



7 April 2026

Mr Noel Witcher
Chief Financial Officer & Company Secretary
RDBD Developments Pty Ltd
Level 10, 111 Gawler Place
ADELAIDE SA 5000

Via email: noel+3@ar3.com.au

Dear Mr Witcher

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

In reference to your final submission dated 2 February 2026, the EPEPR has been approved pursuant to section 70B(5) of the [Mining Act 1971](#) (the Mining Act).

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

Approval Granted to	RDBD Developments Pty Ltd
Tenement Type & Number	Exploration License EL6509
Program Number	EPEPR2023-051
EPEPR Description	For the exploration of clay-hosted rare earth mineralisation at the Koppamurra (Naracoorte) project

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

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

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

1	Public Liability Insurance Pursuant to Regulation 81 of the Mining Regulations 2020 (the Mining Regulations), you are required to provide a copy of a certificate evidencing the insurance coverage over the tenement.
2	Land Access EL6509 is subject to exempt land under the Mining Act. You are reminded that in accordance with section 9AA of the Mining Act, operations are not authorised to occur on exempt land, until such time as a waiver of exemption is in place.

MINERALS REGULATION



3	<p>Compliance Reporting</p> <p>You are required to submit an annual exploration compliance report. The report is required to be submitted within 2 months after the anniversary of the date the licence was granted, or in accordance with joint reporting requirements agreed to with the Minister. Please refer to the DEM website for more information on the reporting requirements.</p> <p>You are reminded that a separate compliance report is required 2 months after the expiry or surrender of the EL.</p>
4	<p>Work, Health and Safety Compliance</p> <p>In accordance with Chapter 10 of the <i>Work Health and Safety Regulations 2012 (SA)</i>, you must meet the requirements for mine operators in South Australia, which include a notification for mining operations, the establishment of a Safety Management System, the identification of Principal Mining Hazards and development of a Principal Mining Hazard Management Plan. Further information on your responsibilities, including a guide to Chapter 10, and the Mine Operator Notification Form, is available on the SafeWork SA website.</p>
5	<p>EPEPR Timeframe</p> <p>The EPEPR is approved for a period of twelve months from the date of this letter. A further 3 months after expiry of the 12-month period is provided to complete all rehabilitation</p>

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

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

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

General enquiries	<p>Jason Perry Senior Assessment Officer, Exploration Regulation DEM.exploration@sa.gov.au</p>
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Yours sincerely

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

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

MINERALS REGULATION

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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	EL 6509			
Tenement holder(s) (for each tenement)	RDBD Developments Pty Ltd, a subsidiary of Australian Rare Earths Ltd			
Operating company	RDBD Developments Pty Ltd, a subsidiary of Australian Rare Earths Ltd			
Agency agreement (if applicable)	N/A			
PEPR prepared by	JBS&G Australia Pty Ltd and Australian Rare Earths Limited			
Project supervisor/contact person(s)	Chris Cockburn, Australian Rare Earths Limited			
Project/prospect name	Koppamurra (Naracoorte)			
Location details	Southeast of South Australia, located between Naracoorte and the SA-Victoria border.			
Project description, commodity type and mineralisation model	<p>The Koppamurra deposit represents an unusual style of clay-hosted rare earth mineralisation. Unlike most global clay-hosted REE deposits, which form through long-term weathering of REE-rich granites, Koppamurra developed within lacustrine (lake-derived) clay sediments that sit directly on top of the Miocene Gambier Limestone, a geological unit that is virtually barren of REE.</p>			
	<p>The highest REE concentrations typically occur within a 1–2 m thick clay zone positioned immediately above the limestone contact. This interval contains higher amounts of smectite clay, more weakly bound REEs, and a distinct increase in pH towards the limestone surface. These conditions are favourable for REE enrichment.</p>			
	<p>Isotopic studies (Sr and Nd) indicate that the clays did not originate from nearby igneous rocks. Instead, they were delivered by the Murray River system and include sediment derived in part from granites of the Lachlan Orogen, a modest but consistent REE source.</p>			
	<p>The depositional environment was a coastal lacustrine setting similar to the modern Coorong. Following sediment deposition, uplift and shoreline migration exposed the clays to weathering around 1–2 million years ago. Seasonal water table movement, redox cycling, and interaction with the underlying limestone promoted vertical and lateral movement of dissolved REEs. These processes concentrated REEs in local depressions and cavities at the clay–limestone interface. High pH conditions near the limestone and limited drainage helped to fix REEs within secondary carbonates and Fe-rich smectite.</p>			
	This EPEPR currently covers road verge drilling within the areas delineated in Figure 2 and drilling with freehold land as described in the Consultation table.			
Proposed project schedule	Start date	April 1, 2026	End date	March 31, 2027

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	Rick Pobjoy	Signature (digital allowed)	
Position	Chief Technical Officer	Date	Feb 2 2026

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 (eg in accordance with the Corporations Act 2001).

Exploration PEPR application – 12-month period

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.

Detailed analysis of past exploration activities in the area, and of the available geological and geophysical datasets informed the selection of broad exploration traverses for the exploration of the prospect. This phase has been informed by results from proximal exploration within EL6509 over the preceding 3 years - adjacent to the previously defined Red Tail and Yellow Tail Resources.

The proposed activities for this phase of mineral exploration include:

- Ground based geophysical surveys utilising equipment being towed by an ATV or light vehicle across the surface. No disturbance of the ground surface is expected during this activity.
- A drilling programme utilising a 4WD Landcruiser or Light Truck mounted reverse circulation air-core drilling rig, with a Light Truck and a two 4WD light vehicles in support. 76-100mm diameter! Drillholes will be completed to ~12m below the surface and capped with a hole plug upon completion. No sumps or other excavations, or vegetation clearance will be required.

Information stored within various SA Government GIS databases has been interrogated as a part of the desktop review of the proposed drilling programmes, and more specifically, the location of proposed exploration traverses.

Discussions have been held with various ground-based geophysics operators and drilling contractors regarding necessary equipment for the ground based geophysical surveys and shallow, small diameter, drilling operations. Ground based geophysics operators and drilling contractors will be utilised on an as needs basis.

Additionally, Australian Rare Earth Ltd (AR3, the Company) has developed a land access geospatial portal, which identifies cadastres, exempt land, and environmental sensitivities. This portal will continue to be used and updated throughout the planning and exploration process. The exempt land for EL 6509 will be reviewed and updated prior to the drill program commencing.

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

Exploration PEPR application – 12-month period

EL6509	Landholder 14 (refer to Figure 1-27 and 1-28 of Appendix B)	Freehold	Grazing	Acknowledged. Land access currently being negotiated	House, shed, water supply located on land, or neighbouring land, within the relevant distance from proposed exploration activities	14/12/21 & 1/2/2022	Acknowledged. Land access currently being negotiated. Consultation on 1/2/2022, 8/3/2022 and /2/2023	Ongoing communications since 20/1/21, no specific concerns raised and land access is well established with this landholder. Landholder 14 initially concerned that if AR3 find anything he will 'end up with a big mine on his property'. AR3 have discussed Landholder 14's rights and advised where he can find further information. AR3 have remained in regular contact with Landholder 14. He has stated that he is happy with
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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
								<p>AR3 operations to date. Landholder 14 along with Landholder 15, who manages the land for him, have entered into LACAs to enable drilling on the land.</p> <p>Landholder 14 have been actively engaged with AR3 in relation to the Koppamurra project since January 2021. They have entered into various land access agreements for exploration drilling in the past. They have also been supportive and have entered into agreements to allow on ground assessments and works towards an ML application. They have attended regular meetings (approximately 6 weekly) as part of the ML group and quarterly as part of the KLRG group.</p> <p>AR3 will continue to engage with this landholder on a regular basis.</p>
EL 6509	Landholder 15 (refer to Figure 1-19 and 1-20 of Appendix B)		Mixed farming, cropping and grazing	Acknowledged. Land access currently being negotiated	Shed, house, water well and dam (refer to section J, figure 9 of EPEPR, this document)	Acknowledged. Exempt land will be negotiated in accordance with Mining Act Requirements	Consultation on 25/1/22, 10/2/22, 19/2/22, 10/12/22	<p>Land access is well established. No issues raised, Landholder 15 has been actively engaged with AR3 in relation to the Koppamurra project with ongoing consultation since January 2021. They have entered into various land access agreements for exploration drilling in the past. They have also been supportive and have entered into agreements to allow ongoing baseline environmental assessments and works towards an ML application, as such they have attended regular meetings (approximately 6 weekly) as part of the ML Landholder group and quarterly as part of the KLRG group.</p> <p>AR3 will continue to engage with this landholder on a regular basis.</p>
EL6509	Landholder 16 (refer to Figure 1-29 and 1-30 of Appendix B)	Freehold	Grazing	LACA	House, shed, water supply located on land, or neighbouring land, within the relevant distance from proposed exploration activities.	Acknowledged. Exempt land will be negotiated in accordance with Mining Act Requirements	8/3/2022	<p>Landholder 16 has previously entered into a LACA with AR3 for exploration drilling. Ongoing communication since 21/4/21. No concerns raised.</p> <p>Landholder was initially not interested in operations on his land but happy to revisit, after witnessing drilling on neighbouring properties.</p> <p>AR3 will continue to offer opportunities for this landholder to raise concerns with a view to working with them towards agreeing a new land access agreement.</p>

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
EL6509	Landholder 18 (refer to Figure 1-23 and 1-24 of Appendix B)	Freehold	Cropping and Grazing	Acknowledged. Land access currently being negotiated	Pastoral, house, shed, water supply located on land, or neighbouring land, within the relevant distance from proposed exploration activities	30/09/21	1/09/21, 18/2/2022 & 11/1/2023	No concerns raised. Land access is well established with this landholder. Landholders 18 have been actively engaged with AR3 in relation to the Koppamurra project since January 2021. They have entered into various land access agreements for exploration drilling in the past. They have also been supportive and have entered into agreements to allow ongoing assessments and works towards an ML application as such they have attended regular meetings (approximately 6 weekly) as part of the ML group and quarterly as part of the KLRG group. There have been no issues raised. AR3 will continue to engage with this landholder on a regular basis.
EL6509	Landholder 19 (refer to Figure 1-25 and 1-26 of Appendix B)	Freehold	Cropping and Grazing	Acknowledged. Land access currently being negotiated. Term Sheet (Lease)	Pastoral, House, Shed, Water supply located on land, or neighbouring land, within the relevant distance from proposed exploration activities	Acknowledged. Exempt land will be negotiated in accordance with Mining Act Requirements.	Consultation on 1/6/21, 1/11/21, 1/1/22, 25/1/22, 6/2/23 and 31/1/23.	Land Access is well established with this landholder. Ongoing communications since 17/3/21.No specific concerns raised. Landholder 19 has been actively engaged with ongoing consultation in relation to the Koppamurra project since January 2021. They have entered into various land access agreements for exploration drilling in the past. They have also been supportive and have entered into agreements to allow on ground assessments and works towards an ML application as such they have attended regular meetings (approximately 6 weekly) as part of the ML group and quarterly as part of the KLRG group. There have been no issues raised. AR3 will continue to engage with this landholder on a regular basis.
EL6509	Landholder 21 (refer to Figure 1-31 and 1-32 of Appendix B).	Freehold	Grazing	Acknowledged. Land access currently being negotiated.	House, Shed, Water supply located on land, or neighbouring land, within the relevant distance from proposed exploration activities	1/06/21	Consultation on 1/6/21, 31/10/21 and 8/3/22	Ongoing communications since 1/6/21. No concerns raised. See consultation record below. Landholder 21 has been very involved in the Koppamurra project and has previously entered into a LACA with AR3 for exploration drilling. AR3 will continue to offer opportunities for this landholder to raise concerns with a view to working with them towards agreeing a new access agreement

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
EL6509	Landholder 22/ Landholder 23 (refer to Figure 1-37 and 1-38 of Appendix B).	Freehold	Grazing	Acknowledged. Land access currently being negotiated.	House, Shed, Water supply located on land, or neighbouring land, within the relevant distance from proposed exploration activities	31/10/21	Consultation on 31/10/21, 8/3/22, 14/11/22 & 27/1/2022	Ongoing communications 5/10/21, initially this landowner was concerned about the possibility for unknown impacts in relation to exploration drilling activities on the land, AR3 addressed these by reducing the scope of work in the first instance. The Landowner has since entered into a number of LACAs with AR3, to enable completion of the original scope of work, no further concerns raised.
EL6509	Landholder 24 (refer to Figure 1-39 and 1-40 of Appendix B)	Freehold	Grazing	Acknowledged. Land access currently being negotiated.	House, Shed, Water supply located on land, or neighbouring land, within the relevant distance from proposed exploration activities	Acknowledged. Exempt land will be negotiated in accordance with Mining Act Requirements	4/11/2022	Ongoing communication since 20/10/21. No specific concerns raised. Initially slightly concerned as to scale of operations. Good conversation at the Naracoorte Office Opening presentation and in person at a number of visits to the landowners home. The Landholder 24 family are comfortable with the land access agreement and the proposal to conduct exploration drilling on their land. AR3 will continue to offer opportunities for this landholder to raise concerns with a view to working with them towards agreeing a pathway to land access.
EL6509	Landholder 25/ Landholder 26 (refer to Figure 1-41 and 1-42 of Appendix B)	Freehold	Grazing	Acknowledged. Land access currently being negotiated.	House, shed, water supply located on land, or neighbouring land, within the relevant distance from proposed exploration activities	Acknowledged. Exempt land will be negotiated in accordance with Mining Act Requirements	Consultation on 13/12/21, 15/12/21 2/2/2022, 9/2/22, 26/04/22, 10,5/2022	Communications commenced 13/12/21. Concerns regarding the environmental impact of exploration occurring on their land. AR3 explained the legislative protections available. AR3 have met in person, spoken and text on the phone, provided supporting information regarding the project and landholder rights, and invited landholder to information events. The family are concerned for the environment as they have spent considerable time reinstating a swamp on their property. AR3 are not proposing to conduct any activities within the swamp area.

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
								AR3 explained regulatory process regarding protection of native vegetation, including the wetlands and 'exempt land' process, and recommended landholders make contact with Rural Information Support to understand those processes better. AR3 will continue to keep in touch as project progresses to offer opportunities for this landholder to raise concerns with a view to working with them towards agreeing a pathway to land access.
EL 6509	Landholder 27 (refer to Figure 1-15 and 1-16 of Appendix B)	Crown Lease	Mixed farming, cropping and grazing	Acknowledged. Land access currently being negotiated.	Sheds, Houses, Water wells and Dams (refer to section J, figure 9 of EPEPR, this document)	Acknowledged. Exempt land will be negotiated in accordance with Mining Act Requirements.	Acknowledged. Pathway to land access is currently being developed. Consultation on 12/1/22, 14/1/22, 10/5/22, 10/8/22, 31/1/23, 5/1/24, 16/01/24, and 23/01/2024	Landowner has raised issues with mining on private land. Record of consultation below: 12/1/22 – phone call to make introduction - not interested in works on their land. Agreed to AR3 sending further information for them to read. 14/1/22 – Sent introductory email. Response was still not interested in meeting but happy to receive information via email or through their son. 10/5/22 – email - Invited landholder to attend the Trial Pit open day. Invitation included information sheets on land access and landholder rights. 10/8/22 – email - Invited landholder to attend the KLRG meetings as their property is adjacent to the ML. Landholder advised that their son will represent them at the quarterly meetings. 30/1/23 – phone call - left message asking landholder to call back to discuss AR3 plans going forward. 5/01/2024 - phone call - left message asking landholder to call back to discuss AR3 plans going forward. 9/01/2024 – phone call - left message asking landholder to call back to discuss AR3 plans going forward. 16/01/2024 phone call - left message explaining content of email and requesting they call back to make a time to discuss 16/01/2023 email through letter and information advising AR3 intentions regarding land access, attachments contained contact details for Rural

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
								<p>Support, Government information fact sheets and an Example LACA. Advised will call next week to set up a time to discuss 23/01/2023 phone call – follow up re email requesting they call back to make a time to discuss.</p> <p>24/01/2024 Landholder emailed to advise they are seeking legal advice.</p> <p>AR3 will continue to offer opportunities for this landholder to raise concerns, with a view to working with them towards agreeing a pathway to land access.</p>
EL 6509	Landholder 28 (refer to figure 1-21 and 1-22 of Appendix B).	Freehold	Mixed farming, cropping and grazing	Acknowledged. Land access currently being negotiated.	Shed, houses, water well and dams (refer to section J, figure 9 of EPEPR, this document)	Acknowledged. Exempt land will be negotiated in accordance with Mining Act Requirements	<p>Acknowledged. Land access currently being negotiated.</p> <p>Consultation on 13/1/22, 10/8/22, 29/8/22, 9/9/22, 13/9/22 and 14/12/23.</p>	<p>Landholder 28 has had multiple interactions with AR3 and has now entered into conversation regarding a LACA. While not generally supportive of mining, and is concerned how the project might progress, the landholder understands that there is a distinction between approved exploration activities and proposed mining lease. The landholder is currently seeking legal review of the proposed LACA.</p> <p>Record of consultation:</p> <p>13/1/22 – phone call - called to make introduction regarding both parcels of land that he manages.</p> <p>10/8/22 – phone & text - Text to request email address to send some information regarding KLRG meeting- no response.</p> <p>29/8/22 - text and left a message regarding time and place of KLRG meeting.</p> <p>9/9/22 – text and phone - left messages re new details for KLRG meeting</p> <p>13/9/22 – phone - left message for landholder to arrange catch up.</p> <p>14/12/23 - Met with landholder to discuss land access, landholder advised they have sought independent advise from Rural Support and are clear of the distinction between drilling and mining. Their major concerns is the potential for the project to progress to a mining lease especially as they have heritage listed areas on their property and environmentally sensitive areas such as swamps etc. AR3 advised that those areas are already subject to exemptions but AR3 will</p>

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
								<p>ground truth with them prior to commencing activities to ensure there are no breaches of conditions.</p> <p>21/12/23 AR3 emailed a copy of most relevant EPEPR and draft LACA to landholder to review.</p> <p>22/12/23 landholder emailed to advise that they have forwarded the information to their lawyer for review and will be in touch after Christmas to resume negotiations.</p> <p>22/01/23 Landholder called AR3 to advise that their review is underway and they hope to have their LACA points for negotiation to AR3 soon.</p> <p>AR3 will continue to offer opportunities for this landholder to raise concerns with a view to working with them towards agreeing a pathway to land access.</p>
EL6509	Landholder 42 (refer to Figure 1-17 and 1-18 of Appendix B)	Freehold	Grazing	Acknowledged. Land access currently being negotiated.	House, shed, water supply located on neighbouring land, within the relevant distance from proposed exploration activities	20/11/21	<p>Acknowledged. Land access currently being negotiated.</p> <p>Consultation on 24/11/2021, 13/1/22, 26/4/22, 10/8/22, 16/9/22, 16/1/23, 23/1/23, 30/1/23, 9/1/24 and 16/1/24</p>	<p>17/11/21 commenced conversation with Landholder 42 re Exempt land, Concern raised regarding exploration occurring on their small land holding.</p> <p>The landholder's main concern is that they are not a supportive of mining on private land, AR3 have explained that they currently only have exploration permits.</p> <p>Landholder has agreed to a waiver of exemption for drilling on neighbouring property which falls within exempt area of his land but is not interested in any activity on his small holding at this time. AR3 agreed to keep the landholder updated of activities within the vicinity that may impact them.</p> <p>24/11/21 – email - Invited landholder to attend the AR3 office Opening and Information event</p> <p>26/4/2022 Trial Pit open day. Invitation included information sheets on land access and landholder rights.</p> <p>10/8/22 – email - Invited landholder to attend the quarterly KLRG meetings as their property is adjacent to the ML.</p> <p>16/09/2022 follow up text invite to the KLRG meetings</p> <p>16/01/2023 email through letter and information advising AR3 intentions regarding land access, attachments contained contact details for Rural</p>

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
								<p>Support, Government information fact sheets and an Example LACA. Advised will call next week to set up a time to discuss</p> <p>23/01/2023 Landholders lawyer emailed AR3 to advise landholder has progressed to legal review of LACA with conditions to enable drilling on his property.</p> <p>30/11/23 – phone call - left message asking landholder to call back to discuss AR3 plans going forward.</p> <p>16/01/2023 email through letter and information advising AR3 intentions regarding land access, attachments contained contact details for Rural Support, Government information fact sheets and an Example LACA. Advised will call next week to set up a time to discuss</p> <p>23/01/2023 Landholders lawyer emailed AR3 to advise landholder has progressed to legal review of LACA with conditions to enable drilling on his property.</p> <p>9/01/2024 – phone call - left message asking landholder to call back to discuss AR3 plans going forward.</p> <p>16/01/2024 phone call - left message explaining content of email and requesting they call back to make a time to discuss</p> <p>AR3 will continue to offer opportunities for this landholder to raise concerns with a view to working with them towards agreeing a pathway to land access.</p>
EL6509	Landholder 44 (refer to Figures 1-13 and 1-14 of Appendix B)	Freehold	Cropping and Grazing	Acknowledged. Land access currently being negotiated	Sheds, houses, water wells and dams (refer to section J, figure 9 of EPEPR, this document)	Acknowledged. Exempt land will be negotiated in accordance with Mining Act Requirements	Acknowledged. Land access currently being negotiated. Consultation on 5/10/2023, 14/11/2023 and 23/11/2023.	No issues raised. See record of consultation below. 5/10/23 - met with landholder to discuss the land access agreement for exploration core sampling. Discussed the project (who we are), activities so far, rare earth minerals, soil type (cross-section), proposed activities, timing, rural support, compensation and LACA process, proposed mining lease, and proposed mining activities (approvals, strip mining, backfilling, rehabilitation water usage/processing).

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
								<p>14/11/23 – Draft LACA and supporting information sent to landholder.</p> <p>23/11/23 – Landholder called to advise they were speaking with Rural Support and work like to meet to discuss LACA after that.</p> <p>AR3 will continue to offer opportunities for this landholder to raise concerns with a view to working with them towards agreeing a pathway to land access.</p>
EL6509	Landholder 45 (refer to Figures 1-11 and 1-12 of Appendix B)	Freehold	Cropping and Grazing	LACA signed 28/11/23	Sheds, houses, water wells and dams (refer to section J, figure 9 of EPEPR, this document)	28/11/2023	LACA signed 28/11/2023	<p>No issues raised. Land Access Agreement in place. See record of consultation below.</p> <p>14/9/23 - met with landholder to discuss a draft LACA for exploration core sampling. Discussed the project (who we are), activities so far, rare earth minerals, soil type (cross-section), proposed activities, timing, rural support, compensation and LACA process, proposed mining lease, and proposed mining activities (approvals, strip mining, backfilling, rehabilitation water usage/processing) .</p> <p>28/9/23 - emailed draft LACA information sheets regarding Landowner rights.</p> <p>23/11/23 – Met landholder, discussed LACA, confirmed property boundaries. Landholder ready to sign - happy for drilling to commence from the end December 2023 provided it is completed by end April 2024. Could continue end 2024 if required to include areas within the property that extend into the pending Naracoorte EPEPR area.</p> <p>24/11/23 - LACA sent for signature.</p> <p>28/11/23 – Landholder signed the LACA in the AR3 office.</p>
EL6509	Landholder 46 (refer to Figure 1-1 and 1-2 of Appendix B).	Freehold	Mixed farming: cropping and grazing	Acknowledged. Land access currently being negotiated.	Sheds, houses, water wells and dams (refer to section J, figure 9 of EPEPR, this document)	Acknowledged. Exempt land will be negotiated in accordance with Mining Act Requirements.	Acknowledged. Land access currently being negotiated. Consultation commenced 25/06/2021	<p>On going communication since 25/06/2021.</p> <p>This land holder is very supportive of the project. No concerns raised. See record of consultation below.</p> <p>AR3 met with landholders to discuss a LACA for exploration core sampling. Discussed the project (who we are), activities so far, rare earth minerals, soil type (cross-section), proposed activities, timing, rural support, compensation and LACA process, proposed mining lease, and proposed mining activities</p>

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
								(approvals, strip mining, backfilling, rehabilitation water usage/processing). Landholder is happy to enter into a land access agreement with AR3.
EL6509	Landholder 47 (refer to Figure 1-9 and 1-10 of Appendix B).	Freehold	Livestock and rural residence	Acknowledged. Land access currently being negotiated.	Sheds, houses, water wells and dams (refer to section J, figure 10 of EPEPR, this document)	Acknowledged. Exempt land will be negotiated in accordance with Mining Act Requirements.	LACA signed 4/12/2023	No issues raised. Land Access Agreement in place See record of consultation below. 21/10/2023 - met with landholders to discuss the draft LACA for exploration core sampling. Discussed the project (who we are), activities so far, rare earth minerals, soil type (cross-section), proposed activities, timing, rural support, compensation, and LACA process, proposed mining lease, and proposed mining activities (approvals, strip mining, backfilling, rehabilitation water usage/processing). Multiple meetings and phone conversations to answer questions. Landholder is happy to proceed to LACA. Landholder has entered into Land Access Agreement
EL 6509/6613	Landholder 49 (refer to Figure 1-7 and 1-8 of Appendix B)	Freehold	Livestock and rural residence	Acknowledged. Land access currently being negotiated.	Sheds, houses, water wells, dams (refer to section J, figure 10 of EPEPR, this document)	Acknowledged. Exempt land will be negotiated in accordance with Mining Act Requirements.	Acknowledged. A Pathway to Land access is currently being developed. Consultation on 13/9/2023, 5/10/2023, 13/11/2023, 17/11/2023 and 22/11/2023.	No specific issues raised. See record of consultation below. 13/9/2023 - met with landholder to discuss draft LACA for exploration core sampling. Discussed activities so far, rural support, soil type (cross-section), proposed activities, timing, compensation and LACA process. Landholder advised that he prefer not to be contacted via email. 05/10/2023 - Letter by hand including draft LACA and information sheets regarding Landowner rights. 13/11/2023 – Landholder was contacted by phone. A message and a follow up text were sent arranging follow up meeting. 17/11/2023 and 22/11/2023 – Attempted visits to landholder’s house. Landholder not at home. Business card left first attempt; text message sent the second attempt to advise AR3 attempting to contact him. AR3 will continue to offer opportunities for this landholder to raise concerns with a view to working with them towards agreeing a pathway to land access.

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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
EL 6509/6613	Landholder 56 (refer to Figure 1-5 and 1-6 of Appendix B).	Freehold	Mixed farming: cropping and grazing	Acknowledged. Land access currently being negotiated	Sheds, houses, water wells and dams (refer to section J, figure 10 of EPEPR, this document)	Acknowledged. Exempt land will be negotiated in accordance with Mining Act Requirements.	Acknowledged. A Pathway to Land access is currently being developed. Consultation on 13/9/2023 and 28/9/2023.	No issues raised. See record of consultation below. 13/09/2023 – Met with landholders to discuss the project (who we are), activities so far, rare earth minerals, soil type (cross-section), proposed exploration activities, timing, their rights as landowners, rural business support, compensation, and LACA process, proposed mining lease, and proposed mining activities (approvals, strip mining, backfilling, rehabilitation water usage/processing) 28/09/2023 – Sent draft LACA to landholder. Landholder has advised that they are seeking independent advice regarding their rights. AR3 will continue to offer opportunities to engage this landholder with a view to agreeing a pathway towards land access.
EL6509	OneFortyOne Plantations Pty Ltd. (refer to Figure 1-33 and 1-34 of Appendix B).	Leasehold	Forestry	02/12/2021 LACA 15/02/2022 LACA	Forestry s. 9 (1) (bb)	02/12/2021 LACA 15/02/2022 LACA	02/12/2021 LACA 15/02/2022 LACA	No concerns raised A detailed Land Access Agreement has been negotiated with OneFortyOne Plantations Pty Ltd for the purposes of accessing their internal forest tracks and firebreaks for drilling.
EL6509	Timberland (refer to Figure 1-35 and 1-36 of Appendix B).	Freehold	Forestry	Acknowledged. Land access currently being negotiated.	Forestry s. 9 (1) (bb)	Acknowledged. Exempt land will be negotiated in accordance with Mining Act Requirements.	Consultation 10/1/23	10/1/2023 – Meeting with Timberland Manager to discuss AR3 plans for Exploration on their forestry tenement. AR3 will send through some further information on the project and continue to engage with a view to developing a pathway to Land Access. No concerns raised.
EL6509	Treasury (Government of South Australia)	Freehold	Forestry	25/02/2022	Forestry s. 9 (1) (bb)	25/02/2022	25/02/2022	No concerns raised. The delegate to the Treasurer, has granted access for the purposes outlined in the Land Access Agreement negotiated with OneFortyOne Plantations Pty Ltd.

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

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None identified to date. In addition to landholders, many community events have been held or attended which have given stakeholders the opportunity to meet with AR3 representatives, learn about the project, ask questions and discuss concerns/opportunities. Refer details of those events below.

Landholders identified within priority drilling locations will be engaged and all access provisions as required under the *Mining Act 1971* (Mining Act) will be in place prior to drilling in the identified areas. A Form 21D will be submitted to DEM once access agreements are finalised with each landholder. In the event land access cannot be negotiated successfully, the process outlined under the Mining Act will be followed in order to obtain access if required.

Provide any additional relevant information.

Multiple reconnaissance field trips have been undertaken to establish general access conditions in the area.

Consultation with the Naracoorte Lucindale Council (NL Council) commenced during 2020 and remains ongoing. Access agreements have previously been negotiated with the NL Council allowing access to road reserves, tracks and clearings under the conditions outlined in those agreements. Ongoing updates and consultation with the NL Council will occur during the course of the exploration program.

Consultation with the Wattle Range Council (WR Council) commenced during 2022 and remains ongoing. Access agreements have previously been negotiated with the WR Council allowing access to road reserves, tracks and clearings under the conditions outlined in those agreements. Ongoing updates and consultation with the WR Council will occur during the course of the exploration program.

Other consultation activities have included:

- 2/12/2021 - Community Event at AR3 office in Naracoorte. Personal invitations sent to landholders in vicinity of operations and an open invitation to all community members via local newspapers x2 and ABC Regional Radio interview. A presentation was given regarding Rare Earths, AR3s operations and forward plans, and an opportunity for individuals to talk to and ask questions of AR3 personnel was provided. The event was well attended and information was well received. Follow up coverage in local media was positive.
- 18/3/2022 - AR3 had a site at the SE field day for two days with a Fire Fighting Unit as a door prize. The site was visited by over 200 people/community members, Information Sheets were given to all attendees describing AR3 Exploration project and Landholder rights. Conversations mostly covered the extent of proposed exploration, details of drilling, understanding the resource and its proximity to groundwater. No concerns raised.
15/05/2022 – AR3 hosted an open day and invited landholders to view the trial pit. More than 20 landholders attended and were able to meet with and hear from AR3 representatives (engineer and geologist) together with an independent soil scientist.
- 22/08/2022 - AR3 held a stall at the 'Pathway to a Pay-packet' careers night at Naracoorte High School in both 2022 and 2023. Many parents with high school children were able to ask questions about Rare Earths, the Koppamurra Project and the potential for a multigenerational Rare Earths Industry in the region.
- 5/9/2022 - Wrattonbully Wine Growers Association (WWGA) invited AR3 to present to their group at their regular monthly meeting. A presentation was given covering Rare Earths 101, the Company and world demand for rare earths, brief overview of exploration to date and answered questions regarding landowner rights, rare earth mining, baseline studies, processes etc. very brief overview. The group asked many questions about the exploration and production of Rare Earths – they are particularly concerned about any potential to negatively impact groundwater of soils in relation to their activities as wine growers. AR3 advised that it is not proposing any exploration activities on land that is currently under vines. The WWGA have agreed to have a couple of representatives attend the regular Koppamurra Landowners Reference Group (KLRG) meetings.
- 5/9/2022 - AR3 representatives met with landholders and an independent soil scientist to discuss concerns regarding the rehabilitation of the trial / bulk sample pit area. AR3 have established a program of work based on the soil scientist's recommendations to be implemented as part of the rehabilitation.
- 8/9/2022 - AR3 representatives met with all landholders with property within the proposed ML boundary. Matters discussed were the rehabilitation of the trial pit to date and proposed further exploration works and timing. Many questions were asked about the proposed ML.
- 15/10/2022 - Naracoorte Show - AR3 had a stall and a free raffle. The stall was busy with many members of the community dropping in to discuss the project throughout the day. Large photos of the tenement maps and trial pit during and after were on display. Lots of landholders within the tenement area dropped by, and 120 people entered the raffle.
- 25/10/2022, 25/11/2022 and 27/11/2022 – Discussions regarding baseline ML environmental studies and LACA's held with groups of neighbours directly impacted by the proposed ML. No concerns raised. These landholders are comfortable with AR3 proposals for future exploration on their properties. AR3 have established LACAs with these landholders and will continue to meet with them regularly to keep them updated regarding the Koppamurra project.
- 19/1/2023 - Chairmans Company Update Event at the art gallery. Approximately 50 people attended, including 10 newly elected council committee member, multiple landholders, community members and local business owners. AR3 representatives discussed the Koppamurra Project and the future of Rare Earths. No concerns raised.
- 17/3/2023 - AR3 Stand at the SE Field Day attracted approximately 150 people engaging with AR3 personnel to discuss the project. No concerns raised.

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- 7/8/2023 - AR3 held a stall at the 'Pathway to a Pay-packet' careers night at Naracoorte High School in both 2022 and 2023. Many parents with high school children were able to ask questions about Rare Earths, the Koppamurra Project and the potential for a multigenerational Rare Earths Industry in the region.
- 14/10/2023 - Naracoorte Show - AR3 had a stall and a free raffle. The stall was busy with many members of the community dropping in to discuss the project throughout the day. Large photos of the tenement maps and trial pit during and after were on display. Lots of landholders within the tenement area dropped by, and 120 people entered the raffle.
- 6/12/2023 - AR3 invited all landholders with in the proposed exploration program related to this EPEPR to an open day at the Trial Pit Rehabilitation site. 50 members of the community attended including representatives from two local councils and the local MP. Soil Scientist and other AR3 technical experts were available to answer questions. Most questions were focused on the potential mining plan, AR3 answered where possible and advised that other questions will be answered once the information becomes available. A follow up email was sent to attendees with a link to the information shared - and a link to the ongoing Q&As on the website.
- 8/11/2023 - AR3 held a Community Information Event at their new Naracoorte office opening - and invited all landholders with in the proposed exploration program related to this EPEPR, 40+ members of the local community, Landholders, Local Businesses, Winegrowers came and heard from AR3 Chairman and Managing director about plans for business and the Koppamurra project. NLC Mayor officially opened premises and spoke to the community about the potential opportunities of a new rare earth industry.

Any drilling on freehold land will be negotiated with the appropriate landholder prior to access and appropriate permissions and waivers of exemption (as required) will be in place as required by the Mining Act.

Where this occurs and is not covered within the consultation table of this EPEPR (as in the consultation table), this EPEPR will be updated utilising an agreed appendix template and submitted to DEM for a PEPR review.

Exempt land has been identified using the land access spatial portal (see Figure 11). In all instances, a Form 21D will be submitted to DEM once access agreements are finalised with landholders, the NL Council and WR Council.

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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.

Settlements

The nearest large town is Naracoorte, located approximately 3.5 km west of the proposed exploration area. Naracoorte has a population of approximately 6,293 residents (Urban Centres and Localities) (ABS 2021). Other smaller towns in the general locality (Penola and Coonawarra) are situated south-west of the proposed exploration area and contain smaller populations/residences within the town boundaries. The areas surrounding Naracoorte, Coonawarra and Penola are scattered with farming properties, rural residences, viticulture and forestry.

Roads and tracks

All sealed and unsealed roads and tracks within the proposed exploration area are shown in Figure 2 and may be utilised for roadside exploration activities. These roads are managed by the NL Council and WR Council respectively, depending on locality.

Other human infrastructure including public utilities and infrastructure

Naracoorte is the largest town in the vicinity to the proposed exploration program. Naracoorte has a combination of residential, retail, health, recreation, commercial/industrial and places of worship within the town boundaries. Several schools are situated within Naracoorte, servicing reception through to year 12, while the closest hospital to the proposed exploration program is the Naracoorte Hospital and Community Health Service.

Penola (population of 1,376) (Urban Centres and Localities) (ABS 2021) is a hub for local services, and contains commercial, recreational, tourism and residential properties. Penola has a primary and secondary school, as well as a district hospital.

Coonawarra (population of 130) (Suburbs and Localities) (ABS 2021) is a small, loose township comprised mostly of rural properties. Coonawarra hosts no community services; however, as the primary industry is viticulture in the Coonawarra Wine Region, it has a large number of cellar doors and tourist accommodation.

Notably, the Southeast Australia Gas (SEA Gas) Pipeline is located in sections of the proposed exploration area (Figure 2). Special considerations, and engagement with relevant authorities will be taken when/if exploration will be located in close proximity to the pipeline. A 200 m buffer will be implemented unless engagement with SEA Gas results in a reduced buffer in specific instances.

Overhead South Australia Power Networks (SAPN) are located across the entire proposed exploration area. Minor underground cables exist in the areas surrounding the proposed exploration area, however, these typically provide power for residences, and exploration is unlikely to be undertaken in close proximity to residences. No ElectraNet transmission lines are located in close proximity to the proposed exploration area, with the nearest being approximately 7.5 km to the west.

The presence of communication lines is currently unknown, however, prior to any intrusive works, dial-before-you-dig service and cable locating contractor will be engaged to clear any buried services. There are numerous water bores within the exploration area, however most are situated within private property boundaries. AR3 utilises a real-time geospatial mapping tool before drilling which identifies exempt land exclusion areas (e.g. water wells, dams, houses) before drilling occurs. All drilling activities will occur outside of identified exempt land for residential buildings and other defined infrastructure unless permission is sought from landowners, and a waiver of exemption is sought as required by the Mining Act 1971 (SA). Built infrastructure is identified in Figure 2.

The closed Wolsely-Mt Gambier railway line runs through the northern section of the proposed exploration area and also to the west (outside) of the proposed exploration area (Figure 2). The Hynam 11kV regulator (SA Power Networks) is approximately 230 m to the west and the Naracoorte East substation (SA Power Networks) is approximately 120 m to the north of the proposed exploration area respectively (Figure 2).

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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	<input checked="" type="checkbox"/>
Pastoral lease	<input type="checkbox"/>
Perpetual lease	<input type="checkbox"/>
Crown land	<input checked="" type="checkbox"/>
Mining reserve	<input type="checkbox"/>
Aboriginal freehold/leasehold land (e.g. Anangu Pitjantjatjara Yankunytjatjara and Maralinga Tjarutja lands)	<input type="checkbox"/>
Forestry reserve	<input checked="" type="checkbox"/>
Marine parks	<input type="checkbox"/>
National parks, conservation parks, conservation reserves, regional reserves*	<input type="checkbox"/>
Adelaide Dolphin Sanctuary	<input type="checkbox"/>
Murray Darling Basin	<input type="checkbox"/>
<If park/reserve is selected, please provide the name of the park>	
Other*	<input type="checkbox"/>
Road verges maintained by either the Naracoorte Lucindale Council or the Wattle Range Council.	

Land use	Applicable
Grazing	<input checked="" type="checkbox"/>
Cultivated land	<input checked="" type="checkbox"/>
Residential	<input type="checkbox"/>
Township	<input type="checkbox"/>
Industrial	<input type="checkbox"/>
Tourism	<input type="checkbox"/>
Conservation	<input type="checkbox"/>
Defence activity	<input type="checkbox"/>
Road reserve	<input checked="" type="checkbox"/>
Sites of scientific significance (geological monuments, fossil reserves etc.)	<input type="checkbox"/>
Orchard/vineyard	<input type="checkbox"/>
*Native vegetation heritage agreements	<input type="checkbox"/>
<Provide the name of the area>	
*European heritage sites	<input type="checkbox"/>
<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.

<p>Development Plans have been superseded by the Planning and Design Code (the Code) under the <i>Planning, Development and Infrastructure Act 2016</i>. Under the Code, zones and overlays provide information regarding considerations for development.</p> <p>The majority of the exploration area sits within the Rural Zone. There are a number of overlays that may exist within the exploration area including:</p> <ul style="list-style-type: none"> • Hazards (Bushfire – General risk) • Hazards (Bushfire – High risk) • Hazards (Flooding – Evidence Required) • Key Outback and Rural Routes • Native Vegetation • Prescribed Wells Area • State Significant Native Vegetation • Water Protection Area • Water Resources • Heritage Adjacency • Local heritage place • Building Near Airfields • Gas and liquid Petroleum pipelines • Minimum dwelling allocation size • Minimum site area <p>There is an Employment Zone within the proposed exploration area, east of Naracoorte. None of the above zones and overlays are expected to impact the exploration program.</p> <p><i>South Australian Property and Planning Atlas (SAPPA). Accessed August 2023</i></p>
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Provide a description of any known plans for future land use changes by other parties.

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No known plans of future land use changes by other parties has been identified within the area which have the potential to impact the exploration program. A search of SAPPA has also been conducted and revealed no significant land use changes.

Provide any additional relevant information.

Landholders who have been identified as owning parcels of land which are of interest to the Company are currently being engaged and notified of the proposed work activities which may impact their land. These landholders are listed in Section B. Land access agreements will be entered into with these landholders prior to the commencement of any work on their respective properties, including on any identified exempt land. As these negotiations are ongoing and not finalised, the Company is unable to publicly release information which may jeopardise the negotiations or reveal the commercial nature of these agreements. The area in which the Company is pursuing access is in Section J including identification of all exempt land within the zone. Exempt land has been identified in Figure 11. Typical drilling locations within road reserves and freehold land have been included in SECTION I – PHOTOS. These have been shown to provide context as to the cleared nature of the land.

Woomera Prohibited Area (WPA)

Will activities be conducted within the WPA	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Do you have a resource exploration permit in place?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
In which zone will activities be conducted?			n/a		
Does the Exploration Permit allow the operator to conduct exploration operations in the WPA?				Yes <input type="checkbox"/>	No <input type="checkbox"/>
What is the expiry date of the resource exploration permit?				n/a	
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 <input type="checkbox"/>	No <input checked="" type="checkbox"/>
n/a		
Do you have a Deed of Access with Defence?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
What is the expiry date of the Deed of Access?	n/a	
Provide the date the Range Control Officer granted access permission to conduct the proposed exploration operations.	n/a	
Describe the results of consultation and how any concerns raised were addressed.		
n/a		

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 <input type="checkbox"/> No <input checked="" type="checkbox"/> (If no, no further information in this section required.)		
Are there registered native title party/parties in the area of proposed exploration?	Yes <input type="checkbox"/> No <input type="checkbox"/>	n/a	If no, an Environment, Resources and Development (ERD) Court determination is required.
Have you negotiated a native title mining agreement?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the agreement registered?*	n/a
		Yes <input type="checkbox"/> No <input type="checkbox"/>	

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Native title			
Have you accepted an Indigenous land use agreement (ILUA)?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the ILUA registered?*	n/a
Have you obtained ERD Court determination?†	Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the determination registered?*	n/a

* 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.

Native Title Claim SC2017/002 in the name of the First Nations of the South East #1 exists over the EL and was registered by the National Native Title Tribunal on 10 November 2017. No determination by the Federal Court has been made in respect of the native title claim.

NatureMaps: ILUA Boundaries, Native Title Register, Native Title Claims, Native Title Determinations. National Native Title Tribunal 2023. http://www.nntt.gov.au/searchRegApps/NativeTitleClaims/Pages/details.aspx?NTDA_Fileno=SC2017/002. Accessed in August 2023.

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, salt pans, clay pans etc.).

Topography contours vary between 70 -130 m (NatureMaps 2023a). The proposed exploration area is predominantly within the Murray Darling Depression (MDD) and Naracoorte Coastal Plain (NCP) IBRA Region 7.0.

The MDD's landscape is described as a depositional plain and the landform is described as plains with variable dune cover, from dune formations with relatively small plains to plains with isolated tracts of dunes. There are clay pans, saline soils, swamps, and intermittent lakes in low-lying areas (NatureMaps 2023a).

The NCP's landscape is described as coastal plain and the landform is described as swampy coastal plain with clayey lagoon deposits. Swampy plain overlain in large areas by gentle dunes and sheets of white arid sand. Adjacent to coast indurated dunes of calcareous sand and dunes of orange sand (NatureMaps 2023b).

The water erosion potential in the proposed exploration area is considered to be predominantly low, with areas of moderately low potential (DEWNR 2009). Gully erosion potential in the proposed exploration area is predominantly considered to be negligible, with one zone of 10-20% portion of land affected by erosions (corresponds to Mosquito Creek) and one zone of up to 5% portion of land affected by erosions (corresponding to an unspecified watercourse to the north of the proposed exploration area (DEWNR 2009). The wind erosion potential ranges from low to zones of high to extreme (Figure 12) (DEWNR 2009).

DEWNR 2009. Soil Erosion Attributes layers (Gully Erosion, Water Erosion Potential, Wind Erosion Potential). NatureMaps. Accessed on September 2023.

NatureMaps 2023a. Contours layer. NatureMaps. Accessed on September 2023.

NatureMaps 2023b. IBRA Region 7.0 NatureMaps. Accessed on September 2023.

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.

The soils within the MDD IBRA region are categorised as brown calcareous earths, highly calcareous loamy earths, cracking clays, yellow grey and hard setting loamy soils with red clayey subsoils. The geology of the MDD IBRA region is characterised as exposed caliche and crusty loamy soils, colluvial sand, silt, clay and gravel along footslopes of Olay Spur and vaporite (gypsum and halite) deposits (NatureMaps 2023a).

The soils within the NCP IBRA region are categorised as nomopodsols, sandy leptopodsols, solodic soils, swamp soils, rendzinas & terra rossas. The geology of the NCP IBRA region is characterised as sequence of stranded beach ridges (Tertiary), silicified and ferruginised sands (Karoonda Surface) and ripon calcrete (NatureMaps 2023a).

The proposed exploration areas are considered to have:

- Extent of surface soil acidity is predominantly greater than 60% with smaller zones of negligible, 10-30% and 30-60%
- Extent of subsurface soil acidity ranges from negligible to greater than 60%
- Extent of subsoil acidity ranges from negligible to greater than 60%
- The proposed exploration area has a predominantly negligible proportion of land susceptible to acid sulfate soil potential, with a small zone of 1-10% proportion of land susceptible to acid sulfate soil potential
- The extent/depth to calcareous subsoils include:

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- Negligible
- More than 30% at 30 - 60 cm are calcareous soils
- Up to 30% within 30 cm; and more than 30% at 30 - 60 cm re calcareous soils
- 30 - 60% within 30 cm; and more than 30% at 30 - 60 cm are calcareous soils
- More than 60% within 30 cm are calcareous soils (NatureMaps 2023b).

NatureMaps 2023a. IBRA Region 7.0 layer. NatureMaps. Accessed on August 2023.

NatureMaps 2023b. Soil Characterisation sites (Surface soil acidity, Subsurface Soil Acidity, Subsoil Acidity, Acid Sulfate Soil Potential). NatureMaps. Accessed on 22 August 2023.

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 <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Watercourses will be avoided, and drilling will not occur in areas where there is potential to intersect. Refer to Figure 3.		
Is the program area located within water protection areas defined under the <i>River Murray Act 2003</i> ? If yes, provide the name(s).	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
n/a		
Is the program area located within any prescribed watercourses or prescribed surface water areas under the <i>Landscape South Australia Act 2019</i> ? If yes, provide the name(s).	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
n/a		

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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 <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Geology within the EL is predominantly the (Loxton) Parilla Sand and Gambier Limestone. The Parilla Sand unit is described as sand, fine to medium-grained, unfossiliferous, non-marine, clayey, quartz rich; sandy clay. Aeolian, lacustrine and fluvial deposits. The Gambier Limestone unit is described as limestone, fossiliferous and open marine shelf (SARIG 2023a). The target horizon for exploration is the shallow clay units that are situated above the Gambier Limestone known as the Padthaway formation.</p> <p>The aquifer present in the area of investigation is contained within the Gambier Limestone, it is a shallow unconfined aquifer. Based on the groundwater data from nearby wells and recent drilling data, depths to groundwater in the area of investigation have been identified between 12.4 and 26.15m below ground level (Groundwater Science 2020, Attachment A).</p> <p>Additionally, a recent study undertaken by AR3 at the request of DEM to assess groundwater interactions reviewed drilling records from 5,020 drillholes completed across ELs 6509 and 6613 and identified groundwater intersections in only 59 drillholes, representing approximately 1% of all holes drilled, indicating very limited groundwater interaction across the project area.</p> <p>Due to the target horizon, drilling is unlikely to intersect groundwater; however, should this occur it would intercept the unconfined Tertiary Limestone Aquifer, hosted in the Gambier Limestone. This aquifer represents the regional water table and is utilized for stock, domestic and irrigation purposes. Should groundwater be intercepted, the hole will be discontinued and backfilled with sufficient cuttings so that the backfill is above the intersected groundwater. The swelling nature of the clays will further aid the backfilling.</p> <p>Pressure cementing of water wells is not required in this type of aquifer. Drillholes will be appropriately completed and abandoned to restore, as far as feasible, the controlling geological conditions that existed before the hole was drilled in accordance with M21 – see section D "Rehabilitation". This will be conducted in the area of investigation so as to prevent in particular:</p> <ul style="list-style-type: none"> • contamination of aquifers through entry of pollutants from the surface • any physical hazard resulting from an open hole, e.g. erosion • potential for increased recharge • any environmental hazard resulting from an open hole which could become a trap for small animals or be hazardous to stock <p>To achieve these outcomes,</p> <ul style="list-style-type: none"> • For holes which intersect groundwater in which AR3 will backfill with sufficient cuttings to ensure the backfilling is above the intersected groundwater • The swelling nature of the clays will further aid in backfilling. • The top 0.3m of fill, above the non-degradable plug will consist of native soil, and a soil mound will be left over the holes position to allow for any subsidence and prevent the potential for erosional impacts. <p>A groundwater study for this area previously undertaken and approved (EPEPR 2020-035) has been attached for reference (attachment A).</p> <p><i>SARIG 2023a. 100k Surface Geology. SARIG Layer. Accessed on September 2023.</i></p> <p><i>SARIG 2023b. Shallow Groundwater Depth. SARIG Layer. Accessed on September 2023.</i></p>		

Description of the locality/area where different groundwater conditions may be encountered					
See Attached report (Appendix A) for regional description and maps of groundwater geological conditions, descriptions, aquifer types, and water quality.					
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
-	-	-	-	-	-

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

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A study completed by Groundwater Science (attached Appendix A) indicated that groundwater (Gambier Limestone and/or Murray Group Limestone) is generally fresh at less than 1,200 mg/L, although there can be isolated occurrences of brackish to saline groundwater. As per the *Environment Protection (Water Quality) Policy 2015*, groundwater generally has an environmental value of:

- drinking water for human consumption
- primary industries—irrigation and general water uses
- primary industries—livestock drinking water
- primary industries—aquaculture and human consumption of aquatic foods.

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

The Groundwater Dependent Ecosystem Atlas identifies scattered aquatic and terrestrial GDEs are present within the proposed exploration area, most of which have a low potential to be a groundwater dependent ecosystem (GDE).

The proposed exploration area is within the Lower Limestone Coast Prescribed Wells Area (PWA) (SARIG 2023a). The Lower Limestone Coast PWA is known to support seven different categories of GDE's namely; wetlands, karst rising springs, lakes, phreatopytic vegetation communities such as River Red Gum (*Eucalyptus camaldulensis*) accessing shallow groundwater, subterranean stygofauna communities, marine ecosystems (via discharge of groundwater to nearshore coastal environments) and permanent refuge pools within watercourses which subsist during dry periods via base flow from the unconfined Tertiary Limestone aquifer.

Of the aquatic GDEs identified within the proposed exploration area, all are considered to have a low or unclassified GDE potential (Figure 5) (SARIG, 2022b). The potential terrestrial GDEs within the proposed exploration area are classified as low potential, moderate or high potential; GDE (classified from the National Assessment) (Figure 6) (SARIG 2023c).

As this exploration program is targeting the shallow clayey horizon which sits above the Gambier Limestone (which hosts the regional unconfirmed aquifer), groundwater intersections are expected to be limited (historically less than 1%) with any drillholes terminated and backfilled to above the intersected groundwater. Resultantly, there is no expected impact to either aquatic or terrestrial GDEs.

DEW 2010. Lower Limestone Coast PWA – Groundwater Level and Salinity Status Report 2009-2010. Accessed on September 2023

SARIG 2023a. Prescribed Wells Area. SARIG Layer. Accessed on September 2023

SARIG 2023b. Aquatic GDEs. SARIG Layer. Accessed on September 2023

SARIG 2023c. Terrestrial GDEs. SARIG Layer. Accessed on September 2023

Is the proposed program located within a prescribed wells area or prescribed water resource area? If yes, provide the name of the area.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Lower Limestone Coast Prescribed Wells Area		

Provide any additional information, if required.

n/a

Native vegetation

Will you be working within areas of native vegetation? If yes, provide the following information: <ul style="list-style-type: none"> • 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 <input type="checkbox"/>	No <input checked="" type="checkbox"/>
The SA vegetation mapping has the following native vegetation (Broad_Desc) mapped within the proposed exploration area: <ul style="list-style-type: none"> • Shrubland >1m • Rushland/sedgeland • Eucalyptus forest and woodland (NatureMaps 2023a). Wetlands are scattered throughout the area and will be avoided (NatureMaps 2023b). Cleared agricultural paddocks are typically grazed, with instances of irrigated and cropped cultivated pasture grasses and/or legumes. There are significant tracts of land used as softwood plantations throughout the area.		
<i>NatureMaps 2023a. SA Vegetation. NatureMaps. Accessed on September 2023.</i> <i>NatureMaps 2023b. Wetland Inventories. NatureMaps. Accessed on September 2023.</i>		

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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.

The data in the table below was compiled from a Protected Matters Search tool (PMST) search and the Biological Databases of South Australia (BDBSA) through NatureMaps. The listed species identified within the NatureMaps BDBSA search are shown in Figure 7.

Species/habitat	Common name	NPW Act rating*	EPBC Act rating†
<i>Thelymitra epipactoides</i>	Metallic Sun-orchid	Endangered	Endangered
<i>Lachnagrostis adamsonii</i>	Adamson's Blown-grass, Adamson's Blowngrass		Endangered
<i>Lepidium monoplocoides</i>	Winged Pepper-cress		Endangered
<i>Dipodium campanulatum</i>	Bell Flower Hyacinth Orchid	Vulnerable	Endangered
<i>Caladenia tensa</i>	Greencomb Spider-orchid, Rigid Spider-orchid		Endangered
<i>Caladenia colorata</i>	Coloured Spider-orchid, Small Western Spider-orchid, Painted Spider-orchid		Endangered
<i>Caladenia versicolor</i>	Candy Spider-orchid		Vulnerable
<i>Pterostylis arenicola</i>	Sandhill Greenhood Orchid		Vulnerable
<i>Pterostylis chlorogramma</i>	Green-striped Greenhood		Vulnerable
<i>Xerochrysum palustre</i>	Swamp Everlasting, Swamp Paper Daisy		Vulnerable
<i>Caladenia ornata</i>	Ornate Pink Fingers	Endangered	Vulnerable
<i>Amphibromus fluitans</i>	River Swamp Wallaby-grass, Floating Swamp Wallaby-grass		Vulnerable
<i>Senecio macrocarpus</i>	Large-fruit Fireweed, Large-fruit Groundsel		Vulnerable
<i>Senecio psilocarpus</i>	Swamp Fireweed, Smooth-fruited Groundsel		Vulnerable
<i>Caladenia formosa</i>	Elegant Spider-orchid, Blood-red Spider-orchid		Vulnerable
<i>Thelymitra matthewsii</i>	Spiral Sun-orchid		Vulnerable
<i>Glycine latrobeana</i>	Clover Glycine, Purple Clover		Vulnerable
<i>Dodonaea procumbens</i>	Trailing Hop-bush		Vulnerable
<i>Prasophyllum spicatum</i>	Dense Leek-orchid		Vulnerable
<i>Eryngium vesiculosum</i>	Prostrate Blue Devil	Rare	
<i>Lomandra multiflora</i> ssp. <i>multiflora</i>	Many-flower Mat-rush	Endangered	
<i>Dianella longifolia</i> var. <i>grandis</i>	Pale Flax-lily	Rare	
<i>Xanthorrhoea minor</i> ssp. <i>lutea</i>	Little Yacca	Endangered	
<i>Asplenium trichomanes</i>	Common Spleenwort	Rare	
<i>Allittia cardiocarpa</i>	Swamp Daisy	Rare	
<i>Allittia uliginosa</i>	Wet-heath Daisy	Rare	
<i>Brachyscome readeri</i>	Reader's Daisy	Rare	
<i>Calocephalus lacteus</i>	Milky Beauty-heads	Endangered	
<i>Cassinia tegulata</i>	Sticky Cassinia	Endangered	CR
<i>Leptorhynchus orientalis</i>	Eastern Annual Buttons	Rare	
<i>Podolepis decipiens</i>		Rare *	
<i>Podolepis jaceoides</i>	Showy Copper-wire Daisy	Rare	

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Species/habitat	Common name	NPW Act rating*	EPBC Act rating†
<i>Podolepis linearifolia</i>	Narrow-leaf Copper-wire Daisy	Rare *	
<i>Senecio psilocarpus</i>		Vulnerable	Vulnerable
<i>Rorippa laciniata</i>	Jagged Bitter-cress	Rare	
<i>Isotoma fluviatilis ssp. australis</i>	Swamp Isotome	Rare	
<i>Lobelia concolor</i>	Poison Pratia	Rare	
<i>Lobelia pratoides</i>	Poison Lobelia	Rare	
<i>Scleranthus diander</i>	Tufted Knawel	Endangered	
<i>Stellaria pungens</i>	Prickly Starwort	Rare	
<i>Podolepis jaceoides (NC)</i>	Showy Copper-wire Daisy	Rare	
<i>Crassula peduncularis</i>	Purple Crassula	Rare	
<i>Cardamine paucijuga (NC)</i>	Annual Bitter-cress	Rare	
<i>Cladium procerum</i>	Leafy Twig-rush	Rare	
<i>Cyperus lhotskyanus</i>		Rare	
<i>Eleocharis atricha</i>	Tuber Spike-rush	Vulnerable	
<i>Isolepis producta</i>	Nutty Club-rush	Vulnerable	
<i>Machaerina acuta</i>	Pale Twig-rush	Rare	
<i>Schoenus laevigatus</i>		Rare	
<i>Schoenus latelaminatus</i>	Medusa Bog-rush	Vulnerable	
<i>Schoenus sculptus</i>	Gimlet Bog-rush	Rare	
<i>Schoenus tesquorum</i>	Grassy Bog-rush	Rare	
<i>Tricostularia pauciflora</i>	Needle Bog-rush	Endangered	
<i>Calectasia intermedia</i>	Eastern Blue Tinsel-lily	Vulnerable	
<i>Dennstaedtia davallioides</i>	Lacy Ground-fern	Endangered	
<i>Hibbertia sessiliflora</i>		Endangered	
<i>Drosera binata</i>	Forked Sundew	Rare	
<i>Elatine gratioloides</i>	Waterwort	Rare	
<i>Styphelia clelandii</i>	Cleland's Beard-heath	Rare	
<i>Acacia iteaphylla</i>	Flinders Ranges Wattle	Rare	
<i>Acacia suaveolens</i>	Sweet Wattle	Vulnerable	
<i>Dillwynia cinerascens</i>	Grey Parrot-pea	Endangered	
<i>Glycine latrobeana</i>	Clover Glycine	Vulnerable	Vulnerable
<i>Hovea heterophylla</i>	Common Hovea	Vulnerable	
<i>Pultenaea dentata</i>	Clustered Bush-pea	Vulnerable	
<i>Sphaerolobium minus</i>	Leafless Globe-pea	Rare	
<i>Swainsona behriana</i>	Behr's Swainson-pea	Vulnerable	
<i>Swainsona procumbens</i>	Broughton Pea	Vulnerable	
<i>Gonocarpus humilis</i>	Shade Raspwort	Rare	
<i>Myriophyllum integrifolium</i>	Tiny Milfoil	Rare	
<i>Myriophyllum variifolium</i>	Varied Milfoil	Rare	
<i>Isoetes drummondii ssp. drummondii</i>	Plain Quillwort	Rare	
<i>Juncus amabilis</i>		Vulnerable	

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Species/habitat	Common name	NPW Act rating*	EPBC Act rating†
<i>Juncus australis</i>	Austral Rush	Rare	
<i>Juncus homalocaulis</i>	Wiry Rush	Vulnerable	
<i>Luzula ovata</i>	Clustered Wood-rush	Rare	
<i>Cycnogeton alcockiae</i>	Alcock's Water-ribbons	Rare	
<i>Mentha diemenica</i> (NC)	Slender Mint	Rare	
<i>Mentha diemenica</i>	Slender Mint	Rare	
<i>Utricularia australis</i>	Yellow Bladderwort	Rare	
<i>Utricularia beaugleholei</i>	Beauglehole's Bladderwort	Vulnerable	
<i>Phyllangium distylis</i>	Tiny Mitrewort	Rare	
<i>Phylloglossum drummondii</i>	Pigmy Clubmoss	Rare	
<i>Pilularia novae-hollandiae</i>	Austral Pillwort	Rare	
<i>Montia australasica</i>	White Purslane	Rare	
<i>Eucalyptus fasciculosa</i>	Pink Gum	Rare	
<i>Eucalyptus leucoxylon</i> ssp. <i>megalocarpa</i>	Large-fruit Blue Gum	Rare	
<i>Eucalyptus pauciflora</i> ssp. <i>pauciflora</i>	Snow Gum	Vulnerable	
<i>Eucalyptus viminalis</i> ssp. <i>viminalis</i>	Manna Gum	Rare	
<i>Melaleuca squarrosa</i>	Bottlebrush Tea-tree	Rare	
<i>Caladenia clavigera</i>	Plain-lip Spider-orchid	Endangered	
<i>Caladenia cucullata</i>	Hooded Caladenia	Rare	
<i>Caladenia dilatata</i>	Late Spider-orchid	Endangered	
<i>Caladenia formosa</i>	Elegant Spider Orchid	Vulnerable	Vulnerable
<i>Caladenia necrophylla</i>	Late Spider-orchid	Rare	
<i>Caladenia parva</i>	Small Green-comb Spider-orchid	Rare	
<i>Caladenia venusta</i>	Large White Spider-orchid	Vulnerable	
<i>Caleana major</i>	Large Duck-orchid	Vulnerable	
<i>Calochilus herbaceus</i>	Swamp Bearded Orchid	Rare	
<i>Calochilus paludosus</i>	Red Beard-orchid	Vulnerable	
<i>Chiloglottis trapeziformis</i>	Dainty Bird-orchid	Endangered	
<i>Corybas unguiculatus</i>	Small Helmet-orchid	Rare	
<i>Cryptostylis subulata</i>	Moose Orchid	Vulnerable	
<i>Dipodium pardalinum</i>	Leopard Hyacinth-orchid	Vulnerable	
<i>Dipodium punctatum</i>		Endangered	
<i>Diuris sulphurea</i>	Tiger Orchid	Rare	
<i>Gastrodia sesamoides</i>	Potato Orchid	Rare	
<i>Microtis atrata</i>	Yellow Onion-orchid	Rare	
<i>Prasophyllum spicatum</i>	Dense Leek-orchid	Endangered	Vulnerable
<i>Pterostylis curta</i>	Blunt Greenhood	Rare	
<i>Pterostylis ferruginea</i>	Bangham Rustyhood	Endangered *	
<i>Pterostylis melagramma</i>	Tall Greenhood	Endangered	
<i>Pterostylis striata</i>	Tall Shell-orchid	Rare	
<i>Spiranthes australis</i>	Austral Lady's Tresses	Rare	

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Species/habitat	Common name	NPW Act rating*	EPBC Act rating†
<i>Spiranthes australis</i> (NC)	Austral Lady's Tresses	Rare	
<i>Thelymitra flexuosa</i>	Twisted Sun-orchid	Rare	
<i>Thelymitra holmesii</i>	Blue Star Sun-orchid	Vulnerable	
<i>Thelymitra holmesii</i> (NC)	Blue Star Sun-orchid	Vulnerable	
<i>Thelymitra ixioides</i>	Spotted Sun-orchid	Endangered *	
<i>Thelymitra latifolia</i>	Blue Star Sun-orchid	Vulnerable	
<i>Thelymitra malvina</i>	Mauve-tufted Sun-orchid	Endangered	
<i>Callitriche sonderi</i>	Matted Water Starwort	Rare	
<i>Callitriche umbonata</i>	Water Starwort	Vulnerable	
<i>Gratiola pubescens</i>	Glandular Brooklime	Rare	
<i>Gratiola pumilo</i>	Dwarf Brooklime	Rare	
<i>Amphibromus archeri</i>	Pointed Swamp Wallaby-grass	Rare	
<i>Amphibromus macrorhinus</i>	Long-nosed Swamp Wallaby-grass	Rare	
<i>Deyeuxia densa</i>	Heath Bent-grass	Rare	
<i>Pentapogon quadrifidus</i> var. <i>quadrifidus</i>	Five-awn Spear-grass	Rare	
<i>Poa meioneetes</i>	Fine-leaf Tussock-grass	Vulnerable	
<i>Poa morrisii</i>	Soft Tussock-grass	Rare	
<i>Poa rodwayi</i>	Velvet Tussock-grass	Rare	
<i>Poa sieberiana</i> var. <i>sieberiana</i>		Rare	
<i>Zoysia macrantha</i> ssp. <i>walshii</i>	Manila Grass	Rare	
<i>Potamogeton australiensis</i>	Thin Pondweed	Vulnerable	
<i>Potamogeton ochreatus</i>	Blunt Pondweed	Rare	
<i>Pteris tremula</i>	Tender Brake	Rare	
<i>Ranunculus inundatus</i>	River Buttercup	Rare	
<i>Ranunculus papulentus</i>	Large River Buttercup	Vulnerable	
<i>Ranunculus robertsonii</i>	Slender Buttercup	Rare	
<i>Ranunculus sessiliflorus</i> var. <i>pilulifer</i>	Annual Buttercup	Vulnerable	
<i>Centrolepis glabra</i>	Smooth Centrolepis	Rare	
<i>Asperula subsimplex</i>	Water Woodruff	Rare	
<i>Galium curvihirtum</i>	Tight Bedstraw	Rare	
<i>Boronia pilosa</i> ssp. <i>torquata</i>	Hairy Boronia	Rare	
<i>Dodonaea procumbens</i>	Trailing Hop-bush	Vulnerable	Vulnerable

* *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*).

Within the proposed exploration area and a further 5k m buffer, there are occurrences of weeds of national significance recorded which include:

- *Asparagus asparagoides* (Bridal Creeper) (declared under the Landscape SA Act)
- *Rubus fruticosus aggregate* (Blackberry) (declared under the Landscape SA Act)
- *Salix cinerea* (NC) (Grey Sallow) (declared under the Landscape SA Act)
- *Chrysanthemoides monilifera* ssp. *monilifera* (Boneseed) (declared under the Landscape SA Act)

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- *Solanum elaeagnifolium* (Silver-leaf Nightshade) (declared under the Landscape SA Act).
- *Opuntia elata* (Riverina Pear)
- *Lycium ferocissimum* (African Boxthorn)
- *Ulex europaeus* (Gorse)
- *Tamarix aphylla* (Athel Pine) (NatureMaps 2023a).

There have been no recorded instances of Phytophthora in the proposed exploration area or within a 5 km buffer (NatureMaps 2023a).

NatureMaps 2023a. Weeds of national Significance and buffel grass. NatureMaps. Accessed September 2023.

NatureMaps 2023b. Phytophthora Records. NatureMaps. Accessed September 2023.

Fauna

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

Common place fauna within the proposed exploration area generally includes a variety of birds, kangaroos, possums, koalas, echidnas, antechinus (marsupial mice), dunnarts, sugar gliders, wombats, mice (native and introduced), rats (native and introduced), bats, frogs, turtles, tortoises, yabbies, fish, snakes, lizards, skinks, along with spiders, scorpions and other arachnids. Known pests/feral species in the area include cats, foxes, rabbits and hares.

Non-native species identified on NatureMaps within the proposed exploration area and a 5 km buffer include:

- *Carassius auratus* (Gold fish)
- *Gambusia holbrooki* (Eastern Gambusia)
- *Perca fluviatilis* (Redfin Perch)
- *Tinca tinca* (Tench)
- *Anas platyrhynchos platyrhynchos* (Mallard)
- *Carduelis carduelis Britannica* (European Goldfinch)
- *Passer domesticus domesticus* (House Sparrow)
- *Spilopelia chinensis* (Spotted Dove)
- *Sturnus vulgaris vulgaris* (Common Starling)
- *Turdus merula merula* (Common Blackbird)
- *Felis catus* (Domestic Cat (Feral Cat))
- *Mus musculus* (House Mouse)
- *Oryctolagus cuniculus* (Rabbit (European Rabbit))
- *Ovis aries* (Sheep (Feral Sheep))
- *Rattus rattus* (Black Rat (Ship Rat, Roof Rat))
- *Vulpes vulpes* (Fox (Red Fox)).

NatureMaps 2023. Simple Species List (Fauna). NatureMaps. Accessed August 2023.

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.

The data in the table below was compiled from a Protected Matters Search tool (PMST) search on 28 August 2023 and the Biological Databases of South Australia (BDBSA) through NatureMaps. The listed species identified within the NatureMaps BDBSA search are shown in Figure 8.

Species	Common name	NPW Act rating	EPBC Act rating
<i>Numenius madagascariensis</i>	Eastern Curlew, Far Eastern Curlew		Critically Endangered
<i>Lathamus discolor</i>	Swift Parrot	Endangered	Critically Endangered
<i>Calidris ferruginea</i>	Curlew Sandpiper		Critically Endangered
<i>Miniopterus orianae bassanii</i>	Southern Bent-wing Bat	Endangered	Critically Endangered

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Species	Common name	NPW Act rating	EPBC Act rating
<i>Calyptorhynchus banksii graptogyne</i>	South-eastern Red-tailed Black-Cockatoo	Endangered	Endangered
<i>Rostratula australis</i>	Australian Painted Snipe		Endangered
<i>Callocephalon fimbriatum</i>	Gang-gang Cockatoo		Endangered
<i>Pseudomys shorridgei</i>	Heath Mouse, Dayang, Heath Rat		Endangered
<i>Isoodon obesulus obesulus</i>	Southern Brown Bandicoot (eastern), Southern Brown Bandicoot (south-eastern)		Endangered
<i>Melanodryas cucullata cucullata</i>	South-eastern Hooded Robin, Hooded Robin (south-eastern)		Endangered
<i>Lissolepis coventryi</i>	Swamp Skink, Eastern Mourning Skink	Endangered	Endangered
<i>Botaurus poiciloptilus</i>	Australasian Bittern		Endangered
<i>Galaxiella pusilla</i>	Eastern Dwarf Galaxias, Dwarf Galaxias		Vulnerable
<i>Litoria raniformis</i>	Growling Grass Frog, Southern Bell Frog, Green and Golden Frog, Warty Swamp Frog, Golden Bell Frog	Vulnerable	Vulnerable
<i>Leipoa ocellata</i>	Malleefowl		Vulnerable
<i>Antechinus minimus maritimus</i>	Swamp Antechinus (mainland)		Vulnerable
<i>Stagonopleura guttata</i>	Diamond Firetail		Vulnerable
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	Rare	Vulnerable
<i>Nannoperca obscura</i>	Yarra Pygmy Perch		Vulnerable
<i>Hirundapus caudacutus</i>	White-throated Needletail	Vulnerable	Vulnerable
<i>Neophema chrysostoma</i>	Blue-winged Parrot	Vulnerable	Vulnerable
<i>Delma impar</i>	Striped Legless Lizard, Striped Snake-lizard	Endangered	Vulnerable
<i>Aphelocephala leucopsis</i>	Southern Whiteface		Vulnerable
<i>Falco hypoleucos</i>	Grey Falcon		Vulnerable
<i>Grantiella picta</i>	Painted Honeyeater		Vulnerable
<i>Galaxiella toourtkoourt</i>	Little Galaxias		Vulnerable
<i>Nannoperca australis</i>	Southern Pygmy Perch		Vulnerable
<i>Pseudophryne bibronii</i>	Brown Toadlet	Rare	
<i>Acanthiza lineata</i>	Striated Thornbill		ssp
<i>Accipiter novaehollandiae</i>	Grey Goshawk	Endangered	
<i>Anthochaera chrysoptera</i>	Little Wattlebird		ssp
<i>Antigone rubicunda</i>	Brolga	Vulnerable	
<i>Biziura lobata menziesi</i>	Musk Duck	Rare	
<i>Bubulcus ibis coromandus</i>	Eastern Cattle Egret	Rare	
<i>Burhinus grallarius</i>	Bush Stonecurlew	Rare	
<i>Cladorhynchus leucocephalus</i>	Banded Stilt	Vulnerable	
<i>Coracina papuensis robusta</i>	White-bellied Cuckooshrike	Rare	
<i>Corcorax melanorhamphos</i>	White-winged Cough	Rare	
<i>Coturnix ypsilophora australis</i>	Brown Quail	Vulnerable	
<i>Dromaius novaehollandiae</i>	Emu	ssp	ssp
<i>Elanus scriptus</i>	Letter-winged Kite	Vulnerable	
<i>Entomyzon cyanotis cyanotis</i>	Blue-faced Honeyeater	Rare	
<i>Falco peregrinus macropus</i>	Peregrine Falcon	Rare	

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Species	Common name	NPW Act rating	EPBC Act rating
<i>Falco subniger</i>	Black Falcon	Rare	
<i>Falcunculus frontatus frontatus</i>	Eastern Shrike-tit	Rare	
<i>Gallinago hardwickii</i>	Latham's Snipe	Rare	
<i>Gerygone olivacea olivacea</i>	White-throated Gerygone	Rare	
<i>Haliaeetus leucogaster</i>	White-bellied Sea Eagle	Endangered	
<i>Hieraaetus morphnoides</i>	Little Eagle	Vulnerable	
<i>Hylacola pyrrhopygia</i>	Chestnut-rumped Heathwren	ssp	ssp
<i>Melanodryas cucullata</i>	Hooded Robin	ssp	ssp
<i>Melithreptus brevirostris</i>	Brown-headed Honeyeater		ssp
<i>Melithreptus gularis</i>	Black-chinned Honeyeater	ssp	
<i>Microeca fascinans</i>	Jacky Winter	ssp	
<i>Myiagra cyanoleuca</i>	Satin Flycatcher	Endangered	
<i>Myiagra inquieta</i>	Restless Flycatcher	Rare	
<i>Nesoptilotis leucotis</i>	White-eared Honeyeater		ssp
<i>Ninox strenua</i>	Powerful Owl	Endangered	
<i>Oriolus sagittatus sagittatus</i>	Olive-backed Oriole	Rare	
<i>Pachycephala inornata</i>	Gilbert's Whistler	Rare	
<i>Petroica boodang boodang</i>	Scarlet Robin	Rare	
<i>Petroica phoenicea</i>	Flame Robin	Vulnerable	
<i>Platycercus elegans</i>	Crimson Rosella		ssp
<i>Stipiturus malachurus polionotum</i>	Southern Emu-wren (South East)	Rare	
<i>Strepera versicolor</i>	Grey Currawong	ssp	
<i>Turnix varius varius</i>	Painted Buttonquail	Rare	
<i>Tyto novaehollandiae novaehollandiae</i>	Australian Masked Owl	Endangered	
<i>Zanda funerea whiteae</i>	Yellow-tailed Black Cockatoo	Vulnerable	
<i>Antechinus flavipes</i>	Yellow-footed Antechinus	Vulnerable	
<i>Cercartetus nanus</i>	Eastern Pygmy-possum	Vulnerable	
<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle (Tasmanian Falsistrelle)	Endangered	
<i>Nyctophilus gouldi</i>	Gould's Long-eared Bat	Endangered	
<i>Petaurus breviceps</i>	Sugar Glider	Rare	
<i>Tachyglossus aculeatus</i>	Short-beaked Echidna	ssp	ssp
<i>Trichosurus vulpecula</i>	Common Brushtail Possum	Rare	
<i>Vombatus ursinus</i>	Common Wombat	Rare	
<i>Amphibolurus muricatus</i>	Jacky Lizard	Rare	

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 <input checked="" type="checkbox"/>	No <input type="checkbox"/>
There are several environmentally sensitive locations within or proximal to the proposed exploration area. From NatureMaps:		

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- Local/Contributory Heritage Places within or partially with the proposed exploration area are:
 - Farm Group "Hynam House" (HERITAGENR 25535) – partially within proposed exploration area
 - Hynam Cemetery (HERITAGENR 25534) – within proposed exploration area
 - Dwelling "Gum Park" (HERITAGENR 25531) - within proposed exploration area
 - Farm Group "Wrattenbullie" (HERITAGENR 25569)– within proposed exploration area
 - There are other locations surrounding the proposed exploration area. Refer Figure 10.
- There are no State Listed Heritage Places within the proposed exploration area. State Listed Heritage Places were identified surrounding the proposed exploration area, refer Figure 10.
- A small portion of the Caves Trail (Walking Trail) is within the proposed exploration area.
- There are some south east seasonal herbaceous wetlands within the proposed exploration area (in the southern portion with moderate to very high environmental values).
- The NatureMaps South East Wetlands – Environmental Value Assessment layer shows south east wetlands with insufficient data, high and very high environmental value assessment.
- There are no wetlands of national importance within the proposed exploration area but there is one approximately 1.4km to the west.
- The following heritage agreements are within the proposed exploration area: HA 1540, HA 418, HA697, HA 847.
- One identified Roadside Significant Site (ID: 367) located on the Glenroy - Wrattenbullie road, commencing from 2 km east of the Riddoch Hwy (RN8000) and extending east for 3km on the right (SE) side of the road. The Roadside Significant Site is described as a rare fauna habitat Common Wombat colony, largest colony (about 80 wombats) in SA. Roadkill: 25 in 1993, 9 to June 1994. Logged pine forest on western side (N.B. may need to mark other side as fauna habitat - PD Clark, 10/6/99). The site contains patches of mid dense Eucalyptus obliqua Woodland over mid dense Acacia, Leucopogon Tall shrubs over dense Pteridium Low shrubs. Disturbances include: quarry at start; intersection sight line clearance at MM4.50; farm access tracks at MM2.10, MM2.65, MM2.80, MM3.80, MM4.10 and MM4.30.

The PMST (22 August 2023) which include the proposed exploration area and an additional 5 km buffer:

- Ramsar Wetlands (26) – Bool and Hacks Lagoons – in the proposed exploration area – Australia Wetlands Database
- Listed Threatened Ecology Communities:
 - Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions – Endangered – Known – in the proposed exploration area
 - White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland – Critically Endangered – Likely – in the proposed exploration area
 - Plains mallee box woodlands of the Murray Darling Depression, Riverina and Naracoorte Coastal Plain Bioregions – Critically endangered – May – in the proposed exploration area
 - Mallee Bird Community of the Murray Darling Depression Bioregion – Endangered - May – In feature area
 - Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia – endangered- likely – in the proposed exploration area
 - Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains – Critically Endangered – Likely – in the 5km buffer zone around the proposed exploration area used for the search.

Note that following area are outside of the proposed exploration area:

- World Heritage Places (105089) – Australian Fossil Mammal Sites (Naracoorte)
- National Heritage Places (105089)– Australian Fossil Mammal Sites (Naracoorte)

The Company will not undertake exploration activities within 100 m of the boundaries of these sensitive locations.

Caves and Sinkholes

AR3 are currently undertaking a study into caves and sinkholes near the Comaum area and surrounds. The literature review identifies common features in the landscape relevant to this scope and as observed in south-east of SA, including depressions and / or sinkholes. These features are sunken features in the landscape with a larger aerial extent. They are the surface expressions of collapse features resulting from the dissolution of the underlying limestone. These features are common in the area and where clay filled, contain seasonally perched swamps and wetlands. Where the base is limestone they can transmit surface water runoff to the underlying aquifer and are described in the regional as 'runaway holes'. See Section I "Example Sinkhole".

Examples of these are shown in Section I "Example Sinkhole". If sinkholes are observed proximal to proposed drillholes, they will be marked in the digital drilling mapping portal, and actively avoided. Often, these sinkholes will present as waterbodies unsuitable for drilling operations. These areas are avoided regardless.

In regard to caves, currently identified caves in the South East include the Naracoorte Caves, etc. which are located outside of the proposed exploration area to the west and excluded from the tenement. In addition, literature review has identified that large extensive cave systems tend to be coincident with the Kanawinka fault (within about 600 m). If any unknown caves are identified / uncovered through the drilling program, they will be actively avoided and a 100m buffer applied or larger as appropriate. Considering the drilling program will be undertaken on road

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verges and within cleared agricultural paddocks which have been traversed by heavy machinery over the preceding decades, it is unlikely that caves will be encountered.

NatureMaps 2023a. National Heritage Places. NatureMaps. Accessed August 2023.

NatureMaps 2023b. World Heritage Places NatureMaps. Accessed August 2023.

NatureMaps 2023c. SA Heritage Places Indicative Footprints (Local/Contributory Heritage Places, State Heritage Places. NatureMaps. Accessed August 2023.

NatureMaps 2023d. Recreation Trails. NatureMaps. Accessed August 2023.

NatureMaps 2023e. South East Seasonal Herbaceous, Wetlands of National Importance, South East Wetlands – Environmental Value Assessment layers. NatureMaps. Accessed August 2023.

NatureMaps 2023f. Roadside Significant Sites layer. NatureMaps. Accessed August 2023.

PMST Search. August 2023 (project area plus a 5 km buffer).

Are you likely to impact on the environmentally sensitive area? If yes, detail the likely effects the proposed program may have. Yes No

The areas described and identified above will be avoided. Drilling will only occur within pre-disturbed road verges or cleared agricultural land.

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.

A search of the Central Archive, including the Register of Aboriginal Sites and Objects, was requested from AGD-AAR and results received on 22 August 2023. While there are one registered and two recorded sites within the EL (two of which are scarred trees), none are located within the proposed exploration area and will therefore not be impacted by the drilling program.

An on-ground cultural heritage survey has not been conducted as the drilling/exploration will occur within disturbed road reserves and already disturbed agricultural areas.

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	Drilling contractor TBC (Wallis Drilling)	
Site preparation and rehabilitation	1		
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	TBC (Wallis Drilling)	6-wheel drive Land Cruiser with mounted reverse circulated (RC) air core (AC) drilling rig.	Installation of drill holes to provide sub-surface samples for characterisation and assay
Drillers support vehicle	TBC (Wallis Drilling)	Isuzu, 4WD, dual cab, light truck or similar	Carrying additional supplies, drill rods, drilling water (if required)
Drilling Rig	Collins Drilling	4WD Landcruiser mounted auger drilling rig	Installation of drill holes to provide sub-surface samples for characterisation and assay
Drilling Rig	In Depth Drilling	6-wheel drive Landcruiser mounted push tube core drilling rig	Installation of drill holes to provide sub-surface samples for characterisation and assay

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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 <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Two low impact ground based geophysical surveys are being proposed including ground penetrating radar (GPR) and passive seismic (PS) geophysical surveys. These are covered by the low impact Generic PEPR.		

Drilling activities

Will exploration drilling activities be conducted? If yes, fill out the below table	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
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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)
EL6509	RC-AC	2500	~18	0	N/A	N/A	N/A	N/A
EL6509	Auger	100	~18	0	N/A	N/A	N/A	N/A
EL6509	Push Tube	500	~18	0	N/A	N/A	N/A	N/A
TOTAL		3100	55,800	0	N/A	N/A	N/A	N/A

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 calculate the total).	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).
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* 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.

No site preparation, vegetation clearance, site levelling or digging of sumps will be required.

Drilling will be undertaken only on existing tracks, already cleared land, or road verges where access can be accomplished and without the need to clear any native vegetation (Figure 2).

Photos will be taken at each drill site prior to drilling.

Examples of typical proposed drillhole locations are shown along Edenhope Road and Berkins Paddock and included in Section I.

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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 <input checked="" type="checkbox"/>	No <input type="checkbox"/>
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.		
<p>The drilling planned is very shallow, up to ~18 m deep and expected to average 12 m deep and will not require any casing materials to be used. The drillholes are nominally 76-100 mm in diameter.</p> <p>Holes will be capped near the surface using a nondegradable plug, and the final 0.3m of fill to consist of native soil and a soil mound will be left over the holes position to allow for any subsidence and ensure the hole does not erode.</p> <p>Restoration of the controlling geological conditions (as outlined by M21) is achieved by using a nondegradable plug as an aid to backfilling, and allowing the existing clay to naturally swell and consume the 76-100mm diameter drillhole, thereby restoring the controlling geological conditions that existed before. The native geological materials, sand silt and clay therefore return to the proportions that exist in nature.</p> <p>Capping the hole beneath the surface with a nondegradable plug as an aid to backfilling ensures there is no pathway for contamination from surface to the aquifer, and also prevents an increased rate of recharge – will remain as per background conditions.</p> <p>Drilling is not expected to intersect groundwater, as the Gambier Limestone, which hosts the regional aquifer, forms the basement to the investigations, with mineralised horizons occurring above this unit. Any groundwater intersections are expected to be minimal (historically less than 1%); however, should groundwater be intercepted, the drillhole will be discontinued and backfilled with sufficient cuttings to ensure the backfill remains above the groundwater intersection, with the swelling nature of the clays further assisting backfilling.</p> <p>Pressure cementing of water wells is not required in this type of aquifer. Drillholes will be appropriately completed and abandoned to restore, as far as feasible, the controlling geological conditions that existed before the hole was drilled in accordance with M21. This will be conducted in the area of investigation so as to prevent in particular:</p> <ul style="list-style-type: none"> • contamination of aquifers through entry of pollutants from the surface • any physical hazard resulting from an open hole, e.g. erosion • potential for increased recharge • any environmental hazard resulting from an open hole which could become a trap for small animals or be hazardous to stock <p>To achieve these outcomes,</p> <ul style="list-style-type: none"> • For holes which intersect groundwater in which AR3 will backfill with sufficient cuttings to ensure the backfilling is above the intersected groundwater • The swelling nature of the clays will further aid in backfilling. • The top 0.3m of fill, above the non-degradable plug will consist of native soil, and a soil mound will be left over the holes position to allow for any subsidence and prevent the potential for erosional impacts. <p>After being backfilled the holes will be capped near the surface to prevent any erosion of the drillhole or potential for surface contamination, also preventing any potential for an increased rate of recharge and restoring geological conditions. The final 0.3m of backfill will consist of native soil and a soil mound will be left over the holes position to allow for any subsidence and ensure the hole does not erode.</p> <p>The drilling method employed will be reverse circulation air core, auger, or with push tubes. Air core methods utilise hollow rods containing an inner tube which sits inside the hollow outer rod barrel. The drill cuttings are removed by injection of compressed air into the hole via the annular area between the inner tube and the drill rod. The cuttings are then blown back to surface up the inner tube where they pass through the sample separating system and are collected. Auger methods utilise auger drills that brings cuttings to the surface through rotational movement of the drill rods. Push Tube drilling methods utilise mechanical hammering of plastic sleeves (generally reusable) into formations where samples are collected within a contained sleeve. This sleeve is then brought back to the surface, where it is opened to display a typically intact sample for analysis.</p> <p>There is no requirement for sumps or of any other excavations while utilising this drilling method.</p> <p>The drilling equipment will be mounted on either a 4x4 Landcruiser or 4x4 light truck. The drill rig is supported by ancillary equipment, also mounted on a 4x4 light truck.</p> <p>Each drillhole will generally be completed within 20-30 minutes.</p>		
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.		

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Drillholes will be appropriately completed and abandoned to restore, as far as feasible, the controlling geological conditions that existed before the hole was drilled in accordance with the objectives outlined in M21.

This will be conducted in the area of investigation so as to prevent in particular:

contamination of aquifers through entry of pollutants from the surface

any physical hazard resulting from an open hole

any environmental hazard resulting from an open hole which could become a trap for small animals or be hazardous to stock

To achieve these outcomes drillholes will be capped near the surface on completion with a non—degradable plug used as an aid to backfilling,

For holes which do not intersect groundwater, holes will be capped near the surface using a nondegradable plug and restoration of the controlling geological conditions is achieved by allowing the 76-100mm diameter hole to collapse beneath the plug with the native geological materials, sand silt and clay in the proportions that they exist there in nature, thereby restoring the controlling geological conditions that existed before.

For holes which intersect groundwater in which AR3 will backfill with sufficient cuttings to ensure the backfilling is above the intersected groundwater.

The swelling nature of the clays will further aid in backfilling.

The top 0.3m of fill, above the non-degradable plug will consist of native soil, and a soil mound will be left over the holes position to allow for any subsidence and prevent the potential for erosional impacts.

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

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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 <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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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)
-	-	-	-	-	-	-
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).

<p>Sampling and logging of the returned drill cuttings will be undertaken in the field by the supervising geologist. Samples returning to the surface through the sample separating system attached to the rig (~6kg/m) will be collected in a bucket/plastic UV sample bag for each metre interval. A subsample will also be collected at that time (1 m intervals) into a calico bag (~1.5kg). Each subsample will be generated through the use of a rotating splitter on the sample separating system. The area below the sample separating system will be covered by a tarpaulin ensuring no drill cuttings fall onto the ground. The excess drill cuttings on the tarp at the end of the drill hole will be poured down the hole, which has been estimated to roughly fill the bottom ~3m of the hole. Additional sample material will be added to the drillhole to ensure the backfilled material will be higher than any groundwater strikes.</p> <p>The buckets collecting the bulk of the drill cuttings material will be lined with heavy duty (green) plastic bags which will then be removed, along with the calico bags, and taken from the site at the conclusion of the drill hole. level</p> <p>Samples will be collected and collated at a dedicated undercover locked facility (warehouse) at the end of each day in preparation for dispatching to a laboratory. This facility is in Naracoorte and leased by Australian Rare Earths Ltd.</p>
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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 <input type="checkbox"/>	No <input checked="" type="checkbox"/>
-		
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 <input type="checkbox"/>	No <input checked="" type="checkbox"/>
-		
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 <input checked="" type="checkbox"/>	No <input type="checkbox"/>

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Drilling is currently planned for road verges and within cleared agricultural paddocks, therefore no new tracks will be required.

The program will utilise existing tracks within freehold land in negotiation, with permission of the landholder and will be along existing unformed tracks. No new formed tracks will be constructed and no vegetation will be cleared.

The creation of unformed tracks / disturbance is not expected. Any access off existing formed or unformed tracks will be in single file configuration across cleared agricultural paddocks, so as to limit the potential for additional unformed track creation and to limit the potential for compaction. If any damage occurs, this will be remediated in consultation with and at the direction of the landholder. This would likely involve shallow ripping and reseeding of any affected paddock.

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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.		
Exploration staff and contractors will be accommodated in a Company-owned house in Naracoorte and/or in motels/hotels in nearby towns.		
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 <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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)?	-	
What will be the total area (ha) of vegetation clearance for the campsite?	-	
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 <input type="checkbox"/>	No <input checked="" type="checkbox"/>
n/a		
Are the proposed ablation facilities endorsed/approved for use by the Department of Health or local council, where applicable? If no, indicate why.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
n/a		
Proposed infrastructure (includes caravans, tents, offices, hydrocarbon and water storage requirements etc)	Quantity	Description/capacity
-	-	-

Laydown area details		
Will laydown areas be required? If no, no further information is required.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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 <input type="checkbox"/>	No <input type="checkbox"/>
-n/a		
What will be the maximum area (ha) required for the laydown area(s)?	-	
What will be the total area (ha) of vegetation clearance for the site?	-	
If vegetation clearance is required, describe the methods used to prepare the site.		
-		
Will any excavations be required? If yes, describe the purpose of the excavation and volume (m ³) of material to be excavated.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
-		
Proposed infrastructure (includes hydrocarbon and water storage requirements)	Quantity	Description/capacity
-	-	-
Provide a description and justification of the location (e.g. previously cleared areas), and any other relevant information if required.		
-		

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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 <input type="checkbox"/>	No <input checked="" type="checkbox"/>
n/a		

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 <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Water for drilling is likely to be required, very small volumes would be used – i.e. ~20 L per drillhole. That water would be absorbed by the formation materials and no runoff water will be generated. The water used for drilling will be potable water sourced from a metered town supply.		
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 <input type="checkbox"/>	No <input checked="" type="checkbox"/>
-		

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 <input type="checkbox"/>	No <input checked="" type="checkbox"/>
-		
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 <input type="checkbox"/>	No <input checked="" type="checkbox"/>
-		

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 <input type="checkbox"/>	No <input checked="" type="checkbox"/>
-		

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 <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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 <input type="checkbox"/>	No <input checked="" type="checkbox"/>
-		

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.
Holes will be capped near the surface using a nondegradable plug, and the final 0.3m of fill to consist of native soil and a soil mound will be left over the holes position to allow for any subsidence and ensure the hole does not erode.

Exploration PEPR application – 12-month period

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.

For drillholes which do not intersect groundwater, the excess drill cuttings on the tarp at the end of the drill hole will be poured down the hole, which has been estimated to roughly fill the bottom ~3m of the hole. Additional sample material will be added to the drillhole to ensure the backfilled material will be higher than any groundwater strikes. Restoration of the controlling geological conditions (as required by M21) is achieved by using a nondegradable plug as an aid to backfilling, and allowing the drillhole to collapse beneath the plug with the native geological materials, sand silt and clay in the proportions that they exist there in nature, thereby restoring the controlling geological conditions that existed before.

Capping the hole beneath the surface with a nondegradable plug as an aid to backfilling ensures there is no pathway for contamination from surface to the aquifer, and also prevents an increased rate of recharge – will remain as per background conditions.

Each drill site will be rehabilitated before moving to the next site and left to ensure no negative visual impact remains.

Drilling is not expected to intersect groundwater, as the Gambier Limestone, which hosts the regional aquifer, forms the basement to the investigations, with mineralised horizons occurring above this unit. Any groundwater intersections are expected to be minimal (historically less than 1%); however, should groundwater be intercepted, the drillhole will be discontinued and backfilled with sufficient cuttings to ensure the backfill remains above the groundwater intersection, with the swelling nature of the clays further assisting in backfilling.

After being backfilled the holes will be capped near the surface to prevent any erosion of the drillhole or potential for surface contamination, also preventing any potential for an increased rate of recharge and restoring geological conditions. The final 0.3m of backfill will consist of native soil and a soil mound will be left over the holes position to allow for any subsidence and ensure the hole does not erode.

State the estimated budget required to rehabilitate impacted sites.

Rehabilitation costs are expected to be less than <\$10 per hole. Only one hole is open at any point in time, as each drillhole is rehabilitated prior to the commencement of the next drillhole.

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.

-

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.

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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.

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Exploration PEPR application – 12-month period

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 (ie 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

- 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.
- 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.
- 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.
- For each applicable potential impact, the corresponding outcome and outcome measurement criteria are required.
- 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.

****Note: The below includes general control strategies. Any identified freehold property which requires particular control strategies will be outlined in the attached Appendices for the identified property.**

Impact assessment						Outcomes	Outcome measurement criteria (inc. monitoring plan)	
Receptor	Potential impacts	Is the potential impact applicable (Yes/No)	Control strategies	Risk assessment				
Lists are not exhaustive.	Lists are not exhaustive.	Some potential impacts are applicable to all programs.	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 <i>Minerals Regulatory Guidelines MGZ2</i> for more information.	LH	CQ	Risk		
Stakeholders: <ul style="list-style-type: none"> freehold land owners perpetual lease holders pastoral lease holders Aboriginal land (Agangu Pitjantjatjara Yankunytjatjara and Maralinga Tjarutja lands) Department of Defence state government departments. local government (councils) federal government native title parties. 	Interference to: <ul style="list-style-type: none"> 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.)	<ul style="list-style-type: none"> Consultation ongoing (phone and face to face discussions) with Naracoorte Lucindale Council, Wattle Range Council and freehold landholders to explain scope of program, and to ascertain any areas of concern. Continue meeting with Naracoorte Lucindale Council, Wattle Range Council and freehold landholders at an agreed frequency, to discuss drill program progress/issues, once program is underway. Ensure Community Engagement Plan for exploration programs is in place and includes general and land access notification procedures, and complaints resolution management procedures. Have one designated landholder liaison officer for resolution of any issues. Water for drilling to only be sourced from mains supply. Use existing tracks and clearings wherever possible. Vehicle speed limits will be imposed to reflect local road conditions and the proximity to any infrastructure or stock. Planning and coordination will be used to minimise the number of individual vehicle movements. Daily reconciliation of drillholes (through daily reporting) Include EPEPR in drillers information pack The condition of existing tracks will be remediated to the satisfaction of the land managers upon completion of the program. 200 m buffer around SeaGas pipeline to be adhered to unless agreed with SeaGas in specific instances. 	3	B	M	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.

Stakeholder: DEW	Interference to: <ul style="list-style-type: none"> existing or permissible land use. buildings, structures, existing tracks or other infrastructure. 	Yes (Applicable to programs located adjacent to or within parks and reserves.)	<p>Exploration PEPR application – 12-month period</p> <ul style="list-style-type: none"> If exploration is planned within 100m of an adjacent park or reserve ARS will consult with DEW. Use of existing road verges, tracks and cleared areas/agricultural paddocks. Vehicle speed limits will be imposed to reflect local road conditions and the proximity to any infrastructure or stock. 	2	B	L	<p>For activities located within or adjacent to regional reserves, national, conservation and marine parks only:</p> <ul style="list-style-type: none"> no unauthorised interference with 	Provide confirmation that: <ul style="list-style-type: none"> 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.
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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 <i>Minerals Regulatory Guidelines MG22</i> for more information.	Risk assessment LH = likelihood of consequence CQ = severity of consequence				
				LH	CQ	Risk		
	<ul style="list-style-type: none"> aesthetic values of an area. Noncompliance with legislative requirements.		<ul style="list-style-type: none"> Planning and coordination will be used to minimise the number of individual vehicle movements. Daily reconciliation of drillholes (through daily reporting) Include EPEPR in drillers information pack The condition of existing tracks will be remediated to the satisfaction of the land managers upon completion of the program where relevant 				<p>park management activities.</p>	
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.)	<ul style="list-style-type: none"> Interrogate relevant SA Govt. GIS databases to become familiar with presence of significant flora and fauna species in drilling area. Information on significant species in drilling area will be included in staff inductions. Initial planned drillhole locations to be inspected in the field during the reconnaissance phase – hole locations to be moved if site is located within dense vegetation (e.g., if within an isolated stand of trees, move to adjacent clearing). Drill sites will be located in naturally cleared areas. No new track construction to take place. No vegetation clearing activities to take place. Tarps will be placed under drill spoil areas to ensure all drill cuttings are captured for disposal back down the drill hole or for removal from the drill site. During drilling phase, all vehicle movements to be limited to already created tracks and clearings. No work to be conducted on total fire ban days, or days of Extreme Fire Danger or higher 	2	B	L	<p>No permanent loss/modification of native flora and fauna populations and their habitats through:</p> <ul style="list-style-type: none"> clearance fire other <p>unless prior approval under the relevant legislation is obtained.</p>	Maintain before and after photographic evidence of all exploration sites (e.g. drillsites, new track exit/entry points off existing tracks, costeans, campsites) demonstrating that: <ul style="list-style-type: none"> 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.)	<ul style="list-style-type: none"> Interrogate relevant SA Govt. GIS databases to determine presence and extent of current weed infestation. Make observations of current weed presence and distribution during the reconnaissance phase. Any new equipment to be brought on site is to be thoroughly washed off-site first. A visual inspection for introduced mud/soil is to be made by Company personnel, prior to machinery operation. All new vehicles entering the program area, or vehicles re-entering the program area after travelling on other unsealed roads, are to be cleaned first, and be visually inspected. (Personnel to be made aware of various vehicle washing facility locations). A register of those inspections will be maintained. Risk of weed introduction to be discussed with all new personnel coming to site as a part of induction process. 	2	B	L	<p>No introduction of new species of weeds and plant pathogens, nor increase in abundance of existing weeds species.</p>	Provide a statement within the 'Compliance with approved programs' section of the annual exploration compliance report, confirming that: <ul style="list-style-type: none"> 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.

Exploration PEPR application – 12-month period

All fauna	Entrapment of fauna through open drillholes and excavations.	Yes (Applicable to exploration programs that involve drilling and/or require excavations.)	<ul style="list-style-type: none"> Drillholes will be capped upon completion and the top 0.3m backfilled with native soil and a soil mound will be left over the holes position to allow for any subsidence. No drillholes will remain open while unattended. For drillholes which do not intersect groundwater, the excess drill cuttings on the tarp at the end of the drill hole will be poured down the hole, which has been estimated to roughly fill the bottom ~3m of the hole. Additional sample material will be added to the drillhole to ensure the backfilled material will be higher than any groundwater strikes. 	2	B	L	No fauna traps created as a result of exploration activities.	<p>Maintain before and after photographic evidence of all drillholes and/or excavations demonstrating that:</p> <ul style="list-style-type: none"> 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. <p>Representative photos are to be included within the annual exploration compliance report.</p> <p>Provide the information requested within the 'Rehabilitation' section of the annual exploration compliance report.</p>
Aboriginal heritage sites	Disturbance to Aboriginal heritage.	Yes (Applicable to all programs.)	<ul style="list-style-type: none"> All vehicle movements are to be limited to existing tracks and clearings (existing disturbance). During induction, all personnel will be reminded of the possibility that unknown Aboriginal Heritage sites, objects or remains may exist in the 	2	B	L	No disturbance to Aboriginal artefacts or sites of significance unless prior	<p>Maintain a database and provide a statement within the 'Compliance with approved programs' section of the annual exploration compliance report demonstrating that:</p>

Impact assessment				Risk assessment LH = likelihood of consequence CQ = severity of consequence	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.				
			<ul style="list-style-type: none"> proposed exploration area, and the importance of not disturbing any such sites, objects or remains. Any heritage sites identified during the exploration work will be recorded on appropriate registers and reported to appropriate authorities. If previously unidentified heritage item, site is identified, appropriate stop work procedures will be activated No further excavation activities are required for these drilling activities outside of drillholes (no sumps, etc). 	LH	CQ	Risk	<p>approval under the relevant legislation is obtained.</p> <ul style="list-style-type: none"> 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.)	<ul style="list-style-type: none"> All vehicle movements are to be limited to existing tracks and clearings. All personnel will be reminded of the possibility of Heritage sites existing, and the importance of not disturbing any such sites, during the induction process. Personnel will be notified of any heritage sites during the induction process, on maps, and at toolbox meetings, etc. Any heritage sites identified during the exploration work will be recorded on appropriate registers and reported to appropriate authorities. No excavation activities are required for these drilling activities. 	1	B	L	<p>No disturbance to European heritage sites and to sites of scientific and environmental significance unless prior approval under the relevant legislation is obtained.</p> <p>Demonstrate no impact to heritage sites and sites of scientific and environmental significance by:</p> <ul style="list-style-type: none"> 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.

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Soil/vegetation/fauna	Soil/vegetation contamination (e.g. hydrocarbons, rubbish, drill samples/cuttings, ablutions, other sources).	Yes (Applicable to all programs.)	<p>+All bulk diesel or other hydrocarbon/chemical storage is to be banded in accordance with EPA guidelines.</p> <p>+At least one large spill kit to be present at the drill rig, and another at any bulk diesel storage.</p> <p>+All personnel to be reminded in the induction of the need to clean up any small hydrocarbon spills, using shovels and green plastic bags.</p> <p>+Any hydrocarbon spills >5L are to be reported to Exploration Manager.</p> <p>+All rubbish to be securely placed in bins or bags and disposed of at approved waste facility.</p> <p>+Rubbish is not to be left in areas accessible to wildlife or vermin.</p> <p>+Compliance with zero-rubbish policy is to be measured daily through workplace inspections.</p> <p>+A port-a-loo will generally be available for use at each drill site. It will be located adjacent to traffic management signage.</p> <p>+Any excess drill cuttings from the drilling programme will be disposed of at an approved waste facility or be returned down the drillhole.</p>	2	B	L	<p>No contamination of soil and vegetation as a result of exploration activities.</p>	<p>Demonstrate that all domestic or industrial waste (includes general rubbish and hydrocarbons) is disposed of in accordance with the <i>Environment Protection Act 1993</i> 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:</p> <ul style="list-style-type: none"> 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. <p>Maintain photographs of all exploration sites and provide representative photos within the annual exploration compliance report demonstrating that drill cuttings are:</p> <ul style="list-style-type: none"> 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, <i>Radiation protection guidelines on mining in South Australia: mineral exploration</i>, available on the EPA website, or any holes which intersect groundwater are 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. <p>Provide the information requested within the 'Rehabilitation' section of the annual exploration compliance report.</p>
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Exploration PEPR application – 12-month period

Impact assessment							Outcomes	Outcome measurement criteria (inc. monitoring plan)
Receptor	Potential impacts	Is the potential impact applicable (Yes/No)	Control strategies	Risk assessment				
Lists are not exhaustive.	Lists are not exhaustive.	Some potential impacts are applicable to all programs.	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 <i>Minerals Regulatory Guidelines MG22</i> for more information.	LH	CQ	Risk		
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.)	<p>-After being backfilled the holes will be capped near the surface to prevent any erosion of the drillhole or potential for surface contamination, also preventing any potential for an increased rate of recharge and restoring geological conditions.</p> <p>-The final 0.3m of fill to consist of native soil and a soil mound will be left over the holes position to allow for any subsidence and ensure the hole does not erode.</p> <p>-All vehicles to be limited to established tracks and clearings/agricultural paddocks.</p> <p>-No sumps or excavations of any kind will be required outside of drillholes.</p> <p>-Site drillholes on flattest ground possible, to avoid wheel ruts and erosion.</p> <p>-Boggy ground will be avoided, especially after rain events, and where standing water remains, to avoid wheel ruts and bogging.</p> <p>-Complete any rehabilitation required of existing tracks and clearings as per best-practice model – e.g. removing windrows, restoring original contours, lightly scarify where appropriate, replace topsoil and stockpiled vegetation.</p>	3	A	L	<p>Where soil disturbance occurs as a result of exploration activities, ensure that:</p> <ul style="list-style-type: none"> topsoil quality and quantity is maintained the soil profile and topography is reinstated to original conditions there is no accelerated soil erosion. 	<p>Maintain before and after photographic evidence of all excavations, drillsites, camps, laydown areas and new tracks demonstrating that:</p> <ul style="list-style-type: none"> 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. <p>Representative photos to be included within the annual exploration compliance report.</p> <p>Provide the information requested within the 'Rehabilitation' section of the annual exploration compliance report.</p>
Surface water	Alteration to surface water – interference to surface drainage.	No (Applicable to exploration programs that are likely to impact on surface drainage channels.)	-	-	-	-	<p>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).</p>	<p>Provide before 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).</p> <p>Alternatively, provide copies of water affecting permits within the annual exploration compliance report.</p>
Groundwater/aquifer	Groundwater contamination: <ul style="list-style-type: none"> 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.)	<p>After being backfilled the holes will be capped near the surface to prevent any erosion of the drillhole or potential for surface contamination, also preventing any potential for an increased rate of recharge and restoring geological conditions.</p> <p>Planned drilling depths are not expected to intersect the groundwater table as historic review of drilling records for the 5,020 drillholes drilled on ELs 6509 and 6613 has identified 59 drillholes which recorded groundwater intersections (approximately 1%).</p> <p>If in the unlikely event that groundwater is intersected, AR3 will backfill with sufficient cuttings to ensure the backfilling is above the intersected groundwater. The swelling nature of the clays will further aid in backfilling.</p> <p>Approximately (<20L per drillhole) used for drilling purposes will be from a potable, mains water source.</p>	2	B	L	<p>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.</p>	<p>Maintain evidence demonstrating that drillholes which have intersected groundwater are decommissioned in accordance with Earth Resources Information Sheet M21, <i>Mineral exploration drillholes – general specifications for construction and backfilling</i>, 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.</p> <p>Provide the information requested within the 'Groundwater' section of the annual exploration compliance report.</p>
Soil/vegetation/fauna	Discharge of groundwater into the surrounding environment.	No (Applicable to all exploration programs that may intersect groundwater or where activities require the discharge of groundwater into the surrounding environment.)	No interaction with groundwater expected.	-	-	-	<p>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.</p>	<p>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.</p> <p>Representative photos and water affecting activity permits (where applicable) to be included within the annual exploration compliance report.</p>

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Impact assessment							Outcomes	Outcome measurement criteria (inc. monitoring plan)
Receptor	Potential impacts	Is the potential impact applicable (Yes/No)	Control strategies	Risk assessment				
Lists are not exhaustive.	Lists are not exhaustive.	Some potential impacts are applicable to all programs.	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.	LH	CQ	Risk		
Groundwater users	Interference to existing water users when extracting water from existing dams, water bores or mineral drillholes.	No (Applicable to all exploration programs that may require the use of water from existing dams, water bores or mineral drillholes.)	n/a	-	-	-	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).	No (Applicable to exploration programs that create new access tracks.)	Information has been provided for further context as to why No has been selected – all tracks are within private fenced freehold land within defined paddocks (not open pastoral country without delineated land holdings). • No new permanent formed access tracks to be established. • If access is required off existing formed tracks, this would be <u>within private freehold land</u> and single file configuration across cleared agricultural paddocks, so as to limit the potential for additional unformed track creation and to limit the potential for compaction. • If any damage occurs, this will be remediated in consultation with and at the direction of the landholder. This would likely involve shallow ripping and reseeded of any affected paddock.	-	-	-	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.)	•No work will be conducted on total fire ban days, or days of extreme fire danger. The CFS website reporting district Fire Bans and Fire Danger Ratings will be reviewed each day prior to accessing the field for exploration purposes. •Local CFS will be contacted and advised of planned activities. They have provided contact details for local Stations who will be contacted again just prior to our arrival on-site. •No hot works or vehicle maintenance will take place in the field. •All vehicles will be fitted with fire extinguishers. •Fire suppression units will be fitted to large plant such as the drilling rig.	1	B	L	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.)	•Only inducted personnel who have direct need to be in the work area of the rig will be permitted in close proximity to operations. •At drill sites a physical barrier (e.g. safety fencing, bunting or line of cones) will be established around access to the site. •Any visitors to the drilling operations will undergo a visitor's induction and 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. •Note that whilst the likelihood of such an incident occurring is rated as rare, the consequence has been rated as moderate, producing a risk ranking of 'Moderate'. This is deemed acceptable, given the highly unlikely likelihood, and the safety measures and level of supervision that will be present at the rig.	1	C	M	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 demonstrating that no accidents occurred involving the public during and after the exploration program. If an accident involving the public did occur, provide a copy of the independent investigation report within the annual exploration compliance report demonstrating that the licensee could not have reasonably prevented the accident through the implementation of precautionary measures.
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.)		-	-	-	No increase in background radiation levels, and employee/contractor exposure levels during the exploration program are within safe limits.	Maintain a database and provide a statement within the 'Compliance with approved programs' section of the annual exploration compliance report demonstrating that: <ul style="list-style-type: none"> • 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.
Sinkholes, depressions and caves	Damage to sinkholes, depressions and caves. Safety concerns as a result of sinkholes, depressions and caves.	Yes	•Known caves mapped and excluded from exploration program. •Discussions with landholders to identify, inspect and map features on freehold properties to be avoided. •Any sinkholes/depressions identified to be mapped, avoided and 20m buffer applied. •Any unknown caves identified through the field program will be actively avoided and a 100m buffer / exclusion zone applied or larger as appropriate. •Drilling will cease immediately if any unknown sinkholes/caves are	2	C	M	No impact to known sinkholes or caves during the exploration program that could have been reasonably prevented by the licensee. Drilling operations ceased immediately upon interception of any unknown	Maintain a database and provide a statement within the 'Compliance with approved programs' section of the annual exploration compliance report demonstrating that: <ul style="list-style-type: none"> • All drilling operations ceased upon interception of unknown sinkholes or caves • Any intercepted sinkholes/caves have been restored or have been reported to DEM in the event restoration is not feasible.

Exploration PEPR application – 12-month period

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			
			uncovered/intercepted and area restored as far as feasible. If area unable to be restored, DEM to be notified. -Any unknown caves uncovered/intercepted will be recorded and mapped. Considering the drilling program will be undertaken on road verges and within cleared agricultural paddocks which have been traversed by heavy machinery over the preceding decades, it is unlikely that caves will be encountered.	LH	CQ	Risk	sinkholes or caves and sinkholes or caves restored and / or reported to DEM for resolution.

* 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.

Exploration PEPR application – 12-month period

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
- 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.

The induction process covers:

- Key safety requirements
- Key hazards and emergency response
- Emergency contact details
- Local and state government requirements
- 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 immediate termination of drillhole if groundwater is encountered.

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 onground 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).

Exploration PEPR application – 12-month period

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.

Land access will be negotiated, and the appropriate forms and/or Land Access Agreements issued and completed as required by the Mining Act for each landholding. A Form 21D will be forwarded to the DEM in each instance.

Exploration PEPR application – 12-month period

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
KM0614	17/11/2021	Section D	493,169.88	5,887,358.44	54	During a previous drilling program (17/11/2021) Drillhole ID: KM0614



Exploration PEPR application – 12-month period

Site identification	Date taken	Photo number & PEPR section reference	Easting (GDA94)	Northing (GDA94)	Zone	Details and Comments
KM0614	17/11/2021	Section D	493,169.88	5,887,358.44	54	



Exploration PEPR application – 12-month period

Site identification	Date taken	Photo number & PEPR section reference	Easting (GDA94)	Northing (GDA94)	Zone	Details and Comments
Edenhope Road	May 2008	Section D	4462917	15688705	54	Typical road verge accessed for drilling
						

Exploration PEPR application – 12-month period

Site identification	Date taken	Photo number & PEPR section reference	Easting (GDA94)	Northing (GDA94)	Zone	Details and Comments
Berkin Paddock	7/12/2021	Section D	493,529.20	5,884,401.80	54	Typical agricultural paddock used for drilling



Exploration PEPR application – 12-month period

Site identification	Date taken	Photo number & PEPR section reference	Easting (GDA94)	Northing (GDA94)	Zone	Details and Comments
Weed and Seed Inspection of drill rig before at start of drill swing.	8/12/2021	Section C- "Weeds and Pathogens"	476,859	5,910,120	54	Weed and Seed Inspection of drill rig before at start of drill swing located at our warehouse in Naracoorte.



Vehicle Weed & Seed Inspection Form & Register

Date: 8/12/21 Inspected by: P. Keller

Location of inspection: Naracoorte

Make of vehicle: CRUISER / Toyota 6 Cruiser Rig

Company/Owner of vehicle: McLeod Drilling

License Plate Number: S439 OCT + S8 OF ES

Is the rear/side of vehicle clean and free from plant material? YES

Is the engine bay of the vehicle clean and free from plant material? YES

Is the undercarriage and wheels of the vehicle clean and free from plant material? YES

Is the interior of the vehicle clean and free from plant material? YES

Is the cabin and floor mats of the vehicle clean and free from plant material? YES

Are there any other areas where plant material has been detected? NO

Has the vehicle been approved to enter the work site? YES

Name & Signature of inspector: Peter Keller

Name & Signature of Driver: Mike Harley

Once inspection is complete please fill out the register on the following page

Weed and Seed Inspection forms are to be completed upon new equipment arriving to site

Exploration PEPR application – 12-month period

Site identification	Date taken	Photo number & PEPR section reference	Easting (GDA94)	Northing (GDA94)	Zone	Details and Comments
Example sinkhole	N/A	Section C	N/A	N/A	N/A	Example of a sinkhole / depression identified near Comaum within the proposed exploration area.



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,
- cadastral information,
- existing surface contours,
- existing vegetation,
- 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),
- location of existing ephemeral and permanent rivers, creeks, swamps, streams or watercourses and water management structures,
- location of towns, houses and homesteads, existing roads, rails, fences, transmission lines, buildings, dams and pipelines
- known sightings of listed species,
- location and extent of all environmentally sensitive areas,
- any relevant land use types (e.g. parks and reserves, Aboriginal freehold land, Woomera Prohibited Area).

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

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Exploration PEPR application – 12-month period

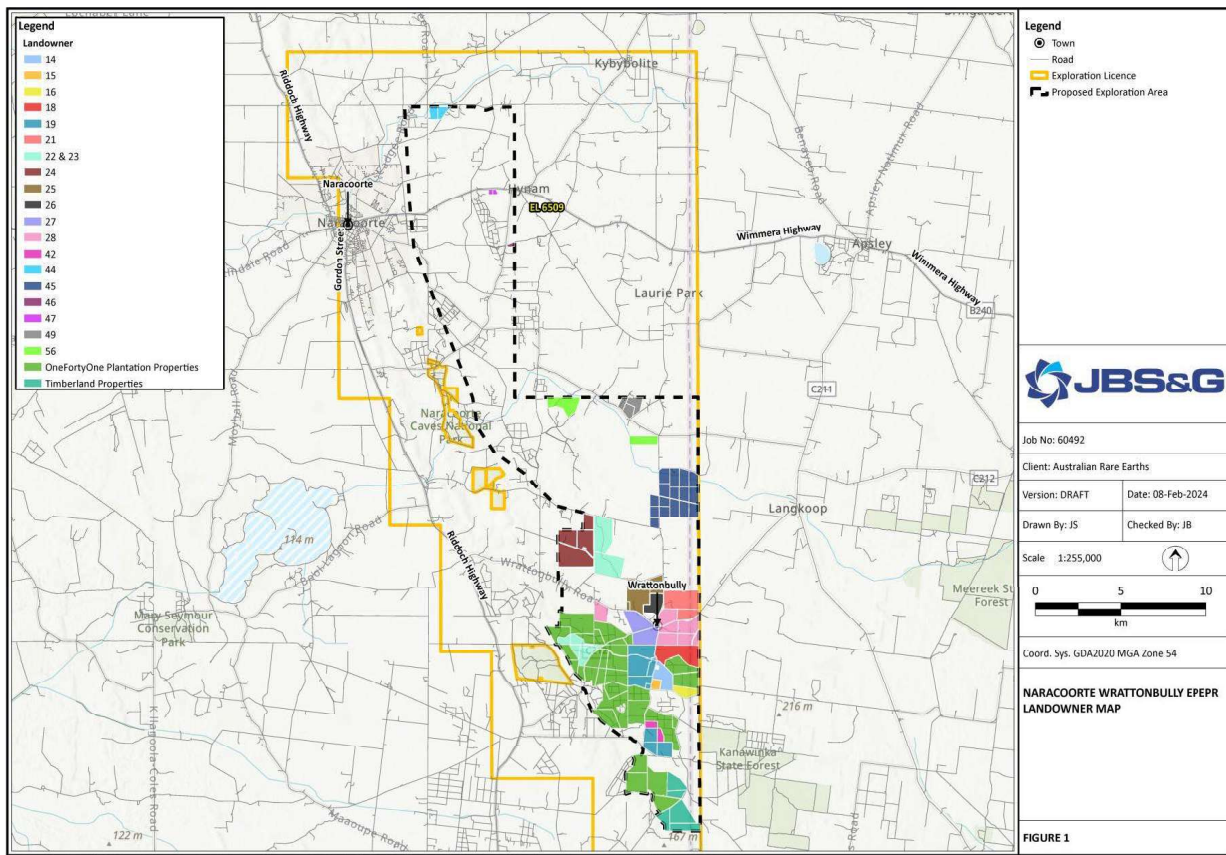


Figure 1: Proposed exploration program within freehold and crown land
12-month Exploration PEPR template – January 2021

Exploration PEPR application – 12-month period

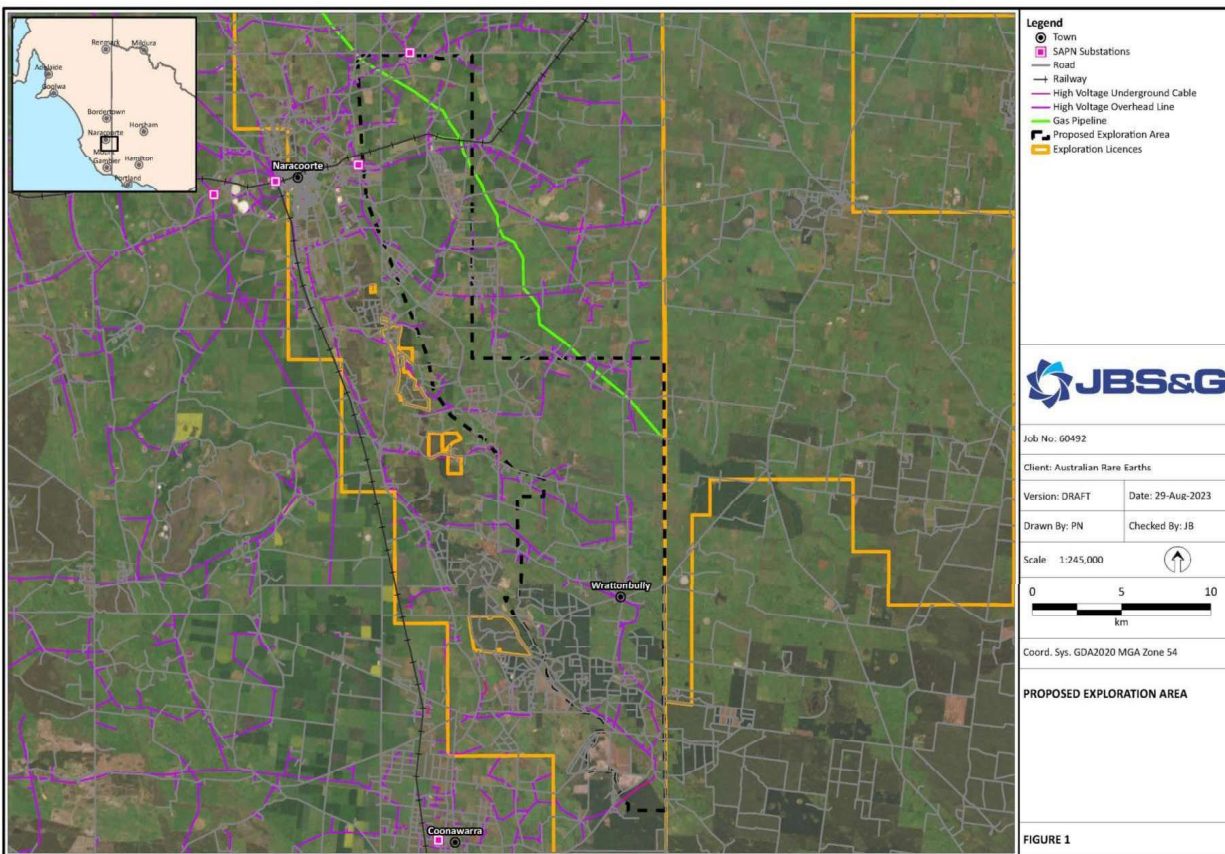


Figure 2: Exploration tenement and utilities

Exploration PEPR application – 12-month period

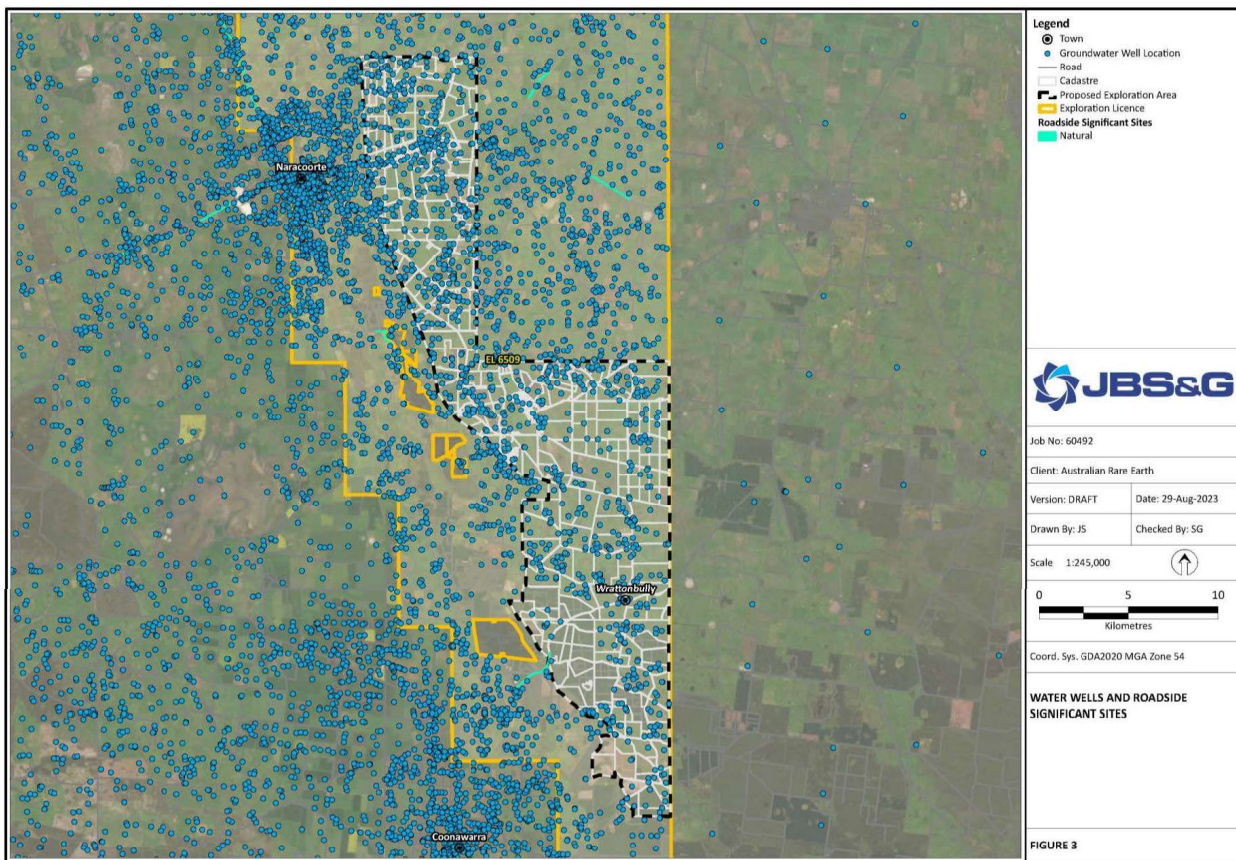


Figure 4: Water wells and roadside significant sites

Exploration PEPR application – 12-month period

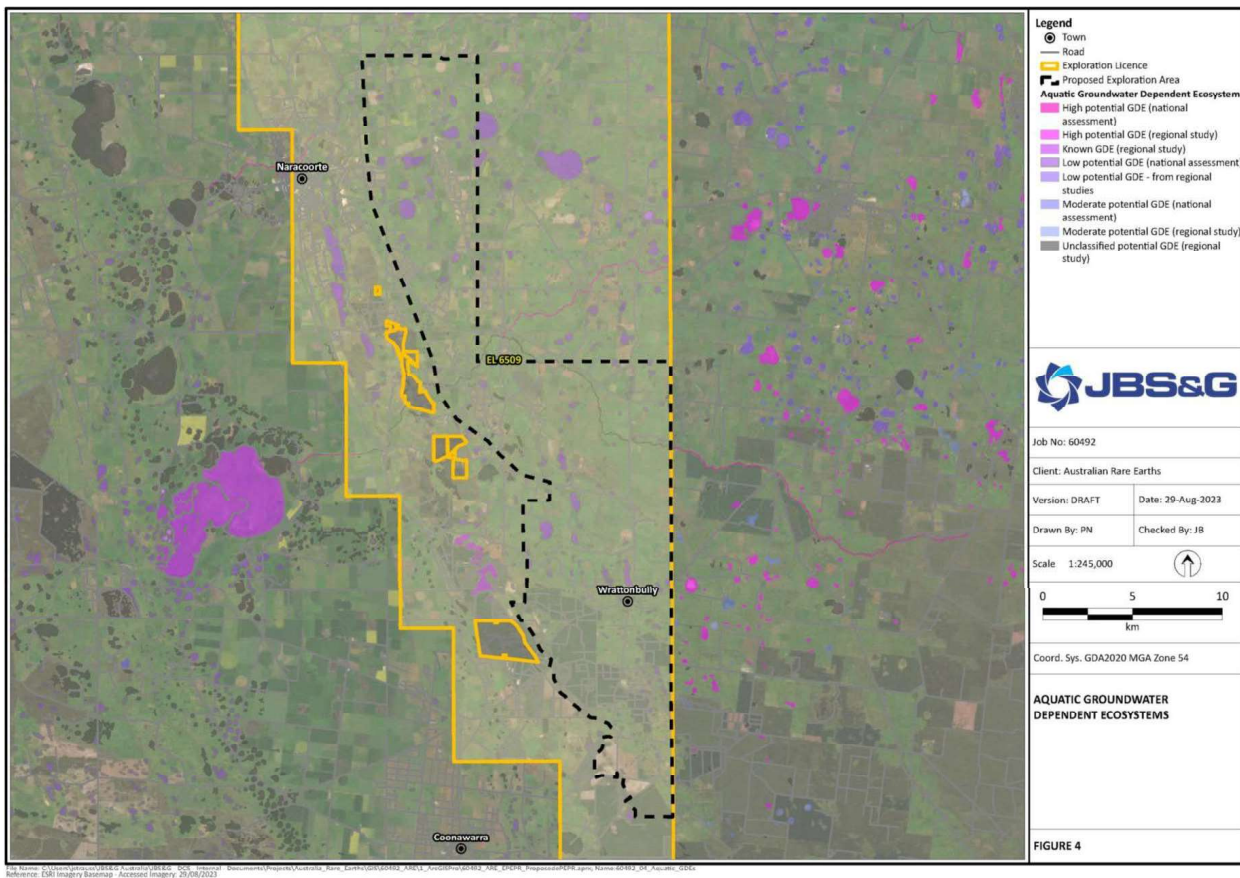


Figure 5: Groundwater Dependent Ecosystems – Aquatic

Exploration PEPR application – 12-month period

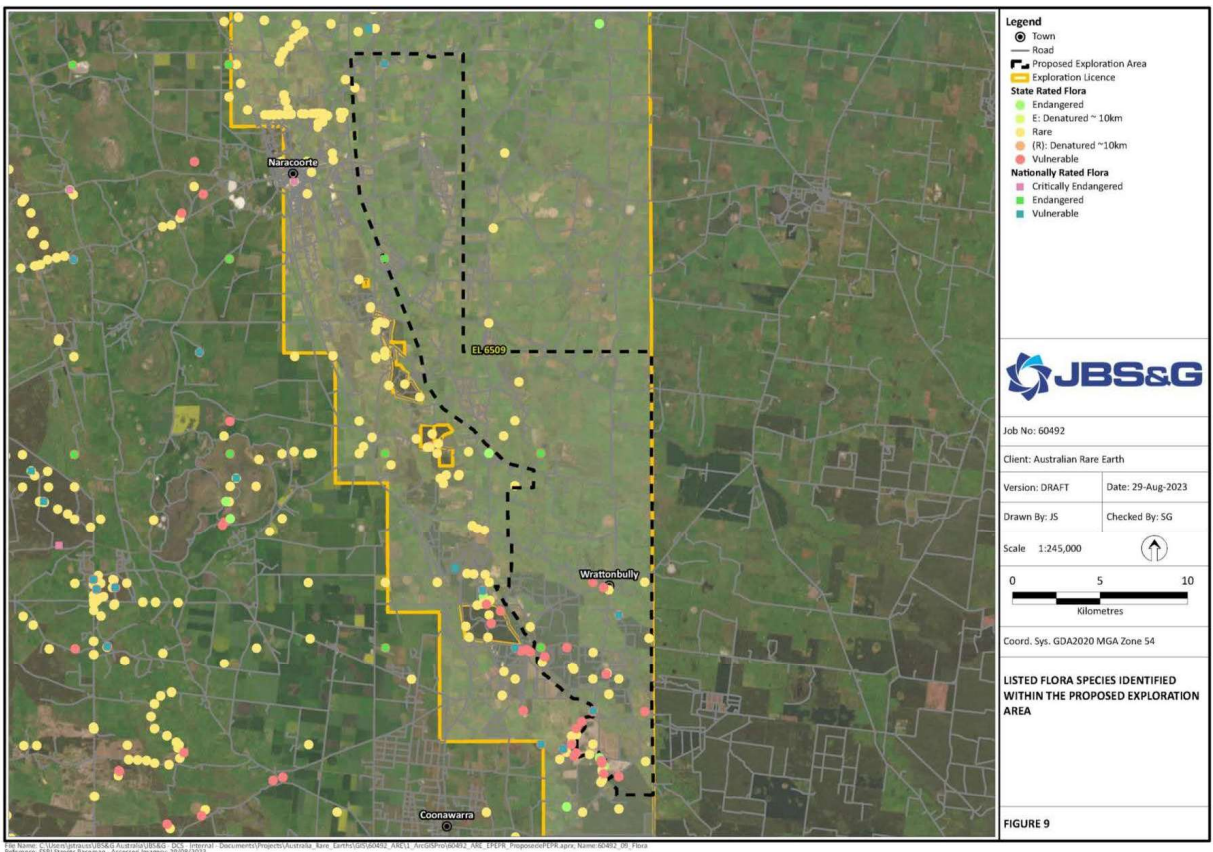


Figure 7: Listed flora species (BDBSA) identified within the Proposed Exploration Area

Exploration PEPR application – 12-month period

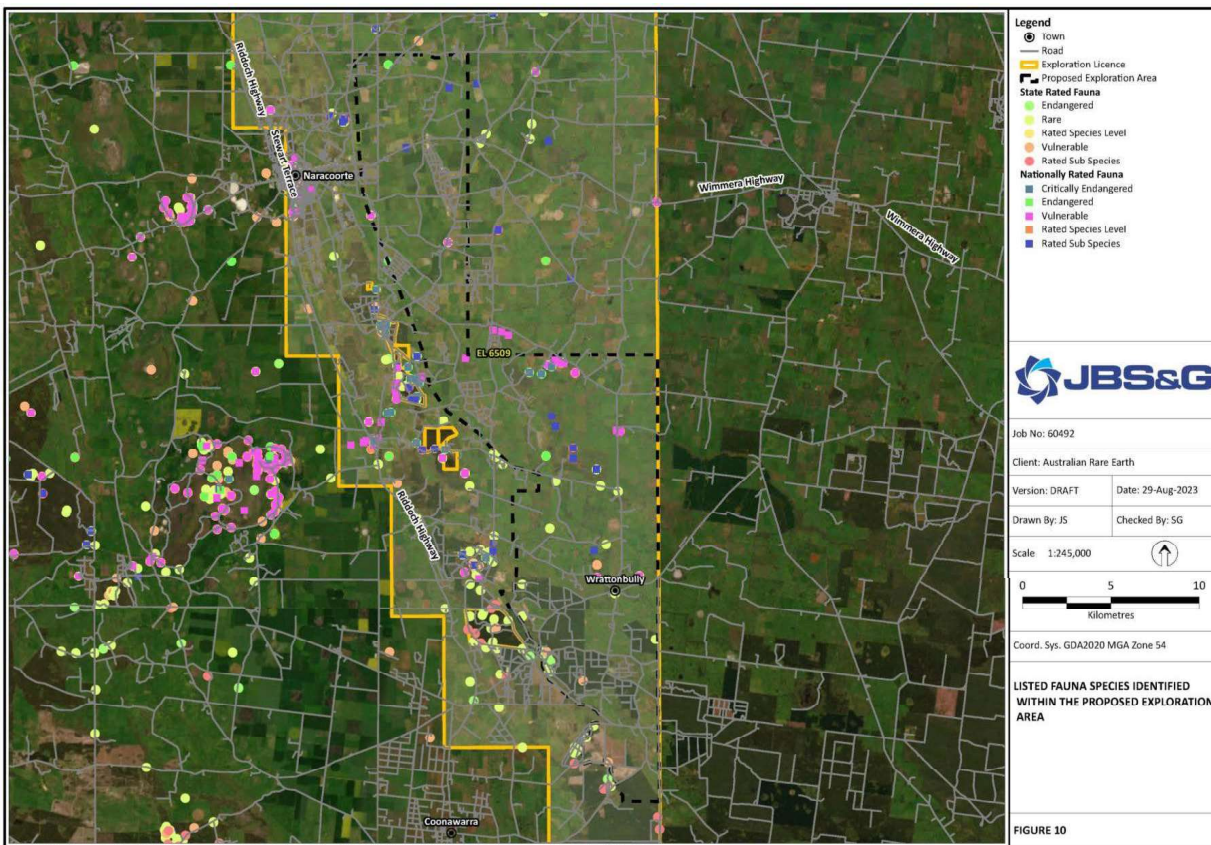


Figure 8: Listed fauna species (BDBSA) identified within the Proposed Exploration Area

Exploration PEPR application – 12-month period

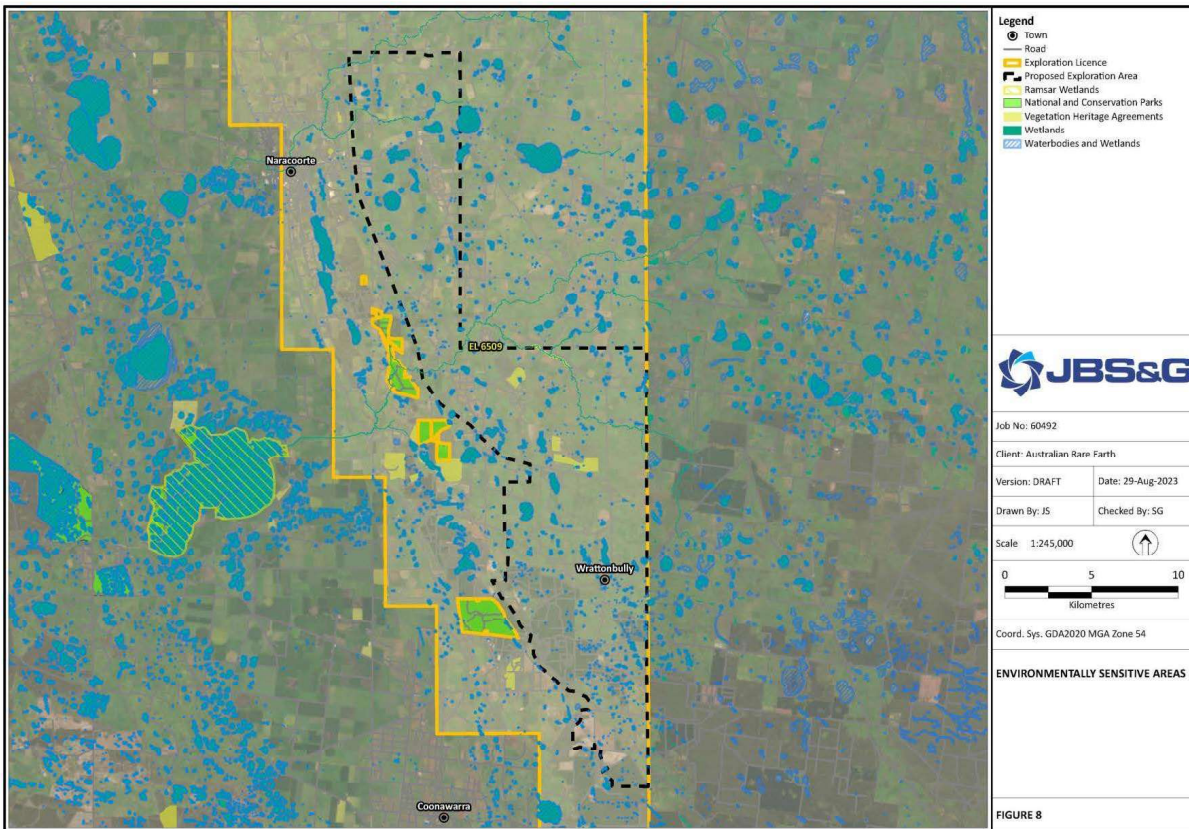


Figure 9: National and Conservation Parks and Native Vegetation Heritage Agreement Areas

Exploration PEPR application – 12-month period

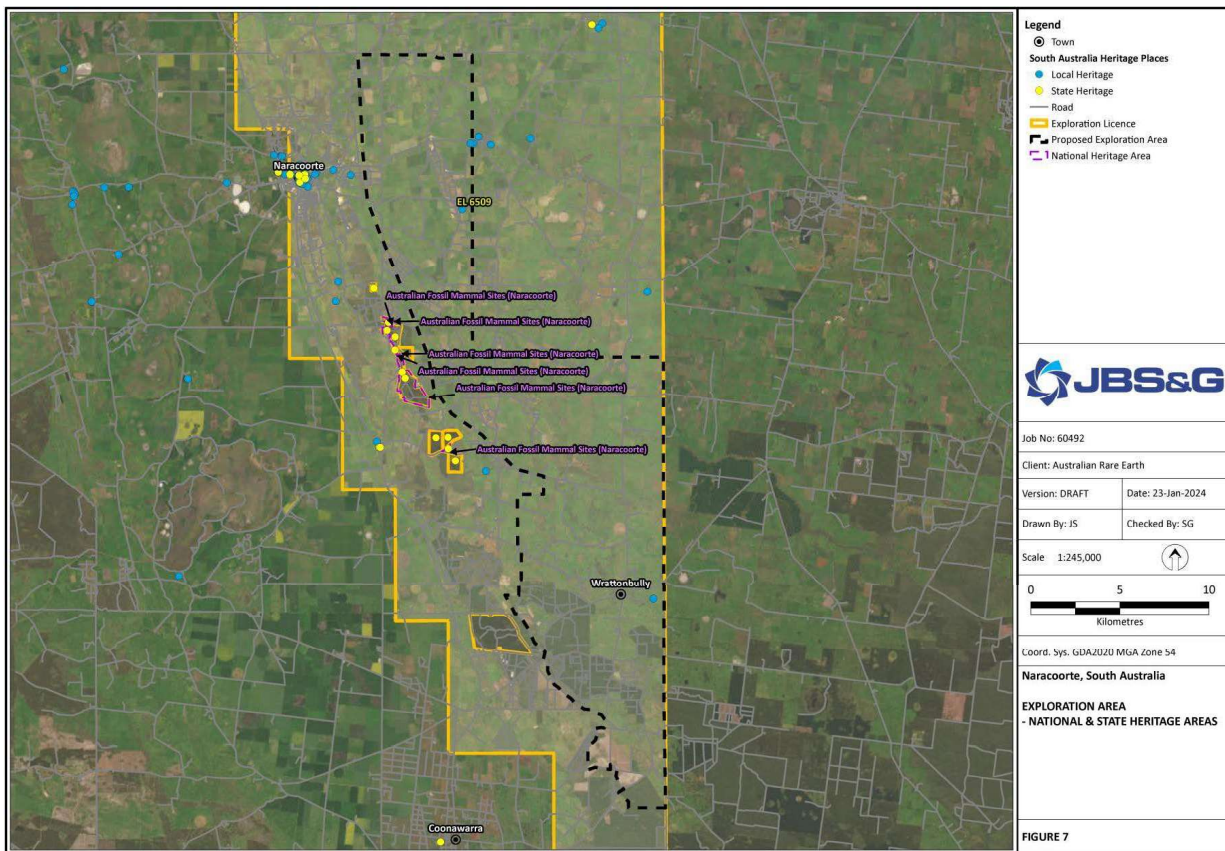


Figure 10: Identified heritage areas
 12-month Exploration PEPR template – January 2021

Exploration PEPR application – 12-month period

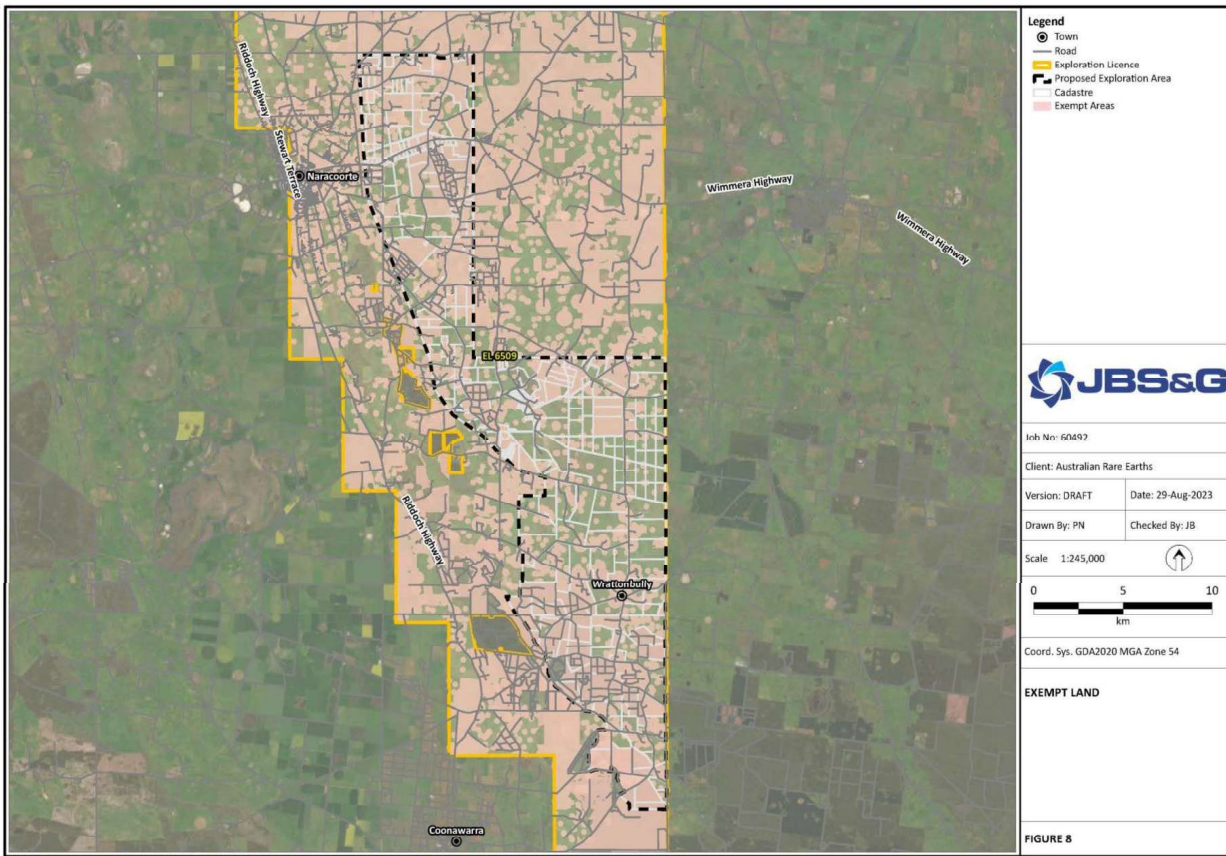


Figure 11: Exempt land and cadastres within proposed exploration area

Exploration PEPR application – 12-month period

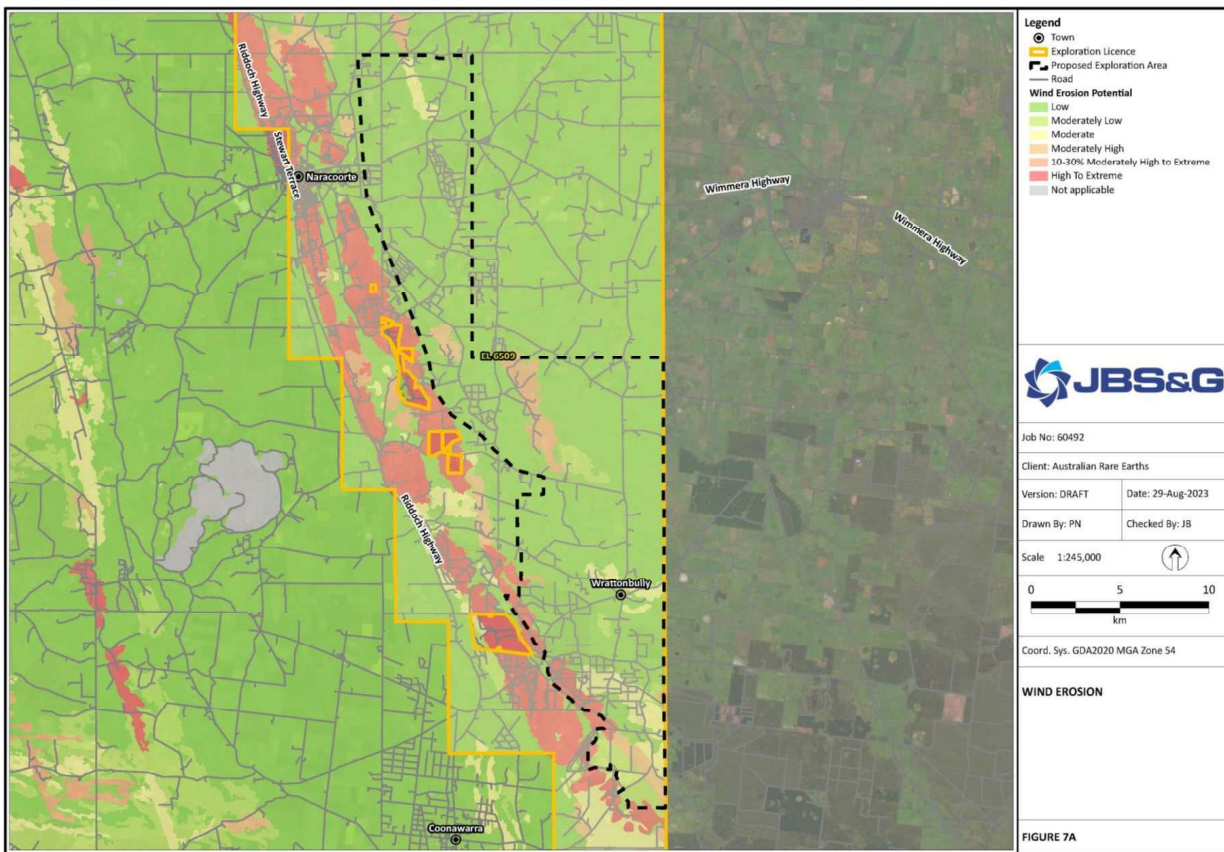


Figure 12: Wind erosion

Exploration PEPR application – 12-month period

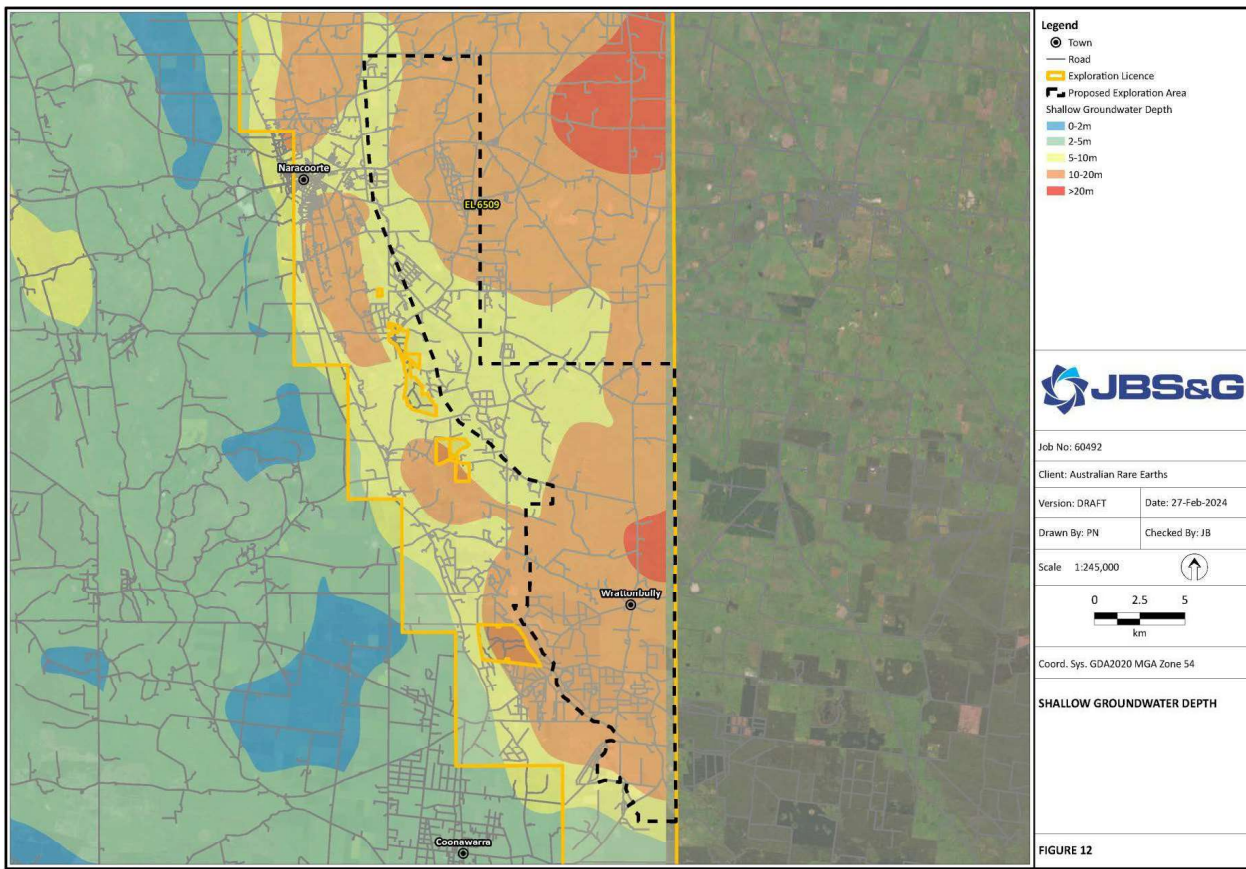


Figure 13: Shallow Groundwater Depth
12-month Exploration PEPR template – January 2021

Exploration PEPR application – 12-month period

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.

ATTACHMENT A

ATTACHMENT B