



Application for Licence Amendment

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

Licence Number	L9324/2022/1
Licence Holder	Greenmount Resources Pty Ltd
ACN	607 613 650
File Number	DER2022/000042
Premises	Karlawinda Gold Project Mining Lease – M52/1070 CAPRICORN WA 6642 Shire of Meekatharra As defined by the Premises maps attached to the Revised Licence
Date of Amendment	23 March 2023
Decision	Revised licence granted

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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

Licence L9324/2022/1 is held by Greenmount Resources Pty Ltd (Licence Holder) for the Karlawinda Gold Project (the Premises), located at mining lease, M52/1070, Capricorn.

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 L9324/2022/1 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 21 November 2022, the Licence Holder submitted an application to the department to amend Licence L9324/2022/1 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendment being sought is for an increase of the tailings production from 3.75 million tonnes per annum (Mtpa) to 4.4 Mtpa based on the performance of the Karlawinda Tailings Storage Facility.

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 64 and 85 have been requested by the Licence Holder.

Table 1 below outlines the proposed changes to the existing Licence.

Table 1: Proposed production / design capacity changes

Category	Current production / design capacity	Proposed production / design capacity	Description of proposed amendment
5	3,750,000 tonnes per annum (tpa)	4,400,000 tpa	The Licence Holder had undertaken recent tailings test work have indicated higher tailings densities and settling and air-dry rates that allow for an increase in tailings deposition up to 4.4 Mtpa (fresh tailings).
64	1,500 tpa	No change	-
85	78 cubic metres (m ³) per day	No change	-

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 2020a).

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
Tailings overflows from the Tailings Storage Facility (TSF)	Increased tailings deposition in the TSF	Direct discharges to land, drainage lines, and vegetation Seepage to soil and groundwater	Existing conditions apply as per Licence L9324/2022/1
Discharge of tailings through TSF embankment failure		Direct discharges to land, drainage lines, and vegetation Seepage to soil and groundwater	Existing conditions apply as per Licence L9324/2022/1
Tailings seepage		Seepage to groundwater adjacent to TSF Seepage from the TSF base and through sides with infiltration to soil Groundwater mounding Inundation of vegetation root zones	Existing conditions apply as per Licence L9324/2022/1
Spillage of tailings through leaks, pipeline ruptures or failure		Direct discharges to land and infiltration to soil and groundwater	Existing conditions apply as per Licence L9324/2022/1 General provisions of the <i>Environmental Protection (Unauthorised discharges) Regulations 2004</i> also apply.

3.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020a), 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 2020b)).

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

Human receptors	Distance from prescribed activity
No nearby human receptors	Human receptors more than 15 kilometres (km) from the prescribed premises.
Environmental receptors	Distance from prescribed activity
<p>Nationally Important Wetland <i>Lake Disappointment (Savory Creek) System</i></p>	<p>Tributaries occur within the prescribed premises with two separate drainage lines flowing through on the eastern and western sides of the prescribed premises.</p> <p>This system has seasonal and intermittent rivers and associated drainage lines and saline lakes.</p>
<p>Hydrographic catchment Lake Disappointment catchment an internally draining system. Part of the Sandy Desert basin within the Western Plateau division.</p>	Occurs within the prescribed premises boundary.
Threatened and Priority (P) Flora	<ol style="list-style-type: none"> 1. <i>Eremophila pilosa</i> P1, approximately 700 m south-west outside from the prescribed premises boundary. 2. <i>Eremophila rigida</i> P3, recorded within the prescribed premises (Flora and Survey undertaken by 360 Environmental 2016). 3. <i>Rhagodia</i> sp. Hamersley (M. Trudgen 17794) P3, recorded within the prescribed premises (Flora and Survey undertaken by 360 Environmental 2016).
<p>East Murchison Groundwater Area (<i>RiWI Act 1914</i>) Groundwater in the region is typically fresh to brackish, with electrical conductivities (EC) generally less than 4000 $\mu\text{S}/\text{cm}$ with neutral to slightly alkaline waters.</p> <p>Potable water quality is less than 1000 mg/L Total Dissolved Solids. Groundwater depth ranges from 7 to 10 metres. Groundwater flow is southwards toward the Savory Creek system.</p> <p>Nearest operating groundwater bore about 5 km from prescribed premises – Guildford bore (ref no. 120511289) used for livestock drinking water supply.</p>	Occurs within the prescribed premises boundary.
<p>Pilbara Surface Water Area (<i>RiWI Act 1914</i>) Surface water flows in rivers and floodplains recharge the alluvium through the riverbed during the wet season.</p> <p>Rivers maintain by groundwater discharge, then start to decline where levels drop below the riverbed during the dry season.</p>	Occurs within the prescribed premises boundary.

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020a) 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 L9324/2022/1 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises.

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 C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Source / Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls				
Operation								
Increased tailings deposition in the TSF	Tailings overflows from the Tailings Storage Facility (TSF)	Direct discharges to land, drainage lines, and vegetation Seepage to soil and groundwater Soil contamination inhibiting vegetation growth and survival Direct impacts to the ecosystem	Surrounding vegetation	Refer to section 3.1	C = Moderate L = Unlikely Medium Risk	Y	Conditions 5, 6, 7, 12, 16, and 17	N/A
	Discharge of tailings through TSF embankment failure	Direct discharges to land Seepage to soil and groundwater Soil contamination inhibiting vegetation growth and survival Direct impacts to the ecosystem, particularly drainage lines	Drainage lines and associated riparian vegetation	Refer to section 3.1	C = Moderate L = Unlikely Medium Risk	Y	Conditions 5, 6, 7, 9, 10, 11, 12, 16, and 17	N/A
	Tailings seepage	Seepage to groundwater adjacent to TSF Seepage from the TSF base and through sides with infiltration to soil Groundwater mounding Inundation of vegetation root zones, resulting in poor vegetation health or death Groundwater contamination Soil contamination inhibiting vegetation growth and survival	Soil Groundwater, particularly when used as livestock drinking water Surface water	Refer to section 3.1	C = Moderate L = Unlikely Medium Risk	Y	Conditions 5, 6, 7, 9, 10, 11, 12, 16, and 17	N/A
	Spillage of tailings through leaks, pipeline ruptures or	Direct discharges to land and infiltration to soil and groundwater Soil contamination inhibiting vegetation growth and survival		Refer to section 3.1	C = Moderate L = Unlikely Medium Risk	Y	Conditions 5 and 6, 16, and 17	In addition to the infrastructure construction and operational requirements, the

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Risk Event					Risk rating ¹ C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Source / Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls				
	failure	Direct impacts to the ecosystem						general provisions of the <i>Environmental Protection (Unauthorised discharges) Regulations 2004</i> apply.

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

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

Table 5: Consultation

Consultation method	Comments received	Department response
Department of Mines, Industry Regulation and Safety (DMIRS) advised of proposal on 20 January 2023	No comment was received.	-
Licence Holder was provided with draft amendment on 15 March 2023	The Licence Holder provided comments as detailed in Appendix 1.	The Department's responses are provided in Appendix 1.

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	Added premises name, Karlawinda Gold Project.
Cover page	Updated the assessed production/design capacity from 3,750,000 tpa to 4,400,000 tpa.
-	Updated the table, Licence History to include the amendments.
5 Table 2	Updated the amount of ore to be processed from 3,750,000 tpa to 4,400,000 tpa under item 1 of the table. Inclusion of the following operation requirement under item 2 of the table, " <i>Ensure capacity does not exceed 16,050 m³.</i> "

References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020a, *Guideline: Risk Assessments*, Perth, Western Australia.
3. DWER 2020b, *Guideline: Environmental Siting*, Perth, Western Australia.

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

Condition	Summary of Licence Holder's comment	Department's response
Cover page	Could you also please update our registered business address to: Level 3, 40 Kings Park Road, West Perth, WA 6005	Updated registered business address.
Figure 2 – Key Project Infrastructure Layout	Licence Holder provided updated figure.	Updated figure has been inserted to the Licence.
Figure 5 – Monitoring Bore Locations	Licence Holder provided updated figure.	Updated figure has been inserted to the Licence.

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY				
Application type				
Works approval	<input type="checkbox"/>			
Licence	<input type="checkbox"/>	Relevant works approval number:		None <input type="checkbox"/>
		Has the works approval been complied with?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
		Has time limited operations under the works approval demonstrated acceptable operations?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	
		Environmental Compliance Report / Critical Containment Infrastructure Report submitted?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
		Date Report received:		
Renewal	<input type="checkbox"/>	Current licence number:		
Amendment to works approval	<input type="checkbox"/>	Current works approval number:		
Amendment to licence	<input checked="" type="checkbox"/>	Current licence number:	L9324/2022/1	
		Relevant works approval number:	N/A	<input checked="" type="checkbox"/>
Registration	<input type="checkbox"/>	Current works approval number:	None	<input type="checkbox"/>
Date application received	21/11/2022			
Applicant and Premises details				
Applicant name/s (full legal name/s)	Greenmount Resources Pty Ltd			
Premises name	Karlawinda Gold Project			
Premises location	Mining Lease – M52/1070			
Local Government Authority	Shire of Meekatharra			
Application documents				
HPCM file reference number:	DER2022/000042			
Key application documents (additional to application form):	Attachment 3B: CMW Geosciences Pty Ltd Letter Re: Raising of TSF & Production Increase. Tailings Storage Facility – Karlawinda Gold Project			
Scope of application/assessment				
Summary of proposed activities or changes to existing operations.	<p>To increase the tailings production at Karlawinda Gold mine from 3.75 mtpa to 4.4 Mtpa of the performance of the Karlawinda Tailings Storage Facility (TSF) (category 5).</p> <p>Applicant has noted that the increase does not require additional construction activities or environmental activities.</p>			

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	3,750,000 tonnes per annum (tpa)	4,400,000 tpa
Category 64: Class II or III putrescible landfill site	1,500 tpa	No change
Category 85: Sewage facility	78 m ³ per day	No change

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 <input type="checkbox"/> No <input checked="" type="checkbox"/>	Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Ministerial statement No: EPA Report No:
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Reference No:
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Certificate of title <input type="checkbox"/> General lease <input type="checkbox"/> Expiry: Mining lease / tenement <input type="checkbox"/> Expiry: Other evidence <input type="checkbox"/> Expiry:
Has the applicant obtained all relevant planning approvals?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Approval: Expiry date: If N/A explain why?
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	CPS No: 7386 (Approved) No clearing is proposed.
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	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 <input checked="" type="checkbox"/> No <input type="checkbox"/>	Application reference No: Licence/permit No: GWL201659

<p>Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?</p> <p>Note: Prescribed premises occurs within the Pilbara Surface Water Areas and the East Murchison Groundwater Area (<i>RiWI Act 1914</i>)</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Name: Pilbara</p> <p>Type: Proclaimed Groundwater Area/Surface Water Area</p> <p>Has Regulatory Services (Water) been consulted?</p> <p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Regional office: Mid-West Gascoyne</p>
<p>Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Name: N/A</p> <p>Priority: N/A</p> <p>Are the proposed activities/ landuse compatible with the PDWSA (refer to WQPN 25)?</p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/></p>
<p>Is the Premises subject to any other Acts or subsidiary regulations (e.g. <i>Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx</i>)</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p><i>Dangerous Goods Safety Act 2004</i> applies for storage of explosives and other chemicals (e.g., hydrocarbons and cyanide) on site.</p> <p><i>Health Act 1911</i></p> <p><i>Environmental Protection (Unauthorised discharges) Regulations 2004</i></p>
<p>Is the Premises within an Environmental Protection Policy (EPP) Area?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	
<p>Is the Premises subject to any EPP requirements?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	
<p>Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i>?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Classification: N/A</p> <p>Date of classification: N/A</p>