Government of Western Australia
Department of Water and Environmental Regulation

Amendment Report

Application for Licence Amendment

Part V Division 3 of the *Environmental Protection Act 1986*

Licence Number	L9176/2018/1
Licence Holder	Iluka Resources Limited
ACN	008 675 018
File Number	APP-0026963
Premises	Cataby Mineral Sands Mine 10437 Brand Highway CATABY WA 6507 Legal description - Mining tenements: M70/194, M70/195, M70/196, M70/517, M70/518, M70/696, M70/760, M70/867, M70/868, M70/869, M70/1018, M70/1086 As defined by the premises map attached to the amended licence
Date of Report	26 June 2025
Decision	Revised licence granted

Christine Pustkuchen
Digitally signed by Christine Pustkuchen
Date: 2025.06.26 13:05:33 +08'00'

Manager, Resource Industries
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

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1. Decision summary

Licence L9176/2018/1 is held by Iluka Resources Limited (licence holder; Iluka) for the Cataby Mineral Sands Mine (the premises), located at 10437 Brand Highway, Cataby.

This amendment report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during the operation of the premises. As a result of this assessment, revised licence L9176/2018/1 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this amendment report, the department has considered and given due regard to its regulatory framework and relevant policy documents which are available at https://dwer.wa.gov.au/regulatory-documents..

2.2 Amendment summary

On 24 December 2024, the licence holder submitted an application to the department to amend licence L9176/2018/1 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments are being sought:

- Increase the current Category 6: Mine dewatering capacity from 2.2 gigalitres per annual period to 8.2 gigalitres per annual period;
- Increase the volume and area permitted for the storage of sand tailings at the WCP overburden stockpile area.
- Allow for the use of Pits 6 and 8 as infiltration pits for the primary locations for water disposal and allow for the use of Pits 1, 2 (north), 7 and 9 as infiltration pits if required; and
- Update the future backfilling activities within existing or future pits.

2.2.1 Increase Category 6: Mine dewatering capacity

The licence holder has updated the mine water balance with operational monitoring and groundwater modelling and has identified a number of differences compared to the pre-mining groundwater modelling submitted with the licence application. The updated water balance found that actual tailings and pit water seepage were less than previously assumed and actual mine pit dewatering rates are higher than predicted. As such, based on the revised mine water balance, there is a greater water surplus than previously predicted and the excess water requiring disposal is estimated to be up to 8.2 gigalitres per annual period.

2.2.2 Increase sand tailings stockpile area

Sand tailings are managed on site either by pumping and disposal of the sand tails in-pit, or, by dry stacking and stockpiling at the WCP Overburden Stockpile area. As part of this amendment, the licence holder has applied to increase the area and volume permitted for the stacking of sand tails at the WCP Overburden Stockpile area.

A stability assessment was undertaken on the sand tailings stockpile area in January 2021 and found that the landform profile had inadequate factors of safety. Since then, the landform has been re-profiled and a revised stability assessment demonstrated sufficient factors of safety (CMW 2024).

2.2.3 Updating water disposal pits

Due to the increased water disposal quantities as a result of the revised mine water balance described in Section 2.2.1, the current approved disposal areas are not adequate to manage the increased quantities. As a result, the licence holder proposes to use the final pit voids of Pits 6 and 8 as the primary infiltration basins over the life-of-mine. Pit 8 is currently being mined with mining scheduled to finish in mid-2025 and Pit 6 is scheduled for mining in 2028. Pits 6 and 8 have been selected due to the sandier nature of the subsurface compared to the current infiltration pit (Pit 1). Pit 8 and 6 are also closer in proximity to Pits 14 and 16 which require significant drawdown assisting with the longer-term drawdown recovery.

Pits 1, 2 (north), 7 and 9 have also been proposed to be used as infiltration basins if and when required to maintain flexibility for mining activities.

2.2.4 Updating mine pit backfilling activities

As mining continues to progress, the licence holder has revised its backfilling strategy for the mine pit voids. Mine pit voids are currently backfilled with either sand tailings, ModCod (Modified Co-disposal - a proprietary modification to the historical methods for co-disposal of sand/clay tailings, which involves the addition of flocculant at the point of deposition to provide for more efficient water recovery and faster tails consolidation times) or a combination of both. The proposed backfilling strategy and disposal of tailings is outlined in Table 1.

Table 1: Proposed pit backfill strategy

Pit No.	Existing backfill material	Proposed backfill material
1	Sand tails (infiltration basin)	No change
2	Infiltration basin (northern area) and sand tails	No change
3	Overburden	Sand tails
6	Sand tails	Overburden (infiltration basin)
7	ModCod	ModCod / sand tails (infiltration basin)
8	Overburden	Sand tails (infiltration basin)
9	Sand tails	Sand tails (infiltration basin)
9A	ModCod	No change
10	ModCod	No change
11	ModCod	No change
11A	Sedimentation dam	No change
12	ModCod	No change
13	ModCod	No change
14	Sand tails (northern area)	ModCod
14A	Mine Pit Only	Pit is no longer economically viable – request to remove from licence

Pit No.	Existing backfill material	Proposed backfill material
15	ModCod	No change
16	Sand tails	ModCod
161	Sand tails (irrigation area)	No change
162	Sand tails (irrigation area)	No change

2.3 Legislative context

2.3.1 Part IV of the EP Act

The original mine proposal was referred to the EPA in March 2003 under section 38 of the EP Act, who set an EPS level of assessment in April 2003.

The proponent submitted its final EPS document to the EPA in November 2005, with the EPA providing its report and recommendations to the Minister for the Environment (Minister) in December 2005 (EPA Bulletin 1212). The Minister subsequently approved the project through the publishing of MS 720 on 18 April 2006.

In October 2015, MS 720 was replaced by MS 1017, following changes to the implementation conditions and proponent commitments.

The proposal is subject to a number of conditions relating to the management of terrestrial fauna, flora and vegetation, amenity and offsets. The conditions specifically authorised under MS 1017 relevant to this application are:

- The proposal shall be implemented in a manner that ensures that the impact of groundwater drawdown on vegetation is avoided as far as practicable;
- The proponent shall implement the latest approved Groundwater-dependent Ecosystem Management Plan;
- The proponent shall implement the latest approved Noise Management Plan;
- The proponent shall implement the latest Vegetation and Flora Management Plan; and
- The proponent shall implement the latest Surface Water Management Plan.

2.3.2 Rights in Water and Irrigation Act 1914

Iluka holds groundwater licence GWL175697(1) for the abstraction of up to 14 GL per annual period for the purpose of dewatering for mining purposes, dust suppression for mining purposes and mineral ore processing and other mining purposes. Groundwater may only be abstracted from the Superficial Aquifer. The licence is subject to Iluka complying to the commitments of the Groundwater Operating Strategy (Iluka 2015) as updated in May 2019 (Iluka 2019).

Key Findings:

Abstraction of groundwater for the purposes of mining and the associated impacts to receptors from dewatering are regulated under the *Rights in Water and Irrigation Act 1914* (RIWI Act) and Part IV of the EP Act (regarding protection of Groundwater Dependent Ecosystems). The delegated officer considers that impacts from abstraction are adequately managed under the RIWI Act and Part IV of the EP Act and has therefore outside the scope of this assessment.

2.3.3 Mining Act 1978 (WA)

The Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) approved mining proposal (Registration ID: 55412) to develop the mineral sands deposit on tenements M70/194, M70/195, M70/196, M70/517, M70/518, M70/696, M70/760, M70/868, M70/869, M70/1018 and M70/1086, all of which is over private land.

A Mine Closure Plan (Registration ID: 110411) for the premises was approved by DEMIRS on 19 October 2023.

3. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guideline: Risk assessments* (DWER 2020).

To establish a Risk Event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

3.1 Source-pathways and receptors

3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises operation which have been considered in this amendment report are detailed in Table 2 below. Table 2 also details the proposed control measures the licence holder has proposed to assist in controlling these emissions, where necessary.

Table 2: Licence holder controls

Emission	Sources	Potential pathways	Proposed controls
Mine water	Increase in dewatering capacity from 2.2 mtpa to 8.2 mtpa	Direct discharge / infiltration to groundwater	• Operation in accordance with the Groundwater Operations Strategy. <u>Existing conditions of licence:</u> • Condition 7 – authorised discharge locations; • Condition 8 – emission limits for mine water; and • Condition 18 – ambient groundwater monitoring.
	Rupture of pipeline	Overland runoff	• Routing of pipelines along haul roads; • Pressure / flow sensors; • Bunding (1 m high); and • Daily inspections of infrastructure. <u>Existing conditions of licence:</u> • Condition 2 – design and construction requirements; • Condition 3 – infrastructure and equipment requirements;

Emission	Sources	Potential pathways	Proposed controls
			• Condition 4 – inspection requirements; • Condition 5 – inspection correction actions; and • Condition 22 – Annual environmental reporting.
	Overtopping of ponds/pits	Overland runoff	• Daily inspections of infrastructure. <u>Existing conditions of licence:</u> • Condition 22 – Annual environmental reporting.
Dust	Expansion of the sand tailings stockpiling area at the WCP overburden stockpile area	Air/windborne pathway	No additional proposed controls. <u>Existing conditions of licence:</u> • Condition 9 – Fugitive dust controls; • Condition 16 – Ambient air quality limits; • Condition 17 – Ambient air quality exceedance investigation requirements; and • Condition 22 – Annual environmental reporting.
Sediment /sand tailings laden stormwater		Overland runoff	• A containment bund is located at the toe of the stockpile; and • Surface water will be retained within the stockpile footprint using containment bunds.
Sand tailings seepage		Infiltration to groundwater	• Tailings are dry stacked with cyclone stackers onto existing sand tailings / overburden stockpile; and • Sand tails have a moisture content of 6.7% to 19.4%. <u>Existing conditions of licence:</u> • Condition 18 – ambient groundwater monitoring; • Condition 22 – Annual environmental reporting; and • Condition 23 – annual trend analysis.
Disturbance of Potential Acid Sulfate Soils (PASS) causing acidification and decreased	Disposal of mine water into Pits 6 and 8 primarily and Pits 1, 2 (north), 7 and 9 as a backup.	Lateral and vertical migration through aquifer	• Identification of areas containing PASS; and • Identified layers of PASS within the pit walls stratigraphy will remain inundated at all times to prevent acidification.

Emission	Sources	Potential pathways	Proposed controls
groundwater quality			Existing conditions of licence: • Condition 10 – acid sulfate soils controls; • Condition 18 – ambient groundwater monitoring; • Condition 22 – Annual environmental reporting; and • Condition 23 – annual trend analysis.

3.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020), the delegated officer has excluded employees, visitors and contractors of the licence holder's from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

Table 3 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises *(Guideline: Environmental siting* (DWER 2020)).

Table 3: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
Liberty Roadhouse	Immediately adjacent (northeast) to Pit 9 and 12 on the Brand Hwy
AMPOL Roadhouse / rural residence 10513 Brand Highway, Cataby	Immediately adjacent (east) and within the premises boundary on the Brand Hwy
6 residential properties Two roadhouses are located along the Brand Highway and within the premises boundary, with each of these including motel-style accommodation. The Liberty Roadhouse, which is located immediately adjacent to Pit 9/12 includes a licensed hotel and is owned by the licence holder.	Within 1 km of the prescribed premises boundary
Environmental receptors	**Distance from prescribed activity**
Land use	
Pasture lands for cattle and sheep grazing	Underlying and surrounding the prescribed premises. Likely future land use.
Groundwater	
Underlying groundwater	Groundwater depth:

	Groundwater levels vary in relation to topography. To the east of the Gingin Scarp, levels can be quite deep (20 – 45 mbgl), where to the west groundwater is significantly shallower and in the order of 10 – 15 mbgl. <u>Groundwater quality:</u> Groundwater generally has total dissolved solids (TDS of less than 2,000 mg/L, with higher concentrations known to occur along some drainage lines and wetlands bodies where evaporation is active, and also near streams (e.g. Minyulo Brook) which receive saline runoff from farming areas. <u>Groundwater flow direction:</u> The hydrology of the local area comprises a throughflow system, with groundwater flowing in a west to south-west direction toward the coast.
Rights in Water and Irrigation Act 1914 (RIWI Act) Proclaimed groundwater – Gingin Groundwater Area	Within premises boundary
Groundwater dependent ecosystems (GDE)	Within and adjacent to the premises
Beneficial users of groundwater	56 groundwater licences within 5 km of the premises boundary
Surface water bodies	
Minyulo Brook	Within and adjacent to the premises
Cataby Brook	Within and adjacent to the premises
Native Dog Swamp	Adjacent to the premises boundary
Caro Swamp	2.5 km west of the premises boundary
Eneminga Swamp	2.5 km south-west of the premises boundary
Flora and Fauna	
Threatened and Priority Ecological Communities (TEC / PEC) Priority 3 Banksia Woodlands of the Swan Coastal Plain ecological community	Within 1 km of the prescribed premises
Threatened and/or priority flora	*Eleocharis keigheryi* (Keighery's Eleocharis) listed as vulnerable is found within the premises within the no-mining area
Threatened and/or priority fauna	*Zanda latirostris* (Carnaby's Cockatoo) listed as endangered can be found within the premises boundary
Native vegetation	The premises is characterised by cleared pasturelands that are used to graze cattle and sheep. Remaining native vegetation is fragmented across the landscape and often completely degraded

	as a result of grazing. The premises is adjacent to a number of regionally significant conservation reserves. One area identified as the 'Oliver Remnant' has been recognised as having high conservation value, despite its degraded condition, due to its floristic features (presence of threatened and priority species) and as a breeding area for the endangered Carnaby's Black Cockatoo. The 'Oliver Remnant' contains both flora and fauna of the mixed Wandoo/Marri woodland complex that follows the channel of the Cataby Brook. The Oliver Remnant is adjacent to Pits 6 and 8.
Cultural receptors	**Distance from prescribed activity**
Minyulo Brook (Bilya)	Within and adjacent to the premises

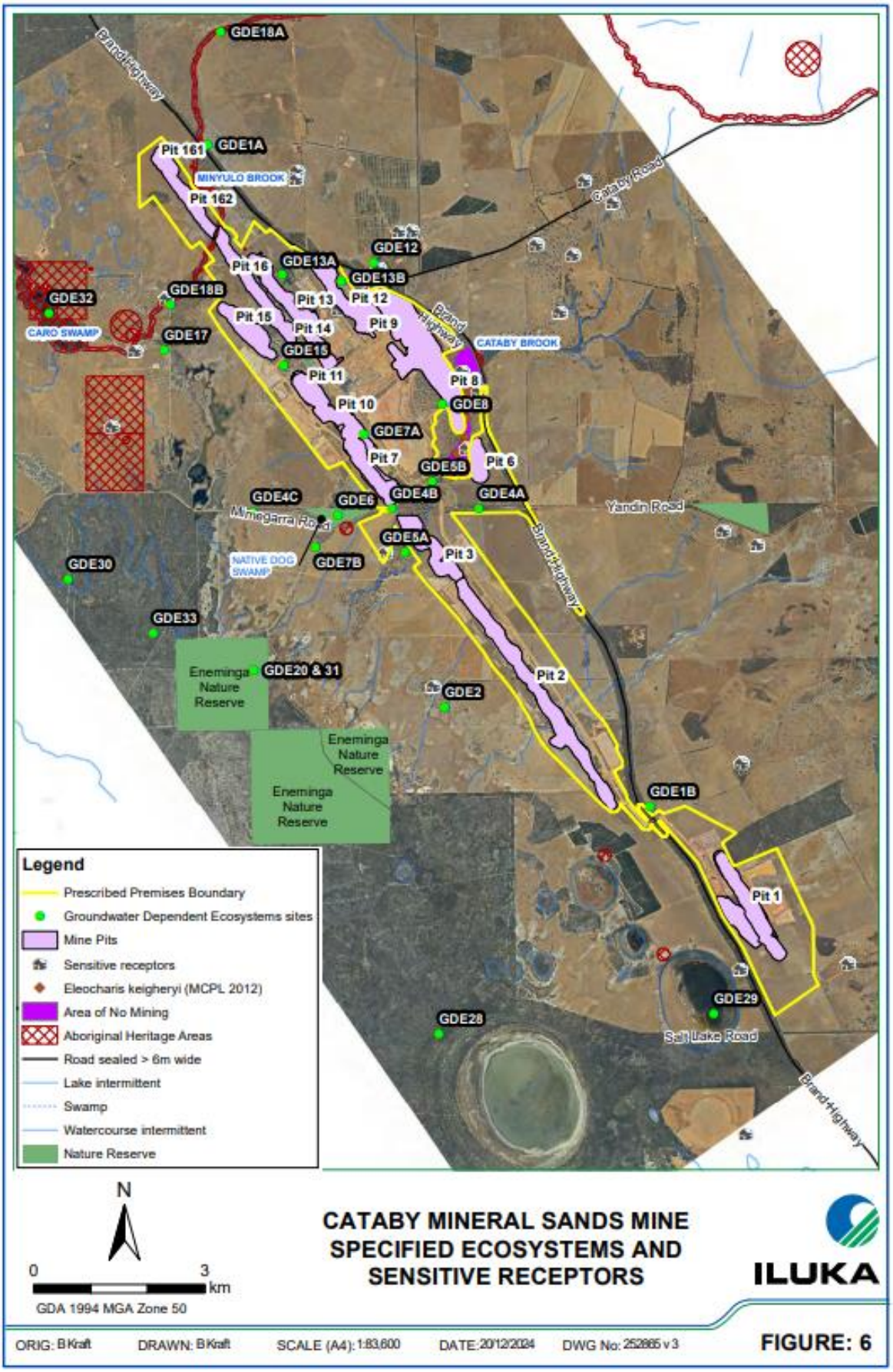

Figure 1: Distance to sensitive receptors

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for those emission sources which are proposed to change and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are in-complete they have not been considered further in the risk assessment.

Where the licence holder has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the delegated officer considers the licence holder's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the licence as regulatory controls.

Additional regulatory controls may be imposed where the licence holder's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 4.

The revised licence L9176/2018/1 that accompanies this amendment report authorises emissions associated with the operation of the premises.

The conditions in the revised licence have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 4. Risk assessment of potential emissions and discharges from the premises operation

Risk Event					Risk rating[1] C = consequence L = likelihood	Licence holder's controls sufficient?	Conditions[2] of licence	Justification for additional regulatory controls
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Licence holder's controls**				
Operation								
Increase in dewatering capacity from 2.2 mtpa to 8.2 mtpa	Mine water	Direct discharge to pits/ infiltration to groundwater causing mounding or groundwater contamination impacting ecosystem function and health	Groundwater dependent ecosystem Beneficial users of groundwater	Refer to Section 3.1	See detailed risk assessment outlined in Section 3.3			
Loss of containment from pipelines (rupture)		Overland runoff causing impacts to ecosystem health	Surrounding agricultural land Surrounding surface water bodies including culturally significant water bodies Native vegetation including TECs and priority flora	Refer to Section 3.1	C = Major L = Unlikely **Medium Risk**	Y	<u>Existing conditions:</u> Conditions 2, 3, 4, 5 & 22	N/A
Overtopping of ponds/pits		Overland runoff causing impacts to ecosystem health	Surrounding agricultural land Surrounding surface water bodies including culturally significant water bodies Native vegetation including TECs and priority flora	Refer to Section 3.1	C = Major L = Unlikely **Medium Risk**	Y	Conditions 7 & 8 <u>Existing conditions:</u> Condition 22	N/A
Expansion of the sand tailings stockpiling area at the WCP overburden stockpile area	Dust	Air/windborne pathway impacting human health and amenity impacts and ecosystem health	Roadhouses Residential premises within 1 km Native vegetation including TECs and priority flora Surrounding agricultural land	Refer to Section 3.1	C = Minor L = Likely **Medium Risk**	N	**<u>Condition 3</u>** <u>Existing conditions:</u> Conditions 9, 16, 17, & 22	The delegated officer does not consider it appropriate for dust lift off from the sand tails storage area to occur given the distance to receptors and accessibility of best practice dust management methods. In addition to the existing dust monitoring controls, the delegated officer has specified the requirement that no visible lift-off of dust must occur from the tailings storage area.
	Sediment /sand tailings laden stormwater	Overland runoff causing impacts to ecosystem health	Surrounding agricultural land Surrounding surface water bodies including	Refer to Section 3.1	C = Moderate L = Unlikely **Medium Risk**	Y	Condition 3	N/A

Risk Event					Risk rating[1] C = consequence L = likelihood	Licence holder's controls sufficient?	Conditions[2] of licence	Justification for additional regulatory controls
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Licence holder's controls**				
			culturally significant water bodies Native vegetation including TECs and priority flora					
	Sand tailings seepage	Infiltration to groundwater impacting groundwater mounding/ quality	Groundwater dependent ecosystem Beneficial users of groundwater	Refer to Section 3.1	C = Minor L = Likely **Medium Risk**	Y	Existing conditions: Conditions 18, 22 & 23	N/A
Disposal of mine water into Pits 6 and 8 primarily and Pits 1, 2 (north), 7 and 9 as a backup.	Disturbance of Potential Acid Sulfate Soils (PASS) causing acidification and decreased groundwater quality	Lateral and vertical migration through aquifer impacting ecosystem health and function	Native vegetation including TECs and priority flora	Refer to Section 3.1	C = Major L = Possible **High Risk**	N	**Condition 10** Existing conditions: Conditions 10, 18, 22 & 23	The delegated officer notes that there is a known layer of PASS within the side walls of Pit 8. The delegated officer considers that the continual wetting and drying cycle of Pit 8 may exacerbate acid formation and result in an unacceptable risk to receptors. The delegated officer has therefore conditioned that any identified areas of PASS within infiltration pits must remain inundated at all times.

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk assessments* (DWER 2020).

Note 2: Proposed licence holder's controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

3.3 Detailed risk assessment for increasing dewatering capacity

3.3.1 Description of risk from increasing mine dewatering capacity

As operation of the premises progresses, the licence holder has revised the mine's groundwater modelling based on operational data and has found the revised water balance to have a greater water surplus than previously predicted. As such, a greater volume of excess mine water requires disposal, and the licence holder has applied to increase the volume of mine water permitted to be disposed of to 8.2 gigalitres per annual period.

Abstraction of groundwater is necessary to allow for the extraction of resources as mining extends below the watertable. The water abstracted is used for mine site operations such as ore-processing or dust suppression. Any water in excess of these needs must then be disposed of. At the Cataby Mineral Sands Mine, excess water is disposed of into certain approved open mine pits where the mining of mineral sands has finished. As part of this amendment, the licence holder has applied to update the authorised infiltration pits to Pits 6 and 8 as the primary infiltration pits and Pits 1, 2 (north), 7 and 9 as backup infiltration pits.

The potential for adverse impacts to the environment exists where water quality has deteriorated through the introduction of contaminants, infiltration causes localised mounding of the watertable resulting in the inundation of vegetation root zones or mobilisation of contaminants previously contained within the vadose zone.

3.3.2 Description of potential adverse impacts from discharge

Receptors that may be impacted from increasing the mine dewatering capacity include groundwater dependent ecosystems (GDEs) and beneficial users of groundwater.

A number of GDEs exist within and adjacent to the premises including GDEs adjacent to the proposed infiltration pits. A figure showing previously identified GDEs in relation to the pits is show in Figure 2. GDEs may adversely be impacted by mounding and changes in water quality.

Oliver Remnant, which is located adjacent to Pits 6 and 8, has been recognised as having high conservation value due to it being a breeding area for the endangered Carnaby's Black Cockatoo. Oliver Remnant is not considered to be groundwater dependent, however is vulnerable to root inundation via mounding.

A number of beneficial users of groundwater exist within a 5 km radius of the premises with groundwater being abstracted and used for domestic use, stock watering, mining and abattoir purposes. Beneficial users of groundwater may be impacted by contaminated groundwater through the use of groundwater via direct contact or ingestion.

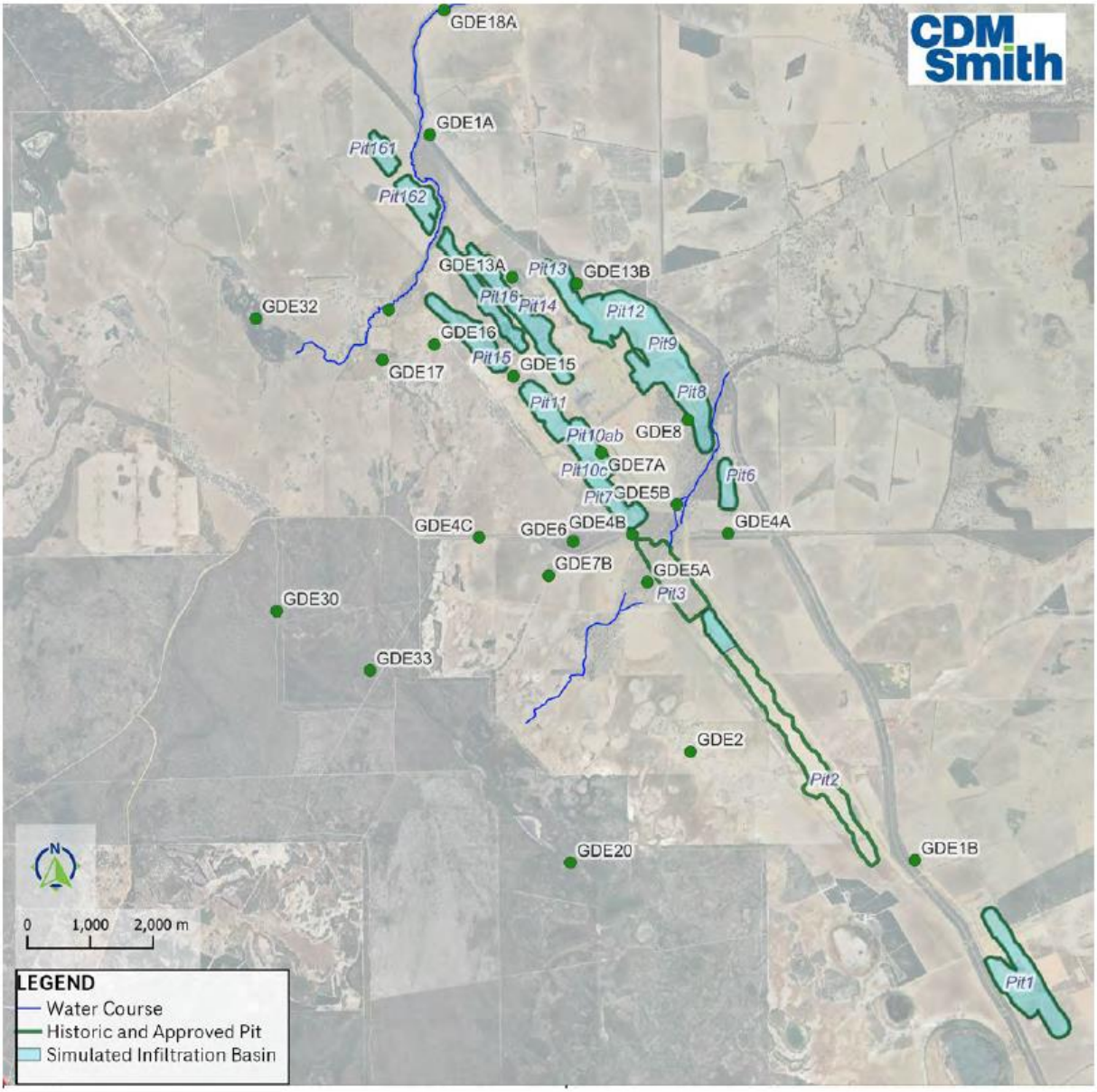

Figure 2: Cataby Mineral Sands Mine groundwater dependent ecosystems

3.3.3 Regulatory context of mine dewatering

Mine dewatering surplus is regulated under a number of different legislation depending on the mine's siting and intended management methods for the surplus. The legislation applicable to dewatering at the premises is presented in Table 5.

Table 5: Regulatory context for mine dewatering

Legislation	Legislative framework
Rights in Water and Irrigation Act 1914 (RIWI Act)	Iluka holds a licence to take water under section 5C of the RIWI Act. GWL175697(1) allows for the abstraction of up to 14 GL per annual period for the purpose of dewatering for mining purposes, dust suppression for mining purposes and mineral ore processing and other mining purposes. Iluka must comply with the Groundwater Operating Strategy (GOS) (Iluka 2015, Iluka 2019) approved for this proposal.

Legislation	Legislative framework
	The GOS outlines a number of commitments that Iluka must adhere to as part of its compliance with GWL175697(1). The commitments include a groundwater monitoring program, trigger values adopted for the protection of GDEs and contingency measures. Contingency programs have been developed for triggers for both mounding thresholds and water quality trends.
Part IV of the EP Act	The premises is subject to Ministerial Statement 1017 granted under Part IV of the EP Act. MS 1017 requires the protection of Oliver Remnant and the implementation of a Groundwater-dependent Ecosystem Management Plan (GDEMP). The GDEMP identifies groundwater mounding as a potential exposure pathway that may cause impacts to GDEs and applies groundwater mounding thresholds and contingency measures if triggers are breached.

3.3.4 Groundwater modelling

As part of this amendment application, the licence holder provided updated groundwater modelling to simulate mine pit water infiltration scenarios into the proposed updated infiltration pits. The updated model assesses groundwater mounding impacts to the GDEs identified in the GDEMP focusing on worst-case scenarios as a conservative measure.

The results of the modelling show that in some scenarios, the low-risk mounding threshold was exceeded at some GDEs for a short period of time. However, it is noted that the worst possible case of impact from water infiltration on nearby GDEs is not operationally possible with the worst-case scenario represented as all pits used for water infiltration at their maximum level concurrently. The mounding threshold was not exceeded at Oliver Remnant in any of the modelled scenarios.

The department undertook technical review of the groundwater modeling that was undertaken and have determined that it is sufficiently well calibrated to make reliable predictions about the extent to which the water table would change and is therefore suitable for the use of predicting changes to groundwater levels caused by mine dewatering and recharge practices at the premises.

Based on the information provided in the modelling report, it is considered unlikely that discharging excess mine water into Pit 8 would cause excessive mounding of the water table and harm to the nearby remnant natural vegetation.

3.3.5 Risk assessment

The delegated officer has:

- Considered that the consequence to receptors from the increased discharge of mine water through mounding and contamination could have major impacts to human and environmental health;
- Considered that the likelihood of impacts to receptors is unlikely based on modelling results; and
- Determined that the overall rating for the risk of impacts from the increased discharge of mine water, based on a consequence of major and likelihood of unlikely, is **medium**.

3.3.6 Regulatory controls

The delegated officer considers that the risk to GDEs and beneficial users of groundwater can be adequately managed under the triggers for mounding and water quality set in the GOS and GDEMP and the existing groundwater monitoring conditions on the licence. The delegated officer is satisfied that the updated modelling demonstrates that the commitments and thresholds detailed in the GOS and GDEMP can be met.

4. Consultation

Table 6 provides a summary of the consultation undertaken by the department.

Table 6: Consultation

Consultation method	Comments received	Department response
Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) advised of proposal 21 March 2025	DEMIRS provided an email response on 6 May 2025. DEMIRS noted the following in the response: • DEMIRS would expect that if Iluka proposed an expansion of dry stacked sand tailings, intended to remain at surface as an altered final landform that a revised mining proposal and accompanying TSF design report would be submitted for assessment under the Mining Act 1978. • An update to the Mine Closure Plan that addresses the risks and presents closure outcomes and criteria for this landform would be expected to accompany this mining proposal. • DEMIRS did not receive a TSF design report with the last revision of the mining proposal as such the stability of the above ground storage area has not been assessed. Iluka advised during the inspection on 9th April that DEMIRS Geotechnical Engineers had previously observed the stockpile. Given that the current stockpile sand tailings is considered to be within the scope of the approved mining proposal, DEMIRS would undertaken an assessment relating to the stability of the landform if a mining proposal is submitted to the department to expand the current storage area. • If Iluka intend to pump a slurry consisting of water and fine sands onto the overburden stockpile they may need to provide information to DEMIRS that meets the 2013 Code of Practice for TSFs. • DEMIRS standard tenement conditions relating to TSFs do not always apply to the case of dry stacked or clean sand tails produced as a result of mineral sand mining. It is expected that this landform remain safe, stable and non-polluting. Considering this, and as a result of the inspection, DEMIRS has issued Iluka with the following Required Action; • Iluka to provide evidence that; 1) The clean sand tailings stockpiled at surface, over the WCP overburden	Noted. The delegated officer notes that the onus is on the licence holder to ensure all relevant approvals are in place before conducting an activity.

	stockpile is stable and non-polluting. 2) Surface water drainage controls are in place at this landform to ensure risk of mobilised sand tailings dispersing into the environment is managed. 3) Measures / procedures are in place to ensure risk of sand tailings dusting into the environment is managed.	
Licence holder was provided with draft amendment on 19 June 2025	See Appendix 1	See Appendix 1

5. Conclusion

Based on the assessment in this amendment report, the delegated officer has determined that a revised licence will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

5.1 Summary of amendments

Table 7 provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the revised licence as part of the amendment process.

Table 7: Summary of licence amendments

Condition no.	Proposed amendments
Front page	Update DWER file reference number
Front page	Increase assessed production capacity for Category 6 from 2.2 gigalitres per annual period to 8.2 gigalitres per annual period
3	Addition of tailings storage area and related controls
6	Remove reference that sand tailings will all be placed into mine voids and add figure references
7	Update authorised infiltration basins and add figure reference
8	Update emission point references with updated infiltration basins
10	Include requirement to keep areas of identified PASS inundated at all times in infiltration pits
Figure 1	Update Figure 1
Figure 2	Update Figure 2
Figure 3	Update Figure 3
Figure 4	Update Figure 4
Figure 5	Update Figure 5
Figure 6	Update Figure 6

References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
3. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
4. CMW Geosciences 2024, *Tailings Storage Facilities Cataby Mineral Sands Project Annual Audit Management and Review*, Wembley, Western Australia.
5. Iluka Resource Limited 2019, *Addendum to Groundwater Operating Strategy Cataby*

Mineral Sands Project.

6. Iluka Resource Limited 2015, *Groundwater Operating Strategy Cataby Mineral Sands Project.*

Appendix 1: Summary of licence holder's comments on risk assessment and draft conditions

Condition	Summary of licence holder's comment	Department's response
3	Tailings storage area – add (above ground storage only) after Tailings storage area	Updated as per comment
3	Tailings storage area – add "or drain" to must maintain a containment bund	Updated as per comment
3	Tailings storage area – add to condition that excess surface water can be directed to the drop-out dam	Updated as per comment
3	Tailings storage area – add that no visible dust list-off from the tailings from the tailings storage area must occur where there is a risk to sensitive receptors	The delegated officer does not consider the proposed condition as enforceable. As per the risk assessment, the delegated officer considers that there are sufficient best practice dust management controls available to prevent lift-off from the tailings storage area. The licence holder has indicated that the tailings storage area will remain and be reworked into a permanent landform post-mining. In accordance with the Department of Energy, Mines, Industry Regulation and Safety's environmental objectives, mine closure should ensure landforms are stable and non-polluting. The delegated officer considers that these environmental objectives are equally relevant during the operational phase of the mine and does not consider visible dust lift-off from the tailings storage area as appropriate at any point in the mine's life. The condition has not been updated as per the comment.
10	Acid sulfate soils infiltration pit controls - Suggest rewording to: Infiltration into pits must be managed so that any identified areas of PASS remain below the pit water level, once inundated, until final rehabilitation commences	Updated as per comment

Condition	Summary of licence holder's comment	Department's response
Figure 2	Iluka has updated map to avoid any uncertainty of the prescribed premises boundary	Figure updated
Page 18	Figure 1 incorrectly duplicated	Duplicated figure removed
Figure 3	Iluka has provided an updated map to avoid any uncertainty over the disposal areas and prescribed premises boundary	Figure updated
Figure 4	Iluka has provided an updated map to avoid any uncertainty over the disposal areas and prescribed premises boundary.	Figure updated
Figure 5	Iluka has provided an updated map to avoid any uncertainty over the disposal areas and prescribed premises boundary.	Figure updated
Figure 6	Iluka has provided an updated map to avoid any uncertainty over the disposal areas and prescribed premises boundary.	Figure updated