300*	*Renmark Group aquifer*	*unknown*	*confined*	*A confined aquifer comprising unconsolidated carbonaceous sands, silt and clay. It is continuous over the Project region and deepens to the east to a maximum thickness of 300m over the Renmark Trough.* *This unit occurs over most of the region and wedges out against rising basement to the north and west. The structure of the Renmark Group reflects that of the underlying basement i.e.. deepening to the southeast. It*

					also thickens in this direction, from several metres at the margins to over 300 m in the Chowilla area. Groundwater flow is generally from the basin margins toward the river where discharge occurs to the overlying Murray Group Limestone aquifer by upward leakage. Salinities are in the range of 10,000 – 20,000 mg/L.

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

As per Schedule 1 of the current Environmental Protection (Water Quality) Policy (2015), the environmental value of both the Murray Group and Renmark Group Aquifers are shown to be variable between that suitable for Primary Industry – livestock drinking water, aquaculture and human consumption of aquatic foods (i.e., TDS values of 3,000 – 13,000 mg/L) and completely unusable (TDS values of more than 13,000 mg/L).

As per Schedule 1 of the current Environmental Protection (Water Quality) Policy (2015), the environmental value of shallow unconfined, and discontinuous, perched aquifers in the Pleistocene alluvial/fluvial sediments are shown to be suitable for Primary Industry – livestock drinking water, aquaculture and human consumption of aquatic foods (i.e., TDS values of 3,000 – 13,000 mg/L).

A map of wells in the area proposed for exploration is provided as Section J – Maps, Figure 11, with data (Salinity & Depth to Water) sourced from WaterConnect SA.

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

Because of the deep water table (mostly greater than 40 m below ground over most of the region), there are no known groundwater dependent ecosystems (GDEs)[1] with in the proposed area of activity.

The majority of mapped GDE's are described as "Low Potential", whilst 'Moderate Potential' & 'High Potential' GDEs within the project area are limited in areal extent (source: Bureau of Meteorology) locations are identified in Section J, Maps. Figure 9 & Figure 10

Given the typical characteristics of the region, GDEs are expected to be found in the following locations and as such will not be impacted by the proposed activities:

- *Along Ephemeral Creeks and Rivers: These areas might support riparian vegetation, including species like River Red Gums (Eucalyptus camaldulensis) and Coolibah (Eucalyptus coolabah), which rely on groundwater.*
- *Low-Lying Areas: Where groundwater is close to the surface, small wetlands or soaks may exist intermittently, following heavy rains/flood, supporting sedges, rushes, and other water-dependent plants.*
- *Vegetation Clusters: Areas with denser vegetation, particularly large trees or patches of greenery in an otherwise arid landscape.*

Value of GDEs within the project area

The moderate and high potential GDEs, whilst limited in areal extent, hold significant ecological, economic, and cultural value:

- *Ecological Value:*
  - *Biodiversity Hotspots: GDEs support a wide range of species, including many that are specially adapted to the unique conditions provided by groundwater availability. They often serve as refuges for wildlife during dry periods.*
  - *Habitat Connectivity: These ecosystems can act as corridors or stepping stones for wildlife, maintaining habitat connectivity across the landscape.*
- *Economic Value:*
  - *Pastoral Productivity: GDEs often support vegetation that is crucial for grazing, providing a reliable source of forage even during droughts.*
  - *Water Resources: Springs and other groundwater-fed water sources are vital for livestock and can also be important for other economic activities like tourism.*
- *Cultural Value:*
  - *Indigenous Significance: Many GDEs, especially springs and soaks, hold cultural and spiritual significance for Indigenous communities. These sites are often associated with traditional knowledge and practices.*
  - *Heritage Sites: Some GDEs might be linked to historical events or have been used historically by early European settlers, adding to their cultural heritage value.*

[1] Barnett, S, 2015, *Assessment of the groundwater resources in the non-prescribed areas of the South Australian Murray-Darling Basin,* DEWNR Technical report 2015/09, Government of South Australia, Department of Environment, Water and Natural Resources, Adelaide

Is the proposed program located within a prescribed wells area or prescribed water resource area? If yes, provide the name of the area.	Yes ☐	No ☒

Provide any additional information, if required.

<Include text here.>

Native vegetation

Will you be working within areas of native vegetation? If yes, provide the following information: • description of the formation and structure of vegetation in the area (e.g. woodland, shrubland, grassland) • list of the dominant species. If no, indicate why you will not be working within areas of native vegetation?	Yes ☒	No ☐

The Murray Darling Depression (MDD) IBRA7 Region 49, particularly in the Braemer and South Olary Sub-regions, encompasses a semi-arid landscape with a mix of vegetation types. The region's vegetation is shaped by its climatic conditions, soil types, and historical land use, resulting in a mosaic of shrublands, grasslands, and woodlands.

Formation and Structure of Vegetation

Shrubland

- **Description:** The shrublands are characterised by a dominance of low shrubs, often with an open structure that allows sunlight to penetrate to the ground. These areas can appear quite sparse, especially during dry periods.
- **Structure:** The dominant shrub species create a discontinuous overstory, with an understory that may include smaller shrubs, grasses, and herbs. Ground cover can vary but often includes bare soil with scattered herbaceous plants.

Grassland

- **Description:** Grasslands in this region are generally dominated by perennial and annual grasses. These areas are important for grazing and can support a diverse range of grass species.
- **Structure:** The grasslands typically have a single herbaceous layer with limited woody vegetation. The structure can vary from dense to sparse, depending on factors like soil fertility, moisture availability, and grazing intensity.

Woodland

- **Description:** Woodland areas feature a scattered tree layer over an understory of shrubs and grasses. These woodlands are generally found in areas with slightly better soil moisture or along watercourses.
- **Structure:** The tree layer is often discontinuous, with an open canopy that allows light to support an understory of drought-resistant shrubs and grasses.

List of Dominant Species

Shrubs

- **Bluebush (Maireana spp.):** Commonly found in the region, these shrubs are well-adapted to saline and alkaline soils.
- **Saltbush (Atriplex spp.):** Another group of salt-tolerant shrubs that dominate many areas, especially in more saline environments.
- **Pearl Bluebush (Maireana sedifolia):** A key species in many of the shrublands, known for its silver-grey foliage.

Grasses

- **Curly Windmill Grass (Enteropogon acicularis):** Common in the region, especially in disturbed areas and along roadsides.
- **Speargrass (Austrostipa spp.):** These grasses are widespread and often dominate the ground layer in both shrublands and grasslands.

Trees

- **Black Oak (Casuarina pauper):** Often found in more arid woodland areas, this species can form open woodlands with a sparse understory.
- **Western Myall (Acacia papyrocarpa):** A common tree species in the woodlands, known for its distinctive weeping form.
- **Eucalyptus species:** Various eucalypt species may be present, particularly in areas with better soil moisture, such as river red gum (Eucalyptus camaldulensis) along watercourses.

Ecological Characteristics

The vegetation in the Murray Darling Depression is adapted to a semi-arid climate, characterised by low and variable rainfall, high temperatures, and soils that are often saline or alkaline. The region's vegetation has evolved various adaptations, such as deep root systems, small or narrow leaves to reduce water loss, and the ability to tolerate saline conditions. The landscape is used extensively for grazing, and the native vegetation provides important habitat for a range of fauna.

Nature Maps SA Flora species lists are included in Section J – Maps, Figure 17

Significant habitats and flora

If you are working within areas of native vegetation, use the table below to list any significant habitats and any rare or endangered flora 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.

See Section J – Maps, Figure 18

Species/habitat	Common name	NPW Act rating*	EPBC Act rating†
<Species/habitat>	<Common name>	<NPW Act rating>	<EPBC Act rating>
Codonocarpus pyramidalis	Slender Bell-fruit	Vu	*E*
Geijera parviflora	Wilga		*R*

* *National Parks and Wildlife Act 1972* (NPW Act) conservation status includes extinct, endangered, vulnerable, threatened and rare.

† *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) listings include extinct, extinct in the wild, critically endangered, endangered, vulnerable and conservation dependent.

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*).

There are no weeds or pathogens of National Significance recorded in the area, a list of Native and Non- Native flora is provided in Section J – Maps, Figure 17, however a well established Boxthorn bush has been identified by DEM and Field crew in the project area, along with a few smaller ones – these are being managed by the landholder as per the PIRSA guidelines.

Fauna

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

Nature Maps SA identify 5 feral fauna species in the project area: goats, foxes and rabbits, house mice, and domestic cats.
A full list of Fauna species is available in Section J – Maps, Figure 19

Significant fauna

Where possible, using the table below, list any rare or endangered 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.

See Section J – Maps, Figures 20 & 21

Species	Common name	NPW Act rating	EPBC Act rating
Spatula rhynchotis	Australasian Shoveler		R
Manorina flavigula melanotis	Black-eared Miner	EN	E
Northiella haematogaster (NC)	Bluebonnet (Eastern and Naretha)		ssp
Melithreptus brevirostris	Brown-headed Honeyeater	ssp	
Cinclosoma castanotum (NC)	Chestnut-backed Quailthrush (Chestnut Quailthrush)		ssp
Nyctophilus corbeni	Corben's Long-eared Bat	VU	V
Dromaius novaehollandiae	Emu	ssp	ssp
Pachycephala inornata	Gilbert's Whistler		R
Melanodryas cucullata	Hooded Robin	ssp	ssp
Microeca fascinans	Jacky Winter		ssp
Hieraaetus morphnoides	Little Eagle		V
Lophochroa leadbeateri leadbeateri	Major Mitchell's Cockatoo (LNE, MM)	EN	SP
Leipoa ocellata	Malleefowl	VU	V
Falco peregrinus macropus	Peregrine Falcon		R
Tachyglossus aculeatus	Short-beaked Echidna	ssp	ssp
Hylacola cauta cauta	Shy Heathwren (EP, YP, FR, MM, upper SE)		R
Aphelocephala leucopsis leucopsis	Southern Whiteface	sp	
Plectorhyncha lanceolata	Striped Honeyeater		R

Climacteris affinis superciliosus	White-browed Treecreeper (FR, LNE, MM)		SP
Corcorax melanorhamphos	White-winged Chough		R
Manorina flavigula	Yellow-throated Miner	ssp	ssp

Note: NPW Act conservation status includes extinct, endangered, vulnerable, threatened and rare.
EPBC Act listings include extinct, extinct in the wild, critically endangered, endangered, vulnerable and conservation dependent.

Environmentally sensitive locations

Are there any environmentally sensitive locations within or close to the proposed exploration area (e.g. areas having particular ecological, cultural, scientific, aesthetic or conservation value)? If yes, provide a description of identified environmentally sensitive location(s). Mark these areas on a locality plan to identify any areas of conflict so that access roads or other activities can be planned and located effectively.	Yes ☐	No ☒
Are you likely to impact on the environmentally sensitive area? If yes, detail the likely effects the proposed program may have.	Yes ☐	No ☒
<If yes, include text>		
Include a statement concerning whether or not an Aboriginal heritage survey has been conducted by the proponent and if so, the results of the survey.		
An Aboriginal heritage survey has not been conducted by the Operator (AR3) or the Tenement holders. A search conducted by the Heritage Information Team, Aboriginal Affairs and Reconciliation, of the central archive, which includes the Register of Aboriginal Sites and Objects (the Register), administered by Aboriginal Affairs and Reconciliation (AAR), most recently on the 22nd April 2024 – indicated no entries for Aboriginal sites in the area of the proposed exploration. There are currently no registered Native Title Claimants within in the proposed EPEPR Boundary: 1. Activities in this EPEPR that are contained to the Perpetual Leases and areas where Native Title has been extinguished within the EPEPR Boundary, are identified in the attached Native Title Table 1 Fig 24 and Tenements Map Fig 2 2. For the Pastoral Leases within the EPEPR Boundary, where Native Title has not been extinguished, Australian Rare Earths have completed public notifications in accordance with Part 9B of the Mining Act ,and have received the required ERD Court Determinations to allow the proposed activities to be conducted in these areas. See Native Title Table 2 Fig 25: Australian Rare Earths have an operational Cultural Heritage Procedure in relation to the discovery of suspected anthropological material as discussed in Section F Management of Environmental Risks.		

SECTION D – DESCRIPTION OF PROPOSED EXPLORATION OPERATIONS

Each of the elements listed below must be described only to the extent that they apply to the proposed exploration program.

Equipment and personnel requirements

Using the table below, describe the equipment, size and composition of field crews, and proposed working hours/days required to conduct the proposed program.

Type of personnel	Number	Name of contractor company (if applicable)
Geologists	2	
Land access/environmental	1	
Field assistants/technicians	2	
Drilling crew	2-3	Wallis Drilling (TBC)
Site preparation and rehabilitation	2	AR3 and local contractor and/or station owner
Other (provide details)	-	

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

Equipment type	Owner/operator	Description/capacity	Activity/purpose
Drilling Rig	Wallis Drilling (TBC)	Wallis Mantis 200 Aircore Drill Rig (or similar). Up to 250m depth penetration, onboard Sullair compressor	Installation of drill holes to provide sub-surface samples for characterisation and assay.

		560cfm @ 200psi (see photo section I).	
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, trailer to tow mini excavator.
Backhoe (~70Kw)	Australian Rare Earths and/or local contractor	~10T (or smaller) wheel mounted backhoe, CAT rental from Coates hire (or similar)	Installation of drilling sumps, drill pad preparation, and rehabilitation. Backhoe will be onsite during drilling for use as required.
Loader / Grader	Local contractor and/or Station equipment	Loader with bucket	Installation of sumps improving existing tracks as required.
Trailer mounted cement mixer and equipment	Wallis Drilling	Trailer mounted cement mixer and equipment	Allow for cementing of holes immediately after hole is complete.

Provide any additional information, if required.

Additional light vehicles (4WD) will be operating in support of these exploration activities.

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)? If yes, describe each type of low impact operations proposed.	Yes ☐	No ☒
<Include text here.>		

Drilling activities

Will exploration drilling activities be conducted? If yes, fill out the below table Yes ☒ No ☐

Tenement	Drilling type	Maximum number of drillholes	Maximum drillhole depth (m)	Maximum number of sumps required at each site	Maximum size of sumps (length x depth x width) (m^3)	Average size of each drill pad* (m^2) (no excavation required)	Number of sites requiring pad excavation	Average volume (m^3) of material to be excavated (excluding sumps)
EL7001	Air Core	30 (+40) (+25)	250	2	<4m x 1.5m x 1.5m (9m^3)	< 20m x 20m (400m^2)	0	0m^3
EL7003	Air Core	10 (+10) (+5)	250	2	<4m x 1.5m x 1.5m (9m^3)	< 20m x 20m (400m^2)	0	0m^3
EL7005	Air Core	+50	250	2	<4m x 1.5m x 1.5m (9m^3)	< 20m x 20m (400m^2)	0	0m^3
TOTAL		**40 (+50) (+80)**	**10,000 (+12,500) (+20,000)**	**80 (+100) (+160)**	**720m^3 (+900m^3) (+1,440m^2)**	**16,000m^2 (+20,000m^2) (+32,000m^2)**	**0**	**0m^3**
		Total number of drillholes (add each row to calculate the total).	Total metres proposed (maximum number of holes x average depth for each row, then add each row to	Total number of sumps (maximum number of sumps x drillsites for each row, then add each row to calculate the total).	Total volume of sumps (maximum size of sumps x number of sumps for each row, then add each row to calculate the total).	Total area of disturbance (number of holes x average size for each row, then add each row to calculate the total).	Total number of pads requiring excavation (add each row to calculate the total).	Total volume of material to be excavated (number of sites requiring excavation x average volume for each row, then add each row to calculate the total).

			calculate the total).					

* The footprint includes all areas of disturbance associated with the drillsite.

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 across the tenements varies from dense to sparse 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 to minimise the need for clearing. Where the establishment of new temporary access tracks is unavoidable, they will be cleared and constructed in accordance with M33 Guidelines (Statement of Environmental Guidelines for Mineral Exploration in South Australia). It is anticipated that, in a worst-case scenario, proposed drill sites will be able to be prepared by simply using a mini excavator (or 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 backhoe (or loader).
- To prevent drill pads from being made larger than authorized, traffic cones will be used to mark the corners of the drill pad during pad construction and maintained during drilling. Authorized 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 (See Photos-Section I).
- 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 May and July 2024.
- 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.
- 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.
- 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

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 ☒	No ☐

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.

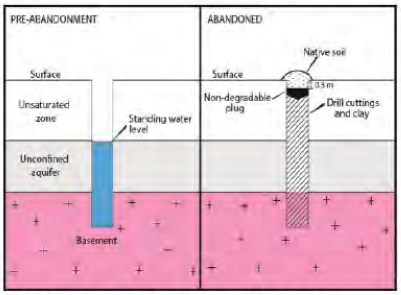
Air core drilling:

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

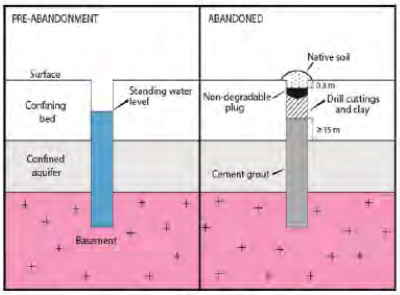
When describing drillhole decommissioning requirements, include the materials to be used, stratigraphic intervals where cement plugs will be placed, if the casing will be removed and when decommissioning will occur after drilling is completed.

Decommissioning:

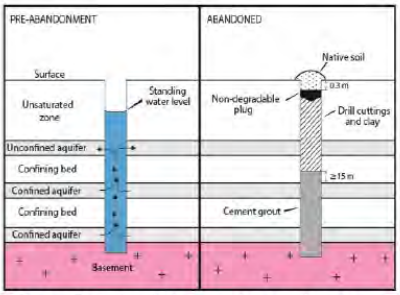
- Materials that will be used while decommissioning drillholes include surplus drill cuttings as backfill, cement grout (if confined aquifer conditions are encountered or, in the case of an unconfined aquifer, if the cuttings will not easily be returned to the hole due to the likely clayey nature of 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 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.
- Provided holes reach planned target depths (estimated to be 150-250m) it is highly likely that cement/grout will be required to decommission the holes in accordance with Information Sheet M21- as described above and in the figures below. The requirement to use cement/grout if target depths are reached is due to the likely intersection of confined aquifers and/or clays which will not easily be returned to the hole. If holes do not reach target depth due to impenetrable silcretes, abnormal hole conditions, or for any other reason, and the hole has not intersected any confined aquifers at the depth of abandonment, then cuttings will be considered rather than cement/grout provided they can be returned to the hole easily. The upper sequence may intersect the Loxton Parilla sands and it is these free running marine sands (and similar) that would be an example of suitable cuttings to be returned to the hole.



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.

Figure – Schematic diagram demonstrating how drillholes will be decommissioned based on groundwater conditions. Unconfined (left), Single confined (centre), and multiple confined (right). Note holes that do not intersect groundwater will be rehabilitated as per the unconfined diagram.

Where confined or artesian conditions are expected, include a schematic diagram demonstrating how drillholes will be constructed and decommissioned

Costeans and bulk sample disposal pits

Will costeans/bulk sample disposal pits be required for the proposed program? If yes, fill out the table below.	Yes ☐	No ☒

Tenement	Number of costeans/pits	Size of costean (length x width) (m^2)	Average depth (m)	Volume excavated (m^3)	Total volume excavated (m^3) (number of costeans/pits x volume)	Total area of disturbance* (length x width) (m^2)
						<Tab to add rows.>
TOTAL						
	Total number of costeans/pits (add each row to calculate the total).				Total volume of material to be excavated (add each row to calculate the total)	Total area of disturbance (number of costeans/pits x area of disturbance for each row, then add each row to calculate the total).

*Includes storage of excavated material at the site (e.g. topsoil and subsoil segregation).

Costeans and bulk sample disposal pit preparation

If costeans/bulk sample disposal pits are required, 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 Naracoorte.
- Samples stored in Naracoorte will only include samples that can be transported as exempted packages and having elemental concentrations such that samples can be deemed as non-radioactive. Any samples deemed as radioactive will be stored at BV laboratories – refer to RMP sample storage section P.7-10.

Access routes to work areas

Will existing tracks require upgrading and/or maintenance? If yes, detail the work required to upgrade/maintain existing tracks.	Yes ☒	No ☐
It is unlikely that existing tracks will require upgrading / on-going maintenance (see typical fence line track photo in Section I) 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? If 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.	Yes ☒	No ☐
Access across adjoining tenements will be along gazetted roads only.		
Will access off existing tracks be required? If yes, detail the method(s) for gaining access and if vegetation clearance is required. Include 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).	Yes ☒	No ☐
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 (see Figure/Map 4 Section J). 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 2.5 Km of new track creation may be required. Tracks will be approximately 2.5-3.5m wide. 21 Feb 2025 Update: an additional 5 x 2.5 to 5.0km long temporary tracks may be required. June 3rd update: an additional 5 x 2.5 to 5.0km long temporary tracks may be required 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.		

Indicate planned access routes on a locality plan and distinguish between existing and proposed new access tracks and drill lines (including fence lines).

Campsites, storage and equipment laydown areas

Using the tables below, provide a description of campsites and/or laydown areas required. Indicate the campsite and laydown area on a locality plan.

Campsite details		
Indicate where staff and contractors will be accommodated during the exploration program.		
Accommodation for crews will be based in the established towns of Burra and Morgan or established shearers quarters located at pastoral stations located within the EPEPR area. Crews will commute to the worksite each day.		
What is the maximum number of personnel requiring accommodation?	8	
Is a campsite required to be established? If no, no further information is required.	Yes ☐	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)?	ha	
What will be the total area (ha) of vegetation clearance for the campsite?	ha	
If vegetation clearance is required, describe the methods used to prepare the site.		
N/A		
Will any excavations be required? If yes, describe the purpose of the excavation and the maximum volume (m^3) of material to be excavated.	Yes ☐	No ☐
N/A		

Are the proposed ablution facilities endorsed/approved for use by the Department of Health or local council, where applicable? If no, indicate why.	Yes ☐	No ☐
N/A		

Proposed infrastructure (includes caravans, tents, offices, hydrocarbon and water storage requirements etc)	**Quantity**	**Description/capacity**
5000-6000L Diesel fuel pod to be stored at Balah (or Woolgangi or Sturt Vale) Station.	1	Fuel pod to be rented from Kennards Hire (or similar) and delivered to Balah (or Woolgangi or Sturt Vale) Station at the start of the program. Pod will be filled approximately once per 2-week drilling swing by a fuel delivery service provider. Pod will be double bunded and lockable and include a spill kit and fire extinguishers. Diesel requirements estimated to be ~400-600L per day.
Existing water tanks	2	Balah Station has existing ~20,000L water tanks on the station that will be used to refill support vehicle drill rig. Rig water requirements estimated to be 2000-4000L per day.

Laydown area details		
Will laydown areas be required? If no, no further information is required.	Yes ☒	No ☐
Will the laydown area(s) be located at the same location as the campsite? If no, has the location(s) been discussed with the landowner?	Yes ☐	No ☒
The temporary use of an established laydown area including enclosed shed has been discussed and agreed with multiple landholders within the EPEPR area. It is planned that the main laydown area will be at Balah (or Woolgangi) Station (see photo in section I) where crews will be based, and a secondary lay down area at Woolgangi Station in the western portion of the EPEPR. Additional laydown areas may be considered as the program progresses however will only be within established areas and with prior discussion and agreement with respective landholders.		
What will be the maximum area (ha) required for the laydown area(s)?	< 1 ha	
What will be the total area (ha) of vegetation clearance for the site?	0 ha	
If vegetation clearance is required, describe the methods used to prepare the site.		
No vegetation clearance is required for laydown areas as they are all established station yards with sheds		
Will any excavations be required? If yes, describe the purpose of the excavation and volume (m^3) of material to be excavated.	Yes ☐	No ☒
No excavations are required for laydown areas.		

Proposed infrastructure (includes hydrocarbon and water storage requirements)	**Quantity**	**Description/capacity**
Driller's trailer or equivalent	1-2	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	2-6	Pallets containing sample bags, drillhole plugs and various safety equipment for AR3 employees.
Pallets containing drill rod grease, machine lubricants/oils, grouting cement, etc.	1-2	Drilling consumables.
5000-6000L Diesel pod	1	Diesel Fuel pod to be rented from Kennards Hire (or similar) and delivered to Balah Station at the start of the program. Pod will be filled approximately once per 2-week drilling swing by a fuel delivery service provider. Pod will be double bunded and lockable and include a spill kit and fire extinguishers. Diesel requirements estimated to be ~400-600L per day. Diesel fuel pod only to be used at Balah Station.

Provide a description and justification of the location (e.g. previously cleared areas), and any other relevant information if required.
It is planned that the main laydown area will be at Balah Station or Woolgangi or Sturt Vale where field crews may be staying. The landholder has agreed for the temporary use of a laydown area on Balah Station (see photo Section I). The landholder has provided input to the use of a diesel pod and to assist with water requirements for the drilling program. A second laydown area located on Woolgangi Station, which has also been agreed to by the landholder may be utilised as required. The laydown areas are entirely within previously cleared areas, and no additional clearing will be required. Additional laydown areas may be considered as the program progresses however will only be within established areas and with prior discussion and agreement with respective landholders.

Other exploration methods and/or ancillary operations

Are any other proposed exploration methods (e.g. seismic) and/or ancillary exploration operations required? If yes, describe the activity(s), site preparation, vegetation clearance, and safety and maintenance requirements.	Yes ☐	No ☒

Water supply and management

Will camp and/or drilling water be required? If yes, describe how and where water will be sourced for drilling, track maintenance and camping purposes (e.g. groundwater, surface water, mains). Provide details on the volume of water required and how wastewater or runoff water will be managed.	Yes ☒	No ☐
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 Balah Station which is serviced by a water pipeline from the town of Morgan, SA. If crews are based in nearby towns of Burra or Morgan, then water will be sourced from town water mains. Balah station has preexisting ~20,000L water tanks on the station along existing tracks, these tanks may be used during the program as required. The landholder has agreed to assist with providing water for the program.		
Will surface water and/or mineral drillholes be used as a water source/supply? If yes, indicate if a licence for water extraction/usage is required (refer to relevant Natural Resources Management water allocation plan available on the Department for Environment and Water (DEW) website. If a licence is required and has been obtained please attach a copy. Where a licence has not been obtained, include a statement confirming that a licence will be obtained before the extraction and/or usage of water.	Yes ☐	No ☒
N/A		

Groundwater and drilling investigation activities

Will any water bores be required and/or water investigation activities (e.g. pump testing, water monitoring sites, water storage, turkey nests/dams) be conducted? If yes, describe the water drilling and investigation activities, including site preparation, vegetation clearance, and safety and maintenance requirements.	Yes ☐	No ☒
N/A		
Indicate if well permits have been obtained and whether or not a water extraction licence is required in accordance with the Landscape South Australia Act 2019. If yes, attach a copy of the permit(s)/licences. If no, provide a statement confirming that permits/licences will be obtained prior to commencement of water investigation activities.	Yes ☐	No ☒
N/A		

Water affecting activities

Will any water affecting activities, other than drilling a water well, be undertaken (refer to s. 127 of the Landscape South Australia Act 2019)? If yes, attach a copy of the permit. If a permit has not been obtained, provide a statement confirming that a water affecting activity permit(s) will be obtained and provide a description of the site preparation, vegetation clearance, and safety and maintenance requirements.	Yes ☐	No ☒
N/A		

Management of hazardous materials

Will activities be conducted in areas of known uranium and thorium mineralisation? If yes, attach a Radiation Management Plan and confirmation of endorsement of the plan by the Environment Protection Authority South Australia (EPA).	Yes ☒	No ☐
Will any other hazardous material be encountered when exploring in the area? If yes, list the types of hazardous materials and provide a management plan on how these materials will be managed.	Yes ☐	No ☒
AR3 is targeting sedimentary hosted uranium mineralisation in their exploration activities and have recently identified indications of uranium and thorium mineralisation and believe the area is prospective for sedimentary hosted uranium. A Radiation Management Plan (RMP) has been developed and endorsed by the EPA (Figure 26).		

Rehabilitation

Detail all the activities and strategies relating to the remediation of impacts associated with the proposed exploration operations. Completion of rehabilitation must be achieved within 3 months after the expiry of this PEPR.
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).

Detail all the activities and strategies relating to the remediation of impacts associated with the proposed exploration operations. Completion of rehabilitation must be achieved within 3 months after the expiry of this PEPR.
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 less than ~2.5km, with 5x2,5-5km of potential new track creation and an additional 5x2,5-5km 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 rehabilitation will occur immediately after drilling has completed and before moving to the next drill site. • Sumps may need time to dry out before site is completely rehabilitated, expected to take 2-4 days depending on moisture content of the cuttings and local weather conditions. • 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 impacted sites.
The estimated cost to rehabilitate 116 drill holes—comprising 80 holes included in this review and 36 carried over from previous EPEPRs—is approximately $50,000. This estimate accounts for four weeks of work by two field technicians, equipment usage, and associated operational expenses.

Vegetation Clearance

Will any area of cleared native vegetation be unrehabilitated after the authorised period?	Yes ☐	No ☒
If yes, provide a description of the vegetation present in the application area, the extent of the proposed vegetation clearance and the likelihood of the presence of threatened flora. Provide this information on a map.		
N/A		
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.		
Every attempt will be made to avoid impacts on native vegetation, including relocating the activity, redesigning how it will be undertaken, reducing the size or scale of the activity, or changing the way the activity will occur.		

SECTION E – LEASE CONDITIONS

Retention leases

Where the retention lease includes specific conditions that are not environmental outcomes, demonstrate where these have been addressed in the PEPR (if relevant) or demonstrate how otherwise they have or will be complied with.

N/A

SECTION F – MANAGEMENT OF ENVIRONMENTAL IMPACTS

Use the table below (instructions provided) to identify all of the potential environmental, social and economic impact events that are likely to occur as a result of the proposed exploration operations, how each of the identified impacts will be managed, and the residual risk, i.e. the level of risk remaining after implementing control and management strategies. Identified potential impact events should be developed based on the aspects of the environment that may be impacted on and the proposed operational details. Potential impact events must have corresponding outcomes and measurement criteria.

Where the terms and conditions of an RL include environmental outcomes, list them (where different) in the table below and complete all sections (i.e. receptor, potential impacts, control strategies, risk assessment and measurement criteria).

Environmental management – potential impacts/events, outcomes, measurable criteria and monitoring plan

			Likelihood of consequence (LH)				
			1	2	3	4	5
			Rare	Unlikely	Possible	Likely	Almost certain
Severity of consequence (CQ)	A	Insignificant	Low	Low	Low	Low	Low
	B	Minor	Low	Low	Moderate	Moderate	Moderate
	C	Moderate	Moderate	Moderate	High	High	High
	D	Major	High	High	Extreme	Extreme	Extreme
	E	Catastrophic	High	Extreme	Extreme	Extreme	Extreme

How to fill out the table

1. Based on the description of the environment and exploration operations, indicate which potential impacts are applicable to the proposed program. Note that some potential impacts are applicable to all programs.
2. For each applicable potential impact (and corresponding receptor), describe control strategies that will reduce the risk of the potential impact to an acceptable level, and achieve the corresponding environmental outcomes.
3. Conduct an impact assessment to determine if the control strategies address the potential impact (i.e. reduce the risk to an acceptable level). Indicate where there is uncertainty pertaining to the likely effectiveness of the control strategies. Where the risk is not considered low, provide justification that the risk is acceptable, or consider additional strategies to reduce the risk to an acceptable level.
4. For each applicable potential impact, the corresponding outcome and outcome measurement criteria are required.
5 Based on the description of the environment and proposed exploration activities, determine if any other potential impacts are applicable. For each new potential impact, describe proposed control and rehabilitation strategies, conduct an impact assessment, and develop corresponding outcomes and outcome measurement criteria.

Use the above matrix to conduct an impact assessment for each potential impact.

Impact assessment							Outcomes	Outcome measurement criteria (inc. monitoring plan)
Receptor Lists are not exhaustive.	**Potential impacts** Lists are not exhaustive.	**Is the potential impact applicable (Yes/No)** Some potential impacts are applicable to all programs.	**Control strategies** Indicate where there is uncertainty pertaining to the likely effectiveness of the control strategies. Where the risk is not considered low, provide justification that the risk is acceptable, or consider additional strategies to reduce the risk to an acceptable level. – refer to Minerals Regulatory Guidelines MG22 for more information.	**Risk assessment** LH = likelihood of consequence CQ = severity of consequence				
				LH	**CQ**	**Risk**		
Stakeholders: • freehold land owners • perpetual lease holders • pastoral lease holders • Aboriginal land (Ananngu Pitjantjatjara Yankunytjatjara and Maralinga Tjarutja lands) • Department of Defence • state government departments. • local government (councils) • federal government • native title parties.	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.	Yes (Applicable to all programs.)	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. • Field Crews will hold daily prestart meetings and weekly toolbox 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 implemented unless waivers are obtained. • All proposed activities contained to the Pastoral Leases where ERD Court Determinations have been made and Perpetual Leases and areas where Native Title has been extinguished within the EPEPR Boundary, these areas are identified in the attached Tenement Map Fig 2.	2	B	Low	Stakeholders are fully informed and satisfied with the proposed methods used to conduct exploration activities on their land, and all prescribed forms are served and agreements obtained in accordance with the Mining Act.	Provide the information requested within the 'Complaints' section of the annual exploration compliance report demonstrating that all reasonable complaints from stakeholders are resolved to the satisfaction of both parties prior to and ongoing during the course of exploration program, without the involvement of DEM. Provide the information requested within the 'Landowner details and liaison' section of the annual exploration compliance report demonstrating that prescribed forms were served and agreements obtained in accordance with the Mining Act prior to the commencement of exploration activities.

Impact assessment							Outcomes	Outcome measurement criteria (inc. monitoring plan)
Receptor Lists are not exhaustive.	**Potential impacts** Lists are not exhaustive.	**Is the potential impact applicable (Yes/No)** Some potential impacts are applicable to all programs.	**Control strategies** Indicate where there is uncertainty pertaining to the likely effectiveness of the control strategies. Where the risk is not considered low, provide justification that the risk is acceptable, or consider additional strategies to reduce the risk to an acceptable level. – refer to Minerals Regulatory Guidelines MG22 for more information.	**Risk assessment** LH = likelihood of consequence CQ = severity of consequence				
				LH	**CQ**	**Risk**		
Stakeholder: DEW	Interference to: • existing or permissible land use. • buildings, structures, existing tracks or other infrastructure. • aesthetic values of an area. Noncompliance with legislative requirements.	No (Applicable to programs located adjacent to or within parks and reserves.)	N/A				For activities located within or adjacent to regional reserves, national, conservation and marine parks only: • no unauthorised interference with park management activities.	Provide confirmation that: • Park access notification forms were submitted to DEW and DEM at least 10 days prior to entry into regional reserves, national, conservation and marine parks, or • Program notifications for PEPRs approved for an ongoing period of time, were submitted to DEW and the DEM at least 21 days prior to entry into regional reserves, national, conservation and marine parks.
Flora and fauna and their habitats; includes Commonwealth and state scheduled species.	Loss/modification of native vegetation and associated habitats through the clearance of vegetation.	Yes (Applicable to exploration programs located within or impacting on native 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 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 authorized, traffic cones will be used to mark the corners of the drill pad during pad construction and maintained during drilling. Authorized pad size dimensions will be covered in the company’s induction to inform all workers of the requirement.	*2*	*B*	*Low*	No permanent loss/modification of native flora and fauna populations and their habitats through: • clearance • fire • other unless prior approval under the relevant legislation is obtained.	Maintain before, during and after photographic evidence of all exploration sites (e.g. drillsites, new track exit/entry points off existing tracks, costeans, campsites) demonstrating that: • The area and method of disturbance is consistent with that described in the PEPR. • No uncontrolled fires* occurred as a result of exploration activities. Representative photos to be included within the annual exploration compliance report.
All flora and fauna, especially listed species.	Loss/modification of the environment (biological, social and economic) through the introduction of weeds and pathogens.	Yes (Applicable to all programs.)	• 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 consultation with the Landholders.. • Any declared weeds identified will be recorded and reported to PIRSA	*2*	*B*	*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.
All fauna	Entrapment of fauna through open drillholes and excavations.	Yes (Applicable to exploration programs that involve drilling and/or require excavations.)	• Collars will be securely capped immediately after exploration and investigative drilling is completed. • Sumps will be constructed with a sloping ingress/egress (escape ramp) to prevent fauna from becoming trapped in the sumps. • Temporary windrows will also be established around the sumps and a temporary fence installed to deter fauna from congregating around the sumps and potentially falling in. • Sumps will be backfilled as soon as practicable to do so.	*2*	*B*	*Low*	No fauna traps created as a result of exploration activities.	Maintain before, during and after photographic evidence of all drillholes and/or excavations demonstrating that: • All drillholes were permanently or temporarily capped/plugged immediately upon completion. • No fauna and livestock became trapped in drillholes and/or excavations throughout the duration of the program. • All rehabilitation was completed within 3 months of expiry of the PEPR approval (for PEPRs approved for a period of 12 months), or 3 months after the expiry of a program notification (for PEPRs approved for an ongoing period), unless otherwise authorised.

Impact assessment							Outcomes	Outcome measurement criteria (inc. monitoring plan)
Receptor Lists are not exhaustive.	**Potential impacts** Lists are not exhaustive.	**Is the potential impact applicable (Yes/No)** Some potential impacts are applicable to all programs.	**Control strategies** Indicate where there is uncertainty pertaining to the likely effectiveness of the control strategies. Where the risk is not considered low, provide justification that the risk is acceptable, or consider additional strategies to reduce the risk to an acceptable level. – refer to Minerals Regulatory Guidelines MG22 for more information.	**Risk assessment** LH = likelihood of consequence CQ = severity of consequence				
				LH	**CQ**	**Risk**		
								Representative photos are to be included within the annual exploration compliance report. Provide the information requested within the 'Rehabilitation' section of the annual exploration compliance report.
Aboriginal heritage sites	Disturbance to Aboriginal heritage.	Yes (Applicable to all programs.)	• All authorised activities in this EPEPR will be contained to the Perpetual Leases and areas where Native Title has been extinguished, and Pastoral Leases where ERD Court Determinations in relation to Part 9B of the Act, have been made 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 Material Protocol document.	*2*	*B*	*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.
European heritage sites and sites of scientific and environmental significance	Disturbance to European heritage sites and sites of scientific and environmental significance (e.g. geological monuments, fossil reserves).	Yes (Applicable to exploration programs located close to or within European heritage sites and sites of scientific and environmental significance.)	• No European heritage sites of significance have been identified in the area proposed for exploration at this stage. • 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 Material Protocol document.	*2*	*B*	*Low*	No disturbance to European heritage sites and to sites of scientific and environmental significance unless prior approval under the relevant legislation is obtained.	Demonstrate no impact to heritage sites and sites of scientific and environmental significance by: • Maintaining evidence, including detailed maps showing sites compared to the location of exploration activities, and photographic evidence of sites before and after the conduct of the exploration program. • Providing a statement within the annual exploration compliance report confirming sites were not impacted during the conduct of the exploration program.

Impact assessment							Outcomes	Outcome measurement criteria (inc. monitoring plan)
Receptor Lists are not exhaustive.	**Potential impacts** Lists are not exhaustive.	**Is the potential impact applicable (Yes/No)** Some potential impacts are applicable to all programs.	**Control strategies** Indicate where there is uncertainty pertaining to the likely effectiveness of the control strategies. Where the risk is not considered low, provide justification that the risk is acceptable, or consider additional strategies to reduce the risk to an acceptable level. – refer to Minerals Regulatory Guidelines MG22 for more information.	**Risk assessment** LH = likelihood of consequence CQ = severity of consequence				
				LH	**CQ**	**Risk**		
Soil/vegetation/fauna	Soil/vegetation contamination (e.g. hydrocarbons, rubbish, drill samples/cuttings, ablutions, other sources).	Yes (Applicable to all programs.)	• 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. • 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.	*2*	*B*	*Low*	No contamination of soil and vegetation as a result of exploration activities.	Demonstrate that all domestic or industrial waste (includes general rubbish and hydrocarbons) is disposed of in accordance with the *Environment Protection Act 1993* within 3 months of the expiry of the PEPR approval (for PEPRs approved for a period of 12 months), or 3 months after the expiry of a program notification (for PEPRs approved for an ongoing period), and that all fuel and chemicals are stored in accordance with EPA requirements, by providing: • The name, location and contact details of the authorised waste disposal facility. • A statement within the 'Compliance with approved programs' section of the annual exploration compliance report confirming domestic and industrial waste was removed from all exploration sites and disposed of at an authorised waste disposal facility. • Photographic evidence within the annual exploration compliance report demonstrating that all fuel and chemical storage facilities were managed in accordance with EPA requirements. Maintain photographs of all exploration sites and provide representative photos within the annual exploration compliance report demonstrating that drill cuttings are: • removed from site and disposed of at a licensed facility • buried under a minimum of 30 cm of soil, or in accordance with EPA guideline, *Radiation protection guidelines on mining in South Australia: mineral exploration*, available on the EPA website, or • backfilled down the drillhole, within 3 months of the expiry of the PEPR approval (for PEPRs approved for a period of 12 months), or 3 months after the expiry of a program notification (for PEPRs approved for an ongoing period), unless otherwise authorised. Provide the information requested within the 'Rehabilitation' section of the annual exploration compliance report.
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).	Yes (Applicable to all programs.)	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. • 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 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)	*2*	*C*	*Mod*	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.
Surface water	Alteration to surface water – interference to surface drainage.	No (Applicable to exploration programs that are likely to impact on surface drainage channels.)					No permanent modification to hydrological features caused by exploration activities without obtaining a water affecting permit from the relevant Landscape Board (under Landscapes Act SA 2019).	Provide before, during and after photographic evidence within the annual exploration compliance report demonstrating that original drainage contours (watercourses and lakes) are consistent with the natural relief post rehabilitation within 3 months of the expiry of the PEPR approval (for PEPRs approved for a period of 12 months), or 3 months after the expiry of a program notification (for PEPRs approved for an ongoing period). Alternatively, provide copies of water affecting permits within the annual exploration compliance report.

Impact assessment							Outcomes	Outcome measurement criteria (inc. monitoring plan)
Receptor Lists are not exhaustive.	**Potential impacts** Lists are not exhaustive.	**Is the potential impact applicable (Yes/No)** Some potential impacts are applicable to all programs.	**Control strategies** Indicate where there is uncertainty pertaining to the likely effectiveness of the control strategies. Where the risk is not considered low, provide justification that the risk is acceptable, or consider additional strategies to reduce the risk to an acceptable level. – refer to Minerals Regulatory Guidelines MG22 for more information.	**Risk assessment** LH = likelihood of consequence CQ = severity of consequence				
				LH	**CQ**	**Risk**		
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).	Yes (Applicable to all exploration programs that may intersect groundwater.)	• 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 utilizing 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.	*2*	*C*	*Mod*	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.
Soil/vegetation/fauna	Discharge of groundwater into the surrounding environment.	Yes (Applicable to all exploration programs that may intersect groundwater or where activities require the 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 mini-excavator 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.	*2*	A	*Low*	No discharge of groundwater outside of the exploration site (e.g. drillsite) into the surrounding environment and no discharge of water into a watercourse, unless prior approval under the relevant legislation is obtained.	Maintain photographic evidence of all drillsites demonstrating that groundwater was not discharged into the surrounding environment, unless water affecting activity permits were obtained allowing the discharge of groundwater into watercourses and/or lakes. Representative photos and water affecting activity permits (where applicable) to be included within the annual exploration compliance report.
Groundwater users	Interference to existing water users when extracting water from existing dams, water bores or mineral drillholes.	Yes (Applicable to all exploration programs that may require the use of 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	*1*	*A*	*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.
Soil/vegetation/fauna	Degradation of rehabilitated access tracks caused by third party access (includes previously closed and rehabilitated access tracks).	Yes (Applicable to exploration programs that create new access tracks.)	• Use of existing tracks were possible. • Complete rehabilitation of new tracks as per best practice model – e.g. removing windrows, restoring original contours, scarify temporary access tracks to eliminate compaction, replace topsoil and stockpiled vegetation if required, bund/restrict access to rehabilitated tracks where possible. • Where practical the start of new access tracks coming off existing tracks will be doglegged (or J-hooked) and blocked at the entrance to reduce visibility and prevent third party access.	*2*	*B*	*Low*	Rehabilitated access tracks remain permanently closed, unless prior approval under the relevant legislation is obtained.	Maintain before and after photographic evidence demonstrating that all tracks are closed and rehabilitated within 3 months of the expiry of the PEPR approval (for PEPRs approved for a period of 12 months), or 3 months after the expiry of a program notification (for PEPRs approved for an ongoing period), unless otherwise authorised. Representative photos are to be included within the annual exploration compliance report. Provide the information requested within the 'Rehabilitation' section of the annual exploration compliance report.
Community/landowners	Damage to infrastructure and loss of income through fire.	Yes (Applicable to all programs.)	• Contact list on site at all times • listing Emergency Contact phone numbers. • Hot work banned on days of "Extreme" Fire Danger Ratings within the project area • CFS fire danger ratings 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.	*2*	*C*	*Mod*	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.
General public	Injury or death to members of the public as a result of exploration activities.	Yes (Applicable to all programs.)	• 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.	*1*	*C*	*Mod*	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

Impact assessment							Outcomes	Outcome measurement criteria (inc. monitoring plan)
Receptor Lists are not exhaustive.	**Potential impacts** Lists are not exhaustive.	**Is the potential impact applicable (Yes/No)** Some potential impacts are applicable to all programs.	**Control strategies** Indicate where there is uncertainty pertaining to the likely effectiveness of the control strategies. Where the risk is not considered low, provide justification that the risk is acceptable, or consider additional strategies to reduce the risk to an acceptable level. – refer to Minerals Regulatory Guidelines MG22 for more information.	**Risk assessment** LH = likelihood of consequence CQ = severity of consequence				
				LH	**CQ**	**Risk**		

			• 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 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
								that the licensee could not have reasonably prevented the accident through the implementation of precautionary measures.

General public, employees, contractors and the environment	Contamination of the environment when exploring for known uranium and thorium deposits. Public and employee/contractor exposure to low level radiation.	No (Applicable to exploration programs located within known uranium or thorium deposits.)	The following procedures will be employed despite no known Uranium deposits: • The company will ensure that exploration activities are undertaken in accordance with the SA Government's (EPA) Radiation protection guidelines on mining in South Australia: Mineral exploration. • An RMP has been submitted to the EPA and letter of endorsement is attached to the appendices. • Radiation monitoring of each drill site before site preparation, during drilling and following rehabilitation will be collected and data stored in AR3's database. • All drill samples and cuttings will have radiation levels recorded utilising a SE International Ranger handheld dose rate/contamination meter for detection of Naturally Occurring Radioactive Material. • All drill 1m samples will also be analysed with a VANTA pXRF at the rig and elemental quantities recorded (including U). • If background radiation levels of the samples are found to be significant, advice will be sought from the company's Radiation Safety Officer (SA Radiation Pty Ltd.) who will determine the appropriate levels and strategies to be applied as detailed within the RMP. • Employees/contractors will be made aware of any risks involved with working with radioactive minerals and will be given steps to minimise their exposure detailed in the site company induction and toolbox meeting. • Solid cuttings will be returned to the drill hole or buried in adjacent mud pits and covered by at least 1m of compacted soil. • AR3's Radiation Management Plan details important control strategies to ensure that employee/contractor exposure levels during the exploration program are within appropriate limits, i.e. dust emissions, hygiene aspects, sample handling, etc.	*2*	*B*	*Low*	No increase in background radiation levels, and employee/contractor exposure levels during the exploration program are within safe limits.	Maintain a database and provide a statement within the 'Compliance with approved programs' section of the annual exploration compliance report demonstrating that: • Radiation levels post exploration and rehabilitation are consistent with pre-existing background levels. • Employee and contractors exposure levels were within safe limits during the exploration program.
Other (if applicable)								

* Uncontrolled fires = fires that escape outside of the work area (e.g. drillsite).

† Properties = freehold (cropping and grazing land); perpetual/pastoral lease land; council land; regional reserves; national, conservation and marine parks; Aboriginal land; Commonwealth land etc.

SECTION G - OPERATOR CAPABILITY

Provide information demonstrating that the tenement holder and operator (where applicable) has the capability to conduct the program in a manner that consistently ensures ongoing achievement of the environmental outcomes. This may be demonstrated within the PEPR by providing an overview of the following:

Manuals or standard operating procedures that outline the safe and environmentally sound operation of all critical operations associated with the exploration program that ensure compliance with the PEPR.

Systems in place to monitor, audit and assess compliance against the criteria approved in the PEPR.

Systems in place to identify and report any noncompliance with regulatory requirements or relevant environmental outcomes (e.g. measures in place to report incidents in accordance with regulation 79(3)).

Practices and procedures in place to provide appropriate communication of regulatory requirements to employees and contractors (e.g. induction programs).

Practices and procedures in place to respond to, and communicate with landowners and external parties on the proposed program and compliance matters (e.g. complaints)

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 onground 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.

SECTION H –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.

- A letter from the EPA endorsing AR3's Radiation Management Plan (Figure 26).

SECTION I – PHOTOS

Include photographs in this section:
that have been obtained during site visits
that help describe relevant environmental and operational aspects in the PEPR.

To insert photos, copy and paste the photo into the template below. Resize photos to fit page width. Ensure that all information about each photo is completed and refer to the photo number in the relevant section of the PEPR.

Site identification	Date taken	Photo number & PEPR section reference	Easting (GDA94)	Northing (GDA94)	Zone	Details and Comments
N/A	N/A	SECTION D	N/A	N/A	N/A	Photo of air core drill rig to be used (exact rig may vary)

WALLIS DRILLING 50 YEARS 2015

SAFETY. INTEGRITY. PERFORMANCE. INNOVATION

MANTIS 200 AIRCORE DRILL RIG

RIG SPECIFICATIONS	
Wallis Drilling 'Exploration Specific' Aircore Drill Rig	
CAPABILITY	
Aircore to 250 metres dependant on ground conditions	
ON BOARD AIR COMPRESSOR	
Sullair 560cfm @ 200psi	
FEATURES	
Capable of remote operation	Future capability for automated drilling functions
Automatic rod handling	Electric over hydraulic remote
Automated rod trip function	Acoustic enclosure for lower dba
Rod cage interlock device	No manual rod handling
Mechanically tilting cyclone	3 metre drill rods

Certified System
Quality ISO 9001 SAI GLOBAL

Certified System
Environment ISO 14001 SAI GLOBAL

Certified System
Health & Safety AS 4801 SAI GLOBAL

Certified System
Health & Safety OHSAS 18001 SAI GLOBAL

Site identification	Date taken	Photo number & PEPR section reference	Easting (GDA94)	Northing (GDA94)	Zone	Details and Comments
Typical drill pad- Woolgangi Station	2024/07/25	SECTION D	362 915	6 292 401	Z54	Typical proposed drill pad located next to road verge within naturally cleared area.

Site identification	Date taken	Photo number & PEPR section reference	Easting (GDA94)	Northing (GDA94)	Zone	Details and Comments
Balah Station laydown area	2024/07/29	SECTION D	385 343	6 266 243	Z54	Balah Station laydown area.

Site identification	Date taken	Photo number & PEPR section reference	Easting (GDA94)	Northing (GDA94)	Zone	Details and Comments
Balah/Old Koomooloo fence line track	2024/07/26	SECTION D	397 107	6 290 153	54	Typical fence line access track

SECTION J – MAPS

Provide a map(s) showing the following information that is located adjacent to or within the proposed area of operations, where applicable:

- tenement boundaries, **(Map/Figure 1,2)**
- cadastral information, **(Map/Figure 2)**
- existing surface contours, **(Map/Figure 6,7,8)**
- existing vegetation, **(Map/Figure 5)**
- location of the proposed exploration operations (includes drillholes, existing and new access tracks, drill traverses, campsites, laydown areas and other applicable information) and/or the target exploration area(s), **(Map/Figure 3,4)**
- location of existing ephemeral and permanent rivers, creeks, swamps, streams or watercourses and water management structures, **(Map/Figure 5)**
- location of towns, houses and homesteads, existing roads, rails, fences, transmission lines, buildings, dams and pipelines **(Map/Figure 3)**
- known sightings of listed species
- location and extent of all environmentally sensitive areas, **(N/A)**
- any relevant land use types (e.g. parks and reserves, Aboriginal freehold land, Woomera Prohibited Area). **(Map/Figure 12)**

All maps and sections must conform to the standards outlined in the Exploration PEPR Terms of Reference.

<*Attach maps here.*>

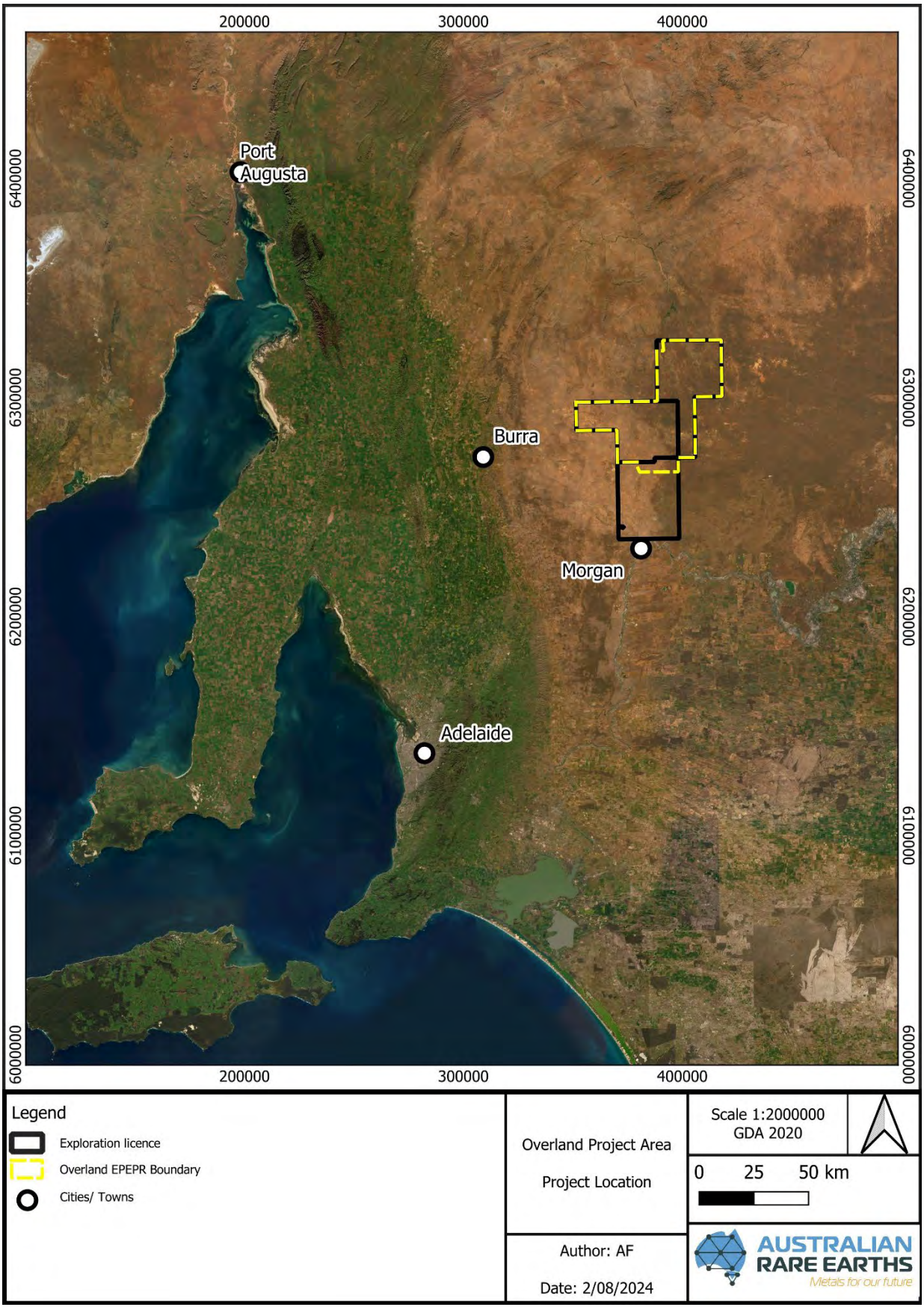


Figure 1 - Project Location

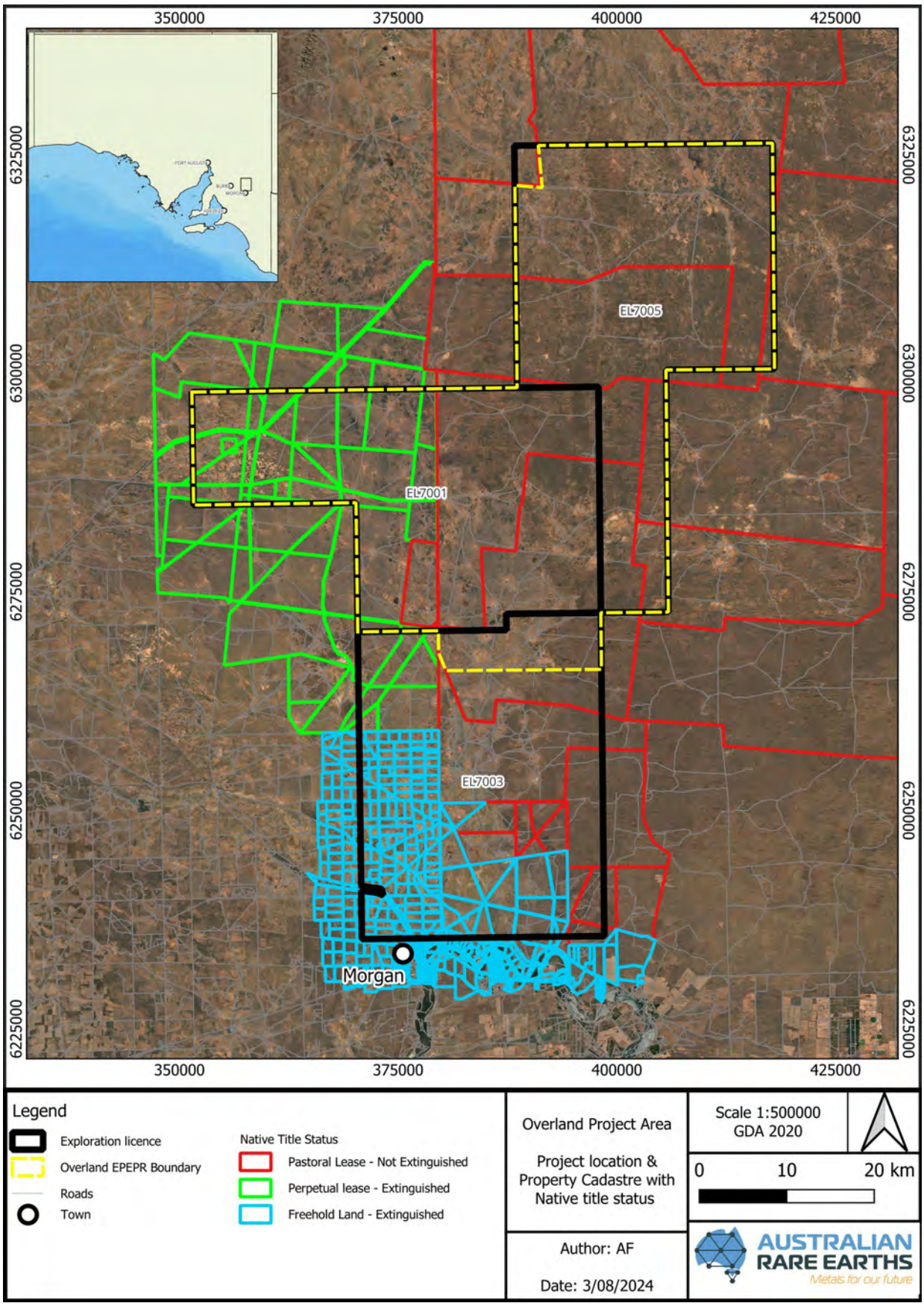


Figure 2 - Tenement Boundaries

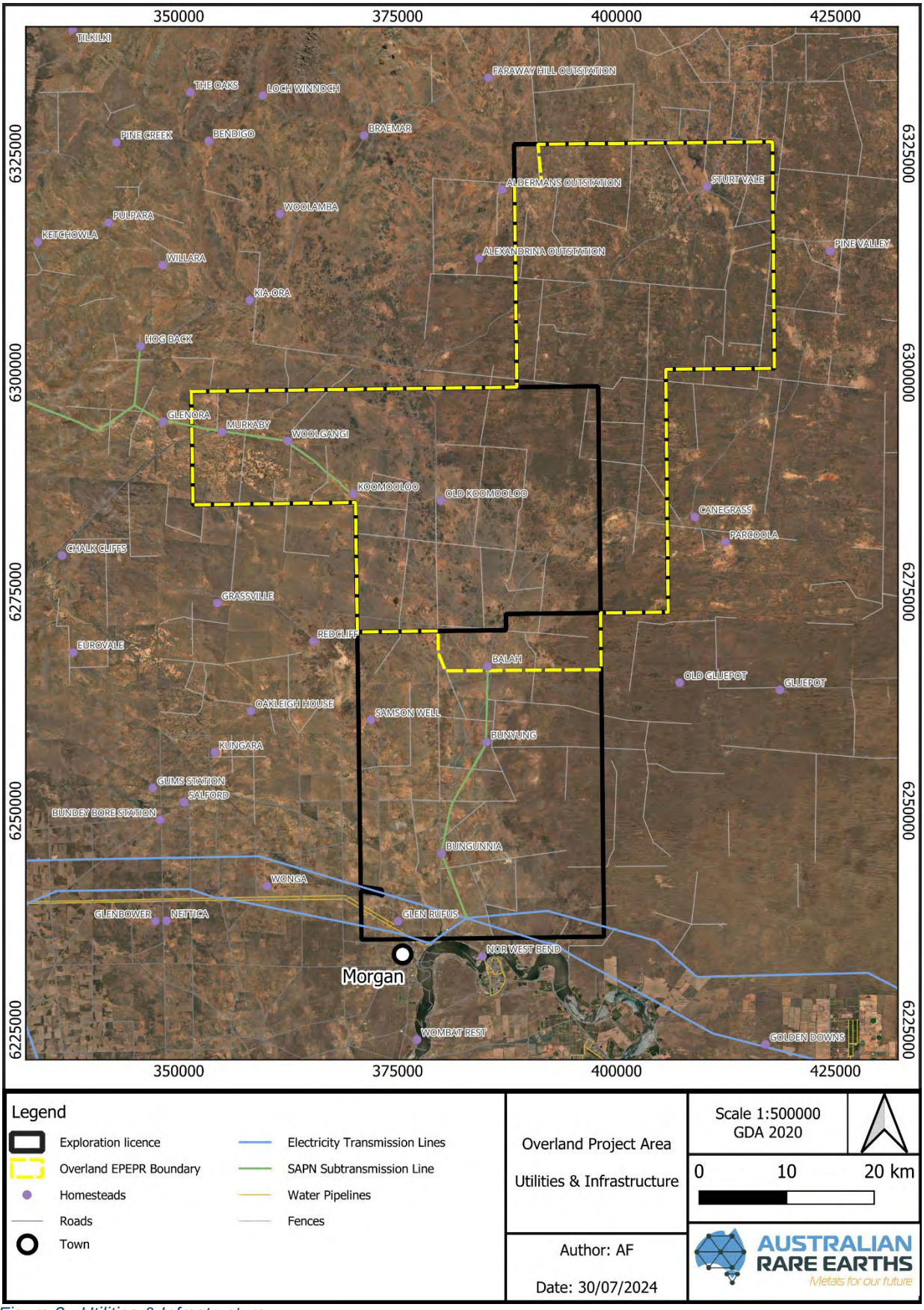


Figure 3 - Utilities & Infrastructure

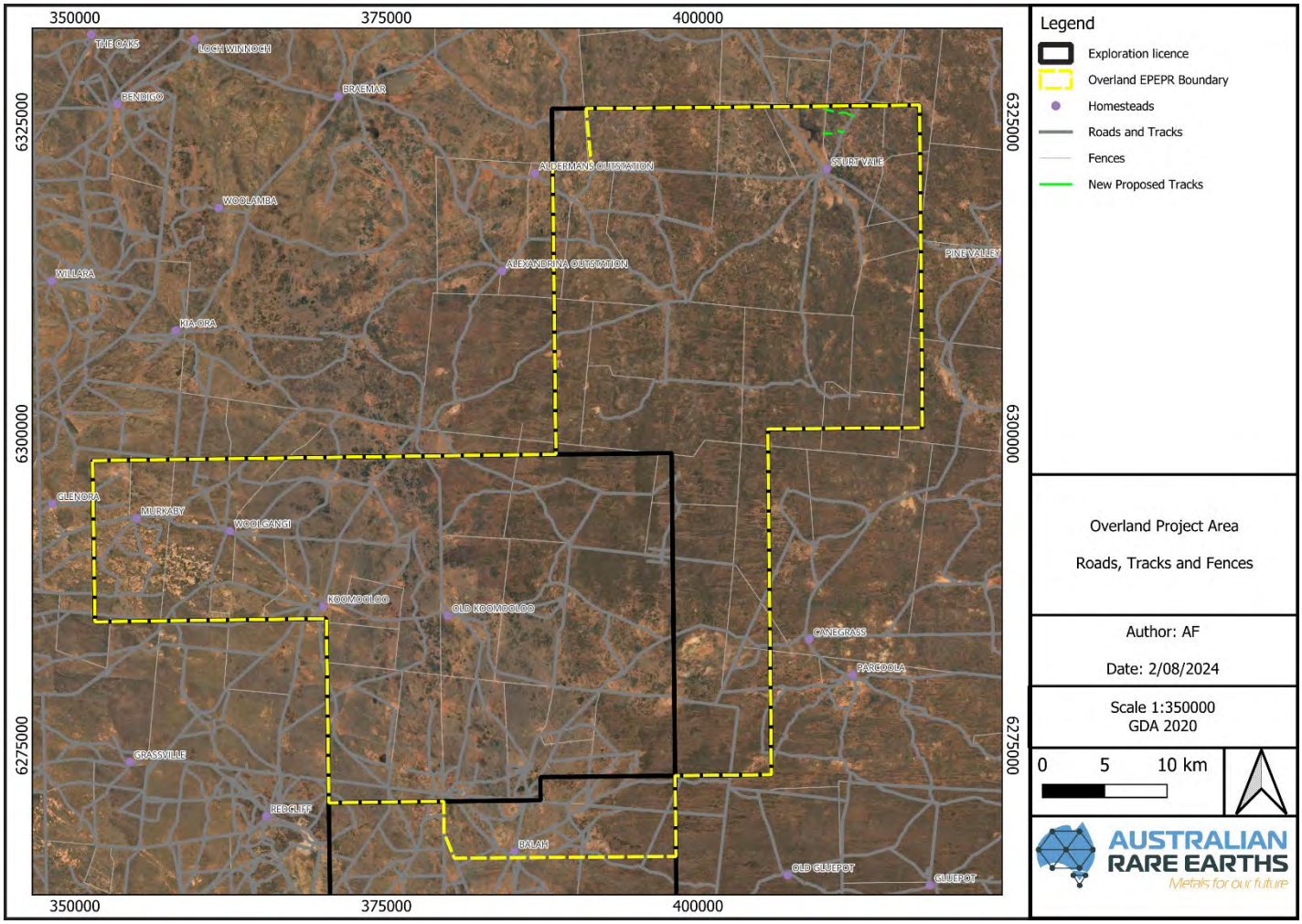


Figure 4 - Roads, Tracks & Fences

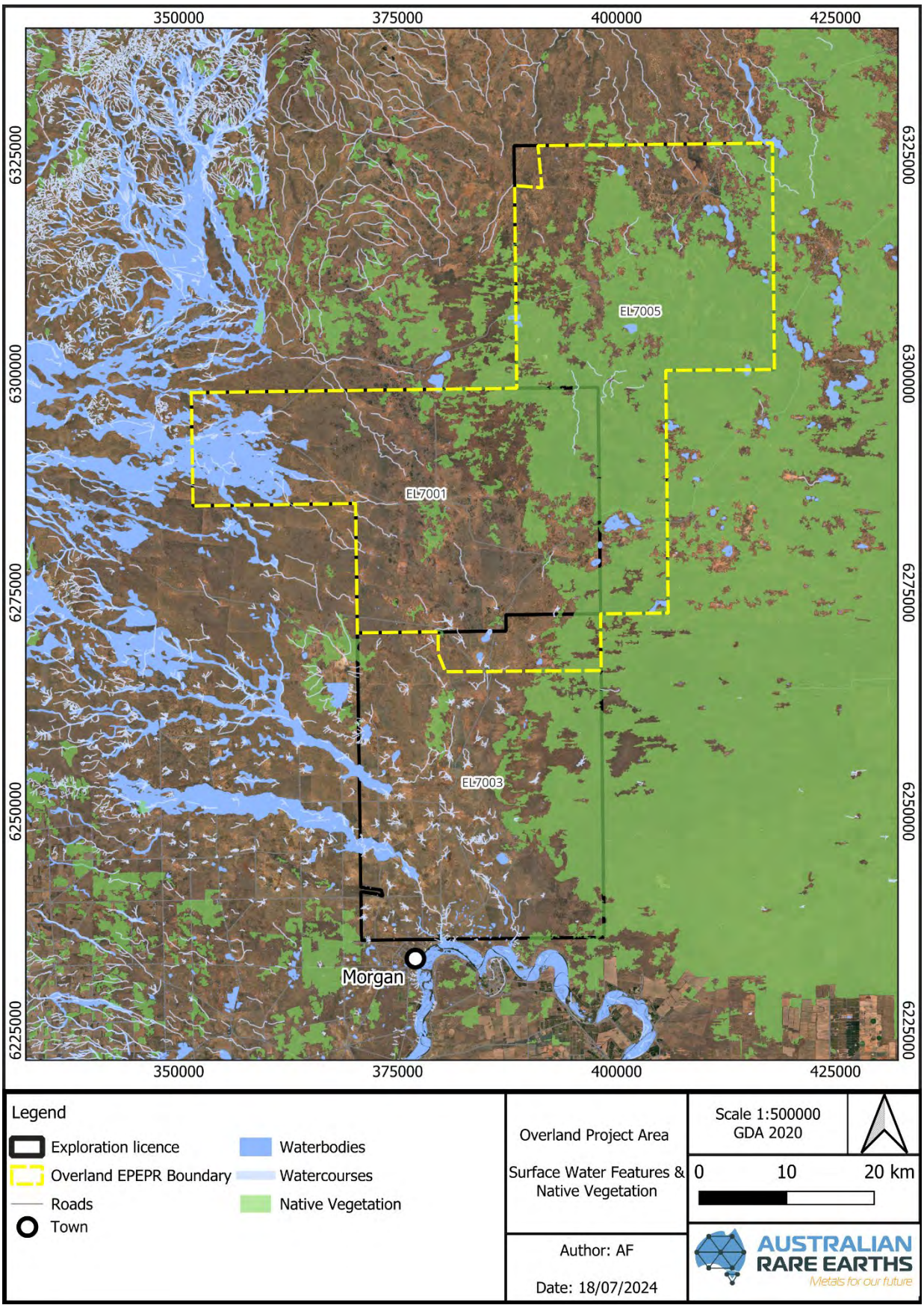


Figure 5 - Surface water features and vegetation

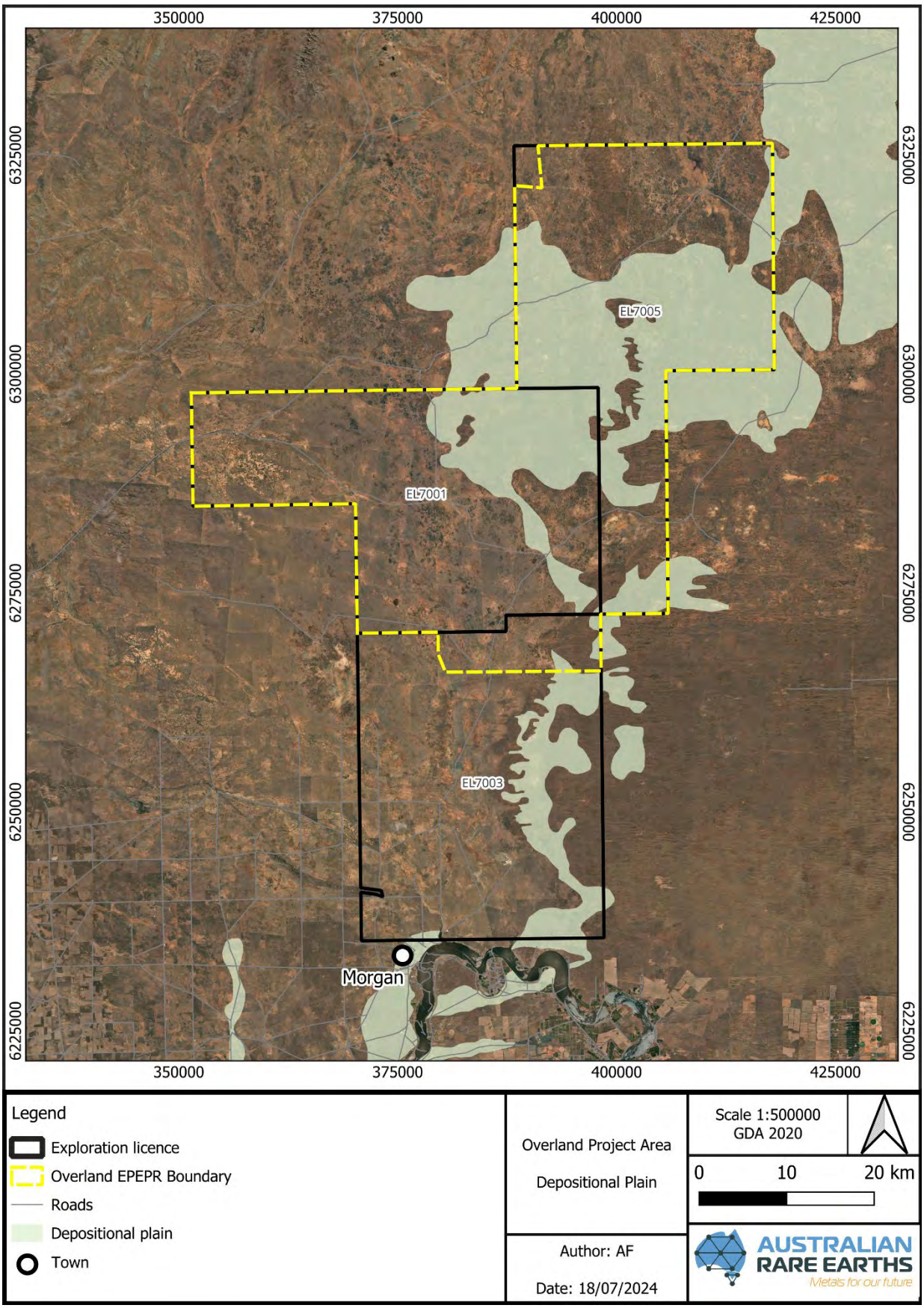


Figure 6 - Depositional Plain

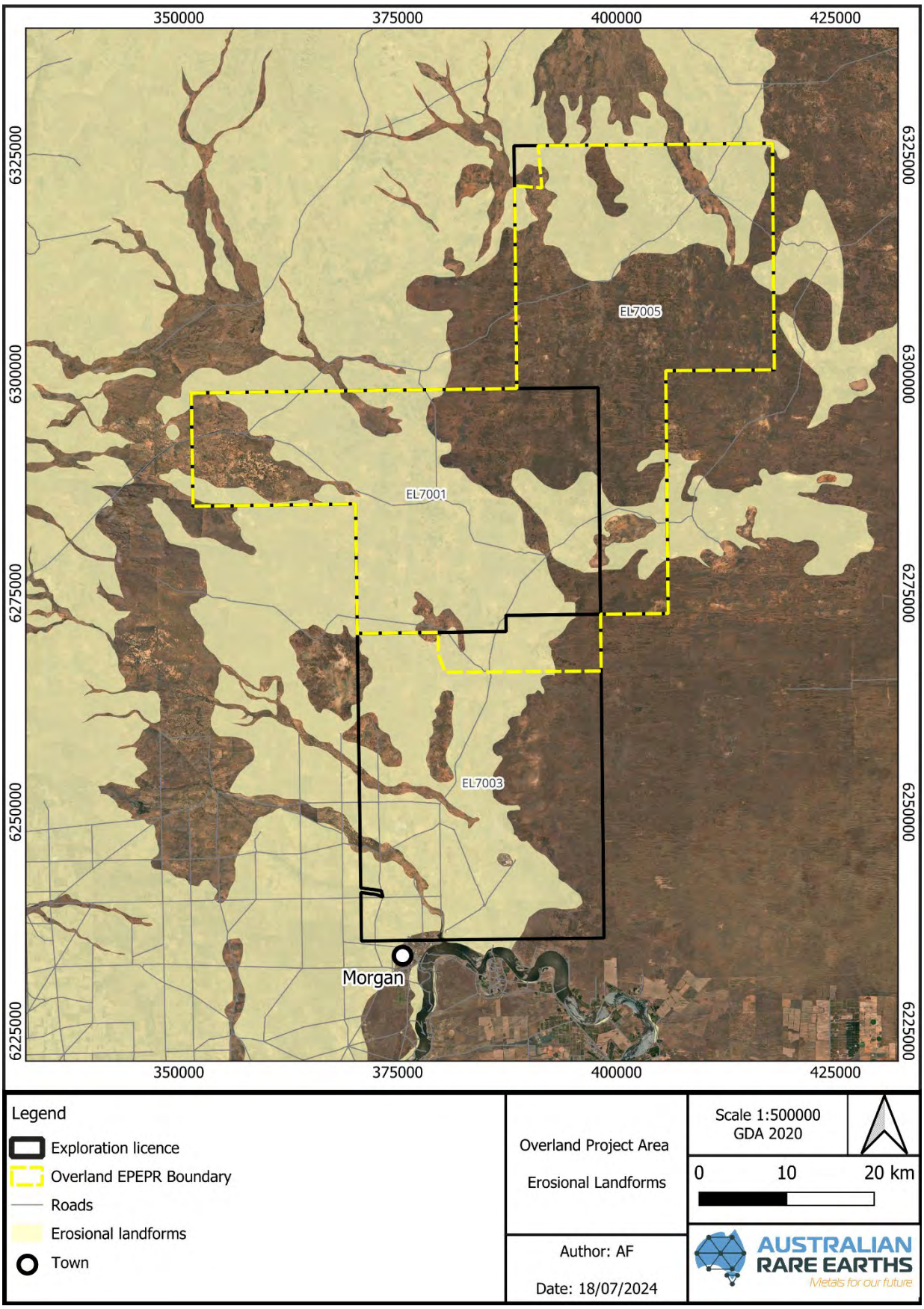


Figure 7 - Erosional Landforms

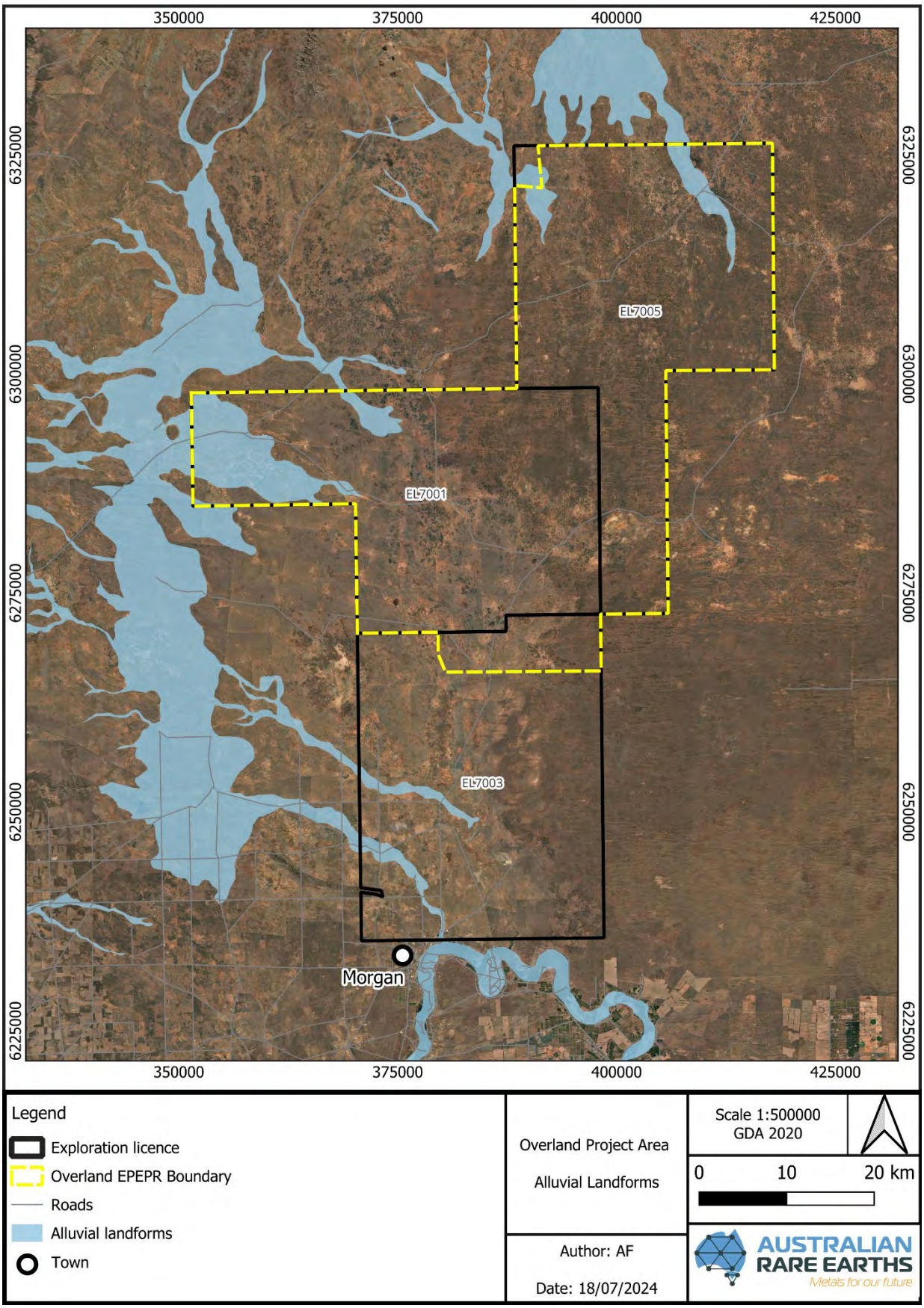


Figure 8 - Alluvial Landforms

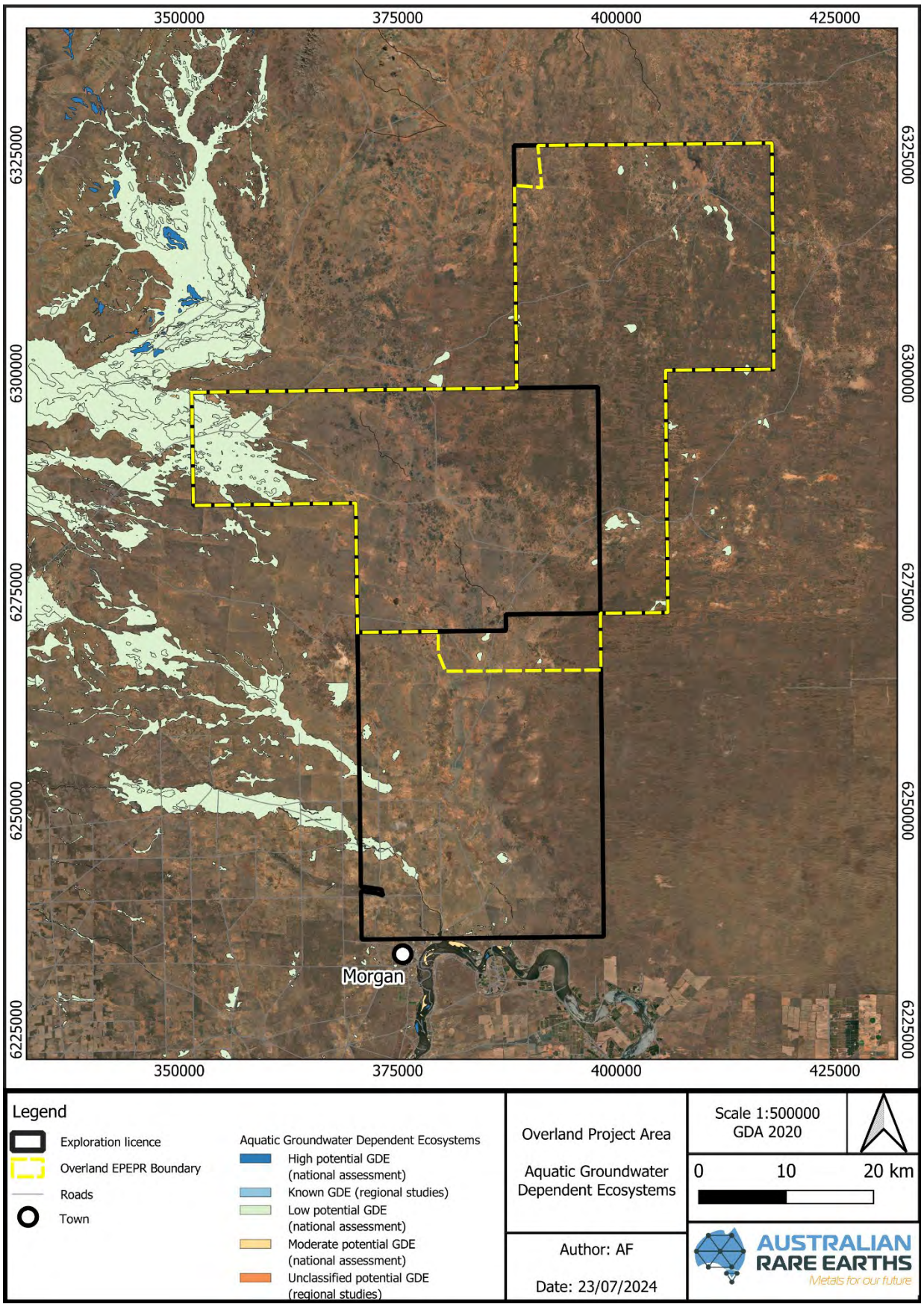


Figure 9 - Aquatic Groundwater Dependent Ecosystems

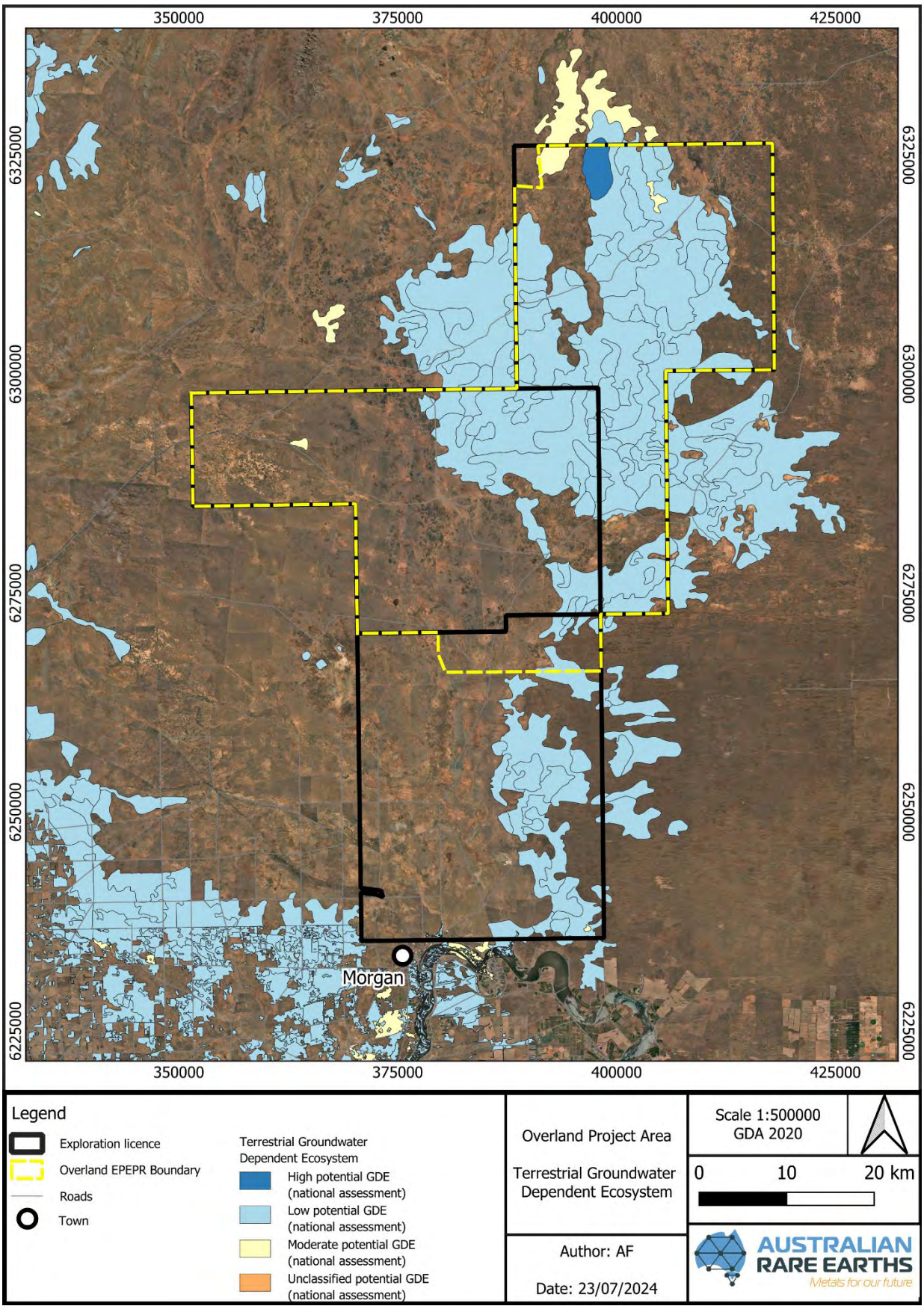


Figure 10 - Terrestrial Groundwater Dependent Ecosystems

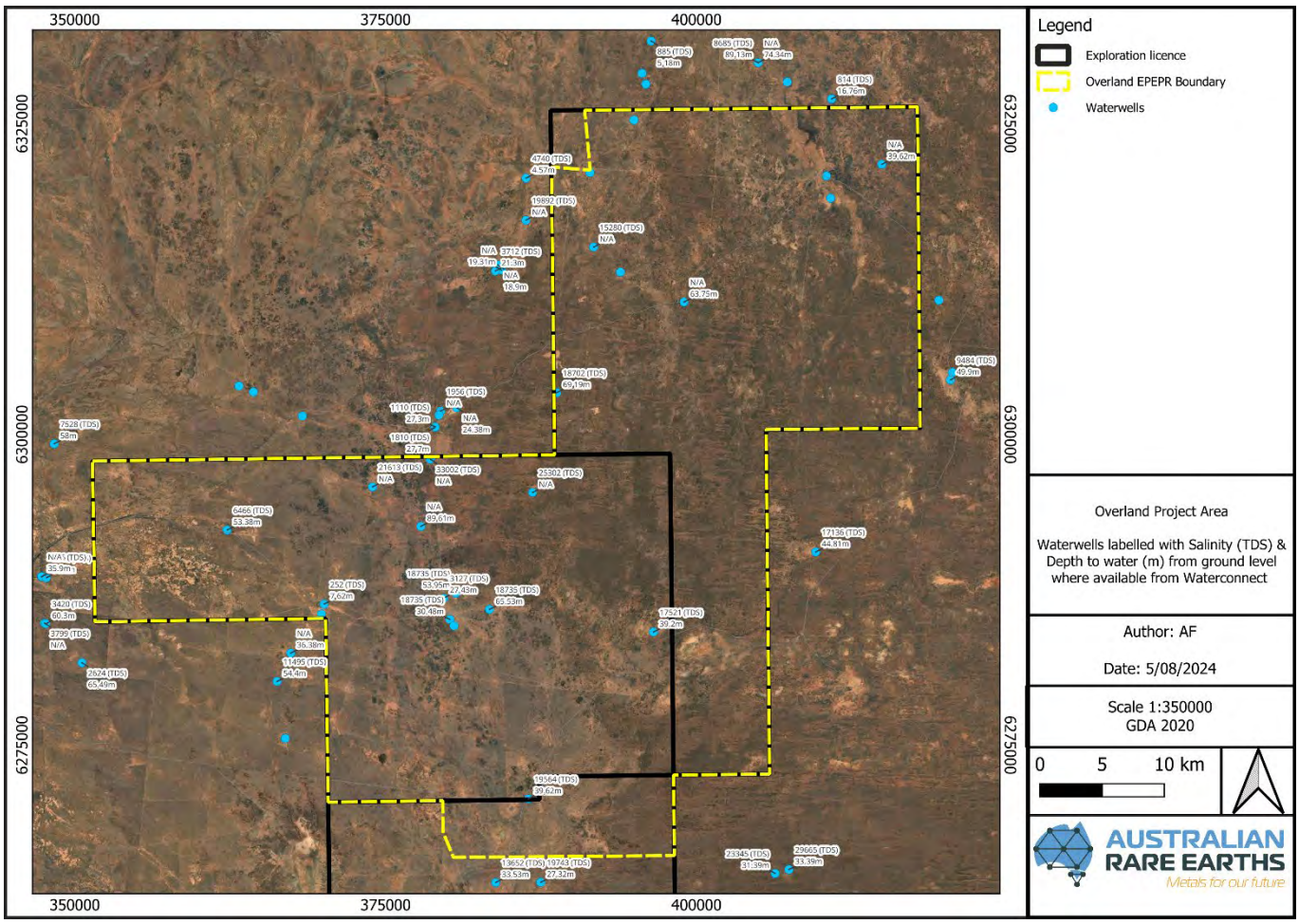


Figure 11 – Waterwells with Salinity and Depth to Groundwater

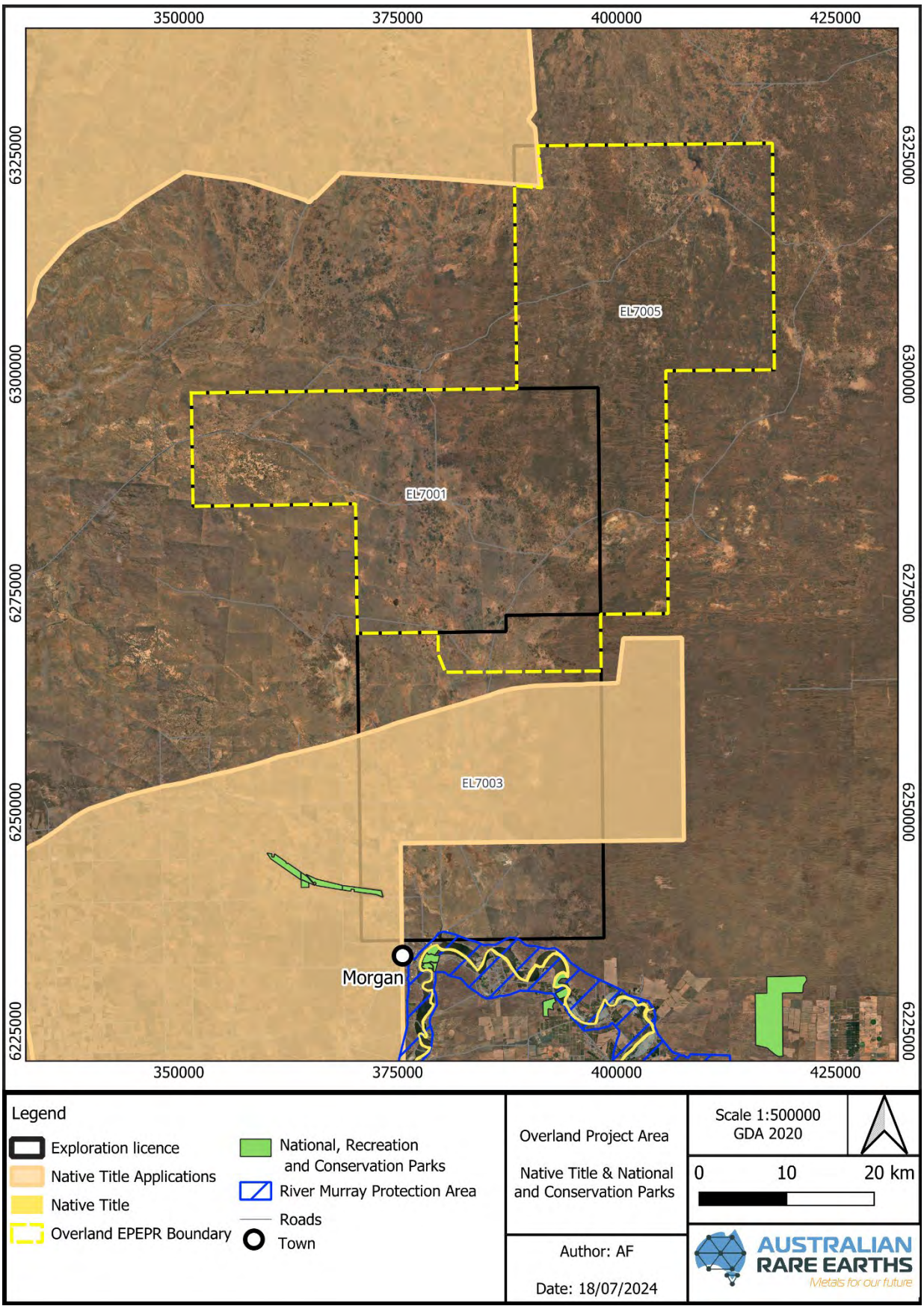


Figure 12 - Native Title, National & Conservation Parks and Protection Areas

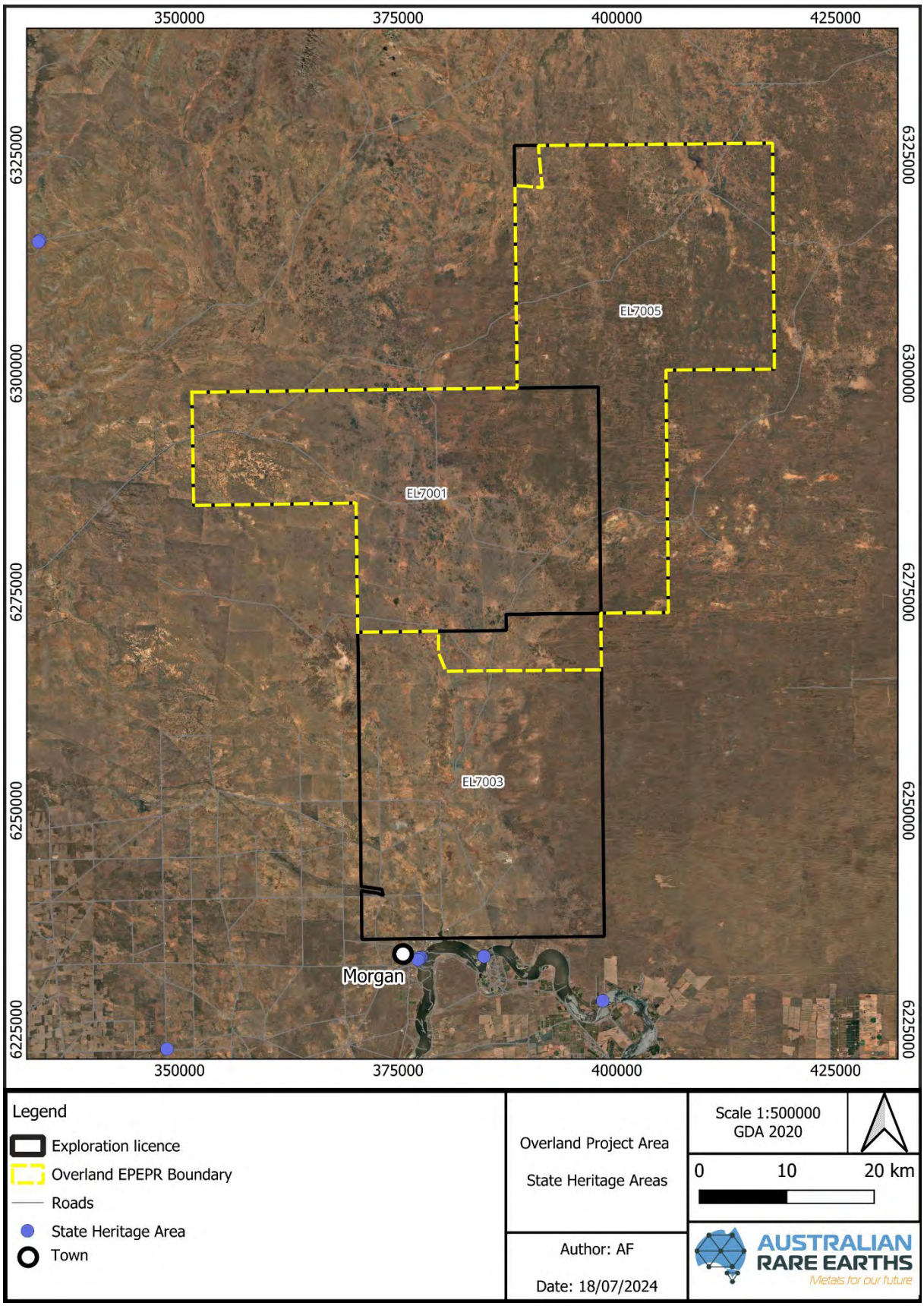


Figure 13 - Identified Heritage Areas

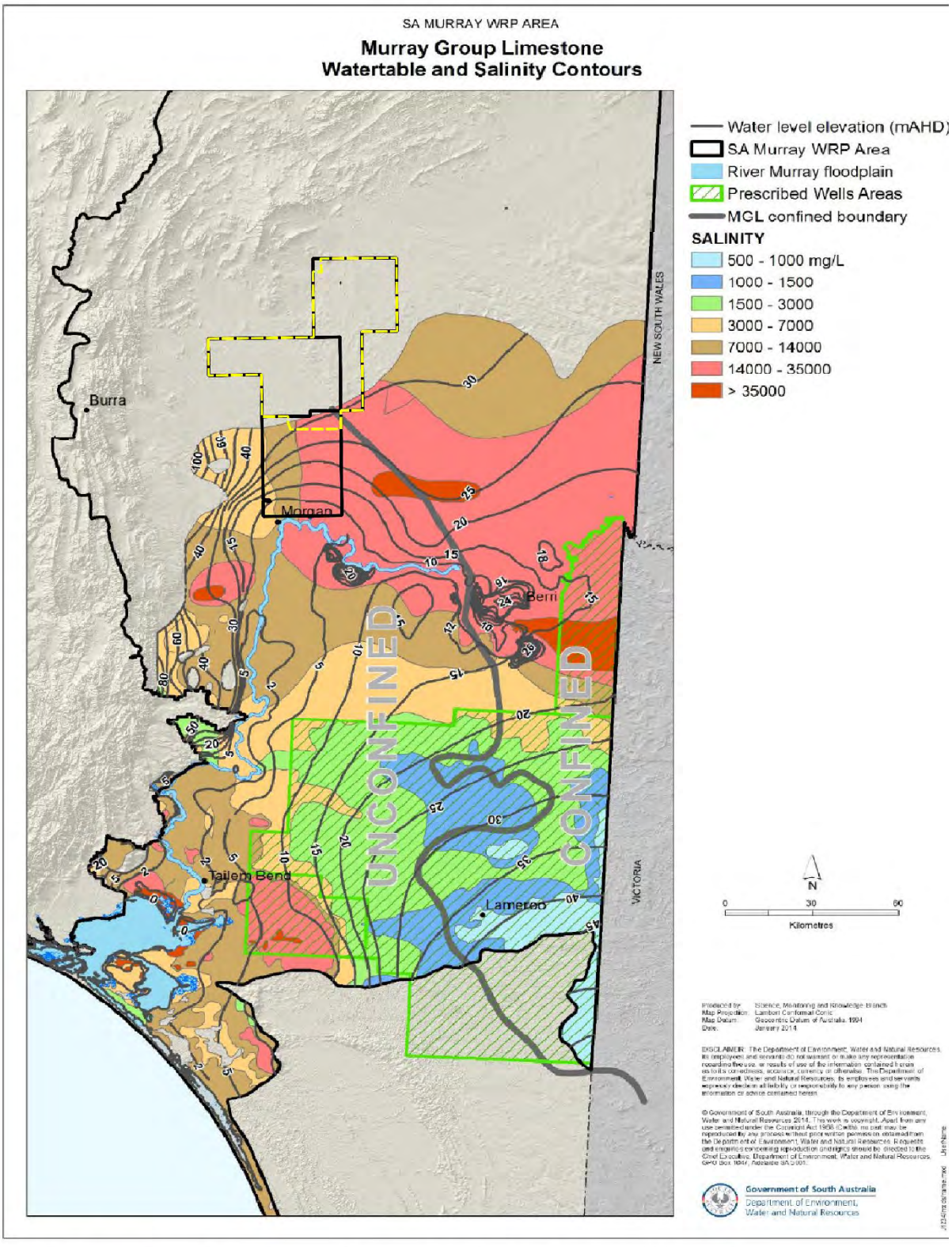


Figure 7. Murray Group Limestone aquifer – watertable elevation and salinity contours

DEWNR Technical report 2015/09

Figure 14 – Murray Group Limestone aquifer extents with Project Area outlined (Ref: Figure 7, Barnett, S, 2015, Assessment of the groundwater resources in the non-prescribed areas of the South Australian Murray-Darling Basin, DEWNR Technical report 2015/09, Government of South Australia, Department of Environment, Water and Natural Resources, Adelaide)

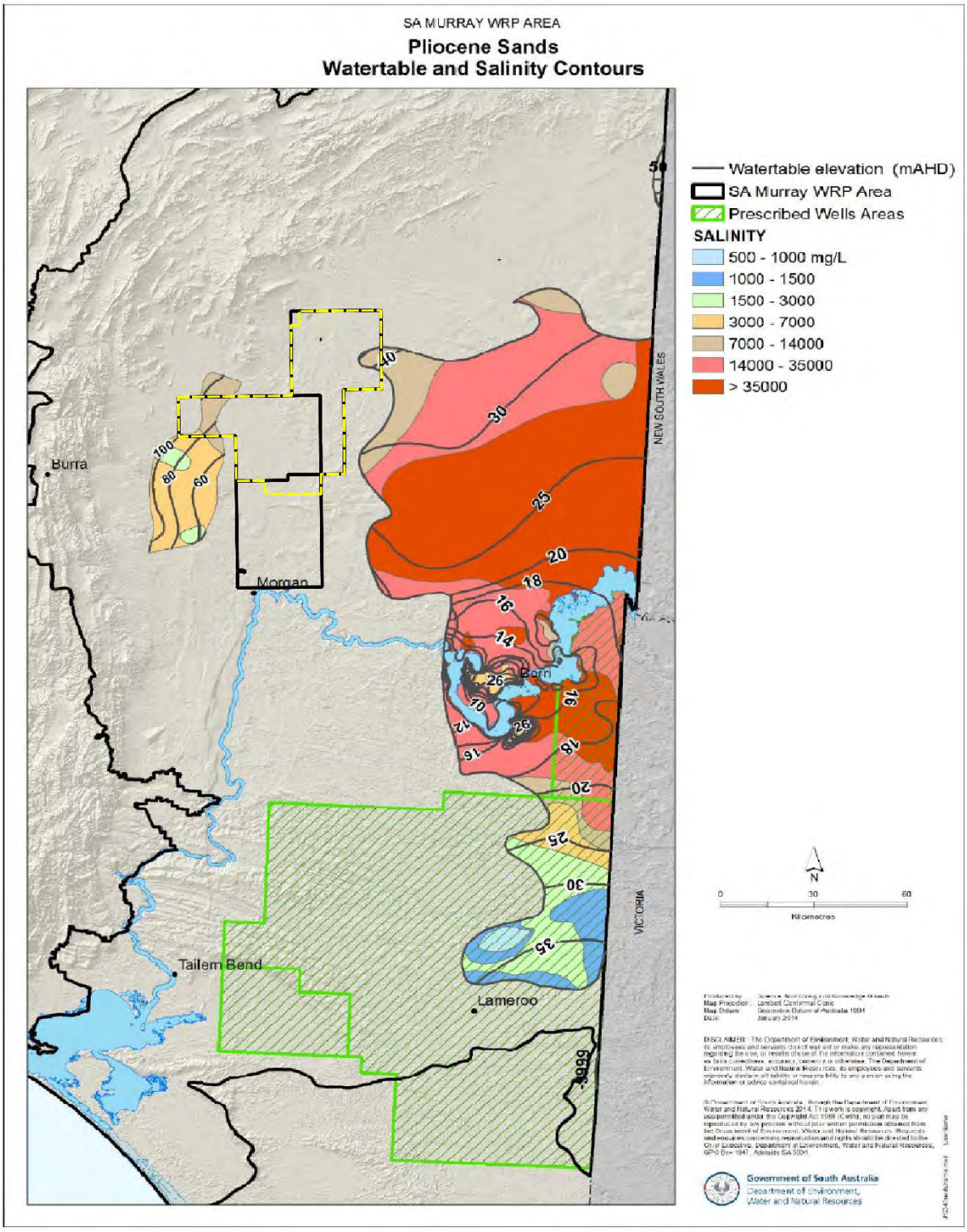


Figure 8. Pliocene Sands aquifer – watertable elevation and salinity contours

DEWNR Technical report 2015/09

Figure 15 – Pliocene Sands aquifer extents with Project Area outlined (Ref: Figure 8, Barnett, S, 2015, Assessment of the groundwater resources in the non-prescribed areas of the South Australian Murray-Darling Basin, DEWNR Technical report 2015/09, Government of South Australia, Department of Environment, Water and Natural Resources, Adelaide)

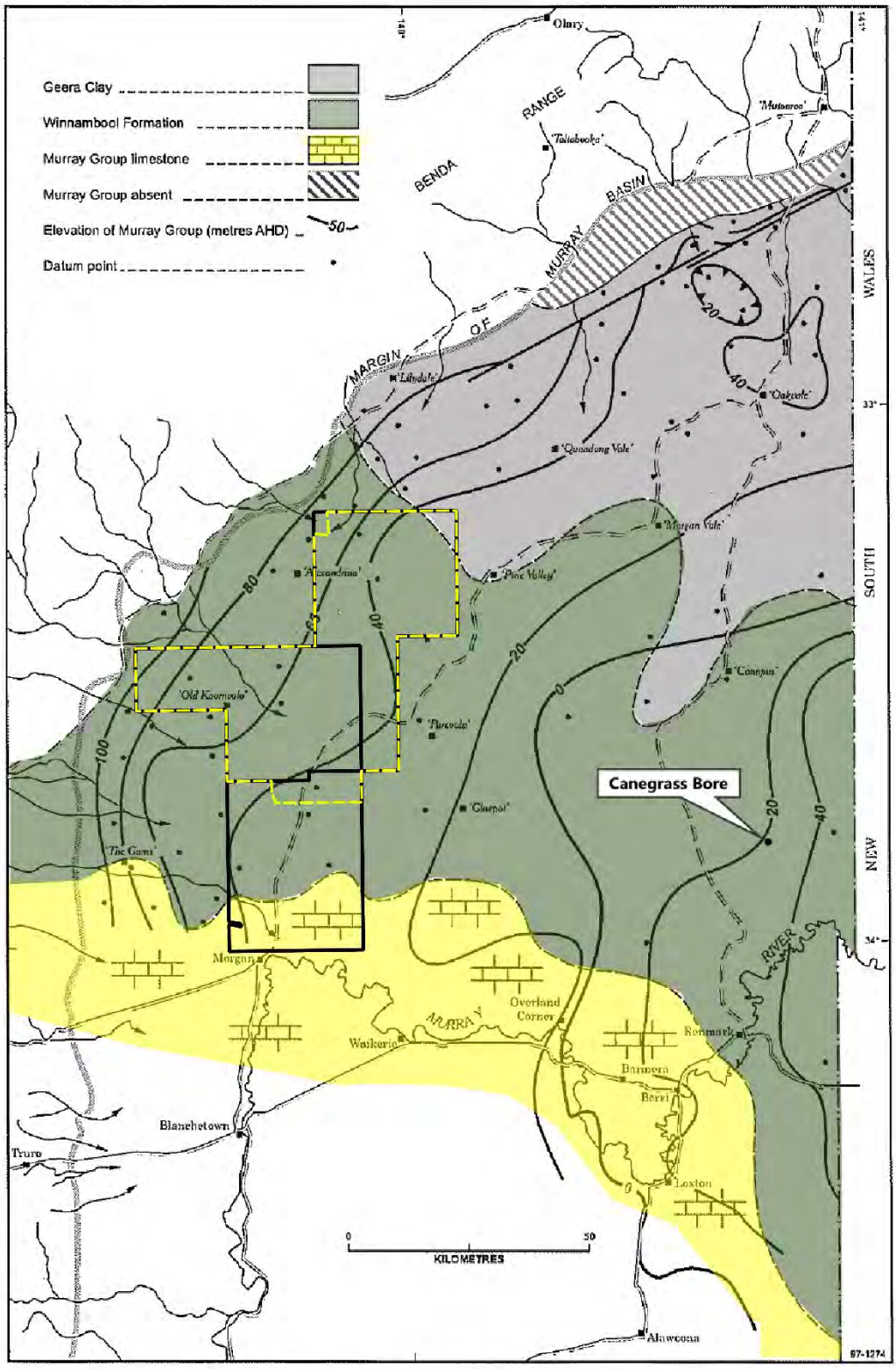


Figure 14. Structure contours of the top surface of the Winnambool Formation / Geera Clay

Figure 16 – Structure contours top surface of Winnambool Formation / Geera Clay with Project Area outlined (Ref: Figure 14, Barnett, S, 2015, Assessment of the groundwater resources in the non-prescribed areas of the South Australian Murray-Darling Basin, DEWNR Technical report 2015/09, Government of South Australia, Department of Environment, Water and Natural Resources, Adelaide)

All Flora Species Across EPEPR Area

FAMILY NAME	SPECIES	COMMON NAME	NATIVE	NATIONAL RATING	STATE RATING	LAST RECORD
BORAGINACEAE	Heliotropium europaeum	Common Heliotrope	?			23-Jul-1991
POACEAE	Urochloa panicoides var. panicoides		N			30-Mar-1997
GERANIACEAE	Erodium aureum		N			12-Aug-1991
POACEAE	Rostraria cristata	Annual Cat's-tail	N			25-Sep-1937
FABACEAE	Medicago truncatula	Barrel Medic	N			12-Aug-1991
SOLANACEAE	Solanum nigrum	Black Nightshade	N			23-Jul-1991
POACEAE	Hordeum glaucum	Blue Barley-grass	N			12-Aug-1991
PAPAVERACEAE	Glaucium corniculatum	Bristly Horned-poppy	N			24-Sep-1937
FABACEAE	Medicago polymorpha	Burr-medic	N			29-Jul-1991
EUPHORBIACEAE	Ricinus communis	Castor Oil Plant	N			23-Jul-1991
POLYGONACEAE	Rumex conglomeratus	Clustered Dock	N			24-Sep-1937
BRASSICACEAE	Lepidium africanum	Common Peppercress	N			
ASTERACEAE	Sonchus oleraceus	Common Sow-thistle	N			12-Aug-1991
VERBENACEAE	Verbena officinalis	Common Verbena	N			23-Jul-1991
GERANIACEAE	Erodium cicutarium	Cut-leaf Heron's-bill	N			01-Aug-1991
ASTERACEAE	Reichardia tingitana	False Sowthistle	N			18-Nov-1975
BRASSICACEAE	Alyssum linifolium	Flax-leaf Alyssum	N			12-Aug-1991
ASTERACEAE	Onopordum acaulon	Horse Thistle	N			05-Aug-1991
BRASSICACEAE	Diplotaxis tenuifolia	Lincoln Weed	N			23-Jul-1991
FABACEAE	Medicago minima	Little Medic	N			12-Aug-1991
SOLANACEAE	Datura ferox	Long-spine Thorn-apple	N			23-Jul-1991
ASTERACEAE	Centaurea melitensis	Malta Thistle	N			05-Aug-1991
FABACEAE	Medicago sp.	Medic	N			29-Jul-1991
FABACEAE	Astragalus sp.	Milk-vetch	N			05-Aug-1991
AMARANTHACEAE	Chenopodium murale	Nettle-leaf Goosefoot	N			23-Jul-1991
ASPHODELACEAE	Asphodelus fistulosus	Onion Weed	N			23-Jul-1991
POACEAE	Bromus rubens	Red Brome	N			23-Jul-1991
CARYOPHYLLACEAE	Spergularia rubra	Red Sand-spurrey	N			12-Aug-1991
ASTERACEAE	Carthamus tanatus	Saffron Thistle	N			23-Jul-1991
BORAGINACEAE	Echium plantagineum	Salvation Jane	N			23-Jul-1991
CARYOPHYLLACEAE	Spergularia sp.	Sand-spurrey	N			06-Aug-1991
CARYOPHYLLACEAE	Paronychia argentea	Silver Whitlow	N			14-Sep-1976
ASTERACEAE	Hypochaeris glabra	Smooth Cat's Ear	N			12-Aug-1991
BRASSICACEAE	Sisymbrium erysimoides	Smooth Mustard	N			12-Aug-1991
VERBENACEAE	Verbena supina var. supina	Trailing Verbena	N			05-Aug-1991
SOLANACEAE	Nicotiana glauca	Tree Tobacco	N			23-Jul-1991

BRASSICACEAE	Carrichtera annua	Ward's Weed	N			12-Aug-1991
RESEDACEAE	Reseda luteola	Wild Mignonette	N			23-Jul-1991
BRASSICACEAE	Sisymbrium sp.	Wild Mustard	N			05-Aug-1991
LAMIACEAE	Salvia verbenaca var. vernalis	Wild Sage	N			12-Aug-1991
PLUMBAGINACEAE	Limonium lobatum	Winged Sea-lavender	N			12-Aug-1991
PARMELIACEAE	Xanthoparmelia convoluta		Y			17-May-1967
POTTIACEAE	Didymodon torquatus		Y			11-Aug-1964
FABACEAE	Swainsona oliveri		Y			01-Aug-1991
CONVOLVULACEAE	Convolvulus microsepalus/remotus		Y			12-Aug-1991
Major Group only -Lichens	Lichen sp.		Y			06-Aug-1991
Major Group only -Mosses	Moss sp.		Y			06-Aug-1991
AMARANTHACEAE	Enchylaena sp.		Y			15-Jul-2011
EUPHORBIACEAE	Euphorbia verrucitesta		Y			29-Jul-1991
EUPHORBIACEAE	Euphorbia multifaria		Y			12-Aug-1991
AMARANTHACEAE	Sclerolaena constricta		Y			14-Oct-1926
ASTERACEAE	Senecio glossanthus (NC)	Annual Groundsel	Y			12-Aug-1991
SOLANACEAE	Lycium australe	Australian Boxthorn	Y			15-Jul-2011
POACEAE	Austrostipa nitida	Balcarra Spear-grass	Y			20-Sep-1968

AMARANTHACEAE	Dissocarpus paradoxus	Ball Bindyi	Y			12-Aug-1991
MYRTACEAE	Eucalyptus socialis (NC)	Beaked Red Mallee	Y			02-Aug-1991
CONVOLVULACEAE	Convolvulus sp.	Bindweed	Y			06-Aug-1991
AMARANTHACEAE	Sclerolaena sp.	Bindyi	Y			24-Jul-1991
AMARANTHACEAE	Atriplex stipitata (NC)	Bitter Saltbush	Y			15-Jul-2011
AMARANTHACEAE	Maireana pyramidata	Black Bluebush	Y			15-Jul-2011
CASUARINACEAE	Casuarina pauper	Black Oak	Y			15-Jul-2011
AMARANTHACEAE	Atriplex vesicaria	Bladder Saltbush	Y			15-Jul-2011
GERANIACEAE	Erodium crinitum/cygnorum/carolinianum/jannzii	Blue Heron's-bill	Y			12-Aug-1991
AMARANTHACEAE	Maireana sedifolia	Bluebush	Y			15-Jul-2011
ASTERACEAE	Cratystylis conocephala	Bluebush Daisy	Y			01-Aug-1991
AMARANTHACEAE	Maireana sp.	Bluebush/Fissure-plant	Y			06-Aug-1991
PLANTAGINACEAE	Stemodia florulenta	Bluerod	Y			12-Oct-1975
LORANTHACEAE	Amyema miquelii	Box Mistletoe	Y			06-Aug-1991
FABACEAE	Senna artemisioides ssp. X coriacea	Broad-leaf Desert Senna	Y			15-Jul-2011
POACEAE	Bromus sp.	Brome	Y			06-Aug-1991
SCROPHULARIACEAE	Eremophila scoparia	Broom Emubush	Y			15-Jul-2011
FABACEAE	Templetonia egena	Broombush Templetonia	Y			15-Jul-2011
AMARANTHACEAE	Salsola australis	Buckbush	Y			23-Jul-1991
SAPINDACEAE	Alectryon oleifolius ssp. canescens	Bullock Bush	Y			15-Jul-2011
BRASSICACEAE	Lepidium fasciculatum	Bundled Peppercress	Y			24-Jul-1991
BORAGINACEAE	Omphalolappula concava	Burr Stickseed	Y			12-Aug-1991

ASTERACEAE	Calotis sp.	Burr-daisy	Y			01-Aug-1991
ASTERACEAE	Minuria cunninghamii	Bush Minuria	Y			12-Aug-1991
ASTERACEAE	Leptorhynchos waitzia	Button Immortelle	Y			02-Sep-1961
LORANTHACEAE	Amyema linophylla ssp. orientalis	Casuarina Mistletoe	Y			15-Jul-2011
EUPHORBIACEAE	Chamaesyce drummondii (NC)	Caustic Weed	Y			05-Aug-1991
GERANIACEAE	Erodium cygnorum ssp. glandulosum (NC)	Clammy Heron's-bill	Y			29-Jul-1991
AMARANTHACEAE	Einadia nutans ssp.	Climbing Saltbush	Y			15-Jul-2011
MALVACEAE	Lawrencia glomerata	Clustered Lawrencia	Y			01-Nov-1988
LAURACEAE	Cassytha melantha	Coarse Dodder-laurel	Y			17-Jul-2000
ZYGOPHYLLACEAE	Zygophyllum billardierei (NC)	Coast Twinleaf	Y			06-Aug-1991
PROTEACEAE	Grevillea huegelii	Comb Grevillea	Y			15-Jul-2011
POACEAE	Lachnagrostis filiformis	Common Blown-grass	Y			01-Jun-2005
POACEAE	Enneapogon avenaceus	Common Bottle-washers	Y			25-Sep-1937
AMARANTHACEAE	Atriplex lindleyi ssp. inflata	Corky Saltbush	Y			24-Sep-1937
MALVACEAE	Sida corrugata var.	Corrugated Sida	Y			05-Aug-1991
ASTERACEAE	Senecio quadridentatus	Cotton Groundsel	Y			24-Sep-1937
AMARANTHACEAE	Chenopodium curvispicatum	Cottony Goosefoot	Y			15-Jul-2011
CRASSULACEAE	Crassula colorata/sieberiana complex	Crassula	Y			12-Aug-1991

POTAMOGETONACEAE	Potamogeton crispus	Curly Pondweed	Y			18-Nov-1975
COMPOSITAE	Compositae sp.	Daisy Family	Y			05-Aug-1991
EUPHORBIACEAE	Beyeria opaca	Dark Turpentine Bush	Y			02-Aug-1991
CRASSULACEAE	Crassula colorata var. acuminata	Dense Crassula	Y			12-Aug-1991
AMARANTHACEAE	Chenopodium desertorum ssp.	Desert Goosefoot	Y			15-Jul-2011
MALVACEAE	Radyera farragei	Desert Rose Mallow	Y			18-Nov-1975
FABACEAE	Senna artemisioides ssp.	Desert Senna	Y			06-Aug-1991
ASTERACEAE	Centipeda thespidioides	Desert Sneezeweed	Y			24-Sep-1937
EUPHORBIACEAE	Euphorbia tannensis ssp. eremophila	Desert Spurge	Y			23-Jul-1991
ASTERACEAE	Hyalosperma demissum	Dwarf Sunray	Y			06-Aug-1991
ZYGOPHYLLACEAE	Roepera ovata	Dwarf Twinleaf	Y			06-Aug-1991
AMARANTHACEAE	Atriplex eardleyae	Eardley's Saltbush	Y			25-Sep-1937
BRASSICACEAE	Geococcus pusillus	Earth Cress	Y			12-Aug-1991
ASTERACEAE	Elachanthus pusillus	Elachanth	Y			02-Sep-1961
FABACEAE	Acacia victoriae ssp. victoriae	Elegant Wattle	Y			24-Sep-1937
AMARANTHACEAE	Maireana pentatropis	Erect Mallee Bluebush	Y			15-Jul-2011
ASTERACEAE	Rhodanthe sp.	Everlasting	Y			05-Aug-1991

BRASSICACEAE	Menkea australis	Fairy Spectacles	Y			12-Aug-1991
POACEAE	Austrostipa scabra group	Falcate-awn Spear-grass	Y			12-Aug-1991
SCROPHULARIACEAE	Myoporum platycarpum ssp.	False Sandalwood	Y			15-Jul-2011
AIZOACEAE	Tetragonia sp.	False Spinach	Y			05-Aug-1991
AMARANTHACEAE	Atriplex angulata	Fan Saltbush	Y			23-Jul-1991
RANUNCULACEAE	Ranunculus pumilio var. pumilio	Ferny Buttercup	Y			25-Aug-1959
FABACEAE	Senna artemisioides ssp. filifolia	Fine-leaf Desert Senna	Y			15-Jul-2011
AMARANTHACEAE	Sclerolaena muricata var. muricata	Five-spine Bindyi	Y			22-Oct-1965
ASTERACEAE	Actinobole uliginosum	Flannel Cudweed	Y			12-Aug-1991
POACEAE	Austrostipa platychaeta	Flat-awn Spear-grass	Y			06-Aug-1991
FABACEAE	Senna artemisioides ssp. petiolaris (NC)	Flat-stalk Senna	Y			06-Aug-1991
LORANTHACEAE	Amyema miraculosa ssp. boormanii	Fleshy Mistletoe	Y			15-Jul-2011
AMARANTHACEAE	Chenopodium desertorum ssp. desertorum	Frosted Goosefoot	Y			06-Aug-1991
ASTERACEAE	Vittadinia cuneata var. cuneata	Fuzzy New Holland Daisy	Y			12-Aug-1991
GOODENIACEAE	Goodenia sp.	Goodenia	Y			06-Aug-1991
ASTERACEAE	Isoetopsis graminifolia	Grass Cushion	Y			02-Sep-1961
GRAMINEAE	Gramineae sp.	Grass Family	Y			05-Aug-1991
CONVOLVULACEAE	Convolvulus remotus	Grassy Bindweed	Y			05-Aug-1991

ORCHIDACEAE	Pterostylis sp.	Greenhood	Y			06-Aug-1991
AMARANTHACEAE	Sclerolaena diacantha	Grey Bindyi	Y			15-Jul-2011
ASTERACEAE	Chthonocephalus pseudevax	Ground-heads	Y			20-Oct-1975
ASTERACEAE	Calotis hispidula	Hairy Burr-daisy	Y			12-Aug-1991
AMARANTHACEAE	Maireana trichoptera	Hairy-fruit Bluebush	Y			12-Aug-1991
ASTERACEAE	Brachyscome lineariloba	Hard-head Daisy	Y			12-Aug-1991
LORANTHACEAE	Lysiana exocarpi ssp. exocarpi	Harlequin Mistletoe	Y			12-Aug-1991
FABACEAE	Acacia acanthoclada ssp. acanthoclada	Harrow Wattle	Y			02-Aug-1991
AMARANTHACEAE	Rhagodia ulicina	Intricate Saltbush	Y			06-Aug-1991
POACEAE	Eragrostis xerophila	Knotty-butt Neverfail	Y			20-Oct-1965
POACEAE	Setaria constricta	Knotty-butt Paspalidium	Y			06-Aug-1991
ASTERACEAE	Erodiophyllum elderi	Koonamore Daisy	Y			05-Mar-1993
AMARANTHACEAE	Atriplex suberecta	Lagoon Saltbush	Y			25-Sep-1937
ASTERACEAE	Millotia macrocarpa	Large-fruit Millotia	Y			29-Jul-1991
SANTALACEAE	Exocarpos aphyllus	Leafless Cherry	Y			15-Jul-2011
POLYGONACEAE	Duma florulenta	Lignum	Y			15-Jul-2011
RUBIACEAE	Galium migrans ssp. migrans	Loose Bedstraw	Y			05-Aug-1991
AMARANTHACEAE	Maireana astrotricha	Low Bluebush	Y			23-Jul-1991
ASPARAGACEAE	Thysanotus baueri	Mallee Fringe-lily	Y			12-Aug-1991

URTICACEAE	Parietaria cardiostegia	Mallee Smooth-nettle	Y			06-Aug-1991
AMARANTHACEAE	Rhagodia parabolica	Mealy Saltbush	Y			06-Aug-1991
ASTERACEAE	Millotia sp.	Millotia/Bow-flower	Y			01-Aug-1991
ASTERACEAE	Minuria leptophylla	Minnie Daisy	Y			29-Jul-1991
ASTERACEAE	Minuria sp.	Minuria	Y			05-Aug-1991
LORANTHACEAE	Amyema sp.	Mistletoe	Y			12-Aug-1991
ASTERACEAE	Olearia muelleri	Mueller's Daisy-bush	Y			15-Jul-2011
FABACEAE	Acacia aneura var. aneura	Mulga	Y			01-Jul-1948
AMARANTHACEAE	Ptilotus sp.	Mulla Mulla	Y			05-Aug-1991
ASTERACEAE	Leiocarpa websteri	Narrow Plover-daisy	Y			12-Aug-1991
BRASSICACEAE	Stenopetalum lineare	Narrow Thread-petal	Y			12-Aug-1991
CONVOLVULACEAE	Convolvulus angustissimus ssp. angustissimus (NC)	Narrow-leaf Bindweed	Y			05-Aug-1991
SCROPHULARIACEAE	Eremophila alternifolia	Narrow-leaf Emubush	Y			02-Aug-1991
SAPINDACEAE	Dodonaea viscosa ssp. angustissima	Narrow-leaf Hop-bush	Y			15-Jul-2011
APIACEAE	Daucus glochidiatus	Native Carrot	Y			20-Oct-1965
BRASSICACEAE	Arabidella sp.	Native Cress	Y			01-Aug-1991
BRASSICACEAE	Harmsiodoxa sp.	Native Cress	Y			12-Aug-1991
OXALIDACEAE	Oxalis perennans/exilis	Native Oxalis	Y			06-Aug-1991

APOCYNACEAE	Leichhardtia australis	Native Pear	Y			15-Jul-2011
OXALIDACEAE	Oxalis perennans	Native Sorrel	Y			05-Aug-1991
AIZOACEAE	Tetragonia eremaea/tetragonoides	Native Spinach	Y			12-Aug-1991
ASTERACEAE	Vittadinia cuneata var. morrisii	New Holland Daisy	Y			06-Aug-1991
AIZOACEAE	Tetragonia tetragonoides	New Zealand Spinach	Y			01-Jan-1946
AMARANTHACEAE	Chenopodium nitrariaceum	Nitre Goosefoot	Y			04-Apr-1967
NITRARIACEAE	Nitraria billardierei	Nitre-bush	Y			15-Jul-2011
AMARANTHACEAE	Sclerolaena obliquicuspis	Oblique-spined Bindyi	Y			15-Jul-2011
SCROPHULARIACEAE	Eremophila oppositifolia ssp. oppositifolia	Opposite-leaved Emubush	Y			03-Jan-1961
ASTERACEAE	Hyalosperma semisterile	Orange Sunray	Y			17-Nov-1975
ZYGOPHYLLACEAE	Roepera glauca	Pale Twinleaf	Y			06-Aug-1991
AMARANTHACEAE	Maireana appressa	Pale-fruit Bluebush	Y			15-Jul-2011
ASTERACEAE	Rhodanthe pygmaea	Pigmy Daisy	Y			12-Aug-1991
ASTERACEAE	Olearia pimeleoides	Pimelea Daisy-bush	Y			15-Jul-2011
MALVACEAE	Sida fibulifera	Pin Sida	Y			05-Mar-1993
FABACEAE	Acacia burkittii	Pin-bush Wattle	Y			03-Sep-1961
PITTOSPORACEAE	Pittosporum sp.	Pittosporum	Y			15-Jul-2011
PLANTAGINACEAE	Plantago sp.	Plantain	Y			12-Aug-1991
ASTERACEAE	Leiocarpa tomentosa/websteri	Plover-daisy	Y			12-Aug-1991
AMARANTHACEAE	Atriplex acutibractea ssp. acutibractea	Pointed Saltbush	Y			20-Oct-1975

ZYGOPHYLLACEAE	Roepera apiculata	Pointed Twinleaf	Y			06-Aug-1991
MONTIACEAE	Calandrinia sp.	Purslane/Parakeelya	Y			06-Aug-1991
SANTALACEAE	Santalum acuminatum	Quandong	Y			15-Jul-2011
AMARANTHACEAE	Maireana radiata	Radiate Bluebush	Y			06-Aug-1991
MYRTACEAE	Eucalyptus oleosa (NC)	Red Mallee	Y			06-Aug-1991
FABACEAE	Lotus cruentus	Red-flower Lotus	Y			24-Jul-1991
MYRTACEAE	Eucalyptus camaldulensis ssp.	River Red Gum	Y			23-Jul-1991
SOLANACEAE	Solanum petrophilum	Rock Nightshade	Y			23-Jul-1991
MALVACEAE	Sida petrophila	Rock Sida	Y			23-Sep-1937
AMARANTHACEAE	Maireana eriosclada	Rosy Bluebush	Y			16-Oct-1975
AIZOACEAE	Disphyma crassifolium ssp. clavellatum	Round-leaf Pigface	Y			06-Aug-1991
AMARANTHACEAE	Enchylaena tomentosa var. tomentosa	Ruby Saltbush	Y			15-Jul-2011
ZYGOPHYLLACEAE	Zygophyllum ammophilum (NC)	Sand Twinleaf	Y			01-Aug-1991
AMARANTHACEAE	Maireana georgei/turbinata	Satiny Bluebush	Y			12-Aug-1991
LAMIACEAE	Prostanthera aspalathoides	Scarlet Mintbush	Y			02-Aug-1991
ASPARAGACEAE	Lomandra effusa	Scented Mat-rush	Y			15-Jul-2011
ZYGOPHYLLACEAE	Roepera angustifolia	Scrambling Twinleaf	Y			05-Aug-1991
FRANKENIACEAE	Frankenia sp.	Sea-heath	Y			06-Aug-1991
FABACEAE	Senna sp.	Senna	Y			15-Jul-2011

RUTACEAE	Geijera linearifolia	Sheep Bush	Y			06-Aug-1991
AMARANTHACEAE	Maireana brevifolia	Short-leaf Bluebush	Y			12-Aug-1991
AMARANTHACEAE	Sclerolaena brachyptera	Short-wing Bindyi	Y			06-Aug-1991
ASTERACEAE	Senecio magnificus	Showy Groundsel	Y			12-Oct-1975
BRASSICACEAE	Arabidella trisecta	Shrubby Cress	Y			12-Aug-1991
BRASSICACEAE	Lepidium leptopetalum	Shrubby Peppercress	Y			05-Aug-1991
ZYGOPHYLLACEAE	Zygophyllum aurantiacum (NC)	Shrubby Twinleaf	Y			06-Aug-1991
ZYGOPHYLLACEAE	Roepera aurantiaca ssp.	Shrubby Twinleaf	Y			15-Jul-2011
GOODENIACEAE	Goodenia fascicularis	Silky Goodenia	Y			12-Aug-1991
GOODENIACEAE	Goodenia willisiana	Silver Goodenia	Y			02-Aug-1991
AMARANTHACEAE	Ptilotus obovatus	Silver Mulla Mulla	Y			12-Aug-1991
PROTEACEAE	Hakea leucoptera ssp. leucoptera	Silver Needlewood	Y			14-Nov-1968
SAPINDACEAE	Dodonaea bursariifolia	Small Hop-bush	Y			02-Aug-1991
POLYGONACEAE	Polygonum plebeium	Small Knotweed	Y			23-Aug-1960
ASTERACEAE	Triptilodiscus pygmaeus	Small Yellow-heads	Y			20-Oct-1975
AMARANTHACEAE	Sclerolaena parviflora	Small-flower Bindyi	Y			02-Aug-1991
GOODENIACEAE	Goodenia pusilliflora	Small-flower Goodenia	Y			01-Aug-1991

SOLANACEAE	Nicotiana goodspeedii	Small-flower Tobacco	Y			06-Aug-1991
ASTERACEAE	Brachyscome trachycarpa	Smooth Daisy	Y			06-Aug-1991
ASTERACEAE	Centipeda sp.	Sneezeweed	Y			05-Aug-1991
ASTERACEAE	Pycnosorus pleiocephalus	Soft Billy-buttons	Y			29-Jul-1991
ASTERACEAE	Sonchus sp.	Sow-thistle	Y			01-Aug-1991
AMARANTHACEAE	Sclerolaena patenticuspis	Spear-fruit Bindyi	Y			15-Jul-2011
POACEAE	Austrostipa sp.	Spear-grass	Y			06-Aug-1991
ASTERACEAE	Gnephosis arachnoidea	Spidery Button-flower	Y			12-Aug-1991
ASTERACEAE	Olearia subspicata	Spiked Daisy-bush	Y			
FABACEAE	Acacia nyssophylla	Spine Bush	Y			06-Aug-1991
POACEAE	Triodia irritans complex	Spinifex	Y			02-Aug-1991
GOODENIACEAE	Scaevola spinescens	Spiny Fanflower	Y			15-Jul-2011
AMARANTHACEAE	Rhagodia spinescens	Spiny Saltbush	Y			12-Aug-1991
ASTERACEAE	Olearia magniflora	Splendid Daisy-bush	Y			06-Aug-1991
SCROPHULARIACEAE	Eremophila maculata ssp.	Spotted Emubush	Y			15-Jul-2011
EUPHORBIACEAE	Euphorbia sp. (NC)	Spurge	Y			23-Jul-1991
SAPINDACEAE	Dodonaea viscosa ssp.	Sticky Hop-bush	Y			15-Jul-2011
LAMIACEAE	Westringia rigida	Stiff Westringia	Y			01-Jun-2006
ASTERACEAE	Hyalosperma sp.	Sunray	Y			06-Aug-1991

FABACEAE	Trigonella suavissima	Sweet Fenugreek	Y			25-Sep-1937
POACEAE	Enneapogon intermedius	Tall Bottle-washers	Y			12-Aug-1991
CAMPANULACEAE	Lobelia gibbosa	Tall Lobelia	Y			27-Feb-1993
POACEAE	Austrostipa nodosa	Tall Spear-grass	Y			12-Aug-1991
AMARANTHACEAE	Sclerolaena cuneata	Tangled Bindyi	Y			12-Aug-1991
AMARANTHACEAE	Sclerolaena divaricata	Tangled Bindyi	Y			15-Jul-2011
SCROPHULARIACEAE	Eremophila glabra ssp.	Tar Bush	Y			15-Jul-2011
SCROPHULARIACEAE	Eremophila glabra ssp. glabra	Tar Bush	Y			05-Aug-1991
MALVACEAE	Lawrencia squamata	Thorny Lawrencia	Y			06-Aug-1991
AMARANTHACEAE	Maireana triptera	Three-wing Bluebush	Y			15-Jul-2011
ASTERACEAE	Brachyscome perpusilla	Tiny Daisy	Y			20-Oct-1975
SOLANACEAE	Nicotiana sp.	Tobacco	Y			01-Aug-1991
AMARANTHACEAE	Maireana turbinata	Top-fruit Bluebush	Y			04-Sep-1961
CAMPANULACEAE	Wahlenbergia communis	Tufted Bluebell	Y			20-Oct-1965
SCROPHULARIACEAE	Eremophila deserti	Turkey-bush	Y			15-Jul-2011
SCROPHULARIACEAE	Eremophila sturtii	Turpentine Bush	Y			15-Jul-2011
MALVACEAE	Sida intricata	Twiggy Sida	Y			12-Aug-1991
ZYGOPHYLLACEAE	Roepera sp.	Twinleaf	Y			23-Jul-1991
FABACEAE	Acacia oswaldii	Umbrella Wattle	Y			15-Jul-2011
ASTERACEAE	Brachyscome ciliaris var. ciliaris	Variable Daisy	Y			06-Aug-1991

FABACEAE	Acacia colletioides	Veined Wait-a-while	Y			15-Jul-2011
SOLANACEAE	Nicotiana velutina	Velvet Tobacco	Y			12-Oct-1975
ZYGOPHYLLACEAE	Zygophyllum iodocarpum (NC)	Violet Twinleaf	Y			12-Aug-1991
POACEAE	Rytidosperma sp.	Wallaby-grass	Y			06-Aug-1991
BRASSICACEAE	Lepidium papillosum	Warty Peppercress	Y			12-Aug-1991
SCROPHULARIACEAE	Eremophila longifolia	Weeping Emubush	Y			15-Jul-2011
ASTERACEAE	Rhodanthe floribunda	White Everlasting	Y			18-Nov-1975
MYRTACEAE	Eucalyptus dumosa	White Mallee	Y			05-Aug-1991
RUTACEAE	Geijera parviflora	Wilga	Y		R	16-Aug-1989
LORANTHACEAE	Amyema preissii	Wire-leaf Mistletoe	Y			06-Aug-1991
ASTERACEAE	Lemooria burkittii	Wires-and-wool	Y			12-Aug-1991
ASTERACEAE	Brachyscome ciliaris var. lanuginosa	Woolly Variable Daisy	Y			12-Aug-1991
POACEAE	Eragrostis eriopoda	Woollybutt	Y			12-Aug-1991
AMARANTHACEAE	Eriochiton sclerolaenoides	Woolly-fruit Bluebush	Y			12-Aug-1991
ASTERACEAE	Calotis lappulacea	Yellow Burr-daisy	Y			20-Oct-1975
BRASSICACEAE	Arabidella nasturtium	Yellow Cress	Y			12-Aug-1991
HALORAGACEAE	Glischrocaryon flavescens	Yellow Pennants	Y			27-Mar-1993
AMARANTHACEAE	Ptilotus nobilis ssp. nobilis (NC)	Yellow-tails	Y			06-Aug-1991
MYRTACEAE	Eucalyptus gracilis	Yorrell	Y			06-Aug-1991
GYROSTEMONACEAE	Codonocarpus pyramidalis	Slender Bell-fruit	Y	VU	E	01-Jun-1918

Figure 17 -All Flora Species Table

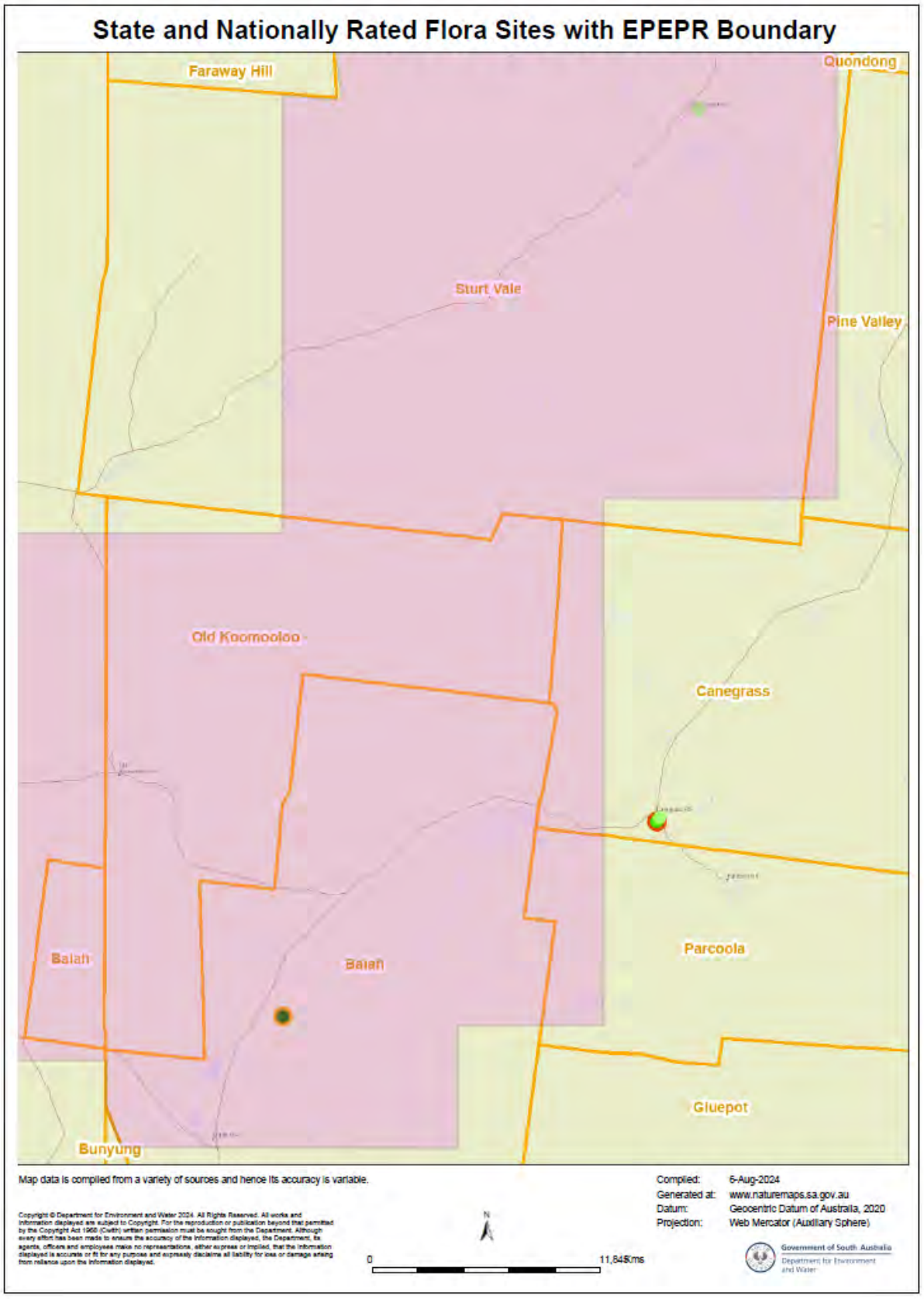


Figure 18 - State and Nationally Rated Flora Sites

All Fauna Species Overland EPEPR Area

SPECIES	COMMON NAME	NATIVE	NATIONAL RATING	STATE RATING	DATE OF LAST RECORD
Capra hircus	Goat (Feral Goat)	N			20-Jun-2018
Felis catus	Domestic Cat (Feral Cat)	N			12-Oct-1992
Mus musculus	House Mouse	N			15-Oct-1992
Oryctolagus cuniculus	Rabbit (European Rabbit)	N			17-Jul-2014
Vulpes vulpes	Fox (Red Fox)	N			24-Jul-2017
Acanthagenys rufogularis	Spiny-cheeked Honeyeater	Y			04-Oct-1996
Acanthiza apicalis	Inland Thornbill	Y			04-Oct-1996
Acanthiza chrysorrhoa	Yellow-rumped Thornbill	Y			04-Oct-1996
Acanthiza uropygialis	Chestnut-rumped Thornbill	Y			04-Oct-1996
Accipiter cirrocephalus cirrocephalus	Collared Sparrowhawk	Y			12-Oct-1992
Accipiter fasciatus fasciatus	Brown Goshawk	Y			04-Oct-1996
Aegotheles cristatus cristatus	Australian Owlet-nightjar	Y			04-Oct-1996
Anas gracilis gracilis	Grey Teal	Y			28-May-2004
Anilios bicolor	Dark-spined Blind Snake	Y			30-Oct-1992
Anthochaera carunculata	Red Wattlebird	Y			05-Nov-1992
Anthus australis	Australian Pipit	Y			04-Oct-1996
Aquila audax audax	Wedge-tailed Eagle	Y			17-Jul-2014
Ardea pacifica	White-necked Heron	Y			07-Oct-1989
Artamus cinereus	Black-faced Woodswallow	Y			04-Oct-1996
Artamus cyanopterus	Dusky Woodswallow	Y			04-Oct-1996
Artamus personatus	Masked Woodswallow	Y			04-Oct-1996
Artamus sp.	woodswallows	Y			20-Oct-1992
Artamus superciliosus	White-browed Woodswallow	Y			04-Oct-1996
Austronomus australis	White-striped Free-tailed Bat	Y			11-Oct-1980
Aythya australis	Hardhead	Y			07-Oct-1989
Barnardius zonarius	Australian Ringneck	Y			04-Oct-1996

Cacatua sanguinea gymnopis	Little Corella	Y			12-Oct-1992
Cacomantis pallidus	Pallid Cuckoo	Y			04-Oct-1996
Chalcites basalis	Horsfield's Bronze Cuckoo	Y			04-Oct-1996
Chalcites osculans	Black-eared Cuckoo	Y			04-Oct-1996
Chalinolobus gouldii	Gould's Wattled Bat	Y			11-Oct-1980
Chenonetta jubata	Maned Duck	Y			27-Oct-1992
Cincloramphus cruralis	Brown Songlark	Y			16-Oct-1992
Cincloramphus sp.		Y			22-Oct-1992
Climacteris picumnus picumnus	Brown Treecreeper	Y			04-Oct-1996
Colluricincla harmonica	Grey Shrikethrush	Y			04-Oct-1996
Coracina novaehollandiae	Black-faced Cuckooshrike	Y			04-Oct-1996
Corvus bennetti	Little Crow	Y			30-Oct-1992
Corvus coronoides	Australian Raven	Y			04-Oct-1996
Corvus mellori	Little Raven	Y			04-Oct-1996
Corvus sp.	Ravens, Crows	Y			20-Oct-1992
Cracticus nigrogularis nigrogularis	Pied Butcherbird (MM)	Y			04-Oct-1996
Cracticus torquatus leucopterus	Grey Butcherbird	Y			05-Nov-1992
Cryptoblepharus cf plagiocephalus (NC)	Desert Wall skink	Y			06-Nov-1992
Ctenophorus modestus	Swift Rock Dragon	Y			13-Oct-1992
Ctenophorus pictus	Painted Dragon	Y			28-Oct-1992
Ctenotus olympicus	Saltbush Ctenotus	Y			27-Oct-1992
Ctenotus regius	Eastern Desert Ctenotus	Y			06-Nov-1992
Ctenotus robustus	Eastern Striped Skink	Y			12-Oct-1992
Ctenotus schomburgkii (revised)	Common Sandplain Ctenotus	Y			30-Oct-1992
Ctenotus strauchii	Short-legged Ctenotus	Y			15-Oct-1992
Daphoenositta chrysoptera pileata	Black-capped Sittella	Y			04-Oct-1996
Dicaeum hirundinaceum hirundinaceum	Mistletoebird	Y			04-Oct-1996
Diplodactylus furcosus	Ranges Stone Gecko	Y			28-Oct-1992
Diplodactylus vittatus complex (NC)	Stone Geckos	Y			14-Oct-1992
Egernia striolata	Eastern Tree Skink	Y			30-Oct-1992
Eolophus roseicapilla	Galah	Y			04-Oct-1996
Epthianura albifrons	White-fronted Chat	Y			29-Oct-1992
Epthianura aurifrons	Orange Chat	Y			01-Nov-1992

Epthianura tricolor	Crimson Chat	Y			01-Nov-1992
Eurostopodus argus	Spotted Nightjar	Y			04-Oct-1996
Falco berigora berigora	Brown Falcon	Y			04-Oct-1996
Falco cenchroides cenchroides	Nankeen Kestrel	Y			04-Oct-1996
Falco longipennis murchisonianus	Australian Hobby	Y			04-Oct-1996
Gavicalis virescens	Singing Honeyeater	Y			04-Oct-1996
Gehyra variegata (NC)	Tree Dtella	Y			29-Oct-1992
Geopelia placida placida	Peaceful Dove	Y			27-Oct-1992
Grallina cyanoleuca cyanoleuca	Magpielark	Y			04-Oct-1996
Gymnorhina tibicen	Australian Magpie	Y			04-Oct-1996
Haliastur sphenurus	Whistling Kite	Y			04-Oct-1996
Himantopus leucocephalus	Pied Stilt	Y			28-May-2004
Hirundo neoxena neoxena	Welcome Swallow	Y			04-Oct-1996
Lalage tricolor	White-winged Triller	Y			04-Oct-1996
Lerista timida	Dwarf Three-toed Slider	Y			04-Nov-1992
Limnodynastes tasmaniensis	Spotted Marsh Frog	Y			13-Oct-1992
Lucasium byrnei	Gibber Gecko	Y			27-Oct-1992
Macropus (Osphranter) robustus	Euro	Y			24-Jun-2016
Macropus (Osphranter) rufus	Red Kangaroo	Y			20-Jun-2018
Macropus fuliginosus	Western Grey Kangaroo	Y			20-Jun-2018
Macropus sp.		Y			04-Nov-1992
Malacorhynchus membranaceus	Pink-eared Duck	Y			28-May-2004
Malurus assimilis assimilis	Purple-backed Fairywren	Y			05-Nov-1992
Malurus leucopterus leuconotus	White-winged Fairywren	Y			04-Oct-1996
Malurus splendens melanotus	Black-backed Fairywren (MM)	Y			04-Oct-1996
Manorina flavigula x melanotis	Yellow-throated x Black-eared Miner hybrid	Y			12-Sep-2000
Manorina sp.	miners	Y			12-Sep-2000
Melopsittacus undulatus	Budgerigar	Y			04-Oct-1996
Menetia greyii	Dwarf Skink	Y			14-Oct-1992
Merops ornatus	Rainbow Bee-eater	Y			04-Oct-1996
Milvus migrans affinis	Black Kite	Y			04-Oct-1996
Morethia adelaidensis	Adelaide Snake-eye	Y			27-Oct-1992

Morethia boulengeri	Common Snake-eye	Y			30-Oct-1992
Morethia obscura	Mallee Snake-eye	Y			21-Oct-1992
Neobatrachus sudellae	Sudell's Frog	Y			30-Oct-1992
Nesoptilotis leucotis leucotis	White-eared Honeyeater (SE)	Y			04-Oct-1996
Ninox boobook	Australian Boobook	Y			04-Oct-1996
Nymphicus hollandicus	Cockatiel	Y			04-Nov-1992
Ocyphaps lophotes lophotes	Crested Pigeon	Y			04-Oct-1996
Oreoica gutturalis	Crested Bellbird	Y			04-Oct-1996
Pachycephala rufiventris rufiventris	Rufous Whistler	Y			04-Oct-1996
Pardalotus punctatus	Spotted Pardalote	Y			03-Nov-1992
Pardalotus striatus substriatus	Striated Pardalote	Y			04-Oct-1996
Pelecanus conspicillatus	Australian Pelican	Y			28-May-2004
Petrochelidon nigricans	Tree Martin	Y			04-Oct-1996
Petroica goodenovii	Red-capped Robin	Y			04-Oct-1996
Phaps chalcoptera	Common Bronzewing	Y			04-Nov-1992
Platalea flavipes	Yellow-billed Spoonbill	Y			28-May-2004
Podargus strigoides	Tawny Frogmouth	Y			04-Oct-1996
Pogona vitticeps	Central Bearded Dragon	Y			29-Oct-1992
Pomatostomus ruficeps	Chestnut-crowned Babbler	Y			04-Oct-1996
Pomatostomus superciliosus	White-browed Babbler	Y			04-Oct-1996
Psephotellus varius	Mulga Parrot	Y			04-Oct-1996
Pseudomys bolami	Bolam's Mouse	Y			20-Oct-1992
Pseudonaja nuchalis (NC)	Western Brown Snake	Y			30-Oct-1992
Ptilotula ornata	Yellow-plumed Honeyeater	Y			04-Oct-1996
Purnella albifrons	White-fronted Honeyeater	Y			04-Oct-1996
Pyrrholaemus brunneus	Redthroat	Y			04-Oct-1996
Recurvirostra novaehollandiae	Red-necked Avocet	Y			28-May-2004
Rhipidura albiscapa	Grey Fantail	Y			04-Oct-1996
Rhipidura leucophrys leucophrys	Willie Wagtail	Y			04-Oct-1996
Rhynchoedura ornata (NC)	Beaked Gecko	Y			30-Oct-1992
Smicrornis brevirostris	Weebill	Y			04-Oct-1996

Sminthopsis crassicaudata	Fat-tailed Dunnart	Y			14-Sep-1993
Sminthopsis murina	Common Dunnart	Y			05-Nov-1992
Stiltia isabella	Australian Pratincole	Y			26-Oct-1992
Strepera versicolor melanoptera	Black-winged Currawong (MLR, MM, SE)	Y			04-Oct-1996
Struthidea cinerea cinerea	Apostlebird	Y			04-Oct-1996
Tachybaptus novaehollandiae novaehollandiae	Australasian Grebe	Y			27-Oct-1992
Taeniopygia guttata castanotis	Zebra Finch	Y			04-Oct-1996
Tiliqua occipitalis	Western Bluetongue	Y			16-Oct-1992
Tiliqua rugosa	Sleepy Lizard	Y			27-Oct-1992
Todiramphus pyrrhopygius	Red-backed Kingfisher	Y			04-Oct-1996
Turnix velox	Little Buttonquail	Y			04-Oct-1996
Tympanocryptis tetraporophora	Eyrean Earless Dragon	Y			13-Oct-1992
Vanellus miles	Masked Lapwing	Y			28-May-2004
Varanus gouldii	Sand Goanna	Y			26-Oct-1992
Aphelocephala leucopsis leucopsis	Southern Whiteface	Y	sp		04-Oct-1996
Melithreptus brevirostris	Brown-headed Honeyeater	Y	ssp		04-Oct-1996
Manorina flavigula melanotis	Black-eared Miner	Y	EN	E	12-Sep-2000
Corcorax melanorhamphos	White-winged Chough	Y		R	04-Oct-1996
Falco peregrinus macropus	Peregrine Falcon	Y		R	07-Oct-1989
Hylacola cauta cauta	Shy Heathwren (EP, YP, FR, MM, upper SE)	Y		R	04-Oct-1996
Pachycephala inornata	Gilbert's Whistler	Y		R	04-Oct-1996
Plectorhyncha lanceolata	Striped Honeyeater	Y		R	04-Oct-1996
Spatula rhynchotis	Australasian Shoveler	Y		R	28-May-2004
Climacteris affinis superciliosus	White-browed Treecreeper (FR, LNE, MM)	Y		SP	04-Oct-1996
Lophochroa leadbeateri leadbeateri	Major Mitchell's Cockatoo (LNE, MM)	Y	EN	SP	04-Oct-1996
Cinclosoma castanotum (NC)	Chestnut-backed Quailthrush (Chestnut Quailthrush)	Y		ssp	05-Nov-1992
Microeca fascinans	Jacky Winter	Y		ssp	04-Oct-1996
Northiella haematogaster (NC)	Bluebonnet (Eastern and Naretha)	Y		ssp	04-Oct-1996

Dromaius novaehollandiae	Emu	Y	ssp	ssp	20-Jun-2018
Manorina flavigula	Yellow-throated Miner	Y	ssp	ssp	12-Sep-2000
Melanodryas cucullata	Hooded Robin	Y	ssp	ssp	04-Oct-1996
Tachyglossus aculeatus	Short-beaked Echidna	Y	ssp	ssp	23-Oct-1992
Hieraaetus morphnoides	Little Eagle	Y		V	04-Oct-1996
Leipoa ocellata	Malleefowl	Y	VU	V	04-Nov-1992
Nyctophilus corbeni	Corben's Long-eared Bat	Y	VU	V	11-Oct-1980

Figure 19 - All Fauna

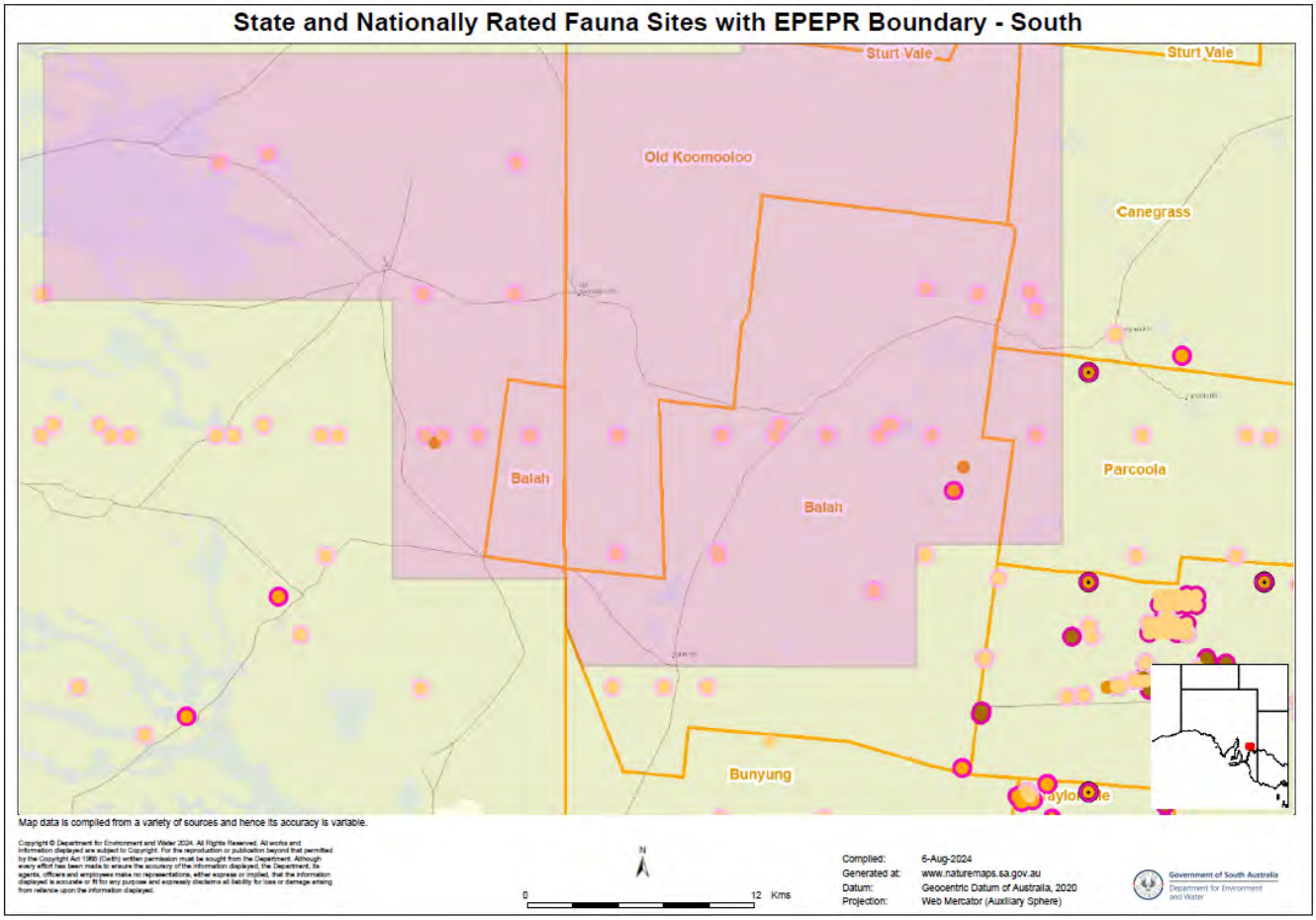


Figure 20 - State and Nationally Rated Fauna Sites South

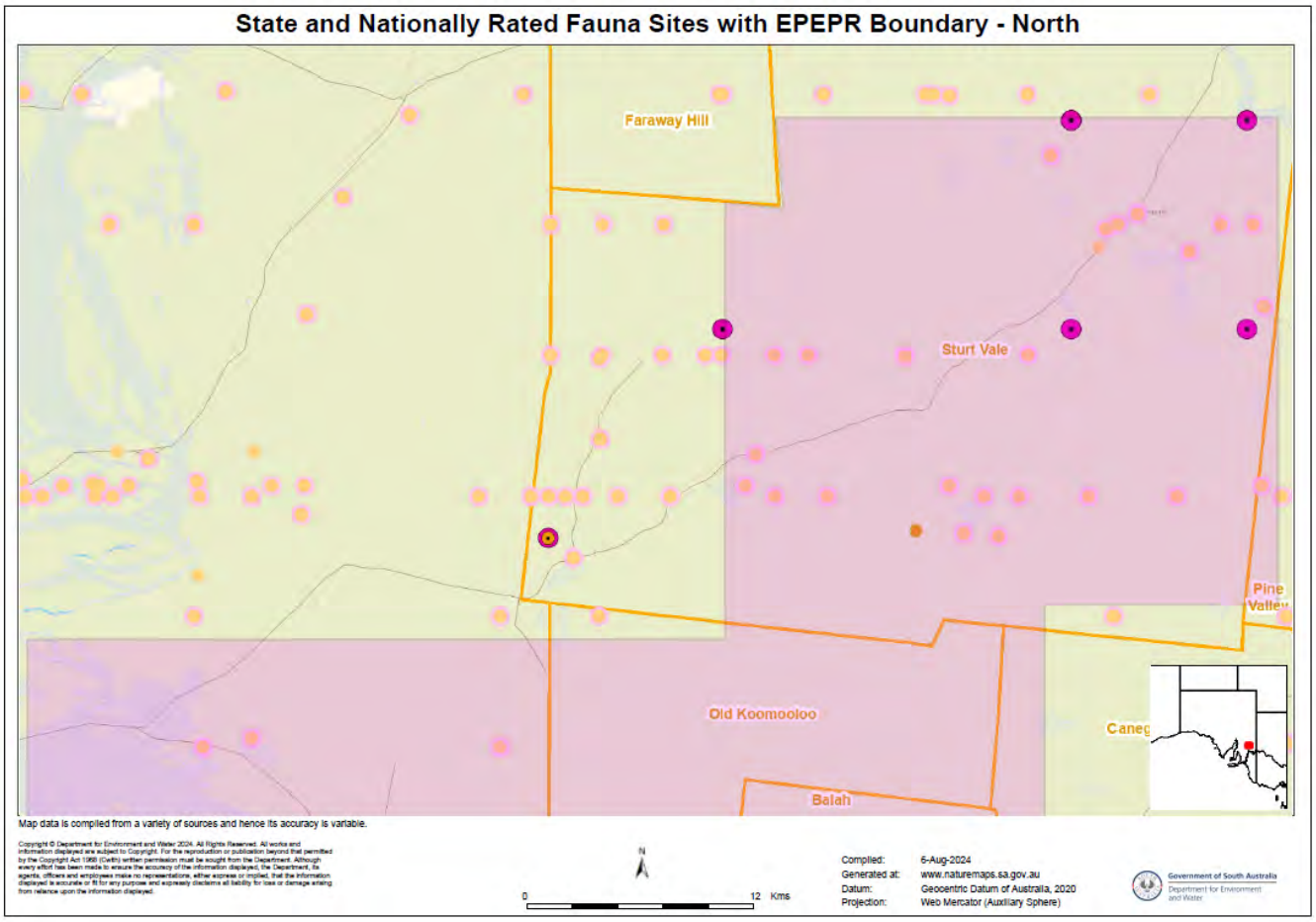


Figure 21 - State and Nationally Rated Fauna Sites North

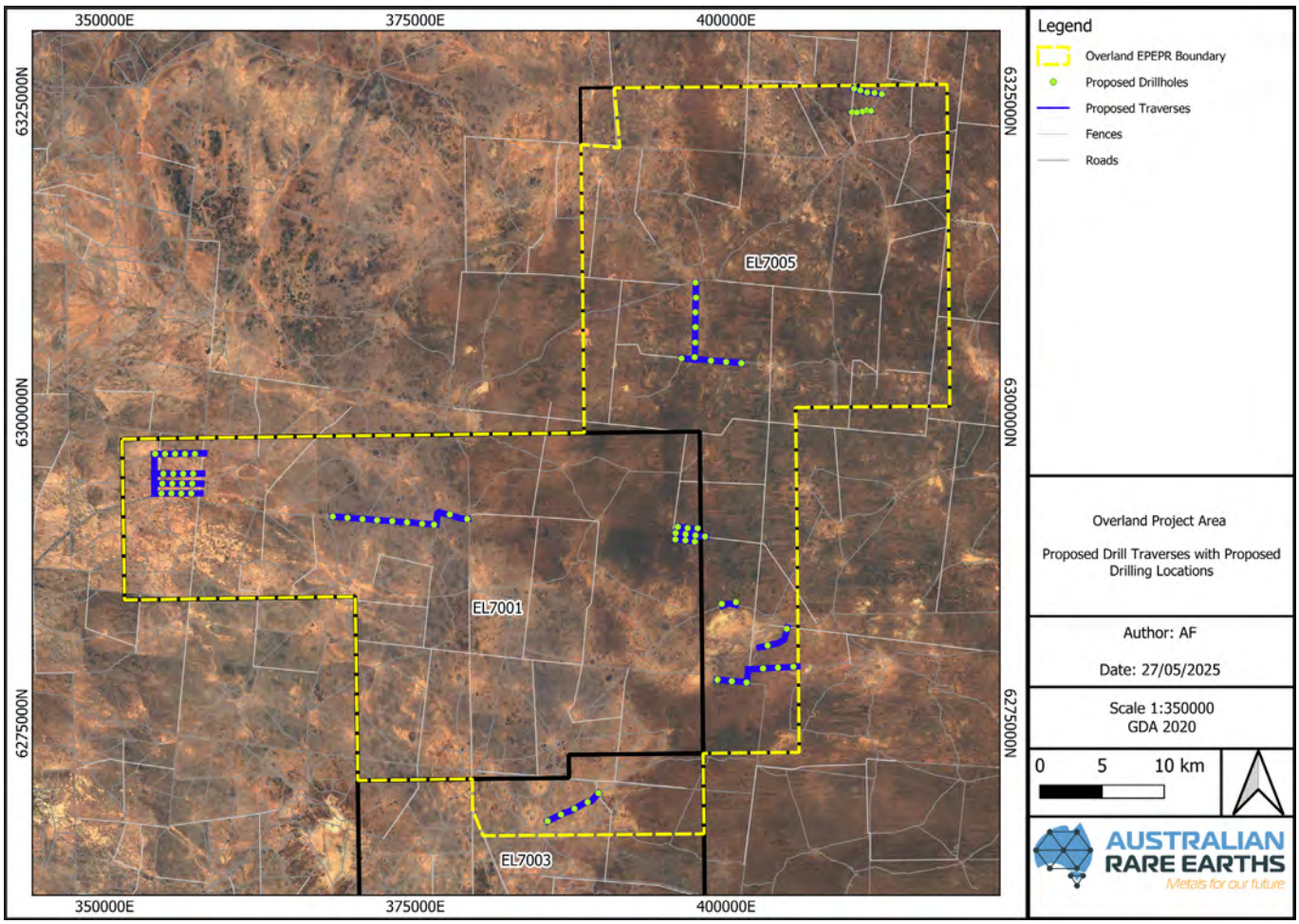


Figure 22 – Proposed drill holes and drill traverses. Note drill program will be results dependant so proposed holes shown may vary with final hole locations. Drilling will not exceed details provided within the Drilling Activities Table on p.23.

Figure 24: Native Title Table 1 – Perpetual Leases where Native Title is extinguished.

Australian Rare Earths Ltd

FINLAYSONS LAWYERS

ANNEXURE A

Parcel No.	Plan Type	Plan	Parcel Type	Parcel	Title Type	Volume	Folio	Original Grant Date	Native Title exists?	Native title notes
1	H	835900	S	1571	CL	6212	587	27/01/1933	N	Perpetual Lease No OP014820 – Historical Crown Lease 736/44, in lieu of surrendered Lease 7111, granted pursuant to the Crown Lands Act 1929 - the terms and conditions do not require the lease land to be used exclusively for grazing or pastoral purposes, nor do they provide that the lease land cannot be used primarily or exclusively for agriculture, horticulture, cultivation, or similar purpose (usual requirements for fencing, reservation of gold etc) - Scheduled Interest - previous exclusive possession act - native title extinguished
2	H	835900	S	288	CL	6211	508	2/10/1940	N	Perpetual Lease No MP001970, Historical Crown lease 12290, in lieu of surrendered Perpetual Lease No 1970 – granted pursuant to the Crown Lands Act 1888 (SA) – the terms and conditions do not require the lease land to be used exclusively for grazing or pastoral purposes, nor do they provide that the lease land cannot be used primarily or exclusively for agriculture, horticulture, cultivation, or similar purpose (usual requirements for fencing, reservation of gold etc) - Scheduled Interest - previous exclusive possession act - native title extinguished
3	H	835900	S	291						
4	F	253340	Q	1	CL	6211	504	3/01/1903	N	Perpetual Lease No OP007123, Historical Crown Lease 12297, in lieu of surrendered Perpetual Lease No 7123 Vol 957 Folio 3, granted pursuant to the Crown Lands Act 1888 - the terms and conditions do not require the lease land to be used exclusively for grazing or pastoral purposes, nor do they provide that the lease land cannot be used primarily or exclusively for agriculture, horticulture, cultivation, or similar purpose (usual requirements for fencing, reservation of gold etc) - Scheduled Interest - previous exclusive possession act - native title extinguished
5	F	253340	Q	2						
6	F	253340	Q	3						
7	F	253340	Q	4						
8	H	835900	S	385	CL	6211	514	2/06/1940	N	Perpetual Lease No OP007522 – Historical Crown Lease 1229/11 – in lieu of surrendered Perpetual Lease No 7522 Vol 957 Folio 9, granted pursuant to the Crown Lands Act 1888 - the terms and conditions do not require the lease land to be used exclusively for grazing or pastoral purposes, nor do they provide that the lease land cannot be used primarily or exclusively for agriculture, horticulture, cultivation, or similar purpose (usual requirements for fencing, reservation of gold etc) - Scheduled Interest - previous exclusive possession act - native title extinguished
9	H	836600	S	380	CL	6211	516	24/01/1880	N	Perpetual Lease No OP007323, Historical Crown Lease 1229/10 in lieu of surrendered Perpetual Lease No 7323 Vol 957 Folio 8 - granted pursuant to the Crown Lands Act 1888 - the terms and conditions do not require the lease land to be used exclusively for grazing or pastoral purposes, nor do they provide that the lease land cannot be used primarily or exclusively for agriculture, horticulture, cultivation, or similar purpose (usual requirements for fencing, reservation of gold etc) - Scheduled Interest - previous exclusive possession act - native title extinguished
10	H	835900	S	1345	CL	6185	426	1/01/1907	N	Perpetual Lease No OP006402 – Historical Crown Lease 473/41 – granted pursuant to the Crown Lands Act 1888 - the terms and conditions do not require the lease land to be used exclusively for grazing or pastoral purposes, nor do they provide that the lease land cannot be used primarily or exclusively for agriculture, horticulture, cultivation, or similar purpose (usual requirements for fencing, reservation of gold etc) - Scheduled Interest - previous exclusive possession act - native title extinguished
11	H	835900	S	1346	CL	6184	466	17/06/1950	N	Perpetual Lease No OP006403, Historical Crown Lease 1234/8 (in lieu of surrendered Perpetual lease no 6403 CL 472/39), granted pursuant to the Crown Lands Act 1888, as amended - the terms and conditions do not require the lease land to be used exclusively for grazing or pastoral purposes, nor do they provide that the lease land cannot be used primarily or exclusively for agriculture, horticulture, cultivation, or similar purpose (usual requirements for fencing, reservation of gold etc) - Scheduled Interest - previous exclusive possession act - native title extinguished

755228V1

Page 1

Australian Rare Earths Ltd

FINLAYSONS LAWYERS

Parcel No.	Plan Type	Plan	Parcel Type	Parcel	Title Type	Volume	Folio	Original Grant Date	Native Title exists?	Native title notes
12	H	835900	S	1354	CL	6195	33	17/08/1950	N	Perpetual Lease No OP014403, Historical Crown Lease 1224/7 (in lieu of surrendered Perpetual lease no 14403 CL 775/18), granted pursuant to the Crown lands Act 1929, as amended - the terms and conditions do not require the lease land to be used exclusively for grazing or pastoral purposes, nor do they provide that the lease land cannot be used primarily or exclusively for agriculture, horticulture, cultivation, or similar purpose (usual requirements for fencing, reservation of gold etc) - Scheduled Interest - previous exclusive possession act - native title extinguished
13	H	835900	S	1359						
14	H	835900	S	1372	CL	6194	344	1/07/1903	N	Perpetual Lease No OP007481, Historical Crown Lease 497/41, granted pursuant to the Crown Lands Act 1888, as amended - the terms and conditions do not require the lease land to be used exclusively for grazing or pastoral purposes, nor do they provide that the lease land cannot be used primarily or exclusively for agriculture, horticulture, cultivation, or similar purpose, requirement to clear land for cultivation or grazing (usual requirements for fencing, reservation of gold etc) - Scheduled Interest - previous exclusive possession act - native title extinguished
15	H	835900	S	1300	CL	6181	300	1/10/1902	N	Perpetual Lease No OP006390, Historical Crown Lease 471/36, granted pursuant to the Crown Lands Act 1888, as amended - the terms and conditions do not require the lease land to be used exclusively for grazing or pastoral purposes, nor do they provide that the lease land cannot be used primarily or exclusively for agriculture, horticulture, cultivation, or similar purpose, requirement to clear land for cultivation or grazing (usual requirements for fencing, reservation of gold etc) - Scheduled Interest - previous exclusive possession act - native title extinguished
16	H	835300	S	289	CL	6191	105	29/10/1950	N	Perpetual Lease No OP007122, Historical Crown Lease 1227/10, granted pursuant to the Crown Lands Act 1888, as amended - the terms and conditions do not require the lease land to be used exclusively for grazing or pastoral purposes, nor do they provide that the lease land cannot be used primarily or exclusively for agriculture, horticulture, cultivation, or similar purpose, requirement to clear land for cultivation or grazing (usual requirements for fencing, reservation of gold etc) - Scheduled interest - previous exclusive possession act - native title extinguished
17	H	835900	S	1358	CL	6200	582	1/01/1904	N	Perpetual Lease No OP007482, Historical Crown Lease 498/106, granted pursuant to the Crown Lands Act 1888, as amended - the terms and conditions do not require the lease land to be used exclusively for grazing or pastoral purposes, nor do they provide that the lease land cannot be used primarily or exclusively for agriculture, horticulture, cultivation, or similar purpose, requirement to clear land for cultivation or grazing (usual requirements for fencing, reservation of gold etc) - Scheduled Interest - previous exclusive possession act - native title extinguished
18	H	835900	S	1359						
19	F	253499	Q	56	CL	6214	94	1/07/1903	N	Perpetual Lease No OP007121, Historical Crown Lease 492/111, granted pursuant to the Crown Lands Act 1888, as amended - the terms and conditions do not require the lease land to be used exclusively for grazing or pastoral purposes, nor do they provide that the lease land cannot be used primarily or exclusively for agriculture, horticulture, cultivation, or similar purpose, requirement to clear land for cultivation or grazing (usual requirements for fencing, reservation of gold etc) - Scheduled Interest - previous exclusive possession act - native title extinguished
20			Q	57						
21			Q	58						
22			Q	59						
23			Q	60						
24			Q	61						
25			Q	62						
26			Q	63						
27			Q	64						
28	H	835900	S	1582	CL	6210	343	1/10/1900	N	Perpetual Lease No OP006688, Historical Crown Lease 447/15, granted pursuant to the Crown Lands Act 1888, as amended - the terms and conditions do not require the lease land to be used exclusively for grazing or pastoral purposes, nor do they provide that the lease land cannot be used primarily or exclusively for agriculture, horticulture, cultivation, or similar purpose, requirement to clear
29	F	253290	Q	1						
30			Q	2						

755228V1

Page 2

Australian Rare Earths Ltd

FINLAYSONS
LAWYERS

Parcel No.	Plan Type	Plan	Parcel Type	Parcel	Title Type	Volume	Folio	Original Grant Date	Native Title exists?	Native title notes
										land for cultivation or grazing (usual requirements for fencing, reservation of gold etc) - Scheduled Interest - previous exclusive possession act - native title extinguished
31	[illegible]	[illegible]	[illegible]	[illegible]	CL	[illegible]	[illegible]	[illegible]	[illegible]	Perpetual Lease No [illegible], Historical Crown Lease [illegible], granted pursuant to the Crown Lands Act [illegible], as amended - the terms and conditions, do not require the lease land to be used exclusively for grazing or pastoral purposes, nor do they provide that the lease land cannot be used primarily or exclusively for agriculture, horticulture, cultivation, or similar purpose, requirement to clear land for cultivation or grazing (usual requirements for fencing, reservation of gold etc) - Scheduled Interest - previous exclusive possession act - native title extinguished
32	[illegible]	[illegible]	[illegible]	[illegible]						

Figure 25: Native Title Table 2 - Pastoral Leases Subject to Native Title Part 9B Notification Process

Native Title Table 2 **Leases for inclusion in Part 9B Public Notification**	
CL 6213/338	Sturt Vale
CL 6213/170	Sturt Vale
CL 6184/55	Ballah
CL 6183/837	Parcoola
CL 6180/863	Cane Grass
CL 6179/966	Bunyung
CL 6176/115	Faraway
CL 6172/873	Koomooloo
CL 6162/414	Pine Valley

OFFICIAL

Environment Protection Authority
GPO Box 2607 Adelaide SA 5001
T (08) 8204 2004
Country areas 1800 623 445
South Australia

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

OFFICIAL

Figure 26: EPA letter of endorsement for AR3's RMP

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.

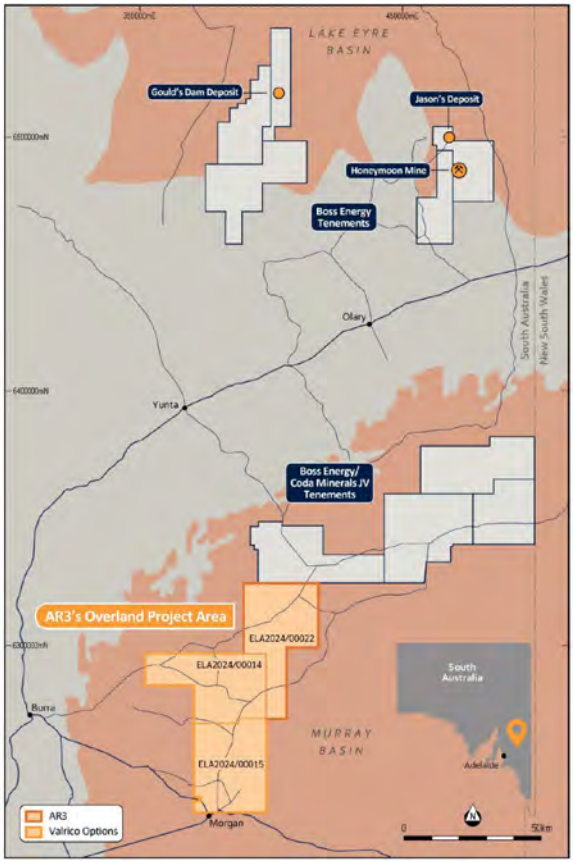


***Figure 1**- Overland project location map and notable Uranium explorers in the region.*

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.

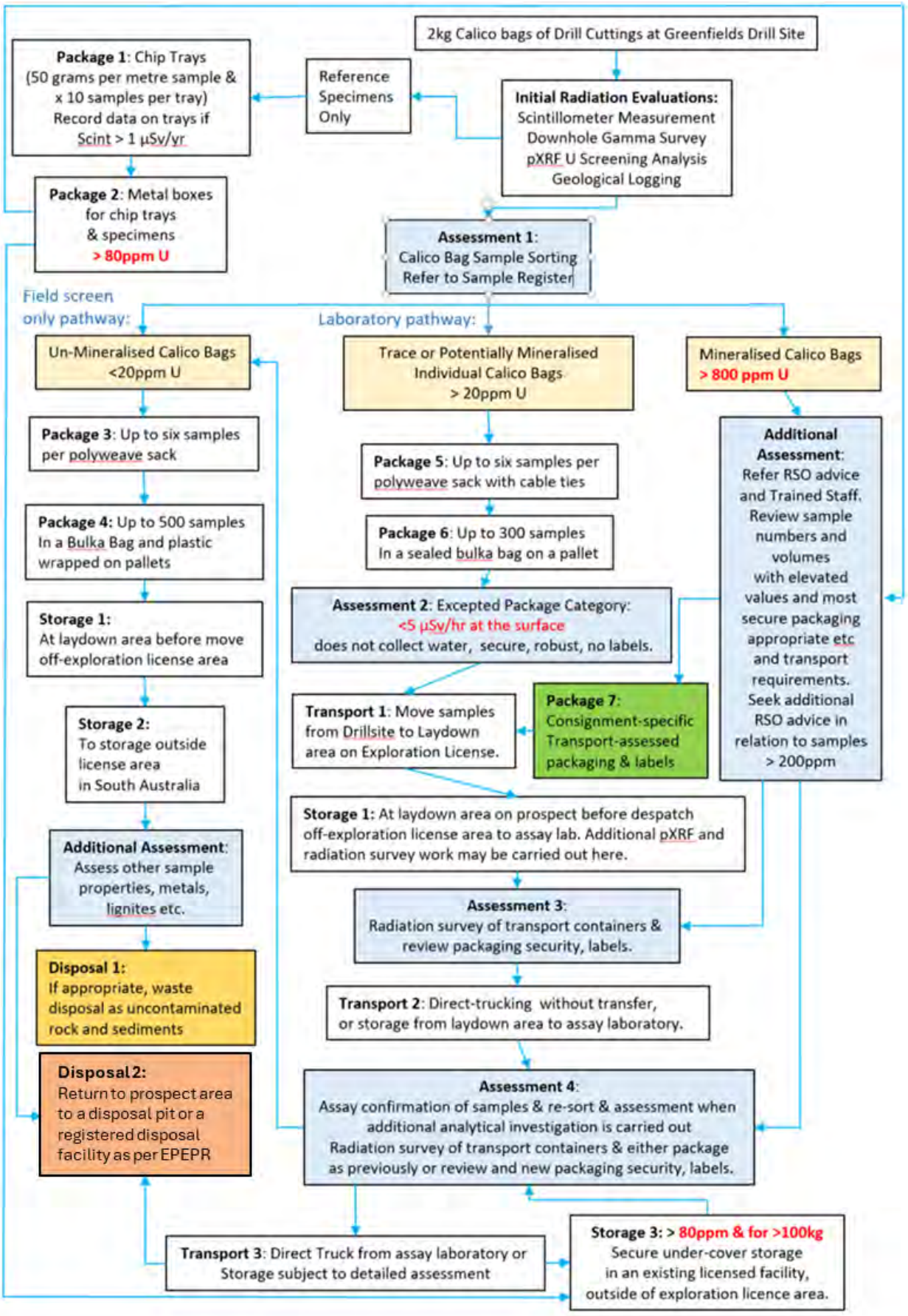


Figure 4 *General drill-sample storage, transport and disposal pathways.*

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

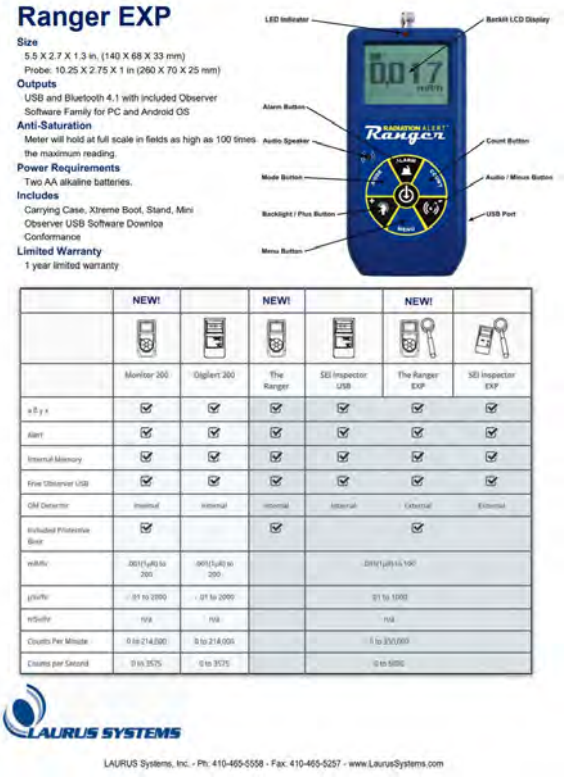
Alert Set Range
mR/hr .001 - 100 and CPM 1 - 350,000.
70db @ 1m.

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

LAURUS Systems, Inc. - Ph: 410-465-5558 - Fax: 410-465-5257 - www.LaurusSystems.com



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

LAURUS Systems, Inc. - Ph: 410-465-5558 - Fax: 410-465-5257 - www.LaurusSystems.com

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.

Landauer Australasia PO Box: Locked Bag 2001, Drummoyne NSW 1470 Australia | T +61 (02) 8851 4000 | F +61 (02) 8003 9611
enquiry@landauer.com.au | www.landauer.com.au | © 2006 by Landauer Inc.

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.		

Landauer Australasia PO Box: Locked Bag 2001, Drummoyne NSW 1470 Australia | T +61 (02) 8851 4000 | F +61 (02) 8003 9611
enquiry@landauer.com.au | www.landauer.com.au | © 2006 by Landauer Inc.

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.

References

Alligator. (2023) Approval Notification - Exploration Program for Environmental Protection and Rehabilitation (EPEPR2023-029) EL 6367 Containing Appendix 2 Big Lake Radiation Management Plan. Doc Ref: EPEPR2023-029 2024D021934 11th April 2024 Accessed at https://sarigbasis.pir.sa.gov.au/WebtopEw/ws/samref/sarig1/image/DDD/PEPR5788308.pdf on 24th June 2024.

ARPANSA. (2005) Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing. Code of Practice and Safety Guide. Radiation Protection Series Publication No.9. Australian Radiation Protection and Nuclear Safety Agency. Australian Government.

-. (2008) Safety Guide: Management of Naturally Occurring Radioactive Material (NORM). Radiation protection Series Publication No.15. Australian Radiation Protection and Nuclear Safety Agency. Australian Government.

-. (2019) Code for the Safe Transport of radioactive Material. Australian radiation Protection and Nuclear Safety Agency. Commonwealth of Australia. Canberra.

-. (2020) Code for Radiation Protection in Planned Exposure Situations. Radiation Protection Series C-1 (Rev.1) Australian Radiation Protection and Nuclear Safety Agency. Australian Government.

DEM. (2022) Mineral exploration PEPRs and compliance: Mineral regulatory Guidelines MG22. Department for Energy and Mining, South Australia Adelaide.

DOSD. (2016) Radioactive core storage and handling - standard operating procedure. Minerals Regulatory Guidelies MG20. Resources and Energy group, V 1.0. Department of State Development, South Australia. Adelaide.

Messeiller, M., Jane, M., Gregory, K., Jagger, A., Cooper, M., and Wallman, V. (2023) Radiation Safety Training Workbook. 177 p. 6th Edition April 2023. SA Radiation Pty Ltd. Kent Town.
SA-Act. (2021) Radiation Protection and Control Act 2021. South Australian Government. Adelaide. at https://www.legislation.sa.gov.au/.
SA-Regs. (2022) South Australia: Radiation Protection and Control Regulations 2022. South Australian Government. Adelaide. at https://www.legislation.sa.gov.au/.
SAEPA. (2010) Radiation protection guidelines on mining in South Australia: Mineral exploration. SA Environment Protection Authority, Radiation Protection Division, February 2010, Adelaide.
-. (2022) COC-7 Code of compliance for labelling and signage of ionising radiation sources 2022. Radiation Protection, South Australian Environmental Protection Authority, Adelaide.
-. (2023a) COC-1 Code of Compliance for radiation management plans 2022. South Australian Environment Protection Authority 15th February 2023, Adelaide.
-. (2023b) Guidance Document: Transport of radioactive material. South Australian Environmental Protection Authority Radiation Protection.
-. (2023c) Portable XRF apparatus. Guideline EPA 1148/23. South Australian Environmental Protection Authority, Adelaide.
-. (2023d) Security of sealed radioactive sources. Guideline EPA 1132/23. South Australian Environmental Authority. Adelaide.

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)

March 12th, 2025

C. Cockburn

Introduction: AR3 has a current RMP which has been endorsed by the EPA detailing exploration procedures for managing material which may contain Uranium and associated natural radioactivity. The project is called Overland and located in South Australia within the NW portion of the Murray Basin. AR3's RMP was endorsed by the EPA on August 30th 2024.

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

Since the endorsement of ARE's RMP on August 30th 2024, ARE has acquired additional tenure, had ELA's granted, and intends to explore these areas for uranium mineralization (Figure 1). Aside from the additional tenure and updating of the ELA's to EL's, all elements of the exploration program and management of 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 to support ARE's EPEPER application with the DEM. The addendum will provide the current ELs and locations for reference. The RMP will not be required to be re-endorsed by the EPA. All other aspects of the endorsed RMP remain unchanged.

Updates to RMP:

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

Table 1*- List of Australian Rare Earths ELA's for the Overland Project. The ELA's have now been granted and EL's shown. The location and size of the tenure has not changed from granting of the ELA's to EL's. EL6678 has been added to the exploration area which is an additional 990km2.*

ELA (EL)	Name	Km²
ELA2024/22 (EL7005)	Overland	995
ELA2024/14 (EL7001)	Overland	993
ELA2024/15 (EL7003)	Overland	992
EL6678	Overland/Sheer Gold	990

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).

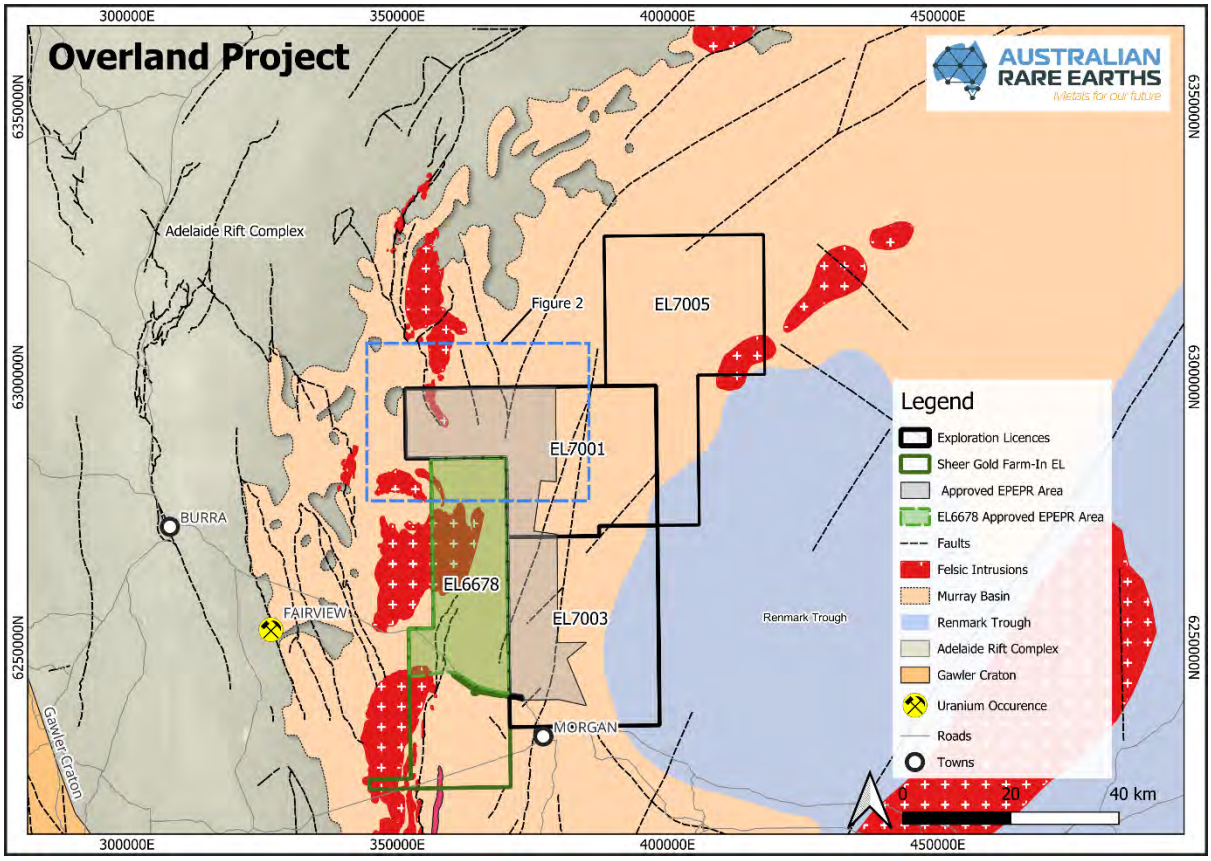


***Figure 1**- Overland project location map showing EL's and approved EPEPRs (current Feb 2025).*

SECTION K – PUBLIC RELEASE

PEPR documents will be registered on the mining register and publicly released in full without the need to request consent from the tenement holder (s). Ultimately, it is the applicant's responsibility to ensure that confidential, or commercially sensitive, information is not included within the PEPR application.

SECTION L – SUBMISSION OF THE APPLICATION

An application for an Exploration PEPR or PEPR review, must be submitted in the following form, unless otherwise specified by the Director of Mines or an authorised officer:

- an electronic version of the PEPR must be submitted using the exploration PEPR template(s) provided on the DEM Minerals website,
- the electronic version must be submitted online through the DEM Minerals website using the exploration PEPR submission form,
- the electronic version must be submitted in one single Acrobat PDF file, and
- Microsoft Word-compatible files must be submitted if requested by the Director of Mines (or delegate), or other authorised officers.