

# **Works Approval**

Works approval number W2960/2025/1

Works approval holder Cygnet Gold Pty Ltd

**ACN** 660 841 252

Level 26, 140 St Georges Terrace, Perth WA, 6000 Registered business address

**DWER file number** INS-0002960

**Duration** 24/10/2025 to 23/10/2028

Date of issue 24/10/2025

Golden Pig Gold Mine **Premises details** 

Southern Cross

Legal description -

Within mining tenements M77/109 (under agreement with Barto Gold), M77/90, M77/1016, M77/525,

M77/552

Prescribed premises category description (Schedule 1, Environmental Protection Regulations 1987)	Assessed production capacity
Category 6: Mine dewatering	1,400,000 tonnes per annual period.

This works approval is granted to the works approval holder, subject to the attached conditions, on 24 October 2025, by:

## MANAGER, RESOURCE INDUSTRIES STATEWIDE DELIVERY (ENVIRONMENTAL REGULATION)

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

## Works approval history

Date	Reference number	Summary of changes
24/10/2025	W2960/2025/1	Works approval granted.

## Interpretation

In this works approval:

- (a) the words 'including', 'includes' and 'include' in conditions mean "including but not limited to", and similar, as appropriate;
- (b) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning;
- (c) where tables are used in a condition, each row in a table constitutes a separate condition;
- (d) any reference to an Australian or other standard, guideline, or code of practice in this works approval:
  - (i) if dated, refers to that particular version; and
  - (ii) if not dated, refers to the latest version and therefore may be subject to change over time;
- (e) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act; and
- (f) unless specified otherwise, all definitions are in accordance with the EP Act.

**NOTE:** This works approval requires specific conditions to be met but does not provide any implied authorisation for other emissions, discharges, or activities not specified in this works approval.

## Works approval conditions

The works approval holder must ensure that the following conditions are complied with:

### **Construction phase**

### Infrastructure and equipment

- **1.** The works approval holder must:
  - (a) construct the infrastructure;
  - (b) in accordance with the corresponding construction requirements;
  - (c) at the corresponding infrastructure location; and

as set out in Table 1: Design and construction requirements.

**Table 1: Design and construction requirements** 

	Infrastructure	Design and construction requirements	Infrastructure location
1.	Dewatering pipeline, pump and bunding	<ul> <li>Pipeline components</li> <li>Dewatering pump to be installed at the Golden Pig Mine underground portal/entry.</li> <li>Approximately 2.5 km of High-Density Polyethylene (HDPE) dewater pipeline constructed within a 6 m wide buffer zone.</li> <li>Secondary containment (bunding) adequate to contain any spill for a period equal to the time between routine inspections.</li> <li>Leak detection to be installed on all pipelines and pumping infrastructure.</li> <li>The pipeline is to be fitted with isolation valves, flow metres and telemetry.</li> <li>Rock rip rap adequate to slow surface water flows and prevent erosion.</li> <li>Dust controls</li> <li>Dust suppression measures using water sprays and other means are to be used if: <ul> <li>High levels of dust are observed.</li> <li>Strong winds and dry conditions make dust generation likely; or</li> <li>Complaints about dust have been received.</li> </ul> </li> <li>Noise controls</li> <li>Vehicles to be fitted with flashing lights/</li> </ul>	Pipeline with bunding and dewatering pump is to be constructed within the prescribed premises boundary as shown in Schedule 1, Figure 1.
		broadband alarms.	

#### **Ecological health assessment of Lake Koorkoordine**

- 2. The works approval holder must undertake the following baseline monitoring prior to the commencement of time-limited operations and at intervals of 12 months or as specified in Schedule 2:
  - a) Monitoring of water quality of water to be discharged;
  - b) Monitoring of surface water quality if water is present, and metal/metalloids in sediments. Monitoring must be carried out at sufficient level of detection to allow comparison with the marine and waters and sediment default values in the current ANZECC/ARMCANZ Guidelines for Fresh and Marine Water Quality;
  - c) Monitoring of the receiving surface sediment for scouring or erosion of the sediments as per Schedule 2, Table 8;
  - d) Monitoring of aquatic biota (algae, invertebrates (including resting stages)) at the discharge site and at least one control site as per Schedule 2, Table 9; and
  - e) Monitoring of riparian vegetation health. The works approval holder must prepare and conduct a vegetation monitoring program as specified in Schedule 2, Table 10 of this works approval, at the monitoring locations and frequency specified.
- 3. The works approval holder must ensure that the monitoring as required by condition 2 meets the following:
  - (a) Monitoring of aquatic biota (algae, invertebrates (including resting stages)) as required by condition 2 (d) is undertaken by a suitably qualified aquatic scientist experienced in biological sampling from salt lakes
  - (b) monitoring is at the Lake Koorkoordine discharge site and at least two further monitoring points.
  - (c) the ecological components monitored must reflect the lake conditions at the time of sampling (i.e. whether wet or dry).

#### **Compliance reporting**

- **4.** The works approval holder must within 30 calendar days of an item of infrastructure required by condition 1 being constructed:
  - (a) undertake an audit of their compliance with the requirements of condition 1;
  - (b) prepare and submit to the CEO an Environmental Compliance Report on that compliance.
- **5.** The Environmental Compliance Report required by condition 4, must include as a minimum the following:
  - (a) certification by suitably qualified civil or structural engineer that the items of infrastructure or component(s) thereof, as specified in condition 1, have been constructed in accordance with the relevant requirements specified in condition 1;
  - (b) an ecological health assessment of specified control sites along the length of the creek and around the perimeter of Lake Koorkoordine as per the minimum requirements in Condition 2 and Schedule 2;
  - (c) as constructed plans and a detailed site plan for each item of infrastructure or component of infrastructure specified in condition 1; and

(d) be signed by a person authorised to represent the works approval holder and contains the printed name and position of that person.

#### Time limited operations phase

#### Commencement and duration

- 6. The works approval holder may only commence time limited operations for an item of infrastructure identified in condition 8 where the Environmental Compliance Report as required by condition 4 has been submitted by the works approval holder for that item of infrastructure.
- **7.** The works approval holder may conduct time limited operations for an item of infrastructure specified in condition 1:
  - (a) for a period not exceeding 180 days from the day the works approval holder meets the requirements of condition 4 for that item of infrastructure; or
  - (b) until such time as a licence for that item of infrastructure is granted in accordance with Part V of the Environmental Protection Act 1986, if one is granted before the end of the period specified in condition 7(a).

#### Time limited operations requirements and emission limits

8. During time limited operations, the works approval holder must ensure that the premises infrastructure and equipment listed in Table 2 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirement set out in Table 2.

Table 2: Infrastructure and equipment requirements during time limited operations

	Infrastructure	Operational requirement	Infrastructure location
1.	Dewatering pipeline	<ul> <li>All pipelines containing mine dewater to be provided with secondary containment (bunding) sufficient to contain any spill for a period equal to the time between routine inspections.</li> </ul>	Pipeline infrastructure located within the Prescribed
		<ul> <li>Pipeline operation will be monitored by telemetry (where installed) and inspected regularly and as required.</li> </ul>	Premises boundary as illustrated in Schedule 1,
		Flow meters to be used on dewatering pipelines.	Figure 1.
		<ul> <li>Scheduled inspections of infrastructure are to occur on a regular basis during active pumping.</li> </ul>	
		<ul> <li>Initial discharge rates are to be kept low to prevent mobilisation of salts across the receiving environment.</li> </ul>	
		<ul> <li>Discharge rates are to be reduced during rainfall events.</li> </ul>	
		<ul> <li>Mine dewater may not enter the surrounding vegetation once discharged from the designated discharge location.</li> </ul>	

**9.** During time limited operations, the works approval holder must ensure that the emissions specified in Table 3 are discharged only from the corresponding discharge points and only at the corresponding discharge point locations.

#### Table 3: Authorised discharge and emissions

Emission	Discharge point	Discharge point location	Exclusions/Limitations/Requirements
Mine dewater from Golden Pig Mine	Creek which flows into Lake Koorkoordine.	Schedule 1, Figure 1.	Must be discharged from the mine void to Lake Koorkoordine via the discharge point in a manner that avoids inundating the shoreline at Lake Koorkoordine, with the pipeline extending 20 m from the shoreline and avoids scouring of the surface sediments of Lake Koorkoordine. The ramp up of discharge must include monitoring for downstream impacts such as erosion.  The pattern of discharge from commencement of TLO must be  20Ls for commissioning, likely 1-2 weeks followed by,  1 week at 30Ls followed by,  operational discharge of 40Ls.

### Monitoring during time limited operations

**10.** The works approval holder must monitor discharges during time limited operations in accordance with Table 4 and record the results of all monitoring activity.

Table 4: Discharge and emissions monitoring

Monitoring location	Parameter	Frequency
Water draw point from the Golden Pig Mine and the Lake Koorkoordine	Net acidity (as as CaCO <sub>3</sub> )  Net acidity = total acidity (in units of mg/L as CaCO <sub>3</sub> ) – total alkalinity (in units of mg/L as CaCO <sub>3</sub> )	Weekly
monitoring points 1 – 3, as per Schedule 1, Figure 2.	Metals (Al, As, Bi, Cd, Co, Cr, Cu, F, Fe, Hg, Mn, Ni, Pb, Se, Zn)	Quarterly
	Major ions (Ca, Cl, K, Mg, Na, CaCO3 (bicarbonate alkalinity, carbonate, hydroxide alkalinity), SO4, SiO2)	
	Nutrients (Nitrate and Nitrite)	
	pH, Electrical conductivity, Total Dissolved Solids, Total Suspended Solids	Quarterly
	Abstraction volumes	Monthly
	Flow meter readings	
	Standing water levels	

Monitoring location	Parameter	Frequency
Discharge point and Lake Koorkoordine as per Schedule 1, Figure 1.	Flow meter readings	Monthly
Lake Koorkoordine		

- **11.** Subject to conditions 12 and 13, the works approval holder must submit to the CEO a written report within 60 days of an exceedance where emissions:
  - (a) from the discharge point listed in Table 5;
  - (b) for the corresponding parameter;
  - (c) exceed the corresponding trigger value,

when monitored in accordance with condition 10.

Table 5: Trigger levels for water quality monitoring parameters

Authorised discharge point	Contaminant	Trigger values
	Net acidity (as CaCO <sub>3</sub> )	-8 mg/L
	Arsenic	4.5 μg/L
	Bismuth	0.7 μg/L
	Cadmium	0.7 μg/L
	Cobalt	1.0 µg/L
	Chromium (VI)	4.4 µg/L
Creek which flows into Lake Koorkoordine as per	Copper	8.0 µg/L
Schedule 1, Figure 1.	Mercury	0.1 μg/L
	Manganese	80 µg/L
_	Nickel	23 µg/L (80 <sup>th</sup> percentile criterion)
	Lead	4.4 μg/L
	Selenium	3.0 µg/L
	Zinc	8.0 µg/L

12. The works approval holder must, in the event of a parameter in condition 11 exceeding the corresponding trigger values specified in that condition, undertake the management action that corresponds with the relevant parameters and

corresponding monitoring locations within the corresponding timeframe as specified in Table 6.

Table 6: Management actions required in the event of trigger value exceedance

Monitoring location	Parameter	Management action	Timeframe
Water draw point from Golden Pig Mine and Lake Koorkoordine as per Schedule 1, Figure 2.	Net acidity (as CaCO <sub>3</sub> )	Lime-treatment of discharge water to reduce net acidity (as CaCO <sub>3</sub> ) to below -8 mg/L.  Prepare and implement a plan for the management and reduction of parameters to below trigger values.	Within 60 days of exceedance.
	Arsenic	Prepare and implement a plan for the management and reduction of	
	Bismuth	parameters to below trigger values.	
	Cadmium		
	Cobalt		
	Chromium (VI)		
	Copper		
	Mercury		
	Manganese		
	Nickel		
	Lead		
	Selenium		
	Zinc		

- **13.** The works approval holder must include the following information in the report referred to in condition 12 in relation to any exceedances of any of the trigger values identified in that condition:
  - (a) the nature, volume, and characteristics of the emissions exceedance;
  - (b) the time and date when the exceedance occurred;
  - (c) whether any environmental impact occurred as a result of the exceedance and, if so, what that impact was and where the impact occurred;
  - (d) the details of the management action taken pursuant with condition 12 in response to the exceedance;
  - (e) the details and result of any investigation undertaken into the cause of the exceedance; and
  - (f) the details of any action or specified measures that have been taken, or will be taken, to prevent the exceedance occurring again and for the purpose of minimising the likelihood of pollution or environmental harm.

#### **Compliance reporting**

- 14. The works approval holder must submit to the CEO an Environmental Compliance Report on the time limited operations within 60 calendar days of the completion date of time limited operations or 30 calendar days before the expiration date of the works approval, whichever is the sooner.
- **15.** The works approval holder must ensure the report required by condition 11 includes the following:
  - (a) a summary of the time limited operations, including timeframes and amount of mine dewatering water discharged.
  - (b) a summary of discharge monitoring obtained during time limited operations under condition 10.
  - (c) a summary of ecological health assessment obtained under condition 2.
  - (d) a summary of the environmental performance of all infrastructure as constructed or installed (as applicable).
  - (e) an internal audit against vegetation health monitoring procedures.
  - (f) a review of performance and compliance against the conditions of the works approval; and
  - (g) where conditions have not been met, measures proposed to address compliance, together with timeframes for implementing the proposed measures.

### **Records and reporting (general)**

- 16. The works approval holder must record the following information in relation to complaints received by the works approval holder (whether received directly from a complainant or forwarded to them by the Department or another party) about any alleged emissions from the premises:
  - (a) the name and contact details of the complainant, (if provided);
  - (b) the time and date of the complaint;
  - (c) the complete details of the complaint and any other concerns or other issues raised; and
  - (d) the complete details and dates of any action taken by the works approval holder to investigate or respond to any complaint.
- **17.** The works approval holder must maintain accurate and auditable books including the following records, information, reports, and data required by this works approval:
  - (a) the works conducted in accordance with condition 1;
  - (b) any maintenance of infrastructure that is performed in the course of complying with condition 8;
  - (c) monitoring programmes undertaken in accordance with condition 14; and
  - (d) complaints received under condition 16.
- **18.** The books specified under condition 17 must:
  - (a) be legible;
  - (b) if amended, be amended in such a way that the original version(s) and any subsequent amendments remain legible and are capable of retrieval;

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- (c) be retained by the works approval holder for the duration of the works approval; and
- (d) be available to be produced to an inspector or the CEO as required.

## **Definitions**

In this works approval, the terms in Table 5 have the meanings defined.

**Table 7: Definitions** 

Term	Definition	
books	has the same meaning given to that term under the EP Act.	
CEO	means Chief Executive Officer.	
	CEO for the purposes of notification means:	
	Director General Department administering the <i>Environmental Protection Act</i> 1986 Locked Bag 10 Joondalup DC WA 6919	
	info@dwer.wa.gov.au	
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V Division 3 of the EP Act.	
discharge	has the same meaning given to that term under the EP Act.	
emission	has the same meaning given to that term under the EP Act.	
Environmental Compliance Report	means a report to satisfy the CEO that the conditioned infrastructure has been constructed in accordance with the works approval.	
EP Act	Environmental Protection Act 1986 (WA).	
EP Regulations	Environmental Protection Regulations 1987 (WA).	
Level 1 vegetation survey	A Level 1 survey consists of a desktop study and reconnaissance survey.	
premises	the premises to which this licence applies, as specified at the front of this licence and as shown on the premises map (Figure 1) in Schedule 1 to this works approval.	
prescribed premises	has the same meaning given to that term under the EP Act.	
suitably qualified	means a person who:	
aquatic scientist	(a) holds Bachelor of Aquatic Science degree or a related field; and	

Term	Definition
	<ul> <li>(b) has a minimum of five years of experience working in the field of aquatic science; and</li> <li>(c) has demonstrated competence in the design and implementation of environment monitoring programs for aquatic systems, including biota, water quality and sediment chemistry indicators; and</li> <li>(d) is employed by an independent third party external to the Works Approval Holder's business;</li> <li>or is otherwise approved in writing by the CEO to act in this capacity.</li> </ul>
suitably qualified civil	means a person who:
or structural engineer	(a) holds a Bachelor of Engineering degree recognised by Engineers Australia; and
	(b) has a minimum of five years of experience working in a supervisory role in civil or structural engineering; and
	(c) is employed by an independent third party external to the Works Approval Holder's business;
	or is otherwise approved in writing by the CEO to act in this capacity.
suitably qualified environmental	means a person who:
scientist/ botanist	<ul> <li>(e) holds Bachelor of Science degree in environmental science or botany or a related field; and</li> <li>(f) has a minimum of five years of experience working in the field of vegetation assessment; and</li> <li>(g) has demonstrated competence in the design and implementation of environment monitoring programs for assessing health of vegetation; and</li> <li>(h) is employed by an independent third party external to the Works Approval Holder's business;</li> </ul>
	or is otherwise approved in writing by the CEO to act in this capacity.
time limited operations	refers to the operation of the infrastructure and equipment identified under this works approval that is authorised for that purpose, subject to the relevant conditions.
works approval	refers to this document, which evidences the grant of the works approval by the CEO under section 54 of the EP Act, subject to the conditions.
works approval holder	refers to the occupier of the premises being the person to whom this works approval has been granted, as specified at the front of this works approval.

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### **END OF CONDITIONS**

## Schedule 1: Maps

## **Premises map**

The boundary of the prescribed premises is shown in the map below (Figure 1).

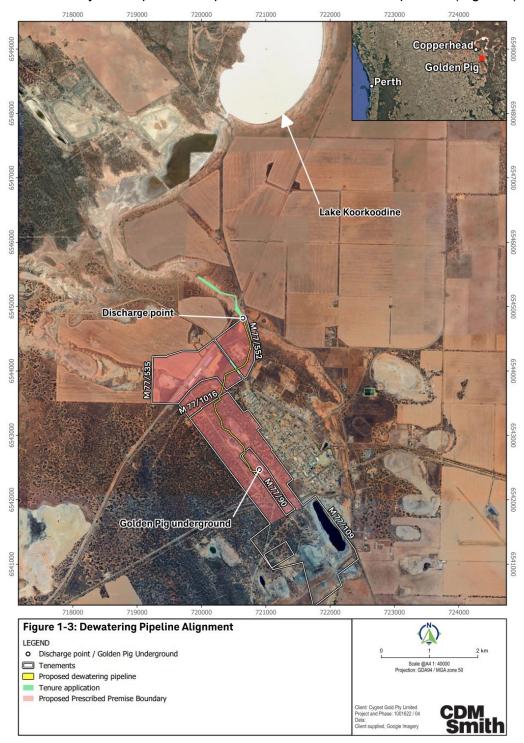


Figure 1: Map of the boundary of the prescribed premises

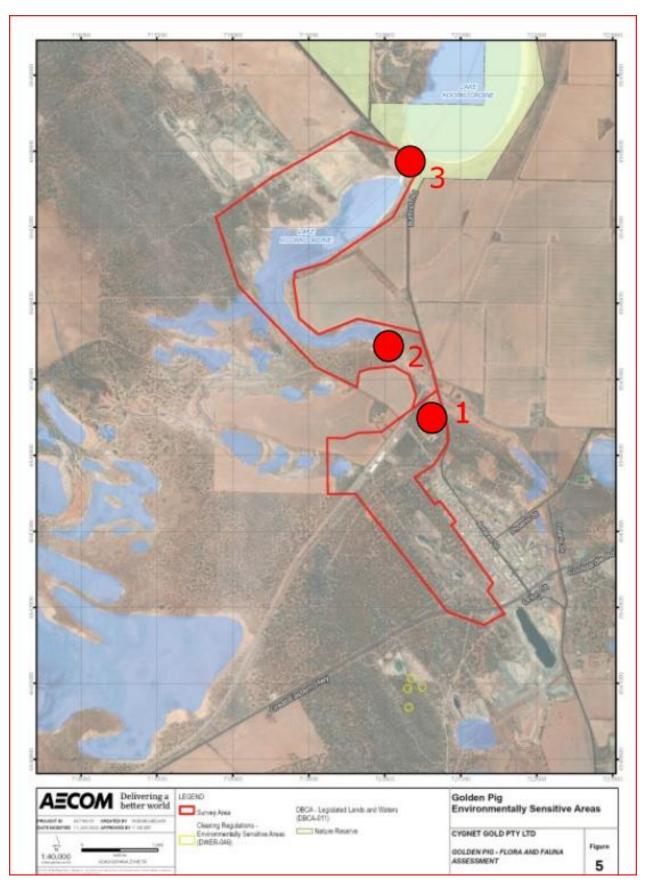


Figure 2: Indicative mine dewater discharge monitoring locations

## **Schedule 2: Monitoring**

**Table 8: Sediment erosion monitoring** 

Parameters		Location	Frequency	Method
Lake sediment	Photo monitoring. Erosion assessment	Creek discharge point Lake Koorkoordine discharge point	6 monthly Initial survey to be undertaken prior to discharge	Reviewed by a suitably qualified aquatic scientist

### Table 9: Lake Koorkoordine aquatic biota and algae monitoring

Parameters		Location	Frequency	Method
Aquatic biota	Surface aquatic invertebrates (diversity and abundance)	Lake Koorkoordine discharge site Control site	Annually	Carried out by a suitably qualified aquatic scientist
Algae	Benthic microalgae invertebrates (including resting stages)		Annually	

### Table 10: Riparian vegetation monitoring

Parameters		Location	Frequency	Method
Riparian vegetation	Level 1 vegetation survey/ targeted repeat comparison surveys <sup>1</sup> Photo point monitoring/ riparian vegetation assessment (rapid assessment method) <sup>1</sup>	Discharge creek shoreline Lake Koorkoordine shoreline Control site	Annually  6 monthly Initial survey to be undertaken prior to discharge	Reviewed by a suitably qualified environmental scientist/botanist

Note 1: Riparian vegetation is to be monitored at the shoreline nearest to the discharge point