Government of Western Australia
Department of Water and Environmental Regulation

Decision Report

Application for Works Approval

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

Works Approval Number	W6972/2024/1
Applicant	Greatland Pty Ltd
ACN	108 498 997
File number	INS-0002947
Premises	Havieron Project Mining Tenement M45/1287 East Pilbara, WA, 6762 As defined by Schedule 1 of the works approval
Date of report	20 May 2025
Decision	Works approval granted

Christine Pustkuchen

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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 occurring during construction and time limited operations at the premises. As a result of this assessment, works approval W6972/2024/1 was granted. It should be noted that for works to commence at the premises all appropriate legislative requirements must be met. These include appropriate approvals from the Environmental Protection Authority (EPA) under part IV of the *Environmental Protection Act 1986* (EP Act), and the Department of Climate Change, Energy, the Environment and Water (DCCEEW) under the *Environmental Protection and Biodiversity Act 1999* (EPBC Act).

2. Scope of assessment

2.1 Regulatory framework

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

2.2 Application summary and overview of premises

On 31 July 2024 Newcrest Operations Limited applied for a works approval for the Havieron Project Hypersaline ponds 4-6 (the premises) under section 54 of the EP Act.

During the assessment of this application, Newcrest Operations Limited was incorporated into Newmont NOL Pty Limited (ACN 009 221 505). In 2024 Newmont NOL Pty Ltd agreed to sell the Havieron Project and associated assets (Mining tenement M45/1287) to Greatland Pty Ltd. The sale was completed on 4 December 2024. Newmont NOL Pty Ltd requested the works approval application to be transferred to Greatland Pty Ltd (now the Applicant) and for the works approval instrument to be issued to Greatland Pty Ltd (the Applicant). This is further discussed in Appendix 1.

The premises is located approximately 500 kilometres (km) south-east of Port Hedland in the Shire of East Pilbara. Location and regional environmental context of the premises are depicted in Figure 1 and Figure 2. The application is to undertake construction and time limited operations of three hypersaline evaporation ponds (also referred to as cells) and four monitoring bores. The infrastructure is designed to support current dewatering activities of the boxcut and decline as the third aquifer is intersected at the premises. The wider premises is also regulated under licence L9455/2024/2. The ponds will also provide storage for both runoff from the adjacent waste rock landform, and clean overflow from an existing oil water separator (OWS).

Table 1 shows the throughput sought in this application and the prescribed premises category the activities are associated with, in accordance with Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations). A full description of the premises category and assessed design capacity threshold can be found on the EP Regulations. Infrastructure, equipment and associated activities outlined on the works approval have been assessed in accordance with *Guideline: Risk Assessments* (DWER 2020).

Table 1: Prescribed premises proposed categories

Classification of Premises	Description	Proposed throughput
Category 6	Mine dewatering: premises on which water is extracted and discharged into the environment to allow mining of ore.	2,000,000 tonnes per year

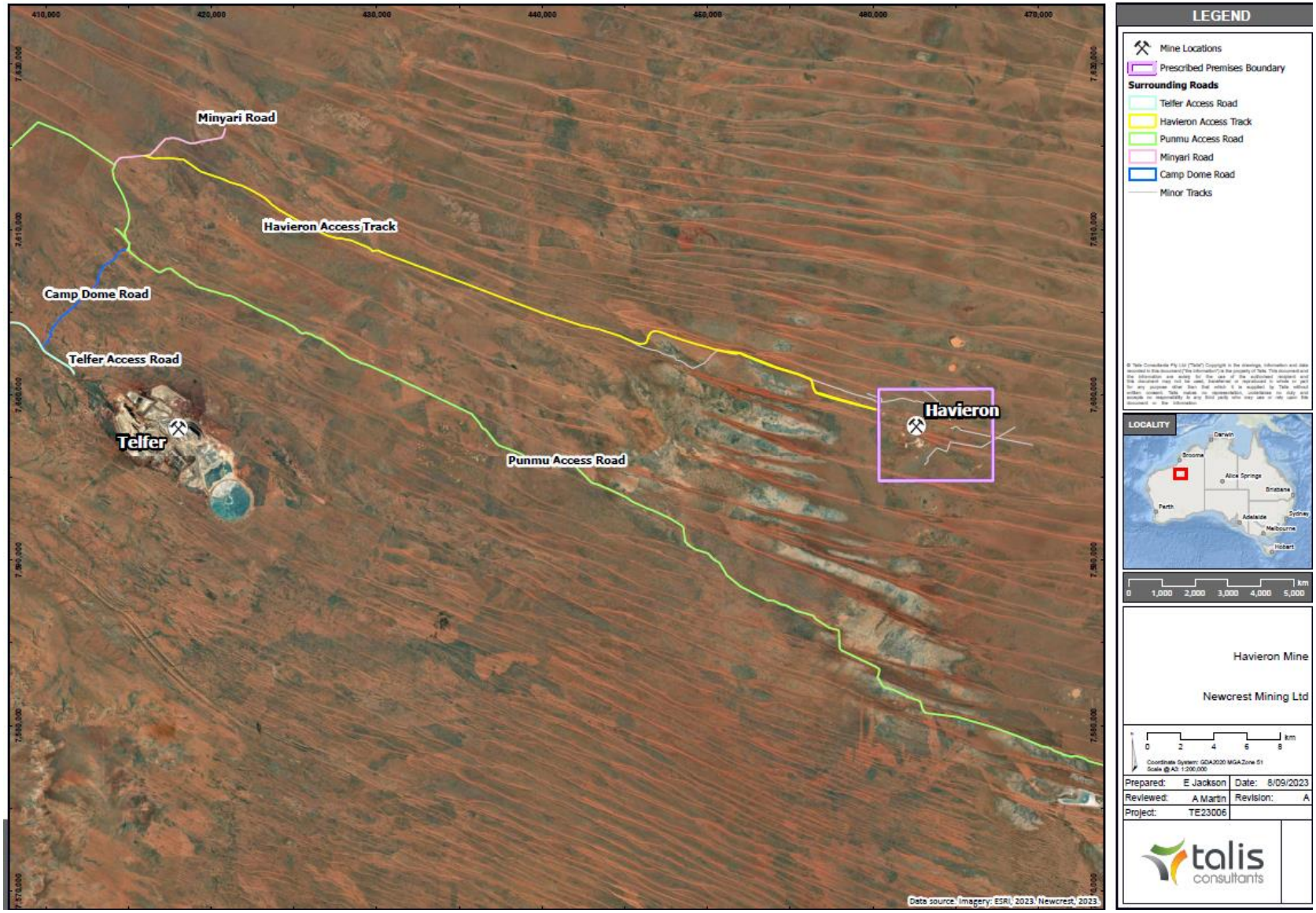

Figure 1. Prescribed premises boundary, location and access roads

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Figure 2. Havieron Project within the regional environmental context

2.2.1 Project background and history

The Havieron Project is a greenfield gold-copper deposit centered on a deep magnetic anomaly overlain by approximately 420 m of Permian (soft rock) cover. The Permian layer consists mainly of sandstone, siltstone, mudstone, tillite and shale intersected by an upper, a middle and lower confined aquifer. Stage 1 of the project commenced in December 2020, with a feasibility study on the orebody through the development of a 420-meter-deep box-cut decline. Dewatering activities commenced in 2023, under works approval W6468/2020/1. The works approval authorised the construction and time limited operations of three hypersaline water cells (1-3), a raw water cell (1) and 2 monitoring bores subject to conditions. Different onsite conditions compared to those identified on the conceptual hydrological model led to some departures during construction work. These included the construction of a larger than anticipated evaporation pond 1 and the replacement of the raw water cell with two silt ponds (turkeys nest pond 1 and 2). An Environmental Compliance Report on the newly built infrastructure, including the dewatering pipelines, was assessed by the department. Works approval W6468/2020/1 has now expired, and activities have been transitioned to a licence (L9455/2024/2). The additional hypersaline evaporation cells (4-6) proposed and assessed within this works approval will provide additional storage for the boxcut and decline mine water, clean discharge from the OWS and any run-off occurring after significant rainfall events. The dewatering rate at the boxcut and decline is estimated to be 30 to 40 L per seconds decreasing to approximately 20 to 30 L per second after a period of approximately four years.

2.2.2 Proposed construction and operations of the hypersaline evaporation cells

An evaporation pond design report for pond 1-3 constructed under works approval W6468/2020/1 supported this application. The applicant stated that the proposed ponds' design (4, 5 and 6) would be consistent with that of the existing ponds (and the previously submitted document). However, minor changes may occur on account of construction materials, which had still to be determined at the time of writing this report. Cells 4-6 will be located adjacent to the existing ones (Figure 3) and will consist of a cascading design concept. Each pond will be connected to the next by an overflow spillway located 300 millimeters (mm) above the top of the water level (Figure 4). This additional capacity will be sufficient to accommodate a 1% Annual Exceedance Probability (AEP) 72-hour rainfall event. Irrespective of this cascading design, distribution of the effluent across the ponds will occur primarily through a diesel operated pumping system (pump already installed in pond one) where a valve will be open or closed based on the required direction of flow. The aim of the pumping system will be to ensure an even distribution of the effluent across ponds, to maximise evaporation and compliance with a calculated freeboard (Figure 5).

Construction of the ponds will occur in stages based on operational requirements. Each pond will be lined with a High-Density Polyethylene (HDPE) liner of 1.5 mm nominal thickness, anchored in trenches and backfilled with material to minimise seepage. Subgrade and liner cushion material will consist of sandy clay material free of organic and course particles, to a minimum of 150 mm thickness. Proposed ponds will include a 900 mm below ground construction to account for salt build up. Width of the embankment crests will be approximately six meters and heights of external walls will vary between 2200 mm to 2500 mm. Side slopes will measure approximately 1 vertical units (V) to 3 horizontal units (H).The Delegated Officer notes that preliminary waste characterisation studies of the three top horizons (upper siltstone, saprolite and upper tillite) undertaken at the boxcut area indicated that some samples were potentially acid forming, therefore, further geotechnical analysis must be undertaken to determine the suitability of waste rock material for the construction of the embankments. Construction fill will be placed and compacted in layers no greater than 300mm loose thickness to achieve a dry density ratio of at least 95% modified maximum dry density. The design of each cell will comply with the Australian National Committee on large Damn Inc. (ANCOLD)

Guidelines on the Consequence Categories for Dams (2012).

Aboriginal heritage surveys undertaken by the applicant at the premises found some scattered artifacts. The artifacts are not registered with the Department of Planning, Lands and Heritage and the licence holder stated that liaising with the Martu Traditional Owners has occurred. The applicant committed to a five-meter exclusion zone from the toe of the batter of the additional cells, to minimise any potential damage from emissions.

All process ponds will have a freeboard of 800 millimetres (mm) during time limited operations. The freeboard includes a 1% AEP 72-hour rainfall event and a calculated wave run-up distance of 500mm. The Delegated Officer notes that the evaporation pond design report for pond 1-3 supported a freeboard of 1 m. Furthermore, the mining proposal (registration 121684) granted by the Department of Energy, Mines Industry Regulation and Safety (DEMIRS) for the construction of the proposed hypersaline cells was based on a 1 m freeboard. However, a freeboard of 800 mm was risk assessed and deemed acceptable when granting an amendment of works approval W6468/2020/1 in 2023 and when activities of ponds 1-3 were transitioned to the licence. Controls applicable to the proposed ponds are the same as those under the current licence regulating ponds 1-3 and are explained in detail in Table 3. Operations of the ponds will not require the installation of any additional pipelines. Existing pipeline operations are regulated under licence L9455/2024/1.

2.2.3 Oil water separator

Clean treated overflow water from an existing OWS, located on the western side of the mine infrastructure area, will be discharged into ponds 4-6. Oil water is currently generated at the washdown bay and at the maintenance workshop and collected in a sump. The OWS is designed to treat water to a standard of 15 mg/L total recoverable hydrocarbons (TRHs) or less, and is designed to process 25 cubic metres of waste water per hour. The applicant expects the discharge to be approximately 36,500 Kilolitres (kL) per year, based on a nominal four-hour discharge per day. Waste oil from the OWS will be collected in holding tanks and transported to Port Hedland for disposal.

2.2.4 Groundwater bores

The applicant proposed the construction of four groundwater monitoring bores (HAEPMB03-06). Standard of construction will be maintained as per the existing ones and parameters monitored will be the same as those on the current licence. A groundwater baseline was established during the monitoring of HAEPMB01 and HAEPMB02 (approved under works approval W6468/2020/1) and monitoring data were submitted as part of this application. This baseline will serve as a reference to assessing any potential future impacts to groundwater. The location of the proposed and existing monitoring bores is shown in Figure 6.

Since the submission of the application the applicant has proposed to construct only one groundwater monitoring bore (HAEPMB05). This is further discussed in Appendix 1.

2.2.5 Dust management

The use of mine water for dust suppression purposes at the premises is regulated under the licence (L9455/2024/1). A limit of 35,000 milligram (mg) per litre (L) total dissolved solids currently applies to any water used. Mine water is abstracted and pumped to turkeys' nests (silt ponds) and includes a combination of mildly saline and hypersaline groundwater depending on the nature of the aquifer. A standpipe located at the silt ponds allows the collection of water to be used in dust suppression. Water quality under the licence is monitored daily. Should the concentration of salinity (total dissolved solids) increase, hypersaline water can be managed underground at the point of abstraction or directed to the evaporation pond cell 1 to prevent impacts on the silt pond water quality. Havieron estimated 1.3ML of water to be used as dust suppression, which equates to an annual volume of 15.6ML. As the use of water for dust

suppression purposes is regulated under the licence, no additional controls have been included in the works approval.

2.2.6 Potential future site operations

Future construction activities at the ventilation and batch plant and underground infrastructure at the premises will require a water supply with salinity below 1,500 mg/L total dissolved solids (TDS). The applicant expects to source water for construction from the upper confined aquifer where salinity is lowest and ranges between 2,000 and 20,000 mg/L. To decrease salinity the applicant states that a Reverse Osmosis Plant (RO Plant) may be required. It is anticipated that any brine from the plant will be stored on the proposed ponds 4-6. Storage of brine and any associated emissions from the construction and time limited operations of RO Plant are not within the scope of this decision report and will be assessed as part of a separate application.

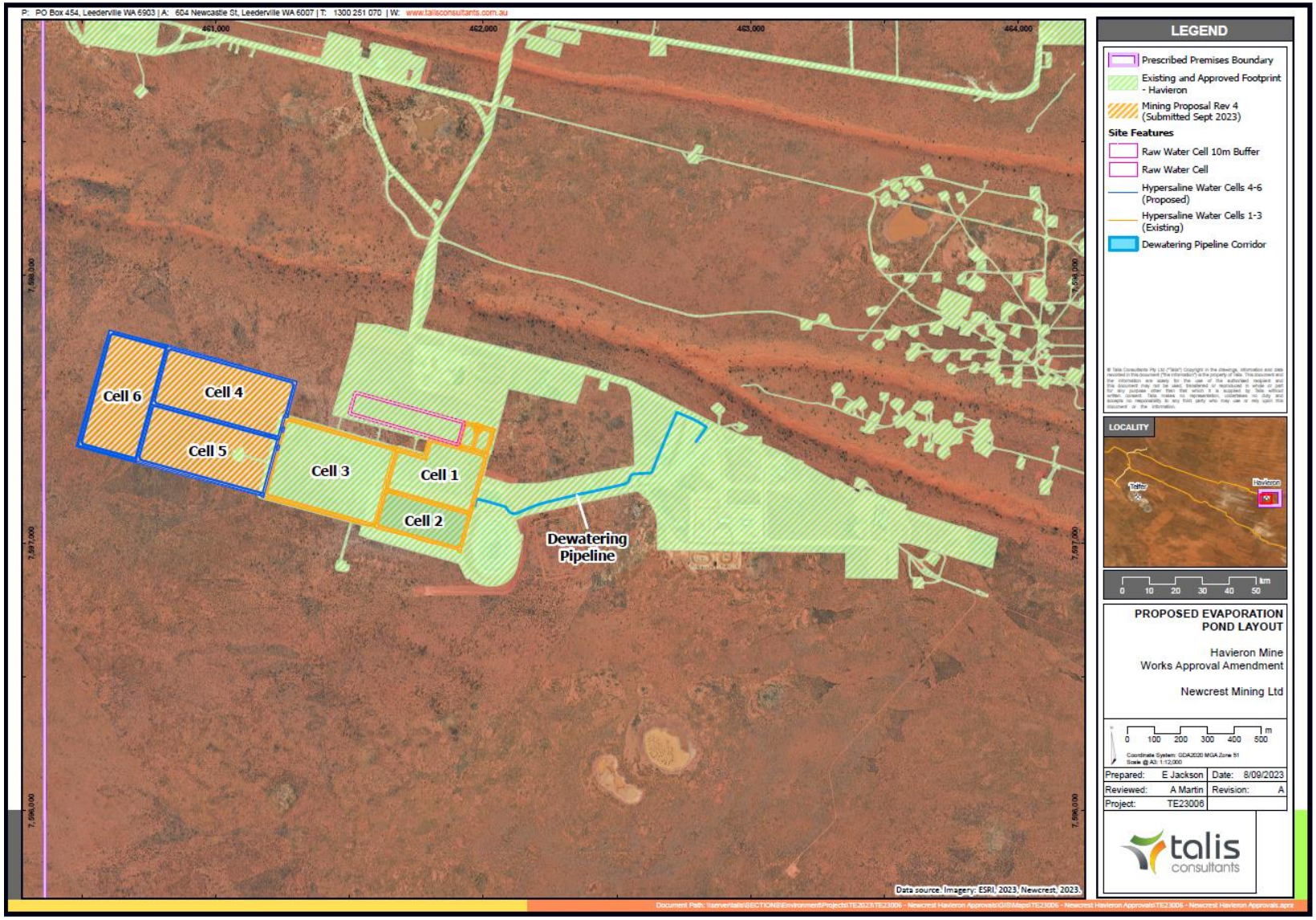

Figure 3. Location of proposed and existing hypersaline evaporation ponds

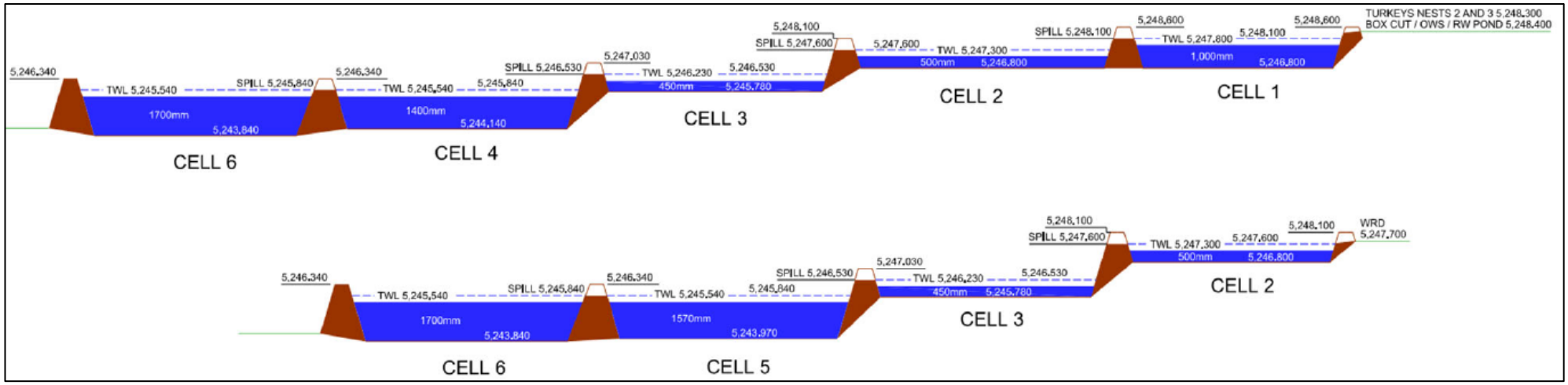

Figure 4. Hypersaline evaporation ponds spillway cross section

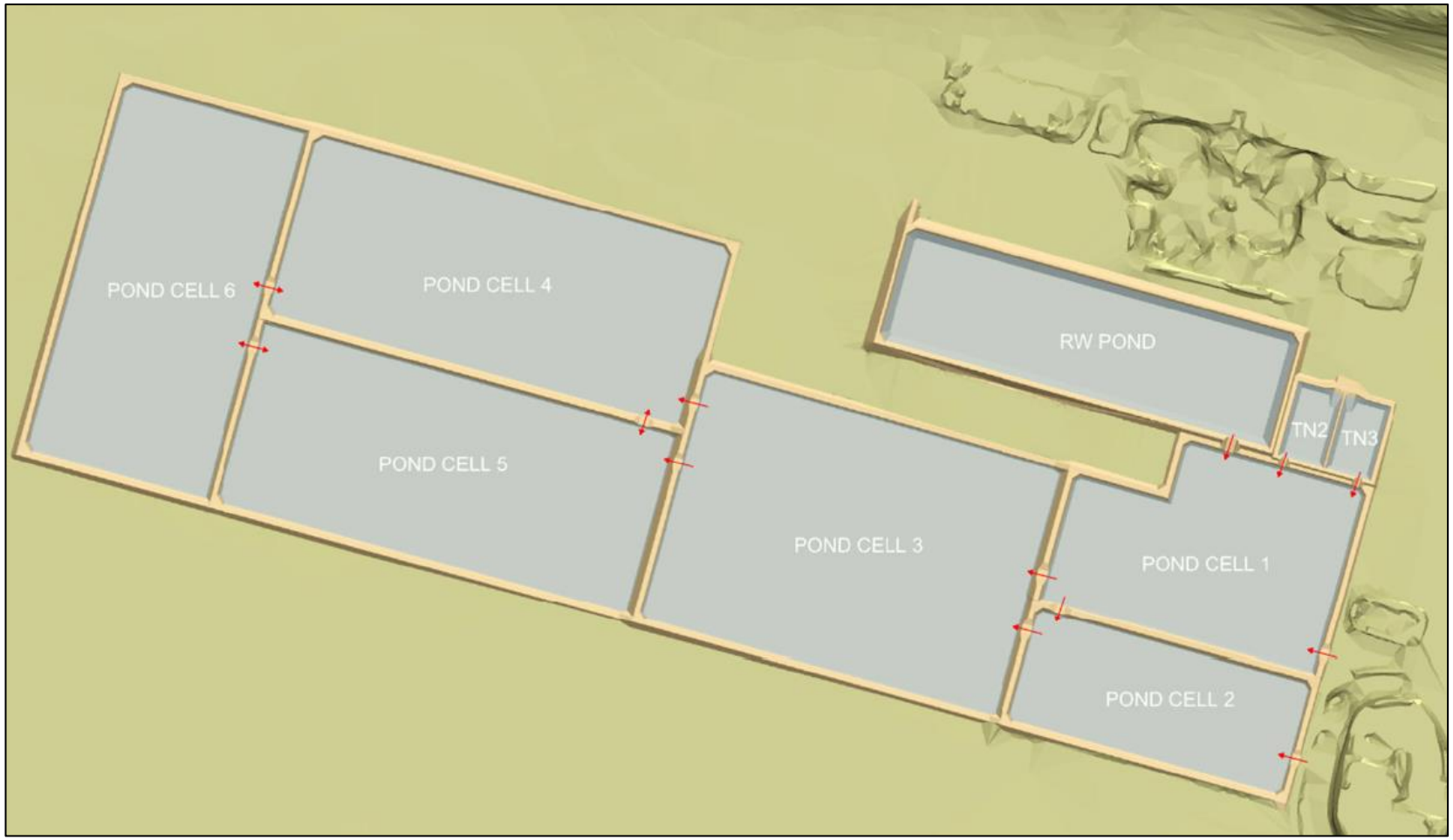

Figure 5. Hypersaline Evaporation ponds gravity distribution layout

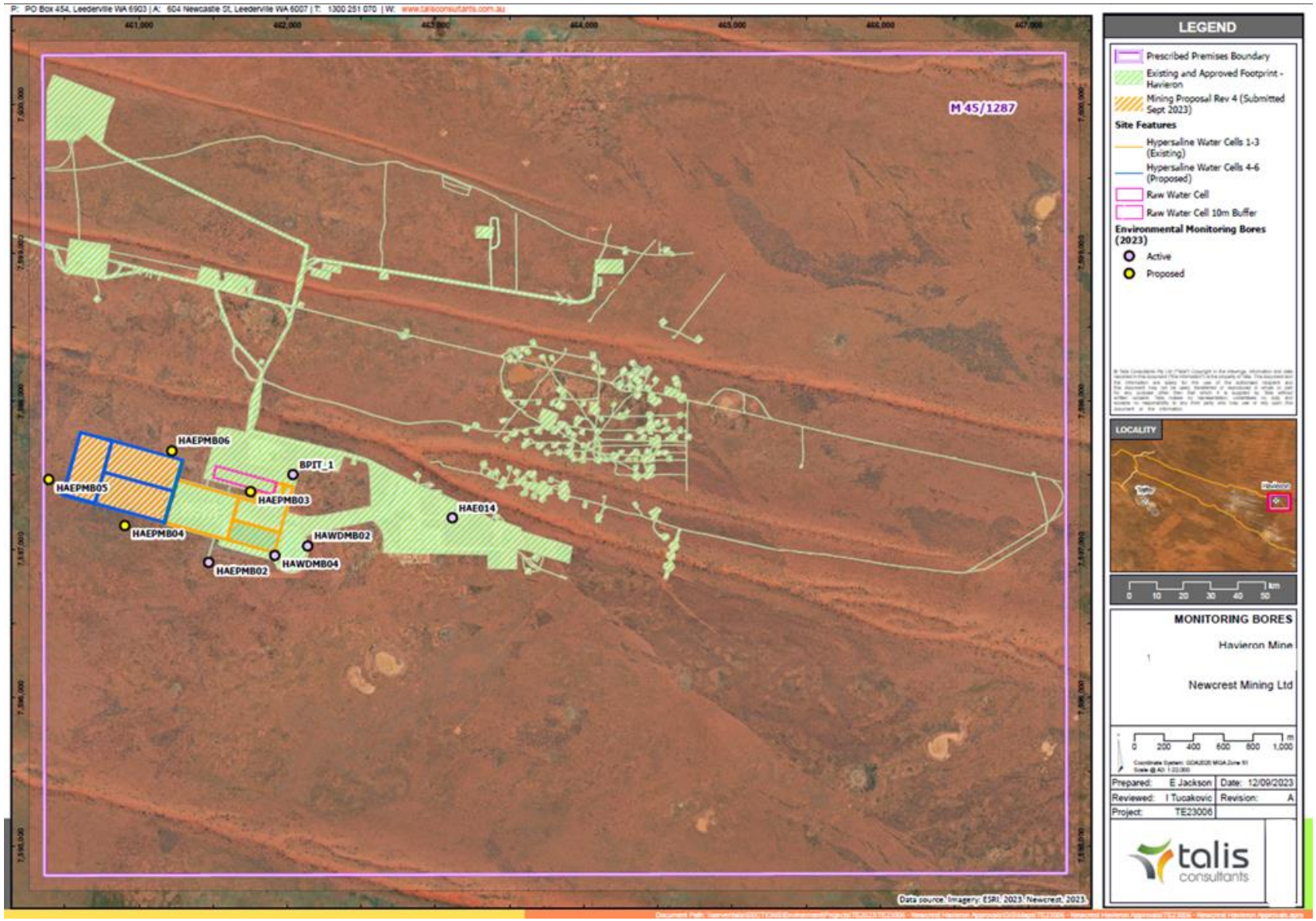

Figure 6. Location and reference of existing and proposed monitoring bores (Note: only bore HAEPMB05 is now proposed)

2.3 Regulatory Context

2.3.1 General

Table 2 details the instruments granted and currently being assessed under part IV and V of the EP Act and other relevant State and Commonwealth environmental legislation. As noted in section 1, the applicant must ensure that all legislative requirements have been met before commencing any construction work at the premises.

Table 2: Prescribed premises instruments details and status at the time of this assessment

Instrument number or application reference	Description	Status
EPA - Part IV – EP Act		
Assessment 2446	Significant proposal for an amendment to Ministerial Statement 606, 605, 650. Proposal referred includes activities related to Stage 2 of the Telfer-Havieron project (section 2.3.2) and the continuation of Stage 1 (existing) operations.	Undergoing Assessment
DWER - Part V (Division 3) – EP Act		
W6435/2020/1	Category 85 – Sewage Facility	Active
W6468/2020/1	Category 6 **–** Mine dewatering	Expired – Licence L9455/2024/1 issued
W6691/2022/1	Category 89 - Putrescible landfill site	Active
L9455/2024/1	Continuation of activities approved under works approval W6468/2020/1 as amended during construction.	Active
DWER - Part V (Division 2) – EP Act		
CPS9035-1	Clearing of vegetation	Active
DWER – *Rights in Water and Irrigation Act 1914* (RIWI Act)		
GWL2022749(3)	Groundwater licence with an Annual Water entitlement of 0.26 Gigalitres (GL)	Replaced by GWL2022749
GWL2022749(4)	Groundwater licence amended in December 2024 to an annual entitlement of 1.55 GL	Active
DWER – Country Area Water Supply Act 1947 (CAWS Act)		
CAW204633(1) CAW204138(1) CAW203828(1)	Continuation of Licence to construct or alter a well.	Active
Department of Energy, Mines industry Regulation and Safety (DEMIRS) – *Mining Act 1978*		
Mining proposal Reg ID 121684	Mining proposal includes the following: • Construction of additional hypersaline water cells (4-6)	Active

Instrument number or application reference	Description	Status
	• Reconfiguration of raw water pond • Replacement of tenement on 30 km of access road • Construction of additional monitoring bores	
DCCEEW - *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act)		
EPBC 2021/9085	Variation Request to expand the disturbance envelope to include additional activities with an increase in the clearance of 15 hectares of night parrot secondary seasonal foraging habitat.	Undergoing assessment

2.3.2 Part IV of the EP Act

A significant amendment of Ministerial Statement (MS) 605,606 and 650 for the Telfer Havieron Project was referred to the EPA on 21 April 2023. The Telfer Havieron Project is operated by Newcrest limited and incorporates the premises subject to this decision report and the Telfer Gold Mine some 55 km to the west. A decision to assess and a level of assessment was set by the EPA on 23 May 2024. The preliminary key environmental factors that will be considered during the assessment as outlined by the EPA are shown below:

- flora and vegetation
- terrestrial fauna
- subterranean fauna
- terrestrial environmental quality
- inland waters
- social surroundings
- greenhouse gas emissions.

The EPA assessment was still ongoing, and a report had not been published at the time of this assessment.

2.3.3 Parallel decision-making policy

In response to the independent review of the WA Environmental Approvals Processes and Procedures, the WA Government recently made legislative reforms to the EP Act. The reforms included an amendment of section 41(3) to allow Decision Making Authorities (DMAs) to assess and determine applications under part V of the EP Act in parallel to the assessment under Part IV. Notwithstanding, the instrument granted under part V must be consistent, and not contrary to, the approved Ministerial Statement when granted. Where a contradiction occurs, the department must initiate an amendment to align the conditions of the granted instrument under part V with the Ministerial Statement's conditions. A parallel approval process was undertaken for this works approval.

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 exposed to that emission through an actual or likely pathway, and a potential adverse effect on the receptor from its 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 construction and time limited operation at the premises are detailed in Table 3. Table 3 also details the control measures the applicant has proposed to assist in controlling these emissions where necessary.

Table 3: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Construction			
Dust	Earthmoving and construction of ponds	Air/windborne pathway	(a) Onsite water carts and trucks will be used to suppress any visible dust (b) Speed limits will be imposed on vehicles (c) Earthworks / clearing will be avoided in windy conditions (d) Disturbance will be limited as much as practicable (e) Regular visual monitoring of dust accumulation on vegetation will be undertaken. The Delegated Officer notes that water used for dust suppression will not be sourced from the proposed hypersaline ponds 4-6. Water for dust suppression is currently sourced from a standpipe connected to Turkeys Nest Pond 2. The use of saline water for dust suppression is regulated under conditions 2, 3 and 4 of licence L9455/2024/1. **Condition 2:** sets out a nominated discharge point. **Condition 3:** prescribes a limit on the volume of water used for dust suppression purposes and maximum salinity. **Condition 4:** ensures that any saline water used for dust suppression purposes is discharged in a manner to minimise any impact to surrounding vegetation and water bodies.

Emission	Sources	Potential pathways	Proposed controls
Noise / Vibrations		Air/windborne pathway	Noise vibrations and light could potentially impact the two conservation-significant species recorded within the premises (please refer to Table 4 for sensitive receptors). The applicant has submitted a variation request to DDCCEEW under the EPBC Act (Table 2). Proposed controls have been listed below for reference, but will be assessed by the DDCCEEW, during their assessment process. (a) Noise and vibrations will be minimised where possible (b) 100 m avoidance buffer will apply around Bilby burrows where possible (c) Equipment design will meet Australian Standards (d) Annual Bilby population will be monitored (e) Lights will strategically be placed to minimise light spills into the environment.
Light		Air/windborne pathway	
Sediment laden stormwater		Overland runoff	(a) V drains will be constructed where necessary to minimise stormwater ponding around the base of the pond embankments (b) Crest of pond embankments will be graded inwards to drain any stormwater into the pond The following control was implemented during the construction of the existing infrastructure under works approval W6468/2020/1. **Condition 1(2):** Stormwater diversion bunds to be constructed to divert surface water flows around the construction area.
Time Limited Operation			
Effluent discharge (combination of saline/ hypersaline mine water, OWS treated water and stormwater runoff)	Storage of effluent into evaporation ponds 4, 5 and 6.	Seepage through base/embankment of evaporation ponds	(a) Groundwater monitoring bores will be installed. The regular monitoring will detect any changes in groundwater quality and levels against a baseline level (b) 1.5mm HDPE lining will be fitted at the base of the pond, anchored in trenches and backfilled with material (c) Suitable construction material for the embankment will be used. Material will

Emission	Sources	Potential pathways	Proposed controls
			be compacted to achieve a dry density ratio of at least 95% modified maximum dry density. (d) The design of each cell will comply with the Australian National Committee on large Damn Inc. (ANCOLD) *Guidelines on the Consequence Categories for Dams* (2012). (e) Daily inspections will be undertaken to monitor any seepage from the sides of the embankment (f) Surrounding v drain will minimise surface water ponding against the base of the embankment during a rainfall event (g) Oil water will be treated to a standard of 15 mg/L TRHs or less. Only treated water will be disposed of into the evaporation pond.
		Direct discharge from overtopping or embankment failure	(a) Freeboard of 0.8m will be maintained, incorporating a calculated wave capacity and a 1% annual exceedance probability (AEP) 72-hour rainfall event (b) Gravity spillway will control distribution of effluent during a 1% annual exceedance probability (AEP) 72-hour rainfall event (c) Site water balance was calculated to evaluate correct pond size (d) Water level sensor will provide real time data on water balance (e) 80 L/s pump will control the flow between ponds and ensure even distribution (f) Inspection sheets will be maintained and managed in accordance with the Newcrest Environmental Management System and available on request.
		Direct discharge from pipe failure / spill	The applicant will not install additional pipelines as part of this works approval. Controls on existing pipelines are outlined on licence L9455/2024/1 and shown below: **Condition 1:** • Dewatering pipelines must be located in V-drains with sufficient capacity to completely contain any spills from pipeline leakage or break for a period equal to the time between routine

Emission	Sources	Potential pathways	Proposed controls
			inspections. • Daily visual integrity inspections must occur The following controls were included by the applicant as part of the licence application and were considered when assessing the risk and determining the above controls: (a) Pipelines to be hydrotested prior to operations (b) Dewatering pipelines to be separated to ensure groundwater of differing quality is directed to the relevant silt trap and pumped via standpipe for various site uses (c) Pipeline crossing to be of a suitable material or to be in a culvert (d) Daily inspections of operations (e) Windrows to be constructed to prevent vehicle interactions (f) Pipeline presence to be shown by signage.
Diesel spill	Water pumps used during operations of hypersaline water cells	Direct discharge and runoff	(a) Pump will be enclosed (b) Refuelling cells will be self-bunded (c) Hydrocarbons spill kits will be located on site (d) Inspection program will be undertaken at regular intervals.

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 provided for under other state legislation.
Table 4 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 4: Sensitive human and environmental receptors and distance from prescribed activity

Environmental receptors	Distance from prescribed activity
Flora: Native vegetation typically includes *Acacia stellaticeps* and *Triodia spp*. Hummock grasslands with scattered *Senna* and *Grevillea* shrubs. The area surrounding the proposed activities includes	In the area surrounding the infrastructure

Environmental receptors	Distance from prescribed activity
claypan, sand dune and sand plain habitat considered to be of moderate and high significance for a variety of native birds.	
Fauna: Two conservation significant species recorded within the premises: • *Macrotis lagotis* (Greater Bilby): declared vulnerable under the *EPBC Act* and *Biodiversity Conservation Act 2016* (BC Act). • *Notoryctes caurinus* (Northern Marsupial Mole) declared threatened under the EPBC Act.	Several sites within the premises – minimum distance from sightings is approximately 300 from ponds 4,5,6. – Application submitted to DCCEEW – assessed under EPBC Act.
Groundwater Proclaimed Groundwater area under the RIWI Act (Canning-Kimberley). Depth to the water table varies depending on the aquifer. Unconfined perched aquifer depth as low as 5 m. Salinity varies from a minimum of 2,000 mg/L Total Dissolved Solids (TDS) on the upper confined aquifer to a maximum of 55,000 mg/L in the lower confined aquifer. Ph is overall neutral to slightly alkaline. (7.3 - 7.8). Groundwater is used mainly for mining purposes in the surrounding area. Groundwater flow is west to east.	Underlying
Surface Water: Four surface water bodies (Hydrography WA) within the premises. While there are no defined channels at the premises, sheet flow occurs after heavy rainfalls. Runoff flows in a westerly direction between linear dunes. Runoff discharges into playa lakes and temporary waterbodies.	Approximately 1 km to the south-east.
Cultural receptors	**Distance from prescribed activity**
Several scattered artifacts found by the applicant during a recent survey. Artifacts are not registered with Department of Planning, Lands and Heritage.	Surrounding the proposed hypersaline ponds

3.2 Risk ratings

Risk ratings were assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) and each identified emission considered potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages were incomplete, they were not considered further in the risk assessment table (Table 5).
Mitigation measures/controls proposed by the applicant (as detailed in Section 3.1) were considered when determining the final risk rating. Where the Delegated Officer considered these mitigation measures to be critical in maintaining an acceptable level of risk, they were incorporated into the works approval as regulatory controls.
Additional regulatory controls were imposed where the applicant's controls were deemed insufficient. If this was the case, a justification was provided in Table 5.

Works approval W6972/2024/1 accompanying this decision report authorises construction and time-limited operations at the premises. The conditions in the issued works approval, as outlined in Table 5 were determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).
A licence to authorise emissions associated with the ongoing operation of the premises will be required following the time-limited operational phase. A risk assessment for the operational phase was included in this decision report, however licence conditions will not be finalised until the department assesses the licence application.

Table 5: 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 works approval	Decision and justification for additional regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Construction								
Construction of the additional hypersaline lined ponds (4-6) and bores. Construction includes earthworks and heavy vehicle movement	Dust	**Pathway:** Air/Windborne **Impact:** Reduction in plant health, deterioration of aboriginal artifacts	Adjacent native vegetation (and as a consequence potential disturbance to protected fauna specie), aboriginal artefacts	Refer to section 3.1	C = Minor L = Possible **Medium Risk**	Y	Conditions 4	The Delegated Officer is satisfied with the applicant's controls and has incorporated some of these controls into the works approval conditions. The Delegated Officer notes that any use of saline water for dust suppression purposes during construction and operations must comply with the licence conditions (L9455/2024/1). Applicant's proposed controls have been conditioned on the works approval in accordance with DWER Guideline: *Risk Assessments (2020).*
	Sediment laden stormwater	**Pathway:** Direct discharge / runoff **Impact:** deterioration of vegetation health, deterioration of surface water quality and deterioration of aboriginal	Surface water, aboriginal artefacts, and adjacent native vegetation with potential consequent disturbance of protected fauna species	Refer to section 3.1	C = Minor L = Unlikely **Medium Risk**	Y	Conditions 2	The Delegated Officer is satisfied with the applicant controls and has incorporated them into the works approval conditions. Applicant's proposed controls have been conditioned on the works approval in accordance with DWER Guideline: *Risk Assessments (2020).*

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions [2] of works approval	Decision and justification for additional regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
		artifacts						
Time Limited Operation								
Storage of hypersaline mine water, runoff and treated water from OWS in the additional lined evaporation ponds (4-6).	Hypersaline mine water/ runoff water and OWS treated water	**Pathway:** Overtopping leading to direct discharge / runoff **Impact:** deterioration of vegetation health, deterioration of surface water quality, damage to aboriginal artifacts	Adjacent native vegetation and consequently potential disturbance to protected fauna species, surface water, aboriginal artifacts.	Refer to section 3.1	C = Moderate L = Possible **Medium Risk**	N	Conditions 1, 10, 12	Consistent with W6468/2020/1 (expired) and the recently issued licence (L9455/2024/1), monitoring frequency of the freeboard has been set at *'daily'* on the works approval *as* a frequency had not been proposed by the applicant. Noting that the applicant will continue to record cumulative flow at the point of inflow, (under licence L9455/2024/1), the Delegated Officer is satisfied that the daily visual monitoring of ponds 4-6, including compliance with freeboard, will assist in maintaining an acceptable level of risk. The likelihood of the risk event has been deemed *possible* with a *moderate* consequence (due to the potential mid-level onsite impact). Final risk rating is therefore set as *Medium.* Applicant's proposed controls have been conditioned on the works approval in accordance with DWER Guideline: *Risk Assessments (2020).*

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions [2] of works approval	Decision and justification for additional regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
		Pathway: Infiltration /seepage through base and walls of ponds **Impact:** Groundwater contamination impacting native vegetation	Shallow groundwater (~5mbgl) Native vegetation	Refer to section 3.1	C = Moderate L = Unlikely **Medium Risk**	Y	Condition 1, 3, 11, 12 Monitoring: condition 13, 14, 15,16	The proposed ponds will be lined with HDPE lining; therefore, while seepage may occur, it is not expected in most circumstances, particularly during time limited operations when the extent of the discharge may be limited. Consistent with licence L9455/2024/1 a groundwater monitoring program will apply to the additional bore (HAEPM05). This will allow the applicant to identify any emerging groundwater contamination. Additionally, consistent with W6468/2020/1 (now expired) a weekly visual inspection of the embankment integrity will apply to determine whether seepage is occurring. The likelihood of the risk event has been deemed to be *Unlikely*, with a *Moderate* consequence (mid-level onsite and low-level offsite impacts). Risk rating is therefore deemed to be M*edium.* Applicant's proposed controls have been conditioned on the works approval in accordance with DWER Guideline: Risk Assessments (2020).

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions [2] of works approval	Decision and justification for additional regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
		Pathway: Infiltration /seepage through base and walls of ponds **Impact:** Groundwater mounding impacting vegetation at the surface		Refer to section 3.1	C = Minor L = Unlikely **Medium Risk**	Y	Condition 1, 3 Monitoring: Conditions 13, 14,15,16	Ponds 4 – 6 will be lined therefore groundwater mounding with its potential detrimental risks to surrounding vegetation is *Unlikely* to occur in most circumstances. The proposed controls, including the monitoring of groundwater levels, will allow the applicant to identify and subsequently tackle any changes to groundwater levels potentially arising from seepage. Consequence rating has been deemed to *Minor* with a subsequent *Medium* risk rating. Applicant's proposed controls have been conditioned on the works approval in accordance with DWER Guideline: Risk Assessments (2020).
	Hypersaline mine water with the addition of OWS treated water (potentially contains hydrocarbons)	**Pathway:** Direct discharge to land through use as dust suppressant **Impact:** Vegetation health	Adjacent native vegetation. Soils Groundwater	Refer to Section 3.1	C = Minor L = Unlikely **Medium Risk**	Y	N/A	The use of mine water for dust suppression has already been assessed under licence L9455/2024/1 and conditions on the licence regulate this activity. The addition of the treated water from the OWS may introduce hydrocarbons to the water stored in the ponds. As mentioned earlier in this decision report, the OWS is designed to treat water to a

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions [2] of works approval	Decision and justification for additional regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
								treatment level of 15mg/L or less for TRH. The treatment level plus the level of dilution in the large volume of mine water within the ponds will likely reduce the concentration of hydrocarbons to an acceptable level. No monitoring conditions have been placed on the works approval for the OWS treated water discharge, given the time limited nature of the operations under the works approval, however, this should be further considered during the assessment of a future licence amendment.
Storage of diesel onsite and operations of pumps	Hydrocarbons (from spills)	**Pathway:** Direct discharge, and runoff after a rainfall event, infiltration **Impact:** degradation of vegetation, degradation of surface and groundwater quality	Adjacent native vegetation, soil, surface and groundwater	Refer to section 3.1	C = Slight L = Unlikely **Low Risk**	Y	N/A	The *Dangerous Goods Safety Act 2004* regulates Hydrocarbon storage. Additionally, general provisions of the *Environmental Protection (Unauthorised Discharge) Regulations 2004* apply to the premises. No regulatory controls are required as part of this works approval.

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

Table 6: Consultation

Consultation method	Comments received	Department response
The application was advertised on the department's website on 25 November 2024.	None received.	N/A
The Shire of East Pilbara was notified of the proposed activities on 25 November 2024.	None received.	N/A
The applicant was provided with a copy of the draft works approval and a draft decision report on 08 April 2025.	Please refer to Appendix 1.	Please refer to Appendix 1.

5. Conclusion

Based on the assessment in this decision report, the delegated officer has determined that a works approval 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 2019, *Guideline: Industry Regulation Guide to Licensing*, Perth, Western Australia.
4. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
5. Australian National Committee on Large Dams 2012, *Guidelines on the Consequence Categories for Dams*.

Appendix 1: Summary of applicant's comments on draft decision report and works approval – includes proposed revisions

Condition	Summary of applicant's comment	Department's response
Front Page and Decision Report – Section 2.2	Since the application was submitted, Newcrest Operations Limited was incorporated into Newmont NOL Pty Limited (ACN 009 221 505). However, Newmont Pty Ltd agreed to sell Greatland Pty Ltd the interest in the Havieron Project and associated assets (Mining tenement M45/1287). The sale was completed on 4 December 2024. The applicant requested the works approval to be issued to Greatland Pty Ltd.	The department obtained the following document to ascertain that Greatland Pty Ltd was the legal occupier of the premises: • A letter signed by Newcrest Operations Ltd (now Newmont NOL Pty Ltd), stating that they agree to 'transfer' the current application for a works approval to the Greatland Pty Ltd • A copy of the completed application for a works approval form (*Application form: Work approval / Licence / Renewal / Amendment / Registration)* signed by Greatland Pty Ltd • Evidence that Greatland Pty Ltd is the holder of mining tenement M45/1287 • Greatland Pty Ltd current company information extract purchased by the Australian Security and Investment Commission. It is noted that while copy of the transfer document (Form 23) signed on 4 December 2024 by both parties was submitted to department, the sale does not appear to be executed. A DEMIRS website tenement search shows that the active mining tenement holders are Greatland Pty Ltd (30/100 shares) and Newmont NOL Pty Limited (70/100 shares). Nonetheless, the department finds that as Greatland Pty is an active mining tenement holder, and Newmont NOL Pty Limited has provided evidence that they agree to the transfer of interest (mining lease and application) to Greatland Pty Ltd, sufficient evidence of occupancy has been provided.
Condition 3, Condition 16 Decision report – Section 2.2.4	Greatland Pty Ltd has conducted a review of the groundwater monitoring network and has established that one groundwater monitoring bore to the west of the proposed process ponds will be sufficient to detect any seepage. This additional bore and the existing network will provide sufficient coverage to the north, south, east and west of the ponds. Additionally,	The likelihood of seepage was discussed in the Risk Assessment Table (Table 5). The department agrees that seepage through the base and walls of the process ponds is unlikely during time limited operations, partly due to the

Condition	Summary of applicant's comment	Department's response
	as the ponds will be lined, seepage is unlikely to occur. It should also be noted that condition 8 of the licence for the premises (L9455/2024/1) requires a monthly water balance. The water balance will provide an additional tool to identify excessive losses beyond those caused by evaporation.	duration of discharge and partly due to the lining that, if appropriately fitted, will prevent most of the seepage. The risk assessment table has been updated to reflect that only one additional bore will be constructed (HAEPM05). Similarly, condition 3 and condition 16 of the works approval have been revised. Figure 3 of Schedule 1 has also been replaced to show the layout of the groundwater bores at the premises. It is noted that the location of HAHY037 (not within the scope of this works approval) appears to be in a different location to that shown on the licence. As discussed below, if the applicant has departed from any licence conditions, an amendment of these conditions should be sought.
Condition 13 Table 4 Decision Report – Section 2.2.2	The condition requires the cumulative discharge volume to be recorded. However, under the planned construction specifications the flow to the proposed ponds will be discharge through internal pipelines operating under gravity or over weirs. Given these specifications, Greatland Pty Ltd will be unable to record the flow going into each pond.	These construction specifications represent a departure from those proposed under the original application. Recording of cumulative flow into the proposed ponds assists the applicant in maintaining control over the discharge. It also allows the applicant to quickly identify whether malfunctions or breaches are occurring, potentially preventing any unforeseen environmental damage from overtopping. Nonetheless, given that cumulative inflow will be monitored at ponds 1-3 in accordance with the licence and that daily visual monitoring of the new ponds will also occur, the department finds that sufficient controls are in place to prevent overtopping. Condition 13 requiring cumulative discharge volume to be monitored has been removed. The risk assessment Table (Table 5) of this decision report has been amended to reflect the change in the proposed controls. No additional controls were included as a result of the above revision.
N/A	After investigations undertaken in April 2024, a change to the location of the dewatering pipeline constructed under Works Approval W6468/2020/1 was undertaken. While the change was initially supposed to be temporary, it was made permanent as it provided more segregation from the remainder of the infrastructure.	As the construction and placement of the infrastructure occurred under the licence (L9455/2024/1), it cannot be retrospectively amended under this works approval. The applicant must submit an application to amend the licence.