Government of Western Australia
Department of Water and Environmental Regulation

Decision Report

Application for Licence

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

Licence Number	L3014/2025/1
Applicant	Image Resources NL
ACN	063 977 579
Application number	APP-0029030
Premises	Atlas Project Munbinea Road Legal description - Part of mining tenement M 70/1305 As defined by the premises maps in Schedule 1
Date of report	06/11/2025
Decision	Licence granted

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1. Decision summary

This decision report documents the assessment of potential risks to the environment and public health from emissions and discharges during the operation of the premises. As a result of this assessment, licence L3014/2025/1 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this decision report, the Department of Water and Environmental Regulation (the department; DWER) 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 Application summary and overview of premises

On 11 March 2025, the applicant submitted an application for a licence to the department under section 57 of the *Environmental Protection Act 1986* (EP Act).

The application is to seek a licence to continue mineral sands mining and processing at the Atlas Mineral Sands project located on part of mining tenement M 70/1305 (the premises). The premises is approximately 18 kilometres east of Cervantes and 850 metres east of Nambung National Park (The Pinnacles).

The premises relates to the category and assessed production capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in licence L3014/2025/1 (Category 8). The infrastructure and equipment relating to the premises category and any associated activities which the department has considered in line with *Guideline: Risk Assessments* (DWER 2020) are outlined in licence L3014/2025/1.

2.2.1 Overview of the Atlas Project

The applicant has developed a greenfield mineral sands open pit mine and established a mineral sands processing plant at the premises. The mine is being developed in stages, beginning in the south and moving northward, as outlined in Figure 1 (below). The final footprint of the pit will be 2.8 km long, up to 600 m wide and up to 16 m deep.

Removal of overburden began in September 2024 and the establishment of the majority of infrastructure was completed in March 2025 under works approval W6831/2023/1. The Environmental Compliance Report for the project indicated that all infrastructure had been established in accordance with the works approval, however, the off-path solar drying ponds (SDP's) and the earthen bund around the mining area have not yet been established as they are not yet required. Mining and back-filling of the southernmost stage of the pit has already been completed. The current pit face is 500 m north of the pit footprint and is progressing north at about 100 m per month.

Topsoil and overburden are progressively removed to access the ore and are stockpiled adjacent to the mining area. The topsoil stockpiles will be retained for progressive rehabilitation work, and the overburden stockpiles are backfilled to the mine voids when areas become available. The pit may be dewatered when required to allow for dry mining of the ore using mobile earthmoving equipment, however, the applicant has indicated that dewatering of the open pit has not yet been required.

The ore contains naturally occurring radioactive material (NORMs) and elevated arsenic and zinc levels. A leachable metals analysis indicated that low levels of barium, boron, manganese and zinc may be released from the material under acidic conditions. Potentially Acid Sulfate Soils (PASS) have been encountered in both the overburden and the ore.

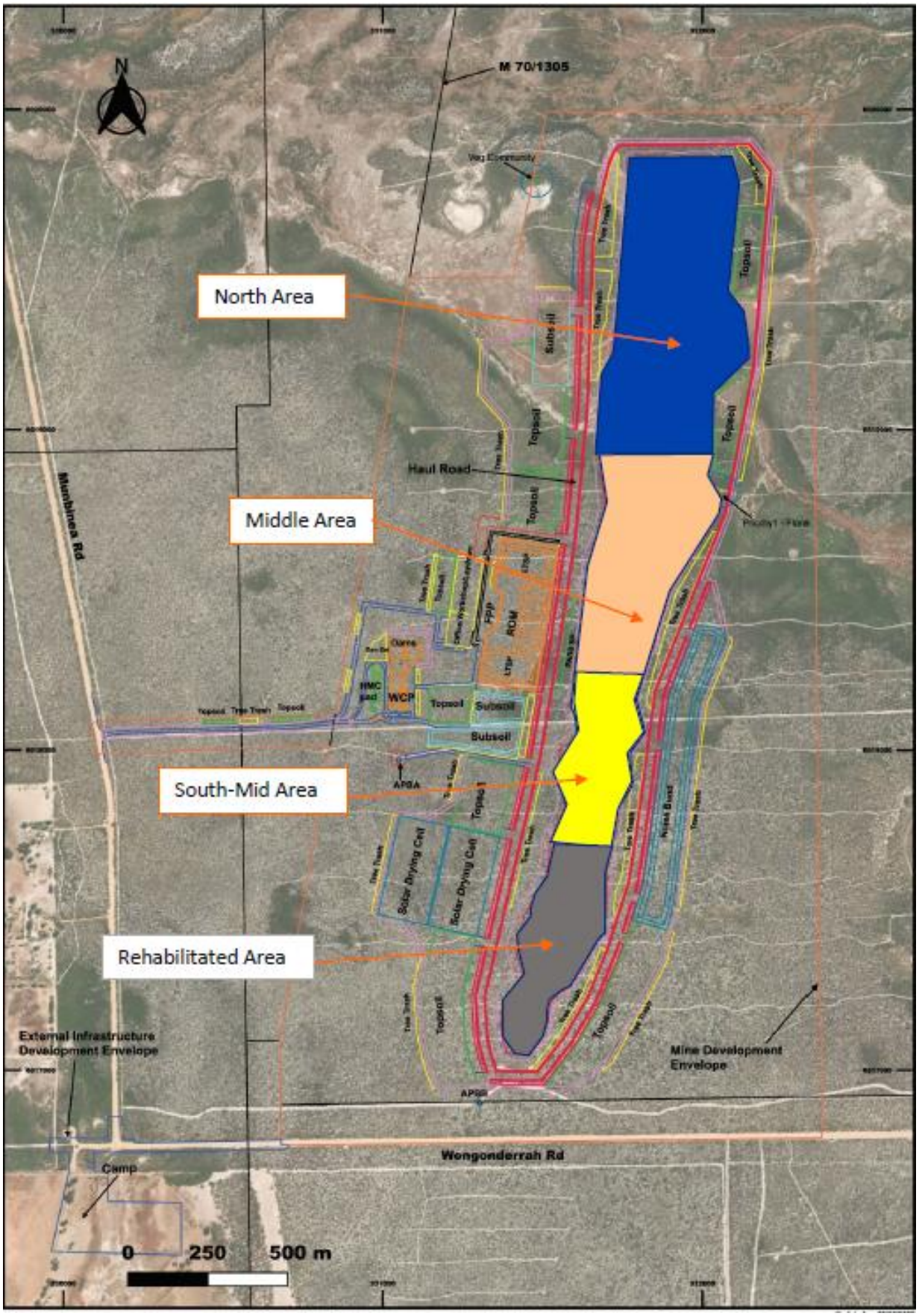

Figure 1: Site overview with updated indicative mining staging

After the ore is mined it is delivered to a Feed Preparation Plant (FPP) located to the west of the active mining area. It is screened and slurried and then pumped to the Wet Concentrator Plant (WCP) where it is processed via wet gravity separation to produce a heavy metal concentrate (HMC). HMC is stockpiled for a short period of time before being trucked off-site. Water for processing may be sourced from dewatering of the mining area and from off-site sources. All processing infrastructure has been constructed on compacted soil or hardstand, contoured to contain any potentially contaminated stormwater.

Two waste streams are formed from processing – a coarse or sand tailings stream and a fine or slimes tailings stream. Flocculants FLOPAM EM 532 and Magnafloc LT27 AG may be added to the tailings. Sand tailings are deposited using cyclone stackers directly back into the mining voids. Clarified water is recovered from the desliming circuit and is sent back to the processing circuit, while the remaining slimes are disposed of to the SDP's. The works approval for the premises contained authorisation to build up to 3 off-path SDP's, in addition to ponds within the footprint of the planned mining void. To date, only on-path SDP's have been constructed. After drying, the fines will be returned to the mine voids.

Supporting infrastructure includes diesel generator sets, a water cart, hydrocarbon storage and refueling infrastructure, workshops, storage areas, stockpile areas, administration buildings and access roads. Oil water separators have been installed at the washdown bays, with recovered hydrocarbons and hydrocarbon contaminated soils, being stored for offsite disposal. A workers' camp has been built outside the prescribed premises boundary. No landfill will be required as all non-processing wastes are disposed of off-site.

The power generation and the volume of hydrocarbons stored on site are below the thresholds that trigger a prescribed premises under Schedule 1 of the *Environmental Protection Regulations 1987*.

2.2.2 Siting and environment

Location

The prescribed premises is 18 km inland from Cervantes on mining tenure and is surrounded by pastoral leases. The project lies entirely within a Priority 3 Threatened Ecological Community and is less than one kilometer east of Nambung National Park and about one kilometer west of environmentally sensitive wetlands. The area receives about 700mm of rainfall per annum, falling mainly during the winter months (May – September). The strongest winds occur in summer, from a predominantly southerly direction, with autumn being dominated by more easterly winds.

Noise impacts

There are four residences within 4 kms of the prescribed premises that were classified as highly sensitive premises under the *Environmental Protection (Noise) Regulations 1997* (Noise Regulations) for the assessment of the initial works approval. In late 2024, the applicant entered into a lease agreement with the property owners immediately west of the project on Munbinea Road until 1 October 2026, with an option to extend the agreement for another year. This agreement included the provision that the properties will remain unoccupied for the duration of the lease. As there will be no one residing at these properties during mining operations, these properties do not constitute a noise sensitive receptor for the purpose of this assessment.

As part of this application, a revised environmental noise assessment was conducted by Lloyd George Acoustics in April 2025 (LGA 2025a). The original environmental noise assessment (LGA 2025b) had confirmed that the property to the north of the operation, on Munbinea Road (refer to Figure 2, below), was of a sufficient distance from the mining activities for noise levels to be compliant with the Noise Regulations at all times when processing and mining with a full mobile fleet.

The original noise assessment also showed that at the southern, Wongonderrah Road property,

the nighttime assigned noise levels (35 dB_{A10}) would only be met when processing and mining with a full mobile fleet in the north area of the pit (as indicated in Figure 1). It also demonstrated that mining with a full mobile fleet in the southern and middle areas of the pit would comply with both the daytime, evening and Sunday assigned noise levels. Therefore, the works approval was conditioned with no restrictions on mining activities in the north area of the pit, but with nighttime restrictions on mining activity in the southern areas of the pit.

Figure 2: Noise sensitive receptors around the Atlas Project prescribed premises

The revised assessment takes into account a number of key changes, including:

- An updated mining area, with the southernmost 500 m of the pit reflecting that it has been backfilled and is no longer an active mining area (as shown in Figure 1),
- A more accurate reflection of the pit topography, locating the mobile equipment 6 m below the surface ground level instead of at ground level (as the ore body sits at 6 to 16 m below surface level), and
- An adjusted mining fleet, limited to 6 haul trucks working in the south-mid and middle areas of the pit, with the fleet expanding to 8 haul trucks (a full mobile fleet) when operating in the north area of the pit.

Under this revised scenario, the modelling indicates that including a 5dB tonal penalty, the maximum predicted noise levels at the Wongonderrah Road property will be 35dB$_{A10}$ when working in the south-mid pit area and 34dB$_{A10}$ when working in the middle area of the pit. This is compliant with the Noise Regulations at all times. Taking both reports together, this means processing and mining with a full mobile fleet is likely to be compliant with the Noise Regulations during the daytime, evenings and on Sundays and public holidays and during the nighttime, when operating in the north pit area. A mining fleet restricted to 6 haul trucks will need to be used between 10pm and 7am Monday to Saturday and 9am on Sundays and public holidays (nighttime) when operating in the southern parts of the pit to ensure compliance with the Noise Regulations.

During the review process, the applicant requested the removal of prescriptive conditions limiting the numbers of trucks that may operate in each mining area, and instead proposed to manage noise impacts to neighboring properties through noise monitoring and responsive management actions. The applicant is seeking increased flexibility for scenarios that have not specifically been modelled, but which they view are also likely to meet the assigned levels of the Noise Regulations. The Delegated Officer notes that the licence does not provide an exemption from compliance with the Noise Regulations, and considers this approach reasonable. The applicant has modelling that informs them of the likelihood of complying with the Noise Regulations under a number of scenarios, and it will be their responsibility to ensure compliance at all times.

Modelling of the impact of the movement of HMC trucks entering and leaving site along the access road remains unchanged. It indicates that with 3 trucks present on site during any 4-hour period, will reach a maximum of 23dB$_{A1}$ at the nearest receptor, which is compliant with the assigned noise levels at all times.

Dust impacts

Dust modelling completed for the project indicated that mining and processing activities were likely to exceed the *National Environment Protection (Ambient Air Quality) Measure* (NEPM) PM_{10} air quality standard of 50 µg/m^3 (24-hour average) at the nearest receptors, if controls are not implemented at the premises.

The applicant proposed a series of dust controls, and a requirement to monitor dust near the receptors during time limited operations was included on the works approval to determine their effectiveness. The aim was to determine if the dust controls that were implemented at the project would prevent the exceedance of the air quality standard of 50 µg/m^3 of PM_{10} dust at the receptors. The dust monitor ,however, was installed at an alternative location (see Figure 3) which was very close to the processing facilities and the HMC stockpiles. Instead of providing information on the dust levels that might be impacting the off-site receptors, the data collected during operations so far represents the dust levels generated at the source.

Figure 3: Dust #1 shows where the PM_{10} dust monitor was installed during time limited operations

The results of the dust monitoring campaign can be seen in Figure 4, below. It shows 4 exceedances of the NEPM standard out of the 25 samples taken during this time. Dust levels are expected to be significantly lower at the receptors, indicating that the existing dust controls are likely to be sufficient to manage dust impacts to receptors.

Continued October to May dust monitoring will be required on the licence, but the applicant will need to relocate the dust monitor to a location further from the mining and processing activities (and any other dust generating locations, such as near a road), and as close to the receptors as possible. This will provide a better understanding of potential dust impacts from the project on receptors.

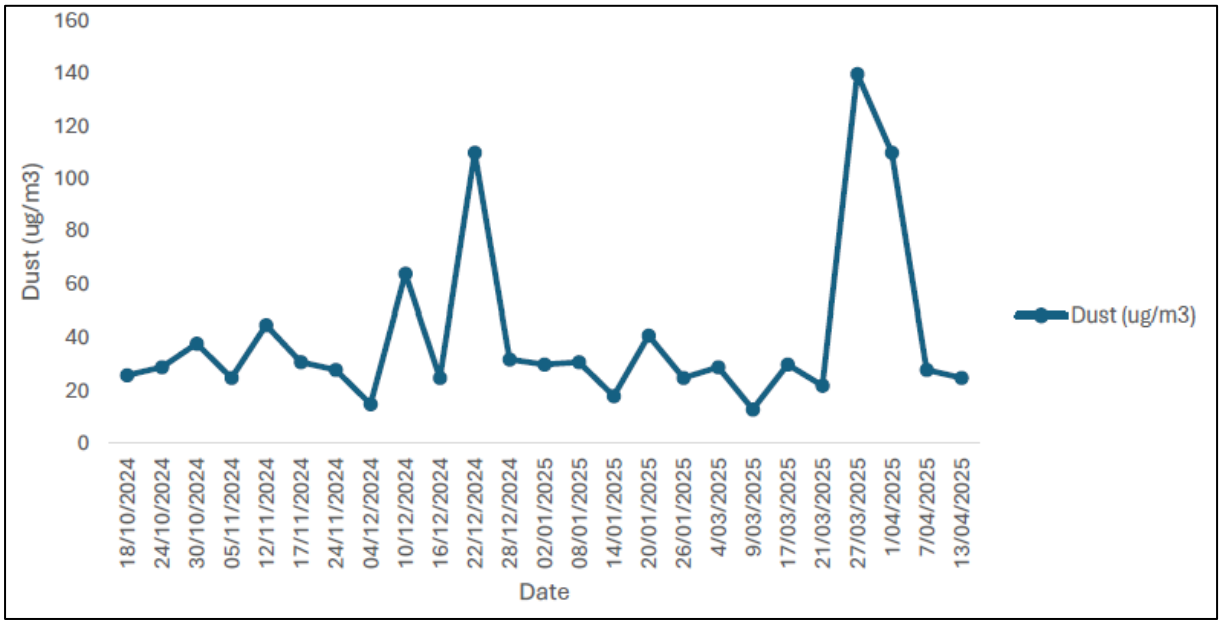

Figure 4: PM_{10} monitoring results from October 2024 to April 2025

Surface hydrology

The Atlas Project lies within the Nambung River catchment area but does not intersect any permanent creek lines. The nearest creeks are Bibby Creek and Mt Jetty Creek, to the north of the mining area, which both flow into the Nambung River. The area of the catchment where the prescribed premises is located may be prone to flooding during extreme rainfall events, such as a 1 in 100-year rainfall event. During these events, mining in this floodplain has the potential to significantly impact the water quality of the creeks through sedimentation or contamination.

The applicant has proposed to construct an earthen bund around the northern extent of the mining area which will isolate it from any potential seasonal flooding, including up to a 1 in 100-year flood event. An assessment of potential surface water impacts from the project found that if the earthen bund is constructed as outlined in their Surface Water Management Plan, it would effectively prevent stormwater impacts to the water quality in the Nambung River system during these occasional events.

As the mining has not yet reached the area likely to impact flood events, the bund has not yet been constructed. The requirement to construct this bund will be transferred to the licence to allow for mining in the northern extent of the pit.

Geology and Hydrogeology

The Atlas Project is situated on the Swan Coastal Plain, within the Bassendean Dune System geological formation. The upper layers comprise of dune sands, with clay and silt layers present at greater depth. The Bassendean Dune System contains a type of acid sulfate soils (ASS) characterised by highly reactive pyrite, coupled with a poor buffering capacity, making it prone to acidification when exposed to oxidising conditions. When undisturbed, these soils pose very

little environmental risk, however, dewatering and excavation for mining may cause these soils to oxidise and release acid which will necessitate selective handling and/or neutralisation. A potential acid sulfate soils (PASS) treatment pad, constructed out of 300 mm of compacted and bunded limestone was established on part of the Run of Mine (ROM) pad to manage any PASS material that would be encountered.

The project area is within the Jurien Groundwater Area, proclaimed under the *Rights in Water and Irrigation Act, 1914* (RIWI Act). A groundwater investigation undertaken prior to mining indicated that groundwater below the mining area is brackish and shallow, between 2 and 8 metres below the ground level (mbgl). Prior to mining, the pH of the groundwater around the prescribed premises has been measured between 6.8 and 7.6, indicating that very little acidification has occurred from the undisturbed, in-situ soils.

During time-limited operations under W6831/2023/1, overburden and ore was screened for PASS. Of the 89 samples taken, 13 field samples indicated the presence of PASS (about 14% of samples), which equated to about 14,000 cubic metres of PASS overburden and ore which were selectively handled to prevent acid generation. Tailings were also screened for PASS but it was not detected. Process water is returning a pH between 8 and 6.2 with a low total titratable acidity level, while slimes tailings has been measured at pH 5.5.

Groundwater bores to the west of the open pit area were drilled in April 2024 and have been monitored for standing water level and selected water quality parameters since October 2024 (see Figure 5, below). The standing water levels have been consistent over this time, between 2.8 metres below ground level (mbgl) and 7 mbgl. The applicant has revealed that dewatering of the open pit has not yet been required due to a lack of inflows into the pit, even though modelling suggested that mining should be occurring through the water table at this point.

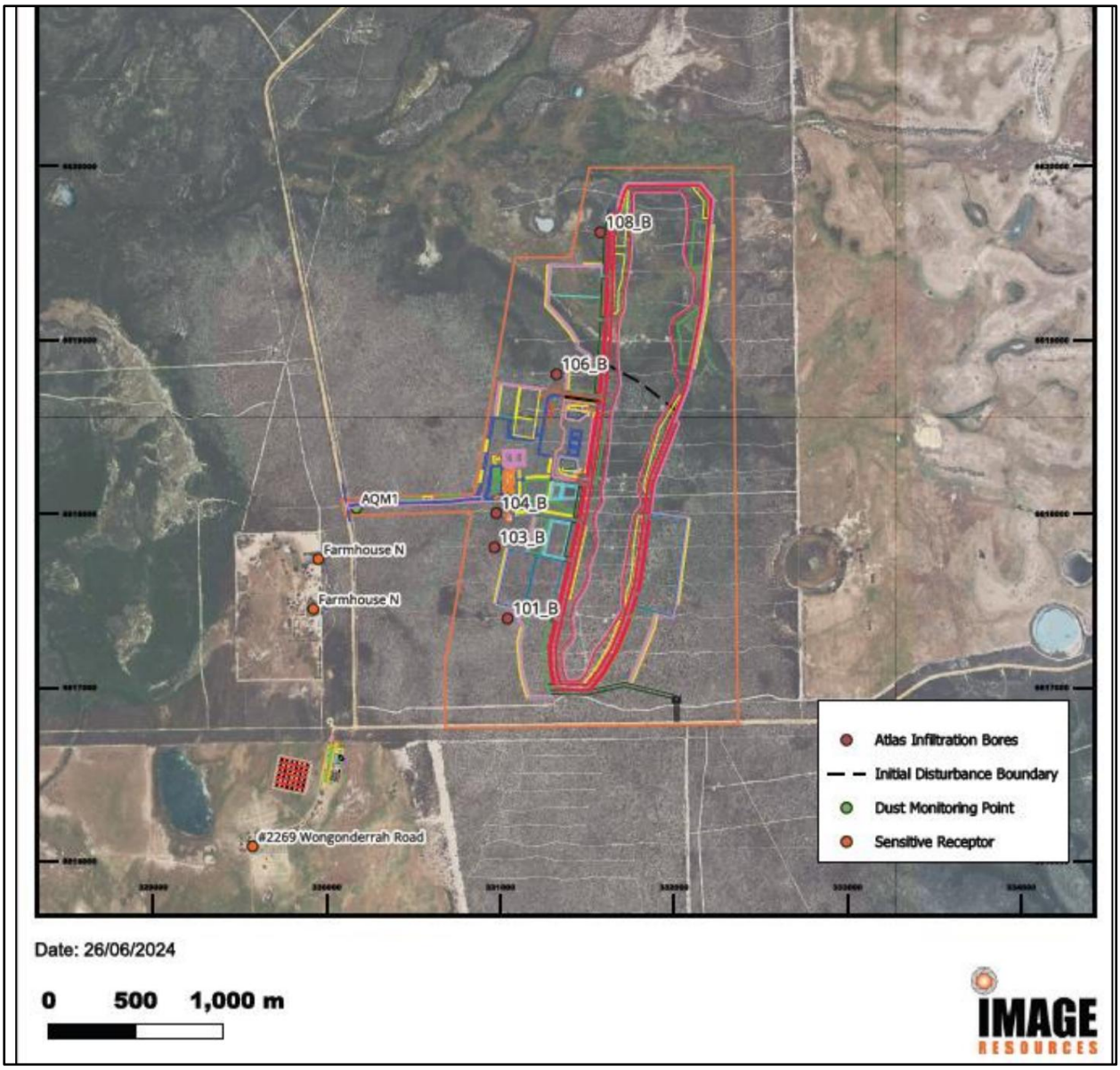

Figure 5: Location of groundwater monitoring bores I01 to I08.

It is noted that the pH of the bores is generally between pH 5 and 7.4, with the exception of I06 which has a pH of about 3.5 (see Figure 6, below). This bore also has elevated sulfate, high levels of dissolved aluminium (40-60mg/L), a total titratable acidity of 500 to 735 mg/L and no detectable alkalinity, suggesting that this bore is being strongly impacted by acidification. Given that mining of the southern area only commenced in late 2024 and given the trend has neither increased or decreased during the monitoring period, this suggests that these results are a factor of the specific soils at this location and is unlikely to be an indication of groundwater deterioration from mining activities over the past several months.

It is similarly noted that bore I03 has elevated sulfate levels and has a total dissolved aluminium over 1mg/L, which are both early indicators of acidification from acid sulfate soils. It will be critical that the applicant tightly manage impacts from acidification from the project to prevent further groundwater quality deterioration, given these early indications.

Elevated levels of aluminium, iron, zinc were observed across all bores and low levels of other metals were recorded in the bores that are already exhibiting lower pH. Low levels of radium isotopes were recorded in all bores.

These bores are included in the Groundwater Operating Strategy that has been approved and

is being implemented under the EPA Ministerial Statement (MS) 1220 to protect the nearby groundwater dependent vegetation. While groundwater will continue to be monitored under the licence for potential impacts from tailings deposition and PASS handling, impacts to groundwater quality from drawdown are specifically managed under MS 1220.

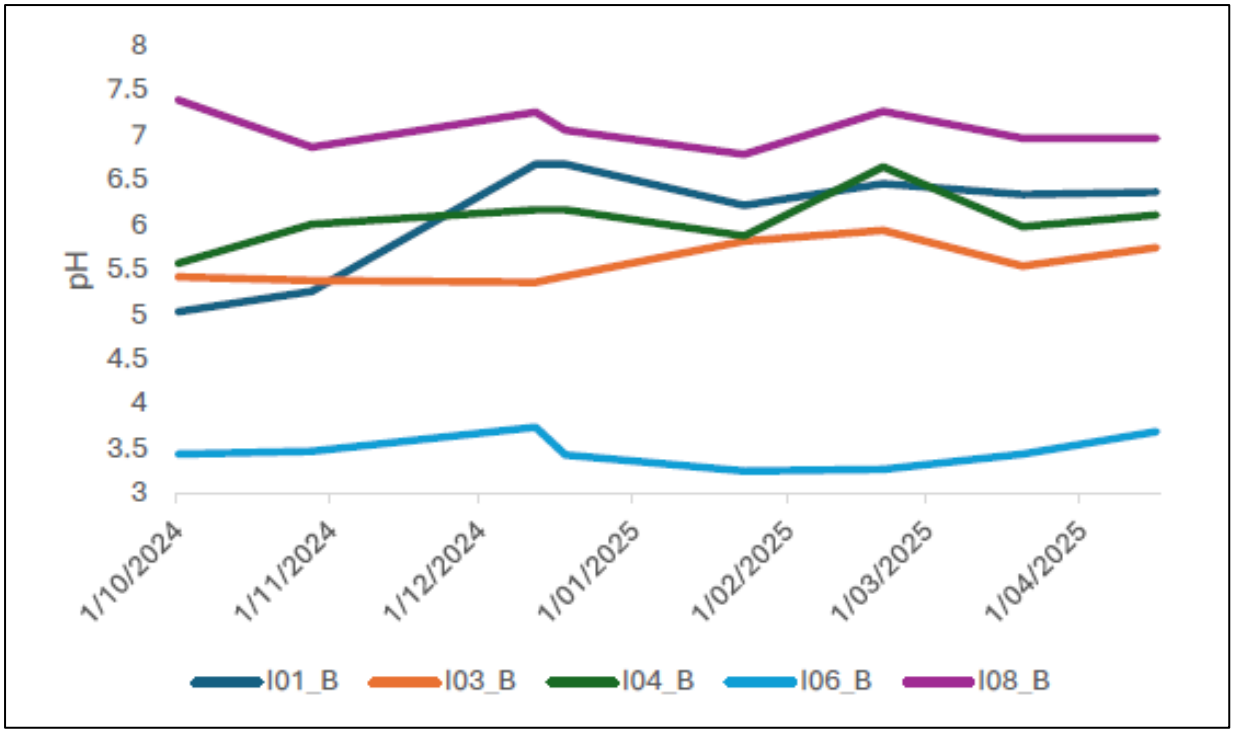

Figure 6: pH of groundwater bores at the Atlas Project between October 2024 and April 2025

2.3 Part IV of the EP Act

The Atlas Project was referred to the Environmental Protection Authority (EPA) on 3 September 2021. The EPA decided to assess the proposal at the level of a Public Environmental Review with a six-week public review period under Part IV of the EP Act.

Report number 1759 was issued in March 2024 relating to the proposal, which identified flora and vegetation, terrestrial fauna and inland waters as key environmental factors for the project. Impacts to fauna and vegetation, such as clearing, rehabilitation and the management of groundwater drawdown to minimise potential impacts to the nearby groundwater dependent vegetation are managed under Ministerial Statement (MS) 1220 and are not considered in this assessment.

The licence assessed under Part V of the EP Act regulates the operations at the premises to ensure that there are no adverse impacts from the disturbance of acid sulfate soils, tailings disposal, noise generation and dust generation.

There is some regulatory overlap between Part IV and Part V of the EP Act with regards to dewatering, discharges to groundwater and groundwater monitoring for this project. The Delegated Officer considers the management of groundwater drawdown to protect the groundwater dependent vegetation to be regulated entirely under MS 1220. For this reason, discharges to the infiltration ponds have not been considered in this assessment as the primary purpose of the discharge is to manage impacts to vegetation from the abstraction of groundwater.

The Delegated Officer has taken into consideration the objectives of the Groundwater Operating Strategy and Drawdown Management Plan, which are implemented under MS 1220, and has

only regulated matters that are not already regulated under MS 1220.

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 decision report are detailed in Table 1 below. Table 1 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

Table 1: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Construction			
Dust	Vehicle movements, lift-off from stockpiles and/or cleared areas, earthworks etc.	Air / windborne pathway	Minimise clearing. Watercart to be used for dust suppression on open areas and stockpiles. Use of chemical dust suppressant when required. Compaction, grading and wetting down of the construction area during works. Minimise earthworks during high wind (dusty) conditions. Speed limits for vehicles on site.
Noise	Earthworks, clearing, construction and installation of buildings and equipment, vehicle movements.	Air / windborne pathway	Restriction of topsoil and overburden stripping to daytime only.
Sediment laden stormwater	Clearing, earthworks, stockpiling of material.	Stormwater runoff to surface water and vegetation	Minimise clearing. Compaction, grading and wetting down of the construction area during works.
Operation			
Noise	Operation of mobile	Air /	Nighttime mining activities restricted to 6 haul

Emission	Sources	Potential pathways	Proposed controls
	machinery for mining, operation of fixed machinery for processing, use of generators and pumps.	windborne pathway	trucks when working in the southern areas of the pit between 10pm and 7am. Topsoil and overburden stripping and mining activities to be restricted to daytime only with a limited mining fleet. Broadband start-up alarms and reversing alarms. Pump placement to attenuate noise. Pumps to be enclosed if required. Generator sets to be enclosed to attenuate noise. Speed limits for all vehicles on site.
Dust	Erosion of cleared areas and stockpiles during high winds Mining and earthworks Wheel generated dust Materials handling	Air / windborne pathway	Retaining vegetation where possible. Watercart and sprinklers to be used for dust suppression. Compaction, grading and wetting down of the operational processing areas. Stockpiles and open areas to be covered, watered or chemically stabilized. Minimise earthworks during high wind (dusty) conditions. Speed limits of 50km/hr for haul trucks on site. Mulching and progressive rehabilitation. Wet processing of ore. Dust monitoring
Sediment laden stormwater	High rainfall events	Stormwater runoff to surface water and vegetation	Construction of a bund to 42 m AHD around the north of the mining area to divert high levels of runoff around the open pit during high rainfall events. Construction of a toe drain along the eastern side of the bund. Stormwater from the mining and processing areas to be directed to sediment basins or the open pit. Sediment sumps to be sized to contain first flush rainfall events and at least 25 mm of water from across the catchment area. Maintain the ability to pump water from the open pit to the mine water circuit.
Hydrocarbon contamination	Direct discharge from spills	Spill to soils and vegetation	Installation of oily/water separators at the washdown bays Vehicle washdown, workshops and refuelling are on compacted or hardstand areas.

Emission	Sources	Potential pathways	Proposed controls
			Fuel stored in self-bunded tanks Other hydrocarbons and chemicals in bunded facilities Spill kits available Sumps sized to contain first flush rainfall events
Process water	Overtopping of process water pond or solar drying ponds Pipeline spills	Spill to soils and vegetation	Pipelines to be constructed in bunding or with leak detection systems. Daily inspections of pipelines, solar drying ponds and process water ponds Process water pond and solar drying ponds to be operated with a 1 m freeboard Solar drying ponds operated with a 0.5 m freeboard Routine inspections of containment ponds
Seepage from tailings or process water facilities	Seepage from solar drying ponds, process water ponds or tailings deposition areas (mine voids)	Seepage to groundwater	Process water pond to be lined with a HDPE liner to prevent seepage. Deposition of clay slimes into solar drying ponds will form a low permeability layer to reduce seepage. Decant water from tailings to be returned to the process water circuit.
Tailings	Pipeline spills Overtopping of mine voids	Spills	Pipelines in bunding or with leak detection systems. Daily inspections of pipelines
Acidification of groundwater or soils	Naturally occurring acid sulfate soils within the mining area	Acidification of soils and groundwater	On-going sampling and analysis of overburden and ore for PASS. Selective handling of PASS materials, including burial in the open pit with a neutralising agent. Neutralisation of PASS with limestone and confirmation testing for effectiveness. Lining of selected areas of pit with limestone prior to burial of PASS overburden material. Use of a limestone treatment pad for handling PASS material Monthly testing of process water and neutralisation if pH <4 Routine testing of tailings and slimes for PASS Neutralisation of tailings, when required. Routine groundwater monitoring

3.1.2 Receptors

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

Table 2 and Figure 7 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 2: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	**Distance from prescribed activity**
2269 Wongonderrah Road	1.3 km southwest of prescribed premises boundary 1.7 km southwest of mining area
3121 Munbinea Road	3.3 km northwest of premises boundary and mining area
3700 Munbinea Road	300 m southwest of haul road 860 m west of premises boundary *(excluded due to not being occupied)*
3672 Munbinea Road	500 m southwest of haul road 850 m west of premises boundary *(excluded due to not being occupied)*
Environmental receptors	**Distance from prescribed activity**
Nambung National Park	850 m west of the prescribed premises boundary. Visitor centre is about 10 kms southwest of the prescribed premises boundary.
Threatened Ecological Community – *Banksia Woodlands of the Swan Coastal Plain* (endangered) (groundwater dependent)	Premises is entirely within this vegetation community
Threatened Ecological Community – *Claypans of the Swan Coastal Plain* (critically endangered)	Within the prescribed premises boundary
Species of cultural interest – Moodjar (*Nuytsia floribunda*)	Within the prescribed premises boundary
17 priority flora species	Within the prescribed premises boundary
Carnaby's Cockatoo (endangered)	High value foraging habitat within the prescribed premises boundary
Mount Jetty creek line, which feeds the Nambung River.	About 200 m north of the mining area. Prescribed premises is within the creek catchment area.
Environmentally significant wetlands	1 km east-southeast of premises boundary

Groundwater: brackish at 2 to 8 m below ground level.	Site is within the prescribed Jurien Groundwater Area
Areas of Aboriginal cultural significance, including Moodjar trees and Bibby and Jetty Creeks. (Note that there are no registered Aboriginal Cultural Heritage Sites in the area)	Moodjar trees within the prescribed premises boundary but excluded from the disturbance footprint of MS 1220. Mount Jetty Creek 200 m north of the mining area Bibby Creek 2 kms north of the mining area

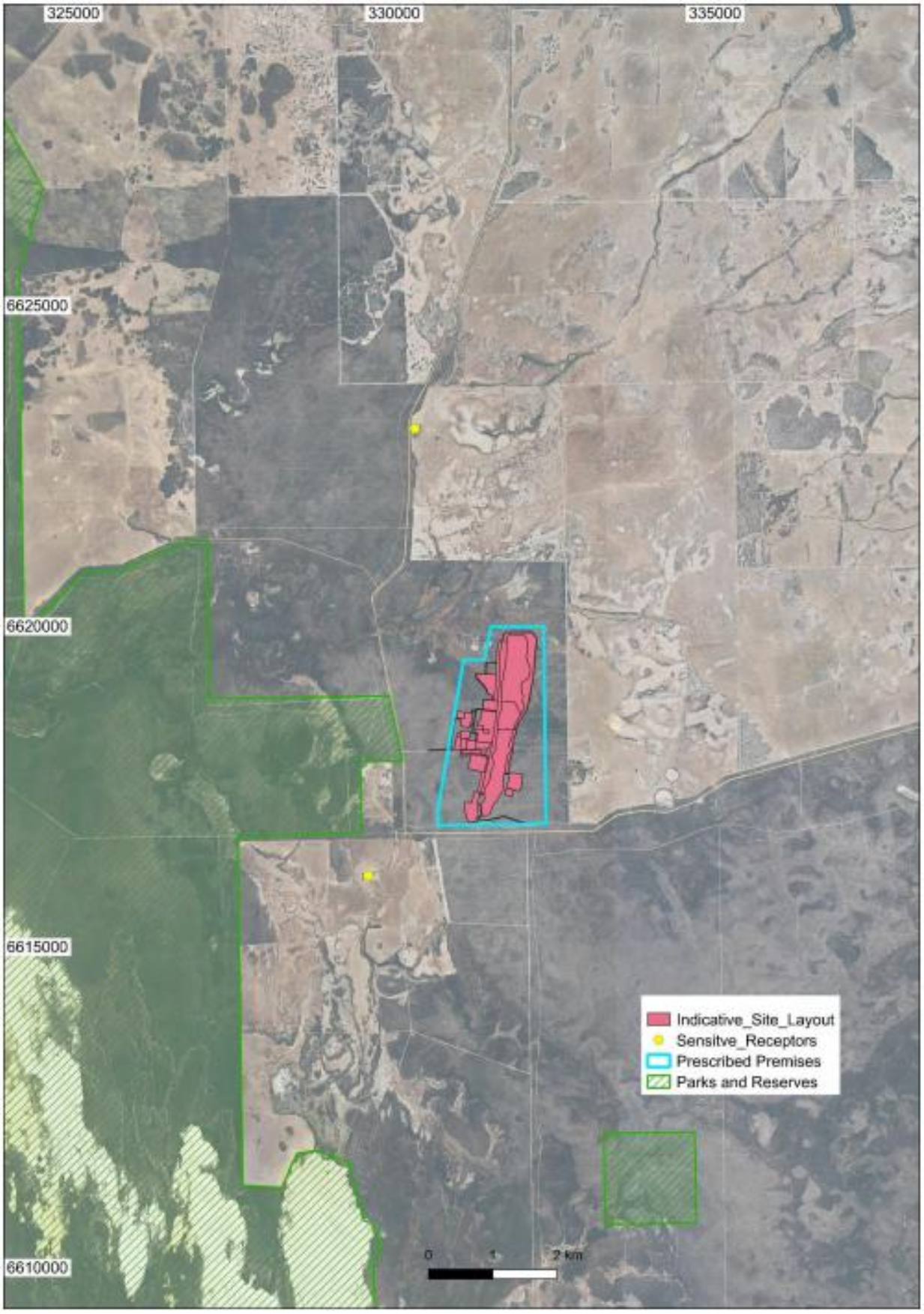

Figure 7: Distance to sensitive receptors

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for each identified emission source 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 applicant 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 applicant'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 applicant's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 3.

Licence L3014/2025/1 that accompanies this decision report authorises emissions associated with the operation of the premises i.e. category 8 activities.

The conditions in the issued licence, as outlined in Table 3 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 3: Risk assessment of potential emissions and discharges from the premises during construction and operation

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions [2] of licence	Justification for additional regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Construction								
Construction of earthen bund around mine pit or solar drying ponds using overburden material, including use of mobile equipment.	Dust	Air / windborne pathway causing impacts to health and amenity	Residences 3.3km north and 1.3km southwest of the premises	Refer to Section 3.1	C = Minor L = Unlikely **Medium Risk**	Y	Condition 6 and 8.	Construction requirements for this infrastructure have been transferred from the works approval. General dust and stormwater conditions on the licence are sufficient to manage potential impacts and additional controls relating to construction are not required.
	Noise			Refer to Section 3.1	C = Minor L = Rare **Low Risk**	Y	Condition 16 and 17	
	Sediment laden stormwater	Contaminated run-off	Mt Jetty Creek 200m north of the premises Surrounding soil and priority vegetation	Refer to Section 3.1	C = Minor L = Rare **Low Risk**	Y	N/A	
	Acidic seepage or drainage	Disturbance and use of PASS materials causing contamination	Surrounding soils Groundwater	Refer to Section 3.1	C = Major L = Unlikely **Medium Risk**	Y	Condition 2	Construction condition includes the requirement to screen material used in construction for PASS.
Operation								
Mining – overburden and ore removal and handling, vehicle movements,	Dust	Air / windborne pathway causing impacts to health and amenity	Residences 3.3km north and 1.3km southwest of the premises	Refer to Section 3.1	C = Minor L = Unlikely **Medium Risk**	Y	Condition 6, 8 and 15	General dust controls from works approval and dust monitoring have been transferred to the licence. Continued October to May dust monitoring will be required on the

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions [2] of licence	Justification for additional regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
								licence, but the applicant will need to relocate the dust monitor to a location further from the mining and processing activities (and any other dust generating locations, such as near a road), and as close to the receptors as possible. This will provide a better understanding of potential dust impacts from the project on receptors
	Noise	Air / windborne pathway causing impacts to amenity	Residences 3.3km north and 1.3km southwest of the premises	Refer to Section 3.1	C = Moderate L = Unlikely **Medium Risk**	Y	Condition 16 and 17	Noise modelling shows that mining in the northern area of the pit will meet the assigned noise levels at all times. The licence holder has proposed to manage noise impacts through monitoring and reducing activities as required, based on the monitoring data, to ensure compliance with the Noise Regulations. This has been conditioned on the licence. The provisions of the Noise Regulations apply to the premises at all times.
	Sediment laden stormwater	Contaminated run-off	Mt Jetty Creek 200m north of the premises Surrounding soil and priority vegetation	Refer to Section 3.1	C = Minor L = Rare **Low Risk**	Y	Condition 1, 2 and 5	Construction of a bund around the mining area to prevent potential impacts to Mt Jetty Creek during occasional flood events prior to mining in the north has been transferred to the licence. A general requirement to contain potentially contaminated stormwater on site has also been included.
	Acid drainage	Deterioration of soil quality	Surrounding soil and	Refer to	C = Major	Y	Condition 9, 10	Conditions relating to the handling of PASS material have been transferred

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions [2] of licence	Justification for additional regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
		and/or groundwater quality due to oxidation of PASS from dewatering and earthworks	priority vegetation Groundwater	Section 3.1	L = Unlikely **Medium Risk**		and 14	to the licence. Monthly, quarterly and annual groundwater monitoring have been included.
Stockpiling of topsoil and overburden	Sediment laden stormwater	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Mt Jetty Creek 200m north of the premises Surrounding soil and priority vegetation	Refer to Section 3.1	C = Minor L = Rare **Low Risk**	Y	Condition 5	A general requirement to contain potentially contaminated stormwater on site has also been included on the licence.
	Dust	Air / windborne pathway causing impacts to health and amenity	Residences 3.3km north and 1.3km southwest of the premises	Refer to Section 3.1	C = Minor L = Unlikely **Medium Risk**	Y	Condition 6, 8 and 15	General dust controls and dust monitoring have been transferred to the licence.
	Acid drainage (from overburden only)	Deterioration of groundwater quality due to acidic seepage	Surrounding soil and priority vegetation Groundwater	Refer to Section 3.1	C = Major L = Rare **Medium Risk**	Y	Condition 9, 10 and 14	Conditions relating to the handling of PASS material have been transferred to the licence. Monthly, quarterly and annual groundwater monitoring have been included.
Transport of process water and tailings through pipelines	Tailings or process water	Spills	Surrounding soil and priority vegetation	Refer to Section 3.1	C = Minor L = Unlikely **Medium Risk**	Y	Condition 1 and 7	Leak detection and regular inspections will provide sufficient protection. Applicant controls have been conditioned on the licence.
Processing of ore including operation of	Noise	Air / windborne pathway	Residences 3.3km north	Refer to	C = Moderate	Y	Condition 1, 16	Noise modelling shows that processing and mining in the

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions [2] of licence	Justification for additional regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
FPP and WCP		causing impacts to amenity	and 1.3km southwest of the premises	Section 3.1	L = Unlikely **Medium Risk**		and 17	northern area of the pit will meet the assigned noise levels at all times. The licence holder has proposed to manage noise impacts through monitoring and reducing activities as required, based on the monitoring data, to ensure compliance with the Noise Regulations. This has been conditioned on the licence. The provisions of the Noise Regulations apply to the premises at all times.
	Dust	Air / windborne pathway causing impacts to health and amenity	Residences 3.3km north and 1.3km southwest of the premises	Refer to Section 3.1	C = Minor L = Rare **Low Risk**	Y	Condition 6, 8 and 15	General dust controls and dust monitoring have been transferred to the licence.
	Sediment laden stormwater	Contaminated run-off	Surrounding soil and priority vegetation	Refer to Section 3.1	C = Slight L = Unlikely **Low Risk**	Y	Condition 5	A general requirement to contain potentially contaminated stormwater on site has also been included on the licence.
Stockpiling of ore and HMC	Sediment laden stormwater	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Mt Jetty Creek 200m north of the premises Surrounding soil and priority vegetation	Refer to Section 3.1	C = Minor L = Rare **Low Risk**	Y	Condition 5	A general requirement to contain potentially contaminated stormwater on site has also been included on the licence.
	Dust	Air / windborne pathway causing impacts	Residences 3.3km north and 1.3km	Refer to Section 3.1	C = Minor L = Unlikely	Y	Condition 6, 8 and 15	General dust controls and dust monitoring have been transferred to the licence.

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions [2] of licence	Justification for additional regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
		to health and amenity	southwest of the premises		**Medium Risk**			
	Acid drainage	Deterioration of groundwater quality due to acidic seepage	Surrounding soil and priority vegetation Groundwater	Refer to Section 3.1	C = Major L = Rare **Medium Risk**	Y	Condition 9, 10, and 14	A bunded limestone treatment pad has been constructed. Conditions relating to the handling of PASS material have been transferred to the licence. Monthly, quarterly and annual groundwater monitoring have been included.
Operation of process water ponds	Process water	Spills Overtopping of ponds	Surrounding soil and priority vegetation	Refer to Section 3.1	C = Minor L = Unlikely **Medium Risk**	Y	Condition 1 and 7	1 m freeboard and inspections will provide sufficient protection
	Seepage	Seepage from ponds causing groundwater mounding	Priority vegetation	Refer to Section 3.1	C = Minor L = Rare **Low Risk**	Y	N/A	Ponds are HDPE lined. No additional controls are required.
	Acidification of process water	Deterioration of process water quality due to acidification	Surrounding soil and priority vegetation Groundwater	Refer to Section 3.1	C = Minor L = Possible **Medium Risk**	Y	Condition 9, 10 and 13	Process water will be monitored for acidification and treated, if required.
Operation of solar drying ponds	Process water	Spills Overtopping of ponds	Surrounding soil and priority vegetation	Refer to Section 3.1	C = Minor L = Unlikely **Medium Risk**	Y	Condition 1 and 7	0.5 m freeboard and inspections will provide sufficient protection. These applicant controls have been conditioned on the licence.
	Seepage	Seepage from ponds causing groundwater	Priority vegetation	Refer to Section 3.1	C = Slight L = Unlikely	Y	N/A	Seepage from this structure is likely to assist with water infiltration objectives under the Ministerial

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions [2] of licence	Justification for additional regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
		mounding			**Low Risk**			Statement. No regulatory controls required
	Acid drainage	Deterioration of groundwater quality due to acidic seepage	Surrounding soil and priority vegetation Groundwater	Refer to Section 3.1	C = Minor L = Possible **Medium Risk**	Y	Condition 10, 13 and 14	The SDP's will be monitored for acidification and treated, if required. Monthly, quarterly and annual groundwater monitoring have been included.
Disposal of tailings to mine voids	Seepage	Seepage from ponds causing groundwater mounding	Priority vegetation	Refer to Section 3.1	C = Slight L = Unlikely **Medium Risk**	NA	NA	Groundwater levels will be managed and monitored under the Ministerial Statement.
	Acid drainage	Deterioration of groundwater quality due to acidic or metalliferous seepage	Surrounding soil and priority vegetation Groundwater	Refer to Section 3.1	C = Major L = Unlikely **Medium Risk**	Y	Condition 9, 10, and 14	Conditions relating to the handling of PASS material have been transferred to the licence. Monthly, quarterly and annual groundwater monitoring have been included.

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

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

4. Consultation

Table 4 provides a summary of the consultation undertaken by the department.

Table 4: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website on 21 July 2025	None received	N/A
Local Government Authority advised of proposal on 15 July 2025	None received	N/A
3 neighbouring landholders advised of proposal and invited to comment	None received	N/A
Applicant was provided with draft documents on 11 September 2025	Comments received requesting change to noise conditions, proposing management of noise impacts through monitoring options	The request for the removal of prescriptive conditions limiting the numbers of trucks that may operate in each mining area, and instead proposed to manage noise impacts to neighboring properties through noise monitoring and responsive management actions has been accepted. The applicant has modelling that informs them of the likelihood of complying with the Noise Regulations under a number of scenarios, and it will be their responsibility to ensure compliance at all times.

5. Conclusion

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

References

Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.

1. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
2. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
3. Lloyd George Acoustics (LGA) 2025a, *Environmental Noise Assessment*, prepared for Image Resources NL.

4. Lloyd George Acoustics (LGA) 2025b, *Environmental Noise Assessment*, prepared for Image Resources NL.