



Application for Works Approval

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

Works Approval Number	W6590/2021/1
Applicant	Juno Minerals Limited
ACN	645 778 892
File number	DER2021/000461
Premises	Mount Mason Direct Shipping Ore (DSO) Hematite Project Shire of Menzies Legal description Within the Mining tenements M29/408, G29/23 and L29/100 As defined by the premises maps attached to the issued works approval
Date of report	20 January 2022
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 Mount Mason Direct Shipping Ore (DSO) Hematite Project (the premises). As a result of this assessment, works approval W6590/2021/1 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

On 10 August 2021, Juno Minerals Limited (the applicant) submitted an application for a works approval to the department under section 54 of the *Environmental Protection Act 1986* (EP Act).

The Mount Mason deposit is a thick occurrence of high-grade hematite resource (55.8% iron (Fe)) consisting of 9.3 million tonnes of ore. The applicant acquired the premises in 2005 from a private interest and the maiden drilling campaign was conducted in 2007. The applicant obtained all the necessary regulatory approvals during 2013/2014, however due to the rapid commodity price downturn in 2014, the project did not proceed and was put into care and maintenance. The applicant now proposes to establish a mining and processing operation for the production of hematite from the premises.

Previously conducted works include exploration drilling for resource definition, hydrological and environmental investigations. The premises currently consists of some established infrastructure which supported the above activities. This infrastructure includes a 40-person accommodation village, seven water exploration boreholes and four groundwater monitoring bores.

This application is to undertake construction works relating to processing or beneficiation of metallic ore and a sewage facility at the premises. The premises is located approximately 110 km north-west of the town of Menzies and approximately 26 km north to the Walling Rock Homestead.

The premises relates to the categories and assessed design capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in works approval W6590/2021/1. The infrastructure and equipment relating to the premises categories and any associated activities which the department has considered in line with *Guideline: Risk Assessments* (DWER 2020(a)) are outlined in works approval W6590/2021/1.

2.3 Proposed Activities

2.3.1 Crushing and Screening Operation

The proposed crushing and screening plant at the premises will be located within the mining tenements M29/408 and G29/23. The waste rock dump will be located to the west of the open pits on M29/408.

Mining operations at the premises will be conducted in two open pits concurrently, using conventional open cut mining methods. Approximately 10 Mt of ore and 22 Mt of waste will be removed. It is proposed that the waste rock dump will be designed to a maximum height below that of the peaks on the adjacent ridgeline to blend in with the surrounding topography. Prior to

mining commencement, the topsoil will be removed and placed into stockpiles to be utilised for re-vegetation, rehabilitation and mine closure. The applicant proposes that the ore will be mined at around 1 million tonnes per annum (Mtpa) nominal rate to a maximum of 2 Mtpa depending on the demand.

Mined ore from the main pit and southern pod will be directed to the Run of Mine (ROM) pad and will be crushed and screened at the plant to produce fine iron ore with a particle size of approximately 6.3 mm. The crushing and screening circuit will operate at up to 250 tonnes/hour to generate the nominal annual production target of 1 Mtpa. The beneficiation process is not proposed as the feed grade is expected to be approximately 60% iron with less than 9% of alumina and silica.

The processed ore then will be transported by road trains via Goldfields Highway to a rail siding on the Leonora to Esperance railway line, and then will be loaded for further rail/road transport. Port / export operations to be carried out has not yet been finalised by the applicant at the time of application. Handling of ore within the port and operations related to ore export have not been assessed or authorised under this Works Approval. These activities will be regulated under a separate EP Act approval.

A new rail siding will be constructed by the applicant at Yunndaga after 1 year of commencing mining operation (Figure 1). Figure 2 shows the proposed premises layout.

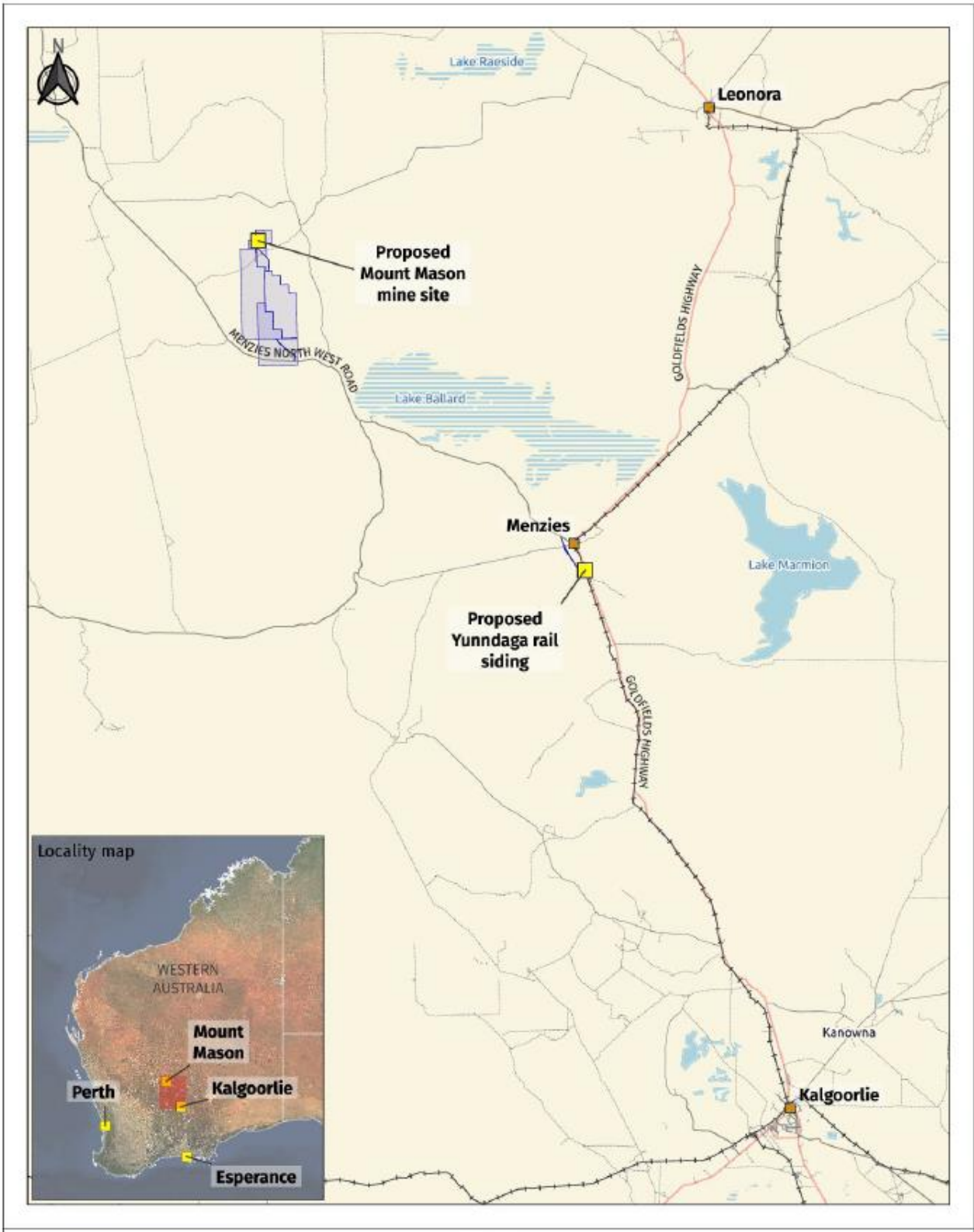


Figure 1: Location of the proposed Mount Mason Hematite Project

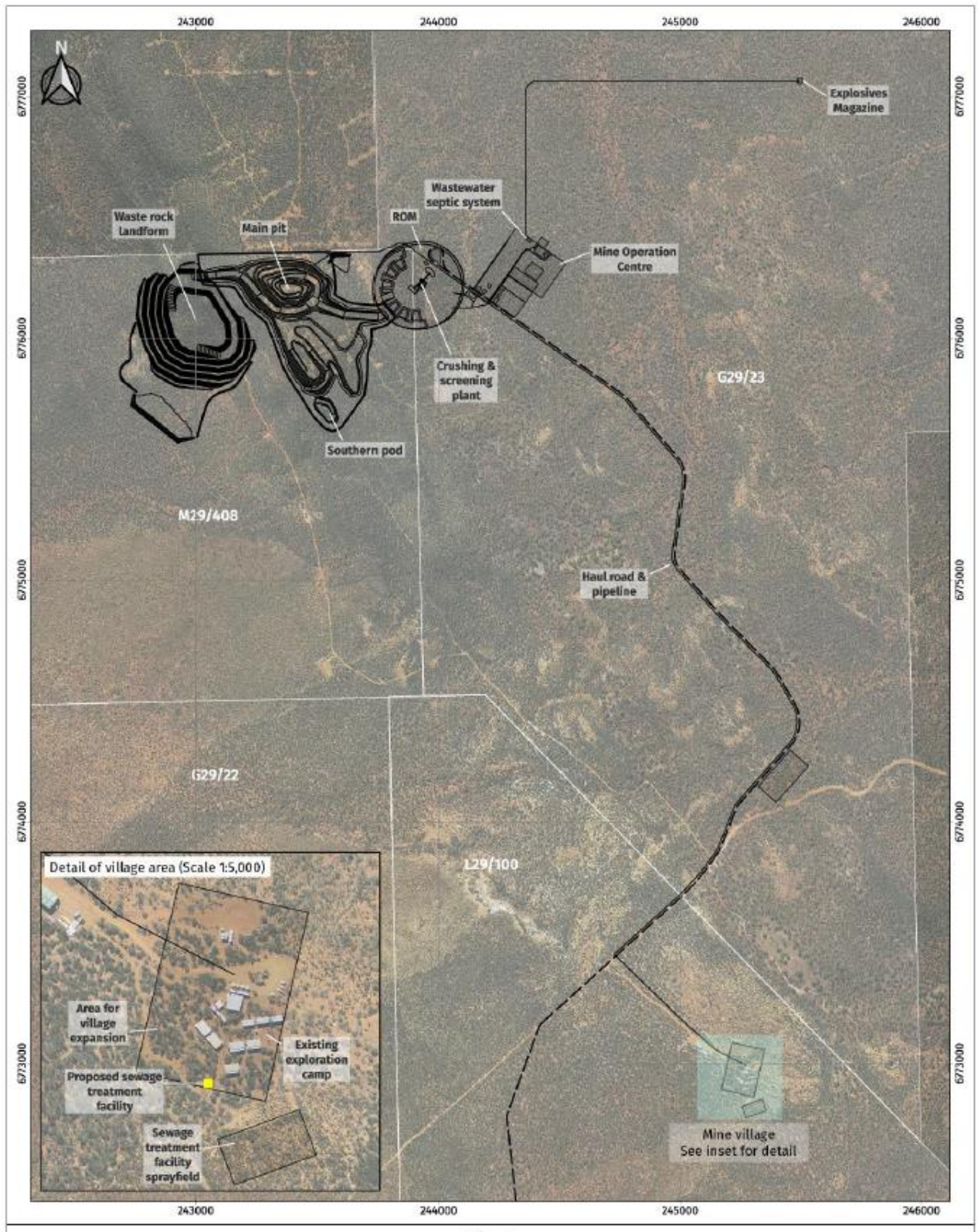


Figure 2: Project Layout at Mount Mason Hematite Project

Hydrocarbon Storage facility

Hydrocarbon fuel will be required to service mining equipment, road train fleets, diesel generator-based power plants, compressors and generators located at the various workshop facilities. The premises will store hydrocarbons in six 110,000 litre, double-skinned, self-bunded, interconnected tanks, with a total capacity of 660,000 L. This storage will be placed in a bunded area with the capability of containing 110% of the largest container and 25% of the aggregate of all containers. A spillage containment sump will also be placed adjacent to the tanks to allow capture and removal of any spillage. All hydrocarbons stored at the site will be handled in accordance with the “*Storage and Handling of Dangerous Goods – Code of Practice*” and Australian Standard 1940-2004 “*The Storage and Handling of Flammable and Combustible Liquids*”. Fuel storage facilities will be designed to achieve a permeability of 1×10^{-9} m/s.

The Delegated Officer notes that bulk storage of hydrocarbons does not trigger the Category 73 threshold of 1,000m³ in aggregate as defined in Schedule 1 of the EP Regulations. These activities will be assessed as an ancillary activity to the Category 5 processing or beneficiation of metallic ore activities.

Commissioning Phase

Following mobilisation of the crushing plant, the commissioning phase will commence. Commissioning will comprise three stages including pre-commissioning, dry commissioning and process commissioning and is proposed to finish within two to three weeks. The first stage involves progressive testing and commissioning of all systems and subsystems to ensure that they are ready and safe for energisation. Dry commissioning will commence following pre-commissioning tests and will involve operating and testing components without feed (ore). Finally, process commissioning will occur, where feed will be introduced and gradually increase over several weeks up to the design capacity.

Time-limited Operation

Time-limited operations may commence upon completion of commissioning, subject to environmental compliance and commissioning reports being submitted and endorsed by the department.

2.3.2 Sewage treatment facility

A fully reticulated packaged sewage treatment facility will be installed on the mining tenement L29/100, 100m south of the existing mining exploration camp to facilitate future expansions (Figure 2). At its peak, the exploration camp will cater for up to 100 people.

The treatment system will have a maximum design capacity of 45kL per day, with a 32kL primary tank, a 15.5kL secondary tank, three 95kL treatment tanks. The treatment process will include aeration stage 1, clarification and aeration stage 2, and a disinfection tank. A 50kL interconnected buffer tank will also be included in the sewage treatment system to allow for adequate storage during peak times. In the pumping station, there will be four level regulators to prevent the tanks from overflowing.

The treatment system will utilize the Activated sludge technique, which is a combination of a biological treatment process to biodegrade organic matter and a solids-liquid separation process. This combination delivers treated water with significantly reduced levels of biochemical oxygen demand (BOD) and chemical oxygen demand (COD) and an almost complete removal of suspended solids. The packaged sewage treatment plant will treat sewage and wastewater to achieve a Class C final effluent and will irrigate treated effluent onto a spray field. The expected quality of the final effluent as per manufacturers specifications is shown in Table 1 below.

Table 1: Expected final effluent quality

Parameter	Units	Influent	Effluent
Total Nitrogen	mg/L	-	20
Total Phosphorus	mg/L	-	8
Hydraulic capacity	kL/day	45	45
BOD	mg/L	250	<20
TSS	mg/L	250	<30
pH	pH units	7.5-8.5	7.5-8.5
Fats, Oils and Grease	mg/L	<10	<5
<i>E coli</i>	cfu/100mL	N/A	<10

Spray irrigation area

A wastewater irrigation spray field, which will be located approximately 60m south of the accommodation village (Figure 2), will be utilised for the irrigation of effluent wastewater with testing undertaken to ensure the WWTP is producing water to the Low-Risk standard in accordance with the 'Guidelines for the Non-Potable Uses of Recycled Water in Western Australia' (DOH 2011).

Based on the known local geology, the applicant has identified that the soil category in the proposed irrigation spray field falls under Risk Category D in accordance with the Department of Water (DoW) 'Water Quality Protection Note (WQPN 22) Irrigation with Nutrient Rich Wastewater'. However, to be conservative, it is proposed that the irrigation area will be sized 100m x 200m (2ha), which will be suitable for Risk Category C soil classification. The irrigation area will be fenced appropriately to avoid stock entering and unauthorised persons.

There are no sensitive water resources within the proposed spray field area. The location of the facility is not within a Public Drinking Water Source Area, a wetland with defined conservation value, Environmental Protection Policy Lakes, Waterways Management Areas, or other wetlands. A few minor ephemeral waterlines intersect the prescribed premises however, they are not present in the proposed spray field area.

In accordance with Risk Category D within the WQPN 22, the maximum allowable nitrogen (N) and phosphorus (P) concentrations in the effluent will be <30 mg/L and <7.5 mg/L respectively. The applicant will be required submit a soil properties report to confirm the Risk Category of the irrigation spray field upon completion of construction and prior to any application for a licence at the premises.

Commissioning and time-limited operations

Commissioning of the sewage treatment plant will be conducted using raw water at first. Camp effluent will then be introduced and ramp up to the design throughput progressively. It is expected that commissioning of the sewage treatment facility will take approximately 3-6 months.

Similar to the crushing and screening plant, time-limited operations of the sewage treatment plant may commence upon completion of commissioning, subject to environmental compliance and commissioning reports being submitted and endorsed by the department.

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(a)).

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 2 below. Table 2 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

Table 2: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Construction			
Category 5: Processing or beneficiation of metallic or non-metallic ore			
Dust	Earthworks for ground preparation, Construction and installation of the crushing and screening plant, Vehicle and machinery movements on unsealed surfaces	Air / windborne pathway	<ul style="list-style-type: none"> Dust suppression as required using water carts
Category 85: Sewage Facility			
Dust	Earthworks for ground preparation Vehicle and machinery movements on unsealed surfaces	Air / windborne pathway	<ul style="list-style-type: none"> Dust suppression as required using water carts
Commissioning and time-limited operation			
Category 5: Processing or beneficiation of metallic or non-metallic ore			
Dust	Operation of the crushing and screening plant	Air / windborne pathway	<ul style="list-style-type: none"> Potential dust emissions from crushing and screening plant to be minimized using water spays at dust generation points on the plant (transfer points etc) Dust suppression as required using water carts

Emission	Sources	Potential pathways	Proposed controls
Sediment laden stormwater runoff and washdown water	Heavy rainfall	Overland runoff	<ul style="list-style-type: none"> • Clean surface water runoff to be directed to the dispersion channels • bunding system to collect run-off from and direct it to a sedimentation pond before release • Channels to be designed to convey a 1 in 100-year, 24-hour storm event • Sedimentation ponds to be designed to contain at least 1 in 100-year, 24-hour storm event • Two pollution control sumps (stormwater ponds) to be constructed to collect the first flush from the mine operation control area and the stockpile, process plant and ROM pad areas
Hydrocarbons	Leaking from storage containments and machinery	Direct discharge	<ul style="list-style-type: none"> • Hydrocarbons to be stored in double-skinned, self-bunded, and interconnected tanks • Spillage containment system will be set up adjacent to the tanks for vehicle refuelling and tank refilling • Bulk hydrocarbons will be stored in bunded areas • Storage will be constructed to contain 110% of the largest container and 25% of the aggregate of all containers • water/oil interceptor system will be included in the washdown bay • equipment maintenance will be undertaken on concrete slabs • Waste oil will be stored in a tank and removed from site for recycling • All hydrocarbons will be stored and handled according to the DMIRS's '<i>Storage and Handling of Dangerous Good – Code of Practice</i>' and Australian Standard 1940-2004 '<i>The Storage and Handling of Flammable and Combustible Liquids</i>' • Spill equipment will be available onsite
Category 85: Sewage Facility			
Sewage Partially treated sewage Treated	Containment loss or and pipelines rupture	Overland flow causing impacts to adjacent native	<ul style="list-style-type: none"> • HICLEAR packaged wastewater treatment system to be operated and maintained according to manufacturers' specifications • 4x level regulators at the pumping station

Emission	Sources	Potential pathways	Proposed controls
wastewater		vegetation	
Treated effluent discharged to spray field for irrigation containing excessive Nitrogen and Phosphorous levels (2 ha)	Irrigation of treated effluent from the sewage facility	Direct discharge and overland flow	<ul style="list-style-type: none"> Monitoring of water quality Appropriately sized irrigation field (2ha) Ensure effluent irrigation rates will not exceed concentrations specified in <i>Water Quality Protection Note (WQPN) #22 - Irrigation with Nutrient-rich Wastewater</i> so as to prevent overloading of nutrients within the irrigation area, as well as to prevent ponding or runoff beyond the irrigation area boundary Irrigation area is fenced to restrict access

3.1.2 Receptors

In accordance with the *Guideline: Risk Assessment* (DWER 2020a), 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 3 and Figure 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(b))).

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

Human receptors	Distance from prescribed activity
No human receptors	Within 10km from the prescribed premises
Environmental receptors	Distance from prescribed activity
Threatened and Priority Ecosystems (TEC/PEC) - Perrinvale/Walling vegetation complexes (banded ironstone formation) – Priority 1	Partially intersect the prescribed premises boundary
1 x Threatened Flora species - <i>Drosera eremaea</i>	Within the prescribed premises
2 x Threatened fauna species - <i>Sminthopsis longicaudata</i> (Long-tailed dunnart); <i>Leipoa ocellata</i> (malleefowl)	Within the prescribed premises
Surface waterlines	No major surface water features intersect the prescribed premises boundary. However, a few minor surface water lines (ephemeral) do intersect the prescribed premises
<i>Rights In Water and Irrigation Act 1914</i> proclaimed Groundwater areas	The prescribed premises boundary is within the Goldfields Groundwater Area. The water table in the Project area is between 29 – 67m below ground level

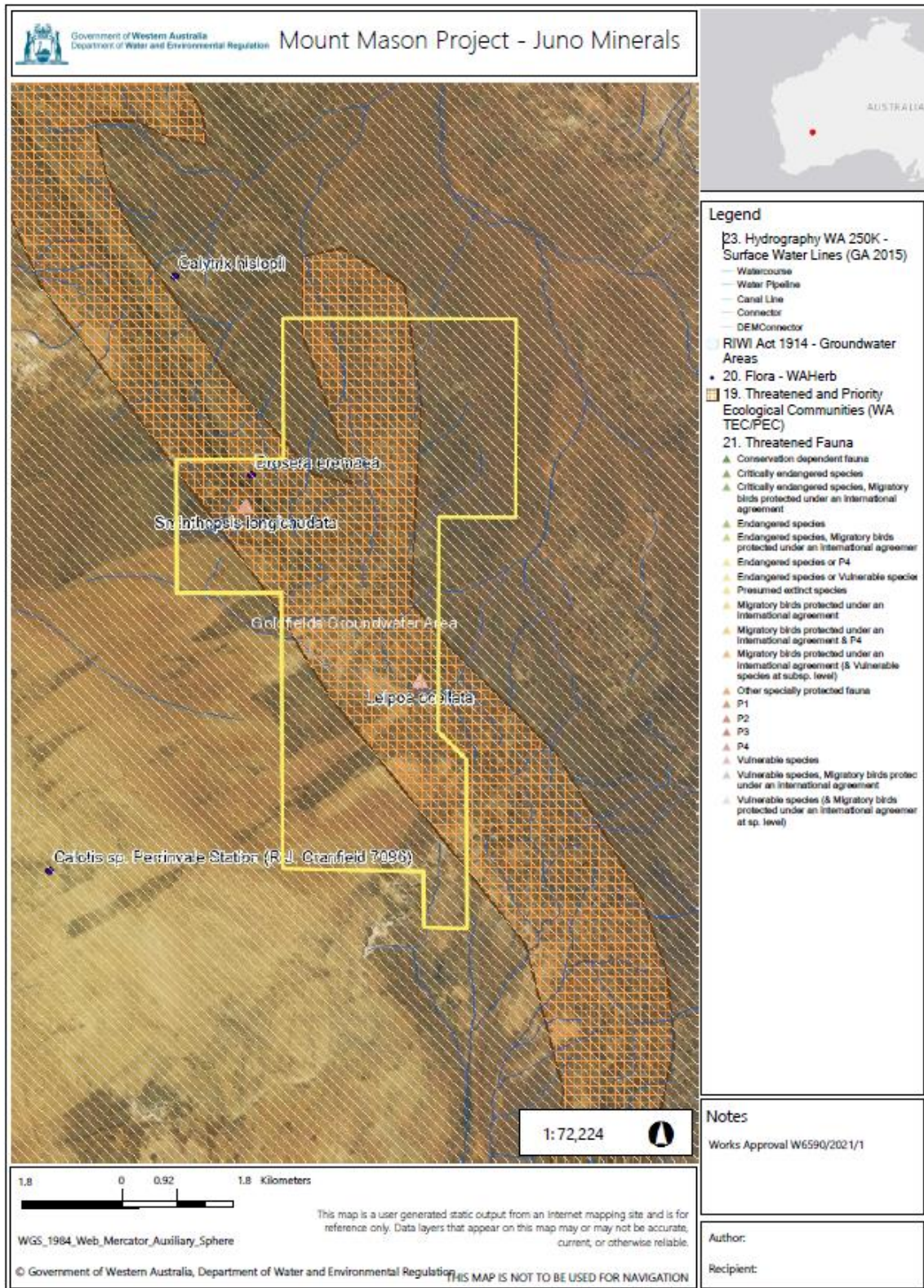


Figure 3: Distance to sensitive receptors

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020(a)) 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 4.

Works approval W6590/2021/1 that accompanies this decision report authorises construction and time-limited operations. The conditions in the issued works approval, as outlined in Table 4 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

A licence is required following the time-limited operational phase authorised under the works approval to authorise emissions associated with the ongoing operation of the premises i.e. Category 5 and 85 activities. 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 4: Risk assessment of potential emissions and discharges from the premises during construction, commissioning 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								
Category 5: Construction – excavation, earth moving activities, Vehicle movements, assembling the modular crushing and screening plant Category 85: Sewage facility Construction of package Sewage treatment facility and associated spray field	Dust	Air/windborne pathway causing amenity impacts	No residential receptors within a 10km buffer area TEC/PECs intersect the proposed prescribed premises Threatened Fauna	Refer to Section 3.1.1	C = Slight L = Unlikely Low Risk	Y	Condition 1: Construction requirements – water carts	N/A
Commissioning								
Category 5: Commissioning of Crushing and screening plant for processing of metallic ore	Dust	Air/windborne pathway causing amenity impacts	No residential receptors within a 10km buffer area TEC/PECs intersect the proposed prescribed premises Threatened Fauna	Refer to Section 3.1.1	C = Slight L = Unlikely Low Risk	Y	Condition 6: environmental commissioning requirements – dust suppression sprays on processing plant	N/A
Category 85: Sewage facility Commissioning of package Sewage treatment facility and associated spray field	Treated Effluent	Discharge to land causing soil contamination, impacts to the health and condition of native vegetation Pooling/ surface runoff of treated sewage Seepage causing groundwater contamination	Soil Native Vegetation Groundwater	Refer to Section 3.1.1	C = Slight L = Unlikely Low Risk	Y	Condition 1: Construction requirements – Volumetric flow meter Condition 6: environmental commissioning requirements – sewage treatment plant requirements Condition 6: environmental commissioning	The Delegated Officer considers the applicant controls, which are conditioned in the issued works approval are sufficient to mitigate and regulate the impacts from treated effluent discharge. The applicant has proposed to record flow rates from the sewage treatment plant weekly. However, the Delegated Officer has determined that the effluent discharge needs to be recorded continuously and as such, a flow meter needs to be installed at the output of the sewage treatment plant. Additionally, the applicant needs to take all practical measures to prevent pooling of treated effluent at the spray field. These requirements are in line with

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							requirements – irrigation spray field requirements	commitments made by the applicant.
Treatment quality exceedance	Nutrient rich effluent	Discharge to land causing soil contamination, impacts to the health and condition of native vegetation Seepage causing groundwater contamination	Soil Native Vegetation Groundwater	Refer to Section 3.1.1	C = Slight L = Possible Low Risk	Y	Condition 8: environmental commissioning requirements – sewage treatment plant requirements – emission limits Condition 9: environmental commissioning requirements – monitoring during commissioning	The applicant's proposed controls are deemed adequate to manage effluent discharge during commissioning and have been conditioned within the works approval in accordance with <i>Guideline: Risk Assessments (DWER 2020(a))</i> . In addition, the Delegated Officer has determined that monitoring of the effluent discharge is required to ensure that nutrient overloading is not occurring. This testing requirement is in line with commitments made by the applicant.
Operation (including time-limited-operations)								
Category 5: Crushing, Screening, unloading, loading, and stockpiling of material Vehicle movements	Dust	Air / windborne pathway causing amenity impacts	No residential receptors within a 10km buffer area TEC/PECs intersect the proposed prescribed premises Threatened Fauna	Refer to Section 3.1.1	C = Slight L = Unlikely Low Risk	Y	Condition 14: time limited operation requirements – dust suppression sprays on processing plant, use of water cart	N/A
	Sediment / hydrocarbon laden stormwater	Overland runoff potentially causing ecosystem disturbance	Ephemeral minor waterways intersect the premises	Refer to Section 3.1.1	C = Minor L = Unlikely Medium Risk	Y	Condition 1: Construction requirements – stormwater management Condition 14: time limited operation requirements – stormwater management	N/A
	Hydrocarbons	Discharge to land causing soil contamination Seepage causing groundwater contamination	Soil Groundwater	Refer to Section 3.1.1	C = Moderate L = Unlikely Medium Risk	Y	Condition 1: Construction requirements – Hydrocarbon and chemical storage area Condition 14: time limited operation requirements – Hydrocarbon and chemical storage area	N/A
Category 85: Sewage facility Overtopping of infrastructure Rupture or failure of pipework	Contaminated influent	Direct discharge, causing soil contamination, impacts to the health and condition of native vegetation Seepage causing groundwater contamination	Soil Native Vegetation Groundwater	Refer to Section 3.1.1	C = Minor L = Unlikely Medium Risk	Y	Condition 1: Construction requirements – sewage treatment plant	N/A

<p>Discharge of treated sewage – applied to irrigation spray field using reticulated sprinklers</p> <p>Overtopping of infrastructure</p> <p>Rupture or failure of pipelines</p>	<p>Treated Effluent</p>	<p>Discharge to land causing soil contamination, impacts to the health and condition of native vegetation</p> <p>Pooling/ surface runoff of treated sewage</p> <p>Seepage causing groundwater contamination</p>	<p>Soil</p> <p>Native Vegetation</p> <p>Groundwater</p>	<p>Refer to Section 3.1.1</p>	<p>C = Minor</p> <p>L = Unlikely</p> <p>Medium Risk</p>	<p>Y</p>	<p><u>Condition 1: Construction requirements – Volumetric flow meter</u></p> <p>Condition 14: time limited operation requirements – sewage treatment plant</p> <p><u>Condition 14: time limited operation requirements – irrigation spray field</u></p>	<p>The Delegated Officer considers that the applicant controls, summarised in section 3.1, are sufficient to mitigate any impacts from discharging treated effluent on to an irrigation spray field. Those controls have been conditioned within the works approval in accordance with <i>Guideline: Risk Assessments (DWER 2020(a))</i>.</p> <p>Additionally, the applicant must maintain and manage the irrigation spray field to prevent potential pooling of treated effluent. Therefore, applicant needs to position the sprinklers appropriately and must measure the discharge volumes continuously to prevent over discharging. These commitments have been conditioned in the issued works approval.</p>
<p>Treatment quality exceedance</p>	<p>Nutrient rich effluent</p>	<p>Discharge to land causing soil contamination, impacts to the health and condition of native vegetation</p> <p>Seepage causing groundwater contamination</p>	<p>Soil</p> <p>Native Vegetation</p> <p>Groundwater</p>	<p>Refer to Section 3.1.1</p>	<p>C = Minor</p> <p>L = Unlikely</p> <p>Medium Risk</p>	<p>Y</p>	<p>Condition 15: time limited operation requirements – sewage treatment plant requirements – emission limits</p> <p><u>Condition 16: time limited operation requirements – monitoring during time limited operation</u></p>	<p>The Delegated Officer has determined that monitoring of the discharged effluent is required to ensure that nutrient overloading to soils / groundwater is not occurring during operation. This testing requirement is in line with commitments made by the applicant.</p>

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

Note 2: Proposed applicant 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
Application advertised on the department's website on 28 September 2021	None received	N/A
Local Government Authority (Shire of Menzies) advised of proposal on 28 September 2021	None received	N/A
Department of Mines, Industry Regulation and Safety (DMIRS) advised of proposal on 28 September 2021	<p>DMIRS replied on 06 October 2021 with the following comments.</p> <p>The Mine Closure Plan (MCP) (Reg. ID: 75964) which was referenced in the Works Approval application was refused by DMIRS in May 2019. DMIRS also advised that Juno Minerals has submitted a revised MCP and is currently awaiting assessment.</p> <p>Additionally, DMIRS has advised that there is an inconsistency in the proposed clearing area in the Works Approval application with the already approved Mining Proposal (MP)(Reg. ID: 45133). It was also stated that on 5 October 2021, DMIRS officers met with Juno Minerals, and it was agreed that in accordance with the <i>Statutory Guidelines for Mining Proposals and Mine Closure Plans (2020)</i>, Juno Minerals will submit a new MP to obtain approval for the proposed changes to the project's disturbance area. This MP will be accompanied by a MCP which will replace REG ID 83817.</p> <p>Providing that, DMIRS has no concerns regarding the Works Approval application.</p>	Juno Minerals Limited is required to obtain the relevant approvals under the <i>Mining Act 1978</i> to commence any works authorised under this issued works approval W6590/2021/1.
Applicant was provided with draft documents on 21 December 2021	Comments received on 19 January 2022 Refer to 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. Email titled “Juno Minerals Ltd - Mount Mason Direct Shipping Ore (DSO) Hematite Project - Works Approval Application” dated 10/08/2021 authored by Annette Gelok, available at DWER records (DWERDT488497).
2. Email titled “Response to W6590/2021/1 - Juno Minerals Works Approval Application - Further Information Requested” dated 16/11/2021, 17/12/2021 and 19/11/2021 authored by Leon Staude, available at DWER records (A2073141, A2073144 and A2073149).
3. DER 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
4. Department of Water and Environmental Regulation (DWER) 2019, *Guideline: Decision Making*, Joondalup, Western Australia.
5. DWER 2020(a), *Guideline: Risk assessments*, Joondalup, Western Australia.
6. DWER 2020(b), *Guideline: Environmental siting*, Joondalup, Western Australia.
7. DoW 2008, *Water Quality Protection Note (WQPN 22) Irrigation with Nutrient Rich Wastewater*, Perth, Western Australia.
8. DoH 2011, *Guidelines for the Non-Potable Uses of Recycled Water in Western Australia*, Perth, Western Australia.

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

Condition	Summary of applicant's comment	Department's response
Section 2.3.1 of the decision report	"Rail haul to Esperance Port for overseas shipping is one of the export options being considered by Juno. As per the Works Approval application, product will initially be hauled by road trains from the mine site, via the Goldfields Highway, to a rail siding on the Leonora to Esperance railway line, where it will be loaded for further rail/road transport. Final port selection is pending further discussions."	DWER acknowledges the clarification on the iron ore product transportation and export operation. Section 2.3.1. has been updated in accordance with the provided clarification. DWER notes that any handling / export of ore will likely trigger separate future approvals under the EP Act.
Section 2.3.2 of the decision report	The expected nitrogen and phosphorus concentrations in the final effluent, based on the manufacturer's specifications, are 20mg/L and 8mg/L respectively. It is proposed that the irrigation area will be sized 100m x 200m (1.2ha): change to 2 ha.	Relevant sections were updated with the provided information.
Section 3.1.2 of the decision report	The reference 'DWER 2020' is not in the references list.	Reference list updated. Original version of the guidelines were published in 2016/2017 and later DWER Guidelines were updated to plain English in 2020.
	"Error! Reference source not found" error at start of paragraph	DWER noted the referencing error occurred when converting the word format into the PDF format. Reference corrected.
	The reference for 'Guideline: Environmental Siting' of 'DWER 2020', is the same reference given for 'Guideline: Risk Assessment'	Reference list updated. DWER Guidelines were updated to plain English in 2020.
Table 4 of the decision report	In the 2nd last row, 'pray' should be 'spray'	DWER noted the typographical error and corrected as requested.

Condition	Summary of applicant's comment	Department's response
Section4 Table 5	Some information provide in the table regarding the historic mining proposal are no longer valid. Applicant has obtained a further mining approval (ID 101475) for the proposed project as of 12 January 2022.	DWER noted the new information. Stakeholder consultation was performed in September/October 2021 prior to grating of the new mining proposal (ID 101475).
Works Approval Condition 7	'only accordance' should be 'only in accordance'	Noted and updated the condition as proposed.
Table 1 Point 4	Depicted in Schedule 1, Figure 2 as 'Mine Operating Centre', change to Mine Operations Centre (MOC)	Noted and updated the section accordingly.
Compliance reporting Item 4:	Change to 'constitute relocation or rectification'	Condition updated as requested given that rewording did not impact the requirement of the above condition.
Table 4	Total nitrogen concentration limit is 20mg/L Total phosphorus concentration limit is 8mg/L	Table 4 updated with the provided values.

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 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	10 August 2021			
Applicant and Premises details				
Applicant name/s (full legal name/s)	Juno Minerals Limited			
Premises name	Mount Mason Direct Shipping Ore (DSO) Hematite Project			
Premises location	Within mining tenements M29/408, G29/23 and L29/100			
Local Government Authority	Shire of Menzies			
Application documents				
HPCM file reference number:	DER2021/000461			
Key application documents (additional to application form):	Juno Minerals Ltd - Mount Mason Direct Shipping Ore (DSO) Hematite Project - Works Approval Application with attachments (Single document)			
Scope of application/assessment				
Summary of proposed activities or changes to existing operations.	Works approval Construction and installation of Crushing and screening plant and Sewage treatment plant			

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

Table 1: Prescribed premises categories

Prescribed premises category and description	Proposed production or design capacity	Proposed changes to the production or design capacity (amendments only)
<p>Category 5: Processing or beneficiation of metallic or non-metallic ore: premises on which —</p> <p>(a) metallic or non-metallic ore is crushed, ground, milled or otherwise processed;</p> <p>(b) tailings from metallic or non-metallic ore are reprocessed; or</p> <p>(c) tailings or residue from metallic or non-metallic ore are discharged into a containment cell or dam.</p>	2 Mtpa	N/A
<p>Category 85: Sewage facility: premises —</p> <p>(a) on which sewage is treated (excluding septic tanks); or</p> <p>(b) from which treated sewage is discharged onto land or into waters</p>	30 m ³	N/A

Legislative context and other approvals

Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal?	Yes <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 checked="" type="checkbox"/> No <input type="checkbox"/>	Reference No: EPBC Ref: 2013/6870
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: M29/408 - 28/11/2028 G29/23 - 07/02/2034 L29/100 - 11/11/2032 Other evidence <input type="checkbox"/> Expiry:
Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/>	Approval: Approvals from Shire of Menzies are outstanding. Approvals are expected by October 2021. Expiry date: N/A

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: Applied to DMIRS It is proposed approximately 140 ha will be cleared.
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
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: Not provided Licence/permit No:
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 checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> Regional office: Swan Avon
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 xxx</i>)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Dangerous Good Licence for explosives storage – expect approval by Dec 2021
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 checked="" type="checkbox"/> No <input type="checkbox"/>	Classification: N/A Date of classification: N/A
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