



## Application for Licence Amendment

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

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<b>Licence Number</b>	L9177/2018/1
<b>Licence Holder</b>	Image Resource NL
<b>ACN</b>	063 977 579
<b>File Number</b>	DER2018/001431
<b>Premises</b>	Boonanarring Mineral Sands Mine Wannamal Road West BOONANARRING WA 6503  Legal description – Mining tenements M70/1194 and M70/1311
<b>Date of Report</b>	8 April 2024
<b>Decision</b>	Revised licence granted

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## 1. Decision summary

The Delegated Officer has determined to make amendments to Licence L9177/2018/1 (the existing licence). The amendments mostly relate to the cessation of operations at the premises.

This Amendment Report documents the amendments made pursuant to section 59 and 59(B) of the *Environmental Protection Act 1986* (EP Act). The decision report for the existing licence will remain on the department's website for future reference and will act as a record of the department's decision making.

## 2. Scope of assessment

### 2.1 Regulatory framework

In amending the licence, 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 Application summary

Licence L9177/2018/1 is held by Image Resources NL (Licence Holder) for the Boonanarring Mineral Sands Mine (the Premises), located at Wannamal Road West, Boonanarring.

On 20 November 2023, the Licence Holder submitted an application to the department to amend Licence L9177/2018/1 under section 59B of the *Environmental Protection Act 1986* (EP Act). The amendment supports the licence holder's transition to the rehabilitation phase of the operation which started in 2020. With the depletion of ore stockpiles, mining and processing having ceased within the premises. The licence holder will continue to employ the use of earthwork equipment to undertake the backfilling of pits and ground surface re-profiling for the purpose of rehabilitation.

The Premises relates to the Category 8: Mineral sands mining or processing and the assessed production/design capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in existing Licence L9177/2018/1.

#### 2.2.1 On-site disposal of exploration samples

The licence holder is proposing to transport exploration samples/spoils from off-site licence holder mining tenements to the premises for on-site disposal. The licence holder states that the material is from surrounding tenements with similar geological composition and as such poses negligible environmental risk. The overall quantity of 1,000 tonnes (combined) of non-mining waste authorised on the existing licence will not be exceeded.

## 3. Risk Assessment

### 3.1.1 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for each identified emission source and considers potential source-pathway and receptor linkages.

Where the applicant has proposed mitigation measures/controls, 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 1.

Licence L9177/2018/1 that accompanies this decision report authorises emissions associated with the operation of the premises.

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

**Table 1 Risk assessment of potential emissions and discharges from the premises during operation**

Risk events					Risk rating <sup>1</sup> C = consequence L = likelihood	Applicant controls sufficient?	Conditions <sup>2</sup> of Licence	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
<b>Operation</b>								
Disposal of inert non-mining waste (including exploration samples/spoil from off-site licence holder held mining tenements) into Pit C	Potentially contaminated spoil/ exploration samples causing leachate with elevated contaminant concentrations	<b>Pathway:</b> Infiltration  <b>Impact:</b> Contamination of soils and deterioration of groundwater quality inhibiting the survival of adjacent remnant native vegetation, impacting priority flora species and a priority ecological community.	Groundwater and groundwater dependent vegetation that occur within and adjacent to the premises boundary	Existing condition 22	C = <i>Slight</i> L = <i>Unlikely</i> <b>Low Risk</b>	N/A	Condition 22 (Table 9) Disposal of non-mining waste	<p>The Delegated Officer notes that non-mining waste is currently authorised to be disposed at the premises by burial within Pit C. Disposal of non-mining waste was assessed and authorised via an amendment to the licence granted in 2020, when the department noted that only waste generated on-site was permitted for disposal and that Category 63 would not be added to the licence given no waste was to be accepted from off-site.</p> <p>The proposal to add exploration samples or spoil to the list of non-mining waste for disposal to Pit C meets the definition and production capacity of a Category 63 (Class 1 inert landfill) Prescribed Premises as defined in Schedule 1 of the <i>Environment Protection Regulations 1987 (WA)</i> (EP Regulations), given the waste will be accepted from off-site. The Delegated Officer has determined to add Category 63 to the licence and considers that the risk of disposing potentially contaminated soil is adequately managed under existing controls, including ensuring all waste meets the definition of Inert Waste Type 1 per the <i>Landfill Waste Classification and Waste Definitions 1996</i>.</p> <p>The Delegated Officer also considers the risk of impact to be low risk given the soil is of similar geological composition to the premises (i.e. Pit C) and therefore poses a negligible risk of impact on the environment.</p> <p>Any waste that cannot meet the definition of Inert Waste Type 1 per the <i>Landfill Waste Classification and Waste Definitions 1996</i> is to be disposed off-site.</p>

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.

### 3.1.2 Assessment of proposed amendments to existing licence conditions

The depletion of ore stockpiles at the premises as of September 2023 has resulted in the cessation of active mining and processing at the premises, with the mine now transitioning into a rehabilitation phase. Consequently, operations at the premises no longer trigger *Category 8: Mineral sand mining* and therefore this category has been removed from the licence.

The licence holder has proposed to reduce the scope of groundwater, acid sulphate, noise, and air quality monitoring as the risk of emissions have been reduced due to the end of active mining and processing. Decommissioning or removal of several items of infrastructure are proposed and may be reclaimed for use in other projects. Table 2 below provides an outline of the proposed amendments and justification, as well as the department’s response.

**Table 2 Departments response to proposed amendments**

Condition No.	Proposed Amendments	Applicant justification	Department Response
1	Amend Condition 1 to remove 'Disposal of mine tailings (waste sand and clay)' and 'Noise Emissions' from Table 2.	No tailings will be produced due to the completion of processing. The conditions relating to noise emissions have been removed.	The Delegated Officer has determined to remove this condition as it is considered redundant in the contemporary licence format, particularly with mining operations having ceased at the premises. Schedule 2 (primary activities and infrastructure list) is also considered redundant and has also been removed.
2	Remove Condition 2 from licence.	Remove condition as all items are either constructed or no longer required.	The Delegated Officer agrees to the removal of the condition.
3	Remove Condition 3 from licence.	Construction of infrastructure is no longer required as all items are either constructed or no longer required.	The Delegated Officer agrees to the removal of the condition.
4	Remove or amend the following items from Table 4 in Condition 4 of the current licence: <ul style="list-style-type: none"> <li>•Remove all description and operation requirements for 'Process plant / WCP'. The plant is still currently on-site but is not operating so does not require operation requirements. Change to 'None Specified'.</li> <li>•Remove item 2 - 'Mining Unit / FPP'.</li> <li>•Remove item 4 - 'Return Water Pond'.</li> <li>•Remove item 5 – 'Pipelines carrying HMC'.</li> </ul>	Infrastructure/Equipment mentioned below are no longer required since completion of processing or will not require specific operational requirements.	The Delegated Officer agrees with the removal of items that no longer are operational and therefore do not require operational requirements. This includes the process water ponds, solar drying ponds and off-path backup tails cell.

Condition No.	Proposed Amendments	Applicant justification	Department Response
	<ul style="list-style-type: none"> <li>•Remove all description and operation requirements for 'Solar drying ponds'. Change to 'None Specified.</li> <li>•Remove all description and operation requirements for 'Tailings Infrastructure' item 2 - 'Off-path backup tails cell'. Change to 'None Specified.</li> <li>•Remove 'Tailings Infrastructure' item 3 – 'Pipelines carrying clay fines and return water'.</li> </ul>		
5	Remove Condition 5 from licence.	Processing infrastructure is either no longer in use or being decommissioned. As such the equipment no longer poses an environmental risk and inspections are not required.	The Delegated Officer agrees to the removal of the condition.
6	Remove Condition 6 from licence.	No tailings will be produced due to the completion of processing.	The Delegated Officer agrees to the removal of the condition.
7	<p>Remove or amend the following items from Table 7 in Condition 7 of the current licence:</p> <ul style="list-style-type: none"> <li>•Remove 'Topsoil stripping' and related actions.</li> <li>•Remove 'Dust suppressant (other than water)' and related actions.</li> </ul>	<p>Active mining ceased in September 2023 with the mine now transitioning into a rehabilitation phase including backfill of overburden into pits. No further topsoil stripping is required.</p> <p>The transition from active mining to rehabilitation has resulted in a reduced mining fleet which has also greatly reduced the fugitive dust on-site. Due to this and the fact that slime is no longer produced on-site it is proposed that 'dust suppressants (other than water)' be removed as a requirement.</p>	<p>There will no longer be dust emissions from topsoil stripping, therefore the Delegated Officer agrees to the removal of the condition.</p> <p>Other dust controls are considered sufficient to manage potential dust lift off from stockpiles and pond embankments.</p>
12	<p>Remove or amend the following items from Table 8 in Condition 12 of the current licence:</p> <ul style="list-style-type: none"> <li>•Remove 'Noise bunding' and related actions.</li> <li>•Remove 'Mining unit / FPP' and related actions.</li> </ul>	Active mining ceased in August 2023 with the mine now transitioning into a rehabilitation phase including backfill of overburden into pits. As there will be no further active mining and bunds constructed of overburden are being backfilled into the mining void the requirement for Noise Bunds is no longer required. The mine has also ceased operations during night time hours further reducing the need for noise bunds.	The Delegated Officer considers the removal of the controls for Noise bunding and the Mining unit / FPP acceptable as active mining and processing have ceased hence the risk of noise emissions have been reduced.

Condition No.	Proposed Amendments	Applicant justification	Department Response
		Processing works has finished on-site removing the need for relevant noise controls. This includes the Mining unit / FPP.	
13	Remove condition 13 from the licence.	<p>Active mining ceased in August 2023 with the mine now transitioning into a rehabilitation phase including backfill of overburden into pits. Potential Acid Sulphate Soils (PASS) has been identified to potentially occur just below the ore body in black and dark grey soils (Attachment 8A). As there will be no further active mining, interaction with PASS is no longer possible and as such all relevant controls can be removed.</p> <p>No PASS has been identified on site in the previous 3 years of operation and no groundwater triggers have been activated.</p>	The Delegated Officer agrees to the change the condition as the PASS is at a low/no risk of leaching into the groundwater due to active mining ceasing.
18	Remove Condition 18 from licence.	No further processing will be undertaken on-site, and the dewatering water licence is no longer active.	The Delegated Officer agrees to the removal of the condition.
19	<p>Amend Table 12 Notes 1-3 (Condition 19 in licence). Remove the word 'mining' and replace with 'rehabilitating' as per below:</p> <ul style="list-style-type: none"> <li>•Note 1: Monitoring at Central West only required whilst rehabilitating Pit C (Stage 1).</li> <li>•Note 2: Monitoring at North West only required whilst rehabilitating Pit B.</li> <li>•Note 3: Monitoring at South West only required whilst rehabilitating Pit C (Stage 2) and Pit D.</li> </ul>	Active mining ceased in August 2023 with the mine now transitioning into a rehabilitation phase including backfill of overburden into pits. Therefore, an amendment to related terminology is proposed.	The Delegated Officer agrees with the propose change to monitoring air quality during rehabilitation activities at the premises.
21	<p>Amend Table 13 Notes 2-3 (Condition 21 in licence). Remove the word 'mining' and replace with 'rehabilitating' as per below:</p> <ul style="list-style-type: none"> <li>•Note 2: Monitoring at North West only required whilst rehabilitating Pits A &amp; B.</li> <li>•Note 3: Monitoring at South West only required</li> </ul>	Amend Table 13 (Condition 21) Notes 2-3 (in licence). Remove the word 'mining' and replace with 'rehabilitating' as mining and processing has ceased.	The Delegated Officer agrees to the change in terminology



Condition No.	Proposed Amendments	Applicant justification	Department Response
	whilst rehabilitating Pit C (Stage 2) and Pit D.		
23	<p>Remove or amend the following items from Table 14 in Condition 23 of the current licence:</p> <ul style="list-style-type: none"> <li>•Remove upstream monitoring locations BNP003D, BNP004D, BNP010D, BNP011D, BNP012D, BNP017S, and BNP025S.</li> <li>•All bores are now constructed so remove wording 'bores yet to be constructed' from column 1.</li> <li>•Add BNMB23 to column 1 as it is a Pit C (stage 2) downstream monitoring location.</li> <li>•Change monitoring frequency for all parameters to Quarterly in column 5.</li> <li>•Remove Notes 2-4 as they are no longer relevant.</li> </ul>	<p>Processing and mining activities have ceased on site. Based on this the water licence to abstract water from the Yarragadee Aquifer has been reduced from 3 Gigalitres (GL) to 1.3GL and the groundwater licence to dewater has been run to completion without a request for renewal.</p> <p>Based on historical data as seen in the 2022 Annual Environmental Report (Attachment 8B) little to no impact has occurred to the relevant groundwater level or quality. Also, no significant impact has been noted in the surrounding vegetation at Bartlett's Nature Reserve and Boonanarring Nature Reserve.</p>	<p>The Delegated Officer notes that the proposed bores to be removed were most recently reported (in the 2022 AER) to be broken or dry and therefore cannot be sampled.</p> <p>All the bores have been constructed the subsequently the Delegated Officer agrees with the removal of the wording.</p> <p>The 2021 and 2022 AER's show stable groundwater levels and quality. The change to quarterly monitoring (from monthly/six monthly/annually) for all parameters is acceptable.</p> <p>Removal of notes are found acceptable by the Delegated Officer as they relate to construction and operation prior to and during mining.</p>
24	Remove Condition 24 from licence.	All bores have been constructed as per requirements. No longer relevant.	The Delegated Officer agrees to remove this condition.
25	<p>Remove or amend the following items from Condition 25 in the current licence:</p> <ul style="list-style-type: none"> <li>•Item (c) – Remove Condition 18 from sentence.</li> <li>•Item (d) - Remove.</li> <li>•Item (g) – Amend to reference 'Condition 27'.</li> </ul>	<p>It has been proposed previously in this amendment that Condition 18 and Condition 13 (containing Table 10) are removed from the licence. If this is completed an amendment is required for consistency.</p> <p>Item (g) contains an error as it should reference Condition 27 not 26.</p>	The Delegated Officer agrees to the amend these items.
29	It is proposed in this amendment that the requirement for an AER be removed (Condition 29). An Annual Audit Compliance Report will still be submitted as per Condition 26 of the licence.	There is a significant reduction in environmental risk associated with the completion of active mining and processing as well as the proposed reduction in on-site monitoring. Based on this the completion of an Annual Environmental Report (AER) is deemed to be no longer value adding.	Groundwater monitoring will continue in some downstream locations, in addition to air and noise monitoring. Therefore, the Delegated Officer considers the submission of an AER to be necessary to ensure this monitoring data is reported until the licence is no longer active.

Condition No.	Proposed Amendments	Applicant justification	Department Response
30	Remove Condition 30 from licence.	It has been proposed previously in this amendment that Condition 29 be removed from the licence. If this is completed Condition 30 is no longer required.	The Delegated Officer has kept this condition as it relates to the preceding AER condition, which is to remain on the licence.
31	Amend Table 15 of Condition 31 to include 'Exploration samples/spoils from Image tenements.'	Exploration samples/spoils from Image owned tenements are stored nearby and require disposal. The soil is from surrounding tenements with similar geological composition and as such poses negligible environmental risk. The overall quantity of 1000 tonnes (combined) will not be exceeded.	The Delegated Officer has determined to allow exploration samples/spoils from Image tenements to be disposed on-site, subject to existing conditions specifying that the material must meet the definition for Inert Waste Type 1 per the <i>Landfill Waste Classification and Waste Definitions 1996</i> .

## 4. Consultation

The Licence Holder was provided with the draft Amendment Report on 27 March 2024, with comments received from the Licence Holder on 02 April 2024. The licence holder requested for the removal of conditions 8 to 11 as they refer to nighttime operations which have ceased. The Delegated Officer agrees that these conditions relating to noise control are now redundant.

## 5. Conclusion

Based on the assessment in this Amendment Report, the Delegated Officer has determined that an amended licence will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

The Delegated Officer notes that mining and associated processing activities have ceased and the premises is moving to a rehabilitation phase. Section 59A(2)(e) of the EP Act allows the holder of a licence to apply to the department to surrender their works approval or licence when the instrument is no longer required. Should the licence holder apply to surrender the licence, the Delegated Officer will undertake an assessment to determine whether the premises is likely to present an ongoing risk to the environment or public health, taking into consideration the acceptability of any risks identified and whether ongoing monitoring or management is required under the EP Act or *Contaminated Sites Act 2003*, in accordance with the Department's *Guidance Statement: Risk Assessments (DWER 2020)*.

### 5.1 Summary of amendments

Table 3 below provides a summary of the proposed amendments and will act as a record of implemented changes. All proposed changes have been incorporated into the Revised licence as part of the amendment process. The removal of several existing conditions has resulted in the re-numbering of conditions that were not amended.

**Table 3 Summary of licence amendments**

Condition no.	Revised condition number	Proposed amendments
Condition 1	N/A	Remove condition, considered redundant with the cessation of mining operations.
Condition 2	N/A	Remove condition as all items are either constructed or no longer required.
Condition 3	N/A	Remove condition as all items are either constructed or no longer required.
Condition 4	Condition 1	Remove all description and operation requirements for 'Process plant / WCP'. Change to 'None Specified'. Remove item 'Mining Unit / FPP'. Remove item 'Return Water Pond' Remove item 'Pipelines carrying HMC' Remove all description and operation requirements for 'Solar drying ponds' and replace 'None Specified'. Remove all description and operation requirements for 'Off-path backup tails cell' replace with 'None Specified'. Remove "Pipelines carrying clay fines and return water".
Condition 5	N/A	Remove condition. Processing infrastructure is either no longer in use or being decommissioned.
Condition 6	N/A	Remove condition. No tailings will be produced due to the completion of processing.
Condition 7	Condition 2	Remove 'Topsoil stripping' and related actions. Remove 'Dust suppressant (other than water)' and related actions.
Condition 8	N/A	Remove condition. As nighttime mining and removal of overburden have ceased.
Condition 9	N/A	Remove condition. As nighttime mining and removal of overburden have ceased.
Condition 10	N/A	Remove condition. As nighttime mining and removal of overburden have ceased.
Condition 11	N/A	Remove condition. As nighttime mining and removal of overburden have ceased.
Condition 12	Condition 3	Remove 'Noise bunding' and related actions. Remove 'Mining unit / FPP' and related actions.
Condition 13	N/A	Remove condition. As there will be no further active mining, interaction with PASS is no longer possible and as such all relevant controls can be removed.

Condition no.	Revised condition number	Proposed amendments
Condition 18	N/A	Remove condition. No further processing will be undertaken on-site, and the dewatering water licence is no longer active.
Condition 19	Condition 8	Amend Table 12 (Condition 19) Notes 1-3 (in licence). Remove the word 'mining' and replace with 'rehabilitating' as mining and processing has ceased.
Condition 21	Condition 10	Amend Table 13 (Condition 21) Notes 2-3 (in licence). Remove the word 'mining' and replace with 'rehabilitating' as mining and processing has ceased.
Condition 23	Condition 12	Remove upstream monitoring locations BNP003D, BNP004D, BNP010D, BNP011D, BNP012D, BNP017S, and BNP025S.  Remove wording 'bores yet to be constructed' from column 1.  Add BNMB23 as a downstream monitoring location.  Change monitoring frequency for all parameters to Quarterly in column 5.  Remove Notes 2-4
Condition 24	N/A	Remove condition. All bores have been constructed as per requirements.
Condition 25	Condition 13	Previously proposed in this amendment that Condition 18 and Condition 13 are removed from the licence. If this is completed an amendment is required for consistency <ul style="list-style-type: none"> <li>•Item (c) – Remove Condition 18 from sentence.</li> <li>•Item (d) - Remove.</li> <li>•Item (g) – Amend to reference 'Condition 27' instead of condition 26</li> </ul>
Condition 29	N/A	Removal of the completion of an Annual Environmental Report (AER).
Condition 30	N/A	Condition 30 is dependent of condition 29 and is to be removed with condition 29
Condition 31	Condition 19	Amend Table 15 Column 3 Specifications to include exploration samples/spoils from Image tenements.

## 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: Risk Assessments, Perth, Western Australia.