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	L9455/2024/1
Applicant	Newmont NOL Pty Limited
ACN	009 221 505
File number	DER2024/000383
Premises	Havieron Project Legal description Mining tenement M45/1287 EAST PILBARA As defined by the premises maps attached to the issued licence
Date of report	13 January 2025
Decision	Licence granted

Lauren Edmands

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A/SENIOR MANAGER, RESOURCE INDUSTRIES

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

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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 L9455/2024/1 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 29 July 2024, 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 relating to mine dewatering at the premises. The premises is approximately 259 km east of Nullagine.

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 L9455/2024/1. 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 L9455/2024/1.

It is noted that in the EP Regulations, the category 6 production capacity measurement unit is in tonnes. In this Decision Report, water volume units will be measured in kilolitres (kL) as this is generally the more appropriate unit of measure for water. One tonne of water is equivalent to approximately 1.02 kL of water.

The Havieron Project is a greenfield gold-copper deposit, approximately 45 km east of the Telfer Project. The mineral target is centred on a deep magnetic anomaly that is overlain by approximately 420 m of Permian (soft rock) cover. The Permian consists of sandstone, siltstone, mudstone, tillite and shale, and is intersected by upper, middle and lower confined hypersaline aquifers.

Commencement of the decline and ventilation raise excavations has progressed under Mining Proposal Stage 1. Stage 1 commenced in December 2020 and consists of the following:

- Development of box-cut, decline and associated infrastructure as part of the feasibility studies into the underground mining of the Havieron orebody;
- Development of a waste rock landform (WRL) for approximately 260,000 cubic metres (m^3) of material from the box-cut and decline;
- Up to 2,000,000 kL of groundwater production and dewatering from the decline via multiple sumps;
- Associated infrastructure, including hypersaline water evaporation ponds; and
- Access track between the Telfer and Havieron Projects.

Evaporation ponds 1 – 3, and associated infrastructure, were constructed under works approval W6468/2020/1, with the purpose of managing groundwater extracted from underground workings, through evaporation.

The evaporation ponds were constructed in 2022 and 2023, with the construction of one of the ponds wholly within the approved footprint but differing slightly from the design originally approved in the works approval. Evaporation Pond 1 was constructed approximately 0.6 m deeper than the original design, increasing the volume of the dam to 59,360 m^3. This was necessitated by the interception of more groundwater than anticipated in the Conceptual Hydrogeological Model. No additional clearing was required. The amended design was included in the Critical Containment Infrastructure Report (CCIR) for Evaporation Pond 1, submitted to the department in August 2023.

The spillways for the three evaporation ponds are located at the top water level, however these will be raised by 300 mm to accommodate high rainfall events. Operating level across all three evaporation ponds will not change, coordinated with pumping to maximise evaporation with the ability to contain high rainfall events when they occur.

Two silt ponds have also been constructed in a location originally intended for Raw Water Pond 1. These ponds are referred to onsite, and in this Decision Report, as Turkeys Nest ponds 2 and 3.

This licence application is specific to the operation of Evaporation Ponds 1, 2 and 3, as well as Turkeys Nest Ponds 2 and 3. It is also to assess the risk for mine dewater used for dust suppression across the premises.

2.2.1 Mine dewatering

Groundwater abstraction is required to ensure mine safety, both for the successful application of ground supports, and to ensure safe suitable working areas. The groundwater comprises of:

- Upper Confined Aquifer (UCA) and Middel Brown Sandstone (MBA) aquifer waters that will continue to percolate through strata; and
- Water from depressurisation of the Lower Confined Aquifer (LCA).

Currently the groundwater abstraction is managed by pumping from the decline (from underground sumps) to the Turkeys Nest Ponds and then either for overflow into the three existing evaporation ponds or used for dust suppression. Water used for dust suppression will only be applied where salinity is below Total Dissolved Solids (TDS) of 35, 000 mg/L. This water may also be used to meet site demands for water, including:

- Surface construction requirements; and
- Water for construction of ventilation infrastructure, batching plant, underground infrastructure, and vent shaft.

Water inflows from the UCA are not hypersaline and are generally abstracted through separate pumping lines. However, water from the MBA and LCA are hypersaline and in their raw form, are not suitable for site use, and therefore are discharged directly to the evaporation ponds.

2.2.2 Use of mine dewatering for dust suppression

Surplus mine dewater reporting to the Turkeys Nest Pond 2 (TN2) is utilised for dust suppression at designated and controlled locations. Water for dust suppression use is accessed by water trucks from a nominated standpipe located at the TN2, and is monitored daily to confirm water quality criteria is met. In the event that TDS is increasing, hypersaline water can be managed underground at the point of abstraction or directed to the evaporation pond cell 1 to prevent impacts on TN2 water quality.

The applicant will not use hypersaline water greater than 35,000 mg/L TDS for dust suppression.

In accordance with the site water balance, Havieron has estimated 1,300 kL of water to be used as dust suppression per month, which equates to an annual volume of 15,600 kL. Usage will be tracked daily. Figure 1 below outlines the dewatering flow diagram.

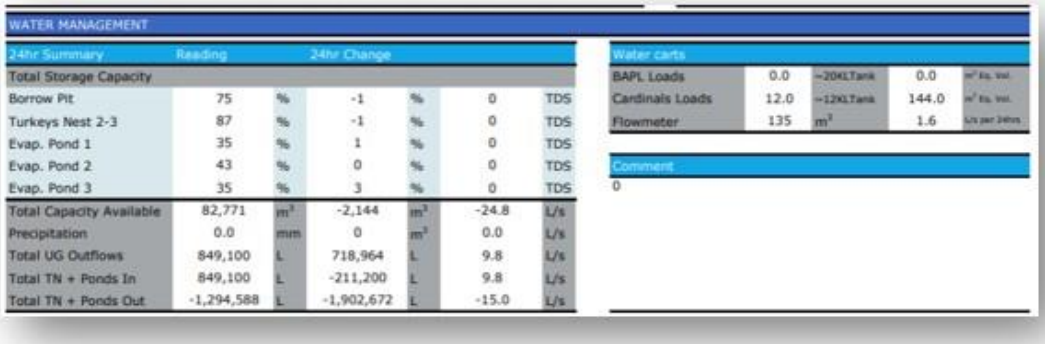
Figure 1: Dewatering system flow diagram

2.2.3 Site Water Balance

The estimated water balance for the evaporation ponds and dewatering at the premises is as follows:

- Underground abstraction rate of 12.3 L/s (approximately 32,000 kL/month).
- Average annual rainfall of 370 mm;
- Monthly average evaporation rates based on historical data and using the Telfer pan rate as follows:
    - January – 14.2 mm
    - February – 12.9 mm
    - March – 12.3 mm
    - April – 10.7 mm
    - May – 7.8 mm
    - June – 6.4 mm
    - July – 6.9 mm
    - August – 8.4 mm
    - September – 11.2 mm
    - October – 14.2 mm
    - November 15.5 mm
    - December – 15.1 mm; and
- Dust suppression (up to 1,300 kL/month);

Ponds are managed by level and monitored by FarmBot, a water level senor, which is used daily and in real time to feed a daily water balance. Whilst annual average rainfall is 370 mm, peak flow is a major factor in evaporation pond design and operation, hence a daily water balance is calculated with the focus on forecast weather preparedness. The daily report is used to balance operational pumping with evaporation rates and rainfall to ensure design freeboard is maintained. Evaporation is a calculated figure based on abstracted water and pond level. A pan trial has been conducted to validate this approach. A snip showing an example of their daily report is shown in Figure 2.



WATER MANAGEMENT

24hr Summary	Reading		24hr Change			
Total Storage Capacity						
Borrow Pit	75	%	-1	%	0	TDS
Turkeys Nest 2-3	87	%	-1	%	0	TDS
Evap. Pond 1	35	%	1	%	0	TDS
Evap. Pond 2	43	%	0	%	0	TDS
Evap. Pond 3	35	%	3	%	0	TDS
Total Capacity Available	82,771	m^3	-2,144	m^3	-24.8	L/s
Precipitation	0.0	mm	0	m^3	0.0	L/s
Total UG Outflows	849,100	L	718,964	L	9.8	L/s
Total TN + Ponds In	849,100	L	-211,200	L	9.8	L/s
Total TN + Ponds Out	-1,294,588	L	-1,902,672	L	-15.0	L/s

Water carts				
BAPL Loads	0.0	~20KLTank	0.0	m^3 Ea. Vol.
Cardinals Loads	12.0	~12KLTank	144.0	m^3 Ea. Vol.
Flowmeter	135	m^3	1.6	L/s per 24hrs

Comment

0

Figure 2: Snip of daily water balance report

2.2.4 Potential future site water management

The ventilation, batch plant and underground infrastructure requires a water supply consisting of salinity <1,500 mg/L, meaning water will need to be processed through a Reverse Osmosis Plant (RO Plant) or sourced from Telfer. If the future infrastructure includes an RO Plant, water supply is expected to be sourced through six production bores within the UCA, with the brine being discharged to the evaporation ponds, or utilised for dust suppression. This design will be advised to DWER accordingly. The LCA water inflow is considered unsuitable to use due to the high salinity and therefore would be discharged to the evaporation ponds, subject to this application.

2.3 Part IV of the EP Act

Stage 1 was referred to the Environmental Protection Authority (EPA) of Western Australia, by the applicant. However, based on survey results, the EPA determined that the potential impacts from the project on key environmental factors were not so significant to warrant a formal assessment.

The applicant is currently seeking approval for three additional Evaporation Ponds (4 - 6) that will be required for Stage 2 operations, which has been referred under Part IV of the EP Act and is under assessment (number 2446), with public submissions having closed on 4 December 2024.

W6468/2020/1 was undergoing an amendment to include the addition of ponds 4 - 6 however the timeframe was suspended due to the pending EPA decision. The works approval expired during this time. The department met with the applicant and the best path forward was determined to be for a licence application to be submitted for ponds 1 – 3 (this assessment), and a new works approval application submitted for ponds 4 – 6.

Approval for ponds 4 – 6 is currently being parallel assessed under a new works approval and will be followed with a subsequent licence amendment application.

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
Operation			
Saline to hypersaline mine dewater	Storage of mine dewater in evaporation ponds 1 – 3	Seepage through base of evaporation ponds	• Lined with 1.5 mm HDPE with hydraulic conductivity of at least 1 x 10-9 m/s. • Daily inspections during operations. • Monthly monitoring of groundwater bores and assessment against baseline levels.
		Overtopping of ponds	• Spillways built into ponds • Allowance for freeboard to accommodate direct rainfall from a 1% AEP 72-hour rain event and wave action potential. • Crest embankments are graded inwards to drain water into the pond. • Side slopes of the embankments are at least 1V:3H. • Surrounding v-drain to minimize surface water ponding against base embankment in rainfall event; and • Fenced to exclude wildlife and prevent unauthorised access.
	Storage of mine dewater in Turkey's Nest ponds 2 and 3.	Overtopping of ponds	• Maximum total volume of 11,958 m^3 • External crest RL 249.32, base RL of 247.20 and TWL RL of 248.9. • Freeboard minimum of 300 mm. • Maximum operating depth 1,700 mm; and • Spillway at TWL (directed to Evaporation Pond 1)
		Direct discharge from water used as dust suppression	• A limit of 35,000 mg/L TDS applied to water used for dust suppression. • In the event this is higher, water can be managed underground at the point of abstraction or directed to Evaporation Pond cell 1 to prevent impacts on Turkeys Nest pond water quality.

Emission	Sources	Potential pathways	Proposed controls

			• Controls specified in the Havieron Mine Dust Suppression Water Management Procedure includes:
			  ○ specification of sensitive receptors (no-go zones).
			  ○ mine dewater for dust suppression use is only permitted on cleared areas.
			  ○ segregation of hypersaline mine dewater to ensure 35,000 mg/L TDS limit is met (managed at point of abstraction or by bypassing the Turkeys Nest ponds).
			  ○ water quality monitoring to ensure the criteria is not exceeded.
			  ○ control of standpipe.
			  ○ designation of dust suppression routes.
			  ○ water cart standards for plant and operation to ensure suitable control of flow volume and distribution; and
			  ○ monitoring of deposition areas and, where indicated by visual indicators, soil sampling to determine accumulation of salts.

Hypersaline mine dewater	Mine dewatering pipelines	Direct discharge via rupture or seepage	• HDPE pipelines located above ground within a 'V' drain. • Bunds in place to prevent vehicle damage. • Pipeline crossings are installed under roads with a cover of material. • Signage in place to inform personnel of buried sections. • Dewatering pipelines separated to ensure water of differing quality is directed to relevant silt trap and pumped via standpipe for various site uses. • Only hypersaline water is specifically directed to the evaporation ponds. • Daily inspections on operations. • Pipeline hydro-tested prior to operations.
Diesel	Water pumps	Direct discharge from potential spills from pumps	• Enclosed pumps. • Self-bunded re-fueling ponds. • Hydrocarbon spill kits available. • Inspection program.

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.

There are no human receptors within 10km of this prescribed premises boundary and it is not likely that human receptors will be impacted by this proposal. Therefore, human receptors are not discussed further in this assessment.

Table 2 and Figure 3 below provides a summary of potential 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 environmental receptors and distance from prescribed activity

Environmental receptors	Distance from prescribed activity
Canning-Kimberley Groundwater Area	Generally >10 mbgl but ~5 mbgl to the west of the project area Uppermost unconfined perched aquifer (top 15 mbgl): TDS is 15,000 – 40,000 mg/L Underlying aquifer (15 – 110 mbgl) is TDS 2,000 – 20,000 mg/L
Four surface water bodies – Hydrography WA 250K	Intersects with the prescribed premises
Native vegetation No conservation significant flora found within premises	Intersects with the prescribed premises and immediately adjacent to the proposed new ponds
Two conservation significant fauna recorded within the study area: • Greater Bilby; and • Northern marsupial mole	Surveys undertaken in 2020 recorded on 272 occasions, secondary evidence of the Greater Bilby. Due to the significant number, the applicant has developed a Bilby Management Plan, under which they undertake annual monitoring within the survey area. The Northern Marsupial Mole was recorded from secondary evidence on seven occasions during the survey. The applicant has stated that given this licence application does not involve any additional clearing, impacts to both fauna species is expected to be minimal.

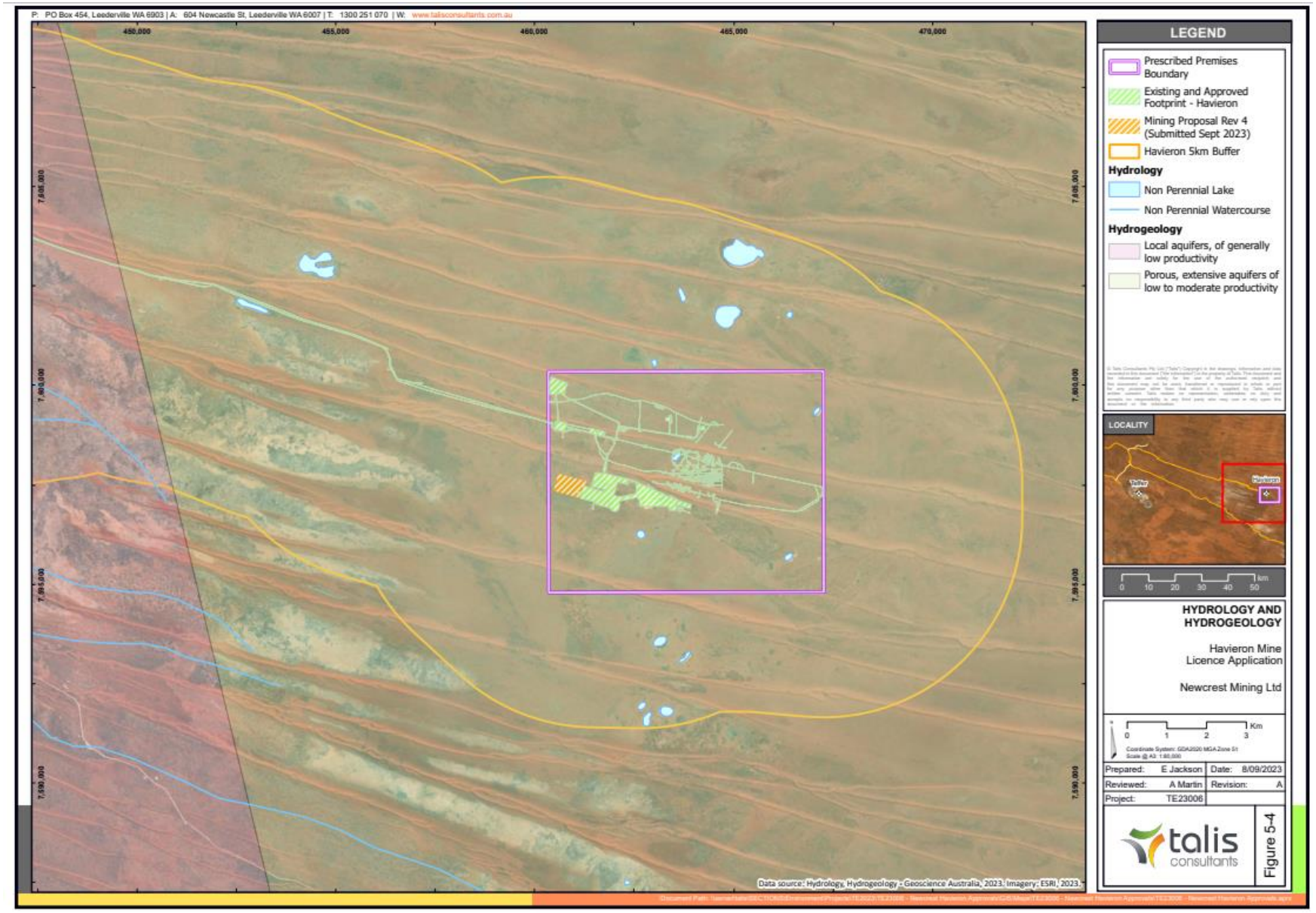


Figure 3: Distance to sensitive receptors

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 L9455/2024/1 that accompanies this decision report authorises emissions associated with the operation of the premises i.e. dewatering 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 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**				
Operation								
Storage of mine dewater in evaporation ponds	Hypersaline mine dewater	Overtopping of ponds from rainfall or embankment failure: potential for poor health or death of adjacent native vegetation and contamination of nearby surface water bodies	Adjacent native vegetation, surface water and groundwater	Refer to Section 3.1	C = Moderate L = Possible **Medium Risk**	Y	Condition 1 – Infrastructure and equipment Condition 2 – emissions and discharges Condition 8 – site water balance	The Delegated Officer is satisfied with the applicant controls and has incorporated them into the conditions with the addition of a monthly site water balance to be undertaken to ensure sufficient storage capacity is available in the ponds.

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**				
Storage of mine dewater in evaporation ponds	Hypersaline mine dewater	Seepage through base of ponds; potential for poor health or death of adjacent native vegetation and contamination of nearby surface water bodies and shallow groundwater.	Adjacent native vegetation, surface water and groundwater	Refer to Section 3.1	C = Moderate L = Unlikely **Medium Risk**	Y	Condition 1 – Infrastructure and equipment Condition 2 – emissions and discharges Condition 5 – monitoring	The Delegated Officer is satisfied with the applicant controls and has incorporated them into the conditions, along with ongoing groundwater monitoring.
Storage of raw water Turkeys Nest ponds 2 and 3 – designed for settlement of solids	Hypersaline mine dewater	Overtopping of ponds from rainfall or embankment failure: potential for poor health or death of adjacent native vegetation and contamination of nearby surface water bodies	Adjacent native vegetation and groundwater	Refer to Section 3.1	C = Moderate L = Possible **Medium Risk**	Y	Condition 1 – Infrastructure and equipment	The Delegated Officer is satisfied with the applicant controls and has incorporated them into the conditions.
		Seepage through base of ponds; potential for poor health or death of adjacent native vegetation and contamination of nearby surface water bodies and shallow groundwater.	Adjacent native vegetation and groundwater	Refer to Section 3.1	C = Moderate L = Unlikely **Medium Risk**	Y	Condition 1 – Infrastructure and equipment Condition 2 – Emissions and discharges Condition 5 – Monitoring	The Delegated Officer is satisfied with the applicant controls and has incorporated them into the conditions, along with ongoing groundwater monitoring.

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**				
Transport of hypersaline mine dewatering in pipelines to Turkeys Nest ponds and evaporation ponds	Hypersaline mine dewater	Direct discharge to environment from pipeline failure/rupture	Adjacent native vegetation Potential impact on fauna due to habitat damage	Refer to Section 3.1	C = Moderate L = Unlikely **Medium Risk**	Y	Condition 1 – Infrastructure and equipment	The Delegated Officer is satisfied with the applicant controls and has incorporated them into the conditions.
Dewater used for dust suppression	Saline mine dewater	Direct discharge from water truck	Adjacent native vegetation. Accumulation of salt in soils and sands. Leaching of salts into the unconfined aquifer.	Refer to Section 3.1	C = Moderate L = Unlikely **Medium Risk**	Y	Condition 2, 3 and 4 – Emissions and discharges Condition 5 – Discharge monitoring	The Delegated Officer is satisfied with the applicant controls for dust suppression and has incorporated them into the conditions, including a condition to ensure water is applied to prevent impacts to surrounding vegetation and surface water bodies.
Storage of diesel on-site for pumps	Diesel	Direct discharge through spills	Adjacent native vegetation	Refer to Section 3.1	C = Moderate L = Unlikely **Medium Risk**	Y	N/A	N/A

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 18 November 2024	N/A	N/A
Local Government Authority advised of proposal on 14 November 2024	N/A	N/A
Applicant was provided with draft documents on 13 December 2024	Refer to Appendix 1	Refer to Appendix 1

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

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. Talis Consultants, 2024, *Havieron Prescribed Premise Operating Licence Application,* Perth, Western *Australia*

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

Condition	Summary of applicant's comment	Department's response
Condition 2, Table 2: Authorised discharge points Mine dewater discharge	Mine dewater is discharged into Turkey's Nest ponds 2 and 3 overflows into evaporation ponds. Mine dewater can also bypass the Turkeys Nests and be discharged to the evaporation ponds directly. It is proposed that "Mine dewater is discharged to the evaporation ponds only, either directly or into associated Turkeys Nests ponds 2 and 3". We have previously referred to 'raw water' and the future Raw Water Ponds as that water which is to be piped from Telfer. This will not be stored in the Evaporation Pond system. We request the term 'raw water' not be used in the licence to avoid confusion.	Noted and change accepted. The term 'raw water' will not be used within the licence.
Condition 2, Table 2 Mine dewater for dust suppression	The water cart schedule reflects the current site infrastructure and does not take into account future infrastructure to be approved under Mining Proposal 2, and areas that will require dust suppression water as part of construction activities (e.g. future evaporation ponds 4 – 6 footprint). It is proposed that dust suppression water be discharged to any cleared area within the premises boundary, including designated traffic areas, operational areas, and construction areas. Conditions 4 and 5 would apply to all utilised areas and therefore achieves 'outcome based' environmental protection whilst maintaining flexibility for future surface infrastructure.	Noted and wording updated to remove "in-line with water cart schedule" which will allow for future activities. Figure 4 from Schedule 2 was taken from the watercart schedule and has subsequently also been removed from the licence, so as not to restrict future dust suppression allowance. The Delegated Officer is satisfied that licence conditions 4 and 5 are adequate to manage mine dewater used for dust suppression.
Table 3: Emission limits	Whilst the establishment of a TDS limit is appropriate, the basis for setting a volume limit on dust suppression water is not clear and does not correlate to environmental harm.	The volume limit was taken directly from the application, as to the proposed amount of water to be used for dust suppression per year. As the licence includes conditions to ensure the water applied as dust suppression is done so appropriately, and that monthly volumes are monitored, along with the applicant controls, the Delegated Officer accepts the request to remove the volume limit. Should any environmental issues arise in the future from the application of dewater for dust suppression, a volume limit may be applied.

Condition	Summary of applicant's comment	Department's response
Table 4: Emissions and discharge monitoring Standpipe	Whilst TDS readings are taken daily during extraction for dust suppression water, a condition *requiring* daily sampling is not practicable and is likely to result in technical non-compliance with the licence where no risk to the environment exists. It is proposed that the frequency of TDS sampling for compliance purposes be extended to "weekly when in operation" based on the following: • Dust suppression activities do not occur every day and sampling of wholly contained water is of little value. • Management of hypersaline water splits the Upper Confined Aquifer (UCA) to only pump to TN2. and the data is relatively consistent. The highest recorded TDS was 32,016 mg/l (17/10/2024) and has stabilized since the splitting of the UCA was fully embedded into operational practice (current reading is 16,861mg/L at 3/01/2024). Water exceeding 35,000mg/l TDS has never and will never be used for dust suppression water. • Irrespective of a weekly compliance requirement, any elevated result or underground changes triggers more frequent internal TDS sampling to assure water quality is suitable for dust suppression. • Despite best efforts scenarios have and are likely to arise whereby daily sampling is not possible. These include: the absence for any reasons of the suitably qualified sampling personnel (e.g. illness), sampling equipment not available (e.g. damage, lab calibration), extreme weather events preventing safe access. • Weekly when in operation would align with conditions at Telfer (e.g. weekly cyanide analysis, quarterly recycled water hydrocarbon analysis). Whilst operationally site will continue to undertake daily sampling whenever possible whilst using dust suppression water, from a compliance perspective weekly is considered reasonable. Please confirm that the TDS reading is a field reading and not a laboratory reading.	Noted and accepted. The Delegated Officer agrees that weekly TDS monitoring for dust suppression water is adequate. An in-field note has been added to the licence condition.
Table 5: Groundwater monitoring	HAEPMB01 was grouted to surface in July 2022 and not available as a monitoring point (this information was provided to DWER). Additional groundwater monitoring bores are available as compliance locations to replace HAEPMB01 and are shown below (figure provided).	Noted and table updated to reflect correct monitoring bores. Figure 3 has been updated. Table 5 has also been amended to link bores to Figure 3 which depicts these locations.

Condition	Summary of applicant's comment	Department's response
	These bores are HAHY018, HAHY019, HAHY020, HAHY021, HAHY035 and HAHY037. All stated bores are outside the final evaporation pond footprint and are therefore serviceable as compliance locations. HAEPMB02 was originally planned as a single bore but based on instructions from the supervising hydrogeologist, an additional bore was drilled. HAEPMB02 is fulfilled by two separate bores: HAHY022 for monitoring of the lower aquifer, and HAHY023 for monitoring of the upper aquifer) and these should be used as the licence points.	
	The proposed monthly sampling for SWL and field readings (pH, EC, TDS) is agreed and aligns with our current program. However, it is proposed to extend the water quality lab analysis to 6-monthly based on the following: • The evaporation pond system is a fully lined facility, and any unlikely leaks would be detected through the monthly SWL and TDS (less so by EC given the low minerality of the strata). Quarterly sampling has been conducted intensively to establish a baseline. The dataset has been confirmed by 3rd party hydrogeologists as sufficient for this purpose and extending the program to 6-monthly is appropriate.	Noted and accepted. Given that the ponds are fully lined, the Delegated Officer agrees for water quality monitoring to be undertaken six monthly.
Reporting requirements	It is highly preferable to align reporting to financial years	Noted and accepted. Reporting dates have been aligned to financial year.
Figure 2: Layout of evaporation ponds	Updated Figure 2 provided with Turkeys Nests labelled as requested.	Figure 2 updated.
Decision Report		
Section 2.2.3 Site Water Balance	Applicant was requested to confirm average evaporation rates. The modelled evaporation pan rate is seasonally dependent. Based on historical data and utilizing the Telfer pan rate the daily evaporation rates utilised in the calculation of the daily water balance are listed below by month (rates are adjusted for salinity and pond size): January 14.2 mm February 12.9 mm	Evaporation rates have been added into section 2.2.3.

Condition	Summary of applicant's comment	Department's response
	March 12.3 mm April 10.7 mm May 7.8 mm June 6.4 mm July 6.9 mm August 8.4 mm September 11.2 mm October 14.2 mm November 15.5 mm December 15.1 mm	