



25 June 2025

Mr Eric Whittaker  
Chief Geologist  
Peninsula Resources Pty Ltd  
ACN 125 415 189  
Level 10, 431 King William Street  
ADELAIDE SA 5000

Via email: [eric.whittaker@andromet.com.au](mailto:eric.whittaker@andromet.com.au)

Dear Mr Whittaker

### **Approval Notification - Exploration Program for Environment Protection and Rehabilitation (EPEPR2024-011) Review EL 5984**

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The program review for EL 5984, final version submitted on 12/06/2025 for a time extension to complete the tracer test work at Alford West, has been approved in accordance with Section 70C of the *Mining Act, 1971 (the Act)*.

In accordance with section 70C(7a)(b) of the Act, the approved program is subject to the conditions listed in the attached notice.

You are reminded that:

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

#### MINERALS REGULATION

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

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

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

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

The proposed program may be subject to the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Mineral exploration industry-specific information is contained in an appendix in the EPBC Matters of National Environmental Significance – Significant impact guidelines 1.1. This document is available on the Australian Government’s Department for Agriculture, Water and the Environment website at <http://www.environment.gov.au/resource/significant-impact-guidelines-1-1-matters-national-environmental-significance>. For further information, contact the Department for Agriculture, Water and the Environment, or visit its website at [www.environment.gov.au/](http://www.environment.gov.au/).

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

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

Yours sincerely



Simon Constable  
**GENERAL MANAGER MINERAL EXPLORATION  
REGULATION & COMPLIANCE**

In accordance with delegated  
Ministerial powers and functions

CC: DEW Hydrogeologist [miningwatersciencereferrals@sa.gov.au](mailto:miningwatersciencereferrals@sa.gov.au)

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

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## **Notice of Approval Conditions - EPEPR2024-011**

In accordance with section 70C(7a)(b) of the Act, the approved program is subject to the following conditions:

1. In accordance with Regulation 16 of the *Mining Regulations 2020*, provide the results of the groundwater investigation activities in the next applicable Annual Technical Report for EL 5984. This should include (where relevant):
  - A. a description of the groundwater conditions, including the aquifer(s) physical properties, water qualities and a description of the operations
  - B. describe in both text and schematic form, the basic configuration of test well patterns and layout (includes extraction, monitoring wells and groundwater disposal equipment), including:
    - a) infrastructure
    - b) criteria for and the selection of a fit for purpose monitoring array
    - c) design principles that minimise the disturbance and impact on sensitive receptors
  - C. a description of the local and regional hydrogeology, detailing both the stratigraphy and hydrostratigraphy
  - D. a baseline description of the groundwater characteristics and flow dynamics which includes:
    - a) baseline groundwater hydrochemistry, including any seasonal fluctuations and spatial variability
    - b) aquifer properties for each aquifer that may be affected by the proposed operations, including waste disposal and water supply, that include:
      - i. hydraulic conductivity
      - ii. transmissivity
      - iii. storage coefficient
      - iv. total porosity and effective porosity
      - v. aquifer thickness
      - vi. piezometric pressures
      - vii. mineralogy and chemical composition range for natural groundwaters
    - c) static water levels for each aquifer including seasonal fluctuations
    - d) hydrogeological characteristics of confining strata, including hydraulic conductivity and thickness
    - e) connectivity between the aquifer(s) and lateral, overlying, or underlying aquifers and surface water
    - f) conceptualisation of groundwater flow regime
  - d) a diagram of the potentiometric groundwater elevation contours for each aquifer system that occurs within the application area and include the location of all drillholes and boreholes and supporting tabulated data used in developing the contours

- e) a diagram of the location of all drillholes and boreholes used to determine the baseline groundwater quality, and supporting tabulated data and calculations used to define baseline groundwater quality and/or ranges, and
- f) cross-section(s) of the interpreted hydrostratigraphy showing the known and inferred groundwater levels, and groundwater flow direction, recharge and discharge mechanisms (if applicable), application area, proposed mining operations, and relevant drillholes and boreholes used in developing the cross-section(s).

**APPLICATION**

Mining Act 1971 and Mining Regulations 2020



Government of South Australia

Department for Energy and Mining

**EXPLORATION PROGRAM FOR ENVIRONMENT PROTECTION AND REHABILITATION (PEPR)**

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](http://www.energymining.sa.gov.au).

**SECTION A – GENERAL DETAILS**

Operational approval period	<b>12-month approval period, with an additional 3 months to complete all rehabilitation</b>		
Tenement details	EL5984 (Kadina)		
Tenement holder(s) (for each tenement)	Peninsula Resources Limited		
Operating company	Andromeda Metals Limited (ACN 061 503 375) Peninsula Resources Limited (ACN 125 415 189)		
Agency agreement (if applicable)	Submitted by EnviroCopper Ltd - Joint Venture between subsidiary Environmental Metals Recovery Pty Ltd & Andromeda Metals Limited. Agency, agreement dated 26 <sup>th</sup> June 2020.		
PEPR prepared by	Brett Rava - Geologist - EnviroCopper Ltd		
Project supervisor/contact person(s)	Mr Leon Faulkner, Managing Director, EnviroCopper Ltd M: 0409 612 004 T: 08 7127 1110		
Project/prospect name	Alford West		
Location details	Kadina-Wallaroo area, approximately 140 km north-west of Adelaide, 10 km north of Kadina. Refer Figures 1 and 2 in Maps <b>Section J</b> for location details.		
Project description, commodity type and mineralisation model	EnviroCopper Ltd (ECL) is exploring the potential for In-Situ Recovery (ISR) of Copper. This exploration program is focused on construction of wells and aquifer pumping test work required to evaluate the hydrogeology and amenability of the identified deposit for copper recovery using ISR technology.		
Proposed project schedule	Start date	19/06/24	End date 31/12/2025

**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	Joe Ranford	Signature (digital allowed)	
Position	, Andromeda Metals Ltd	Date	12/06/2024

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).*

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.

The work undertaken to inform preparation of the proposed exploration program includes:

- Review of available existing hydrogeological data
- Review of past mining exploration work in the immediate area – see Figure 2 which shows historical drilling in the immediate vicinity of proposed works.
- Council and stakeholder consultation.
- Field visits and reconnaissance
  - This will ultimately include a site visit with proposed drilling contractor to confirm drilling equipment, access and site layout.
- Review and search of the NatureMaps GIS website for information on soils, topography, flora and fauna, weeds etc.
- Review and search of the EPBC website for list of threatened and endangered flora and fauna species and ecological communities.
- Ongoing consultation and negotiation with landowners regarding the Alford West project.
- 4 Water bore permits have been received on 28/05/2024. A further 6 Water Bore Licences will be applied once we understand the hydrogeological parameters gained from the initial 4 bores from the Phase 1 drilling program.
- Preparation for a Drainage and Discharge permit under the Landscape South Australia Act 2019. Hydrological information obtained from the first phase of drilling will inform the Drainage and Discharge permit application.

**E-PEPR Scope**

**This document is a request to extend the current approved EPEPR 2024-011 for a period of 6 months to allow the completion of the tracer test work. Access to the farmers paddock was delayed due to weather conditions and its impact on farming activities.**

The planned exploration program is to undertake drilling and geophysical surveys for the purpose of defining and conducting hydrogeological testing of the aquifer associated with a deeply oxidised mineralised zone defined by historical drilling. Two phases of drilling are proposed; Phase 1 will involve completion of three to four drillholes for hydrogeological testing that does not require a Drainage and Discharge Permit, and will be completed within a paddock used for cereal cropping, located between the Spencer Highway and Wenberley Boundary Road, approximately 10km north of Kadina; Phase 2 will involve completion of a further 4 drillholes (including 2 monitors bores), locations of which will be based on hydrological parameters obtained from Phase 1. Phase 2 will also involve further hydrological testing including include tracer tests that will require a Drainage and Discharge permit. This work will provide key information for a future planned Site Environmental Lixiviant Trial (SELT) and is expected to take approximately 4-5 weeks to complete, including installation of the wells. It is proposed that following construction and testing the wells

**Exploration PEPR application – 12-month period**

will be capped at surface but be accessible for longer term groundwater monitoring.

## Exploration PEPR application – 12-month period

There will be an approximate three (3) month interval between Phase 1 and Phase 2 drilling to allow for interpretation of the Phase 1 hydrological test data. Prior to installation of the wells, well permits for each Phase of drilling will be obtained via the Department for Environment and Water, with the Drainage and Discharge permit sought for the Phase 2 drilling and testing sought prior to commencement of Phase 2 drilling.

A Drainage and Discharge permit and well permits for Phase 2 drilling and testing will not be applied for until after Phase 1 drilling and hydrological test work has been completed. This is to ensure that Phase 1 work indicates amenable conditions for ISR implementation in the area. If Phase 1 work indicates conditions are not favourable for ISR implementation, then application for Phase 2 drilling Drainage and Discharge permit and well permits will not be sought.

Up to ten (10) wells have been allowed for in this application, although initially three (3) to four (4) are expected to be drilled during Phase 1 to determine aquifer and base hydrological characteristics. These wells will be located and drilled in an orientation that will allow determination of transmissivity and other hydrogeological properties, both parallel to and perpendicular to the orientation of the deeply weathered trough. See **Figure 8** and **Figure 9** for the indicative well construction and configuration for testing purposes. Pending results, an additional three to four wells will be installed during Phase 2 drilling in the vicinity of the initial three to four. An additional two holes have been proposed in case of failure of 1 or more of the wells.

These wells will be fitted with production and control equipment to allow pump and tracer tests to be carried out. A full description of works is contained in Section D. Only small groundwater volumes are being removed during test pumping and subsequently replaced during the tracer test. There will be no change in water quality, with only low concentrations of an inert benign tracer (Sodium Bromide) added to the groundwater near the test wells as a tracer.

The drilling contractor has been selected. The driller will be a minimum Class 2 water well driller and appropriately licensed and experienced in well construction materials and methods.

### **Test Pumping**

Test pumping will be undertaken by an appropriately licensed contractor. Test pumping equipment will comprise an electric submersible pump coupled to a generator and pump control system. Discharged groundwater will be piped to onsite storage comprising either surface water tanks or a semi-trailer water tanker parked onsite for subsequent use during the tracer test.

In the event there is excess water not used during the tracer test, this water will be disposed of at an EPA approved licenced liquid waste facility.

The test pumping rate and duration will be determined based on the well yield. Notionally a test at 5 L/s for 100 minutes can be accommodated using a 30,000L tanker. Lower well yield will allow a longer duration test.

### **Tracer test**

Water pumped from the extraction well during the pump test will be drained back into the aquifer after a tracer, Sodium Bromide, has been added (Refer Attachment 1 - Sodium Bromide Material Safety Data Sheet) and the adjacent wells will be sampled at short intervals (5 minute) to determine flow rate for arrival of the tracer.

The tracer will be added to the storage tanks and mixing achieved by circular pumping of water within the tanks (Discharge pumped and piped back to the top of the tank).

Discharge to the central well will be by gravity drainage only and at a rate lower than the pumping test to ensure overtopping of the well does not occur. Water level in the injection well will be monitored during the trial to ensure overtopping does not occur, this will involve the use of an electronic down hole water level dipper/detector (Type:- Heron Static & Drawdown Level Dipper, Model T2), with alarm settings, will notify when water level reaches 10m below surface. Discharge to the central well is expected to be undertaken over 10 hours and subsequent monitoring of surrounding investigation wells for 3-4 days.

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No pressurised injection will be implemented; therefore, pressure limits are not applicable to this trial.

A Drainage and Discharge permit under the *Landscape South Australia Act 2019* will be applied for prior to Phase 2 investigative work commencing. Current schedule is for Phase 2 to commence is mid-October, with applications for all Drainage and Discharge and well permits to be submitted prior to the end of August 2024.

**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
EL5984	Martin Larwood		Cereal cropping and grazing	Form 21B 11/4/2024 Form 23A & 23B	Cultivated field	11/4/2024	11/4/2024	Concerns raised in regard to management of weed control and saline water. Weeds to be managed by stakeholder on our behalf. All groundwater to be captured in tanks and not expressed onto surface

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

NA

Provide any additional relevant information.

This area has been actively explored for copper mineralisation, primarily through drilling, from the 1970s to recently. Various companies have undertaken exploration programs in the immediate area, including Western Mining Corporation Ltd (1970s-80s), Adelaide Resources Ltd (Andromeda Metals - 2005-2014), North Broken Hill Ltd (1970s), Peninsula Minerals Ltd (2015) and Mount Isa Mines Ltd (1993).

Consultation with Martin Larwood commenced during early 2021 and remains ongoing. ECL initiated and negotiated a Compensation Agreement with Martin Larwood for the proposed exploration program outlined in this document. A Form 21B with Martin Larwood will be submitted to DEM within the statutory timeframe prior to commencement of the exploration program. Forms 23A and 23B have been submitted to Martin Larwood and 21C will be submitted to DME within the statutory timeframe prior to commencement of the exploration program.

### **Exploration PEPR application – 12-month period**

ECL has also presented to the Copper Coast & Barunga West Council Mayors and CEOs as stakeholders in the area. A joint presentation with THOR Energy was also undertaken to a council of elected members. Early engagement with the Councils has been positive and ongoing. Discussions are planned with the local CFS units. Regardless of the outcomes of these discussions EnviroCopper (ECL) guidelines will mean that there is to be no work on fire ban days or per the CFS matrix and this is outlined in all access agreements.

## 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.

### Proximity to Infrastructure and residential housing is shown in Figure 2

#### Settlements

The nearest town is Kadina, situated approximately 10km to the south of the proposed exploration area. The township of Kadina (pop. approx. 4,500) contains a mix of residential, retail, recreation and infrastructure land uses.

Similarly, Wallaroo (pop. approx. 4,200) is situated approximately 11.5km to the south-west of the proposed exploration area and also contains a mix of residential, retail, recreation and infrastructure land uses.

The nearest properties to the proposed exploration area are located approximately 650m to the northwest, and separately approximately 1.3km to the north northeast. There are other properties located over 2km to the west of the proposed exploration (Figures 1 & 2).

#### Roads and tracks

The proposed drill sites are located in a local stakeholder paddock and can be accessed by the unsealed Wenberley Boundary Road and the sealed Spencer Highway.

#### Other human infrastructure

The nearest manmade infrastructure is situated in Kadina and Wallaroo and includes schools (primary, high and tertiary), medical centres (general practice, allied health and rural health services). The nearest hospital is situated in Wallaroo (approx. 11 km to the south-west of the proposed exploration area).

Close to the proposed exploration area there are properties which contain agricultural sheds. Numerous mineral drillholes exist within the area, and all have rehabilitated.

There are no known powerlines, water main pipelines or gas pipelines located in the proposed drill area, however, they do exist outside of the area of proposed drilling, primarily along the Spencer Highway. These will not be impacted due to distance from the proposed drill location. No exempt land as defined by section 9 of the Mining Act 1971 has been identified as within the prescribed distances.

## Exploration PEPR application – 12-month period

### 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	Land use	Applicable
Freehold	<input checked="" type="checkbox"/>	Grazing	<input checked="" type="checkbox"/>
Pastoral lease	<input type="checkbox"/>	Cultivated land	<input checked="" type="checkbox"/>
Perpetual lease	<input type="checkbox"/>	Residential	<input type="checkbox"/>
Crown land	<input type="checkbox"/>	Township	<input type="checkbox"/>
Mining reserve	<input type="checkbox"/>	Industrial	<input type="checkbox"/>
Aboriginal freehold/leasehold land (e.g. Anangu Pitjantjatjara Yankunytjatjara and Maralinga Tjarutja lands)	<input type="checkbox"/>	Tourism	<input type="checkbox"/>
Forestry reserve	<input type="checkbox"/>	Conservation	<input type="checkbox"/>
Marine parks	<input type="checkbox"/>	Defence activity	<input type="checkbox"/>
National parks, conservation parks, conservation reserves, regional reserves*	<input type="checkbox"/>	Road reserve	<input type="checkbox"/>
Adelaide Dolphin Sanctuary	<input type="checkbox"/>	Sites of scientific significance (geological monuments, fossil reserves etc.)	<input type="checkbox"/>
Murray Darling Basin	<input type="checkbox"/>	Orchard/vineyard	<input type="checkbox"/>
-		*Native vegetation heritage agreements	<input type="checkbox"/>
Other*	<input type="checkbox"/>	-	
-		*European heritage sites	<input type="checkbox"/>
		-	
		*Other (e.g. historic mining)	
		-	

\* 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.

Development Plans have been superseded by the Planning and Design Code (the Code). Under the Code, Zones and Overlays provide information regarding considerations for development.

The area of proposed drilling sits within the Rural zone. There are a number of overlays that exist in the drill area (road reserve) which include:

- Hazards (Bushfire – Regional)
- Hazards (Flooding – Evidence Required)
- Native Vegetation.

Additional overlays that exist in the surrounding land parcels include:

- Key Outback and Rural Routes
- Water Resources

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

None known. The South Australian Property and Planning Atlas has been reviewed and no plans have been identified which have the potential to impact the exploration program.

Provide any additional relevant information.

No exempt land as defined by section 9 of the *Mining Act 1971* has been identified as within the prescribed distances.

## Exploration PEPR application – 12-month period

### 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?			-		
Does the Exploration Permit allow the operator to conduct exploration operations in the WPA?				Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
What is the expiry date of the resource exploration permit?				-	
Identify closure periods that may impact on the exploration program.					
-					

### 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"/>
-		
Do you have a Deed of Access with Defence?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
What is the expiry date of the Deed of Access?	-	
Provide the date the Range Control Officer granted access permission to conduct the proposed exploration operations.	-	
Describe the results of consultation and how any concerns raised were addressed.	-	
-		

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

\* 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.

A search of the Register of Native Title Claims held by the National Native Title Tribunal in relation to the proposed exploration area has revealed a registered Native Title claim (SC2013/002) in the name of Narrunga Nation dated 8 May 2013. The claim has not yet been determined by the Federal Court.

The Narrunga Local Government ILUA (SI2003/004) is registered over the entire Yorke Peninsula, including the proposed exploration area. Parties to the ILUA are the Narrunga Nations Aboriginal Corporation, Aboriginal Legal Rights Movement Inc,

## Exploration PEPR application – 12-month period

the Attorney-General of South Australia, Barunga West Council, Copper Coast Council, Wakefield Regional Council and the Yorke Peninsula Council.

Regardless of the native title claim and the ILUA, all exploration works will be conducted within freehold pastoral land which have extinguished native title rights and interests.

A search of the Aboriginal Heritage Database (Taa Wika) indicates there are registered and reported Aboriginal sites within the area of EL 5984, however, none of those sites are located within the proposed exploration area, with the closest being at least 10 km away.

### 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, claypans etc.).

The area in and surrounding the proposed exploration area is considered to be dryland agriculture, primarily used for cropping/grazing purposes with patches of sparse degraded regrowth (native) vegetation within the road reserves<sup>1</sup>.

The topography of the landscape is mostly flat to gently undulating (**Photos 1 & 2**). Occasional longitudinal sand dunes oriented in approximately a NW-SE direction occur within the region and form local topographic highs. The erosion potential for water is considered low, moderately low for wind erosion and negligible for gully erosion<sup>2</sup>.

<sup>1</sup> SA Most Likely Land Cover Class 2010 to 2015 layer, NatureMaps. Accessed 22 April 2021.

<sup>2</sup> Soil Erosion Attributes layer, NatureMaps. Accessed 22 April 2021.

### 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 proposed exploration area sits within the Tickera and Blackoaks land systems. These land systems are similar and are categorised by their plains and rises, calcareous loams over clay loam and calcareous soils on calcrete at the surface. The Hindmarsh clay occurs over bedrock. Additionally, in both land systems there is the potential for boron and sodium accumulation in soil, particularly areas associated with clayey soils<sup>1, 2</sup>. Management strategies for boron and sodality can be found in **Section F**. There is a negligible risk of acid sulfate soils<sup>3</sup>.

The following description of soils and landscape units is taken from NatureMaps "Land Types" Search and site visit (13/3/24).

**BLA** - Blackoaks Land system – Low lying level to gently undulating stony calcrete plains and depressions. General drainage also seems to derive from Alford in the north. Surface drainage is a rarity; subsurface flow is likely. The base unconsolidated sediments are composed of heavy clay (Hindmarsh Clay) – either formed in situ from underlying bedrock or derived from nearby bedrock highs in former geological times. Bedrock underlies the unconsolidated sediments – granite was found at the base of two soil pits near Alford. Clayey sediments have near-surface exposure in some lower lying areas and depressions, where more recent deposits are absent (probably through the 'dissolution of calcrete'). Accumulations of boron and sodium in subsoils is particularly prevalent where clayey subsoils are present, but also occurs in low lying areas without clayey subsoils. Saline seepage associated with saline water tables occurs in many depressions.

**TIC** – Tickera Land System - Somewhat elevated plains, rises and slopes. Coastal slopes and gullies occur along the coastline north and south of the Tickera township. The system is underlain by bedrock at depth, which only outcrops along the coast. Red blocky clay (Hindmarsh Clay) overlies the bedrock. The dominant sediments in which soils have formed are calcrete calcareous sediments (Bakara-Ripon Calcrete and ancient Bridgewater Formation), and younger calcareous loess (Woorinen Formation) – often including hard carbonate rubble. These wind-blown deposits overlie the older Hindmarsh Clay. The Hindmarsh Clay often occurs within 100 cm of the land surface, and in many slight lows it is the material in which the soil has formed. The youngest deposits are minor areas of mallee sand dunes and sandy rises (Molineaux Sand). Reworking of the Woorinen Formation material has played a part in the formation of some of these dunes.

<sup>1</sup> Tickera Land Systems Report, DEWNR. Accessed via NatureMaps on 22 April 2021.

<sup>2</sup> Blackoak Land Systems Report, DEWNR. Accessed via NatureMaps on 22 April 2021.

<sup>3</sup> Acid Sulfate Soil Potential Layer, NatureMaps. Accessed on 22 April 2021.

## Exploration PEPR application – 12-month period

### 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"/>
-		
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"/>
-		
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"/>
-		

### 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 checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>The proposed exploration area sits within two groundwater basins – the fractured rock Gawler Craton and the shallow sedimentary Pirie Basin. Despite the significant mineral drilling which has been undertaken in the area, there is a lack of information regarding groundwater and specific aquifers that may be encountered in and around the proposed exploration area. As such, the water table is unable to be verified from desktop studies and therefore further information from installing investigation wells and pumping test/tracer test programs proposed as part of this EPEPR is required.</p> <p>Planned drilling will provide additional groundwater and specific aquifer parameters for defining hydraulic parameters required for ISR trial design and aquifer thickness not defined in historical drill data. Historical data has predominantly been confined to the weathered regolith to maximum depth of 80m. This planned drilling will test aquifers and their hydrogeological characteristics at depth (approx. 108m) below limits of historical drilling.</p> <p>Historical exploration drilling undertaken by Adelaide Resources and compiled by Chris Drown provided groundwater data for the Groundwater Science review for this ePEPR. This data was used to compile GIS images used in Figures 3-6. The groundwater data compiled by Adelaide Resources is based on individual interpretation of the historical drill logs, noting occurrence of water in logs and is therefore indicative only and for use in preliminary drill planning and possible depth to water table.</p> <p>Groundwater data review undertaken by Groundwater Science<sup>4</sup> indicated that regional groundwater flow is westward, from central Yorke Peninsula to the western coast of the Yorke Peninsula (<b>Figure 4</b>). Based in part on Adelaide Resources compiled data the relative standing water level (RSWL) is expected to be in the range of 30 – 40 mAHD (<b>Figure 3</b>). This indicates depth to groundwater from the surface may be as shallow as 2 m in the northern portion of the exploration area and as deep as 10 m in the west<sup>1</sup>.</p> <p>There is a lack of data regarding salinity in close proximity to the proposed exploration area, however, regionally TDS is shown to be greater than 10,000 TDS (<b>Figure 5</b>). It is expected groundwater may range from 7,000 TDS to 35,000 TDS<sup>2</sup>. There are no operational water wells from which groundwater is extract for either domestic or stock (sheep, cattle) use in the vicinity of the proposed activities (WaterConnect, 2021).</p> <p>Yield within the proposed exploration area are estimated to be between 0.1 L/s and 0.5 L/s<sup>3</sup>, however, studies undertaken by Groundwater Science indicate there are select wells with high amount of water in flow zones (<b>Figure 6</b>).</p> <p>As there is a level of uncertainty regarding the groundwater conditions, water samples will be obtained during drilling and upon completion of each well and submitted for analysis with results reported in the Annual Exploration Compliance reporting.</p>		
<p><sup>1</sup> Shallow Standing Water Level, DEW. Accessed via SARIG on 22 April 2021.</p> <p><sup>2</sup> Shallow Total Dissolved Salts, DEW. Accessed via SARIG on 29 April 2021.</p> <p><sup>3</sup> Shallow Groundwater Yield, DEWNR. Accessed via SARIG on 29 April 2021.</p> <p><sup>4</sup> Moonta Groundwater Desktop, Groundwater Science. 27 October 2020 (Doc ECR-20-1-R0001)</p>		

<b>Description of the locality/area where different groundwater conditions may be encountered</b>
There are no identified freshwater aquifers in the area of proposed activity in this portion of northern Yorke Peninsula. There is one (1) water bore in the vicinity of the planned program on the SARIG water bores database. The water bore (#643000959) is located approximately 4.5km to the southwest. The well purpose of the bore is noted as a monitoring well with TDS (mg/L) of 19,196 and EC units of 31,200.

### Exploration PEPR application – 12-month period

Where groundwater is encountered, significant flows will be recorded, and water samples and relevant information will be supplied to DEM.

At completion of hydrological studies and field trials all drillholes will be rehabilitated in line with DEM’s Mineral Exploration Drillholes – General specifications for construction and backfilling (Information Sheet ISM21).

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
Paleoproterozoic Wallaroo Group	30-50m	unknown	unknown	unconfined	-highly saline, yield low

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

As stated, there is a general shortage of information available for the area of proposed drilling in regard to the environmental value of the aquifers present. Regardless, based solely on information obtained from data further afield where groundwater is typically highly saline (>10,000mg/L), the environmental value of water is expected to be limited to possible industrial uses with it being too saline for irrigation and long term livestock purposes.

Under the Environment Protection (Water Quality) Policy 2015 guidelines water uses are as follows:

**Primary Industries – irrigation and general uses**

- underground waters with a background TDS level of 1,200 mg/L or more, but less than 3,000 mg/L

**Primary industries – livestock drinking water.**

- underground waters with a background TDS level of 3,000 mg/L or more, but less than 13,000 mg/L

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

There are no aquatic or terrestrial Groundwater Dependent Ecosystems (GDEs) within the proposed exploration area. There are nearby terrestrial GDEs identified from the national desktop assessment within road reserves on the Spencer Highway and Port Broughton Road and in a small patch of degraded vegetation surrounding agricultural sheds to the east (approximately 1 km) of the proposed exploration area, as Eucalyptus mallee forest and mallee woodland or Melaleuca forest and woodland. The program will not impact these vegetation types, given the expected saline water quality, the small volume of water to be pumped and replaced, the distance to the identified areas and the vegetation type. **(Figure 7)**. Management of any environmental impacts on GDEs is clarified in Section F – Management of Environmental Impacts.

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

Provide any additional information, if required.

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## Native vegetation

Will you be working within areas of native vegetation? If yes, provide the following information: <ul style="list-style-type: none"> <li>description of the formation and structure of vegetation in the area (e.g. woodland, shrubland, grassland)</li> <li>list of the dominant species.</li> </ul> If no, indicate why you will not be working within areas of native vegetation?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Regionally the tenement area is classified as cleared dryland agriculture with woody native vegetation restricted to roadside verges. The landscape is dominated by cleared cropping and grazing land. Sparse roadside vegetation is present in the identified roadside area of the proposed activity. This vegetation is common and consists of sparse regrowth shrubs including <i>Senna artemisioides ssp. coriacea</i> (Broad-leaf Desert Cassia), and <i>Acacia ligulata</i> (Umbrella Bush). There are limited occurrences of <i>Enchylaena tomentosa</i> (Ruby Saltbush) and <i>Rhagodia parabolica</i> (Fragrant/mealy Saltbush). The identified exploration area is bounded by scattered mature trees including <i>Eucalyptus sp.</i> , and <i>Pittosporum angustifolium</i> (Poison Berry Tree). <i>Pittosporum angustifolium</i> is the most widespread of all Australian <i>Pittosporum</i> taxa <sup>1</sup> . These trees will be flagged off during the exploration program. Drillhole locations are included in <b>Photos 1 &amp; 2</b> . Groundcover is consistent with cropped paddocks comprising crop or crop remnants (straw) dependent on variations for crop planting and seasonal grasses ( <b>Photos 1 &amp; 2</b> ). Current ground cover at the time of ePEPR submission is straw. No listed species under either the NPW Act or EPBC Act were observed during site visits.  <sup>1</sup> Lindy W. Cayzer (2020) <i>Pittosporum angustifolium</i> , in P.G. Kodela (ed.), Flora of Australia. Australian Biological Resources Study, Department of Agriculture, Water and the Environment: Canberra. <a href="https://profiles.ala.org.au/opus/foa/profile/Pittosporum%20angustifolium">https://profiles.ala.org.au/opus/foa/profile/Pittosporum%20angustifolium</a> [Date Accessed: 15 July 2021].		

## 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 following species were identified via an EPBC Act Protected Matters Report (PMR) and are Listed Threatened Species. The species or species habitat were considered likely or may occur within area. Despite these identifications, no results of these species, or any other significant habitats or flora were identified as occurring within or in close proximity to the proposed exploration area when reviewing the 'Rated Species' information on NatureMaps. Additionally, none of these species were identified as present on investigation and planning visits to site.

Species/habitat	Common name	NPW Act rating*	EPBC Act rating†
<i>Caladenia tensa</i>	Greencomb Spider-orchid, Rigid Spider-orchid	-	E
<i>Senecio macrocarpus</i>	Large-fruit Fireweed, Large-fruit Groundsel	-	V
<i>Swainsona pyrophila</i>	Yellow Swainson-pea	-	V

\* 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*).

The PMR identified the following species or species habitat that was likely or may occur within the area: <i>Asparagus asparagoides</i> – Bridal Creeper, Brial Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus <i>Chrysanthemoides monilifera</i> – Bitou Bush, Boneseed <i>Chrysanthemoides monilifera subsp. Monilifera</i> – Boneseed <i>Lycium ferocissimum</i> – African Boxthorn, Boxthorn <i>Solanum elaeagnifolium</i> - Silver Nightshade, Silver-leaved Nightshade, White Horse Nettle, Silver-leaf Nightshade, Tomato Weed, White Nightshade, Bull-nettle, Prairie-berry, Satansbos, Silver-leaf Bitter-apple, Silverleaf-nettle, Trompillo Through interrogation of the BDBSA databases <sup>1,2</sup> , two occurrences of Weeds of National Significance (WONS) have been identified – both African Boxthorn ( <i>Lycium ferocissimum</i> ) in 1994 and 2003. Furthermore, none of these species were identified as present on investigation and planning visits to site. <sup>1</sup> Weeds of National Significance (WoNS) and buffel grass – South Australia, DEW. Accessed via NatureMaps on 22 April 2021. <sup>2</sup> General Query Tool – Introduced Species, DEW. Accessed via NatureMaps on 22 April 2021.
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## Exploration PEPR application – 12-month period

### Fauna

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

The PMR identified the following common species or species habitat as likely to occur within the area:  
*Alauda arvensis* – Skylark  
*Anas platyrhynchos* – Mallard  
*Columba livia* - Rock Pigeon, Rock Dove, Domestic Pigeon  
*Passer domesticus* - House Sparrow  
*Streptopelia chinensis* - Spotted Turtle-Dove  
*Sturnus vulgaris* - Common Starling  
*Turdus merula* - Common Blackbird, Eurasian Blackbird  
*Canis lupus familiaris* - Domestic Dog  
*Felis catus* - Cat, House Cat, Domestic Cat  
*Mus musculus* - House Mouse  
*Oryctolagus cuniculus* - Rabbit, European Rabbit  
*Rattus rattus* - Black Rat, Ship Rat  
*Vulpes vulpes* - Red Fox, Fox

However, interrogation of the BDBSA databases indicated there are no reported pest or feral species of fauna that have been observed within or in close proximity to the proposed exploration area.

### 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 following species were identified via an EPBC Act PMR and are Listed Threatened Species. The species or species habitat were considered likely or may occur within area. Despite these identifications, no results of these species, or any other significant fauna were identified as occurring within or in close proximity to the proposed exploration area reviewing the 'Rated Species' information on NatureMaps. None of these species were identified as present on investigation and planning visits to site. All species below are avian and would not be impacted by the short term occurrence of the exploration program.

Species	Common name	NPW Act rating	EPBC Act rating
<i>Calidris canutus</i>	Red Knot, Knot	-	E
<i>Calidris ferruginea</i>	Curlew Sandpiper	-	CE
<i>Falco hypoleucos</i>	Grey Falcon	-	V
<i>Grantiella picta</i>	Painted Honeyeater	-	V
<i>Numenius madagascariensis</i>	Eastern Curlew, Far Eastern Curlew	-	CE
<i>Pedionomus torquatus</i>	Plains-wanderer	-	CE
<i>Rostratula australis</i>	Australian Painted Snipe	-	E
<i>Sternula neris neris</i>	Australian Fairy Tern	-	V
<i>Thinornis cucullatus cucullatus</i>	Eastern Hooded Plover	-	V

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 type="checkbox"/>	No <input checked="" type="checkbox"/>
-		
Are you likely to impact on the environmentally sensitive area? If yes, detail the likely effects the proposed program may have.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
-		
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.		

## Exploration PEPR application – 12-month period

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 type="checkbox"/>	No <input checked="" type="checkbox"/>
-		
Are you likely to impact on the environmentally sensitive area? If yes, detail the likely effects the proposed program may have.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
-		
A search of the Aboriginal Heritage Database (Taa Wika) maintained by the Department of the Premier and Cabinet – Aboriginal Affairs and Reconciliation indicates there are registered and reported Aboriginal sites within the area of EL 5984, however, none of those sites are located within the proposed exploration area, with the closest being at least 10 km away. No on-ground surveys have been conducted for Aboriginal Heritage. As drilling will be located within a cropped paddock, within an already significantly disturbed landscape, no surveys are proposed. Standard stop-work procedures will be implemented if any sites, objects or remains are identified.		

### 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	1	EnviroCopper Geologist (1),	
Field assistants/technicians	1	EnviroCopper Field Technician (1)	
Drilling crew	3	Drilling Crew (3)	
Other (provide details)			
Shifts worked per day	Hours worked per day	Days worked per week	
1	06:00am to 06:00pm	7	
Equipment type	Owner/operator	Description/capacity	Activity/purpose
Rig	TBC	Rig	Drilling Rig
Truck	TBC	6 wheel drive support vehicle	Drill Rod Truck
Medium sized vehicle with tandem trailer	TBC	Landcruiser with tandem trailer	Equipment Supply and Maintenance
1 x 4WD light vehicle	TBC	Landcruiser or equivalent	Support Vehicle
1 x 4WD light vehicle	EnviroCopper	Landcruiser or equivalent	Support Vehicle
Water tanker – 30,000L	Skinner	Truck with detachable water tanker	Water storage and provision

Provide any additional information, if required.

Hours worked per day will include travel to and from proposed activity site
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## Exploration PEPR application – 12-month period

### 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"/>
-		

### 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 <sup>3</sup> )	Average size of each drill pad* (m <sup>2</sup> ) (no excavation required)	Number of sites requiring pad excavation	Average volume (m <sup>3</sup> ) of material to be excavated (excluding sumps)
EL 5984	Rotary Mud	Up to 10 completed wells	~110m	N/A (above ground water tanks)		200	Expected to use drill rig with stabilisers as required. No drill pad preparation required	0
<b>TOTAL</b>		<b>10</b>	<b>~1100</b>	<b>0</b>	<b>N/A</b>	<b>2,000</b>	<b>0</b>	<b>0</b>

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).

\* 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.

## Exploration PEPR application – 12-month period

Site preparation is to include:

- Prior to entering the exploration area, an inspection will be undertaken to ensure equipment is clean. All vehicles entering site will be inspected and 'weed and seed' cleaned before entry. Vehicles leaving site will also be checked and washed as required to prevent significant amounts of mud and dust being dragged onto public access roads.
- Access to the site will be directly from Wenberley Boundary Road to reduce disturbance.
- The site is generally flat and cleared for agricultural pursuits. Limited or no clearance of commonplace vegetation is required, and drill pad and sumps will not be excavated, and cleared areas will be utilised. More information on this is contained in **Section C: Native Vegetation**.
- Surface tracking of vehicles will be the norm with little surface disturbance. Access will use an existing fire break track along the fence line to access the site. There will be no ripping or blading of access tracks required.
- No surface topsoil is planned to be disturbed, however any surface topsoil removed will be stockpiled separately for respreading on completion of drilling program.
- The program will use above-ground tanks (as opposed to the digging of sumps). All produced water, drilling fluids and cuttings will be stored in containers/tanks – No EPA approval is required for this.
- A contractor operated 20,000 - 30,000 litre tanker will be used to contain excess drill water generated if required.
- There are no drainage lines identified in proximity to the drillsite. The areas in the vicinity of drilling will be visually inspected twice daily during pump testing for unexpected groundwater expression. Weather conditions will be noted, specifically any rainfall. If there is unexpected water expressing at surface, a sample will be taken and tested for salinity to confirm source. If unexpected water is confirmed as groundwater surface expression, pump testing will cease, and further water testing carried out.
- There are no camp facilities required for this project. All accommodation will be in local hotels or motels at either Kadina or Wallaroo
- EnviroCopper will be negotiating access to a nearby storage area. Chemicals, including oils and fuels will be stored offsite.

## Exploration PEPR application – 12-month period

### 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.		
Drilling is to be carried out by the selected experienced drilling company and undertaken by drillers who hold a minimum Class 2 water well licence and are appropriately licensed and experienced in well construction materials and methods.		
Prior to finalisation of the proposed exploration program a site visit will be carried out with the driller to confirm the location for the drilling, confirm access, examine topography, and finalise suitable equipment for the location and application.		
The wells will require well construction permits under the <i>Landscape South Australia Act 2019</i> . Applications have been made to DEW and EPA for well construction permits. A Drainage and Discharge permit to return extracted water into the well will be applied for. Once obtained, all permits will be provided to the DEM if required.		
Drilling of up to 10 wells will be undertaken using Rotary Mud drilling method and well design is specified to comply with the Minimum Construction Requirements for Water Bores in Australia (NUDLC, 2012) and in line with the requirements of the Well permit.		
Drillholes will be collared by Rotary Air Blast (RAB) using an ~12' (300mm) blade bit to a depth of approximately 6 to 12m, dependent on ground conditions. Surface casing will then be installed to stabilise the top of the drillhole. No water is expected to be intersected in the top 6-12m of the drillhole and drill cuttings will be bagged and stored for disposal at an appropriate approved facility.		
Once surface casing is installed the water well construction process will be to Rotary Mud drill an approximate 8 inch (225 mm) hole from surface to planned hole depth of ~110m using a blade bit. Once completed inert 125mm OD Class 12 PVC Casing and 125mm PV slotted screen will be inserted. The casing will then be grouted in place from above the screen interval using a cone packer, to surface to ensure a sealed annulus. The 125 mm casing will accommodate a suitable submersible pump with a capacity of up to 12 L/s (1,000 m3/day). The inert casing material and grout sealed annulus will be consistent with guidelines for ISR mining developed for Australia (CoA, 2010) <sup>2</sup> that specifies “casing and grouting all of the injection, recovery and monitoring wells with materials that are inert to the leaching solution. No pressure injection is currently planned and therefore no pressure testing is required. The screen annulus may be gravel packed with 8/16 gravel or left open depending on hole stability.		
Wells will be developed (cleaned of drill cuttings and muds) by airlifting until sediment free water is produced as is standard practice. The groundwater will be sampled from the inside return to obtain an initial sample for analysis and preliminary flow rate determined by timing flow into a bucket at the above ground tank.		
All wells will be constructed to the same design and screened across a consistent ore horizon. The general well design is shown in Figure 9.		
Geological samples will be taken for logging and assay as per standard practice for exploration holes. All information will be reported in the Annual Technical Report.		
All waste produced through the drilling and construction (wastewater, drilling fluids and cuttings) will be captured and stored onsite until they can be appropriately disposed of at an EPA licenced facility.		
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.		
All decommissioning will be in accordance with Earth Resources Information Sheet M21, <i>Mineral exploration drillholes – general specifications for construction and backfilling</i> .		
The wells are designed and constructed to remain following the exploration program in accordance with DEW. Following completion of the drilling and pump testing, wells will be kept open and fitted with secure lockable steel caps. The wells will be rehabilitated at the cessation of all exploration and/or authorised mining operations.		
Any unsatisfactory wells will be grouted from bottom of hole to near surface to ensure the integrity of the groundwater system, as outlined in Earth Resources Information Sheet M21, <i>Mineral exploration drillholes – general specifications for construction and backfilling</i> .		

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

## Exploration PEPR application – 12-month period

### 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 <sup>2</sup> )	Average depth (m)	Volume excavated (m <sup>3</sup> )	Total volume excavated (m <sup>3</sup> ) (number of costeans/pits x volume)	Total area of disturbance* (length x width) (m <sup>2</sup> )
-	-	-	-	-	-	-
<b>TOTAL</b>	-	-	-	-	-	-

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
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### 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>The drill cuttings will be collected in an above ground mud tank. Samples will be collected every 2m from the outflow point into the mud tank. The sample will be placed into thick green UV resistant plastic bags (industry standard) from which two 2-3kg subsamples will be collected, one for assay purposes and a further sample for reference purposes. A small portion will be washed clean for logging and then stored in a plastic "chip tray". The reference samples will be stored in plastic bags at the EnviroCopper office until closure of the project.</p> <p>Upon closure of the project EnviroCopper will offer the reference samples and plastic chip trays to the DEM core library. The green plastic bags containing the 2m drill samples will be transported to an EnviroCopper storage facility until the assays have been returned. On return of the assays the drill cuttings that had been stored will be disposed of at an EPA licensed waste disposal operator.</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 type="checkbox"/>	No <input checked="" type="checkbox"/>

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.

## Exploration PEPR application – 12-month period

Campsite details		
Indicate where staff and contractors will be accommodated during the exploration program.		
Exploration staff and contractors will be accommodated in motels/hotels/rental accommodation in nearby towns of Wallaroo or Kadina.		
What is the maximum number of personnel requiring accommodation?	3-5	
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.		
-		
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.		
-		
Will any excavations be required?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
If yes, describe the purpose of the excavation and the maximum volume (m <sup>3</sup> ) of material to be excavated.		
-		
Are the proposed ablution 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"/>
-		
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 checked="" type="checkbox"/>	No <input 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 checked="" type="checkbox"/>
There is no camp proposed. It is planned to have an onsite laydown area for well casing, etc. Additional materials (drill polymer, oils, grease etc) may be stored offsite at a nearby storage and maintenance area until required. Discussions with a local landowner on a possible laydown site for all drill material is planned prior to commencement of the drill program.		
What will be the maximum area (ha) required for the laydown area(s)?	Estimated to be ~20m x 5m (100 m <sup>2</sup> or approximately 0.01ha).	
What will be the total area (ha) of vegetation clearance for the site?	0 ha	
If vegetation clearance is required, describe the methods used to prepare the site.		
N/A		
Will any excavations be required? If yes, describe the purpose of the excavation and volume (m <sup>3</sup> ) 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
N/A	-	No infrastructure will be required for the laydown area as hydrocarbons and chemicals will be stored off site and water will be contained within the water tanker.
Provide a description and justification of the location (e.g. previously cleared areas), and any other relevant information if required.		
-		

**Exploration PEPR application – 12-month period**

**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"/>
-		

**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 required for onsite operations will be transported to site via water tanker. Water is expected to be accessed by town water supply (potable) from nearby towns (Wallaroo, Kadina or Moonta). Water obtained through drilling will be collected and reused during tracer testing. Excess water will be disposed of at an EPA approved licenced liquid waste facility via tanker.		
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**

<p>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.</p>	<p>Yes <input checked="" type="checkbox"/></p>	<p>No <input type="checkbox"/></p>
<p>Up to 3 to 4 groundwater wells are expected to be installed initially, with a further 4-7 wells to be completed at a later date based on hydrological test results. Ten (10) drillholes are proposed in case of failure of at least 1 of the planned water wells. Drilling and construction of these wells is described in “Drillhole Construction and Commissioning” section.</p> <p>No further site preparation or vegetation clearance will be required outside that required for the drilling – outlined in <b>Section C: Native Vegetation</b>.</p> <p>The objective of the drilling and testing work is to evaluate the amenability of the Alford West Project for ISR recovery of known copper mineralisation. Specifically, the program aims to determine:</p> <ul style="list-style-type: none"> <li>• Achievable production well yields in m<sup>3</sup>/day</li> <li>• Hydraulic connectivity between Production wells and monitoring/ injection wells located ~10m apart. (See Figure 9 for the indicative well configuration for testing purposes).</li> <li>• Groundwater chemical composition profile of the target interval at depth. Focus on pH and dissolved copper concentration.</li> <li>• Aquifer properties of the host rock:             <ul style="list-style-type: none"> <li>• Permeability (also described as hydraulic conductivity)</li> <li>• Storage coefficient</li> <li>• Effective Porosity (pores that allow the transfer of water) as % by volume.</li> </ul> </li> <li>• Infrastructure (wells) will be designed for use in ISR recovery trials (subject to use during the next phase of work if conditions are favourable).</li> </ul> <p><b>Pump (Aquifer) Testing</b></p> <p>Test pumping will be completed by an appropriately qualified contractor and will comprise:</p> <ul style="list-style-type: none"> <li>• 3 x 100-minute stepped rate test to determine well yield (Steps to be determined post-drilling by hydrogeologist)</li> <li>• 2 hour constant rate test to determine aquifer properties of permeability and storage.</li> </ul> <p>The central well is to be pumped and water level measured at the observation wells and any identified nearby third party wells, as is standard procedure to determine well yield. Water produced from the pumping will be stored onsite in temporary storage tanks or in a semi-trailer water tanker parked onsite which will then be disposed of at an appropriate site.</p> <p><b>Groundwater re-injection - Tracer Test</b></p> <p>Tracer test will be completed by an appropriately qualified contractor and will comprise:</p> <ul style="list-style-type: none"> <li>• Sodium Bromide, an inert tracer, will be added to the stored groundwater extracted during the pumping test and sufficiently mixed by circular pumping within the tank. The concentration to be added to the well, pending water quality and yield test results, is expected to be approximately 400 mg/L. the volume will be confirmed upon confirmation of yield and aquifer properties.</li> <li>• The Sodium Bromide and water mix will be gravity fed into the production well while monitoring groundwater quality at the 2 observation wells with a low flow sampling pump.</li> </ul> <p>A Drainage and Discharge permit will be sought prior to test work commencement and provided to DEM if requested. The tests are expected to take approximately 1.5 weeks to complete.</p> <p><b>Supporting Technical Services</b></p> <p>Hydrogeological support services for the drilling program are yet to be confirmed.</p> <p><b>Land Access</b></p> <p>Landowner consultation and notification has been undertaken and has been incorporated during preparation of this ePEPR. All required consultation will be completed before exploration activities commence.</p>		
<p>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.</p>	<p>Yes <input type="checkbox"/></p>	<p>No <input checked="" type="checkbox"/></p>
<p>All required Well permits will be obtained prior to commencement of activities. Application for a Drainage and Discharge Permit has not yet been submitted to DEW but will be finalised prior to undertaking test work where the permit is required. It is planned to submit all Permit applications by end of April to mid May 2024.</p>		

## Exploration PEPR application – 12-month period

### 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 checked="" type="checkbox"/>	No <input type="checkbox"/>
A Drainage and Discharge permit will be obtained prior to commencement of test work for drainage of pumped water back into the pumping well during the Tracer Test (as described above in 'groundwater and drilling investigation activities'). Site preparation details can be found in "Drillsite Preparation" and "Vegetation Clearance".		

### 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.
The wells are designed and constructed to remain following the exploration program in accordance with DEM Well Construction and Drain and Discharge conditions. Following completion of the drilling and pump testing, wells will be kept open and fitted with secure lockable steel caps. These wells can be used as groundwater monitoring. The wells will be rehabilitated at the cessation of all exploration and/or authorised operations in accordance with Earth Resources Information Sheet M21, <i>Mineral exploration drillholes – general specifications for construction and backfilling</i> . Any unsatisfactory wells will be grouted from bottom of hole to surface to ensure the integrity of the groundwater system, as outlined in Earth Resources Information Sheet M21, <i>Mineral exploration drillholes – general specifications for construction and backfilling</i> . All casing will remain in ground at the end of all authorised activities as it will be grouted in place during construction to prevent mixing of groundwater aquifers. Rehabilitation of wells will be to gravel, or sand fill the screened level from the base of the drillhole to approximately 1m above the planned screen depth. Current well design is for a 9m screen from approximately 98m to 107m depth, with a 3m length of non-screen casing from 107-110m (bottom of hole) depth. The drillhole will be grouted to 1m below surface for a total of 96m grouted. The 1m at the top of hole will be topped off with minimum of 1m of native soil with casing cut below ground level. All grouting will be undertaken using a tremie line to ensure grout extends from above the screened interval to near surfaced to ensure that there are no obstructions (air pockets etc) up hole.
State the estimated budget required to rehabilitate impacted sites.
Rehabilitation costs of wells are based on 10 wells with a diameter of 125mm to a maximum depth of 110m. The outside annulus, that is the gap between the casing and the drillhole wall, will be grouted at the time of well drilling, leaving the inside of the well only to be rehabilitated once activities are completed. Approximately 250kg of gravel/sand will be required to 'gravel' the screen interval, assuming a gravel/sand interval of 13m (97-110m) in each hole for a total of 2,500kg material for all 10 holes. The volume of grout required for 1 hole rounded is approximately 1,200L or 1.2m <sup>3</sup> for a total of 12m <sup>3</sup> grout for the 10 wells. It is estimated approximately 25 bags of grouting per hole for a total of 250 bags cement for the ten holes. The rehabilitation cost is expected to sum to approximately \$20,000 to \$25,000, including labour and equipment.

### Vegetation Clearance

Will any area of cleared native vegetation be unrehabilitated after the authorised period?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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.		
There will be no impact on native vegetation, no SEB is required for this program.		

**SECTION E – LEASE CONDITIONS**

**Retention leases**

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

N/A

**SECTION F – MANAGEMENT OF ENVIRONMENTAL IMPACTS**

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

Where the terms and conditions of an RL include environmental outcomes, list them (where different) in the table below and complete all sections (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 Rare	2 Unlikely	3 Possible	4 Likely	5 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.

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		
Stakeholders: <ul style="list-style-type: none"> <li>freehold landowners</li> <li>perpetual lease holders</li> <li>pastoral lease holders</li> <li>Aboriginal land (Anangu Pitjantjatjara Yankunytjatjara and Maralinga Tjarutja lands)</li> <li>Department of Defence</li> <li>state government departments.</li> <li>local government (councils)</li> <li>federal government</li> <li>native title parties.</li> </ul>	Interference to: <ul style="list-style-type: none"> <li>existing or permissible land use (includes loss of income, noise, dust, light and other emissions).</li> <li>buildings, structures, existing tracks or other infrastructure.</li> <li>aesthetic values of an area.</li> </ul> Noncompliance with legislative requirements.	Yes (Applicable to all programs.)	Consult with and inform proximal landowners of proposed works.  Maintain a Community Engagement Register and Community Engagement Plan for the proposed exploration program.  Ensure there is a process for queries, complaints, and comments to be actioned and reported.  Ensure exempt land is identified and access obtained appropriately as required.	2	B	L	<b>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.</b>	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: DEM	Interference to: <ul style="list-style-type: none"> <li>existing or permissible land use.</li> <li>buildings, structures, existing tracks or other infrastructure.</li> <li>aesthetic values of an area.</li> </ul> Noncompliance with legislative requirements.	No (Applicable to programs located adjacent to or within parks and reserves.)	Not applicable (N/A) to the proposed exploration location as it is not located within or adjacent to a regional reserve or national conservation park.					

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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 = likelihood of consequence	CQ = severity of consequence			
				LH	CQ	Risk		
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.	No (Applicable to exploration programs located within or impacting on native vegetation.)	Not Applicable (N/A). All activities within cleared and cropped agricultural paddock					
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.)	To help prevent the spread of pathogens and weeds EnviroCopper and engaged Drilling Company will wash down vehicles to remove mud, weeds and seeds from vehicles prior to entering site. Tyres will be inspected for calthrop and other burrs prior to arriving at the work site.  Vehicle logs will be kept during the exploration program to record that all vehicles are clean and free of plant and mud material prior to entering site.  Weed monitoring around the exploration location is to continue for the duration of the exploration program and for 3 months following completion of the program while rehabilitation activities are taking place, to ensure there are no weed impacts on surrounding native habitat.  Any replaced topsoil is to be scarified post re-spreading to promote regrowth from the seedbank.  Photographs of the site before and after the conduct of the exploration program will be submitted with the annual exploration compliance report to demonstrate rehabilitated sites has no new weeds or sustained increase in weeds.	2	B	L	<b>No introduction of new species of weeds and plant pathogens, nor increase in abundance of existing weeds species.</b>	Provide a statement within the 'Compliance with approved programs' section of the annual exploration compliance report, confirming that: <ul style="list-style-type: none"> <li>Vehicle logs were kept during the exploration program, demonstrating that all vehicles are clean and free of plant and mud material prior to entering properties<sup>†</sup> within the tenement areas, unless otherwise agreed to with the relevant landowners.</li> <li>Photographic evidence before and during exploration operations and after rehabilitation of disturbed sites was captured, demonstrating that no new weeds and plant pathogens were introduced, nor an increase in abundance of existing weeds recorded.</li> </ul>
All fauna	Entrapment of fauna through open drillholes and excavations.	Yes (Applicable to exploration programs that involve drilling and/or require excavations.)	The use of above ground or truck mounted tanks for water and drilling fluids is preferred to the use of sumps.  The following mitigation measures will be used; <ul style="list-style-type: none"> <li>Drill rigs and support trucks with truck-mounted above ground tanks. This will avoid the need for excavation of open sumps;</li> <li>No drilling is to take place on catastrophic fire ban days and no work that may create sparks is to take place on fire ban days; and</li> <li>Operation will be on single shift consisting of 7 days a week (Mon to Sat) from 6:00am to 6:00pm (inclusive of travel time to and from site to place of accommodation)</li> <li>Drillholes capped immediately upon completion.</li> </ul> All rehabilitation to be completed at the cessation of all exploration activities and/or authorised mining operations in accordance with Earth Resources Information Sheet M21, <i>Mineral exploration drillholes – general specifications for construction and backfilling</i> activities	2	B	L	<b>No fauna traps created as a result of exploration activities.</b>	Maintain before, during and after photographic evidence of all drillholes and/or excavations demonstrating that: <ul style="list-style-type: none"> <li>All drillholes were permanently or temporarily capped/plugged immediately upon completion.</li> <li>No fauna and livestock became trapped in drillholes and/or excavations throughout the duration of the program.</li> <li>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.</li> </ul> Representative photos are to be included within the annual exploration compliance report. Provide the information requested within the 'Rehabilitation' section of the annual exploration compliance report.
Aboriginal heritage sites	Disturbance to Aboriginal heritage.	Yes (Applicable to all programs.)	The register of Aboriginal Sites and Objects, administered by the Department of Premier and Cabinet (Taa Wika), have advised via a Taa Wika search that Cultural Heritage Sites exist within EL 5984. As outlined above in 'Environmentally Sensitive Locations', no Cultural Heritage Sites exist within close proximity to the proposed exploration area.  Given this, there is a very low probability of discovery of Aboriginal sites and artefacts due to the site's history of agricultural and mining land disturbance.  If aboriginal heritage sites or artefacts are identified during the exploration program, this will result in cessation of works and be reported to relevant authorities. Work will only recommence once approval from relevant authorities is sought and confirmed.	2	B	L	<b>No disturbance to Aboriginal artefacts or sites of significance unless prior approval under the relevant legislation is obtained.</b>	Maintain a database and provide a statement within the 'Compliance with approved programs' section of the annual exploration compliance report demonstrating that: <ul style="list-style-type: none"> <li>Heritage sites were not impacted during the conduct of the exploration program, unless prior approval was obtained under the appropriate legislation.</li> <li>Work ceased on discovery of a significant site and recommenced only after authorisation.</li> <li>Aboriginal heritage sites identified during the exploration program were appropriately recorded and reported to authorities, if not previously known.</li> </ul>
European heritage sites and sites of scientific and environmental significance	Disturbance to European heritage sites and sites of scientific and	No	No European heritage sites identified in close proximity to the proposed exploration area (>8km).					

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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 Minerals Regulatory Guidelines MG22 for more information.	Risk assessment LH = likelihood of consequence CQ = severity of consequence				
				LH	CQ			Risk
	environmental significance (e.g. geological monuments, fossil reserves).	(Applicable to exploration programs located close to or within European heritage sites and sites of scientific and environmental significance.)						
Soil/vegetation/fauna	Soil/vegetation contamination (e.g. hydrocarbons, rubbish, drill samples/cuttings, ablutions, other sources).	Yes (Applicable to all programs.)	<p>All domestic or industrial waste (includes general rubbish and hydrocarbons) will be disposed of in accordance with the Environment Protection Act 1993 within 3 months of the expiry of the PEPR approval.</p> <p>Topsoil is not expected to be removed except for the immediate drillhole collar location. If required, topsoil will be scrapped and stored on site to avoid mixing as per M21 regulations guide.</p> <p>The following hydrocarbon management measures will be implemented:</p> <ul style="list-style-type: none"> <li>Prior to the commencement of drilling an audit of drilling machinery and equipment will be undertaken during which hydraulic hoses and fittings will be inspected for serviceability.</li> <li>Spill mats will be carried in the event a leak does occur; and</li> <li>In the case of soil being contaminated by hydrocarbons, the affected soil will be bagged and taken to an EPA licensed waste disposal facility. The area from where the soil was removed will be rehabilitated.</li> </ul> <p>The following waste management measures will be implemented:</p> <ul style="list-style-type: none"> <li>During drilling all rubbish will be deposited in secured bins and removed from drill sites at the completion of each hole;</li> <li>All rubbish removed from the drill sites will be bagged and disposed to an EPA licensed waste disposal facility; and</li> <li>All drill cuttings generated will be stored in tanks on trucks until they are removed from site and disposed of at a licensed facility.</li> <li>Portable toilets will be used on site for the duration of the activities.</li> <li>Above ground drill tanks will be visually monitored during the drill program as drill tanks are used for recirculation of drill fluids for the drilling process. Drill tanks belong to the drill company and will be removed from site once drill program is completed</li> </ul> <p>Photographs of the sites before and after the conduct of the exploration program will be submitted with the annual exploration compliance report.</p>	3	B	M	<p><b>No contamination of soil and vegetation as a result of exploration activities.</b></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"> <li>The name, location and contact details of the authorised waste disposal facility.</li> <li>A statement within the 'Compliance with approved programs' section of the annual exploration compliance report confirming domestic and industrial waste was removed from all exploration sites and disposed of at an authorised waste disposal facility.</li> <li>Photographic evidence within the annual exploration compliance report demonstrating that all fuel and chemical storage facilities were managed in accordance with EPA requirements.</li> </ul> <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"> <li>removed from site and disposed of at a licensed facility</li> <li>buried under a minimum of 30 cm of soil, or in accordance with EPA guideline, <i>Radiation protection guidelines on mining in South Australia: mineral exploration</i>, available on the EPA website, or</li> <li>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.</li> </ul> <p>Provide the information requested within the 'Rehabilitation' section of the annual exploration compliance report.</p>	
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>All drill site activities will be carried out in compliance with DPC guidelines (DEM Information Sheets - M21: Mineral Exploration Drillholes - General Specifications for Construction and Backfilling, and M33: Statement of Environmental Objectives and Environmental Guidelines for Mineral Exploration Activities in South Australia).</p> <p>This follows the standard safety and environmental protection procedures of EnviroCopper and the selected Drilling Contractor. EnviroCopper will also implement any site-specific requirements by agreement between EnviroCopper and the Landowner.</p> <p>The drilling program will be regularly monitored by EnviroCopper nominated representative.</p> <p>Rig access tracks are not expected to require the disturbance of topsoil, drill site work areas may require the pads to be prepared but disturbance will be kept to a practical minimum as previously described in this document.</p> <p>Photographs of the sites before and after the conduct of the exploration program will be submitted with the annual exploration compliance report.</p>	2	B	L	<p><b>Where soil disturbance occurs as a result of exploration activities, ensure that:</b></p> <ul style="list-style-type: none"> <li>topsoil quality and quantity is maintained</li> <li>the soil profile and topography is reinstated to original conditions</li> <li>there is no accelerated soil erosion.</li> </ul> <p>Maintain before, during and after photographic evidence of drill sites, laydown areas and access tracks demonstrating that:</p> <ul style="list-style-type: none"> <li>The soil profile and topography are 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.</li> <li>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.</li> <li>There are no signs of accelerated soil erosion during and post rehabilitation of disturbed sites.</li> </ul> <p>Representative photos to be included within the annual exploration compliance report.</p>	

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				
				LH	CQ	Risk		
								Provide the information requested within the 'Rehabilitation' section of the annual exploration compliance report.
Surface water	Alteration to surface water – interference to surface drainage.	No (Applicable to exploration programs that are likely to impact on surface drainage channels.)	No surface water features identified which are in proximity to the proposed exploration area.					
Groundwater/aquifer	Groundwater contamination: <ul style="list-style-type: none"> <li>contamination of aquifers through entry of pollutants from the surface</li> <li>interconnection between aquifers</li> <li>degradation of natural hydrostatic conditions (maintain pre-drilling pressures).</li> </ul>	Yes (Applicable to all exploration programs that may intersect groundwater.)	Low disturbance activity. Small groundwater volumes are being removed and subsequently replaced. No significant change in water quality, only low concentration of benign tracer added to the groundwater near the test well. Driller to be engaged who is a minimum class 2 driller and appropriately licensed and experienced in well construction materials/methods. All wells will be constructed and decommissioned in accordance with the minimum Construction Requirements for Water Bores in Australia. Wells will be cemented to ensure adequate seal is placed around the annulus. For full details of well construction refer to the <b>Section D</b> . Surface casing will be stabilised in place to ensure a seal within the annulus. Only approved drilling products are used downhole (biodegradable products). Drill holes will not to be used for disposal of any unwanted chemicals. Wells that are not required will be decommissioned at the end of this project. The remaining wells will be used for environmental monitoring purposes or will become part of future field recovery trial or operational wellfield network. Any wells that are to be kept open will be fitted with secure lockable caps	2	B	L	<b>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.</b>	Maintain evidence demonstrating that drillholes 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. Provide the information requested within the 'Groundwater' section of the annual exploration compliance report.
Soil/vegetation/fauna	Discharge of groundwater into the surrounding environment.	Yes (Applicable to all exploration programs that may intersect groundwater or where activities require the discharge of groundwater into the surrounding environment.)	Drill sites and above ground tanks and equipment will be sited away from trees and vegetation. Excess water will be disposed of at an EPA approved licenced liquid waste facility via tanker. Following completion of the drilling and testing program the site will be rehabilitated. Any compacted areas on site will be prepared to loosen the soil and vegetation will be respread to encourage regeneration. Proposed drilling method are Rotary Mud. The drill tanks/ sumps will only overflow if they are over filled. Tanks will be continuously monitored to avoid overflow. Photographs of the sites before and after the conduct of the exploration program will be submitted with the annual exploration compliance report.	3	B	M	<b>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.</b>	Maintain photographic evidence of all drill sites demonstrating that groundwater was not discharged into the surrounding environment, unless water affecting activity permits were obtained allowing the discharge of groundwater into watercourses and/or lakes. Representative photos and water affecting activity permits (where applicable) to be included within the annual exploration compliance report.

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				
				LH	CQ	Risk		
Groundwater users	Interference to existing water users when extracting water from existing dams, water bores or mineral drillholes.	Yes (Applicable to all exploration programs that may require the use of water from existing dams, water bores or mineral drillholes.)	There are limited users of the aquifer in the vicinity of the proposed drill site, selected drilling methods will have no negative impact on the hosted aquifer and existing users, there are no active bores within 10km shown on the SA Water connect site. The program of works includes pump testing, involving small volumes of ground water extracted and injected. There will be a small amount of benign tracer used so there will be no significant change in groundwater quality or quantity and no negative impacts on existing users. Well Permits from DEW and DEW Drainage and Discharge Licence will be obtained as part of the approval process for this drilling program prior to drilling and any test work. All requirements and obligations required by these permits will be implemented as part of the exploration program. Drilling fluids will be biodegradable. Proposed viscosifier is CR-650 which is classified as non-hazardous, non-toxic and will not ferment	1	B	L	<b>No public nuisance impacts resulting from the extraction of water for exploration purposes, unless prior approval under the relevant legislation is obtained.</b>	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. here permits are required for the extraction and/or usage of groundwater, provide copies of the license 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.)						
Community/landowners	Damage to infrastructure and loss of income through fire.	Yes (Applicable to all programs.)	The following fire-prevention procedure (see below) will be implemented by EnviroCopper on the drill sites, Dry pasture grass and stubble will be removed from sites where these present a fire risk. Fire prevention requirements are: <ul style="list-style-type: none"> <li>• Fire extinguishers on all equipment.</li> <li>• Local CFS advised of work program - No drilling is to take place on catastrophic fire ban days and no work that may create sparks is to take place on fire ban days;</li> <li>• Availability of at least one 20 litre backpack fire-fighting unit;</li> <li>• Availability of at least one 9 litre water-based fire extinguisher;</li> <li>• Grass fire load is cleared for at least 5m around the drilling rig;</li> <li>• Communications equipment (mobile telephones / two-way radio) to be present at the site always.</li> <li>• Immediately call '000' on the outbreak of fire.</li> <li>• If grinding and/or welding is to be carried out the equipment that needs repairing will be moved to a site (e.g. bit sharpening and repairs) that meets the following requirements: <ul style="list-style-type: none"> <li>○ An area of 10 metres around the cutting, welding, or grinding site clear of flammable material, or maintained in a wetted down state for the duration of the activity.</li> <li>○ Screens erected around each cutting, welding, or grinding site to prevent the escape of sparks.</li> <li>○ On-site trailer or vehicle mounted firefighting unit with minimum 1000 litre water tank, powered pump, 30 m of hose.</li> <li>○ The hose is to be deployed.</li> <li>○ One or more persons whose sole job is to act as "Fire Spotter"</li> </ul> </li> </ul>	1	E	H	<b>No loss of infrastructure or income through fire as a result of exploration activities.</b>	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.)	The following procedures will apply to prevent accidents and injury to members of the public: <ul style="list-style-type: none"> <li>• "Authorised Entry Only" signage erected around drillsite.</li> <li>• Signage warning of drilling in progress and required PPE to be placed along access tracks.</li> <li>• Requirement of site induction of all visitors prior to entering work sites.</li> <li>• Active drilling will stop when unannounced public are on site.</li> </ul>	1	E	H	<b>No accidents involving the public that could have been reasonably prevented by the licensee.</b>	Provide a statement within the 'Compliance with approved programs' section of the annual exploration compliance report confirming no accidents occurred involving the public during and after the exploration program. If an accident involving the public did occur, provide a copy of the independent investigation report within the annual exploration compliance report demonstrating that the licensee could not have reasonably

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				
				LH	CQ	Risk		
			<ul style="list-style-type: none"> <li>Spotter required for heavy vehicles entering the site.</li> <li>No drilling at night restricts the use of flood lights that might dazzle/distract drivers</li> </ul>					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.)						
Soil and surface cover (potential for boron and sodium accumulation in soil)	Acid sulphate soils	No	There will be no extensive disturbance of the land surface during the drill program. In general acid sulphate soils are benign in their natural state and only present a problem if the soil is disturbed	2	B	L	No likelihood of acid sulphate soil formation	No monitoring required. There is a negligible risk of acid sulfate soils
Groundwater Dependent Ecosystems	Reduction in groundwater inflows to GDEs	No	All water wells will be grouted from above the planned screen depth position to the surface. This will effectively seal aquifers above this depth meaning GDE associated aquifers will not be influenced by planned hydrological studies or investigations Planned footprint of project activities is confined to a small area ~50m x 50m and is considered sufficiently far away from located GDEs to have no influence on these sites.	1	A	L	No likelihood of GDE sites being affected by planned activities	No monitoring required. Current seasonal variations in the area of the GDEs suggest monitoring outcomes could be non-indicative.

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

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

## SECTION G - OPERATOR CAPABILITY

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

- Manuals or standard operating procedures that outline the safe and environmentally sound operation of all critical operations associated with the exploration program that ensure compliance with the PEPR.
- Systems in place to monitor, audit and assess compliance against the criteria approved in the PEPR.
- Systems in place to identify and report any noncompliance with regulatory requirements or relevant environmental outcomes (e.g. measures in place to report incidents in accordance with regulation 79(3)).
- Practices and procedures in place to provide appropriate communication of regulatory requirements to employees and contractors (e.g. induction programs).
- Practices and procedures in place to respond to, and communicate with landowners and external parties on the proposed program and compliance matters (e.g. complaints)

EnviroCopper has a Work Health and Safety Management Plan (WHSMP) to ensure safe and environmentally sound operations for all ECR projects. Within their WHSMP, there are specific procedures relating to:

- Roles and responsibilities
- Leadership and commitment
- Training
- Communication and Consultation
- Hazard Identification – Risk Assessment
- Incident and Work Health and Safety Reporting (including notifiable incidents)
- Emergency Management
- Contractor Management
- Work Health and Safety Strategies
- Safety Standards
- Environment and Community
- Inspections, Auditing, Monitoring, Review and Management.

## 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.

Bond number 1261 was previously paid for work outlined within this ePEPR but not undertaken prior to the expiry date of the previous ePEPR. The Bond was Endorsed on Mining Register 23 September 2022

Well Construction Permits for this exploration program will be obtained and submitted to DEW prior to start of proposed activities.

**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
Area of Proposed Activities	22/03/2024	1 / Section C				Looking north towards area of proposed activities



Exploration PEPR application – 12-month period

Site identification	Date taken	Photo number & PEPR section reference	Easting (GDA94)	Northing (GDA94)	Zone	Details and Comments
Groundcover and adjacent land use	22/03/2024	2 / Section C				Looking SW from between drillhole location 1 and 3



**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.

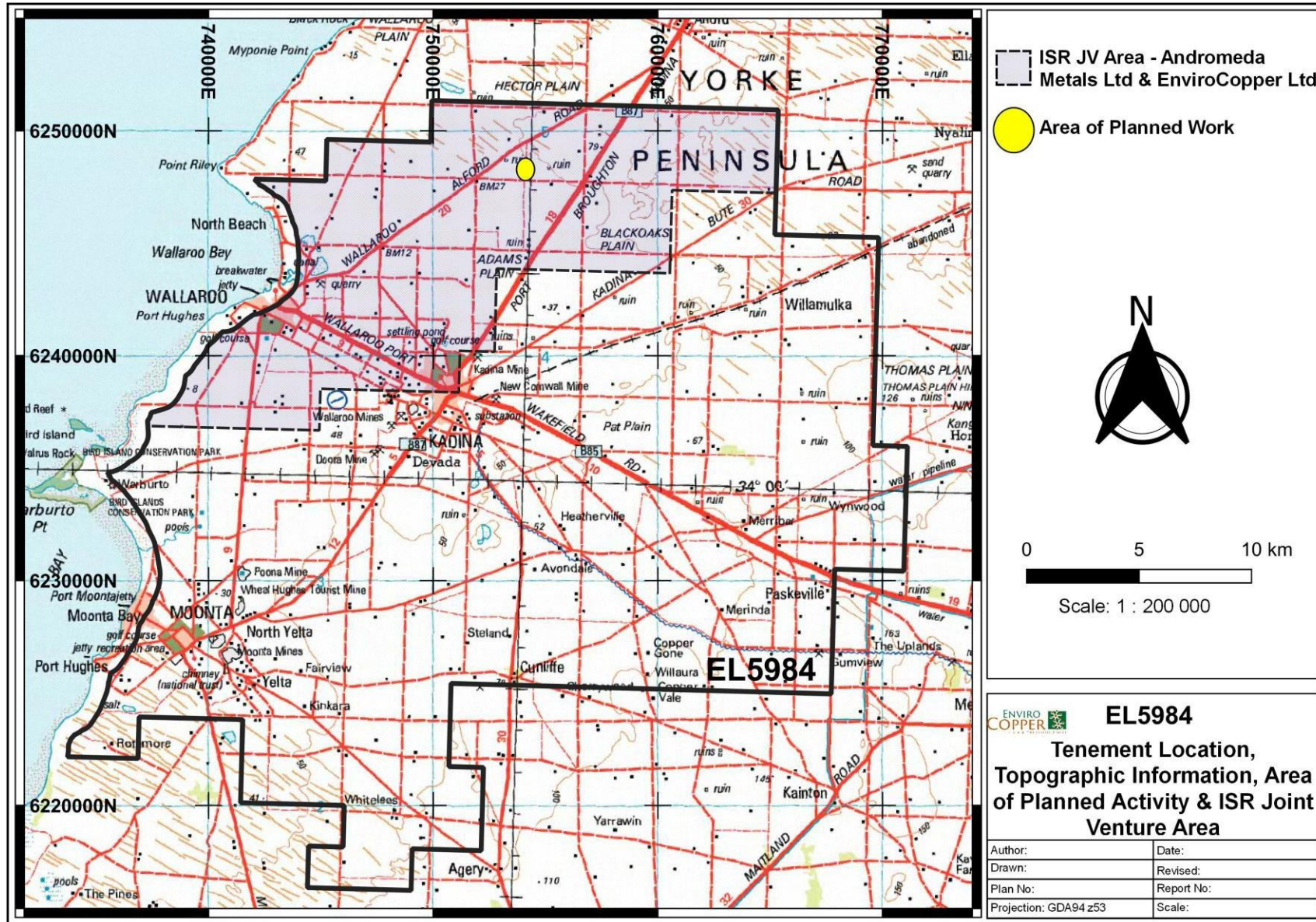


Figure 1 – Tenement Location, Topographic Information, Area of Planned Activity & ISR JV Area

Exploration PEPR application – 12-month period

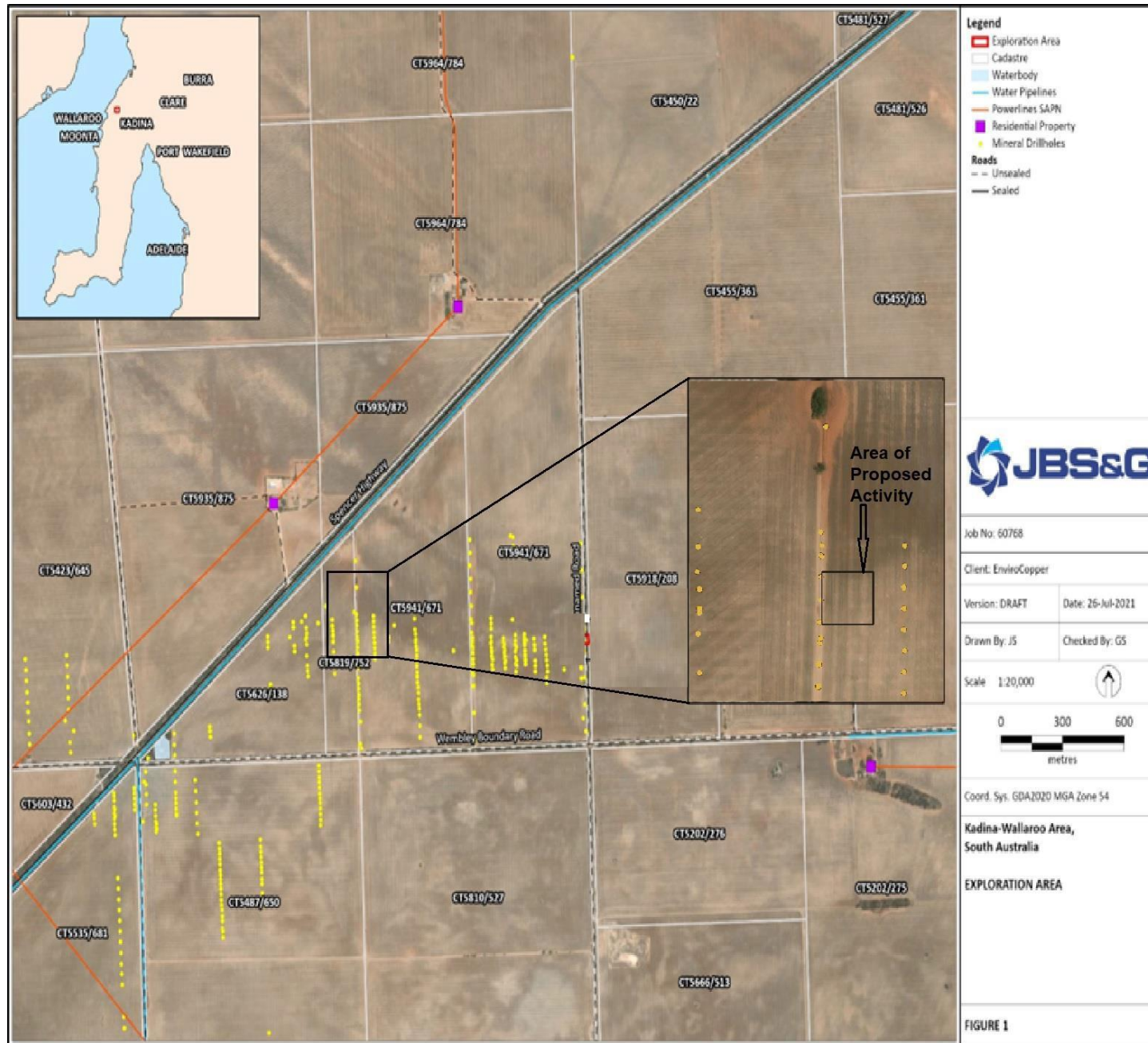
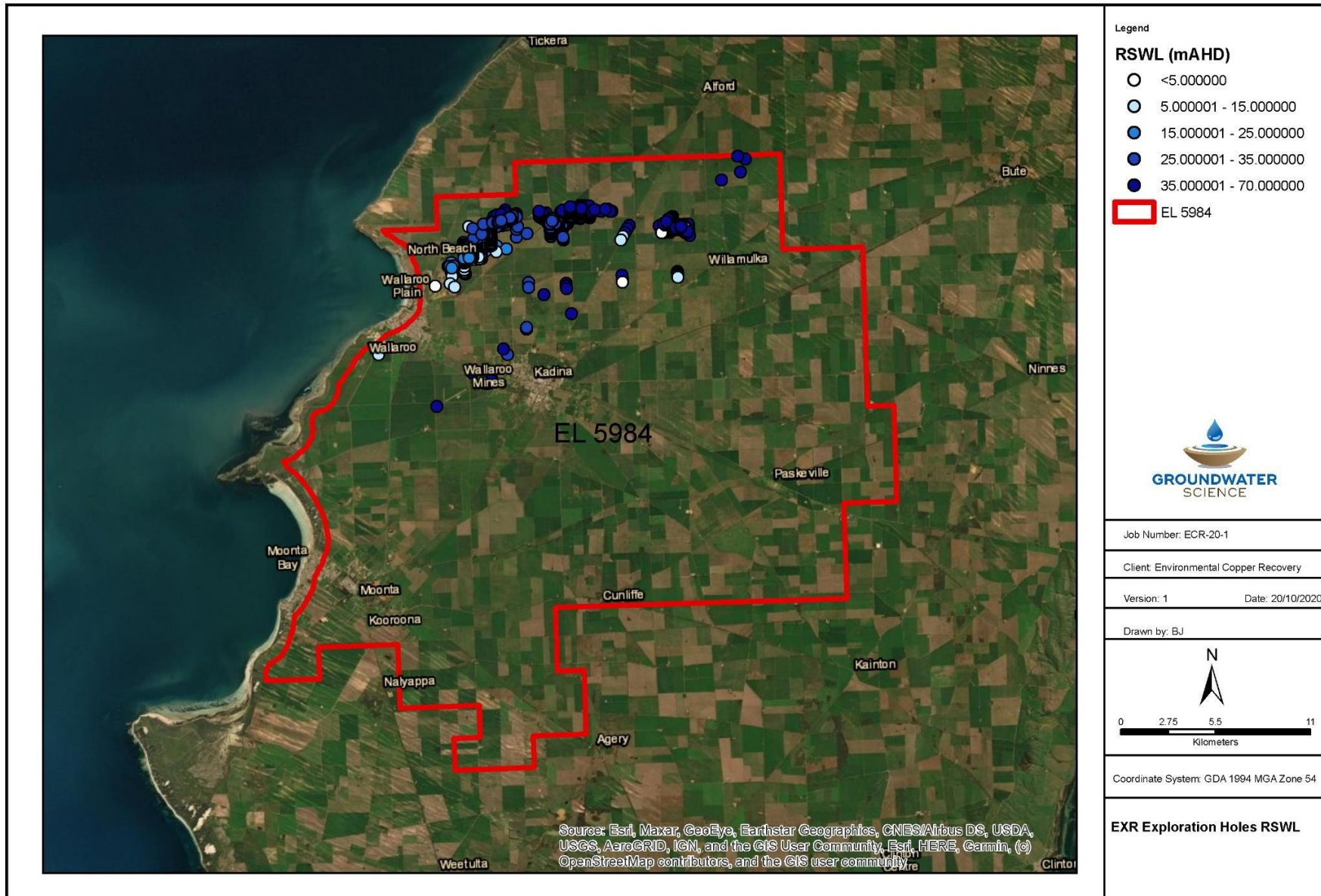


Figure 2: Proposed Exploration Area and Infrastructure  
12-month Exploration PEPR template – January 2021

Exploration PEPR application – 12-month period



Document Path: C:\Users\Matthew.Williams\Dropbox (Groundwater Science)\Groundwater Science Team\Folder\Project Files\ECR-20-1-Moonta\Desktop\GIS\Mapa\ECR\_Moonta\_Working.mxd  
 Document Name: ECR\_Moonta\_Working

Figure 3: Relative Standing Water Level

Exploration PEPR application – 12-month period

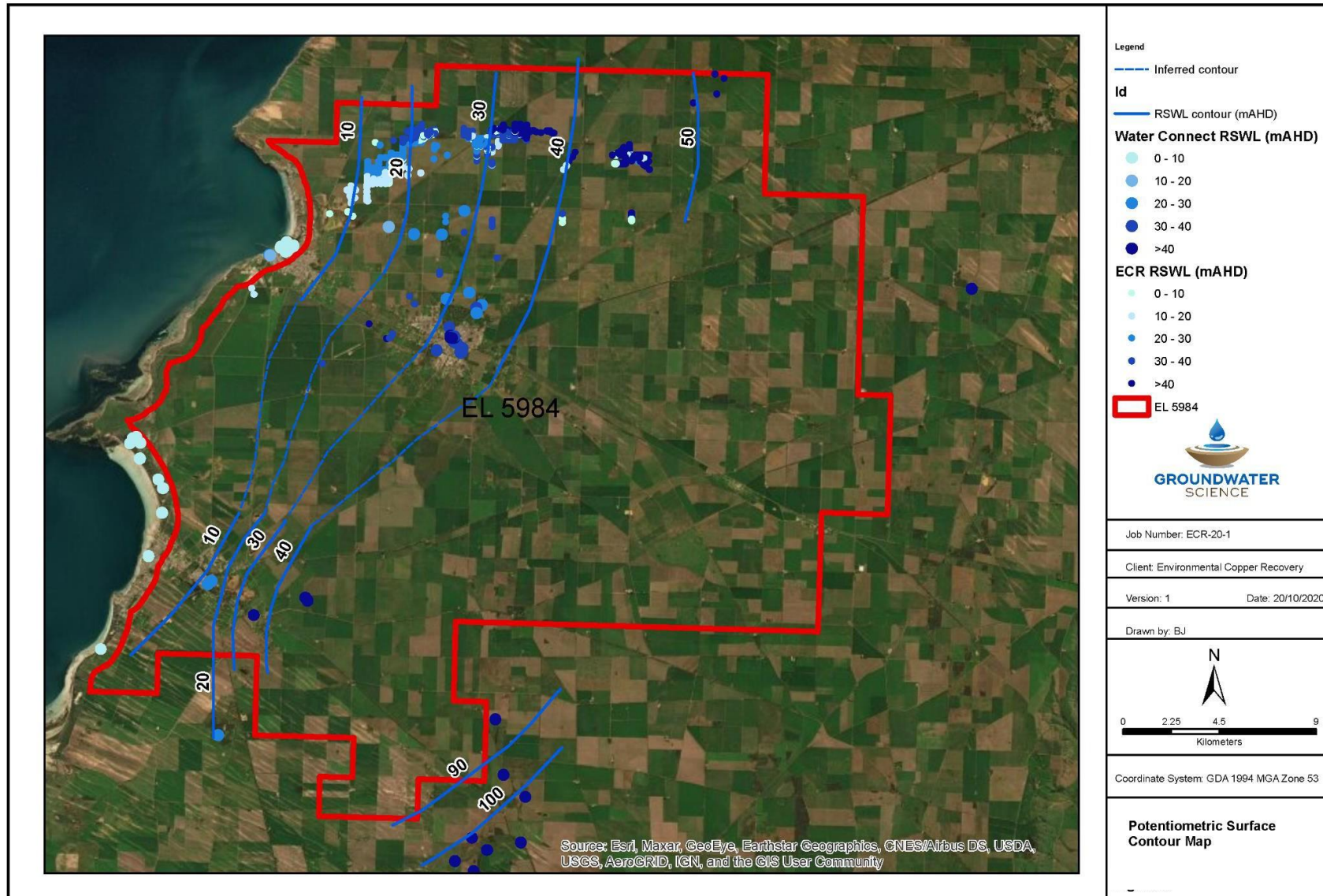
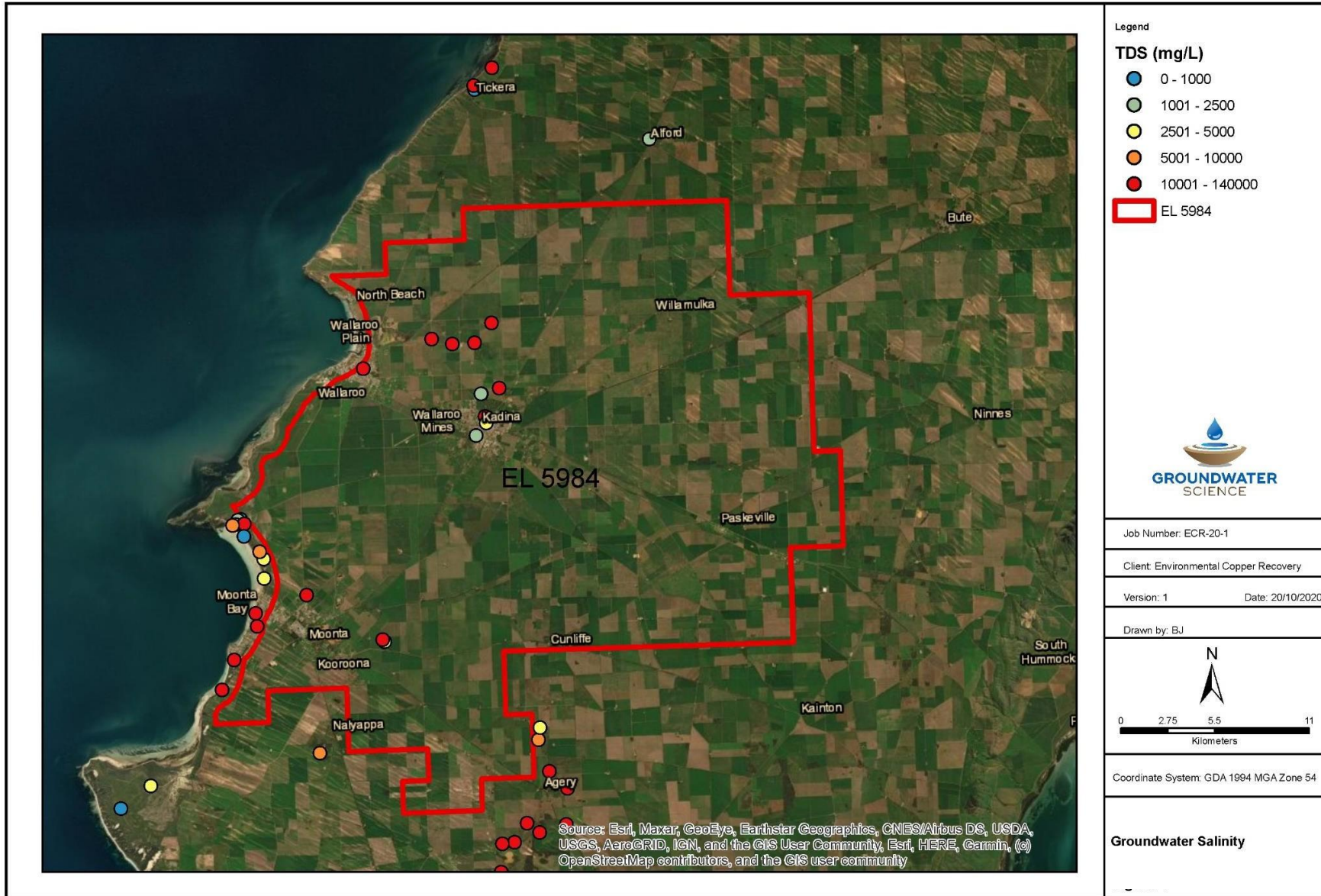


Figure 4: Groundwater Flow Contours

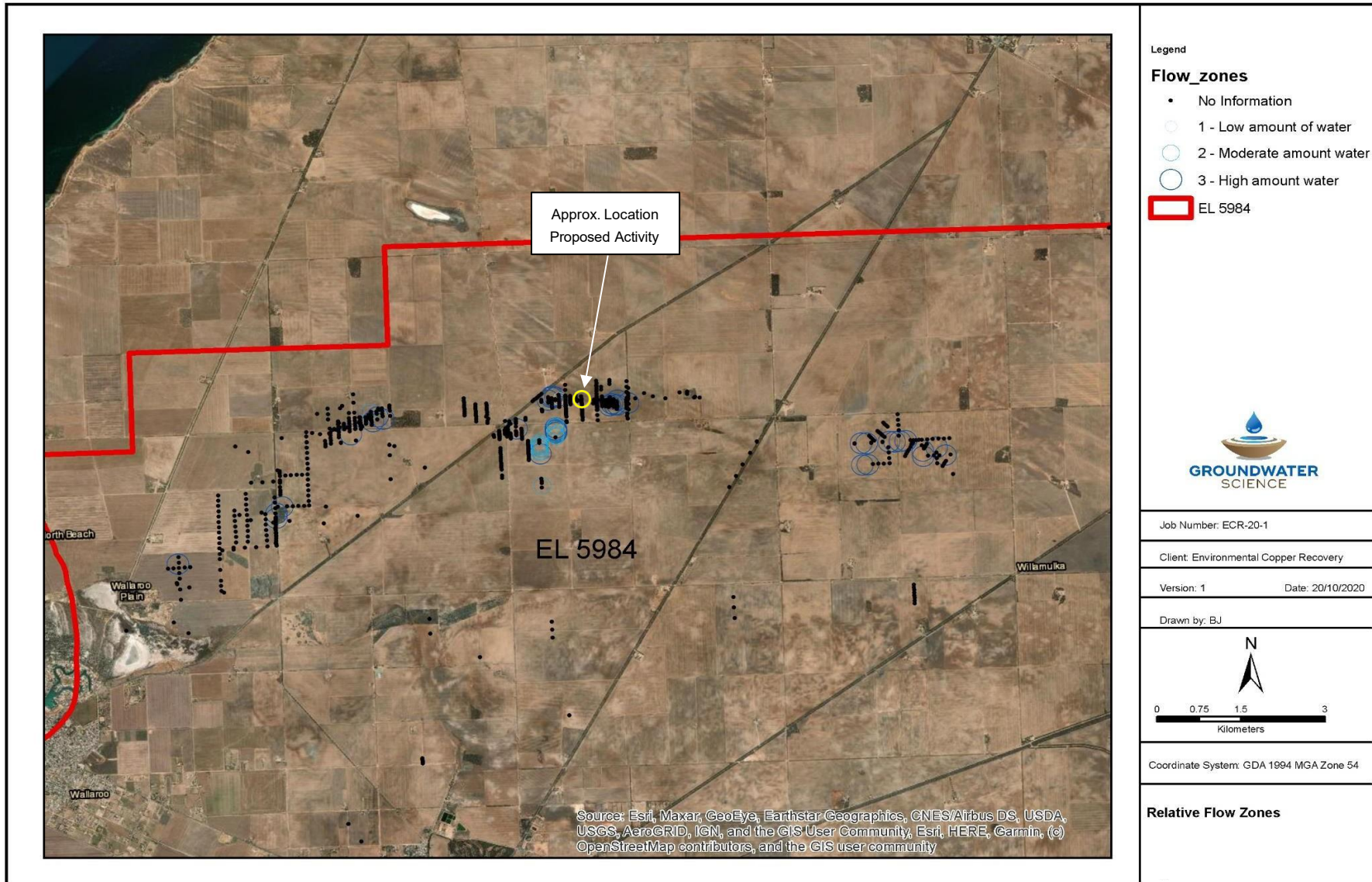
Exploration PEPR application – 12-month period



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Document Name: ECR\_Moonta\_Working

Figure 5: Groundwater Salinity

Exploration PEPR application – 12-month period



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 Document Name: ECR\_Moonta\_Working

Figure 6: Relative Flow Zones

Exploration PEPR application – 12-month period

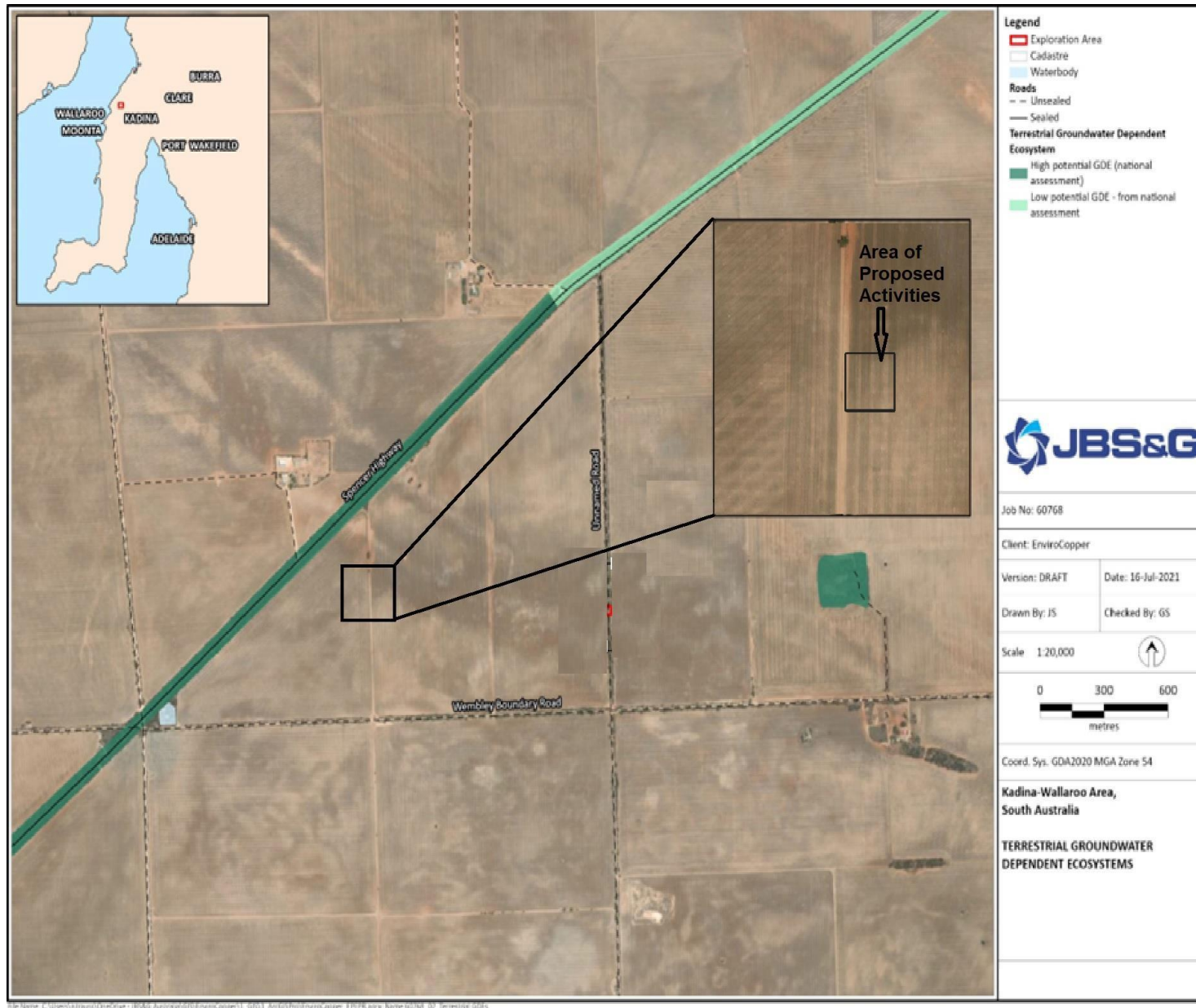


Figure 7: Terrestrial GDEs

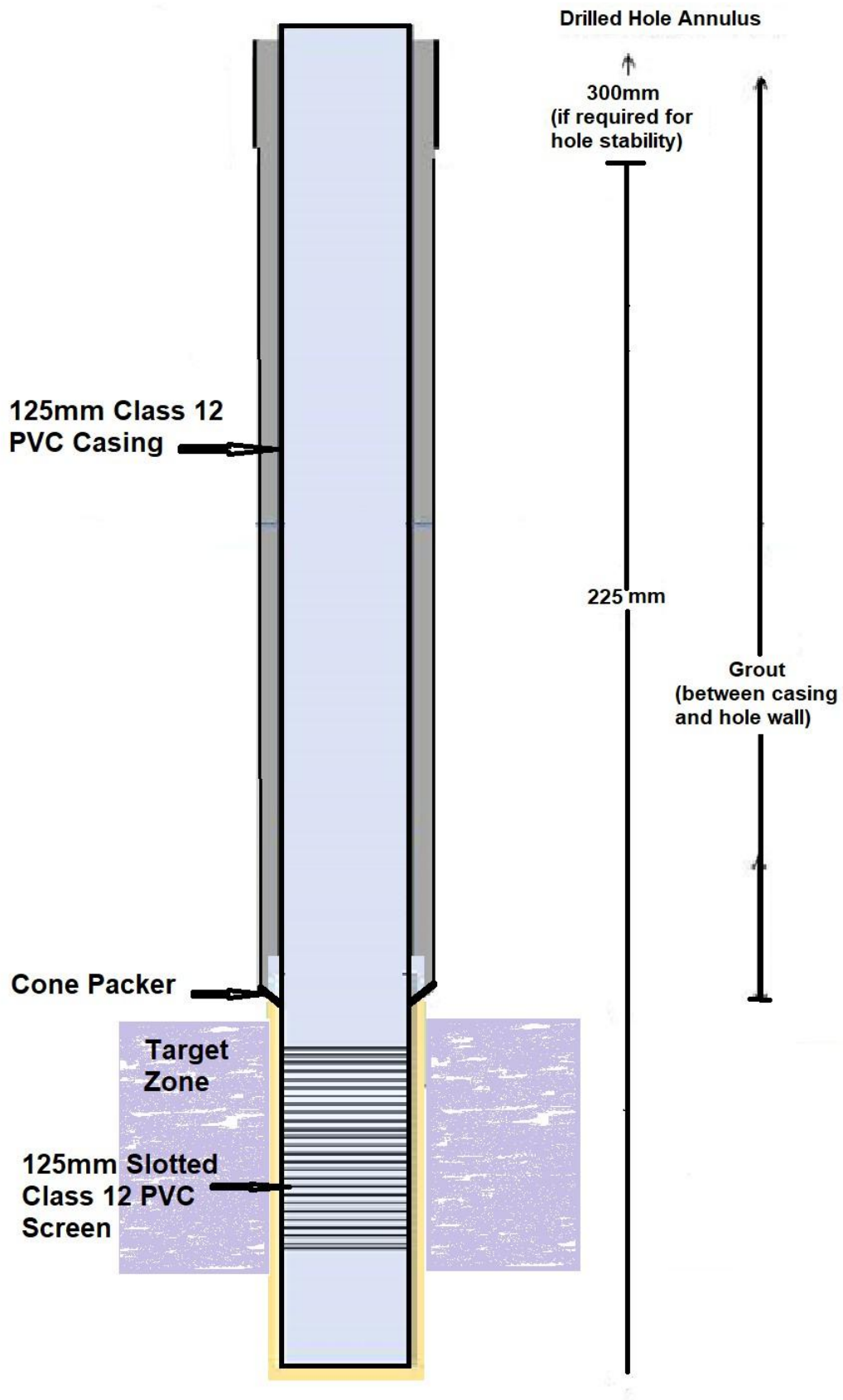


Figure 8: Typical Well Installation

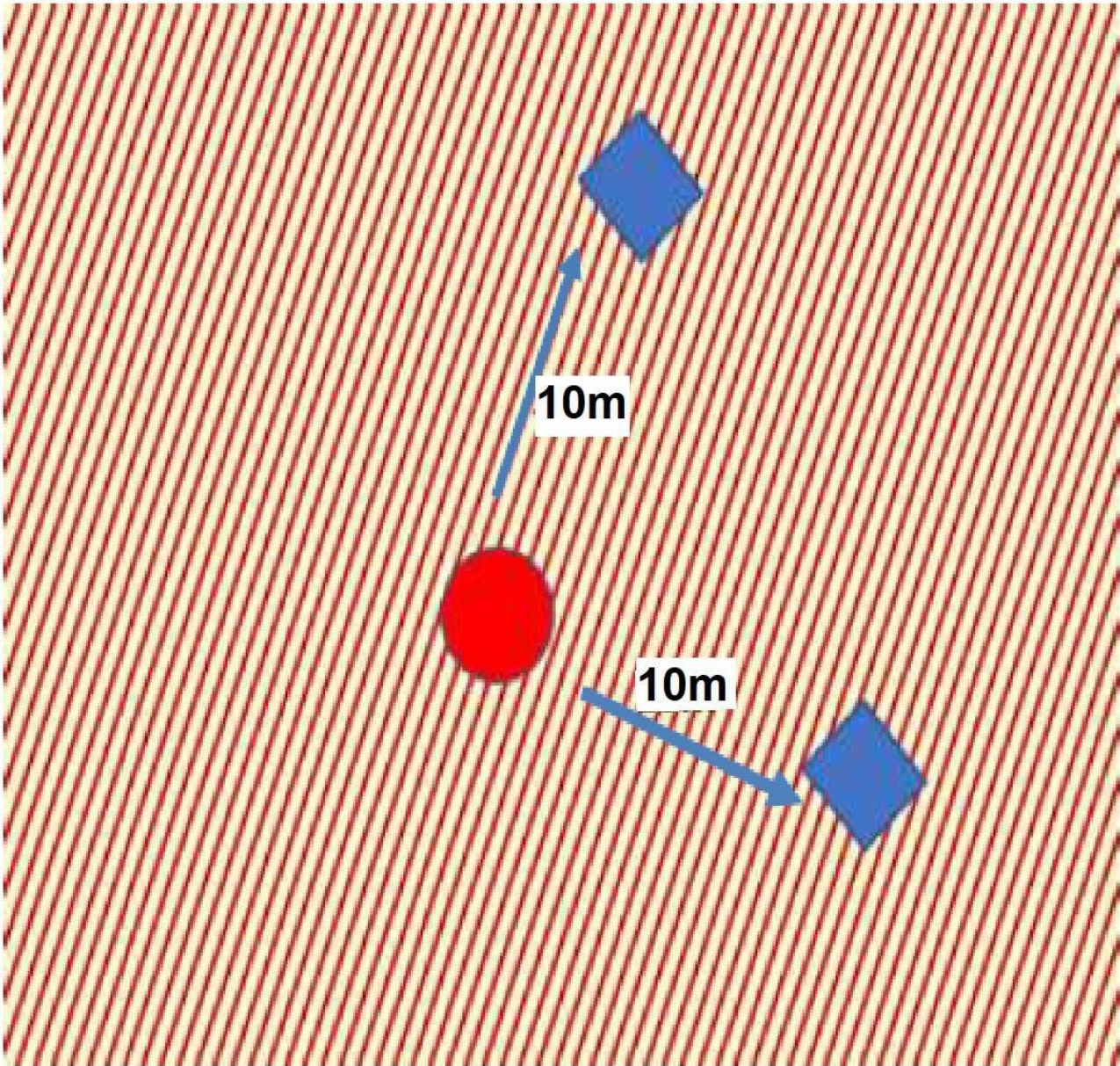


Figure 9: Well Placement Design

**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.