



Department initiated Amendment

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

Works Approval Number	W6585/2021/1
Works Approval Holder	Black Cat (Bulong) Pty Ltd
ACN	620 898 044
File Number	DER2021/000439
Premises	Imperial Majestic Mine Mining tenement M25/350 As defined in Schedule 1
Date of Report	8 February 2022
Decision	Amendment granted

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an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

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1. Decision summary

Works Approval W6585/2021/1 is held by Black Cat (Bulong) Pty Ltd (Works Approval Holder) for the Imperial Majestic Mine (the Premises), located at mining tenement M25/350.

This Amendment Report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during the construction and operation of the Premises. As a result of this assessment, Revised Works Approval W6585/2021/1 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this Amendment Report, the department 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 Amendment summary

On 21 January 2022, the department initiated an amendment to reassess condition 19 of Works Approval W6585/2021/1. The aspect of condition 19 being re-assessed is the requirement for:

“Decant pond upper limit of 50mg/L weak acid dissociable cyanide (WAD) OR tailings storage facility to be netted and fenced to restrict access to birds and wildlife.”

The Works Approval Holder submitted an appeal on 24 December 2021 in relation to the above requirement; the appeal is still pending at this time. DWER has initiated the amendment to conduct further assessment on condition 19 to address the comments raised as part of the appeal.

The Works Approval Holder requests amendment of the condition to reflect their original proposed control, being a target of 50 mg/L, not to exceed 100mg/L. The applicant lodged the appeal based on the points summarised in Table 1.

Table 1 Appeal summary and DWER comments

Appeal	Key appeal points	DWER comment
Appeals Ground 1	Black Cat originally proposed a WAD cyanide target of 50mg/L, with a limit not to be exceeded of 100 mg/L. This was proposed on the basis of what the company could reasonably be expected to achieve noting the type of ore to be processed and the fact that the project is located in a saline groundwater environment east of Kalgoorlie.	The International Cyanide Management Institute (2021) guidance indicate “One of the few numerical guidelines included in the Code is a 50 mg/L WAD cyanide limit for exposure of birds, other wildlife and livestock. This recommended limit is based on evidence that solutions with up to 50 mg/L WAD cyanide are typically non-lethal to wildlife. Operations that restrict access by birds and other wildlife to open waters above this level are typically in full compliance with this Standard of Practice.” The limit was placed to protect birds and wildlife. Additional risk assessment has been undertaken for condition 19. This is discussed further in Section 3.3 – Risk Assessment.
	There are no identified beneficial users or groundwater dependent ecosystems that will be affected by the project.	
	The saline nature of the decant water does not attract wildlife and it was	This has been considered further and is

	considered that there were reasonable grounds to increase WAD cyanide concentration limits above what is adopted under the International Cyanide Management Code which applies a 50 mg/L limit in freshwater environments.	discussed in section 3.3 – Risk Assessment.
	The condition as written does not reflect the rationale provided nor the discussions held with DWER officers.	Imperial Black Cat were provided with a first and second draft decision report and works approval on 12 November 2021 and 6 December 2021 and given opportunity to provide comment. Conditions included as part of draft 2 (which appear in the final document) were accepted by Black Cat and the remaining comment period waived on 9 December 2021.
Appeal Ground 2	Black Cat notes a number of licences and work approvals issued in 2021 for other gold mining operations have not required or set a limit on TSF decant pond WAD cyanide levels. Black Cat considers there is inconsistency in the requirement imposed by Condition 19 compared to these recently approved projects.	DWER conducts site specific risk assessments and places conditions on the Works Approval accordingly. DWER may also implement regulatory controls based on data becoming available regarding best practice. Instruments are now being conditioned with reference to guidance from International Cyanide Management Institute (2021) and where required, this WAD limit is being imposed. Additional risk assessment has been undertaken for condition 19. This is discussed further in Section 3.3 – Risk Assessment.
	The common element of these operations with Black Cat is groundwater quality and the saline nature of decant pond water that is used in gold processing.	The Works Approval Holder has not provided data to demonstrate the salinity of the tailings decant or salinity of the water to be used in gold processing. This is further discussed in Section 3.3 – Risk Assessment

This amendment is limited only to changes to Category 5 activities from the existing Works Approval. No changes to the aspects of the existing Works Approval relating to throughput or Category 6 have been re-assessed.

3. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guideline: Risk assessments* (DWER 2020).

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.

Note that only emissions and pathways relevant to the receptors associated with amendment to condition 19 have been considered in the risk assessment below. See the original Works Approval decision report for the complete risk assessment.

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 Amendment Report are detailed in Table 3 below. Table 2 also details the proposed control measures the Works Approval Holder has proposed to assist in controlling these emissions, where necessary.

Table 2: Works Approval Holder controls

Emission	Sources	Potential pathways	Proposed controls
Tailings and contaminated water – decant pond (metalloids, cyanide)	Discharge and storage of tailings in the TSF	Ingestion by wildlife, birds (decant pond water)	The applicant has proposed a target for WAD of 50 mg/L, not to exceed 100mg/L

3.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020), the Delegated Officer has excluded employees, visitors and contractors of the Works Approval Holder's from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

Table 3 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises (*Guideline: Environmental siting* (DWER 2020)). Note that only the receptors relevant to amendment to condition 19 have been considered.

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

Environmental receptors	Distance from prescribed activity
Birds, wildlife	Within and adjacent to the prescribed premises

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for those emission sources which are proposed to change and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are incomplete they have not been considered further in the risk assessment.

Where the Works Approval Holder 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 Works Approval Holder'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 Works Approval Holder's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 4.

The Revised Works Approval W6585/2021/1 that accompanies this Amendment Report authorises construction and time-limited operations. The conditions in the Revised Works Approval have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

A licence is required following the time-limited operational phase authorised under the works approval to authorise emissions associated with the ongoing operation of the Premises i.e. category 5 activities. A risk assessment for the operational phase has been included in this Amendment Report, however licence conditions will not be finalised until the department assesses the licence application.

Table 4. Risk assessment of potential emissions and discharges from the Premises during time limited operations

Risk Event					Risk rating ¹ C = consequence L = likelihood	Conditions ² of works approval	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Works Approval Holder's proposed controls			
Discharge and storage of tailings in the TSF – decant pond	Tailings and contaminated water – decant pond (metalloids, cyanide)	Ingestion by wildlife, birds (decant pond water)	Wildlife, birds within prescribed premises	Decant pond target of 50 mg/L weak acid dissociable cyanide, not to exceed 100mg/L	C = Moderate L = Possible Medium Risk	Condition 19 (amended) Condition 26 (new)	<p>The applicant has indicated that birds and wildlife will not be at risk due to the high salinity of the decant pond water. No data has been provided to demonstrate the salinity of the tailings decant or salinity of the water to be used in gold processing.</p> <p>The International Cyanide Management Institute (2021) guidance indicates "...It may also be possible for operations to use alternative methods to meet this Standard of Practice. For example, a mine could demonstrate that wildlife would be protected from tailings water exceeding 50mg/L WAD CN because its salinity was sufficiently high to render it unsuitable as a source of drinking water for wildlife".</p> <p>It will therefore be a requirement of time limited operations to collect and report on data regarding salinity of the decant pond. This data will be reviewed upon completion of time limited operations at the licence application stage and used to inform any on-going decant limit.</p> <p>The applicant's original proposed target of 50mg/L, with a maximum allowable upper limit of 100mg/L, will be placed on the works approval for time limited operations.</p>

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

Note 2: Proposed Works Approval Holder's 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 5: Consultation

Consultation method	Comments received	Department response
Works Approval was provided with draft amendment on 3 February 2022	Advised of amendment acceptance and request to waive remaining comment period on 7 February 2022.	N/A

5. Conclusion

Based on the assessment in this Amendment Report, the Delegated Officer has determined that a Revised Works Approval will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

5.1 Summary of amendments

Table 7 provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the Revised Works Approval as part of the amendment process.

Table 6: Summary of works approval amendments

Condition no.	Proposed amendments
19	Modification of condition 19 to reflect works approval holder proposed target “Decant pond weak acid dissociable cyanide (WAD CN) target of 50mg/L and upper limit of 100mg/L” during time limited operations
26	New condition requiring monitoring of decant pond for salinity and WAD CN during time limited operations.

References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
3. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
4. International Cyanide Management Institute 2021, *Guidance for use of the Mining Operations Verification Protocol*