



## Application for Works Approval

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

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<b>Works Approval Number</b>	W6603/2021/1
<b>Applicant</b>	Big Bell Gold Operations Pty Ltd
<b>ACN</b>	090 642 809
<b>File number</b>	DER2021/000500~1
<b>Premises</b>	Big Bell Project - Cue Gold Operations Mining Tenement M20/98 and M20/197 As defined by the premises maps attached to the issued works approval
<b>Date of report</b>	28/02/2022
<b>Decision</b>	Works approval granted

**Alana Kidd**  
**MANAGER RESOURCE INDUSTRIES**

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 W6603/2021/1 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 and overview of premises

On 30 August 2021, the applicant submitted an application for a works approval to the department under section 54 of the *Environmental Protection Act 1986* (EP Act).

The application is to undertake construction works relating to pit dewatering and discharge to land at the premises. The premises is approximately 30 km south-east of Cue.

The premises relates to category 6 only (mine dewatering) and the assessed production / design capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in works approval W6603/2021/1. 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 2020) are outlined in works approval W6603/2021/1.

#### 2.2.1 Proposed Activities

The applicant is proposing to dewater two open pits (Accelerator and Indicator Pits) to enable mining below the current water table. The current water table is at approximately 9.6 to 9.9 metres below ground level (mbgl) at Accelerator and 13.2 to 13.4 mbgl at Indicator. Water will be pumped from Accelerator and Indicator pits dewatering bores into water tanks to be used for dust suppression. Four water tanks at each area, each of 32,000L capacity. If a greater volume of water is required to be stored (i.e. if the abstraction rate is greater than expected), a 30m x 30m x 3m (internal perimeter) turkey's nest will be constructed at each of the Accelerator and Indicator project areas. The volume of each turkeys nest will be 2,700m<sup>3</sup>. Excess water will be pumped to designated discharge locations at the south (Indicator) and north (Accelerator) of the Project area.

Dewatering is expected to occur for a period of approximately four months at Accelerator and six months at Indicator. A total of 193,000 kilolitres (kL) of water is expected to be abstracted from the two pits.

The Accelerator discharge point will be situated approximately 200m north of the Accelerator pit, downstream from an established road drain outlet. The topography is very flat and flow velocities are very slow (<0.1 m/s), therefore the discharged water will likely spread out in a wide shallow plume where it will infiltrate and evaporate. The Indicator discharge point will be situated approximately 400m east of the Indicator pit, in an ephemeral drainage line. Water discharged at this location will follow the natural drainage line south until it disperses into a flood plain. The discharge is expected to have a width of about 27m and a depth of approximately 0.1m within the drainage line.

Up to six small 128kW self-bunded diesel gensets will be utilised at Accelerator and Indicator to service dewatering bores, a crib room and lighting tower. Each genset has a fuel tank capacity of 260L. Diesel will be supplied by a service truck.

The discharge pipeline will be capped and a series of holes will be made in the pipe immediately prior

to the discharge point to diffuse the discharge flow. The flow will be managed to minimise scouring and erosion. The pipelines will be constructed within a 'v drain' to capture any spills.

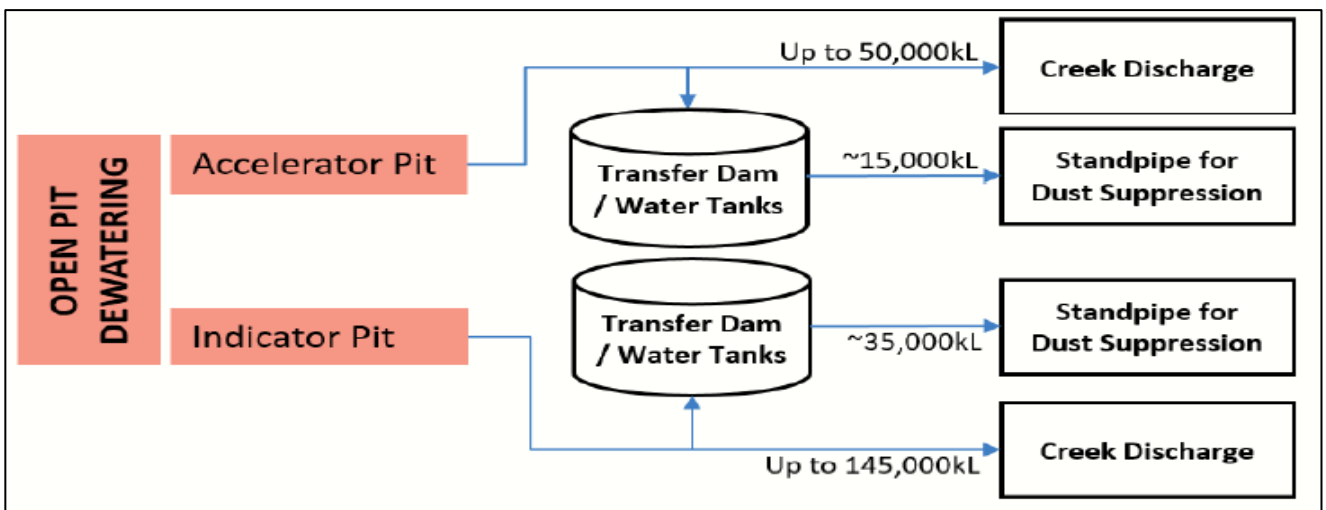
**Pit water chemistry**

Groundwater samples from Accelerator and Indicator pits are shown in Appendix 3.

It is noted that nitrogen and copper exceed ANZG 2018 for freshwater 95% protection in both pits. Nitrogen concentrations are more than 6 times above the 10.6 mg/L trigger value. Arsenic concentration at Accelerator is 1.6 times above ANZG 2018 for freshwater 95% protection.

**Water use priority – Water block model**

Figure 1 shows the conceptual water balance for the Big Bell - Cue Gold Operations. There are only two water uses: creek discharge and dust suppression. The estimated volumes are based on the maximum dewatering requirement for each of the Accelerator and Indicator pits.



**Figure 1: Conceptual water balance**

The proposed location of the new infrastructure is shown in Figure 2.

**2.3 Other approvals**

**2.3.1 Department of Mines, Industry Regulation and Safety (DMIRS)**

A Mining Proposal (MP), registration ID 99691, is currently under assessment. The MP proposes a new satellite operation 14km North-East of the Big Bell project. The new disturbance envelope will include Accelerator and Indicator pits, three waste rock dumps, three ROM pads and associated mine infrastructure. Dewatering and discharge are not mentioned in the MP.

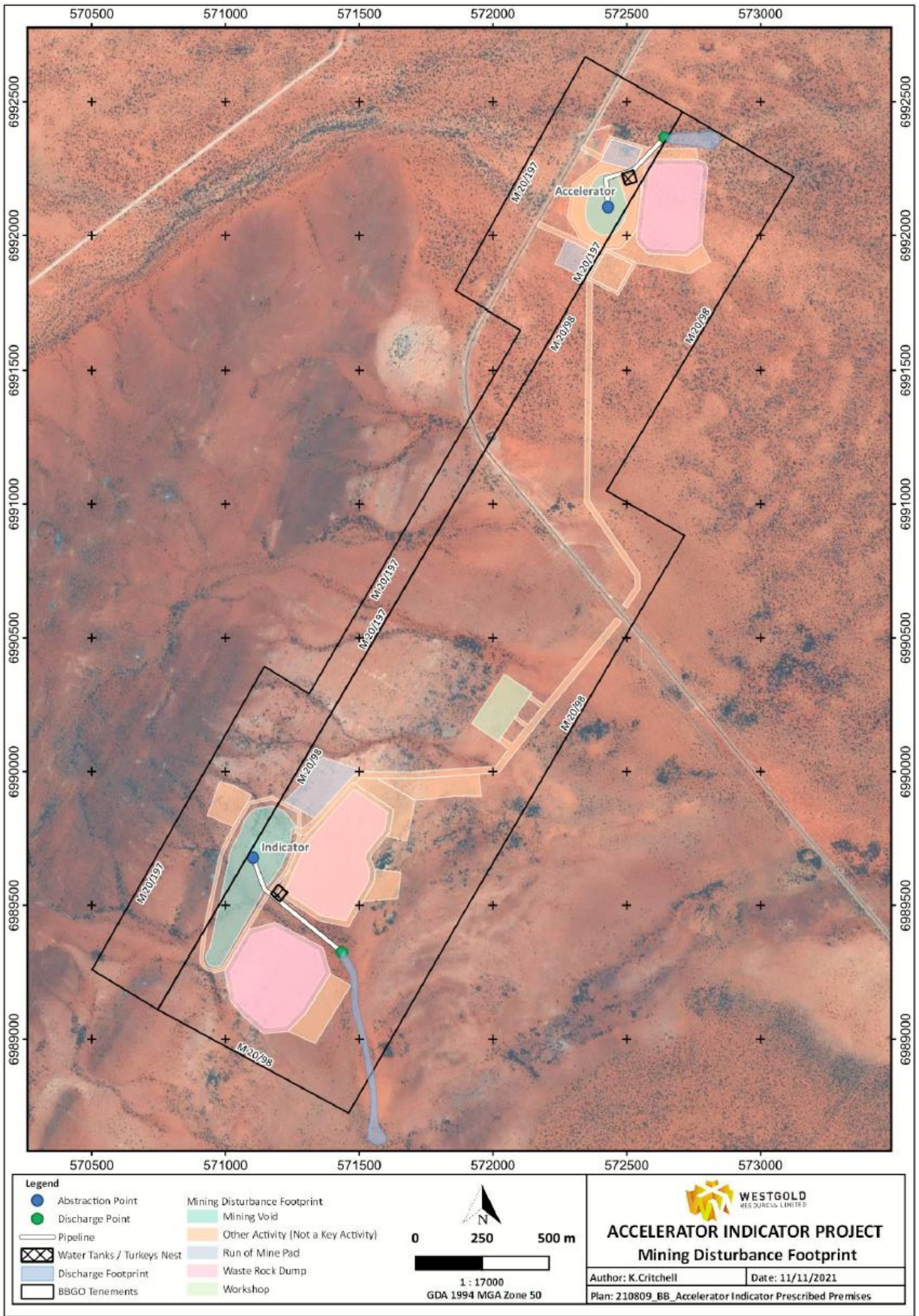
**2.3.2 Rights in Water and Irrigation Act 1914**

The applicant will apply for an amendment to groundwater licence GWL176056 to include groundwater abstraction at M20/98 and M20/197.

Assessment of the 193,000kL take for the project was not assessed as high risk, however impacts as a result of pit placement are not assessed under RIWI.

DWER is liaising with West Gold regarding a recommendation to undertake a study to determine risks to surface water systems, recharge, cumulative impacts and other sensitive receptors.

Approval under the *RiWi Act* is required prior to dewatering activities within the premises.



**Figure 2: Big Bell - Cue Operation boundary and proposed infrastructure.**

### 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.

#### 3.1 Source-pathways and receptors

##### 3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises construction / operation which have been considered in this decision report are detailed in Table 1 below. Table 1 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

**Table 1: Proposed applicant controls**

Emission	Sources	Potential pathways	Proposed controls
<b>Construction</b>			
<i>Dust</i>	<i>earthworks during construction</i>	<i>Air / windborne pathway</i>	<i>Limit activities to minimise dust generation on cleared areas. Delay activities if weather conditions are likely to produce excessive dust. Use water truck for dust suppression as required. Visual monitoring for dust during construction and maintenance activities</i>
<i>Noise</i>	<i>earthworks etc.</i>	<i>Air / windborne pathway</i>	<i>No proposed controls – no receptors</i>
<b>Operation</b>			
<i>Pit brackish water containing elevated concentration of nitrate, cooper and arsenic</i>	<i>Pipeline or storage tank leak/rupture causing discharge to surrounding environment.</i>	<i>Direct discharge</i>	<i>Pipeline infrastructure placed within a v drain to limit movement and to capture any spills or releases. The v-drain will be constructed to allow any uncontrolled releases to flow to the discharge location. Pipeline will be monitored and inspected daily. Monitoring will include visual inspection of pipes, other infrastructure and the vegetation near to the proposed pipeline route once per 12-hour shift.</i>
<i>Pit brackish water containing elevated concentration</i>	<i>Water from Accelerator and Indicator pits</i>	<i>Direct discharge to ephemeral creek lines</i>	<i>Diffuse deposition methods will be used to lower water velocity. The dewatering discharge outlet will have multiple slots/outlets cut into the side of the pipe to allow a diffuse flow from the pipe. Placement of pipeline on rock bed/layer to limit</i>

Emission	Sources	Potential pathways	Proposed controls
<p><i>of nitrate, cooper and arsenic</i></p>			<p><i>velocity and erosion potential.</i></p> <p><i>Bore discharge rate maximised at 9.1L/s as calculated by Total Dynamic Head (TDH).</i></p> <p><i>Daily visual inspection of outlet for scour or erosion.</i></p> <p><i>Continuous monitoring of discharge volumes at the abstraction and discharge locations.</i></p> <p><i>Monthly water sampling at each discharge location of pH, Electrical Conductivity, Total Dissolved Solids, Aluminium, Arsenic, Cadmium, Chromium, Copper, Lead, Manganese, Mercury, Nickel, Selenium, Zinc, Total Recoverable Hydrocarbons, Major cations and anions.</i></p> <p><i>Monthly drone monitoring during discharge to assess the extent of the wetting front against the modelled discharge footprint as provided by Rockwater (2021).</i></p> <p><i>Monthly photo monitoring at designated locations within the downstream wetting front and at representative analogue sites during discharge to identify the introduction of weeds, the presence of algae/algal bloom and to monitor for changes in vegetation condition and health.</i></p>
	<p><i>Mine dewater utilised for onsite dust suppression</i></p>	<p><i>Overspray or runoff from</i></p>	<p><i>Minimise spray drift into vegetation alongside roads by use of dribble bars.</i></p>
<p><i>Hydrocarbons and chemicals</i></p>	<p><i>Storage and use of hydrocarbons and chemicals</i></p>	<p><i>Spills or leaks to ground, overflow during filling, breach of containment, via infiltration through soil and/or runoff.</i></p>	<p><i>Diesel will be stored in a 75,000L self-bunded tank within a designated hardstand area. The main workshop is located at the nearby Cuddingwarra Project, therefore a limited volume of hydrocarbons and chemicals will be stored on site. Field service vehicles will be utilised for daily maintenance and breakdowns at Accelerator and Indicator. Hydrocarbons and chemicals stored within service vehicles will be contained.</i></p> <p><i>Chemicals and hydrocarbons stored onsite will be limited to basic project requirements.</i></p> <p><i>A temporary fuel facility may be positioned at the site. A self-contained tank and cowling system will be installed to contain any uncontrolled release.</i></p> <p><i>All hydrocarbon and chemical storages will be designed and constructed in accordance with Australian Standards AS1940 and AS1692</i></p> <p><i>A temporary workshop may be positioned at the site.</i></p> <p><i>A pontoon-mounted diesel-powered pump and fuel pod will be used for in-pit and production bore dewatering. The diesel fuel line will be housed</i></p>

Emission	Sources	Potential pathways	Proposed controls
			<p><i>inside a system so that fuel is contained if a leak or spill occurs. The bunded fuel line system will include a fuel collection pod at the pump unit on the pontoon. The collection pod will be fitted with an automatic shut-off valve that prevents pooling when a leak occurs.</i></p> <p><i>Hydrocarbon spill kits will be stored in close vicinity to all diesel-powered pumps and generators and refuelling areas.</i></p> <p><i>Pumps and other infrastructure will be regularly inspected each shift and undergo regular maintenance and servicing.</i></p> <p><i>Any spill event will be recorded within the site's incident reporting system.</i></p>

### 3.1.2 Receptors

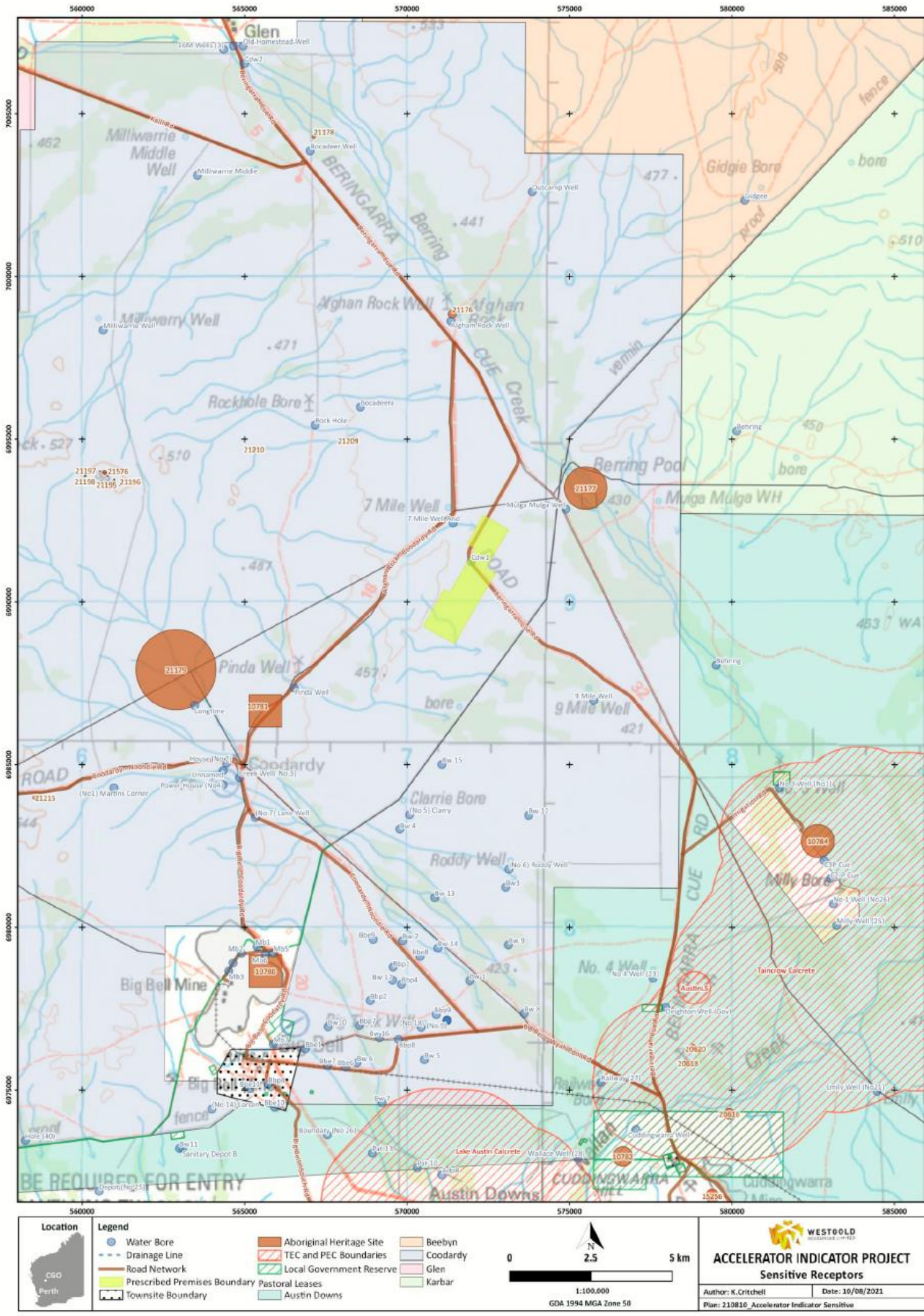
In accordance with the *Guideline: Risk Assessment* (DWER 2020), the Delegated Officer has excluded the applicant's employees, visitors, and contractors from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other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

Table 2 and Figure 3 below provide 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)).



**Table 2: Sensitive human and environmental receptors and distance from prescribed activity**

<b>Human receptors</b>	<b>Distance from prescribed activity</b>
Coodardy Homestead	7.7 km south-west
Heritage Site ID 21177: Behring Pool	2.0 km north-east
Heritage Site ID 21179: Coodardy Pool & Creek	6.6 km west
Heritage Site ID 21210: Pool Paddock Claypan & Spring	7.4 km west
<b>Environmental receptors</b>	<b>Distance from prescribed activity</b>
Two ephemeral water courses and riparian vegetation	Northern and south corner of M20/98
Remaining Native Vegetation	Adjacent to the prescribed activity
Wildlife and cattle	Within and around premises
Underlying groundwater	9.6 to 9.9 mbgl at Accelerator and 13.2 to 13.4 mbgl at Indicator.  Groundwater samples from the pits show total dissolved solids (TDS) between 1,400 and 1,800 which is considered brackish (DWER 2020).



**Figure 3: Distance to sensitive receptors**

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Big Bell Project - Cue Gold Operations

28/02/2022

## 3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for each identified emission source and takes into account potential source-pathway and receptor linkages as identified in Section 3. 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), 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 3.

Works approval W6603/2021/1 that accompanies this decision report authorises construction only. The conditions in the issued works approval, as outlined in Table 3 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

**Table 3: Risk assessment of potential emissions and discharges from the premises during construction and operation**

Risk events					Risk rating <sup>1</sup> C = consequence L = likelihood	Applicant controls sufficient?	Conditions <sup>2</sup> of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
<b>Construction</b>								
Source: Mobile equipment movements. Activities: Construction and installation of water turkeys nest/storage tank and dewatering pipeline(s).	Dust	Air / windborne pathway causing impacts to vegetation	Native vegetation.	Refer to Section 3.1	C = Slight L = Unlikely <b>Low Risk</b>	Y	N/A	Applicant controls are conditioned in the works approval.
<b>Time limited Operation / Operation</b>								
Onsite dust suppression using pit water	Brackish pit water containing elevated concentration of nitrate, cooper and arsenic High sodium adsorption ration (SAR).	Overspray or runoff from ongoing use of mine dewatering effluent for dust suppression operations Sprayed surfaces may become dispersive, causing increased erosion/ sedimentation. Reduced vegetation health or vegetation death. And soil sodicity.	Native vegetation Soil	Refer to Section 3.1	C = Slight L = Unlikely <b>Low Risk</b>	Y	N/A	Applicant controls are conditioned in the works approval.
Discharge of pit water to creek lines	Brackish pit water	Direct discharge Reduced	Ephemeral creeks	Refer to Section 3.3	C = Moderate	N	<b>Condition 1</b>	The applicant only proposed monitoring.

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Risk events					Risk rating <sup>1</sup> C = consequence L = likelihood	Applicant controls sufficient?	Conditions <sup>2</sup> of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
	containing elevated concentration of nitrate, cooper and arsenic	vegetation health or vegetation death. Reduced local fauna health. Increased metal, salt, nutrient and solid loads into the environment. Increased erosion (sedimentation and scouring within ephemeral creek lines). Formation of algal blooms (containing high concentrations of algal toxins).	Native vegetation Wildlife		L = Possible <b>Medium Risk</b>		<b>Condition 8</b> <b>Condition 9</b> <b>Condition 10</b> <b>Condition 11</b> <b>Condition 12</b> <b>Condition 13</b> <b>Condition 14</b>	No controls or mitigation actions were provided to minimise impacts to vegetation, soil stability and algal blooming is detected.  The new conditions include:  Volumetric flow rate limit, energy diffusion at discharge point and a infrastructure to reduce sedimentation and scouring within ephemeral creek.  Monitoring of water quality of receiving environment.  Notification and action requirements to manage impact of dewatering footprint.
Pipeline or storage tank leak/rupture causing discharge to surrounding environment.	Brackish pit water containing elevated concentration of nitrate, cooper and arsenic	Direct discharge Reduced vegetation health or vegetation death. Reduced local fauna health. Increased metal,	Native vegetation. Surrounding ecosystem. Local fauna. Ephemeral creek lines.	Refer to Section 3.1	C = Minor L = Unlikely <b>Medium Risk</b>	Y	<b>Condition 1</b> <b>Condition 6</b>	Applicant controls are conditioned in the works approval.

Risk events					Risk rating <sup>1</sup> C = consequence L = likelihood	Applicant controls sufficient?	Conditions <sup>2</sup> of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
		salt, nutrient and solid loads into the environment.						
Mobile equipment maintenance and servicing activities. Refueling Storage and use of hydrocarbons and chemicals.	Hydrocarbons and chemicals	Spills or leaks to ground, overflow during filling, breach of containment Infiltration through soil and/or runoff. Reduced quality or contamination of soil, sediment, and surface water. Reduced vegetation health.	Soil contamination Ephemeral creek lines. Vegetation	Refer to Section 3.1	C = Minor L = Possible <b>Medium Risk</b>	Y	<b><u>Condition 1</u></b>	Applicant controls are conditioned in the works approval.

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

Note 2: Proposed applicant controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

### 3.3 Detailed risk assessment pit water discharge to ground

#### 3.3.1 Determining the risk of soil structure degradation caused by irrigation water quality

Water samples from Indicator and Accelerator pits were analysed in October 2020. Based on the laboratory results (Appendix 3) it was possible to calculate the sodium absorption rates (SAR) for the two discharge points and use those to predict the impact to soil stability.

SAR is calculated using the formula:

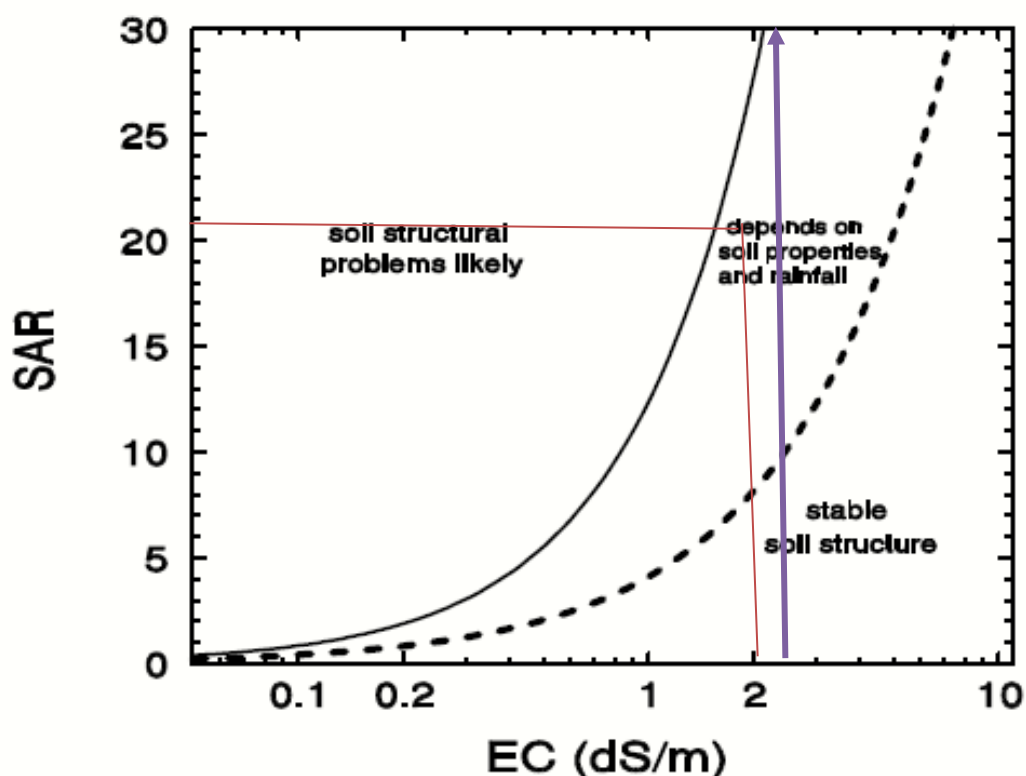
$$SAR = \frac{Na^+}{\sqrt{\frac{Ca^{2+} + Mg^{2+}}{2}}}$$

SAR for Accelerator and Indicator pit water are 53 mmole/L and 21 mmole/L respectively.

To evaluate the quality of the irrigation water by superimposing the electrical conductivity (EC) and SAR values on Figure 4, to see if it will affect soil. EC was calculated using the formula:

$$EC \text{ (dS/m)} \times 670 = \text{TDS (mg/L)}$$

The EC calculated for Accelerator and Indicator pit water are 2.68 dS/m and 2.08 dS/m, respectively.



**Figure 4: Relationship between SAR and EC of irrigation water for prediction of soil structural stability (ANZECC, 2000). The red line represents Indicator pit water and the purple arrow represents Accelerator.**

Based on the diagram above, it is expected that the ongoing discharge of the dewatering effluent to land could destabilise the underlying soil structure, causing soils to become dispersive and allowing fine particulates to be eroded and transported in surface flows.

To manage the risk of soil erosion, the following conditions have been added to the works approval:

- Use of rock bunds or similar structures to slow the rate of water flow and to trap suspended solids from runoff, from the discharge area; and
- Mixing powdered gypsum or calcium carbonate with the dewatering effluent before discharge to lower its SAR value, so that the structure of soil in the discharge area is not destabilised.

### 3.3.2 Potential impacts on environmental receptors

Environmental receptors for surface water drainage systems typically include:

- Organisms in the hyporheic zone beneath the drainage channel (i.e. stygofauna)
- Livestock and wildlife that uses the water as a drinking water source and
- Riparian vegetation and associated soil fauna.

In the case of the ephemeral drainage system within the prescribed premises, it is unlikely that stygofauna are present beneath sediments in the ephemeral drainage, this is considered to be unlikely due to the large depth of the water table in the area. Consequently, the most significant receptors for the discharge water are considered to be livestock and wildlife drinking water sources, and vegetation.

The water quality data for both pits indicate that concentrations of all of the inorganic chemical parameters that were analysed are below levels of direct concern for livestock and wildlife water use. However, the elevated nitrate concentrations in groundwater can stimulate the formation of algal blooms that could contain high concentrations of algal toxins such as microcystin.

To minimise the risk of animal ingestion of these toxins, the following conditions were added to the works approval:

- weeds management during the period when dewatering discharge takes place;
- erosion impacts to be assessed on ground; and
- given the short duration of discharge, the lag in procurement and analysis of remote sensing data may mean that vegetation impacts are not detected until after the event. Therefore, monthly on-ground assessment of vegetation in place of remote sensing is required.

## 4. Consultation

Table 4 provides a summary of the consultation undertaken by the department.

**Table 4: Consultation**

Consultation method	Comments received	Department response
Application advertised on the department's website on 27 October 2021	None received	N/A
Shire of Cue advised of proposal on 27 October 2021	None received	N/A
Department of Mines, Industry Regulation and Safety (DMIRS) advised of proposal 27 October 2021	DMIRS replied on 10/11/2021 advising that a mining proposal for Accelerator and Indicator is under assessment (ID 99691).	N/A



Coodardy Station advised of proposal on 27 October 2021	Coodardy Station replied on 30 November 2021. Refer to Appendix 4.	Refer to Appendix 4.
Applicant was provided with draft documents on 3 February 2022	Refer to Appendix 1	Refer to Appendix 1

## 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. ANZECC, 2000. Australian and New Zealand Guidelines for Fresh and Marine Water Quality Volume 1. National Water Quality Management Strategy, Paper No. 4. The document is available from web site <https://www.waterquality.gov.au/media/57>.
2. ANZG 2018. Australian and New Zealand Governments and Australian state and territory governments. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Canberra. <http://waterquality.gov.au/anz-guidelines>
3. Department of Environment Regulation (DER) 2016, *Guidance Statement: Environmental Siting*, Perth, Western Australia.
4. DER 2017, *Guidance Statement: Risk Assessments*, Perth, Western Australia.
5. DER 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
6. Westgold Resources Ltd 2021. Works approval application supporting documentation Accelerator / Indicator project, dated August 2021.
7. Correspondence dated 11 November 2021 from Westgold Resources, providing response to further information requested by DWER on 9 November 2021, including following attachments:
  - Attachment 1: Location of Water Tanks / Turkeys Nest
  - Attachment 2: Laboratory Report PE147190 (Accelerator and Indicator)
  - Attachment 3: Spill Response Procedure
  - Attachment 4: Conceptual Water Balance
8. DWER, *Internal Advice – Contaminated Sites*. Internal reference A1901019

## Appendix 1: Summary of applicant's comments on risk assessment and draft conditions

Condition	Summary of applicant's comment	Department's response
Category Table	Administrative error	Amended
Condition 1 Table 1	It is requested that condition "Flooding zone fenced off to prevent ingress of fauna" is removed from this works approval. BBGO understands that this condition was added to W6603 to minimise the risk of fauna ingestion of algal toxins. BBGO requests that the detection of algal bloom is instead included under Condition 13 (Specified Actions), requiring BBGO to reduce the discharge regime to 50% if an algal bloom is detected. Based on a maximum depth of discharge of 0.1m, a high evaporation rate, no nearby wetlands, and a relatively short timeframe of discharge, BBGO considers that there is a low risk that an algal bloom results from discharge activities. Additionally, the controls for weeds management, erosion and vegetation monitoring will mitigate against the creation of algal bloom. Fencing of the flooding zone will create further disturbance and erosion, especially in areas where the fence would interrupt natural surface flows.	Presence of algal bloom have been included in Condition 13. Therefore, fence requirement has been removed from Table 1.
Conditions 4 to 8	Time Limited Operations Phase  As discussed in the meeting between WGX and DWER on 31 January 2022, BBGO would like the option to add a time limited operations phase in the works approval to allow activities to continue while the project is transitioned into a licensed operation.	Time limited Operation conditions included in the works approval.
Condition 15 (a)	Administrative error	Amended

## Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)		
<b>Application type</b>		
Works approval	<input checked="" type="checkbox"/>	
Date application received	30/08/2021	
<b>Applicant and Premises details</b>		
Applicant name/s (full legal name/s)	Big Bell Gold Operations Pty Ltd	
Premises name	Cue Gold Operations – Big Bell Project	
Premises location	Mining Tenements: M20/98, M20/197	
Local Government Authority	Shire of Cue	
<b>Application documents</b>		
HPCM file reference number:	DWERDT497656	
Key application documents (additional to application form):	Supporting documents – mine dewatering and discharge	
<b>Scope of application/assessment</b>		
Summary of proposed activities or changes to existing operations.	This application is for the abstraction of groundwater from the proposed Accelerator and Indicator pits and discharge to land within the proposed premises boundary.	
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: premises on which water is extracted and discharged into the environment to allow mining of ore.	193,000 tonnes per annual period	N/A
<b>Legislative context and other approvals</b>		
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 <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Ministerial statement No: EPA Report No:
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Reference No: IBSA-2021-0031

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

Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Mining tenement <input checked="" type="checkbox"/> Expiry: Feb/2030
Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Premises within mining tenement
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	CPS No: 9228/1 Valid until 2026
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Licence GWL 176056(4) dewatering from Accelerator and Indicator pits are not included in the licence. Applicant will require an amendment to the GWL
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Name: East Murchison Type: Proclaimed Groundwater Area Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Regional office: Mid-West Gascoyne
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Is the Premises subject to any other Acts or subsidiary regulations (e.g. <i>Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx</i> )	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<i>Mining Act</i>
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i> ?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A

### Appendix 3: Pit water quality dated 23 October 2020

Parameter	Accelerator	Indicator
pH	7.8	7.6
TDS (mg/L)	1800	1400
Chloride (mg/L)	790	570
Sulphate (mg/L)	160	100
Fluoride (mg/L)	1.0	0.4
Nitrate as NO <sub>3</sub> (mg/L)	70	85
Calcium (mg/L)	92	120
Magnesium (mg/L)	47	80
Sodium (mg/L)	450	210
Potassium (mg/L)	11	8.9
Aluminium (mg/L)	<0.005	0.005
Arsenic (mg/L)	0.039	0.012
Chromium (mg/L)	<0.001	0.001
Cobalt (mg/L)	<0.001	<0.001
Copper (mg/L)	0.002	0.002
Manganese (mg/L)	0.006	0.013
Nickel (mg/L)	<0.001	0.001
Selenium (mg/L)	0.004	0.003

## Appendix 4: Coodardy Station comments on W6603/2021/1

Issue	DWER comments
Water abstraction, bore depth	DWER Water licensing will assess as part of the groundwater licensing process - RIWI Act
Sensitive receptors	Assessed under this works approval – item 3.3
Increased salinity levels	Assessment of hydrogeological reports submitted to support water licence application. Water licence conditions to monitor water quality in production and monitoring bores.
Excess clearing	The applicant has a clearing permit (ID 9228/1) for tenements M20/98 and M20/197. Clearing must only occur within the permit area.
Rehabilitation; both as to timing and the extent of rehabilitation	In abstraction bores – RIWI Act In water discharge – Part V licence (EP Act) Assessment of hydrogeological reports submitted to support water licence application. Water licence conditions to monitor water quality in production and monitoring bores.
Time and extent of the project	Considered as part of the assessment process.
Stakeholder liaison	Considered as part of the assessment process.
Discharge quality and quantity (from dewatering associated with mining)	Assessed under this works approval – item 3.3
Dust and noise emissions, hydrocarbons spills	Assessed under this works approval – item 3.2
Impacts to vegetation	Assessed under this works approval – item 3.3