



## Application for Works Approval

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

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**Works Approval Number** W6899/2024/1

**Applicant** Aurenne MIT Pty Ltd

**ACN** 611 002 709

**File number** DER2023/000819

**Premises** Mt Ida Gold Project

M29/150, M29/151, G29/29, G29/30, G29/31, G29/32,  
L29/143, L29/153, L29/154. L29/137, E29/1007

Shire of Menzies

As defined by the premises map attached to the issued works approval

**Date of report** 23 May 2024

**Decision** Works approval granted

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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 W6899/2024/1 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 19 December 2023, 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 stages 2 – 5 for the Integrated Waste Landform (IWL) Tailings Storage Facility (TSF) at the premises. The premises is approximately 80 km west of Menzies.

The premises relates to the category 5 and assessed production capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in works approval W6899/2024/1. 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 W6899/2021/1.

Stage 1 of the IWL TSF has been assessed under works approval W6640/2021/2.

A proposed timeframe for construction of the raises is shown in Table 1, noting the timeframes are indicative and subject to change.

**Table 1: Proposed timeframe of IWL TSF stages 1 – 5**

	Activity	Commencement Date	Completion Date
<b>1</b>	<b>Stage 1 IWL Establishment W6640/2021/1</b>		
	Clearing/Bulk Earthworks	Q4 2022	Q1 2023
	Topsoil Stockpiles	Q4 2022	Q1 2023
	Zone A downstream outer embankment earthworks	Q1 2023	Q2 2023
	VWP Installation		
	Pipework – Tailings and Decant Return installation		
	Spigot installation		

	Electrical work		
	Commissioning		
	Surface water diversion	Q1 2024	Q1 2024
<b>2</b>	<b>Stage 2 Raise – W6899/2024/1</b>		
	Topsoil Stockpiles	Q4 2023	Q4 2023
	Zone A downstream outer embankment earthworks	Q1 2024	Q1 2024
	Zone B upstream inner embankment earthworks		
	Pipework – Tailings and Decant Return installation		
	Spigot installation		
	Electrical work		
Submission to DWER of a Critical Containment Infrastructure Report			
Time Limited Operations		Q1 2024	Q2 2024
Receive Amended Licence			
<b>3</b>	<b>Stage 3 Raise – W6899/2024/1</b>		
	Zone A downstream outer embankment earthworks	Q1 2025	Q1 2025
	Zone B upstream inner embankment earthworks		
	Pipework – Tailings and Decant Return installation		
	Spigot installation		
	Electrical work		
Submission to DWER of a Critical Containment Infrastructure Report			
Time Limited Operations		Q2 2025	Q2 2025
Receive Amended Licence			
<b>4</b>	<b>Stage 4 Raise – W6899/2024/1</b>		
	Zone A downstream outer embankment earthworks	Q1 2026	Q2 2026

	Zone B upstream inner embankment earthworks		
	Pipework – Tailings and Decant Return installation		
	Spigot installation		
	Electrical work		
Submission to DWER of a Critical Containment Infrastructure Report			
Time Limited Operations		Q2 2026	Q2 2026
Receive Amended Licence			
<b>5</b>	<b>Stage 5 Raise – W6899/2024/1</b>		
	Zone A downstream outer embankment earthworks	Q1 2027	Q1 2027
	Zone B upstream inner embankment earthworks		
	Pipework – Tailings and Decant Return installation		
	Spigot installation		
	Electrical work		
Submission to DWER of a Critical Containment Infrastructure Report			
Time Limited Operations		Q2 2027	Q2 2027
Receive Amended Licence			

The IWL has been designed with a storage volume of 4Mm<sup>3</sup> which will give a storage capacity of 6 Mt of tailings over a 6-year life, assuming an ore processing rate of 1.2 Mtpa, minimum tailings in-situ density of 1.5 t/m<sup>3</sup> and a beach slope of 1%.

The IWL TSF is a singular cell, circular facility, constructed within a waste dump, and will have a maximum embankment height of 28 m (RL 510.0 m). Embankment raises will comprise of four 3 m raises. Figure 1 shows a typical cross section of the IWL perimeter embankment for each stage.

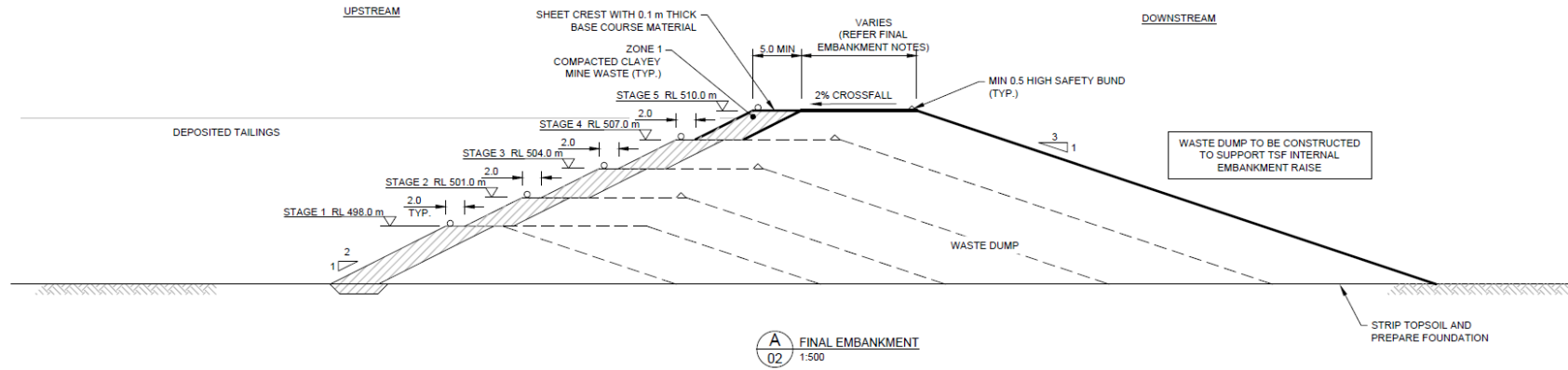


Figure 1: Cross section of IWL perimeter embankment

Construction of embankments to the design RL will involve:

- Waste dump construction to the design RL by the mining operation.
- Raising construction of the upstream embankment zone to the design RL, likely by a civil contractor.
- Raising of the decant accessway and rock ring to the design RL either by the mining operation or a civil contractor.

The applicant has stated that commissioning will be minor in nature and over a short timeframe, as it mostly involves moving spigots, pipework with some electrical for the decant return pump.

### 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 2 below. Table 2 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

**Table 2: Proposed applicant controls**

Emission	Sources	Potential pathways	Proposed controls
<b>Construction</b>			
Dust	Heavy vehicle and earthwork movement	Air / windborne pathway	<ul style="list-style-type: none"> <li>• Water spray carts or dribble bars, using water from the pit lake, should excess dust be generated.</li> <li>• No clearing or bulk soil movement in high wind conditions</li> <li>• Restricted speed limits on haul and mine roads</li> </ul>
<b>Operation</b>			
Tailings and contaminated water (metalloids and cyanide)	Discharge and storage of tailings in the IWL TSF	Seepage through base and embankments to soil and groundwater causing vegetation death and	<ul style="list-style-type: none"> <li>• Underdrainage system by gravity to a collection tower.</li> <li>• Decant water will be collected from the IWL TSF via the concrete decant tower and removed from the IWL by a submersible decant pump. Return water is pumped directly to the process plant</li> </ul>

Emission	Sources	Potential pathways	Proposed controls
		groundwater contamination	<p>for reuse.</p> <ul style="list-style-type: none"> <li>• Low permeable embankment layer of 1 x 10<sup>-6</sup> m/s.</li> <li>• Recovery bores installed “should monitoring bores indicate seepage issues”</li> </ul> <p><b>Monitoring</b></p> <ul style="list-style-type: none"> <li>• Five groundwater monitoring bores have been installed surrounding the IWL TSF. Baseline groundwater quality information will be collected over at least two monitoring occasions and the bores will then be monitored every quarter.</li> <li>• Three pairs of vibrating wire piezometers installed in embankments.</li> <li>• Annual remote sensing of vegetation condition, including baseline monitoring.</li> <li>• Daily inspection of the IWL TSF</li> </ul>
		Overtopping of IWL TSF and direct discharge to land causing vegetation damage/death	<ul style="list-style-type: none"> <li>• Designed to accommodate a 1:100 yr, AEP, 72-hour duration storm event</li> <li>• Total freeboard for the IWL TSF will be 0.7 m</li> <li>• Daily inspection of IWL freeboard</li> </ul>
		Pipeline leak/rupture and direct discharge to land causing vegetation damage/death	<ul style="list-style-type: none"> <li>• Pipelines constructed from HDPE and placed in an unlined trench and within a pipe-type culvert as it passes under the site access road as it approaches the Processing Plant.</li> <li>• Pipelines constructed and installed to Australian Standards AS4130 and AS413 and Plastics Industry Pipe Association of Australia Limited (PIPA) Guideline POP003</li> <li>• Transfer pipelines are connected to the processing plant control system which live monitors pressure in pipelines. In the event of an immediate drop in pressure within a pipeline, an alarm will be activated to notify mill control operators. The plant will be shut down immediately and to stop the flow.</li> <li>• Pipelines to be visually inspected daily – return water and tailings.</li> <li>• Pipelines to be stored in trenches sufficient to contain spillages between</li> </ul>



Emission	Sources	Potential pathways	Proposed controls
			routine inspections.
Tailings and contaminated water (metalloids and cyanide)	Contaminated stormwater	Contaminated stormwater runoff	<p>The applicant indicates that the IWL TSF has been located such that no major diversion or erosion protection associated with surface water run off or stormwater events is required based on the site hydrological assessment (Hydrologia 2021; Attachment 8A).</p> <p>Hydrologia (2021) indicates that the IWL TSF is located to the northwest of a creek line that flows from the north-northeast, bypassing the IWL TSF to the west of the plant site. A small catchment extends to the northeast of the IWL and most flow for the catchment is concentrated in a flow path that passes to the south of the IWL.</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 3 and Figure 2 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)).

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

Human receptors	Distance from prescribed activity
Walling Tock Station Homestead	15 km to the south west of the prescribed premises
Environmental receptors	Distance from prescribed activity
RIWI Goldfields Groundwater Area	<p>Standing groundwater levels vary between 28.9 and 44.3 below surface and appeared to be located within a semi-confined to confined aquifer”.</p> <p>Marginal (500mg/L) to hypersaline (35,000mg/L) depending on area</p> <p>Most groundwater sources, excluding the Walling Rock BIF Bore, have elevated concentrations of sulfate (between 530mg/L and 4,460mg/L SO<sub>4</sub>), chloride (between 1,020mg/L and 14,300mg/L Cl), sodium (between 678mg/L and 6,970mg/L) and potassium (between 20mg/L and 246mg/L).</p>
Priority Ecological Community: Perrinvale/Walling vegetation complex (priority 1)	2.3 km west of the premises boundary

<p>Threatened fauna</p> <p>Priority: Long-tailed dunnart (<i>Sminthopsis longicaudata</i>)</p> <p>Malleefowl (<i>Leipoa ocellata</i>) -</p>	<p>1.8 km west of the premises boundary</p> <p>2.5 km west of the premises boundary</p>
<p>Priority Flora</p> <p>Priority 1 flora - <i>Jacksonia lanicarpa</i></p>	<p>Within the project area – controls in place under CPS 9383/3</p>
<p>Ephemeral creek lines</p>	<p>The project area lies in the headwaters of Bottle Creek, which drains to Lake Ballard.</p> <p>Lake Ballard is approximately 20 km south east from the site and is an internally drained, intermittent salt lake. It has substantial environmental values and has been nominated Nationally Important Wetland (RAMSAR listing).</p>

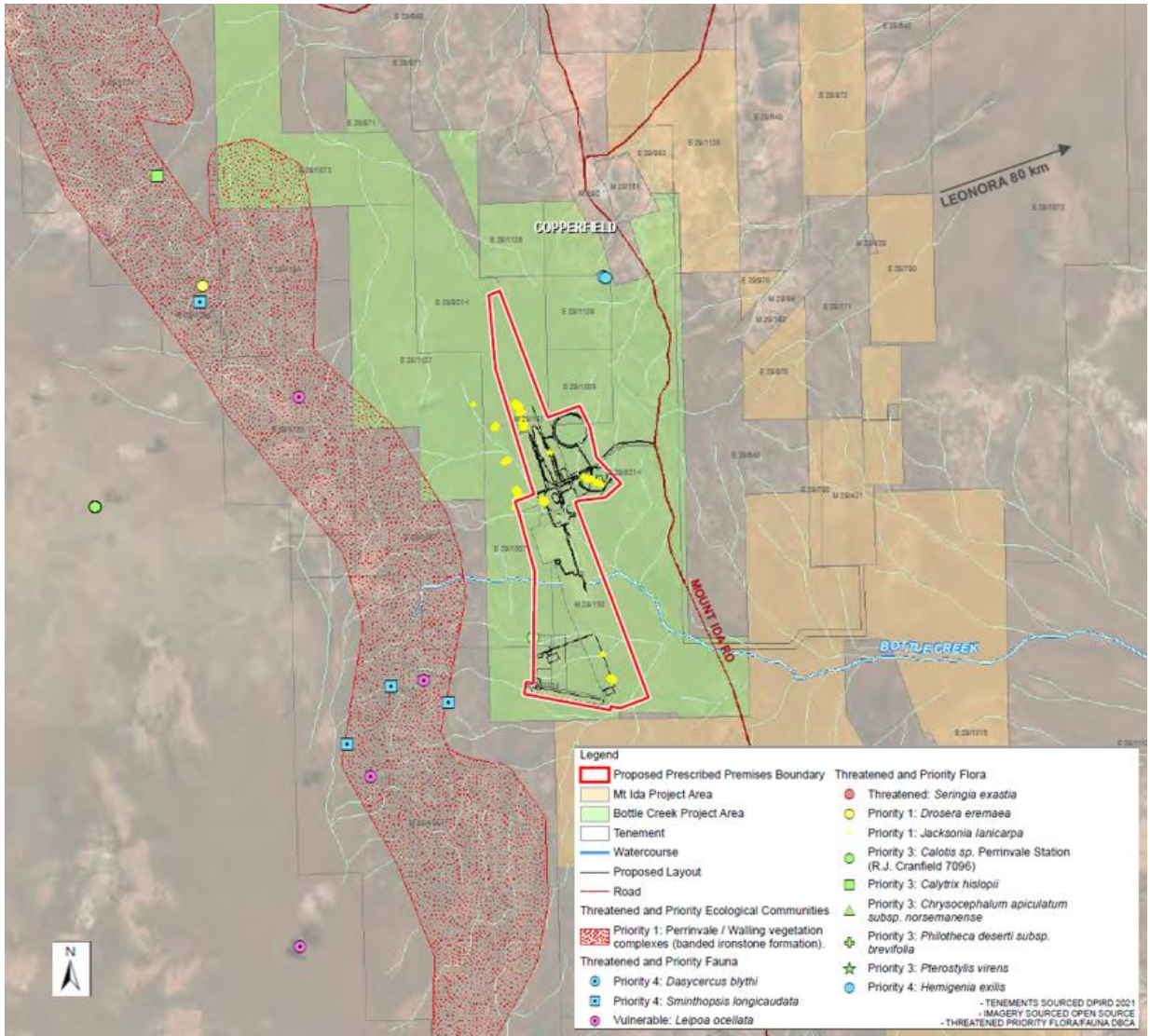


Figure 2: Distance to sensitive receptors

## 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 3.1. 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 4.

Works approval W6899/2024/1 that accompanies this decision report authorises construction and time-limited operations. The conditions in the issued works approval, as outlined in Table 4 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. tailings deposition. 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.

**Table 4: Risk assessment of potential emissions and discharges from the premises during construction, commissioning and operation**

Risk events					Risk rating <sup>1</sup>	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	C = consequence L = likelihood			
<b>Construction</b>								
IWL TSF raise (stages 2 – 5)	Dust	Air / windborne pathway causing impacts to health and amenity	Priority flora within prescribed premises (Jacksonia lanicarpa) Adjacent native vegetation Nearby threatened fauna Mallefowl mounds during breeding season (1 September to 31 January)	Refer to Section 3.1	C = Moderate L = Unlikely <b>Medium Risk</b>	Y	<b>Works approval:</b> Condition 1: design and construction requirements Condition 2: standard compliance reporting condition	N/A
<b>Commissioning</b>								
Commissioning of pipelines	Tailings slurry	Pipeline leak/rupture and direct discharge to land causing vegetation poor health/death	Priority flora within prescribed premises (Jacksonia lanicarpa) Adjacent native vegetation Nearby threatened fauna Ephemeral creek lines	Refer to Section 3.1	C = Moderate L = Unlikely <b>Medium Risk</b>	Y	<b>Works Approval:</b> Condition 1: design and construction requirements	The Delegated Officer considers that the Applicant controls for spills and leaks are acceptable, and this is covered in Condition 1 of the works approval. Commissioning of the IWL TSF raises is limited only to pipelines, as such, the Delegated Officer is satisfied that no specific

Works approval: W6899/2024/1

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				
								commissioning conditions are required on the works approval.
<b>Operation</b> (including time-limited-operations operations)								
Discharge and storage of tailings in the TSF	Tailings and contaminated water (metalloids, cyanide)	Seepage through base and embankments to soil and groundwater causing vegetation poor health/death and groundwater contamination	Priority flora within prescribed premises ( <i>Jacksonia lanicarpa</i> ) Adjacent native vegetation Nearby threatened fauna Nearby ephemeral creek lines	Refer to Section 3.1	C = Moderate L = Possible <b>Medium Risk</b>	Y	<b>Works Approval:</b> Condition 1: Design and construction requirements Conditions 6 – 13: Time limited operations conditions including groundwater monitoring with limits and monitoring reporting requirements.	Refer section 3.3
		Overtopping of TSF and direct discharge to land causing vegetation poor health/death	Priority flora within prescribed premises ( <i>Jacksonia lanicarpa</i> ) Adjacent native vegetation Nearby threatened fauna Nearby ephemeral creek lines	Refer to Section 3.1	C = Moderate L = Unlikely <b>Medium Risk</b>	Y	<b>Works Approval:</b> Condition 1: Design and construction requirements Condition 7: Time limited operations requirements	N/A

Works approval: W6899/2024/1

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				
		Pipeline leak/rupture and direct discharge to land causing vegetation poor health/death	Priority flora within prescribed premises (Jacksonia lanicarpa) Adjacent native vegetation Nearby threatened fauna Nearby ephemeral creek lines	Refer to Section 3.1	C = Moderate L = Possible <b>Medium Risk</b>	Y	<b>Works Approval:</b> Condition 1: Design and construction requirements Condition 7: Time limited operations requirements	N/A
	Contaminated stormwater	Stormwater runoff	Priority flora within prescribed premises (Jacksonia lanicarpa) Adjacent native vegetation	Refer to Section 3.1	C = Moderate L = Unlikely <b>Medium Risk</b>	Y	N/A	N/A

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 – Integrated Waste Landform Tailings Storage Facility (IWL TSF) (as per W6640/2022/1)

### 3.3.1 Source

#### Tailings Characterisation

Graeme Campbell and Associates (GCA, 2021) investigated the chemical and physical properties of six tailings samples selected to represent stage 1 of the proposed mining areas. Each sample was subjected to grinding and cyanide leaching to replicate the proposed process plant conditions. All tailings samples were found to be non-acid forming, reflective of a negligible sulfide content (0.005 – 0.042%). Aurenne (2021) indicate that whilst stage 1 of the project will mine non-acid forming material, further stages may encounter potential acid forming material (PAF) and will be managed by encapsulation in cells within either waste rock landforms (WRL's or within the IWL).

The tailings-slurry-water samples were mildly-alkaline (pH 8.7-9.2), and hypersaline (total dissolved solids, 35g/L), with weak-acid-dissociable cyanide concentrations ( $CN_{WAD}$ ) of 21-106mg/L. Whilst arsenic, antimony, selenium and molybdenum were found to be elevated within the tailings solids, they were detected in concentrations of less than 100µg/L within the tailings-slurry water. GCA (2021) indicated that as these elements were largely retained within the tailings solids they are therefore stable under aerobic, saline, alkaline conditions.

#### Estimated Seepage

CMW (2021) has modelled seepage from the TSF to be approximately 64 - 73m<sup>3</sup>/day. The model used material permeabilities derived from a geotechnical site investigation undertaken by CMW (2021). CMW incorporated this seepage modelling into an estimated water balance for the site. Assumptions for the water balance include:

- tailings are proposed for deposition at 42% solids;
- a tailings area of ~26.3ha;
- low permeability base layer  $1 \times 10^{-6}$  m/s; and
- a decant pond area ~3% of the tailings area.

CMW have indicated that water recovery will vary according to the size of the decant pond and running beaches, but that under average climatic conditions, expected decant return will be 55 to 60% of the tailings slurry water.

### 3.3.2 Pathway

#### Hydrogeology

The project area lies within the Rebecca and Raeside subareas of the Goldfields which include fractured rock and paleochannel aquifers. Areas of faulting/shearing control the occurrence and movement of groundwater. Groundwater qualities are generally considered poor and unsuitable for non-potable and stock watering if untreated. Standing groundwater levels onsite (measured from existing groundwater abstraction bores on site and open pits) vary between 28.9m and 44.3m below surface. Pendragon (2021) indicate very little is known about the hydraulic parameters, transmissivities (i.e. the ability for groundwater to move) or aquifers underlying the project area itself. Pendragon (2021) indicate that, in the absence of groundwater level data, groundwater flow direction is likely to imitate the local and regional topography and drainage features and flow in a general southerly direction.

The surficial geology underlying the proposed TSF was gathered by CMW (2021) using data



from 9 test pits (to 0.8 meters below ground level [mbgl]) and four boreholes (to a maximum depth of 21.5 mbgl) and comprised sandy clay rich gravel to an average depth of 6.1 mbgl, overlying clayey silts which grade to metamorphosed mafic rock from depths of more than 20 mbgl. Groundwater was not encountered in any of the boreholes advanced. Permeability within these near surface soils ranged from  $8.9 \times 10^{-5}$  m/s (7.7m/day) and  $4.2 \times 10^{-6}$  m/s (0.36m/day). The in-situ materials recovered from the test pits are proposed to be used as the foundation in the construction of the IWL. These materials are proposed to be tyned, moisture conditioned and roller compacted to provide a low permeability layer at the base to nominally  $1 \times 10^{-6}$  m/s.

### **Baseline groundwater information**

Groundwater quality within the project area was characterised by Groundwater Development Services (2019), whereby samples were taken from existing groundwater abstraction bores and open pits (Table 5). Total dissolved solids range between marginal (598mg/L Mt Ida bore) to hypersaline (33,900mg/L) and pH ranged from 7.6 - 8. Samples indicate elevated concentrations of:

- sulfate 530mg/L - 4,460mg/L;
- nitrate 0.2mg/L – 15.7mg/L;
- boron 0.5 – 11.9mg/L;

and minor concentrations of metals:

- arsenic 0.001 - 0.240mg/L;
- barium 0.005 – 0.089mg/L; and
- manganese 0.001 – 2.42mg/L.

**Table 5: Groundwater quality**

Analyte	Bores					Open Pits	
	Tim's Find	Emu	Mt Ida	Shepherds	Boag	Boags	VB
pH Value	8.0	7.6	7.9	7.6	7.8	8.3	8.2
Electrical Conductivity	4,940	22,200	885	18,800	12,200	37,800	40,300
Total Dissolved Solids	3,220	16,600	598	12,500	8,000	29,700	33,900
Total Alkalinity as CaCO <sub>3</sub>	294	162	44	314	122	134	106
Sulfate	530	2,200	67	2,200	1,030	4,460	4,000
Chloride	1,020	7,330	204	5,850	3,550	12,900	14,300
Calcium	123	543	29	269	266	686	1,140
Magnesium	183	703	24	544	369	1,320	1,520
Sodium	678	3,430	111	3,200	1,970	6,800	6,970
Potassium	20	174	7.0	83	86	241	246
Fluoride	0.2	0.8	0.2	1.0	1.0	0.7	1.1
Nitrite as N	<0.01	<0.01	<0.01	<0.01	0.4	0.04	<0.01
Nitrate as N	15.7	11.8	7.97	<0.01	4.3	1.08	0.2
<b>Dissolved Metals</b>							
Arsenic	0.002	0.107	0.001	0.001	0.047	0.089	0.240
Barium	0.005	0.026	0.089	0.024	0.007	0.061	0.076
Manganese	0.002	0.014	0.001	2.42	0.025	0.025	0.087
Nickel	<0.001	0.014	0.007	0.018	0.001	<0.005	<0.005
Zinc	<0.005	<0.025	0.104	0.007	0.016	<0.025	<0.025
Boron	1.22	6.96	0.5	8.66	4.72	11.9	9.43
<b>Notes:</b> pH in pH units. Electrical Conductivity in µS/cm. All other analytes in mg/L. The following dissolved metals occur sporadic and in very low concentrations: Cadmium, Chromium, Cobalt and Copper. The following dissolved metals are absent: Aluminium, Beryllium, Lead, Molybdenum and Mercury.							

### 3.3.3 Proposed seepage management and monitoring

The applicant is proposing the following controls to manage seepage from the TSF:

- Underdrainage system by gravity to a decant tower, decant water then removed by pump and return water pumped directly to the process plant for reuse;
- Ground preparatory works to create a 300mm low permeability layer for IWL construction. To reduce seepage, the subgrade of the IWL basin is proposed to be tyned, moisture conditioned and roller compacted to provide a 'low' permeability nominally  $1 \times 10^{-6}$  m/s.<sup>1</sup>
- Recovery bores to be installed "should monitoring bores indicate seepage issues"

<sup>1</sup> This parameter was used for seepage estimates.

The following monitoring program is proposed:

- Annual remote sensing of vegetation condition, including baseline monitoring.
- Daily inspection of the IWL TSF
- Five groundwater monitoring bores will be installed surrounding the IWL TSF before the IWL becomes operational (minimum 30 days) and baseline groundwater quality information collected over at least two monitoring occasions. The bores will then be monitored every quarter thereafter. The bores are proposed for monitoring of standing water levels, pH, EC, TDS, weak acid dissociable cyanide (CN<sub>WAD</sub>), Total Cyanide (CN).
- Installation of three pairs of piezometers in TSF embankments to detect seepage (and for assessment of stability etc.)

### 3.3.4 DWER assessment and regulatory controls

The closest receptors which may be sensitive to impacts from seepage are adjacent priority flora and native vegetation. As there are there are multiple Priority 1 *Jacksonia lanicarpa* populations within the prescribed premises, adjacent to the proposed IWL TSF, the consequence rating for impacts from seepage are considered “Moderate”. The likelihood is considered as “Unlikely”. The Delegated Officer therefore considers the overall risk rating impacts of seepage to adjacent priority and native vegetation to be “Medium”.

The following DWER regulatory controls will be placed on the works approval.

**Table 6: DWER regulatory controls (seepage)**

Condition/control	Justification
<u>Water balance:</u> Condition 13 – water balance	While an estimated water balance has been provided, the seepage (~64-73m <sup>3</sup> /day) calculated is approximate only, and likely to vary according to facility management. A requirement for monitoring monthly water balance during time limited operations for each stage has been placed on the original works approval as stated in works approval W6640/2022/1.
<u>Tailings storage facility raises construction requirements</u> Condition 1	Applicant proposed construction specifications to prevent seepage have been placed on the works approval as regulatory controls for each stage.
<u>Groundwater monitoring</u> Conditions 6 – 9: groundwater monitoring, limits and reporting	The applicant has only proposed monitoring for pH, EC, TDS, WAD CN and total CN. As there are other additional relevant contaminants of concern associated with deposition of tailings into the IWL TSF, additional analytes have been added to the works approval (as determined in W6640/2022/1). These will be carried over into this works approval and will be required during TLO of each raise.  Analytes for on-going monitoring, post time limited operations, will be reviewed again at the time of the licence application.  Additionally, to protect adjacent priority and native flora, a standing water level limit of 4m bgl has been placed on the works approval. A trigger for management action at 6m bgl has also been placed on the works approval as a control.

## 4. Consultation

Table 7 provides a summary of the consultation undertaken by the department.

**Table 7: Consultation**

Consultation method	Comments received	Department response
Application advertised on the department's website on 1 April 2024	No comments received	N/A
Department of Mines, Industry Regulation and Safety (DMIRS) advised of proposal 27 March 2024 via email correspondence	DEMIRS replied on 2 April 2024 stating that a final height of 510 m RL was approved under Mining Proposal Reg ID 117952 on 20 July 2023.	Acknowledged.
Applicant was provided with draft documents on 30 April 2024	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. Aurene Mining (2023) *Mt Ida Gold Project – IWL TSF Stage 2-5 Works Approval Application – Supporting Information*, West Perth, Western Australia
2. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
3. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
4. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
5. Hydrologia, 2021. Mt Ida Gold Project; Stage 1 Bottle Creek – Surface Water Assessment

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

Condition	Summary of applicant's comment	Department's response
1	<p>In the initial review provided on 1 May 2024, the applicant stated that the TSF raise heights were incorrect. However, on 9 May 2024, the applicant advised that the engineer team had changed the heights in-line with what is on the works approval:</p> <p>Stage 1 – 498 mRL            Stage 2 – 501 mRL            Stage 3 – 504 mRL            Stage 4 – 507 mRL            Stage 5 – 510 mRL</p>	Noted. The TSF staged heights on the works approval are correct.
Premises boundary map	The premises boundary map has been updated	Updated
Schedule 1, Figure 2	The technical drawings have been updated	Updated
Table 1, Decision Report	Table 1 in the Decision Report shows indicative timeframes only.	Sentence added in text to include this.