SOUTH AUSTRALIA

Government of South Australia
Department for Energy and Mining

Assessment Report

Retention Lease Application

Samphire Uranium Project

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Date:	Comment:
January 2025	First Published

Contents

1. Executive Summary

S Uranium Pty Ltd, a wholly owned subsidiary of Alligator Energy Limited, applied for a Retention Lease over Exploration License EL 5926 for an In Situ Recovery (ISR) Field Recovery Trial (FRT) at the Blackbush Uranium deposit, 20 kilometres (km) southwest of Whyalla (hereafter referred to as “the proposed operations”). The South Australian government assessed the application and concluded that with effective mitigation and management strategies, the proposed operations can be undertaken in a responsible manner that will enable the achievement of appropriate environmental outcomes.

This report details the South Australian Government’s assessment of the S Uranium Pty Ltd application. This assessment considers environmental, social and economic impacts, the potential to mitigate or manage these impacts, and whether or not on balance the impacts posed by the proposed operations would be deemed appropriate.

This report has been prepared in accordance with the requirements of the *Mining Act 1971* (the Act).

2. Application Information

Applicant: S Uranium Pty Ltd

Project Name: Samphire Uranium Project - Blackbush Deposit Field Recovery Trial

Exploration License Number: EL 5926

Project Location: Approximately 20 km southwest of Whyalla on Eyre Peninsula

Application Type: Retention Lease (RL)

Primary Commodities Investigated: Uranium

Nature of Retention Lease: Section 43(1)(a) of the *Mining Act 1971* – where the applicant seeks an authorisation to carry out authorised operations to obtain information required to support an application for a mining lease where those authorised operations are not suited to being conducted under an exploration licence.

Application Submission Date: 7 March 2023

2.1 Application Summary

The proposed retention lease (RL) covers a 2.35 km^2 (235 hectares (Ha)) area within Exploration Licence (EL) 5926. The RL is being sought to enable S Uranium Pty Ltd to undertake a small-scale 3-month uranium in-situ recovery (ISR) field recovery trial (FRT) at the Blackbush Deposit, 20 km southwest of Whyalla on Eyre Peninsula, 3.5 km west of Spencer Gulf's coastline (refer to figure 1 on page 6).

The proposed operations will enable evaluation of the economic and technical feasibility of a full-scale mining operation at Blackbush. An alternative bench-scale evaluation of ISR-amenability would not provide the hydrogeological and process information to enable further feasibility studies in preparation for a future mining lease application.

The proposed operations require pumping reagents such as sulphuric acid, ferric chloride/sulphate and hydrogen peroxide into the uranium mineralisation. The uranium mineralisation is located within an unconsolidated channel sand sequence (Kanaka Beds) positioned approximately 50 m below the surface, overlain by 40 m of impervious clays and marls. The end product after extraction will be eluate (containing ~6000 lbs of dissolved uranium) from the ion exchange stripping process. This eluate will be securely stored in tanks onsite in accordance with the *Nuclear Non-Proliferation (Safeguards) Act 1987* (Cwth) administered through the Australian Safeguards and Non-Proliferation Office (ASNO). S Uranium Pty Ltd proposes to retain the stored eluate for approximately 1 year post the end of the proposed operations to allow sufficient time for a formal decision to proceed or to determine the final process for eluate disposal. No uranium precipitate (yellowcake) will be produced from the proposed operations.

The groundwater associated with the mineralisation is more saline (35,000-60,000 TDS) than seawater (~40,000 TDS), and contains radium (Ra-226) between 1.8-357 Bq/L. The S Uranium Pty Ltd bench-scale test work shows that resin ion exchange will not perform effectively at such elevated salinities (chloride levels) and reduction of groundwater chlorides prior to adding reagents for uranium leaching would improve this. For this reason, preconditioning of the groundwater via reverse osmosis is proposed.

Security will be a key consideration in establishing the site. S Uranium Pty Ltd is proposing a ‘multiple perimeters’ approach to security. The proposed operations area will be within a rabbit/sheep proof fenced area and, within that, an additional high security fenced area will be erected around the processing infrastructure.

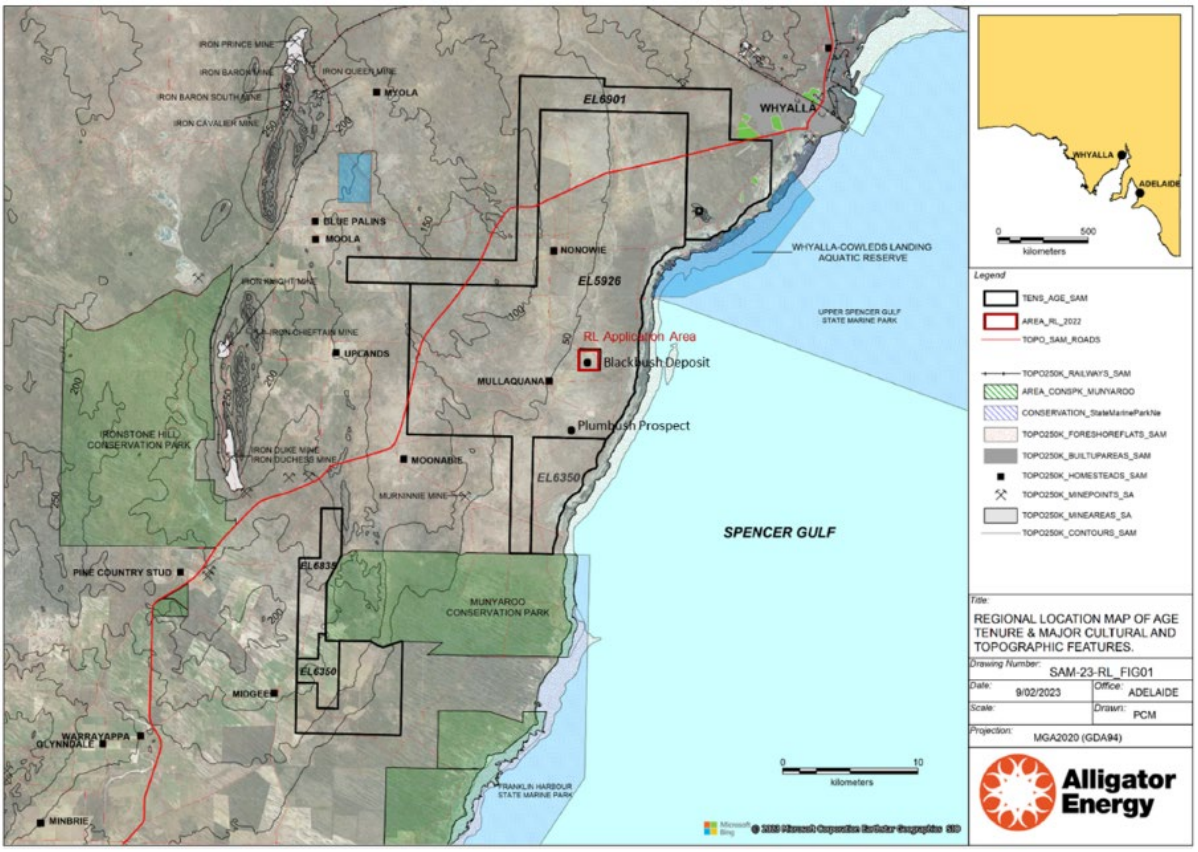

Figure 1: Location of the S Uranium Pty Ltd Retention Lease Application

3. Application Validity Assessment

At the time of submission, the application complied with the necessary requirements of the Act and Mining Regulations 2020 (the Regulations) and was **assessed as valid**. Refer to **Appendix 1** for the assessment.

While the application was assessed as valid, the proposal supporting the application required additional information to make it suitable for public consultation. The proposal was resubmitted by S Uranium Pty Ltd on 11 April 2023 (Version 1.0) and again on 22 July 2023 (Version 2.0). These versions incorporated additional information and document edits to reflect the recommendations of a preliminary review by the Department for Energy and Mining (DEM).

4. Applicant's consultation

The applicant has complied with the legislative requirements to undertake consultation on its application and proposal and has set out the results of that consultation within the proposal. Refer to **Appendix 2** for the results.

5. Statutory and Technical Referrals

5.1 Statutory Referrals

The application area **does not** fall within a Regional Reserve and no statutory referrals were required under the *National Parks and Wildlife Act 1972*.

The application area **does not** fall within an area defined by Schedule 14 (Mineral Production Tenement Areas) of the Planning Development and Infrastructure (General) Regulations 2017, and no statutory referrals were required under these regulations.

In accordance with section 56G of the Act, the lease application relates to an area that may be considered adjacent to a specially protected area (defined in the Act section 6 as including marine parks) due to the uncertainty in the connection of the proposed lease area with the Upper Spencer Gulf Marine Park via groundwater. Hence, on 22 November 2024 DEM referred the application to the relevant Minister (being the Minister for Climate, Environment and Water) for comment.

In response, on 11 December 2024, the Minister for Climate, Environment and Water wrote to the Minister for Energy and Mining supporting the grant of a lease subject to the inclusion of conditions attached to the lease.

5.2 Technical Referrals

Comments were sought from technical experts within relevant government departments:

a) Environment Protection Authority (EPA) – soil, air quality, noise, wastes, radioactivity, surface water, groundwater, environmental impacts.
b) Department for Environment and Water (DEW) – vegetation, weeds, plant pathogens, fauna, surface water, groundwater, environmental impacts.
c) Eyre Peninsula Landscape Board – vegetation, weeds, plant pathogens, fauna, surface water, environmental impacts.
d) Safework SA – work health and safety
e) Department for Energy and Mining (DEM) – exploration, compliance, closure, geological survey, geochemistry, hydrogeology.

6. Statutory Public Consultation

A four (4) week statutory public consultation in accordance with section 56H of the Act was undertaken as per the details in **Appendix 3**. Fifteen (15) public submissions were received. These submissions, along with a consolidated list of matters raised by government agencies, were attached to a request for response provided to the applicant on 20 December 2023 and published on the DEM website.

7. Applicant's Response Document

In accordance with section 56H(4) (public consultations) and 44(2) (technical referral) of the Act, a response document was required and was initially submitted by the applicant on 18 March 2024.

Following additional requests issued by DEM on 16 June 2024 and 25 July 2024, a final response document was submitted by the applicant on 31 July 2024.

This final response document was reviewed and determined to be suitable and appropriate for the purpose of assessing the application.

The applicant's response document was published on the DEM website on 25 November 2024.

8. Application Assessment

In accordance with section 56ZA of the Act, this report sets out the assessment against all Act and Regulation requirements. See **Appendix 4** for the details of the assessments.

The key assessment outcomes are as follows:

- Appropriate environmental outcomes can be achieved; DEM recommends that these environmental outcomes should be prescribed in the fourth schedule of the lease (see **Appendix 5** and **Appendix 6** for an assessment of outcomes, and **Appendix 7** for the recommended lease terms, conditions and requirements).
- In determining the recommended terms, conditions and requirements of the lease, it has been assessed that:
    - public submissions and the applicant's response document have been considered
    - all aspects of the environment that may be affected have been assessed and appropriate outcomes have been set
    - any other lawful activities that may be affected by those authorised operations have been assessed and appropriate outcomes set
    - any Aboriginal sites or objects within the meaning of the *Aboriginal Heritage Act 1988* that may be affected have been assessed and appropriate outcomes have been set to ensure protection of Aboriginal heritage
    - specific terms and conditions resulting from the assessment are set out in First and Second Schedules of the Lease.
- The length of the lease is recommended to be 5 years which takes into consideration the time to prepare the operational Program for Environment Protection and

Rehabilitation (Program), construction, operation, rehabilitation, closure and post closure monitoring and completion.

9. Other Legislative Requirements

9.1 Native Vegetation Act 1991

The proposed operation will result in the clearance of up to 2.5 ha of native vegetation.

All clearance activities associated with the proposed operation would be undertaken in accordance with the requirements of the *Native Vegetation Act 1991* (SA) (NV Act), Native Vegetation Regulations 2017 (SA) (NV Regulations) and the Policy for a Significant Environmental Benefit (SEB) (DEWNR 2020).

To allow clearance of native vegetation for the proposed operation, S Uranium Pty Ltd must submit an application and plan to provide a Significant Environmental Benefit (SEB) in accordance with the NV Regulations and the Policy for a Significant Environmental Benefit (SEB) (DEWNR 2020). Should a lease be granted, this plan can be submitted as part of the Program and clearance authorised under delegation from the Native Vegetation Council.

9.2 Murray River Act 2003

The applicaton area **does not** fall within the Murray River Protection Areas of the Murray Zone or Tributaries Zone.

9.3 Water Act 2007 (Cth)

The application area **does not** fall within the Murray-Darling Basin area.

9.4 National Parks and Wildlife Act 1972

The application area is considered adjacent to the Upper Spencer Gulf Marine Park and as such was referred to the Minister for Climate, Environment and Water. Refer to Section 5.1 of this report for further details.

9.5 Environment Protection Act 1993

The proposed operation will process up to 500 kL (500 tonnes) of lixiviant (exceeding the 100 t/year EPA authorisation threshold for Chemical Works) and involve the operation of a reverse osmosis plant capable of processing 350-500 kL/day (exceeding the 200 kL/day authorisation threshold for a desalination plant). As per Schedule 1 of the *Environment Protection Act 1993*, these activities may require authorisations in the form of a works approval and licence for the conduct of chemical works and operation of a desalination plant.

S Uranium Pty Ltd should consult with the EPA in relation to the necessary licence requirements.

9.6 Environment Protection and Biodiverisity Conservation Act 1999 (Cth)

Previous tenement holders Gingertom Resources Pty Ltd (operated by subsidiary UraniumSA Ltd) referred the Mallaquana Uranium Project (containing the Blackbush deposit) to the Department of Sustainability, Environment, Water, Populations and Communities (DSEWPC) (now Department of Climate Change, Energy, the Environment and Water (DCCEEW)) for consideration under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) on 29 November 2010.

On 11 Feburary 2011, DSEWPC declared Mallaquana Uranium Project, SA (EPBC 010/5751) -– not a controlled action if undertaken in a manner consistent with that described in the 2010 referal documents. A gap analysis undertaken by S Uranium Pty Ltd concluded that the Samphire Uranium Project is substantially the same as the Mallaquana Uramiun Project referred in November 2010. An assessment undertaken by S Uranium Pty Ltd concluded that any changes to the project design were considered either immaterial or that they would lessen environmental impacts. For these reasons the Samphire Uramium Project has not been separately referred by the applicant under the EPBC Act. Refer to Appendix A of the Retention Lease Proposal for details of EPBC Referral and Assessment Documents.

9.7 Landscape South Australia Act 2019

The *Landscape South Australia Act 2019* promotes sustainable and integrated management of the state's natural resources and provides for their protection. The application was provided to the Eyre Peninsula Landscape Board for consideration.

S Uranium Pty Ltd should consult with the Eyre Peninsula Landscape Board in relation to any necessary permit requirements for activities that affect water.

9.8 Planning, Development and Infrastructure Act 2016

The application area **does not** fall within an area defined by Schedule 14 (Mineral Production Tenement Areas) of the Planning Development and Infrastructure (General) Regulations 2017.

9.9 Native Title Act 1993 (Cth) under Part 9B of the Mining Act 1971

Native Title is extinguished over the Moonabie Pastoral Lease and surrounding Pastoral Leases in accordance with Schedule 6 and Schedule 2 (map) of the Barngarla Native Title Claim (SCD2016/001) (Determination).

9.10 Aboriginal Heritage Act 1998

S Uranium Pty Ltd has been engaging with the Barngarla Determination Aboriginal Corporation (BDAC) throughout the past and current project phases. This included cultural heritage surveys within and surrounding the Samphire Project to establish any significant cultural heritage material and document any ethnographic findings. S Uranium Pty Ltd has informed DEM that no Aboriginal heritage sites, objects or remains were discovered during

the course of these cultural heritage surveys. Alligator Energy Limited has undertaken two heritage surveys to date (September 2021 and August 2022) for exploration and development activities, which included the proposed RL area, with no heritage sites identified.

The *Aboriginal Heritage Act 1988* protects all Aboriginal sites, objects and ancestral remains throughout South Australia. Under the requirements of that Act, operations that might damage, disturb or interfere with known Aboriginal heritage cannot be undertaken unless a permit/s is obtained prior to the commencement of operations.

DEM has recommended an appropriate outcome to ensure protection of Aboriginal heritage. Should a lease be granted the measurement criteria must specifically reference obligations set out by the *Aboriginal Heritage Act 1998*.

9.11 Radiation Protection and Control Act 2021

S Uranium Pty Ltd has submitted a radiation management licence application to the EPA requesting authorisation to 'possess a radiation source' under the *Radiation Protection and Control Act 2021* (RPC Act).

The proposed FRT may require additional authorisation as per requirements of the RPC Act prior to commencing any works to establish developmental testing operations. This will require the development of a Radiation Management Plan and Radioactive Waste Management Plan compliant with the Code of Practice and Safety Guide for Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing.

S Uranium Pty Ltd should consult with the EPA in relation to necessary regulatory requirements under the RPC Act.

9.12 Nuclear Non-Proliferation (Safeguards) Act 1987

The security measures proposed for retaining the eluate onsite post-trial may require permitting through the Australian Safeguards and Non-Proliferation Office (ASNO).

S Uranium Pty Ltd should consult with the ASNO in relation to necessary permitting requirements.

10. Notification of Proposed Terms and Conditions

Prior to determining whether to grant the Retention Lease, DEM notified S Uranium Pty Ltd of the proposed terms and conditions on 18 December 2024, in accordance with Regulation 33 of the Mining Regulations.

S Uranium Pty Ltd made a submission on 27 December 2024 providing feedback on the proposed terms and conditions. As a result, the following two (2) minor wording corrections were made to the Fourth Schedule:

i. Clause 5.5.2 – first sentence ‘access’ was changed to ‘assess’

ii. Clause 18.3 – ‘rangers’ was changed to ‘ranges’.

11. Conclusions and Recommendations

It is concluded that based on the applicant’s description of the environment and proposed operations, appropriate environmental outcomes have been identified and can be achieved.

It is recommended that, on the basis of the applicant’s application and proposal, public submissions, the applicant’s response document, and this assessment report, the Minister (or delegate) grant a retention lease to S Uranium Pty Ltd for a term of 5 years.

12. Application and Assessment Metrics

Item	Date
Valid Retention Lease application submitted	7 March 2023
Further information requested to deem adequate for statutory public consultation	23 March 2023
Revised Retention Lease proposal submitted	11 April 2023
Further information requested to deem adequate for statutory public consultation	17 April 2023
Revised Retention Lease proposal submitted	22 July 2023
Application assessed to be adequate for statutory public consultation	10 August 2023
Commencement of statutory public consultation	23 August 2023
End of statutory public consultation	20 September 2023
Request for Response Document	20 December 2023
Response Document submitted	18 March 2024
Further information requested	18 June 2024
Revised Response Document submitted	18 July 2024
Further information requested	25 July 2024
Revised Response Document submitted	31 July 2024
Response Document accepted	29 August 2024
Regulation 33 notification of proposed terms and conditions	18 December 2024
Decision made	Refer to DEM website

Appendix 1 – Application Validity Assessment

Validity Requirement	Assessment	Legislation
Tenure - The applicant must hold the required Act tenure to make an application.	The applicant is the holder of EL 5926, allowing a retention lease application to be validly made in respect of the whole or part of land comprised in EL 5926.	Act section 42(1)(b)
Notices, Consents and Agreements - The applicant must have complied with notice, consent and agreement requirements.	Act section 58A(3) – notice of intent to apply must be served on landowner prior to application. Application must be made within 12 months after serving notice. Form 21C for the RL were submitted for the following: • Moonabie Station • Energy Exploration Pty Ltd (note this license has since expired) Act section 80 – Simultaneous tenements – consent required by other tenement holders prior to grant. EL 5926 is held by S Uranium Pty Ltd (the applicant for the RL). A section 80 agreement was provided to DEM on 9 September 2024, to enable the land to be simultaneously subject to more than one tenement.	Act section 58A(3) Act section 80
Fee - The application must be accompanied by the correct prescribed fee.	The following prescribed fees accompanied the application and are correct: Base Component: $910 Advertising Component: $982 Assessment Component: $6,050 Total: $7,942.00	Act section 44(1)(e).
Form - The application must be made in the determined manner and form.	The application correctly used the determined Form 12 and the completed form included the required information.	Act section 44(1)(a)

Boundaries - The application must correctly identify the boundaries of the proposed lease.	The application correctly identified the boundaries of the land in respect of which the lease is being sought in accordance with the requirements of section 56E of the Act. The location of the lease is identified by a survey plan provided by the applicant.	Act section 44(1)(b) Act section 56E
The Proposal - The application must be accompanied by a proposal that meets the legislative requirements.	The application was accompanied by a proposal. The proposal included sufficient information to satisfy the requirements of the Act and Regulations.	Act section 44(1)(c) Regulation 46 Regulation 47
Other information - The application must be accompanied by such other information prescribed by the Regulations.	The application included information prescribed by the Regulations to support a valid application.	Act section 44(1)(d) Regulation 31
Declaration of accuracy to accompany application.	The application included an appropriate declaration of accuracy signed by Dr Andrea Marsland-Smith, Chief Operating Officer on behalf of Alligator Energy Ltd declaring that the signatory has taken reasonable steps to review the information in the application and to ensure its accuracy.	Regulation 84

Appendix 2 – Assessment of Applicant's Consultation

Assessment Requirement	Assessment	Legislation
The Proposal must set out the *results of the consultation* undertaken in connection with the proposed operations in accordance with the regulations	Section 7 of the Proposal sets out the applicants results of consultation.	Act section 44(1)(c)(iv)
The consultation on the Proposal should focus on *engagement on environmental outcomes*	Section 7 of the Proposal sets out the applicants results of consultation. Section 7 .6 addresses the consultation on environmental outcomes.	Regulation 47(2)(a)(i)
The consultation on the Proposal must demonstrate reasonable steps have been taken to *consult with the owner of land* where the authorised operations are proposed to be carried out	Appendix J of the Proposal sets out the applicants results of consultation with the owners of land: • Moonabie Station pastoralist (CL 6171/767, Hundred of Poynton) • Energy Exploration Pty Ltd (PEL 126)	Regulation 47(2)(a)(ii)
The results of consultation on the Proposal must set out the person(s) consulted, any *issues of concern* raised, and the steps (if any) taken or proposed to be taken to address those concerns	Section 7 of the Proposal sets out the applicant's results of consultation including issues raised and steps to address concerns. See the following Tables in the Proposal • Section 7.7 Outcome of consultation activities, Table 7.1 summary of stakeholder and community consultation, issues and responses. • Appendix J Community engagement Records.	Regulation 47(2)(b)

Appendix 3 - Statutory Public Consultation

Assessment Requirement	Assessment	Legislation
The Minister must … give notice of the application— (a) to the owner of the land to which the application relates; and (b) if the land is within the area of a council—to the council.	Notice of the application was provided to the owner(s) of land and the council on 17 August 2023.	Act section 56H(2)
The Minister must publish … a notice— (a) describing the land to which the application relates and, if relevant, the particular stratum in relation to which the tenement would be, or has been, granted (as the case requires); and (b) specifying a place where the application may be inspected; and (c) inviting written submissions in relation to the application to the Minister within a time specified in the invitation.	Statutory notices specifying a 4-week consultation period for written public submissions were published as follows: 1) Government Gazette – 24 August 2023 2) DEM website – 23 August 2023 3) The Advertiser – 24 August 2023 4) Whyalla News – 24 August 2023 15 public submissions were received and published in the request for response document published on the DEM website.	Act section 56H(3)
The Minister— (a) must give to the applicant a copy of any public submission received; and (b) may require the applicant to respond to any matter raised in any such public submission within a period specified by the Minister.	A copy of the public submission was provided to the applicant on 20 December 2023. A Response Document was required with a due date of 18 March 2024. DEM requested further information be provided in the response document on 18 June 2024 and again on 25 July 2024. The applicant submitted a **final** response document on 31 July 2024 and was accepted by DEM on 28 August 2024. The response document is available on the DEM website.	Act section 56H(4)

Minister's consultation with native title groups in relation to RLs is a specific case to be included if applicable	Native Title is extinguished over the Moonabie and surrounding Pastoral Leases. Barngarla Determination Aboriginal Corporation (BDAC) Native Title Claim (SAD6011/98) exists in the surrounding area. DEM received correspondence from BDAC after the publication of the public submissions in the request for response document (post the conclusion of the statutory public consultation period). DEM acknowledged BDAC's correspondence and encouraged BDAC to raise any concerns they may have with the proposed project with S Uranium Pty Ltd directly. In accordance with regulation 64(1), the Program for Environment Protection and Rehabilitation (Program) application must include information on all consultation undertaken in connection with the preparation of the PEPR should a lease be granted. This includes addressing any issues of concern raised by the persons consulted and the steps taken or proposed to be taken by the tenement holder.	Part 9B of the Act

Appendix 4 – Application Assessment

Assessment Requirement	Assessment	Legislation
Exempt land is defined at the point of establishing an application for a lease or licence.	Section 3.15 of the Proposal sets out the exempt land applicable to this application. Coronation Dam is the only exempt land applicable to the RL area, however, the proposal does not include any operations within 150 m of the dam.	Act section 9(2)
Identification of existing or permissible land use and geological heritage values of an area is at the time of grant.	Chapter 3.11.2 of the Proposal sets out the existing and permissible land uses which remain current at the time of writing this report. Section 3.12.2 of the Proposal has identified that the proposed tenement does not overlay any non-indigenous heritage sites. Section 3.12.3 of the Proposal has identified that the proposed tenement does not overlay any geological heritage sites. Section 3.13 of the Proposal has identified that the proposed tenement does not fall within any conservation areas, however, there are several conservation areas in the wider region.	Act section 6(4)(c)
Area of proposed lease.	The applicant has applied for a lease over the part of the land comprised in the exploration licence (EL) 5926, as per Section 2 of the proposal. The area of the proposed RL is 235 hectares.	For RL, Act section 42(1)

Minister must not grant a lease unless the Minister is satisfied that appropriate environmental outcomes will be able to be achieved.	The Proposal, public submission and response document have been assessed as demonstrating that appropriate environmental outcomes will be able to be achieved. It is recommended that these be prescribed in the lease (see **Appendix 7** for the recommended terms, conditions and requirements). All potential impact events have been identified and appropriately investigated. Outcomes are required for those impact events where the source, pathway and receptor are confirmed and the consequence of the impact prior to controls is significant. The control strategies proposed to mitigate potential impacts are set out in Chapter 7 *Assessment of potential environmental impacts* from page 217 in the Proposal. These have been assessed to be effective in achieving the outcomes. The environmental outcome is a statement of the level of impact subsequent to control strategies.	For RL, Act section 45(1)
If an application to which this section applies relates to an area within or adjacent to a specially protected area, the Minister must … refer the application to the relevant Minister and consult with the relevant Minister in relation to the matter. Specially protected area means— (a) the Adelaide Dolphin Sanctuary; or (b) a Marine Park; or (c) a River Murray Protection Area.	In accordance with section 56G of the Act, the lease application relates to an area adjacent to the Upper Spencer Gulf Marine Park which is considered a specially protected area (defined in the Act section 6) hence DEM referred the application to the Minister for Climate, Environment and Water for comment. In response, on 11 December 2024 the Minister for Climate, Environment and Water wrote to the Minister for Energy and Mining supporting the grant of a retention lease subject to the inclusion of conditions on the lease (reflected in Appendix 7).	Act section 56G

In determining whether or not to grant an application … and, if so, the terms and conditions on which it should be granted, the Minister must have regard to any public submissions or applicant response document received under s56H subsection (3) or (4).	15 public submissions were received. The applicant provided a response document in response to those public submissions. The key matters raised in the public submissions included: a) The release and concentration of radioactive material at surface and the associated environmental impacts and public safety risk. b) Groundwater contamination and site rehabilitation. c) Concerns relating to full scale uranium mining and open pit uranium mining. These included weapon proliferation risks associated with uranium production. S Uranium Pty Ltd is required to comply with the *Nuclear Non-Proliferation (Safeguards) Act 1987* and the *Radiation Protection and Control Act 2021*. These concerns were not considered further in this assessment, as they are not applicable to the proposed ISR field trial. d) Impacts of increased traffic on minor roads proposed for site access. e) Decline in visual amenity. f) Waste disposal pathway of low-level liquid and solid radioactive waste. g) Storage and disposal of the eluate. The applicant's response document has provided sufficient information to support government's assessment of the applications. Environmental outcomes are recommended to be prescribed in the lease (refer to **Appendix 7**) that relate to each of the matters raised through public consultation. The assessment has concluded that these environmental outcomes are appropriate, and that the applicant has proposed control strategies that would be effective in achieving those outcomes.	Act section 56H(6)

The Minister must, in determining the terms and conditions … give proper consideration to— (a) any aspect of the environment that may be affected by the conduct of authorised operations under the tenement; and (b) any other lawful activities that may be affected by those authorised operations; and (c) any Aboriginal sites or objects within the meaning of the *Aboriginal Heritage Act 1988* that may be affected by those authorised operations.	Environmental outcomes are recommended (refer to Appendix 7) that relate to aspects of the environment, lawful activities and Aboriginal heritage that may be affected. The assessment has concluded that these environmental outcomes are appropriate, and that the applicant has proposed control strategies that would be effective in achieving those outcomes.	Act section 56I(2)
A retention lease may be granted for such term, not exceeding 5 years, as may be determined by the Minister and specified in the lease.	The lease term of 5 years is recommended for the RL: a) time to prepare the operational program – 12 months b) construction – 2 months c) operation – 3 months d) rehabilitation, closure and mine completion – up to 3 years	For RL Act section 46(1)
Retention leases are subject to a) such terms and conditions as may be prescribed; and b) such additional terms and condition as the Minister thinks fit and specified in the lease.	Recommended additional lease terms and conditions are detailed in Appendix 7.	For RL, Act section 43(3)

Appendix 5 – Assessment of Outcomes

DEM Assessment of Proposed Outcomes (from Section 8 of the proposal)

Note: should a lease be granted, the draft measurement criteria and leading indicator criteria (for demonstrating achievement of the recommended outcomes) will be finalised and assessed in the PEPR.

ID/ Impact event/ Proposed outcome	DEM Assessment of source, pathway receptor	Assessment of proposed outcomes, strategies and uncertainty
Aspect: Soil **Impact**: **I.1** Loss in soil quantity via erosion and/or soil quality, preventing successful revegetation and a return to pastoral use. **Impact**: **I.2** Reduction in soil quality preventing revegetation and a return to pastoral use. **Impact**: **I.3** Change in soil chemical and radiological composition, limiting revegetation and/or a return to pastoral activities. **Proposed outcome at construction and operations**: Soil affected by FRT activities is suitable for a return to pastoral use. **Proposed outcome at closure**: Soil affected by FRT activities is suitable for a return to pastoral use.	***I.1, I.2 and I.3:*** *DEM confirms that the Source(s), Pathway(s) and Receptor(s) would exist. DEM notes that an additional receptor would be future land users, and additional source of impact would be from incorrect storage/stockpiling of topsoil. DEM assesses that the consequence of the potential impacts is considered significant, hence, soil, land use and radiation outcomes are required.*	***DEM Assessment of Proposed Outcomes*** *The intent of the outcomes proposed are appropriate, however an alternative is recommended to ensure that the outcomes are appropriate for regulation. The recommended soil outcome relates to soil impacts at mine closure. Additional land use outcomes are recommended for impacts during construction and operation.* ***DEM Assessment of Strategies and Uncertainty*** *The outcome(s) is assessed to be achievable given the proposed controls.* *DEM considers development of a detailed spill management procedure to be a critical strategy to ensure any spills can be appropriately remediated. It is recommended that this be a fourth schedule lease requirement for the PEPR, should a lease be granted.* *A description of uncertainties has not been provided, however the controls provided are industry standard and understood to have been proven to be effective in mitigating the impacts to soil in similar operations across the state.*
Aspect: Groundwater **Impact**: **I.6** Reduction in the environmental value of the overlying Quaternary (overlying) aquifer. **Impact**: **I.7** Reduction in the environmental value of the Tertiary (target) aquifer. **Impact**: **I.9** Contamination on of Spencer Gulf seawater. **Impact**: **I.10** Reduction in the environmental value of the underlying Fractured Rock Quaternary aquifer.	The detailed DEM assessment of groundwater impacts, proposed outcomes, strategies and criteria is provided in Appendix 6 of this report.	

ID/ Impact event/ Proposed outcome	DEM Assessment of source, pathway receptor	Assessment of proposed outcomes, strategies and uncertainty
Aspect: Vegetation, Weeds and Plant Pathogens **Impact**: **I.13** Reduction in native species abundance within the RL. **Impact**: **I.14** Long-term reduction in conditions favourable for growth or revegetation within the RL. **Impact**: **I.15** Introduction of new weed species or plant pathogens within the RL. **Impact**: **I.16** Increased declared weed density and distribution within the RL. **Impact**: **I.17** Failure of revegetation on closure of the FRT. **Proposed outcomes at construction and operations**: No permanent loss of native species abundance or species richness on or off the tenements due to operations unless prior approval under the relevant legislation is obtained. No introduction of new declared weed species, plant pathogens and/or increase in density or distribution of existing weed species and plant pathogens. **Proposed outcomes at closure**: All impacted areas not required for future development are stable, with evidence that the ecosystem function will ultimately be achieved.	***I.13:*** *DEM confirms that the Source(s), Pathway(s) and Receptor(s) would exist. DEM assesses that the consequence of the potential impacts is considered significant, hence native fauna, vegetation, weeds and pest outcomes are required.* ***I.14 and I.17:*** *DEM confirms that the Source(s), Pathway(s) and Receptor(s) would exist. DEM assesses that the consequence of the potential impacts is considered significant, hence, native vegetation, weeds and pest and land use outcomes are required.* ***I.15 and I.16:*** *DEM confirms that the Source(s), Pathway(s) and Receptor(s) would exist. DEM assesses that the consequence of the potential impacts is considered significant, hence a weed and pest outcome is required.*	***DEM Assessment of Proposed Outcomes*** *The intent of the outcomes proposed are appropriate, however, an alternative(s) is recommended to ensure that the outcome(s) is appropriate for regulation.* ***DEM Assessment of Strategies and Uncertainty*** *The outcomes are assessed to be achievable given the proposed controls. A description of uncertainties has not been provided, however the controls provided are industry standard and understood to have been proven to be effective in mitigating the impacts to vegetation, weeds and plant pathogens in similar operations across the state.*
Aspect: Native Fauna & Pests **Impact**: **I.18** Reduction in native fauna species diversity and abundance. **Impact**: **I.19** Increased abundance of introduced pest species. **Proposed outcomes at construction, operations and closure**: No native fauna injuries or deaths due to project activities that could have been reasonably prevented. No introduction of new pest species or increase in abundance of existing pest species within the RL in comparison with adjoining pastoral land.	***I.18 and I.19:*** *DEM confirms that the Source(s), Pathway(s) and Receptor(s) would exist. DEM notes that the introduction or an increase in pest species may lead to competition with native fauna and a reduction in native fauna species. DEM assesses that the consequence of the potential impacts is considered significant, hence native fauna and weed and pest outcomes are required.* ***I.18:*** *DEM confirms that the Source(s), Pathway(s) and Receptor(s) would not exist, and the justification provided is appropriate as no ponds or large open storage vessels will be utilised. DEM assesses that the consequence of the potential impacts is not considered significant, hence an outcome is not required.*	***DEM Assessment of Proposed Outcomes*** *The intent of the outcomes proposed is appropriate, however, an alternative is recommended to ensure that the outcome(s) is appropriate for regulation.* ***DEM Assessment of Strategies and Uncertainty*** *The outcome(s) is assessed to be achievable given the proposed controls. A description of uncertainties has not been provided, however the controls provided are industry standard and understood to have been proven to be effective in mitigating the impacts to native fauna and pests in similar operations across the state.*

ID/ Impact event/ Proposed outcome	DEM Assessment of source, pathway receptor	Assessment of proposed outcomes, strategies and uncertainty
Aspect: Heritage **Impact**: **I.22** Disturbance or damage to Aboriginal site, object or remain not yet identified. **Impact**: **I.23** Disturbance or damage to registered Aboriginal sites, objects or remains. **Impact**: **I.24** Disturbance or damage to non-Aboriginal heritage sites of significance. **Proposed outcomes at construction, operations and closure**: No disturbance to Aboriginal sites, objects, or remains of significance without prior approval under the Aboriginal Heritage Act 1988.	***I.22:*** *DEM confirms that the Source(s), Pathway(s) and Receptor(s) would exist. DEM notes that an additional receptor may be indigenous groups other than the Barngarla People. DEM assesses that the consequence of the potential impacts is considered significant, hence, a heritage outcome is required.* ***I.23 and I.24:*** *DEM assesses that Receptors (registered Aboriginal sites, objects or remains, and non-Aboriginal heritage sites of significance) do not currently exist, and the Source(s), Pathway(s) and Receptor(s) are not confirmed for these impact events.*	**DEM Assessment of Proposed Outcome** *The intent of the outcome proposed is somewhat appropriate, however, an alternative is recommended to ensure that the outcome(s) is appropriate for regulation.* **DEM Assessment of Strategies and Uncertainty** *The outcome is assessed to be achievable given the proposed controls and industry standard strategies that can be implemented. A description of uncertainties has not been provided, however the controls will be to industry standard and understood to have been proven to be effective in mitigating the impacts to heritage in similar operations across the state.*
Aspect: Amenity & Conservation Values **Impact**: **I.25** Reduction in local visual amenity. **Impact**: **I.26** Reduction in conservation values of adjacent conservation areas. **Proposed outcomes at construction, operations and closure**: All reported visual impacts are recorded, investigated, and rectified where practicable.	***I.25*** *DEM confirms that the Source(s), Pathway(s) and Receptor(s) would exist. DEM assesses that the consequence of the potential impacts is considered significant, hence, a visual amenity outcome is required.* ***I.26*** *DEM confirms that the Source(s), Pathway(s) and Receptor(s) would not exist, and the justification provided is appropriate as no pathways have been identified between the nearest conservation area, Coastal Conservation Zone, and the RL application area. As a consequence, DEM assesses that an outcome is not required.*	**DEM Assessment of Proposed Outcome** *The outcome proposed is considered a strategy or a form of measurement criteria and therefore, an alternative is recommended to ensure that the outcome is appropriate for regulation.* **DEM Assessment of Strategies and Uncertainty** *The outcome(s) is assessed to be achievable given the proposed controls. A description of uncertainties has not been provided, however the controls provided are considered industry standard and understood to have been proven to be effective in mitigating the impacts to amenity and conservation values in similar operations across the state.*
Aspect: Air Quality **Impact**: **I.27** Decrease in air quality due to non-radioactive dust generation. **Impact**: **I.28** Decrease in air quality due to radioactive dust generation. **Impact**: **I.29** Decrease in air quality due to combustion emissions. **Proposed outcomes at construction, operations and closure**: No significant increase in dust or combustion emissions to the local environment because of project activities. No adverse impact to the public and the environment from radon release or the dispersal of radionuclide rich particulates.	***I.27:*** *DEM confirms that the Source(s), Pathway(s) and Receptor(s) would exist. DEM assesses that the consequence of the potential impacts is considered significant, hence an air quality outcome is required.* ***I.28:*** *DEM confirms that the Source(s), Pathway(s) and Receptor(s) would exist. DEM assesses that the consequence of the potential impacts is considered significant, hence a radiation outcome is required.* ***I.29:*** *DEM confirms that the Source(s), Pathway(s) and Receptor(s) would exist. DEM assesses that the consequence of the potential impacts is considered significant, hence an air quality outcome is required.*	**DEM Assessment of Proposed Outcome** *The intent of the outcome proposed is somewhat appropriate. It is noted that I.27 and I.28 have a radiation outcome proposed. I.27 is better aligned with the outcome proposed for I.29. Alternatives are recommended to ensure that the outcomes are appropriate for regulation.* **DEM Assessment of Strategies and Uncertainty** *The outcomes are assessed to be achievable given the proposed controls. A description of uncertainties was only provided for I.27, however the controls provided are industry standard and understood to have been proven to be effective in mitigating the impacts to air quality in similar operations across the state.*

ID/ Impact event/ Proposed outcome	DEM Assessment of source, pathway receptor	Assessment of proposed outcomes, strategies and uncertainty
Aspect: Noise **Impact**: **I.34** Nuisance noise levels at nearby residential properties. **Proposed outcomes at construction, operations and closure**: No exceedance of permissible noise levels as defined by the Environment Protection (Commercial and Industrial Noise) Policy 2023 (SA).	***I.34:*** *DEM confirms that the Source(s), Pathway(s) and Receptor(s) would exist. DEM assesses that the consequence of the potential impacts is considered significant, hence a noise outcome is required.*	***DEM Assessment of Proposed Outcome*** *The intent of the outcome proposed is appropriate, however an alternative is recommended to ensure that the outcome(s) is appropriate for regulation.* ***DEM Assessment of Strategies and Uncertainty*** *The outcome is assessed to be achievable given the proposed controls. A description of uncertainty identifies that noise mapping has not been conducted, however the controls provided are industry standard and understood to have been proven to be effective in mitigating the noise impacts in similar operations across the state.*
Aspect: Public Health, Safety and Property **Impact**: **I.35** Unauthorised damage to third party property due to project activities **Impact**: **I.36** Public injuries and/or deaths resulting from unauthorised access to the tenement. **Impact**: **I.37** Increased radiation dose to members of the public derived from project activities exceeding statutory dose limits. **Proposed outcomes at construction, operations and care and maintenance**: Risks to the health and safety of the public are as low as reasonably achievable. All reported impacts to the health and safety of the public and third-party property are appropriately recorded and closed out. No adverse impact to the public and the environment from radon release, the dispersal of radionuclide rich particulates or gamma rays. **Proposed outcomes at closure**: No residual risks to the health and safety of the public on relinquishment of the RL.	***I.35:*** *DEM confirms that the Source(s), Pathway(s) and Receptor(s) would exist. DEM identifies an additional potential pathway to be fire. DEM assesses that the consequence of the potential impacts is considered significant, hence a land use and third-party property outcome is required.* ***I.36 and I.37:*** *DEM confirms that the Source(s), Pathway(s) and Receptor(s) would exist. DEM assesses that the consequence of the potential impacts is considered significant, hence public safety and radiation outcomes are required.*	***DEM Assessment of Proposed Outcomes*** *Some of the outcomes proposed are considered strategies or forms of measurement criteria and therefore, alternative(s) are recommended to ensure that the outcomes are appropriate for regulation.* ***DEM Assessment of Strategies and Uncertainty*** *The outcome(s) is assessed to be achievable given the proposed controls. A description of uncertainties has not been provided, however the controls provided are industry standard and understood to have been proven to be effective in mitigating the impacts to public health, safety and property in similar operations across the state.*

Appendix 6 - Groundwater Assessment

1. Description of the existing groundwater environment

The Samphire FRT is in the Tertiary Pirie Basin, outside of all prescribed water resource areas defined by the *Landscape South Australia Act 2019*. Three aquifers have been identified beneath the RL area.

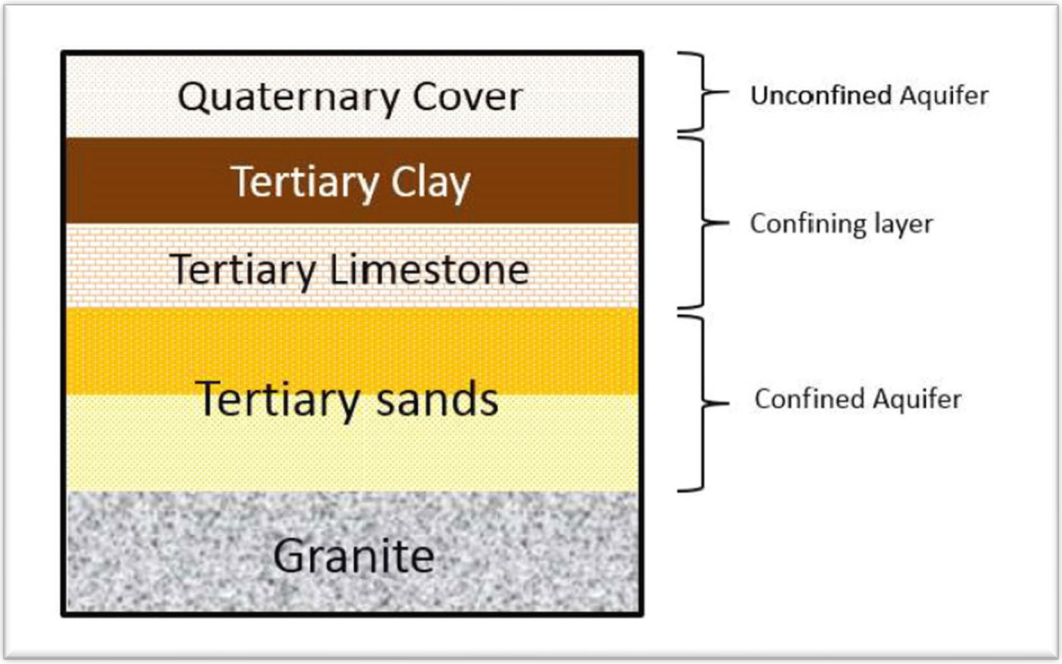

Figure 1: Hydro stratigraphy within the proposed RL (Source: RL Application Response Document)

1.1 Aquifer characterisation

This section summarises the applicant's description of the hydro stratigraphy shown in Figure 2 which underlies the proposed RL.

1. Quaternary Aquifer

Quaternary aquifer is located at approximately 12 m depth in the proposed RL area, comprising of thin, marginally permeable fluvial sediments within predominately clayey quaternary sediments. This formation is unsaturated at the location of the FRT where sediments are elevated above the regional water table. To the east, sediments are saturated and host saline to hyper saline groundwater. Yields from monitoring wells are consistently below 0.1 L/s indicating that this formation is only marginally permeable at the sites tested.

The quaternary sediments are separated from the tertiary aquifer below by a regionally extensive confining layer of 18 to 22 m thick plastic clays of the Gibbon Beds and, below this, 16 to 20 m of clay and marl of the Melton Limestone stratum.

2. Tertiary Aquifer

The tertiary aquifer system hosts the Blackbush ore body and is the target aquifer for the FRT trial and liquid waste disposal. Within the RL application area, the tertiary aquifer infills a channel incised into basement saprolite. Within this channel the sediments are thicker. Outside the channel the tertiary aquifer is thinner however it is laterally continuous.

The tertiary aquifer is located at about 45 m to 85 m depth in the proposed RL area and is comprised of:

- Melton Sands; 4 to 6 m thick. This aquifer unit contains fine to coarse grained iron rich sands.
- Kanaka Beds; 10 to 40 m thick. This aquifer unit contains medium to coarse grained sands interbedded with clay and lignite.

The tertiary aquifer has been characterised by testing at four sites; two sites within the proposed RL boundary and two sites to the east. At each site, pumping from the tertiary aquifer produced a drawdown response consistent with a confined aquifer with no leakage from the overlying or underlying confining strata. Potentiometric pressure (aquifer pressure) at the site is approximately 3 to 3.5 mAHD which equates to a standing water level in wells of approximately 10 to 15 m below ground surface.

The proposal discusses a review of seismic data in the Gulf of St Vincent and stratigraphic data from historical drilling on the eastern side of the gulf is proposed to indicate that the strata observed at the Samphire site are continuous beneath the gulf and deepen towards the east. However, it was acknowledged in the S Uranium Pty Ltd response document that discharge of waters under the gulf may conceptually occur. The groundwater moves from west to east in the tertiary aquifer at 1-6m/year depending on location. Based on this velocity, groundwater is estimated to take between 1,500-9000 years to laterally migrate ~9km from the easternmost well array (~4kms from the coast) to where it would be situated beneath the Upper Spencer Gulf Marine Park.

3. Fractured Rock Aquifer

The fractured rock aquifer comprises the granite bedrock and underlies the tertiary Aquifer. Approximately 50 – 70 m of the weathered basement (saprolite) acts as a confining layer separating the tertiary and fractured rock aquifers within the proposed RL area.

The tertiary aquifer has been characterised by testing at three sites. Each of the wells are screened in crystalline Hiltaba granite basement. The groundwater moves to the north west at a rate of approximately 0.02m/year. Potentiometric pressure (aquifer pressure) at the site is approximately 3.5 -10 mAHD (freshwater equivalent) which equates to 15 – 20 m below ground surface.

1.2 Groundwater Quality

Groundwater samples were taken from 4 quaternary wells, and 12 tertiary aquifer wells in June 2010, August, October, November and December 2022. Sampling of 3 fractured rock wells occurred in April and May 2023.

The quaternary, tertiary and fractured rock aquifers within the proposed RL and surrounding area contain highly saline water. The quaternary aquifer is 25,000 to 83,600 mg/L total dissolved solids (TDS). The tertiary aquifer is 24,800 to 61,900 mg/L TDS. The fractured rock aquifer is 83,400 to 94,700 mg/L TDS. For comparison seawater is 35,000 mg/L TDS.

Due to naturally high salinity >13,000 mg/L, the water from these aquifers has no defined 'Environmental Value' as defined in Schedule 1 of the South Australian Environmental Protection (Water Quality) Policy, 2015.

Table 3.1 of the RL Proposal provides further data on the analyte values for water quality of each aquifer.

DEM assesses that the description of the existing groundwater environment provided in the proposal and subsequent response document is sufficient to allow for the assessment of potential impacts from the proposed FRT. DEM considers that there is a degree of uncertainty in the proposed description associated with the small sample number and lack of seasonal variation during the data collection periods. S Uranium Pty Ltd has committed in the response document to a future works program to reduce the uncertainty in the PEPR, should a lease be granted. DEM took this uncertainty into consideration in the assessment of potential impacts from the proposed FRT.

Proposed FRT impacts to groundwater

The FRT proposes the introduction of a lixiviant consisting of native groundwater fortified with sulphuric acid, ferric chloride/sulphate and hydrogen peroxide (oxidants) to dissolve the uranium mineralisation within the target FRT areas. In addition, a liquid waste stream would be generated during FRT operations which consists mainly of RO brine, plant water and a minor component of lixiviant extracted during processing. The liquid waste stream is proposed to be reinjected into the tertiary aquifer.

On completion of the FRT, it is proposed that groundwater affected by residual mining solutions and liquid wastes will be restored in-situ by natural attenuation. Natural attenuation is stated as the "process where groundwater, which has been altered through the addition of leach solution, reverts through reaction to its surrounding aquifer matrix and pre-existing groundwater over a period of time to or towards its pre-contaminated state, without additional attenuating treatment'[1].

[1] CSIRO 2004 Taylor, G.; Farrington, V.; Woods, P.; Ring, R.; Molloy, R. Review of environmental impacts of the Acid In-situ Leach uranium mining process. Clayton South, Vic.: CSIRO Land and Water; 2004-08. legacy:478. https://doi.org/10.4225/08/585821bac28c3

1.2 Groundwater Modelling

S Uranium Pty Ltd has developed a model to predict how natural attenuation is expected to occur. The model shows full re-establishment of natural aquifer chemistry (through natural attenuation) to have occurred within 400m of the FRT site within approximately 300 years that will be clarified by the independently verified model at closure. Should the FRT proceed, verification of the model will be necessary using data collected through monitoring throughout and after the trial is complete to demonstrate that natural attenuation is occurring as predicted. If the model is unable to be verified a contingency plan involving active remediation of groundwater is proposed to restore groundwater at the completion of the trial, as outlined in appendix N of the S Uranium Pty Ltd response document. In addition, S Uranium Pty Ltd has provided a relevant case study (Angas Zinc Mine) of successful active remediation used in South Australia to provide supporting information that groundwater will be able to be restored.

SA government assessment of RL Proposal groundwater information

Following the submission of the RL Proposal, hydrogeologists from DEM, the Department for Environment and Water and the EPA undertook a thorough assessment of all groundwater information provided in the Proposal. The review identified the following key areas where further information was required:

The lack of robust local hydrogeological data and inadequate conceptualisation. The initial assessment of the RL Proposal highlighted a high level of uncertainty in the hydrogeological conceptualisation, conflicting statements regarding the connectivity between the Upper Spencer Gulf and the aquifers at the site, a lack of reliable groundwater data and groundwater head maps, uncertainty in the groundwater flow direction especially in the fractured rock and inadequate identification of groundwater dependant ecosystems (GDEs). Consequently, there was uncertainty in the adequacy of the monitoring bore location for verification of natural attenuation and groundwater remediation.

Insufficient baseline groundwater quality. There was low confidence in the baseline groundwater quality as only four samples have been taken over the months of August, October, November, and December 2022. The small volume of data could lead to criteria that do not appropriately measure achievement of the environmental outcomes.

Lack of transparency in the natural attenuation assessment reports. Access to the model was not provided, only to the report. The model report lacked details that are essential to understand and assess if the model is suitable for the purpose of demonstrating successful natural attenuation. Additionally, the natural attenuation groundwater restoration pathway did not consider the full set of groundwater quality variables (anions and cations) that have the potential to be dissolved and mobilised as a consequence of acidification.

A detailed request for further information was included in the Request for a Response Document to address these matters. This further information was provided in the response

document submitted by S Uranium on 31 July 2024. The further information provided has sufficiently reduced the uncertainty in the ability to demonstrate achievement of proposed groundwater outcomes during operations and post completion. Key elements of the further information provided included:

- Further details on the effectiveness of proposed groundwater remediation contingency plans in the event that natural attenuation cannot be demonstrated within reasonable timeframes (Response Document Appendix N)
- A plan for the collection of additional site-specific groundwater information prior to commencement of field recovery trial activities to reduce the current uncertainty of the understanding of hydrogeology and flow direction (Response Document Appendix O).

The additional groundwater information contained in the response document was considered sufficient by government to enable DEM to complete its assessment of the application.

2. DEM's assessment of the groundwater impacts

DEM assesses the adequacy of S Uranium Pty Ltd's identification and assessment of all potential impact events, and additional potential impact events identified by DEM, other government agencies, and/or members of the public.

An updated groundwater impact assessment has been provided in Appendix I of the response document. The associated environmental outcomes and criteria have been provided in table D-2 of the response document.

Four potential impacts relating to groundwater were identified as a result of the FRT activities. DEM's assessment of potential impacts, controls and proposed outcomes for groundwater is outlined below.

2.1 Impact I.6 - Reduction in the environmental value of the overlaying quaternary aquifer.

Impact I.6 considers the reduction in the environmental value of the overlaying quaternary aquifer. As discussed in appendix 6 section 1.2 of this report, the overlying aquifer has no environmental value as defined under the Environment Protection (Water Quality) Policy 2015 due to high salinity levels. This impact assessment instead considers potential adverse impacts on water quality. This could be caused by the fluids injected below the ground migrating vertically upwards if the wells are inadequately sealed or if the tertiary aquifer itself is not isolated from the overlaying quaternary aquifer. Injection and extraction wells require permitting and will need to comply with the Minimum Construction Requirements for Water Bores in Australia, Fourth Edition.

Adherence to the permit conditions and construction requirements will ensure the wells are adequately sealed and do not create a pathway for fluid migration between formations. Additionally, the tertiary aquifer is not saturated above the RL application area and has been adequately identified as confined where the extensive overlaying clays will isolate any upward flow from the tertiary aquifer into the quaternary aquifer. A Source-Pathway-Receptor linkage is therefore not confirmed for potential impacts on the overlying aquifer. No uncertainty has been considered by the applicant with these unconfirmed linkages.

Reduction in the environmental value of the overlaying quaternary aquifer could also be caused by surface storage and handling of radiological and non-radiological contaminants that enter surface water and migrate into the unconfined quaternary aquifer. As mentioned above, S Uranium Pty Ltd state that there is no pathway due to the quaternary aquifer not being saturated.

DEM assess that the linkage is uncertain as contaminated surface water can still enter the aquifer if it is unsaturated through spills and leaks which are discussed further in the soil contamination impact assessment described in section 8.2.3 of the proposal document. Consequently, achievement of soil outcomes will ensure there is no pathway for contaminants to enter the surface water and subsequently migrate into the quaternary aquifer.

DEM assesses that the potential impact associated with contaminated surface water reducing the environmental value of the quaternary aquifer can be managed through achievement of the proposed soil outcome (Refer to Appendix 5 for details of the DEM assessment of soil impacts). The proposed controls in relation to spills and leaks are industry standard and considered likely to achieve the outcome. Should a lease be granted measurement criteria can be developed in the PEPR that, for instance, reference audit and compliance with recognised standards for spill and leak management.

2.2 Impact I.7 - Reduction in the environmental value of the target tertiary aquifer.

Impact I.7 considers the reduction in the environmental value of the target tertiary aquifer.

Identified impacts included those associated with fluids injected below the ground migrating horizontally outside of the defined operation zone during operations, groundwater migration in the easterly flow direction post closure or impacts to groundwater dependant ecosystems (GDEs).

As stated in appendix 6 section 1.2 of this report, the water from the target aquifer has no defined ‘Environmental Value’ under the South Australian Environmental Protection (Water Quality) Policy, 2015 due to naturally high salinity.

Notwithstanding, government has assessed that the groundwater itself can be considered a receptor and that GDEs and potential future users of groundwater should also be considered in the assessment. The extent of pollution to groundwater should be prevented or minimised

(as far as reasonably practicable) regardless of the presence/absence of environmental value or sensitive receptors.

As set out in the request for a response document (Item #32), S Uranium Pty Ltd was requested to review the groundwater impacts and associated environmental outcomes further to the South Australian Environmental Protection (Water Quality) Policy, 2015 environmental values.

As set out in the updated groundwater impact assessment contained in the response document, S Uranium Pty Ltd recognises that the natural attenuation model predictions relating to impacts on groundwater quality from injected fluids on the tertiary aquifer have a degree of uncertainty as field monitoring is yet to be carried out to fully validate the models.

S Uranium Pty Ltd confirms the source, pathway receptor linkage for the mining and disposal fluids migrating horizontally outside of the defined operation zone during operations (horizontal excursions) and groundwater migration in the easterly flow direction post closure. S Uranium Pty Ltd proposes that there is no confirmed impact on GDEs based on no GDEs being identified within 3km of the RL application area.

DEM assesses that S Uranium Pty Ltd has identified relevant source, pathway, receptor linkages.

S Uranium Pty Ltd proposed the following outcome for this confirmed impact event:

'No adverse change to groundwater quality as a result of field recovery trial activities'.

Whilst DEM considers the intent of the proposed outcome appropriate, alternative outcomes are recommended to ensure that the outcome(s) is appropriate for regulation. The recommended groundwater outcomes for the target aquifer are set out in Appendix 7 and include an additional recommended outcome for the target aquifer post mine completion.

DEM has assessed that the proposed control and management mitigation measure set out in Table 0.2 in Appendix I of the response document would be effective in achieving the groundwater outcome during operations.

During operations, S Uranium Pty Ltd proposes containing any ISR solutions within a defined zone by maintaining net groundwater movement towards the extraction wells, thus preventing trial solutions from migrating down gradient.

At closure of the trial, S Uranium Pty Ltd proposes a strategy of monitored natural attenuation to achieve the groundwater outcome.

Given the stated uncertainty in predicted natural attenuation modelling, DEM considers that should a lease be granted, the PEPR must include details of contingency measures to be applied in the event that natural attenuation cannot be demonstrated and verified during the term of the RL.

Draft measurement criteria and leading indicators associated with measuring groundwater onsite, have been provided to clearly demonstrate achievement of the outcome. The criteria

for mining operations involve regular monitoring of water chemistry in a network of lateral compliance monitor wells against set concentrations of pH, sulphate and uranium (termed excursion control limits). Proposed leading indicator criteria will involve any measured trends of increasing sulphate or uranium, or decrease in pH over time.

Separate measurement criteria have been proposed for mine closure and completion involving regular measurements of water chemistry within and downgradient of the FRT zone to verify that natural attenuation is occurring in accordance with modelled predictions. Validation of natural attenuation will then be verified by an independent peer review.

The criteria and leading indicators will be refined in the PEPR, should a lease be granted. In particular, the PEPR will require further refinement and justification for the monitoring framework and excursion control limits to ensure these provide a clear and early indication of the lateral migration of disposal fluids or ISR solutions beyond the FRT zone.

2.3 Impact I.9 – Contamination of the Spencer Gulf seawater.

Impact I.9 considers contamination of seawater within the Spencer Gulf by the fluids injected below the ground migrating from the FRT zone in an easterly flow direction to the coast.

S Uranium Pty Ltd proposes that the potential impact is not confirmed based on there being no credible pathway, based on significant physical barries to upward groundwater flow and the high natural attenuation capacity of the aquifer (Refer Table 0.1, Appendix I of the response document). The RL Proposal and response document did not present any consideration of uncertainty in relation to this impact event.

Based on the small number of locations sampled DEM considers that uncertainty remains in relation to the S Uranium Pty Ltd's conceptualisation of connectivity between aquifers at the site and the Spencer Gulf. S Uranium Pty Ltd has committed in the response document (Appendix O: Ongoing & future hydrogeological works program) to installing 16 additional investigation wells which will provide additional groundwater data to reduce this uncertainty.

DEM is satisfied that the additional information provided in the response document and to be provided through the future works program will reduce the uncertainty in the hydrogeological conceptualisation, and that this will enable confirmation of the absence of an impact pathway to the Spencer Gulf.

The response document (Item 43) provides additional supporting information that seeks to clarify inconsistent information relating to hydraulic connection of the FRT trial area and the Gulf. DEM's review of the response document concludes that the review of seismic data cannot definitively demonstrate that the aquifer flows continuously beneath the gulf. S Uranium Pty Ltd also acknowledges that, conceptually, discharge beneath the gulf could occur. Thus, DEM believes there remains uncertainty associated with the hydraulic connection between the groundwater within the proposed RL site and the gulf.

There is a high level of uncertainty in the natural attenuation model due to the limited data used in producing the model and lack of model validation to date. This is acknowledged by S Uranium Pty Ltd in the response document, as is the need to acquire additional data sets to validate key model inputs. Therefore, DEM considers there is insufficient information to conclude that the natural attenuation capacity of the aquifer negates the source, pathway, receptor linkage.

S Uranium Pty Ltd has proposed the outcome *'No adverse change to groundwater quality will occur as a result of the field recovery trial activities'* for impacts I7 and I10. Ensuring that there is no adverse change to groundwater quality will negate the source of contamination and in turn protect impacts from the FRT on the gulf. DEM agrees that the source, pathway, receptor linkage does not need to be confirmed due to the outcome associated with impacts 1.7 and 1.10 inherently negating any impacts to the Gulf. Accordingly, a separate outcome is not recommended by DEM for groundwater impacts on the Gulf.

Notwithstanding, following consultation with a delegate of the Minister for Climate, Environment and Water given the proximity of the proposed FRT operations to the Gulf and Upper Spencer Gulf Marine Park (refer Section 5.1 of this report), DEM recommends that, should a lease be granted, a condition be included that The Tenement Holder must ensure that there is no impact on the Upper Spencer Gulf Marine Park as a result of FRT activities (Refer Appendix 7)

2.1.4 Impact I.10 Reduction in the environmental value of the underlaying fractured rock aquifer.

Impact I.10 considers the reduction in the groundwater quality of the underlaying fractured rock aquifer. This could be caused by the vertical downward migration of FRT fluids or liquid waste disposal fluids if the tertiary aquifer itself is not isolated from the underlaying fractured rock aquifer (FRA). However, as discussed above, drilling has demonstrated the presence of an estimated 50 to 70 m of the weathered basement (saprolite) acting as a confining layer separating the tertiary and fractured rock aquifers within the proposed RL area.

S Uranium Pty Ltd does not recognise any uncertainty associated with this assessment. As discussed above, based on the limited sample locations and interpretation of data by S Uranium Pty Ltd, DEM assesses that there remains uncertainty in relation to the understanding of conceptual hydrogeology. Further works have been proposed in the response document to undertake further sampling of the FRA to reduce this uncertainty.

S Uranium Pty Ltd has confirmed a source, pathway, receptor linkage for impacts on the underlying FRA. Although it is unclear why S Uranium Pty Ltd chose to recognise this linkage, DEM agrees due to the uncertainty in the hydrogeology that an outcome is required. S Uranium Pty Ltd has proposed an outcome '*No adverse change to groundwater quality as a result of field recovery trial activities'*.

Whilst DEM considers the intent of the proposed outcome proposed is appropriate, alternative outcomes are recommended to ensure that the outcome is appropriate for

regulation. The recommended groundwater outcomes for the underlying aquifer are set out in Appendix 7 and include an additional recommended outcome for post mine completion.

DEM has assessed that the proposed control and management mitigation measures set out in Table 0.2 in Appendix I of the response document (maintaining hydraulic separation of the target aquifer from the underlying FRA) would be effective in achieving the groundwater outcome during operations.

Table D-2 of Appendix D of the response document proposes draft measurement criteria and leading indicator criteria for demonstrating achievement of the underlying aquifer groundwater outcome. This will involve a program for regular monitoring of water chemistry in underlying monitor wells. Similar to the criteria for the target aquifer, S Uranium Pty Ltd has proposed maximum concentrations (excursion control limits) for pH, Sulphate and Uranium.

The criteria and leading indicators will be refined in the PEPR, should a lease be granted. The PEPR will require further justification for the excursion control limit values to demonstrate that these values would constitute achievement of the outcome. Should a lease be granted, DEM recommends the review and finalisation of measurement criteria and leading indicator criteria in the PEPR.

Appendix 7 – Recommended Terms, Conditions and Requirements

FIRST SCHEDULE

TERMS

EXPLANATORY NOTE: A term confers a right in relation to a Mineral Tenement.

Authorised Operations

1. The term of the Mineral Tenement is 5 years.
2. The grant of the Mineral Tenement authorises uranium in-situ recovery (ISR) field recovery trial (FRT) operations that are consistent with the operations described in the Retention Lease Application Proposal document dated 21 July 2023 and Response Document dated 31 July 2024. *[Explanatory Note: This authorisation is in addition to the right to prospect for minerals on the Land and the exclusive right to apply for a mining lease in respect of the Land pursuant to section 43(2) of the Act.]*

SECOND SCHEDULE

CONDITIONS

Explanatory note: A condition is a clause that imposes a restriction on a Mineral Tenement.

Type of Retention Lease

1. The Retention Lease is limited to exploration operations and is granted for the purpose of subsection 43(1)(a) where the applicant seeks an authorisation to carry out authorised operations to obtain information required to support an application for a mining lease where those authorised operations are not suited to being conducted under an exploration licence.

Transparency

2. The Tenement Holder consents to any reportable incident reports submitted under the Regulations being made available for public inspection.

Submission of Proposed Program

3. The Tenement Holder must submit a Proposed Program for the purpose of Part 10A of the Act within 12 months after the grant of the Mineral Tenement or within such longer period of time as the Minister or a person authorised by the Minister may allow.

Complaints Register

4. The Tenement Holder must operate a 24 hour per day, 7 day per week, free-call telephone complaints line for the purpose of receiving complaints from members of the public in relation to authorised operations.
5. The Tenement Holder must take reasonable measures to notify the public of the complaints line telephone number and the fact that it is a complaints line.
6. The Tenement Holder must establish and maintain a public complaints register. The public complaints register must, as a minimum, record the following detail in relation to each complaint received in which it is alleged that environmental harm (including an environmental nuisance) has been caused by the authorised operations:
    6.1 the time at which the complaint was received;
    6.2 all personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
    6.3 the subject-matter of the complaint;
    6.4 the action taken by the tenement holder in relation to the complaint, including any follow-up contact with the complainant; and
    6.5 if no action was taken by the tenement holder, the reasons why no action was taken.
7. All records in respect of the public complaints must be maintained for a period of at least 7 years.

Community Engagement Plan

8. The Tenement Holder must prepare, implement and maintain (to the satisfaction of the Minister or a person authorised by the Minister) a Community Engagement Plan ("CEP") that:
    8.1 Sets out the purpose, objectives and parameters of engagement with the community;

8.2 Identifies all community stakeholders likely to be affected by authorised operations;

8.3 Sets out the tools and techniques that the Tenement Holder intends to use for:

8.3.1 Identifying community attitudes and expectations;

8.3.2 Providing information to the community;

8.3.3 Receiving feedback from the community;

8.3.4 Analysing community feedback and considering community concerns or expectations; and

8.3.5 Registering, documenting and responding to communications from members of the community;

8.3.6 Outlines an action plan to commence the proposed engagement activities; and

8.3.7 Addresses any further matter that the Minister, or a person authorised by the Minister, advises in writing.

Upper Spencer Gulf Marine Park

9. The Tenement Holder must ensure that there is no impact on the Upper Spencer Gulf Marine Park as a result of field recovery trial activities or other authorised operations.

Eluate Storage and Disposal

10. The Tenement Holder must ensure that all concentrated uranium eluate produced during the field recovery trial is stored in accordance with relevant legislation for the term of the Mineral Tenement.
11. The Tenement Holder must dispose of all concentrated uranium eluate produced during the field recovery trial in accordance with any instructions issued by the Minister or a person authorised by the Minister.

Change in Details

12. The Tenement Holder must furnish to the Mining Registrar information about any of the following:

12.1 a change in the name of the Tenement Holder;

12.2 a change in the registered or business address of the Tenement Holder, or a change in any other address provided for correspondence or service including an email address;

12.3 the Tenement Holder entering into any form of Insolvency Administration.

13. The information required by clause 12 must be provided within 14 days after the requirement to furnish the information arises.

Access to Pastoral Lessee

14. If the Land is subject to a pastoral lease under the *Pastoral Land Management and Conservation Act 1989*, the Tenement Holder must give the pastoral lessee access to the land for domestic purposes and for watering stock (although the Tenement Holder is not required to give the pastoral lessee access to water provided or stored by the lessee by artificial means).

Other Legislation

15. The Tenement Holder must comply with all State and Commonwealth legislation and regulations applicable to the activities undertaken pursuant the grant of the Mineral Tenement including (but not limited to) the**:**

15.1 Environment Protection and Biodiversity Conservation Act (Cth) 1999;

15.2 Dangerous Substances Act (SA) 1979;

15.3 National Parks and Wildlife Act (SA) 1972;

15.4 Marine Parks Act (SA) 2007;

15.5 Landscape SA Act 2019;

15.6 Planning, Development and Infrastructure Act (SA) 2016;

15.7 South Australian Public Health Act 2011;

15.8 Aboriginal Heritage Act (SA) 1988;

15.9 Heritage Places Act (SA) 1993;

15.10 Work Health and Safety Act (SA) 2012;

15.11 Environment Protection Act (SA) 1993;

15.12 Native Vegetation Act (SA) 1991;

15.13 Mines and Works Inspection Act (SA) 1920;

15.14 Harbors and Navigation Act 1993;

15.15 Nuclear Non-Proliferation (Safeguards) Act (Cth) 1987;

15.16 Radiation Protection and Control Act (SA) 2021;

15.17 Road Traffic Act (SA) 1961; and

15.18 Native Title Act (Cth) 1993.

FOURTH SCHEDULE

ENVIRONMENTAL OUTCOMES

ENVIRONMENTAL **OUTCOMES** AND ASSOCIATED CRITERIA **PURSUANT TO SECTION 70B(2)(b)** OF THE MINING ACT 1971 AND STRATEGIES PURSUANT TO REGULATION 63(1)(b) OF THE MINING REGULATIONS 2020

Explanatory note: The Fourth Schedule of this Tenement Document sets out Outcomes contemplated pursuant to section 70B(2)(b) of the Act that the Tenement Holder is required to address in any program submitted in accordance with Part 10A of the Act. The Fourth Schedule may also specify requirements for strategies and criteria relevant to the Outcomes.

Groundwater Outcomes

1. The Tenement Holder must, in carrying out authorised operations, ensure that there is no adverse change, outside of natural background variation, to the water quality of the target aquifer outside of the Land.

2. The Tenement Holder must, in carrying out authorised operations, ensure that there is no adverse change, outside of natural background variation, to the water quality of the underlying aquifer.

Groundwater Closure Outcomes

3. The Tenement Holder must demonstrate to the satisfaction of the Minister that the following mine completion outcomes (in so far as they may be affected by authorised operations) are expected to be achieved and sustained after mine closure:

    3.1. No adverse change, outside of natural background variation, to the pre-mining water quality of the target aquifer outside of the area specifically defined in the map and coordinates specified in the Third Schedule of this Tenement Document.

    3.2. No adverse change, outside of natural background variation, to the pre-mining water quality of the underlying aquifer.

Groundwater Strategy

4. The Tenement Holder is required to address the following matters for the purposes of Regulation 63(1)(b) of the Regulations in relation to the Fourth Schedule Clause 3.1:

    4.1. Develop a Trigger, Action and Response Plan (TARP) to determine the process for groundwater active remediation of the target aquifer in the event that natural attenuation cannot be validated during the term of the Retention Lease.

Groundwater Criteria

5. The Tenement Holder is required to address the following matters for the purposes of Regulation 63(1)(c) of the Regulations in relation to Fourth Schedule Clauses 1 and 2 for groundwater quality:

    5.1. Establish compliance groundwater monitoring bores that are at appropriate locations and of sufficient density and depth to measure or infer the groundwater quality on the land;

    5.2. Design of the monitoring and measurement criteria framework must consider a mechanism to determine changes in groundwater quality that is caused by the field recovery trial as distinct from other sources of impact.

    5.3. The measurement parameters and values that are taken to demonstrate achievement of the outcome must appropriately measure change to baseline groundwater quality.

    5.4. The frequency of measurement must be appropriate to ensure demonstration of achievement of the outcome.

    5.5. Measurement criteria is to be determined through consultation with DEM, DEW, EPA and any other relevant government department.

        5.5.1. The measurement criteria must consider the potential oxidation of pyrite on metal(loid)s mobilisation in the downgradient zone.

        5.5.2. The measurement criteria must be informed by leach testing to assess the mobilisation potential of uranophane, which was identified to have the highest uncertainty with the modelled chemistry.

Groundwater Leading Indicator Criteria

6. The Tenement Holder is required to address the following matters for the purposes of Regulation 63(1)(d) of the Regulations in relation to Fourth Schedule Clauses 1 and 2 for groundwater quality:

    6.1. leading indicator criteria based on baseline groundwater quality; and

    6.2. The frequency of leading indicator measurements must be appropriate to ensure there is an early warning of failure of any strategy; and

    6.3. leading indicator criteria must be integrated with the Trigger, Action and Response Plan.

Soil Outcome

7. The Tenement Holder must ensure there is no contamination of land and soils either on or off the Land post completion as a result of field recovery trial activities.

Soil Strategy

8. The Tenement Holder is required to address the following matters for the purposes of Regulation 63(1)(b) of the Regulations in relation to the Fourth Schedule Clause 7:

    8.1. Develop a spill management procedure in accordance with EPA Bunding and spill management guideline, May 2016.

Surface Water Outcome

9. The Tenement Holder must, during construction, operation and post completion, ensure that there is no adverse impact to the quality of surface water caused by field recovery trial activities.

Native Vegetation Outcome

10. The Tenement Holder must during construction and operation ensure there is no loss of abundance and/or diversity of native vegetation on or off the Land through:

    10.1. clearance

    10.2. dust/contaminant deposition

    10.3. soil erosion/soil compaction

    10.4. fire; and/or

    10.5. other damage

unless a significant environmental benefit (SEB) has been approved in accordance with the relevant legislation.

Native Fauna Outcome

11. The Tenement Holder must ensure there are no native fauna injuries or deaths due to field trial activities that could have been reasonably prevented.

Weeds and Pest Outcome

12. The Tenement Holder must, during construction and operation, ensure no introduction of new species of environmental weed, plant pathogens or pests (including feral animals), nor sustained increase in abundance of existing weed or pest species on the Land.

Land use and third–party property Outcome

13. The Tenement holder must, during construction, operation and post completion, ensure there are no adverse impacts to third–party land use or property on or off the land as a result of field recovery trial activities other than those agreed between the tenement holder and affected users.

Heritage Outcome

14. The Tenement Holder must, during construction and operation, ensure there is no damage, disturbance or interference to Aboriginal or Non-Aboriginal heritage sites, objects or remains unless it is authorised under the relevant legislation.

Visual Amenity Outcome

15. The Tenement Holder must, in construction, operation and post completion ensure that the form, contrasting aspects and reflective aspects of field recovery trial activities are visually softened to blend in with the surrounding landscape as much as reasonably practical.

Air Quality Outcome

16. The Tenement Holder must, during construction and operation, ensure there are no public health impacts and/or nuisance impacts as a result of airborne emissions and/or dust generated by field recovery trial activities.

Air Quality Criteria

17. The Tenement Holder is required to address the following matters for the purposes of Regulation 63(1)(c) of the Regulations in relation to Fourth Schedule Clause 15 for air quantity:

    17.1. Establish measurement locations that are appropriate and of sufficient density and height to measure or infer the air quality.

17.2. Design of the monitoring and measurement criteria framework must consider a mechanism to determine changes in air quality that is caused by the field recovery trial as distinct from other sources of impact.

17.3. The measurement parameters and values that are taken to demonstrate achievement of the outcome must appropriately measure change to baseline air quality or air quality at the control sites.

17.4. The frequency of measurement must be appropriate to ensure demonstration of achievement of the outcome.

17.5. Measurement criteria is to be determined through consultation with DEM, DEW, EPA and any other relevant government department.

Radiation Outcome

18. The Tenement Holder must ensure there are no public health or environmental impacts from radionuclides (including radon) as a result of field recovery trial activities or other authorised operations.

Radiation Criteria

19. The Tenement Holder is required to address the following matters for the purposes of Regulation 63(1)(c) of the Regulations in relation to Fourth Schedule Clause 17 for radiation;

19.1. Establish measurement locations that are appropriate and of sufficient density and height to measure or infer the radionuclide exposure.

19.2. Design of the monitoring and measurement criteria framework must consider a mechanism to determine changes in radionuclides that is caused by the field recovery trial as distinct from other sources of impact.

19.3. The measurement parameters and values that are taken to demonstrate achievement of the outcome must appropriately measure change to baseline radionuclide ranges or radionuclide levels at the control sites.

19.4. The frequency of measurement must be appropriate to ensure demonstration of achievement of the outcome.

19.5. Measurement criteria is to be determined through consultation with DEM, DEW, EPA and any other relevant government department.

Traffic Outcome

20. The Tenement Holder must, during construction and operation, ensure no traffic accidents involving members of the public and mine related traffic that could have been reasonably prevented by the Tenement Holder.

Traffic Strategies

21. Tenement Holder is required to address the following matters for the purposes of Regulation 63(1)(b) of the Regulations in relation to the Fourth Schedule Clause 19:

    21.1. Develop a track maintenance program.

    21.2. Develop a traffic management plan.

Noise Outcome

22. The Tenement Holder must, during construction and operation, ensure no public nuisance impacts from noise as a result of field recovery trial activities or other authorised operations.

Public Safety Outcomes

23. The Tenement Holder must during construction and operation ensure that unauthorised entry to the site does not result in public injuries and/or deaths that could have been reasonably prevented.

24. The Tenement Holder must demonstrate that post completion, the risks to the health and safety of the public so far as it may be affected by field recovery trial activities or other authorised activities are as low as reasonably practicable.

Waste Outcome

25. The Tenement Holder must in constructing and operating the Lease ensure that all commercial or industrial waste is disposed of in accordance with relevant legislation.

Further information

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