



Application for Licence

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

Licence Number	L9355/2022/1
Applicant	Robe River Mining Co. Pty. Ltd
ACN	008 694 246
File number	DER2022/000489
Premises	Angelo River Exploration Mobile Camp Exploration Licence E47/754 ANGELO RIVER SHIRE OF EAST PILBARA As defined by the coordinates in Schedule 2 of the Licence
Date of report	14 December 2022
Decision	Licence granted

MANAGER WASTE INDUSTRIES

REGULATORY SERVICES

Officer delegated under section 20

of the Environmental Protection Act 1986

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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 operation of the premises. As a result of this assessment licence L9355/2022/1 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 15 September 2022, Robe River Mining Co. Pty Ltd (the applicant) submitted an application for a licence to the department under section 57 of the *Environmental Protection Act 1986* (EP Act).

The application is to seek a licence relating to the operation of a Wastewater Treatment Plant (WWTP) at the premises. The premises is located at West Angelas approximately 98 km west of Newman and operates under Exploration Licence 47/754.

The premises relates to a Category 85: Sewage facility, with an assessed production capacity of 30 cubic metres per day. The infrastructure and equipment relating to the premises category and any associated activities which the department has considered for regulation, in line with *Guideline: Risk Assessments* (DWER 2020), are outlined in licence L9355/2022/1.

2.3 Compliance with works approval

The Applicant was granted Works Approval W6604/2021/1 on 22 January 2022 for the construction, commissioning and time-limited operations of the premises.

The Applicant submitted an Environmental Compliance Report on 11 March 2022 for conditions 1 to 3 of works approval W6604/2021/1. The department assessed the document and determined that the submission was not compliant with some of the requirements specified in condition 1 of works approval W6604/2021/1, in relation to *e coli* treatment standards.. The remainder of condition 1, 2 and 3 of works approval W6604/2021/1 were determined to be compliant.

On 10 April 2022 (DWER ref: A2095255), the department confirmed compliance with the applicant and noted the minor technical non-compliance for *e coli* treatment standards. The conditioned discharge target of <10 CFU/100ml relates to WWTP initially being deemed to be class B (medium exposure risk of human contact). The as-built system will achieve a discharge target of <1000 CFU/100ml that aligns with a Class C (low exposure risk of human contact). Department of Health Approval, for the WWTP, was received on the 17 November 2021, with effluent design criteria submitted in-line with a class C system (<1000CFU/100ml) (in accordance with the *Guidelines for the Non-potable Uses of Recycled Water in Western Australia*, DoH 2011).

The Applicant submitted an Environmental Commissioning Report on 14 June 2022 for conditions 4 to 10 of the works approval W6604/2021/2. The department assessed the document and determined that it met the related requirements. Confirmation of compliance was subsequently provided to Robe River Mining Co. Pty Ltd on 8 August 2022 (DWER ref: A2118680).

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 1. Table 1 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

Table 1: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Odour	Operation of the WWTP	Air / windborne pathway	<ul style="list-style-type: none"> • WWTP tanks are enclosed. • The premises is a significant distance from residential receptors (~98km east). • The WWTP will be appropriately designed and operated to mitigate the risk of odour emissions. • Regular inspection and preventative maintenance will be undertaken. • Prevailing wind direction is from the east, therefore more likely to move odour away from the camp (Benchmark Monitoring, West Angelas weather station)
Untreated wastewater	Spills/ unintended releases due to operation of the WWTP	Direct Contact/ Overland flow/Infiltration through soil to groundwater	<ul style="list-style-type: none"> • WWTP is designed with an earthen bund, to contain sewage in the event of a sewage spill. • The system will be fitted with a visual alarm beacon with SMS alert system, should any faults occur such as pump failure, high tank levels, tank overflows etc. • Spill response inspection and maintenance will be undertaken
Treated wastewater	Discharge to land due to operation of the irrigation Spray-field	Direct Contact/ Overland flow/Infiltration through soil to groundwater	<ul style="list-style-type: none"> • Spray drift from irrigation is accounted for with respects to the spray field design. • The WWTP is designed to ensure that nutrient loads in treated effluent meet a Class B level of treatment and do not exceed targets specified in <i>Australian Guidelines for Sewerage Systems – Effluent Management</i> (ARMCANZ & ANZECC 1997) • Management procedures mitigate the risk of discharge with elevated nutrient levels in soil /

Emission	Sources	Potential pathways	Proposed controls
			seepage to groundwater or run-off to surface water. <ul style="list-style-type: none"> The spray field is fenced off from access to fauna. Irrigating over an area of sufficient size (as determined by Department's Water Quality Protection Note 22) to prevent excess nutrient loading. Flow meter installed at discharge pipe to ensure approved volume to irrigation field is not exceeded Spill response will be provided as monitoring, inspection and maintenance will be undertaken.

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 and Figure 1 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 2: Sensitive human and environmental receptors and distance from prescribed activity

Receptors	Distance from activity or prescribed premises
Human receptors	
Closest residential zoned premises: Newman	Approximately 98 km east.
Closest recreation zoned premises: Newman	Approximately 98 km east.
Turee Creek Station Lease N050676	Approximately 13 km southeast.
Environmental receptors	
Reserves and National Parks	The Karijini National Park boundary is located approximately 27 km northwest of the site.
Public Drinking Water Source Area (PDWSA)	None
RAMSAR Wetlands	None
Geomorphic Wetlands	None
West Angelas Cracking Clays (TEC and PEC area)	Located approximately 16 km north of the site.

Receptors	Distance from activity or prescribed premises
Groundwater	Depth not known. Assumed to be at approximately 37 metres below ground level (mBGL) , a level similar to a well WB14ANR001 located approximately 4 km southwest.
Groundwater wells	Two water bores (ID 20066570 and 20066569) are located approximately 22 km southwest and 33 km northwest. West Angelas Well field is located approximately 14k m north.
Surface water	Two minor non-perennial drainage lines are located near the site. One is located approximately 870 m to the west and 820 m southeast. Both drain towards the south and west and into the Ashburton River system. Three significant watercourses located within the wider catchment area include: Angelo River - approximately 5.0 km southeast, Indabiddy Creek - approximately 4.0 km south and Spearhole Creek - approximately 8.5 km northeast.
Threatened flora	None
Threatened fauna	None

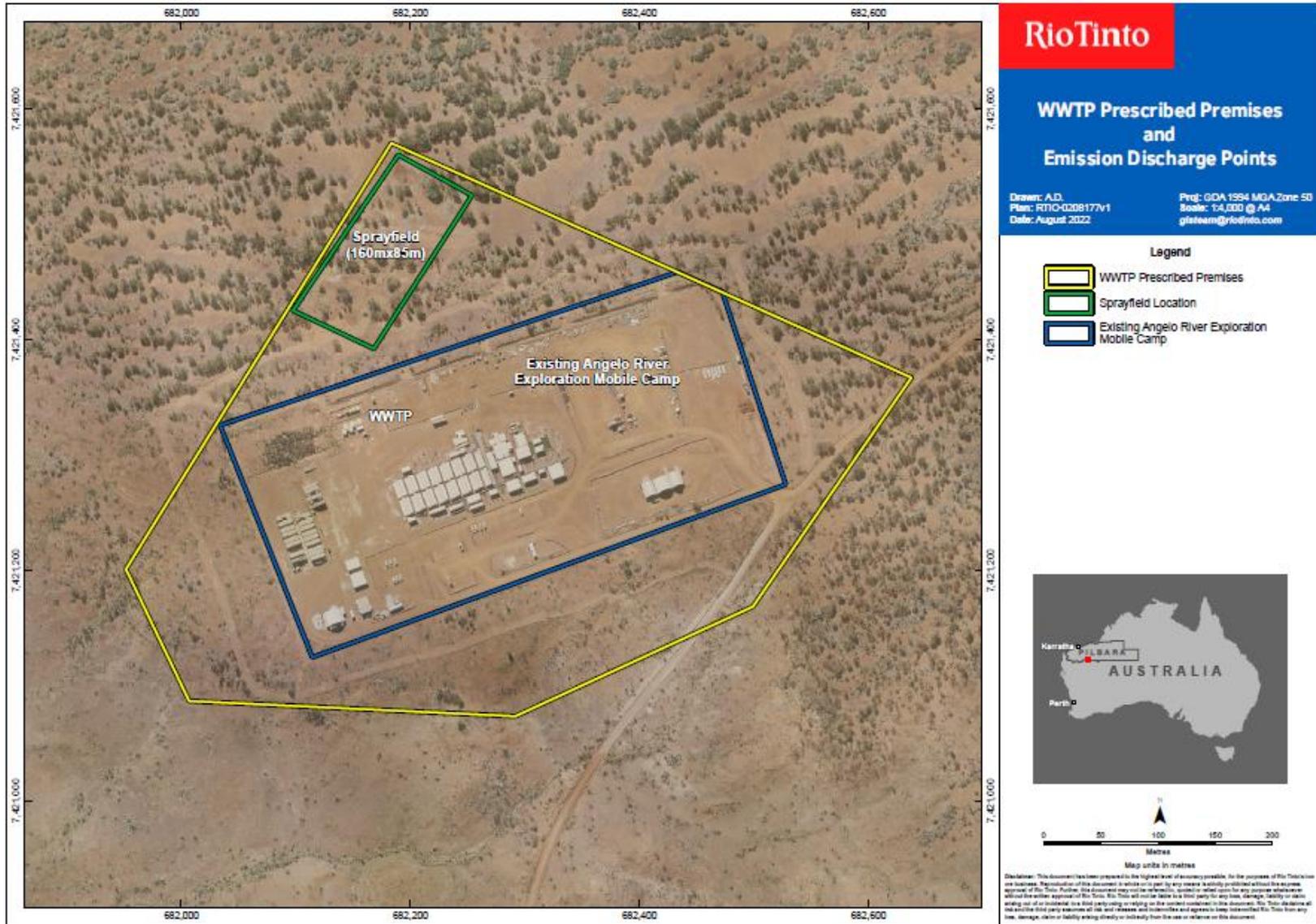


Figure 1: General site lay-out of the premises

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 3.

Licence L9355/2022/1 that accompanies this decision report authorises emissions associated with the operation of the premises.

The conditions in the issued licence, as outlined in Table 3 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 3: Risk assessment of potential emissions and discharges from the premises during operation

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				
Irrigation of treated wastewater to spray-filed	Odour	Air/windborne pathway causing impacts to health and amenity	No receptor in vicinity	Refer to Section 3.1	N/A	Y	N/A	There is not considered to be a pathway for odour emissions to residential receptors due to distance.
Discharge of treated Wastewater to land (irrigation spray-field)	Discharge of untreated / partially treated wastewater to land as a result of spills / unintended release of wastewater from WWTP	Overtopping / leaks of WWTP tanks resulting in effluent containing high levels of nutrients may impact the health of surrounding vegetation and cause a reduction in soil quality resulting in plant death.	Surrounding vegetation, soil and underlying groundwater	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	2, 3, 4	In the event of overtopping of WWTP or leaks of untreated sewage from tanks, low level impacts may occur. The majority of the WWTP facility will be skid mounted and placed in a cleared area and therefore vegetation is unlikely to be affected. Overtopping or leaks from tanks are unlikely to occur due to the controls the Applicant has proposed (i.e. high level alarms fitted to tanks, visual inspection of facility daily). Therefore, the final risk rating for this risk event has been deemed to be medium
	Treated Effluent discharged to land via irrigation	Infiltration causing soil contamination / seepage to groundwater	Terrestrial ecosystems Groundwater : depth to groundwater	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	2, 3, 4, 5, 6, 7	The design effluent quality values of the WWTP will meet or exceed the standards outlined in the <i>Australian Guidelines for Sewage Systems – Effluent Management</i> (ANZECC, 1997) (see Table 3).

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				
		Eutrophication of surface water (from run-off or via down-gradient discharge of potentially impacted groundwater to a surface water receptor)	is expected to be approximately 37 mBGL Surface Water: None, the nearest receptors are non perennial drainage lines located at least 800 m from the proposed facility.				<p>The Applicant has proposed to undertake quarterly monitoring of the discharge quality to ensure it continues to meet the expected design effluent quality values.</p> <p>The Applicant has prepared the Application in accordance with WQPN 22, even though the note specifies that it does not apply to treated municipal wastewater (sewage) which requires specific approval under the <i>Health Act 1911</i>. However, for this assessment it is considered useful for risk assessing nutrient application rates to control eutrophication risk.</p> <p>In order to comply with the nutrient application rates outlined in WQPN 22 for soil type D (i.e. 480 kg/hectare/year for N and 120 kg/hectare/year for P) based on the average wastewater quality and maximum volume 30 kL/day discharge from the WWTP the irrigation area has been sized at 13,600 m².</p> <p>The impact of longer term discharge to the irrigation field on the environment is deemed to be moderate as specific consequence criteria are at risk of not being met if treatment targets are not maintained. The application of nutrient laden wastewater to land where no vegetation is available for nutrient uptake during operations may have mid-level on-site impact on soils. The lack of vegetation for nutrient uptake is not ideal and DWER would prefer irrigation fields to occur within a vegetated areas.</p> <p>The likelihood of this risk event occurring is unlikely due primarily to the siting of the facility and its remoteness to sensitive receptors, including the extended proximity to surface waters and the inferred separation distance to groundwater (37mBGL).</p>	

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				
								The risk rating for this event is therefore deemed to be Medium.

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. A reply email accepting the draft instrument in full and waiving the comment period was received on 14 January 2022.

Table 4: Consultation

Consultation method	Comments received	Department response
Application was advertised on the department's website on 21 November 2021	None received	TBC
Applicant was provided with draft documents on 25 November 2022	Amend Table 7 - Condition 5-7(a) Suggestion to remove requirement for daily volumes discharged to the irrigation area. Condition to have monthly cumulative volumes only.	Noted and updated
	Update Map Schedule 1: Map Premises map to be replaced with updated map provided.	Noted and updated

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.

References

1. Department of Environment Regulation (DER) 2016, *Guidance Statement: Environmental Siting*. DER, Perth, Western Australia.
2. DER 2015, *Guidance Statement: Setting Conditions*. DER, Perth, Western Australia.
3. Department of Water and Environmental Regulation (DWER) 2020, *Guidance Statement: Risk Assessments*. DWER, Perth, Western Australia.
4. DWER 2020, *Guideline: Environmental Siting*. DWER, Perth, Western Australia.
5. Department of Health (DOH), 2011, *Guidelines for the Non-potable Uses of Recycled Water in Western Australia*. DOH, Perth, Western Australia.
6. Department of Water (DOW), 2008. *Water Quality Protection Note 22: Irrigation with nutrient-rich wastewater*. DOW, Perth, Western Australia.
7. Works Approval (W6604/2021/1) application form and supporting documentation 20/09/2021 - Robe River Mining Co. Pty Ltd. DWER, Perth, Western Australia.
8. National Water Quality Management Strategy, *Australian Guidelines for Sewage Systems – Effluent Management*, Australian and New Zealand Environment and Conservation Council (ANZECC) 1997.

Appendix 1: Application validation summary

SECTION 1: APPLICATION SUMMARY				
Application type				
Licence	<input type="checkbox"/>	Relevant works approval number:	W6604/2021/1	None <input type="checkbox"/>
		Has the works approval been complied with?		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
		Has time limited operations under the works approval demonstrated acceptable operations? (HP Manager: A2118680)		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
		Environmental Compliance Report submitted? (HP Manager: DWERDT618536)		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
		Date Report received: 14 June 2022		
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		15 September 2022		
Applicant and Premises details				
Applicant name/s (full legal name/s)		Robe River Mining Co. Pty Limited		
Premises name		Angelo River Mobile Exploration Camp		
Premises location		Exploration Licence E47/754 ANGELO RIVER WA 6642		
Local Government Authority		Shire of East Pilbara		
Application documents				
HPCM file reference number:		DER2021/000560		
Key application documents (additional to application form):		Application and supporting documentation (DWER Reference - HP Manager: DWERDT659607): <ul style="list-style-type: none"> • Application • Mining Lease • ASIC Extract – 13 September 2021 • List of Authorised Contacts • Premises Boundary Map • WWTP Map & Sprayfield Emission Points • WWTP Supporting Documentation Attachment 5 (DWER Reference - HP Manager: DWSERDT659610): <ul style="list-style-type: none"> • Approval to construct or install an apparatus for the 		

	treatment of sewage <ul style="list-style-type: none"> • Site Layout Map • Spray Field Layout Map • WWTP General Arrangement • WWTP Design Criteria • WWTP Tank Certificate of Structural Design • WWTP Service Agreement
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Scope of application/assessment

Summary of proposed activities or changes to existing operations.	The applicant proposes operation of a Rotating Biological Contactor (RBC) Wastewater Treatment Plant (WWTP) and an irrigation sprayfield authorised under W6604/2021/1.
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Category number/s (activities that cause the premises to become prescribed premises)

Table 1: Prescribed premises categories

Prescribed premises category and description	Assessed production capacity	Proposed changes to the production or design capacity
Category 85: Sewage facility: premises – (a) on which sewage is treated (excluding septic tanks); or (b) from which treated sewage is discharge onto land or into waters.	30 m ³ per day	NIL

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"/>	N/A
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: N/A EPA Report No: N/A
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Reference No: N/A
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Exploration Lease E47/754 Expiry: 26/09/2021 DWER Reference: DWERDT659607
Has the applicant obtained all relevant planning approvals?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Approval: 264.21 Expiry date: N/A DWER Reference: DWERDT659610
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"/>	N/A
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: Pilbara Surface Proclaimed Area & Pilbara Goundwater Proclaimed Area Type: Prolaimed area under RIWI Act 1914. Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Regional office: North West See comments below.
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</i> , <i>Environmental Protection (Controlled Waste) Regulations 2004</i> , <i>State Agreement Act xxxx</i>)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i> <i>Environmental Protection (Controlled Waste) Regulations 2004</i> <i>Environmental Protection (Noise) Regulations 1997</i> <i>Rights In Water Irrigation Act 1914 (RIWI Act)</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
Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i> ?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Classification: N/A Date of classification: N/A