



Aurenne Mining

Mt Ida Gold Project

IWL TSF STAGE 6-8 WORKS APPROVAL APPLICATION – SUPPORTING INFORMATION

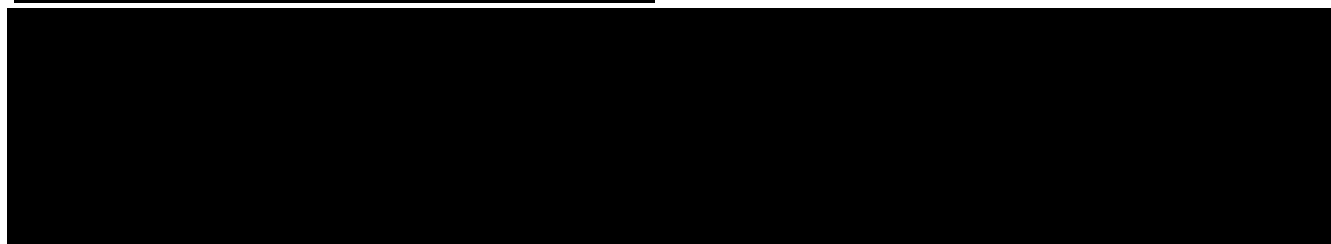
MINING, PROCESSING & SUPPORTING INFRASTRUCTURE

M 29/150, M 29/151, G 29/29, G 29/30, G29/31, G29/32

L 29/143, L 29/153, L 29/154, L 29/137, E 29/1007


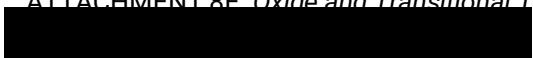
February 2026

Aurenne Mining



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	WORKS APPROVAL – SUPPORTING INFORMATION IWL TSF Embankment Raises 6 -8	Document No.	E-REG-006
		Revision Date	13/02/2026
		Revision No.	0
		Pages (ex. Apps)	

1 INTRODUCTION

Aurenne Mining (Aurenne) is developing and operating the Mt Ida Gold Project (MIG) (the Project), a 1.8 – 2.2 Mtpa gold mining operation using carbon-in-leach (CIL) technology. The Project is located in the Eastern Goldfields of Western Australia, approximately 80 km west of Menzies and 230 km north-northwest of Kalgoorlie.

The Project is centred on the Bottle Creek and Mt Ida project areas and is supported by on-site processing infrastructure, tailings storage facilities and ancillary mine infrastructure. Access to the site is via the Kalgoorlie–Leonora Highway to Menzies, followed by the Menzies–Sandstone Road and Mt Ida Road.

This supporting document has been prepared to accompany a Works Approval application under Part V, Division 3 of the *Environmental Protection Act 1986* (EP Act) for the construction of additional raises to the existing Integrated Waste Landform Tailings Storage Facility (IWL TSF) (Stages 6–8), and to support amendment of the Prescribed Premises boundary (PP boundary) to appropriately capture the expanded TSF footprint and associated infrastructure.

1.1 Project Background

Gold at Bottle Creek was discovered in 1983 and mined by Norgold Ltd between 1988 and 1989 but was prematurely shutdown due to a pit wall failure, mill issues, and a declining gold price in 1990. The project produced 93,000 oz Au from two open pits (VB and Boags) in 18 months of operation before the site was rehabilitated. The mullock was encased in topsoil and rehabilitated with relinquishment by Norgold/Rio Tinto in 2001 back to the State of Western Australia.

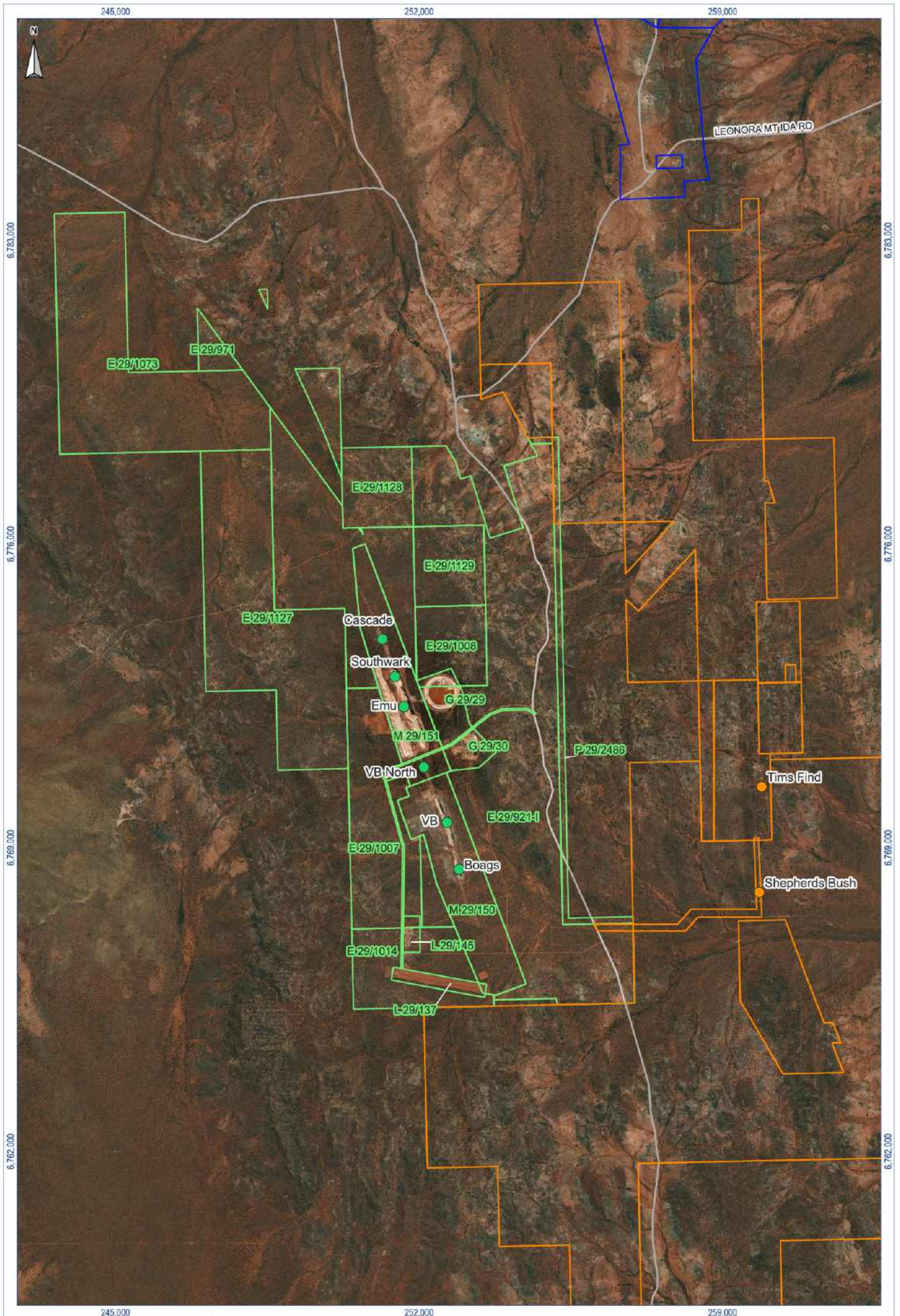
Aurenne Mining’s acquisition of the Project tenements occurred mid-2020 and has since consolidated additional tenements to develop a viable mining operation of mining and processing, the Mt Ida Gold Project. The Project comprises the following sub project areas (Figure 1):

- Bottle Creek: consists of the Emu, Southwark, Cascade, Great Northern, VB, Boags, Single Fin and Side Track open pits, current or proposed.
- Mt Ida: consists of Tims Find and Shepherds Bush prospects.
- Quinns: consists of Forest Belle and Boudie Rat historical open pits.

Stage 1 of the MIG Project included mining of the Emu and Southwark pits, processing, and gold smelting with supporting infrastructure for a 24-hour operating workforce, an accommodation village and associated infrastructure.

Stage 1 was amended to Stage 1b (Reg ID 117952) to include the Emu Pit - Southwark expansion (Figure 2). The timing of the project was changed and extended due to the:

1. Discovery and development / mining of the Cascade deposit and the discovery of Great Northern.
2. The discovery of the Single Fin deposit.
3. The discovery of the VB East ore system, which has materially increased the size of the VB deposit.



Scale: 1: 80,000
 Original Size: A3
 Grid: GDA2020 / MGA zone 51
 (EPSG:7851)
 0 1 2 km

Legend	
● Mt Ida Prospect	 Quinns Project Tenements
● Bottle Creek Prospect	 Mt Ida Project Tenements
 Bottle Creek Project Tenements	 Local Road

Figure 2
Bottle Creek Project Area



\\pserver01\csp1\BSC1_Maps\Jobs\BSC1_TBP_HazVehAssess\2204\BSC1_TBP_HazVehAssess_2025.jpg 1/10/2025 12:30:00 PM Bottle Creek Project Area

Stages 2 and 3 of the Project comprise progressive expansions of mining activities within the Bottle Creek area, including development of the Cascade, VB North, VB, Boags and Single Fin prospects and associated supporting infrastructure. These stages were authorised under approved Mining Proposal updates (Stage 2 – Reg ID 122042; Stage 3 – Reg ID 500063), permitting additional open pit mining, waste rock landforms and surface water management works, while continuing to utilise the existing processing plant and tailings storage facilities without approval of new processing capacity. The most recent approved Mining Proposal (Stage 3b – Reg ID 500796) authorises further expansion of the VB Pit and associated infrastructure.

Metallurgical testwork conducted during 2025 revealed the existence of economically recoverable gold and silver from the deeper primary (sulphide) ores below the oxide and transitional ores, through the existing CIL processing plant using the same extraction methods. Works Approval W6640/2022/1 was approved on the basis of treatment of oxide and transitional ores.

Mine planning and design using the results of the improved metallurgical recovery of primary ores, coupled with the new discoveries at VB East (part of VB) Cascade, Single Fin and Sidetrack have demonstrated a significant increase in mine life.

1.2 IWL TSF Background

Construction of the initial IWL TSF works (Stage 1) was authorised under Works Approval W6640/2022/1, subsequently amended to correct the approved crest elevation to 498 mRL and to extend the works approval expiry date and time-limited operations.

Further raises of the IWL TSF (Stages 2 to 5, from 498 mRL to 510 mRL) were authorised under Works Approval W6899/2024/1, granted on 23 May 2024, in accordance with advice from DWER that discrete TSF raises be approved through separate Works Approvals.

Aurenne submitted a prescribed premises licence application to DWER in September 2025 to authorise ongoing operation of the processing plant, tailings storage facility and associated prescribed activities. This licence application remains under assessment. In October 2025, DWER initiated an amendment to Works Approval W6640/2022/1 to extend the expiry date to 19 December 2026 and the period of time limited operations to 28 May 2026. The amendment did not authorise additional construction works and does not overlap with the scope of Works Approval W6899/2024/1 or the works proposed under this application.

The existing IWL TSF Stage 1–5 embankments have now been constructed to their approved limits and are expected to approach capacity by Q3 2026, necessitating the timely construction of additional raises.

A separate Works Approval application has also been submitted for the installation of additional thickening infrastructure within the Processing Plant. The purpose of this infrastructure is to improve tailings dewatering efficiency and water recovery and to support the mine plan. This remains under assessment by DWER.

2 PURPOSE OF DOCUMENT AND TIMING

The purpose of this document is to support an application for a Works Approval for construction of three additional raises to the existing Integrated Waste Landform Tailings Storage Facility (IWL TSF) (Stages 6–8), and for amendment of the PP boundary to incorporate the expanded TSF footprint, associated infrastructure, and other prescribed activities relevant to the Project.

This application is limited in scope to the construction and time limited commissioning of the proposed TSF raises only. Ongoing tailings deposition and routine operation of IWL TSF Stages 6–8 will require a prescribed premises licence and compliance with applicable Critical Containment Infrastructure (CCI) requirements.

This Works Approval application therefore seeks approval to commence construction of the following TSF raises:

- IWL TSF Stage 6: raise from 510 mRL to 513 mRL.
- IWL TSF Stage 7: raise from 513 mRL to 516 mRL.
- IWL TSF Stage 8: raise from 516 mRL to 520 mRL.

The original design of the IWL TSF Stages 1–5 was informed by CMW Geosciences (2021). CMW Geosciences has subsequently prepared a revised engineering design and construction specification for IWL TSF Stages 6–8 (Attachment 8B), which forms the design basis for the works proposed under this application.

Timing of the planned embankment raises is summarised in Table 1.

Table 1: Proposed Construction Timeframes

Component	Construction Commencement	Construction Completion
Lift 6	June 2026	August 2026
Lift 7	August 2026	November 2026
Lift 8	November 2026	June 2027

3 APPLICANT


Aurene Mining is registered to Aurene Group Holdings Pty Ltd. The Aurene Group of Companies hold Aurene Mt Ida Pty Ltd (formerly Aurene Alt Resources Pty Ltd ACN 168 928 416), which holds Aurene MIT Pty Ltd (formerly MGK Resources Pty Ltd ACN 611 002 709). The company name changes are reflected in the ASIC extracts (Attachment 1B), and a revised Letter of Authorisation is provided in Attachment 1C.

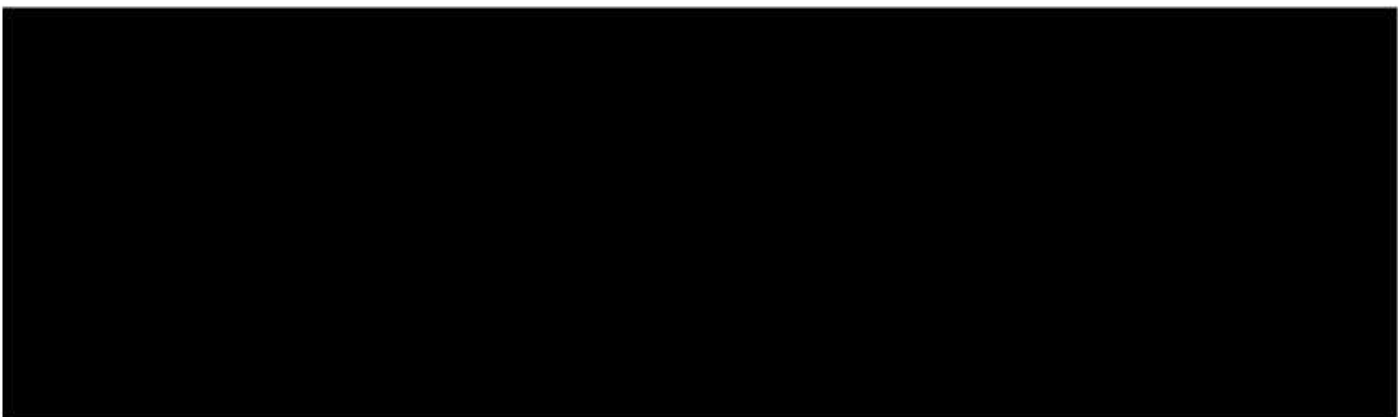
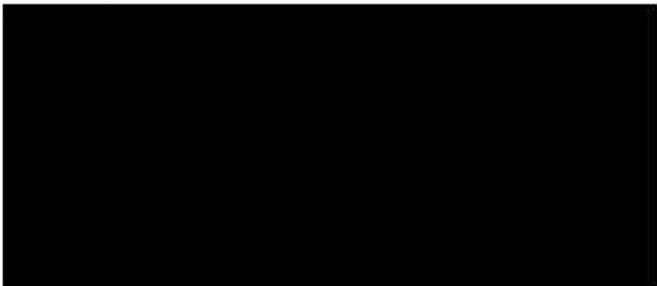
This Works Approval application is made under Aurene MIT PTY LTD (formerly MGK Resources Pty Ltd), consistent with other approval instruments for the Project.

Table 2: Proponent Hierarchical Structure and Details

Entity	ACN
Aurene Group Holdings (Aurene Mining)	627 857 176
Aurene Mt Ida PTY LTD	168 928 416
Aurene MIT PTY LTD	611 002 709

Contacts:

 has compiled this information and is the contact for any queries regarding this submission:



4 TENURE AND PRESCRIBED PREMISE BOUNDARY

Tenements and prescribed activities located within the proposed PP boundary are summarised in Table 3. Evidence of occupier status and tenure ownership is provided in Attachment 1A (Proof of Occupier Status), which demonstrates Aureenne's authority over the tenements relevant to the prescribed premises.

The proposed PP boundary has been expanded to ensure all prescribed activities and associated environmental risk pathways relevant to the Project are appropriately captured. In particular, the amended boundary includes:

- The full footprint of the IWL TSF, including the proposed Stage 6–8 raises.
- Infrastructure directly associated with prescribed activities, including tailings delivery, return water systems, and ancillary infrastructure.
- Areas required to manage potential emissions and discharges, including surface water runoff, seepage pathways, and monitoring locations.
- Existing prescribed activities located outside the original PP boundary, including the putrescible landfill and village wastewater treatment plant.

Table 3: Application Area Tenements and Project Activities/Locations

Cat No.	Tenement	Tenement Start Date	Tenement End Date	MIG reference
5	M29/151G 29/30 G 29/29	15/10/2021	14/10/2042	Bottle Creek Processing Plant Integrated Waste Landform Tailings Storage Facility (IWL TSF)
7	G 29/30	15/10/2021	14/10/2042	Bottle Creek Processing Plant (Vat leaching)
64	M 29/150	24/06/1991	23/06/2033	Bottle Creek Putrescible Landfill
85	L 29/145 L 29/154	17/05/2021	16/05/2042	Bottle Creek Village WWTP & sprayfield

The proposed Prescribed Premise boundary is provided as spatial data with this application and is shown in Figure 3 and Attachment 2 (Premises Map).

5 LEGISLATIVE CONTEXT AND OTHER APPROVALS

The legislative framework for this application is the EP Act and *Environmental Protection Regulations 1987* (EP Regulations).

Approvals relevant to the proposed premises are outlined in Table 4.

Table 4: Relevant Regulatory Instruments

Relevant Legislation	Environmental Factor Regulated	Relevant Approval/Requirement
Commonwealth		
<i>Environment Protection & Biodiversity Conservation Act 1999</i>	Biodiversity	Not applicable, no Matters of National Environmental Significance (MNES) are likely to be significantly impacted by the proposed works.
State		
<i>Biodiversity Conservation Act 2016</i>	Biodiversity	Not applicable, no threatened flora or fauna will be significantly impacted by the proposed works. The taking of priority flora (<i>Jacksonia lanicarpa</i> P1) will be regulated under CPS 9383 and the Department of Biodiversity, Conservation and Attractions (DBCA) has been advised of the presence of Priority flora.
<i>Environmental Protection Act 1986 (EP Act), Part IV</i>	Biodiversity Landforms Water Resources	Not applicable, the proposal does not trigger referral to the EPA for assessment.
EP Act – Part V	Biodiversity Water Resources	Granted Works Approvals relevant to the MIG include: <ul style="list-style-type: none"> • W6640/2022/1 authorised construction of IWL TSF Stage 1. • W6899/2024/1 authorised construction of IWL TSF raises Stages 2-5. • W6574/2021/1 for the village WWTP and spray field. A Works Approval Applications is under assessment for installation of an additional thickener to improve ore processing performance of the plant. This is under assessment by DWER (Aurenne Mining 2025a). An Environmental License application was submitted in October 2025. This is still under assessment by DWER and the MIG is operating under approved TLO conditions.
EP Act – Part V <i>Clearing of Native Vegetation</i>	Biodiversity Vegetation	Clearing authorised under approved clearing permit CPS 9383 or where applicable, under relevant exemptions. The relevant approval is NVCP CPS 9383/3.

Relevant Legislation	Environmental Factor Regulated	Relevant Approval/Requirement
<i>Rights in Water & Irrigation Act 1914</i> (RIWI Act)	Water Resources	<p>Licences to take groundwater have been granted under section 5C of the RIWI Act to support dewatering, dust suppression and mining camp water supply. This includes:</p> <ul style="list-style-type: none"> • GWL204119(1) • GWL211602(2)
<i>Mining Act 1978</i>	Biodiversity Water resources Mine closure	<p>Mining activities are approved under Mining Act approvals administered by the DMPE. Approvals include:</p> <ul style="list-style-type: none"> • Stage 1 (Reg ID 101557) • Stage 1b (Reg ID 117952) • Stage 2 (Reg ID 122042) • Stage 3 (Reg ID 500063) • Stage 3b – Reg ID 500796 <p>A MDCP application is in preparation for stages 6-8 IWL TSF raises and will be submitted for assessment concurrent with this application.</p>
<i>Aboriginal Heritage Act 1972</i>	Aboriginal Heritage	<p>One desktop and two field-based surveys have been completed over the Project area.</p> <p>No sites were identified, and no further approvals or permits are required.</p>
OTHER STATUTORY REQUIREMENTS		
<i>Mining Act 1978</i> (tailings storage facility safety) <i>Public Health Act 2005</i> (village wastewater treatment plant and irrigation sprayfield) <i>Dangerous Goods Safety Act 2004</i>	Safety, public health, hazardous materials	<p>These matters are regulated under their respective statutory frameworks and administered by the relevant authorities (including DMPE, Department of Health and local government).</p>

6 STAKEHOLDER ENGAGEMENT

The principal stakeholders identified for the Project are the Shire of Menzies and the pastoral lease holder within which the Project is located (Perrinvale and Riverina Stations) held by Zenith Australia Group.

Aurenne Mining made initial contact to introduce the business and the Project in Q1 2021. Following this, face to face meetings have taken place with both parties and communication and liaison is ongoing. Aurenne is committed to open and collaborative engagement with all stakeholders and maintains a Stakeholder Register to track all interactions.

There is no Native Title that exists over the Project area, but Aurenne have previously engaged with Traditional Owners from the Leonora and area who have connection to country in which the Project sits.

Aurenne maintains a Stakeholder Liaison Strategy (E-PRO-015 Stakeholder Liaison Strategy Procedure) and all stakeholder liaison is recorded in the Stakeholder Liaison Register (E-REG-003 Stakeholder Consultation Register).

Identified stakeholders are listed in the MIG Stakeholder Register, and an extract of stakeholder communications is provided in Attachment 5.

Primary regulatory agencies for the Project are DMPE and DWER. The Shire of Menzies also has a regulatory role in relation to the village WWTP under public health and local government frameworks. Infrequent liaison occurs with DBCA, neighbouring pastoralists, Walling Rock Station and mining companies with interests in the local area.

7 BIOPHYSICAL ENVIRONMENT

7.1 Biogeography

The Project Area is located within the Eastern Goldfields subregion of the Eremaean Province of Western Australia, as defined by the Interim Biogeographical Regionalisation of Australia classification system (Thackway and Cresswell 1995). The subregion is characterised by an Archaean basement of parallel greenstone belts and Proterozoic basic granulite, bearing structural lithological shears and rich mineralised deposits. The underlying bedrock comprises highly weathered gneiss, granite and basalt units, with ridges of greenstone and granite intermittent within gently undulating plains of lateritic gravel and poorly structured calcareous loam (Cowan 2001).

Remnants of an ancient major drainage systems exist throughout the region, evident through the presence of a series of saline playa lake systems. The region exhibits vast sandplains with vegetation dominated by mallee, acacia thicket and shrub heath. Valleys and ranges display diverse eucalypt woodlands, often hosting a range of endemic species. Salt Lake systems are dominated by eucalypt woodlands and an understorey of dwarf samphire shrubland (Cowan 2001).

7.2 Climate

The Project is situated within the arid to semi-arid Goldfields region, experiencing hot, dry summers and cool, wet winters (Cowan 2001). The Menzies Bureau of Meteorology (BoM) weather station (012052) is the closest station to the Project area but ceased recording in April 2019, therefore data from Kalgoorlie BoM station (012038) have been used for this climate summary.

The area experiences average maximum temperatures between 33.7 °C and 16.9 °C in January, and average minimum temperatures between 18.4 °C and 5.1 °C in July (Figure 4). Mean annual rainfall is approximately 266 mm, occurring over an average of 39 rain days per year. Rainfall is typically variable and seasonal, with higher rainfall events generally occurring during summer as a result of tropical cyclone remnants or storm activity, and lower rainfall during late winter and spring (Figure 5).

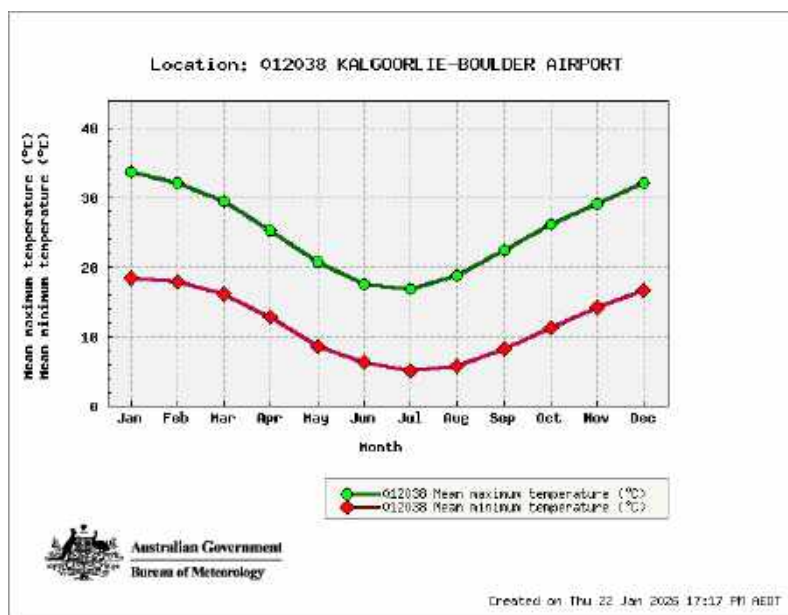


Figure 4: Mean Monthly Maximum and Minimum Temperatures (BOM 2026)

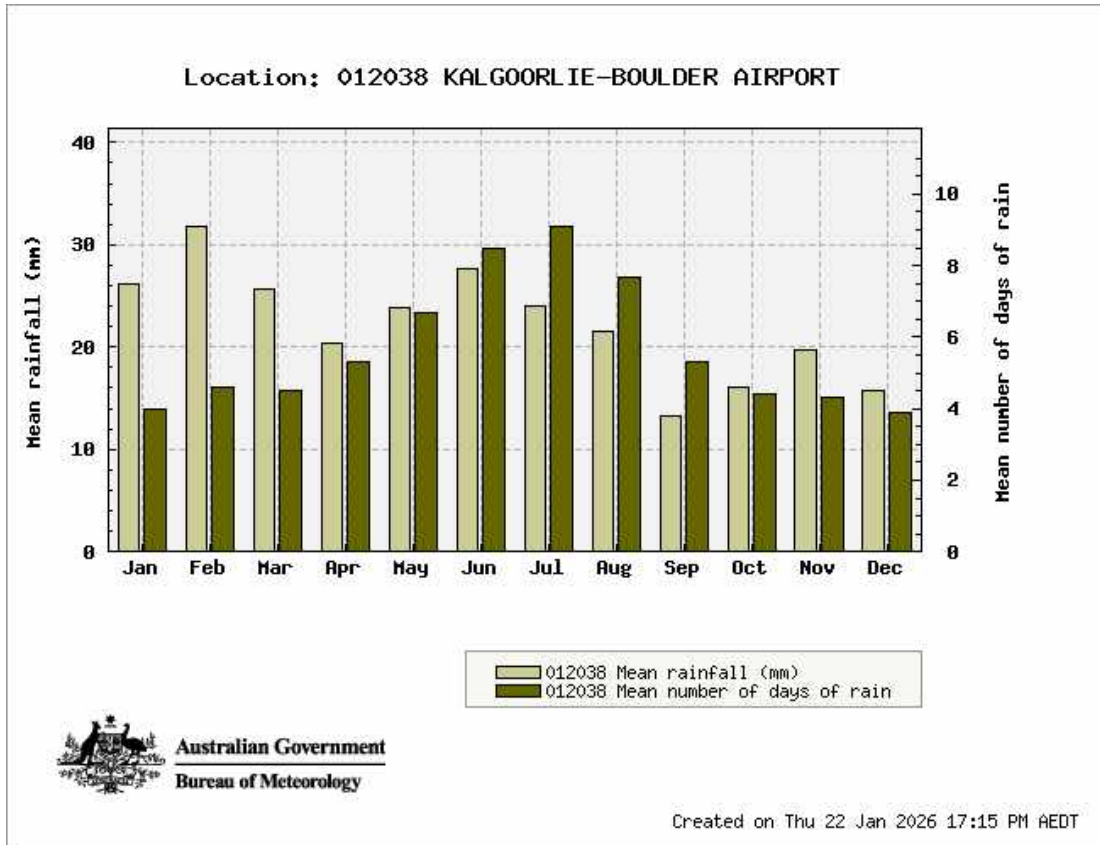


Figure 5: Mean Monthly Rainfall (1939-2021) (BOM 2026)

Annual evaporation rates of 2,400 – 2,800 mm/year (Figure 6) exceed rainfall, with surface water bodies remaining only for short periods of time after rainfall. Rain that may fall and pond on mine landforms usually evaporates quickly. Similarly, water within the pits is subject to high evaporation rates and the formation of pit lakes is usually the result of groundwater and surface water inflows rather than rainfall.

An Annual Exceedance Probability (AEP) is defined as the chance that an extreme rainfall event will occur in any given year. For the IWL TSF Stage 6-8 design (Attachment 8B), a 1:100-year AEP, 72 hour rainfall depth of 228 mm has been adopted (based on IFD data) to define the extreme rainfall water storage allowance within the TSF freeboard design.

Across the average year, morning (09:00) humidity levels are highest in June with an average of 74%, dropping to an average of 43% in December. Afternoon humidity levels (15:00) are highest in June at an average of 48%, with the months of December and January experiencing the lowest afternoon humidity levels at 24% (BOM 2026). Average daily evaporation rates in the region range between 12.5 mm in January and 2.6 mm in June (BOM 2026).

Wind conditions are predominantly from the easterly, north-easterly, and south-easterly winds, and between 10 and 30 km/hr (

Figure 7). Average afternoon wind direction is variable, and is most predominant as westerlies, easterlies, and south-easterlies. Stronger winds (30-40 km/hr) are commonly associated with westerlies in the afternoons. Maximum wind gusts are generally seen in January, on average (BOM 2026).

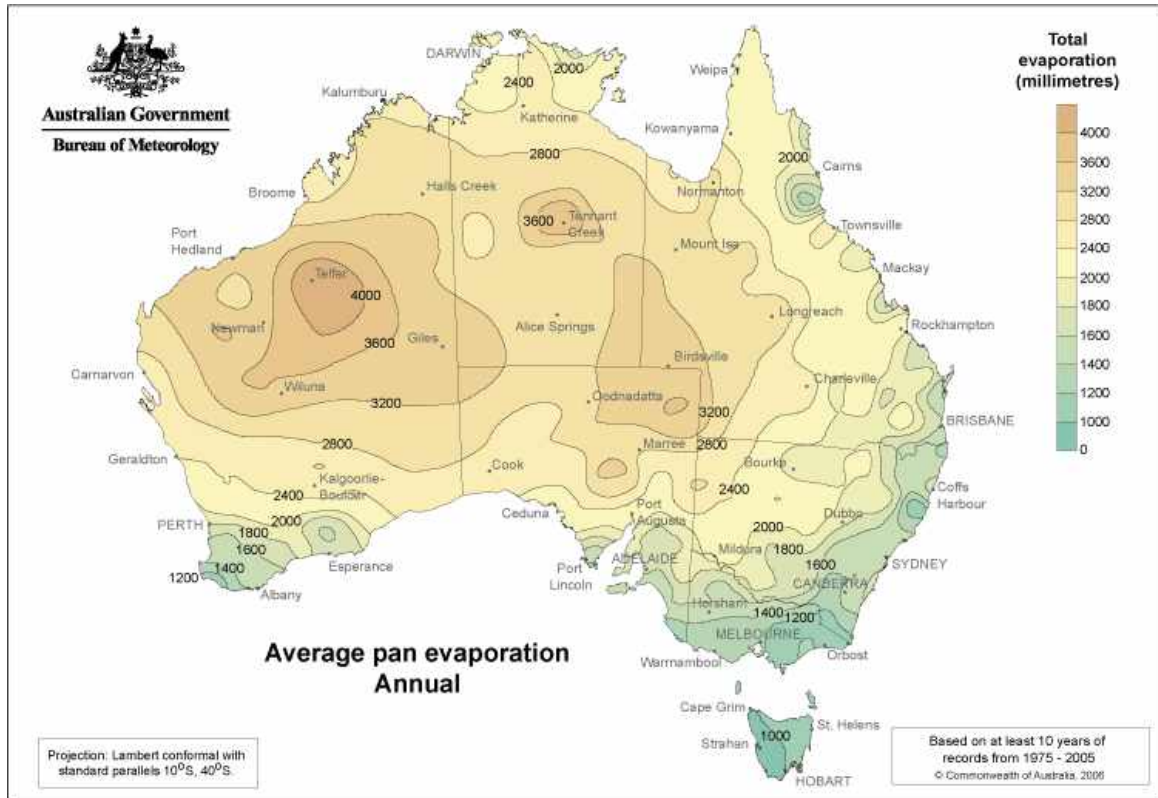


Figure 6: Annual Average Evaporation (BOM 2026)

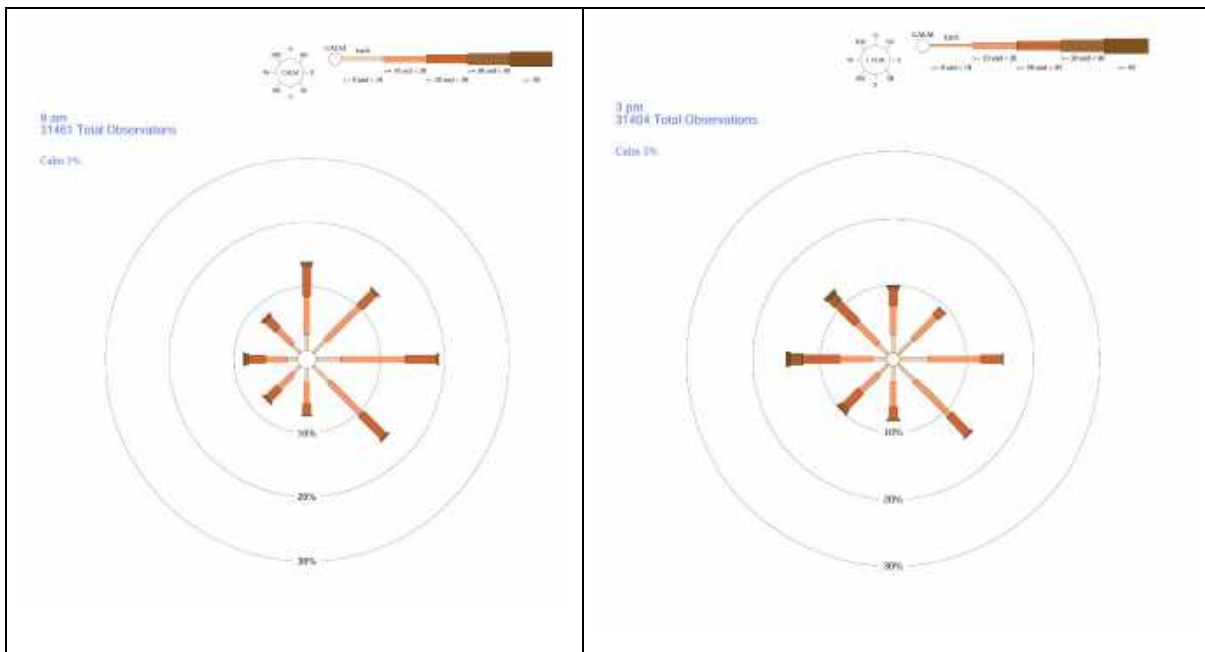


Figure 7: Wind roses 9 am and 3 pm (Kalgoorlie-Boulder Airport) (BoM 2026)

Implications of climatic conditions have been considered. Key implications for the IWL TSF raises include:

- Low annual rainfall, combined with high evaporation rates, limits the duration of surface water ponding and reduces the likelihood of sustained supernatant water accumulation within the TSF. Design rainfall events, including the 1% AEP, 72 hour storm adopted in the TSF design (228 mm),

have been incorporated into the TSF design to ensure adequate freeboard, containment capacity and management of surface water runoff under extreme rainfall conditions.

- Surface water hydrology has been assessed and modelled to inform the design of drainage management structures to manage runoff generated during significant rainfall events and to minimise uncontrolled inflows into the IWL TSF under extreme rainfall conditions.

7.3 Geology

The Project is located almost entirely within the Kalgoorlie Terrane of the Yilgarn Craton, encompassing Archean mafic-ultramafic intrusive and volcanic rocks with minor interflow sediments that make up the Mt Ida-Ullarring Greenstone Belt. The northern half of the belt forms a gently south plunging anticline (Kurrajong Anticline) with the Copperfield Monzogranite at its core. The belt is bounded to the east by the Ballard/Zulieka shear and the Mt Ida Shear to the west. The Mt Ida Shear is a major structural break and forms the boundary between the Kalgoorlie Terrane and the Southern Cross Terrane to the west.

The Mt Ida Gold Project is located on the northern extremity of the Mt Ida-Ullarring greenstone belt extending from Davyhurst to Mt Alexander. The Bottle Creek Emu Formation comprises carbonaceous black shale, graphitic chert and BIF and is an interflow sedimentary unit between mafic flows. Gold and silver mineralisation is found close to the contact of two sequences and coincides with a sheared, up to 20m thick, Emu Formation which on the eastern contact is a felsic porphyry unit. The western contact appears as weathered quartz-biotite schists and mafic volcanics (Legge et al 1990).

At the surface, the sheared Emu Formation is a gossanous ironstone, oxidised and lateritised, to a depth of 100 m below surface. Below the base of weathering and oxidation, a massive pyrite-pyrrhotite zone, up to 6 m thick, occurs within the sheared black shale in a variable gangue of quartz, mica and schist.

The area is characterised by two landforms: alluvial flats along the drainage courses with shallow (1 m red, earthy loam to sand over red-brown hardpan); and low rises between drainage lines with shallow red earths overlying red-brown hardpan; rises with a stony surface mantle (Pendragon 2021).

The geological setting is relevant to the design and performance of the IWL TSF, particularly with respect to foundation conditions, seepage behaviour and tailings geochemistry. The presence of sulphide bearing lithologies within the Project area is reflected in tailings geochemical characterisation, which indicates that tailings produced from oxide-sulphide blends are classified as Non-Acid Forming (NAF) but saline and metalliferous (Attachment 8A, Pendragon 2026). These characteristics have been explicitly incorporated into the IWL TSF design through alkaline operating conditions, low permeability containment, decant water recovery, and controlled deposition practices (Attachment 8B, CMW Geosciences 2025).

The shallow soil profile and competent underlying lithologies limit the potential for deep infiltration and support predictable seepage pathways, which have been assessed as part of the TSF design and monitoring framework (Attachment 8B, CMW Geosciences 2025).

Surface water management controls and staged construction of the TSF further reduce the risk of erosion or mobilisation of sediment from the TSF embankments beyond the footprint of the prescribed premises (Attachment 8B, CMW Geosciences 2025 and Attachment 8C, Hydrologia 2022).

7.4 Hydrology

A surface water assessment was undertaken for both the Bottle Creek and the Tims Find project areas (Hydrologia 2021 and 2022) to characterise local catchments, drainage pathways and flood behaviour associated with the existing and proposed infrastructure, and further surface water modelling was undertaken in January 2026 to update baseline hydrology and surface water management strategy for the Bottle Creek Project area and supporting infrastructure (Hydrologia 2026). Hydrologia (2022 and 2026) are provided in Attachment 8C as these studies inform relevant surface water risk assessment for the IWL TSF.

The Project area lies in the headwaters of Bottle Creek, which drains to Lake Ballard. Hydrologia (2026) notes the mine site lies mainly across the upper headwaters of Bottle Creek and that part of the mine infrastructure also extends into a northward draining catchment, with defined drainage lines arising just north of the site before dissipating into an internally drained floodplain approximately 20 km to the north.

Lake Ballard is an internally drained, intermittent salt lake in the wider Raeside-Ponton catchment and has substantial environmental values and has been nominated Nationally Important Wetland (RAMSAR listing). Hydrologia (2026) describes Lake Ballard as intermittently inundated (approximately every five years) with recorded water depths of up to approximately 0.5 m, typically drying over six to nine months. The Project layout, natural ephemeral surface drainage features and distance to Lake Ballard are shown in Figure 8.

Topography in the area of the site is characterised by low hills and rises with broad valleys and indistinct drainage lines. It is located in the Salt Lake Basin surface water management area (DWER 2018), which is not in a proclaimed surface water management area. Existing surface drainage in the area has been modified by previous mining activities at the site and further surface water management is proposed for the Project to manage runoff, maintain pit integrity and safety, and to minimise uncontrolled inflows to the IWL TSF.

Based on the surface water assessment undertaken by Hydrologia (2026) the key potential surface water impacts are: reduced streamflow due to catchment reduction; erosion/scour and turbidity from disturbed areas and infrastructure; diversion (shadowing) of overland flow (particularly at roads); and potential impacts to stormwater quality. To address these risks, the surface water management strategy includes objectives to minimise erosion and downstream impacts in the 10% Annual Exceedance Probability (AEP) (and smaller) events, minimise discharge of contaminated or saline stormwater, and manage flood risk for the 1% AEP event, with key diversion drains and levees designed to function through Probable Maximum Flood (PMF) conditions where relevant and support long term drainage outcomes. Hydrologia (2026) also quantifies that internally drained mine infrastructure will reduce the local site catchment (Catchment 1) by 11.3% on closure, while the reduction at the Lake Ballard scale (Catchment 2) is 2.0%, and concludes the effect on Lake Ballard will be negligible due to the larger catchment context.

Due to the distance to Lake Ballard, the Project activities and proposed clearing are unlikely to adversely affect the water quality, quantity or environmental values of the Lake. Local erosion is unlikely to affect the wider environment given the buffer distance to sensitive receptors and the sites upper catchment position.

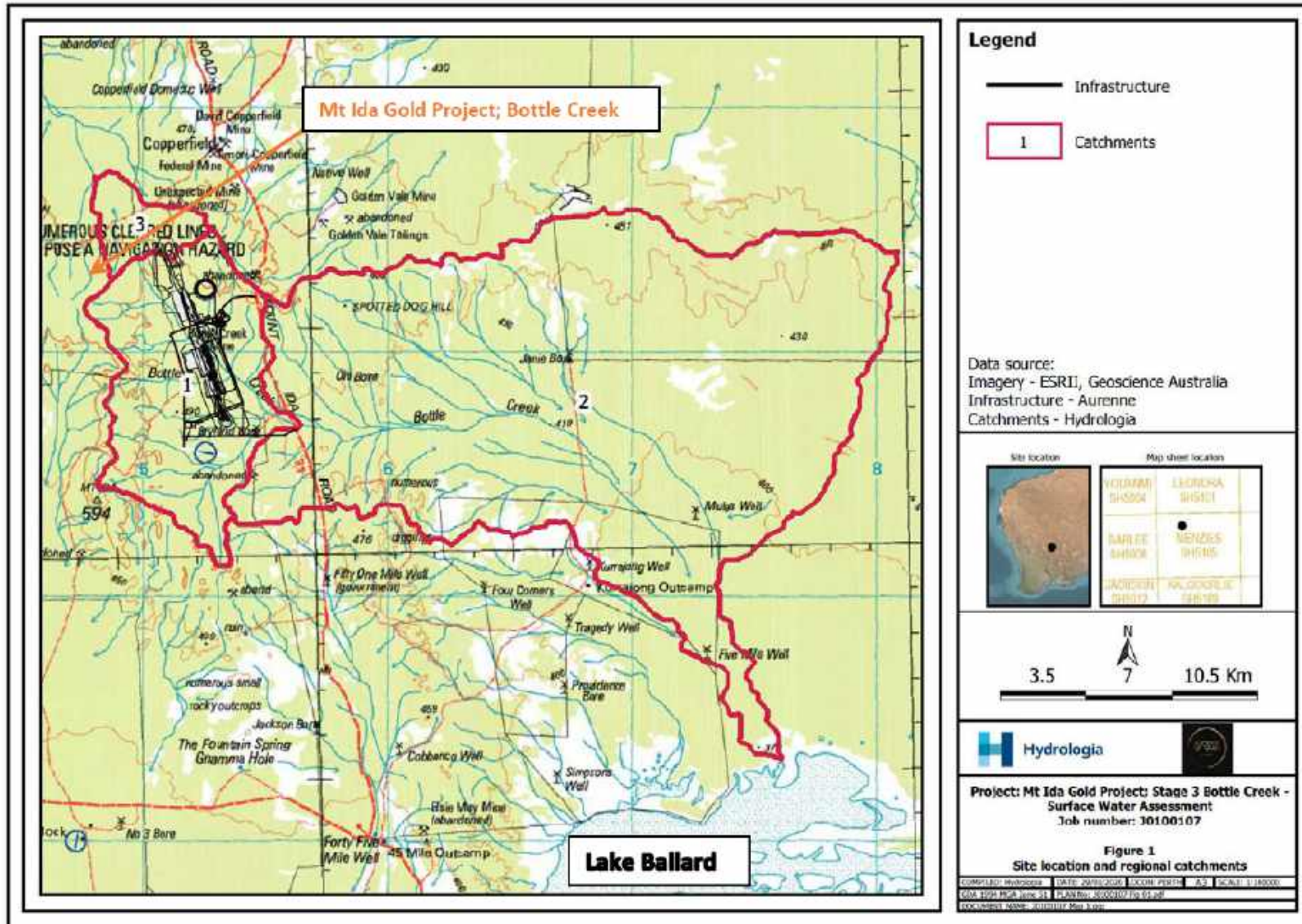


Figure 8: Project Catchment and Project Distance to Lake Ballard

Implications of the hydrological setting relevant to the IWL TSF raises have been considered. Key implications are:

- The Project location is considered low risk due to its distance from key significant hydrological environmental receptors i.e. Lake Ballard. Hydrologia (2026) concluded that catchment reduction effects are small at the site scale and negligible at the Lake Ballard scale (11.3% reduction in Catchment 1 and 2.0% reduction in Catchment 2).
- Local erosion is unlikely to affect the wider receiving environment due to location of the MIG Project in the upper catchment location and buffer distance to Lake Ballard.
- Surface water modelling around the IWL TSF infrastructure (Attachment 8C, Hydrologia 2022 and Hydrologia 2026) has informed surface water management and bunds, levees and drains will be constructed to divert storm water around the proposed mine layout.

7.5 Hydrogeology

The regional aquifers are characterised by weathered and fractured bedrock with faulting and shearing which controls the occurrence and movement of groundwater. The Raeside Fractured Rock Aquifer extends across the northern third of the MIG Project tenements whilst the south is occupied by the Rebecca Fractured Rock Aquifer with the Rebecca Paleochannel underlying the Bottle Creek drainage line.

Standing groundwater levels vary between 28.9 m and 44.3 m below surface and are indicative of semi-confined to confined conditions.

Groundwater within the MIG Project vicinity varies between circum neutral (pH <8 i.e. most bores except Tims Bore at 8.01) and alkaline (pH 8 to 9, i.e. the open pits) with marginal (between 500 mg/L and 1,000 mg/L TDS i.e. Walling Rock BIF Water Bore) to saline (2,000 mg/L and 10,000 mg/L TDS, Tim and Boag Bores) and highly saline (10,000 mg/L to 35,000 mg/L, Emu and Shepherds Bores and the Boags and VB open pits).

Most groundwater sources, excluding the Walling Rock BIF Bore, have elevated concentrations of sulfate (between 530 mg/L and 4,460 mg/L SO₄), chloride (between 1,020 mg/L and 14,300 mg/L Cl), sodium (between 678 mg/L and 6,970 mg/L) and potassium (between 20 mg/L and 246 mg/L). Consequently, groundwater may be classified as a Na-Cl type water indicative of a stagnant groundwater regime in which little if any recharge is taking place (Attachment 8D, Pendragon Environmental 2021).

Groundwater monitoring bores have been installed around the IWL TSF and baseline monitoring has been conducted with monitoring ongoing as per Works approval and TLO requirements.

Implications of the hydrogeological setting relevant to the IWL TSF raises have been considered. Key implications are:

- The Project location is considered low risk due to its distance from key significant groundwater environmental receptors i.e. Priority Ecological Communities (calcrete subterranean ecological communities) present in the wider region.
- Groundwater monitoring bores have been installed down gradient of the IWL TSF and ongoing monitoring will continue in accordance with Works Approval and Licencing requirements.

Results of groundwater monitoring undertaken around the IWL TSF to date do not indicate seepage impacts associated with TSF Stages 1–5. Groundwater level data show no evidence of mounding beneath or downgradient of the TSF, with standing water levels remaining well below action trigger levels (Aurene Mining 2025b). Groundwater chemistry beneath the IWL TSF is generally consistent with baseline conditions and regional fractured rock groundwater and does not reflect the elevated salinity or metalloid concentrations characteristic of process water or tailings pore water. A single isolated arsenic exceedance recorded during baseline monitoring was not repeated in subsequent sampling and is not considered indicative of TSF related seepage. Ongoing groundwater monitoring will continue in accordance with Works Approval conditions and future prescribed premises licensing requirements (Aurene Mining 2025b).

7.6 Flora and Vegetation

Desktop reviews of state and Commonwealth databases (DBCA Species and Communities Branch records, Protected Matters Search Tool, NatureMap, FloraBase, and WA Museum records) were undertaken to understand the flora and vegetation of the local and regional area.

The desktop review was supported by multiple on ground flora and vegetation surveys and undertaken across the Project area and surrounding tenements to inform mine planning and environmental approvals.

The results indicate that the Project area does not support flora or vegetation of high conservation significant at a local or regional scale. Vegetation is broadly representative of the wider Eastern Goldfields bioregion and has been subject to historical pastoral use, exploration and mining disturbance.

7.6.1 ESA, Schedule 1 and Conservation Estate

There are no conservation reserves, Schedule 1 areas or Environmentally Sensitive Areas (ESAs) within or adjacent to the proposed the Prescribed Premises.

7.6.2 Vegetation Type and Condition

A suite of flora and vegetation surveys have been undertaken to inform mine planning and approvals (NVS (2019a, NVS 2019b, Goldfields Landcare Services 2019, Phoenix Environmental Sciences 2021 and Clarke, V. (2022)), as per Table 5 and shown in Figure 9.

There are no records of Threatened or Priority Ecological Communities or vegetation types of restricted extent within the Project area. Vegetation present is common at the local and regional scale.

DBCA databased searches recorded the Perrinvale/Walling vegetation complexes (Banded Iron Formation (BIF)) priority ecological community (PEC) in the vicinity of the Project however this does not occur within the Project area (Meisner, R & Owen, G, 2010 and Phoenix Environmental Sciences 2021) and is not directly relevant to the proposed works.

Table 5: Flora and Vegetation Surveys within the Project Area

Year	Survey	Consultant	IBSA Ref.
2022	Flora – P1 Targeted Regional Survey	Brian Morgan and Vanessa Clarke	IBSA-2023-0416
2021	Flora, Vegetation and Terrestrial Fauna Surveys – Mt Ida Gold Project	Phoenix Environmental Sciences	IBSA-2021-0332
2019	Detailed Flora and Vegetation Survey of Tim's Find - Part 2	Native Vegetation Solutions (NVS)	IBSA-2020-0023
	Detailed Flora and Vegetation Survey of Tim's Find	Goldfields Landcare Services	
	Flora and Vegetation Survey of Bottle Creek	NVS	IBSA-2021-0130

The Project area is wholly within pastoral leases (Perrinvale & Riverina) that have been actively grazed by feral and managed stock for over 100 years. As a result, vegetation condition ranges from good to degraded, with grazing pressure, historical clearing, exploration activities and access tracks evident across much of the area.

7.6.3 Flora

Desktop reviews of State and Commonwealth biodiversity databases, including DBCA Species and Communities Branch records, NatureMap, FloraBase and the Protected Matters Search Tool, were undertaken to inform the flora context for the Project area. These database searches were supplemented by detailed, site specific flora surveys completed across the Project tenements.

Database searches indicated that 152 plant taxa have been recorded within the broader local area, including two Priority 1 species (*Drosera eremaea* and *Jacksonia lanicarpa*), two Priority 3 taxa and two Priority 4 taxa.

Site specific surveys identified a flora assemblage typical of the eastern Goldfields region, dominated by mulga and eucalypt woodland and shrubland communities on gently undulating plains. No Threatened flora species were recorded within the Project area.

Of the Priority flora species identified, only one Priority flora species, *Jacksonia lanicarpa* (Priority 1), was confirmed to occur within the Project area during field surveys. Targeted surveys and subsequent field observations have demonstrated that *Jacksonia lanicarpa* occurs widely within and beyond the MIG Project area, with thousands of individuals recorded locally (Figure 10). The species has a broad regional distribution extending over approximately 800 km and the Project area does not represent a range extension or isolated population. Based on survey results and population extent, clearing associated with the Project is not expected to impact on any *Jacksonia lanicarpa* (Priority 1) plants.

7.6.4 Introduced Flora

The PMST results listed to highly invasive weeds within the area (Wards weed **Carrichtera annua* and Buffel grass **Cenchrus ciliaris*). NatureMap (DBCA 2021) recorded one weed taxa (**Pentameris airoides* subsp. *airoides*) within the local area. However, given the degraded nature and long history and continued use as an active pastoral lease, there is likely to be a wider suite of grassy, herbaceous, and perennial weeds present. These weeds may be preferentially grazed by the cattle and donkey herds.

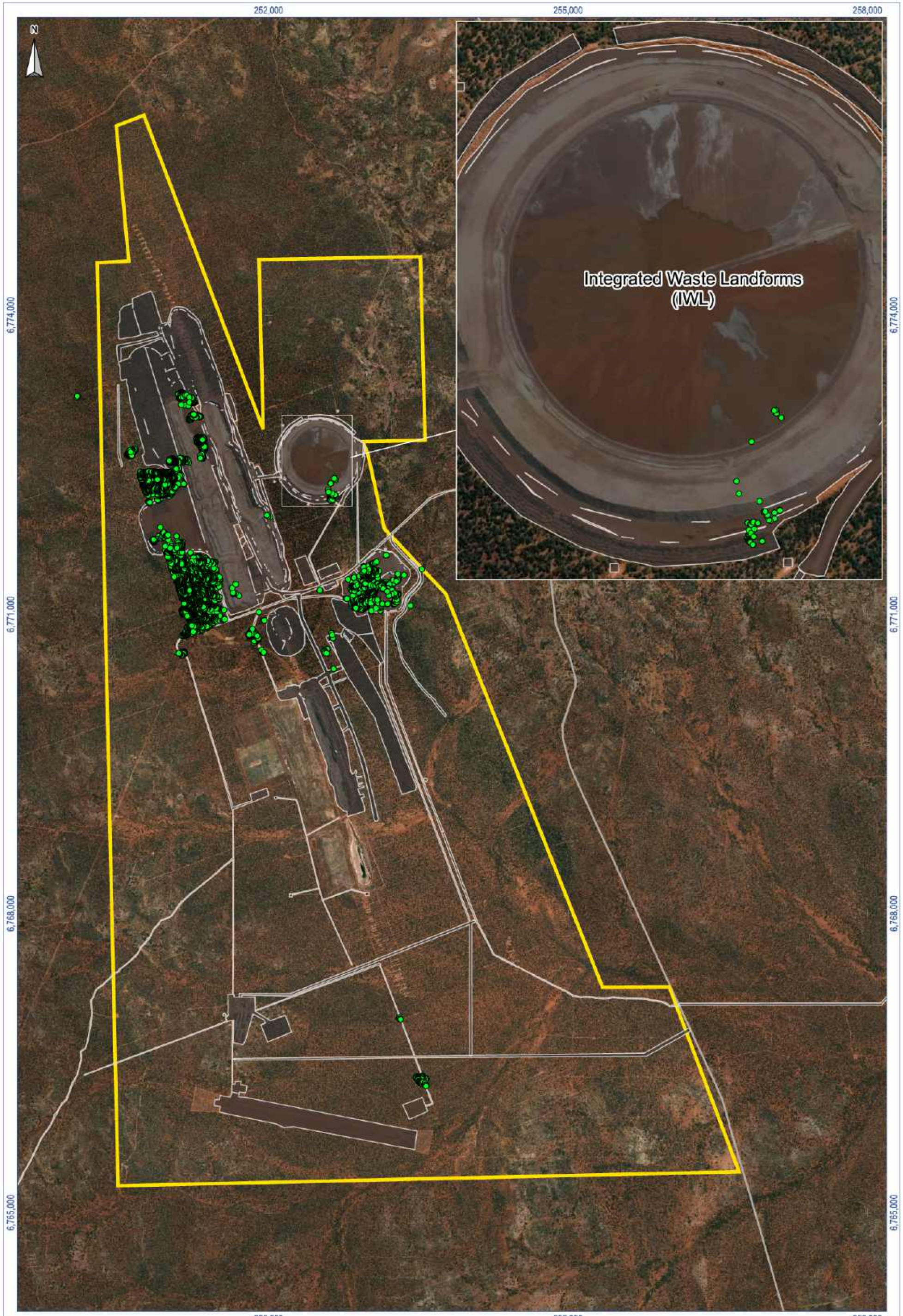
7.6.5 Implications for Risk Assessment

The vegetation communities present within the Project area are typical of the broader eastern Goldfields region and are well represented at a local and regional scale. Vegetation condition reflects long standing pastoral use and historical mining disturbance, with no flora assemblages identified as being of elevated conservation significance.

One Priority flora species, *Jacksonia lanicarpa* (Priority 1), occurs within the Project Area however targeted surveys have demonstrated that this species is widespread and abundant both within and beyond the Project area. The Project Area does not represent a range extension, isolated population, or critical habitat for this species, and clearing associated with the IWL TSF embankment raises is not expected to adversely affect its conservation status.

Banded iron formation (BIF) landforms and associated flora communities do not occur within the Project area and are spatially separated from proposed works. Accordingly, the proposed development is not expected to result in direct or indirect impacts to flora communities associated with BIF landforms in the wider region.

Vegetation clearing will be limited to the minimum extent required for the construction and operation of the Project, including the IWL TSF, and will be managed in accordance with standard clearing controls and rehabilitation practices. Given the absence of sensitive flora receptors and the scale and location of proposed disturbance, the likelihood of significant impacts to flora and vegetation values is low.



Scale: 1: 35,000
 Original Size: A3
 Grid: GDA2020 / MGA zone 51
 (EPSG:7851)
 0 0.5 1 km

- Legend**
- Local Road
 - Jacksonia lanicarpa Location
 - Site Layout
 - ▭ Prescribed Premise Boundary

Figure 10
Priority Flora Locations



\\p1server\corp\GIS\1_Maps\1001_P10_PriorFloraLocations_2264M02_P10_PriorFloraLocations_2025.gpx 11/12/2025 12:19:10 PM Priority Flora Locations

7.7 Fauna and Fauna Habitats

Desktop reviews of state and Commonwealth databases (DBCA Species and Communities Branch records, Protected Matters Search Tool, NatureMap, FloraBase, and WA Museum records) were undertaken to understand the fauna of the local and regional area.

Desktop searches are supported by a number of fauna surveys which have been undertaken to characterise fauna values within the Project area and to inform mine planning and environmental approvals. The results indicate that the Project area does not support fauna habitats or assemblages of high conservation significance at a local or regional scale. Fauna habitats are broadly representative of the wider Eastern Goldfields bioregion and have been influenced by long term pastoral use, exploration and historic mining disturbance. No fauna species or habitats assessed to date are considered unique or restricted to the Project area.

7.7.1 Fauna Habitats and Condition

A suite of fauna surveys have been undertaken to inform mine planning and approvals (Terrestrial Ecosystems 2019a, 2019b and 2025, Bennelongia Environmental Consultants 2021 and Phoenix Environmental Sciences) as per Table 6 and shown in Figure 9.

Table 6: Fauna Surveys Within the Project Area

Year	Survey	Consultant	IBSA Ref.
2025	Vertebrate Fauna Assessment – Mt Ida Gold Project	Terrestrial Ecosystems	IBSA-2025-0139
2021	Flora, Vegetation and Terrestrial Fauna Surveys – Mt Ida Gold Project	Phoenix Environmental Consultants	IBSA-2021-0332
2021	Mt Ida Gold Project Subterranean Fauna Desktop Assessment and Survey Report	Bennelongia Environmental Consultants	IBSA-2021-0331
2019	Level 1 Vertebrate Fauna Risk Assessment – Bottle Creek	Terrestrial Ecosystems	IBSA-2020-0022
2019	Level 1 Vertebrate Fauna Risk Assessment – Tim's Find	Terrestrial Ecosystems	IBSA-2021-0175

Fauna habitats within the Project Area are generally in Good to Very Good condition but are relatively uniform, being predominantly associated with mulga-eucalypt woodland on plains and gentle rises. Habitat diversity is limited due to the absence of complex landforms such as banded iron formations, breakaways or calcrete systems.

Historical and ongoing disturbance from pastoral grazing, feral animals, exploration activities and previous mining has modified habitat structure in some areas, particularly through vegetation thinning and presence of access tracks. Similar habitats are widespread and continuous across the local and regional landscape.

7.7.2 Conservation Significant Fauna

State and Commonwealth fauna databases identify a number of conservation significant fauna species as potentially occurring within the wider region, however survey effort to date indicates that records within the Project Area are limited. Targeted field surveys undertaken between 2019 and 2025 (Table 6) provide a more refined understanding of fauna values compared to desktop searches.

7.7.2.1 Malleefowl

The Project Area provides potential foraging and breeding habitat for Malleefowl. No active or recently active mounds have been recorded within the Project Area. Surveys identified a small number of very old or inactive mounds (Phoenix 2021), indicating historical use of the broader landscape. While Malleefowl may utilise the area opportunistically for foraging, suitable habitat is widespread in the surrounding region does not contain dense shrub thickets typically associated with preferred breeding habitat. Ongoing mound observations form part of routine environmental management for the life of the Project.

7.7.2.2 Short Range Endemics

SRE survey was undertaken in 2021 (Phoenix) to understand the baseline biodiversity values of the Project area. Previous desktop information had inferred that the region was not prospective for SREs but the 2021 results showed that a lack of sampling effort both locally and regionally mean that the region is under sampled and a reasonably diverse assemblage of invertebrates is found. New species of millipede, centipede and spider was collected but due to the homogeneity of habitats in the Project area and the wider region, no species is likely to be restricted to the Project area (Phoenix 2021).

7.7.2.3 Subterranean Fauna

Similarly, desktop information reviewed proposed that the Project area was unlikely to contain prospective habitat for subterranean fauna due to the fractured rock and hypersaline subterranean environment. The results of the 2021 baseline survey (Bennelongia) indicate that conservation significant species and high biodiversity subterranean communities are found regionally in paleodrainage channels or subterranean calcretes, which do not occur within the Project area.

7.7.2.4 Arid Bronze Azure Butterfly

While some suitable habitat (smooth barked eucalypts on sandy soils) (Williams et al 2018; 2020) was identified during field surveys (Phoenix 2021), no nests of the ant *Camponotus* sp. nr. *terebrans*, which acts as a host for the Arid Bronze Azure Butterfly (*Ogyris subterrestris* subsp. *petrina*; CR EPBC & BC Acts), were identified in the study area.

This survey component was undertaken by a suitably qualified specialist with extensive experience in detecting the species and its host (Dr John Scanlon), providing a high level of confidence in survey outcomes.

7.7.3 Introduced Fauna

Database searches indicate that a number of introduced fauna species may occur in the region, including camels, donkeys, cattle, dogs, cats, goats, horses, rabbits and foxes. The Project area is located within an active pastoral lease, and feral donkeys and cattle are known to occur at relatively high densities.

Introduced fauna presence reflects regional land use rather than Project specific impacts, and management of feral animals is addressed through existing pastoral and operational controls.

7.7.4 Implications for Risk Assessment

Based on extensive fauna surveys undertaken between 2019 and 2025, the Project is considered to present a low risk to fauna values. Fauna habitats within the Project Area are widespread, relatively uniform, and well represented at both local and regional scales.

No Threatened Ecological Communities, unique landforms, or restricted fauna habitats occur within the Project Area, and conservation significant fauna species identified through desktop assessments are either absent, occur at low densities, or utilise the area opportunistically rather than as critical habitat.

Potential impacts associated with vegetation clearing have been assessed through the approved native vegetation clearing permit (CPS 9383/3), which considered Priority fauna and potential Malleefowl foraging habitat. Given the scale and location of proposed works, and the availability of extensive surrounding habitat, Project activities are unlikely to result in significant impacts to fauna populations or biodiversity values.

7.8 Heritage

Desktop searches of the Department of Planning, Lands and Heritage (DPLH) Aboriginal Heritage Inquiry System and previous heritage assessments indicate that there are no registered Aboriginal heritage sites or other heritage places within the proposed PP boundary.

A desktop Aboriginal heritage assessment (O'Connor 2019), supported by subsequent field based surveys undertaken in 2019 and 2020, did not identify any places of cultural or archaeological European heritage values associated with historic mining activity occur in the wider Mt Ida region; however, no registered European heritage places are located within or adjacent to the proposed Prescribed Premises. As such, European heritage does not present a constraint to the siting of the proposed works.

Aboriginal and European heritage do not represent a siting constraint for the proposed Prescribed Premises. Aurene will continue to meet its obligations under the *Aboriginal Heritage Act 1972*, including implementation of a stop work procedure should previously unidentified heritage material be encountered during construction of the IWL TSF embankments.

8 ENVIRONMENTAL SITING

The proposed Prescribed Premise is in a reasonably remote area of the Goldfields, providing a significant separation distance from potential sensitive receptors; both human and environmental.

In accordance with the *Guidance Statement: Risk Assessment* (DER 2017), employees, visitors and contractors for Project construction and operations have been excluded from the risk assessment. Protection of these parties often involves different exposure risks and prevention strategies and is provided for under other state legislation.

Table 6 and Attachment 7 (Environmental Siting) provide a summary of potential anthropogenic and environmental receptors that may be impacted as a result of activities upon, or emission and discharges from, the Prescribed Premises (Guidance Statement: Environmental Siting (DER 2016).

There are no recorded contaminated sites in the vicinity (DWER 2026).

Table 7: Environmental Siting Features and Identified Closest Potential Receptors

Human Receptors	Distance from Proposed Prescribed Premises Boundary
Residential Premises	Walling Rock Station Homestead is located approximately 15 km to the south west and is the nearest residential premise well outside the EPA Guidelines - <i>Separation Distances between Industrial and Sensitive Land Uses (2005)</i> of 1000 to 2000 m for Gold operations.
Residential Premises	Shire of Menzies & Leonora townsites. Both over 100 km away to the north east and south east.
Environmental Receptors	Distance from Proposed Prescribed Premises Boundary
Specified Ecosystems/ ESAs	Lake Ballard (ESA)(nominated Ramsar wetland) approximately 18.5 km south east. Perrinvale/Walling Vegetation Complexes (BIF) Priority Ecological Community (PEC) approximately 650 m west of the proposed PP boundary.
Underlying groundwater	Rebecca Fractured Rock Aquifer with the Rebecca Paleochannel underlying the Bottle Creek drainage line. Standing groundwater levels vary between 28.9 m and 44.3 m below surface and appear to be of a semi-confined to confined aquifer and flow regime.
Public Drinking Water Source Area	Approximately 300 km north of Sandstone Water Reserve.
RWI Act Proclaimed Areas	Within the Goldfields Proclaimed Groundwater Source Area. Not within a Surface Water Proclaimed Area.
Conservation significant flora, fauna, communities, conservation areas	Goongarrie National Park is approximately 200 km south. No Threatened flora or TEC in Project Area or vicinity. Priority flora records from local area; one to be impacted (<i>Jacksonia lanicarpa</i> P1) by clearing but no significant impact (take) and regulated under NVCP CPS 9383. Habitat for Threatened Fauna (<i>Malleefowl</i> , <i>Longtailed Dunnart</i> (near Threatened)) for foraging purposes, no active or recently active mounds. Limited clearing area and low potential impact. Clearing regulated under NVCP CPS 9383.
Aboriginal & European heritage	No registered Aboriginal or European heritage sites within the proposed Prescribed Premises. No Native Title exists. Heritage considered and screened out as a siting constraint based on desktop and field surveys.

9 PROPOSED WORKS

This section describes the prescribed activities relevant to the construction of additional raises to the IWL TSF Stages 6–8 and outlines the design basis, construction activities, and operational assumptions that demonstrate the facility can be constructed and subsequently operated in a manner that appropriately manages environmental risks.

Operational controls, monitoring, and management measures described in this section represent design assumptions and commitments that will be implemented through a prescribed premises licence, the IWL TSF Operations Manual, and associated CCI requirements.

The general arrangement of prescribed activities within the Bottle Creek Project area and proposed Purpose Permit boundary is shown on Figure 3.

The IWL TSF is a Category 5 prescribed activity associated with tailings storage/containment. Construction has occurred in stages under separate Works Approvals (Table 4).

This Works Approval application seeks approval only to construct additional raises (Stages 6–8) above the existing Stage 5 crest (510 mRL) to an ultimate crest of 520 mRL, comprising:

- Stage 6 raise: 510 mRL to 513 mRL
- Stage 7 raise: 513 mRL to 516 mRL
- Stage 8 raise: 516 mRL to 520 mRL

No changes to the TSF footprint beyond those required for the approved raises are proposed. Based on current mine scheduling, IWL TSF Stages 2–5 are expected to approach capacity by mid-2026, necessitating timely construction of additional storage capacity to maintain tailings management.

Commencing in Q3 2026, mine scheduling indicates that tailings will comprise variable blends of oxide, transitional and sulphide (primary) ore. The proportion of sulphide material in mill feed and tailings residue is not expected to exceed approximately 60% sulphides over the life of the proposed raises.

Tailings characteristics associated with these blended ore types have been assessed through updated geochemical testwork undertaken by Pendragon (Attachment 8A, Pendragon 2026), and the outcomes of that assessment have been incorporated into the design, risk assessment and operational framework for IWL TSF Stages 6–8.

9.1 Basis for Design

The design, construction and operation of the IWL TSF, including the proposed Stages 6–8 raises, have been undertaken in accordance with the Australian National Committee on Large Dams (ANCOLD) (2019) *Guidelines – Planning, Design, Construction, Operation and Closure of Tailings Dams*.

The original IWL TSF design for Stages 1–5 was prepared by CMW Geosciences (2021). CMW Geosciences has subsequently prepared an updated engineering design and construction specification for IWL TSF Stages 6–8, incorporating:

- Revised tailings physical properties
- Updated surface water modelling outcomes

- Increased tailings dewatering efficiency associated with the proposed thickener upgrades within the processing plant.

The updated design documentation supporting this Works Approval application is provided in Attachment 8B (CMW Geosciences 2025).

9.2 Tailings Physical Properties

Tailings physical properties adopted for the design of IWL TSF Stages 6–8 are based on laboratory testing and geotechnical assessment undertaken by Western Geotechnical Laboratory Services and incorporated into the design by CMW Geosciences (Attachment 8B).

The design assumes an average tailings slurry density of approximately 60% solids by weight, reflecting the proposed installation of additional thickening infrastructure within the processing plant (subject to Approval of a separate Works Approval application currently under assessment). The engineering properties of the tailings adopted for the IWL TSF Stages 6-8 are summarised in Table 8.

Table 8: Tailings Physical Characteristics for IWL TSF Stages 6-8

Property	Physical Properties
Soil Particle Density	2.7 t/m ³
Average Slurry Density	60% solids w/w
Tailings Density	Dry density range 1.50 t/m ³ to 1.6 t/m ³
Moisture Content	25%
Particle Size Distribution	Tailings classified as non-plastic silt with sand with 92% fines (i.e. material passing a 75 micron sieve)
Cohesion	0 kPa
Friction Angle	33°
Hydraulic Conductivity	1 x 10 ⁻⁷ m/s

The increased slurry density represents an improvement on the previously deposited tailings density (approximately 45% solids) and is expected to reduce the volume of slurry discharged to the TSF, improve tailings beach development, enhance water recovery, and increase overall storage efficiency.

9.3 Tailings Chemical Properties

Tailings discharged to IWL TSF Stages 1–5 were characterised by Graeme Campbell and Associates (2021). The tailings were classified as Non-Acid Forming (NAF), with very low sulphide sulphur content and mildly alkaline, hypersaline tailings water.

Cyanide management within the CIP circuit includes lime addition to maintain elevated pH, further reducing any potential for acid generation.

Metallurgical testwork and mine scheduling have identified that future processing will include varying proportions of oxide, transitional and sulphide ores. Tailings slurry samples representative of these blends were geochemically characterised by Pendragon (Attachment 8A, Pendragon 2026).

The assessment concluded that:

- Tailings generated from oxide–sulphide blends are non-acid forming to potentially acid forming with low sulphur content.
- Any acid generation potential is effectively mitigated by the high alkalinity of the process water and lime addition within the CIP circuit.
- Leachate chemistry is dominated by salinity rather than acidity, with metals present in stable geochemical forms.

These findings have been incorporated into the design and operational assumptions for IWL TSF Stages 6–8 and confirm the suitability of the facility for the proposed tailings streams.

9.4 Design Acceptance Criteria

Classification of the IWL TSF at its ultimate height, in accordance with Tables 1 and 2 of the Department of Mines & Petroleum (2013) Code results in a hazard rating of High Category 1 based on the following:

1. Possible loss of life, Population at Risk (PAR) of ≥ 10 and < 100 (noting the PAR are mine personnel). The potential for tailings to flow > 725 m to the west towards Southwark Pit and Emu Pit operations, and > 800 m to the south towards the processing plant, office, workshop, and campsite operated by ARS.
2. Significant impact on business.
3. Adverse effects on natural environment, flora and fauna are possible.
4. Mine infrastructure economic loss is medium (\$10M to \$100M). No loss of public infrastructure expected.
5. Repairs to the IWL TSF would be practicable.
6. Maximum embankment height is approximately 32 m.

Based on the above considerations and Table 1 of ANCOLD (2019), a ‘Medium’ damage was assigned by CMW. It is characterised by loss of infrastructure of the order \$10 M to \$100 M, significant impacts to business (i.e. the mine), impact area 5 km² or less, impact duration less than 5 years and limited effects to native flora and fauna.

The consequence category to ‘Medium’ damage, based on Table 2 of ANCOLD (2019) and with a population at risk (PAR) of ≥ 10 to < 100 , is ‘High C’.

Based on the hazard rating / consequence category assessment, CMW adopted the design criteria provided in

Table 9.

The results of the design assessments for the IWL indicate that the facility can be safely operated on the basis that:

- Liberated water is continually removed from the surface of the tailings.
- Tailings deposition is cycled around the facility to maximise tailings density and therefore the storage volume.
- The facility is operated in accordance with the details contained in the Operations Manual.
- The safe operation of the storage relies upon the implementation of the tailings' operation, management inspection and maintenance procedures.

The probability of major embankment failure during the life of the IWL is assessed as being low provided the IWL is implemented (constructed and operated) within the intent of the design in accordance with the scope of works for the construction and operations manual (CMW Geosciences 2026; Attachment 8B).

Table 9: Design Criteria for IWL TSF Stage 8

Design Flood and Freeboard (ANCOLD, 2019)	
Design storm Storage allowance (DSA)	1 in 100-year AEP, 72-hour storm event
Wave Run-Up	1 in 10-year AEP wind event.
Freeboard	A 300 mm operational + 200 mm beach freeboard
Spillway During Operation	Spillways are not required for this IWLTSF
Spillway Post-Closure	Spillways are not required for this IWLTSF
Diversion Structures During Operation	Not required because IWL is a paddock facility and incident rainfall can be stored on the facility
Stability (ANCOLD, 2019)	
Earthquake Loading	Operating Basis Earthquake (OBE) is 1 in 475 years annual exceedance probability (AEP) Some damage to the dam but no loss in operational integrity
	Operation and Active Care Closure: Safety Evaluation Earthquake (SEE) (previously MDE) is 1 in 2,000 years AEP (High C)
	Post-closure: Maximum credible earthquake (MCE), 1:2,000 year AEP
Minimum Factor of Safety (FoS)	Short term undrained after construction, 1.3 Long-term drained during operations, 1.5 Short-term undrained during operations, 1.5 Post-seismic, 1.0 – 1.2. 1.0 would be adopted for analysis with lower-bound strength parameters

9.5 Tailings Storage Facility Design

9.5.1 Characteristics

The IWL TSF Stages 6–8 will be constructed as an extension of the existing facility on G29/29 and ML29/151, increasing the crest elevation from RL 510 m to RL 520 m. The raises provide approximately

3.4 Mm³ of additional storage capacity, supporting continued operation under approved processing scenarios. The IWL TSF Stage 6-8 will increase the disturbance area by approximately 12 ha.

9.5.2 Embankment Design

The current design proposes three additional raises comprising lifts of 3 m, 3 m, and 4 m in height to achieve a final crest level of RL 520 m AHD. This will increase the maximum embankment height to approximately 32 m and provide an additional storage capacity of 3.4 Mm³.

The embankments will be constructed as zoned structures, with an upstream low permeability compacted clayey mine waste zone and a downstream traffic compacted mine waste zone. Slopes are 1V:2H upstream and 1V:3H downstream, with a minimum crest width of 13 m.

The extent of the IWL TSF Stage 6-8 at the final stage is presented in the Project General Arrangement in Figure 3 and Figure 11. A typical cross section is shown in

Figure 12.

9.5.3 Embankment Geometry

The IWL TSF embankment has design slopes of 1(V):2(H) upstream and 1(V):3(H) downstream, with a minimum crest width of 13 m (upstream and downstream zones). The compacted upstream zone (clay) will have a minimum width of 5 m including the crest of the embankment. Mining vehicles used to carry out construction and maintenance shall be selected to suit dimensions. The upstream embankment crest will have a 2% cross fall towards the upstream side, 0.5 m (minimum) high mine waste safety bund (windrow) at the downstream crest, and above ground tailings pipeline at the upstream crest.

The decant causeway has design slopes of 1:1.5 (V: H) and a nominal 6 m crest width. The crest of the decant causeway will have 0.5 m minimum high windrows on both sides of the accessway. Breaks in the windrow on the low side will allow surface water to run off.

The design geometry of the proposed IWL Embankment construction are presented on Drawings PER2025-0260AB in Attachment 8B (CMW Geosciences 2026).

9.5.4 Water Recovery System

Water will be recovered via a central decant system with a minimum recovery capacity of 4,932 m³/day (206 tph) and returned directly to the process plant.

The IWL TSF has been designed to maintain a minimum total freeboard of 0.7 m, comprising operational freeboard (300 mm), beach freeboard (200 mm), and storm storage allowance for the 1 in 100-year AEP, 72-hour rainfall event, consistent with ANCOLD (2019) requirements for a High C consequence category facility.

Return water will be pumped directly to the process plant for reuse. From time to time, surface water will be removed from IWL by a pontoon mounted decant pumps to assist the central decant tower pump.

Pipelines are /will be 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.

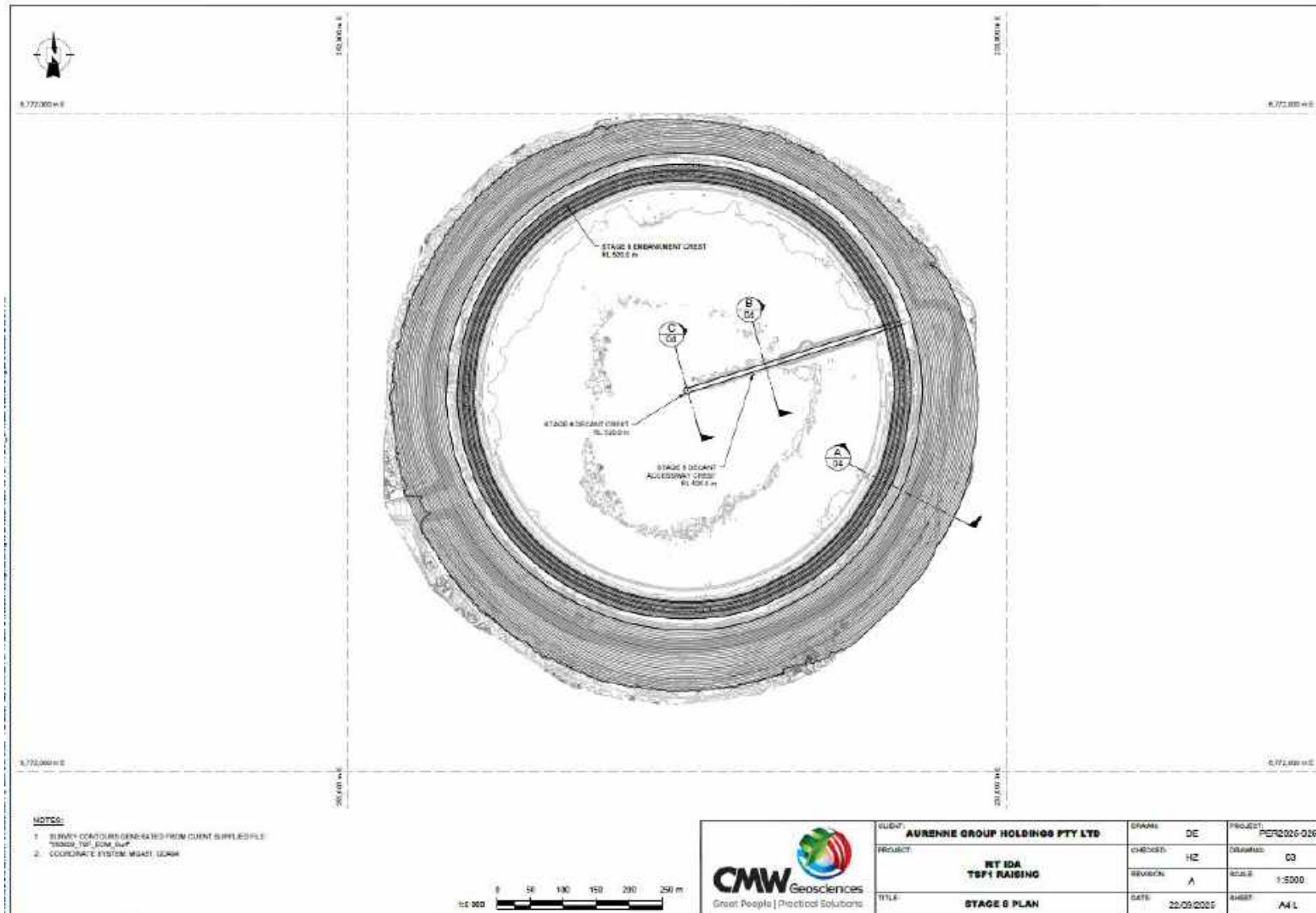


Figure 11: IWL TSF Stage 6-8 Raising - Stage 8 Plan

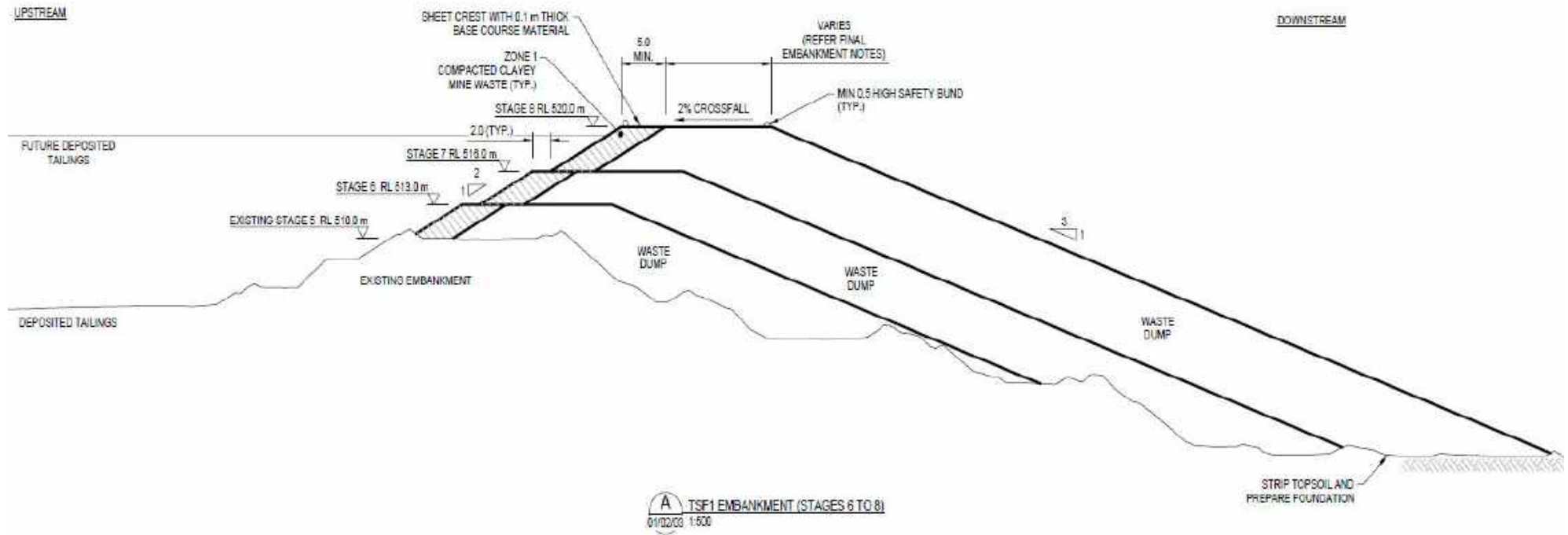


Figure 12: IWL TSF Stage 6-8 Design Cross-Section

9.6 Seepage

Seepage control is achieved through subgrade preparation and roller compaction to provide a low permeability layer at the base of the IWL.

Groundwater monitoring bores and vibrating wire piezometers are installed around the facility and will continue to be monitored in accordance with Works Approval and future licensing requirements.

9.7 Stability

CMW undertook stability analysis in general accordance with ANCOLD (2019) to assess the stability of the IWLTSF Southern embankments at Stage 6, 7, and 8. Three cases were examined:

1. Case 1: Static Analysis – Downstream failure of southern embankment, at Stage 8.
2. Case 2 Static Analysis – as per Case 1 but under undrained conditions based on the limit equilibrium method.
3. Case 3: Post-Seismic Analysis – as per Case 2, utilising post-seismic strength parameters.

The results of the analysis (Table 10) demonstrated that the IWLTSF is a robust structure and the factors of safety for the drained, undrained and pseudo-static conditions when compared with the recommended minimum factors of safety in ANCOLD (2019) are above the required minimum for this structure type.

Table 10: Results of Stability Analyses

Cases for m520 mRL	Factor of Safety	Recommended Minimum FoS
Case 1 – Static Analysis	2.5	1.5
Case 2 – Undrained Static	2.5	1.5
Case 3 – Post Seismic	2.0	1.0 – 1.2

The IWL TSF Stage 6-8 has been designed to provide temporary water storage following extreme storm events. If water does extend to the embankment, which is considered very unlikely, it is anticipated this will be a temporary occurrence given continuous water removal from the IWL. The tailings storage is operated in such a manner as to ensure that the 'normal' supernatant pond is kept well away from the embankment at all times.

Assessment of embankment deformation due to earthquake was estimated using the Swaisgood (2003) method. This method utilises an empirical formula based on observed crest settlement resulting from analysed 'real' earthquakes, with no liquefaction.

From the analysis, it was concluded that for the highest embankment section, the deformation due to a estimated seismic event is likely to be in the order of 14 mm. Such deformation is insignificant when compared with the minimum required total freeboard of 700 mm (Attachment 8B, CMW Geosciences 2026).

9.8 Operational Aspects

Tailings will be deposited sub-aerially in thin lifts using perimeter spigots.

Supernatant water will be actively managed and recovered to the processing plant.

CNWAD concentrations in decant water will remain below accepted industry guideline values, and the hypersaline nature of the water reduces attraction to fauna.

9.8.1 Freeboard

The IWL TSF has been designed to temporarily store runoff from a 1 in 100 year Annual Exceedance Probability (AEP), 72-hour storm event on the surface of the facility, consistent with ANCOLD (2019) guidance for a High C consequence category facility. The design assumes that operational controls are implemented and that supernatant water is routinely removed from the facility to maintain required freeboard.

The design provides a minimum total freeboard of 0.7 m, comprising:

- Operational freeboard: 300 mm (vertical separation between the tailings beach and embankment crest).
- Beach freeboard: 200 mm.
- Storm storage allowance: equivalent to the 1 in 100-year AEP, 72-hour rainfall depth of 228 mm.

Site specific Intensity–Frequency–Duration (IFD) data indicate that a 1 in 100-year AEP, 72-hour storm event would generate a rainfall depth of approximately 228 mm. Assuming a conservative runoff coefficient of 1.0 over the IWL catchment area (approximately 36 ha), this equates to a stormwater volume of approximately 82,000 m³.

ANCOLD (2019) also recommends consideration of wave run-up associated with a 1 in 10 year AEP wind event for facilities with a High C consequence category. For the IWL TSF, perimeter tailings deposition and an anticipated beach slope of approximately 1% provide separation between the supernatant pond and the embankment, such that wave run-up is not expected to reach the embankment under normal operating conditions.

At full supply level, the available freeboard provides an additional storage capacity of approximately 300,000 m³, which exceeds the estimated storage volume associated with the Probable Maximum Precipitation (PMP) event (approximately 231,000 m³). Accordingly, the risk of overtopping is considered low.

No spillway is required, as stormwater from extreme rainfall events can be temporarily stored within the IWL basin and managed through operational water recovery.

9.8.2 Monitoring

A network of groundwater monitoring bores has been installed around the perimeter of the IWL TSF in accordance with ASTM D5092/D5092M-16, to monitor groundwater levels and groundwater quality, particularly in downgradient locations. Details of bore construction by a licensed water bore driller have been submitted in accordance with DWER requirements.

Monitoring parameters and frequency will be implemented in accordance with the conditions of the applicable Works Approval and future licence. Routine monitoring data will be reviewed to identify any trends in groundwater levels or quality that may indicate seepage or changes in groundwater conditions.

Groundwater recovery is not currently anticipated due to the recovery and reuse of decant water from the IWL. However, should monitoring indicate sustained groundwater level increases or changes attributable to IWL operations, a groundwater recovery or management response will be developed as required.

In addition to groundwater monitoring, daily inspections of the IWL facility, embankments and pipelines will be undertaken during construction and operation. Water sampling will be conducted in accordance with standard QA/QC procedures and analysed by NATA accredited laboratories.

9.9 Supporting Studies

The design and assessment of the IWL TSF Stages 6–8 have been informed by a suite of technical investigations, including:

- Geotechnical investigations and engineering design for the IWL TSF were undertaken by CMW Geosciences (2021) and updated for Stages 6–8 by CMW Geosciences (2025, Attachment 8B) to define foundation conditions, embankment geometry, construction methods, stability criteria and operational assumptions consistent with ANCOLD requirements.
- Tailings geochemistry assessments undertaken by Graeme Campbell & Associates (2021) and Pendragon Environmental (2026; Attachment 8A) were completed to characterise tailings produced from oxide, transitional and sulphide ore blends and to inform tailings management, containment design and environmental risk controls for the IWL TSF.
- Surface water investigations completed by Hydrologia (2021, 2022) and updated in Hydrologia (2026; Attachment 8C) were undertaken to characterise catchments, drainage pathways and flood behaviour and to inform the design of surface water management measures associated with the IWL TSF and broader Project infrastructure.
- Hydrogeological assessment and ongoing groundwater monitoring undertaken by Pendragon Environmental (2021) and Aurenne Mining (2025b) were completed to characterise regional aquifers, baseline groundwater quality and levels, and to inform seepage assessment, monitoring bore placement and groundwater protection measures for the IWL TSF.

Additional supporting studies included soil characterisation (Landloch 2021) and biodiversity surveys (Sections 7.6 and 7.7), which provided contextual information on physical and biological site characteristics.

Collectively, these assessments demonstrate that with the adopted design, operational controls and monitoring framework, the IWL TSF has a low potential to adversely impact surrounding environmental values.

9.10 Nature & Duration of Potential Discharges

Potential discharges during construction are limited to short term dust generation, which will be managed through standard dust suppression measures. During operation, tailings beaches are saline and crust forming, significantly reducing dust potential. No routine discharges to land or waters are proposed.

10 EMISSION SOURCES, PATHWAYS, RECEPTORS AND CONTROLS

10.1 Emission Sources and Discharges

This Works Approval application relates to the construction and time limited operations of additional raises to the existing IWL TSF (Stages 6–8). Accordingly, the potential emission sources considered are limited to those associated with construction operational activities.

Potential emissions and discharges relevant to the proposed works include:

- Dust generated during clearing, earthworks and embankment construction.
- Noise generated by construction equipment and vehicle movements.
- Potential spills or leaks of hydrocarbons, process water or tailings slurry during construction and commissioning.
- Stormwater runoff from disturbed areas.

No odour, light or gaseous emissions are anticipated as part of the proposed works. Ongoing operational emissions associated with tailings deposition and long term operation of the TSF will be regulated under an environmental licence, once issued.

Control measures to manage emissions during construction and commissioning are embedded in the design, construction methodology and Aurenne’s Environmental Management System (EMS), and are described below.

10.2 Emission Pathways

10.2.1 Leakage, Seepage and Infiltration

The IWL TSF is located within the Rebecca Fractured Rock Aquifer system, with standing groundwater levels typically between approximately 29 m and 44 m below ground level. A cemented ferricrete/hardpan layer occurs at shallow depth (approximately 2–3 m below surface), providing a natural barrier to infiltration and reducing the potential for downward migration of contaminants.

Seepage risk is further mitigated through:

- Low permeability ground preparation beneath the IWL basin.
- Staged construction and controlled tailings deposition.
- Continuous recovery and reuse of decant water, minimising ponding and hydraulic head.

Groundwater monitoring undertaken to date indicates no evidence of seepage impacts associated with TSF Stages 1–5, with groundwater levels and chemistry consistent with baseline and regional conditions (Aurenne Mining 2025b).

Surface water pathways are limited due to the Project’s location in the upper reaches of the Bottle Creek catchment, subdued topography, broad floodplains and absence of permanent watercourses. Surface water management structures have been designed to divert clean runoff around the TSF and capture

sediment from disturbed areas, reducing the potential for off-site transport of contaminants during rainfall events.

10.2.2 Air and Wind Dispersion

Dust and noise emissions may occur during clearing and construction activities. However, the proposed works are located in a remote area with no nearby sensitive receptors.

Dust generation will be managed through standard construction controls including water carts, speed restrictions and cessation of works during adverse wind conditions.

Noise emissions are expected to be short term and typical of mining construction activities. Given the separation distances to receptors, noise impacts are considered negligible. No odour or noxious air emissions are expected.

10.2.3 Discharge to Land

Planned discharges to land are limited to controlled deposition of tailings within the engineered IWL TSF.

Tailings and waste characterisation studies confirm that tailings are predominantly NAF, with saline and metalliferous characteristics managed through containment and alkaline operating conditions.

Unplanned discharges (e.g. spills, pipeline failures) will be managed through engineered containment, surface drainage controls, spill kits and Aurene's Spill Management Procedure (E-PRO-012). All spill events will be recorded and reported in accordance with internal procedures and DWER requirements.

10.3 Receptors

The proposed works are located in a remote area of the Goldfields with substantial separation from sensitive receptors. Key receptors considered include:

- **Human receptors:** The nearest residences are the towns of Menzies and Leonora (>100 km away). The nearest pastoral homestead is located more than 20 km from the IWL TSF.
- **Water resources:** There are no Public Drinking Water Source Areas within 100 km of the Project. The site is not located within a proclaimed surface water area.
- **Surface water and wetlands:** Bottle Creek is ephemeral and located more than 20 km upstream of Lake Ballard. Due to distance, catchment scale and surface water controls, impacts to Lake Ballard are considered highly unlikely.
- **Biodiversity:** No Threatened Ecological Communities occur within or adjacent to the proposed works area. While Malleefowl may forage in the broader landscape, no active or recent mounds occur within the disturbance footprint. Clearing is regulated under CPS 9383 and is not expected to result in significant impacts to biodiversity values.

11 ENVIRONMENTAL RISK MANAGEMENT APPROACH

11.1 Risk Identification and Management

Environmental risks associated with the proposed works have been identified and managed through:

- Design controls embedded in the IWL TSF engineering design.
- Conservative siting and separation distances.
- Construction and commissioning procedures.
- Monitoring programs.
- Implementation of Aurene's EMS.

Key environmental risks relevant to construction and commissioning include dust generation, spills, and potential seepage. These risks are considered low given the nature of the works, the receiving environment, and the controls in place.

11.2 Environmental Controls and Commitments

Environmental risks will be managed through the following measures:

- Construction will be undertaken in accordance with approved engineering design and Works Approval conditions.
- Use of clearing controls including demarcation of disturbance areas and authorisation by the Environmental Representative.
- Dust suppression using water carts and operational controls.
- Spill prevention and response measures, including bunded storage, spill kits and emergency response procedures.
- Surface water management structures to divert clean runoff and capture sediment.
- Groundwater monitoring to verify containment performance.

11.3 Residual Risk and Conclusion

The proposed IWL TSF Stage 6–8 raises are located in a remote setting with limited environmental sensitivity. With the implementation of the proposed design, management and monitoring measures, residual environmental risks associated with construction and commissioning are considered acceptable.

Operational risks associated with ongoing tailings deposition will be regulated through a prescribed premises licence and CCI requirements.

Accordingly, the proposed works can be undertaken without unacceptable risk to the environment, and approval under Part V of the EP Act is appropriate.

12 ENVIRONMENTAL MANAGEMENT

Aurenne Mining has implemented a corporate EMS and site specific Environmental Management Plan (EMP) that provide the framework for managing environmental aspects associated with construction, commissioning and operation of the IWL TSF.

The EMS and EMP are designed to ensure that environmental performance objectives are achieved through the implementation of documented management measures, procedures and work instructions that are consistent with Aurenne's Environmental Policy and applicable regulatory requirements. These systems apply to all Aurenne personnel and contractors undertaking works on the Premises.

Environmental management measures relevant to this Works Approval focus on the construction and raising of IWL TSF Stages 6–8, and address potential emissions, discharges and disturbances associated with earthworks, tailings infrastructure, water handling, chemical and hydrocarbon use, and waste management. Detailed operational controls for routine processing activities will be addressed under a prescribed premises licence once issued.

12.1 Environmental Management System Documentation

Key EMS documents relevant to the proposed works are summarised in Table 11. These documents establish the management framework for clearing controls, dust and noise management, spill prevention and response, waste handling, groundwater monitoring, biodiversity protection, and incident reporting.

Table 11: EMS Policies, Plans, Procedures and Forms for Environmental Compliance

Title	Document Reference
PLANS	
Environmental Management System Manual	E-PLA-001
Environmental Management Plan	E-PLA-002
Fauna Management Plan	E-PLA-003
Flora & Vegetation Management Plan	E-PLA-004
Malleefowl Management Plan	E-PLA-005
Environmental Management Standards	E-PLA-006
PROCEDURES	
Vegetation Clearing Procedure	E-PRO-001
Bushfire Management Procedure	E-PRO-002
Dust management Procedure	E-PRO-003
Env Hazardous Substances and Dangerous Goods Management Procedure	E-PRO-004
Waste & Landfill Management Procedure	E-PRO-005
Surface Water Management Procedure	E-PRO-008
Topsoil Management Procedure	E-PRO-009
Clearing Process Flow Diagram	E-PRO-010
Feral Cat Trapping Procedure	E-PRO-011
Environmental Spill Procedure	E-PRO-012
Washdown (Vehicle, Plant, Equipment) Procedure	E-PRO-013
Groundwater & Bore Monitoring Procedure	E-PRO-014
Stakeholder Liaison Strategy Procedure	E-PRO-015
Environmental Audit Procedure	E-PRO-016
FORMS	
Vegetation Clearing Permit Assessment & Authorisation Form	E-FRM-001
Vegetation Clearing Request Form	E-FRM-002
Environmental Spill Incident Form	E-FRM-003
Environmental Audit Record Form	E-FRM-004

12.2 Environmental Controls

Environmental controls applicable to construction and commissioning of the IWL TSF Stages 6–8 are summarised below.

- Clearing and disturbance:
 - Clearing is limited to approved disturbance footprints and authorised through the clearing permit process.
 - Clearing boundaries are clearly demarcated and verified prior to works.
 - Clearing activities are undertaken in accordance with CPS 9383 conditions and relevant management plans.
- Dust and noise:
 - Dust generation during earthworks is managed through water application, work scheduling and cessation of works during high wind conditions where required.
 - Construction noise is limited in duration and managed through standard mine site practices, noting the absence of nearby sensitive receptors.
- Tailings and water management:
 - Tailings deposition is undertaken in accordance with the approved TSF design and operational strategy, including controlled deposition, maintenance of freeboard and active water recovery.
 - Supernatant water is recovered and returned to the process plant, reducing seepage and water accumulation risks.
- Chemical and hydrocarbon management:
 - Chemicals and hydrocarbons are stored in appropriately designed and bunded facilities.
 - Spill response equipment is available at strategic locations and on mobile plant.
 - Spill response, reporting and remediation are managed in accordance with E-PRO-012.
- Waste management:
 - Domestic, putrescible and inert wastes are managed in accordance with the Waste and Landfill Management Procedure and disposed of at approved site facilities.
 - Waste streams are segregated where practicable and recycling undertaken where feasible.
- Biodiversity protection:
 - Fauna and flora management measures are implemented in accordance with approved management plans.
 - Pre-clearing inspections and inductions are undertaken to ensure awareness of biodiversity values and clearing constraints.

12.3 Monitoring

Environmental monitoring during construction and commissioning of the TSF raises will be undertaken in accordance with approved procedures and Works Approval requirements.

Monitoring relevant to the IWL TSF includes:

- Daily inspections of construction areas, laydown areas and tailings infrastructure to identify spills, erosion, unauthorised clearing or other environmental issues.
- Groundwater monitoring in established monitoring bores surrounding the IWL TSF, including ongoing assessment of groundwater levels and quality.
- Recording and review of monitoring data within Aureenne's corporate data management system to support compliance reporting and trend analysis.
- Ongoing operational monitoring requirements will be governed by conditions of the prescribed premises licence once issued.

13 RECORDING & REPORTING

Environmental records associated with construction, commissioning and any approved time limited operations will be maintained in accordance with Aurene's corporate records management procedures and the requirements of this Works Approval.

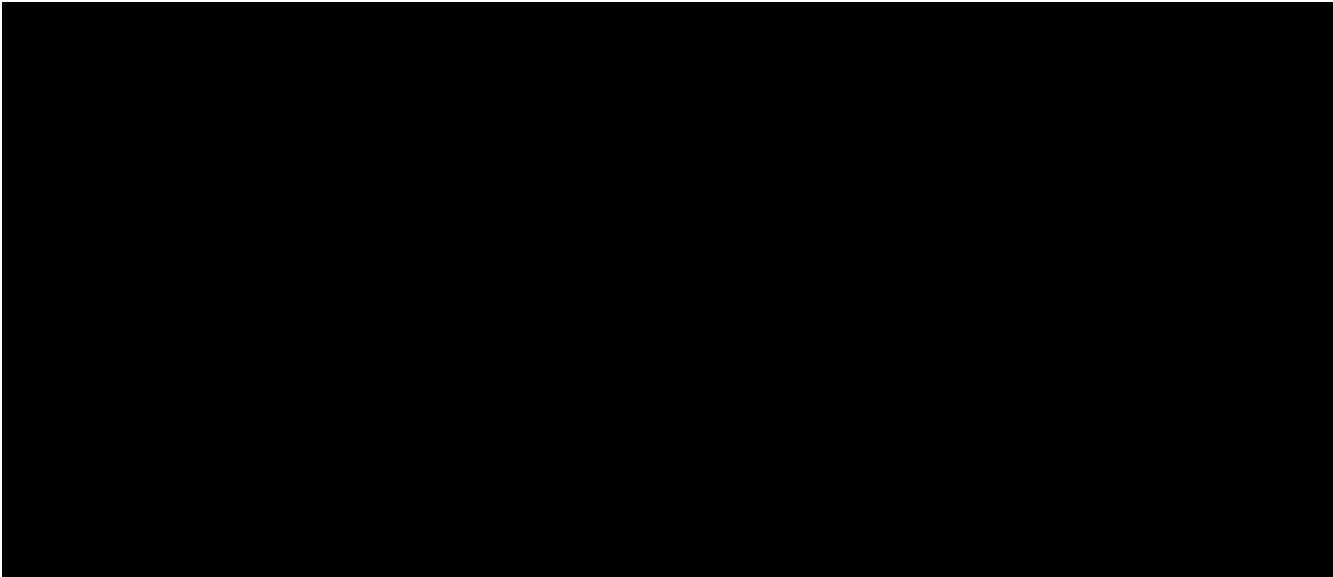
Records include, but are not limited to:

- Clearing permits and approvals.
- Environmental inspection and audit records.
- Spill and incident reports.
- Groundwater monitoring data.
- Construction completion documentation.

Reporting to DWER relevant to the IWL TSF includes:

- CCI Completion Reports for each TSF stage, including independent certification where required.
- Commissioning and or Time Limited Operations reports (if applicable).
- Annual Environmental Reports, including compliance statements and summaries of monitoring outcomes once licensed.

Aurene will notify DWER of any significant environmental incidents in accordance with regulatory requirements and internal procedures.



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APPENDIX A APPLICATION FORM (DWER)







ATTACHMENT 2 PREMISES MAP

ATTACHMENT 3C PRESCRIBED PREMISES BOUNDARY SPATIAL FILES

ATTACHMENT 5 RELATED APPROVALS

ATTACHMENT 7 SITING

ATTACHMENT 8 SUPPORTING INFORMATION

ATTACHMENT 8A: *SULPHIDE TAILINGS CHARACTERISATION (PENDRAGON 2026)*

ATTACHMENT 8B: *IWL TSF STAGES 6-8 DESIGN (CMW 2025)*

ATTACHMENT 8C: SURFACE WATER ASSESSMENT (HYDROLOGIA 2022 & 2026)

ATTACHMENT 8D: *HYRDOGEOLOGICAL ASSESSMENT (PENDRAGON 2021)*

**ATTACHMENT 8E: OXIDE AND TRANSITIONAL TAILINGS GEOCHEMISTRY
(CAMPBELL 2021)**



ATTACHMENT 12 BORE CONSTRUCTION REPORTS