



Application for Works Approval

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

Works Approval Number W3180/2025/1

Applicant Emerald Resources (WA) Pty Ltd

ACN 118 341 736

APP number APP-0031847

Premises Dingo Range Gold Project

Legal description

Part of mining tenements: M37/519 and M37/1309

As defined by the coordinates in Schedule 1 of the works approval and as defined by the premises maps attached to the issued works approval

Date of report 4 May 2026

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 W3180/2025/1 has been granted.

1.1 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. Purpose and scope of assessment

On 10 October 2025, Emerald Resources (WA) Pty Ltd (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 works relating to construction and operation of infrastructure at the Dingo Range Gold Project (DRGP). The premises is approximately 90 km northeast of the town of Leinster within the Shire of Leonora. The project includes mining of a series of open pits, construction of a processing plant with an associated Tailings Storage Facility (TSF) and the development of supporting infrastructure, including a power station and workers' camp (Refer to Figure 1, below).

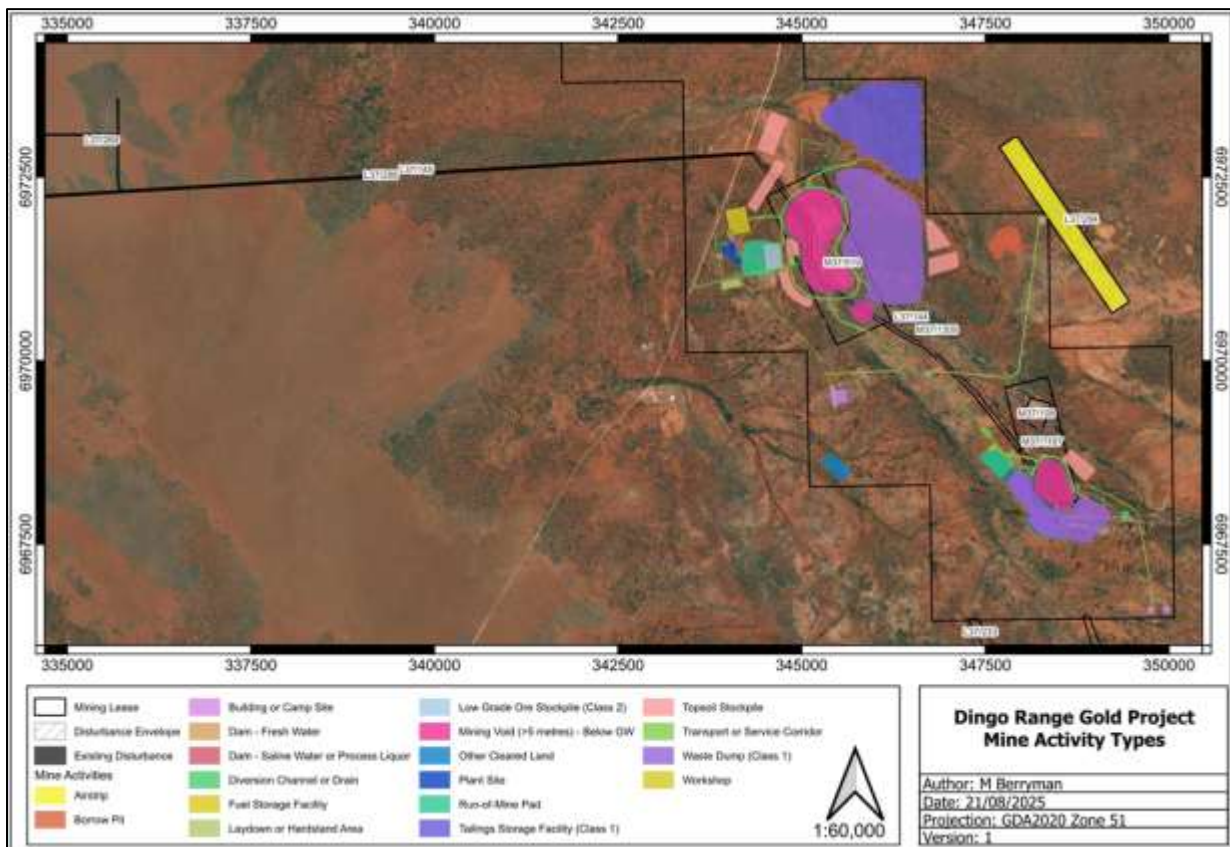


Figure 1: Dingo Range Gold Project site layout and activity locations

The applicant has conducted a series of baseline studies and investigations of a very high quality to determine the potential environmental impacts associated with the implementation of

the project, which were considered as part of this assessment.

2.1 Application details

This application is for the construction and time-limited operations of infrastructure and equipment at the project that trigger categories and assessed design capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations), and therefore require assessment under Part V, Division 3 of the EP Act. The proposed prescribed premises boundary (refer to Figure 2, below) does not include the entire project area, but strategically encompasses all parts of the project where activities that trigger the Schedule 1 categories and capacities may occur. The categories and infrastructure applied for in this works approval (W3180/2025/1) are:

- Category 5: processing plant designed to process up to 3.0 million tonnes per annum (Mtpa) of gold ore with a tailing's storage facility,
- Category 52: Electric power generation using 16 megawatt (MW) diesel fuel generators.
- Category 73: Bulk storage of chemicals where 1,000 cubic meters (m³) or more, in aggregate, will be stored.
- Category 89: Putrescible landfill disposing of no more than 5,000 tonnes per year.

The infrastructure and equipment relating to the premises category and any associated activities which the department considered in line with *Guideline: Risk Assessments* (DWER 2020) are outlined in detail in works approval W3180/2025/1.

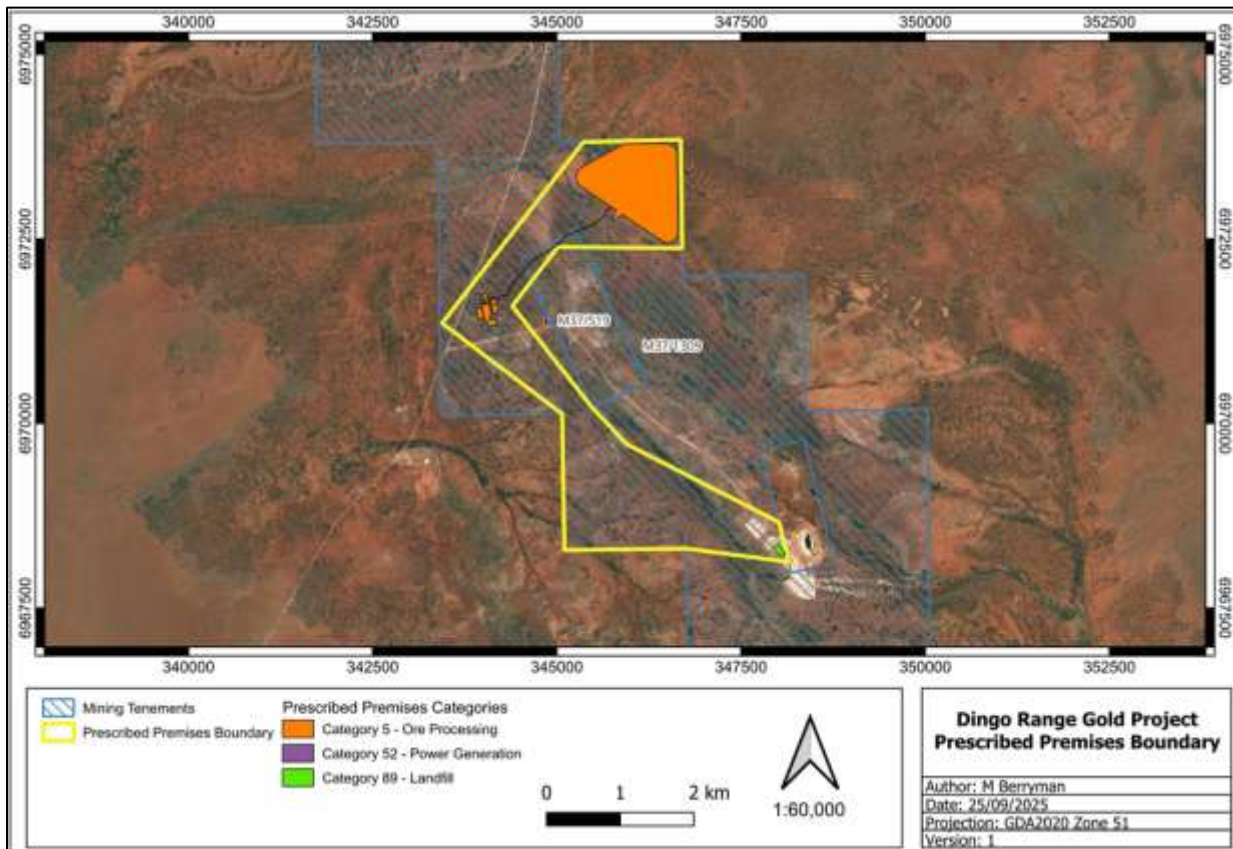


Figure 2: W3180/2025/1 Prescribed Premises Boundary

3. Background

Gold mining activities have occurred at the project area since November 2020, when the tenements were owned by Bullseye Mining Limited, with ore taken off-site for processing. Mining

activities were approved under the *Mining Act 1978* by the Department of Mine, Petroleum and Exploration (DMPE) (refer to section 5). Previous mining activities at the project did not include the processing of ore or trigger any other prescribed premises category description under Schedule 1 of the EP Regulations, and therefore did not require a works approval or licence. Mining activities were suspended in 2022. The project area currently includes an open pit mine and a waste rock landform (WRL).

The new holders of the tenements, Emerald Resources (WA) Pty Ltd (the applicant), intend to restart mining activities and develop an onsite processing facility to complement the mining activities. The current life of mine is estimated to be 10 years and the project is expected to produce about 22.54 million tonnes (MT) of ore for processing over that time period.

Required supporting infrastructure will include a power station, landfill, workers' camp, fuel storage facilities, air strip and a tailings storage facility (TSF).

A separate works approval (W2844/2025/1) was granted for the project on 18 March 2025 for a category 85 sewage facility for the workers' camp. Works approval W2844/2025/1 is located within the proposed premises boundary for this application but is unrelated to this application. It is intended that the proposed premises boundary for this application will align with a subsequent licence application that will encompass the activities relating to both works approvals.

4. Overview of Premises

4.1 Proposed activities and infrastructure at the premises

4.1.1 Material to be processed

The Dingo Range Processing Plant has been designed to process up to 2.4Mtpa of predominately fresh ore and up to 3.0Mtpa with a blended (oxide / fresh) ore from five locally sited mineral deposits - Boundary, Neptune, Stirling, Hurleys and Bungarra.

Materials characterisation has been undertaken for ore and waste rock samples (about 125 in total) from all deposits across two sampling campaigns. They were analysed for Acid Mine Drainage (AMD) potential using the Acid Base Accounting (ABA) method, geochemical abundance of elements, chemical stability and leach testing.

These analyses found potentially-acid forming (PAF) waste rock and ore in the Boundary, Bungarra and Neptune deposits. Of the 6 samples tested from the Stirling deposit, all were found to be non-acid forming (NAF), and of the 18 samples taken from the Hurley's deposit, 1 returned an uncertain classification, and the rest were classified as NAF. Of the 21 samples of ore across all locations, 6 were classified as PAF. This equates to about 14% of total samples classified as PAF and about 3% of total samples classified as uncertain, while about 28% of the ore samples were classified as PAF.

The analysis found that sediments, particular chert and banded iron formations are at high risk of AMD generation. It also showed that a number of samples are considered to be enriched in cobalt (up to 272 ppm), chromium (up to 1513 ppm), manganese (up to 6275 ppm), nickel (up to 609 ppm) and tellurium (up to 5.7 ppm). Arsenic levels were recorded at up to 33.4 ppm and mercury levels were recorded at up to 0.022 ppm in the samples analysed.

While the disposal of waste rock is regulated by the Department of Mines, Petroleum and Exploration (DMPE) (refer to section 5 for more detail), the applicant is proposing to construct some of the infrastructure at the processing plant using material mined at the project. This includes the Run of mine (ROM) pad, the embankments of the water storage dams and the embankments of the TSF. The use of waste rock material for construction of the infrastructure is considered in this assessment. The applicant has stated that for the construction of infrastructure requiring waste rock, NAF material will be used in the outer embankments.

Additionally, the stockpiling of ore that will be processed under category 5 is also included as an activity that forms part of the assessment for this application.

4.1.2 Gold processing plant

The processing of the ore at the premises is to be through a Cyanide in Leach (CIL) process as detailed in Appendix 2, Figure 10. It will operate 24 hours per day, 7 days per week.

The Dingo Range Processing Plant is designed to process up to 3.0 Mtpa of ore and includes the following:

- A crushing and grinding circuit consisting of Primary Crusher, fine ore stockpile, conveyors and a semi-autogenous grinding (SAG) mill and pebble crusher.
- A gravity circuit including cyclones.
- A cyanide leaching circuit consisting of 8 leaching tanks and an Intensive Leach Reactor. Tailings from the circuit is disposed of to the TSF.
- An elution circuit recovers the gold from the carbon removed from the leach circuit into a solution. The recovered gold solution is sent to the electrowinning while the barren carbon is sent to the carbon regeneration kiln.
- An electrowinning circuit which recovers the gold onto steel wool for calcining then smelting in the gas fired furnace.
- A calcine oven and smelting furnace which burns off the final impurities and produces gold bars.
- A carbon regeneration kiln for regenerating the carbon that has been stripped of gold in the elution circuit.

A detailed map showing the general layout of the processing plant can be seen in Figure 3.

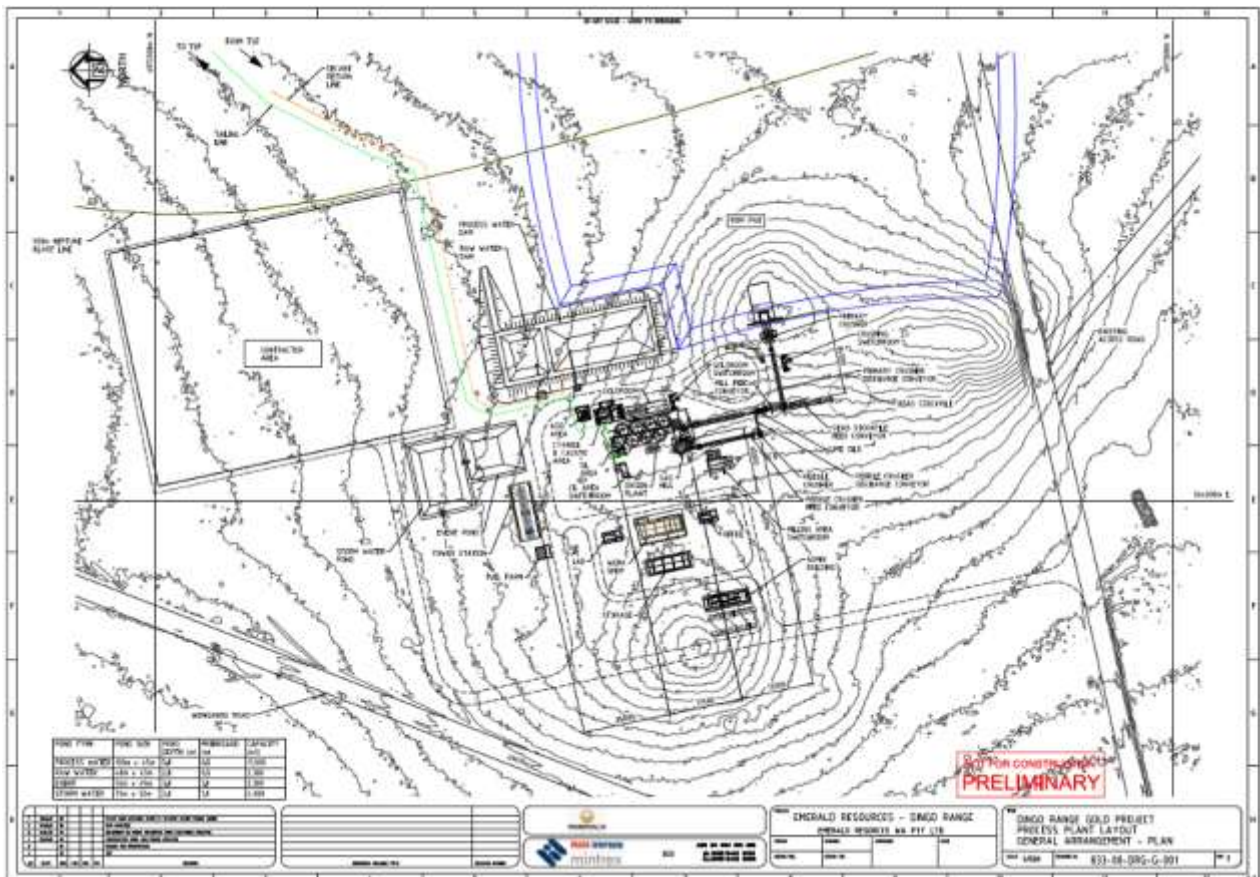


Figure 3: Processing plant layout

4.1.3 Run of mine (ROM) pad

After being extracted from the mining operations, ore will first be stockpiled on the ROM pad prior to being fed into the crushing and grinding circuit. The applicant has proposed to build a 20-hectare (ha) ROM pad, up to 12 m in height, with a 1V:50H crossfall to the northeast of the pad. A drainage channel over a kilometre (km) long will be created to divert runoff from the pad to a sediment basin near the TSF (refer to Figure 4, below). The applicant states that the outer embankments of the ROM pad will be built with NAF waste rock and will include perimeter berms to reduce uncontrolled runoff.

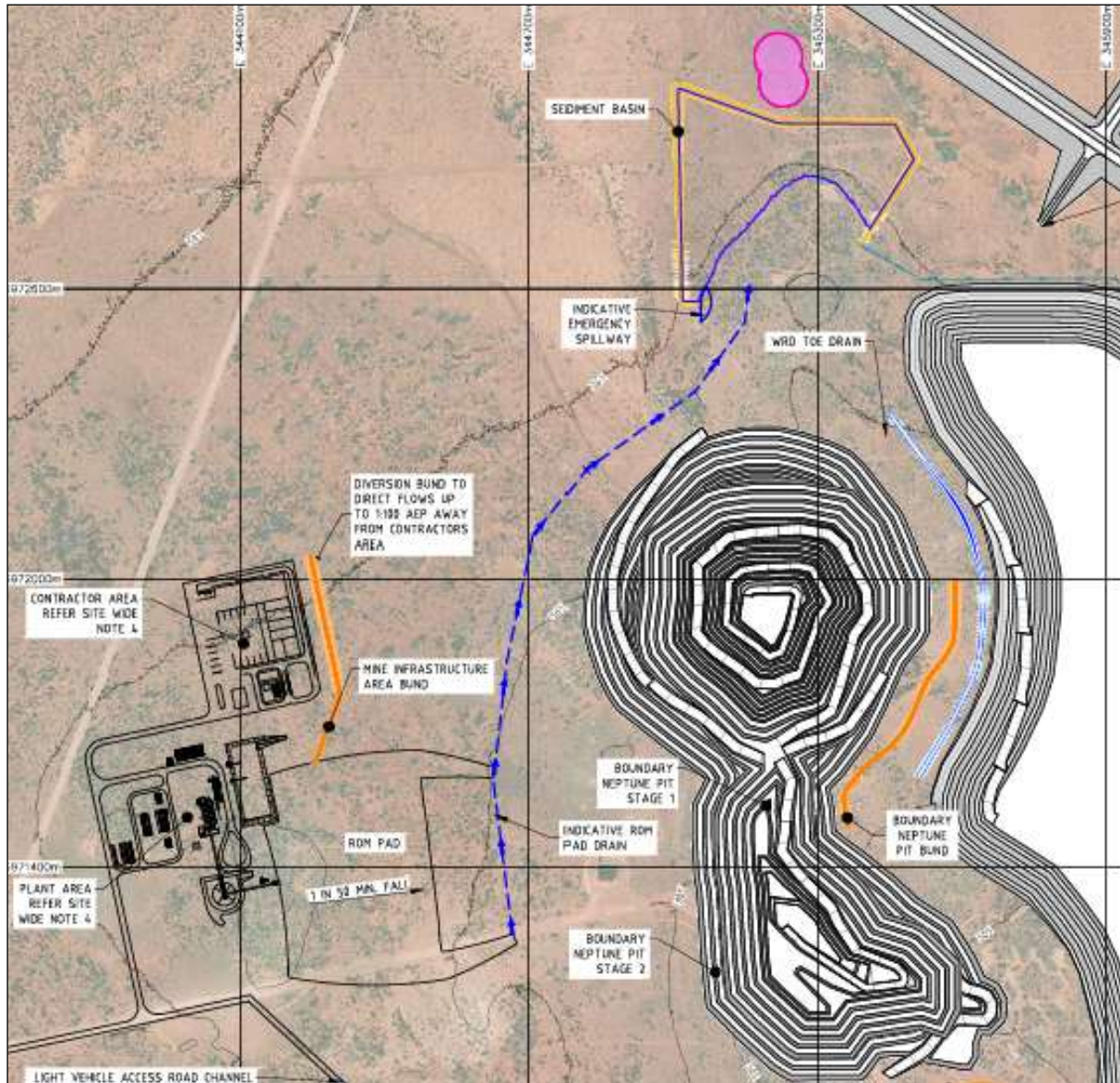


Figure 4: Proposed stormwater drainage channels, bunds and sediment basin.

4.1.4 Chemical and hydrocarbon storage

Within the processing plant area, a variety of chemicals and hydrocarbons will be stored and used. Reagents used for processing will include:

- Sodium cyanide (NaCN)

- Quicklime (CaO)
- Sodium hydroxide (NaOH)
- Hydrochloric Acid (HCl)
- Lead nitrate $Pb(NO_3)_2$

In addition to this, diesel fuel farms will be situated at the mining yard and at the processing plant with around 880 m³ capacity for diesel. In aggregate, these chemicals will exceed the 1,000 m³ threshold for category 73, which includes acids and alkalis and liquid hydrocarbons.

All chemical reagents and hydrocarbons will be stored within designated, bunded areas. In the bunded processing plant reagent area, a sump pump will be installed to remove spilt material and/or rainwater to maintain the capacity of the containment area. All pipework for chemicals and hydrocarbons will meet AS 1940.

Any surface water runoff from the processing plant, which may be sediment laden stormwater or may also contain incidental contamination from the processing reagents, will be directed to the Event pond or the Stormwater pond (seen in Figure 3, above). Combined, these structures are designed to contain 6,300 m³ of water while operating with a minimum total freeboard of 0.5 m. The foundation of these ponds will be moisture conditioned and compacted to reduce infiltration to the ground. These facilities will retain any potentially contaminated waters onsite and can be pumped back to the processing plant, if required.

Diversion bunds will be constructed to the east of the processing plant and workshop areas to direct clean stormwater around the areas.

4.1.5 Process water storage

Brackish water from the northern borefield and from mine dewatering will be stored in a raw water dam, designed to contain about 2,300 m³ of water. The raw water dam will be interconnected with an adjacent process water dam via a spillway. The process water dam is designed to contain about 11,000 m³ of water decanted from the TSF and made up with water from the western borefield. These water sources will be used in the processing plant.

The dams will be built up to 4.5 m above the ground surface and will be fully lined with high-density polyethylene (HDPE) to prevent seepage. Fauna egress matting or ramps will be installed, and both will be operated with a 0.5 m freeboard and be inspected twice per day.

4.1.6 Tailings Storage Facility

The applicant is proposing to construct a single cell, two stage, paddock style storage facility for the tailings, which will utilise downstream construction for the second stage. It is designed to accommodate about 21 million tonnes (Mt) of dry tailings material, which equates to about 7 years of tailings at the maximum production rate of about 3 Mt per annum. The hazard rating for the TSF at the final stage embankment height (19m) is deemed 'Medium, Category 1' based on the DMPE Code of Practice (2013). The general specifications are detailed below.

Table 1: Proposed specifications of each stage of the Dingo Range TSF

Parameter	Stage 1	Stage 2
Embankment crest level (mRL)	494.50	504.75
Maximum embankment height (m)	9	19
Embankment length (m)	3,900	4,070
Embankment crest width (m)	30	30

Storage area (ha)	102	124
Maximum storage volume (m ³)	4,850,000	14,000,000
Expected operation period	2027 - 2029	2029 - 2034

Siting of the TSF

The TSF will be located about 2.5 kms northeast of the processing plant, less than 100m from a northern and eastern boundary of mining tenement M 37/1309. This location does not sit directly within any surface drainage line, however, there is a densely vegetated drainage line about 1 km to the northwest of the TSF. The area has a gentle gradient sloping northwest and is covered by a mulga woodland in excellent condition.

The footprint of the TSF was modified slightly when site geotechnical investigations revealed that the northwestern corner of the proposed TSF site was underlain by a highly transmissive paleochannel aquifer, with standing water levels (SWL) at around 7 to 8 metres below ground level (mbgl). The paleochannel extent is difficult to precisely define, but drillhole information indicates that transmissivity greatly reduces rapidly within 200 m distance. For this reason, the footprint of the TSF was modified, as shown in Figure 5, below. With this alteration to the design, it is now expected that the entire TSF foundation will be sited on a low to very-low permeability ferricrete layer which is expected to reduce downward seepage from the facility. The base of the facility will not be lined, but will be stripped of compressible soils, moisture conditioned and compacted with proof-rolling.

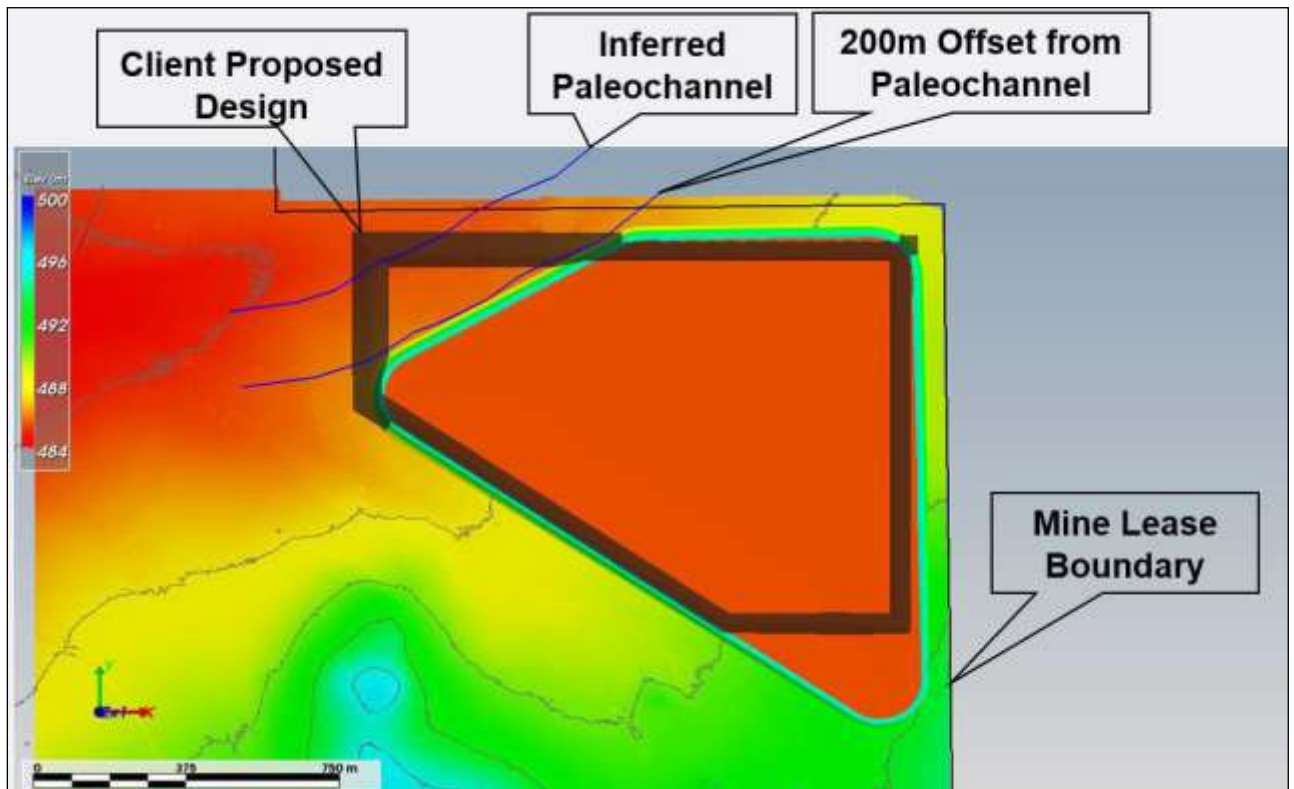


Figure 5: Proposed and revised TSF footprint

TSF design and operation

A cross-section of the embankment design (from DRGP TSF Feasibility Report Appendix E) can be seen below:

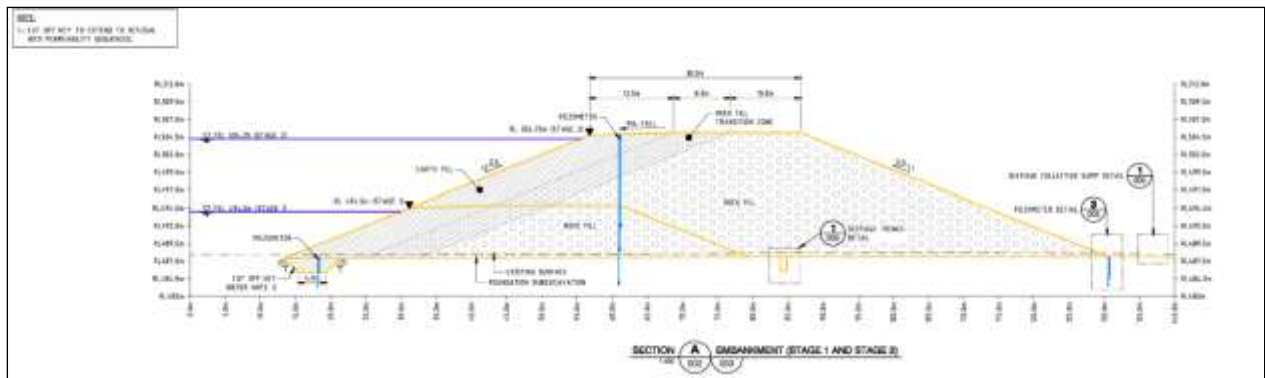


Figure 6: TSF embankment design cross-section

The embankment design features an upstream embankment with a 12 m thick layer of clay, compacted to 1×10^{-8} m/s, to reduce seepage, followed by a transitional fill zone, and an outer shell of highly durable, stable, competent rock fill which will provide a high level of geotechnical stability.

To further limit seepage from the TSF, the applicant is proposing to install a cut-off key trench, excavated to refusal beneath the upstream toe of the starter embankment and filled with compacted clay.

The TSF will have a central decant system, with decant water being returned to the process water dam for use in the processing plant. Tailings will be deposited to the facility via spigots which will be spaced about 60 m apart along the entire perimeter of the internal embankment.

TSF seepage

Even with these engineering controls in place, modelling indicates that seepage from the facility will be in the order of 88 to 135 m³/day during deposition to the facility. Seepage is expected to gradually decline when operation of the TSF ceases. Seepage modelling indicates that the seepage rate is strongly influenced by the density of the tailings and the size and location of the decant pond. To manage this, the applicant is proposing to keep the decant pond as small as practical and maintain it at least 300 m from the perimeter embankments at all times.

Further to this, the applicant plans to install a Seepage Interception System (SIS) to capture seepage from the TSF. This will comprise of a 1 m wide seepage trench, excavated to refusal, containing a slotted seepage collection pipeline and backfilled with high permeable drainage rock fill around the toe of the starter embankment. At a minimum of three points around the TSF, lateral trenches containing seepage delivery pipelines will be developed and backfilled, terminating at areas outside the final footprint of the TSF where Seepage Collection Sumps will be installed. The lateral trenches will be graded to a 1% slope directing flows via gravity to the Seepage Collection Sumps, which will be equipped with pumps to return seepage back to the TSF decant pond. The seepage can then be pumped back to the process water dam with the decant return water. When the TSF is raised to its final height, the trenches at the toe of the starter embankment and the lateral trenches will be covered by the expanded embankment, but the collection system should remain operable for the life of the facility.

The groundwater immediately underlying the TSF site appears to be of reasonably good quality. It is slightly alkaline, with pH values ranging from 7.6 to 8.3 and is classified as brackish, with salinity levels ranging from 1,700 to 2,700 mg/L TDS in the shallower levels, but with a TDS of over 7,000 mg/L at deeper levels. The seepage plume from the TSF is expected to initially migrate downwards into the ferricrete layer, then travel laterally along the paleochannel in the direction of groundwater flow. The lateral migration of the seepage plume is expected to decrease with depth, with most confined to the ferricrete layer which has low permeability, limiting further vertical migration.

Seepage is also likely to cause groundwater mounding to develop below the facility. It is noted

that the SWL measured in this area is around 6 to 8 mbgl. The applicant states that they expect that keeping the SWL to no less than 4 mbgl will prevent impacts to the local vegetation.

Tailings characterisation

Geochemical testing of 3 tailings samples was conducted in August 2025. These were samples of Boundary Oxide Ore, Boundary Fresh Ore and Neptune Fresh Ore tailings material. The test work indicates that the sample of tailings from oxide ore is NAF, however, the Boundary Fresh Ore tailings was classified as PAF-Low Capacity and the Neptune Fresh Ore tailings was classified as PAF. The applicant expects that the saturated state of the tailings will be sufficient to prevent the oxidation of the PAF tailings material during the operation of the facility, and intends to install a store-and-release cover over the facility at closure to limit long term acid formation and reduce water flows through the structure.

The testing of the slurry water indicates that it will be mildly-alkaline (pH 8-9), and hypersaline, TDS 47,000 – 70,000 mg/L. Weak acid dissociable (WAD) cyanide in the slurry samples were measured at between 13 and 53mg/L. The applicant states that they expect cyanide levels in the decant water to be below the 50mg/L guideline value for the protection of wildlife and therefore will not present a risk to fauna.

Molybdenum, cadmium, iron, copper, zinc, nickel, cobalt and mercury were all measured at low levels in the decant water sample. It was noted that mercury levels in some of the tailings samples were elevated. The applicant initially stated that the mercury is expected to largely become entrained in the solids fraction of the tailings and therefore not be at elevated levels in the decant water. Later, however, the applicant has indicated that they believe the measured mercury levels were the result of contamination of the samples, as mercury was measured below the detection level in the ore head assays.

Groundwater monitoring network

The applicant has drilled four monitoring bores around the proposed TSF footprint, largely in the paleochannel aquifer. They have proposed installing a further six monitoring bores, as shown in Figure 7, below, to monitor for potential seepage.

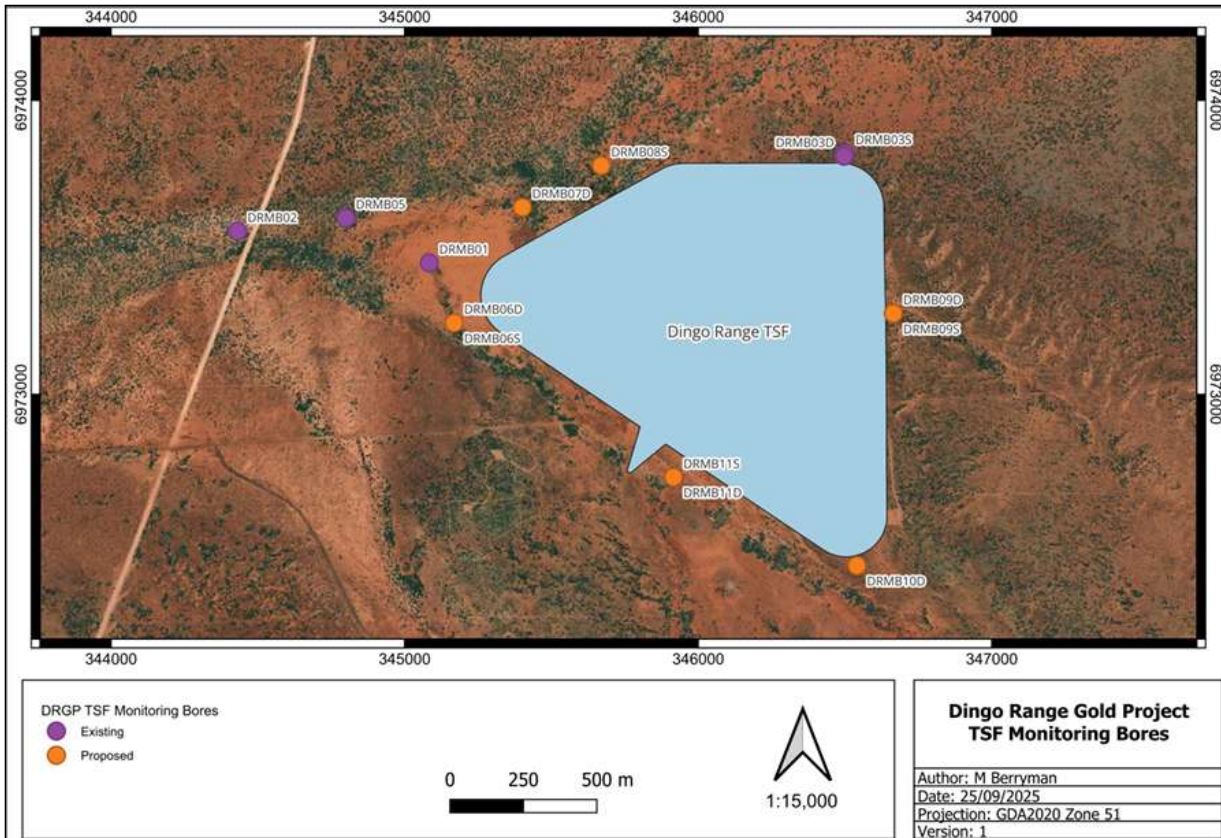


Figure 7: Existing and proposed bores for monitoring groundwater around the TSF

The applicant proposes to monitor the SWL on a monthly basis and for the following parameters on a quarterly basis:

- pH
- Electrical Conductivity
- Total Dissolved Solids
- Weak Acid Dissociable (WAD) cyanide
- Dissolved Metals and Metalloids: Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Vanadium, Zinc.
- Major Ions: Bicarbonate, Calcium, Carbonate, Chloride, Magnesium, Nitrate, Potassium, Sodium, Sulphate

4.1.7 Electricity generation

To power the operation, the applicant is proposing to install a diesel power station consisting of 10 x 11kV 1.6 MW generators. The generators will be Cummins QSK60-G4 which includes high-pressure fuel injection system with full electronic control to reduce overall emissions. The power station is designed to meet the estimated annual site power consumption of 96,000 MWh.

The generators will be housed in a steel engine hall and include exhaust stacks, air intake and cooling systems. This construction includes a concrete hard stand with a service trench that drains to an oily water separator.

Storage of hydrocarbons and chemicals will be according to Australian Standards AS1940 and AS1692.

Emissions from diesel generators

Nitrogen oxides, particulate matter, and sulfur oxides will be emitted from the generators, which may impact air quality. No residential receptors have been identified within 25kms of the premises. However, it is noted that the workers' camp is sited within the prescribed premises, about 2.2 kms from the power station. Air emissions that may impact the health of workers, including those staying at the workers' camp, have not been assessed as they are regulated under the *Work Health and Safety (Mines) Regulations 2022*.

4.1.8 Landfill

A Class II landfill site is proposed to be constructed in the Bungurra Waste Rock Landform (WRL). This WRL is currently 10 m in height, but is planned to be constructed to a final height of 43 m. The waste types to be accepted at the landfill are in accordance with the *Landfill waste classification and waste definitions 1996* and are:

- Clean and uncontaminated fill
- Inert Waste Type 1 and Type 2
- Putrescible Wastes and
- Contaminated solid waste meeting the waste acceptance criteria specified for Class II landfills.

Other wastes, such as: recyclable, hazardous, hydrocarbons and asbestos, will be transported offsite to an appropriately licensed waste disposal facility. The applicant intends to operate the landfill in accordance with the *Environmental Protection (Rural Landfill) Regulations 2002*.

5. Legislative context

5.1 Department of Mines, Petroleum and Exploration (DMPE)

The DMPE issues approvals under s.103AP of the *Mining Act 1978* with requirements and conditions attached to the approval. The approval for the DRPG is under Approvals Statement AS-234867 v1.00. It is noted that discharges and emissions from the mining activities and the waste rock landforms are regulated under the *Mining Act 1978* and are not considered in this assessment.

However, there is joint regulation with regards to some processing activities and the management of tailings material at the premises. Of relevance to the assessment of environmental risk by DWER for W3180/2025/1 are the following DMPE requirements:

TSF:

- Above ground paddock style TSF constructed as a single cell.
- Maximum height 19m (504.75mRL) above ground surface with downstream raises in two (2) stages.
- To be constructed in accordance with the TSF Design Report (ATC Williams Dingo Range Gold Project Tailings Storage Facility Feasibility Report, July 2025; Appendix 15.3.1).
- Only competent NAF material (fresh mafics or benign laterite material) used to construct TSF embankments.
- Dispersive topsoil will not be placed on TSF embankments.
- At closure, surface will be capped with a minimum 0.5m of competent NAF waste rock and topsoil to form a store and release cover.

Bungarra WRD (the location of the proposed landfill):

- Maximum height 43m.

- Maximum overall slope angle 17°, 10m berm height with 5.5m back sloping berms and 1m crest bunds on berms and surface.
- Mafic material where total S is >1% will be placed in a PAF cell. Any PAF Cell will be covered by a compacted low permeability NAF cover.
- Minimum 3m compacted low permeability NAF cover for all final surfaces, and 1m cover between cells, e.g. top / base of 10m lifts.
- Dispersive topsoil will not be placed on WRL embankments.

The Delegated Officer also notes that the applicant intends to establish a workers' camp within the prescribed premises boundary, about 2.2 kms southeast of the processing plant and about 3 kms south of the TSF (refer to Figure 1). Potential emissions that may impact the health of the workers at the camp, including noise, dust and air emissions, have not been assessed as part of this application, as health and safety impacts at onsite camps is regulated under the *Work Health and Safety (Mines) Regulations 2022*.

5.2 Water abstraction

The prescribed premises is located within the *Rights in Water and Irrigation Act 1914* (RiWI Act) proclaimed Goldfields Groundwater Area. The applicant has obtained approvals under the RiWI Act to draw groundwater for use at the project. A Reverse Osmosis (RO) plant will be used to treat up to 0.09 gigalitres (GL) of the abstracted water per year for potable and processing uses. The Delegated Officer notes that the RO plant throughput is below the category 85B threshold level of 0.5GL of water per year, and therefore it will not be listed as a category on the licence.

The Delegated Officer notes that dewatering will be required to mine at the project, and the dewatering effluent will be sent to the HDPE-lined raw water dam or to the RO plant. Given that the dewatering effluent will be fully contained and will not be discharged to the environment, category 6 will not be triggered at the premises. Any impacts from the drawdown of the water table from dewatering will be managed through the RiWI Act approvals and therefore will not be assessed as part of this application.

5.3 Clearing of native vegetation

The applicant applied to clear native vegetation within the mining tenements M 37/1309 and M 37/519. This includes the entire prescribed premises footprint and a large portion of the surrounding land. Clearing permit 10968/1 was approved in December 2025. Refer to Figure 8, below. For this reason, native vegetation inside the prescribed premises boundary has been excluded as a receptor in this assessment.

However, it should be noted that the areas to the immediate north and east of the area approved to be cleared around the TSF, have not been approved for clearing. This means that the vegetation in these areas will be considered environmental receptors that may be impacted.



Figure 8: Area approved for clearing under CPS 10968/1 (yellow), major drainage lines and prescribed premises boundary (blue).

6. 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.

6.1 Source-pathways and receptors

6.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises construction and operation which have been considered in this 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
Construction			
Noise	Construction of processing plant, tailings storage facility, power station and landfill.	Air / windborne pathway	<ul style="list-style-type: none"> Screened out of risk assessment as there are no sensitive receptors within 5km of the premises.
Dust	Construction of processing plant, tailings storage facility, power station and landfill.	Air / windborne pathway impacting air quality	<ul style="list-style-type: none"> Minimise exposed subsoil through progressive clearing during construction; Conduct regular visual monitoring and implement appropriate dust controls as required; Undertake regular watering using water carts across active work areas during construction; Use defined access roads and haul routes with speed restrictions applied; and Complaints from stakeholders will be addressed.
	Clearing and earthworks		
	Vehicle movement on unsealed access roads		
Operation			
Dust	Operation of Crushing Circuit	Air / windborne pathway impacting air quality	<ul style="list-style-type: none"> Minimise exposed subsoil through progressive clearing and revegetation; Install water sprays on the crushing circuit; Conduct regular visual monitoring and implement appropriate dust controls as required; Undertake regular watering using water carts across active work areas; Use defined access roads and haul routes with speed restrictions applied; and Complaints from stakeholders will be addressed.
	Vehicle movement on unsealed access roads		
	Windblown from TSF and Stockpiles		
Gases and particulates	Combustion of diesel fuel in generators	Air / windborne pathway impacting air quality	<ul style="list-style-type: none"> Selection of low-emission Cummins QSK60-G4 diesel generators; Operate the generators at optimal load to promote cleaner and more

Emission	Sources	Potential pathways	Proposed controls
	Smelting process in the gold room furnace Carbon regeneration kiln		<p>efficient operation;</p> <ul style="list-style-type: none"> Undertake regular maintenance of the generators in accordance with the manufacturer specifications; and Generators housed in a high air-flow steel engine hall including exhaust stacks, air intake and cooling systems.
Fire and smoke	Ignition of landfill wastes.	Air / windborne pathway impacting air quality	<ul style="list-style-type: none"> The landfill trench will be filled with waste and periodically covered before the next trench is excavated; The active tipping area will be maintained to less than 30m in length and covered at a frequency and method consistent with Section 6 of the <i>Environmental Protection (Rural Landfill) Regulations 2002</i> to prevent windblown waste, odour, and fire; The landfill site is located more than 35 m from the Bungarra WRL footprint perimeter which will help prevent offsite spread; An Emergency Management Plan which includes alarm, evacuation, and management procedures in place; and A 3m trafficable firebreak to be maintained around the landfill which will also allow emergency access in the event of a fire.
Windblown waste	Operation of landfill	Air / windborne pathway causing dispersal of wastes	<ul style="list-style-type: none"> The active tipping area will be maintained to less than 30m in length and covered at a frequency and method consistent with Section 6 of the <i>Environmental Protection (Rural Landfill) Regulations 2002</i> to prevent windblown waste, odour, and fire; Fencing around the landfill; and Weekly inspections to include removal and disposal of windblown waste.
Environmentally hazardous chemicals	Storage of hydrocarbons and chemicals	Direct discharge to land from leaks and spills	<ul style="list-style-type: none"> Store hydrocarbons and chemicals within designated and appropriately bunded areas;
	Transport and transfer of hydrocarbons and chemicals during operation of equipment and facilities	Contamination of stormwater from leaks and spills	<ul style="list-style-type: none"> Maintain a sump and pump in the Processing Plant reagent area to remove any collected material (including rainwater); Routine inspections to confirm the bunding integrity and containment volume is not compromised;

Emission	Sources	Potential pathways	Proposed controls
			<ul style="list-style-type: none"> Fuel delivery inlets located on concrete pads to contain any drips or spills. Pads drain to a sump to allow for the removal and disposal of collected material; Pipework for chemical and hydrocarbon transfer to meet AS 1940; Immediately clean up any hydrocarbon or chemical spills, with spill kits at key locations and employees trained in their use; and Collect surface water runoff from the processing plant via v-drains and culverts and direct into the event pond with overflow directed via spillway into the stormwater pond.
Saline and process water	Process Water Dams Stormwater Ponds TSF Pipelines	Direct discharge to land from overtopping of the containment structure or leaks and spills from pipelines.	<ul style="list-style-type: none"> Inspections of the event and stormwater ponds weekly (or daily during heavy rainfall) during operations; Locate tailings and decant return water pipelines within earthen bunded corridors with scour pits or sumps constructed along the length to ensure leaks or spills are contained within bunded areas; Fit tailings and decant return water pipelines with isolation valves and flow and leak detection sensors; Maintaining a freeboard 0.5 m at the TSF and water storage dams/ponds; Routine inspections (twice daily) of the TSF, water storage ponds and dams, and tailings and decant return water pipelines; and Shutdown the required section of the pipeline system, if leaks are detected, until the leak has been repaired.
Potentially contaminated or sediment laden stormwater	Operational areas of the process plant, the landfill and the TSF.	Stormwater washing sediments and spilled contaminants to vegetation and soils.	<ul style="list-style-type: none"> Downstream embankment of the TSF rock armoured; Seepage Interception Trench around the TSF will contain runoff from the TSF; Collect surface water runoff from the processing plant via v-drains and culverts and direct into the event pond with overflow directed via spillway into the stormwater pond; Diversion bunds and drains to be installed to direct sediment laden stormwater around the processing plant and ROM pad to a dedicated sediment basin; and Sediment Basin sized to accommodate a 1-in 10 yr AEP event with a

Emission	Sources	Potential pathways	Proposed controls
			24-hour duration.
Seepage / leachate	Tailings Storage Facility	Potentially acidic or metalliferous seepage to soils and groundwater causing groundwater mounding or deteriorating groundwater quality	<ul style="list-style-type: none"> • TSF embankment sited to leave a 200 m buffer from the higher permeability Paleochannel; • Upstream embankment lined with clay, compacted to a permeability of less than 1×10^{-8} m/s; • Cut-off trench underneath the upstream toe of the perimeter embankment, which is excavated to 'refusal' on cemented laterite gravel and back-filled with compacted clay; • Moisture conditioning and compaction of the TSF basin to achieve a low permeability layer; • Deposition of clayey low permeability tailings in the initial stages of filling of TSF to 'seal' the TSF basin; • Install and operate a decant water recovery system for the TSF; • Maintain a central decant pond at the smallest practical operational size (i.e. 90ML) and maintain a minimum distance of 300m from all perimeter embankments; • Install a Seepage Interception System to capture seepage, with a seepage interception trench around the entire TSF, excavated to refusal; • Operate the TSF in accordance the Operations Manual; • Manage tailings deposition to maximise tailings densities; • Undertake routine TSF inspections (twice daily); • Routine groundwater monitoring and analysis to determine if controls are effective.
	Landfill	Landfill leachate seeping to soils and groundwater	<ul style="list-style-type: none"> • Acceptance of only solid waste meeting waste acceptance criteria specified for Class II landfills • Any leachate should be retained within the 10 m high Bungarra WRL; • Separation distance of over 30 m from the groundwater; • The Bungarra WRL has existing surface water controls such as a toe drain around its perimeter to direct potential overflow (or leachate) into

Emission	Sources	Potential pathways	Proposed controls
			the nearby Sedimentation Pond; <ul style="list-style-type: none"> • The landfill site is over 300 m from the Bungarra Pit (the nearest surface water body); • The addition of waste rock over the landfill will decrease long-term infiltration and ensure that the minimal leachate generation potential is maintained post-closure. • Regular covering of waste within trench will reduce leachate generation
	Process water dam Raw water dam Event and stormwater ponds	Process water seepage to soils and groundwater	<ul style="list-style-type: none"> • HDPE liner installed on the base and upstream embankments of the raw water and process water dams; • The raw water and process water dams will be inspected twice daily during operations for seepage; • The event and stormwater ponds to have a low permeability, compacted clay base; • Weekly inspections of the event and stormwater ponds.
Acidic or metalliferous drainage	PAF ore stockpiles Infrastructure constructed from onsite sourced waste rock (TSF or dam embankments, ROM pad)	PAF rock oxidising and producing acidic or metalliferous drainage seeping to soils or groundwater	<ul style="list-style-type: none"> • Ore will only be on the ROM pad for short periods of time before it is processed; • ROM pad outer embankments will be constructed of NAF waste rock and will include perimeter berms to reduce runoff; • ROM pad will be constructed with a 1V:50H slope to the northeast, with a drain diverting runoff to the sediment basin; and • Outer embankments of the TSF will utilise NAF material.
Tailings	TSF Pipelines Tailings Storage Facility	Direct discharge to land from overtopping of the TSF or leaks and spills from pipelines.	<ul style="list-style-type: none"> • Locate tailings and decant return water pipelines within earthen bunded corridors with scour pits or sumps constructed along the length to ensure leaks or spills are contained within bunded areas; • Fit tailings and decant return water pipelines with isolation valves and flow and leak detection sensors; • Maintaining a freeboard 0.5m at the TSF and water storage dams/ponds; • Operate the TSF in accordance the Operations Manual; • Undertake routine inspections (twice daily) of the TSF, water storage ponds and dams, and tailings and decant return water pipelines; and

Emission	Sources	Potential pathways	Proposed controls
			<ul style="list-style-type: none"> • Shutdown the required section of the pipeline system, if leaks are detected, until the leak has been repaired.
Decant water	TSF decant pond	Fauna exposure / consumption	<ul style="list-style-type: none"> • Expectation that WAD cyanide levels should be below 50 mg/L; and • Hyper-salinity of the water should reduce consumption by wildlife.

6.1.2 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 9 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
Melrose Pastoral Station Wonganoo Pastoral Station Barwidgee Pastoral Station	Underlying the prescribed premises. The nearest pastoral homestead (Wonganoo) is located 25kms north of the prescribed premises. Screened out due to separation distance.
Environmental receptors	Distance from prescribed activity
<u>Native vegetation</u> 2 priority flora species - <i>Eremophila pungens</i> and <i>Grevillea inconspicua</i> .	The vegetation communities identified within or near the premises are generally <i>Acacia spp.</i> forests and woodlands in "good" to "excellent" condition. Vegetation will be less than 100 m to the north and east of the TSF. The national Groundwater Dependent Ecosystems (GDE) Atlas lists the northern extent of the premises as having a low possibility of having GDEs present, however, a site specific desktop assessment found no GDEs located in the project area. Priority flora species found outside the prescribed premises boundary, but within the project area. (Note: Clearing of all vegetation within the prescribed premises has been authorised under CPS 10968)
<u>Fauna</u> 1. Stygofauna 2. Grey falcon (<i>Falco hypoleucos</i>) (vulnerable) 3. Brush-tailed mulgara (<i>Dasycercus blythi</i>) (P4)	1. Stygofauna present in regional bores in low to moderate diversity. Studies indicate that the paleochannel about 100 m to the northwest of the TSF harbours a richer stygofauna community than directly in the project area. 2. Grey falcon possibly occurs – from desktop studies 3. Brush-tailed mulgara possibly occurs – from desktop studies
Underlying groundwater (non-potable purposes but suitable for livestock)	Groundwater at the project area is classified as fresh (600 – 920 mg/L TDS) and slightly alkaline.

<p>Located within the proclaimed <i>Goldfields Groundwater Area</i></p>	<p>A palaeochannel is present across northern area of premises which is expected to be saline to hypersaline, with denser, higher salinity groundwater at the base of the aquifer.</p> <p>Within the prescribed premises the groundwater around the proposed TSF site was measured as:</p> <ul style="list-style-type: none"> • pH 7.5 – 8.5, • Salinity 1,670 mg/L to 7,530 mg/L TDS. • Depth to groundwater was measured at 6 - 8 mbgl around the proposed TSF site.
<p>Surface water</p>	<p>Premises is within the Lake Carey Catchment. Mean annual rainfall for the region is 184 mm.</p> <p>There are no permanent surface water creeks or waterbodies within or around the prescribed premises. However, a number of ephemeral creek lines cross the premises are likely to experience short term flows after high rainfall events.</p>
<p>Cultural receptors</p>	<p>Distance from prescribed activity</p>
<p>Aboriginal heritage site</p>	<p>A heritage site has been lodged that is within the premises. Lodged Place 1512 - Mt Harold.</p> <p>The border of the area lodged is approximately 2km from the tailings storage facility, 2.3km from the processing plant and power station, and about 150m from the landfill.</p>

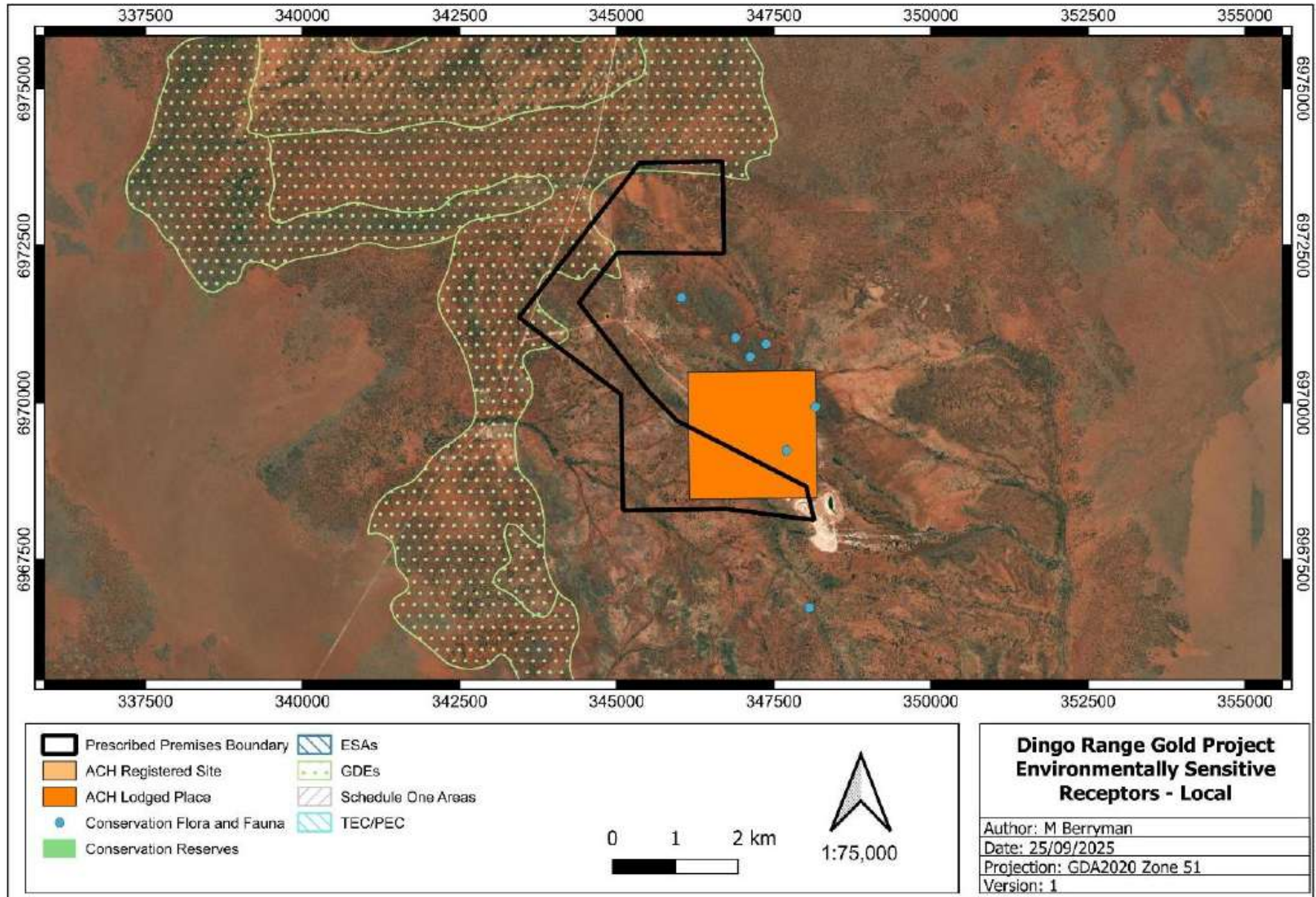


Figure 9: Distances to sensitive receptors

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6.2 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 6.1. 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 6.1), 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 W3180/2025/1 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. categories 5, 52, 73 and 89 activities. 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 ¹ C = consequence L = likelihood	Applicant controls sufficient ?	Conditions ² of works approval	Justification for additional regulatory controls / DWER comments
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Construction								
Construction of process plant, TSF and power station	Dust	Air / windborne pathway causing impacts to vegetation health	Surrounding native vegetation	Refer to Section 6.2	C = Slight L = Unlikely Low Risk	Y	Condition 1	Applicant controls for dust suppression are adequate to manage this risk event and have been conditioned on the works approval.
	Sediment laden stormwater	Overland runoff impacting ecosystem health	Surrounding soils and native vegetation Local drainage lines	Refer to Section 6.2	C = Minor L = Rare Low Risk	Y	N/A	No regulatory controls required.
Construction of landfill in the Bungurra Waste Rock Landform (WRL)	Dust	Air / windborne pathway causing impacts to vegetation health	Surrounding native vegetation Heritage Lodged Place 1512 - Mt Harold	Refer to Section 6.2	C = Slight L = Unlikely Low Risk	Y	Condition 1	Applicant controls for dust suppression are adequate to manage this risk event and have been conditioned on the works approval..
	Sediment laden stormwater	Overland runoff impacting ecosystem health	Surrounding soils and native vegetation Heritage Lodged Place 1512 - Mt Harold	Refer to Section 6.2	C = Minor L = Rare Low Risk	Y	N/A	No regulatory controls required.
Operation (including time-limited-operations operations)								
Processing of ore	Dust	Air / windborne pathway causing impacts to vegetation health	Surrounding native vegetation	Refer to Section 6.2	C = Slight L = Unlikely Low Risk	Y	Condition 1	Applicant controls for dust suppression are adequate to manage this risk event and have been conditioned on the works approval.

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Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient ?	Conditions ² of works approval	Justification for additional regulatory controls / DWER comments
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
	Reagents and hydrocarbons	Direct discharge to land and overland runoff potentially causing ecosystem disturbance	Surrounding soils and native vegetation Local drainage lines	Refer to Section 6.2	C = Moderate L = Unlikely Medium Risk	Y	Condition 1 Condition 13 Condition 15	Applicant controls for containment are adequate and have been conditioned on the works approval.
	Sediment / contaminant laden stormwater	Overland runoff impacting ecosystem health	Surrounding soils and native vegetation Local drainage lines	Refer to Section 6.2	C = Minor L = Unlikely Medium Risk	Y	Condition 1 Condition 13	Applicant controls for containment are adequate and have been conditioned on the works approval.
Stockpiling of ore on the ROM pad	Acid drainage	Seepage or overland runoff from construction material in the ROM pad impacting ecosystem health or causing groundwater contamination	Surrounding soils and native vegetation	Refer to Section 6.2	C = Moderate L = Possible Medium Risk	N	<u>Condition 1</u>	Conditions has been added for all construction material to be NAF. Additional stormwater controls for the ROM pad added. Refer to detailed risk assessment in section 6.3
		Seepage or overland runoff from ore stockpiles on the ROM pad impacting ecosystem health or causing groundwater contamination	Groundwater Stygofauna	Refer to Section 6.2	C = Moderate L = Possible Medium Risk	N	<u>Condition 1</u>	
Operation of process / raw water dams	Process water	Direct discharg to land resulting from overtopping of dams causing impacts to vegetation health	Surrounding soils and native vegetation	Refer to Section 6.2	C = Minor L = Unlikely Medium Risk	Y	Condition 1 Condition 13	Applicants controls (0.5 m freeboard and inspections) are adequate to manage this risk event.. Applicant controls have been conditioned on the works approval

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient ?	Conditions ² of works approval	Justification for additional regulatory controls / DWER comments
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
	Seepage	Seepage from dams causing impacts to groundwater or soils	Surrounding soils and native vegetation Groundwater Stygofauna	Refer to Section 6.2	C = Minor L = Unlikely Medium Risk	Y	Condition 1 Condition 13	Applicant controls for containment are adequate and have been conditioned on the works approval.
	Acid drainage	Seepage or overland runoff from construction material impacting ecosystem health or causing groundwater contamination	Surrounding soils and native vegetation Groundwater Stygofauna	Refer to Section 6.2	C = Moderate L = Possible Medium Risk	N	Condition 1	Condition has been added for all construction material to be NAF. Refer to detailed risk assessment in section 6.3
Transport of process water and tailings through pipelines	Tailings or process water	Direct discharge to land - spills /leaks from pipelines impacting ecosystem health	Surrounding soils and native vegetation	Refer to Section 6.2	C = Minor L = Unlikely Medium Risk	Y	Condition 1 Condition 13	Applicants proposed controls (Leak detection, bunding and regular inspections) are adequate to manage this risk event and have been conditioned on the works approval.
Discharge of tailings to the TSF	Tailings / Decant water	Direct discharge to land – Overtopping causing impacts to ecosystem health	Surrounding soils and native vegetation	Refer to Section 6.2	C = Minor L = Unlikely Medium Risk	Y	Condition 7 Condition 13	Applicant's controls (0.5 m freeboard and inspections) are adequate to manage this risk event. Applicant controls have been conditioned on the works approval
	Decant Water	Exposure or ingestion causing illness / death	Birds, bats and other fauna	Refer to Section 6.2	C = Moderate L = Possible Medium Risk	N	Condition 13 Condition 17	Additional condition for monitoring the decant water quality and recording fauna deaths has been conditioned on the works approval. Refer to detailed risk assessment in section 6.3.

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient ?	Conditions ² of works approval	Justification for additional regulatory controls / DWER comments
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
	Seepage	Seepage from TSF causing groundwater mounding resulting in impacts to vegetation at surface	Surrounding soils and native vegetation	Refer to Section 6.2	C = Moderate L = Unlikely Medium Risk	N	Condition 4 Condition 5 Condition 7, Condition 13 Condition 18 Condition 19	Applicant's proposed controls to prevent seepage have been conditioned on the works approval. However, conditions have been added to install additional groundwater monitoring bores and develop a site water balance. Monitoring of total cyanide also added to the groundwater monitoring suite.
		Seepage from TSF causing deterioration of groundwater quality due to acidic or metalliferous seepage	Groundwater Stygofauna	Refer to Section 6.2	C = Moderate L = Unlikely Medium Risk	N	Condition 7, Condition 13 Condition 18 Condition 19	Refer to detailed risk assessment in section 6.3.
	Acid drainage	Seepage or overland runoff from construction material impacting ecosystem health or causing groundwater contamination	Surrounding soils and native vegetation Groundwater Stygofauna	Refer to Section 6.2	C = Moderate L = Possible Medium Risk	N	Condition 1	Condition has been added for all construction material to be NAF. Refer to detailed risk assessment in section 6.3
Operation of the power plant	Air emissions	Air / windborne pathway causing deteriorating air quality and impacts to health and amenity	Local atmosphere No human receptors	Refer to Section 6.2	C = Minor L = Rare Low Risk	Y	Condition 1 Condition 13	Applicant selected low-emission generators conditioned on the works approval. No off-site human receptors.
	Reagents and hydrocarbons	Direct discharge to land and overland runoff potentially causing ecosystem disturbance	Surrounding soils and native vegetation Local drainage lines	Refer to Section 6.2	C = Minor L = Unlikely Medium Risk	Y	Condition 1 Condition 13 Condition 15	Applicant controls for containment of spills and inspections are adequate to manage this risk event and have been conditioned on the works

Risk events					Risk rating ¹	Applicant controls sufficient ?	Conditions ² of works approval	Justification for additional regulatory controls / DWER comments
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls	C = consequence L = likelihood			
								approval.
Class II putrescible landfill	Leachate	Infiltration into groundwater causing changes in water quality.	Soils and groundwater	Refer to Section 6.2	C = Minor L = Rare Low Risk	Y	Condition 1 Condition 13 Condition 14	Location in the WRL and low rainfall minimises potential risks. Location has been conditioned on the works approval.
	Windblown waste	Air / windborne pathway depositing waste causing impacts to ecosystem health	Surrounding flora and fauna	Refer to Section 6.2	C = Minor L = Unlikely Medium Risk	Y	Condition 1 Condition 13	Applicant controls for fencing and inspections are adequate to manage this risk event and have been conditioned on the works approval.
	Contaminated stormwater	Overland runoff potentially causing ecosystem disturbance	Surrounding soils and native vegetation Local drainage lines	Refer to Section 6.2	C = Minor L = Unlikely Medium Risk	Y	Condition 1 Condition 13	Applicant stormwater controls are adequate to manage this risk event and have been conditioned on the works approval.

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

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

6.3 Detailed risk assessment for impacts to groundwater and vegetation from potentially-acid forming construction materials or ore stockpiling

6.3.1 Description and characterisation of emission

Rocks may be classified as either potentially-acid forming (PAF) or non-acid forming (NAF). This is due to the particular minerals present within the rocks, and their potential to chemically react with the ambient oxygen and moisture from precipitation. When the PAF rocks are located underground they typically present little risk of acidification due to the lack of oxygen, but when they are extracted and exposed to the atmosphere, acidification of the rocks will occur. This results in sulfide minerals within the rocks dissolving to form liquid sulfuric acid, which may also result in other elements being liberated and being dissolved into a liquid form. This often includes heavy metals like arsenic, cadmium, mercury and chromium. This acidic and metalliferous leachate then has the potential to seep into the surrounding soils and groundwater.

Geochemical characterisation of a select sample of the rocks at the Dingo Range Gold Project resulted in about 14% of everything that was sampled being classified as PAF (Botanica 2020 and 2024). Around 28% of the ore that was sampled was also characterised as PAF. The department does not consider the volume of sampling to quantitatively identify the amount of PAF that will be encountered during the life of the project, but it does give a reasonable indication of the likelihood of PAF being encountered (i.e. very likely). If even a small amount of these rocks oxidise and release acidic and metalliferous drainage, the impacts to the environment may be significant.

It must be noted that the DMPE regulates the disposal of waste rock in WRL at mining operations such as this one (refer to section 5 for further detail). DWER is only assessing the use of such material in infrastructure, such as dam embankments and in the ROM pad, or the stockpiling of this material within the prescribed premises as part of processing activities. It is noted that DMPE approvals that apply to this project require PAF wastes to be contained within an engineered "PAF cell" that will limit oxygen and water ingress into the material, limiting oxidation and preventing the flushing of potentially acidic and metalliferous leachate into the environment.

In this application, it is proposed that the outer embankments of the earthen infrastructure will only utilise NAF material, suggesting that PAF material may be utilised in the internal portions of the structures. It has not been proposed that PAF material used in the construction of infrastructure would be contained within engineered "PAF cells" which would limit oxygen and water ingress to reduce the oxidation of the rocks and subsequent transport of metalliferous drainage.

Without such engineering controls, it is likely that oxygen and moisture will infiltrate through the small spaces in the infrastructure between the rocks and cause acidic and metalliferous drainage within the structures and stockpiles. This drainage liquor would then be susceptible to being flushed into the environment during higher rainfall periods.

It is proposed that ore will be stockpiled on the ROM pad, but there are no controls in place to prevent any potentially harmful drainage from PAF material in the ore stockpiles from infiltrating through the ROM pad to the groundwater, or to prevent surface runoff from impacting the surrounding area. There does not seem to be an intention to segregate PAF ore from NAF ore in the stockpiling area to isolate and manage potential leachate from PAF sources. The applicant has stated that stockpiles are not expected to remain on the ROM pad for any significant length of time, however the department has frequently seen low-grade stockpiles stored for significant lengths of time at many sites. Furthermore, the department has not been provided with any kinetic testing that might suggest that acid-formation would take an extended time to occur. With some particularly reactive mineral types, PAF oxidation may occur within a matter of weeks.

The applicant has also indicated that any surface runoff from the ROM pad will be directed through earthen channels to a basin designed to capture sediment over one kilometer away. This sediment basin is designed to retain sediment and allow the relatively clean rainwater to infiltrate and evaporate. The department does not consider this sufficient to contain and prevent impacts from potentially acidic and metalliferous drainage, as liquids are likely to seep through the earth channel and sediment basin.

6.3.2 Potential adverse impact from the emissions

Surface runoff of acidic and metalliferous drainage from stockpiles, if uncontrolled, may enter surface water drainage lines and seep into soils potentially impacting soils and vegetation in these areas. Baseline vegetation studies of the area indicate that native vegetation is in good to excellent condition. Acidic drainage is likely to adversely impact the health of vegetation that it comes into contact with and may deteriorate the soils to a point where vegetation may be unable to regrow.

Should acidic and metalliferous drainage occur from the material used in the dam embankments or from ore stockpiled on the ROM pad, it will first seep into the soils and may also impact vegetation.

Secondly, acidic seepage may reach the groundwater table, which is relatively shallow in this area. It is acknowledged that there are currently no alternative users of the groundwater in the area. However, given that the mine is located on a pastoral lease, and the shallow groundwater is of sufficient quality to be used for livestock, the department considers it possible that the groundwater may be used in the future for farming purposes. For this reason, deterioration of the groundwater quality to a level that would be unsuitable for livestock should be prevented.

It is also noted that stygofauna was found in regional bores in low to moderate diversity. Deterioration of the groundwater quality also has the potential to impact any local stygofauna communities that may be present.

6.3.3 Consequence and likelihood

If acidic and metalliferous drainage were to occur, the impacts to soils and vegetation are likely to be difficult to recognise immediately and may only be clearly evident many years after the construction of the project. If they do occur, they may be difficult to remedy. In accordance with the risk matrix outlined in the departments Guideline: Risk Assessments (DWER, 2020) it has been determined that the consequence of this risk event would be **moderate** (mid-level onsite and low-level offsite impacts) with the likelihood of the impacts occurring to be '**possible**' (could occur at some time). This produces a risk rating of '**Medium**'.

6.3.4 Additional regulatory controls required

To prevent impacts to the surrounding soils, vegetation and groundwater, the Delegated Officer has deemed it necessary to require all earthen embankments and the ROM pad to be constructed using only NAF material – not only on the outer embankments.

Additional compactions requirements for the ROM pad to reduce seepage infiltration and a requirement to capture runoff containing any potential leachate in a local sump at the ROM pad will also be added to the works approval. Should acidic and metalliferous drainage be detected in the sump, it could then be pumped back to the process water dam.

6.4 Detailed risk assessment of potential impacts to fauna from the discharge of tailings to Dingo Range TSF

6.4.1 Description and characterisation of emission

Discharge of wet tailings to a TSF naturally results in the solid fraction of the tailings material

sinking to the bottom, which then means that the liquid fraction of the tailings material largely sits above the solid fraction. In a TSF, this liquid fraction becomes the decant or supernatant pond. Some elements and compounds from the ore are more likely to report to the solid fraction and others are more likely to report to the decant water depending on many factors. Chemicals used in processing, such as cyanide, are also typically present in the tailings.

Material characterisation test work completed by the applicant (GCA 2025) on three tailings samples indicated NAF and PAF tailings are likely to occur at the project depending on the ore type being processed, which will all be deposited in the paddock tailings facility. Quantified volumes of PAF versus NAF tailings material that will be deposited to the TSF over the seven-year life of the facility have not been calculated. When PAF tailings is exposed to the atmosphere, it may chemically react with the ambient oxygen and moisture inherent in the tailings mixture. This results in the sulfide minerals within the tailings dissolving to form liquid sulfuric acid, which may also result in other elements being liberated and dissolved into a liquid form, in preference to staying entrained in the tailings solids. This often includes heavy metals like arsenic, cadmium, mercury and chromium. This acidic and metalliferous liquid then has the potential to collect in the decant pond and may also seep into the surrounding soils and groundwater. Decant water with elevated metal levels is less likely with NAF tailings.

PAF tailings material has a lower likelihood of reacting to form acid if oxygen can be excluded from the pore spaces between the particles of tailings solids. When the solid tailings particles are submerged underwater, the rate of reaction slows dramatically. For this reason, tailings that remain wet and are not allowed to dry out are inherently less likely to oxidise. However, when the tailings is allowed to dry out, which is necessary on the beach area for a paddock-style TSF such as this one to ensure the stability of the facility, there is opportunity for oxidation of the tailings material to occur. This may occur rapidly or slowly. It is noted that during the operation of the facility, the majority of the tailings within the dam will remain saturated, and exposure to oxygen is only expected on a limited, exposed area at any given time.

The geochemical test work that has been conducted on the three tailings samples were static acid-base accounting tests. This analysis demonstrates that there is a propensity for acid to form and metals to be liberated in the PAF tailings samples, but it does not give a reliable indication of whether this is likely to occur rapidly or slowly over time. Applying the precautionary principle, the department needs to assume that there is the opportunity for this to occur rapidly. The tailings analysis also measured molybdenum, cadmium, iron, copper, zinc, nickel, cobalt and mercury at low levels in the decant water fraction (GCA 2025). Should the PAF tailings material oxidise in the TSF over a longer period of time, acid from the material may result in additional heavy metals in the tailings being dissolved and subsequently reporting to the liquid fraction (i.e. the decant pond).

Mercury, in particular, was noted to be elevated in the tailings test work, however, the applicant is concerned that this may be the result of an analytical error caused by contamination of the sample. The applicant states that mercury was not detected in the head assays of the ore. The department notes that the ore and waste rock characterisation work (Botanica 2024) found mercury in the host rock in levels up to 0.022 ppm in some samples. While the applicant's head assays of the ore did not detect mercury, it is noted that the limit of detection for mercury in the head assays was 0.1 ppm, which would not have been able to detect the trace amounts of mercury revealed in the Botanica (2024) ore and waste rock analysis.

Mercury is known to occur in some gold ores in the Goldfields region (particularly as the mineral Coloradoite, HgTe). For this reason, it is considered possible that mercury may be present in the ore and therefore may report to the tailings. It is noted that several waste rock samples also showed enrichment in tellurium. The applicant is encouraged to conduct further tailings characterisation work that will verify the accuracy of the original test work. The department does note that one tailings sample in particular, indicated an unusually high level of mercury for tailings. It is considered likely that if that level of mercury does report to the tailings stream, elevated emissions of gaseous elemental mercury are also likely to be emitted from the carbon

regeneration kiln and gold room. Should this be the case, these emissions will primarily be a health and safety issue for the workers, which is regulated through the *Work Health and Safety (Mines) Regulations 2022*.

In addition to the potential for elevated metals in the decant water, the testing of the tailings liquid fraction indicates that it will be mildly-alkaline (pH 8-9), and hypersaline, with 47,000 – 70,000 mg/L TDS. Weak acid dissociable (WAD) cyanide in the slurry samples were measured at between 13 and 53mg/L. The applicant states that they expect cyanide levels in the decant water to be below the 50mg/L guideline value for the protection of wildlife and therefore decant water should not present a risk to fauna. It is noted that one sample was recorded slightly above this level, and considers it possible that the WAD cyanide may exceed the 50mg/L guideline value at times in the TSF decant water.

6.4.2 Potential adverse impact from the emissions

In arid environments there is always potential for fauna, such as birds and bats, to be attracted to water sources, such as a tailings decant pond. This also means that there is a potential for the fauna to ingest that liquid. The department acknowledges that this potential is reduced when there are elevated salinity levels (typically over 50,000 mg/L TDS) making the water less palatable to wildlife. Some tailings decant samples were recorded just below the threshold of the salinity level that is considered protective for wildlife. With only three tailings samples on which to gauge the level of potential impacts, the department is of the view that the results reported give a general indication of the order of magnitude of concentrations of analytes that may be expected during the operation of the TSF, but does not provide definitive operational levels. If the decant water ends up being fresher than expected, fauna exposures may be higher than expected.

If the decant water contains cyanide levels that are more elevated than expected, this can be rapidly fatal to any wildlife that ingests the decant water. Some of the cyanide levels reported in the test work reach the lower range of cyanide levels that are likely to be toxic to fauna. One sample was measured at 53 mg/L of WAD cyanide, and protective levels are generally considered to be those lower than 50 mg/L WAD cyanide. Given the broad range of the measured parameters in the tailings analysis, the department considers there to be a lot of uncertainty in the characteristics of the tailings that will be produced during the operation of the processing plant. It is therefore considered possible that fauna could be exposed to harmful levels of cyanide from the decant pond.

In addition to this, there may also be elevated levels of heavy metals (including arsenic, mercury and cadmium) present in the tailings decant water which have been liberated through the oxidation of the PAF tailings material. These metals also have the potential to bioaccumulate in the fauna to levels that may be harmful to their health.

6.4.3 Consequence and likelihood

The Delegated Officer considers there to be a level of uncertainty around the expected toxicity of the tailings decant water. The decant water produced during the operation of the TSF may be either more toxic, or less toxic, than the bench top test work predicted. In the worst-case scenario, should the decant water present elevated cyanide and / or heavy metals, there is a risk that it may cause fauna deaths. In accordance with the risk matrix outlined in the departments Guideline: Risk Assessments (DWER, 2020) it has been determined that the consequence of this risk event would be **moderate** (mid-level onsite and low-level offsite impacts) with the likelihood of the impacts occurring to be **'possible'** (could occur at some time). This produces a risk rating of **'Medium'**.

6.4.4 Additional Regulatory Controls

The Delegated Officer has determined that it is necessary to require the works approval holder to undertake monitoring of the levels of cyanide, salinity and heavy metals that are produced in

the decant water during time-limited operations of the TSF so that a more informed assessment of risk can be made during the assessment for a licence. Additional tailings characterisation test work may also provide better insight to predict likely cyanide and metal levels for different ore sources that have not yet been tested. A condition requiring a campaign of monthly decant water quality sampling has been added to the works approval, so that immediate, operational risks to fauna from the decant water can be determined. The Delegated Officer has also added a requirement to report on any fauna fatalities at the TSF during time-limited operations.

Should the information collected indicate that decant water quality is outside levels that are protective to wildlife, or if actual impacts to fauna are observed, the works approval holder will have the ability to consider instituting additional controls to reduce potential impacts. This may include treatment of the decant water or a method to exclude fauna access to the decant pond. Should the information demonstrate that wildlife is unlikely to be impacted by exposure to the decant water, this monitoring can be scaled back on any future licence.

6.5 Detailed risk assessment for impacts to groundwater and vegetation from discharge of tailings to Dingo Range TSF

6.5.1 Description and characterisation of emission

Discharge of tailings to a TSF may cause impacts to groundwater quality through seepage of leachate from the tailings causing a deterioration of the groundwater quality. Tailings characterisation test work (GCA 2025) indicates that leachate from the tailings at the Dingo Range Gold Project will be very saline, and may contain elevated levels of metals (discussed further above in section 6.4). Compared to the groundwater in the area which has pH values ranging from 7.6 to 8.3 and salinity levels ranging from 1,700 to 2,700 mg/L TDS in the shallowest levels, seepage from the TSF is likely to be of very poor quality. This has the potential to result in the deterioration of the groundwater quality around the facility.

There is also a risk that seepage from the TSF may raise the groundwater levels in the immediate vicinity of the facility, causing groundwater mounding. Irrespective of the quality of the water, mounding which brings water into the root zones of surrounding vegetation can impact the health of the vegetation, as many species cannot tolerate saturated root zones. Mounding of poor-quality water may also cause deterioration of the soil quality which may prevent future vegetation growth. If the seepage mounds to a level where it is expressed at the surface of the soil, the seepage may enter surface water drainage lines, particularly during rainfall events.

To prevent these impacts from occurring, the applicant has proposed a number of controls to prevent seepage from the facility. The facility will not be lined, but seepage will be reduced by:

- Construction of TSF embankments with a foundation cut-off key and low permeability downstream embankment;
- Operation of a decant water recovery system that will maintain the decant pond as small as practical, with a minimum distance from the embankments of 300 m; and
- Depositing tailings in a manner to maximise tailings densities.

While this is expected to reduce seepage, modelling indicates that seepage is still likely to occur from the TSF. To prevent this seepage from impacting receptors, the applicant plans to install a Seepage Interception System (SIS) to capture the seepage and return it to the TSF and processing plant. This will comprise of a seepage trench, excavated to refusal, and a series of seepage collection sumps which will be equipped with pumps to return seepage back to the TSF decant pond. Seepage that is collected in the trench is gravity fed to the collection sumps through buried pipelines, with a minimum gradient of 1% towards the sumps.

If the SIS is installed and operated as designed, the department considers that this is likely to be an effective strategy to minimise and prevent seepage impacts to the surrounding

environment during the operation of the facility. It would have the effect of preventing both the deterioration of the groundwater quality and would preclude groundwater mounding.

It is noted that this strategy to prevent seepage impacts from the TSF relies heavily on the effectiveness of the SIS. Should irregular geological features be encountered, or insufficient pumping capacity be available, there is a possibility that some seepage may be able to bypass the seepage trench and impact sensitive environmental receptors.

The applicant also plans to install a groundwater monitoring network around the TSF, which is designed to monitor for potential seepage that bypasses the SIS. Should a seepage plume develop, it is likely to largely flow west along the paleochannel that has been identified near the facility, and the proposed monitoring bores appear to target this area (monitoring bore locations shown in Figure 7).

6.5.2 Potential adverse impact from the emissions

Should the controls put in place by the applicant be insufficient to prevent seepage from the TSF, there is potential for the seepage to significantly deteriorate the reasonable-quality, shallow groundwater surrounding the facility. While there are currently no alternative users of the groundwater in the area, the mine is located on a pastoral lease, and the shallow groundwater is of sufficient quality that it could be used for pastoral purposes in the future. It is possible that seepage to groundwater would significantly impact the water quality of the groundwater, making it unsuitable for any beneficial use in the future.

The department also notes that stygofauna were found in regional bores in low to moderate diversity. Studies conducted by the applicant indicate that the paleochannel adjacent to the TSF harbours a richer stygofauna community than directly in the project area. Deterioration of the groundwater quality has the potential to adversely impact these stygofauna communities.

The second potential impact from seepage from the TSF, is the potential for groundwater mounding to impact surrounding vegetation and soils. It is noted that site investigations indicate that the groundwater below the TSF is about 6 to 8 mbgl. The applicant acknowledges that maintaining groundwater below 4 mbgl is typically necessary to prevent impacts to vegetation. This means that even a small amount of mounding at this location may cause impacts to the vegetation.

Immediately surrounding the proposed TSF footprint, baseline vegetation studies indicate that native vegetation is in excellent condition. While the area within the prescribed premises and mining tenement have been authorised for clearing, the vegetation outside the mining tenement has not. Along its northern and eastern extents, the TSF is sited within about 100 m of the edge of the mining tenement. Mounding of groundwater in these areas to above 4 mbgl is likely to have a detrimental impact on the vegetation in this area.

6.5.3 Consequence and likelihood

In accordance with the risk matrix outlined in the departments Guideline: Risk Assessments (DWER, 2020) it has been determined that the consequence of an impact to vegetation around the TSF and outside of the prescribed premises boundary could be **'major'** (mid-level offsite impacts). The likelihood of this risk event occurring has been deemed **'unlikely'** due to the applicants proposed controls (operating SIS). This produces a risk rating of **'Medium'**.

The consequence of an impact to groundwater quality from seepage would be **'moderate'** (mid-level onsite and low-level offsite) with a likelihood of this impact occurring to be **'unlikely'** due to the applicants proposed controls (operating SIS). This produces a risk rating of **'Medium'**

6.5.4 Additional Regulatory Controls

The Delegated Officer considers that the controls put in place by the applicant to capture seepage and prevent potential impacts to the environment are likely to be effective if installed

and operated as designed. However, there is a risk that some seepage could bypass the SIS, depending on geological conditions or operational shortcomings. For this reason, the groundwater monitoring network will be critical to gauge the effectiveness of the SIS.

The Delegated Officer has determined that the groundwater monitoring network proposed by the applicant is generally appropriate, however, the Delegated Officer considers additional bores to be required along the eastern side of the facility. The eastern side of the TSF is over 1 km in length, and will be in close proximity to offsite vegetation. Only one bore has been proposed to monitor groundwater along the entire eastern embankment. The Delegated Officer accepts that any significant seepage plume is most likely to travel west towards the paleochannel, however, it has been experienced at many similar TSFs that groundwater mounding typically occurs radially from the facility at close proximity to the embankments, regardless of groundwater flow directions.

To confirm that the seepage interception system is capturing enough seepage to prevent mounding impacts, the Delegated Officer has determined that the applicant is required to install at least two additional bores along the eastern side of the TSF. One bore should be located north of proposed bore DRMB09, and one south of this bore.

A standing water level limit of 4 meters below ground level will also be applied to these bores to ensure groundwater levels do not mound to a level that could impact vegetation. Groundwater recovery action and a target level should be considered for future licence conditions.

A requirement for the applicant to development a water balance for the TSF will also be added to the works approval, which will assist in determining seepage loss and capture estimates.

7. Consultation

Table 5 provides a summary of the consultation undertaken by the department.

Table 5: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website 19 January 2026	None received	N/A
Local Government Authority advised of proposal on 16 January 2026	None received	N/A
Department of Mines, Petroleum and Exploration (DMPE) advised of proposal 19 January 2026	<p>DMPE replied on 22 January 2026 advising that:</p> <p>The most recent mine operation approval for the Dingo Range Gold Project was Mine Development and Closure Proposal (MDCP) Reg ID 500875 which was approved 27/11/2025. This was a site transition assessment, as such the associated approval statement supported by the MDCP is the sole DMPE environmental approval document for the site and has superseded all previous approvals.</p> <ul style="list-style-type: none"> <i>The tailings storage facility (TSF) was approved under MDCP Reg ID 500875 for a single cell paddock style TSF to a maximum height of 19m above ground level (504.75 mRL). Construction may be in 2 lifts and is to be in accordance with "ATC Williams Dingo Range Gold Project tailings storage facility feasibility report July 2025: Appendix 15.3.1". Other key design considerations include construction of embankments out of non-dispersive, NAF material only. Proposal was found to be Geotechnically sound. Proposed works approval application appears consistent with DMPE approval.</i> <i>Approved supporting mining activities include a proposed new processing plant with a nominal throughput of 3 Mt per annum. All risks and associated activities with processing plant were</i> 	Noted. The nature and extent of the Approvals Statement AS-234867 v1.00 and its associated conditions has been considered during the risk assessment for this works approval.

	<p><i>assessed by DMPE and proposed management deemed satisfactory to meet DMPE environmental objectives.</i></p> <ul style="list-style-type: none"> <i>Other mining activities approved by DMPE for this project include construction and operation of a diesel power plant (nominally 16 Mw) and putrescible landfill (located in Bungarra Waste Rock Landform). No specific concerns were noted or restrictions, other than standard environmental outcomes were imposed on these activities.</i> <p>In closing, the activities proposed by Emerald Resources at the Dingo Range Gold Project that are the subject of this works approval application, have been assessed and were deemed to meet DMPE environmental objectives. Environmental outcomes have been imposed to manage any non-compliance with said DMPE environmental objectives.</p>	
DPLH advised of proposal on 19 January 2026	<p>DPLH replied on 9 March 2026 advising that:</p> <p>A review of the Register of Places and Objects, as well as the DPLH Aboriginal Heritage Database, concludes that the subject area intersects with the actual boundary of Aboriginal heritage place Mt Harold (ID 1512). Please note that the advice is provided on the whole of the land area as a shapefile of the proposed activity footprint was not provided. Therefore, based on the current information held by DPLH approvals under the Aboriginal Heritage Act (AHA) are required. The proponent should be advised to contact the Aboriginal heritage conservation team for their own advice prior to the commencement of any works. The proponent should also refer to the DPLH website at Aboriginal Heritage Approvals for information on 'Land use under the Aboriginal Heritage Act 1972' for the types of approvals available under the AHA that you can apply for.</p>	<p>Noted. The applicant has indicated that direct disturbance to this site will not occur without further ethnographic consultation and agreement with the Watarra Darlot People.</p> <p>This assessment has found that discharges and emissions from the proposed activities relating to the works approval are not expected to impact this heritage place.</p>
Kultju Aboriginal Corporation advised of proposal on 19 January 2026	None received	N/A
Watarra Aboriginal Corporation advised of proposal on 19 January 2026	None received	N/A

Applicant was provided with draft documents on 9 April 2026	Applicant provided feedback on 16 April 2026 and 29 April 2026. Refer to Appendix 1	Refer to Appendix 1
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8. 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. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
3. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
4. Environmental Protection Authority (EPA) 2005, *Guidance statement No.3: Separation distances between industrial and sensitive land uses*, Western Australia.
5. ATC Williams (ATCW) 2025a, *Dingo Range Project Tailings Storage Facility Feasibility Report*, prepared for Emerald Resources (WA) Pty Ltd, Western Australia.
6. ATC Williams (ATCW) 2025b, *Dingo Range Gold Project Surface Water Assessment*, prepared for Emerald Resources (WA) Pty Ltd, Western Australia.
7. Botanica 2024, *Dingo Range Gold Project Waste Characterisation Report*, prepared for Emerald Resources (WA) Pty Ltd, Western Australia.
8. Botanica 2020, *Memorandum: Materials Characterisation Of The North Laverton Gold Project*, prepared for Bullseye Mining Limited, Western Australia.
9. Graeme Campbell & Associates Pty Ltd (GCA) 2025, *Memorandum: Dingo Range Characterisation Gold of Project: Tailings-Slurry Implications for Tailings Management*, Emerald Resources (WA) Pty Ltd, Western Australia.

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

Condition	Summary of applicant's comment	Department's response
Condition 1 – Table 1: Item 1, a)	Request the removal of layout requirements to allow for minor changes during construction.	Clarification that the figure contains limited detail which allows for minor changes during construction. Applicant agreed to retain the existing condition.
Condition 1 – Table 1: Item 1, h)	Request to allow for the option to include a PAF cell within the ROM pad.	Further engineering detail would be required to assess this change. Applicant agreed to retain the existing condition.
Table 1, Item 3 a) and b).	Request the removal of specific storage volume requirements for the raw water and process water dams as these are nominal operational volumes.	The department notes that the premises is a zero-discharge site, and it is up to the works approval holder to ensure that there is sufficient capacity to hold the volume of process water/raw water that will be utilised at the premises. The department considers there to be sufficient alternative controls on the works approval to prevent process water discharges and finds it acceptable for this specification to be removed.
Table 1, Item 3, c).	Request the removal of specification for a 6m wide crest, as this is not in line with the design.	Noted, condition will be amended to reflect 5m wide crest design specification.
Table 1, Item 5, a).	Request the removal of tank size and configuration as this was a nominal design. Tank numbers and sizes may change; bulk chemical storage will remain within Category 73 limit. Furthermore, the specified volume of fuel farms was revised up to 515kL in correspondence on 19/03/2026.	Noted. The configuration requirements have been removed as the department does not consider this to be a key control and finds it acceptable to remove this specification. The specified volume will also be amended to reflect the revised information.
Table 1, Item 7, a).	Request the rewording of this requirement to allow for an equivalent option regarding the generators.	The proposed change is considered acceptable and will be updated.
Additional condition	Request the addition of a condition to allow for minor or other changes that do not increase risks to public health or the environment.	The proposed condition is no longer a part of the department's standard conditions suite for works approvals due to the lack of enforceability of this condition. This is supported by legal advice.

Condition	Summary of applicant's comment	Department's response
		Any departures from the requirements specified in Table 1 will require a works approval amendment.
Condition 7 – Table 3, Item 1, a) and Item 2, a).	Request the removal of the specification of the TSF footprint as this value reflects the storage area and does not need to be specified as construction is covered under an alternative requirement.	The department does not consider this to be a key control and finds it acceptable to remove this specification.
Table 3, Item 1, b) and c).	Request rewording of the condition to specify that it relates to the embankment foundation.	The department sought further clarification from the applicant regarding the wording. Applicant agreed that the existing wording was acceptable.
Table 3, Item 1, g & i) and Item 2 c), e) and g).	Request the removal of these requirements as they do not need to be specified as construction details are covered through the inclusion of figures.	<p>The department acknowledges that these details are also indicated in the figures that have been included on the works approval.</p> <p>The department often includes key aspects of engineering figures as stand-alone conditions for clarity for any assessing officer looking at compliance with construction requirements.</p> <p>These conditions will be kept on the works approval for clarity and to assist in the streamlining of the future CCIR assessment.</p>
Table 3, Item 2, c) and d).	Request the rewording of the condition as it does not correctly reflect the intent of the seepage interception system design, and to correct typos.	The department sought further clarification from the applicant regarding the wording and design intent. The condition has been revised to reflect that the entire system will be installed during construction of the starter embankment with sumps installed outside the final footprint of the facility, connect through buried pipelines. Figures that have been revised for clarity have been updated in the works approval.
Condition 13 – Table 4, Item 1.	Request the removal of the production limit for Time Limited Operations.	The department considers the proposed change acceptable given the short duration of TLO, however, notes that it is likely to be included as a condition on a future licence.
Table 4, Item 7,	Request that references to 'freeboard' be reworded to 'total freeboard'.	The department considers the proposed change acceptable.
Table 6 and Table 7, Parameters.	Request the removal of the requirement to monitor total cyanide, as only the monitoring of WAD cyanide was proposed. This was incorrectly stated in the decision report.	Noted. The decision report will be amended to reflect the monitoring of total cyanide is a department-imposed condition.
Condition 17	Comment for clarification. The applicant notes that the Decision Report may not accurately reflect the TSF environment with respect to the oxidation of the PAF tailings. The DRGP TSF is a single cell	The department notes that the Supporting Document and the TSF design report, both extensively discuss the importance of depositing

Condition	Summary of applicant's comment	Department's response
	<p>downstream constructed facility which will operate with a central Decant Pond and does not require a "drying cycle".</p> <p>Testwork (GCA,2025) also indicates that within the operating TSF, neutral-to-alkaline (pH 7-9) conditions will prevail both on the dormant beaches, and active-beaches when either NAF, or PAF-tailings are discharged to the TSF.</p>	<p>tailings in a cyclic manner to maximise tailings density and strength through drying of the beaches, specifically referring to drying cycles.</p> <p>The department also notes that although the fresh tailings material may be somewhat alkaline, this does not prevent the sulfide minerals in the solids from oxidising. The overall alkalinity may help with buffering of the acid after it is generated from the sulfides, and may therefore, reduce the solubility of some metals in the short term. However, once the alkalinity that is present has been exhausted, acid generation from sulfide oxidation is likely to accelerate rapidly and the solubility of those metals are likely to increase further.</p>
<p>Condition 13, Condition 17, Condition 19.</p>	<p>Typo and incorrect referencing to Table numbers.</p>	<p>Noted, wording will be corrected.</p>

Appendix 2: Dingo Range Processing Plant diagrams

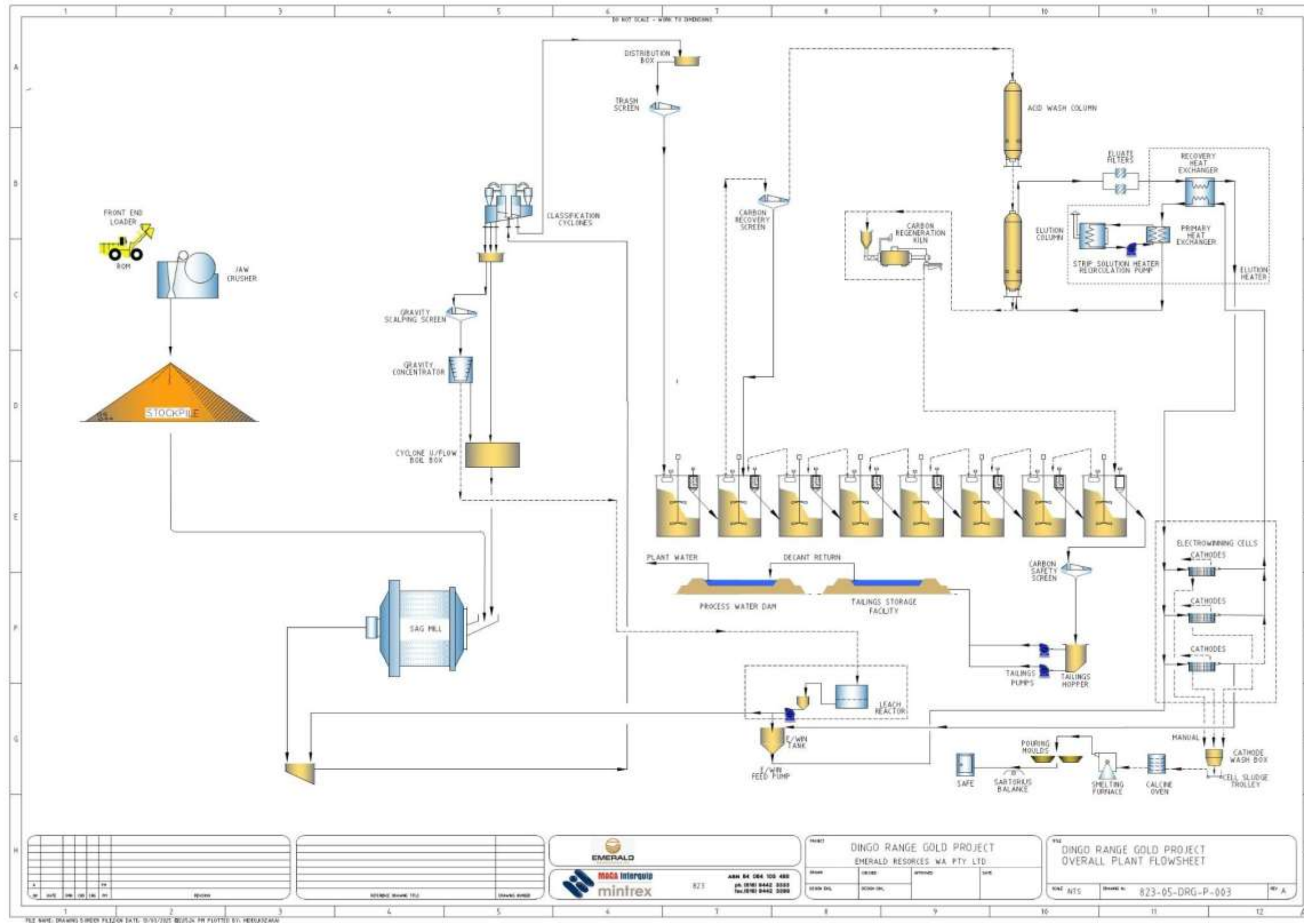


Figure 10: Dingo Range Processing Plant Flowsheet