



BALRANALD MINERAL SANDS MINE

2025 ANNUAL REVIEW

(1 January 2025 to 31 December 2025)

Table 1: Annual Review Information


Name Of Operation	Balranald Mineral Sands Mine
Name Of Operator	Iluka Resources Limited
Development Consent / Project Approval #	SSD – 5285
Name Of Holder Of Development Consent / Project Approval	Iluka Resources Limited
Mining Leases #	ML 1736 & ML 1855
Name Of Holder Of Mining Lease	Iluka Resources Limited
Water Licence #	WAL31101, WAL44602, WAL44970 & WAL 41857
Name Of Holder Of Water Licence	Iluka Resources Limited
RMP Start Date	12 August 2022
RMP End Date	Continuing
Annual Review Start Date	01 January 2025
Annual Review End Date	31 December 2025
<p>I, Brendan Isaacs, certify that this audit report is a true and accurate record of the compliance status of Balranald Mineral Sands Project for the period 1 January 2025 to 31 December 2025 and that I am authorised to make this statement on behalf of Iluka Resources Limited.</p> <p><i>Note.</i></p> <p>a) <i>The Annual Review is an ‘environmental audit’ for the purposes of section 122B(2) of the Environmental Planning and Assessment Act 1979. Section 122E provides that a person must not include false or misleading information (or provide information for inclusion in) an audit report produced to the Minister in connection with an environmental audit if the person knows that the information is false or misleading in a material respect. The maximum penalty is, in the case of a corporation, \$1 million and for an individual, \$250,000.</i></p> <p>b) <i>The Crimes Act 1900 contains other offences relating to false and misleading information: section 192G (Intention to defraud by false or misleading statement—maximum penalty 5 years imprisonment); sections 307A, 307B and 307C (False or misleading applications/information/documents—maximum penalty 2 years imprisonment or \$22,000, or both).</i></p>	
Name Of Authorised Reporting Officer	Brendan Isaacs
Title Of Authorised Reporting Officer	Environmental Rehabilitation & Community Relations Superintendent
Signature Of Authorised Reporting Officer	
Date	25/03/2026

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1. STATEMENT OF COMPLIANCE

1.1 Statement of Compliance

This report is the 2025 Annual Review for the Balranald Mineral Sands Mine (the 'Balranald Mine' or the 'Mine') as required by Condition 4, Schedule 5 of State Significant Development Consent SSD-5285 granted under the provisions of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act).

This Report has been prepared using the Annual Review Guideline: Post-approval requirements for state significant mining developments (SSD) (DPE, October 2015).

A summary of the compliance status of the operation with the conditions of the relevant approvals is provided in Table 2.

Table 2: Statement of compliance

Statutory Approval	Were conditions complied with ?
SSD Development Consent (SSD-5285)	Yes
Mining Lease 1736	Yes
Mining Lease 1855	Yes
Environment Protection Licence 20795	No
EPBC Approval (2012/6509)	Yes
Water Access Licence 31101	Yes
Water Access Licence 44602	Yes
Water Access Licence 44970	Yes
Water Access Licence 41857	Yes

1.2 Non-compliance

Any non-compliance identified during the reporting period are summarized in Table 3 and are categorized in accordance with the compliance status key below.

EPL-related matters are reported separately in Section 12 in accordance with the Annual Review Guideline.

Table 3: Summary of non-compliances

Relevant approval	Condition No.	Condition description	Compliance status	Comment	Where addressed in Annual Review
SSD Development consent (SSD-5285)				No non-compliance during the reporting period	
Mining Leases ML1736 & ML1855				No non-compliance during the reporting period	
EPBC Act Approval (EPBC 2012/6509)				No non-compliance during the reporting period	
Water Access Licences WAL31101, WAL44602, WAL44970 & WAL41857				No non-compliance during the reporting period	

Compliance status key for Table 3

Risk level	Colour code	Description
High	Non-compliant	Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence
Medium	Non-compliant	Non-compliance with: <ul style="list-style-type: none"> potential for serious environmental consequences, but is unlikely to occur; or potential for moderate environmental consequences, but is likely to occur
Low	Non-compliant	Non-compliance with: <ul style="list-style-type: none"> potential for moderate environmental consequences, but is unlikely to occur; or potential for low environmental consequences, but is likely to occur
Administrative non-compliance	Non-compliant	Only to be applied where the non-compliance does not result in any risk of environmental harm (e.g. submitting a report to government later than required under approval conditions)

2. INTRODUCTION

2.1 Operations overview

Iluka have approval to develop a mineral sands mine in south-western New South Wales (NSW), known as the Balranald Mineral Sands Mine (the Balranald Mine). It includes construction, open-cut mining, primary processing, and rehabilitation of two linear mineral sand deposits, known as the West Balranald and Nepean deposits, located approximately 12 kilometres (km) and 66 km north-west of the town of Balranald, respectively. The Balranald Mine also included undertaking an approved bulk sampling activity at the West Balranald deposit with the removal of up to 100,000 tonnes (t) of mineral ore to trial the use of underground mining methods. Location of the Mine is shown in Figure 1.

Development Consent (SSD-5285) was granted for the Balranald Project by a delegate of the NSW Minister for Planning under the EP&A Act on 5 April 2016 (herein referred to as the consent). Approval was also granted under the EPBC Act (EPBC 2012/6509) by a delegate of the Commonwealth Minister for the Environment on 6 January 2017 (herein referred to as the Commonwealth approval).

Iluka has undertaken some of the approved bulk sampling activity involving the extraction of the mineral ore from depth using trial underground mining technology within the approved disturbance area of the West Balranald deposit.

The underground mining trials were conducted as follows:

1. Trial 1 (T1) proof of concept undertaken between February and May 2015;
2. Trial 2 (T2) commerciality test undertaken between May to October 2016;
3. Trial 3 (T3) commerciality test undertaken between June to November 2020; and
4. Site placed into care & maintenance from 18 November 2020.

The outcome of the bulk sampling activity confirmed the effectiveness of the underground mining method, validated key elements of the mining unit design and have been used to help guide future life-of-mine (LOM) operational conditions and inform the potential suitability (commerciality and potential reduced environmental impacts) of underground mining as an alternative method for resource extraction.

On 21 December 2022, Iluka were granted approval to modify the consent (MOD1) to expand the underground mining trial which includes an additional area of disturbance to the approved Balranald Project area to enable primary processing of the ore into heavy mineral concentrate (HMC) and transport of HMC offsite for secondary processing at Iluka's facilities interstate. Construction of the Mine and associated infrastructure officially commenced on 7 August 2023 and were completed in Q4 of this reporting period.

Figure 2 shows the underground mining trial approved by the MOD1 Consolidated Consent.

During the 2025 reporting period, Modification 4 of the Consent was approved to SSD-5285 (SSD-5285 MOD4) on 16 July 2025. The approved modification was for the construction of a 21 Megawatt off-grid energy generation system consisting of a solar farm, a 10 MW battery energy storage facility and 3 km of connecting powerline.

2.2 Environmental management responsibilities

Table 4 provides the details of the Iluka personnel with environmental management responsibilities during the reporting period.

Table 4: Key personnel responsible for the environmental management during the 2025 reporting period.

Name	Role	Contact details
Philip Lazzari	Project Manager	philip.lazzari@iluka.com
Dave Wright	Operations Manager	dave.wright@iluka.com
Brendan Isaacs	Environmental Rehabilitation and Community Relations Superintendent	brendan.isaacs@iluka.com
Chrissie Eckersley	Environmental Advisor	chrissie.eckersley@iluka.com
Prachi Chauhan	Environmental Advisor	prachi.chauhan@iluka.com
Rohan Calley	Rehabilitation Advisor	rohan.calley@iluka.com

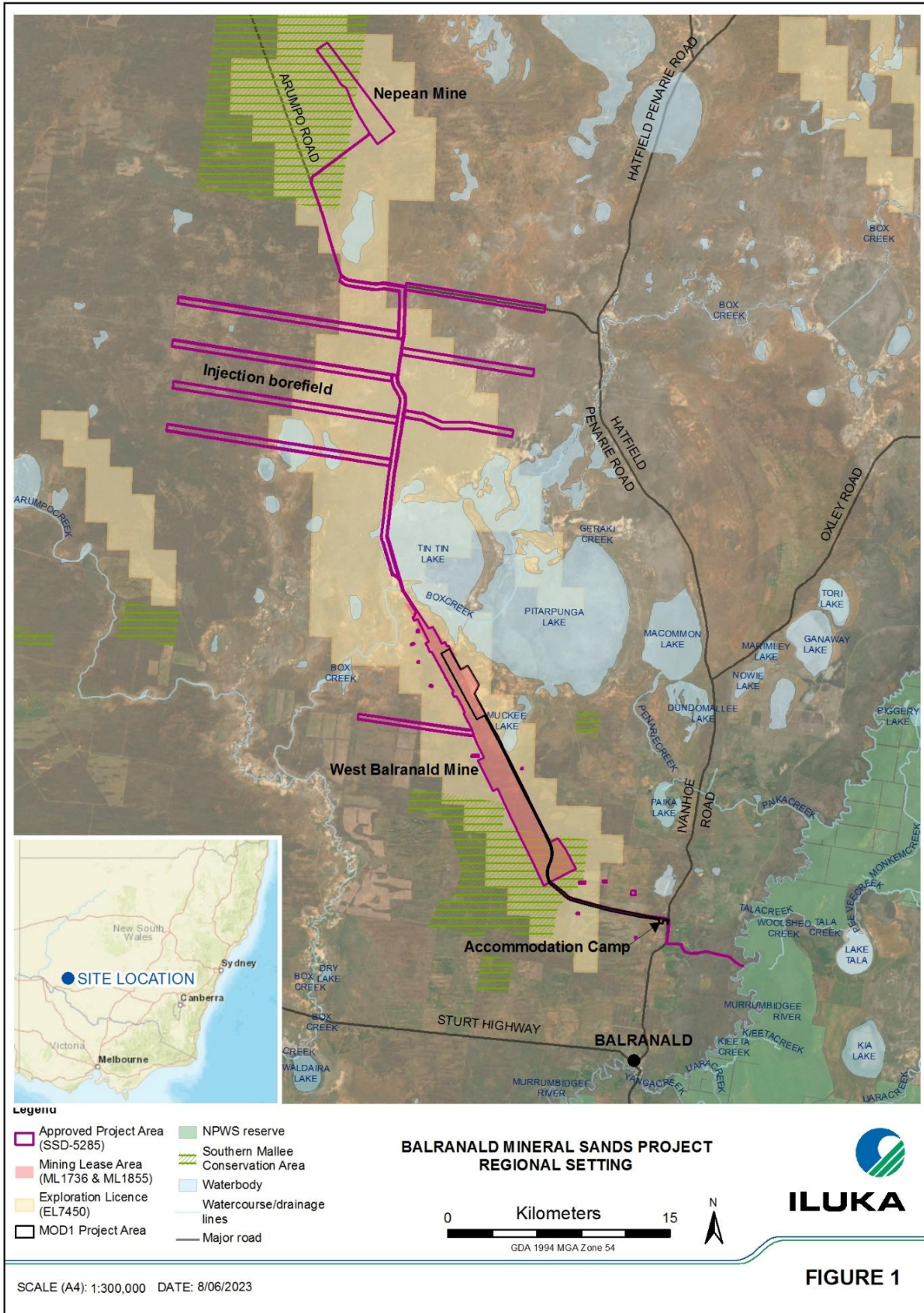


Figure 1: Project location and activity area

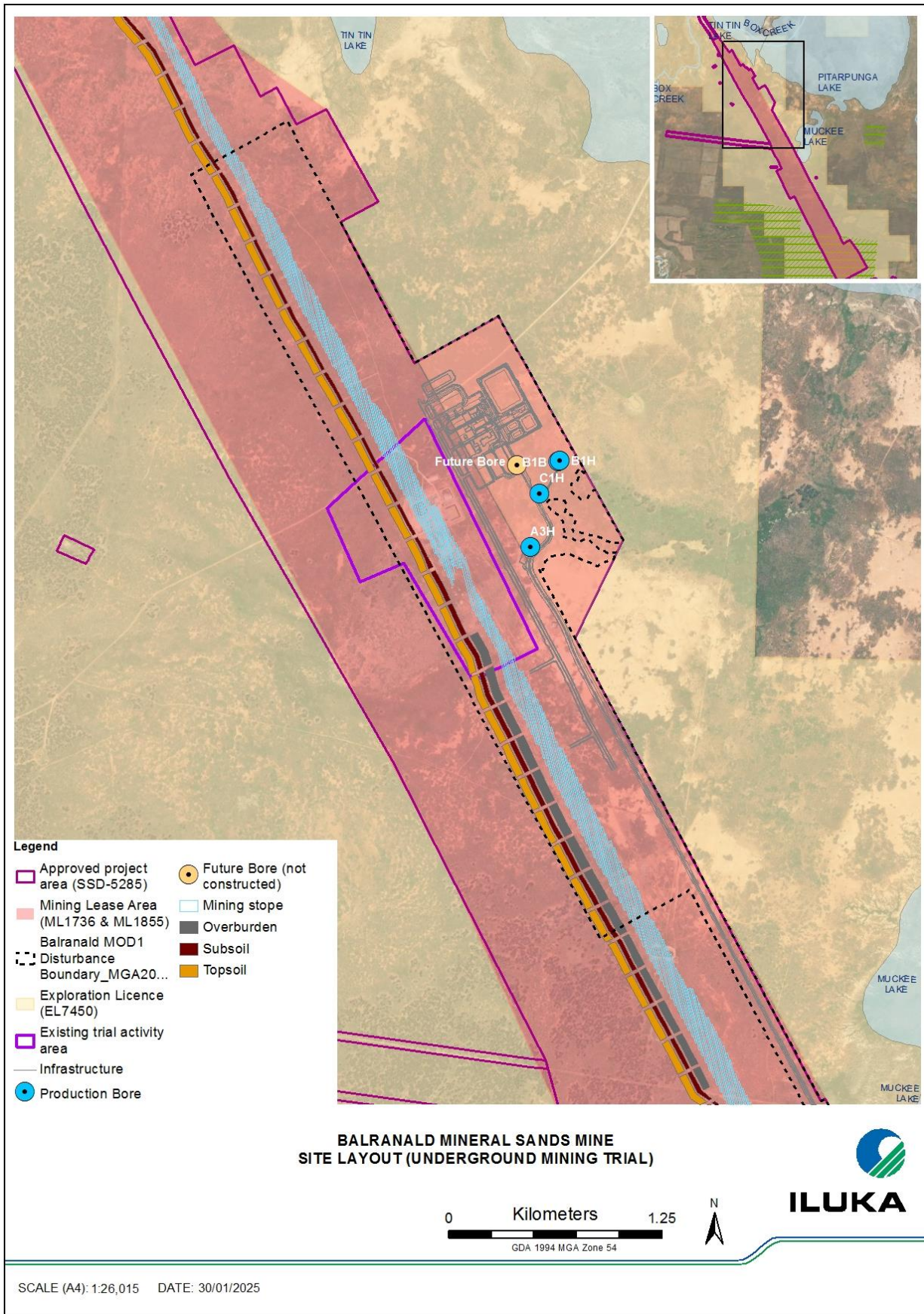


Figure 2: Approved modified project (MOD1) conceptual site layout

3. APPROVALS

The Balranald Mine is a Level 1 mine and was assessed as a State Significant Development (SSD) under Part 4 of the EP&A Act.

The current approvals (including consents, authorisations, licenses and management plans) for the Mine are summarised in Table 5 and Table 6.

Table 5: Current consents, authorisations and licences

Type	Identification	Details
Development Consent	SSD-5285	Granted: 5 April 2016 Duration: 16 years
Development Consent Modification	SSD-5285 (MOD1)	Modified: 21 December 2022
Development Consent Modification	SSD-5285 (MOD2)	Modified: 1 August 2023
Development Consent Modification	SSD-5285 (MOD3)	Withdrawn (Administrative error)
Development Consent Modification	SSD-5285 (MOD4)	Modified: 16 July 2025
EPBC Act Referral 2012/6509	EPBC 2012/6509	Granted: 6 January 2017 Expires: 1 January 2046
EPBC Act Referral 2012/6509 Variation	EPBC 2012/6509 (Variation 1)	Varied: 1 August 2023
EPBC Act Referral 2012/6509 Variation	EPBC 2012/6509 (Variation 2)	Varied: 16 June 2025
Mining Lease	ML1736	Granted: 9 May 2016 Duration: 21 years
Mining Lease	ML1855	Granted: 13 June 2023 Duration: 21 years
Environmental Protection Licence	EPL20795	Granted: June 2016 and renewed annually
Water Access Licence(s)	WAL31101 WAL44602 WAL44970 WAL41857	Total allocation volume – 50 ML Total allocation volume – 4,233 ML Total allocation volume – 1,117 ML Total allocation volume – 101 ML

Table 6: Approved management plans during reporting period

Management Plan	Changes during reporting period
Environmental Management Strategy (9 February 2023, Version 1)	Initial plan approved 28 February 2023.
Aboriginal Cultural Heritage Management Plan (ACHMP) (18 May 2023, Version 3)	Revised to include the management of Aboriginal Cultural Heritage within the approved MOD1 additional disturbance area.
Air Quality Management Plan (8 March 2023, Version 1)	Initial plan approved 17 March 2023.
Noise Management Plan (22 February 2023, Version 1)	Initial plan approved 3 March 2023.
Water Management Plan (18 January 2025, Version 5)	Revised for commencement of mining operations.
Traffic Management Plan (10 September 2025, Version 5)	Revised in January 2025 for changes to OSOM vehicle route for construction and subsequently in September 2025 to include management measures for transport of mineral products.
Biodiversity Management Plan (29 July 2025, Version 8)	Revised for MOD4 Solar Farm development.
Workforce Accommodation Plan (7 January 2025, Version 2)	Revised for inclusion of temporary on-site accommodation

4. OPERATIONS SUMMARY

4.1 Introduction

The T3 mining trial commenced in early August 2020 and was completed in early November 2020. The trial site was then demobilised and put into care and maintenance in November 2020.

On 21 December 2022 Iluka was granted approval to construct an underground mining operation. Construction of the Mine and its associated infrastructure officially commenced on 7 August 2023. Approximately 240 Ha of land was cleared to allow the construction of the private mine access road, mineral processing facility and other infrastructure to support mining operations.

Major construction milestones achieved in 2024, included the completion of the 23-kilometre private mine access road; installation of the site boundary fencing, site communications tower, production bores and groundwater monitoring bores; successful upgrades of public roads within Balranald Shire and the temporary diesel power station.

4.2 Site construction during the 2025 reporting period

Land disturbance and construction activities completed during the reporting period were undertaken for mining panels 1&2, the process plant infrastructure, drill pads, public roads upgrades, sediment basins along the drainage network of the mine access road, the power station facility, and for the solar farm project. The accommodation village camp which commenced construction in 2024 was completed 2025 and ready for occupancy in early 2025 reporting period.

Public road upgrades that were completed during the 2025 reporting period in compliance with the consent (Condition 22 of Schedule 3) in consultation with the applicable road authorities are:

- McCabe Street and Balranald-Ivanhoe Road intersection ,
- Balranald-Ivanhoe Rd & Mine Access Road intersection,
- Sturt Highway & Balranald-Tooleybuc Road intersection,
- Murray Street & Lea Street Tooleybuc, and
- Murray Street & Tooleybuc Road.

Other construction activities completed and commissioned during the 2025 reporting period include:

- Mining & processing infrastructure: processing plants, underground mining infrastructure
- Non-processing infrastructure: accommodation camp, warehouses and storage, workshops, site offices and car parking areas, and boundary fences
- Transport infrastructure: internal access tracks and road ways, and vehicle wash facilities
- Services and utilities infrastructure: fibre optic network, temporary power station and powerlines.

Partially completed construction of the following services and utilities infrastructure will be continued for their completion and commissioning next reporting period in early 2026:

- Mining & processing infrastructure: commissioning of drilling equipment; internal haul road network within the future pits, commissioning of Wet Concentrator Plant (WCP),
- Non-processing infrastructure: internal haul road sealing works,
- Services and utilities infrastructure: fuel storage and dispensing area, telecommunications tower, permanent power station facility, and the Solar Farm.

Photos 1 and 2 represent ongoing construction during the reporting period 2025.



Photo 1: Construction of stacker pad area in early 2025.



Photo 2: Public road upgrade and widening works of McCabe Street and Balranald-Ivanhoe Road intersection completed in September 2025.

4.3 Mining operations

Production statistics associated with construction of the MOD1 (extended underground mining trial) are provided in Table 7.

Development of mining stopes at Mining Panels 1 and 2 commenced in June 2025 during the reporting period with relevant activities limited to construction.

Table 7: production summary (MOD1 Underground mining)

Material	Approved limit (specify source)	Previous reporting period (2024 actual)	This reporting period (2025 actual)	Next reporting period (2026 forecast)
Topsoil (m3)	No limit	216,947	156,353	55,658
Subsoil (m3)	No limit	22,651	59,613	27,811
Overburden (m3)	No limit	21,348	368,052	178,169
Ore (t)	No limit	0	0	891,952
Reject material (Tailings) (t)	No limit	0	0	232,239
Product (HMC) (t)	700,000 t/pa (SSD-5285) MOD1	0	0	488,299

4.4 Exploration

No exploration activities were undertaken during the 2025 reporting period.

There are two drilling programs proposed for the next reporting period. Overview of the *grade control (infill RC-AC) drilling*, and *sonic drilling* programs are provided in Section 4.6 further below.

4.5 Decommissioning

Demolition of the Mining Trial 3 Plant site (T3) was carried out during the reporting period. This included demolition and removal of spiral plant, thickener tank, cyclones, process tanks, oversize reclaim plant, pipework, sand stackers and steel scrap. HDPE liners from the process water pond were also removed.

All building materials and demolished infrastructure were cleaned and scanned for NORM prior to leaving site. A total of 250 T of steel was recycled, 30 T of concrete reused on site, and 10 T of waste disposed to licensed landfill. This represents 95% of all demolished material being recycled.

The former mine traffic route along Burke & Wills Road was no longer used since the commissioning of the mine access road at Ivanhoe Road in January 2025.

4.6 Next reporting period

Mining operations in 2026 will be focused on progressing underground mining sequences, developing key infrastructure, and preparing operational areas for continued ore extraction. Activities include resource definition drilling, panel development, pit preparation and removal of legacy infrastructure to enable new mine panels. By the end of 2026, the total surface disturbance footprint is anticipated to reach 346.34 ha, including 12.34 ha of new disturbance. This expansion will reflect ongoing construction, panel development, and the progression of early mining activities along the ore strand.

4.6.1 Exploration: There are two drilling programs proposed for 2026.

1. Grade Control (Infill RC-AC) drilling Program

Prior to mining the northern faulted area, a grade control drill program consisting of between 10 to 16 AC drill holes will be required to refine the strand geometry and this is proposed to be completed in Q2 2026. This Infill RC-AC drilling aims to delineate the geometry of the strand over an area impacted by faulting of the basement at depth. The West Balranald strand elevation is changed by 10 metres between two 400m spaced drill sections at 549,300N and 549,700N in the Balranald local grid system.

2. Sonic drilling Program

Sonic drilling will be required in 2026 to support conversion of Indicated Resources to Measured Resource classification in advance of mining activities. It is expected that an additional six sections of Sonic drilling will be completed to the north of the MOD 1 area for resource definition in the next reporting period.

4.6.2 Construction, Commissioning & Panel Development

Construction works associated with MOD1 will be finalised in early 2026, completing underground mining infrastructure that had been under development since 2023. Throughout the next reporting period, mining panel development will continue along the ore strand, including internal haul road construction and installation of extraction infrastructure. Additional work include preparing Mining Panels MP3 and MP4, with drill pad construction, HDD setup and minor vegetation clearing to support progressive underground mining.

4.6.3 Mining and Ore Extraction

Underground bore hole mining will continue using HDD rigs to extract mineral ore to the surface, forming the basis of the operation's mining method in 2026. Ore production is expected to ramp up to between 50 and 200 tonnes per hour, as the mine transitions from commissioning to into full operational capacity. Underground pillars will be strategically retained to protect monitoring infrastructure as extraction advances.

4.6.4 Materials Handling, Stockpiling and Surface Preparation

Material handling works will involve pre-stripping and stockpiling of soil layers with strict environmental controls. Stockpiles will continue to be managed through erosion protection, pest and weed control, and detailed recording to ensure usability in future rehabilitation.

4.6.5 Processing and Tailings Management

Processing activities will involve operation of screening, spirals, flotation and WHIMS circuits to produce magnetic and non-magnetic HMC for transport offsite. Coarse sand tailings will be placed into pre-stripped voids and encapsulated with overburden, while fine tailings will be stored in a lined dam before reinjection into mined-out stopes. Coarse tails will be treated with lime sand at a neutralisation potential ratio (NPR) of 2 based on sulfur assay results to minimise acid-forming potential.

4.6.6 Infrastructure decommissioning and site transition works

The T3 dam will be fully decommissioned and removed to enable the construction of Mining Panels 3 and 4. This will involve drainage, infrastructure materials removal, and reshaping the landform for integration into the mining footprint.

5. ACTIONS REQUIRED FROM PREVIOUS ANNUAL REVIEW

On 2 April 2025, the Planning Secretary issued written acceptance of the **2024 Annual Review** for the Balranald Mineral Sands Mine. The Department noted that the Annual Review generally satisfied the requirements of *Schedule 5, Condition 4* of SSD-5285 and did not request any specific corrective actions arising from the 2024 reporting period.

The Department noted the absence of mining or processing activities in 2024 and acknowledged that the previously reported non-compliance with Schedule 2, Condition 2 had already been considered at the time of notification. The Secretary did, however, reiterate the ongoing obligation under Schedule 5, Condition 5 for Iluka to review and, if necessary, update relevant strategies, plans and programs, and to ensure that the Annual Review and all documents required under Schedule 5, Condition 10 remain publicly available and up to date.

No additional actions were directed.

6. ENVIRONMENTAL PERFORMANCE

Table 8 provides a summary of the environmental performance monitoring completed during the reporting period in accordance with the approved management plans for the mine.

Table 8: Environmental performance summary

Aspect	Approval criteria / EIS prediction	Performance during reporting period	Trend / key management implications	Implemented / proposed management actions
Noise	Noise criteria specified in Table 2 of SSD-5285.	<p>Attended noise monitoring was conducted quarterly during the reporting period.</p> <p>Noise monitoring reports are published on the Iluka website.</p>	Noise levels recorded at all monitoring locations were compliant with the relevant regulatory limits during each monitoring round.	Continue noise monitoring during construction and operations in accordance with the Noise Management Plan.
Air Quality	Air quality criteria specified in Table 3 of SSD-5285.	<p>The annual average of both PM10 and PM2.5 particulate matter remained below the Consent criteria.</p> <p>Note: Several elevated particulate level results during reporting period of 2025 were attributed to regional dust events, rather than site-related activities. These non-site related events have therefore been excluded from the calculation of the 2025 annual average.</p> <p>This is discussed in detail in Section 7.</p>	<p>Wind direction at the time of exceedances was recorded to be from different direction and not from the mine site. Therefore no exceedances were attributed to the site activities.</p> <p>Elevated results are associated with regional dust from the areas in the vicinity BAM unit during the time of exceedance.</p> <p>During the majority of exceedance events, wind direction was predominantly from the SW. This indicates that elevated particulate levels at the beginning of the year were likely influenced by bushfire, with regional dust events contributing to elevated levels throughout the remainder of the year.</p>	<p>Continue to monitor PM10 and PM2.5 taking note of any adverse weather conditions or dust events not attributed to site activities.</p> <p>Continue to implement dust controls as outlined in the Air Quality Management Plan.</p>
Groundwater	Water licence extraction limits, trigger levels specified in the Water Management Plan.	<p>Meter readings recorded for all groundwater extraction.</p> <p>Monthly groundwater levels and quality testing conducted.</p>	<p>All groundwater extraction was within extraction limits of Water Access Licences and Approvals.</p> <p>Groundwater levels remained stable and no trigger levels reached.</p>	Compliant water meters with telemetry installed and meter readings recorded at least monthly. Continue monitoring groundwater levels each quarter.

Aspect	Approval criteria / EIS prediction	Performance during reporting period	Trend / key management implications	Implemented / proposed management actions
		<p>Quarterly groundwater levels monitored at regional bore sites and reported.</p> <p>Annual groundwater quality testing conducted.</p>	<p>No adverse groundwater quality trends identified or trigger levels reached.</p>	<p>Quality monitoring to be undertaken annually.</p> <p>Quarterly groundwater level monitoring reports to be published on the Iluka website every quarter.</p>
Surface water / Erosion and sediment	<p>No offsite release of turbid water or sediments.</p>	<p>Drainage networks monitored after rain events.</p>	<p>Drainage networks have performed well and maintained any runoff from disturbed areas within the site boundary.</p>	<p>Continue to implement erosion and sediment controls outlined in the Water Management Plan.</p> <p>Monitor drainage networks after rain events.</p> <p>Ensure temporary erosion controls are applied to areas where there is risk of erosion and offsite sedimentation.</p> <p>Monitoring of surface water quality in accordance with the Water Management Plan.</p>
Biodiversity	<p>Protection of Malleefowl, Corben's Long-eared Bat and Raptors.</p>	<p>No impact to Malleefowl, Corben's Long-eared Bat or Raptors during clearing activities.</p> <p>Clearing Report attached as Appendix E.</p>	<p>Clearance within Malleefowl habitat and Corben's Long-eared Bat habitat was undertaken outside of their respective breeding seasons.</p> <p>There were a few instances where Malleefowl were sighted either near or crossing the site access road. All sightings were recorded in the Iluka internal register.</p>	<p>No vegetation clearing within 200m of the active Malleefowl mound until breeding has ceased. (i.e. end of February)</p> <p>No clearing within Corben's Long-eared Bat habitat between May and November.</p> <p>Hollow bearing trees (HBTs) within Corben's Long-eared Bat habitat to be marked up and surrounding vegetation cleared first</p>

Aspect	Approval criteria / EIS prediction	Performance during reporting period	Trend / key management implications	Implemented / proposed management actions
				<p>followed by HBTs 48hrs later. Felled trees to be re-located 24hrs after felling.</p> <p>Raptor nests to be inspected with drone for presence of eggs and chicks prior to clearing.</p> <p>Continue implementing management measures in accordance with Biodiversity Management Plan.</p>
	<p>Minimise clearing in the approved footprint.</p> <p>Protect adjacent vegetation and habitat.</p>	<p>Site Disturbance Permits were issued for all ground disturbing activities undertaken.</p> <p>Clearing areas were demarcated on the ground by a competent surveyor.</p>	<p>Pre-clearance inspections were undertaken to identify key environmental risks and appropriate mitigation measures were implemented accordingly.</p> <p>Following the completion of clearing activities, a post clearance inspection was conducted to confirm that all works were carried out in accordance with the approved Site Disturbance Permit.</p>	<p>All future ground disturbing activities will continue to be assessed via this permitting process.</p>
	<p>Timber, vegetation and soil salvage.</p>	<p>Vegetation and topsoil removed from the cleared areas on site has been stockpiled for future use in rehabilitation.</p>	<p>Topsoil stockpiles moderately erodible due to dry soil conditions and occasional high winds.</p>	<p>Stockpile attributes and locations mapped and included in database.</p> <p>Stockpiles allocated with unique identification numbers.</p> <p>Stockpile volumes obtained from survey and included in database.</p>

Aspect	Approval criteria / EIS prediction	Performance during reporting period	Trend / key management implications	Implemented / proposed management actions
	Weed and feral pest management	<p>All vehicles, plant and equipment were inspected for weed seeds and soil contamination before mobilising to site.</p> <p>Fox and pig baiting program and weed control was implemented upon identification on site and in the surrounding lands.</p> <p>An increase in the feral goat population was observed, prompting the organisation of a muster program to remove goats from the surrounding areas.</p>	Increasing number of feral animal sightings. Goat populations on the rise due to low commercial demand and price.	<p>Lessees consulted to undertake pest control.</p> <p>Goat control scheduled for 2026.</p> <p>Continue to implement fox and pig baiting program.</p> <p>Continue to implement weed control.</p>
	Bushfire prevention and response	<p>Fire break around the fence lines was graded to ensure its effectiveness.</p> <p>The Pollution Incident Response Plan was successfully tested on the 28 May 2025, in accordance with Environment Protection Licence 20795.</p>	Graded fire break remained effective during the reporting period.	<p>Continue maintaining effective fire break.</p> <p>Testing of emergency response procedure and equipment.</p> <p>Annual testing of the Pollution Incident Response Plan in accordance with Environment Protection Licence 20795.</p>
Aboriginal Cultural Heritage	No harm to Aboriginal Cultural Heritage	Several artefact finds were encountered during the development of solar farm. These were collected and stored in the keeping place in consultation with RAPs and archaeologists.	A number of sites identified within the EIS boundary will remain in situ and be avoided by development.	<p>Protection of modified trees and hearth sites identified for avoidance by fencing.</p> <p>Adherence to the unexpected finds protocols outlined in the ACHMP.</p>

Aspect	Approval criteria / EIS prediction	Performance during reporting period	Trend / key management implications	Implemented / proposed management actions
		<p>Several scar trees were identified within or in close proximity to the clearing boundary during the widening of McCabe street. All the identified scar trees were delineated and avoided during the works.</p>		<p>Maintain consultation with Registered Aboriginal Parties for the Project through biannual Aboriginal Cultural Heritage working group meetings.</p>

7. AIR QUALITY MANAGEMENT

The Continuous Particulate Monitor (CPM1) is for real time monitoring of particulate matter PM10 and PM2.5 to monitor compliance with the criteria set out in SSD-5285.

7.1 Short term impact assessment

Short term impact assessment of particulate monitoring indicate 38 exceedances in PM10 criteria and 11 exceedances in PM2.5 criteria during 2025 reporting period (refer to Figure 3 and 4). Subsequent investigations confirmed that none of these exceedance were attributable to onsite activities as the prevailing wind direction during those events was not blowing from the site.

In majority of cases, elevated particulate concentrations were addressed as being caused by dry, unconsolidated soils from the adjacent paddocks, which contributed to increased dust levels at the monitoring station. Additionally, bushfire in Grampians was identified as a contributing factor to elevated particulate levels at the monitor in the month of January.

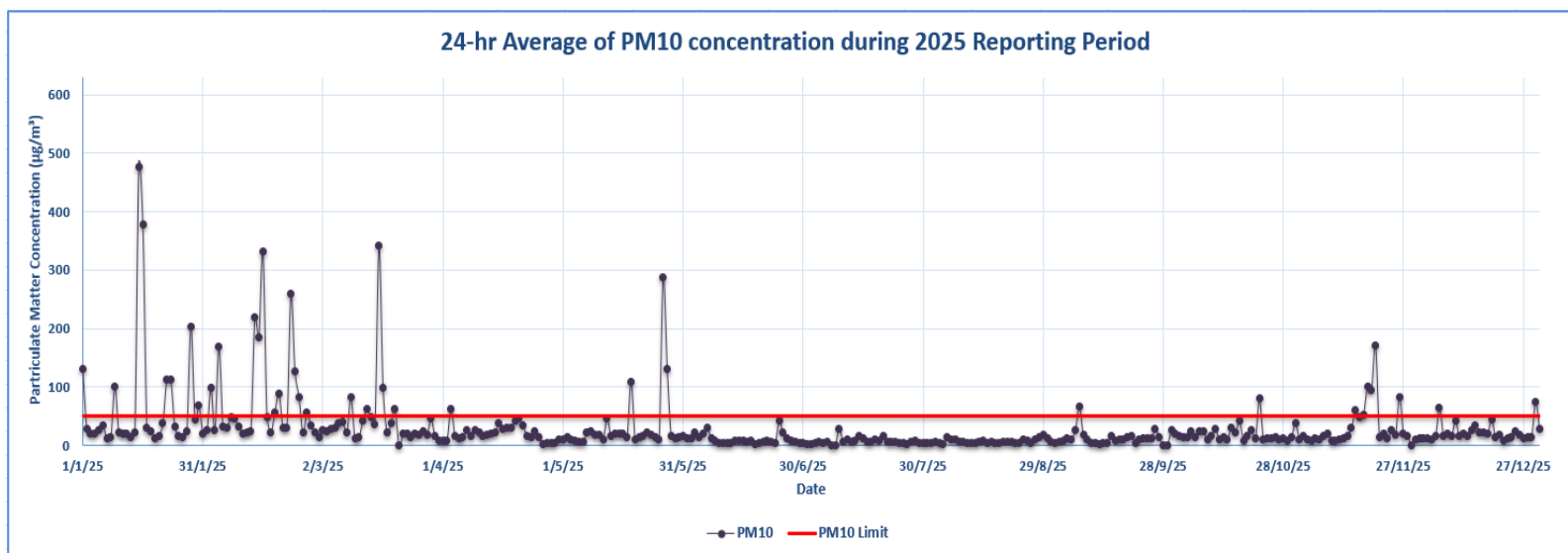


Figure 3 The 24 hour average of PM10 concentration at CPM1 during 2025 reporting period

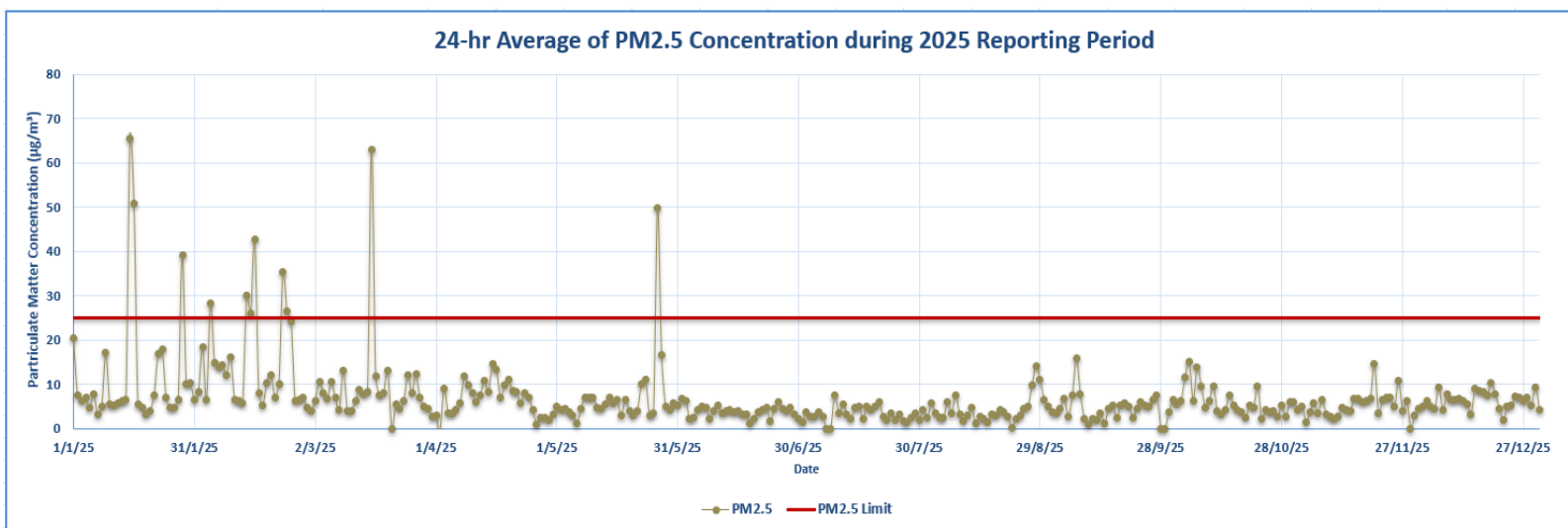


Figure 4: The 24 hour average of PM2.5 concentration at CPM1 during 2025 reporting period

7.2 Long term impact assessment

As outlined in Section 7.1, none of the recorded exceedance events were attributable to onsite activities. These instances have therefore been excluded from the calculation of the annual average. Following this adjustment, the annual average of PM10 and PM2.5 concentrations measured at the CPM1 monitor remains below the prescribed limits. Table 9 provides the annual average of concentration of both particulate pollutants during the 2025 reporting period.

Table 9: Annual average concentration of PM10 and PM2.5 in 2025 reporting period

Pollutant	Averaging Period	Limit	Average Concentration
PM10	Annual	25 µg/m ³	16.17 µg/m ³
PM2.5	Annual	8 µg/m ³	5.79 µg/m ³

A number of mitigation measures were implemented during 2025 reporting period to prevent exceedances caused by dust generated from the development activities on site including:

- Applying water to roads and open areas;
- Applying commercial soil binders in open areas
- Limiting clearing to minimal amount required for construction;
- Inspection of work areas; and
- Contractor management and awareness

Iluka will continue to monitor Particulate Matter at CPM1 and deploy additional controls in events where site activities are analysed to have contributed in the exceedance of PM10 and/or PM2.5 limits at the monitoring station.

8. WATER MANAGEMENT

8.1 Water take

Water use for the previous water year 1 July 2024 to 30 June 2025 is summarised in Table 10.

Table 10: Summary of water use during 2025 reporting period

Water Licence #	Water Source and Water Sharing Plan	Entitlement / allocation	Passive take / inflows	Active pumping	Total (ML)
44602	Western Murray Porous Rock Groundwater Source/NSW Murray Darling Basin Porous Rock Groundwater Sources 2020.	4,233 ML	0 ML	112.6 ML	112.6 ML
44970		1,117 ML	0 ML	0 ML	0 ML
31101		50 ML	0 ML	26.94 ML	26.94 ML
41857	Murrumbidgee Regulated River Water Source 2016	101 ML	0 ML	55.9 ML	55.9 ML

8.2 Groundwater monitoring

8.2.1 Underground mining operation

Regional groundwater monitoring commenced in September 2023 in accordance with the approved Water Management Plan for the underground mining operation. Water levels were measured quarterly and published on the Iluka website. The water quality monitoring for regional bores was conducted each quarter during 2025 reporting period.

Regional groundwater levels showed minor variation throughout 2025, with most bores exhibiting slight decrease in groundwater depth (0.06 - 0.16 m) between Q1 and Q4, indicating a gradual rise in water levels over the year. The exception was LPSPB03, which recorded an increase in groundwater depth of approximately 0.19 m, indicating gradual decline in water level at this location. One bore (GW036866(2)) remained effectively stable, with total variation of only 0.10 m across all quarters. A graph of the quarterly regional groundwater levels is shown in Figure 5.

Baseline data was collected from all the monitoring bore locations for first 6 months prior to commencement of mining operations in 2025. Data collection at these locations continued throughout the remainder of the reporting period. No significant variations or trends were identified when compared with the established baseline data.

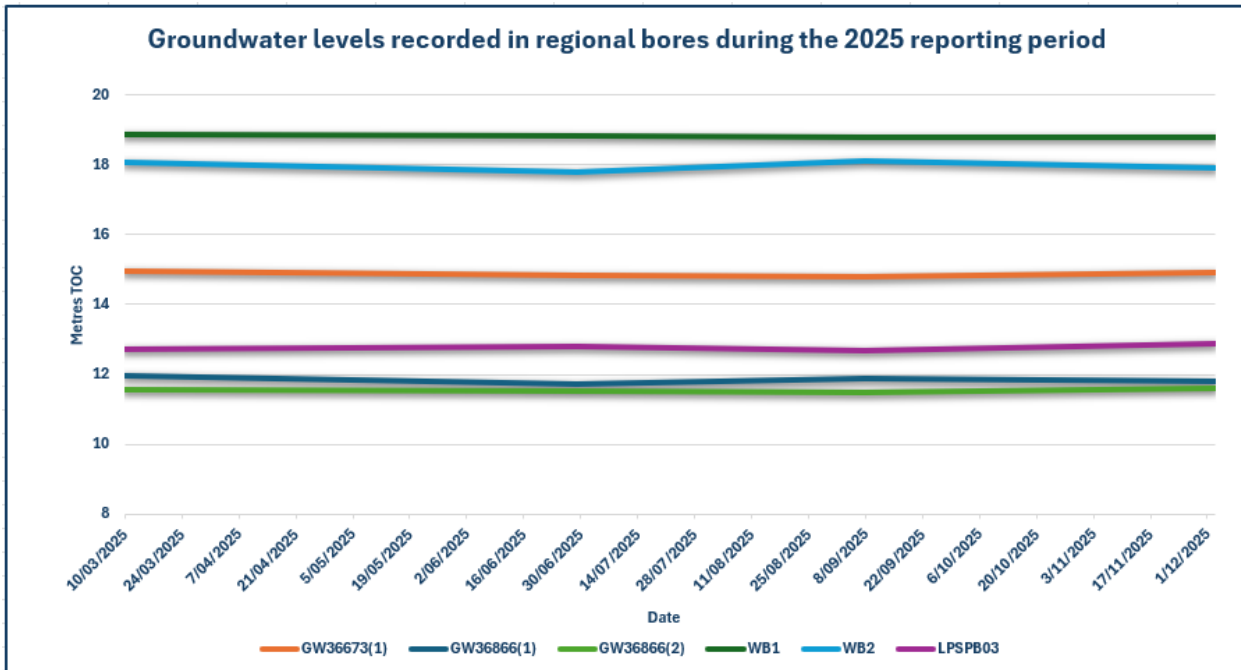


Figure 5: Quarterly groundwater levels for regional bores

8.3 Erosion and sediment

A total mean annual rainfall of 324mm was recorded in 2025 at the Balranald RSL weather station (BOM Station No. 049002) located in the town of Balranald. This figure is consistent with the long-term regional average rainfall of 324.1mm.

Stormwater dams were constructed in 2025 alongside the access road to minimise the risk of turbid water being discharged off-site. No sediment discharge was observed during the reporting period, and all drainage networks and storage basins remained functional and operated below their designated freeboard levels.

9. REHABILITATION

An Annual Rehabilitation Report and Forward Program has been prepared in accordance with *Mining Amendment (Standard Conditions of Mining Leases— Rehabilitation) Regulation 2021* under the *Mining Act 1992*.

The 2025 Annual Rehabilitation Report and 2026-2028 Three Year Forward Program are provided as Appendix A and Appendix B, respectively.

Table 11 shows the current status of rehabilitation at the site, during the reporting period no rehabilitation had been undertaken at the site.

Table 11: Rehabilitation status

Mine Area Type	Previous Reporting Period (Actual)	This Reporting Period (Actual)	Next Reporting Period (Forecast)
	Year (ha)	Year (ha)	Year (ha)
A. Total mine footprint	290	389.5	402
B. Total active disturbance	290	389.5	402
C. Land being prepared for rehabilitation	0	0	0
D. Land under active rehabilitation	0	0	0
E. Completed rehabilitation	0	0	0

10. COMMUNITY

10.1 Complaints

One community complaint was received and addressed during the 2025 reporting period related to construction traffic. All impacted residence were notified prior to commencement of construction deliveries via the approved route by form of letter drop and Council media releases. A copy of the complaints register for the Project is provided on the Iluka Resources website in accordance with the Condition 11, Schedule 5 of SD-5285.

10.2 Community Engagement

10.2.1 Murray Basin Newsletter

Iluka published newsletters in May 2025 and November 2025 to inform the community about the progress of the Balranald Project and Iluka's other projects in the Murray Basin.

The newsletters and other project updates are available on the Iluka website [Balranald Engagement Hub](#)

10.2.2 Aboriginal Cultural Heritage Working Group

Two Aboriginal Cultural Heritage Working Group meetings were held in August 2025 and December 2025 that consisted of a representative of Registered Aboriginal Parties (RAPs), and Iluka.

Following topics were discussed during the meeting in August 2025:

- General project update- construction and commissioning works
- Solar Farm Cultural Heritage Surface Salvage Report
- Acknowledgement of Iluka involvement with Clontarf in Mildura and developing relationships with employment support services within Mildura region.

In December 2025, following topics were discussed:

- Cultural awareness training for workers
- Confirmation of key findings from the Solar farm cultural heritage survey, including number of stone artefacts, CMTs and proposed harm avoidance of CMTs within southern portion of project area.
- Upcoming cultural survey works at Balranald site
- Discussion regarding employment opportunities available with Iluka Resources at Balranald Mineral Sands Mine.

Minutes of both the meetings is uploaded on the Iluka website [Balranald Engagement Hub](#) in accordance with Condition 10 of Schedule 5 of SSD-5285.

Iluka is committed to protecting and preserving Aboriginal Cultural Heritage and consulting with Traditional Owners on all Cultural Heritage matters.

10.2.3 Balranald Shire Council- Voluntary Planning Agreement (VPA)

Iluka and Balranald Shire Council have teamed up to create the Community Partnerships Committee as part of Iluka's Voluntary Planning Agreement (VPA). This new committee brings together six passionate voices—two from Iluka, two from Council, and two local community members—working hand-in-hand to support projects that matter most to our local community.

The Committee held its very first meeting on 20 November 2025, where members reviewed a range of funding applications and selected initiatives that will deliver real benefits to the Balranald community. This marks an exciting step forward in strengthening local partnerships and investing in organisations and projects that make a difference.

10.3 Community contributions

10.3.1 Community Partnerships Program

The first round of funding applications for the Community Partnerships Program was received in November 2025. Each application was carefully assessed against the criteria outlined in the Voluntary Planning Agreement (VPA). After thorough review, the Committee approved funding for 17 initiatives—13 community projects and 4 education scholarships—helping to support local organisations and create opportunities for learning and growth.

Future funding requests will be gathered and reviewed at the Community Partnerships and Education Scholarships Committee's biannual meetings, held around May and November each year. These meetings ensure local projects and education initiatives continue to receive the support they need to make a positive impact in our community.

Iluka proudly supported the Balranald community throughout the reporting period, with contributions summarised in Table 12.

Table 12: Community contributions made by Iluka during the reporting period

Type	Organisation/Individual	Initiative/Event
Community	Balranald Central School	Construction of a new athletics area
	Balranald Cricket Club	In-kind donation of portable buildings
	Balranald Football & Netball Club	Digital scoreboard for netball facilities
	Balranald Inc & Dolly Parton Imagination Library	Children's library books
	Balranald Pony Club	Contribution towards ablution block upgrade
	Balranald Soccer Club	Children's soccer equipment
	Balranald Early Learning Centre	Safety for Children – Installation of CCTV
	Euston Pre-School Association	Rubber soft-fall surface for outdoor play areas
	Balranald Multi-Purpose Service	New seating and smart TVs
	Kyalite Fishing & Sporting Club	Fish re-stocking and river facility upgrades
	Little Bunyips Playgroup	Technology for children
	Robinvale & District Ballet Guild	Acrobatics equipment
Scholarship	Four Individual Scholarship Recipients	Scholarship funding

11. INDEPENDENT AUDIT

No Independent Environmental Audit conducted during the 2025 reporting period.

First Independent Environmental Audit was conducted in 2024 for the period of 7 August 2023 to 7 August 2024, by suitably qualified, experienced and independent auditors endorsed by the Secretary in accordance with Condition 8, Schedule 5 of SSD-5285.

The copy of the 2024 Audit Report along with Iluka's responses to all the recommendation made in the Report, was submitted to the Secretary on 15 October 2024 to fulfil the requirement of Condition 9, Schedule 5 of SSD-5285. Key outcome drawn from the 2024 Audit is the effective implementation and continual improvement of management systems and processes established by Iluka for the Mine including compliance tracking and reporting.

Although an Independent Audit was not undertaken during the 2025 reporting period, comprehensive internal inspections and management system reviews were completed to meet Iluka's governance and statutory compliance obligations under the Balranald Operations Readiness Program. Table 13 outlines the remaining recommendations from the 2024 Audit and the progress made during the 2025 reporting period.

To comply with Condition 8, Schedule 5 of SSD-5285, the second Independent Environmental Audit is scheduled to be conducted during 2027 reporting period.

Table 13: Independent Environmental Audit recommendations and progress during the 2025 reporting period

IO-#	2024 Independent Audit Recommendation	Iluka Progress
IO-2024-03	<p>Amendment to the Environmental Management Strategy (EMS)</p> <p>Amend the EMS to nominate a maximum time for which documents listed in Schedule 5 Condition 10 should be updated/uploaded onto the Iluka webpage.</p>	The proposed changes will be included in the next revision of the EMS.
IO-2024-04	<p>T3 tailings covers</p> <p>Repair damaged covers to the T3 tailings stockpile. Consider the use of soil binder.</p>	<p>Removed and demobilised from the Mine in 4Q-2025 reporting period.</p> <p>The tailings covers were radiation tested and cleared of contamination prior to leaving the site for appropriate disposal.</p>
IO-2024-06	<p>Road Transport Protocol</p> <p>Improve the Road Transport Code of Conduct to explicitly include driver awareness to reduce potential noise impacts that may be generated by heavy vehicles such as idling, compression braking, etc.</p>	The proposed changes will be included in the next revision of the TMP.
IO-2024-12	<p>Subsurface Archaeological Testing Program</p> <p>Amend section 6.2 of the ACHMP to include:</p> <ul style="list-style-type: none"> involvement in the survey and investigation works by local Aboriginal stakeholders and the Aboriginal Cultural Heritage Working Group, as required by Conditions 19(b) and 20(b)(ii). cross-referencing where the megafauna assessment requirements are covered in the ACHMP, so that Section 6.2 covers all the requirements for the Subsurface Archaeological Testing Program. 	The proposed changes will be included in the next revision of the ACHMP.

12. INCIDENTS AND NON-COMPLIANCE

12.1 Non-compliances

12.1.1 Environment Protection Licence

The Annual Return reporting period for EPL 20795 extends from 10 June 2024 to 9 June 2025. Any non-compliances identified during this period were formally reported the NSW EPA in accordance with statutory reporting requirements. Non-compliances identified between 10 June 2025 and 31 December 2025 will be reported in accordance with EPL 20795's non-compliance reporting requirements.

Notwithstanding the above, reportable non-compliances against EPL 20795 identified during the 2025 Annual Review reporting period (1 January 2025 to 31 December 2025) are discussed below.

DETAILS OF NON-COMPLIANCES:

- a) Non-compliance with EPL 20795 Licence Condition L4.1 for exceeding the 24-hour period air quality concentration limits for PM₁₀ (50 µg/m³) and PM_{2.5} (25 µg/m³).

NON-COMPLIANCE	PM10	PM2.5
Dates and location of non-compliance	EPL Monitoring Point 13. <ul style="list-style-type: none"> 01/1/25, 09/1/25, 15-16/1/25, 22-23/1/25, 28/1/25, 30/1/25, 02/2/25, 04/2/25, 13-15/2/25, 18/2/25, 19/2/25, 22-24/2/25, 26/2/25, 09/3/25, 13/3/25, 16-17/3/25, 20/3/25, 3/4/25, 18/5/25, 26-27/5/25 07/9/25, 22/10/25, 15/11/25, 17-20/11/25, 26/11/25, 6/12/25, 30/12/25 	EPL Monitoring Point 13. <ul style="list-style-type: none"> 15/01/25, 16/1/25, 28/1/25, 04/2/25, 13/2/25, 14/2/25, 15/2/25, 22/2/25, 23/2/25, 16/3/25, 26/5/25
Particulars, and cause of non-compliance	<p>Data analysis determined non-compliances were not caused by site activities.</p> <p><u>From 01 January 2025 to 09 June 2025:</u> Strong windy conditions (over 20km/hr) causing high levels of dust at Balranald Township. Bushfire at the Grampians in Dec 2024 also impacted air quality of the Region.</p> <p><u>From 10 June 2025 to 31 December 2025:</u> Weather data indicate windy conditions (averaging up to 37 km/hr) with dominant wind directions from the south west moving toward the monitoring station and the Mine site. In December 2025, a dust storm swept through the Western NSW Region.</p>	
Actions taken to mitigate adverse effects	<p>Meteorological data from the BOM, and those collected by Mine's weather station were analysed. Site schedules were checked for potential dust generating activities. Investigations determined that the non-compliances were caused by the bad weather event.</p>	
Actions taken to prevent recurrence	<p>Stand down instructions, to cease or alter relevant dust generating activities, will continue to be implemented as required.</p> <p>Water carting and dust suppressant application will continue as part of the weekly dust mitigation plan.</p>	

- b) Non-compliance with EPL 20795 Licence Condition L4.1 for exceeding annual PM₁₀ concentration limit (25 µg/m³).

NON-COMPLIANCE	PM10
Dates and location of non-compliance	<ul style="list-style-type: none"> EPL Monitoring Point 13.
Particulars, and cause of non-compliance	<p>The exceedance resulted primarily from meteorological conditions and not from project related activities. Meteorological conditions during the reporting period largely contributed to PM₁₀ non-compliance. Accordingly, this potential non-compliance is considered to not be attributable to the project activities.</p>
Actions taken to mitigate adverse effects	<ul style="list-style-type: none"> Meteorological data from the BOM, and those collected by Mine's weather station were analysed. Weekly Dust Plan discussed at the beginning of each week which includes; <ul style="list-style-type: none"> A 7-day weather forecasting so site activities (including water carting and crustex application for dust suppression) are scheduled around anticipated inclement weather events, available resources at water dams and retention ponds for dust suppression, and analytical statistics of rainfall data and dust monitoring levels collected from site monitoring stations. Site schedules were checked for potential dust generating activities. <p>Investigations determined that the non-compliances were caused by the bad weather event, with wind directions predominantly traveling from the SW moving toward the Mine.</p>
Actions taken to prevent recurrence	<p>Stand down instructions, to cease or alter relevant dust generating activities, will continue to be implemented as required.</p> <p>Water carting and dust suppressant application will continue as part of the weekly dust mitigation plan.</p>

- c) Non-compliance with EPL 20795 Licence Condition M2.2 for failing to capture and record air quality (PM₁₀ and PM_{2.5}) data.

NON-COMPLIANCE		PM10 and PM2.5
Dates and location of non-compliance	EPL Monitoring Point 13. <ul style="list-style-type: none"> • 21/3/25 • 07-08/7/25, 28-29/9/25, 29/11/25, 	
Particulars, and cause of non-compliance	<p><u>From 01 January 2025 to 09 June 2025:</u> Continuous monitoring interrupted by electrical failure. Intermittent electrical fault and external power outage; Bad weather event in the area caused technical issues with the Monitor. Bad weather event in the area caused technical issues with the Monitor.</p> <p><u>From 10 June 2025 to 31 December 2025:</u> Scheduled maintenance service of the monitoring station</p>	
Actions taken to mitigate adverse effects	Air Quality monitoring equipment is inspected monthly, and serviced quarterly. Issue on 21/3/25 was addressed the same day and monitor was back operational on 22/03/2025.	
Actions taken to prevent recurrence	Air Quality monitoring equipment will continue to be inspected each month, and serviced every quarter.	

12.2 Reportable incidents or exceedances

No other reportable incidents or exceedances during the reporting period.

12.3 Official cautions or warnings

An official warning notice was issued by DCCEEW for breach of Condition1 of EPBC Act Approval (EPBC 2012/6509) on 21 February 2025 as a result of self-reporting the clearing incident that occurred on May 23 2024. The aforementioned clearing incident was reported in the 2024 Annual Review.

13. ACTIVITIES FOR NEXT REPORTING PERIOD (2026)

13.1 Environmental management

Environmental management throughout 2026 will focus on maintaining compliance during the transition from commissioning to operations. Activities will include regulatory engagement, implementation of monitoring programs, plan updates, and maintenance of environmental controls across the site.

13.1.1 Operational Environmental Monitoring

Implementation of all environmental monitoring in accordance with the relevant approved environmental management plans will continue in next reporting period.

Quarterly attended noise monitoring will continue as the mine comes into full operations in accordance with the approved Noise Management Plan.

Air quality monitoring for PM₁₀ and PM_{2.5} will continue during operations using a continuous particulate monitor at EPL Monitoring Point 13 to obtain data and provide ongoing compliance monitoring for air quality. Air quality monitoring will be undertaken in accordance with an approved Air Quality Management Plan.

Regional groundwater bore levels will be taken each quarter and samples taken for quality analysis taken once in the reporting period.

Water monitoring program will continue to gather baseline data from Groundwater monitoring bores during mining operations and continue with implementing monthly groundwater sampling in accordance with the approved Water Management Plan.

13.1.2 Environmental Planning, Regulatory Compliance, and Management Plan Updates

Environmental planning in 2026 will include updates to statutory environmental management plans and implementation of the Subsidence Management Plan. The following documents will require updating in the next reporting period as the mine transitions from commissioning phase to full operations in 2026:

- Water Management Plan
- Pollution Incident Response Management Plan

13.1.3 Environmental Maintenance and Site Controls

Routine and opportunistic weed and pest control will be implemented to minimise noxious weeds within the mining lease, and erosion mitigation and drainage inspections will continue to be undertaken across disturbed areas. Post-rainfall checks will ensure erosion structures and stormwater controls function effectively.

13.2 Community and Stakeholder Engagement

Balranald Shire Council and Transport for NSW will be consulted during 2026 regarding the remaining required public road upgrades required under Condition 22 of Schedule 3 for the Balranald Mineral Sands Mine Development Consent (SSD-5285).

Iluka will continue to work closely with Balranald Shire Council throughout 2026 to uphold the commitments outlined in the Voluntary Planning Agreement (VPA). This includes holding biannual Community Partnership Committee meetings to assess and determine community grant applications received in May and November. In addition, the VPA incorporates a road maintenance agreement that will take effect upon the commencement of heavy mineral concentrate haulage.

Consultation with Iluka's Registered Aboriginal Parties (RAPs) will continue in 2026 to maintain the Aboriginal Cultural Heritage Working Group. The group will meet at least twice per year, and will be an advisory committee which Iluka will work with in relation to ongoing management of Aboriginal heritage associated with the mine.

Community consultation will be undertaken over the next reporting period, including attending community events, providing project updates and responding to queries or complaints.

13.3 Research trials and waste management programs

Research will progress through the Lime Dosing Optimisation study and remote dozer trials. These programs will provide insights into tailings chemistry and geotechnical stability to inform rehabilitation planning.

A research trial will be undertaken to evaluate the feasibility and effectiveness of establishing a hydrocarbon landfarm for onsite remediation of contaminated soils, with the objective of reducing the contaminated land footprint and improving suitability of materials for future land rehabilitation.

13.4 Approval conditions triggered during next reporting period

Approval conditions to be triggered during the next reporting period are listed in Table 14.

Table 14: Approval conditions to be triggered during the next reporting period

Action	Source	Timing
Prior to commencement of haulage of mineral concentrate Implement road upgrade works detailed in Table 9 of SSD-5285.	SSD-5285 Schedule 3, Condition 23	Prior to transport of mineral concentrate offsite.
Retire stage 1 Offset credits as specified in Table 7 of SSD-5285	SSD-5285 Schedule 3, Condition 16A	Within 24 months of the commencement of disturbance. Extension granted until 31 October 2026. (Ref: SSD-5285-PA-49)
Prepare a Fire Safety Study at least one month prior to construction of the battery storage facility and associated footings/foundations.	SSD-5285 Schedule 3, Condition 30A	One month prior to construction of the battery storage facility and associated footings/foundations.
Implement the measures described in the Fire Safety Study approved by the Secretary.	SSD-5285 Schedule 3, Condition 30B	On approval of Fire Safety Study.

14. APPENDICES

Appendix A - Annual Rehabilitation Report 2025



**Resources
Regulator**

ARR0001657

BALRANALD MINERAL SANDS MINE ANNUAL REHABILITATION REPORT

Wednesday 1 January 2025 to Wednesday 31 December 2025

Summary table

Detail	
Mine	Balranald Mineral Sands Mine
Reference	ARR0001657
Annual report period commencement date	Wednesday 1 January 2025
Annual report period end date	Wednesday 31 December 2025
Forward program	FWP0001544
Mining leases	ML 1855 (1992), ML 1736 (1992)
Lease holder(s)	Iluka Resources Limited
Contact	Rohan Calley
Date of submission	Friday 27 February 2026
Document URL <small>Security reminder: Please exercise caution before opening external links. If a link appears suspicious, avoid clicking it and report it to the Resources Regulator.</small>	https://iluka.com

Important

The department may make the information in your program and any supporting information available for inspection by members of the public, including by publication on its website or by displaying the information at any of its offices. If you consider any part of your program to be confidential, please communicate this to the department via the message function on this submission within the Resources Regulator Portal.

Mine Details

Project description

Iluka have approval to develop a mineral sands mine in south-western NSW, known as the Balranald Mineral Sands Project. It includes construction, open-cut mining, primary processing, and rehabilitation of two linear mineral sand deposits, known as the West Balranald and Nepean deposits, located approximately 12 kilometres (km) and 66 km north-west of the town of Balranald, respectively. The Balranald Project also included undertaking an approved bulk sampling activity at the West Balranald deposit to trial the use of underground mining methods. On 21 December 2022, Iluka were granted approval to modify the consent (MOD1) to expand the underground mining trial which includes an additional area of disturbance to the approved Balranald Project area to enable primary processing of the ore into heavy mineral concentrate (HMC) and transport of HMC offsite for secondary processing at Iluka's interstate facilities.

Life of mine

10 years

Current development consents, leases and licences

Development consents granted under the *Environmental Planning and Assessment Act 1979*



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Authorisations covering the mining area granted under the *Mining Act 1992*

ML 1855 (1992), ML 1736 (1992)

Any other approvals, licences, or authorities issued by government agencies that are relevant to the progress of mining operation and rehabilitation activities

Environmental Protection Licence (20795) EPBC Act Approval (2012/6509) Consolidated Development Consent SSD-5285

Summary of the scope and/or purpose of the new applications or modifications to existing approvals (if applicable)

Development consent SSD5285 was modified during the 2025 reporting period. Modification Consent was approved to SSD5285 (SSD5285 MOD4) on 16 July 2025 by the NSW Dept. of Planning, Housing and Infrastructure. The approved modification was for the construction of a 21 Megawatt off-grid energy generation system consisting of a solar farm, a 10 MW battery energy storage facility and 3 km of connecting powerline. This also included a revised ecosystem credit calculation relating to the proposed disturbance.

Changes to land ownership and land use

No land ownership or use changes were made during the 2025 reporting period.

Surface disturbance and rehabilitation activities during the reporting period

Surface disturbance and rehabilitation activities that were conducted and an analysis of the progress against the rehabilitation schedule

Approximately 22.7 ha of native vegetation was cleared during the 2025 reporting period within ML1736 and ML1855. Clearance was required for the continued construction of the processing plant and mining infrastructure, the development of mining panels and for the solar power generation plant construction. Rehabilitation activities are yet to commence.

Rehabilitation planning activities that were conducted, including any specialist studies

No new or modifications to the approved mining plan rehabilitation activities occurred during the reporting period. Demolition of the Mining Trial 3 Plant site (T3) was carried out during the report period. This included demolition and removal of spiral plant, thickener tank, cyclones, process tanks, oversize reclaim plant, pipework, sand stackers and steel scrap. Process water pond liners were also removed. All material was cleaned and scanned for NORM prior to leaving site. A total of 250 T of steel was recycled, 30 T of concrete reused on site, and 10 T of waste disposed to licenced landfill. This represents 95% of all demolished material being recycled.

Overview of subsidence repair and/or remediation works undertaken

No subsidence repair or remediation works took place during the reporting period. Remote dozer trials have been conducted to assess the suitability for future work on areas of subsidence.

Overview of rehabilitation management and maintenance activities

No rehabilitation activities were undertaken during the reporting period. Feral animal control was undertaken targeting foxes and pigs via baiting campaigns to reduce the numbers on the mine lease. Regular weed management is undertaken throughout the year

following inspections of disturbed areas where weeds are likely to establish, and locations where historic infestations have been recorded.

Details of any rehabilitation actions taken as required by any letters, notices or directions issued by government agencies, including the Resources Regulator

No rehabilitation directives were issued in the reporting period.

Details of any rehabilitation areas that have achieved the final land use

No rehabilitation has achieved final land use in the reporting period. Give the stage of the mine, no rehabilitation has been undertaken.

Key production milestones

MATERIAL	UNIT	FWP0001544 YEAR1	THIS REPORT
Stripped topsoil (if applicable)	(m ³)	164,770	156,353
Rock/overburden	(m ³)	449,135	368,052
Ore	(Mt)	0.16	0
Reject material¹	(Mt)	0.06	0
Product	(Mt)	0.1	0

¹This includes coarse rejects, tailings and any other wastes resulting from beneficiation.

Disturbance and rehabilitation statistics

Current disturbance and rehabilitation progression

ELEMENT		UNIT	THIS REPORT
A1	Total disturbance footprint - surface disturbance	(ha)	338.55
B	Total active disturbance	(ha)	338.55
C	Rehabilitation - land preparation	(ha)	0
D	Ecosystem and land use establishment	(ha)	0
E	Ecosystem and land use development	(ha)	0
F	Rehabilitation completion	(ha)	0

Rehabilitation key performance indicators (KPIs)

ELEMENT		UNIT	THIS REPORT
G	New disturbance area	(ha)	109.1
H	New rehabilitation commenced during annual reporting period	(ha)	0
I	Established rehabilitation	(ha)	0
J	Annual rehabilitation to disturbance ratio	%	0
K	Rehabilitated land to total mine footprint	%	0

Progressive achievement of established rehabilitation

	ELEMENT	UNIT	THIS REPORT
L	Established rehabilitation for agricultural final land uses	%	0
M	Established rehabilitation for native ecosystem final land uses	%	0
N	Established rehabilitation for other/non-vegetated final land uses	%	0

Variation to the rehabilitation schedule

Identify the components of the most recent forward program that were not achieved

n/a

Key factors that delayed progressive rehabilitation

n/a

Outline actions that will be included in the forward program and carried out to minimise disturbance and undertake progressive rehabilitation as far as reasonably practical

n/a

Rehabilitation monitoring and research findings

Rehabilitation monitoring

The rehabilitation monitoring carried out in the annual reporting period

No rehabilitation monitoring was undertaken in the reporting period.

Status of performance against rehabilitation objectives and rehabilitation completion criteria

The monitoring program that has been implemented

No rehabilitation activities nor monitoring activities were planned for the reporting period.

Are all rehabilitation areas in Landform Establishment phase or higher represented in the monitoring program to assess performance against the rehabilitation objectives and approved or, if not yet approved rehabilitation completion criteria and final landform and rehabilitation plan?

No

Year rehabilitation areas will be included as part of the monitoring program

2028

An appraisal of whether rehabilitation is moving towards achieving the proposed rehabilitation objectives, approved or, if not yet approved, rehabilitation completion criteria and final landform and rehabilitation plan as soon as reasonably practicable.

No rehabilitation undertaken to date, site has been in construction phase.

Appraisal description

Rehabilitation is moving towards achieving the final land use as soon as reasonably practicable.

Rehabilitation monitoring program findings

No rehabilitation monitoring program carried out as the mine site (including ancillary infrastructure) is currently under construction during the reporting period. Monitoring of vertebrate pest animal and declared weeds species were conducted, and control measures were implemented during the reporting period. Monitoring inspections of water storages and drainage infrastructure were undertaken during the reporting period to ensure stormwater runoff and sediment is being captured and not being discharged offsite while construction works were ongoing.

Performance issues and their causes including identification of any knowledge gaps that must be addressed

Nil

Outcomes of rehabilitation research and trials

RRT NUMBER	PROJECT/TRIAL NAME	OBJECTIVE OF TRIAL/PROJECT	METHODOLOGY	EXPECTED DATE OF COMPLETION	STATUS	ON TRACK?
RRT0001115	Lime dosing optimisation	The objective of this study is to identify the minimum limestone addition rate that meets Iluka's environmental obligations and maintains low environmental risk into the future.	The following scope of work has been developed to deliver the project objectives: • STAGE 1 – Review and risk assessment. • STAGE 2 – Scope and plan geochemical laboratory work programme. • STAGE 3 – Geochemical laboratory work program, impact assessment, and limestone amendment procedures. • STAGE 4 – Reporting and final limestone requirements.	30 Jun 2025	Ongoing	Yes
RRT0001136	Remote dozer trials	To confirm that areas previously mined using underground mining method are geotechnical stable for final landform establishment.	Remotely operated dozer and tow behind compactor will be deployed on previously mined areas where subsidence was observed during the T3 trials.	30 Jun 2025	Not started	Yes
RRT0001135	Remote dozer trials	To confirm that areas previously mined using underground mining method are geotechnical stable for final landform establishment.	Remotely operated dozer and tow behind compactor will be deployed on previously mined areas where subsidence was observed during the T3 trials.	30 Jun 2025	Ongoing	Yes

Outcomes of completed trials and research

N/A

Attachment 1 - Reporting Definitions

REPORTING CATEGORY		DEFINITION
A1	Total disturbance footprint - surface disturbance	<p>All areas within a mining lease that either have at some point in time or continue to pose a rehabilitation liability due to surface disturbance activities.</p> <p>The total disturbance footprint is the sum of the total active disturbance, decommissioning, landform establishment, growth medium development, ecosystem and land use establishment, ecosystem and land use development and rehabilitation completion (see definitions below).</p> <p>Underground mining operations should not include the footprint of underground mining areas/subsidence management areas in the total disturbance footprint.</p>
A2	Underground Mining Area	Underground mining operations areas/subsidence management areas.
B	Total active disturbance	Includes on-lease exploration areas, stripped areas ahead of mining, infrastructure areas, water management infrastructure, sewage treatment facilities, topsoil stockpile areas, access tracks and haul roads, active mining areas, waste rock emplacements (active/unshaped/in or out-of-pit), tailings dams (active/unshaped/uncapped) and temporary stabilised areas (e.g. areas sown with temporary cover crops for dust mitigation and temporary rehabilitation).
C	Rehabilitation - land preparation	Includes the sum of all disturbed land within a mining lease that have commenced any, or all, of

REPORTING CATEGORY	DEFINITION
	<p>the following phases of rehabilitation - decommissioning, landform establishment and growth medium development.</p> <p>Refer to the glossary of terms in this document for the definition of these phases of rehabilitation.</p>
<p>D Ecosystem and land use establishment</p>	<p>Includes the area which has been seeded/planted with the target vegetation species for the intended final land use. However, vegetation has not matured to a stage where it can be demonstrated that it will be sustainable for the long term and or require only a maintenance regime consistent with target reference/analogue sites.</p> <p>Typically, rehabilitation areas would be in this phase for at least two years (and usually more) before rehabilitation can be classified as being in the ecosystem and land use development phase. This phase does not apply to infrastructure areas that are being retained as part of final land use for the site.</p>
<p>E Ecosystem and Land Use Development</p>	<p>Rehabilitation has matured to a level where target revegetation outcomes are on a trajectory towards meeting the final rehabilitation objectives and rehabilitation completion criteria (as verified by monitoring).</p> <p>This phase includes infrastructure areas that are to be retained for an approved post mining land use, following completion of all necessary measures to render the infrastructure fit for this purpose (for example structural integrity).</p>

REPORTING CATEGORY		DEFINITION
F	Rehabilitation Completion	The Resources Regulator has determined in writing that the mining area has achieved the approved rehabilitation objectives and approved rehabilitation completion criteria and final landform and rehabilitation plan following the submission of Form: <i>Rehabilitation completion and/or review of rehabilitation cost estimate and/or notification of mine or petroleum site closure</i> .
G	New active disturbance area	The area of any new active disturbance that has been created during the annual reporting period (definition A1 in Table 5).
H	New rehabilitation commenced during annual reporting period	The sum of any new rehabilitation commenced in the annual reporting period. These areas may be in the rehabilitation land preparation phase or the ecosystem & land use establishment phase (definitions C and D in Table 5).
I	Established rehabilitation (hectares)	The total area of land that is verified to be within either the ecosystem and land use development phase or the rehabilitation completion phase (definitions E & F in Table 5).
J	Annual rehabilitation to disturbance ratio	The rehabilitation to disturbance ratio (H/G) indicates how many hectares of new rehabilitation are undertaken for each hectare of land disturbed during the year. A ratio of 1/1 indicates that the area of new rehabilitation and disturbance in that year are the same.
K	% Rehabilitated land to total mine footprint	The proportion of the total mine footprint (area of land that has been disturbed by past or present surface disturbance activities) that has established rehabilitation ($I/A1 \times 100$). For open cut mining, the proportion of the total mine footprint verified to be "established rehabilitation" should substantially increase as an operation progresses towards mine closure.

REPORTING CATEGORY		DEFINITION
L	Established rehabilitation for agricultural final land uses (hectares)	The percentage of total area of land that is verified to be within either the ecosystem and land use development phase or the rehabilitation completion phase (definitions E & F in Table 5) that have been returned to an agricultural final land use.
M	Established rehabilitation for native ecosystem final land uses (hectares)	The percentage of total area of land that is verified to be within either the ecosystem and land use development phase or rehabilitation completion phase (definitions E & F in Table 5) that have been returned to native ecosystem final land use.
N	Established rehabilitation for other/non-vegetated final land uses (hectares)	The percentage of total area of land that is verified to be within either the ecosystem and land use development phase or the rehabilitation completion phase (definitions E & F in Table 5) that have been returned to other/non-vegetated final land use.

Attachment 2 - Definitions

WORD	DEFINITION
Active	In the context of rehabilitation, land associated with mining domains is considered 'active' for the period following disturbance until the commencement of rehabilitation.
Active mining phase of rehabilitation	In the context of rehabilitation, the active mining phase of rehabilitation constitutes the rehabilitation activities undertaken during mining operations such as salvaging and managing soil resources, salvaging habitat resources, and native seed collection. This phase also includes management actions taken during operations to manage risks to rehabilitation and enhance rehabilitation outcomes such as selective handling of waste rock and management of tailings emplacements.
Analogue site	In the context of rehabilitation, an analogue site is a 'reference site' that represents an example of the defining characteristics (such as vegetation composition and structure or agricultural productivity) of the final land use. Characteristics of analogue sites can be assessed to develop the rehabilitation objectives and completion criteria for final land use domains.
Annual rehabilitation report and forward program	As described in the Mining Regulation 2016.
Annual reporting period	As defined in the Mining Regulation 2016.
Closure	A whole-of-mine-life process, which typically culminates in the relinquishment of the mining lease. It includes decommissioning and rehabilitation to achieve the approved final land use(s).

WORD	DEFINITION
Decommissioning	The process of removing mining infrastructure and removing contaminants and hazardous materials.
Decommissioning Phase of Rehabilitation	Activities associated with the removal of mining infrastructure and removal and/or remediation of contaminants and hazardous materials. In the context of the rehabilitation management plan this phase of rehabilitation may also include studies and assessments associated with decommissioning and demolition of infrastructure or works carried out to make safe or 'fit for purpose' built infrastructure to be retained for future use(s) following lease relinquishment.
Department	Department of Primary Industries and Regional Development.
Disturbance	See Surface Disturbance.
Disturbance area	<p>An area that has been disturbed and that requires rehabilitation.</p> <p>This may include areas such as on-licence exploration areas, stripped areas ahead of mining, infrastructure areas, water management infrastructure, sewage treatment facilities, topsoil stockpile areas, access tracks and haul roads, active mining areas, waste emplacements (active/unshaped/in or out-of-pit), tailings dams (active/unshaped/uncapped), and areas requiring rehabilitation that are temporarily stabilised (i.e. managed to minimise dust generation and/or erosion).</p>
Domain	An area (or areas) of the land that has been disturbed by mining and has a specific operational use (mining domain) or specific final land use (final land use domain). Land within a domain typically has similar geochemical and/or geophysical characteristics and therefore requires specific rehabilitation

WORD	DEFINITION
	activities to achieve the associated final land use.
Ecosystem and Land Use Development	<p>This phase of rehabilitation consists of the activities to manage maturing rehabilitation areas on a trajectory to achieving the approved rehabilitation objectives and completion criteria.</p> <p>For vegetated land uses this phase may include processes to develop characteristics of functional self-sustaining ecosystems, such as nutrient recycling, vegetation flowering and reproduction, and increasing habitat complexity, and development of a productive, self-sustaining soil profile.</p> <p>This phase of rehabilitation may include specific vegetation management strategies and maintenance such as tree thinning, supplementary plantings and weed management.</p>
Ecosystem and Land Use Establishment	<p>This phase of rehabilitation consists of the processes to establish the approved final land use following construction of the final landform.</p> <p>For vegetated land uses this rehabilitation phase includes establishing the desired vegetation community and implementing land management activities such as weed control. This phase of rehabilitation may also include habitat augmentation such as installation of nest boxes.</p>
Exploration	Has the same meaning as that term under the State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007.
Final landform and rehabilitation plan	As defined in the Mining Regulation 2016.

WORD	DEFINITION
Final land use	As defined in the Mining Regulation 2016.
Form and way	Means the form and way approved by the Secretary. Approved form and way documents are available on the department's website.
Growth Medium Development	<p>This phase of rehabilitation consists of activities required to establish the physical, chemical and biological components of the substrate required to establish the desired vegetation community (including short lived pioneer species).</p> <p>This phase may include spreading the prepared landform with topsoil and/or subsoil and/or soil substitutes, applying soil ameliorants to enhance the physical, chemical and biological characteristics of the growth media, and actions to minimise loss of growth media due to erosion.</p>
Habitat	Has the same meaning as that term under the Biodiversity Conservation Act 2016 and the Fisheries Management Act 1994 (as relevant).
Indicator	An attribute of the biophysical environment (e.g. pH, topsoil depth, biomass) that can be used to approximate the progression of a biophysical process. It can be measured and audited to demonstrate (and track) the progress of an aspect of rehabilitation towards a desired completion criterion (i.e. defined end point). It may be aligned to an established protocol and used to evaluate changes in a system.
Land	As defined in the Mining Act 1992.

WORD	DEFINITION
Landform Establishment	<p>This phase of rehabilitation consists of the processes and activities required to construct the final landform.</p> <p>In addition to profiling the surface of rehabilitation areas to the approved final landform profile this phase may include works to construct surface water drainage features, encapsulate problematic materials such as tailings, and prepare a substrate with the desired physical and chemical characteristics (e.g. rock raking or ameliorating sodic materials).</p>
Large mine	As defined in the Mining Regulation 2016.
Lease holder	The holder of a mining lease.
Life of mine	The timeframe of how long a mine is approved to mine, from commencement to closure.
Mine rehabilitation portal	<p>Means the Resources Regulator's online portal that lease holders must use (via a registered account) to:</p> <ul style="list-style-type: none"> ▪ upload rehabilitation geographical information system (GIS) spatial data ▪ develop rehabilitation GIS spatial data (using online tracing functions) ▪ generate rehabilitation plans and rehabilitation statistics using the map viewer and Rehabilitation Key Performance Indicator functionalities. <p>Data submitted to the mine rehabilitation portal is collated in a centralised geodatabase for use by</p>

WORD	DEFINITION
	the Resources Regulator to regulate rehabilitation performance of lease holders.
Mining area	As defined in the Mining Act 1992.
Mining domain	A land management unit with a discrete operational function (e.g. overburden emplacement), and therefore similar geophysical characteristics, that will require specific rehabilitation treatments to achieve the final land use(s).
Mining land	As defined in the Mining Act 1992.
Native vegetation	Has the same meaning as that term under section 60B of the Local Land Services Act 2013.
Overburden	Material overlying coal or a mineral deposit.
Performance indicator	An attribute of the biophysical environment (for example pH, slope, topsoil depth, biomass) that can be used to demonstrate achievement of a rehabilitation objective. It can be measured and audited to demonstrate (and track) the progress of an aspect of rehabilitation towards a desired completion criterion, that is, a defined end point. It may be aligned to an established protocol and used to evaluate changes in a system.
Phases of rehabilitation	The stages and sequences of actions required to rehabilitate disturbed land to achieve the final land use. The phases of rehabilitation are:

WORD	DEFINITION
	<ul style="list-style-type: none"> ▪ active mining ▪ decommissioning ▪ landform Establishment ▪ growth medium development ▪ landform Establishment ▪ ecosystem and land use establishment ▪ ecosystem and land use development
Progressive rehabilitation	The progress of rehabilitation towards achieving the approved rehabilitation completion criteria. This may be described in terms of domains, phases, performance indicators and rehabilitation completion criteria.
Rehabilitation Completion	The final phase of rehabilitation when a rehabilitation area has achieved the approved rehabilitation objectives and rehabilitation completion criteria for the final land use. Rehabilitation areas may be classified as complete when the Resources Regulator has determined in writing that the relevant rehabilitation obligations have been fulfilled following submission of <i>Form ESF2 Rehabilitation completion and/or review of rehabilitation cost estimate application</i> by the lease holder.
Rehabilitation Completion criteria	As defined in the Mining Regulation 2016.
Rehabilitation cost estimate	As defined in the Mining Regulation 2016.

WORD	DEFINITION
Rehabilitation management plan	As defined in the Mining Regulation 2016.
Rehabilitation objectives	As defined in the Mining Regulation 2016.
Rehabilitation risk assessment	As defined in the Mining Regulation 2016.
Rehabilitation schedule	The defined timeframes for progressive rehabilitation set out in the forward program.
Relevant stakeholders	<p>Means any persons or bodies who may be affected by the mining operations, including rehabilitation, carried out on the lease land, and includes:</p> <ul style="list-style-type: none"> ▪ the relevant development consent authority ▪ the local council ▪ the relevant landholder(s) ▪ community consultative committee (if required under the development consent) or equivalent consultative group ▪ affected land holder(s) ▪ government agencies relevant to the final land use ▪ affected infrastructure authorities (electricity, telecommunications, water, pipeline, road, rail authorities) ▪ local Aboriginal communities, and ▪ any other person or body determined by the Minister to be a relevant stakeholder in relation to

WORD	DEFINITION
	a mining lease.
Risk	The effect of uncertainty on objectives. It is measured in terms of consequences and likelihood (AS/NZS ISO 31000:2009).
Secretary	The Secretary of the department.
Security deposit	An amount that a mining lease holder is required to provide and maintain under a mining lease condition, to secure funding for the fulfilment of obligations under the lease (including obligations that may arise in the future).
Surface disturbance	Includes activities that disturb the surface of the mining area, including mining operations, ancillary mining activities and exploration.
Tailings	A combination of the fine-grained solid material remaining after the recoverable metals and minerals have been extracted from the mined ore, and any process water ² .
Waste	Has the same meaning as that term under the <i>Protection of the Environment Operations Act 1997</i> .

²Commonwealth of Australia (DITR), 2007. Tailings Management.

Attachment 3 - Rehabilitation Complaints

DATE	COMPLAINANT	COMPLAINT DETAILS	RESPONSE DETAILS	STATUS OF RESPONSE	DATE RESPONSE COMPLETED (IF APPLICABLE)
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Attachment 4 - Stakeholder consultation

DATE	STAKEHOLDER	CONSULTATION ACTIVITIES AND FORMS	MATTERS SUBJECT TO CONSULTATION	ACTIONS TAKEN
23 Jan 2023	NSW Resources Regulator	Teams meeting	Discuss Final Landuse Rehabilitation Plan (FLRP0001062) and Rehabilitation Objectives (ROBJ0001063) resubmissions.	Re-submit rehabilitation outcome documents for assessment.
22 Sep 2023	NSW Resources Regulator	Team meeting	Submission of Final Landform and Rehabilitation Plan and Rehabilitation Objectives. Discussion on outstanding matters with spatial data submitted and mining domains.	Amend spatial data and re-submit via the Rehabilitation Portal.
11 May 2022	Resources Regulator	Site visit by Senior Inspector Steve Clipperton.	1. Bathurst Burr (<i>Xanthium spinosum</i>) weed infestations identified around soils stockpiles and drainage lines. 2. Drill cuttings placed in drainage structure. 3. Small amount of subsoil deposited on top of topsoil stockpile. 4. Old silt fence around soil stockpiles fallen over	1. Bathurst Burr mechanically removed and disposed of at Balranald landfill. 2. Drill cuttings relocated for future disposal. 3. Subsoil will be separated from topsoil prior to replacement. 4. Old silt fence still in situ scheduled for removal during site clean-up works prior to commencement of MOD1 mining activities.
6 Dec 2024	Local Landcare Group, NSW Local Lands Services, Balranald Community	Annual community meeting with local government	Biosecurity issues affecting agricultural land, and impacting on endemic fauna species within the Shire; Local government initiatives for population	Contact details provided to community to assist with better access to baits; Community consensus on simultaneous deployment of baits be organised

	Landowners	representatives held at Homebush Pub.	control and assistance with access to pest management resources (baits,etc); Project update on status of the Mine’s construction schedules including upcoming transport of deliveries to site.	to maximise culling numbers.
9 Dec 2025	Resource Regulator	Site visit by the NSW Resource regulator. On 9 December 2025, a revegetation TAP was conducted at the Balranald Mineral Sands Mine (the mine). The assessment focused on how revegetation is being undertaken to achieve sustainable rehabilitation outcomes.	The inspection focused on the rehabilitation risk assessment and the Rehabilitation Management Plan (RMP) for the mine. The regulator determined the risk assessment required refinement, while a gap analysis is required for the RMP where some parameters are possibly lacking in detail of methodology, delivery and completion outcomes	A letter was received on 14 January 2026 with the request a rehabilitation action plan be developed within 8 weeks of receipt of the letter. Given the timing of the request, it will be responded to in the next (2026) reporting period.

Attachment 5 - Plans

Plan 1A attachment not provided.

Plan 1B attachment not provided.

Appendix B - Three Year Forward Program 2026 – 2028



**Resources
Regulator**

FWP0001799

BALRANALD MINERAL SANDS MINE FORWARD PROGRAM

Thursday 1 January 2026 to Sunday 31 December 2028

Summary

Detail	
Mine	Balranald Mineral Sands Mine
Reference	FWP0001799
Forward program commencement date	Thursday 1 January 2026
Forward program end date	Sunday 31 December 2028
Forward program revision (if applicable)	
Contact	Rohan Calley
Mining leases	ML 1855 (1992), ML 1736 (1992)
Project location	Iluka Resources Limited
Date of submission	Friday 27 February 2026
Document URL <small>Security reminder: Please exercise caution before opening external links. If a link appears suspicious, avoid clicking it and report it to the Resources Regulator.</small>	https://iluka.com

Important

The department may make the information in your program and any supporting information available for inspection by members of the public, including by publication on its website or by displaying the information at any of its offices. If you consider any part of your program to be confidential, please communicate this to the department via the message function on this submission within the Resources Regulator Portal.

Three-year forecast - surface disturbance activities

Project description

Iluka have approval to develop a mineral sands mine in south-western NSW, known as the Balranald Mineral Sands Project. It includes construction, open-cut mining, primary processing, and rehabilitation of two linear mineral sand deposits, known as the West Balranald and Nepean deposits, located approximately 12 kilometres (km) and 66 km north-west of the town of Balranald, respectively. The Balranald Project also included undertaking an approved bulk sampling activity at the West Balranald deposit to trial the use of underground mining methods. On 21 December 2022, Iluka were granted approval to modify the consent (MOD1) to expand the underground mining trial which includes an additional area of disturbance to the approved Balranald Project area to enable primary processing of the ore into heavy mineral concentrate (HMC) and transport of HMC offsite for secondary processing at Iluka's facilities interstate.

Description of surface disturbance activities

Exploration activities

There are two drilling programs proposed for 2026. Infill RC-AC drilling is proposed to delineate the geometry of the strand over an area impacted by faulting of the basement at depth. The West Balranald strand elevation is changed by 10 metres between two 400m spaced drill sections at 549,300N and 549,700N in the Balranald local grid system. Prior to mining the northern faulted area, a grade control drill program consisting of between 10 to 16 AC drill holes will be required to refine the strand geometry and this is proposed to be completed in Q2 2026. Sonic drilling will be required in 2026 to support conversion of Indicated Resources to Measured Resource classification in advance of mining activities. It is expected that an additional six sections of Sonic drilling will be completed to the north

of the MOD 1 area for resource definition during this period. A further five sections of Sonic drilling is planned for the 2027-28 period in the area located immediately south of MOD 1 boundary to enable upgrading of mineral resources to Measured Resource classification and to verify the correlations between the RC-AC and Sonic sample assay dataset

Construction activities

Construction associated with the approved MOD1 underground mining commenced in 2023, with construction and commissioning works to be completed early 2026. Land clearance on ML1736 and M1855 for the processing plant, offices, solar power generation plant and associated infrastructure was completed prior to 2026, with no further expansion of the infrastructure footprint planned. Mining panels, associated mobile extraction infrastructure and equipment are constructed alongside the ore strand, and move progressively along the strand as the targeted ore body is depleted. Future clearance will occur along with this progression, as will roads to service these sites and future pit excavations, topsoil and subsoil movement and stockpiling.

Mining schedule

Mining development method and sequencing and general mine features.

Mineral ore will be extracted to surface by utilising underground bore hole mining technology developed during previous bulk sampling activities. The predicted mining rate is anticipated to be between 50 and 200 tph. Mining stopes and drill pads will be developed at strategic locations within the mining panels to accommodate the horizontal directional drill (HDD) rigs for the extraction of ore and re-injection of fine tailings. An underground pillar will be left after every 11th underground stope or approximately 500m to ensure stability and maintain ground monitoring infrastructure.

Areas identified for emplacements, the sequencing of emplacements, construction, and management.

Topsoil, subsoil and overburden (initially) will be stockpiled separately, with topsoil stockpiled to a maximum height of 2 m to preserve

soil biota and minimise compaction. Subsoil will be stockpiled to a maximum height of 10 m, dependent on soil properties and condition. These will be located adjacent the progressing mine strand. Stockpile attributes are recorded including location, placement date, originating vegetation community, material strip depth, soil type, stripping conditions and volumes. Stockpiles will be managed in accordance with the erosion and sediment control measures outlined in the Water Management Plan. During mining operations topsoil, subsoil and approximately 2 m of overburden will be pre-stripped from the mine path creating a shallow void, and stockpiled for use in the rehabilitation phase. Sand tailings from ore processing will be placed within the pre-stripped mining void, along with the direct return of the proceeding pre-stripped (next excavated void) overburden. The final landform will be constructed up to 2m above natural surface to account for expected subsidence. Final land form establishment works will be undertaken once subsidence has stabilised according to monitoring results. Direct return will then be adopted as the mining practice for all overburden and subsoil where reasonably practical. Topsoil will be stockpiled and replaced as growth media only once subsidence has occurred and the landform has been prepared to design.

Processing infrastructure activities and the location of tailings facilities and schedule for emplacement.

The processing plant has a number of circuits including the screening , spirals, flotation and wet high intensity magnetic separation. Ore will be concentrated through the processing plant to generate two primary product streams, magnetic Heavy Mineral Concentrate (HMC) and non-magnetic HMC. HMC will be temporarily stockpiled on site and transported to Iluka’s downstream processing facilities for further treatment. The majority of the sand tailings produced through ore processing are course and will be emplaced within the pre-stripped mining pits for encapsulation with overburden. Fine tailings from the concentrator float circuit will be temporarily stored in a lined dam, where they will be later re-injected back into the mined out stopes.

Waste disposal and materials handling operations.

Two primary process waste streams will be generated during operations. These are fine particle (slimes and float tails) and course sand tails. The course sand tails will be dewatered, lime sand treated and stockpiled prior to being mechanically placed in the pre-stripped voids ahead of underground mining. The in-pit tailings will be capped with at least 2m of non-saline overburden. The topsoil, subsoil and

overburden pre-stripped from these areas prior to the emplacement of the coarse sand tails will be returned in order to achieve a sustainable rehabilitation outcome. The slimes and fine sand tailings will be reinjected underground via pre-mined stope access holes in accordance with processes and management measures outlined in the Water Management Plan. Course sand tailings will be treated with lime sand via a conveyor system at a neutralisation potential ratio (NPR) of 2 to ensure sufficient neutralising capacity of any potential acid forming material. Samples of the ore from each stope during the development phase are taken and analysed to determine total sulfur content which then informs the required limestone dose rate for that mining area to achieve the NPR.

Key production milestones

MATERIAL	UNIT	YEAR 1	YEAR 2	YEAR 3
Stripped topsoil (if applicable)	(m ³)	98,858	99,060	90,000
Rock/overburden	(m ³)	210,448	279,424	260,468
Ore	(Mt)	0.86	1.05	1.05
Reject material¹	(Mt)	0.37	0.57	0.55
Product	(Mt)	0.38	0.43	0.45

¹This includes coarse rejects, tailings and any other wastes resulting from beneficiation.

Three-year rehabilitation forecast

Rehabilitation planning schedule

Rehabilitation planning schedule

The current Rehabilitation Management Plan was updated in November 2024 to include rehabilitation of mining activities approved under the Modification (MOD1) of Development Consent SSD-5285. A thorough review and update will occur in 2026. Prior to the commencement of mining operations in 2025, the mine plan outlining movement of overburden, subsoil and topsoil was established that included sequencing and scheduling of material movements ahead of underground mining. The plan is robust with inbuilt flexibility to allow for a dynamic operating environment. A Subsidence Management Plan was developed prior to commencement of underground mining in 2025, the purpose being to monitor areas where underground mining has concluded. Specifically, the management plan aims to develop an understanding of the rate of subsidence, and when maximum subsidence is reached, allowing final land form establishment to be undertaken.

Stakeholder consultation

Consultation with Registered Aboriginal Parties (RAPs) will be undertaken as required in the next 3 years. The mine will coordinate with RAPs should they be required to assist in the salvage and recording of any unexpected heritage finds discovered during construction. Consultation with RAPs will continue to maintain the Aboriginal Cultural Heritage Working Group. The group will continue to meet at least twice per year, and will be an advisory committee which Iluka will work with in relation to ongoing management of Aboriginal heritage associated with the project. Consultation with the Resources Regulator will be undertaken as an ongoing commitment as part of the rehabilitation objectives and final land use plans as approved under MOD1 for the site required under the Mining Regulation 2016. Iluka will consult with the regulator in further developing the completion criteria to ensure targets for successful rehabilitation are both

clear and achievable. Ongoing community consultation will be undertaken over the next 3 years, including attending community events, providing project updates and responding to queries or complaints.

Rehabilitation studies, risk assessments and/or design work

A risk assessment will be conducted to identify potential hazards associated with shaping the final landform following underground mining activities. This assessment will guide the final landform design and identify any additional-works required to ensure the long-term stability of the final landform profile before Ecosystem and Land Use Establishment Phase begins. Subsidence will be monitored throughout the operational and post-mining phases. Data collected from the subsidence monitoring program will be used to model expected subsidence rates and extents. These results will inform refinements to the final landform to ensure it complies with landform design completion criteria and enables the approved rehabilitation objectives to be achieved. An unmanned remotely operated dozer will be used to undertake post-mining geotechnical stability testing and complete detailed landform contouring. Following this work, conventional earthmoving equipment will be used for topsoil emplacement and to prepare the surface for ecosystem establishment.

Rehabilitation research and trials

RRT NUMBER	PROJECT/TRIAL NAME	OBJECTIVE OF TRIAL/PROJECT	METHODOLOGY	EXPECTED DATE OF COMPLETION	STATUS
RRT0001115	Lime dosing optimisation	The objective of this study is to identify the minimum limestone addition rate that meets Iluka’s environmental obligations and maintains low environmental risk into the future.	The following scope of work has been developed to deliver the project objectives: • STAGE 1 – Review and risk assessment. • STAGE 2 – Scope and plan geochemical laboratory work programme. • STAGE 3 – Geochemical laboratory work program, impact assessment, and limestone amendment procedures. • STAGE 4 – Reporting and final limestone requirements.	30 Jun 2025	Ongoing
RRT0001136	Remote dozer trials	To confirm that areas previously mined using underground mining method are geotechnical stable for final landform establishment.	Remotely operated dozer and tow behind compactor will be deployed on previously mined areas where subsidence was observed during the T3 trials.	30 Jun 2025	Not started
RRT0001135	Remote dozer trials	To confirm that areas previously mined using underground mining method are geotechnical stable for final landform establishment.	Remotely operated dozer and tow behind compactor will be deployed on previously mined areas where subsidence was observed during the T3 trials.	30 Jun 2025	Ongoing

Rehabilitation maintenance and corrective actions

No rehabilitation carried out during the 2025 annual reporting period as construction and commissioning activities were still ongoing. A gap analysis will be carried out as part of a RMP review in 2026. All rehabilitation areas will be maintained in accordance with the mine's Rehabilitation Management Plan (RMP) and Biodiversity Management Plan (BMP). Inspections and control of declared weeds and vertebrate pests will continue at all mining domains during construction, operations and all phases of rehabilitation. Rehabilitation areas and stockpiles will be inspected after significant rain events to ensure drainage structures are working effectively and there is no significant erosion occurring to landform or stockpiled materials. Maintenance of drainage and erosion control infrastructure will be undertaken where corrective actions are warranted.

Rehabilitation schedule

During the active mining phase, early rehabilitation ("prehab") will progressively be undertaken ahead of underground mining operations to ensure there is 50 m buffer between underground mining and surface disturbance activities. Pre-prepared mining pits (shallow voids) of approx. 2.5 m deep will be created by salvaging topsoil, subsoil and overburden then temporarily stockpiled adjacent to the mine path. Once there is sufficient buffer, sand tailings from the processing plant will be returned to the mining pits for encapsulation. The salvaged soil will then be stripped and returned by direct replacement into the voids to a height of 1-2 m above natural ground level. When underground mining is completed, the final landform will be allowed to subside. Sand tailings will be progressively placed in the voids within subsidence zones and risk assessed for geotechnical stability before final landform establishment. Landform establishment will include subsidence repair, minor shaping, contour ripping of any batter slopes and topsoil replacement to create a safe, stable and non-polluting landform. Following this, topsoil growth media is expected to be returned and ready for revegetation, with seeding of prepared topsoil areas occurring generally between April-June, when seasonal conditions are most favourable for seed germination.

Completion of rehabilitation

No areas are scheduled for rehabilitation completion.

Subsidence remediation for underground operations

Monitoring of pre-prepared areas ahead of underground mining will be undertaken from 2025 to establish the rate of subsidence and expected maximum subsidence. This will inform the timing of final landform establishment, and the extent of re-work required for ecosystem establishment.

Progressive mining and rehabilitation statistics

Three-yearly forecast cumulative disturbance and rehabilitation progression

Forecast	UNIT	YEAR 1	YEAR 2	YEAR 3
A1 Total disturbance footprint - surface disturbance	(ha)	350.92	363.23	398.07
O Total active disturbance	(ha)	350.92	338.8	347.97
P Total new area of land proposed for active rehabilitation	(ha)	0	24.42	50.1

Rehabilitation key performance indicators (KPIs)

Forecast	UNIT	YEAR 1	YEAR 2	YEAR 3
O Total new disturbance area during reporting period	(ha)	12.36	12.31	34.84
P Total new area of land proposed for rehabilitation during the reporting period	(ha)		24.42	25.68
Q Annual rehabilitation to disturbance ratio			1.98	0.74

Attachment 1 - Reporting Definitions

REPORTING CATEGORY	DEFINITION
<p>A Total disturbance footprint - surface disturbance</p>	<p>All areas within a mining lease that either have at some point in time or continue to pose a rehabilitation liability due to surface disturbance activities.</p> <p>The total disturbance footprint is the sum of the total active disturbance, decommissioning, landform establishment, growth medium development, ecosystem and land use establishment, ecosystem and land use development and rehabilitation completion (see definitions below).</p> <p>Underground mining operations should not include the footprint of underground mining areas/subsidence management areas in the total disturbance footprint.</p>
<p>B Total active disturbance</p>	<p>Includes on-lease exploration areas, stripped areas ahead of mining, infrastructure areas, water management infrastructure, sewage treatment facilities, topsoil stockpile areas, access tracks and haul roads, active mining areas, waste rock emplacements (active/unshaped/in or out-of-pit), tailings dams (active/unshaped/uncapped) and temporary stabilised areas (e.g. areas sown with temporary cover crops for dust mitigation and temporary rehabilitation).</p>
<p>C Rehabilitation - land preparation</p>	<p>Includes the sum of all disturbed land within a mining lease that have commenced</p>

REPORTING CATEGORY	DEFINITION
	<p>any, or all, of the following phases of rehabilitation - decommissioning, landform establishment and growth medium development.</p> <p>Refer to the glossary of terms in this document for the definition of these phases of rehabilitation.</p>
<p>D</p> <p>Ecosystem and land use establishment</p>	<p>Includes the area which has been seeded/planted with the target vegetation species for the intended final land use. However, vegetation has not matured to a stage where it can be demonstrated that it will be sustainable for the long term and or require only a maintenance regime consistent with target reference/analogue sites.</p> <p>Typically, rehabilitation areas would be in this phase for at least two years (and usually more) before rehabilitation can be classified as being in the ecosystem and land use development phase. This phase does not apply to infrastructure areas that are being retained as part of final land use for the site.</p>
<p>O</p>	<p>The area of any new active disturbance that will be created during the next three years, as defined under definition A1 (definition A1 Table 5).</p>
<p>P</p>	<p>The sum of any new rehabilitation to be commenced in the next three years. These areas may be in the phases "Rehabilitation - Land Preparation" or the "Ecosystem & Land Use Establishment" (definitions C & D in Table 5).</p>

REPORTING CATEGORY

DEFINITION

Q

The rehabilitation to disturbance ratio (S / R) indicates how many hectares of new rehabilitation are undertaken for each hectare of land disturbed during the three years. A ratio of 1/1 indicates that the area of new rehabilitation and disturbance in that period are the same.

Attachment 2 - Definitions

WORD	DEFINITION
Active	In the context of rehabilitation, land associated with mining domains is considered 'active' for the period following disturbance until the commencement of rehabilitation.
Active mining phase of rehabilitation	In the context of rehabilitation, the active mining phase of rehabilitation constitutes the rehabilitation activities undertaken during mining operations such as salvaging and managing soil resources, salvaging habitat resources, and native seed collection. This phase also includes management actions taken during operations to manage risks to rehabilitation and enhance rehabilitation outcomes such as selective handling of waste rock and management of tailings emplacements.
Analogue site	In the context of rehabilitation, an analogue site is a 'reference site' that represents an example of the defining characteristics (such as vegetation composition and structure or agricultural productivity) of the final land use. Characteristics of analogue sites can be assessed to develop the rehabilitation objectives and completion criteria for final land use domains.
Annual rehabilitation report and forward program	As described in the Mining Regulation 2016.
Annual reporting period	As defined in the Mining Regulation 2016.

WORD	DEFINITION
Closure	A whole-of-mine-life process, which typically culminates in the relinquishment of the mining lease. It includes decommissioning and rehabilitation to achieve the approved final land use(s).
Decommissioning	The process of removing mining infrastructure and removing contaminants and hazardous materials.
Decommissioning Phase of Rehabilitation	Activities associated with the removal of mining infrastructure and removal and/or remediation of contaminants and hazardous materials. In the context of the rehabilitation management plan this phase of rehabilitation may also include studies and assessments associated with decommissioning and demolition of infrastructure or works carried out to make safe or 'fit for purpose ' built infrastructure to be retained for future use(s) following lease relinquishment.
Department	Department of Primary Industries and Regional Development.
Disturbance	See Surface Disturbance.
Disturbance area	<p>An area that has been disturbed and that requires rehabilitation.</p> <p>This may include areas such as on-licence exploration areas, stripped areas ahead of mining, infrastructure areas, water management infrastructure, sewage treatment facilities, topsoil stockpile areas, access tracks and haul roads, active mining areas, waste emplacements (active/unshaped/in or out-of-pit), tailings dams (active/unshaped/uncapped), and areas requiring rehabilitation that are temporarily stabilised (i.e. managed to minimise dust generation and/or erosion).</p>

WORD	DEFINITION
Domain	<p>An area (or areas) of the land that has been disturbed by mining and has a specific operational use (mining domain) or specific final land use (final land use domain). Land within a domain typically has similar geochemical and/or geophysical characteristics and therefore requires specific rehabilitation activities to achieve the associated final land use.</p>
Ecosystem and Land Use Development	<p>This phase of rehabilitation consists of the activities to manage maturing rehabilitation areas on a trajectory to achieving the approved rehabilitation objectives and completion criteria.</p> <p>For vegetated land uses this phase may include processes to develop characteristics of functional self-sustaining ecosystems, such as nutrient recycling, vegetation flowering and reproduction, and increasing habitat complexity, and development of a productive, self-sustaining soil profile.</p> <p>This phase of rehabilitation may include specific vegetation management strategies and maintenance such as tree thinning, supplementary plantings and weed management.</p>
Ecosystem and Land Use Establishment	<p>This phase of rehabilitation consists of the processes to establish the approved final land use following construction of the final landform.</p> <p>For vegetated land uses this rehabilitation phase includes establishing the desired vegetation community and implementing land management activities such as weed control. This phase of rehabilitation may also include habitat augmentation such as installation of nest boxes.</p>
Exploration	<p>Has the same meaning as that term under the State Environmental Planning Policy (Mining,</p>

WORD	DEFINITION
	Petroleum Production and Extractive Industries) 2007.
Final landform and rehabilitation plan	As defined in the Mining Regulation 2016.
Final land use	As defined in the Mining Regulation 2016.
Form and way	Means the form and way approved by the Secretary. Approved form and way documents are available on the department's website.
Growth Medium Development	<p>This phase of rehabilitation consists of activities required to establish the physical, chemical and biological components of the substrate required to establish the desired vegetation community (including short lived pioneer species.</p> <p>This phase may include spreading the prepared landform with topsoil and/or subsoil and/or soil substitutes, applying soil ameliorants to enhance the physical, chemical and biological characteristics of the growth media, and actions to minimise loss of growth media due to erosion.</p>
Habitat	Has the same meaning as that term under the Biodiversity Conservation Act 2016 and the Fisheries Management Act 1994 (as relevant).
Indicator	An attribute of the biophysical environment (e.g. pH, topsoil depth, biomass) that can be used to approximate the progression of a biophysical process. It can be measured and audited to demonstrate (and track) the progress of an aspect of rehabilitation towards a desired completion

WORD	DEFINITION
	<p>criterion (i.e. defined end point). It may be aligned to an established protocol and used to evaluate changes in a system.</p>
Land	<p>As defined in the Mining Act 1992.</p>
Landform Establishment	<p>This phase of rehabilitation consists of the processes and activities required to construct the final landform.</p> <p>In addition to profiling the surface of rehabilitation areas to the approved final landform profile this phase may include works to construct surface water drainage features, encapsulate problematic materials such as tailings, and prepare a substrate with the desired physical and chemical characteristics (e.g. rock raking or ameliorating sodic materials).</p>
Large mine	<p>As defined in the Mining Regulation 2016.</p>
Lease holder	<p>The holder of a mining lease.</p>
Life of mine	<p>The timeframe of how long a mine is approved to mine, from commencement to closure.</p>
Mine rehabilitation portal	<p>Means the Resources Regulator's online portal that lease holders must use (via a registered account) to:</p>

WORD	DEFINITION
	<ul style="list-style-type: none"> • upload rehabilitation geographical information system (GIS) spatial data • develop rehabilitation GIS spatial data (using online tracing functions) • generate rehabilitation plans and rehabilitation statistics using the map viewer and Rehabilitation Key Performance Indicator functionalities. <p>Data submitted to the mine rehabilitation portal is collated in a centralised geodatabase for use by the Resources Regulator to regulate rehabilitation performance of lease holders.</p>
Mining area	As defined in the Mining Act 1992.
Mining domain	A land management unit with a discrete operational function (e.g. overburden emplacement), and therefore similar geophysical characteristics, that will require specific rehabilitation treatments to achieve the final land use(s).
Mining land	As defined in the Mining Act 1992.
Native vegetation	Has the same meaning as that term under section 60B of the Local Land Services Act 2013.
Overburden	Material overlying coal or a mineral deposit.
Performance indicator	An attribute of the biophysical environment (for example pH, slope, topsoil depth, biomass) that can be used to demonstrate achievement of a rehabilitation objective. It can be measured and audited to

WORD	DEFINITION
	<p>demonstrate (and track) the progress of an aspect of rehabilitation towards a desired completion criterion, that is, a defined end point. It may be aligned to an established protocol and used to evaluate changes in a system.</p>
<p>Phases of rehabilitation</p>	<p>The stages and sequences of actions required to rehabilitate disturbed land to achieve the final land use. The phases of rehabilitation are:</p> <ul style="list-style-type: none"> • active mining • decommissioning • landform Establishment • growth medium development • landform Establishment • ecosystem and land use establishment • ecosystem and land use development
<p>Progressive rehabilitation</p>	<p>The progress of rehabilitation towards achieving the approved rehabilitation completion criteria. This may be described in terms of domains, phases, performance indicators and rehabilitation completion criteria.</p>
<p>Rehabilitation Completion</p>	<p>The final phase of rehabilitation when a rehabilitation area has achieved the approved rehabilitation objectives and rehabilitation completion criteria for the final land use. Rehabilitation areas may be classified as complete when the Resources Regulator has determined in writing that the relevant</p>

WORD	DEFINITION
	rehabilitation obligations have been fulfilled following submission of <i>Form ESF2 Rehabilitation completion and/or review of rehabilitation cost estimate application</i> by the lease holder.
Rehabilitation Completion criteria	As defined in the Mining Regulation 2016.
Rehabilitation cost estimate	As defined in the Mining Regulation 2016.
Rehabilitation management plan	As defined in the Mining Regulation 2016.
Rehabilitation objectives	As defined in the Mining Regulation 2016.
Rehabilitation risk assessment	As defined in the Mining Regulation 2016.
Rehabilitation schedule	The defined timeframes for progressive rehabilitation set out in the forward program.
Relevant stakeholders	<p>Means any persons or bodies who may be affected by the mining operations, including rehabilitation, carried out on the lease land, and includes:</p> <ul style="list-style-type: none"> • the relevant development consent authority • the local council • the relevant landholder(s) • community consultative committee (if required under the development consent) or equivalent

WORD	DEFINITION
	<p>consultative group</p> <ul style="list-style-type: none"> • affected land holder(s) • government agencies relevant to the final land use • affected infrastructure authorities (electricity, telecommunications, water, pipeline, road, rail authorities) • local Aboriginal communities, and • any other person or body determined by the Minister to be a relevant stakeholder in relation to a mining lease.
Risk	The effect of uncertainty on objectives. It is measured in terms of consequences and likelihood (AS/NZS ISO 31000:2009).
Secretary	The Secretary of the department.
Security deposit	An amount that a mining lease holder is required to provide and maintain under a mining lease condition, to secure funding for the fulfilment of obligations under the lease (including obligations that may arise in the future).
Surface disturbance	Includes activities that disturb the surface of the mining area, including mining operations, ancillary mining activities and exploration.

WORD	DEFINITION
Tailings	A combination of the fine-grained solid material remaining after the recoverable metals and minerals have been extracted from the mined ore, and any process water ² .
Waste	Has the same meaning as that term under the <i>Protection of the Environment Operations Act 1997</i> .

²Commonwealth of Australia (DITR), 2007. Tailings Management.

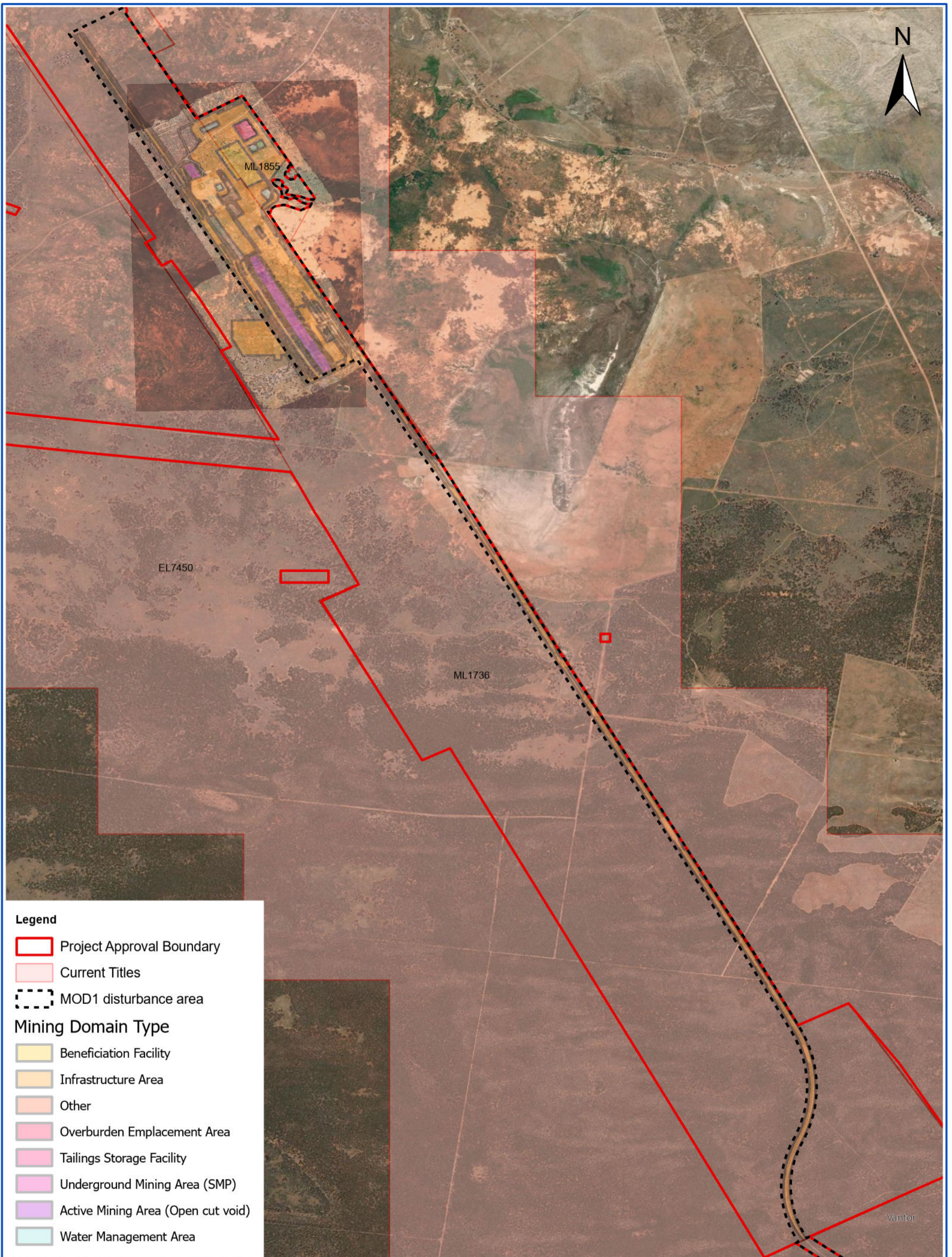
Attachment 3 - Plans

Plan 2A_Forecast Data Year 1_2026.pdf

Plan 2B_Forecast Data Year 2_2027.pdf

Plan 2C_Forecast Data Year 3_2028.pdf

Appendix C - Plan 1: Current status of mining and rehabilitation



Legend

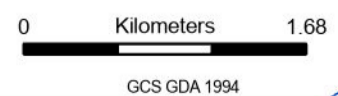
- Project Approval Boundary
- Current Titles
- MOD1 disturbance area
- Mining Domain Type**
- Beneficiation Facility
- Infrastructure Area
- Other
- Overburden Emplacement Area
- Tailings Storage Facility
- Underground Mining Area (SMP)
- Active Mining Area (Open cut void)
- Water Management Area

BALRANALAD MINERAL SANDS PROJECT

Theme Submission ID Number

PLAN 1A: CURRENT STATUS OF MINING AND REHABILITATION

Disturbance: 11435
Project Approval Boundary: 6138



Plan Date: 16/02/2025

Appendix D - Plan 2: Forecast disturbance and rehabilitation years 2026-2028



EL7450







ML1855

ML1736

Vantor

Legend

Forecast Area

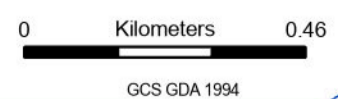
-  Forecast Disturbance
-  Forecast Land Prepared for Rehabilitation
-  Ecosystem and Land Use Establishment
-  Project Approval Boundary
-  Titles Current
-  MOD1 disturbance area

Theme Submission ID Number

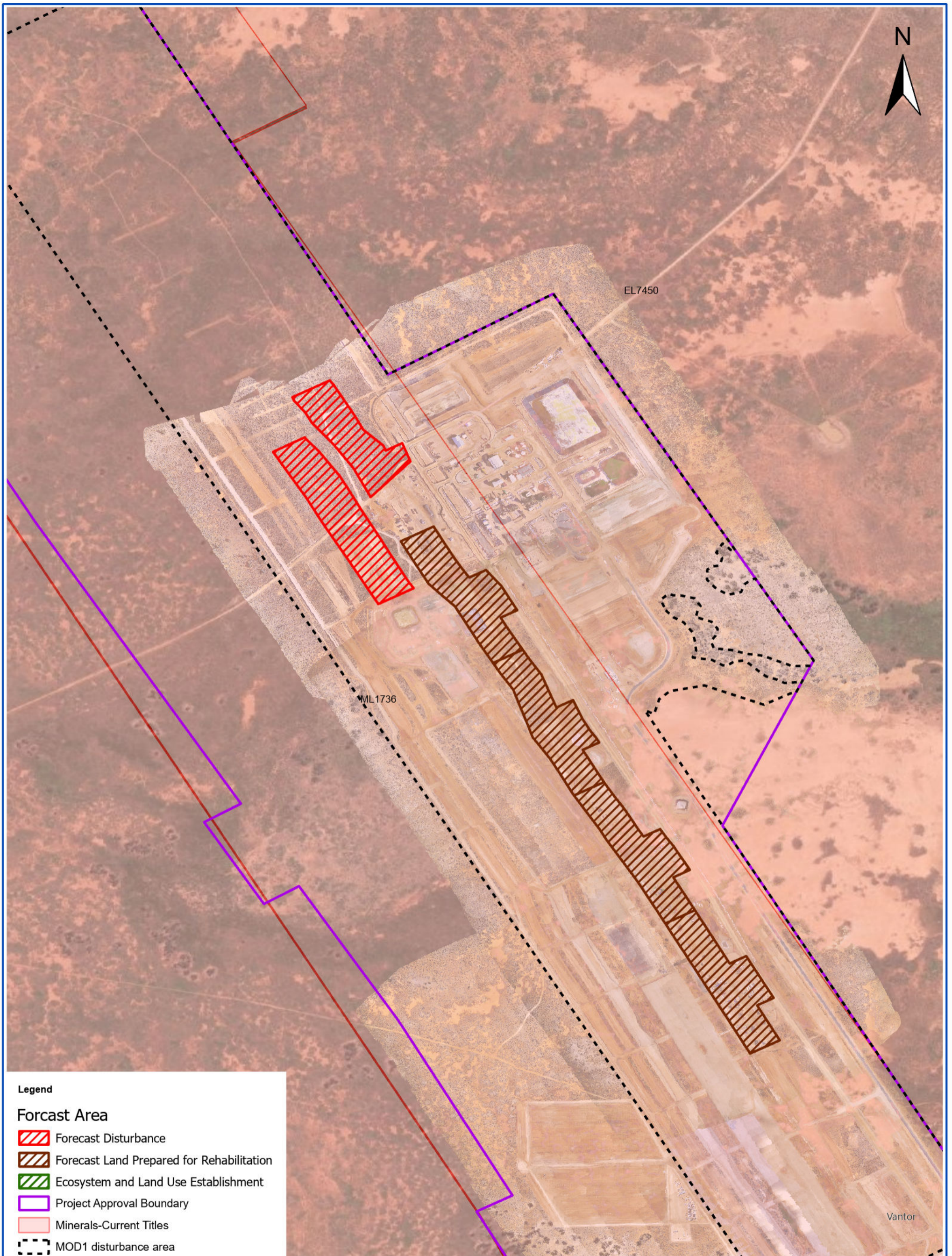
Forecast Data Year 1: 11572
Project Approval Boundary: 6138

BALRANALAD MINERAL SANDS PROJECT

PLAN 2A: MINING AND REHABILITATION- YEAR 1




Plan Date: 12/02/2026



Legend

Forecast Area

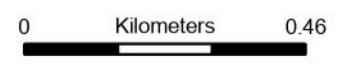
-  Forecast Disturbance
-  Forecast Land Prepared for Rehabilitation
-  Ecosystem and Land Use Establishment
-  Project Approval Boundary
-  Minerals-Current Titles
-  MOD1 disturbance area

Theme Submission ID Number

Forecast Data Year 2: 11571
Project Approval Boundary: 6138

BALRANALAD MINERAL SANDS PROJECT

PLAN 2B: MINING AND REHABILITATION- YEAR 2

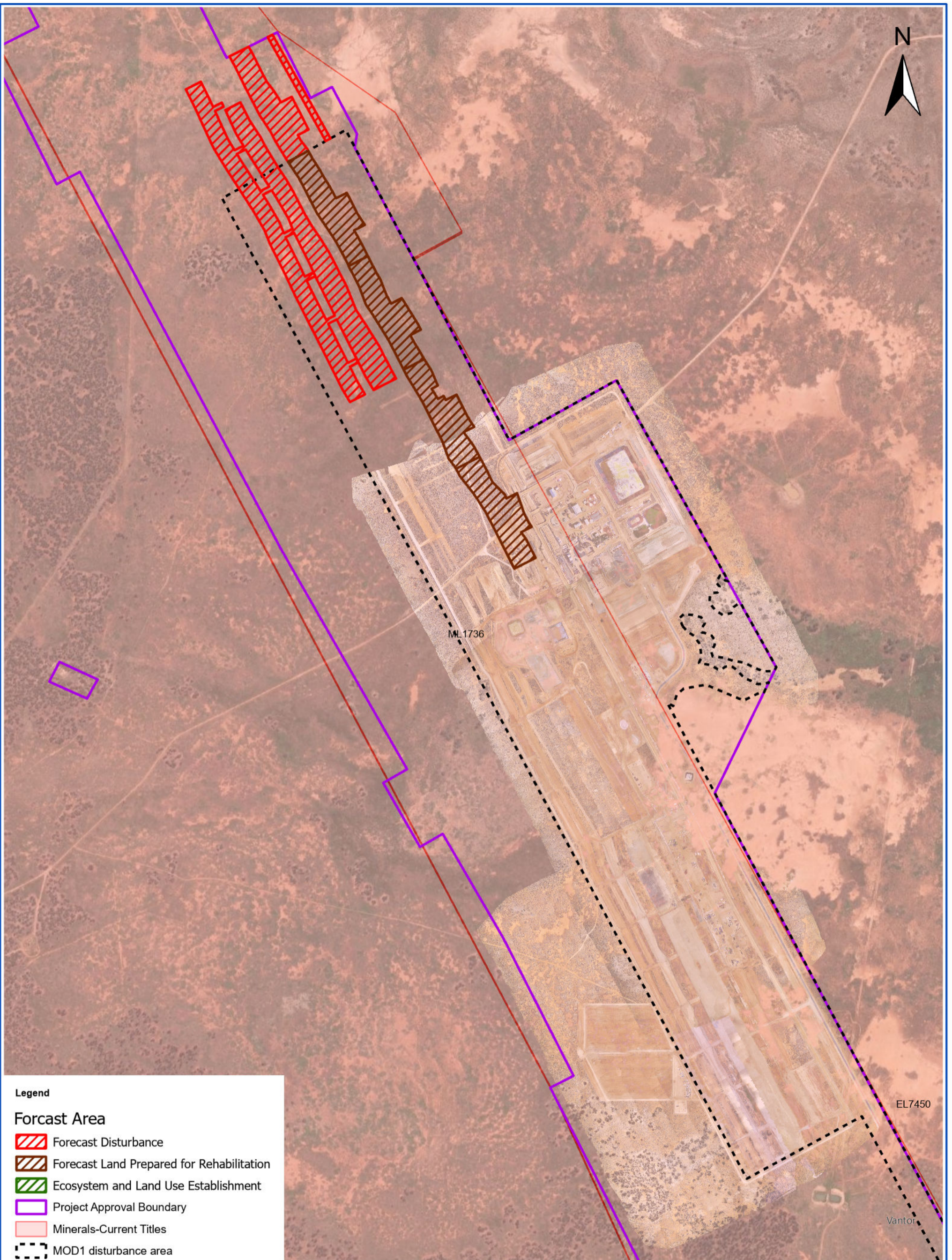


GCS GDA 1994




ILUKA

Plan Date: 12/02/2026



Legend

Forecast Area

-  Forecast Disturbance
-  Forecast Land Prepared for Rehabilitation
-  Ecosystem and Land Use Establishment
-  Project Approval Boundary
-  Minerals-Current Titles
-  MOD1 disturbance area

Theme Submission ID Number

Forecast Data Year 3: 11573
Project Approval Boundary: 6138

BALRANALAD MINERAL SANDS PROJECT

PLAN 2C: MINING AND REHABILITATION- YEAR 3



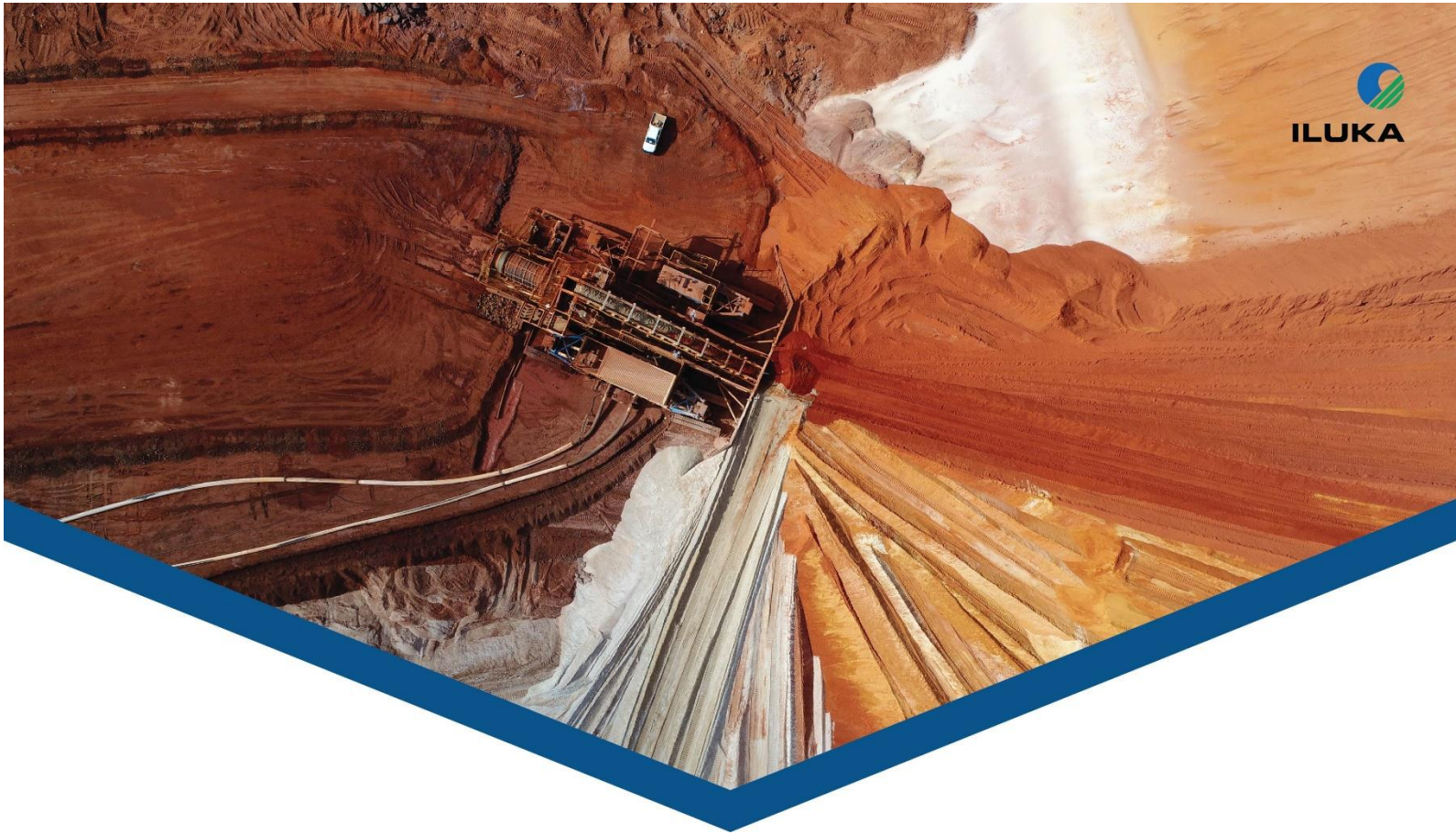
GDA2020 MGA Zone 54



ILUKA

Plan Date: 12/02/2026

Appendix E - Balranald west mine vegetation clearing report 2025



BALRANALD WEST MINE

VEGETATION CLEARING REPORT 2025

Document Number: BVCR003

Revision	Details Of Review Or Changes	Date Created	Document Reference
1	Clearing report for 2025 (1 Jan to 31 Dec)	22/02/2026	BVCR003

Iluka Resources Limited
ABN 34 008 675 018
L17, 240 St Georges Terrace Perth

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1. PURPOSE AND SCOPE

The purpose of this clearing report is to document vegetation clearing activities undertaken from 1 January 2025 to 31 December 2025 in accordance with the Commonwealth Biodiversity Management Plan and the NSW Biodiversity Management Plan for the Balranald Mineral Sands West Balranald Mine.

2. BACKGROUND

Iluka has approval to develop a mineral sand mine in south-western (NSW), known as the Balranald Project. It includes construction, mining, primary processing, and rehabilitation of two linear mineral sand deposits, known as the West Balranald and Nepean deposits, located approximately 12 kilometres (km) and 66 km north-west of the town of Balranald, respectively.

Development consent (SSD-5285) was granted for the Balranald Project by a delegate of the NSW Minister for Planning under the *Environmental Planning and Assessment Act 1979* (EP&A Act) on 5 April 2016 (herein referred to as the consent). Approval was also granted under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (EPBC 2012/6509) by a delegate of the Commonwealth Minister for the Environment on 6 January 2017 (herein referred to as the Commonwealth approval). The project EIS was supported by a Biodiversity Assessment prepared by Niche Environment and Heritage Pty Limited in 2016 (Niche 2016).

Since the consent was granted, Iluka undertook some of the approved bulk sampling activity between 2016 and 2020, involving the extraction of the mineral ore from depth using trial underground mining within the approved disturbance area of the West Balranald deposit. On 21 December 2022, Iluka were granted approval to modify the consent (MOD1) to expand the underground mining trial which includes an additional area of disturbance to the approved Balranald Project area to enable primary processing of the ore into heavy mineral concentrate (HMC) and transport of HMC offsite for secondary processing at other Iluka's facilities.

Construction of the West Balranald Mine Underground Mining Operation officially commenced on 7 August 2023. Construction involves the clearing of vegetation for the development of mining infrastructure.

3. METHODS

3.1 Corben's Long-eared Bat habitat

Hollow bearing tree (HBT) surveys were undertaken by EMM Consulting Pty Ltd (EMM) in September 2022 within MOD1 areas mapped as medium, medium-high tree hollow density, findings were reported in the Balranald Mineral Sands Project Modification 1 EPBC Biodiversity Pre-disturbance Survey Report (EMM 2022).

No further surveys were undertaken as no hollow bearing trees were cleared during the reporting period of 2025.

3.2 Malleefowl habitat

Targeted Malleefowl surveys were undertaken by GHD in October 2024 (Appendix 1) within the MOD1 disturbance area at three established 2 x 2 km areas and the area up to 200m from the approved haul road disturbance boundary (Figure 1). During the monitoring, six mounds were deemed 'active': three in Area 2 (mounds 1, 4 and 5), two in Area 3 (mounds 7 and 10) and one along the northern end of the Haul Road (mound 18) (Figure 1).

Iluka internal Site Disturbance Permit (BSDP042) was approved by the Iluka Environmental Advisor and issued to the clearing contractor for clearing. The vegetation clearing was undertaken outside the Malleefowl breeding season (September to February) and at a distance greater than 200 metres from the nearest active Malleefowl mound. As such, the activity did not trigger the requirement to establish an exclusion zone around the mound.

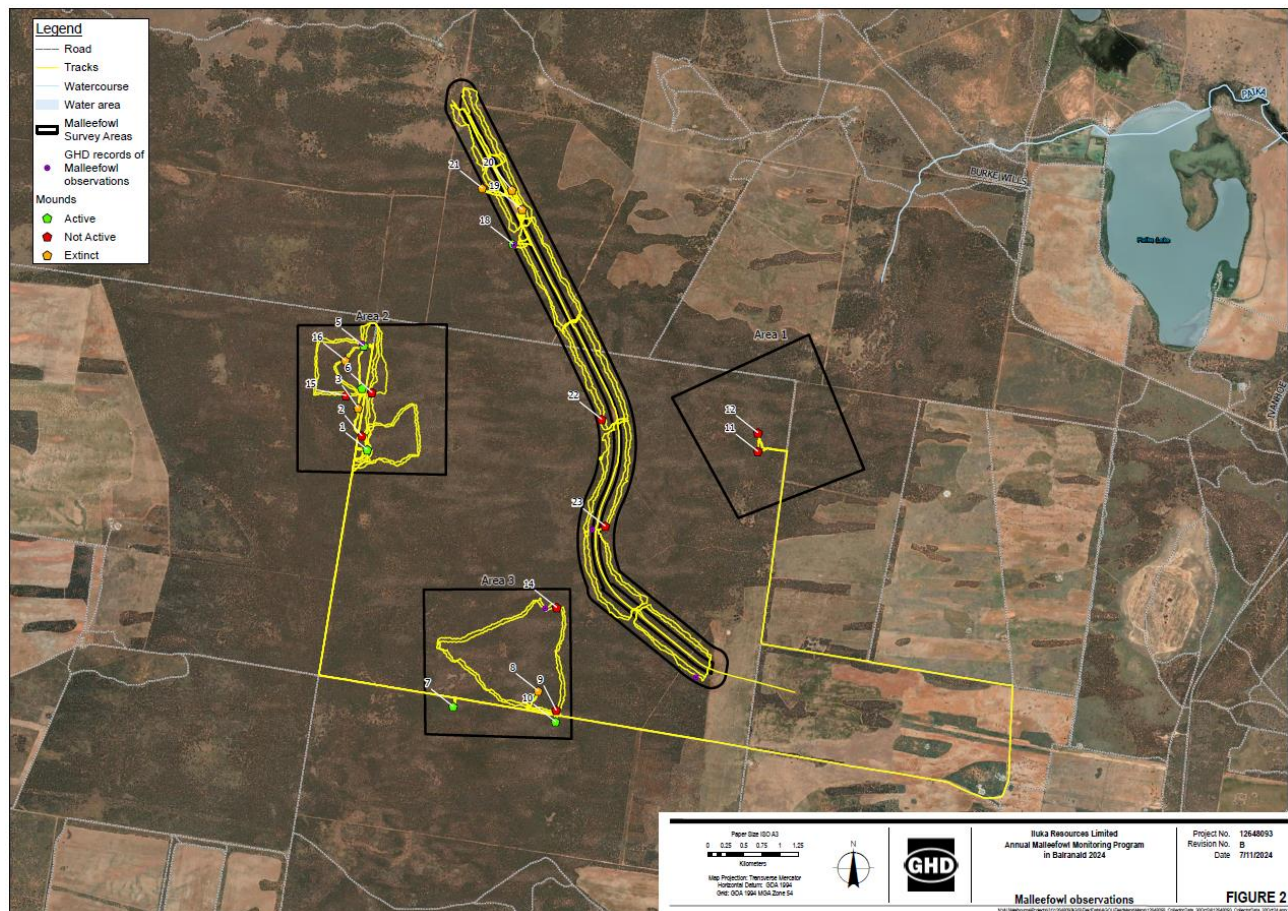


Figure 1 Malleefowl monitoring 2024

3.3 Raptor nests

Visual inspections of the proposed clearing areas were conducted prior to vegetation clearance within the solar farm area. These inspections confirmed that no trees bearing raptor nests were present within the identified clearing zones.

4. RESULTS

4.1 Corben’s Long-eared Bat habitat clearing

No hollow bearing trees were cleared during the reporting period of 2025.

4.2 Malleefowl habitat clearing

Malleefowl habitat clearing was undertaken between 20 May –30 May 2025. A total of 2.92 Ha of vegetation was cleared for the fibre optic line, comprising of both Spinifex Dune Mallee and Chenopod Sandplain Mallee (**Error! Reference source not found.** Figures 2 & 3). No mounds were cleared and no active mounds were present within 200m vicinity of the clearing boundary. Hence, the activity did not trigger the requirement to establish an exclusion zone around the mound.

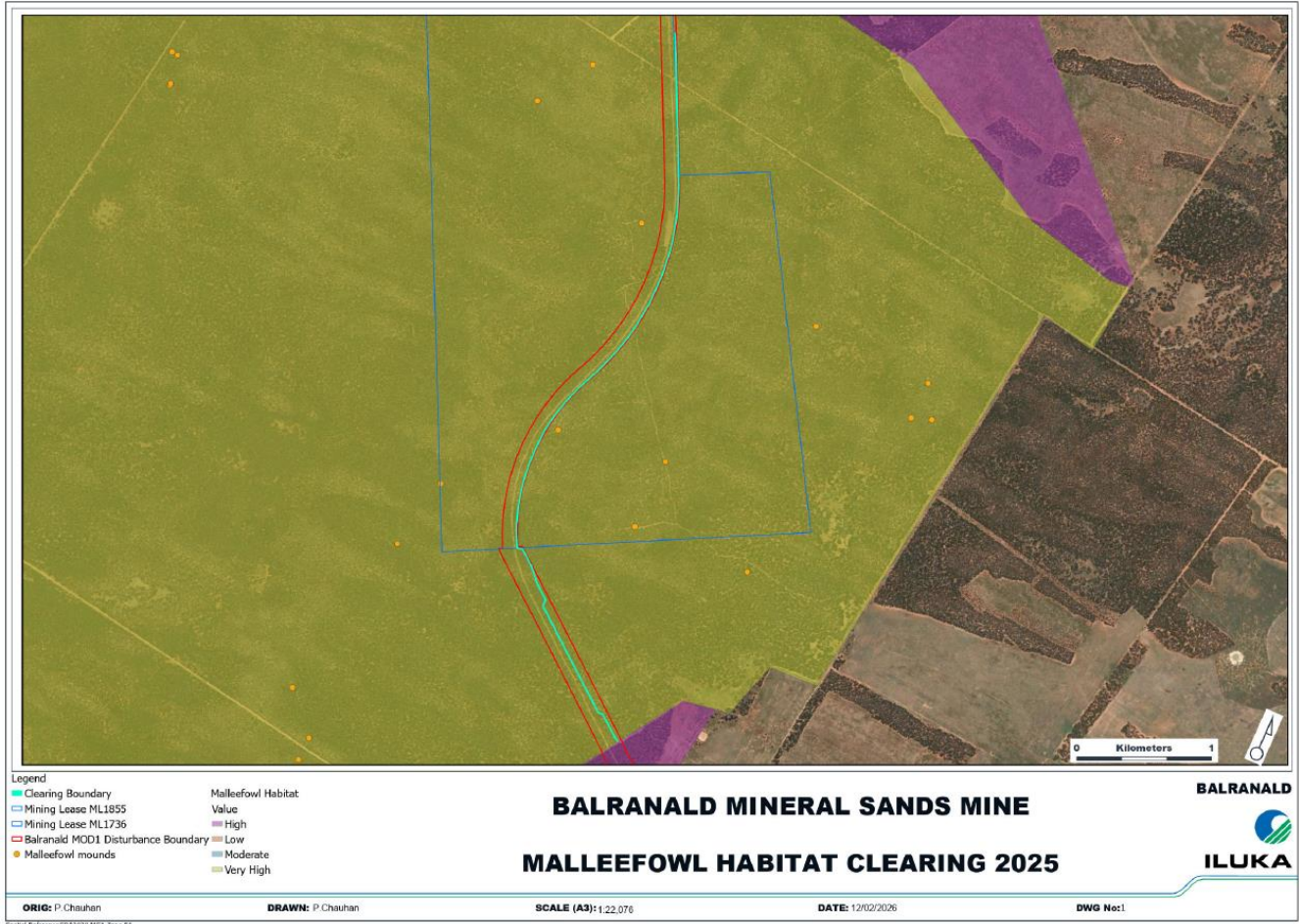


Figure 2 Malleefowl Habitat Veg Clearing 2025

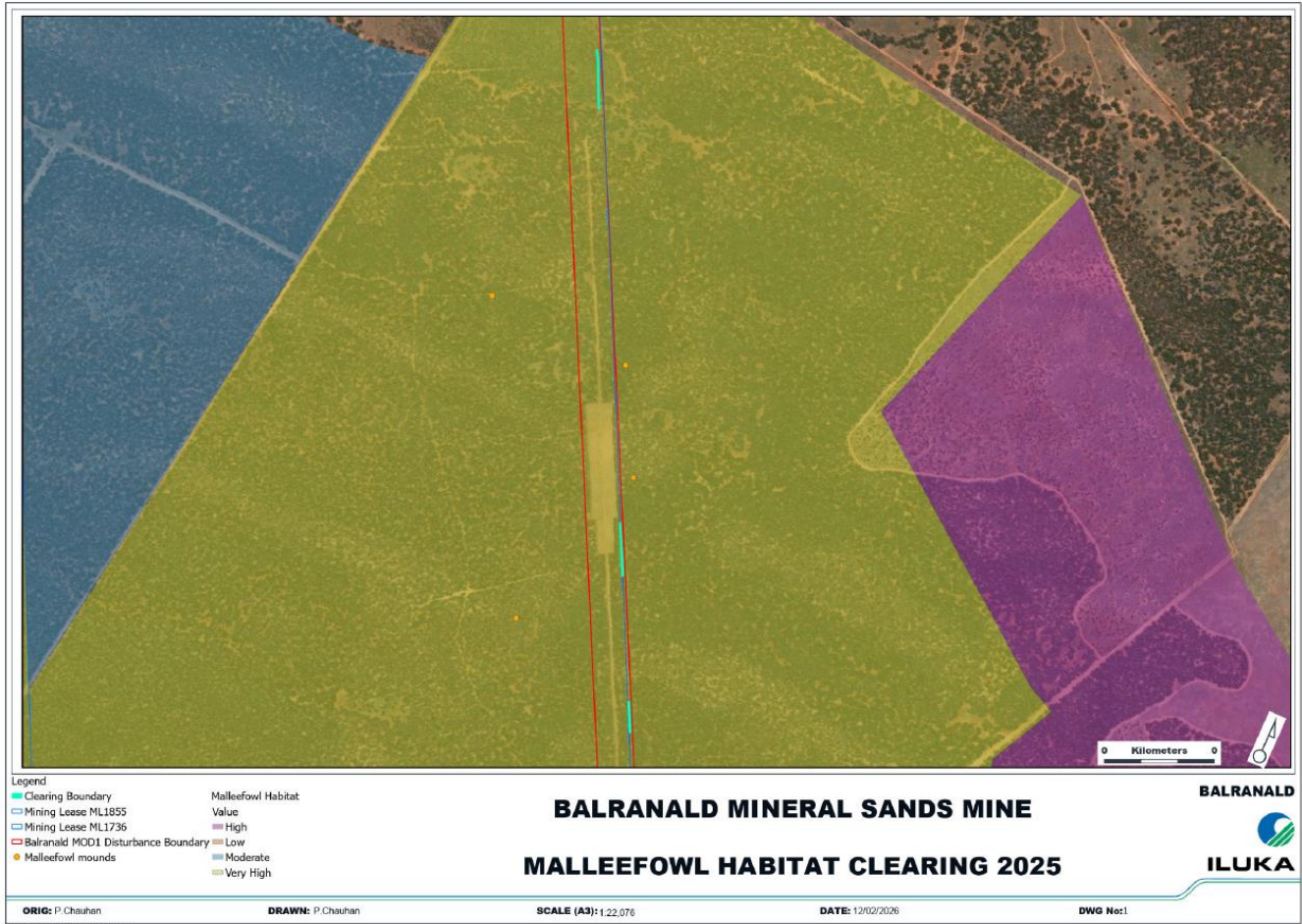


Figure 3 Malleefowl Habitat Veg Clearing 2025

4.3 Raptor nest bearing trees

No raptor nest bearing trees were cleared during the reporting period of 2025.

4.4 Non-threatened species habitat clearing

A total of 130.192Ha was cleared mainly comprising of, Pearl Bluebush Shrubland, Old Man Saltbush Shrubland and Chenopod Sandplain Mallee Woodland (Figure 4Error! Reference source not found.).

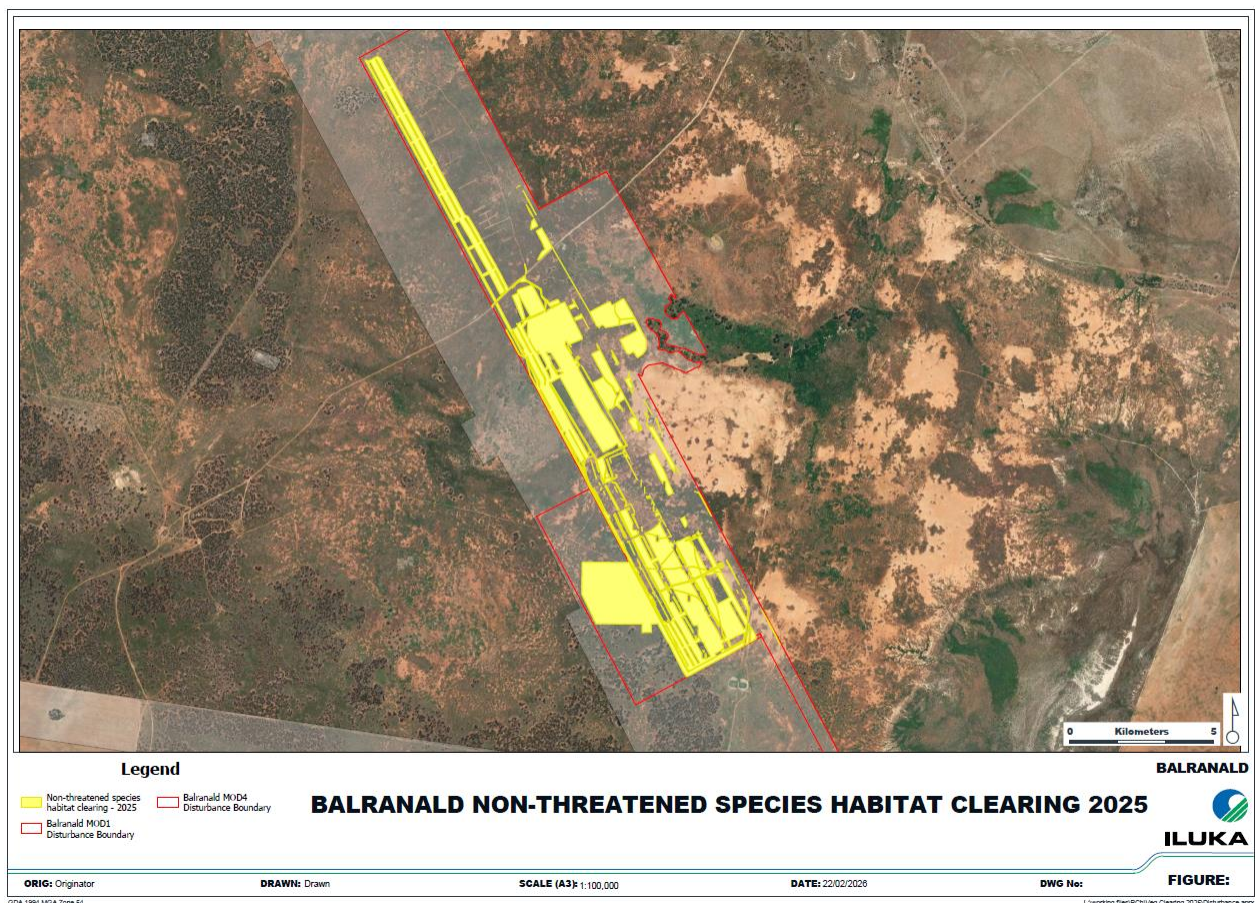


Figure 4 Non-threatened species habitat clearing 2025

4.5 Fenceline clearing

Minor clearing of Pearl Bluebush Shrubland (0.14 Ha) was undertaken to facilitate installation of the NORM fence (Figure 5). Iluka internal Site Disturbance Permit (BSDP049) was approved by the Iluka ERCR Superintendent and subsequently issued to the clearing contractor to authorise the works.

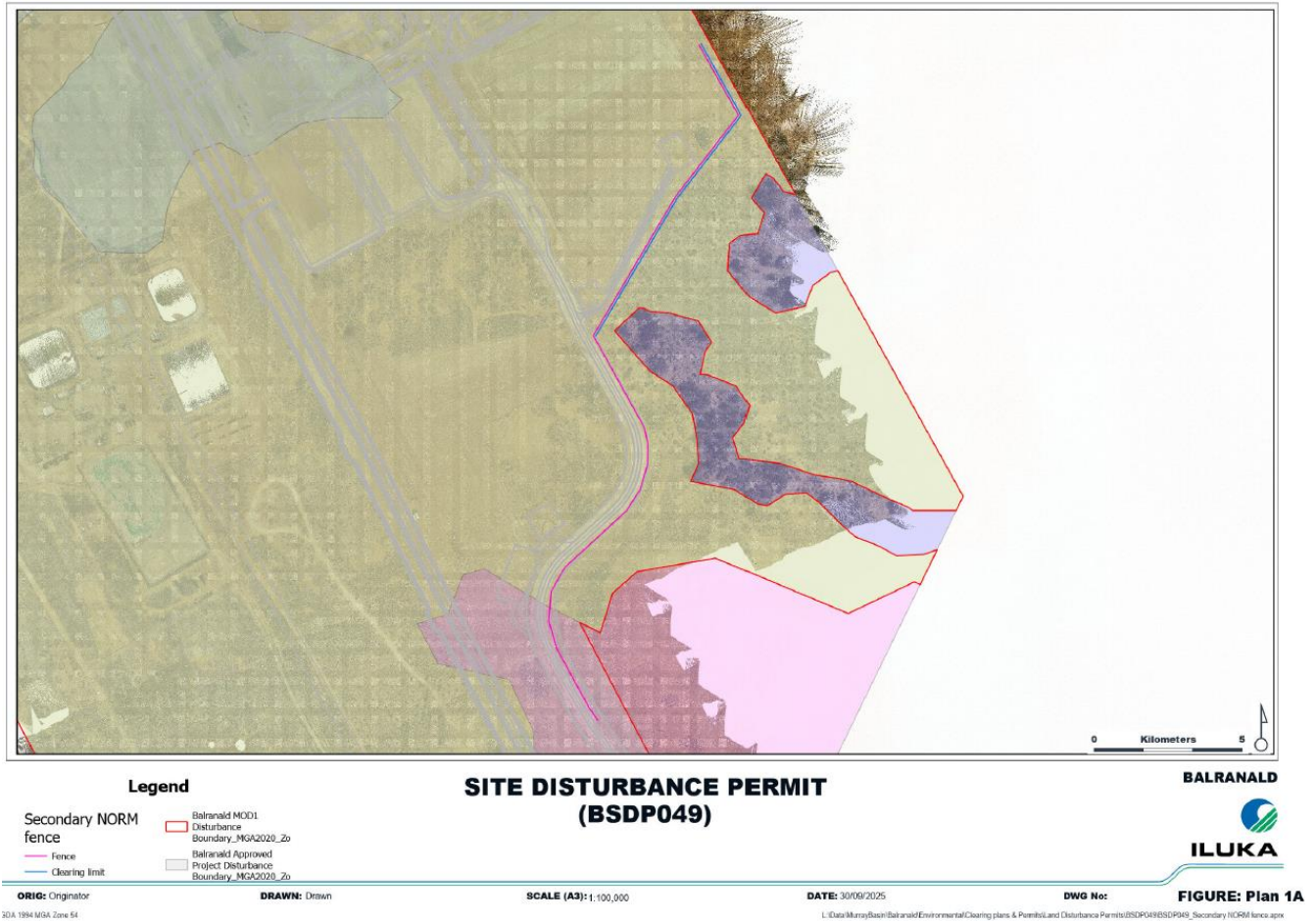


Figure 5 Vegetation clearance for NORM fence installation

5. CONCLUSION

A total of 133.1 Ha of vegetation was cleared during 2025 within the alignment of the mine access road and processing plant area, a breakdown of clearing for each habitat type is provided in Table 1. No threatened fauna species were directly impacted during clearing activities.

Table 1 Summary of vegetation clearance during 2025 reporting period

Habitat	Vegetation community(s)	Cleared (Ha)
Malleefowl	Spinifex Dune Mallee	0.49
	Chenopod Sandplain Mallee	1.89
	Cleared/Developed (Towns, Buildings, Roads)	0.54
Sub total		2.92 Ha
Non-threatened species	Cleared/Developed (Towns, Buildings, Roads)	0.012
	Flat Open Claypan / Derived Sparse Shrubland	13.79
	Pearl Bluebush Low Open Shrubland	111.78
	Old Man Saltbush Shrubland	0.9
	Chenopod Sandplain Mallee Woodland	3.70
Sub total		130.18 Ha
Total area cleared in 2025		133.10 Ha

6. APPENDICES

Appendix 1 – Annual Malleefowl Monitoring Program 2024 – Monitoring Report



Annual Malleefowl Monitoring Program Balranald Mineral Sands Mine Project


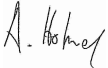
2024 Monitoring Report

Iluka Resources Limited

12 January 2025

→ The Power of Commitment



Project name		Iluka Resources Ltd - Annual Malleefowl Monitoring Program - Balranald Mine 2024					
Document title		Annual Malleefowl Monitoring Program Balranald Mineral Sands Mine Project 2024 Monitoring Report					
Project number		12648093					
File name		12648093_REP_Annual Malleefowl Monitoring Program_2024 Monitoring Report.docx					
Status Code	Revision	Author	Reviewer		Approved for issue		
			Name	Signature	Name	Signature	Date
S3	0	R. Retallick.	D. Eyles		A Holmes		12/12/24
S4	1	R. Retallick.	D. Eyles		A Holmes		13/01/25

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Executive summary

Iluka Resources Limited (Iluka) operates a mineral sands mine in south-western New South Wales, known as the Balranald Mineral Sands Mine Project (the Balranald Mine Project). The southern and northern ends of the site are located approximately 12 kilometres (km) and 66 km north-west of the town of Balranald, respectively.

The Balranald Mine Project was approved under the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) and under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (EPBC 2012/6509). A condition of approval is that Iluka must undertake annual monitoring for Malleefowl (*Leipoa ocellata*) in accordance with the approved Biodiversity Management Plan (BMP) and the Malleefowl Monitoring and Management Sub Plan (MMMSPP). The Malleefowl is listed as endangered under the NSW *Biodiversity Conservation Act 2016* (BC Act) and as vulnerable under the EPBC Act.

In accordance with the National Malleefowl Monitoring Manual (National Malleefowl Recovery Team 2020), the primary aim of the Malleefowl monitoring program is to track changes in the number of breeding birds inhabiting selected sites across the project area.

Annual monitoring of Malleefowl at the Balranald Mine Project commenced with baseline monitoring in December 2023 for the 2023-2024 breeding season (Year 1) (EMM 2024). GHD Pty Ltd (GHD) was engaged by Iluka to undertake monitoring for Malleefowl for the 2024-2025 (Year 2) season. This report presents the results of the Year 2 monitoring.

GHD's ecologists undertook the Malleefowl monitoring in October 2024. The monitoring comprised two parts:

- Monitoring of the three established 2 x 2 km sites/areas, and
- Monitoring of the area up to 200 m from the approved haul road disturbance boundary.

GHD also deployed motion-sensing cameras at selected locations, in an effort to record Malleefowl activity around mounds and potentially chick hatchings.

During the monitoring, 23 mounds or potential mounds were found and assessed. Six of the mounds were deemed 'active': three in Area 2 (mounds 1, 4 and 5), two in Area 3 (mounds 7 and 10) and one along the northern end of the Haul Road (mound 18). Seventeen (and possibly nineteen) of the 23 mounds had been detected and assessed in previous survey events.

Sightings of Malleefowl were recorded at six locations. Four birds were seen relatively close to active mounds and one bird was seen actively working on a mound.

All six of the mounds monitored by cameras shows signs of Malleefowl activity. All images of Malleefowl were of adult birds rather than chicks. At every mound, up to two birds were seen attending the mounds. No chick hatching was observed. All of the mounds monitored by cameras also shows signs of feral predator activity – cats, foxes, pigs.

The Malleefowl mound counts and the Malleefowl bird sightings made by GHD in October 2024 are similar to counts made in previous survey and monitoring events.

It was beyond the scope of this monitoring to evaluate the survey design and adequacy of sample sizes, as obtained by using only three areas and the haul road. However, with only one active mound found along the haul road and five elsewhere, finding the haul road mound to be inactive in future may present a considerable challenge – determining that its inactivity is not due to the project disturbance is likely to be difficult to show convincingly.

The use of motion-sensing cameras at active mounds showed clearly that feral animals continue to be a threat to Malleefowl breeding success. The results indicate that the feral predator control efforts to date need to be continued and possibly increased to reduce the threat to acceptably low levels.

Future management and monitoring of the site for Malleefowl should include:

- Continue or increase control efforts for the most prevalent feral predators – foxes and pigs.

- Consider targeted cat-control methods to reduce or eradicate the local population of cats
- Implement control methods for goats, to reduce the vegetation damage they cause to Malleefowl habitat
- Enforce slow traffic speed limits on any roads that pass close to known mounds or through Malleefowl high-use areas
- Continue to monitor known mounds and birds.

This report is subject to, and must be read in conjunction with, the limitations set out in sections 1 and 2 and the assumptions and qualifications contained throughout the Report.

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1. Introduction

Iluka Resources Limited (Iluka) operates a mineral sands mine in south-western New South Wales (NSW), known as the Balranald Mineral Sands Mine Project (the Balranald Mine Project). It includes construction, open-cut mining, primary processing, and rehabilitation of two linear mineral sand deposits, located approximately 12 kilometres (km) and 66 km north-west of the town of Balranald, respectively.

The Balranald Mine Project was approved under the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) on 5 April 2016 and under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (EPBC 2012/6509) on 6 January 2017. A condition of the approval requirements is that Iluka must undertake annual monitoring for Malleefowl (*Leipoa ocellata*) in accordance with the approved Biodiversity Management Plan (BMP) and the Malleefowl Monitoring and Management Sub Plan (MMMSP). Iluka's MMMSP has been prepared in accordance with the guidelines provided in the National Manual for the Malleefowl Monitoring System (National Malleefowl Recovery Team, 2020) and the National Recovery Plan for Malleefowl (Benshemesh J., 2007). The Malleefowl is listed as endangered under the NSW *Biodiversity Conservation Act 2016* (BC Act) and as vulnerable under the EPBC Act. The MMMSP outlines the life history, distribution and threats to Malleefowl and details measures for the management and monitoring of Malleefowl individuals and mounds within the project area.

Annual monitoring of Malleefowl at the Balranald Mine Project commenced with baseline monitoring in December 2023 for the 2023-2024 breeding season (Year 1) (EMM 2024). GHD Pty Ltd (GHD) was engaged by Iluka to undertake monitoring for Malleefowl for the 2024-2025 (Year 2) season. This report presents the results of the Year 2 monitoring.

1.2 Scope and purpose of this report

This report provides the results of Malleefowl monitoring for 2024 at the Balranald Mineral Sands Mine Project in accordance with the approved Biodiversity Management Plan (BMP) and the Malleefowl Monitoring and Management Sub Plan (MMMSP).

In accordance with the National Malleefowl Monitoring Manual (National Malleefowl Recovery Team 2020), the primary aim of the Malleefowl monitoring program is to track changes in the number of breeding birds inhabiting selected sites across the project area.

The agreed scope for this monitoring is for GHD to undertake the following:

- Monitor existing mounds within three 2 x 2 km sites and record details as per the MMMSP.
- Conduct ground searches for new mounds.
- Conduct thermal imaging surveys using drone (drone supplied and operated by Iluka) – note that this was not completed in 2024, but should be used in future surveys and monitoring.
- Visit any suspected new mounds identified by thermal imaging and record details.
- Monitor existing mounds within 200 m of the MOD1 approval boundary.
- Conduct searches on foot for new mounds adjacent to the mine access road within 200 m of MOD1 approval boundary (10 km x 0.5 km section) within Malleefowl habitat and record details.
- Install remote cameras on any active mounds to record activity and chick hatchings. Retrieve cameras (to be done by Iluka) when breeding has ceased and assess data, recording number of hatchings.
- Use GPS to record and name/number all previously identified mounds and any new mounds identified (both in plots and in 200 m buffer of road).
- Collate all monitoring data and produce an annual report as per requirements of the MMMSP within 10 weeks of monitoring.
- Submit all raw data sheets to the National Malleefowl Monitoring Program.

GHD is to supply:

- Sufficient remote cameras for all active mounds located.

Iluka is to supply:

- Location details for currently known active or inactive mounds.
- Drone fitted with thermal camera;
- Drone pilot;
- Change out batteries in remote cameras as required until end of breeding season; and
- Postage / delivery of cameras back to consultants nominated office

As instructed by Iluka on site, the drone use and thermal imaging of mounds did not proceed for this round of monitoring in 2024.

1.3 Research questions

In addition to the primary monitoring aims, monitoring also aims to answer the following questions:

- Is vegetation clearing, increased noise and lighting resulting in a negative impact on Malleefowl breeding activity adjacent to the West Balranald Mine (MOD1)?
- Is fox and feral predator control under the BMP having a positive impact on Malleefowl breeding activity?
- Are bushfires having a negative impact on Malleefowl breeding activity?
- Are Malleefowl constructing new nests in rehabilitation areas?

It is understood that not all of these questions will be answerable after every monitoring event.

1.4 Limitations and assumptions

This report has been prepared by GHD Pty Ltd for Iluka Resources Limited and may only be used and relied on by Iluka Resources Limited for the purpose agreed between GHD and Iluka Resources Limited as set out in section 1.2 of this report.

GHD otherwise disclaims responsibility to any person other than Iluka Resources Limited arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report are limited by the following:

The field assessment:

Involved the use of Collector for ArcGIS mapping application to record site information. This mapping tool was accurate to within 10 m on site.

Did not involve any targeted surveys for species other than Malleefowl.

Was limited in Area 1 and the haul road by access constraints as directed by Iluka Resources Limited.

The opinions, conclusions and any recommendations in this report are based on conditions encountered, observations made, and information reviewed up to the date of preparation of the report. As GHD was only present on specific dates and certain time periods, this report is only indicative (and not definitive) of conditions present on the site(s). Conditions governing flora and fauna (whether in type or quantity) can change and fluctuate at different times throughout the year (due to factors including seasonal changes, external events or third-party intervention), and it is generally not possible to observe such changes or fluctuations where only a discrete site visit has taken place. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

GHD has prepared this report on the basis of information provided by Iluka Resources Limited. GHD has not independently verified or checked this information beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

1.4.1 Accessibility of documents

If this report is required to be accessible in any other format, this can be provided by GHD upon request and at an additional cost if necessary.

1.5 Study site

The Balranald Mine Project site is north of Balranald in south-west NSW. Access to the Balranald Mine Project site is approximately 12 km north of the Balranald township (Figure 1). From there, the project site itself extends approximately 60 km to the north-northwest.

For long-term monitoring of Malleefowl, three permanent monitoring sites (each 2 x 2 km) were established towards the southern end of the project site in December 2023 (EMM 2024) (Figure 1). Access to and within these locations is limited to foot only, with some limited vehicle access to the perimeter of the sites.

Within the Balranald Mine Project site is the MOD1 approval area, which is defined as the 'modified' area that contains all activities associated with the mining operation, construction, operations, haul road, rehabilitation and associated infrastructure and activities (Figure 1). Within and up to 200 m from the approved MOD1 disturbance boundary, monitoring is required of existing known Malleefowl mounds, and surveys for new mounds within suitable Malleefowl habitat are also required to identify any new mounds that may need to be protected during the breeding season (Sep-Feb).

The sites selected as part of this monitoring program are intended to form part of the National Malleefowl Monitoring System. Monitoring Malleefowl in relation to the Balranald Mine Project provides an opportunity to satisfy aim 2 of the National Malleefowl Monitoring System, namely 'interpret breeding density trends in the light of management practices and environmental variables'.

1.6 Previous assessments

ArcGIS data shows information from six previous Malleefowl mound assessments relating to the project:

- OEH 2013
- Ecotone 2013
- Niche 2015
- EMM 2022
- BWM 2023 (pre-clearance work)
- EMM 2024 (Baseline monitoring)

2. Methods

Four ecologists undertook the Malleefowl monitoring between 8 – 9 October 2024, reduced to two ecologists between 10 – 11 October 2024. Daily teams were formed as required from our Mildura-based ecology team: Alex Holmes, Dan Eyles, Will Wilson and Emma Pacholli.

2.1 Malleefowl Habitat and Mound Monitoring

The annual Malleefowl monitoring comprises two parts:

- Monitoring of the three established 2 x 2 km sites, and
- Monitoring of the area up to 200 m from the approved MOD1 disturbance boundary.

According to the MMMSP, annual monitoring of three 2 x 2 km sites is required between September and February (Malleefowl breeding season). For this assessment, monitoring of those sites was undertaken in early October. Monitoring immediately following rainfall was avoided, as rainfall could cause prints to be less obvious or completely washed away.

At each of the three sites, habitat condition was assessed by percentage cover of each vegetation stratum (ground-cover grass, ground-cover herbs, ground-cover other, small shrubs, medium shrubs, large shrubs and leaf litter) and a site photo was taken. Previously known mounds were visited and the location of new mounds (if any) were recorded.

For the monitoring of the area up to 200 m from the approved MOD1 disturbance boundary, existing (i.e., previously known and documented) mounds were visited and details recorded, and survey was undertaken for new mounds, to identify all mounds that may need to be protected during the breeding season (Sep-Feb).

For all monitoring, ground surveys were conducted in accordance with the National Malleefowl Monitoring Manual. At each mound, condition and activity was assessed using the 1 to 6 profile rating system of the National Malleefowl Monitoring Manual to define mound size, use and age. Data were collected in the field using datasheets from the MMMSP, and the following information was recorded at each mound identified:

- Observer and date.
- Site and mound number.
- GPS location of mound.
- Mound dimensions and profiles.
- Malleefowl activity (i.e. the occurrence of litter trails or any other signs that may indicate the mound is being prepared for breeding).
- Prints or tracks on the mound (i.e., Malleefowl, Fox, Kangaroo, other).
- Signs of predation (e.g., evidence of eggshell or feathers) (searched for at active mounds in a 20 m radius around the mound).
- Mound status including active mounds, leaf litter present, inactive mounds or long-unused mounds.

Mound status was assessed as per definitions provided in the MMMSP, p16 (active mound, leaf litter present, inactive mound, long-unused mound).

Data will be provided to Iluka in MS Excel spreadsheets (for contribution to a long-term monitoring dataset and for Iluka to hold on file). Raw data sets will be sent to the National Malleefowl monitoring program.

2.2 Cameras

With site-knowledge input from Iluka's environment team, GHD deployed motion-sensing cameras at selected locations, in an effort to record Malleefowl activity around mounds and chick hatchings. GHD deployed seven motion-sensing cameras at six active mounds. Cameras were retrieved by Iluka in early November, when breeding was expected to have ceased. Results from the cameras aimed to determine or confirm nest activity and predator activity around the mounds.

2.3 Permits

This monitoring was undertaken in accordance with conditions identified under Scientific License (license number SL100146) under section 132c of the NSW NPW Act 1974, and in accordance with the Standard Operating Procedures in place under GHD's animal ethics committee.

3. Results

3.1 Malleefowl mounds

During the monitoring, 23 mounds or potential mounds were found and assessed. The locations of the mounds are shown in Figure 1 and are summarised as follows:

- Area 1: 2 mounds, with another one being potentially an active mound
- Area 2: 8 mounds
- Area 3: 5 mounds
- Haul Road (in 200 m buffer area): 7 mounds

Six of the mounds were deemed 'active': three in Area 2 (mounds 1, 4 and 5), two in Area 3 (mounds 7 and 10) and one along the northern end of the Haul Road (mound 18).

Seventeen of the 23 mounds had been detected and assessed in previous survey events. Two others (mounds 13 and 17) may also have been detected and assessed in previous survey events. Determining corresponding previous identification numbers to some mounds was found to be difficult due to mound identification not being shown on the baseline monitoring maps (EMM 2024). The history of mound assessment is shown in Appendix B. Photographs of mounds in October 2024 are shown in Appendix C.

All mounds assessed as 'active' during the October 2024 monitoring had been detected and assessed in previous surveys. However, only three of those active mounds (mounds 4, 5 and 7) were assessed as part of the baseline monitoring (EMM 2024), because the baseline monitoring did not include the 200 m buffer area along the Haul Road.

Of the five mounds that have ever been assessed as 'active' in years past, one was found to be active in the October 2024 survey (mound 5 in Area 2). Of the 10 additional mounds that were ever assessed as 'potentially active' in years past, four were found to be active in the October 2024 survey (mounds 1, 4, 7, 10; two in Area 2 and two in Area 3).

Of the two mounds that have only ever been assessed as 'inactive' in years past, one (mound 18) was found to be active in the October 2024 survey, while the other (mound 20) was found to be 'long-unused'.

ArcGIS data show another 15 mounds in the general area that were not considered for this monitoring. Four of those mounds no longer exist (destroyed as part of the Iluka operations) and nine lie outside the designated survey area for annual monitoring.

Two mounds known from previous surveys that lie within the monitoring survey area (BWM8 along the Haul Road, and Ecotone FID38 in Area 1) were not assessed during the October 2024 monitoring. BWM8 was assessed as 'inactive' in pre-clearance surveys in 2023 and subsequently destroyed during the haul road construction, while Ecotone FID38 was assessed as 'inactive' by EMM (2024) and deemed to no longer be a mound in 2024 by GHD, as it has likely degraded to the point of no longer being perceptible.

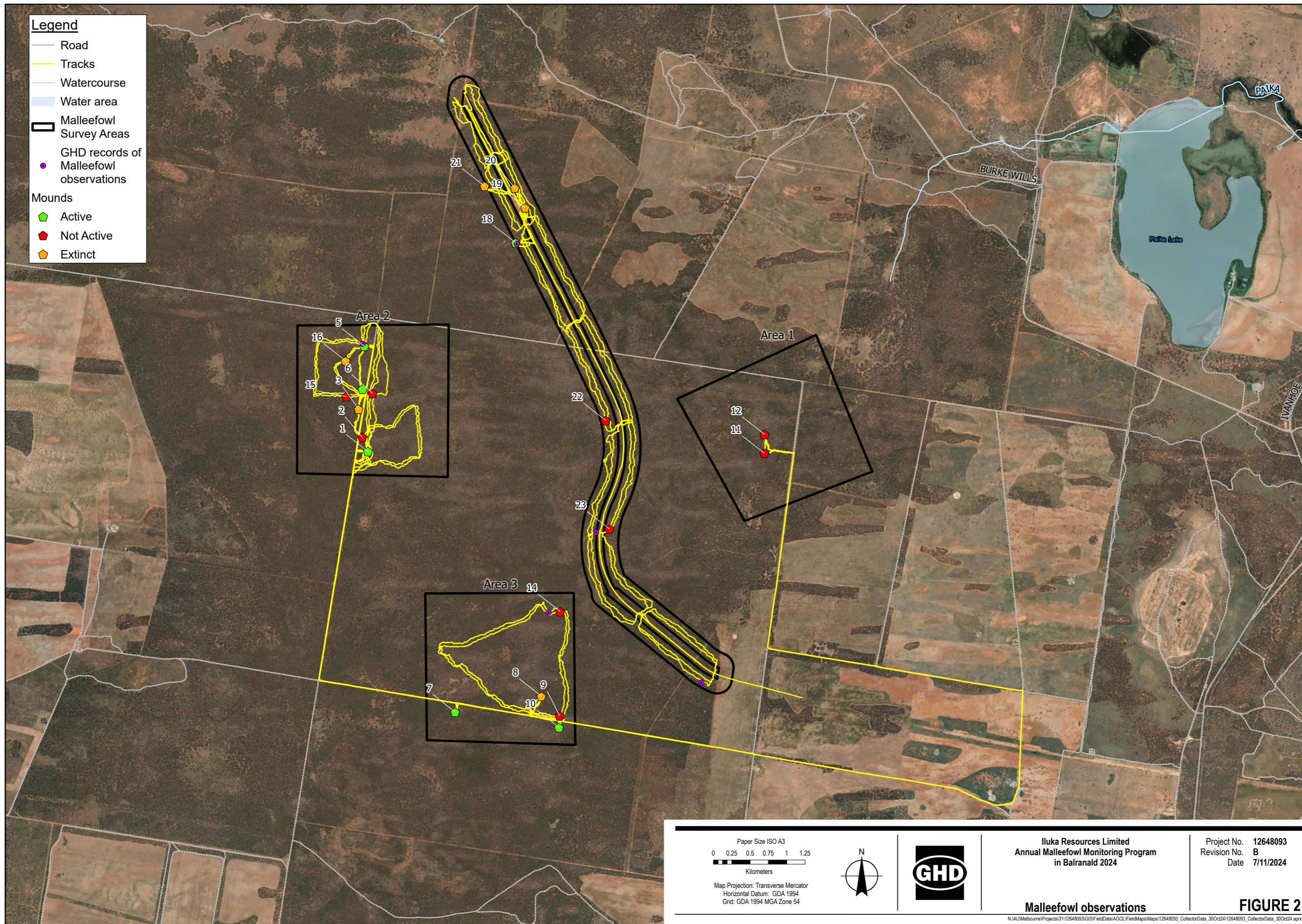


Table 1 Malleefowl mounds assessed by GHD in October 2024.

Mound number	Site	Active, as assessed (Y/N)	Active (camera)	Notes	Recorded historically?	When observed previously?
1	Area 2	y	Y		y	Niche 2015
2	Area 2	n			y	Niche 2015, EMM 2024
3	Area 2	n			y	Ecotone 2013, Niche 2015, EMM 2024
4	Area 2	y	Y		y	Ecotone 2013, Niche 2015, EMM 2024
5	Area 2	y	Y	Malleefowl present on mound	y	Ecotone 2013, Niche 2015, EMM 2024
6	Area 2	n			n	
7	Area 3	y	Y		y	EMM 2024
8	Area 3	n			y	Niche 2015
9	Area 3	n			y	EMM 2024
10	Area 3	y	Y		y	Niche 2015
11	Area 1	n			y	EMM 2024
12	Area 1	n			y	Ecotone 2013, EMM 2024
13	Area 1	n		Raised ground. Does not appear to be mound	n?	Likely previously Ecotone 2013 (FID38)
14	Area 3	n			y	Niche 2015
15	Area 2	n			n	
16	Area 2	n			n	
17	Haul Road	n		Not found - potentially destroyed	n?	Likely BWM 2023 (BWM8)
18	Haul Road	y	Y	Two Malleefowl present	y	BWM 2023
19	Haul Road	n			y	Niche 2015, EMM 2022, BWM 2023
20	Haul Road	n			y	BWM 2023
21	Haul Road	n			y	Niche 2015
22	Haul Road	n			y	Ecotone 2013, Niche 2015, EMM 2022, BWM 2023
23	Haul Road	n			n	

3.2 Malleefowl sightings

During the monitoring in October 2024, sightings of seven Malleefowl were recorded at six locations (two birds at one location) (Table 2). Four birds were seen relatively close to active mounds. One bird in Area 2 was seen actively working on mound 5.

ArcGIS information showed fifteen observations of Malleefowl birds, prints or feathers from previous surveys (Table 3).

Table 2 Malleefowl sightings in October 2024

Observation	Location	Date	Count	Notes
bird	Area 2	8/10/2024	1	bird seen, working mound 5 (active)
bird	Area 3	9/10/2024	1	near mound 14 (inactive)
bird	Haul Road	10/10/2024	2	near mound 18 (active)
bird	Haul Road	10/10/2024	1	
bird	Haul Road	11/10/2024	1	near mound 23 (inactive)
bird	Haul Road	11/10/2024	1	

Table 3 Malleefowl sightings in previous surveys

Observation	Survey	Location	Count	Notes
footprint	Ecotone 2013	Area 2	1	on road, not far from Mound 5
footprint	Ecotone 2013	Area 1	1	
footprint	Ecotone 2013	Area 1	1	near mound 12
footprint	Ecotone 2013	Outside monitoring area (southwest of Area 1)	1	
bird	Ecotone 2013	Outside monitoring area (southwest of Area 1)	1	
bird	Ecotone 2013	Outside monitoring area (southwest of Area 1)	1	near mound Niche FID9
bird	Niche 2015	Outside monitoring area (southwest of Area 1)	1	
footprint	Niche 2015	Outside monitoring area (southwest of Area 1)	1	
footprint	Niche 2015	Area 3	1	on road
footprint	Niche 2015	Outside monitoring area (south of Area 2)	1	
footprint	Niche 2015	Outside monitoring area (south of Area 2)	1	
bird	EMM 2023	Haul Road	1	near Mound 22
footprint	EMM 2023	Haul Road	1	near Mound 19
feather	EMM 2023	Haul Road	1	near Mound 22
footprint	EMM 2023	Haul Road	1	

3.3 Cameras

The seven cameras resulted in more than 13,000 images and 600 videos (Table 4). All six of the mounds monitored by cameras shows signs of Malleefowl activity. All images of Malleefowl were of adult birds rather than chicks. At every mound, up to two birds were seen attending the mounds and moving sand and leaf litter around; representative images are shown in Table 5.







No chick hatching was observed.

All six of the mounds monitored by cameras shows signs of feral predator activity – cats, foxes, pigs. Mound 4 (Area 2) showed particularly high activity of foxes.

Table 4 Results of cameras deployed at mounds

Camera #	Mound ID	Location /area	# images	Malleefowl detected?	Red Fox detected?	Cat detected?	Pig detected?	Goat detected?	Other native species
1	1	2	2641	Y	Y		Y	Y	Kangaroo
2	4	2	1042	Y	Y (high activity)				
3	5	2	3002	Y	Y			Y	
4	7	3	2655	Y	Y	Y			Emu
5	10	3	264	Y	Y		Y		Kangaroo
6 and 7	18	Haul Road	1851 plus 617 videos (6) 1719 (7)	Y	Y			Y	

Table 5 Images of malleefowl from motion-sensing cameras

<p>Mound 1</p>  <p>2024-10-11 09:57:26 M 2/3 15°C HYPERFIRE 2 COVERT</p>	<p>Mound 4</p>  <p>041F 05C 13/10/2024 07:33:26</p>
<p>Mound 5</p>  <p>2024-10-31 09:11:54 M 1/3 19°C HF2 PRO COVERT</p>	<p>Mound 7</p>  <p>2024-10-27 08:45:57 M 2/3 19°C 35404</p>
<p>Mound 10</p>  <p>044F 06C 19/10/2024 08:01:25</p>	<p>Mound 18</p>  <p>2024-11-05 06:42:53 M 2/3 4°C A</p>

3.4 Sightings of other threatened fauna

Two other threatened species were observed during the Malleefowl monitoring (Table 6).

Table 6 Other threatened fauna observed during monitoring

Observation	location	Date	count
Chestnut Quail-thrush	Area 2	8/10/2024	1
Mallee Worm-lizard	Area 2	9/10/2024	1

3.5 Weather

The weather during the monitoring was appropriate for mound assessment, with clear skies, no rainfall and mild to warm temperatures. The two-week period prior to the monitoring saw 11 mm of rainfall at Balranald, none of which fell in the week prior to monitoring (last rain: 2.8 mm on September 30th).

Table 7 Temperature and rainfall during the monitoring (recorded at Mildura)

Date	Min temp (C)	Max temp (C)	Rain (mm)
8	6.9	20	0
9	3.2	24	0
10	8.8	28.9	0
11	8.2	24.8	0

4. Discussion

This assessment report documents the number of breeding birds observed to be inhabiting selected sites across the project area, which is the primary aim of the monitoring program, in accordance with the National Malleefowl Monitoring Manual (National Malleefowl Recovery Team, 2020). The sites selected for this monitoring program form part of the National Malleefowl Monitoring System.

The Malleefowl mound counts and the Malleefowl bird sightings made by GHD in October 2024 are similar to counts made in previous survey and monitoring events. The number of active mounds reported (6) is more than the three reported by EMM (2024), but the EMM (2024) monitoring did not include the haul road area.

It was beyond the scope of this monitoring to evaluate the survey design and adequacy of sample sizes, as obtained by using only three areas and the haul road. However, with only one active mound found along the haul road and five elsewhere, finding the haul road mound to be inactive in future may present a considerable challenge – determining that its inactivity is not due to the project disturbance is likely to be difficult to show convincingly.

The use of motion-sensing cameras at active mounds showed clearly that feral animals continue to be a threat to Malleefowl breeding success. Images of feral predators (foxes, pigs and cats) were common at all mounds, and are of greatest concern. This result indicates that the feral predator control efforts to date (fox baiting in February and May 2024 and pig baiting in March and May 2024, with 45 pig carcasses found thereafter; B. Isaacs, Iluka, pers. comm.) need to be continued and possibly increased to reduce the threat to acceptably low levels.

Monitoring questions:

As a result of the monitoring thus far, the research questions below can be responded to as follows:

- *Is vegetation clearing, increased noise and lighting resulting in a negative impact on Malleefowl breeding activity adjacent to the West Balranald Mine – Stage 1?*
Vegetation clearing resulted in the documented destruction of some Malleefowl mounds, which is certainly a

short-term negative impact during construction. However, no birds were known to be injured or killed, so all breeding pairs near the mine site retain the opportunity to re-build existing inactive mounds, or create new mounds. Of the known mounds that were not destroyed during construction, there is no clear evidence of negative impact during mine operation, in terms of numbers of Malleefowl and mounds detected in the general area during this monitoring. However, with only one active mound known/found along the haul road buffer area and five elsewhere (i.e., Areas 1, 2 and 3), finding the haul road mound to be inactive in future may present a considerable challenge – determining that its inactivity is not due to the project disturbance is likely to be difficult to show convincingly.

- *Is fox and feral predator control under the BMP having a positive impact on Malleefowl breeding activity?*
Despite control efforts to this point, feral predators continue to be prevalent at every mound that was monitored, and therefore continue to pose a threat to Malleefowl and their eggs and chicks. Increased control efforts, resulting in reduced numbers of feral predators, particularly foxes and pigs, are required before it can be concluded that control efforts are having a positive impact on Malleefowl breeding activity.
- *Are bushfires having a negative impact on Malleefowl breeding activity?*
Not applicable – no bushfires have been recorded in the area since mine construction.
- *Are Malleefowl constructing new nests in rehabilitation areas?*
Not applicable – no areas have yet reached the rehabilitation stage.

5. Recommendations

Future management and monitoring of the site for Malleefowl should include:

- *Continue or increase control efforts for the most prevalent feral predators – foxes and pigs.*
- *Consider targeted cat-control methods to reduce or eradicate the local population of cats, possibly shooting, or use of the Felixer trap.*
- *Implement control methods for goats, to reduce the vegetation damage they cause to Malleefowl habitat*
- *Enforce slow traffic speed limits on any roads that pass close to known mounds or through Malleefowl high-use areas.*
- *Continue to monitor known mounds and birds.*

6. References

Benshemesh, J.S. and Emison W.B. (1996). Surveying breeding densities of Malleefowl using an airborne thermal scanner. *Wildlife Research*, 23:121-141.

EMM (2024) Balranald Mineral Sands Project - West Balranald Mine (MOD1); Baseline Malleefowl Monitoring Report. Prepared for Iluka Resources. March 2024

National Malleefowl Recovery Team. (2020). National Malleefowl Monitoring Manual - Standards, Protocols and Monitoring Procedures.

National Malleefowl Recovery Team. (2020). National Malleefowl Monitoring Manual: Edition: v2020_01 (Revised June 2020).

Appendices

Appendix A

Field Data

Date	Site	observers	Nest number	Sought (V/x)	Found (V/x)	Staked (V/x)	Tagged (V/x)	Active (V/N)	Profile	X sticks	Scraped (V/N)	Eggshell (n/s/l)	Fire since last monitored? (Y/N)	Prints - Malleefowl	Prints - Kangaroo	Prints - Fox	Prints - other	Prints - Malleefowl	Scats - Kangaroo	Scats - Fox	Scats - other	outer nest - crust (n/s/l)	outer nest - moss (n/s/l)	outer nest - herb (n/s/l)	outer nest - shrub (n/s/l)	outer nest - tree (n/s/l)	inner nest - crust (n/s/l)	inner nest - moss (n/s/l)	inner nest - herb (n/s/l)	inner nest - shrub (n/s/l)	inner nest - tree (n/s/l)	Dimensions - Perimeter diameter (cm)	Dimensions - Rim diameter (cm)	Dimensions - Height North (cm)	Dimensions - Height South (cm)	Photo taken (Y/N)	x sticks replaced (Y/N)	Notes	crater depth
8/10/2024	Area 2	WW, DE, AH, EP	1	y	y	y	n	y	4	na	na	s	n	y					y			n	n	n	n	n	n	n	n	n	n	430	120	68	66	y	y		0
8/10/2024	Area 2	WW, DE, AH, EP	2	y	y	n	n	n	1			n	n		y		y (raven)		y			n	n	n	y	n	n	n	s	n	550	230	41	39	y	y		30	
8/10/2024	Area 2	WW, DE, AH, EP	3	y	y	n	n	n	6			n	n		y		y (emu)		y			n	s	n	s	n	n	n	s	n	330	210	3	2	y	y		20	
8/10/2024	Area 2	WW, DE, AH, EP	4	y	y	y	y	y	5	absent		s	n	y				y	y			n	n	n	n	n	n	n	n	n	350	150	98	75	y	y		15	
8/10/2024	Area 2	WW, DE, AH, EP	5	y	y	n	y	y	3			l	n	y				y	y	y		n	n	n	n	n	n	n	n	n	600	210	85	82	y	n	malleefowl on mound	35	
8/10/2024	Area 2	WW, DE, AH, EP	6	n	y	n	n	n	1			s	n						y			n	n	n	n	n	n	n	n	n	420	150	72	65	y	y		41	
8/10/2024	Area 3	WW, DE, AH, EP	7	y	y	y	y	y	5			s	n	y				y	y			n	n	n	n	n	n	n	n	n	810	170	36	41	y	y		0	
8/10/2024	Area 3	WW, DE, AH, EP	8	y	y	n	n	n	6			n	n									n	n	n	n	n	n	n	y	n	390	180	25	28	y	n		2	
8/10/2024	Area 3	WW, DE, AH, EP	9	y	y	n	n	n	1			n	n						y	y (goat)		n	n	n	n	n	n	n	n	n	250	150	10	5	y	y		40	
8/10/2024	Area 3	WW, DE, AH, EP	10	y	y			y	3		y	n	n	y				y	y (echidna)			n	n	n	n	n	n	n	n	n	470	150	30	30	y	y		0	
9/10/2024	Area 1	WW, EP	11	y	y	x	x	n	1			s	n		y				y			n	n	n	n	n				150	150	30	35	y	y		0		
9/10/2024	Area 1	WW, EP	12	y	y	x	x	n	1			s	n				y (bird)		y	y		n	n	n	n	n				410	200	34	36	y	y		2		
9/10/2024	Area 1	WW, EP	13	y											y																			y		raised ground. Does not appear to be MFmound			

Date	Site	observers	Nest number	Sought (V/x)	Found (V/x)	Staked (V/x)	Tagged (V/x)	Active (Y/N)	Profile	X sticks	Scrapped (Y/N)	Eggshell (n/s/l)	Fire since last monitored? (Y/N)	Prints - Malleefowl	Prints - Kangaroo	Prints - Fox	Scats - Malleefowl	Scats - other	Scats - Kangaroo	Scats - Fox	Scats - other	outer nest - crust (n/s/l)	outer nest - moss (n/s/l)	outer nest - herb (n/s/l)	outer nest - shrub (n/s/l)	outer nest - tree (n/s/l)	inner nest - crust (n/s/l)	inner nest - moss (n/s/l)	inner nest - herb (n/s/l)	inner nest - shrub (n/s/l)	inner nest - tree (n/s/l)	Dimensions - Perimeter diameter (cm)	Dimensions - Rim diameter (cm)	Dimensions - Height North (cm)	Dimensions - Height South (cm)	Photo taken (Y/N)	x sticks replaced (Y/N)	Notes	crater depth
9/10/2024	Area 3	WW, EP	14	y	y	x	x	n	1			s	n		y		y (bird)		y	y		n	n	n	n	n						361	211	13	19	y	y		3
9/10/2024	Area 2	WW, EP	15	x	y	x	x	n	1			s	n						y			n	n	y	n	n	n	n	n	y	n	355	390	33	35	y	y	Fox appears to have dug in middle	8
9/10/2024	Area 2	WW, EP	16	x	y	x	x	n	6			s	n						y	y		n	n	s	s	n	n	n	s	l	n	520	190	42	24	y	y		25
10/10/2024	Haul Road	WW, EP	17	y	x																																	potentially destroyed	
10/10/2024	Haul Road	WW, EP	18	y	y	y		y	2			s	n	y			y					n	n	n	n	n	n	n	n	n	n	380	105	60	55	y	n	two malleefowl present	25
10/10/2024	Haul Road	WW, EP	19	y	y	x	x	n	6	present and undisturbed		s	n		y				y	y		n	n	n	s	n	n	n	n	n	n	500	190	21	24	y	n		0
10/10/2024	Haul Road	WW, EP	20	y	y	x	x	n	6			n	n							y		l	n	n	l	n	l	n	s	n	445	205	24	24	y	y		0	
10/10/2024	Haul Road	WW, EP	21	y	y	x	x	n	6			n	n								y (goat)	l	n	n	s	n	l	s	n	s	n	480	210	0	0	y	y		5
11/10/2024	Haul Road	WW, EP	22	y	y	y	y	n	2			l	n						y			n	n	n	n	n	n	n	n	n	410	180	40	48	y	y	Iluka camera present	4	
11/10/2024	Haul Road	WW, EP	23	x	y	x	x	n	1			s	n						y			n	n	n	s	n	n	n	s	s	n	210	120	22	28	y	y		28

Appendix B

Mound Assessments - history

Mound ID	Location	Date visited (GHD 2024)	GHD 2024	EMM 2024	BWM 2023	EMM 2022	Niche 2015	Ecotone 2013	OEH 2013	Notes
1	Area 2	8-Oct-24	a				pa			two mounds from Niche? 27 and 32
2	Area 2	8-Oct-24	ina	a			pa			EMM 2024 Mound 1; fid 50
3	Area 2	8-Oct-24	lum	ina			pa	pa		EMM 2024 Mound 2; fid 51
4	Area 2	8-Oct-24	a	ina			pa	pa		EMM 2024 Mound 3; fid 52
5	Area 2	8-Oct-24	a	a			pa	pa		Malleefowl present. EMM 2024 Mound 4; fid 53
6	Area 2	8-Oct-24	ina							not recorded before GHD 2024
7	Area 3	8-Oct-24	a	ina						
8	Area 3	8-Oct-24	lum				pa			
9	Area 3	8-Oct-24	ina	ina						
10	Area 3	8-Oct-24	a				pa			
11	Area 1	9-Oct-24	ina	ina						EMM 2024 Mound 9
12	Area 1	9-Oct-24	ina	a				pa		EMM 2024 Mound 10
13	Area 1	9-Oct-24	not considered mound	ina (if Ecotone FID38)				pa (if Ecotone FID38)		Not mound. Likely to be Ecotone FID38.
14	Area 3	9-Oct-24	ina				pa			
15	Area 2	9-Oct-24	ina							not recorded before GHD 2024
16	Area 2	9-Oct-24	lum							not recorded before GHD 2024
17	Haul Road	10-Oct-24	not found, potentially destroyed							could this be BWM8?
18	Haul Road	10-Oct-24	a		ina					BWM9
19	Haul Road	10-Oct-24	lum		ina	a	pa			BWM6
20	Haul Road	10-Oct-24	lum		ina					BWM10
21	Haul Road	10-Oct-24	lum				pa			
22	Haul Road	11-Oct-24	ina		a	a	pa	pa		BWM2, active, protected
23	Haul Road	11-Oct-24	ina							not recorded before GHD 2024

Mound ID	Location	Date visited (GHD 2024)	GHD 2024	EMM 2024	BWM 2023	EMM 2022	Niche 2015	Ecotone 2013	OEH 2013	Notes
BWM7	oma	-			activity not noted		a	pa		avoided
BWM8	Haul Road	-	lum (if Mound 17)		ina					Potentially Mound 17
Ecotone FID22	oma	-					a			
Ecotone FID30	oma	-					a			
Ecotone FID31	oma	-					pa			
Ecotone FID38	Area 1	-	lum (if Mound 13)	ina				pa		Visited, but no waypoint made. Potentially Mound 13
Niche FID11	oma	-					pa			
Niche FID12 13	oma	-					pa			two mounds?
Niche FID20	oma	-					pa			
Niche FID9	oma	-					pa			
OEH FID33	oma	-							pa	

- a active
- pa potentially active
- ina inactive
- lum long-unused mound
- oma outside monitoring area

Appendix C

Images of mounds



Mound 1



Mound 2



Mound 3



Mound 4



Mound 5



Mound 6



Mound 7



Mound 8



Mound 9



Mound 10



Mound 11



Mound 12

No photo

Mound 13

No photo

Mound 17



Mound 14



Mound 15



Mound 16



Mound 18



Mound 19



Mound 20



Mound 21



Mound 22



Mound 23

Appendix D

**Images of other native and non-native
species**

Red Fox (Mound 7)



Feral Cat (Mound 7)



Pig (Mound 10)



Goat (Mound 5)



Emu (Mound 7)



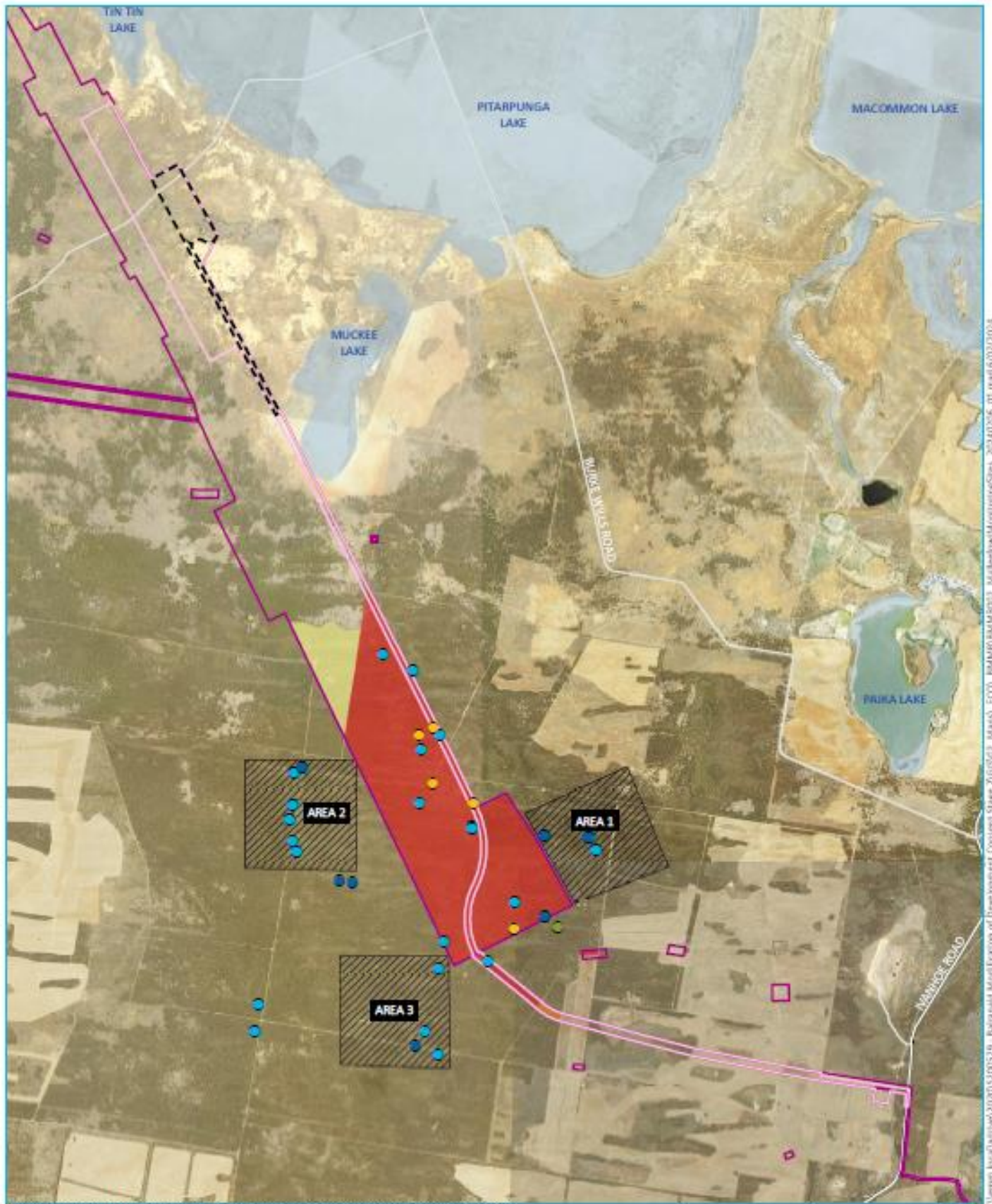
Kangaroo (Mound 1)



Appendix E

Historical map of mounds

(Figure 2.1 from EMM 2024)



Source: EMM (2024); Julia Resource (2022); Ecotone (2013); Niche (2015); ESA (2024); DFS (2017); GA (2012)

KEY

- Revised Balranald Project Area 2023
- Proposed MOD1 study area
- MOD1 additional disturbance area
- Drone area of interest
- Existing environment
- Major road
- Minor road
- Named watercourse
- Named waterbody
- Recorded Malleefowl locations
- Malleefowl location (Ecotone 2013, Niche 2015)
- Active Malleefowl mound (Niche 2015, EMM 2022)
- Potentially active Malleefowl mound (OEH 2013, Ecotone 2013, Niche 2015, EMM 2022)
- Track/print (Ecotone 2013, Niche 2015)
- Malleefowl habitat potential
- Very High
- High
- Moderate

Malleefowl monitoring sites

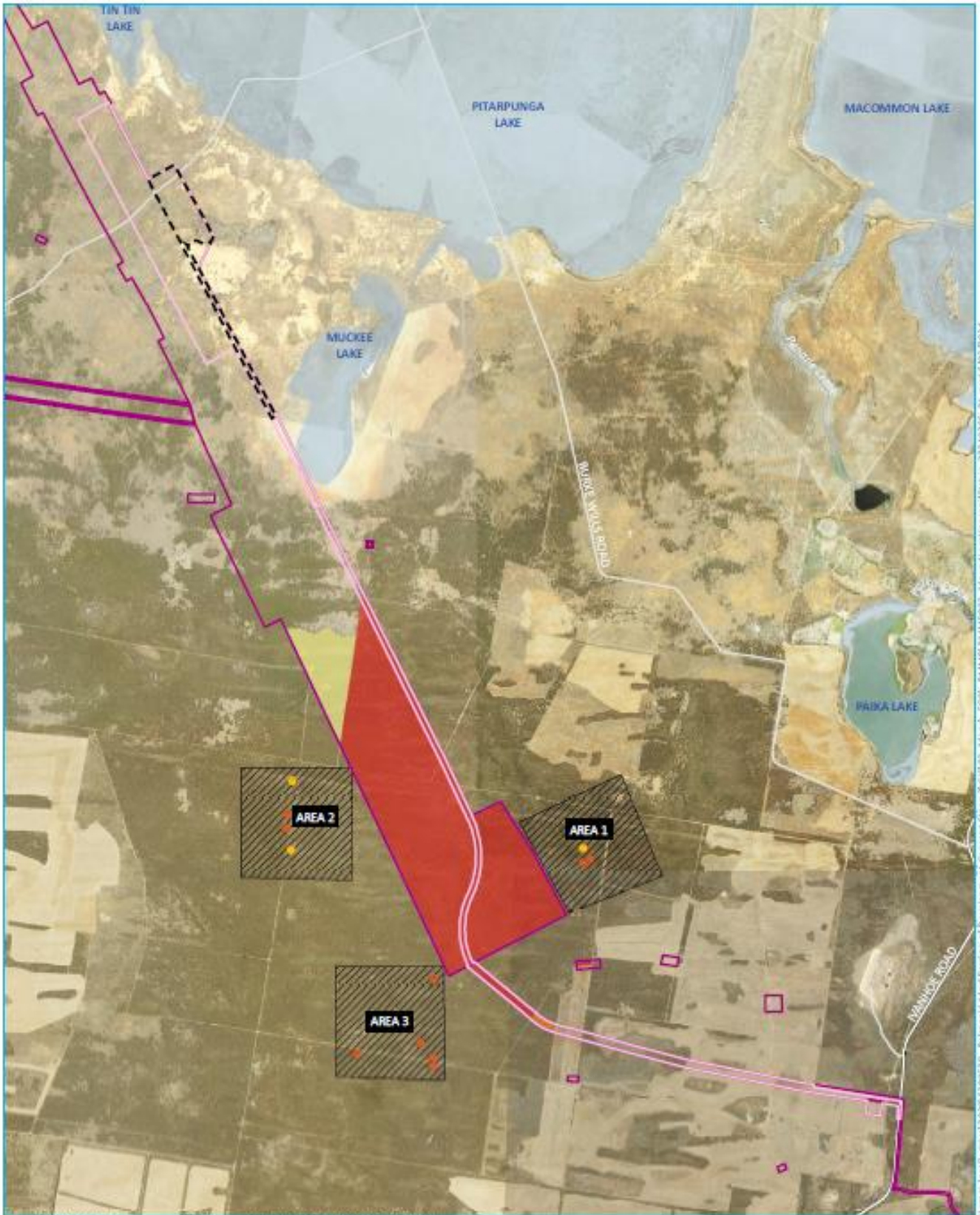
Balranald Mineral Sands Project
Baseline Malleefowl Monitoring Report
Figure 2.1



V:\env\joc\p\m\h\2020\51100519 - Balranald Mineral Sands Project of Development Consent Stage 2\050521_Maps\ECO_Balranald\MM\Map023_MalleefowlMonitoringSites_20240226_01.mxd 6/20/2024

Appendix F

Map of mounds from baseline monitoring
(Figure 4.1 from EMM 2024)



Source: EMM (2024); Bulka Resources (2022); Niche (2015); ESR (2024); DFSI (2017); GA (2011)

KEY

- | | |
|-------------------------------------|------------------------------|
| Revised Balranald Project Area 2023 | Malleefowl mound location |
| Proposed MOD1 study area | Active |
| MOD1 additional disturbance area | Not active |
| Drone area of interest | Malleefowl habitat potential |
| Existing environment | Very High |
| Major road | High |
| Minor road | Moderate |
| Named watercourse | |
| Named waterbody | |

Mound locations and status

Balranald Mineral Sands Project
Baseline Malleefowl Monitoring Report
Figure 4.1



I:\emv\local\air\mvd\2020\15\0005\19 - Balranald Mould Location of Development Consent Stage 2\GIS\ECV_Maps\ECV_BMM\BMM\F003_MoundLocationsandStatus_20240206_01.mxd 5/02/2024



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Appendix F - Annual Malleefowl Monitoring Programme – 2025 Monitoring Report



Annual Malleefowl Monitoring Program Balranald Mineral Sands Mine

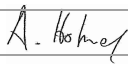
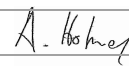
2025 Monitoring Report

Iluka Resources Limited

06 February 2026

→ The Power of Commitment



Project name		Iluka Resources Ltd - Annual Malleefowl Monitoring Program in Balranald 2024					
Document title		Annual Malleefowl Monitoring Program Balranald Mineral Sands Mine 2025 Monitoring Report					
Project number		12648093					
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Status Code	Revision	Author	Reviewer		Approved for issue		
			Name	Signature	Name	Signature	Date
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[Status code]							

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Executive summary

Iluka Resources Limited (Iluka) operates a mineral sands mine in south-western New South Wales, known as the Balranald Mineral Sands Mine (the Balranald Mine). The southern and northern ends of the site are located approximately 12 kilometres (km) and 66 km north-west of the town of Balranald, respectively.

The Balranald Mine Project was approved under the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) and under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (EPBC 2012/6509). A condition of approval is that Iluka must undertake annual monitoring for Malleefowl (*Leipoa ocellata*) in accordance with the approved Biodiversity Management Plan (BMP) and the Malleefowl Monitoring and Management Sub Plan (MMMSPP).

The Malleefowl is listed as **Endangered** under the NSW *Biodiversity Conservation Act 2016* (BC Act) and as **Vulnerable** under the EPBC Act. Additionally, Malleefowl qualify as **Vulnerable** under international criteria for threatened species according to the IUCN 2022.

In accordance with the National Malleefowl Monitoring Manual (National Malleefowl Recovery Team 2020), the primary aim of the Malleefowl monitoring program is to track changes in the number of breeding birds inhabiting selected sites across the project area.

Annual monitoring of Malleefowl at the Balranald Mine commenced with baseline monitoring in December 2023 for the 2023-2024 breeding season (Year 1) (EMM 2024) followed by monitoring for Malleefowl for 2024 (Year 2). GHD Pty Ltd (GHD) was engaged by Iluka to undertake monitoring for Malleefowl for the 2025 (Year 3) season. This report presents the results of the Year 3 monitoring.

GHD's ecologists undertook the Malleefowl monitoring in October 2025. The monitoring comprised two parts:

- Monitoring of the three established 2 x 2 km sites/areas, and
- Monitoring of the area up to 200 m from the approved haul road disturbance boundary.

GHD also deployed motion-sensing cameras at selected locations, in an effort to record Malleefowl activity around mounds and potentially chick hatchings.

During the monitoring, fifty-eight mounds or potential mounds were found and assessed. Twenty-one of the mounds were deemed 'active': ten in Area 2 (mounds 1, 5, 24, 25, 27, 29, 31, 33, 34 and 36), eight in Area 3 (mounds 7, 10, 37, 38, 39, 40, 44 and 45) and three along the northern end of the Haul Road (mounds 18, 49 and 51). Nineteen of the fifty-eight mounds had been detected and assessed in previous survey events.

Sightings of Malleefowl were recorded at five locations via camera traps (four of these five sightings were active mounds – mound 10 only captured Malleefowl moving through the area, not altering the mound).

All images of Malleefowl were of adult birds rather than chicks. At four of the mounds, at least two birds were seen attending the mounds. No chick hatching was observed. The majority of the mounds monitored by cameras also shows signs of feral predator activity – cats, foxes, pigs.

The Malleefowl mound counts and the Malleefowl bird sightings made by GHD in October 2025 are greater than counts made in previous survey and monitoring events, which is due to LiDAR data being provided to GHD by Iluka, allowing a more extensive and targeted assessment to be made in 2025.

This survey had a larger sample size of fifty-eight mounds within the three areas and haul road. The twenty-one active mounds found across Area 2, Area 3 and the Haul Road sites provides a greater survey effort and sample size to track and assess Malleefowl breeding activity and potential disturbance from the project and other impacts such as pest predators..

The use of motion-sensing cameras at active mounds showed clearly that feral animals continue to be a threat to Malleefowl breeding success. The results indicate that the feral predator control efforts to date need to be continued and possibly increased to reduce the threat to acceptably low levels.

Future management and monitoring of the site for Malleefowl should include:

- Continue or increase control efforts for the most prevalent feral predators – foxes and pigs.

- Consider targeted cat-control methods to reduce or eradicate the local population of cats.
- Implement control methods for goats; to reduce the vegetation damage they cause to Malleefowl habitat.
- Enforce slow traffic speed limits on any roads that pass close to known mounds or through Malleefowl high-use areas.
- Continue to monitor known mounds and birds.

This report is subject to, and must be read in conjunction with, the limitations set out in sections 1 and 2 and the assumptions and qualifications contained throughout the Report.

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Appendix F	Map of mounds from baseline monitoring (Figure 4.1 from EMM 2024)

1. Introduction

Iluka Resources Limited (Iluka) operates a mineral sands mine in south-western New South Wales (NSW), known as the Balranald Mineral Sands Mine (the Balranald Mine). It includes construction, open-cut mining, primary processing, and rehabilitation of two linear mineral sand deposits, located approximately 12 kilometres (km) and 66 km north-west of the town of Balranald, respectively. On 21 December 2022, Iluka were granted approval to modify the consent (MOD1) to undertake an underground mining trial for up to 6 years, which includes an additional area of disturbance to the approved Balranald Mine area to enable primary processing of the ore into heavy mineral concentrate (HMC) and transport of HMC offsite for secondary processing at Iluka's facilities.

The Balranald Mine Project was approved under the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) on 5 April 2016 and under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (EPBC 2012/6509) on 6 January 2017. A condition of the approval requirements is that Iluka must undertake annual monitoring for Malleefowl (*Leipoa ocellata*) in accordance with the approved Biodiversity Management Plan (BMP) and the Malleefowl Monitoring and Management Sub Plan (MMMSP).

Iluka's MMMSP has been prepared in accordance with the guidelines provided in the National Manual for the Malleefowl Monitoring System (National Malleefowl Recovery Team, 2020) and the National Recovery Plan for Malleefowl (Benshemesh J., 2007).

The Malleefowl is listed as **Endangered** under the NSW *Biodiversity Conservation Act 2016* (BC Act), as **Vulnerable** under the EPBC Act and as **Vulnerable** under international criteria for threatened species according to the IUCN 2022. The MMMSP outlines the life history, distribution and threats to Malleefowl and details measures for the management and monitoring of Malleefowl individuals and mounds within the project area.

Annual monitoring of Malleefowl at the Balranald Mine commenced with baseline monitoring in December 2023 for the 2023-2024 breeding season (Year 1) (EMM 2024) followed by monitoring for Malleefowl for 2024 (Year 2). GHD Pty Ltd (GHD) was engaged by Iluka to undertake monitoring for Malleefowl for the 2025 (Year 3) season.

This report presents the results of the Year 3 monitoring.

1.1 Scope and purpose of this report

This report provides the results of Malleefowl monitoring for 2025 at the Balranald Mineral Sands Mine in accordance with the approved Biodiversity Management Plan (BMP) and the Malleefowl Monitoring and Management Sub Plan (MMMSP).

In accordance with the National Malleefowl Monitoring Manual (National Malleefowl Recovery Team 2020), the primary aim of the Malleefowl monitoring program is to track changes in the number of breeding birds inhabiting selected sites across the project area.

The agreed scope for this monitoring is for GHD to undertake the following:

- Monitor existing mounds within three 2 x 2 km sites and record details as per the MMMSP.
- Conduct ground searches for new mounds.
- Assess LiDAR data supplied and obtained by Iluka (drone supplied and operated by Iluka).
- Visit any suspected new mounds identified by LiDAR and record details.
- Monitor existing mounds within 200 m of the MOD1 approval boundary.
- Conduct searches on foot for new mounds adjacent to the mine access road within 200 m of MOD1 approval boundary (10 km x 0.5 km section) within Malleefowl habitat and record details.
- Install remote cameras on any active mounds to record activity and chick hatchings. Retrieve cameras (to be done by Iluka) when breeding has ceased and assess data, recording number of hatchings.
- Use GPS to record and name/number all previously identified mounds and any new mounds identified (both in plots and in 200 m buffer of road).

- Collate all monitoring data and produce an annual report as per requirements of the MMMSP within 10 weeks of monitoring.
- Submit all raw data sheets to the National Malleefowl Monitoring Program.

GHD is to supply:

- Sufficient remote cameras for all active mounds located.

Iluka is to supply:

- Location details for currently known active or inactive mounds.
- Drone fitted with LiDAR;
- Drone pilot;
- Change out batteries in remote cameras as required until end of breeding season; and
- Postage / delivery of cameras back to consultants nominated office

1.2 Research questions

In addition to the primary monitoring aims, monitoring also aims to answer the following questions:

- Is vegetation clearing, increased noise and lighting resulting in a negative impact on Malleefowl breeding activity adjacent to the West Balranald Mine (MOD1)?
- Is fox and feral predator control under the BMP having a positive impact on Malleefowl breeding activity?
- Are bushfires having a negative impact on Malleefowl breeding activity?
- Are Malleefowl constructing new nests in rehabilitation areas?

It is understood that not all of these questions will be answerable after every monitoring event.

1.3 Limitations and assumptions

This report has been prepared by GHD Pty Ltd for Iluka Resources Limited and may only be used and relied on by Iluka Resources Limited for the purpose agreed between GHD and Iluka Resources Limited as set out in section 1.2 of this report.

GHD otherwise disclaims responsibility to any person other than Iluka Resources Limited arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report are limited by the following:

- The field assessment:
- Involved the use of Collector for ArcGIS mapping application to record site information. This mapping tool was accurate to within 10 m on site.
- Did not involve any targeted surveys for species other than Malleefowl.

The opinions, conclusions and any recommendations in this report are based on conditions encountered, observations made, and information reviewed up to the date of preparation of the report. As GHD was only present on specific dates and certain time periods, this report is only indicative (and not definitive) of conditions present on the site(s). Conditions governing flora and fauna (whether in type or quantity) can change and fluctuate at different times throughout the year (due to factors including seasonal changes, external events or third-party intervention), and it is generally not possible to observe such changes or fluctuations where only a discrete site visit has taken place. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

GHD has prepared this report on the basis of information provided by Iluka Resources Limited. GHD has not independently verified or checked this information beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

1.3.1 Accessibility of documents

If this report is required to be accessible in any other format, this can be provided by GHD upon request and at an additional cost if necessary.

1.4 Study site

The Balranald Mine site is north of Balranald in south-west NSW. Access to the Balranald Mine site is approximately 12 km north of the Balranald township (Figure 1). From there, the project site itself extends approximately 60 km to the north-northwest.

For long-term monitoring of Malleefowl, three permanent monitoring sites (each 2 x 2 km) were established towards the southern end of the project site in December 2023 (EMM 2024) (Figure 1). Access to and within these locations is limited to foot only, with some limited vehicle access to the perimeter of the sites.

Within the Balranald Mine site is the MOD1 approval area, which is defined as the 'modified' area that contains all activities associated with the mining operation, construction, operations, haul road, rehabilitation and associated infrastructure and activities (Figure 1). Within and up to 200 m from the approved MOD1 disturbance boundary, monitoring is required of existing known Malleefowl mounds, and surveys for new mounds within suitable Malleefowl habitat are also required to identify any new mounds that may need to be protected during the breeding season (Sep-Feb).

The sites selected as part of this monitoring program are intended to form part of the National Malleefowl Monitoring System. Monitoring Malleefowl in relation to the Balranald Mine provides an opportunity to satisfy aim 2 of the National Malleefowl Monitoring System, namely 'interpret breeding density trends in the light of management practices and environmental variables'.

1.5 Previous assessments

ArcGIS data shows information from seven previous Malleefowl mound assessments relating to the project:

- OEH 2013
- Ecotone 2013
- Niche 2015
- EMM 2022
- BWM 2023 (pre-clearance work)
- EMM 2024 (Baseline monitoring)
- GHD 2024 monitoring

2. Methods

Four ecologists undertook the Malleefowl monitoring between 20 – 21 October 2025. Daily teams were formed as required from our Mildura-based ecology team: Alex Holmes, Dan Eyles, Will Wilson and James Howells.

2.1 Malleefowl Habitat and Mound Monitoring

The annual Malleefowl monitoring comprises two parts:

- Monitoring of the three established 2 x 2 km sites, and
- Monitoring of the area up to 200 m from the approved MOD1 disturbance boundary.

According to the MMMSP, annual monitoring of three 2 x 2 km sites is required between September and February (Malleefowl breeding season). For this assessment, monitoring of those sites was undertaken in late October. Monitoring immediately following rainfall was avoided, as rainfall could cause prints to be less obvious or completely washed away.

At each of the three sites, habitat condition was assessed by percentage cover of each vegetation stratum (ground-cover grass, ground-cover herbs, ground-cover other, small shrubs, medium shrubs, large shrubs and leaf litter) and a site photo was taken. Previously known mounds were visited, and the location of new mounds were recorded.

For the monitoring of the area up to 200 m from the approved MOD1 disturbance boundary, existing (i.e., previously known and documented) mounds were visited and details recorded, and survey was undertaken for new mounds, to identify all mounds that may need to be protected during the breeding season (Sep-Feb).

For all monitoring, ground surveys were conducted in accordance with the National Malleefowl Monitoring Manual. At each mound, condition and activity was assessed using the 1 to 6 profile rating system of the National Malleefowl Monitoring Manual to define mound size, use and age. Data were collected in the field using datasheets from the MMMSP, and the following information was recorded at each mound identified:

- Observer and date.
- Site and mound number.
- GPS location of mound.
- Mound dimensions and profiles.
- Malleefowl activity (i.e. the occurrence of litter trails or any other signs that may indicate the mound is being prepared for breeding).
- Prints or tracks on the mound (i.e., Malleefowl, Fox, Kangaroo, other).
- Signs of predation (e.g., evidence of eggshell or feathers) (searched for at active mounds in a 20 m radius around the mound).
- Mound status including active mounds, leaf litter present, inactive mounds or long-unused mounds. Mound status was assessed as per definitions provided in the MMMSP, p16 (active mound, leaf litter present, inactive mound, long-unused mound).

Data will be provided to Iluka in MS Excel spreadsheets (for contribution to a long-term monitoring dataset and for Iluka to hold on file). Raw data sets will be sent to the National Malleefowl monitoring program.

2.2 Cameras

With site-knowledge input from Iluka's environment team, GHD deployed motion-sensing cameras at selected locations, in an effort to record Malleefowl activity around mounds and chick hatchings. GHD deployed five motion-sensing cameras at five active mounds. Cameras were retrieved by Iluka in early November, when breeding was expected to have ceased. Results from the cameras aimed to determine or confirm nest activity and predator activity around the mounds.

2.3 Permits

This monitoring was undertaken in accordance with conditions identified under Scientific License (license number SL100146) under section 132c of the NSW NPW Act 1974, and in accordance with the Standard Operating Procedures in place under GHD's animal ethics committee.

3. Results

3.1 Malleefowl mounds

During the monitoring, fifty-eight mounds were found and assessed. Two mounds numbered 13 and 17 were not found – thought to be destroyed in Haul Rd construction. They were both assessed as 'inactive' before 2024 and classified no longer a mound/imperceptible in 2024 by GHD. The locations of the mounds are shown in Figure 1 and are summarised as follows:

- Area 1: 4 mounds
- Area 2: 22 mounds
- Area 3: 23 mounds
- Haul Road (in 200 m buffer area): 9 mounds

Twenty-one of the mounds were 'active': ten in Area 2 (mounds 1, 5, 24, 25, 27, 29, 31, 33, 34 and 36), eight in Area 3 (mounds 7, 10, 37, 38, 39, 40, 44 and 45) and three along the northern end of the Haul Road (mounds 18, 49 and 51).

Nineteen of the fifty-eight mounds had been detected and assessed in previous survey events. Determining corresponding previous identification numbers to some mounds was found to be difficult due to mound identification not being shown on the baseline monitoring maps (EMM 2024). The history of mound assessment is shown in Appendix B. Photographs of mounds in October 2024 and 2025 are shown in Appendix C.

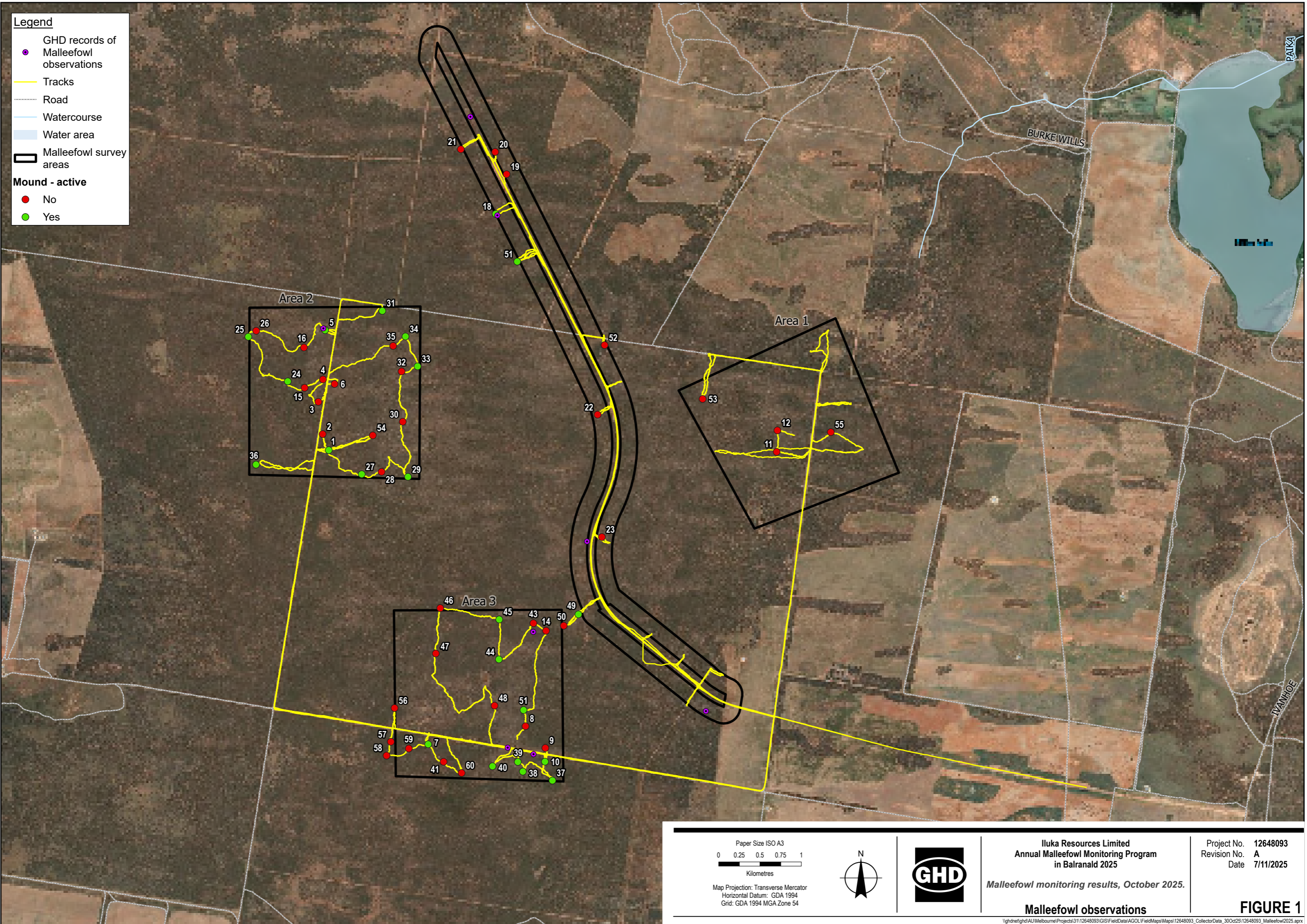
All mounds assessed as 'active' during the previous October 2024 monitoring had been detected in previous surveys; however, only three of those active mounds (mounds 4, 5 and 7) were assessed as part of the baseline monitoring (EMM 2024), because the baseline monitoring did not include the 200 m buffer area along the Haul Road.

Of the five mounds that have ever been assessed as 'active' in years past, one was found to be active in the October 2024 survey (mound 5 in Area 2). As of the October 2025 study, this mound was considered still active. Of the 10 additional mounds that were ever assessed as 'potentially active' in years past, four were found to be active in the October 2024 survey (mounds 1, 4, 7, 10; two in Area 2 and two in Area 3). Of these mounds assessed as 'active' during the previous October 2024 monitoring, all are still considered active with the exception of Mound 4 in Area 2 that shows no recent signs of activity and has been categorised as 'inactive' following the October 2025 survey.

Of the two mounds that have been assessed as 'inactive' in past years, mound 18 was found to be active in the previous October 2024 survey, while mound 20 was found to be 'long-unused'. The results from the October 2025 survey reflect concordant results – mound 20 is 'long-unused' whilst mound 18 shows recent signs of activity such as fresh feathers on top the mound.

ArcGIS data show another 15 mounds in the general area that were not considered for this monitoring. Four of those mounds no longer exist (destroyed as part of the Iluka operations) and nine lie outside the designated survey area for annual monitoring.

Two mounds known from previous surveys that lie within the monitoring survey area (BWM8 along the Haul Road, and Ecotone FID38 in Area 1) were not assessed during the October 2024 or October 2025 monitoring. BWM8 was assessed as 'inactive' in pre-clearance surveys in 2023 and subsequently destroyed during the haul road construction, while Ecotone FID38 was assessed as 'inactive' by EMM (2024) and deemed to no longer be a mound in 2024 by GHD, as it has likely degraded to the point of no longer being perceptible.



© 2025. Whilst every care has been taken to prepare this map, GHD (and DATA CUSTODIAN) make no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and cannot accept liability and responsibility of any kind (whether in contract, tort or otherwise) for any expenses, losses, damages and/or costs (including indirect or consequential damage) which are or may be incurred by any party as a result of the map being inaccurate, incomplete or unsuitable in any way and for any reason. Data source: DEECA 2024; GHD; Survey areas, mounds 2025; Esri; Imagery 2025; Created by xlee

Table 1 Malleefowl mounds assessed by GHD in October 2025.

Mound number	Site	Active, as assessed (Y/N)	Active (camera)	Notes	Recorded historically? (Y/N)	When observed previously?
1	Area 2	y	Y		y	Niche 2015, GHD 2024
2	Area 2	n			y	Niche 2015, EMM 2024, GHD 2024
3	Area 2	n			y	Ecotone 2013, Niche 2015, EMM 2024, GHD 2024
4	Area 2	n			y	Ecotone 2013, Niche 2015, EMM 2024, GHD 2024
5	Area 2	y	Y	Lots of activity – mound contains litter	y	Ecotone 2013, Niche 2015, EMM 2024, GHD 2024
6	Area 2	n			y	GHD 2024
7	Area 3	y	Y		y	EMM 2024, GHD 2024
8	Area 3	n			y	Niche 2015, GHD 2024
9	Area 3	n			y	EMM 2024, GHD 2024
10	Area 3	y	Y		y	Niche 2015, GHD 2024
11	Area 1	n			y	EMM 2024, GHD 2024
12	Area 1	n			y	Ecotone 2013, EMM 2024, GHD 2024
13	N/A	n		Mound destroyed	y, long inactive	Likely previously Ecotone 2013 (FID38)
14	Area 3	n			y	Niche 2015, GHD 2024
15	Area 2	n			y	GHD 2024
16	Area 2	n			y	GHD 2024
17	N/A	n		Mound destroyed	y, long inactive	Likely BWM 2023 (BWM8)
18	Haul Road	y		Malleefowl feathers found on top mound	y	BWM 2023, GHD 2024
19	Haul Road	n			y	Niche 2015, EMM 2022, BWM 2023, GHD 2024
20	Haul Road	n			y	BWM 2023, GHD 2024
21	Haul Road	n		Mound is long extinct with no LiDAR point	y	Niche 2015, GHD 2024
22	Haul Road	n			y	Ecotone 2013, Niche 2015, EMM 2022, BWM 2023, GHD 2024

Mound number	Site	Active, as assessed (Y/N)	Active (camera)	Notes	Recorded historically? (Y/N)	When observed previously?
23	Haul Road	n			y	GHD 2024
24	Area 2	y		Likely a new mound/in early stage of development	n	
25	Area 2	y		Lots of activity – mound is full of litter	n	
26	Area 2	n			n	
27	Area 2	y			n	
28	Area 2	n			n	
29	Area 2	y			n	
30	Area 2	n			n	
31	Area 2	y			n	
32	Area 2	n			n	
33	Area 2	y		Malleefowl feathers found on top mound	n	
34	Area 2	y			n	
35	Area 2	n			n	
36	Area 2	y		Potentially an old mound being reused	n	
37	Area 3	y		Likely a new mound	n	
38	Area 3	y		Likely a new mound, being built up still	n	
39	Area 3	y		Likely a new mound	n	
40	Area 3	y			n	
41	Area 3	n			n	
42	Area 3	n			n	
43	Area 3	n			n	
44	Area 3	y		Malleefowl feathers found on top mound	n	
45	Area 3	y			n	
46	Area 3	n			n	
47	Area 3	n			n	
48	Area 3	n			n	

Mound number	Site	Active, as assessed (Y/N)	Active (camera)	Notes	Recorded historically? (Y/N)	When observed previously?
49	Haul Road	y			n	
50	Area 3	n		Malleefowl feathers found just outside the mound area	n	
51	Haul Road	y	Y		n	
52	Haul Road	n		Mound is long extinct	n	
53	Area 1	n			n	
54	Area 2	n			n	
55	Area 1	n			n	
56	Area 3	n			n	
57	Area 3	n			n	
58	Area 3	n			n	
59	Area 3	n			n	
60	Area 3	n			n	

3.2 Malleefowl sightings

During the monitoring in October 2025, evidence of several Malleefowl were recorded. Malleefowl prints were recorded at 29 locations and Malleefowl scats at 10 locations (Table 2). No birds were seen on mounds in person, but Malleefowl were captured on all five camera traps.

ArcGIS information showed fifteen observations of Malleefowl birds, prints or feathers from previous surveys (Table 3).

Table 2 Malleefowl evidence in October 2025

Observation	Location	Date	Count	Notes
footprint	Haul Road	21/10/2025	4	just outside area, feathers
footprint	Area 3	21/10/2025	12	
footprint	Area 2	20/10/2025	13	around newly formed mound, lots of activity
scat	Haul Road	21/10/2025	2	
scat	Area 3	21/10/2025	2	
scat	Area 2	20/10/2025	6	feathers, fresh scat
bird	Haul Road	22/10/2025	1	Near mound 51
bird	Area 2	20/10/2025	1	Near mound 1

Table 3 Malleefowl sightings in previous surveys

Observation	Survey	Location	Count	Notes
footprint	Ecotone 2013	Area 2	1	on road, not far from Mound 5
footprint	Ecotone 2013	Area 1	1	
footprint	Ecotone 2013	Area 1	1	near mound 12
footprint	Ecotone 2013	Outside monitoring area (southwest of Area 1)	1	
bird	Ecotone 2013	Outside monitoring area (southwest of Area 1)	1	
bird	Ecotone 2013	Outside monitoring area (southwest of Area 1)	1	near mound Niche FID9
bird	Niche 2015	Outside monitoring area (southwest of Area 1)	1	
footprint	Niche 2015	Outside monitoring area (southwest of Area 1)	1	
footprint	Niche 2015	Area 3	1	on road
footprint	Niche 2015	Outside monitoring area (south of Area 2)	1	
footprint	Niche 2015	Outside monitoring area (south of Area 2)	1	
bird	EMM 2023	Haul Road	1	near Mound 22
footprint	EMM 2023	Haul Road	1	near Mound 19
feather	EMM 2023	Haul Road	1	near Mound 22
footprint	EMM 2023	Haul Road	1	
bird	GHD 2024	Area 2	1	bird seen, working mound 5 (active)
bird	GHD 2024	Area 3	1	near mound 14 (inactive)
bird	GHD 2024	Haul Road	2	near mound 18 (active)
bird	GHD 2024	Haul Road	1	
bird	GHD 2024	Haul Road	1	near mound 23 (inactive)
bird	GHD 2024	Haul Road	1	

3.3 Cameras

The five cameras resulted in more than 4,308 images (Table 4). Four of the five mounds monitored by cameras shows signs of recent Malleefowl activity. All images of Malleefowl were of adult birds rather than chicks. At every mound, up to two birds were seen attending the mounds and moving sand and leaf litter around; representative images are shown in Table 5.






No chick hatching was observed.

Four of the five mounds monitored by cameras shows signs of feral predator activity – cats, foxes, pigs. There were no goats observed on the cameras. Mound 5 (Area 2) showed particularly high activity of foxes.

Table 4 Results of cameras deployed at mounds

Camera #	Mound ID	Location	# images	Malleefowl detected?	Red Fox detected?	Cat detected?	Pig detected?	Other native species
M39	51	Haul Road	2641	Y	N	N	N	Currawong, White-eared Honeyeater
M37	5	Area 2	1042	Y	Y	Y	N	No
M23	7	Area 3	3002	Y	Y	N	Y	No
M20	1	Area 2	2655	Y	Y	N	N	Eastern Grey Kangaroo
M19	10	Area 3	264	N	Y	N	N	Common Bronzewing, Eastern Grey Kangaroo

Table 5 Images of Malleefowl from motion-sensing cameras

<p>Mound 10</p>  A photograph showing two malleefowl standing on a sand mound in a mallee woodland. The birds are facing each other, and the ground is sandy with sparse vegetation.	<p>Mound 1</p>  A photograph showing two malleefowl on a sand mound in a mallee woodland. One bird is in the foreground, and another is further back. The ground is sandy with sparse vegetation.
<p>Mound 7</p>  A photograph showing two malleefowl on a sand mound in a mallee woodland. The birds are facing each other, and the ground is sandy with sparse vegetation.	<p>Mound 5</p>  A photograph showing two malleefowl on a sand mound in a mallee woodland. The birds are facing each other, and the ground is sandy with sparse vegetation.
<p>Mound 51</p>  A photograph showing two malleefowl on a sand mound in a mallee woodland. The birds are facing each other, and the ground is sandy with sparse vegetation.	

3.4 Weather

The weather during the monitoring was appropriate for mound assessment, with clear skies, no rainfall and mild to warm temperatures. The two-week period prior to the monitoring saw 0 mm of rainfall at Balranald, none of which fell in the week prior to monitoring (last rain: 0.2 mm on September 22nd).

Table 6 Temperature and rainfall during the monitoring (recorded at Mildura)

Date	Min temp (C)	Max temp (C)	Rain (mm)
20 October 2025	15.2	32.7	0
21 October 2025	13.2	22.1	0

4. Discussion

This assessment report documents the number of breeding birds observed to be inhabiting selected sites across the project area, which is the primary aim of the monitoring program, in accordance with the National Malleefowl Monitoring Manual (National Malleefowl Recovery Team, 2020). The sites selected for this monitoring program form part of the National Malleefowl Monitoring System.

The Malleefowl mound counts and the Malleefowl bird sightings made by GHD in October 2025 are greater to counts made in previous survey and monitoring events. The number of active mounds reported (21) is more than the six reported by GHD (2024) and the three reported by EMM (2024), but the EMM (2024) monitoring did not include the haul road area.

This survey had a larger sample size of fifty-eight mounds within the three areas and haul road due to the addition of the mounds located via the LiDAR assessment. The twenty-one active mounds found across Area 2, Area 3 and the Haul Road sites provides a greater survey effort and sample size to track and assess Malleefowl breeding activity and potential disturbance from the project and other impacts such as pest predators.

The use of motion-sensing cameras at active mounds illustrated that feral animals continue to be a threat to Malleefowl breeding success. Images of feral predators (foxes, pigs and cats) were common at some mounds and are of greatest concern. This result indicates that the feral predator control efforts to date (fox baiting in February and May 2024 and pig baiting in March and May 2024, with 45 pig carcasses found thereafter; B. Isaacs, Iluka, pers. comm.) need to be continued and possibly increased to reduce the threat to acceptably low levels.

Monitoring questions:

As a result of the monitoring thus far, the research questions below can be responded to as follows:

- *Is vegetation clearing, increased noise and lighting resulting in a negative impact on Malleefowl breeding activity adjacent to the West Balranald Mine – Stage 1?*
Vegetation clearing resulted in the documented destruction of some Malleefowl mounds, which is certainly a short-term negative impact during construction. However, no birds were known to be injured or killed, so all breeding pairs near the mine site retain the opportunity to re-build existing inactive mounds or create new mounds. Of the known mounds that were not destroyed during construction, there is no clear evidence of negative impact during mine operation, in terms of numbers of Malleefowl and mounds detected in the general area during this monitoring. The increase in the number of active Malleefowl mounds detected suggests that mine site activity is not necessarily causing negative impacts or decline on the Malleefowl community in the study areas.
- *Is fox and feral predator control under the BMP having a positive impact on Malleefowl breeding activity?*
Despite control efforts to this point, feral predators continue to be prevalent at every mound that was monitored and therefore continue to pose a threat to Malleefowl and their eggs and chicks. Increased control efforts, resulting in reduced numbers of feral predators, particularly foxes and pigs, are required before it can be concluded that control efforts are having a positive impact on Malleefowl breeding activity.

- *Are bushfires having a negative impact on Malleefowl breeding activity?*
Not applicable – no bushfires have been recorded in the area since mine construction.
- *Are Malleefowl constructing new nests in rehabilitation areas?*
Not applicable – no areas have yet reached the rehabilitation stage.

5. Recommendations

Future management and monitoring of the site for Malleefowl should include:

- Continue or increase control efforts for the most prevalent feral predators – foxes and pigs.
- Consider targeted cat-control methods to reduce or eradicate the local population of cats, possibly shooting, or use of the Felixer trap.
- Implement control methods for goats, to reduce the vegetation damage they cause to Malleefowl habitat
- Enforce slow traffic speed limits on any roads that pass close to known mounds or through Malleefowl high-use areas.
- Continue to monitor known mounds and birds.

6. References

Benshemesh, J.S. and Emison W.B. (1996). Surveying breeding densities of Malleefowl using an airborne thermal scanner. *Wildlife Research*, 23:121-141.

EMM (2024) Balranald Mineral Sands Project - West Balranald Mine (MOD1); Baseline Malleefowl Monitoring Report. Prepared for Iluka Resources. March 2024

IUCN. (2022). International Union for Conservation of Nature annual report. IUCN, Gland, Switzerland.

National Malleefowl Recovery Team. (2020). National Malleefowl Monitoring Manual - Standards, Protocols and Monitoring Procedures.

National Malleefowl Recovery Team. (2020). National Malleefowl Monitoring Manual: Edition: v2020_01 (Revised June 2020).