



# Works Approval

## *Environmental Protection Act 1986, Part V*

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**Works Approval Holder:** GME Resources Ltd

**Works Approval Number:** W5893/2015/1

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**Registered office:** Unit 5  
78 Marine Terrace  
FREMANTLE WA 6160

**ACN:** 009 260 315

**Premises address:** Devon Gold Project  
Mining tenement M39/1077  
LEONORA WA 6438  
as depicted in Schedule 1.

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

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

**Expiry date:** Tuesday, 25 October 2016

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
5	Processing or beneficiation of metallic or non-metallic ore	50 000 tonnes or more per year	60 000 tonnes per annual period
6	Mine detwatering: premises on which waste is extracted and discharged into the environment to allow mining of ore.	50 000 tonnes or more per year	180 000 tonnes per annual period

### Conditions

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

Date signed: 22 October 2015

.....  
**Danielle Eyre**

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*;

**'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  
Locked Bag 33  
CLOISTERS SQUARE WA 6850  
Email: info@der.wa.gov.au;

**'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;

**'Works Approval'** means this Works Approval numbered W5893/2015/1 and issued under the *Act*;

**'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:

Table 1.2.1: Construction Requirements <sup>1</sup>		
Document	Parts	Date of Document
Works Approval Application, Prepared for GME Resources, Project no.: GME-002-1-12, Document reference: Works Approval Application_v2 by Soilwater Consultants	All, including appendices	26 August 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.



## **2 Information**

### **2.1 Reporting**

- 2.1.1 The Works Approval Holder shall submit a compliance document to the CEO, following the construction 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;
  - (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 is shown in the map below. The red line depicts the Premises boundary.



# Decision Document

***Environmental Protection Act 1986, Part V***

**Proponent: GME Resources Ltd**

**Works Approval: W5893/2015/1**

**Registered office:** Unit 5  
78 Marine Terrace  
FREMANTLE WA 6160

**ACN:** 009 260 315

**Premises address:** Devon Gold Project  
Mining tenement M39/1077  
LEONORA WA 6438

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

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

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## 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 and legal requirements and that the Works Approval and its conditions will ensure that an appropriate level of environmental protection is provided.

Decision Document prepared by: Fiona Sharpe  
Licensing Officer

Decision Document authorised by: Danielle Eyre  
Delegated Officer



## Contents

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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	Category number(s)	Assessed design capacity
	5	60 000 tonnes per year
	6	180 000 tonnes per year
Application verified	Date: 27/08/2015	
Application fee paid	Date: 10/09/2015	
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 checked="" type="checkbox"/> No <input 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 checked="" type="checkbox"/> No <input type="checkbox"/> Department of Water consulted Yes <input checked="" 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"/>	
Is the Premises subject to any EPP requirements? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

### 3 Executive summary of proposal and assessment

GME Resources Ltd (GME) are proposing to expand the Devon Gold Project for the extraction of approximately 60,000 tonnes of ore and 475,000 tonnes of waste down to a depth of 40 m. The expansion is likely to operate for approximately 3-4 months. There will be a waste rock dump and ROM pad, with the ore being crushed and screened onsite prior to transporting off-site for processing. No processing will be occurring on-site. There is a need to dewater the current pits and continue dewatering throughout the mining operations.

The project area is located approximately 170 km south-east of Leonora and 180 km north-east of Kalgoorlie-Boulder. It is located on the western edge of Lake Carey, a large salt lake which forms the central portion of the internally-draining Lake Carey surface water catchment.

The proposed mine pit will require dewatering throughout the entire Life of Mine, as the local groundwater table exists at only around 1 m below land surface. The total expected dewatering volume is between 72 and 180 ML for the duration of the 3-4 month operation. A peak dewatering rate of between 11 and 34 L/s is expected.

The extracted dewatering water is proposed to be discharged via two pipelines from bores around the pit into a settling pond on the tenement which is on the lake. A 75 metre pipeline and a 250 metre pipeline will be installed by an appropriately trained contractor from the bores to the settling pond. The pipeline will be 160 mm SRD41 Black poly pipe and will be inspected daily. The settling pond will be 50 m by 50 m and be constructed to suit the environment to ensure it is a secure facility. The water will then be discharged onto competent rock to allow dispersion of water on the surface of Lake Carey.

The operation will also involve crushing and screening of approximately 60 000 tonnes of ore. The ore will be stockpiled on a ROM pad and crushed by a mobile jaw crushing unit, with no requirement to screen. Crushed ore will be taken off-site for processing.





## 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 – 1.1.1 L1.2.1 – 1.2.2	<b>Construction and Operation</b> Standard conditions will apply.	General provisions of the <i>Environmental Protection Act 1986</i> .
Premises operation	W – no conditions  L1.3.1 – 1.3.4	<b>Construction</b> No premises operation conditions are required for the Works Approval.  <b>Licence</b> DER's assessment and decision making are detailed in Appendix A.	Application supporting documentation  General provisions of the <i>Environmental Protection Act 1986</i> .
Emissions general	W – no conditions L2.1.1	No general emission conditions are required for the Works Approval. General emissions conditions will be included in the Licence.	General provisions of the <i>Environmental Protection Act 1986</i> .
Point source emissions to air including monitoring	W – no conditions L – no conditions	<b>Construction and Operation</b> There will be no point source emissions to surface water generated from the Devon Gold Project. No conditions are required.	General provisions of the <i>Environmental Protection Act 1986</i> .





DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Point source emissions to surface water including monitoring	W – no conditions  L2.2.1 – 2.2.2 L3.2.1	<p><b>Construction</b> There will be no point source emissions to surface water during the construction phase of the Devon Gold Project. No conditions are required for the Works Approval.</p> <p><b>Normal Operation</b> <u>Emission Description</u> <i>Emission:</i> Hypersaline groundwater will be discharged into Lake Carey where it will seep into groundwater and/or evaporate. Dewatering effluent is hypersaline in nature that is typical of sediment and water on Lake Carey.</p> <p><i>Impact:</i> Potential impacts may occur to fringing vegetation as a result of the salinity of the effluent. Discharge may result in a localised sediment/salinity plume with potential for the accumulation of metals. These metals can produce toxic effects to stygofauna that become active during flood events at Lake Carey.</p> <p><i>Controls:</i> The Licensee has assessed the dewatering discharge using the Department of Water framework which included a number of factors such as; cumulative percentage of lake impacted, lake size, understanding of water regime, understanding of water and sediment quality, understanding of lake biota, salinity of discharges and concentration of metals. This assessment process concluded the risk to be low.</p> <p>Dewatering will be directed into a settling pond before the release into the lake to allow for the suspended solids to settle. The Licensee has stated the location of the discharge point has been specifically chosen to minimise impact, as discharge sites located in or near creek lines are preferred, as they flush contaminants away from the discharge site, ideally limiting the effects of evaporative concentration. The Licensee has also committed to monitoring discharge volumes and water quality throughout operations.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Moderate</p>	<p>Application supporting documentation</p> <p>General provisions of the <i>Environmental Protection Act 1986</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><i>Likelihood: Possible</i> <i>Risk Rating: Moderate</i></p> <p><u>Regulatory Controls</u> Condition 2.2.1 will stipulate the approved discharge point and abatement which includes measures to reduce sediment loading in the effluent, ensure erosion and scouring impacts are minimised and to ensure that sufficient settling is achieved prior to discharge to Lake Carey. Condition 2.2.1 will ensure that point source emissions to surface water are limited to 180 000 tonnes per annual period. Monitoring condition 3.2.1 will be included to require quarterly monitoring of metals, major anions and cations as well as pH, TSS and TRH. Monitoring of these key parameters is required to ensure any impacts to Lake Carey can continue to be assessed. Condition 1.3.4 will require an annual assessment of the impacts on Lake Carey from the dewatering.</p> <p><u>Residual Risk</u> <i>Consequence: Moderate</i> <i>Likelihood: Unlikely</i> <i>Risk Rating: Moderate</i></p>	
<b>Point source emissions to groundwater including monitoring</b>	W – no conditions L – no conditions	<p><b>Construction and Operation</b> There will be no point source emissions to groundwater during the construction or operation of the Devon Gold Project. No conditions are required for the Works Approval or Licence.</p>	Application supporting documentation General provisions of the <i>Environmental Protection Act 1986</i> .
<b>Emissions to land including monitoring</b>	W – no conditions L – no conditions	<p><b>Construction and Operation</b> There will be no emissions to land during the construction or operation of the Devon Gold Project. No conditions are required for the Works Approval or Licence.</p>	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
			General provisions of the <i>Environmental Protection Act 1986</i> .
<b>Fugitive emissions</b>	W – no conditions L – no conditions	<b>Construction and Operation</b> Some dust emissions may be generated from construction activities and the operation of the crushing and screening plant. The Licensee has stated dust will be controlled using a water truck which will be available at all times when the crusher is operated. They have stated the surrounding environment and vegetation will be monitored to ensure there is no major impacts from the dust or saline water. No conditions are required.	Application supporting documentation  General provisions of the <i>Environmental Protection Act 1986</i> .
<b>Odour</b>	W – no conditions L – no conditions	<b>Construction and Operation</b> There will be no odour emissions generated from the construction or operation of the Devon Gold Project. No conditions are required for the Works Approval or Licence.	Application supporting documentation  General provisions of the <i>Environmental Protection Act 1986</i> .
<b>Noise</b>	W – no conditions L – no conditions	<b>Construction and Operation</b> Some noise may be generated during the construction phase of the works and through the operation of the crusher. However, it is only anticipated the crusher will be operated during daylight hours and due to the isolation of the site, significant noise emissions are not expected. No conditions are required for the Works Approval or Licence.	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
<b>Monitoring general</b>	W – no conditions L - conditions	No general monitoring conditions are required for the Works Approval. General monitoring conditions will be included in the Licence to support the monitoring requirements.	General provisions of the <i>Environmental Protection Act 1986</i> .
<b>Monitoring of inputs and outputs</b>	W – no conditions L – no conditions	No specific monitoring of inputs or outputs is required.	N/A
<b>Process monitoring</b>	W – no conditions L - conditions	Process monitoring will be included in the Licence to ensure the cumulative dewatering discharge volume is monitored.	N/A
<b>Ambient quality monitoring</b>	W – no conditions L - conditions	No ambient quality monitoring is required for the Works Approval or Licence. Process monitoring and point source emission to surface water monitoring	N/A
<b>Meteorological monitoring</b>	W – no conditions L – no conditions	No meteorological monitoring is required for the Works Approval or Licence. No conditions are required.	N/A
<b>Improvements</b>	W – no conditions L – no conditions	No improvement conditions are required at this stage for the Works Approval or Licence.	N/A
<b>Information</b>	W2.1.1 – 2.2.1  L - conditions	Standard conditions are listed on the Works Approval for the submission of a compliance document at the end of each construction phase.  Standard conditions will be included on the Licence relating to the management of records and complaints, notification requirements and the submission of an annual audit compliance report and annual environmental report are included on the Licence.	N/A
<b>Licence Duration</b>	N/A	The Works Approval will be issued for a duration of one year, in accordance with DER's Guidance Statement on Licence Duration.	Licence Duration Guidance Statement



## 5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
21/09/2015	Application advertised in West Australian (or other relevant newspaper)	No comments received	N/A
15/09/2015	Application referred to interested parties listed Department of Water Department of Mines and Petroleum Shire of Leonora	No comments received	N/A
07/10/2015	Proponent sent a copy of draft instrument	No comments received	N/A



## 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



## Appendix A

### Premises Operation

#### Abnormal Operation

##### Emission Description

*Emission:* Hypersaline mine dewater is transported in pipelines through areas of native vegetation. Emissions will occur if the pipeline were to rupture or leak.

*Impact:* Contamination of surrounding soils with dissolved solids can affect groundwater quality and cause vegetation stress or even death if exposure is for a prolonged period.

*Controls:* GME Resources has committed to maintaining a high standard of environmental practice by having the pipelines installed by an appropriately trained contractor. The pipeline will be 160 mm SRD41 Black poly pipe and will be inspected daily. If a leak is detected the pump will be shut down and pipe repaired.

##### Risk Assessment

*Consequence:* Minor

*Likelihood:* Unlikely

*Risk Rating:* Moderate

##### Regulatory Controls

Conditions relating to pipelines will be included in the Licence. These conditions will ensure pipelines containing environmentally hazardous materials will be managed appropriately and corrective action is taken in the event that pipelines rupture or leak. A condition will also ensure that 12 hourly inspections are carried out for visual integrity.

##### Residual Risk

*Consequence:* Minor

*Likelihood:* Rare

*Risk Rating:* Low