Application for Works Approval

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

Works Approval Number	W6732/2022/1
Applicant	Regis Resources Limited
ACN	009 174 761
File number	DER2022/000445
Premises	Duketon Gold Project Legal description – Part of mining tenement M38/160 As defined by the coordinates in Schedule 1 of the works approval
Date of report	09 March 2023
Decision	Works approval granted

Christine Pustkuchen

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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 premises. As a result of this assessment, works approval W7832/2022/1 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this decision report, the Department of Water and Environmental Regulation (the department; DWER) has considered and given due regard to its regulatory framework and relevant policy documents which are available at https://dwer.wa.gov.au/regulatory-documents.

2.2 Application summary

On 2 September 2022, Regis Resources Limited (the applicant) submitted a works approval application to the department under section 54 of the *Environmental Protection Act 1986* (EP Act).

The application is to undertake construction and operational works relating to dewatering activities at the premises, located on part of mining tenement M38/160, including:

- Construction of a lined raw water dam, which receives raw water from outside the premises boundary, including mine dewater from the Ben Hur mine;
- Construction of a dewatering pipeline from the raw water dam to the King of Creation mine pit;
- Environmental commissioning of dewatering pipeline, comprising inspection for pipeline integrity; and
- Time limited operation of the dewatering pipeline for six months (i.e., 180 calendar days).

The premises relates to Category 6 and assessed production / design capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations), which are defined in works approval W6732/2022/1. The infrastructure and equipment relating to the premises category and any associated activities, which the department has considered in line with *Guideline: Risk Assessments* (DWER 2020b), are outlined in works approval W6732/20221.

2.3 Overview of premises

The premises is approximately 52 km north of the town of Laverton. The applicant is also authorised to undertake operations of Category 5, 6, 52 and 54 activities at the Duketon Gold Project, located approximately 12 km north of the premises, under licence L8578/2011/1.

The applicant is currently mining the Ben Hur mine pit, located approximately 1.7 km west of the premises. Mining of the Ben Hur pit requires active dewatering. Mine dewater from Ben Hur is proposed to be stored and discharged at the raw water dam at the premises. The raw water dam will be constructed to 2,500 m^3 and lined with high-density polyethylene (HDPE). The mine dewater in the raw water dam is mixed with raw water from other sources, including a borefield near the Ben Hur mine. Within the context of this Decision Report and risk assessment, the term ‘mine dewater’ refers to any water that has been mixed with dewatering effluent from the Ben Hur mine (i.e., water from the borefield mixed with Ben Hur mine dewater is referred to as ‘mine dewater’), regardless of the beneficial use or fate of this water.

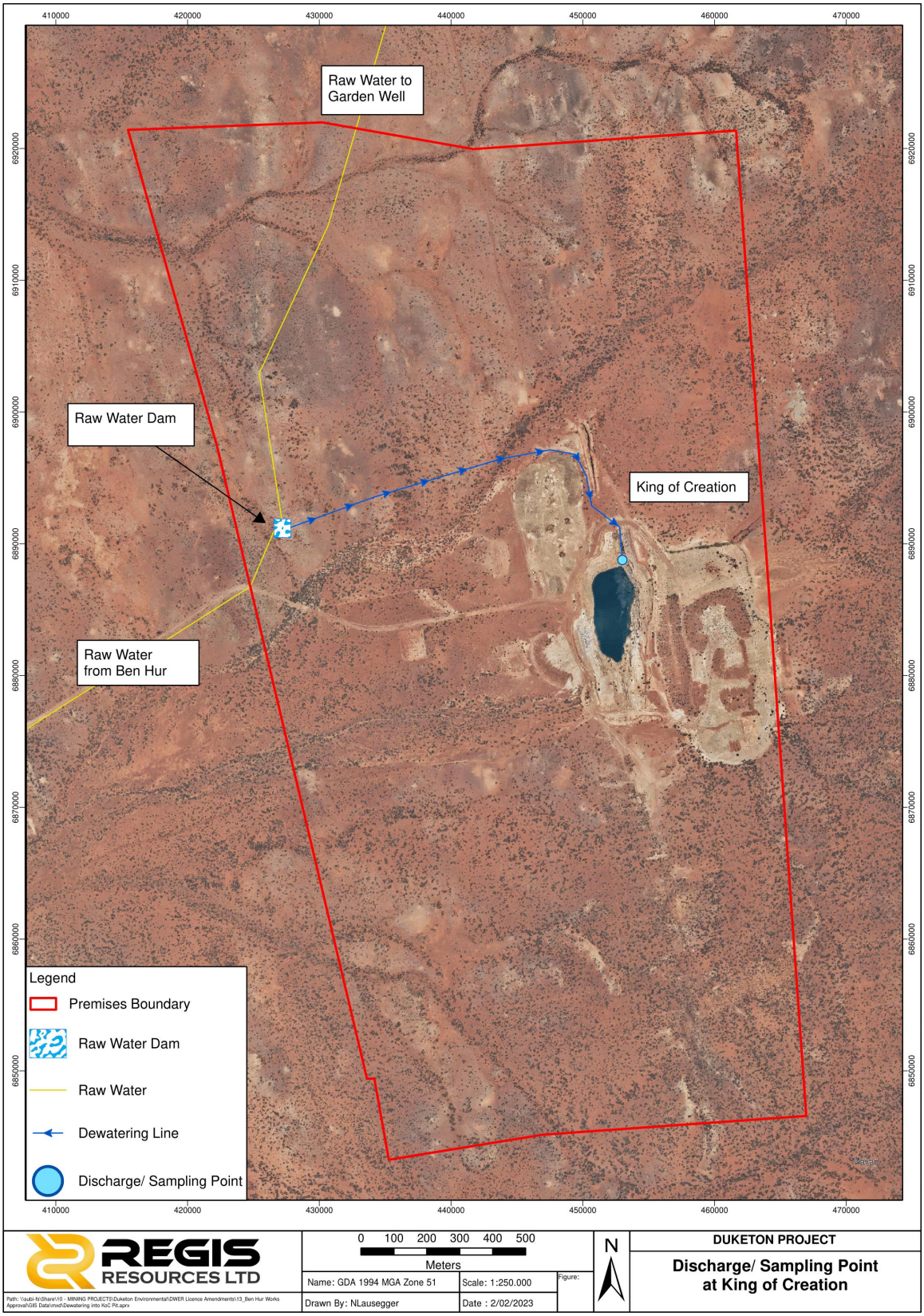

Figure 1: Premises boundary and infrastructure location

The applicant will prioritise the use of mine dewater at the raw water dam for reuse in the Garden Well processing circuit (outside the premises boundary) and dust suppression of the haul road between raw water dam and Garden Well (both within and outside of premises boundary). Only excess mine dewater will be sent to King of Creation mine for discharge. A projected breakdown of mine dewater use is detailed in Table 1.

Table 1: Water balance at raw water dam

Source / activity	Input rate (m^3/hour)	Output rate (m^3/hour)	Comments
Mine dewater from Ben Hur mine pit to raw water dam	72	---	Based on highest abstraction rate estimated in the second half of mine life; considered to be a conservative value.
Mine dewater from raw water dam to Garden Well for processing	---	50	Assuming highest estimated abstraction rate and lowest water use at Ben Hur mine.
Mine dewater from raw water dam to standpipe for dust suppression	---	25 to 50	Projected water use varies seasonally; also includes internal reuse at Ben Hur mine to support mining operation.
Mine dewater from raw water dam to King of Creation mine pit	---	0 to 57	Maximum throughput was back-calculated from annual rate of 500,000 m^3, in the event of no transfer of mine dewater from raw water dam to Garden Well for use in processing circuit (i.e., during plant shut-downs etc.).

The King of Creation mine pit has been in care and maintenance since the early 1990s. The applicant is undertaking further works prior to re-mining, and therefore, views it as an appropriate discharge location of excess mine dewater that cannot be used for processing and/or dust suppression.

The standing water level within the King of Creation mine pit is approximately 34 m below ground level (mbgl), equating to approximately 1,760,000 m^3 of storage capacity. The pit receives little surface runoff from the catchment due to earthworks undertaken during historical mining.

2.4 Exclusion to assessment

The Delegated Officer considers that the discharge and storage of mine dewater from the Ben Hur mine to the raw water dam at the premises does not constitute a Category 6 activity (i.e., water is extracted and discharged into the environment to allow for mining of ore, as defined in Schedule 1 of the *Environmental Protection Regulations 1987*), as the mine dewater is discharged into a HDPE-lined pond. The liner is installed to mitigate seepage of mine dewater into the environment. As such, no mine dewater is released/discharged to the environment. Therefore, an assessment of the dewatering pipeline from Ben Hur mine to the raw water dam has been excluded from this assessment and is not included in the premises boundary.

2.5 Legislative context

Table 2 provides a summary of approvals relevant to the scope assessed under works approval W7832/2022/1.

Table 2: Relevant approvals and status

Legislation	Instrument / approval number	Comments and status
Part V Division 3 of the EP Act	W6732/2022/1	Granted.
Mining Act 1978	Reg ID 112214	Regis Resources – Duketon – Mining Proposal Version 8 was approved by the Department of Mines, Industry Regulation and Safety (DMIRS) on 4 November 2022.
Part V Division 2 of the EP Act	CPS 9614/1	Clearing permit was granted by DMIRS on 1 September 2022. Clearing area for dewatering pipeline and raw water dam was estimated to be approximately 1.5 hectares.
Rights in Water and Irrigation Act 1914	GWL 180893(1)	Amendment to existing 5C licence submitted to DWER; assessment in progress at the time of this works approval being granted.

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 2020b).

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 3 below. Table 3 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

Table 3: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Construction			
Dust	Construction of: • Raw water dam; and • Dewatering pipeline to King of Creation mine.	Air / windborne pathway	• Small area of disturbance due to pipeline length of only approximately 1 km between raw water dam and King of Creation mine pit; and • Dust suppression using water carts.
Operation			
Mine dewater	Deposition of excess mine dewater at King of Creation mine	Seepage	• Mine pit is considered a terminal groundwater sink; • Mine dewater quality is comparable/ better than pit water quality at King of Creation; • Undertake routine groundwater monitoring during operations.
		Overtopping	• Standing water level within the pit is approximately 34 mbgl, providing sufficient storage capacity for three years even at maximum discharge scenario of 500,000 m^3 annually.
	Storage of mine dewater at raw water dam	Seepage	• HDPE liner will be installed at the raw water dam.
		Overtopping and loss of containment	• Float valve will be installed on raw water dam.
	Operation of dewatering pipeline between raw water dam and King of Creation mine	Pipeline leak or rupture	• Pipeline installed within road corridor to make use of roadside bunds to diminish flow energy before entering environment; • Pipeline to be equipped with either telemetry or automatic cut-out, consistent with requirements from licence L8578/2011/1. • Flow meter installed at raw water dam to quantify volume of water released to King of Creation mine pit; and • Daily inspection of pipelines, when in use.
Dust	Vehicle movement during routine pipeline inspection	Air / windborne pathway	• Small area of disturbance due to pipeline length of only approximately 1 km between raw water dam and King of Creation mine pit; and • Dust suppression using water carts.

3.1.2 Receptors

In accordance with the *Guideline: Risk Assessment* (DWER 2020b), 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 4 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 2020a)).

Table 4: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	**Distance from prescribed activity**
None[1]	N/A
Environmental receptors	**Distance from prescribed activity**
Native vegetation	The vegetation communities at the premises are characterised by Acacia shrublands, with a lesser amount of Chenopod (saltbush) shrublands. Vegetation condition at the premises was mapped as either excellent or very good. However, the area surrounding the King of Creation mine pit has been cleared due to historical mining activities.
Conservation significant flora	A flora survey in 2021 identified *Claytrix praecipua* (Priority 3) approximately 1 km south of King of Creation mine pit.
Surface water bodies	There are no significant surface water bodies within the premises, except for the King of Creation mine pit (discharge location). The premises is located within the Lake Carey catchment, which drains into the Salt Lake Basin. Natural drainage pattern occurs from the King of Creation mine pit to the southwest.
Groundwater aquifer	The premises is located within the Goldfields Groundwater Area. Due to the surrounding land use, production bores are potentially present in the area for providing stock water. The nearest operational bore (Slate Well) is located approximately 5 km to the west of the King of Creation pit. Groundwater surrounding the King of Creation mine pit ranged between approximately 28 mbgl to 36 mbgl. Regional groundwater flow towards the west, based on surface topography. However, groundwater flow at the King of Creation mine pit is likely radial, with the pit acting as a terminal sink. Assuming a mine pit standing water level of approximately 34 mbgl, the 'terminal sink' concept is supported, based on recent groundwater monitoring data (Table 5) Groundwater quality is fresh to brackish, with recent monitoring total dissolved solid (TDS) concentrations ranging between 340 mg/L to 1,500 mg/L (Table 5). TDS concentration of the pit water is higher due to long-term evapo-concentration. Concentrations of heavy metals were typically below laboratory detection limits, though arsenic has been detected at concentrations below the livestock drinking water guideline value of 0.5 mg/L in both the pit water and surrounding groundwater bores (Table 5).

Note 1: The nearest human receptor is the Erlistoun homestead, located 29.5 km south-west of the premises boundary. The premises is located on the Erlistoun Pastoral Station, where pastoral land use is also present. However, fencing and cattle grids would be established to limit interaction between mining operations and livestock.

Table 5: Water quality monitoring results for mine dewater and receiving environment

Sample ID		BH2		RRLBHP02	KOC1		KOC2		KOC3		King of Creation pit	
Description		Groundwater monitoring bores at Ben Hur mine (source of mine dewater)			Groundwater monitoring bores surrounding King of Creation pit						Receiving environment for mine dewater discharge	
Coordinates		437962 E, 6883928 N		437749E, 6884106N	440437E, 6884935N		440311E, 6885838N		440148E, 6885838N		440443E, 6885166N	
Date		18/02/2013	10/06/2013	11/01/2023	3/05/2022	11/01/2023	3/05/2022	11/01/2023	3/05/2022	11/01/2023	23/04/2022	11/01/2023
Parameter	Unit											
Electrical conductivity	µS/cm	**1570**	**3600**	**3300**	**2500**	**2400**	**610**	**730**	**3400**	**2800**	**13000**	**13000**
Total dissolved solids	mg/L	**1400**	**2300**	**2100**	**1500**	**1500**	**340**	**480**	**1400**	**1400**	**9800**	**9400**
Total suspended solids	mg/L	**320**	**83**	<5	**7**	**15**	**43**	<5	<5	<5	**13**	<5
Arsenic (dissolved)	mg/L	**0.023**	**0.042**	<0.05	<0.05	<0.05	**0.14**	**0.076**	**0.05**	**0.06**	**0.11**	**0.15**
Cadmium (dissolved)	mg/L	<0.0001	<0.0001	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt (dissolved)	mg/L	**0.001**	**0.004**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper (dissolved)	mg/L	**0.041**	<0.001	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Lead (dissolved)	mg/L	**0.002**	<0.001	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Nickel (dissolved)	mg/L	**0.008**	**0.005**	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	**0.03**	**0.025**
Selenium (dissolved)	mg/L	<0.01	<0.002	<0.10	<0.10	<0.10	<0.01	<0.10	<0.1	<0.10	<0.10	<0.10
Zinc (dissolved)	mg/L	**0.009**	<0.005	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020b) 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 5.

Works approval W6732/2022/1 that accompanies this decision report authorises construction and time limited operation. The conditions in the issued works approval, as outlined in Table 5 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., discharge of mine dewater to King of Creation mine pit and dust suppression using mine dewater. 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.

The conditions in the issued works approval as outlined in Table 5 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 5: Risk assessment of potential emissions and discharges from the premises during construction, commissioning and time limited 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								
Construction of dewatering pipeline, road bund and raw water dam	Dust	***Pathway:*** Air/ windborne pathway ***Impact:*** Impacts to ecological health and amenity	Native vegetation	Refer to Section 3.1	C = Slight L = Unlikely **Low risk**	Y	Condition 1	N/A
Operation (including time limited operation under this works approval)								
Transfer of mine dewater from raw water dam to King of Creation pit	Mine dewater (sourced from Ben Hur mine, mixed with raw water from other sources at raw water dam)	***Pathway:*** Overtopping of containment infrastructure and mine pit ***Impact:*** Overland runoff of pit impacted water, resulting in impacts to ecological health and amenity	Native vegetation Surface water bodies	Refer to Section 3.1	C = Slight L = Unlikely **Low Risk**	N	Condition 1 **Condition 6** (Specified freeboard for raw water dam) Condition 8	The Delegated Officer considers additional regulatory controls to be necessary to manage the risk of overtopping of mine dewater from raw water dam. The applicant has proposed a float valve to be installed to monitor water levels in the raw water dam. The Delegated Officer has specified a freeboard limit to further manage the relevant risk and prompt preventative action. The freeboard limit is consistent with those specified for other containment infrastructure at the wider Duketon Gold Project, regulated under licence L8578/2011/1.
Deposition of mine dewater to King of Creation pit		***Pathway:*** Vertical infiltration and lateral migration of impacted pit water ***Impact:*** Impacts to quality of groundwater resources	Groundwater aquifer	Refer to Section 3.1	C = Minor L = Possible **Medium risk**	N	Condition 1 Condition 7 **Condition 10** (Modified discharge monitoring frequency) **Condition 11** (Addition of pit water quality monitoring)	The Delegated Officer considers additional regulatory controls to be necessary to manage the risk of seepage and mixing of mine dewater with local groundwater. The hydrochemistry of the receiving environment (i.e., King of Creation pit) is currently not well known, with limited monitoring data to inform risk-based decision. Hence, the Delegated Officer has decided to include condition 11, to monitor the King of Creation mine pit water quality, reflecting the monitoring programme for mine dewater discharge (condition 10). Furthermore, the requirement to monitor the standing water level of the King of Creation pit lake was added to better understand the impacts of inflow (i.e., mine dewater discharge) would impact pit water levels and its ability to act as a terminal groundwater sink. The monitoring frequency for dissolved metals, metalloids and major ions at the discharge point was also modified to ensure more frequent discharge monitoring during time limited operation. The monitoring data collected during time limited operation would better inform the risk assessment for the operation of this prescribed activity for the future licence amendment.
		Pathway: Vertical infiltration and lateral migration of impacted pit water ***Impact:*** Impacts to aquifer regime, potentially resulting in groundwater mounding and/or surface expression of groundwater	Native vegetation, including conservation significant flora	Refer to Section 3.1	C = Minor L = Rare **Low Risk**	Y		N/A
Transfer of mine dewater from raw water dam to King of Creation pit		***Pathway:*** Pipeline leak or rupture ***Impact:*** Direct discharge to land, resulting in impacts to ecological health	Native vegetation Surface water bodies	Refer to Section 3.1	C = Minor L = Unlikely **Medium risk**	Y	Condition 1 Condition 6	N/A
Dust suppression activities		***Pathway:*** Dust suppression using water trucks ***Impact:*** Direct discharge to land, resulting in impacts to ecological health	Native vegetation Surface water bodies	N/A	C = Minor L = Possible **Medium risk**	Y	N/A	N/A

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk Assessments* (DWER 2020b).
Note 2: Proposed applicant controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

4. Consultation

Table 6 provides a summary of the consultation undertaken by the department.

Table 6: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website on 24 October 2022.	None received.	N/A
Shire of Laverton advised of proposal on 24 October 2022.	None received.	N/A
Department of Mines, Industry Regulation and Safety (DMIRS) advised of proposal on 24 October 2022	DMIRS responded querying whether Ben Hur mine pit would be assessed in this application as a source of mine dewater.	Through a Request for Further Information dated 7 November 2022, the applicant clarified that the raw water dam would be lined with HDPE, where seepage from the dam was unlikely. As such, the discharge of mine dewater from the Ben Hur to the raw water dam would not be considered a Category 6 prescribed activity (as there is no discharge to the environment) and is not included within the scope of this assessment (refer to Section 2.4). Nevertheless, the applicant had provided monitoring data of groundwater at Ben Hur area, which was used to inform the assessment of the mine dewater quality discharged to the King of Creation pit.
Applicant was provided with draft documents on 13 February 2023.	Applicant responded with comments on 27 February 2023. Refer to Appendix A.	Refer to Appendix A.

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. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020a, *Guideline: Environmental Siting*, Perth, Western Australia.
3. DWER 2020b, *Guideline: Risk Assessments*, 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
General	The applicant commented on the confusion between raw water and mine dewater in the works approval and Decision Report and have provided the following clarification: *Water extracted from the ground is raw water (and is a product).* *If water is pumped into King of Creation it is a waste (and therefore subject to Part V).* *In the works approval the following definitions have been suggested to removed confusion* • *raw water - water that has been abstracted from the environment with the intent for use in processing, dust suppression or other mining purposes.* • *dewatering/mine dewatering - excess water discharged to King of Creation pit.*	The department acknowledged the applicant's concerns regarding the use of the term 'mine dewater' within the context of works approval W6732/2022/1 and this Decision Report. Based on further correspondence on 28 February 2023, the department understands that the water stored in raw water dam is derived from various sources, including mine dewatering (i.e., to allow for mining of ore at Ben Hur mine). Section 2.3 of the Decision Report has been amended to better define the term 'mine dewater' used in the works approval and Decision Report. With this explanation in place, the department does not consider a change in wording or the inclusion of 'raw water' and 'mine dewater' in the Definitions of the works approval to be necessary.
General	The applicant noted that they abstract and use water under their 5C licences under the *Rights in Water and Irrigation Act 1914*, which regulates the abstraction of groundwater from borefields and open pits. While they use water sourced from mine and borefield abstraction, there is generally a preference to use water abstracted from the mine or from adjacent borefields. Hence water abstracted from the mine and borefield are described as raw water (i.e., *water that has been abstracted from the environment with the intent for use in processing, dust suppression and other mining purposes*). At certain locations, the applicant indicated that there can be a local surplus of raw water, either due to excess volumes of raw water generated, pipeline restrictions or other limitations. Such a case would require discharge into an open pit. At this point,	In considering the applicant's comments, the department clarifies the following: 1. Abstraction of groundwater at Ben Hur mine is indeed regulated under a 5C licence under the *Rights and Irrigation Act 1914*. Abstraction from both the Ben Hur mine and borefield would count towards the annual allocations of the 5C licence held by the applicant. 2. An instrument granted under Part V of the EP Act for Category 6 activity regulates the discharge and emission of 'water [that] is extracted and discharged into the environment to allow mining of ore', in accordance with Schedule 1 of the *Environmental Protection Regulations 1987*. 3. In following that definition, the works approval regulates the water that is extracted to allow the mining of ore (i.e., water from Ben Hur mine, not the borefield) and discharged into the environment (i.e., discharge to King of Creation pit, dust suppression). 4. A Category 6 activities is not defined by whether the water has a beneficial

Condition	Summary of applicant's comment	Department's response
	the raw water becomes a waste (as it is discharged into a pit) and therefore becomes mine dewatering under Category 6. The applicant described mine dewatering as '*excess water discharged to King of Creation pit*'.	use or is considered a waste, but instead by its source (i.e., extracted to allow for mining of ore) and fate (i.e., discharged into the environment). 5. Further, the EP Act defines a waste to include '*matter whether liquid, solid, gaseous or radioactive and* whether useful or useless, *which is discharged into the environment; or prescribed to be waste*'. 6. The concluding comment ('mine dewatering is defined as excess water discharged to the King of Creation pit') is only partially correct. Water does not only 'become' mine dewatering when it is transferred from raw water dam to the King of Creation pit. Mine dewater is considered as such from its abstraction at the Ben Hur mine to its discharge to the environment (either at King of Creation pit or dust suppression). 7. The department considers that the mixing of this water with other sources (e.g., borefields) to still be considered mine dewater, with resultant water quality (i.e., post-mixing) being considered in the risk assessment. 8. Abstraction, transfer and use of water abstracted from Ben Hur mine for processing at Garden Well is not regulated as a Category 6 activity as it does not fully meet the definition of Category 6 (i.e., it is not discharged into the environment). As a result of this, the department has considered the applicant's proposed changes to the works approval and Decision Report and amended the conditions and text, where appropriate (detailed below).
General	The applicant commented that dust suppression was a required activity in mining operations which consumes water. If groundwater abstraction from mines was not used to undertake dust suppression, it would need to be supplied from the borefield. Dust suppression is not a discharge of waste and therefore not Category 6.	Please refer to the department's response to the previous comment. Dust suppression involves the discharge of water to the environment. If the water used in dust suppression is abstracted for the purpose of ore mining (i.e., from dewatering at Ben Hur mine), it is considered a Category 6 activity.
Decision Report (Table 3)	The applicant specified that visual inspection of pipeline will only be undertaken when it is in use.	The department has amended the text to reflect this. Note that the works approval was already conditioned with the understanding that the pipeline would only need to be inspected when in use (during time limited operation).

Condition	Summary of applicant's comment	Department's response
Decision Report (Table 4)	The applicant specified that arsenic concentrations detected in the King of Creation pit water and surrounding groundwater monitoring bores were less than half of the livestock water quality guidelines.	The department has amended the text to reflect this. Note that the risk assessment detailed in Table 5 had already considered the relatively low concentrations of arsenic in the water.
Decision Report (Table 5)	The applicant specified that the use of the term 'impacted pit water' is incorrect, as the raw water discharged into the King of Creation pit was considered fresh to brackish.	The department has not addressed this change. The use of the term 'impacted' does not imply a negative effect, but that the pit water had been modified in some manner regardless of its magnitude. In this case, the term 'impacted' refers to the addition of mine dewater from Ben Hur mine into the pit lake.
	The applicant specified that the risk rating for the overtopping of containment infrastructure and mine pit should be low as the likelihood was rare. Consequently, additional regulatory control (specified in condition 6) should be removed. Furthermore, the applicant noted that it was volumetrically impossible to overflow the King of Creation pit from the discharge of mine dewater at the throughput that was proposed.	In reviewing the *Guideline: Risk Assessments* (2020b), the department has retained the likelihood of Unlikely for this exposure pathway due to the controls proposed for the raw water dam. Note that this is the risk rating of the exposure pathway after considering the controls proposed. The risk rating has been amended to low due to an administrative error in the draft Decision Report. Additional regulatory control, in the form of a specified freeboard for raw water dam, was retained as an additional regulatory control. The application of a freeboard for a is considered to be standard practice for containment infrastructure and is consistent with the requirements of licence L8578/2011/1.
	The applicant specified that the risk rating for the vertical infiltration and lateral migration of impacted pit water should be low as the discharge of mine dewater into King of Creation pit would dilute the concentration of potential contaminants of concern in the pit water, leading to even less likely impacts to receptors. In response to the , the applicant commented that the data provided was nearly a year apart and was practically the same.	In reviewing the *Guideline: Risk Assessments* (2020b), the department has retained the consequence and likelihood rating for this exposure pathway. As this prescribed activity has been not undertaken, empirical data to support a more informed risk assessment cannot be undertaken. The monitoring data provided to date is adequate for the department's consideration at this stage, but it is insufficient to identify statistically robust trends to justify a lower risk rating.
	The applicant commented that condition 6 does not relate to the risk of vertical infiltration and lateral migration of impacted pit water.	The department acknowledged this as an administrative error. Condition 7 was meant to relate this exposure pathway and the table has been amended to reflect this correction.
	The applicant removed the exposure pathway for dust suppression of mine dewater from Table 5.	The department considers dust suppression as a Category 6 prescribed activity if it involves the discharge of water abstracted from the Ben Hur mine. As such, the

Condition	Summary of applicant's comment	Department's response
		department retained its assessment of this exposure pathway in Table 5.
Decision Report (Table 6)	The applicant provided proposed changes to the phrasing of the department's response to DMIRS' comments.	The department has considered the applicant's proposed changes and concluded that it was not necessary. The department's response adequately conveys and represents the department's understanding of the matter at the time of the assessment.
Condition 7	The applicant proposed the removal of dust suppression from condition 7.	In reviewing the water monitoring data provided from the Ben Hur mine, the department has decided to remove condition 7. The fresh to brackish water being used for dust suppression may not justify the requirement for an outcomes-based condition. The residual requirements of condition 7 was redundant and could be adequately managed by condition 8. As such, condition 7 was removed from the works approval.
Condition 8 (Table 3)	The applicant proposed changes to the discharge source and description from '*mine dewater from Ben Hur mine pit [via raw water dam]*' to '*excess raw water abstracted from Ben Hur [via raw water dam]*'.	Based on the department's response to the other applicant's comments (see above), no change is required. The wording of the condition is adequate in managing the intended emissions and discharges relevant to Category 6 activities.
Definitions (Table 6)	The applicant proposed to define the terms 'mine dewatering' and 'raw water' in Table 6 of the works approval.	The department has not included definitions for the proposed terms as their meanings have already been clarified in the Decision Report text.

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)					
Application type					
Works approval	☒				
Licence	☐	Relevant works approval number:		None	☐
		Has the works approval been complied with?	Yes ☐ No ☐		
		Has time limited operations under the works approval demonstrated acceptable operations?	Yes ☐ No ☐ N/A ☐		
		Environmental Compliance Report / Critical Containment Infrastructure Report submitted?	Yes ☐ No ☐		
		Date report received:			
Renewal	☐	Current licence number:			
Amendment to works approval	☐	Current works approval number:			
Amendment to licence	☐	Current licence number:			
		Relevant works approval number:		N/A	☐
Registration	☐	Current works approval number:		None	☐
Date application received		2 September 2022			
Applicant and premises details					
Applicant name/s (full legal name/s)		Regis Resources Limited			
Premises name		Duketon Gold Project			
Premises location		Part of mining tenement M38/160			
Local Government Authority		Shire of Laverton			
Application documents					
HPCM file reference number:		DWERDT653927			
Key application documents (additional to application form):		• Ben Hur Raw Water Dam to King of Creation Dewatering – Works Approval Application Supporting Document; • Ben Hur and King of Creation Groundwater Investigation; • Mining Tenement Summary Report (M38/160); • Figure (King of Creation water infrastructure); • Regis Dewatering Pipeline Works Approval; • W6732/2022/1 Request for Further Information (RFI), dated 9 November 2022; and • Works Approval W6732/2022/1 – Response to Request for Information, dated 2 February 2023			

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)

Scope of application/assessment

Summary of proposed activities or changes to existing operations.	***Works approval*** Works approval relates to Category 6: Mine dewatering. Construction of water management infrastructure to enable excess raw water abstracted from the Ben Hur mine to be directed to the King of Creation mine. Works include installation of a 1-km HDPE dewatering pipeline between a raw water dam and the King of Creation mine (in care and maintenance). The dewatering pipeline will be situated along an existing road corridor and placed on a road side bund, with provision to bury the pipeline where required (such as at road crossings). The pipeline will enable up to 500,000 tonnes per annum of mine dewater to be discharged into King of Creation. Mine dewater will be transferred to King of Creation when required, such as when the transfer of raw water to Garden Well processing plant is not possible (i.e., during plant shut-downs or periods of reduced demand for dust suppression).

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)
Category 6: Mine dewatering	500,000 tonnes per annual period	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 ☐ No ☒	N/A
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes ☐ No ☒	N/A
Has the proposal been referred and/or assessed under the EPBC Act?	Yes ☐ No ☒	N/A
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes ☒ No ☐	Mining lease / tenement ☒ Expiry: 26 July 2030 (M38/160)

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)		
Has the applicant obtained all relevant planning approvals?	Yes ☐ No ☐ N/A ☒	N/A
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes ☒ No ☐	**CPS No:** CPS 9614/1
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes ☐ No ☒	N/A.
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes ☒ No ☐	**Application reference No:** 052572 **Licence/permit No:** GWL180893 Amendment to GWL180893 is under assessment.
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes ☒ No ☐	**Name:** Goldfields Groundwater Area **Type:** Proclaimed Groundwater Area **Has Regulatory Services (Water) been consulted?** Yes ☐ No ☒ N/A ☐
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes ☐ No ☒	N/A
Is the Premises subject to any other Acts or subsidiary regulations?	Yes ☒ No ☐	• Mining Act 1978
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes ☐ No ☒	N/A
Is the Premises subject to any EPP requirements?	Yes ☐ No ☒	N/A
Is the Premises a known or suspected contaminated site under the *Contaminated Sites Act 2003*?	Yes ☐ No ☒	N/A