



**Licence Number** L5425/1989/11

**Licence Holder** Iluka Resources Ltd  
**ACN** 008 675 018

**File Number:** DER2016/001500

**Premises** Narngulu Mineral Separation Plant  
249 Goulds Road  
NARNGULU WA 6532

Legal description –  
Lot 2 on Plan 11238 and Lot 202 on Plan 59617

**Date of Amendment** 01 October 2019

## Amendment

The Chief Executive Officer (CEO) of the Department of Water and Environmental Regulation (DWER) has amended the above Licence in accordance with section 59 of the *Environmental Protection Act 1986* (EP Act), as set out in this Amendment Notice. This Amendment Notice constitutes written notice of the amendment in accordance with section 59B(9) of the EP Act.

**Tim Gentle**

**MANAGER, RESOURCE INDUSTRIES  
REGULATORY SERVICES**

an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA).

# Definitions and interpretation

## Definitions

In this Notice, the terms in Table 1 have the meanings defined.

**Table 1: Definitions**

Term	Definition
ACN	Australian Company Number
Amendment Notice / Notice	refers to this document
CEO	means Chief Executive Officer CEO for the purposes of notification means: Director General Department Administering the <i>Environmental Protection Act 1986</i> Locked Bag 10 JOONDALUP DC WA 6919 <a href="mailto:info@dwer.wa.gov.au">info@dwer.wa.gov.au</a>
Condition	refers to a condition to which this Notice is subject under section 62 of the EP Act
Delegated Officer	an officer under section 20 of the EP Act
DWER	Department of Water and Environmental Regulation
EP Act	<i>Environmental Protection Act 1986</i> (WA)
Existing Licence	refers to the Licence issued under Part V, Division 3 of the EP Act and in force prior to this amendment
HMC	Heavy Mineral Concentrate
Licence Holder	as specified at the front of this Notice
MSP	Mineral Separation Plant
NHMC	Non-magnetic heavy mineral concentrate
NORM	Naturally Occurring Radioactive Material
ZWC	Zircon Wet Circuit

## Amendment Notice

This amendment is made pursuant to section 59 of the EP Act to amend the Existing Licence issued under the EP Act for a prescribed premises as set out below. This Notice is given under section 59B(9) of the EP Act.

This Notice is limited to changes to authorise operation of the barite removal circuit which was recently constructed under Works Approval W6215/2019/1. No changes have been made to other aspects of the Existing Licence.

The guidance statements which have informed the decision made on this amendment are listed in Appendix 1.

## Amendment description

This Notice is the result of an application by the Licence Holder to authorise operation of the newly constructed barite removal circuit on the Existing Licence.

The barite removal circuit is an additional mineral separation circuit that will remove naturally occurring barite (barium sulfate – BaSO<sub>4</sub>) – a by-product contained within the non-magnetic

heavy mineral concentrate (NHMC) sourced from the company's new Cataby mine – from the more valuable zircon. It comprises a flotation circuit that exploits the differences in surface chemistry of barite and zircon to separate them from each other, and has been constructed within the existing Plant 1 Zircon Wet Circuit (ZWC) building.

The process will generate two new waste streams, being a process water stream ('Stream 17') and the barite by-product ('Stream 13'). The process water stream will be combined with the existing mineral separation plant (MSP) process water stream and report to the MSP process water dams, while the barite by-product will report to the existing ZWC tails stream and be stored within an existing tails stockpile area to the north of the MSP for potential reprocessing.

A separate stockpile pad has also been constructed for storing Cataby NHMC, separate from other HMC stockpiles.

## Amendment history

Instrument	Issued	Amendment
L5425/1989/10	23/08/2007	Licence renewed – issued for 5 years
L5425/1989/11	31/08/2012	Licence renewed – issued for 5 years
L5425/1989/11	20/06/2017	Amendment Notice 1 – extend expiry date by 12 months
L5425/1989/11	19/03/2018	Amendment Notice 2 – approval to dispose asbestos-contaminated material and NORM in the historic Jennings landfill area
L5425/1989/11	17/07/2018	Amendment Notice 3 – extend expiry date by 12 months
W6215/2019/1	12/03/2019	Works approval to construct a barite removal circuit
L5425/1989/11	23/08/2019	Amendment Notice 4 – extend expiry date by 12 months
L5425/1989/11	01/10/2019	Amendment Notice 5 – approval to operate the barite removal circuit (this Notice)

## Decision

A compliance report was submitted with this Application to certify the constructed works. DWER has reviewed this report and is satisfied it meets the requirements of condition 3 of the works approval. Minor departures regarding the location of the 'collector' storage and mixing area, and the location and size of the delineation windrow of the Cataby NHMC stockpile pad, have been noted by the Delegated Officer and are not considered to alter the material risk of those aspects of the project.

The risk assessment relating to operation of the barite removal circuit is documented within the decision report for the works approval (W6215/2019/1). As the circuit and associated infrastructure has been constructed in accordance with the works approval and is deemed fit for purpose, the Delegated Officer considers there has been no change to the risk profile of the Premises, and has determined to amend the Existing Licence to allow for its operation.

The Delegated Officer also notes a structured review of the Premises in accordance with DWER's risk-based regulatory framework has been pending since 2017. DWER is considering the best approach to address this, which is likely to involve a co-ordinated review of both the MSP and adjacent synthetic rutile (SR) plant site, and potential relinquishment of the SR plant licence (L6129).

## Amendment

1. The 'Premises map' at Attachment 2 of the Existing Licence is replaced by the 'Premises map' in Schedule 2 of this Notice.
2. The definitions of the Existing Licence is amended by the deletion of the definitions shown in strikethrough below and the insertion of the definitions shown in red underline below:

"Cataby NHMC" means non-magnetic heavy mineral concentrate (NHMC) sourced from the Cataby Mineral Sands Mine, and includes NHMC by-product from the North Capel Mineral Separation Plant;

"Director" or "Department of Environment and Conservation" for the purpose of correspondence means:

~~Regional Leader Industry Regulation  
Department of Environment and Conservation  
PO Box 72 Telephone: (08) 9921 5955  
Geraldton WA 6531 Facsimile: (08) 9964 0948;~~

Director General  
Department Administering the Environmental Protection Act 1986  
Locked Bag 10  
JOONDALUP DC WA 6919  
info@dwer.wa.gov.au

"Discharge" has the same meaning given to that term under the EP Act;

"Emission" has the same meaning given to that term under the EP Act;

"Environmental Harm" has the same meaning given to that term under the EP Act;

"Implementation Agreement or Decision" has the same meaning given to that term under the EP Act;

"Licence Holder" means the occupier of the premises, being the person to whom this licence has been granted, as specified at the front of this Notice;

"Material Environmental Harm" has the same meaning given to that term under the EP Act;

"Pollution" has the same meaning given to that term under the EP Act;

"Serious Environmental Harm" has the same meaning given to that term under the EP Act;

"Unreasonable Emission" has the same meaning given to that term under the EP Act;

"Waste" has the same meaning given to that term under the EP Act;

3. The Existing Licence is amended by the insertion of the following Conditions:

### **Infrastructure and equipment**

G4 The Licence Holder must ensure the infrastructure and equipment specified in Column 1 of Table 1 is maintained in good working order and operated in accordance with the requirements specified in Column 2 of Table 1.

<b>Table 1: Infrastructure and equipment controls table</b>	
<b>Column 1</b>	<b>Column 2</b>
<b>Infrastructure/ Equipment</b>	<b>Description and operational requirements</b>
Barite wet circuit	<ul style="list-style-type: none"><li>• Design capacity: 20.8 tonnes per hour</li></ul>
Cataby NHMC storage pad	<ul style="list-style-type: none"><li>• Constructed with compacted soil or similar;</li><li>• Pad must be sloped to allow the collection of surface water runoff</li></ul>
Collector storage and mixing area	<ul style="list-style-type: none"><li>• None specified</li></ul>

## Emissions (general)

G5 The Licence Holder must not cause any Emissions except for specified Emissions and general Emissions described in Column 1 of Table 2, and subject to the exclusions, limitations or requirements specified in Column 2 of Table 2.

<b>Table 2: Authorised Emissions table</b>	
<b>Column 1</b>	<b>Column 2</b>
<b>Emission type</b>	<b>Exclusions/Limitations/Requirements</b>
<b>Specified Emissions</b>	
Washplant wastewater (from washing Cataby NHMC)	Must be: <ul style="list-style-type: none"> <li>Recycled within the MSP process; or</li> <li>Discharged into the existing SD8 dam at the adjacent synthetic rutile plant site</li> </ul>
Process water bleed from flotation circuit (Stream 17)	Must be discharged to existing MSP process water dams
Barite by-product (Stream 13)	Storage permitted within the existing tails stockpile area, pending future processing or off-site disposal
<b>General Emissions</b>	
Emissions which arise from the Primary Activities set out in Schedule 1	Emissions excluded from General Emissions are: <ul style="list-style-type: none"> <li>Unreasonable Emissions; or</li> <li>Emissions that result in, or are likely to result in, Pollution, Material Environmental Harm or Serious Environmental Harm; or</li> <li>Discharges of Waste in circumstances likely to cause Pollution; or</li> <li>Emissions that result, or are likely to result in, the Discharge or abandonment of Waste in water to which the public has access; or</li> <li>Emissions or Discharges which do not comply with an Approved Policy, a prescribed standard, or the conditions in an Implementation Agreement or Decision; or</li> <li>Emissions or Discharges the subject of offences under regulations prescribed under the EP Act, including materials discharged under the Environmental Protection (Unauthorised Discharges) Regulations 2004.</li> </ul>

## Dust controls

A4 The Licence Holder must implement the controls specified in Column 1 of Table 3 in accordance with the actions/requirements specified in Column 2 of Table 3.

<b>Table 3: Fugitive dust controls table</b>	
<b>Column 1</b>	<b>Column 2</b>
<b>Control</b>	<b>Actions/requirements</b>
Water as a dust suppressant on active stockpiles	<ul style="list-style-type: none"> <li>Must operate the following when there are discernable levels of dust lift-off from HMC stockpiles: <ul style="list-style-type: none"> <li>(i) Sprinklers/sprays where mains water is available; and</li> <li>(ii) Water cart where mains water is not available;</li> </ul> </li> <li>Must apply proactively subject to weather forecasting over a 24-hour period;</li> </ul>
Dust suppressant (other than water)	<ul style="list-style-type: none"> <li>Must apply proactively to stockpiles;</li> <li>Must apply proactively, subject to visual inspection and weather forecasting over a 24-hour period.</li> </ul>

## Appendix 1: Key documents

	Document title	In text ref	Availability
1	Licence L5425/1994/10 – Iluka Narngulu Mineral Separation Plant.	Existing Licence / L5425	accessed at: <a href="http://www.der.wa.gov.au">www.der.wa.gov.au</a>
2	Works Approval W6215/2019/1 – Iluka Narngulu Mineral Separation Plant: Barite Removal Circuit	W6215	
3	Licence L6129/1978/13 – Iluka Narngulu Synthetic Rutile Plant.	L6129	
4	Iluka Narngulu Mineral Separation Plant – Barite Removal Circuit. Licence Application	Application	DWER records (A
5	DWER, June 2019. <i>Guidance Statement: Decision Making</i> . Department of Water and Environmental Regulation, Perth.	DWER, 2019	accessed at: <a href="http://www.der.wa.gov.au">www.der.wa.gov.au</a>

## Schedule 1: Primary Activities

At the time of assessment, Emissions and Discharges from the following Primary Activities and directly related activities were considered in the determination of the risk and related Conditions for the Premises:

Primary Activity	Premises production or design capacity
Category 8: Mineral sands mining or processing: premises on which mineral sands ore is mined, screened, separated or otherwise processed.	1,200,000 tonnes per annual period



Schedule 2: Maps

Premises map

The Premises is shown in the map below. The red line depicts the Premises boundary.



Scale 1:6000

0 100 200 300 400 500 m

PREMISES MAP AND SURROUNDING FEATURES

**NARNGULU MINERAL SEPARATION PLANT**

Government of Western Australia  
Department of Water and Environmental Regulation

The Department of Water and Environmental Regulation does not guarantee that this map is without flaw of any kind and disclaims all liability for any errors, loss or other consequence which may arise from relying on any information depicted.

UNIVERSAL TRANSVERSE MERCATOR PROJECTION  
HORIZONTAL DATUM: GEOCENTRIC DATUM OF AUSTRALIA 1994  
Grid lines indicate 1 500 metre interval of the Map Grid Australia Zone 50

The Map Grid Australia (MGA) is based on the Geocentric Datum of Australia 1994 (GDA 1994)  
GDA94 positions are compatible within one metre of the datum WGS84 positions

**GDA**