



Works Approval

Environmental Protection Act 1986, Part V

Works Approval Holder: HBJ Minerals Pty Ltd

Works Approval Number: W5782/2014/1

Registered office: Level 3
 18 – 32 Parliament Place
 WEST PERTH WA 6005

ACN: 127 026 519

Premises address: Jubilee Operations
 Lot 15 on Plan 58833 and Lot 50 on Plan 226299
 BOULDER WA 6432
 as depicted in Schedule 1.

Issue date: Thursday, 23 July 2015

Commencement date: Monday, 27 July 2015

Expiry date: Sunday, 26 July 2020

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
6	Mine dewatering: premises on which water is extracted and discharged into the environment to allow mining of ore.	50 000 tonnes or more per year	265 000 tonnes per annual period

Conditions

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

.....
 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*;

'annual period' means the inclusive period from 1 July until 30 June in the following year;

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

'CEO' for the purpose of correspondence means;
Manager – Licensing (Resource Industries)
Department of Environment Regulation
Locked Bag 33
CLOISTERS SQUARE WA 6850
Telephone: (08) 9080 5555
Facsimile: (08) 9021 7831
Email: industry.regulation@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;

'Works Approval' means this Works Approval numbered W5782/2014/1 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 guideline 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 Requirements¹		
Document	Parts	Date of Document
HBJ – Muturoo Dewatering, Works Approval Document, HBJ Minerals Pty Ltd – South Kalgoorlie Operations	All, including Drawings and Appendices	October 2014
Supporting Documentation, HBJ Muturoo to Celebration Dewatering Works Approval, HBJ Minerals Pty Ltd – South Kalgoorlie Operations	All	December 2014

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.

2.2 Notification

2.2.1 The Works Approval Holder shall ensure that the parameters listed in Table 2.2.1 are notified to the CEO and are in accordance with the notification requirements of the table.

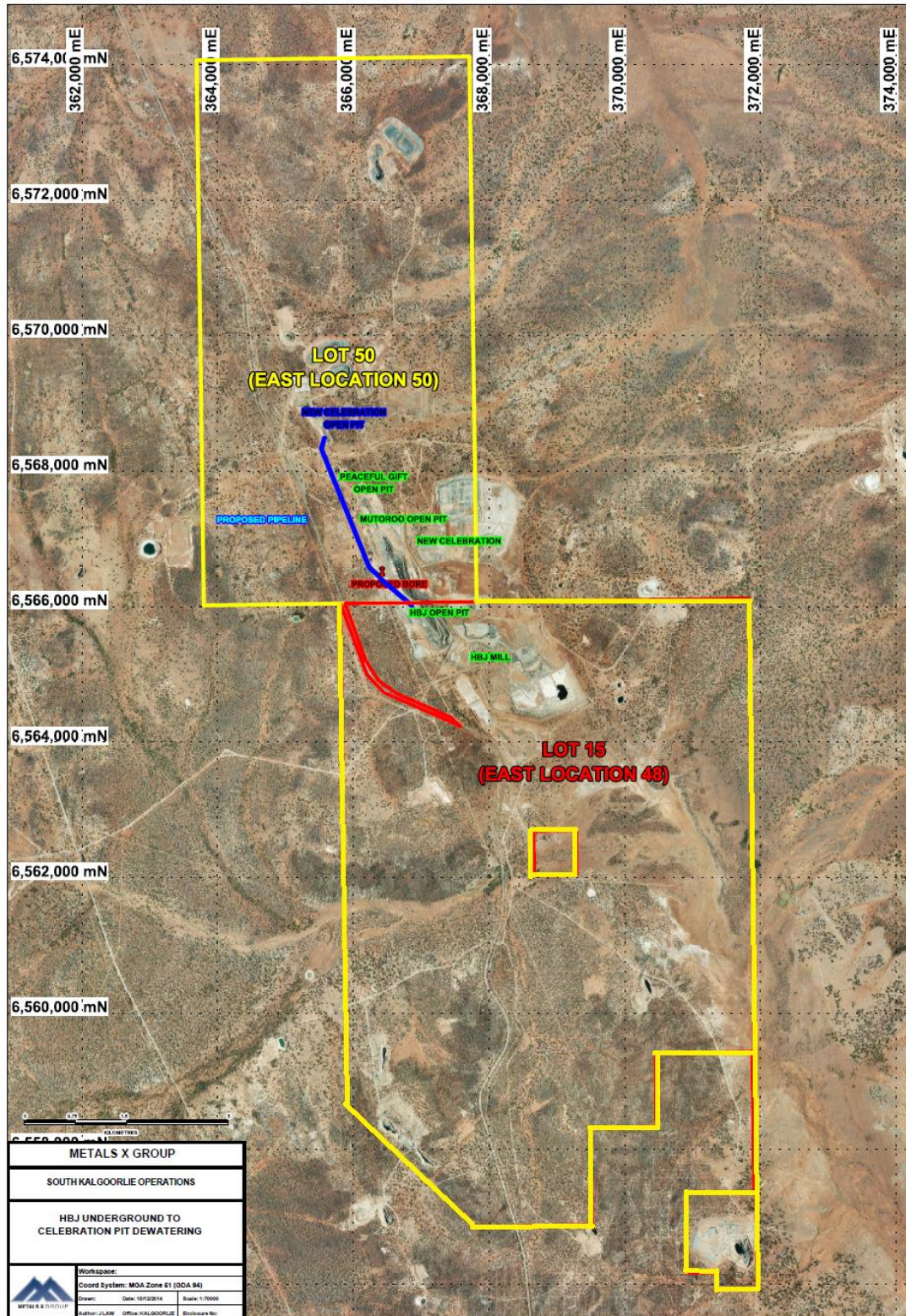
Table 2.2.1: Notification requirements			
Condition or table (if relevant)	Parameter	Notification requirement	Format or form
1.2.4	Commencement of commissioning	7 days prior to start	None specified
	Completion of commissioning	7 days after completion	



Schedule 1: Maps

Premises map

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





Decision Document

Environmental Protection Act 1986, Part V

Proponent: HBJ Minerals Pty Ltd

Works Approval: W5782/2014/1

Registered office: Floor 3
18 – 32 Parliament Place
WEST PERTH WA 6005

ACN: 127 026 519

Premises address: Jubilee Operations
Lot 15 on Plan 58833 and Lot 50 on Plan 226299
BOULDER WA 6432

Issue date: Thursday, 23 July 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



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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"/>	<input type="checkbox"/>
	New Licence <input type="checkbox"/>	<input type="checkbox"/>
	Licence amendment <input type="checkbox"/>	<input type="checkbox"/>
	Works Approval amendment <input type="checkbox"/>	<input type="checkbox"/>
Activities that cause the premises to become prescribed premises	Category number(s)	Assessed design capacity
	6	265 000 tonnes per annual period
Application verified	Date: 16/12/2014	
Application fee paid	Date: 09/01/2015	
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"/>
Is the proposal subject to Ministerial Conditions?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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"/>
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 ₂ requirements of Kwinana EPP.		



3 Executive summary of proposal and assessment

HBJ Minerals Pty Ltd (HBJ) is the Licensee for the Jubilee Gold Mine (Jubilee). HBJ is a wholly owned subsidiary of Metals X Ltd. Jubilee is located 32 km south of Kalgoorlie-Boulder, adjacent to the Kalgoorlie-Kambalda Highway. Currently the mine is not operational but stockpiled ore is treated continually along with numerous toll treatment arrangements.

Jubilee currently has an oversupply of water, with extended dewatering bores around the existing and historic tailings storage facilities, dewatering of the HBJ open pit and the dewatering of the current tails storage facility at the Samphire open pit with the water currently used in the Jubilee mill. It is proposed that in 2015 the HBJ underground mine and the Muturoo open pit will be reopened. If this occurs, the dewatering of these sites may exceed the capacity of water used in the Jubilee mill, hence the water will need to be directed elsewhere. HBJ are proposing to dewater into the Celebration open pit only when the mill capacity is exceeded. Celebration pit was chosen as it has been used in the past for dewatering when mining was operational in the Pernatty open pit.

Current water levels in the Celebration open pit is at 345m AHD. Groundlevel at the lowest point of the open pit is 379m AHD.

Water will be pumped from the HBJ underground past the Muturoo open pit to the Celebration open pit which was mined in the late 1980's. Pipe to be used is DN200 PN16 to get the water from the underground workings to the surface of the open pit where the pipe will be downgraded to DN200 PN6.3 to run along the surface to the Celebration open pit. At the Muturoo open pit the pipe to get the water from the bottom of the pit to the surface pipe will be evaluated when and if the open pit encounters water. At this stage it is not certain that dewatering of the Muturoo open pit will be necessary. As the water from the HBJ underground is slowly lowered it may also lower the groundwater table in the nearby Muturoo open pit, negating the necessity to dewater it.

All pipeline welds will be performed to AS 2033 PIPA guidelines and individually stamped by the welder using their individual code. Welding parameters will be calculated and recorded on weld logs. The pipeline will be pressure tested at the completion of the construction phase and prior to commissioning. The pipe will be sleeved at each road crossings to protect the pipe from any external pressures. There will be an air pressure release valve installed on the high point along the length. The pipeline will be installed in a trench to a nominal depth of 0.5 m below the top of the pipe and at each road crossings the pipe will be buried to 1 m below the road crossing and sleeved to ensure the pipe is fully protected.

Once the works associated with the Works Approval are completed, an amendment will be required to licence L5107/1988/13 to include the approved discharge point and operate the dewatering infrastructure.



4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987*, DEC's Policy Statement - Limits and targets for prescribed premises (2006), 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	W – 1.2 L – 1.2	General conditions have been applied to the Works Approval and Licence.	General provisions of the <i>Environmental Protection Act 1986</i> .
Premises operation	W – no conditions L – 1.3.1 and 1.3.6	<p>Construction No conditions relating to premises operation have been applied to the Works Approval.</p> <p>Abnormal Operation <u>Emission Description</u> <i>Emission:</i> Hypersaline water is transported in pipelines in areas of native vegetation. Emissions will occur if the pipelines were to rupture and/or leak. <i>Impact:</i> Potential contamination of surrounding soils and vegetation death. <i>Controls:</i> Adequate design, construction and maintenance of pipelines. Leak detection telemetry will be installed and will consist of telemetry units linked to the existing network currently in operation for the processing plant.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Moderate <i>Likelihood:</i> Possible <i>Risk Rating:</i> Moderate</p>	Applicant supporting document



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> A condition relating to pipelines exist on the current licence under condition 1.3.1. Daily visual inspections will be required for the dewatering pipelines under condition 1.3.6.</p> <p><u>Residual Risk</u> <i>Consequence:</i> Moderate <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Moderate</p>	
Emissions general	No conditions	No general emission conditions have been applied to the Works Approval or Licence as a result of dewatering activities.	General provisions of the <i>Environmental Protection Act 1986</i> .
Point source emissions to air including monitoring	No conditions	Construction and normal operation No significant point source emissions to air will occur from the construction or operation of the dewatering pipelines. No specified conditions relating to point source emissions to air or monitoring of these emissions are required for the Works Approval or Licence.	General provisions of the <i>Environmental Protection Act 1986</i> .
Point source emissions to surface water including monitoring	No conditions	Construction and normal operation No significant point source emissions to surface water are expected during the construction or operation of the dewatering pipelines.	General provisions of the <i>Environmental Protection Act 1986</i> .
Point source emissions to groundwater including monitoring	W – no conditions L - 2.4, 3.4 and 1.3.9	<p>Construction No point source emissions to groundwater are expected to occur during the construction of the dewatering pipeline.</p> <p>Normal operation <u>Emission Description</u></p>	<p>Applicant supporting document</p> <p>General provisions of the</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>Emission:</i> Hypersaline water is transported in pipelines from the HBJ underground workings to the Celebration pit. The water level in Celebration pit is currently at 345 AHD.</p> <p><i>Impact:</i> Potential contamination of groundwater. The water quality from the HBJ underground is slightly better than that currently in Celebration pit. The latest results for total dissolved solids (TDS) for the HBJ underground was 14 900 mg/L and 78 900 mg/L for Celebration pit. However, the levels in Celebration pit fluctuate up to around 130 000 mg/L TDS.</p> <p>As the groundwater in the Jubilee area is hypersaline and within the same aquifer, there is little impact expected in the water quality in the receiving environment. The biggest concern would be rising groundwater levels, as hypersaline water can be detrimental to surrounding vegetation. Groundwater in the area is approximately 170 mbgl.</p> <p><i>Controls:</i> HBJ have committed to installing 4 monitoring bores and 4 vegetation monitoring sites when the water level in the pit reaches 15 mbgl (364 AHD).</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Moderate <i>Likelihood:</i> Possible <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory Controls</u> Licence conditions L2.4 will allow the discharge to occur and L3.4 will be included to ensure pit level monitoring is undertaken. Currently, the Licence has a target of 6 mbgl and a limit of 4 mbgl for all SWL at site through condition L1.3.9. This applies to Celebration pit and should pit levels reach 15 mbgl the four monitoring bores will be added to the licence for regular monitoring.</p> <p><u>Residual Risk</u></p>	<p><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
		<i>Consequence: Moderate Likelihood: Unlikely Risk Rating: Moderate</i>	
Emissions to land including monitoring	No conditions	Construction and operation No emissions to land are expected to occur during construction and operation of the dewatering pipelines. No conditions are required for the Works Approval or Licence.	General provisions of the <i>Environmental Protection Act 1986</i> .
Fugitive emissions	No conditions	Construction and normal operation No fugitive emissions are expected during the construction and operation of the dewatering pipeline. No conditions are required for the Works Approval or Licence.	General provisions of the <i>Environmental Protection Act 1986</i> .
Odour	No conditions	Construction and normal operation No odour emissions are expected during the construction and operation of the dewatering pipeline. No conditions are required for the Works Approval or Licence.	General provisions of the <i>Environmental Protection Act 1986</i> .
Noise	No conditions	Construction and normal operation No noise emissions are expected during the construction and operation of the dewatering pipeline. No conditions are required for the Works Approval or Licence.	General provisions of the <i>Environmental Protection Act 1986</i> .
Monitoring general	W – no conditions L – 3.1	No general monitoring conditions are required for the Works Approval. Monitoring conditions exist on the Licence under 3.1.	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
Monitoring of inputs and outputs	No conditions	No monitoring of inputs and outputs is required for the Works Approval or Licence.	N/A
Process monitoring	No conditions	No process monitoring is required for the Works Approval or Licence.	N/A
Ambient quality monitoring	No conditions	No ambient monitoring is required for the Works Approval or Licence for the dewatering activities. See the emissions to groundwater section of this table for monitoring requirements.	Applicant supporting document
Meteorological monitoring	No conditions	No meteorological monitoring is required for the Works Approval or Licence.	N/A
Improvements	No conditions	No significant emissions are expected from the construction and operation of the dewatering activities. No specified conditions relating to improvements are required to be added to the Works Approval or Licence.	N/A
Information	W5	The Works Approval will include a standard condition for the submission of a compliance document upon completion of construction and commissioning.	N/A
Licence Duration	N/A	The duration of the Works Approval will be for five years as determined with DER's Guidance Statement on Licence Duration. The duration of the Licence will not change as a result of this Works Approval.	Guidance Statement on Licence Duration



5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
19/01/2015	Application advertised in West Australian (or other relevant newspaper)	No comments recieved	N/A
19/01/2015	Application referred to interested parties listed City of Kalgoorlie-Boulder Department of Water Department of Mines and Petroleum	No comments recieved	N/A
11/02/2015	Proponent sent a copy of draft instrument	Proponent requested the application remained 'on-hold' whilst the specifications for pipelines were confirmed. On 15 July 2015, the proponent confirmed the specifications of the pipelines will remain consistent with the application.	No changes were necessary.



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