Amendment Report

Application for Licence Amendment

Part V Division 3 of the Environmental Protection Act 1986

Licence Number L8692/2012/1

Licence Holder Paddington Gold Pty Ltd

ACN 008 585 886

File Number 2012/006823

Premises Enterprise Gold Mine

Part mining tenements M24/29, M24/170 and M24194

ORA BANDA WA 6431

Date of Report 4 July 2023

Decision Revised licence granted

A/Manager, Resource Industries REGULATORY SERVICES

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

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1. Decision summary

Licence L8692/2012/1 is held by Paddington Gold Pty Ltd (Licence Holder) for the Enterprise Gold Mine (the Premises), located at part mining tenements M24/29 and M24/170 in Ora Banda, Western Australia.

This Amendment Report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during the operation of the Premises. As a result of this assessment, Revised Licence L8692/2012/1 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this Amendment Report, the department has considered and given due regard to its Regulatory Framework and relevant policy documents which are available at https://dwer.wa.gov.au/regulatory-documents.

2.2 Application summary

On 12 April 2023, the Licence Holder submitted an application to the department to amend Licence L8692/2012/1 under section 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments are being sought:

- Addition of Category 5 activities: Operation of a paste fill plant (annual limit 650,000 tonnes). The paste fill plant was constructed under works approval W6279/2019/1 and is currently operating under time limited operations.
- Amendment of the prescribed premise boundaries to include the area of the tailings extraction and correct other areas of the licence boundary.

The Enterprise Mine does not have a processing plant for the processing of ore on the prescribed premises so the paste fill is mixed using dry tailings sourced from an historic tailings storage facility (TSF) from within the premises. This TSF is to the south of the mine and on the other side of the Ora-Banda – Broad Arrow Road. See Figure 1.

Reclaiming of the tailings will entail the excavation of the tailings, loading into trucks and transporting to the paste fill plant at the western edge of the Enterprise mine. The dry tailings will be stockpiled at the paste fill plant prior to mixing and the resulting paste pumped underground through a borehole for use in stabilising underground voids.

This amendment is limited only to changes to Category 5 activities from the Existing Licence. No changes to the aspects of the existing Licence relating to Category 6 and 12 have been requested by the Licence Holder. Table 1 below outlines the proposed changes to the existing Licence

Table 1: Proposed throughput capacity changes

Category	Current throughput capacity	Proposed throughput capacity	Description of proposed amendment
5	N/A	650,000 tonnes per annual period	The addition of a paste fill plant processing 650,000 tonnes per annual period of tailings triggers the requirement for Category 5 to be added to the Existing Licence.

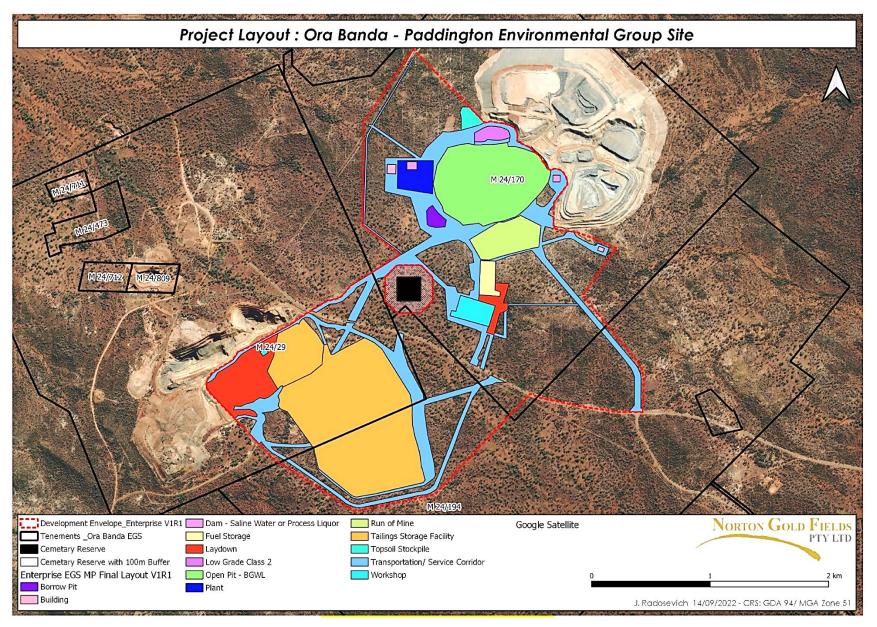


Figure 1: Paste fill plant location with tailings storge extraction area and connecting transport corridors

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 Amendment Report are detailed in Table 2 below. Table 2 also details the proposed control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary.

Table 2: Licence Holder controls

Emission	Sources	Potential pathways	Proposed controls
Dust	Vehicle movements, lift-off from stockpiles and/or stored product,	Air/windborne pathway	Water cart with dribble bars Water sprays on stockpiles and within the paste fill plant Implementation of the Dust Management Plan – Enterprise Open Cut Mine and the Dust Suppression Procedure
Noise	Vehicle movements and fixed plant operation	Air/windborne pathway	Implementation of the Noise Management Plan – Enterprise Open Cut Mine. Maintenance of machinery Compliance with the Environmental Protection (Noise) Regulations 1997.
Tailings - dust	Lift-off from stockpiles Transfer/transport of material Excavation of dry tailings from historic TSF	Air/windborne pathway	Water sprays on stockpiles and within the paste fill plant. The stockpile area is bounded on three sides by 2.5m bunds. Covers on vehicles transporting dry tailings from the reclamation area to the paste fill plant.
Saline sediment and tailings contaminated runoff	Dust suppression by brackish/saline groundwater Runoff from tailings stockpiles Surface water runoff contaminated by tailings contaminated soil.	Seepage to soils and groundwater	The stockpile area is bounded on three sides by 2.5m bunds. The tailings stockpile area is graded toward sumps positioned to collect the runoff. (Figure 2)

Emission	Sources	Potential pathways	Proposed controls
Saline water	Piping of mine dewater to the Paste fill plant. Dust suppression spray drifting.	Spills and leaks directly discharging to ground. Air/windborne pathway	Pipeline is located within bunding Implementation of the Dust Management Plan – Enterprise Open Cut Mine and the Dust Suppression Procedure



Figure 2: Surface water flow diagram

3.1.2 Receptors

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

Table 3 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 3: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from activity / prescribed premises
Residential Premises	1.5km southwest of the paste plant

Ora Banda townsite	0.6km north of the Premises boundary.
Environmental receptors	Distance from activity / prescribed premises
Threatened and/or Priority Fauna: Leipoa ocellata (Malleefowl)	From the 2023 annual survey of the malleefowl mounds in the Norton Gold Fields Pty Ltd's Paddington Project sites, 10 nesting mounds in the vicinity of the Enterprise Mine were surveyed. All were found to be inactive. (Figure 2)
	Included in the surveyed mounds were the inactive nesting mound (ENT13), approximately 250m of the paste fill plant and the mound last known to be active in 2018 (ENT007), approximately 800m north of the paste fill plant.
	No known survey has been undertaken of the area adjacent to the tailings reclamation area and the nearest mound identified in earlier surveys of the Enterprise Mine was greater than 2km to the north of the tailings recovery area.
Underlying groundwater (non-potable purposes)	Dewatering assessment for the Enterprise project indicated pre-mining groundwater levels of 60m below surface.
	Groundwater in the area is brackish to saline with Total Dissolved Solids (TDS) content varying from 7,000 to 27,000mg/L. The major ionic composition of the groundwater is salts of sodium and chloride with minor levels of sulphate, magnesium and calcium present. Most other ions are by comparison in low total concentrations. (Ora Banda EGS Mining Proposal)
Remnant Native Vegetation	Remnant native vegetation occurs within and adjacent to the Prescribed Premises boundary. The Licence Holder has approval to clear 300 ha of native vegetation within an 822.59 ha footprint area under clearing permit CPS No: 3560/5 and 234.04 ha within an 824.48 ha footprint under clearing permit CPS 9020/1 which covers the entire Prescribed Premises envelope.
	Remnant native vegetation occurs to the south of the Tailings reclamation area (adjacent to the southern border of the Prescribed Premises boundary) and to the north of Gimlet South open pit (adjacent to the northern border of the Prescribed Premises boundary).
Surface Water Lines	A minor non-perennial watercourse intersects the Prescribed Premises boundary. The watercourse runs approximately 300m south of the Enterprise open pit and ends within the Paste Fill Plant envelope. It is however outside the bunded stockpile area. The same watercourse is located approximately 553m east of the tailings reclamation expanded area.

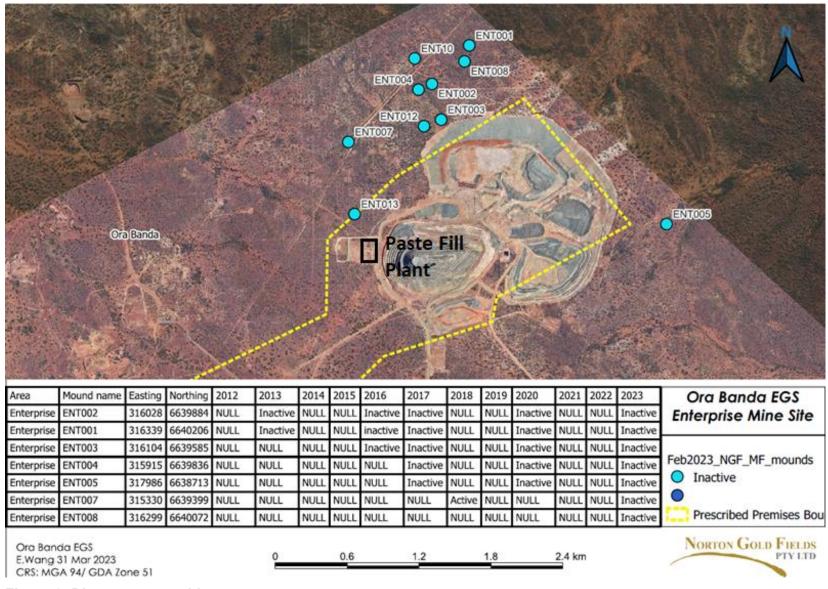


Figure 3: Distance to sensitive receptors

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for those emission sources which are proposed to change and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are incomplete they have not been considered further in the risk assessment.

Where the Licence Holder 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 Licence Holder'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 Licence Holder's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 4.

The Revised Licence L8692/2012/1 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises i.e. Category 5, 6, and 12 activities.

The conditions in the Revised Licence have been determined in accordance with Guidance Statement: Setting Conditions (DER 2015).

Table 4. Risk assessment of potential emissions and discharges from the Premises during operation

Risk Event					Risk rating ¹	Licence		leadification for	
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls	C = consequence L = likelihood	Holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls	
	Dust	Air/windborne pathway causing impacts to health and amenity	Remnant vegetation Threatened/Priority Fauna	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Condition 1: Infrastructure and equipment requirements. Use of sprays and water trucks. Covering of trucks carrying dry tailings.		
	Noise	Air/windborne pathway causing impacts to health and amenity	Residences 1.5km from paste fill plant		C = Slight L = Unlikely Low Risk	Y			
Paste fill plant including transport and storage of dried tailings and mixing of tailings to form paste for pumping into underground workings.	Sediment laden stormwater	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Surface water Remnant vegetation Threatened/Priority Fauna			C = Minor L = Unlikely Medium Risk	Y	Condition1: Infrastructure and equipment requirements. Bunds and sumps around the paste fill plant and stockpile area.	
	Tailings – dust from excavation	Air/windborne pathway causing impacts to health and amenity	Remnant vegetation Threatened/Priority Fauna		C = Minor L = Unlikely Medium Risk	Y	Condition 9 and 10 Prevention of dust leaving the premises		
	Tailings dust from transport	Air/windborne pathway causing impacts to:	Remnant vegetation Threatened/Priority Fauna		C = Moderate L = unlikely Medium Risk		Condition 1: Infrastructure and equipment requirements. Covering of trucks	The risk of traffic accident due to reduced visibility of dust from trucks transporting dry tailings has a medium	

Risk Event					Risk rating ¹	Licence		L attract	
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls	C = consequence L = likelihood	Holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls	
		health and amenity of flora and fauna; and Safety and amenity of traffic	Users of Ora Banda – Broad Arrow Road				transporting dry tailings, use of sprays and water trucks, bunding of stockpile area.	risk rating. The control provided by the licence holder, covering of trucks carrying dry tailings, is considered sufficient and is included in the condition as a requirement for operation of the paste fill plant.	
	Saline water spray	Air/windborne pathway causing impacts to health	Remnant vegetation		C = Slight L = Unlikely Low Risk	Y	Condition 7: Use of saline dewatering effluent for dust suppression in a manner that minimises damage to surrounding vegetation. Condition 7 already in place on licence. Further conditioning not required		
Transport of dewatering in pipelines to pate fill plant	Saline water	Direct discharge to land via spills and leaks potentially causing ecosystem disturbance or impacting surface water quality	Surface water Remnant vegetation	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Y	Condition 1: Infrastructure and equipment requirements. Inspections Condition 6 Secondary containment of environmentally hazardous material. Condition 6 already in place on licence but definition for environmentally hazardous materials		

Risk Event			Risk rating ¹	Licence		Justification for		
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls	C = consequence L = likelihood	Holder's controls sufficient?	Conditions ² of licence	additional regulatory controls
							updated to clarify that saline water is included	

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

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

4. Consultation

Table 5Table 5 provides a summary of the consultation undertaken by the department.

Table 5: Consultation

Consultation method	Comments received	Department response
Licence Holder was provided with draft amendment on 28/06/2023 and 29/06/2023.	Request made for additional wording in Condition 1. 21-day consultation period waived	Wording of condition 1 is standard and proposed changes will not be actioned.

5. Conclusion

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

5.1 Summary of amendments

Table 6 provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the Revised Licence as part of the amendment process.

Table 6: Summary of licence amendments

Condition no.	Proposed amendments
Cover page	Category 5 added to prescribed premises category description table with throughput of 650,000 tonnes per annual period.
Licence history table	Updated with current amendment
Condition 1, Table 1	Paste fill plant infrastructure added to table with requirements for maintaining bunds, sumps, truck coverings and dust suppression.
Condition 7 (b)	Addition of paste fill as an authorised use of saline dewatering.
Condition 18	Condition wording updated to require biennial submission of the environmental report as per Notice of amendment and schedule of licences with amended reporting conditions (2022)
Definitions	Addition of saline dewatering to the definition of 'environmentally hazardous materials', and the addition of a definition for 'kL.
Schedule 1	Updated figures 1 and 2 of the premises boundary and infrastructure. Added figure 3 depicting the stockpile are bunding and sumps.
Schedule 2	Premises boundary coordinates table updated to include extended premises boundary and updated to GDA2020 geographic coordinates in decimal degrees.

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. Terrestrial Ecosystems 2018, *Annual malleefowl survey Enterprise, Carbine and Golden Cities*, Appendix 6 of Mining Proposal, Enterprise Underground Version 2 (2019) (MP 78366), online at <u>GeoDocs (dmirs.wa.gov.au)</u>,.

Appendix 1: Application validation summary

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)							
Application type							
Works approval							
		Relevant works approval number:	W6279/2019/1	None			
		Has the works appro	oval been complied	Yes ⊠	No □		
Licence		Has time limited ope works approval dem acceptable operatio	nonstrated	Yes ⊠	No □ N/A □		
		Environmental Com submitted?	pliance Report	Yes ⊠	No □		
		Date Report receive	ed: 15/12/2022				
Renewal		Current licence number:					
Amendment to works approval		Current works approval number:					
	_	Current licence number:					
Amendment to licence		Relevant works approval number:		N/A			
Registration		Current works approval number:		None			
Date application received	I	12/04/2023					
Applicant and Premises details		,					
Applicant name/s (full legal name/s)		Paddington Gold Pt	y Ltd				
Premises name		Enterprise Gold Mine					
Premises location		Part mining tenements M24/29 and M24/170					
Local Government Authority		City of Kalgoorlie-Boulder					
Application documents							
HPCM file reference number:		2012/006823-1					
Key application documents (addition application form):	Premises maps Enterprise Dust Management Plan Enterprise Noise Management Plan Ora Banda Eastern Goldfields Mining Proposal 103279 Malleefowl mound maps Malleefowl mound marking procedure Malleefowl survey Feb 2023 Memorandum – Groundwater inflows to Enterprise Pit						
Scope of application/assessment		I					
Summary of proposed activities or changes to existing operations.		Operation of: Paste Fill Activity (Category 5, annual limit 650000 tonnes), and amend the prescribed premise boundaries					

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

Table 1: Prescribed premises categories

Prescribed premises category and description	Assessed production or design capacity	Proposed changes to the production or design capacity (amendments only)
Category 5: Processing or beneficiation of metallic or non-metallic ore.	650,000 tonnes per annual period	650,000 tonnes per year
Category 6: Mine dewatering	500,000 tonnes per annual period	N/A
Category 12: Screening etc. of material	115,000 tonnes per annual period	N/A

Legislative context and other approvals

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: M24/170 – Exp 2/11/2029 M24/29 – Exp 3/1/2026 M24/194 – Exp 4/5/2030
Has the applicant obtained all relevant planning approvals?	Yes □	No □ N/A ⊠	Approval: Expiry date: If N/A explain why? Occurs on mining tenure
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes □	No ⊠	CPS No: N/A No clearing is proposed.
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes □	No ⊠	Application reference No: N/A Licence/permit No: N/A No clearing is proposed.

Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes ⊠ No □	Licence/permit No: GWL 160697(4)
		Name: Goldfields
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes ⊠ No □	Type: Proclaimed Groundwater Area
		Has Regulatory Services (Water) been consulted?
		Yes □ No ⊠ N/A □
		Regional office: Swan Avon / Goldfields
		Name: N/A
		Priority: P1 / P2 / P3 / N/A
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes □ No ⊠	Are the proposed activities/ landuse compatible with the PDWSA (refer to WQPN 25)?
		Yes □ No □ N/A ⊠
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 □	Mining Act 1978
		Rights in Water and Irrigation 1914
		Dangerous Goods Safety Act 2004
		Environmental Protection (Noise) Regulations 1997
Is the Premises within an Environmental	Vaa D. Na M	
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?		Site ID: 5272 covers all tenements of the premises.
	Yes ⊠ No □	Classification: possibly contaminated – investigation required (PC–IR)
		Date of classification: 20/02/2020