ENVIRONMENTAL SCOPING DOCUMENT

TUTUNUP MINERAL SANDS PROJECT

1. INTRODUCTION

The Environmental Protection Authority (EPA) has determined that the above Proposal is to be assessed under Part IV of the *Environmental Protection Act 1986* (EP Act).

The purpose of the Environmental Scoping Document (ESD) is to define the form, content, indicative timing and procedure of the environmental review, required by s. 40(3) of the Act.

Iluka Resources Limited (the Proponent) has prepared this ESD according to the procedures in the EPA's *Procedures Manual*.

The EPA requires the Proponent to undertake the environmental review according to the procedures in the EPA's *Administrative Procedures* and *Procedures Manual*, and the *Instructions and Template: How to prepare an Environmental Review Document*.

This ESD represents the annotated version, as requested by DWER on 17 July 2024, to align with updated departmental preferences.

Table 1: General Proposal and Proponent Information

Proposal name:	Tutunup Mineral Sands Project
Proponent:	Iluka Resources Limited
Assessment number:	2338
Location:	Tutunup, Western Australia
Local Government Area:	City of Busselton
Public review period:	Environmental Review Document – 6 weeks
EPBC Reference Number:	2022/09205

1.1 INDICATIVE TIMING OF THE ENVIRONMENTAL REVIEW

Table 2 sets out the indicative outline of the timing of the environmental review (indicative timeline) agreed between the EPA and the Proponent.

Table 2: Indicative outline of the timing of the environmental review (indicative timeline)

Key Assessment Milestone	Indicative Date
EPA approves ESD	September 2024
Iluka submits first draft ERD	May 2025
EPA and DCCEEW provides comment on first draft Environmental Review Document (*6 weeks from receipt of ERD*)	July 2025
Iluka submits revised draft ERD	January 2026
EPA and DCCEEW to review and provide comment on any subsequent revisions prior to an ERD being published for public comment.	February 2026
EPA authorises release of ERD for public review (*2 weeks from EPA approval of ERD*)	March 2026
Iluka releases ERD for public review for 6 weeks	April 2026
Close of public review period	May 2026
EPA provides Summary of Submissions (*3 weeks from close of public review period*)	June 2026
Iluka provides Response to Submissions	August 2026
EPA and DCCEEW review the response to submissions (*4 weeks from receipt of Response to Submissions*)	September 2026
EPA finalises assessment report (including 2 weeks consultation on draft conditions) and gives report to Minister (*6 weeks from completion of assessment*)	October 2026

1.2 COMMONWEALTH GOVERNMENT APPROVALS

The Proposal was referred to the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) and determined to be a Controlled Action under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The Proposal is being assessed via the Accredited Assessment process between the Commonwealth of Australia and the State of Western Australia, made under section 87 of the EPBC Act. A decision on the assessment approach to be an Accredited Assessment under the *Environmental Protection Act 1986* was made on 1 June 2023. The relevant Matters of National Environmental Significance (MNES), under the EPBC Act relevant to this Proposal, determined by DCCEEW, are:

- Ramsar Wetlands (s16 and 17B), and
- Listed Threatened Species and Communities (s18 and 18A).

This ESD includes work already completed, in progress, and to be completed that will be reported in the ERD in relation to MNES protected under the EPBC Act. The ERD will also address the matters in Schedule 4 of the *Environmental Protection and Biodiversity Conservation Regulations 2000*. In addition, in accordance with sections 136(1)(b) and 136(4) of the EPBC Act, the ERD will include information on the following matters:

- The proponent's history in relation to environmental matters; and
- The likely economic and social impacts of implementing the proposed action (risks and benefits).

MNES that may be impacted by the Proposal will be identified in the ERD and the potential impacts (direct and indirect) on these matters addressed within each relevant preliminary environmental factor identified in Section 2.1. The ERD will also include a separate section that summarises the potential impacts on MNES. If required, proposed offsets to address significant residual impacts on MNES will also be discussed in the ERD. If offsets are proposed, information will be included to demonstrate how they are consistent with the *EPBC Act Environmental Offsets Policy*, (Commonwealth of Australia, 2012).

For the relevant MNES, an overall conclusion will be provided as to the environmental acceptability of the proposal. This conclusion shall include reasoning justifying undertaking the proposal in the manner proposed, including the acceptability of the avoidance and mitigation measures.

A chapter of the ERD will be dedicated to discussing the potential impacts of the proposal on MNES (direct and indirect) and make reference to all relevant standards, policies and other guidance material published by DCCEEW. Justification will be provided for any instances where published guidance is not followed. This chapter will include a discussion to demonstrate the Proposal is consistent with, and gives regard to Australia's obligations under:

1. the Biodiversity Convention;
2. the Apia Convention;
3. CITES; and
4. Each relevant recovery plan and threat abatement plan.

Further detail on Commonwealth Government Approvals may be found in Attachment A.

2. FORM AND CONTENT (REQUIRED WORK)

The EPA requires that the form and content of the report on the environmental review under section 40 of the EP Act is in accordance with the EPA's *Instruction and template: How to prepare an Environmental Review document*, dated 29 October 2021.

The ERD and its constituent components will be prepared in compliance with the following guidance documents:

- Instructions on how to prepare *Environmental Protection Act 1986* Part IV Environmental Management Plans (Environmental Protection Authority, October 2021).
- Environmental Management Plan Guidelines (Commonwealth of Australia, 2014).
- Western Australia Environmental Offsets Policy (EPA, 2011).
- EPBC Act Environmental Offsets Policy (Commonwealth of Australia, October 2012).
- Guide to providing maps and boundary data for EPBC Act Projects (Department of Agriculture, Water and the Environment, 2021).
- Environmental Impact Assessment (EIA) (Part IV divisions 1 and 2) Procedures Manual (EPA, 2021).
- Statement of Environmental Principles, Factors and Objectives (EPA, 2021).
- Instructions on how to prepare an Environmental Review Document (EPA, 2021).
- Instructions on how to identify the content of a proposal (EPA, 2021).

2.1 Preliminary Key Environmental Factors

The preliminary key environmental factors, as identified in the EPA Chairman determination on the 11 May 2022, for the ERD are:

1. Flora and Vegetation;
2. Terrestrial Fauna;
3. Terrestrial Environmental Quality;
4. Inland Waters;
5. Social Surrounding; and
6. Human Health.

2.2 Specific additional work required for assessment of Proposal

The general form and content of the ERD will be in accordance with the *Instructions and Template: How to Prepare an Environmental Review Document* (EPA, 2021).

Table 3 outlines the proposal specific additional work required as it relates to preliminary key environmental factors.

As noted previously, DCCEEW have determined the Proposal is a Controlled Action and, in consultation with Iluka, have elected to assess the Proposal under the accredited assessment process between the State of Western Australia and the Commonwealth Government. Therefore, Table 3 also outlines the required work to address the potential impacts on MNES (direct and indirect), under the relevant preliminary key environmental factor. Additional detail regarding the studies and investigations that Iluka has proposed to undertake for MNES, but are not specific additional work required by the EPA, are included in Attachment A.

Table 3: Proposal specific additional work required

Preliminary Key Environmental Factors and Work Required
Flora and Vegetation
1. Identify and characterise the flora and vegetation within the development envelope through a detailed and targeted flora and vegetation survey in accordance with EPA guidance. This includes an assessment of the composition, condition and patch sizes of directly and indirectly impacted threatened and priority ecological communities, the flora and vegetation of the Whicher Scarp and other conservation significant flora and vegetation, and the viability of remaining occurrences/populations following the implementation of the proposal. 2. Undertake an ecological linkages assessment and assess the impacts of ecological fragmentation on conservation significant flora and vegetation. 3. If the proposal requires an offset due to significant residual impacts following the application of the mitigation hierarchy, propose an appropriate offsets package that will counterbalance the significant residual impact and be consistent with the WA Environmental Offsets Policy and Guidelines, and the EPBC Act Environmental Offsets Policy, and aligns with relevant plans and policies, such as recovery plans.
Terrestrial Fauna
4. Determine the significant, restricted or migratory fauna (as defined in EPA Factor guidance and EPBC Act) that occur or are likely to occur within the development envelope and describe in detail their known ecology, likelihood of occurrence, habitats and known threats. Establish local population estimates for significant fauna, including the western ringtail possum, from which the significance and viability of the population within the development envelope can be assessed. 5. Determine the significant fauna habitats, including but not limited to short-range endemic invertebrate microhabitats, refugia, breeding areas, key foraging habitat, water resources, movement corridors and linkages and how they will be impacted by the proposal. 6. Undertake targeted black cockatoo surveys, including tree hollow assessment, with the determination of nesting hollow suitability. For trees containing suitable hollows that are proposed to be cleared, a determination of hollow suitability must include an assessment of relevant hollow characteristics. 7. Undertake western ringtail possum surveys to inform the proposal's impacts to nest sites, home ranges, connectivity and available habitat and inform monitoring, mitigation and management. 8. If the proposal requires an offset due to significant residual impacts following the application of the mitigation hierarchy, propose an appropriate offsets package that will counterbalance the significant residual impact and be consistent with the WA Environmental Offsets Policy and Guidelines, and the EPBC Act Environmental Offsets Policy, and aligns with relevant plans and policies, such as recovery plans.
Terrestrial Environmental Quality
9. Characterise the physical and chemical properties of the soils, waste materials and ore. The characterisation is to inform the monitoring, management plans and rehabilitation. 10. Identify potentially hazardous materials and soils (i.e., dispersive, radioactive, etc.). For material identified within these two categories, relevant management actions are to be devised, including mitigation and monitoring as appropriate.

Preliminary Key Environmental Factors and Work Required
11. Undertake a pasture productivity study in order to develop preliminary mine closure completion criteria.
Inland Waters
12. Demonstrate a sound understanding of the depth of the contact of the superficial and Leederville aquifers, to confirm there is minimal risk of intercepting the Leederville aquifer during mining. 13. Characterise baseline hydrological and hydrogeological regimes of the area. The Yarragadee hydrogeological assessment will include assessment of cumulative drawdown risks including adverse impacts to the groundwater dependent environment, the groundwater resource, existing licensed production bores and seawater intrusion and loss of security of supply and will utilise existing available information for aquifer parameters. The Yarragadee H3 assessment will be as agreed with DWER (Document ID: DWER-595873189-11754 in Environment Online). 14. Conduct a surface water assessment including detailed hydrological modelling of the upstream diversion dams bypass channel, including confirmation that the diversion of flows will not adversely impact on flows both in terms of quantity and quality, in regard to the hydrological regime that supports the Ramsar listed Vasse-Wonnerup wetlands.
Social Surroundings
15. Characterise the natural landscape features and scenic quality values and assess impacts of the proposal from viewpoints and travel routes. 16. Undertake a dust and air quality impact assessment in order to assess the proposal's impacts to demonstrate that any impacts to amenity will not be unreasonable. 17. Characterise the areas and objects that are of particular significance to First Nations peoples and communities potentially impacted by the proposed action, and detail the process used to engage with relevant First Nations peoples and communities, and detail how these groups have been consulted with respect to the potential impacts of the proposal. 18. Undertake a detailed Noise Impact Assessment that considers the significance of the changes to ambient noise levels and demonstrate that noise can be managed such that it complies with the *Environmental Protection (Noise) Regulations 1997* at sensitive receptors.
Human Health (Radiation)
19. Conduct an assessment to determine pre-mining radiation exposure levels, and inform radiation mitigation requirements relating to material streams, to demonstrate that the proposal will not have a significant impact on human health.

2.3 Cumulative Impact Assessment

This section details scoping of activities, boundaries and environmental values for relevant environmental factors.

The ERD will include a cumulative impact assessment to assess the Proposal's contribution to impacts on relevant environmental values. Cumulative impacts will be assessed as per EPA guidance, noting this will be a desktop exercise limited by the public availability of data.

The activities, boundaries, and values relevant for the cumulative impact assessment in relation to each factor are summarised in Table 4.

Table 4: Cumulative Impact Assessment

Activities	Environmental values	Relevant factors	Boundaries
Clearing of native vegetation	Native vegetation	Flora and Vegetation	Cumulative impacts to native vegetation within a 10 km and 50 km radius (clipped to IBRA boundaries) of the Proposal will be assessed to provide local and regional context, respectively. Other publicly available data will be used to provide regional context for cumulative impacts to native vegetation communities. Regional impacts to vegetation communities will consider the distribution of the

Activities	Environmental values	Relevant factors	Boundaries
			corresponding floristic community types within 50 km and at the bioregional level. Cumulative impacts to the values of the Whicher Scarp, including the Whicher Scarp floristic community types, will consider the north subdivision of the Whicher Scarp as well as the total extent of the Whicher Scarp.
	Significant flora and vegetation	Flora and Vegetation	Cumulative impacts to significant flora will be assessed at a local scale (10 km radius), regional scale (50km radius) and the species' ranges.
	Significant fauna species and communities	Terrestrial Fauna	Cumulative impacts to significant fauna, fauna habitat and ecological linkages within a 10km and 50km radius of the Proposal will be assessed to provide local and regional context, respectively. If the development envelope is within 12 km of black cockatoo breeding habitat or roosting habitat, assess the cumulative impacts to foraging habitat within 6 km and 12 km of the roosting and nesting habitat, respectively. Cumulative impacts to the western ringtail possum will consider impacts to home ranges (to be determined based on the habitat within the development envelope), the Swan Coastal Plain management zone and the relevant management zone subregion(s) as defined in White et. al (2021)[1], including the potential cumulative impacts on interactions between individuals of the subregions.
Abstraction of groundwater from the Yarragadee aquifer	Yarragadee aquifer	Inland Waters	Impacts from other proposals within the Yarragadee aquifer compared with the Proposal's contribution. The boundary/extent of the investigation and assessment shall consider the Busselton-Yarragadee groundwater subarea boundary as defined in the South-west Groundwater Areas Allocation Plan (DOW, 2009).
Mining (excavation, ore handling, processing and export)	Amenity (noise, and dust)	Social Surroundings	If the Proposal results in noise or dust above background levels at sensitive receptors, then an assessment of other noise, and dust impacts to sensitive receptors, will be undertaken. The Proposal's contribution to those cumulative impacts will then be assessed.
	Land and soil quality	Terrestrial Environmental Quality	If the proposal results in significant impacts to land and soil quality outside of the Development Envelope, an assessment of other land use activities impacting land and soil quality will be undertaken. The Proposal's contribution to those cumulative impacts will then be assessed.

[1] White, D., Comer, S., Wayne, A., 2021. *Understanding genomic variation in the western ringtail possum and its application to effective conservation management - Final Report*. NESP Threatened Species Recovery Hub Project 4.1.8 report, Brisbane.

3. STATE DECISION-MAKING AUTHORITIES

The Proponent has identified the State decision-making authorities listed in Table 5 for this Proposal. Additional decision-making authorities may be identified during the course of the assessment. Information about how DMAs processes can meet expected outcomes and EPA objectives will be provided in the ERD on a per impact basis.

Completion of the information in Table 5 and Table 6 will be provided in the ERD on a per impact basis.

Information on the Commonwealth Government approvals process is in Attachment A.

Table 5: State decision-making authorities and processes

DMA and department (If relevant)	Legislation or Agreement regulating the activity	Approval required and relevant proposal element
Minister for Environment – EPA	Part IV of the EP Act	Ministerial Statement – Required to develop the Tutunup Mineral Sands Project.
Department of Mines, Industry Regulation and Safety (DEMIRS) – Radiation Council of WA (RCWA)	WA *Radiation Safety Act 1975* *Work Health and Safety (Mines) Act 2020 and Regulations*	DEMIRS/Radiological Council of WA – Approvals required for the importation, mining and/or processing of naturally occurring radioactive material, and the management of tailings and residues from the processing activities, including transport on all public, gazetted roads.
Minister for Environment - DWER	Part V of the EP Act	Works Approval - Required to construct and commission the processing plant. Licence - Required to operate the processing plant.
Minister for Environment - DBCA	*Biodiversity Conservation Act 2016* (BC Act)	Fauna / Flora Licences - Authorisations to take or disturb and/or threatened fauna, take threatened flora and modify threatened ecological communities.
Minister for Mines and Petroleum Executive Director, Resource and Environmental Compliance Division - DEMIRS	*Mining Act 1978*	Mining Proposal (MP) and Mine Closure Plan (MCP) - Required for disturbance within mining tenements.
Chief Executive Officer - DWER Minister for Water	*Rights in Water and Irrigation Act 1914* (RIWI Act)	26D licence - Required to construct an artesian bore. 5C licence - Required to abstract groundwater from an artesian aquifer
Minister for Aboriginal Affairs	*Aboriginal Heritage Act 1972*	Section 18 – Approval to disturb an Aboriginal heritage site.

Table 6: Other statutory decision-making process which can mitigate potential impacts on the environment

Environmental Impact	How is the impact regulated by other decision-making process(es)?	Limit(s) of the decision-making process(es) to regulate the impact	Likely environmental outcome of decision-making process(es), and consistency with EPA objective	Conditions, enforcement, and review process required by decision-making process(es)	Stakeholder engagement in decision-making process(es)
Abstraction of groundwater	A 26D Licence will ensure that constructed bores do not compromise the aquifer and/or groundwater resources. A 5C Licence will only be granted if impacts from abstraction of groundwater are sustainable, with minimal impact to the aquifer, the groundwater resource and other users. As a licence holder, Iluka would be required to comply with the conditions of the licence and the groundwater allocation. Iluka acknowledge the pump testing of a production bore at the Tutunup site will be required to progress a future application to amend the current Iluka Resources Limited Yarragadee Licence to Take Water (GWL161847(4)) under s.5C of the *RIWI Act*. This will ensure the EPAs objectives for the Inland Waters factor are met.	**TBC**	**TBC**	**TBC**	**TBC**
Impacts to the stability of the landscape	Before any disturbance is undertaken at the proposed site, an MP will be lodged to DEMIRS. The MP will include outcomes for key DEMIRS factors; including biodiversity, water resources, land and soils, and rehabilitation and mine closure, to ensure that the impacts on these factors are mitigated to an acceptable level. The MP will include an outcome that the landscape will be safe, stable and non-polluting. This will ensure the EPA's objectives for Terrestrial Environmental Quality are met.	**TBC**	**TBC**	**TBC**	**TBC**
Native vegetation clearing	Partially regulated under *Mining Act 1978* - A MP will be lodged with DEMIRS prior to clearing being undertaken and will include outcomes for the key DEMIRS factor: Biodiversity. These outcomes will include requirements for topsoil and sub-soil stripping and minimising the clearing footprint. A MCP will be lodged with DEMIRS prior to any clearing being undertaken. This will ensure the objectives for the EPA factor of Flora and Vegetation are met.	**TBC**	**TBC**	**TBC**	**TBC**
Introduction and spread of weeds and dieback	The MP and MCP, to be approved by DEMIRS, will include outcomes to ensure factors defined in DEMIRS's Environmental Objectives - Policy and Mining (DEMIRS, 2020) are met. This will ensure the EPA's objectives for the Flora and Vegetation factor are met.	**TBC**	**TBC**	**TBC**	**TBC**
Change to the post mining land use	An approved MP and MCP will ensure Factors defined in DEMIRS's Environmental Objectives - Policy and Mining (DEMIRS, 2020) are met. The *DEMIRS Factor: Rehabilitation and Mine Closure*, is relevant to this potential impact. This will ensure the EPAs objectives for Terrestrial Environmental Quality are met.	**TBC**	**TBC**	**TBC**	**TBC**

Environmental Impact	How is the impact regulated by other decision-making process(es)?	Limit(s) of the decision-making process(es) to regulate the impact	Likely environmental outcome of decision-making process(es), and consistency with EPA objective	Conditions, enforcement, and review process required by decision-making process(es)	Stakeholder engagement in decision-making process(es)
Disturbance of known Aboriginal heritage sites	This process is for assessing and authorising impacts on sites where significant Aboriginal heritage is present. The AH Act (currently) allows for the connection of different organisations, groups and bodies to enforce and preserve Aboriginal heritage and culture – both places and objects. This will ensure the EPA factor objectives for Social Surrounds, regarding Aboriginal heritage, are met	**TBC**	**TBC**	**TBC**	**TBC**
Impacts to Matters of National Environmental Significance	An accredited assessment undertaken by the EPA to address potential impacts to MNES is required. MNES relevant to the site have guidelines in place to mitigate impacts. Guidelines set by the DCCEEW must be followed to allow approval by the Minister for Environment and Water to be given. Mitigating impacts to MNES will ensure the EPAs objectives for Inland Waters, Terrestrial Fauna and Flora and Vegetation are met.	**TBC**	**TBC**	**TBC**	**TBC**
Exposure to radiation of receptors such as workers, flora and fauna	If determined to be required, a Radiation Safety Officer will be appointed for the site, and a Radiation Management Plan be developed and approved under the *Work and Health Safety (Mines) Regulations* 2022. This will ensure the EPAs objectives for Human Health, Terrestrial Fauna and Flora and Vegetation are met.	**TBC**	**TBC**	**TBC**	**TBC**
Dust and noise emissions	Mineral Sands mining is a prescribed activity under Part V of the EP Act and therefore the design, construction and operation of the mine will be regulated under a Works Approval and Environmental Licence. This will ensure dust and noise emissions are minimised and do not result in significant impacts to any sensitive receptors, and will be managed under this legislation. This will ensure the objectives of the EPA factor for Social Surrounds are met.	**TBC**	**TBC**	**TBC**	**TBC**
Water quality and soil impacts due to pollution (e.g. acid sulphate soils)	The Proposal has the potential to cause impacts to water and soil quality. The Proposal will be assessed under Part V of the EP Act to ensure such potential impacts are minimised and do not result in significant impacts upon receptors. This will ensure the EPA factor objectives for Inland Waters and Terrestrial Environmental Quality are met.	**TBC**	**TBC**	**TBC**	**TBC**
Impacts to threatened flora, fauna and ecological communities	For the management of activities undertaken by the Proponent which may impact on threatened flora, fauna, and ecological communities. The BC Act will enable Threatened and Priority species to be identified and avoided, where practicable. This will ensure the EPA factor objectives for Flora and Vegetation and Terrestrial Fauna are met.	**TBC**	**TBC**	**TBC**	**TBC**

Attachment A

Commonwealth Government Approvals

The controlling provisions are listed threatened species (sections 18 and 18a) and Ramsar Wetlands (s16 and 17B):

This ESD includes work required to be carried out and reported on in the Environmental Review Document in relation to MNES. The Environmental Review Document will also address the matters in Schedule 4 of the *Environmental Protection and Biodiversity Conservation Regulations 2000*. MNES that may be impacted by the Proposal will be identified and the potential impacts on these matters addressed in a separate MNES chapter, in relation to preliminary environmental factor identified in Section 2.1 of this ESD.

Proposed offsets to address significant residual impacts on MNES will also be discussed in the Environmental Review Document. The Environmental Review Document will provide sufficient information to allow the Minister for the Environment to make an informed decision on whether to approve, under Part 9 of the EPBC Act, the taking of the Action for each controlling provision. All relevant standards, policies and other guidance material published by DCCEEW will be referred to and followed, or justification will be provided.