



Application for Works Approval

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

Works Approval Number W6540/2021/1

Applicant Paddington Gold Pty Ltd

ACN 008 585 886

File number DER2021/000004

Premises Rose Pit Landfill

Legal description -

Part of Mining Tenement M24/82

MOUNT PLEASANT WA 6431

As defined by the premises map attached to the issued works approval

Date of report 23 July 2021

Decision Works approval 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

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 Rose Pit Landfill (the premises). As a result of this assessment, works approval W6540/2021/1 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

Paddington Gold Pty Ltd (the Applicant) is currently licenced under Part V of the *Environmental Protection Act 1986* (EP Act) under Licence L8327/2008/2 for the Rose Pit mine site, for prescribed premises categories 6 and 12.

On 16 December 2020, the Applicant submitted an application for a works approval to the department under section 54 of the *Environmental Protection Act 1986* (EP Act).

The application is to undertake construction works and time limited operations relating to Category 89: Putrescible Landfill Site, for the construction of a putrescible landfill site at the Premises. The Premises is located approximately 29 km south east of Kalgoorlie township, within the City of Kalgoorlie-Boulder.

The Premises relates to the Category 89 and assessed design capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in works approval W6540/2021/1. The infrastructure and equipment relating to the Premises category and any associated activities which the department has considered in line with *Guideline: Risk Assessments* (DWER 2020) are outlined in works approval W6540/2021/1.

2.3 Description of proposed activity

The Applicant is proposing to construct a landfill facility within the Quarters Waste Rock Dump (WRD) at the Premises to accept up to 5,000 tonnes of putrescible waste per annum. The landfill facility will be no larger than five hectares and will be strategically located within the Quarters WRD as determined by availability of access and operational requirements. Figure 1 depicts the location of the landfill facility which will be on part of Mining Tenement M24/82, within the existing L8327/2008/2 Prescribed Premises boundary. The facility will accept a mixed putrescible waste stream which includes putrescible material, clean fill, uncontaminated fill and inert waste (Type 1) in accordance with Landfill Class II (Prescribed Premises Category 89) as specified in the Landfill Waste Classifications and Waste Definitions 1996 (DWER 2019).

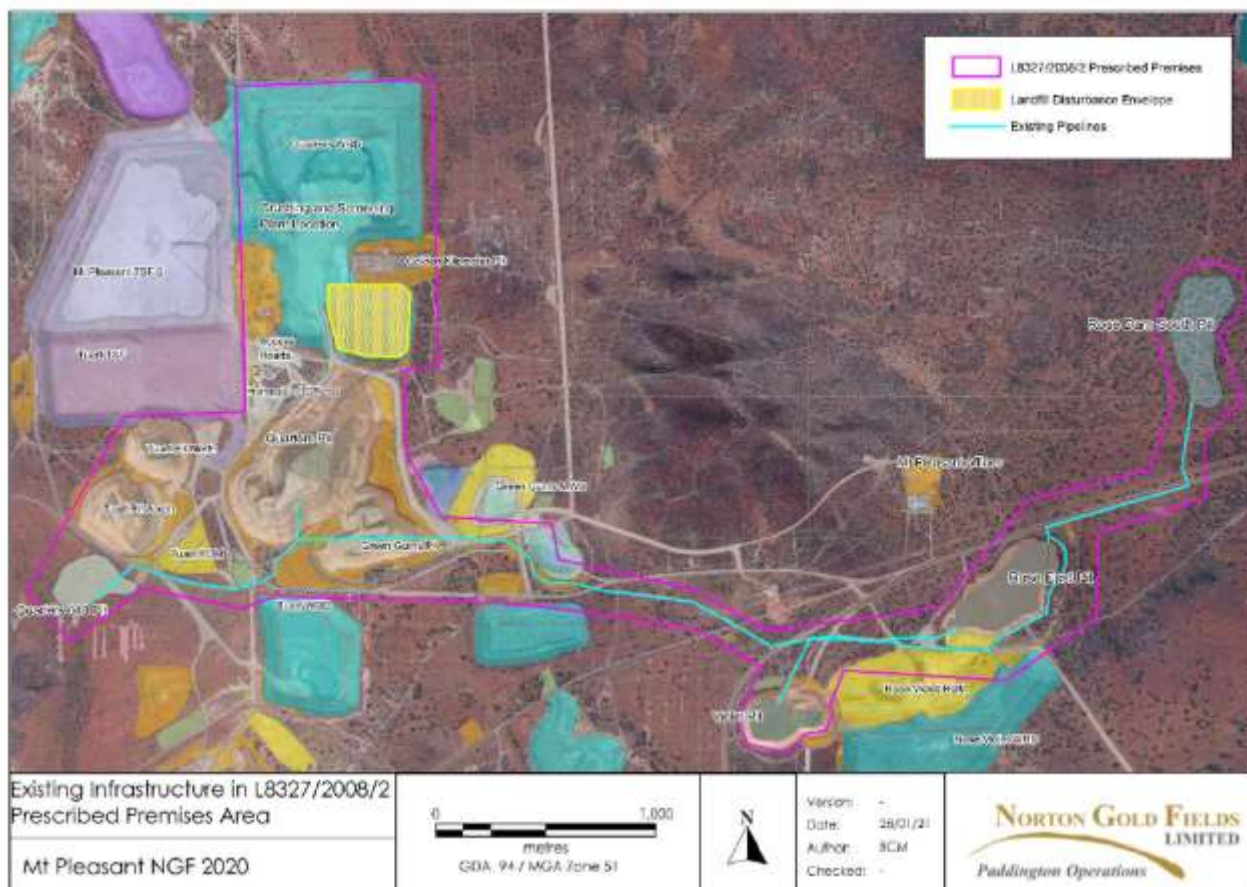


Figure 1: Premises map showing location of landfill facility

2.3.1 Construction Phase

Two landfill trenches will be excavated within the landfill disturbance footprint for the storage of putrescible waste. Each landfill trench will be constructed with a separation distance of 10 metres and be approximately 100 metres long by 20 metres wide by 2 metres in depth. Each landfill trench will be bunded for leachate and contaminated stormwater containment with an outer bund height of 2.5 metres and a tip face bund of 1.5 metres. The landfill trenches will be covered in progressive cells that are approximately 30 metres long from the outer sides of the WRD towards the centre. Figure 2 illustrates the proposed design of the landfill facility to be constructed under this works approval.



Figure 2: Design of landfill facility

2.3.2 Time-limited Operations and Operations Phase

The Applicant will be authorised to undertake time limited operations for the operation of the landfill facility provided that relevant requirements of this works approval (W6540/2021/1) are met. Ongoing operation of the landfill facility will require licence L8327/2008/2 to be amended. The estimated operating period of the landfill facility is proposed to be approximately 10 years.

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 construction and operation which have been considered in this decision report are detailed in Table 1 below. Table 1 also details the proposed control measures the applicant has proposed to assist in controlling these emissions, where necessary.

The acceptance of putrescible waste at the Premises has the potential to generate odour emissions. As there are no human receptors in close proximity to the Premises, no pathway to those sensitive receptors has been identified. Given this, a detailed risk assessment has not been undertaken for odour emissions that may occur as a result of the proposed activity.

Table 1: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Construction			
Dust	Earthworks to establish landfill facility on waste rock dump site. Vehicle movements	Air/windborne pathway	Applicant has not proposed controls.
Operation			
Dust	Unloading and storage of putrescible waste material into landfill site Waste covering activities Vehicle movements	Air/windborne pathway	Watercart to be used to prevent dust generation during operation.
Leachate	Disposal of putrescible waste within landfill	Discharge to land – seepage of leachate into soil / groundwater	Bunding to be constructed around the perimeter of the landfill facility for leachate containment.
Contaminated stormwater	Stormwater contaminated after coming into contact with putrescible waste	Overland runoff during high rainfall events potentially causing ecosystem disturbance	Bunding to be constructed around the perimeter of the landfill facility to ensure potentially contaminated stormwater does not mix with uncontaminated stormwater.
Windblown waste	Landfilling general waste	Air/windborne pathway	Applicant has not proposed controls.

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

Table 2: Sensitive environmental receptors and distance from prescribed activity

Environmental receptors	Distance from prescribed activity
Remnant native vegetation	Adjacent to prescribed activity
Groundwater	<p>The Premises is located within the Goldfields Groundwater Area proclaimed under <i>Rights in Water and Irrigation Act 1914</i>.</p> <p>Quarters WRD is approximately 20 to 25 metres above ground water level, therefore it is estimated that the depth to groundwater is approximately 25-30 metres below the landfill site.</p> <p>The Golden Kilometre pit located approximately 200 metres north of the landfill site is the closest pit that has a surface water level record. The groundwater level has been recorded at 6mbgl. Noting Quarters WRD is approximately 20-25 metres above ground level, it is estimated based on the closest surface water level record that the depth to groundwater is approximately 25-30 metres below the landfill site (Paddington Gold Pty Ltd, 2021).</p>
Threatened fauna species	Two records of the threatened fauna species <i>Leipoa ocellata</i> (Malleefowl) has been recorded on the Department of Biodiversity, Conservation and Attractions database approximately 4.9 kilometres and 6.9 kilometres west of the prescribed activity.

Distances of the prescribed activity to closest sensitive land uses is sufficient to inform that project activity impacts as not foreseeable. The nearest township is located approximately 33 kilometres south west of the proposed activity being the Kalgoorlie townsite. Human receptors are not considered to be impacted during construction or operations and therefore not further considered in the risk assessment.

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 works approval as regulatory controls.

Additional regulatory controls may be imposed where the applicant's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 3.

Works approval W6540/2021/1 that accompanies this decision report authorises construction and time-limited operations. The conditions in the issued works approval, as outlined in Table 3 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

A licence amendment is required following the time-limited operational phase authorised under the works approval to authorise emissions associated with the ongoing operation of the landfill facility. A risk assessment for the operational phase has been included in this decision report, however licence conditions will not be finalised until the department assesses the licence application.

Table 3: 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	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Construction								
Earthworks to establish landfill facility on waste rock dump site. Vehicle movements	Dust	Air/windborne pathway resulting in the degradation or death of remnant native vegetation	Remnant native vegetation located adjacent to landfill facility	No Applicant Controls outlined in submission.	C = Slight L = Possible Low Risk	N/A	Condition 1 and Table 1 describe the landfill facility to be constructed. Conditions 2 and 3 require an Environmental Compliance Report to be submitted once construction has been completed.	N/A
Operation <i>(including time-limited-operations)</i>								
Unloading and storage of putrescible waste material into landfill site Vehicle movements	Dust	Air/windborne pathway resulting in the degradation or death of remnant native vegetation	Remnant native vegetation located adjacent to landfill facility Threatened fauna species <i>Leipoa ocellata</i> (Malleefowl) (closest record 4.9kms from the landfill facility)	Refer to Section 3.1	C = Slight L = Possible Low Risk	Y	Condition 1 and Table 1 outline the construction and infrastructure requirements. Condition 6 and Table 2 outline the operational requirements of the landfill facility to minimise potential dust emissions.	As minimal dust emissions are expected from the proposed activity and noting the Applicant's control of maintaining a water cart on site, the risk of dust impacting the environment has been determined to be 'low'.
Leachates generated from putrescible waste stored at the premises	Leachate	Seepage through the soil profile to groundwater may result in the contamination of soils and the deterioration of groundwater	Remnant native vegetation located adjacent to landfill facility and surrounding	Refer to Section 3.1	C = Minor L = Rare Low Risk	Y	Condition 1 and Table 1 describe the construction and infrastructure requirements for leachate containment through the installation of bunding around each landfill trench.	Noting the landfill facility will be constructed over a Waste Rock Dump, that depth to groundwater is approximately 25-30 metres and that

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Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
		quality causing stress or death to adjacent remnant vegetation.	groundwater				Condition 6 and Table 2 outline the operational requirement of maintaining bunding around the landfill facility to prevent potentially contaminated water from mixing with uncontaminated stormwater. Condition 7 and Table 3 outline the waste types authorised to be accepted at the Premises. Condition 9 and Table 4 outlines the cover requirements for waste stored at the Premises.	bunding will be constructed around the perimeter of the landfill site, the Delegated Officer considers that leachate emissions generated from the landfill site are minimal and the risk of seepage of leachate to groundwater has been determined to be low.
Stormwater contaminated after coming into contact with putrescible waste	Contaminated stormwater	Contaminated stormwater may infiltrate through underlying soils to groundwater causing the deterioration of groundwater quality on site. Soil contamination may degrade the quality of adjacent remnant native vegetation.	Remnant native vegetation located adjacent to landfill facility and surrounding groundwater	Refer to Section 3.1	C = Minor L = Rare Low Risk	Y	Condition 6 and Table 2 outline the operational requirement of maintaining bunding around the landfill facility to prevent potentially contaminated water from mixing with uncontaminated stormwater.	The Delegated Officer considers the applicant's proposed controls for stormwater management as outlined in section 3.1 are adequate to control storm water runoff and prevent the risk of stormwater contamination. The applicant's infrastructure controls will be conditioned within the works approval. Additional regulatory controls are not required.
Landfilling general waste	Windblown waste	Native fauna directly accessing and scavenging waste impacting	Threatened fauna species Leipoa ocellata	No Applicant Controls outlined in	C = Minor L = Possible	N	Condition 6 and Table 2 requires the maintenance of boundary fencing to be installed around the landfill	The Delegated Officer determined that regulatory controls are required

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Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
		health of fauna and encouraging increase of introduced pest species.	(Malleefowl) (closest record 4.9kms from the landfill facility) and other native fauna that utilize the area	submission.	Medium Risk		facility and for weekly inspections to be conducted at the landfill facility. Condition 9 and Table 4 requires the coverage of waste with inert material to be carried out on a weekly basis.	to be added to the Licence to adequately manage the potential of windblown waste from the landfill facility and in turn mitigate the risk of potential impacts to fauna.

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

Note 2: Proposed applicant controls are depicted by standard text. **bold and underline text** depicts additional regulatory controls imposed by department.

4. Consultation

Table 4 provides a summary of the consultation undertaken by the department.

Table 4: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website on 27 May 2021	None received	N/A
Local Government Authority advised of proposal on 27 May 2021	The City of Kalgoorlie-Bolder replied on 24 June 2021 advising that they have no objection to the works approval application.	Noted.
Department of Mines, Industry Regulation and Safety (DMIRS) advised of proposal on 27 May 2021	DMIRS replied on 8 June 2021 advising that the application is consistent with the Mining Proposal Registration ID: 92495 titled "Mining Proposal for Small Mining Operations: Homestead Landfill" that was approved in December 2020.	Noted.
Applicant was provided with draft documents on 27 May 2021.	Comments from Licence Holder received on 16 July 2021. Comments are summarised in Appendix 1.	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 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
4. Department of Water and Environmental Regulation (DWER) 2019, *Guideline: Decision Making*, Perth, Western Australia
5. Paddington Gold Pty Ltd (2021) Applicant's response to request for further information dated 12 April 2021, DWER Reference (DWERDT438757).

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

Condition	Summary of applicant's comment	Department's response
Works Approval		
<p>Condition 1 (Table 1) of the Works Approval – 'Construction and installation requirements of the landfill trenches'</p> <p>DWER requested that the Applicant advise the number of landfill trenches to be constructed at the landfill facility.</p> <p>DWER request that the Applicant confirm whether the landfill trenches to be constructed are to be 100 metres or 200 metres in length.</p>	<p>The Applicant confirmed that two landfill trenches will be constructed at the facility and will both be 100 metres in length.</p>	<p>Noted and updated Condition 1 (Table 1) of the Works Approval with this information accordingly.</p>
<p>Schedule 1, Figure 3 of the Works Approval – Landfill design cross-section</p> <p>DWER requested the Applicant provide an updated figure if the length of the trench is 100 metres as specified in Figure 2 of the Works Approval.</p>	<p>The Applicant provided a revised Figure 3 illustrating that the length of each trench is 100 metres.</p>	<p>Noted and updated Figure 3 of the Works Approval accordingly.</p>
Decision Report		
<p>Section 2.3.1 of the Decision Report – Construction Phase</p> <p>DWER requested the Applicant confirm the number and length of the trenches to be constructed at the landfill facility.</p>	<p>The Applicant advised that there will be two landfill trenches constructed at the facility that are 100 metres in length.</p>	<p>Noted and updated Section 2.3.1 of the Decision Report with this information.</p>

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY				
Application type				
Works approval	<input checked="" 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 type="checkbox"/>	Current licence number:		
		Relevant works approval number:	N/A	<input type="checkbox"/>
Registration	<input type="checkbox"/>	Current works approval number:	None	<input type="checkbox"/>
Date application received		16/12/2020		
Applicant and Premises details				
Applicant name/s (full legal name/s)		Paddington Gold Pty Ltd		
Premises name		Rosepit		
Premises location		M24/82		
Local Government Authority		City of Kalgoorlie-Boulder		
Application documents				
HPCM file reference number:		DWERDT392553		
Key application documents (additional to application form):		<i>Attachment 2 - Figure 1 – Existing Licence Tenement Area Plan</i> <i>Attachment 2 - Figure 2 – Existing Prescribed Premises Area Plan</i> <i>Attachment 2 – Figure 3 – Landfill Disturbance Envelope Area Plan</i>		

	Attachment 7 – Siting and location Plan Attachment 9 – Details for cost of works (Email) ASIC Company extract Tenement extract	
Scope of application/assessment		
Summary of proposed activities or changes to existing operations.	Construction of a putrescible landfill site within the disturbance footprint of the Quarters Waste Rock Dump.	
Category number/s (activities that cause the premises to become prescribed premises)		
Table 1: Prescribed premises categories		
Prescribed premises category and description	Maximum production or design capacity	Proposed changes to the production or design capacity (amendments only)
Category 89: Putrescible landfill site: premises on which waste (as determined by reference to the waste type set out in the document entitled “Landfill Waste Classification and Waste Definitions 1996” published by the Chief Executive Officer, as amended from time to time) is accepted for burial.	Less than 5,000 tonnes per annum	<i>Is there a proposed change to the previously assessed production or design capacity?</i>
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 checked="" type="checkbox"/> No <input type="checkbox"/>	Certificate of title <input type="checkbox"/> General lease <input type="checkbox"/> Expiry: Mining lease / tenement <input checked="" type="checkbox"/> Expiry: 11/02/2028 (as detailed on Mineral Titles online) 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 type="checkbox"/> No <input checked="" type="checkbox"/>	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 <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 type="checkbox"/> No <input checked="" type="checkbox"/>	Application reference No: Licence/permit No: Licence / permit not required.
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Name: Goldfields Groundwater Area Type: Proclaimed Groundwater Area Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Name: N/A Priority: N/A Are the proposed activities/landuse compatible with the PDWSA (refer to WQPN 25)? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
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>)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<i>Mining Act 1978 – Mining Proposal approved December 2020 – Registration ID: 92495</i>
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A

<p>Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i>?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p>Classification: possibly contaminated – investigation required CSS Site ID: 5272 Date of classification: 20 February 2020</p>
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