



# Works Approval

## *Environmental Protection Act 1986, Part V*

**Works Approval Holder: Kalamazoo Resources Pty Ltd**  
**Works Approval Number: W5879/2015/1**

Registered office: Level 3, 102 Albert Road  
SOUTH MELBOURNE VIC 3205

ACN: 150 026 850

Premises address: Mt Minnie Sand Project  
Mining Lease M08/507  
FORTESCUE WA 6716  
as depicted in Schedule 1.

Issue date: Thursday, 22 October 2015

Commencement date: Monday, 26 October 2015

Expiry date: Thursday, 25 September 2018

The following category/s from the *Environmental Protection Regulations 1987* cause this Premises to be a prescribed premises for the purposes of the *Environmental Protection Act 1986*:

Category number	Category description	Category production or design capacity	Approved premises production or design capacity
12	Screening etc. of material: premises (other than premises within category 5 or 8) on which material extracted from the ground is screened, washed, crushed, ground, milled, sized or separated.	50 000 tonnes or more per year	150 000 tonnes per annual period

### Conditions

This Works Approval is subject to the conditions set out in the attached pages.

Date signed: 22 October 2015

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**Alana Kidd**  
Manager Licensing – Resource Industries  
Officer delegated under section 20  
of the *Environmental Protection Act 1986*



# Works Approval Conditions

## 1 General

### 1.1 Interpretation

1.1.1 In the Works Approval, definitions from the *Environmental Protection Act 1986* apply unless the contrary intention appears.

1.1.2 In the Works Approval, unless the contrary intention appears:

**'Act'** means the *Environmental Protection Act 1986*;

**'annual period'** means the inclusive period from 1 April until 31 March in the following year;

**'CEO'** means Chief Executive Officer of the Department of Environment Regulation;

**'CEO'** for the purpose of correspondence means;

Chief Executive Officer  
Department Administering the Environmental Protection Act 1986  
Locked Bag 33  
CLOISTERS SQUARE WA 6850  
Email: [info@der.wa.gov.au](mailto:info@der.wa.gov.au)

**'Commissioning'** means the process of operation and testing that verifies the works and all relevant systems, plant, machinery and equipment have been installed and are performing in accordance with the design specification set out in the works approval application;

**'Premises'** means the area defined in the Premises Map in Schedule 1 and listed as the Premises address on page 1 of the Works Approval;

**'Schedule 1'** means Schedule 1 of this Works Approval unless otherwise stated;

**'Stage 1'** means construction of the first screening unit and site infrastructure;

**'Stage 2'** means construction of the second screening unit;

**'Works Approval'** means this Works Approval numbered W5879/2015/1 and issued under the Act; and

**'Works Approval Holder'** means the person or organisation named as the Works Approval Holder on page 1 of the Works Approval.

1.1.3 Any reference to an Australian or other standard in the Works Approval means the relevant parts of the standard in force from time to time during the term of this Works Approval.

1.1.4 Any reference to a guideline or code of practice in the Works Approval means the current version of the guideline or code of practice in force from time to time, and shall include any amendments or replacements to that guidelines or code of practice made during the term of this Works Approval.



## 1.2 General conditions

1.2.1 The Works Approval Holder shall construct the works in accordance with the documentation detailed in Table 1.2.1:

<b>Document</b>	<b>Parts</b>	<b>Date of Document</b>
Works Approval Application Form	All	23/07/2015
Works Approval Supporting Documentation Mt Minnie Sand Project M08/507, MMWC Environmental Pty Ltd	All, including Drawings and Appendices	23/07/2015

Note 1: Where the details and commitments of the documents listed in condition 1.2.1 are inconsistent with any other condition of this works approval, the conditions of this works approval shall prevail.

1.2.2 The Works Approval Holder shall commission the Mt Minnie Sand Project plant for a period not exceeding 3 months.

1.2.3 The Licensee shall immediately recover, or remove and dispose of spills of environmentally hazardous materials outside an engineered containment system.

## 2 Information

### 2.1 Reporting

2.1.1 Works Approval Holder shall submit a compliance document to the CEO, following the construction of each of Stage 1 and Stage 2 of the works and prior to commissioning of the same.

2.1.2 The compliance document shall:

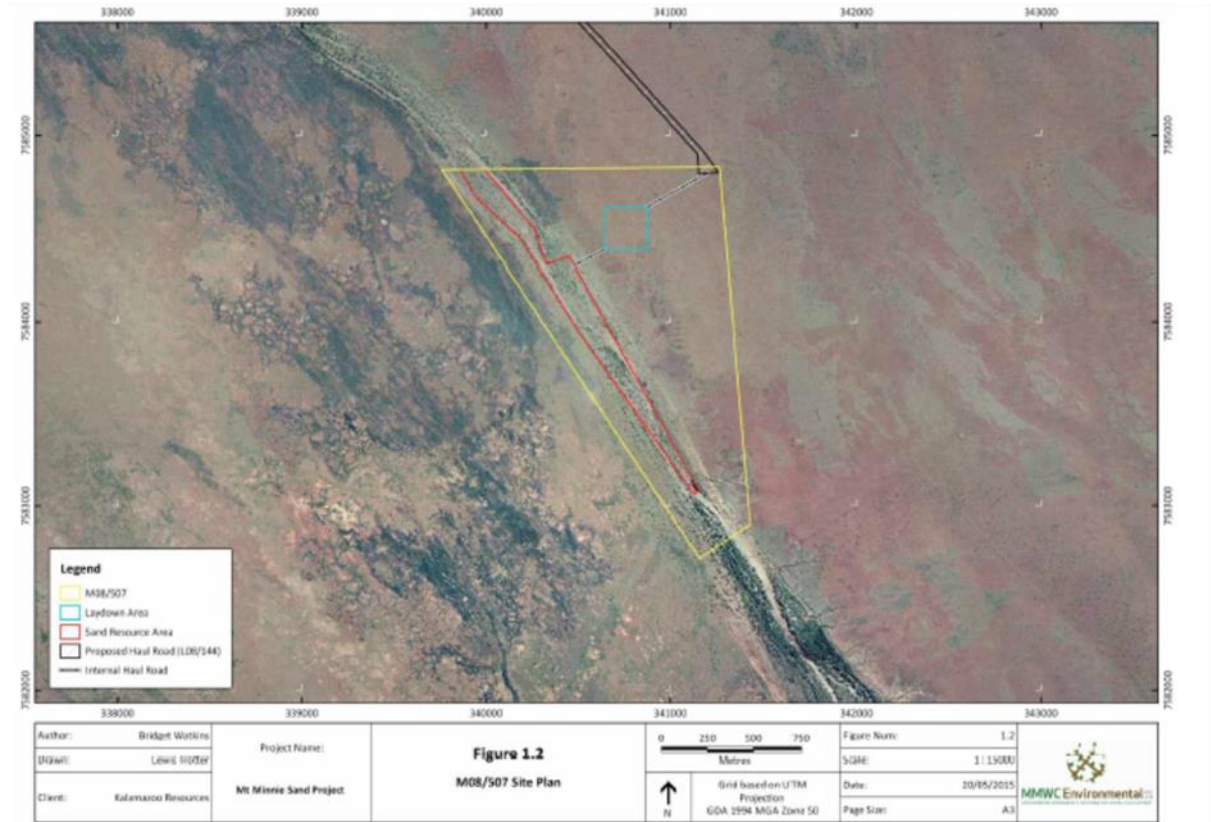
- (a) certify that the works were constructed in accordance with the conditions of the Works Approval; and
- (b) be signed by a person authorised to represent the Works Approval Holder and contain the printed name and position of that person within the company.

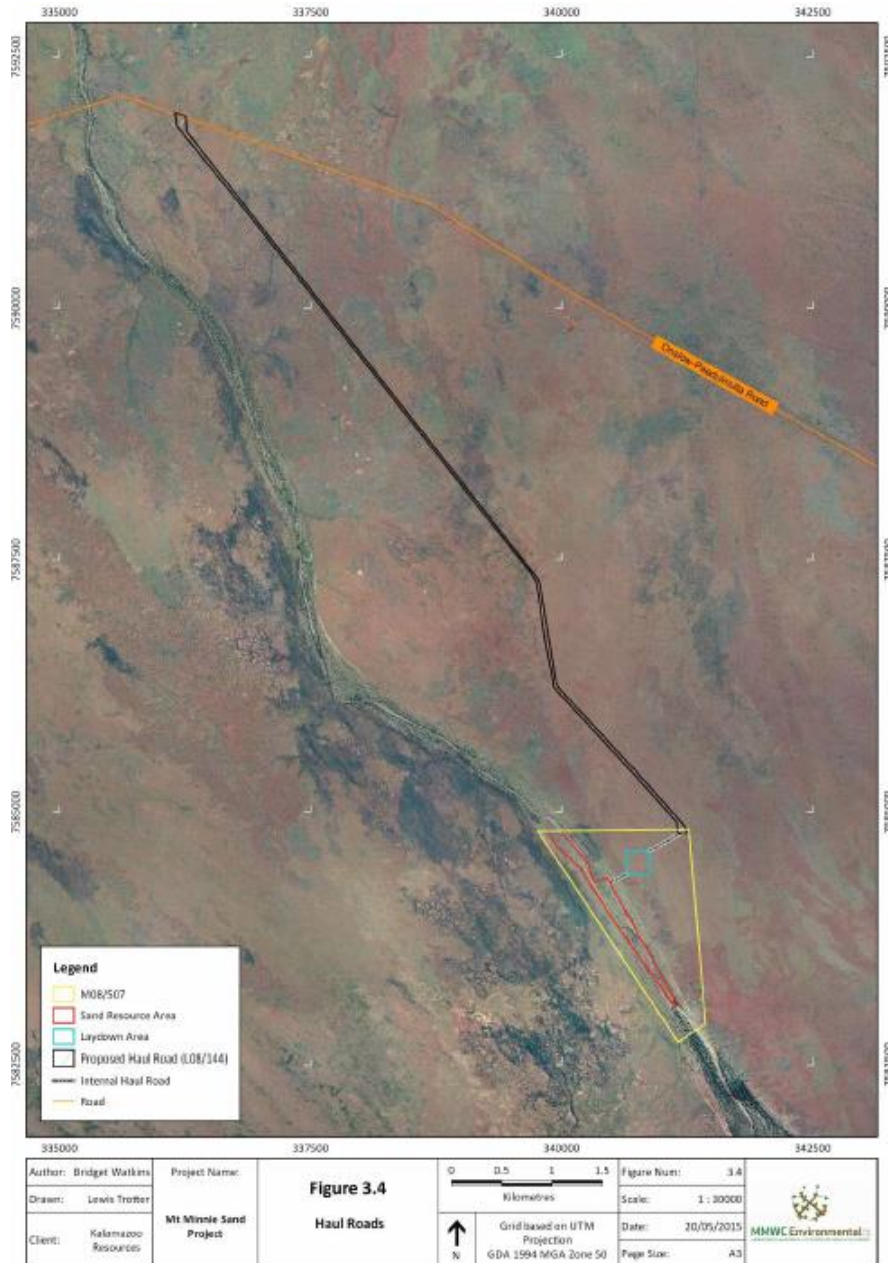


# Schedule 1: Maps

## Premises map

The Premises location is shown in the maps below. The yellow line depicts the Premises boundary.







# Decision Document

## *Environmental Protection Act 1986, Part V*

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**Proponent:** Kalamazoo Resources Pty Ltd

**Works Approval:** W5879/2015/1

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**Registered office:** Level 3, 102 Albert Road  
SOUTH MELBOURNE VIC 3205

**ACN:** 150 026 850

**Premises address:** Mt Minnie Sand Project  
Mining Lease M08/507  
FORTESCUE WA 6716

**Issue date:** Thursday, 22 October 2015

**Commencement date:** Monday, 26 October 2015

**Expiry date:** Thursday, 25 October 2018

### **Decision**

Based on the assessment detailed in this document the Department of Environment Regulation (DER), has decided to issue a works approval. DER considers that in reaching this decision, it has taken into account all relevant considerations.

Decision Document prepared by: Lindy Twycross  
Licensing Officer

Decision Document authorised by: Alana Kidd  
Manager Licensing – (Resources Industries)  
Delegated Officer



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## 1 Purpose of this Document

This decision document explains how DER has assessed and determined the application and provides a record of DER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER's assessment and decision making under Part V of the *Environmental Protection Act 1986*. Other approvals may be required for the proposal, and it is the proponent's responsibility to ensure they have all relevant approvals for their Premises.

## 2 Administrative summary

Administrative details		
Application type	Works Approval <input checked="" type="checkbox"/> New Licence <input type="checkbox"/> Licence amendment <input type="checkbox"/> Works Approval amendment <input type="checkbox"/>	
Activities that cause the premises to become prescribed premises	<b>Category number(s)</b>	<b>Assessed design capacity</b>
	12	150,000 tonnes per annual period
Application verified	Date: 05/08/2015	
Application fee paid	Date: 11/08/2015	
Works Approval has been complied with	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	
Compliance Certificate received	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	
Commercial-in-confidence claim	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Commercial-in-confidence claim outcome		
Is the proposal a Major Resource Project?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the <i>Environmental Protection Act 1986</i> ?	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"/>
Is the proposal subject to Ministerial Conditions?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Ministerial statement No:



		EPA Report No:
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i> )?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Department of Water consulted Yes <input type="checkbox"/> No <input type="checkbox"/>
Is the Premises within an Environmental Protection Policy (EPP) Area Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If Yes include details of which EPP(s) here.		
Is the Premises subject to any EPP requirements? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If Yes, include details here, eg Site is subject to SO <sub>2</sub> requirements of Kwinana EPP.		





### 3 Executive summary of proposal and assessment

Kalamazoo Resources Pty Ltd (Kalamazoo) is seeking a works approval for a sand quarry on Mining Lease M08/507. The quarry is to be located on the Cane River, 40 kilometres (km) south east of Onslow in the Pilbara region of Western Australia. Kalamazoo is the tenement holder and Kalamazoo's joint venture partner Drilline Pty Ltd will be the project operator.

Kalamazoo intends to extract and screen up to 150,000 tonnes of sand per year from a section of the bed of the Cane River for up to ten years. All site infrastructure will be situated 200 metres (m) away from the river flood line on an area of clay plain elevated above the water line. The total disturbance footprint will be 38.1 hectares (ha).

Operations will consist of sand extraction campaigns when the river is dry. An excavator and loader will work the site and sand will be hauled by truck to a laydown area where it will be screened and stockpiled before transportation off site. Two screening plants, each with a maximum capacity of 275 tonnes per hour, will be based on the site. Oversized material will be returned to the river bed and there will be no waste rock material generated.

A 5.29 ha lay-down area will base:

- the 2 mobile screening units;
- a bunded above-ground 10,000 litre (L) tank for fuel storage;
- a workshop; and
- an office and ablution block emptied by a contractor.

No camp will be based on the site, with personnel commuting daily to and from Onslow.

The Cane River Conservation Reserve is located 16 km southeast and up gradient of the project area. The Cane River Conservation Water Source Area is located 9.2 km northwest and downstream of the proposed quarry and the nearest production bore in the Cane River Public Drinking Water Reserve is 20 km downstream from the quarry. The proposed project area is outside of the nominated Priority areas for the Reserve. The Cane River is ephemeral and only flows following significant rainfall events.

Groundwater is estimated to be between 10 - 15 m below natural ground level. No dewatering will be conducted to support mining. Excavation will maintain a 3 m buffer from the water table.

The nearest dwellings are the Mt Minnie Homestead 15 km south, and Peedamulla Homestead 17 km east.

The main emissions associated with the excavation and screening of sand, are considered to be fugitive dust and noise. The operation is however isolated, with the nearest sensitive receptor being located 15 km away. Other potential emissions are discharges to land due to hydrocarbon spills and contaminated stormwater. As outlined in the decision table below, the Department of Environment Regulation (DER) considers that the risk rating is Low for this proposal.



## 4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987* and DER's Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision they are detailed in the decision document.

DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
General conditions	W1.2.1 W1.2.2 W1.2.3  Licence conditions	<p>W1.2.1 ensures construction is consistent with application documents.</p> <p>W1.2.2 provides a commissioning period as requested by the proponent.</p> <p><b>Construction and Operation</b> <u>Emission Description</u> <i>Emission:</i> Hydrocarbon or chemical spillage potentially contaminating soils and water. <i>Impact:</i> Hydrocarbon and chemicals have the potential to adversely affect fauna and flora. <i>Controls:</i> The proponent has committed to the following measures to reduce or prevent environmental impacts from hydrocarbon and chemicals:</p> <ul style="list-style-type: none"> <li>• 10,000 L diesel will be stored in an above ground bunded diesel storage tank;</li> <li>• All hydrocarbons will be contained in bunded areas and all storage and construction will be in accordance with AS1940 and AS1692, <i>Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007</i> and the Water Quality Protection Guidelines No.10 Mining and Mineral Processing, Above-ground Fuel and Chemical Storage 2000;</li> <li>• Any servicing, maintenance or refuelling will be conducted on the</li> </ul>	<p>Application supporting documentation</p> <p><i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i></p> <p><i>Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007</i></p>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p>laydown area;</p> <ul style="list-style-type: none"> <li>• Containment drip trays will be used;</li> <li>• Spill kits will be available and spills cleaned and disposed of immediately;</li> <li>• No vehicle wash-down bay on site; and</li> <li>• Liquid wastes will all be removed from site for disposal.</li> </ul> <p>The project is non continuous and small scale.</p> <p><u>Risk Assessment</u>  <i>Consequence:</i> Minor  <i>Likelihood:</i> Unlikely  <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory Controls</u>            The bulk storage and handling of hydrocarbons including fuel and oil is administered by the Department of Mines and Petroleum (DMP).</p> <p>W1.2.3 and a condition in the licence will be included to ensure spills are immediately recovered and removed.</p> <p>A condition will be included in the licence to ensure that stormwater runoff does not become contaminated by the activities on the premises.</p> <p><u>Residual Risk</u>  <i>Consequence:</i> Minor  <i>Likelihood:</i> Rare  <i>Risk Rating:</i> Low</p>	



<b>DECISION TABLE</b>			
<b>Works Approval / Licence section</b>	<b>Condition number W = Works Approval L= Licence</b>	<b>Justification (including risk description &amp; decision methodology where relevant)</b>	<b>Reference documents</b>
<b>Premises operation</b>	NA	<b>Construction and Operation</b> No conditions are required.	Application supporting documentation
<b>Emissions general</b>	NA	No limits will be set in the licence and therefore no conditions regarding recording and investigation of exceedances of limits required.	NA
<b>Point source emissions to air including monitoring</b>	NA	<b>Construction and Operation</b> There are no point source emissions to air during construction or operation and therefore no conditions are required in the works approval or licence.	Application supporting documentation
<b>Point source emissions to surface water including monitoring</b>	NA	<b>Construction and Operation</b> The proposal does not involve emissions to surface water during construction or operation and therefore no conditions are required in the works approval or licence.	Application supporting documentation
<b>Point source emissions to groundwater including monitoring</b>	NA	<b>Construction and Operation</b> The proposal does not involve emissions to ground water during construction or operation and therefore no conditions are required in the works approval or licence.	Application supporting documentation
<b>Emissions to land including monitoring</b>	NA	<b>Construction and Operation</b> The proposal does not involve emissions to ground during construction or operation and therefore no conditions are required in the works approval or licence.	Application supporting documentation
<b>Fugitive emissions</b>	NA	<b>Construction and Operation</b> The proposal involves site preparation, then extraction and transportation of sand - with the potential to generate fugitive dust.	Application supporting documentation



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p><u>Emission Description</u>  <i>Emission:</i> Generation of fugitive dust from site preparation, excavation, screening and from trafficable areas.  <i>Impact:</i> Dust has the potential to interfere with the health, comfort and amenity of the public. It also has the potential to smother and impact the health of flora and vegetation.  <i>Controls:</i> The premises is in a remote location. The nearest sensitive land use is the Mt Minnie Homestead located approximately 15 km south of the site.            The closest record of a Threatened Ecological Community is at least 50km distant and Priority Ecological Community is at least 13km distant. No species of Threatened or Priority flora or Scheduled fauna were recorded during a survey of the site in 2014.            The proponent has committed to implement the following measures:</p> <ul style="list-style-type: none"> <li>• Use of water carts and water sprays on stockpiled material as required;</li> <li>• Water sprays used during screening process;</li> <li>• Water for dust suppression trucked in as required, and a groundwater licence to abstract water may be pursued;</li> <li>• Areas progressively cleared as required;</li> <li>• Areas progressively rehabilitated (where possible);</li> <li>• Traffic and vehicle speeds restricted;</li> <li>• Activities postponed during adverse weather conditions; and</li> <li>• Visual inspections during operations to monitor dust.</li> </ul> <p>The project will operate in accordance with the <i>Dust Management Plan Mt Minnie Sand Project M08/507 &amp; L08/144</i>, Drilline Civil and Haulage, Revision B 10/09/2015. The plan includes dust control actions, and responsibilities and training.</p>	<p><i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i></p> <p><i>Dust Management Plan Mt Minnie Sand Project M08/507 &amp; L08/144</i>, Drilline Civil and Haulage, Revision B, dated 10/9/2015.</p>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p><u>Risk Assessment</u>  <i>Consequence:</i> Insignificant  <i>Likelihood:</i> Unlikely  <i>Risk Rating:</i> Low</p> <p><u>Regulatory Controls</u>            The risk of dust is assessed as low due to the remote location and flora and fauna survey results. Commitments have been made for dust control. Therefore no works approval or licence conditions for fugitive dust emissions are required.</p>	
<b>Odour</b>	NA	The proposal to quarry and screen sand does not involve the generation of odorous emissions and therefore no conditions for odour are required in the works approval or licence.	Application supporting documentation
<b>Noise</b>	NA	<p><b>Construction and Operation</b></p> <p><u>Emission Description</u>  <i>Emission:</i> The operation of mobile equipment generates noise.  <i>Impact:</i> Noise can impact the comfort and amenity of the public.  <i>Controls:</i> The nearest sensitive land use is the Mt Minnie Homestead located approximately 15 km south of the site. The project is non continuous and small scale. The proponent has committed to maintaining equipment in good working order.</p> <p><u>Risk Assessment</u>  <i>Consequence:</i> Insignificant  <i>Likelihood:</i> Rare  <i>Risk Rating:</i> Low</p>	Application supporting documentation  <i>Environmental Protection (Noise) Regulations 1997</i>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p><u>Regulatory Controls</u> The <i>Environmental Protection (Noise) Regulations 1997</i> with assigned noise levels at the nearest sensitive premises apply for the operation of mobile plant and equipment.</p> <p>The risk of noise emissions has been rated as low. Therefore no works approval or licence conditions for noise emissions required.</p>	
<b>Monitoring general</b>	NA	<p><b>Construction and Operation</b> There is no general monitoring required for the proposal. Therefore, no condition is included in the works approval or licence for general monitoring.</p>	NA
<b>Monitoring of inputs and outputs</b>	NA	<p><b>Construction and Operation</b> There is no monitoring of inputs and outputs required for the proposal. Therefore, no condition is included in the works approval or licence for such monitoring.</p>	NA
<b>Process monitoring</b>	NA	<p><b>Construction and Operation</b> There is no process monitoring required for the proposal. Therefore, no condition is included in the works approval or licence for such monitoring.</p>	NA
<b>Ambient quality monitoring</b>	NA	<p><b>Construction and Operation</b> There is no monitoring of ambient quality monitoring required for the proposal. Therefore, no condition is included in the works approval or licence for such monitoring.</p>	NA
<b>Meteorological monitoring</b>	NA	<p><b>Construction and Operation</b> There is no meteorological monitoring required for the proposal.</p>	NA



<b>DECISION TABLE</b>			
<b>Works Approval / Licence section</b>	<b>Condition number W = Works Approval L= Licence</b>	<b>Justification (including risk description &amp; decision methodology where relevant)</b>	<b>Reference documents</b>
		Therefore, no condition is included in the works approval or licence for such monitoring.	
<b>Improvements</b>	NA	<b>Construction and Operation</b> There is no improvement condition required for the works approval or licence.	NA
<b>Information</b>	W2.1.1 and W2.1.2 Licence conditions	<b>Construction and commissioning</b> Conditions W2.1.1 and W2.1.2 require submission of compliance documents certifying works are constructed in accordance with the conditions of the works approval.  <b>Operation</b> Licence conditions will include requirement for submission of an Annual Environment Report, including an Annual Audit Compliance Report. Kalamazoo may require the screening units to be moved off and on site (for example in case of cyclone or for use elsewhere). The licence will require notification to DER before screening equipment is moved off site and before subsequent return. The licence will also require notification of entering or ceasing care and maintenance status.	N/A
<b>Works Approval Duration</b>	NA	The proposal has been assessed as low risk. The works approval will be issued for three years.	NA





## 5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
17/08/2015	Application advertised in the West Australian newspaper	Submission from a third party alleging misuse of intellectual property.	DER deemed that the submission was not applicable to the assessment of discharges and emissions.
01/09/2015	Proponent sent a copy of draft instrument	Minor edit corrections only	Edits accepted



## 6 Risk Assessment

*Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management*

**Table 1: Emissions Risk Matrix**

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	Moderate	High	High	Extreme	Extreme
Likely	Moderate	Moderate	High	High	Extreme
Possible	Low	Moderate	Moderate	High	Extreme
Unlikely	Low	Moderate	Moderate	Moderate	High
Rare	Low	Low	Moderate	Moderate	High