Decision Report

Application for Licence

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

Licence Number	L9329/2022/1
Applicant	Penny Operations Pty LTD
ACN	618 514 944
File number	DER2021/000704
Premises	Penny Gold Project M57/180 and M57/196 Sandstone Shire
Date of report	**1 July 2022**
Decision	Licence granted

Alana Kidd

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Alana Kidd
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 construction and operation of the Premises. As a result of this assessment, Licence 9329/2022/1 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 6 December 2021, the applicant submitted an application for a licence to the department under section 54 of the *Environmental Protection Act 1986* (EP Act) for Category 6 (Mine Dewatering), Category 64 (Class II putrescible landfill site) and Category 85 (Sewage facility).

The application is part of the Penny West Gold Project located on mining tenements M57/180 and M57/196 (the Premises). The Premises is approximately 124 km south-east of Mount Magnet.

The Premises has an established mining pit (the Penny West open pit) located on the southern portion of the site and has recommenced mining activities 1.5 km north of this location by excavating a small open cut pit to approximately 30 m deep (the Magenta pit). With completion of mining of Magenta pit a cut back to the Penny West open pit is allowing access to the Penny West North deposit, however before this could commence the existing Penny West lake needed to be drained, with the pit water utilised for construction and mining activities. The surplus of this water was transferred to the Magenta pit, and an underground portal is being established within the Penny West open pit, so mining works can commence.

A mining camp has been constructed on the Premises to accommodate workers, with an associated wastewater treatment plant (WWTP), Class II landfill trenches and a small bioremediation facility. The location of key infrastructure at the Premises is outlined in Figure 1.

Approval for construction, commissioning, and time limited operations for the dewatering of Penny West open pit and discharge into Magenta Pit, WWTP, landfill and associated infrastructure was obtained as part of W6503/2021/1. An environmental compliance report was submitted to DWER for assessment, following construction of dewatering infrastructure, landfill, and WWTP as required by W6503/2021/1. The variations to the works approved under works approval W6503/2021/1 consist of:

- Changes in location of WWTP and Bioremediation Facility (new location shown in Figure 1).
- Dewatering infrastructure - Twin 110mm PN20 HDPE pipe was used instead of single pipe
- Changes in design and dimensions of landfill trenches (previously 30m long, 10m wide and 2m deep; now is 90m long, 2m wide and 2m deep).
- Reverse Osmosis (RO) plant has not been completely installed. Potable water is trucked to site and will continue for the duration of the project.

The above changes have been considered and assessed as part of the licence application.

2.3 Overview of proposed activities

The licence application has been submitted to authorise mine dewatering and discharge, and operation of the WWTP and Class II landfill. A reverse osmosis (RO) plant and associated infrastructure required to discharge brines from the RO plant to the Magenta pit was proposed as part of works approval, however it has been partially installed. Potable water is now trucked to site and applicant informed it will continue for the duration of the project. Discharge of brine into Magenta Pit is not being assessed as part of this licence application as it has not been completely installed and applicant has informed that potable water will continue to be trucked to site. An overview of the individual components of this licence application is included below.

2.3.1 Mine dewatering

Dewatering activities are required at the Premises to allow for underground mining at the Penny West North deposit within the Penny West pit. The existing Penny West pit lake was used for construction, mining needs and the surplus pumped into the Magenta pit for storage as part of the Works Approval W6503.

The dewatering operation at the Premises occurs under two phases:

- Phase 1 has been completed and involved construction of Magenta Pit, dewatering of approximately 250,000 kL from the Penny West pit to the Magenta pit, Penny West cut back and construction of all infrastructure required for underground operations; and
- Phase 2 consists of the remainder of the three-year site duration and encompasses the underground mining and dewatering of the new Penny West north pit.

To facilitate the dewatering of the Penny West pit, an in-pit pump with a 30 L/sec processing capacity was installed, along with a twin 2km long, 110 mm wide PN20 HDPE pipe which follow access tracks across the site from the Penny West pit to the discharge point in the Magenta pit (Figure 1).

The total remaining dewatering requirement at the Premises is as follows:

- Penny West and Penny North groundwater storage of approximately 500,000 kL; and
- Ongoing groundwater inflow of approximately 100 kL/day, increasing to a maximum of 526 kL/day as underground development progresses.

Estimated water balance provided by applicant is provided in Table 1. Storage in the Magenta Pit is projected to peak at about 80 ML before declining gradually due to evaporation. Any surplus water will be stored in an existing HDPE-lined turkey nest on site with 30ML capacity (Figure 1), with water being used for dust suppression and other site needs.

Table 1: Penny Gold Project Water Balance

	Year 1 (ML)	Year 2 (ML)	Year 3 (ML)
Storage Reduction Penny West Pit	250	0	0
Groundwater Storage Reduction at Penny U/G	105	197	197
Rainfall Input to Penny West Pit	22	22	22
Groundwater Inflows to Penny Mine	66	95	95
Evaporation from Magenta Pit	-4	-9	-9
Rainfall to Magenta Pit	1	1	1
Surface Dust Suppression	-58	-79	-79
Site Construction	-184	0	0
Other surface use	-84	-142	-142
Mine losses	-24	-63	-63
Balance in Storage at Magenta Pit	90	112	133

Sampling of the Penny West pit lake has determined the water to be saline as a result of the accumulation of salts due to evaporation, with no evidence of the accumulation of trace metals noted in results. The groundwater to be abstracted from the Penny West pit is brackish (salinity range between 1,900 – 5,800 mg/L) with inferred relatively low metal concentrations.

2.3.2 Landfill and bioremediation facility construction

The Class II landfill consist of 3 trenches of with the following dimensions:

- 90m in length, 2m in width, and 2m in depth (Figure 2).

Approximately 1,200 tonnes of inert and putrescible waste is anticipated to be disposed of to the landfill each year.

The bioremediation facility was constructed near the Penny West ROM pad and will be utilised for the on-site treatment of hydrocarbon contaminated soils generated at the Premises. This will ensure contaminated soil will meet the landfill acceptance criteria for a Class II landfill as outlined in the *Landfill Waste Classification and Waste Definitions 1996* (LWCWD) prior to disposal to landfill. It is anticipated that under 1,000 tonnes of soil will be processed in this manner per annum. The facility is fenced to prevent fauna access and bunded to divert stormwater drainage and prevent the spread of any hydrocarbon-contaminated stormwater.

2.3.3 WWTP construction and sprayfield

An Ecofarmer 250 WWTP has been installed on the Premises to process sewage waste from the mining camp. The WWTP will be capable of processing 30m^3/day of sewage waste with a maximum design capacity of 50m3/day and comprises a treatment system, storage facilities and a dedicated disposal area, being the sprayfield. The WWTP is capable of storing a minimum of three days worth of effluent in the event of a discharge pump failure.

The sprayfield is slightly over 12,000m^2 and bunded by a 5m high side buffer (Figure 2). The sprayfield consist of 42 sprinklers spaced uniformly to provide an even distribution of wastewater across the entire area. The hourly application rate of wastewater will be 1.5mm/hr, resulting in an average of 96 minutes of operational time per day. Wastewater will be treated to the Risk Category D specifications as outline in *Water Quality Protection Notice 22: Irrigation of nutrient*

rich wastewater (2008) prior to disposal (Table 2).

Table 2: Maximum Capacity and Normal Expected Site Load Design Details for the Wastewater Spray-field

Design Detail	Maximum Design Basis	Normal/average Expected Site Load
Hydraulic flow rate	50,000 L/day	30,000 L/day
EP rating	200 EP (200 persons)	120 EP (120 persons)
Hydraulic allowance per person per day	250 L/person/day	250 L/person/day
Hydraulic application rate	4 mm/m²/day (allowable for location)	2.4 mm/m²/day
Effluent disposal area nominated	1.25 ha	1.25 ha
Phosphorous application rate	116.8 kg/ha/year	70.08 kg/ha/year
Nitrogen loading rate	292 kg/ha/year	175.20 kg/ha/year
Phosphorous output	8 mg/L or 0.4 kg/day or 146 kg/year	N/A
Total nitrogen output	20 mg/L or 1 kg/day or 365 kg/year	N/A
Phosphorous loading per hectare for location	120 kg	N/A

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 3 below. 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
Operation			
Category 6 – Mine Dewatering			
Saline water within existing pit lake Brackish to Saline water from Underlying aquifer	Spills and leaks of saline water from dewatering infrastructure	Soil Infiltration and run-off resulting in contamination of soils, groundwater and resulting in impacts to vegetation	Pipeline has been designed for low ex-pit pipeline pressure. Twin Pipeline is 2km long, 110 mm wide using PN20 HDPE. Placement of the pipeline has been determined to avoid vehicle and machinery interactions and is bunded to contain any discharge. Pipeline will be regularly inspected to ensure no damage has occurred.
	Dewatering occurring to the Magenta pit or turkey nest during mining operations resulting in overtoping of saline water or infiltration to soil and groundwater		Discharge rate from the Penny West pit to the Magenta pit will be regulated to prevent the water going over 492.5 m AHD, which is 2.5 m below the minimum pit crest level. Peak storage capacity of the Magenta pit will be 80 ML, which will provide a 2.5m freeboard. Water in the Magenta pit is expected to subside due to evaporation and seepage. Seepage is expected to be minimal due to an absence of surficial transported alluvium, the pit shells composition of clayey weathered mafic rocks and the fact that groundwater is anticipated to be 7 m below the pit base. Two monitoring bores have been installed cased to <440 m AHD to monitor and provide an indicator of the need to implement seepage management measures. proposed monitoring includes quarterly dipping of the bores to monitor any changes in groundwater depth and testing the groundwater for pH and EC to compare against background ambient conditions. Where surplus water is produced, this will be diverted to an onsite HDPE-lined turkey nest with a capacity of 30 ML, and will be used for dust suppression and other site needs. The turkey nest is designed to contain a 1:100 year rainfall event and consists of two cells both 80m (L) × 80m (W) × 3m (H). The first cell is the disposition cell maintained at ~0.4m freeboard. This cell has a spillway into the second cell in which water is pumped out to underground or

Emission	Sources	Potential pathways	Proposed controls
			to a standpipe. The second cell is maintained at ~1.0m freeboard. The HDPE liner is 1.5mm thick and installed and buried into the top of the wall. Four animal egress mats are contained within the turkey nest. Around the base of the dam, a 900mm high stock fence has been installed with two sets of driveable width gates. The Applicant notes that any potential overtopping events would be highly unlikely and easily foreseeable many months in advance due to long lead times. If required, contingency measures for excess water would be increased dust suppression and disposal of water on the internal site roads.
	Saline dewatering effluent used for dust suppression	Salt accumulation in soil and direct discharge to vegetation	No controls proposed by applicant.
Category 64 - Class II putrescible landfill site			
Noise	Disposal of waste to Class II landfill, application of cover to deposited wastes	Air/windborne pathway causing impacts to health and amenity	No controls proposed by applicant.
Dust			Lift off to be suppressed using water from the Magenta pit.
Odour	Disposal of waste to Class II landfill, decomposition of putrescible wastes		Waste deposited will be covered regularly in accordance with the specifications in the *Environmental Protection (Rural Landfill) Regulations 2002.*
Windblown waste	Landfilling of inert and putrescible waste		Landfill is fenced. Waste deposited will be covered regularly in accordance with the specifications in the *Environmental Protection (Rural Landfill) Regulations 2002.*
Leachate	Decomposition of putrescible wastes and contaminated materials within Class II landfill cells	Land and waters causing impacts to underlying soils and groundwater	Landfill trenches will be 2m deep, maintaining a separation distance to groundwater of at least 30m. Approximately 219 tonnes per annum of the anticipated waste stream destined for landfill will be putrescible. Approximately 800 tonnes of Inert Waste Type 1 will be disposed to the landfill for each year of the Project. Approximately 100 tonnes per annum of the anticipated waste stream destined for landfill

Emission	Sources	Potential pathways	Proposed controls
			will be contaminated. Contaminated materials will be treated at the bunded bioremediation facility prior to disposal into Class II landfill cells. Waste that does not meet Class II landfill specifications will be removed for disposal at an appropriately licensed facility. No stockpiling of waste will occur.
Potentially contaminated stormwater	Leachate from Class II landfill cells interacting with stormwater		Stormwater is directed away from the landfill trenches via earthen bunding. Stormwater drains away from Premises operational areas due to placement within natural topography. Landfill situated outside of the 1:1000 year predicted flood zone.
Category 85 – Sewage Facility			
Liquid waste	Leaks or spills of effluent during the operation of WWTP	Soil Infiltration and run-off impacting underlying soils, vegetation and groundwater	Regular inspection of WWTP infrastructure will occur to rectify any leaks WWTP will have three 36 kL wet weather storage tanks for treated effluent providing contingency storage for up to 4.26 days of normal flow.
Leachate	Irrigation of treated wastewater to sprayfield		The sprinkler placement and rate of application will be managed so that no pooling or wastewater shall occur. Sprayfield will be constructed outside of the 1:1000 year predicted flood zone. Daily operation of sprinkler system is limited to 96 minutes. Wastewater will be treated to the Risk Category D specifications as outline in *Water Quality Protection Notice 22: Irrigation of nutrient rich wastewater (2008)* prior to disposal. Ongoing monitoring of effluent discharge quality will occur in accordance with AS/NZS 5667.10.
Potentially contaminated stormwater	Irrigation of treated wastewater to sprayfield	Runoff of treated wastewater from sprayfield impacting surrounding soil and vegetation	The wastewater spray-field is surrounded by a perimeter bund and the area is sited outside the 1:1000 year predicted flood zone. The disposal area has been sited over land that is relatively flat, such that run-off is limited.

3.1.2 Receptors

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

Table 4, Figure 3 and Figure 4 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises *(Guideline: Environmental Siting* (DWER 2020)).

Table 4: Sensitive human and environmental receptors and distance from prescribed activity

SECTION 2: RECEPTORS	
The nearest town of Mount Magnet	Is approximately 165km north west of the Premises.
Human receptors	**Distance from activity / prescribed premises**
Project is located on the Atley Pastoral Lease within the Shire of Sandstone. No residential premises within 5km of prescribed premises boundary. Public road (Lake Barlee) located within 1.6km from tenement boundaries. Tenements are surrounded by other mining tenements (exploration licences). Tenements are located within Atley Station Regeneration Project - ERF121592 Carbon Credits (Carbon Farming Initiative) Atley Station Regeneration Project – managed by DPLH	
Environmental receptors	**Distance from activity / prescribed premises**
Native Vegetation - Open Low Mulga Woodland Conservation Significant Flora – P4 *Hermigenia exilis*	Native vegetation is present throughout the proposed activity footprint. P4 Mapped within Premises area – The species was observed on the lower slopes and associated drainage lines of rocky breakaways.
Underlying aquifer - East Murchison Groundwater Area Groundwater brackish to saline Approx. 40 mbgl around WWTP and landfill, however approximately 7m below Magenta pit floor, where abstracted water will be stored.	Underlying proposed premises
Unnamed Ephemeral drainage line	Mapped within Premises area
Aboriginal sites • There are 15 Aboriginal heritage places listed within the prescribed premise. Of which, five are registered sites.	Mapped within Premises area
Livestock bores	Pastoral bores are shown in Tengraph within ~2kms from tenement boundaries.

Figure 1: Premises layout

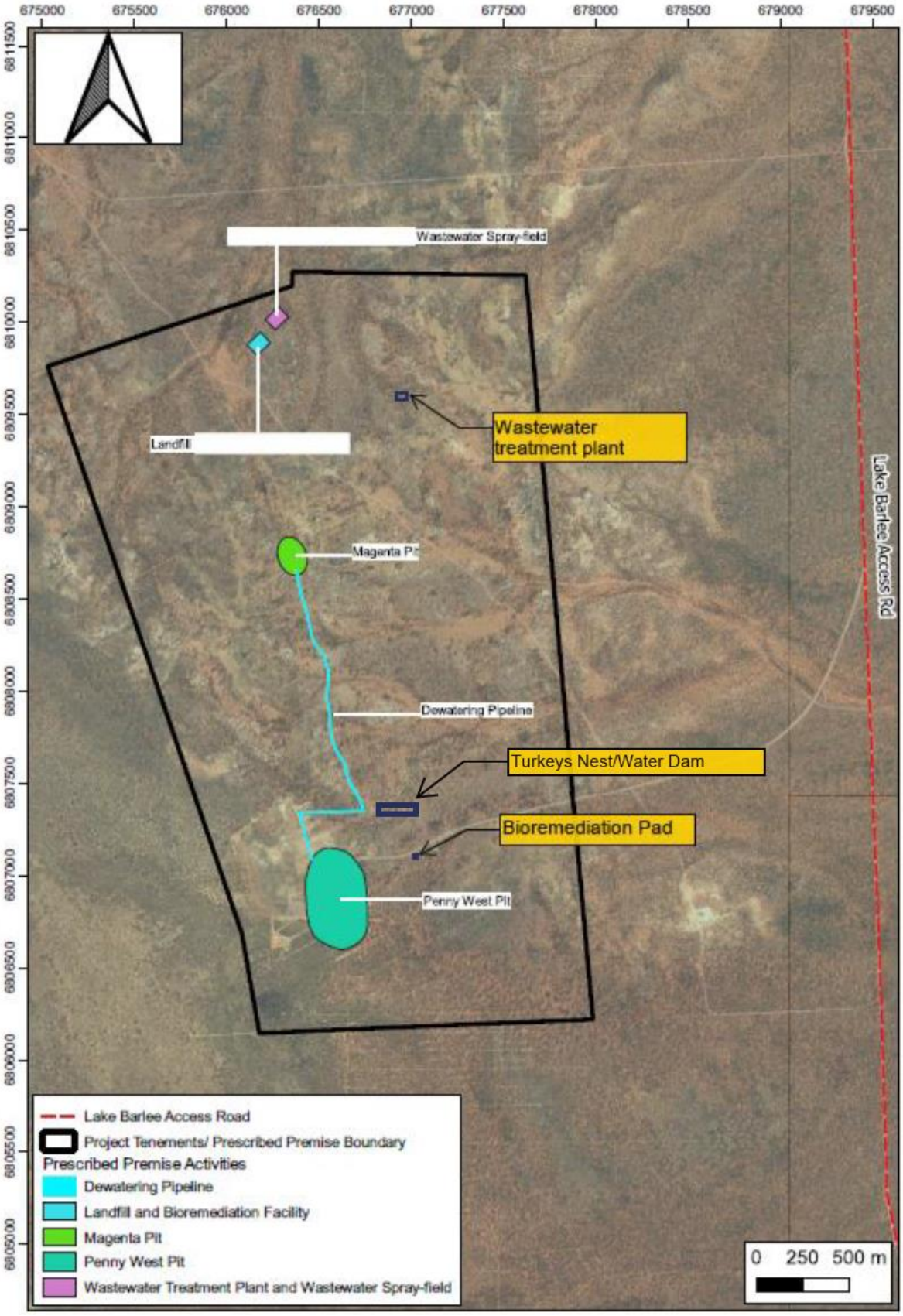
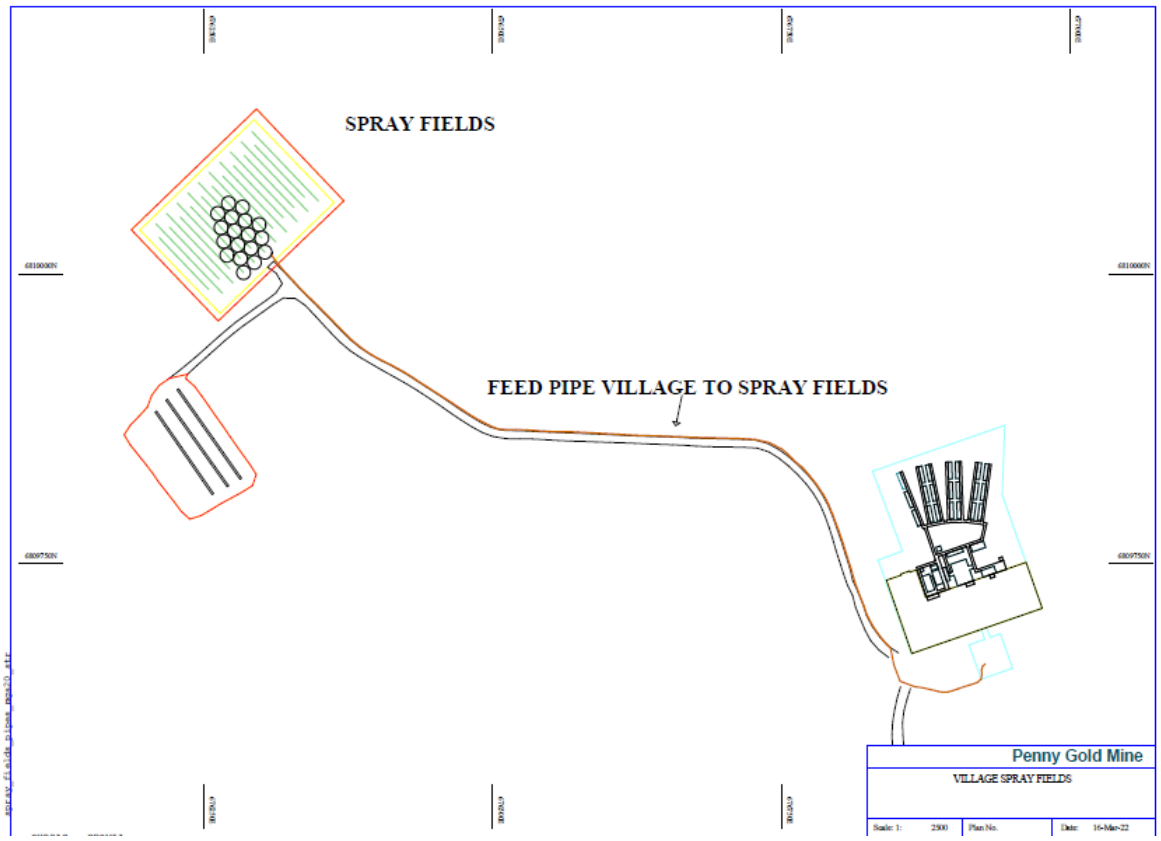


Figure 2: WWTP, sprayfield and landfill trenches location



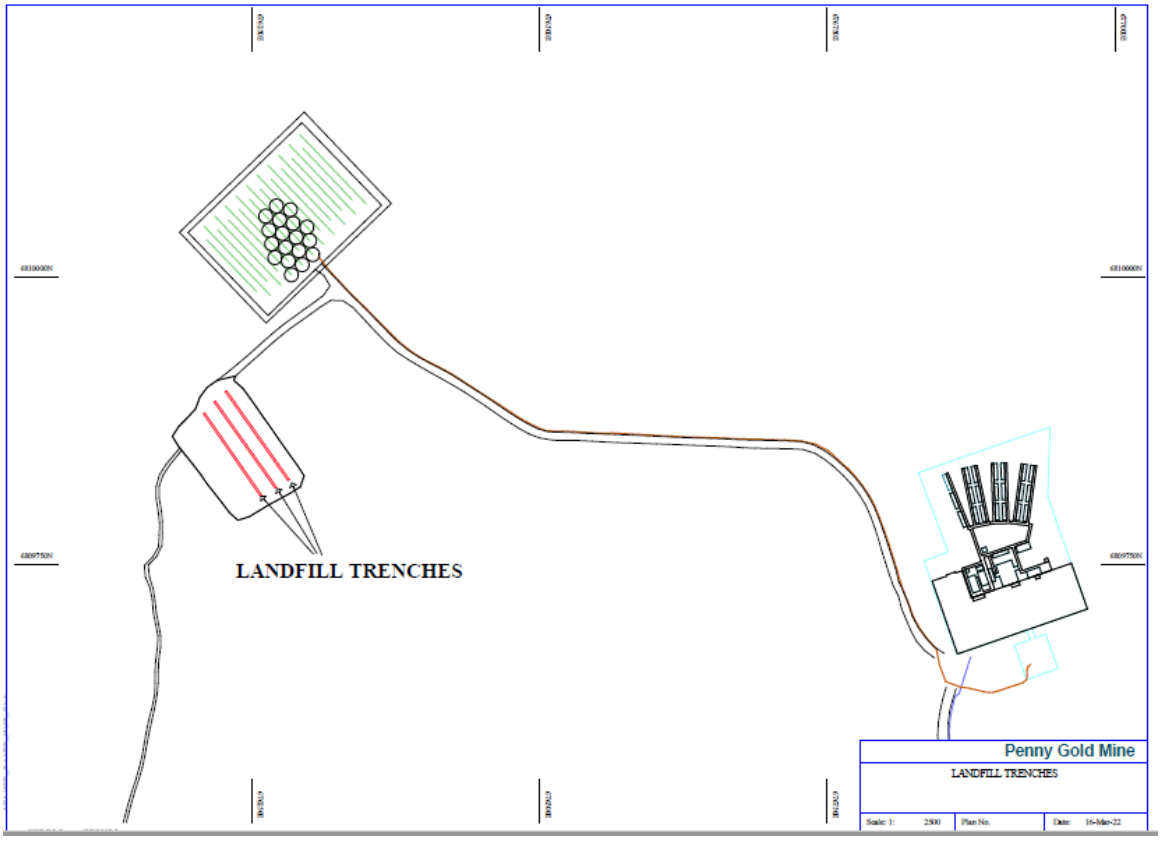


Figure 3: Distance to sensitive receptors

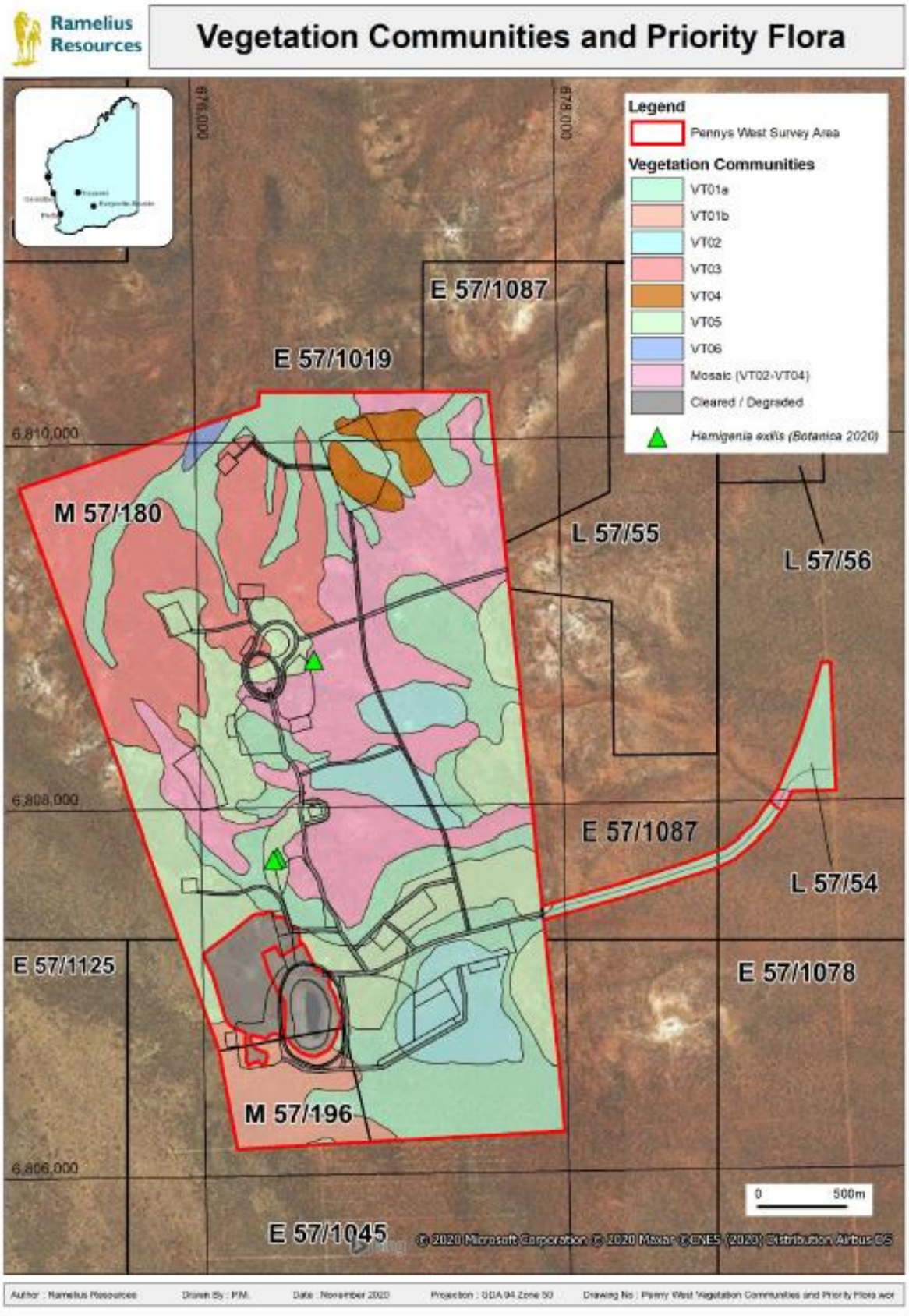
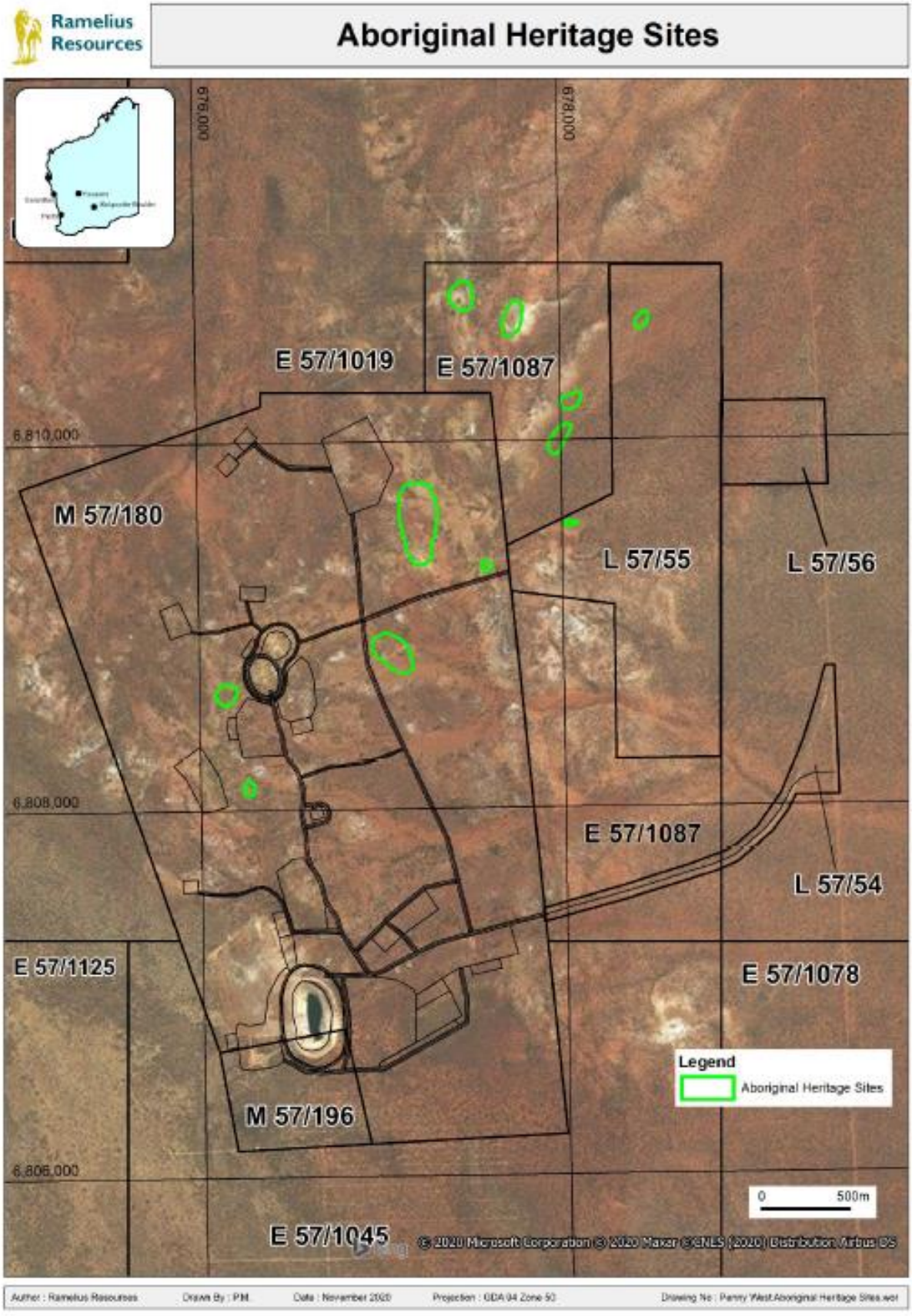


Figure 4: Distance to Aboriginal Heritage Sites



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 5.

Licence L9329 that accompanies this decision report authorises emissions associated with the operation of the premises.

The conditions in the issued licence, as outlined in Table 5 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 5: Risk assessment of potential emissions and discharges from the premises during operation.

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.

Risk Event					**Risk rating[1]** **C = consequence** **L = likelihood**	**Applicant controls sufficient?**	**Conditions[2] of Licence**	**Justification for additional regulatory controls**
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Operation								
Category 6 – Mine Dewatering								
Spills and leaks from operation of dewatering infrastructure	Saline Water from Penny West pit lake Brackish to Saline water from underlying aquifer	Soil infiltration, accumulation and runoff resulting in impacts to soils, vegetation, and groundwater	Groundwater (7 to 40 mbgl) Local soils Surrounding vegetation including Priority Flora mapped within premises area	Refer to Section 3.1	C = Minor L = Possible **Medium Risk**	Y	Condition 1, 2	Potential impacts resulting from dewatering will be mitigated due to the applicants controls and the distance between the Premises and sensitive receptors. Key controls have been conditioned in the licence.
Dewatering occurring to the Magenta pit or Turkey nest during mining operations resulting in overtopping or seepage into soil and groundwater					C = Moderate L = Possible **Medium Risk**	Y	Condition 1, 2, 6	
Water from mine dewatering being used for dust control	Saline water	Soil infiltration, accumulation and runoff resulting in impacts to soils and vegetation	Local soils Surrounding vegetation including Priority Flora mapped within premises area	Refer to Section 3.1	C = Minor L = Possible **Medium Risk**	Y	Condition 4	Condition 4 added to minimise impact to surrounding vegetation

Risk Event					Risk rating[1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions[2] of Licence	Justification for additional regulatory controls
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Category 64 - Class II putrescible landfill site								
Disposal of waste to Class II landfill, application of cover to deposited wastes	Noise	Air/windborne pathway causing impacts to health and amenity	No receptors within 5km of premises	Refer to Section 3.1	N.A	Y	Noise emissions will be regulated under the *Environmental Protection (Noise) Regulations 1997*	Noise, dust and odour emissions are expected to have minimal impact given the distance between the Premises and sensitive receptors.
	Dust		Surrounding vegetation including Priority Flora mapped within premises area	Refer to Section 3.1	C = Moderate L = Unlikely **Medium Risk**	Y	Dust emissions will be regulated under general provisions of the *Environmental Protection Act 1986*	
Disposal of waste to Class II landfill, decomposition of putrescible wastes	Odour		No receptors within 5km of premises	Refer to Section 3.1	N.A	Y	N.A	
Disposal of waste to Class II landfill	Windblown waste	Air/windborne pathway causing impacts to health and	Surrounding vegetation including Priority Flora mapped within premises	Refer to Section 3.1	C = Minor L = Possible **Medium Risk**	Y	Condition 1, 2, 6	Potential impacts resulting from the disposal of waste will be mitigated due to the

Risk Event					Risk rating[1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions[2] of Licence	Justification for additional regulatory controls
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
		amenity	area					applicants controls and the distance between the Premises and sensitive receptors.
Decomposition of putrescible wastes and contaminated materials within Class II landfill cells	Leachate	Soil infiltration and runoff resulting in impacts to underlying soils and groundwater	Underlying aquifer - 40 mbgl Surrounding vegetation including Priority Flora mapped within premises area	Refer to Section 3.1	C = Moderate L = Rare **Low Risk**	Y	Condition 1, 2, 6	
	Potentially contaminated stormwater			Refer to Section 3.1	C = Minor L = Rare **Low Risk**	Y	Condition 1, 2, 6	
Category 85 – Sewage Facility								
Irrigation of treated wastewater to spray-filed	Odour	Air/windborne pathway causing impacts to health and amenity.	No receptors within 5km of premises	Refer to Section 3.1	N/A	Y	Condition 1, 2, 5 and 6	The Delegated Officer has determined that monitoring of the effluent discharge volumes and quality are required to ensure that nutrient overloading is not occurring. This testing requirement is in line with commitments made by the applicant. Additionally, the applicant must
Discharge of treated Wastewater to land (irrigation spray-field)	Untreated / partially treated wastewater	Overtopping / spills/ leaks of WWTP tanks and pipeline leaks/bursts resulting in effluent containing high levels of nutrients impacting the health and growth of	Native Vegetation Groundwater: depth to groundwater is 40m.	Refer to Section 3.1	C = Slight L = Unlikely **Low Risk**	Y	Condition 1, 2, 5 and 6	

Risk Event					Risk rating[1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions[2] of Licence	Justification for additional regulatory controls
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
		surrounding vegetation and causing a reduction in soil and groundwater quality						maintain and manage the irrigation spray field to prevent potential pooling of treated effluent. Therefore, key commitments have been conditioned in the issued licence.
	Treated sewage with exceeded quality or volumes applied to irrigation spray field using reticulated sprinklers	Discharge to land resulting in effluent containing high levels of nutrients impacting the health and growth of surrounding vegetation and causing a reduction in soil and groundwater quality	Native Vegetation Groundwater: depth to groundwater is 10m.	Refer to Section 3.1	C = Minor L = Unlikely **Medium Risk**	Y	Condition 1, 2, 5 and 6	

4. Consultation

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

Table 6: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website on 27 April 2022.	No comments received	N/A
Shire of Sandstone advised of proposal on 26 April 2022.	No comments received	N/A
Department of Mines, Industry Regulation and Safety (DMIRS) advised of proposal on 26 April 2022.	No comments received	N/A
Department of Planning, Lands and Heritage advised of proposal on 26 April 2022.	No comments received.	N/A
Applicant was provided with draft documents on 3 June 2022.	Refer Appendix 1 below for summary of comments received.	Refer Appendix 1 below for summary of department response to comments received.

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.

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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. Department of Water 2008, *Water Quality Protection Notice 22: Irrigation of nutrient rich wastewater,* Perth, Western Australia
5. Standards Australia 1998, *AS/NZS 5667.10.1998 Water quality – Sampling guidance on sampling of waste waters,* Australia

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

DWER Request	Summary of applicant's comment	Department's response
Applicant to provide updated figure 1 to include turkey nest location (condition 1: Table 1 – Turkey nest)	Figure 1 at the end of this document is now updated.	Acknowledged and new map showing the location of the turkeys nest added to licence and decision report.
Applicant to confirm whether phase 1 has been completed	Phase 1 completed	Acknowledged and decision report updated.
Applicant to confirm status of remaining dewatering requirements below: The total remaining dewatering requirement at the Premises is as follows: • Current existing Penny West pit lake water storage of approximately 250,000 kL; • Penny West and Penny North groundwater storage of approximately 500,000 kL; and • Ongoing groundwater inflow of approximately 100 kL/day, increasing to a maximum of 500 kL/day as underground development progresses.	Current existing Penny West pit lake water storage of approximately 250,000 kL completed, no further dewatering required. Penny West and Penny North groundwater storage of approximately 500,000 kL confirmed. Ongoing groundwater inflow of approximately 100 kL/day, increasing to a maximum of ~~500~~ 526 kL/day as underground development progresses.	Acknowledged and decision report updated.
Applicant to provide updated water balance – Table 1 below, and ensure it includes rainfall, evaporation and potential expected storage within the turkey nest.	Updated water balance table on following page.	Acknowledged and new water table inserted into decision report to replace old table.
Applicant to provide map with actual location of monitoring bores and installed bore specifications, including parameters/methodology of proposed monitoring programme.	Maps and specs at the end of this pdf. Proposed monitoring includes quarterly dipping of the bores to monitor any changes in groundwater depth and testing the groundwater for pH and EC to compare against backgound ambient conditions.	Acknowledged. Licence and decision report updated: • Monitoring bore map and specs added to final licence and decision report • Table 3: Proposed applicant controls updated • Licence Table 6: Emissions and discharge monitoring updated to include groundwater monitoring bores. • Table 7 updated to include requirement to report groundwater monitoring data in Annual Environmental Report. • Definitions updated to include m AHD, spot sample and AS/NZS 5667.11.

DWER Request	Summary of applicant's comment	Department's response
Applicant to provide updated Figure 3 showing location of existing turkey nest. Applicant to provide turkey nest's specifications (liner used, dimensions, management and operational freeboard/ designed to contain 1:100 year rainfall events?).	Two cells both 80m (L) x 80m (W) x 3m (H). First cell is the disposition cell maintained at ~0.4m freeboard. This cell has a spillway into second cell in which water is pumped out to underground or to the standpipe. Second cell maintained at ~1.0m freeboard. The liner is HDPE, 1.5mm thick, installed and buried into top of wall. Contains 4 animal egress mats. Around the base of the dam, a 900mm high stock fence has been installed with 2 sets of driveable width gates.	Acknowledged. Table 3: Proposed applicant controls of the decision report updated.

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY					
Application type					
Works approval	☐				
Licence	☒	Relevant works approval number:	W6503/2021/1	None	☐
		Has the works approval been complied with?		To a satisfactory level, where the licence can be progressed.	
		Has time limited operations under the works approval demonstrated acceptable operations?		Yes ☐ No ☒ Time limited operations underway	
		Environmental Compliance Report submitted?		Yes ☒ No ☐	
Date application received		6 December 2021			
Applicant and Premises details					
Applicant name/s (full legal name/s)		Penny Operations Pty Ltd			
Premises name		Penny Gold Project			
Premises location		M57/180 and M57/196			
Local Government Authority		Shire of Sandstone			
Application documents					
HPCM file reference number:		DWERDT535268			
Key application documents (additional to application form):		Attachment 1A – Proof of occupier Status Attachment 1B – ASIC Company Extract Attachment 3A – Environmental Commissioning Plan Attachment 5 – Other approvals and consultation documentation Attachment 6 – Emissions and Discharge Attachment 6B – Waste Attachment 7 – Siting and Location Attachment 8 – Hydrology and Hydrogeology report Attachment 8B – Flora and Fauna Survey Attachment 8C – Heritage Survey			
Scope of application/assessment					

Summary of proposed activities or changes to existing operations.	The licence application has been submitted to authorise mine dewatering and discharge, operation of the WWTP, irrigation field, Class II landfill, bioremediation facility and operation of a reverse osmosis (RO) plant (including associated discharge of brines into pit).

Category number/s (activities that cause the premises to become prescribed premises)

Table 1: Prescribed premises categories

Prescribed premises category and description	**Proposed production**	**Proposed changes to the production or design capacity (amendments only)**
Category 6 – Mine dewatering	100,000 tonnes per annual period	N.A
Category 64 – Class II putrescible landfill site	1,200 tonnes per annual period	N.A
Category 85 – Sewage Facility	50 cubic meters per day	N.A

Legislative context and other approvals

Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal?	Yes ☐ No ☒	Referral decision No: Managed under Part V ☐ Assessed under Part IV ☐
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes ☐ No ☒	Ministerial statement No: EPA Report No:
Has the proposal been referred and/or assessed under the EPBC Act?	Yes ☐ No ☒	Reference No:
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes ☒ No ☐	Mining lease / tenement ☒ Expiry: 09/2032
Has the applicant obtained all relevant planning approvals?	Yes ☐ No ☐ N/A ☒	
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes ☒ No ☐	CPS No: 9048/1

Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes ☐ No ☒	
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes ☒ No ☐	Licence/permit No: GWL205133(1)
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes ☒ No ☐	Name: EAST MURCHISON Type: Proclaimed Groundwater Area Has Regulatory Services (Water) been consulted? Yes ☐ No ☒ N/A ☐ Regional office: Goldfields
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes ☐ No ☒	
Is the Premises subject to any other Acts or subsidiary regulations (e.g. *Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx*)	Yes ☒ No ☐	• *The Mining Act 1978* • *EP Act 1986* • *Environmental Protection (Controlled Waste) Regulations 2004* • *The Aboriginal Heritage Act 1988* • *Treatment of Sewage and Disposal of Effluent and Liquid Waste Regulations 1974*
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes ☐ No ☒	
Is the Premises subject to any EPP requirements?	Yes ☐ No ☒	

Is the Premises a known or suspected contaminated site under the *Contaminated Sites Act 2003*?	Yes ☐ No ☒	