BALRANALD MINERAL SANDS PROJECT

Environmental Management Strategy

January 2023

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Abbreviations

Abbreviation	Full Title
BCD	Biodiversity Conservation Division (DPE)
Bq	Becquerel (unit of radioactivity)
Consent	Development Consent SSD-5285
DCCEW	Department of Climate Change, Energy the Environment and Water
DPE	Department of Planning and Environment
EA	Environmental Assessment
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
EMS	Environmental Management Strategy
EP & A Act	Environmental Planning and Assessment Act 1979
EPA	NSW Environment Protection Authority
HMC	Heavy mineral concentrate
HSECMS	Health, Safety, Environment and Community Management System
Iluka	Iluka Resources Limited
ISO	International Standard Organisation
LCC	Lost Control Card
LOM	Life of Mine
MEG	NSW Mining, Exploration and Geoscience
MOD1	Development Consent Modification 1
mSv	Millisievert (radiation dose unit)
MUP	Mining Unit Plant
NORM	Naturally occurring radioactive material
NSW	New South Wales
PAX	Potassium amyl xanthate
PIRMP	Pollution Incident Response Management Plan
RMP	Radiation Management Plan
WA	Western Australia
WCP	Wet concentrator plant
WHIMS	Wet high intensity magnetic separator

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1. Introduction

1.1. Purpose and scope of the EMS

This Environmental Management Strategy (EMS) has been prepared by Iluka Resources Limited (Iluka) to satisfy the requirements of Schedule 5, Condition 1 under the conditions of the NSW Development Consent (SSD-5285).

The EMS has been prepared to assist those undertaking activities on the site to apply appropriate environmental management measures during construction, operations, decommissioning, rehabilitation and other works consistent with the NSW Development Consent (SSD-5285). The EMS does not cover exploration activities outside the approved Project boundary or mining leases.

The EMPs, strategies and programs required by the Development Consent for the Project are outlined in Table 3.

1.2. Objectives of the EMS

The objectives of the EMS are to fulfil the relevant conditions in the NSW Development Consent (SSD-5285) by providing a strategic framework for environmental management of the Project including all environmental management plans (EMPs), strategies and programs prepared for the Project (Figure 1). The EMS establishes the overarching framework for the environmental management of activities undertaken for the Project. The EMS incorporates the principals of continuous improvement and is consistent with the five pillars of International Standard Organisation (ISO) 14001: Environmental Management Systems and the Iluka Health, Safety, Environment and Community Management System (HSECMS) which is an overarching management system which governs the management of potential impacts throughout all phases of operations - from construction to mine closure.

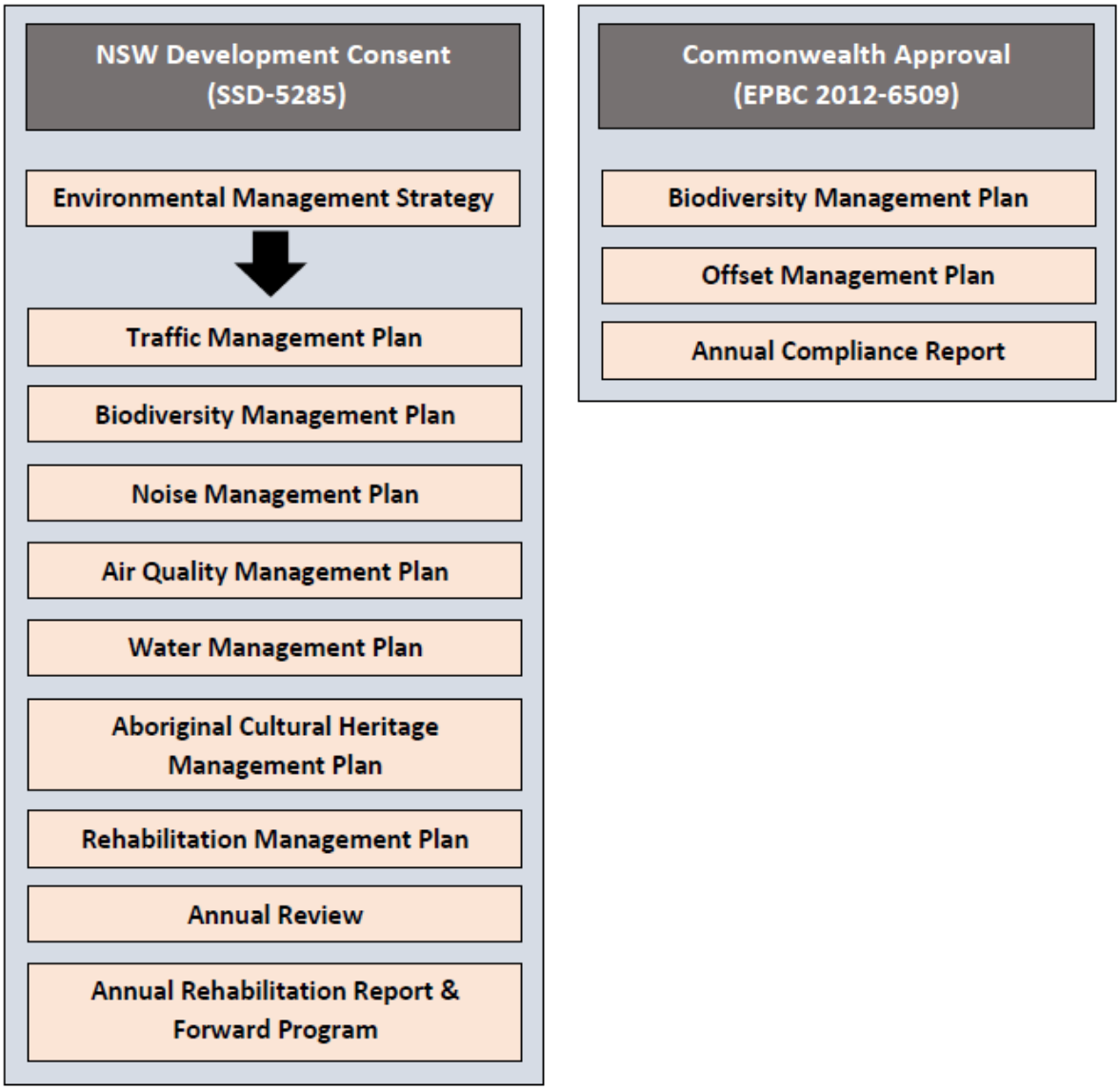

Figure 1- Related management plans and programs

1.3. Legal and compliance requirements

The relevant legal and compliance requirements and where they are referenced in this EMS are provided in Table 1.

Table 1- EMS Requirements

NSW Development Consent (SSD-5285) Condition	EMS Section
Sc.5 (C.1) The Applicant must prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must:	This EMS
(a) be approved by the Secretary prior to the commencement of any development under this consent;	
(b) Provide the strategic framework for the environmental management of the development;	Sections 1 & 3
(c) identify the statutory approvals that apply to the development;	Section 4.2
(d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;	Section 5.3
(e) describe the procedures that would be implemented to:	
▪ *keep the local community and relevant agencies informed about the operation and environmental performance of the development;*	Section 5.5
▪ *receive, handle, respond to, and record complaints;*	Section 5.6
▪ *resolve any disputes that may arise;*	Section 5.6.1
▪ *respond to any non-compliance;*	Section 5.11
▪ *respond to emergencies; and*	Section 5.7
(f) Include: ▪ *copies of any strategies, plans and programs approved under the conditions of this consent; and*	EMPs (Table 3) available on Iluka website https://www.iluka.com/engage/balranald
▪ *a clear plan depicting all the monitoring to be carried out in relation to the development.*	Section 5.8 and Appendix C
NSW EPA Environment Protection Licence (20795)	
(M4.1) The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.	Section 5.6

(M4.2) The record must include details of the following: *a) the date and time of the complaint;* *b) the method by which the complaint was made;* *c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;* *d) the nature of the complaint;* *e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and* *f) if no action was taken by the licensee, the reasons why no action was taken.*	Section 5.6
(M4.3) The record of a complaint must be kept for at least 4 years after the complaint was made.	Section 5.6
(M5.1) The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.	Section 5.6
(M5.2) The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.	Section 5.6
(R2.1) Notifications of environmental harm must be made by telephoning the Environment Line service on 131 555. *Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.*	Section 5.12.2
(R2.2) The licensee must provide written details of the notification to the EPA within 7 days of the date on which they became aware of the incident.	Section 5.12.2

2. Project description

2.1. Project overview

Iluka have approval to develop a mineral sands mine in south-western New South Wales (NSW), known as the Balranald Mineral Sands Project (the Balranald 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 with the removal of up to 100,000 tonnes (t) of mineral ore to trial the use of underground mining methods.

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 within the approved disturbance area of the West Balranald deposit.

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 in Victoria and/or Western Australia (WA). The regional setting and approved Project area are shown in Figure 2.

2.2. Construction

Construction involves the initial vegetation clearing and soil stripping within the approved Balranald Project footprint, with the following infrastructure proposed to be located within this area:

- processing plant infrastructure, comprising WCP, flotation plant and WHIMS plant;
- product and tails pad(s);
- process water, potassium amyl xanthate (PAX) and fines dams;
- underground mining infrastructure;
- temporary stockpiles (topsoil, subsoil and overburden);
- timber stockpiles (felled vegetation);
- hardstand and laydown areas;
- site offices, warehousing, workshops, amenities and carparking;
- services and utilities infrastructure;
- fuel storage and dispensing area;

- telecommunications tower;
- mine access road and accommodation camp; and
- internal access tracks and roadways.

2.3. Operations

2.3.1. Underground mining method

The underground mining method will extract mineral ore to surface by utilising underground bore hole mining technology developed during the previous bulk sampling activities.

The predicted processing rate is anticipated to be between 50 and 200 tph, consistent with the previous bulk sampling activity.

The processing plant has a number of circuits including the screening , WCP, flotation plant and WHIMS plant.

The ore is concentrated through the processing plant to generate two primary product streams, magnetic HMC and non-magnetic HMC. HMC will be stockpiled on site and transported to an off-site location for processing.

Two primary tailings streams will be generated. These are fine particle (slimes) which is combined with floatation plant waste and courser sand tails. The coarse sand tailings will be placed on surface directly above the panels ahead of mining. The topsoil and subsoil pre-stripped from these areas prior to the emplacement of the coarse sand tails is returned in order to achieve a sustainable rehabilitation outcome.

The majority of the fine sand and flotation process tails will be reinjected underground. The mining process is depicted in Figure 5.

2.3.2. Open cut mining method

Open cut mining operations will involve a sequenced dry-mining method using trucks and shovels and associated equipment fleets.

Dewatering of groundwater from aquifers overlying and surrounding the ore body would be required ahead of mining operations. Groundwater extracted prior to mining will be injected into the Loxton-Parilla Sands Formation via a network of re-injection bores.

Ore will be processed through a mining unit plant (MUP) at a rate of approximately 475 tonnes per hour to extract oversize material before being processed through the wet concentrator plant (WCP) to produce HMC and Ilmenite.

Tailings and by-products from mineral processing will be progressively backfilled in the mining void and capped with non-saline overburden material.

Overburden emplacement will include stockpiling outside of the mining pit and direct backfilling of the mining void.

The open cut general arrangement is shown in Figure 4.

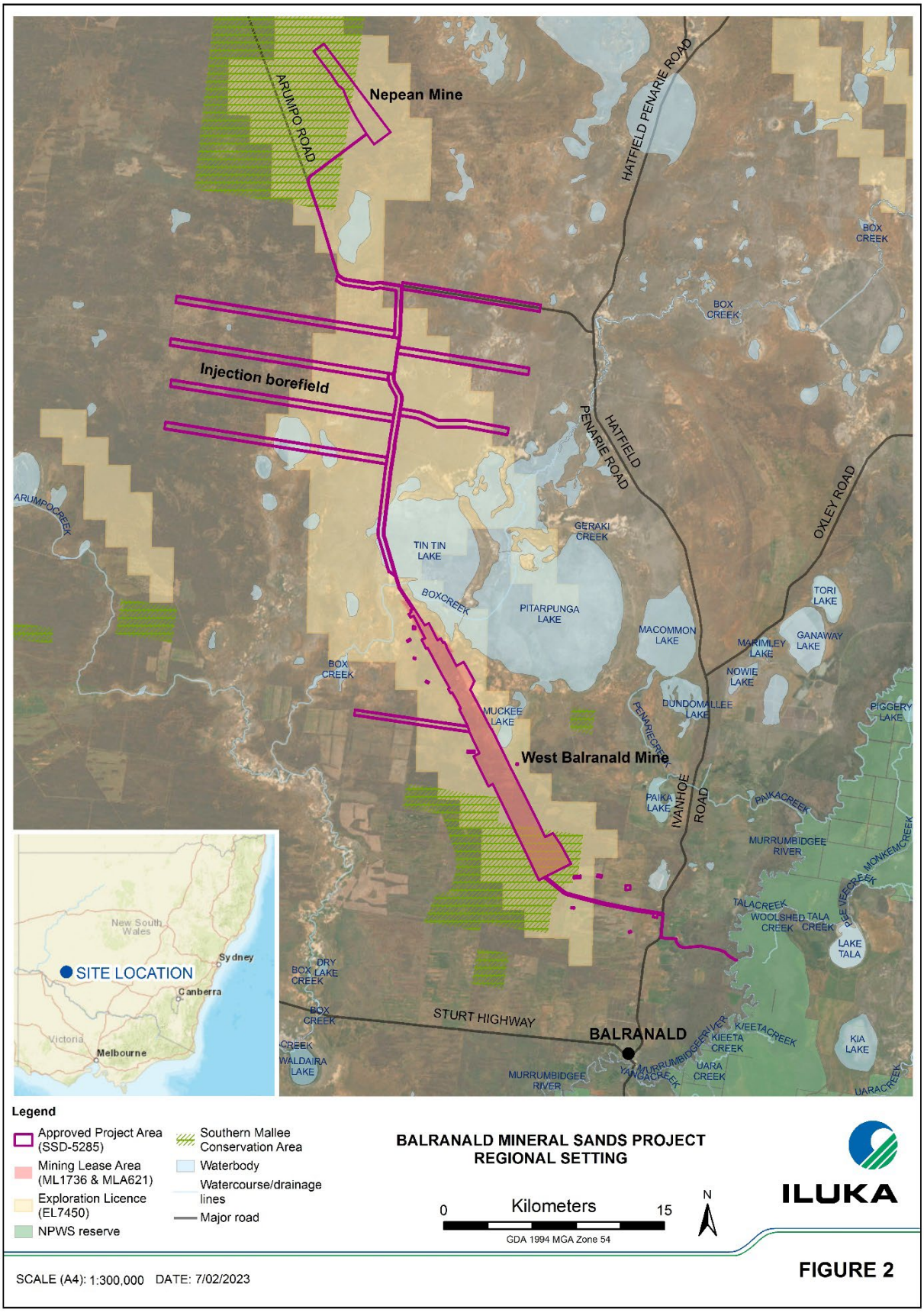

Figure 2- Project regional setting

Figure 3- Underground mining general arrangement

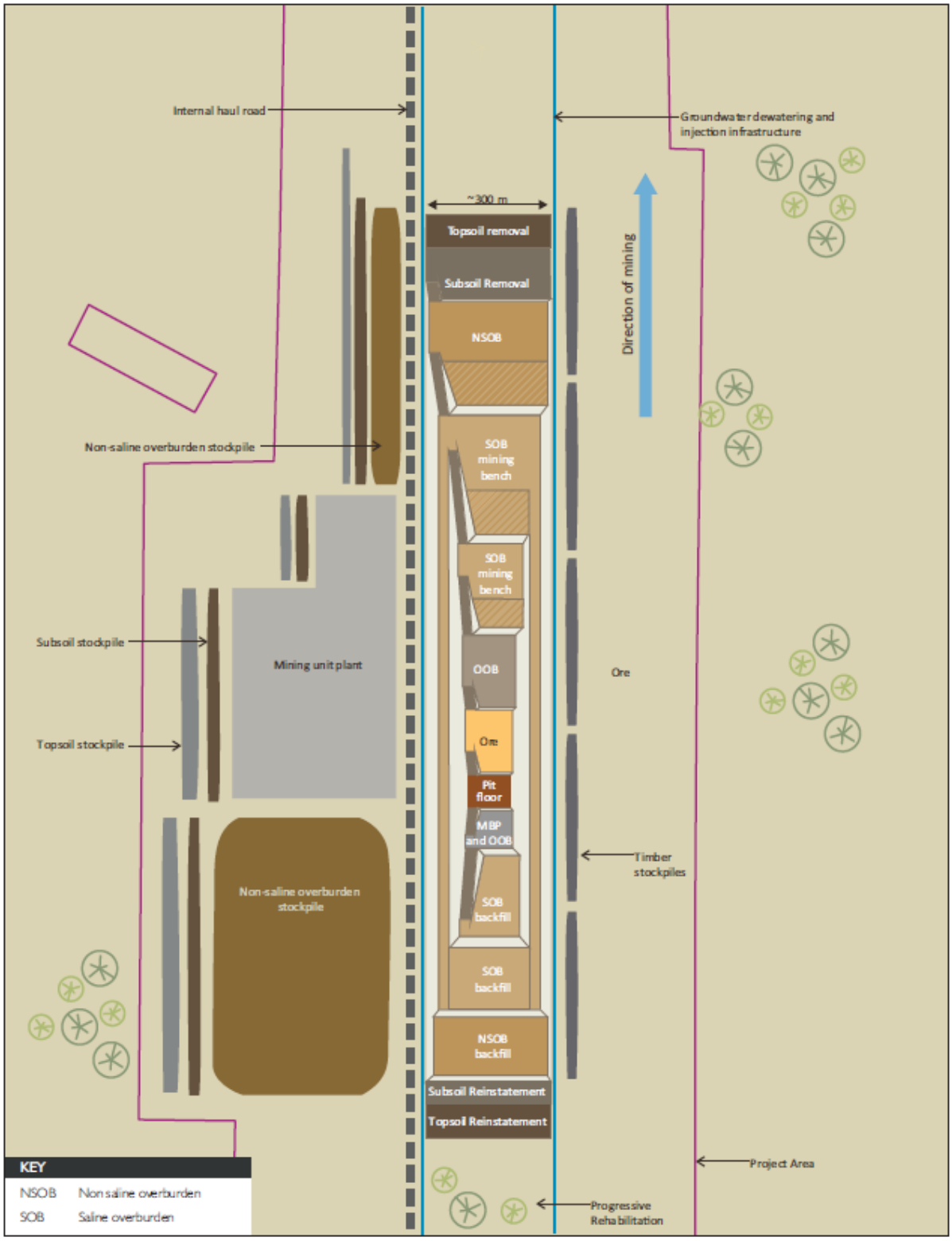

Figure 4- Open cut mining general arrangement

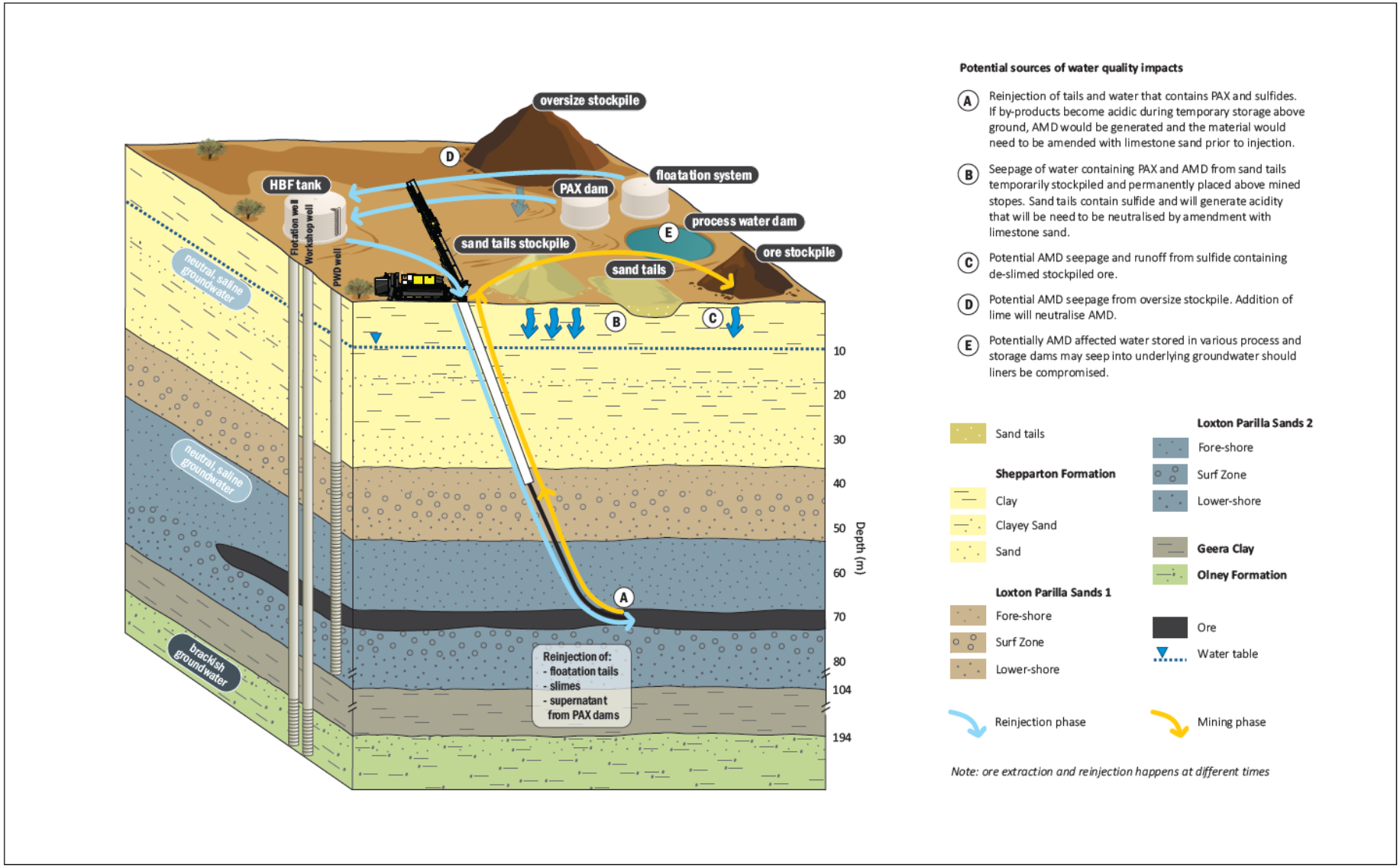

Figure 5- Underground mining process

3. Strategic framework for environmental management

Effective environmental and community management requires responsible and proactive leadership. Iluka's HSECMS provides governing principals for environmental and community management including Iluka's (*Group Standard 7: Environmental Management).* Refer to Appendix A.

3.1. Health, Safety, Environment & Community Policy

The Iluka HSEC policy is publicly available at https://www.iluka.com/ and provides a declaration of the importance Iluka places on conducting its business safely, without detrimental health effects and with regard to the community and the value of the natural environment. A copy of Iluka's HSEC policy is attached as (Appendix B).

4. Planning and policy

4.1. Aspects and impacts

Iluka has initially identified environmental values that could be impacted by the development through the Environmental Impact Statement (EIS) and the Environmental Assessment (EA) documents prepared in accordance with the requirements of the NSW EP & A Act to accompany the development consent applications submitted by Iluka for the Balranald Project. The key environmental and community aspects associated with the Project are as follows:

- Noise;
- Air Quality;
- Greenhouse gases;
- Traffic and transport;
- Water resources (Surface and Groundwater);
- Subsidence;
- Biodiversity;
- Land use;
- Soil resources;
- Geochemistry;
- Aboriginal cultural heritage;
- Social;
- Visual;
- Bushfire;
- Economic;
- Rehabilitation; and
- Radiation

A risk assessment has been undertaken to quantify environmental and community risk. Mitigation measures have been identified to minimise impacts to be as low as reasonably practicable during all the phases (e.g. construction, operations, decommissioning and rehabilitation) of the Project. The risk assessment will be reviewed regularly throughout different stages of the Project.

4.2. Statutory obligations

Development Consent No. SSD-5285 was granted for the Balranald Project by a delegate of the NSW Minister for Planning under the NSW *Environmental Planning and Assessment Act 1979* (EP&A) Act on 5 April 2016.

Approval was also granted under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act 2012/6509) by a delegate of the Commonwealth Minister for the Environment on 6 January 2017.

Iluka was granted approval for Development Consent Modification 1 (MOD1) on 21 December 2022 under Section 4.55(1A) of the EP&A Act to extend the approved underground mining trial for up to six years.

In addition to the NSW Development Consent (SSD-5285) and Commonwealth Approval (EPBC 2012/6509), all activities will be conducted in accordance with a number of licences, permits and leases. A list of approvals, licences, permits and leases is provided in Table 2.

Table 2- Statutory approvals for the Balranald Project

Approval document	Document number	Authority	Issue date	Expiry date
NSW Development Consent	SSD-5285	DPE	5 April 2016	16 years from commencement of construction at West Balranald.
NSW Development Consent	SSD-5285 MOD 1	DPE	21 December 2022	16 years from commencement of construction at West Balranald.
Commonwealth EPBC Act 1999	EPBC 2012/6509	DCCEEW	6 January 2017	1 January 2046
Environment Protection Licence	20795	EPA	10 June 2016	10 June (Annually)
Radiation Management Licence	5095125	EPA	16 December 2019	16 December (Annually)
Mining Lease	ML1736	MEG	9 May 2016	9 May 2037
Mining Lease	MLA621	MEG	TBA	TBA
Water Access Licence	WAL31101	Water NSW	2015	Continuing
Water Access Licence	WAL31102	Water NSW	2015	Continuing
Water Access Licence	WAL44602	Water NSW	16 January 2023	Continuing

5. Environmental management structure

5.1. Document structure and control

Iluka's HSECMS provides the framework for document structure and control. (Refer Figure 6). All Group standards and procedures provide auditable criteria, against which compliance can be measured. The system is hierarchical, where documents and systems meet and support the requirements of higher levels.

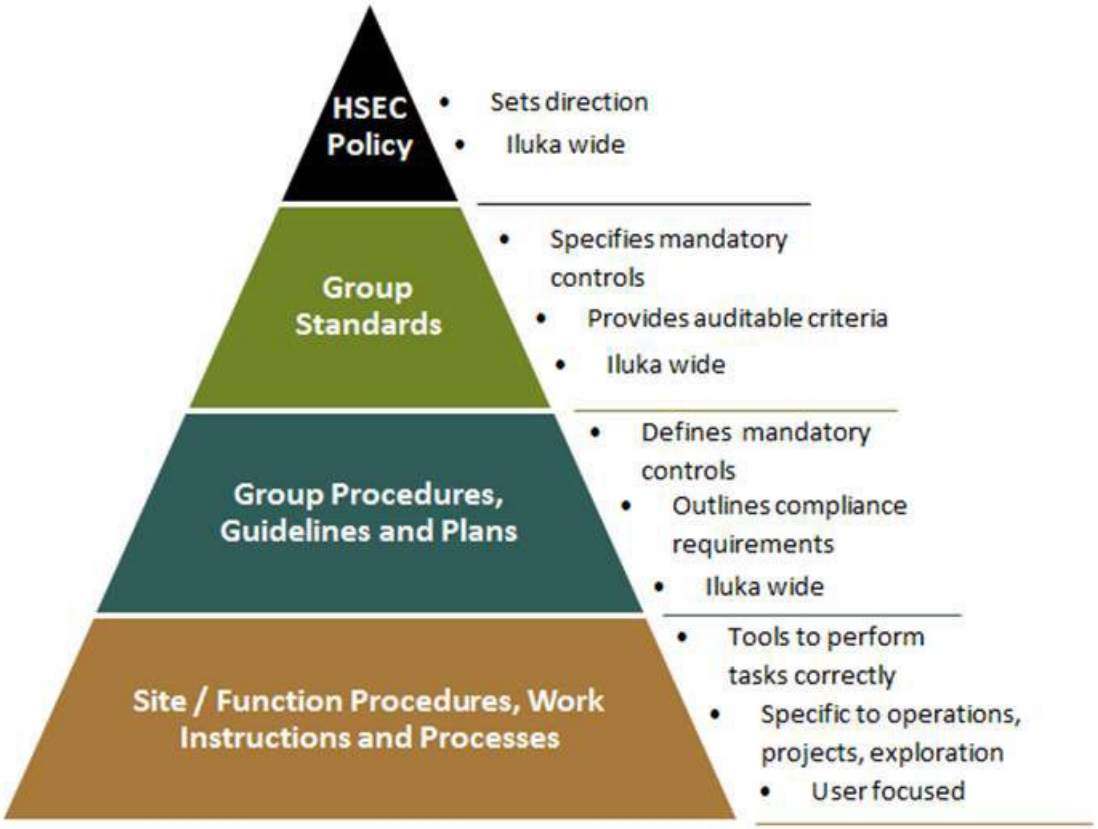

Figure 6- EMS structure

5.2. Project Environmental Management Plans

Project Environmental Management Plans (EMPs) have been developed to fulfil the relevant conditions in the NSW Development Consent (SSD-5285). Table 3 details the EMPs that have been developed for the Project.

Table 3- Summary of Environmental Management Plans required by Development Consent (SSD-5285)

Plan	Requirement
Traffic Management Plan	• Road Transport Protocol for all drivers transporting materials to and from the site. • A program to monitor the amount of mineral concentrate transported from the site and the amount of process waste returned to the site. • Focus on traffic management along the haul route. • Measures that would be implemented to address the relevant requirements in the *Code of Practice for Safe Transport of Radioactive Materials* (ARPANSA, 2001, or its latest version).
Biodiversity Management Plan	• Articulates the measures that are to be implemented to manage the remnant vegetation and fauna habitat on the site. • Articulates management measures over the subsequent 3 years for the protection of biodiversity and site improvement. • Include specific Malleefowl management and monitoring plan, including a seasonally based monitoring program to monitor and report on the effectiveness of these measures. • Include a vegetation clearance protocol.
Noise Management Plan	• Describe the measures that would be implemented to manage compliance with relevant noise criteria and operating conditions. • Include a monitoring program that uses attended noise monitoring to evaluate the compliance of the Project. • Define a noise incident and includes a protocol for notifying the DPE and any relevant stakeholders in the event of a noise incident.
Air Quality Management Plan	• Describes the measures that would be implemented to manage compliance with relevant air quality criteria and operating conditions. • Include a monitoring program that evaluates compliance of the Project and that actively supports the air quality management system. • Define an air quality incident and includes a protocol for notifying the DPE and any relevant stakeholders in the event of an air quality incident.
Water Management Plan	• Include a Site Water Balance, Surface Water Management Plan and Groundwater Management Plan which describe the baseline data, management measures and monitoring undertaken for surface and groundwater related impacts at the Project.

Plan	Requirement
Aboriginal Cultural Heritage Management Plan	• Include a Geomorphic Assessment to assist in the development of the Subsurface Archaeological Testing Program. • A Subsurface Archaeological Testing Program. • An Archaeological Salvage Program for Aboriginal sites and objects within he Project disturbance area. • Trigger Action Response Plans for the discovery of any potential human remains and unidentified Aboriginal objects or megafauna assemblages. • A Cultural Heritage Management Program for the protection of Aboriginal sites and objects and engagement with local Aboriginal stakeholders. • Include Cultural Heritage awareness training and include information on the World Heritage and National Heritage values of the Willandra Lakes Region.
Rehabilitation Management Plan	• Be prepared in accordance with the provisions under the Mining Act 1992.

5.3. Roles and responsibilities

All persons undertaking activities on the site are responsible for environmental management and are accountable for the following:

- complying with relevant legislation;
- complying with the EMS and EMPs;
- communicating any information they become aware of in relation to environmental management; and
- taking actions to prevent and mitigate environmental impacts.

To ensure the development and implementation of an effective management strategy, it is required that:

- the definition of roles and accountabilities are made, ensuring the system requirements are established, implemented and maintained in accordance with internal and external standards;
- performance of the management system is reported against pre-agreed targets and objectives;
- accountabilities are communicated and understood;
- all employees and contractors have the authority to intervene to prevent incidents;
- all employees and contractors understand their reporting relationships; and
- managers are made accountable for effective implementation of the management system in their areas of jurisdiction.

Individual accountabilities are outlined for all employees in position descriptions and annual performance development plans.

All employees and contractors within Iluka are held accountable for promoting and displaying behaviours consistent with the Iluka Plan. Table 4 defines EMS related accountabilities.

Table 4- Roles and responsibilities for Environment and Community management

Role	Accountabilities
Operations Manager	• Ensure business plans align with wider sustainability objectives and targets. • Promote a culture of accountability and risk awareness, ensuring corrective and preventive actions are completed. • Promote active participation in Environment & Community matters in general. • Provide effective resources to implement the management system within the operation / function. • Ensure overall compliance to the EMS & HSECMS within the operation / function.
Environment, Rehabilitation and Community Relations (ERCR) Superintendent	• Provide advice/support to the operation for achievement of ongoing environmental compliance. • Inform, investigate and provide advice for environmental issues, non-compliances and incidents to the Operations Manager. • Support the preparation of environmental reports in compliance with corporate and regulatory requirements.

	• Review and oversee the implementation of the EMS, EMPs and procedures in accordance with corporate and regulatory requirements. • Ensure regular review environmental risk assessments with operational team members and other stakeholders as required. • Oversee rehabilitation planning and implementation. • Respond to and report on community complaints in consultation with the Operations Manager. • Conduct internal compliance audits of applicable regulatory approvals, licences and other legislation for the project. • Liaise with government regulators and other stakeholders on environment and community matters. • Develop procedures required for effective environmental management of the operation.
Environmental Specialist	• Manage the environmental monitoring database. • Collate data and prepare written reports for environmental and community performance reporting. • Implement and review the EMS, EMPs and procedures in accordance with corporate and regulatory requirements • Assist and provide advice to the Environmental Technician in collection of environmental monitoring data. Inform the creation of procedures required for effective environmental management of the operation. • Conduct site environmental inspections and audits to identify issues and report findings to the ERCR Superintendent. • Assist in achieving compliance with regulatory requirements related to environmental management as required by the ERCR Superintendent. • Participate in the review and development of environmental risk assessments. • Conduct internal compliance audits of applicable regulatory approvals, licences and other legislation for the project and advise the ERCR Superintendent of any non-compliances. • Manage site waste removal and treatment requirements
Environmental Technician	• Conduct the environmental monitoring required by the approved EMPs for the project. • Follow procedures for environmental monitoring accurately and consistently. • Collect and record raw data accurately and consistently for all compliance monitoring. • Maintain calibration records of all equipment and ensure within manufacturers specifications. • Conduct site environmental inspections and report issues identified to ERCR Superintendent. • Assist with on ground environmental improvement works.
Rehabilitation Specialist	• Coordinate the planning and implementation of the rehabilitation in accordance with the Rehabilitation Management Plan and applicable procedures. • Coordinate the rehabilitation monitoring programs including engagement of specialised consultants. • Ensure that rehabilitation resources are managed effectively to ensure the success of the rehabilitation. • Prepare rehabilitation related documents and maintain the spatial data base

	• Liaise with government regulators and other stakeholders on all rehabilitation matters.
Site Employees and Contractors	• Understand and comply with the Iluka EMS, HSEC policy and supporting standards • Accept accountability to ensure personal safety and the health and safety of others, and protect the environment • Identify, assess and control risks prior to undertaking any activity • Actively challenge or refuse to work in unsafe conditions or where unacceptable impact to the environment or community may occur • Intervene to prevent incidents • Actively participate in HSEC meetings, initiatives, risk assessments and monitoring programs • Report all incidents and near hits immediately • Correct or isolate hazardous situations in the workplace • Understand and follow the local emergency procedures • Comply with and suggest improvements to site documentation, processes and procedures

5.4. Training and awareness

Iluka have a standard for training and awareness *(Group Standard 3:Training and Awareness)* to ensure employees and contractors are appropriately trained and are competent to perform their work.

Inductions (excluding visitor induction) shall be undertaken every two years or more frequently as required. The Iluka induction and a Project specific induction shall be undertaken prior to commencement of works.

Processes and procedures are developed and implemented by the operation to identify, prioritise and plan the fulfilment of training needs commensurate with HSEC risks. Processes shall include (at a minimum):

- development of a training needs analysis, including the identification of training needs for all employees and contractors within the area, operations, Project or function;
- delivery of training and maintaining currency;
- methods and criteria for the determination of competency; considering training, education, skills and experience; and
- evaluation of the effectiveness of training processes and programs.

Training attendance, inductions and competency shall be recorded. Employee and contractor records shall be maintained and attendance recorded in the Iluka Training Management System.

Iluka maintain a training platform , which requires employees to undertake specific training programs periodically.

5.5. Communication

5.5.1. Internal communication

Internal communication relating to Environment and Community information may take the form of memoranda, email, the intranet, site notices, notice boards, site entrance boards, incident alerts, newsletters and general discussions. Scheduled or unscheduled meetings and workshops also facilitate the communication of sustainability related issues. Meetings may include daily pre-shift or pre-start, HSEC Committees, management teams or periodic HSEC meetings. Records of such meetings are retained.

5.5.2. External communication

In accordance with Schedule 5, Condition 10 of NSW Development Consent (SSD-5285), the Iluka website will be maintained as a tool for the provision of information to stakeholders and interested parties about the environmental and community performance of the Project. The following information will be made available on the Iluka website:

- the EIS;
- current statutory approvals for the development;
- approved strategies, plans or programs required under the conditions of this consent;
- a comprehensive summary of the monitoring results of the development, which have been reported in accordance with the various plans and programs approved under the conditions of this consent;
- a complaints register, which is to be updated on a monthly basis;
- minutes of meetings of the Aboriginal Cultural Heritage Working Group;
- any independent environmental audit, and the Applicant's response to the recommendations in any audit; and
- any other matter required by the Secretary

Information available on the Iluka website will kept up to date to the satisfaction of the Secretary of the DPE.

Stakeholder engagement is also managed in accordance with Iluka's Social Management Plan

Engagement with stakeholders should be conducted in a meaningful, transparent, collaborative and consistent manner. External stakeholder interactions are recorded in Iluka's database to ensure a record of stakeholder interactions is maintained for the life of the operation.

5.6. Complaints management

Iluka will maintain an enquiries and community complaints hotline for the Balranald Project (Phone 1800 305 993 or email balranald.community@iluka.com). The community hotline will be publicly advertised on the Iluka website Balranald engagement hub.

Community complaints will be managed in accordance with Iluka's Social Management Plan and Social Performance standard *(Group Standard 02 – Social Performance)*.

Iluka's Social Management Plan for the Balranald operation provides additional requirements regarding stakeholder engagement and consultation.

In the event a complaint or inquiry is made by an external party the nominated Iluka employee (dependent on the nature of the complaint) will be directed on the course of action in consultation with the Senior Manager.

A record of the event will be entered into the HSEC electronic management system. Any actions arising from the event will be tracked to ensure the event is dealt with appropriately.

Community inquires and complaints will be recorded. The following information will be captured:

- the date and time ;
- the method by which the complaint or inquiry was made;
- any personal details of the complainant if provided;
- the nature of the complaint or inquiry;
- the action taken by Iluka in relation to the complaint or inquiry, including any follow-up contact with the proponent; and
- if no action was taken by Iluka, the reasons why no action was taken.

The record will be kept for at least 4 years.

The Social Management Plan includes a grievance resolution process to enable Iluka to respond appropriately and respectfully to any issues raised by stakeholders (including internal stakeholders). The grievance resolution process is summarised in Figure 7.

A complaints register is available on the Iluka community engagement hub websitehttps://www.iluka.com/engage/balranald and kept up to date on a monthly basis.

A record of any complaints received during each calendar year will be reported in the Annual Review.

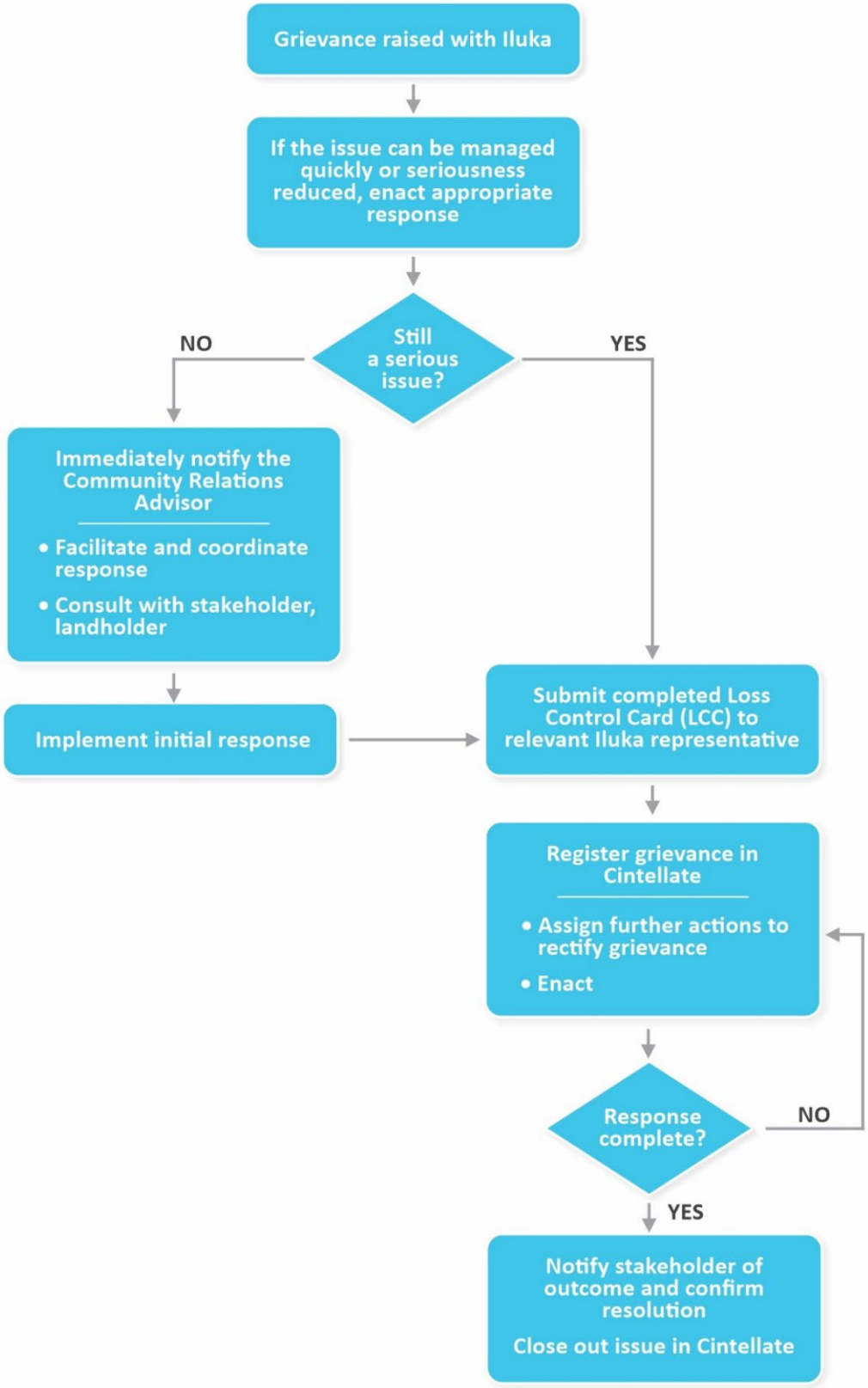

Figure 7- Summary of grievance resolution process

5.6.1. Dispute resolution

In the event of a disagreement between Iluka and a member of the community, the nominated Iluka employee (dependent on the nature of the complaint) will be directed on the course of action in consultation with the Senior Manager. Iluka will undertake the liaison to reach a resolution. Should resolution of the dispute not be reached through this primary process, either party may refer the matter to the Secretary of the DPE for resolution.

A flow diagram summarising the dispute resolution process is presented in Figure 8.

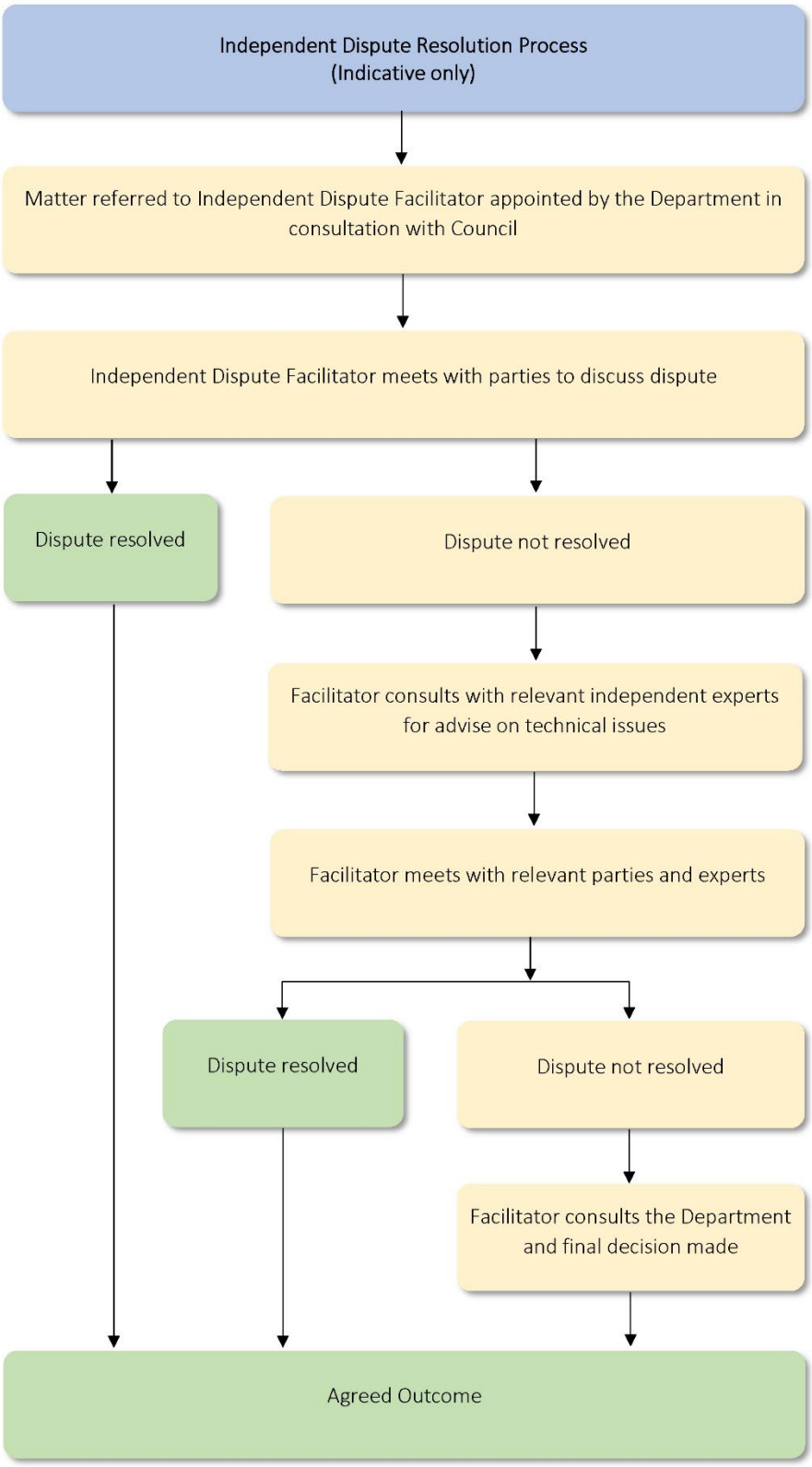

Figure 8- Dispute resolution flow chart

5.7. Environmental emergencies

Iluka will maintain a Pollution Incident Response Management Plan (PIRMP) for the Project in accordance with Condition R1.1 of Environment Protection Licence 20795. The PIRMP outlines the process for responding to environmental emergencies in a timely and effective manner and adopting appropriate measures for the control and recovery from emergencies. Where appropriate, environmental emergency response procedures will be integrated with the Balranald Emergency Control and Response Plan.

A Radiation Management Plan (RMP) will also be maintained for the Project to identify, describe, control and monitor radiation exposure, and the management of naturally occurring radioactive material (NORM) arising from activities at the site.

Preparedness for emergencies by staff, personnel, contractors and service providers will be undertaken in accordance with on-site training requirements whereby personnel will be appropriately trained in the use of emergency response equipment and procedures, and will be made aware of their responsibilities should such an event occur. A list of external agencies that may be required in the event of an emergency is presented in Table 5.

On detection of an actual or potential environmental incident which may endanger personnel, property or the environment Iluka shall:

- alert the Iluka area supervisor to the location and nature of the emergency
- control and/or contain any release to the environment if safe to do so;
- evacuate all personnel to the nearest muster point if there is threat to human health and ensure all personnel are accounted for;
- ensure the emergency is responded to;
- notify the site Emergency Response team and/or Emergency Services as required;
- handover control to the site Emergency Response team and/or Emergency Services on arrival and assist as directed;
- Initiate clean up and recovery; and
- hold an emergency response debrief

Reporting of incidents will be undertaken in accordance with the protocol outlined in Section 5.12.

Table 5- External agency contact details

Name	Contact details	Location
Police	000 03 5898 4980	Balranald
Ambulance	000	Balranald
NSW Rural Fire Service	000	Balranald
Fire and Rescue NSW	000 03 5020 1577	Balranald
Hospitals	03 5071 9800	Balranald Multi-Purpose Health Service

Name	Contact details	Location
	03 5033 9300	Swan Hill District Hospital (emergency)
	03 5022 3333	Mildura Base Hospital (emergency)
NSW State Emergency Service	13 25 00	www.ses.nsw.gov.au
NSW Poisons Information Centre	13 11 26 (24-hour hotline)	www.poisonsinfo.nsw.gov.au
NSW Environment Protection Authority(EPA)	13 15 55	www.epa.nsw.gov.au
NSW Resources and Energy – ResourcesRegulator	1300 814 609	www.resourcesregulator.nsw.gov.au
SafeWork NSW	13 10 50	www.safework.nsw.gov.au
Balranald Shire Council	03 5020 1300	Balranald

5.8. Measurement and evaluation

Measurement and evaluation is an integral process to assess environment and community performance for continual improvement and to maintain a social license to operate. Regular monitoring and evaluation is required to check that:

- harm to the environment and community from activities is minimised as far as reasonably practicable;
- any limits, criteria and/or performance measures set for the Project are not being exceeded;
- the Project is operating in accordance with relevant approvals, licenses and leases;
- monitoring is being conducted in accordance with the relevant approved management plans and applicable legislation;
- mitigation measures adopted to control risks to the environment and community are effective; and
- the EMS and related documentation continues to be suitable and effective.

5.8.1. Environmental monitoring

Environmental monitoring is conducted in accordance with the approved EMPs by competent Iluka personnel or by suitably qualified consultants.

Monitoring for all parameters nominated in NSW Development Consent (SSD-5285) are comprehensively addressed within the aspect specific EMPs developed to successfully manage each key issue identified.

A summary of the environmental monitoring that is to be undertaken is provided in Appendix C and monitoring locations are shown in Figure 9.

The requirements of EMPs, strategies and programs which have been prepared in accordance with NSW Development Consent (SSD-5285) are summarised in Table 3.

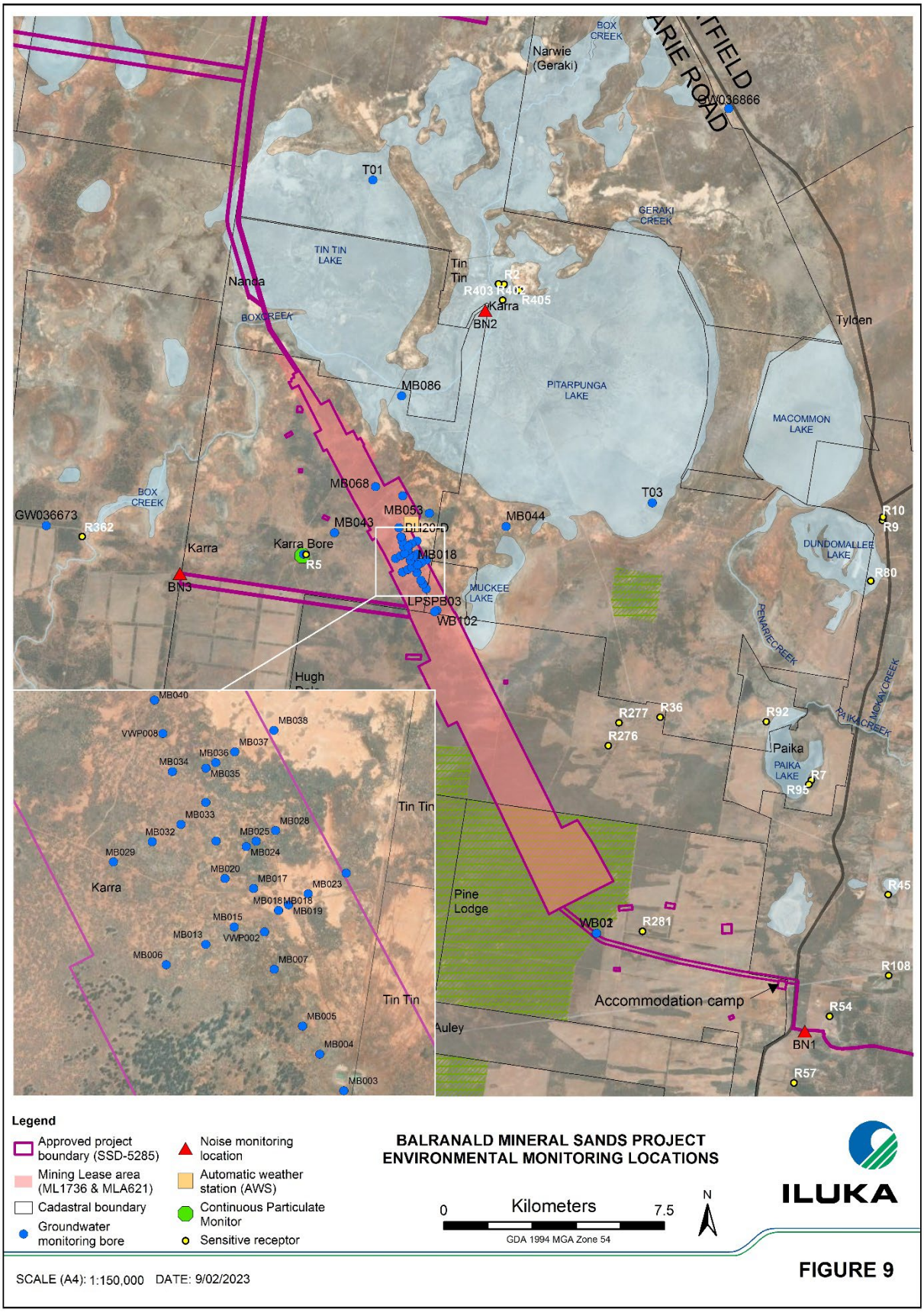

Figure 9- Monitoring locations

5.9. Reporting

In accordance with Schedule 5, Condition 3 of NSW Development Consent (SSD-5285), Iluka has developed protocols for managing and reporting the following:

- incidents;
- complaints;
- non-compliances with statutory requirements; and
- exceedances of the impact assessment criteria and/or performance criteria.

Environmental reporting requirements including timing, submission and distribution methods are summarised in Table 6.

In accordance with Schedule 5, Condition 7 of NSW Development Consent (SSD-5285), Iluka will provide regular reporting on the environment and community performance of the Project on the Iluka website community engagement hub (https://iluka.com/engage/balranald).

Table 6- Statutory reporting requirements

Report	Frequency	Distribution	Distribution Method
Incident Report	Notification as soon as is reasonably practicable when becoming aware and reported via DPE Major Projects Portal.	DPE and any relevant agencies	DPE Portal
Annual Review	Annually by 31 March each year.	DPE and any relevant agencies	DPE Portal/Iluka website
Annual Return	Annually by 8 August (60 days from end of reporting period)	NSW EPA	eConnect EPA/Iluka website
Independent Environmental Audit Report	Every 3 years (Commencing within 1 year of the commencement of construction)	DPE	DPE Portal/Iluka website
Annual Rehabilitation Report & Forward Program	Annually by 1 March (60 days from end of reporting period)	NSW Resources Regulator	Regulator Portal/DPE Portal

5.10. Evaluation of compliance

Compliance for the operation is to be achieved by:

- adherence to conditions of the Development Consent, EPA Licence, Mining Lease conditions and corporate policies;
- annual compliance reporting in the Annual Review;
- review of the EMPs within 3 months of an Annual Review, a reported incident, an Independent Environmental Audit or modifications to the conditions of the Consent;
- regular compliance auditing (both internal and external)
- revision of risk assessments periodically or after an incident or a new hazard is identified;
- identification of performance against criteria and/or performance measures; and
- implementation of corrective measures to rectify a non-compliance or performance issue.

Compliance with all approvals, plans and procedures will be the responsibility of all personnel (staff and contractors) employed on or in association with the site.

Iluka maintains an electronic database system for the management of obligations, stakeholder interactions and compliance monitoring. Each compliance source and its associated obligations are periodically audited for compliance by the responsible person. Actions can be assigned to any obligation to ensure compliance is met, automatic email alerts prompt the actioners to undertake the required tasks.

Iluka also maintains an electronic database system for the storage and management of environmental monitoring data. Compliance reports can be generated from the database and compared against known performance criteria or trigger levels. Monitoring schedules and alerts can be setup to notify environmental staff of required monitoring events.

Iluka will undertake scheduled environmental inspections of work areas to identify environmental hazards, which are reported and managed via Iluka's inspection management system, and recorded electronically..

5.11. Non-compliance

In accordance with Schedule 5, Condition 2 of the Consent, over the life of the operation, Iluka will assess and manage risks to ensure that there are no exceedances of the criteria and/or performance measures outlined in Schedule 3 of NSW Development Consent (SSD-5285).

Where any exceedance of these criteria and/or performance measures occurs, as soon as practicable Iluka will:

- take all reasonable and feasible measures to ensure that the exceedance ceases and does not recur;
- consider all reasonable and feasible options for remediation and a submit a report to the DPE describing these options and preferred remediation measures or other course of action; and
- implement remediation measures as directed by the Secretary of the DPE.

In accordance with Schedule 5, Condition 6A of the Consent, non-compliances will be reported to DPE within seven (7) days of becoming aware of the non-compliance. Notification will be in writing via the Departments Major Projects Website and detail the reasons for the non-compliance and what actions have been, or will be, undertaken to address the non-compliance.

As described in Section 5.11, any non-compliances identified during the previous calendar year will be reported in the Annual Review. The Annual Review will also outline the actions which were, or are being undertaken to manage future compliance.

An Independent Environmental Audit report will assess the environmental performance of the Project and assess whether it is in compliance with the requirements of NSW Development Consent (SSD-5285) (Section 5.14).

Iluka may also raise an internal incident for a non-compliance shall the non-compliance be classified as an incident according to Iluka's hazard, incident and emergency classification guideline *(Group Guideline-Hazard, Incident & Emergency Classification GUI1135).*

5.12. Incidents

5.12.1. Internal reporting

Internal environmental incidents are managed in accordance with the Balranald Environment, Health & Safety Plan. An event reporting system is used for reporting hazards and incidents either by completing a hardcopy or entering directly electronically as soon as possible.

An investigation will be conducted where required in accordance with the Iluka incident and hazard classification guideline. This guideline specifies when and what level of investigation is required and provides business templates to complete these processes to Iluka standards.

Investigations on incidents shall be facilitated by an appropriately qualified and trained Iluka representative.

Incident alerts are issued and distributed through Iluka to raise awareness to a particular issue and to ensure the necessary corrective and preventive controls can be put in place. Incident alerts are emailed to all Iluka employees and will be provided to contractor workgroups.

5.12.2. External reporting

An incident is defined as a set of circumstances that causes or threatens to cause material harm to the environment, and/or breaches or exceeds the limits or performance measures/criteria in NSW Development Consent (SSD-5285).

Following the Group Guideline -Hazard Incident Emergency Classification (GUI1135), incidents of serious actual or potential consequence must be immediately notified to the Environment, Rehabilitation and Community Relations (ERCR) Superintendent and Operations Manager or their delegate.

The ERCR Superintendent (or equivalent environment representative) shall then:

- Advise the Operations Manager if the incident is a 'notifiable incident' for notification to a Regulator.
- Consult with the Operations Manager or their delegate and the Environment Manager to agree on incident classification and notification requirements.

- Complete the notification within the required timeframes.

The reporting of incidents will be conducted in accordance with Schedule 5, Condition 6 of NSW Development Consent (SSD-5285) and in accordance with the protocol for industry notification of pollution incidents under Part 5.7 of the Protection of the *Environment Operations Act, 1997*.

Iluka will as soon as is reasonably practicable notify the Department and any other relevant agencies after the authorised person becomes aware of the incident and set out the location and nature of the incident. The DPE can be notified of incidents via the Major Projects Website https://pp.planningportal.nsw.gov.au/major-Projects and the NSW EPA can be notified by telephoning the hotline on **131 555.**

The incident report will:

- describe the date, time and nature of the exceedance/incident;
- identify the cause (or likely cause) of the exceedance/incident;
- describe what action has been taken to date; and
- describe the proposed measures to address the exceedance/incident.

5.13. Review

5.13.1. Review and update of the EMS and EMPs

In accordance with Schedule 5, Condition 5 of Development Consent (SSD-5285), the EMS and EMPs will be reviewed within 3 months of the submission of:

- the Annual Review;
- a reportable incident;
- an Independent Environmental Audit; and
- any modification to the conditions of the Consent.

Where the review leads to revisions in any document, a revised document will be submitted to the Secretary of the DPE within 4 weeks of the revision occurring.

5.13.2. Annual Review

In accordance with Schedule 5, Condition 4 of Development Consent (SSD-5285), by 31 March each year, Iluka will submit an annual review reporting on the environmental performance of the development for the previous calendar year to DPE.

The Annual Review will:

- describe the Project (including any rehabilitation) that was carried out in the past year, and the development that is proposed to be carried out over the next year;
- include a comprehensive review of the monitoring results and complaints records of the Project over the past year, which includes a comparison of these results against the relevant statutory

requirements, limits or performance measures/criteria, monitoring results of previous years, and relevant predictions in the EIS;

- identify any non-compliances over the past year, and describe what actions were (or are being) taken to manage compliance;
- identify any trends in monitoring data over the life of the Project;
- identify any discrepancies between the predicted and actual impacts of the Project, and analyse the potential cause of any significant discrepancies; and
- describe what measures will be implemented over the next year to improve the environmental performance of the Project.

The Annual Review will be made publicly available on the Iluka website in accordance with Schedule 5, Condition 10 of Development Consent (SSD-5285).

5.14. Independent Environmental Audit

Within 1 year of the commencement of construction and every three years thereafter, a full Independent Environmental Audit will be undertaken, as required by Schedule 5, Condition 8 of NSW Development Consent (SSD-5285). The Independent Environmental Audit will include consultation with all relevant agencies and will be conducted by a suitably qualified experienced and independent team of experts whose appointment has been endorsed by the Secretary of the DPE.

The Independent Environmental Audit will:

- assess the environmental performance of the Project and assess whether it complies with the requirements of all relevant approvals;
- review the adequacy of any approved strategy, plan or program required under all relevant approvals; and
- recommend measures or actions to improve the environmental performance of the Project and/or any strategies, plans or programs required under the relevant approvals.

A copy of the Independent Environmental Audit along with the response to any recommendations contained in the audit report, will be provided to the Secretary of the DPE and made available on the Iluka website.

Appendix A- Group Standard 7: Environmental Management

ILUKA

1. Objective

Activities are conducted in such a way that adverse impacts on existing and potential environmental values, including ecosystem function, abundance, diversity, distribution, integrity and productivity are understood and minimised.

2. Requirements

2.1. Identify

7.1 Environmental aspects and impacts (risks) shall be identified, assessed and controlled. The identification of environmental risks shall include consideration of routine, abnormal and emergency operating conditions. Each stage during exploration, construction, commissioning, operations and decommissioning shall be considered. Identified risks shall be incorporated into risk registers (refer Risk Group Standard – Risk Assessments,STD559, and Group Standard 1 – Risk and Hazard Management).

7.2 Determination of environmental risks shall consider, at a minimum, impacts to air quality, flora, fauna, land and soil, noise, waste, use of natural resources, land access and use, heritage, visual amenity, sediment, groundwater and surface water.

7.3 Environmental obligations and commitments (including licences, permits and tenement conditions) shall be identified, recorded, maintained in the form of an obligations and commitments register and communicated to relevant stakeholders (refer to Group Standard 14 – Audit and Assurance).

7.4 Measurable environmental objectives and targets shall be established, managed and communicated commensurate with the level of environmental risk and aligned to the HSEC policy. Programs shall be developed and implemented specifying actions, timeframes and responsibilities for achieving environmental objectives and targets.

7.5 Employees and contractors involved in preparing, coordinating or managing environmental management plans or procedures shall be trained and competent (refer to Group Standard 3 – Training and Awareness).

7.6 Strategies and schedules for obtaining relevant environmental approvals shall be developed and implemented. Relevant approvals shall be obtained for all new or modified projects prior to commencement of activities (ground disturbance). Learnings and recommendations from previous projects shall be considered.

2.2. Assess

7.7 Baseline environmental studies (including assessment of impacts) shall be undertaken commensurate with environmental risks relevant to the site or project.

7.8 Change management processes shall be implemented to ensure proposed modifications are assessed against current approvals and conditions to determine if new or amended approvals are required (refer to Engineering Technical Standard 14 – Change Management, STD4409).

7.9 Employees and contractors shall be trained and competent in the identification of environmental risks, identification of when change management processes should be implemented, the assessment of environmental risk and the identification and classification of environmental incidents (refer to Group Standard 3 – Training and Awareness and Group Standard 12 – Incident Reporting and Investigation). Processes shall be developed and implemented to ensure employees and contractors are aware of environmental risks associated with their work.

2.3. Control

Environmental management plans shall be developed, communicated and implemented for significant environmental risks (refer to Group Standard 1 – Risk and Hazard Management); and include (at a minimum):

7.10
- objectives, targets and timeframes;
- control measures (according to the hierarchy of control);
- monitoring, including compliance requirements, limits and/ or trigger levels; and
- roles and responsibilities.

7.11 An environmental monitoring program based on up to date risk assessments and compliant with regulatory requirements shall be developed and implemented.

7.12 Environmental monitoring procedures shall be designed to ensure that monitoring data enable scientifically defendable and statistically valid conclusions.

7.13 Employees and contractors involved in coordinating and collecting environmental monitoring data shall be trained and competent in equipment calibration, storage and use of equipment, sample collection and interpretation of results.

7.14 Environmental monitoring samples shall be collected in accordance with recognised standards applicable in the jurisdiction.

7.15 Incidents involving exceedances of defined limits shall be raised and reported in the Iluka Incident Data Management System (Cintellate) (refer to Group Standard 12 – Incident Reporting and Investigation).

7.16 Environmental monitoring data shall be entered and maintained in the Iluka Environmental Data Management System (Monitor Pro).

2.4. Review

7.17 Risk assessments shall be reviewed annually (at a minimum) and environmental management plans updated if necessary (refer to Group Standard 1 – Risk and Hazard Management).

7.18 Processes shall be developed and implemented by sites, projects or functions to test the effectiveness of risk controls, management plans and associated actions. Outcomes shall be monitored and compared against assessments to validate predictions or provide information for use in future approvals.

3. Revision and document control

Iluka Group Standards are reviewed every 3 years. If required, they are revised and reissued in accordance with Iluka information management standards.

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Related documents:	HSEC Management System Framework HSEC Group Standard 01 - Risk & Hazard Management HSEC Group Standard 14 - Audit & Assurance HSEC Group Standard 03 - Training & Awareness HSEC Group Standard 12- Incident Reporting & Investigation HSEC Group Standard 13 - Rehabilitation & Closure Engineering Technical Standard 014: Change Management		

Appendix B- Iluka's HSEC Policy

Health, Safety, Environment & Community Policy

ILUKA

Within Iluka we believe that maintaining high levels of performance and pursuing leading practice in the areas of health, safety, environment and community reflects our values of acting with Integrity, demonstrating Respect, and taking Accountability.

We will:

- protect the health and safety of our people by identifying and taking appropriate action to mitigate workplace fatalities, injuries and illnesses;
- assess and manage the people, environment and community risks associated with our activities;
- engage early, inclusively and meaningfully, and incorporate stakeholder views into our decision-making processes;
- seek to make a positive difference to the social and economic development of the areas in which we operate;
- acknowledge and respect the histories, cultures, customs and values of indigenous people and communities where we operate;
- develop effective and timely plans for the cessation of operations, rehabilitation and relinquishment of mined areas;
- use resources efficiently, in particular energy, water and land;
- maintain a product stewardship approach towards the use of our products;
- comply with all legislative requirements, which we recognise as the minimum standard;
- set clear, achievable and measurable performance targets;
- seek to continuously improve performance;
- maintain a HSEC management system covering all areas of the business; and
- provide appropriate HSEC training to our people.

Tom O'Leary
Managing Director
June 2020

Appendix C- Environmental Monitoring Plan

Aspect	Management Plan/Program	Monitoring Type/Parameters	Frequency	Monitoring Locations
Air Quality	Air Quality Management Plan	Continuous Particulate Monitor (PM10, PM2.5)	24 hours continual	CPM1: Karra
Noise	Noise Management Plan	Attended noise monitoring (LAeq 15min)	Quarterly (day, evening, night)	BN1: Ivanhoe Rd; BN2: Burke and Wills Rd; BN3: Cringadale/Karra boundary
Meteorology	Air Quality Management Plan	Rainfall, humidity, solar radiation, wind speed, wind direction and temperature.	Continuous	AWS: Site Weather Station
Pests and Weeds	Biodiversity Management Plan	Vertebrate pests, noxious weeds, environmental weeds	Bi-annually and opportunistic	Project approval area and surrounding property under control of Iluka.
Threatened Species	Biodiversity Management Plan	Identification of Malleefowl mounds and tree hollows within Corben Long-eared Bat habitat.	Prior to vegetation clearance (Malleefowl mounds between Sep-Feb)	Specific habitat as mapped in Biodiversity Management Plan
Erosion and Sediment	Water Management Plan	Visual inspection for soil erosion and sediment	Monthly or after 10mm rain event (over 24-hours)	Sediment control structures; stockpiles; landforms and dams
Process Water	Water Management Plan	Quality (pH, EC, ORP, temp, major ions, alkalinity, acidity, dissolved metals, PAX, radionuclides)	Monthly	Process water dam; Sand tails stockpile sump; HBF tank; PAX destruction ponds; slimes pond; site runoff dams
Groundwater	Water Management Plan	Level (Manual Dips and loggers); Pressure (Vibrating wire piezometer); Flow rate(magnetic flow meters) and Quality (pH, EC, ORP, temp, Major ions, alkalinity, acidity, dissolved metals, PAX)	Level- Quarterly (Regional bores) Quality- Annually (Regional bores) Level- Monthly (Near mining bores) Quality- Monthly (Near mining bores) Radionuclides- Annually (Near mining bores)	**Regional Bores**- Karra Bore; T01; GW036673; GW036866; WB01; WB02; LPSPB03; T03; **[1]Near Mining Bores-** MB005; MB007; VWP001; VWP002; MB015; MB017; VWP003; MB018; MB020; VWP004; MB024; VWP005; MB031; VWP006; MB033; MB034; VWP007; MB035; VWP008; MB040; VWP009; MB003; MB004; MB006; MB013; MB016; MB019; MB023;

Aspect	Management Plan/Program	Monitoring Type/Parameters	Frequency	Monitoring Locations
				MB024; MB025; MB028; MB029; MB032; MB036; MB038; MB063; MB037; WB102; MB043; MB044; MB053; MB068; MB086; BH20-D
Chemical and Hydrocarbon	Water Management Plan	Routine inspection (spills, leaks, integrity, spill response equipment)	Monthly	Chemical and Hydrocarbon storage areas
Waste Water	Water Management Plan	Routine inspection (spills, leaks, general operating condition)	Daily	Sewage Treatment Plant (STP)
Subsidence	Subsidence Management Plan	Survey (height, volume)	Biannual	Underground mining areas
Rehabilitation	Rehabilitation Management Plan	Ecology monitoring	Annually	Rehabilitation and analogue sites
Radiation	Radiation Management Plan	Gamma survey (µSv/h)	Quarterly	Mineral stockpiles and processing areas

[1] Groundwater monitoring bores to be installed using an adaptive monitoring approach in accordance with the Groundwater Management Plan. Additional monitoring bores will be required as the mining location progresses.