



Application for Licence

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

Licence Number	L9420/2023/1
Applicant	Calidus Resources Limited
ACN	006 640 553
File number	DER2023/000643
Premises	Warrawoona Gold Project MARBLE BAR WA 6760 G45/345, G45/347, L45/523, L45/649, M45/668, M45/547, M45/552, M45/669, M45/670, M45/671, M45/682, and M45/240 MARBLE BAR WA 6760 As defined by the map in Schedule 1
Date of report	16 August 2024
Decision	Licence granted

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

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1. Decision summary

This decision report documents the assessment of potential risks to the environment and public health from emissions and discharges during the operation of the premises. As a result of this assessment, licence L9420/2023/1 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this decision report, the Department of Water and Environmental Regulation (the department; DWER) has considered and given due regard to its regulatory framework and relevant policy documents which are available at <https://dwer.wa.gov.au/regulatory-documents>.

2.2 Application summary and overview of premises

On 29 September 2023, the applicant submitted an application for a licence to the department under section 57 of the *Environmental Protection Act 1986* (EP Act).

The premises is approximately 20 kilometres (km) northwest of Marble Bar (Figure 1 and Figure 2). The premises relates to the categories and assessed design capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in licence L9420/2023/1. The infrastructure and equipment relating to the premises category and any associated activities which the department has considered in line with *Guideline: Risk Assessments* (DWER 2020a) are outlined in licence L9420/2023/1.

The application is to seek a licence for the prescribed activities as detailed in Figure 1 and Figure 2 (Category 5, Category 12, Category 64 and Category 85). Infrastructure related to categories 5, 64 and 85 were assessed under works approval W6464/2020/1 and the continued operation of related infrastructure is assessed under this Licence.

2.2.1 Category 5 Processing Plant

Operation of a 2.5 million tonnes per annum (Mtpa) processing plant consisting of a single stage crusher with semi-autogenous grinding (SAG) mill, secondary ball mill and conventional carbon-in-leach (CIL) circuit. Tailings are thickened before undergoing cyanide detoxification and discharged to a valley fill tailings storage facility (TSF).

Crushing

Gold bearing ore is placed on the run of mine (ROM) pad near the crushing plant and reclaimed using a front-end loader to the ROM bin. An apron feeder withdraws ore from the ROM bin and discharge this over a vibrating grizzly to separate fines, with oversize ore continuing to the primary jaw crusher. The fines and crushed oversize ore then discharge to a surge bin.

Grinding

Ore from the surge bin is conveyed to the milling circuit and water added from the bore field, tailings decant and process recycle streams. The SAG mill is the first stage of grinding and the discharge slurry from here will go to the rotating trommel screen, with oversize material to pebble discharge, transfer conveyors and scats storage bunker where it is crushed and redirected back to the SAG mill with new feed.

Trommel undersize reports to the classification cyclones where it is split into the gravity circuit and ball mill feed for secondary stage grinding. Discharge from the ball mill will be screened via a trommel with oversize to the scats bunker and underside to the mill discharge hopper.

Gravity Circuit

Oversize from the gravity feed screen returns to the feed end of the ball mill and undersize gravitates to the centrifugal concentrator for gravity gold recovery. Gravity concentrate is batch treated in an intensive cyanidation reactor and after washing, the solids residue from the reactor are pumped to the mill discharge hopper. The pregnant solution is recirculated from the gravity electrolyte tank through a dedicated electrowinning cell for the recovery of gold.

Leaching and Adsorption

The cyclone overflow stream from the grinding circuit reports via gravity to a rubbish screen (to remove materials like plastics, wood fibres etc. and collected into a bin for recycling or disposal) to the CIL circuit.

Two leach tanks and six adsorption tanks are used. Slurry containing loaded carbon is delivered onto the loaded carbon screen, where carbon is separated and washed ahead of acid washing and elution for gold recovery.

Cyanide Destruction and Tailings Disposal

Undersize from the carbon safety screen reports to the tailings thickener to be thickened to 60% w/w solids. Thickener overflow reports to the process water tank. Raw water for process water make up and tailings decant return water is directed to the tailings thickener. Thickened underflow is transferred into the cyanide destruction feed box to allow for a sample to be taken. Slurry then overflows from the feedbox into the tailings hopper where it is combined with Caro's Acid for cyanide destruction.

Acid Wash, Elution and Gold Recovery

Loaded carbon is stripped six times each week in five tonne batches by a spilt elution circuit. The carbon is acid washed and rinsed in a rubber lined, mild steel column and then eluted in a stainless steel elution column. Acid washing with 3% w/w hydrochloric acid concentration is conducted to remove contaminants prior to elution.

Pregnant eluate circulates through two dedicated electrowinning cells each with nine 800 mm square cathodes, fitted with stainless steel mesh. Periodically, precious metal sludge is washed from the cathodes by a pressure cleaner, filtered, and oven dried. The dry product is mixed with flux and smelted in a natural gas fired tilting furnace to produce doré bullion.

Reverse Osmosis Plant

A Reverse Osmosis (RO) plant with capacity of 75 m³/day is located within the process plant area to process water for office administration, safety showers, carbon regeneration kiln and intensive leach reactor. Brine reject from RO plant reports to the raw water pond.

Sedimentation Ponds

These ponds have a compacted soil (unlined) base and capture uncontaminated stormwater within the Processing Plant. They are designed to contain run off based on an ARI of 100-year, 72-hour duration event. Sedimentation Pond 1 overflows to Sedimentation Pond 2, which has 300mm freeboard.

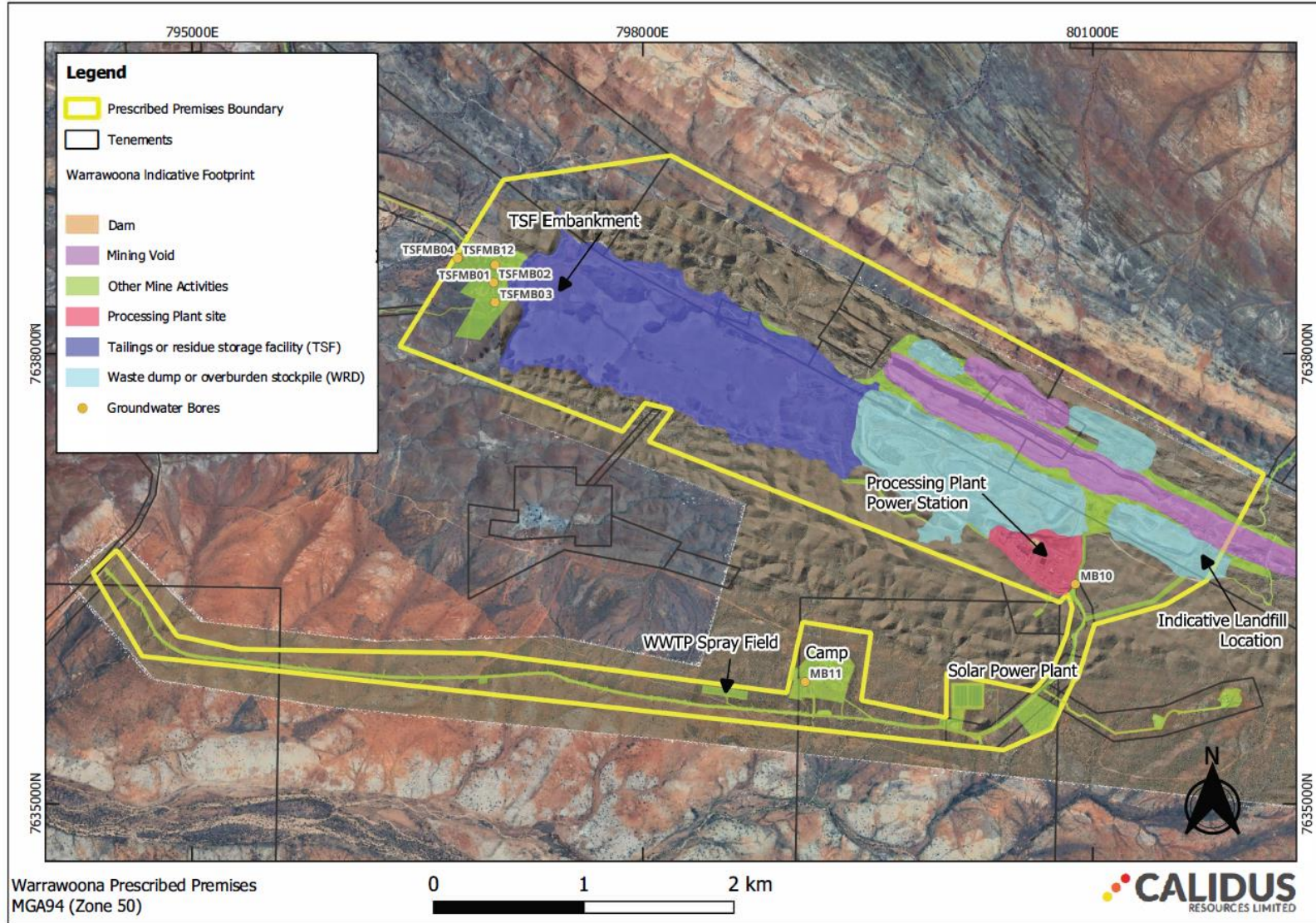


Figure 1: Site Layout (1 of 2)

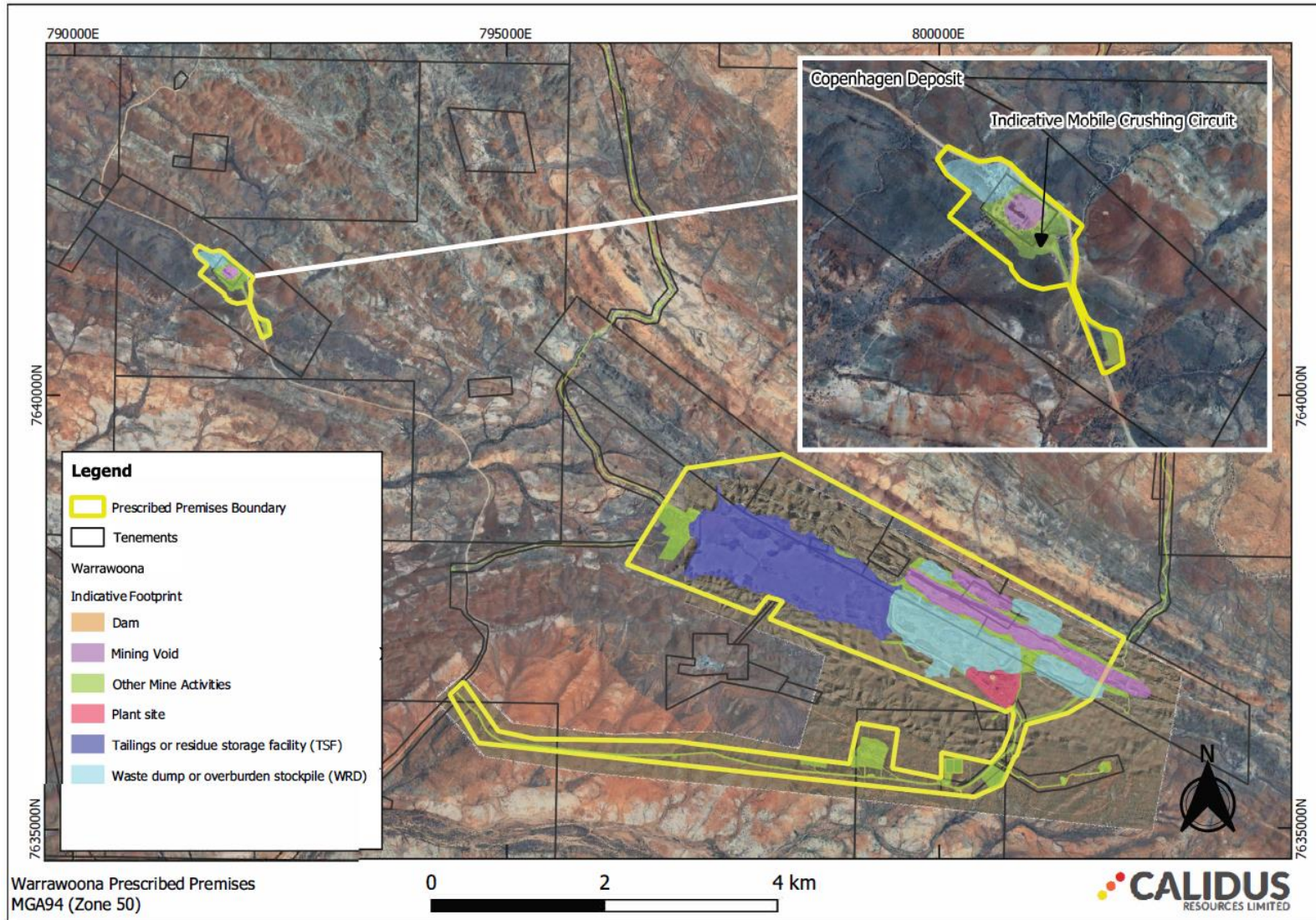


Figure 2: Site Layout (2 of 2)

Secondary Processing Sulphide Circuit (not yet implemented)

A Sulphide Circuit is to be implemented for the treatment of the high-grade refractory ores from satellite deposits such as Copenhagen. Typically, gold can be recovered by conventional cyanide leaching, however, refractory ores give acceptable gold recoveries only with the use of more reagents or more complex pretreatment processes. The Sulphide Circuit has been designed to process 100 kilotons per annum of fresh underground ore. Refer to Figure 6.

High grade Copenhagen material will be crushed via a mobile crushing unit and then fed to a milling and floatation Sulphide Circuit for treatment. This Sulphide Circuit will be a small mobile plant consisting of flotation cells, concentrate thickener and filter press. The Sulphide Circuit will be located at the CIL processing plant. The following process route will be followed:

- Two stage crushing using a primary jaw crusher with a secondary cone crusher to yield a final product less than 10 mm;
- Grinding in a single ball mill closed with hydro-cyclones to achieve a product size of 80% passing 75 µm;
- Treatment of approximately 25% of the cyclone underflow stream by centrifugal gravity concentration to separate a high-grade gravity concentrate;
- Conditioning followed by rougher and cleaner flotation to produce a gold/stibnite concentrate;
- Further conditioning of the tails followed by rougher and cleaner flotation to produce a separate gold/sulphide concentrate;
- Separate thickening and storage for the two concentrates;
- Batch-wise filtration of the two concentrates through a common filter press, and bagging of the two products for shipment in containers;
- Cyanidation of the flotation tailings in two leach tanks over 24 hours, followed by transfer of the leached slurry to the Warrawoona CIL circuit feed;
- Online process stream analysis using a multi-stream analyser; and
- Reagent storage and dosing systems using pre-mixed liquid reagents handled in Intermediate Bulk Containers (IBCs) including flocculant and caustic soda sourced from the existing Warrawoona Processing Plant.

The Concentrate Thickeners, Filter Press and Concentrate Loading Area will be enclosed by a shed with concrete flooring. The shed is proposed to have internal drainage to a collection sump with any collection put back through the circuit. Concentrate comes out of the filter press at around 10-15% moisture before being bagged inside the shed via a small loader, feed hopper, conveyor and bagging chute (Refer to Figure 3). Then bulk bags stored in the shed can be transferred by forklift into sea containers for transport and transport for processing by a third-party processing plant.

Tailings will be transferred to the CIL plant thickener.

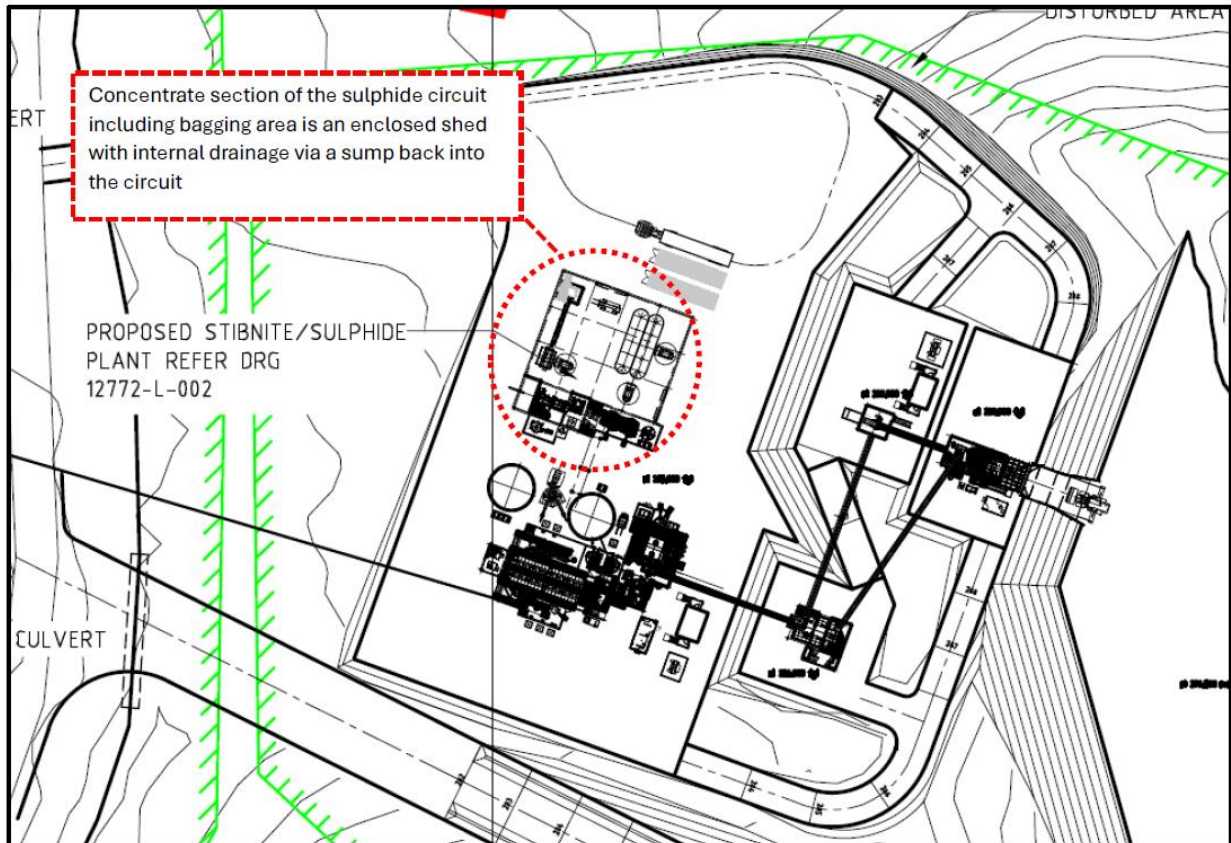


Figure 3: Concentrate Loading Area

Process Water Pond

A Process Water Pond has been designed to allow for additional process water storage (approximately 5,000m³) within the process plant. The pond contains overflow from the process water tank and water from acid wash and barron elute. This water is pumped back to the process water tank when required. The Process Water Pond has been installed with impervious HDPE liner, fenced and 500mm freeboard will be maintained. An emergency overflow channel has been inbuilt to the pond that flows to the event pond downstream.

The Process Water Pond is located within Sediment Pond 1. Minor surface earthworks have occurred to ensure storm water flows to Sediment Pond 2 from this upper plant catchment area. The capacity of Sediment Pond 2 is 12,382m³ (Figure 4) which is greater than the 10,054m³ required to contain a 10% AEP-24 hour rainfall event within the whole plant catchment area (GRM, 2021).

The Process Water Pond will also be used to store decant return water and to treat excess WAD-CN levels using Caro's Acid (Cyanide Destruction) to reduce the WAD-CN load into the circuit, and subsequently reducing the WAD-CN levels into the tailings. The Applicant does not expect the WAD-CN levels to be over 30mg/L. It will be another method to reduce WAD-CN levels recirculating in the process circuit and potentially reduce the WAD-CN in the tailings water.

Raw Water Pond

The Raw Water Pond has a capacity of 4,980m³ and receives raw water and RO brine from the Processing Plant RO Plant. Does not contain process water or decant water.

Reagents

Reagents used during processing include:

- Quicklime;
- Hydrated Lime;
- Sodium cyanide;
- Sodium hydroxide;
- Hydrochloric acid;
- Sulphuric acid;
- Hydrogen peroxide;
- Flocculant (currently BASF Rheomax DR 1050 however may change);
- Leach Aid; and
- Antiscalant.

2.2.2 Category 5 TSF

Tailings thickened to a weight of over 60% solids (results provided to DWER on 25 March 2024 show the tailings solids content to generally range between 61 – 67%) from the Processing Plant is discharged to the valley fill TSF. Approximately 17 Mt of tailings will be stored in the TSF during the project. The tailings impoundment within the valley is approximately 900 m wide and 2.3km long. The tailings are discharged down valley from an elevated location approximately 1.5km to the north-west of the proposed Processing Plant.

TSF embankment has been constructed in two stages: Stage 1 (Starter embankment already constructed) 263.0 metres at reduced level (mRL); and Stage 2 (final – yet to be constructed) 267.3 mRL; and

A pipeline and services corridor has been constructed between the process plant and the TSF to transfer tailings slurry from the processing plant to the TSF, and transfer decant water back to the process plant for reuse. The tailings delivery and decant return pipelines are equipped with telemetry system to detect leaks or are within bunded corridors.

Figure 5 shows the process flow diagram for the Processing Plant and Figure 4 shows the general configuration of the Processing Plant.

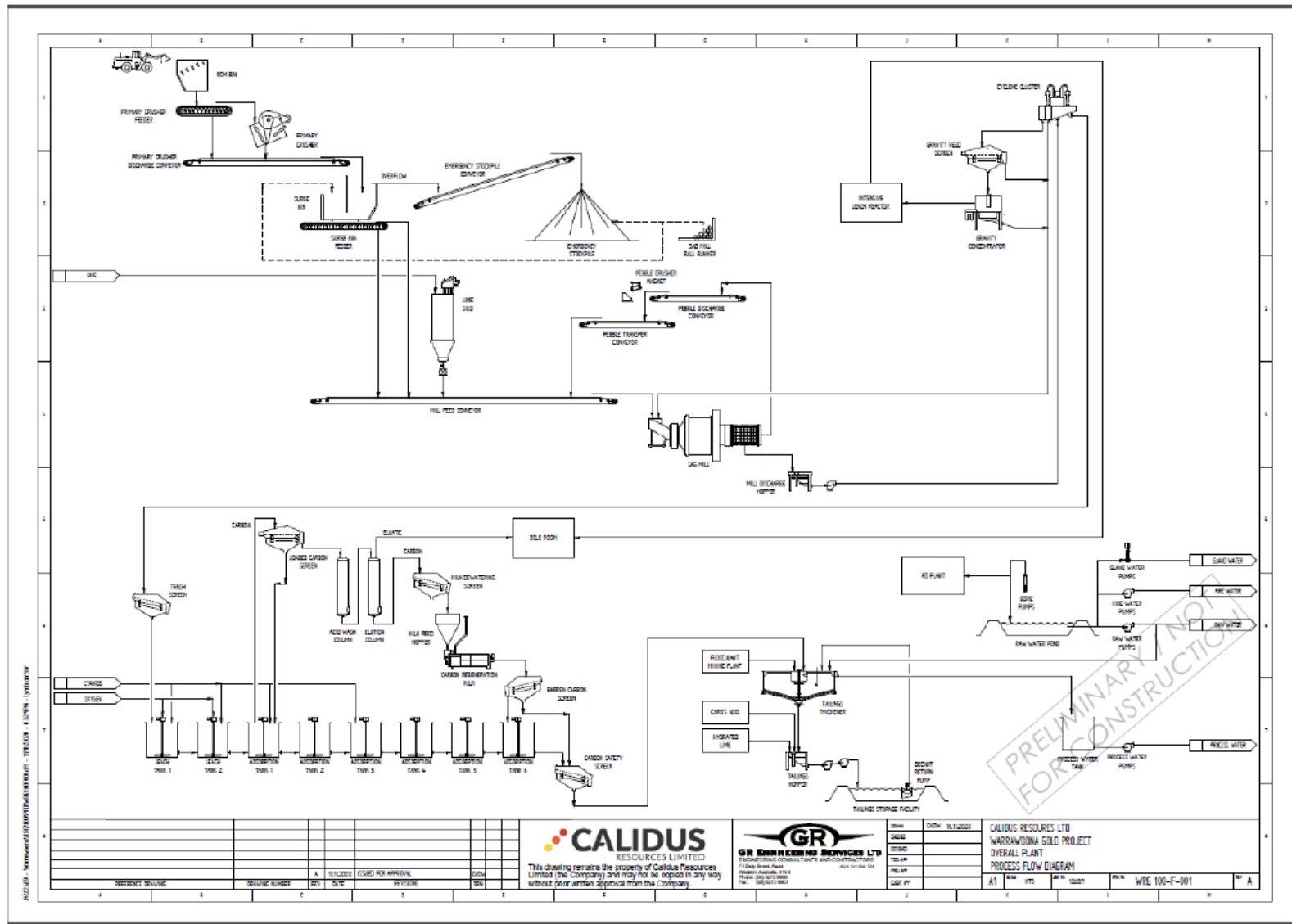


Figure 4: Process Flow Diagram for Warrawoona Gold Plant (minus Sulphide Circuit)

Licence: L9420/2023/1

IR-T13 Decision report template (short) v3.0 (May 2021)

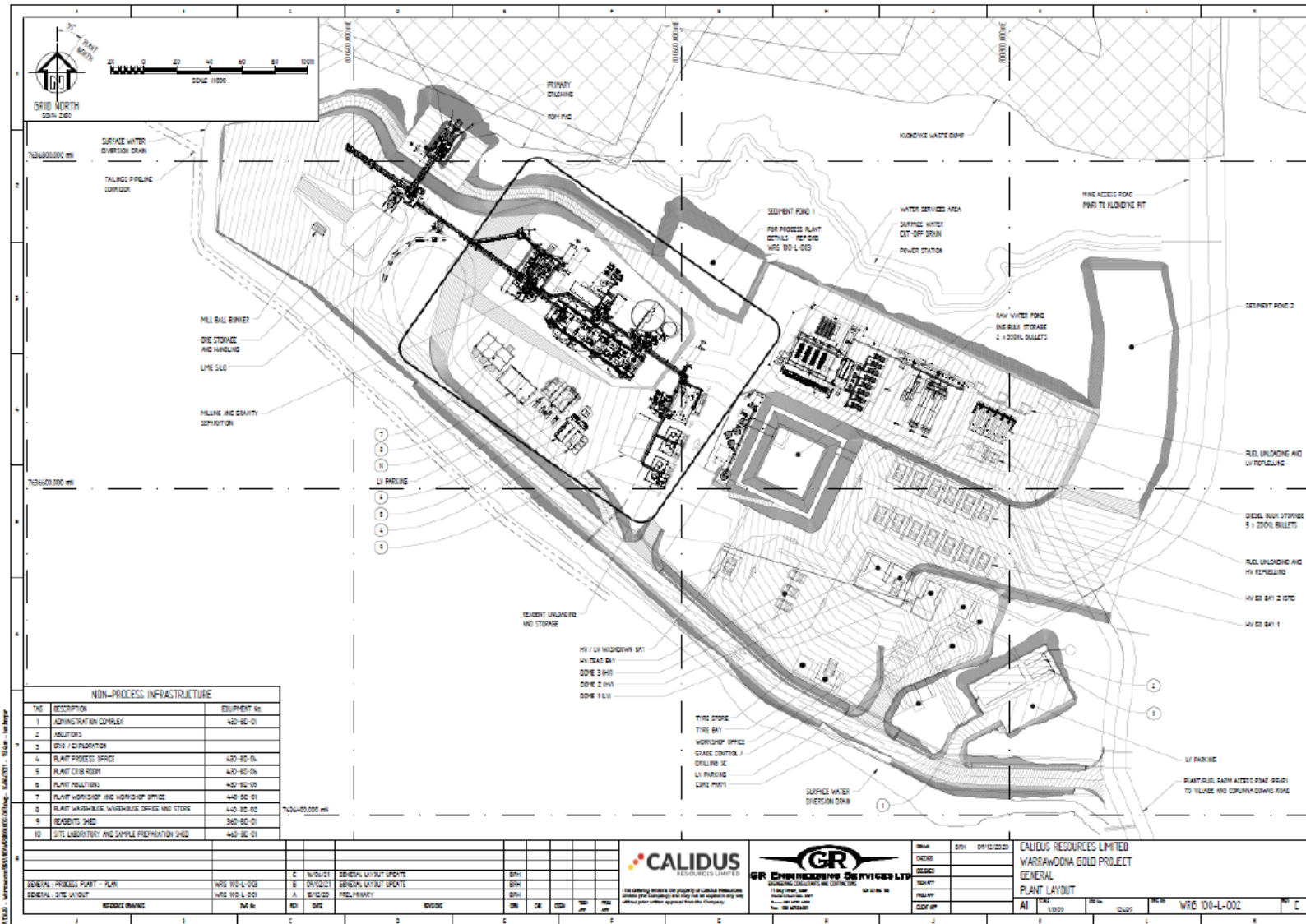


Figure 5: Processing Plant General Configuration

Licence: L9420/2023/1

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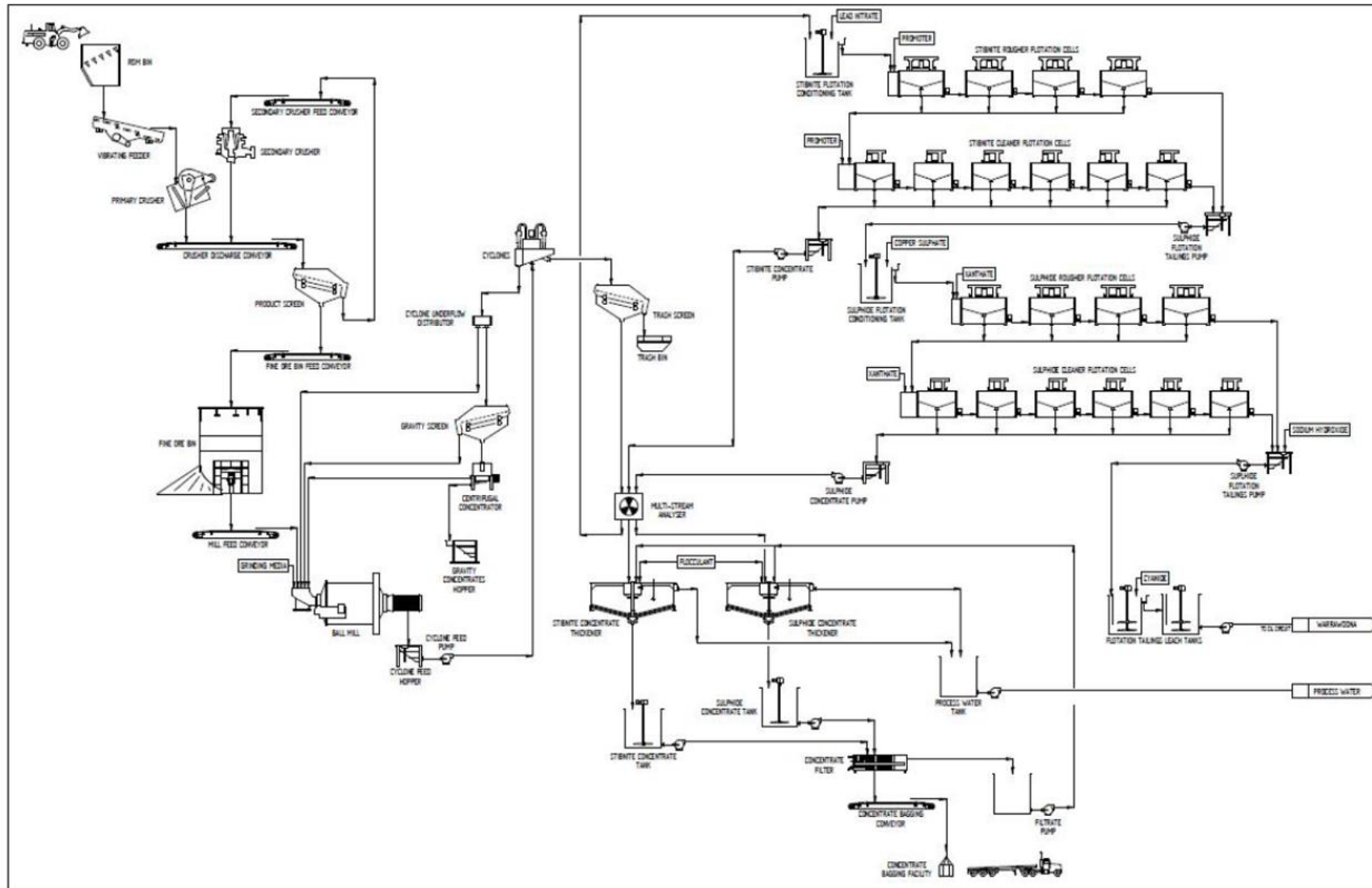


Figure 6: Sulphide Circuit Process Flow Schematic

2.2.3 Category 12

Stemming Crushing and Screening Plants (not yet implemented)

Two mobile crushing and screening plants will be transported to site for short term campaigns to process mineralised waste or waste rock for use as onsite stemming for project blasting and/or road base. The mobile crushing and screening plants will be located at the Klondyke waste rock dump. It is expected up to 300,000 tonnes of stemming material will be produced each year.

The mobile crushing and screening plants may include a number of the following components at any one time during the campaigns and will be dependent on product and production requirement:

- Primary Crusher;
- Secondary Crusher;
- Primary and Secondary Screens;
- Conveyors;
- Stacker;
- Dust Suppression System; and
- Generator set for power.

Copenhagen Crushing and Screening Plant (not yet implemented)

An additional mobile crushing and screening plant (with similar specifications to those described above) will be transported to the Copenhagen satellite pit for a short term campaign, to crush ore from this pit (and adjacent satellite pits) prior to it being transported to the Sulphide Circuit at the main Processing Plant.

2.2.4 Category 64

Solid waste that cannot be reused or recycled is placed in Class II Klondyke Waste Rock Dump Landfill.

Inert Waste Type 1 and Inert Waste Type 2 (rubber, plastics), Putrescible Waste and Clean Fill totalling 3000 tonnes per annum are disposed of into the trenches excavated within the Klondyke Waste Rock Dump Landfill.

The active tipping face of the landfill shall always be physically restricted to a maximum length of 30 m and a maximum height of 2 m.

2.2.5 Category 85

The wastewater treatment plant (WWTP) consists of the following:

- Operation of an Iconic Water Solutions WWTP for the accommodation village.
- WWTP design capacity of 48 cubic metres per day (m³/day) based on 240 persons at 200 litres per day with treated water irrigated over a 1.5 hectares spray field.
- WWTP is comprised of:
 - Pump well;
 - Balance tank;
 - Anaerobic tank;
 - Anoxic tank;

- Two aeration tanks;
 - Clarifier tank;
 - Settling tank;
 - Waste activated sludge tank;
 - Chlorine contact tank; and
 - Treated wastewater irrigation storage tank for storage prior to discharge.
- Brine from reverse osmosis plant (25 m³/day) is also treated through the WWTP.
 - Mixed treated effluent and brine is discharged to a 1.5 ha spray irrigation field west of the village.

The most recent results show that the treated effluent and RO brine mixture is in line with the specifications listed in the works approval W6464/2020/1.

Table 1: WWTP results (treated effluent mixed with RO brine)

Parameters	Guideline Value	10/08/2023	03/09/2023	01/10/2023	30/10/2023	03/12/2023
pH	6.8 – 8.5 pH units	8.2	8.1	8	7.7	8
Biochemical Oxygen Demand	<20mg/L	5.4	<5	<5	<5	<5
Total Dissolved Solids	-	1,000	910	740	870	870
Total Suspended Solids	<30mg/L	33	37	43	30	30
Total Nitrogen	<30mg/L	8	8.1	23	5.9	7.5
Total Phosphorus	<8mg/L	3.10 (sample taken 09/08/2023)	1.23 (sample taken 29/08/2023)	3.07 (sample taken 26/09/2023)	1.8 (sample taken 25/10/2023)	1.9 (sample taken 25/11/2023)
E.coli	<1,000 mg/L	<10	1,200	<10	<10	<10
Free Chlorine	0.2 – 2.0 mg/L	0.48 (sample taken 09/08/2023)	0.33 (sample taken 29/08/2023)	1.98 (sample taken 26/09/2023)	0.23 (sample taken 25/10/2023)	0.41

2.3 Compliance and Commissioning

Environmental Compliance Report was provided to DWER on 19 April 2022.

Environmental Commissioning Report was provided to DWER on 18 October 2022.

These reports were provided for all infrastructure, aside from the TSF Stage 2.

DWER reply was provided on 24 February 2023 noting the following two issues:

- the tailings were not thickened to the required >65% w/w solids and an upgrade to the tailings thickener was then conducted; and
- the target levels of Total Phosphorus were not adequately met.

Results provided to DWER on 25 March 2024 show the tailings solids content to generally range between 61 – 67%.

Results provided to DWER on 25 March 2024 show that Total Phosphorous levels are within the 8 mg/L.

2.4 Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

The project was referred to the Commonwealth Department of Agriculture, Water and the Environment (DAWE, now known as the Department of Climate Change, Energy, the Environment and Water (DCCCEEW)) and it was determined that the project was a controlled action (Threatened species). Approval was granted 12 February 2021 (EPBC number: EPBC 2019/8584). Threatened species relevant to the referral are:

- Ghost Bat (*Macroderma giga*) – listed as Vulnerable under the EPBC Act and BC Act;
- Pilbara Leaf-nosed Bat (*Rhinonictoris aurantia* (Pilbara form)) – listed as Vulnerable under the EPBC Act and BC Act;
- Northern Quoll (*Dasyurus hallucatus*) – listed as Endangered under the EPBC Act and BC Act; and
- Pilbara Olive Python (*Liasis olivaceus barroni*) – listed as Vulnerable under the EPBC Act and BC act.

2.5 Part IV of the EP Act

Ministerial Statement (MS) 1150 was published on 20 August 2020 (EPA Report 1681) for the development and operation of an open cut and below ground gold mine, processing facility, associated mining infrastructure, waste rock dumps, TSF, borefield, and accommodation camp within the Warrawoona Gold Project area.

The EPA Report 1981 states as follows:

“The proposal is located in the upper parts of the Coongan River catchment. It straddles the Warrawoona Range, a ridgeline that forms the local catchment divide between the Brockman Hay Cutting Creek, Sandy Creek and Camel Creek systems. The total area of the catchment, which includes or is directly upstream of the footprint is about 6.8 km², which represents about 0.1% of the Coongan River catchment. The proposal is unlikely to have a significant impact on the functioning of Coongan River catchment. As the proposal is located on a ridgeline in the upper reaches of the catchment there will be minimal flows entering the disturbance footprint, and this, coupled with the installation of surface water management infrastructure, means the proposal is not anticipated to significantly change levels of runoff.”

There is a Mining Exclusion Zone (MEZ) stipulated under condition 6 of MS 1150, which states that there is to be no surface mining activities within the MEZ due to the proposal.

Furthermore, there is a Significant Species Management Plan under condition 7 of the MS to minimise direct and indirect impacts to significant fauna and their habitats, including, but not limited to:

- Ghost Bat (*Macroderma giga*);
- Pilbara Leaf-nosed Bat (*Rhinonictoris aurantia* (Pilbara form));

- Northern Quoll (*Dasyurus hallucatus*); and
- Pilbara Olive Python (*Liasis olivaceus barroni*).

Several amendments have been made after the original assessment via section 45C of the EP Act, which are listed below:

- Increase in throughput from 2.0 Mtpa to 2.5 Mtpa that was approved on 1 April 2021; and
- Development of a new pit, increase the TSF, inclusion of a solar farm and communications tower, and an increase in clearing and the development envelope to accommodate the proposed changes. These changes were approved on 14 September 2021.

The applicant submitted a section 45C application on 6 July 2023 to support an increase of throughput from 2.5 Mtpa to 3 Mtpa and the removal of the Criterion historical mine workings as an identified bat roosting location. This licence application is not constrained by the current s45C application. EPA Services is aware of the exceedances of the WAD-CN target and is considering it during the assessment of the s45C application.

DWER referred this licence application to EPA Services during the assessment due to the Significant Species Management Plan (SSMP) requiring a WAD-CN target for tailings of 30 mg/L. During time limited operations the Applicant has consistently exceeded this target. Exceedances have been reported to Compliance and Enforcement Directorate under Part IV of the EP Act and also to Resource Industries under Part V of the EP Act. EPA Services has advised the Applicant to update and submit the Significant Species Management Plan accompanied with a letter outlining how the proposed changes in discharge concentration will remain compliant with the conditions of MS 1150. EPA Services is yet to receive an updated Significant Species Management Plan. The EPA is considering the exceedances of the WAD-CN target during assessment of the 45C application.

EPA Services does not have any objections to Industry Regulation regulating WAD-CN for the Part V licence by specifying a limit for WAD-CN and introducing improved conditions. However, the proposed amendments to the limit for WAD-CN in the L9420/2023/1 held by Calidus Resources Limited are required to align with the specified measures in Significant Species Management Plan so the proponent can still meet the environmental objectives in condition 7-1(1) of MS 1150.

The Applicant is committed to reducing the concentration of WAD-CN in tailings to meet the target of 30 mg/L as per the SSMP due to the bat population and potential for bats to directly ingest the tailings water or consume insects that have been in contact with TSF/decant. The Applicant has had the designer of the Caro's Acid Reactor attend site and make improvements.

2.6 Hydrogeological Review

The geochemical testing of the tailings solids has been undertaken in a suitable manner and is suitable for characterising the properties of these materials.

The testing of the liquid component of the sampled tailings slurry indicated that the discharge from the mill was alkaline, and had an electrical conductivity of 2000-3000 $\mu\text{S}/\text{cm}$. The testing also indicated that the slurry contained elevated concentrations of the following metals and metalloids that form stable and highly soluble oxyanions in solution under circum-neutral pH conditions:

- Arsenic (up to about 500 $\mu\text{g}/\text{L}$);
- Antimony (up to 17 $\mu\text{g}/\text{L}$);
- Molybdenum (up to about 50 $\mu\text{g}/\text{L}$); and
- Selenium (up to about 80 $\mu\text{g}/\text{L}$).

If it is assumed that the concentrations of metals and metalloids in groundwater should not exceed a regulatory limit of ten times the drinking water criteria (values that have commonly been used by the Department of Health as non-potable use limits), there is a risk that groundwater in the immediate vicinity of the TSF could become contaminated by arsenic, antimony, molybdenum and selenium due to seepage from this facility. However, the extent to which this would take place would depend on the magnitude of the seepage rate from the TSF.

It would therefore be important that these specific metals and metalloids are included as analytes in the ongoing groundwater monitoring program for the TSF. In the absence of data from a site-specific risk assessment, it is also recommended that thresholds for regulatory action for these metals and metalloids are assumed to be ten-times their drinking water criteria.

2.7 Other approvals

Table 2 provides a summary of other regulatory approvals for the Warrawoona Gold Project area.

Table 2: Summary of other regulatory approvals

Legislation	Reference Number	Summary of approvals
<i>Mining Act 1978</i>	Reg ID 101061 Reg ID 111152 Reg ID 115391	<ul style="list-style-type: none"> • The original Mining Proposal (MP) and Mine Closure Plan (MCP) were submitted for the Warrawoona Gold Project early works (L45/523) and approved on 12 August 2020 (Reg ID 87218). • The second MP and MCP for the entire project (L45/523, M45/240, M45/547, M45/552, M45/668, M45/669, M45/671, M45/670, M45/682 and G45/345) was submitted and approved on 26 February 2021 (Reg ID 90033). • Several revisions have been made to the MP and MCP with the current proposals listed below: <ul style="list-style-type: none"> ➤ Reg ID 101061 – Warrawoona Gold Project Rev 5a (approved 24 February 2022); ➤ Reg ID 111152 – Solar and Core Farm (approved 30 June 2022); and ➤ Reg ID 115391 – PB9 Pipeline Corridor (approved 5 April 2023).
<i>Rights in Water and Irrigation Act 1914 (RIWI Act)</i>	CAW207790(1) GWL 204411(4)	<ul style="list-style-type: none"> • Several 26D licences to construct groundwater abstraction bores have been granted with the approved licence, CAW207790(1) valid until 7 September 2024. • Groundwater licence GWL 204411(4) currently authorises up to 2.1 GL per annum of water to be abstracted from the Klondyke, Copenhagen, Big Schist, Narri and Moolyella water areas.
Part V of the EP Act	CPS 8862/1 CPS 9295/1 CPS 9368/1	<ul style="list-style-type: none"> • A native vegetation clearing permit (purpose permit) under section 51E of the EP Act was sought for the early works component of the Warrawoona Gold Project. • CPS 8862/1 was approved for the clearing of up to 28.5 hectares (ha) of native vegetation within the Warrawoona Gold Project early works footprint. This

Legislation	Reference Number	Summary of approvals
		<p>clearing permit has since been surrendered as the area is covered under MS 1150.</p> <ul style="list-style-type: none"> CPS 9295/1 and CPS 9368/1 were approved to support the installation of the Big Schist and Narri / Moolyella pipeline corridors to supply water from remote borefields for the project.

3. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway, and impact to receptors in accordance with the *Guideline: Risk Assessments* (DWER 2020a).

To establish a risk event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

3.1 Source-pathways and receptors

3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises operation which have been considered in this decision report are detailed in Table 3 below.

Table 3 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

Table 3: Proposed applicant controls

Sources / activities	Emission	Potential pathways	Proposed controls
Construction			
Category 5 TSF Stage 2			
Dust	Movement of machinery / vehicles on roadways and construction and installation of infrastructure	Air windborne /	<ul style="list-style-type: none"> Watering unsealed roadways with water carts; Vehicle traffic control confined to defined tracks and roadways; Vehicle speeds restricted on all access and haul roadways; and All areas under construction to be watered for dust suppression as required.
Noise	Machinery and vehicles constructing and installing equipment	Air windborne /	<ul style="list-style-type: none"> All plant equipment maintained to ensure they are operating efficiently; Air compressors housed in sound attenuating enclosure; All mining operations to comply with the <i>Environmental Protection (Noise) Regulations 1997</i> (Noise Regulations);

Sources / activities	Emission	Potential pathways	Proposed controls
			<ul style="list-style-type: none"> Equipment and machinery designed to comply with Australian Standard noise limits; and Apply best available technology to minimise noise emissions.
Category 5 Sulphide Circuit			
Installation of the Sulphide Circuit 100,000 tonnes per annum milling and flotation circuit	Dust	Air windborne / pathway	<ul style="list-style-type: none"> Watering unsealed roadways with water carts; and Vehicle traffic confined to defined tracks and roadways.
	Noise	Air windborne /	<ul style="list-style-type: none"> All plant equipment maintained to ensure they are operating efficiently; Air compressors housed in sound attenuating enclosure; All mining operations to comply with the Noise Regulations; Equipment and machinery designed to comply with Australian Standard noise limits; and Apply best available technology to minimise noise emissions.
Category 12 Crushing and Screening Plants			
Installation of Crushing and Screening Plants	Dust	Air windborne / pathway	<ul style="list-style-type: none"> Watering unsealed roadways with water carts; and Vehicle traffic confined to defined tracks and roadways.
	Noise	Air windborne /	<ul style="list-style-type: none"> All plant equipment maintained to ensure they are operating efficiently; Air compressors housed in sound attenuating enclosure; All mining operations to comply with the Noise Regulations; Equipment and machinery designed to comply with Australian Standard noise limits; and Apply best available technology to minimise noise emissions.

Sources / activities	Emission	Potential pathways	Proposed controls
Operation			
Category 5 Processing Plant			
Screening, crushing, unloading, loading and storage of material. Vehicle movements	Dust	Air windborne pathway /	<ul style="list-style-type: none"> Watering unsealed roadways with water carts; Vehicle traffic confined to defined tracks and roadways; Maintain and operate the fixed sprays to form a mist within the ROM bin and at the stockpile feed conveyor discharge point; Maintain and operate the fitted sprays on the tipping area of the crusher to ensure ore remains moist during tipping and crushing activities; Water sprays area activated via a solenoid valve when a dump truck or front-end loader is detected; Dust collector must be maintained and operated on crusher discharge conveyor; and Maintain and operate dust collector on top of the lime silo to contain dust emissions during the pneumatic loading process. Rotary valve to control the discharge rate of the lime to the mill feed conveyor.
	Noise	Air windborne pathway /	<ul style="list-style-type: none"> Compliance with the Noise Regulations; Equipment and machinery design compliance with Australian Standards; and Best available technology implemented.
Smelting furnace, Carbon regeneration kiln, process solutions including acid wash, elution columns, electrowinning cells, CIL tanks, barren / intermediate / pregnant solution tanks	Gaseous emissions	Air windborne pathway /	<ul style="list-style-type: none"> Maintain engine to ensure efficient running and optimum fuel consumption; Use of gas rather than diesel for power supply; Kiln maintained and operated as per design specifications; and Furnace maintained and operated as per design specifications.
Stormwater from the Processing	Sediment laden, and / or potentially	Direct discharge to land	<ul style="list-style-type: none"> Stormwater must be diverted away from the Processing Plant by diversion drains

Sources / activities	Emission	Potential pathways	Proposed controls
Plant facilities Process water within bunded areas	contaminated stormwater		and bunding; <ul style="list-style-type: none"> • Maintain bunds in the Processing Plant area that drains to sumps with recovery pumps to feed recovered spills back to the processing circuit; • Maintain diversion and containment bunding to capture surface water runoff from the surrounding area to direct potentially contaminated runoff to the retention basin and can be fed into the process circuit; and • Flood protection maintained around operational areas.
Sulphide Circuit 100,000 tonnes per annum milling and flotation circuit	Dust	Air windborne / pathway	<ul style="list-style-type: none"> • Fixed sprays to form a mist within the ROM bin and at the stockpile feed conveyor discharge point; • Sprays fitted to tipping area of crusher to ensure ore remains moist during tipping and crushing activities; • Water sprays activated via a solenoid valve when a dump truck or front end loader is detected; • Dust collector installed and operated on crusher discharge conveyor; • Dust collector, including maintenance access, installed on top of the lime silo to contain dust emissions during the pneumatic loading process; • The Concentrate Thickeners, Filter Press and Concentrate Loading Area will be enclosed by a shed with concrete flooring; and • Concentrate comes out of the filter press at around 10-15% moisture before being bagged inside the shed via a small loader, feed hopper, conveyor and bagging chute. Then bulk bags stored in the shed can be transferred by forklift into sea containers for transport and transport for processing by a third-party processing plant.
	Noise	Air windborne / pathway	<ul style="list-style-type: none"> • All plant equipment maintained to ensure they are operating efficiently; • Air compressors housed in sound attenuating enclosure; • Equipment and machinery designed to comply with Australian Standard noise limits;

Sources / activities	Emission	Potential pathways	Proposed controls
			<ul style="list-style-type: none"> • Apply best available technology to minimise noise emissions; and • Compliance with the Noise Regulations.
	Stormwater	Direct discharges	<ul style="list-style-type: none"> • Stormwater diverted away from the Processing Plant by diversion drains and bunding; • Processing activities within bunded areas, which drain to sumps with recovery pumps to feed recovered spills back to the processing circuit; • Diversion and containment bunding to capture surface water runoff from the surrounding area to direct potentially contaminated runoff to the existing sediment pond located at the CIL plant and can be fed into the process circuit (if required); • Flood protection installed around operational areas; • The shed is proposed to have internal drainage to a collection sump with any collection put back through the circuit.
Pipeline and services corridor (Processing Plant and Sulphide Circuit to TSF)			
Pipeline and services corridor (Processing Plant and Sulphide Circuit to TSF)	Tailings and decant water to land with elevations in contaminants	Direct discharge from rupture of pipelines	<ul style="list-style-type: none"> • Maintain bunds to ensure all liquids are captured and not released to the environment; • Maintain the unlined bunded V trench that will be able to contain potential spillages in the case of any leakage or burst in the pipelines (nominally of 12 hours duration); • Maintain scour pits or sumps along the pipeline corridors to ensure leaks or spillages are contained within bunded areas; • Maintain and operate with flow and leak detection sensors on tailings and return water pipelines; • Maintain and operate telemetry systems and pressure sensors to allow detection ruptures; • Maintain and operate pipelines equipped with automated cut offs in the event of ruptures; • Maintain and operate secondary containment to contain any spills for a period equal to the time between routine

Sources / activities	Emission	Potential pathways	Proposed controls
			inspections; <ul style="list-style-type: none"> Spill catch pits will be excavated at topographic lows in the corridor to provide design storage capacity where required; and Twice daily inspections.
Category 5 TSF Stage 1 and Stage 2			
TSF Stage 1	Dust from surface	Air windborne pathway /	<ul style="list-style-type: none"> Maintain and operate discharge outlet and supplementary spigots so fresh wet tailings are discharged over the previously deposited layer at a frequency such that complete drying does not occur and a high degree of moisture entrainment within the tails is maintained; Anticipated generation of shrinkage and desiccation cracks and cementation of tailings on the surface of desiccation polygons which will resist further breakdown into fine particles that may lead to dusting; and Continuous containment embankment and ridge topography elevated above the tailings surface to limit the potential for dust transportation across the tailings surface and off the surface.
	Tailings and decant water to land with elevations in contaminants	Direct discharge from overtopping Freeboard compromised on the TSF or collapse of dam walls	<u>General:</u> <ul style="list-style-type: none"> Maintain and operate a freeboard of minimum 500 mm; Tailings discharge of up to 1,250,000 tonnes per annum; and Decant pond must be maintained at the minimum size Tailings thickened to more than 60 % w/w solids.
	Leachate from tailings storage, containing potentially elevated levels of CCOPC, such as WAD-CN, selenium, arsenic, molybdenum.	Infiltration through the base and / or embankments	<u>Daily inspection logs of the following:</u> <ul style="list-style-type: none"> Pumps, valves; Discharge locations and beaching performance; Location and size of decant pond; General integrity of embankment; Seepage downstream of main embankment including the embankment toe and seepage trench; and Fauna entrapment.

Sources / activities	Emission	Potential pathways	Proposed controls
			<p><u>Other:</u></p> <ul style="list-style-type: none"> • If seepage occurs in the seepage interception trench, a submersible pump will be installed in a seepage recovery sump to pump water back into the TSF impoundment to be collected by the decant recovery system; • Maintain and operate vibrating wire piezometers and monitoring bores downstream of the TSF for monitoring groundwater levels and groundwater quality; • Beach management via spigots placement to avoid ponding of the supernatant water in areas other than the decant; and • Twice daily observations and recordings (after dawn and late afternoon) of fauna usage. <p>Installation of seepage recovery bores at the downstream side of the embankment will be a contingency measure if deemed necessary. This will be assessed during the licensing phase with groundwater levels, triggers/limits and a seepage management report incorporated.</p>
Cyanide levels within the CIL, Sulphide Circuit, Process Pond and TSF	Elevated WAD-CN from the processing of gold ore, within the tailings	Direct discharges Ingestion by fauna	<ul style="list-style-type: none"> • MS 1150, Significant Species Management Plan sets a target level of WAD-CN of 30 mg/L in tailings discharged to the TSF; • Alarms to indicate that the Caro's acid is off-line; • Alarms to indicate high free or WAD-CN concentrations in the leach or tailings streams; • Procedures for controlled plant shut down; and • Process interlocks to prevent discharge of tailings when the processing plant is offline.
Bioremediation Facility			
Treatment cells	Hydrocarbon contaminated wastes	Spills, leaks, run-on and run-off during rainfall events	<ul style="list-style-type: none"> • Constructed on flat or gently sloping land, not subject to flooding or groundwater / surface water features; • Impermeable base layer; • At least 300mm clean fill compacted over the base layer to prevent damage to the

Sources / activities	Emission	Potential pathways	Proposed controls
			base layer; <ul style="list-style-type: none"> • 2 cells (active and inactive); • Bunding around at least 3 sides to minimise run-on and run-off; • Ramped entrance with incline and 5 degree back slope into cells; • Signage; and • Spill kit and hydrocarbon waste bin.
Sedimentation Ponds			
Uncontaminated stormwater from within the Processing Plant facilities	Uncontaminated stormwater	Overtopping	<ul style="list-style-type: none"> • Designed to contain run off based on an ARI of 100-year, 72 hour duration event; • Sedimentation Pond 1 overflows to Sedimentation Pond 2, which is to have 300mm freeboard; and • Compacted soil (unlined).
Process Water Pond			
Process water from throughout Processing Plant	Process water potentially contaminated water with elevated WAD-CN from the processing of gold ore, within the tailings	Overtopping	<ul style="list-style-type: none"> • 500mm freeboard; and • Emergency overflow channel that flows to the evaporation pond downstream in an emergency event.
		Direct discharges from pipelines	<ul style="list-style-type: none"> • Daily inspection logs of integrity of all water lines, tanks and bunds; • Installed within bunds to ensure all liquids are captured and not released to the environment; and • Scour pits or sumps constructed along pipeline corridors to ensure leaks or spillages are contained within bunded areas.
		Infiltration	<ul style="list-style-type: none"> • Maintenance of HDPE lining.
		Ingestion by fauna	<ul style="list-style-type: none"> • Maintenance of fencing.
Raw Water Pond			
Raw water with contaminants (receives raw water and Reverse Osmosis brine from the Processing	Raw water with contaminants	Overtopping	<ul style="list-style-type: none"> • Freeboard of 300mm maintained; and • Freeboard markers installed.
		Direct discharge from leaks and rupture	<ul style="list-style-type: none"> • Daily inspection logs of integrity of all water lines, tanks and bunds; • Installed within bunds to ensure all liquids are captured and not released to the

Sources / activities	Emission	Potential pathways	Proposed controls
Plant Reverse Osmosis Plant) Pond capacity 4,980m ³ Does not contain process water or decant water			environment; and <ul style="list-style-type: none"> Scour pits or sumps constructed along pipeline corridors to ensure leaks or spillages are contained within bunded areas.
		Infiltration	<ul style="list-style-type: none"> Lined with an impermeable HDPE membrane and located within an internally draining processing area.
Category 12 Crushing and Screening Plants			
Screening, crushing, unloading, loading and storage of material. Vehicle movements	Dust	Air windborne pathway /	<ul style="list-style-type: none"> Watering unsealed roadways with water carts; Vehicle traffic confined to defined tracks and roadways; Sprinklers nozzles installed at the crusher entry; Maintain and operate the fixed sprays to form a mist within the ROM bin and at the stockpile feed conveyor discharge point; Maintain and operate the fitted sprays on the tipping area of the crusher to ensure ore remains moist during tipping and crushing activities; Water sprays area activated via a solenoid valve when a dump truck or front-end loader is detected; Dust collector must be maintained and operated on crusher discharge conveyor; and Maintain and operate dust collector on top of the lime silo to contain dust emissions during the pneumatic loading process. Rotary valve to control the discharge rate of the lime to the mill feed conveyor.
	Noise	Air windborne pathway /	<ul style="list-style-type: none"> Compliance with the Noise Regulations; Equipment and machinery design compliance with Australian Standards; and Best available technology implemented.
Category 64 Landfill			
Operation of a category 64 landfill	Dust	Air windborne pathway /	<ul style="list-style-type: none"> Active tipping face must be a maximum length of 30 m and a maximum height of 2 m.
	Waste egress	Windblown	<ul style="list-style-type: none"> Active tipping face maximum length of

Sources / activities	Emission	Potential pathways	Proposed controls
		waste Ingestion by fauna	<p>30m and maximum height of 2m;</p> <ul style="list-style-type: none"> Covered on a fortnightly basis with at least 0.3m of inert material that is readily available from the waste rock dump; Maintain fencing to prevent access by livestock and other fauna; and Landfill inspected regularly and windblown waste must be collected monthly.
	Contaminated leachate from wastes	Infiltration with stormwater to groundwater	<ul style="list-style-type: none"> Landfill area must be located more than 100 m from surface water features; and Separated by at least 3m from the highest level of the groundwater table (groundwater depth is approximately 25mbgl). Groundwater monitoring bores are in the vicinity of the Landfill and Bioremediation Facility.
	Contaminated stormwater	Contaminated stormwater to surface water features	<ul style="list-style-type: none"> Stormwater must be diverted away from the landfill by diversion drains and bunding.
Tyre fires	Air emissions / smoke	Air / windborne pathway	<ul style="list-style-type: none"> Tyres must be disposed of in batches not exceeding 1,000 used tyres; Tyres must be covered at regular intervals so that no more than 1,000 used tyres are left exposed; Each batch must be separated by at least 100 mm of soil or another dense inert and incombustible materials, with a final over nor less than 500 mm; and Fires breaks must be maintained.
Category 85 WWTP			
WWTP tanks and pipelines	Nutrient-rich treated effluent	Direct discharge via overtopping or ruptures to the WWTP tanks	<p><u>Daily inspection logs of the following:</u></p> <ul style="list-style-type: none"> Integrity of all water lines, tanks, and bunds; and All piping and fittings to the irrigation spray field are free of damages and leaks. <p><u>Monthly inspection logs of the following:</u></p> <ul style="list-style-type: none"> Observe the sprinklers in the irrigation field have even coverage and are operating as designed; and Effluent discharge managed to ensure no ponding or runoff.
		Direct discharge from pipeline leak or rupture	
Irrigation of wastewater mixed with RO brine to the	Nutrient-rich treated effluent and RO brine	Direct discharge to the irrigation	

Sources / activities	Emission	Potential pathways	Proposed controls
WWTP sprayfield area		area	<p><u>General:</u></p> <ul style="list-style-type: none"> RO brine must be mixed / diluted into the WWTP final effluent tank prior to discharge to the irrigation area. <p><u>Design effluent quality criteria targeted at:</u></p> <ul style="list-style-type: none"> pH 6.8 – 8.5 pH units; Biochemical Oxygen Demand <20 mg/L; Total Suspended Solids <30 mg/L; Total Nitrogen <30 mg/L; Total Phosphorus <8 mg/L; <i>E. coli</i> <1,000 mg/L; and Free Chlorine 0.2 – 2.0 mg/L. <p><u>Loading rates targeted at:</u></p> <ul style="list-style-type: none"> Total Nitrogen 365 kg/ha/yr; and Total Phosphorus 98 kg/ha/yr.
Hydrocarbons / chemicals storage across the site			
Use of hydrocarbons / chemicals across the site	Hydrocarbons / chemicals	Direct discharges	<ul style="list-style-type: none"> Designed and constructed in line with Australian Standard AS 1940:2017 The Storage and Handling of Flammable and Combustible Liquids and Australian Standard AS 1692-2006 Steel Tanks for Flammable and Combustible Liquids; Stored in bunded areas with collection sump to recover spillages; Level indicators to detect leaks, based on drops in level; Transport of hydrocarbons/chemicals confined to defined roads and tracks with speed restrictions; Spill kits must be stocked and place in strategic locations on site; Designated bins and drums will be provided to dispose of waste hydrocarbons/chemicals to be transported offsite for disposal at licensed facilities; Hydrocarbon contaminated water will be directed to an Oily Water Separator System and the treated wastewater used in dust suppression if the TPH concentration is less than 15mg/L. If TPH tests higher than 15mg/L then recirculated through treatment system; Remediation of contaminated soils at the Bioremediation Facility, located in the vicinity of the landfill; Ore processing activities will be

Sources / activities	Emission	Potential pathways	Proposed controls
			conducted within bunded, hardstand areas; <ul style="list-style-type: none"> • The bunded areas will incorporate a collection sump to recover spillage; • Sump pump will discharge into the leach feed trash screen underflow distribution box; • Level indicators to detect leaks, based on drops in level; • Vehicles and machinery must be serviced within designated workshop areas; • Transport of material must be on defined roads and tracks with speed restrictions; • Bins and drums must be provided and transported offsite for disposal at licensed facilities; • Stored in bunded areas with collection sump to recover spillages; • Level indicators must be maintained and operating to detect leaks, based on drops in level; • Maintain fuel bowzers and fuel delivery inlets located on concrete or HDPE lined pads to contain any spillages; and • All substances must be stored, handled, and disposed of in accordance with relevant legislation and guidelines.

3.1.2 Receptors

In accordance with the *Guideline: Risk Assessment* (DWER 2020a), 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 4 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 2020b)).

Table 4: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
Prospector’s residence	2.6 km south-west of the Processing Plant area and 1.5 km south-west of the TSF.
Corunna Downs Road	2.5 km west of the TSF.

Environmental receptors	Distance from prescribed activity
<p>Threatened and / or priority fauna:</p> <ol style="list-style-type: none"> 1. Ghost Bat (<i>Macroderma gigas</i>) Vulnerable 2. Pilbara Leaf-nosed Bat (<i>Rhinionictoris aurantia</i>) Vulnerable 3. Northern Quoll (<i>Dasyurus hallucatus</i>) Endangered 4. Western Pebble-mound Mouse (<i>Pseudomys chapman</i>) Priority 4 (P4) 5. Pilbara Olive Python (<i>Liasis olivaceus barroni</i>) Vulnerable 6. Brush-tailed Mulgara (<i>Dasymercus blythi</i>) P4 	<p>Within the prescribed premises boundary.</p>
<p>Threatened and / or priority fauna habitat</p>	<p>A small area 0.8 ha of Northern Quoll and Pilbara Olive Python denning habitat (Rocky Breakaways).</p> <p>No sites are diurnal roosts and none are considered critical habitat for the daily and/or long-term survival of the Pilbara Leaf-nosed Bat or Ghost Bat.</p> <p>Sandplain habitat (along the southern access road corridor) is significant for Brush-tailed Mulgara (P4, confirmed onsite)</p> <p>Sensitive bat roosts approximately 1.3 km north-west of plant site (this is regulated under MS 1150 including a 32 ha Mining Exclusion Zone)</p>
<p>Sensitive bat roosts</p>	<p>Approximately 1.3 km north-west of the plant site.</p> <p>Note: The bat roost area is regulated under MS 1150 and includes a 32 ha Mining Exclusion Zone.</p>
<p>Threatened and / or priority flora</p> <p>No threatened flora have been recorded within the project area.</p> <p>Five conservation significant flora taxa were recorded:</p> <ul style="list-style-type: none"> • <i>Eragrostis crateriformis</i> (P3); • <i>Euphorbia clementii</i> (P3); • <i>Heliotropium murinum</i> (P3); • <i>Josephinia</i> sp. Woodstock (A.A Mitchell PRP 989) (P1); and • <i>Ptilotus mollis</i> (P4) 	<p>Priority flora within the project area.</p> <p>The Priority 3 and 4 flora, <i>Eragrostis crateriformis</i> (p3), <i>Euphorbia clementii</i> (P3), <i>Heliotropium murinum</i> (P3) and <i>Ptilotus mollis</i> (P4), all of which are widespread throughout the project area.</p>
<p>Aboriginal and other heritage sites</p> <ol style="list-style-type: none"> 1. Sandy Creek Junction – Place ID 11091 (engraving) 2. Corunna Downs: Radar Hill – Place ID 11092 (engraving) 	<ol style="list-style-type: none"> 1. Approximately 1.25 km south-west of the premises boundary. 2. Approximately 5.82 km south of the premises boundary.

<p>Groundwater</p>	<p>Groundwater depth is approximately 25mbgl.</p> <p>Groundwater quality is fresh to slightly brackish and slightly alkaline. Dissolved metal concentrations are generally low, apart from arsenic and iron.</p> <p>The Premises is located within the Proclaimed Pilbara Groundwater Area and Pilbara Surface Water Area.</p>
<p>Surface water</p> <ol style="list-style-type: none"> 1. Sandy Creek 2. Camel Creek 3. Ram Creek (ephemeral) <p>Brockman Creek, Brockman Hay Cutting Creek, Sandy Creek, or Camel Creek catchments.</p> <p>Some ephemeral pools develop in creek beds after rain; however, these are not found in the area surrounding the Premises.</p>	<ol style="list-style-type: none"> 1. Approximately 0.82 km south of the premises boundary. 2. Approximately 2.77 km south-west of the premises boundary. 3. Approximately 5.50 km south of the premises boundary. <p>Known ephemeral pools located 3 – 15 km from the Premises.</p>

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020a) for each identified emission source and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are in-complete they have not been considered further in the risk assessment.

Where the applicant has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the delegated officer considers the applicant’s proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the licence 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 5.

Licence L9420/2023/1 that accompanies this decision report authorises emissions associated with the operation of the premises.

The conditions in the issued licence, as outlined in Table 5 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 5: Risk assessment of potential emissions and discharges from the premises during operation

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Construction								
Category 5 TSF Stage 2								
Movement of machinery / vehicles on roadways and construction and installation of infrastructure	Dust	Air / windborne	Priority flora	Refer to Section 3.1	C = Slight L = Possible Low Risk	Y	N/A	N/A
	Noise	Air / windborne	Priority flora	Refer to Section 3.1	C = Moderate L = Possible Medium Risk	Y	N/A	N/A
Category 5 Sulphide Circuit								
Installation of the Sulphide Circuit	Dust	Air / windborne pathway	Priority flora	Refer to Section 3.1	C = Slight L = Possible Low Risk	Y	N/A	N/A
	Noise	Air / windborne pathway	Priority flora	Refer to Section 3.1	C = Moderate L = Possible Medium Risk	Y	N/A	N/A
Category 12 Crushing and Screening Plants								
Installation of Crushing and Screening Plants	Dust	Air / windborne pathway	Priority flora	Refer to Section 3.1	C = Slight L = Possible Low Risk	Y	N/A	N/A
	Noise	Air / windborne pathway	Priority flora	Refer to Section 3.1	C = Moderate L = Possible Medium Risk	Y	N/A	N/A

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Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Operation								
Category 5 Processing Plant								
Screening, crushing, unloading, loading and storage of material. Vehicle movements	Dust	Air / windborne pathway	Priority flora	Refer to Section 3.1	C = Slight L = Possible Low Risk	Y	Condition 5, Table 2 Infrastructure and equipment requirement, requires maintenance of dust controls	N/A
	Noise	Air / windborne pathway	Threatened and/or priority fauna including bats	Refer to Section 3.1	C = Moderate L = Possible Medium Risk	Y	Condition 5, Table 2 Infrastructure and equipment requirement, requires maintenance of noise controls	N/A
Smelting furnace, Carbon regeneration kiln, process solutions including acid wash, elution columns, electrowinning cells, CIL tanks, barren / intermediate / pregnant solution tanks	Gaseous emissions	Air / windborne pathway	Priority flora	Refer to Section 3.1	C = Slight L = Possible Low Risk	Y	N/A	N/A
Stormwater from the Processing Plant facilities Process water within bunded areas	Sediment laden, and / or potentially contaminated stormwater	Direct discharge to land	Soils and priority flora, groundwater	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Condition 5, Table 2 Infrastructure and equipment requirement, requires maintenance of stormwater controls	N/A
Sulphide Circuit 100,000 tonnes per annum milling and flotation circuit	Dust	Air / windborne pathway	Priority flora	Refer to Section 3.1	C = Slight L = Possible Low Risk	Y	Condition 1, Table 1 Design and construction / installation requirements, requires dust controls be installed, fixed sprays, dust collector Condition 5, Table 2 Infrastructure and equipment requirement, requires maintenance of dust controls	N/A

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Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
	Noise	Air / windborne pathway	Threatened and/or priority fauna including bats	Refer to Section 3.1	C = Moderate L = Possible Medium Risk	Y	Condition 1, Table 1 Design and construction / installation requirements, requires noise controls, air compressor housing Condition 5, Table 2 Infrastructure and equipment requirement, requires maintenance of noise controls	N/A
	Stormwater	Direct discharges	Soils and priority flora	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Condition 1, Table 1 Design and construction / installation requirements, requires stormwater controls, diversions, containment, flood protection, shed with collection sump Condition 5, Table 2 Infrastructure and equipment requirement, requires maintenance of stormwater controls	N/A
Pipeline and services corridor (Processing Plant and Sulphide Circuit to TSF)								
Pipeline and services corridor (Processing Plant and Sulphide Circuit to TSF)	Tailings and decant water to land with elevations in contaminants	Direct discharge from rupture of pipelines	Soils and groundwater (approximately 25mbgl)	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Y	Condition 5, Table 2 Infrastructure and equipment requirement, requires pipeline controls	N/A
Category 5 TSF Stage 1 and Stage 2								
Operation of TSF Stage 1 and Stage 2	Dust from TSF surface	Air / windborne pathway	Priority flora onsite	Refer to Section 3.1	C = Slight L = Possible Low Risk	Y	N/A	N/A

Risk events					Risk rating ¹	Applicant controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls	C = consequence L = likelihood			
	Tailings and decant water to land with elevations in contaminants	Direct discharges from overtopping Freeboard compromised on the TSF or collapse of dam walls	Vegetation and soils adjacent to the TSF	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Y	Condition 1, Table 1 Design and construction / installation requirements, requires emergency spillway, freeboard, AEP Condition 5, Table 2 Infrastructure and equipment requirement, requires freeboard maintained with inspections Condition 6, Table 3 s trigger values, requires WAD-CN trigger that is consistent with the target in the SSMP Condition 7, Table 4 Emission and discharges limits, requires WAD-CN limit that is consistent with the Cyanide Code Condition 8, Table 5 Emissions and discharges monitoring, requires monitoring of WAD-CN Condition 9, Table 6 Ambient groundwater monitoring, requires groundwater monitoring in the vicinity of the TSF	N/A
	Leachate from tailings storage, containing potentially elevated levels of CCOPC, such as WAD-CN, selenium, arsenic, molybdenum	Infiltration through the base and / or embankments	Hyporheic zone at the surface drainage feature at the toe of the TSF. Groundwater approximately 25mg/l and	Refer to Section 3.1	C = Moderate L = Possible Medium Risk	Y	Condition 1, Table 1 Design and construction / installation requirements, requires tailings thickened, low permeability, cyanide trigger, seepage interception trench Condition 5, Table 2 Infrastructure and equipment requirement,	N/A

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Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
			vegetation. Livestock threatened and/or priority fauna including bat populations			requires decant pond be maintained at minimum size with inspections Condition 5, Table 3 s trigger values, requires WAD-CN trigger that is consistent with the target in the SSMP Condition 6, Table 3 s trigger values, requires WAD-CN trigger that is consistent with the target in the SSMP Condition 7, Table 4 Emission and discharges limits, requires WAD-CN limit that is consistent with the Cyanide Code Condition 8, Table 5 Emissions and discharges monitoring, requires monitoring of WAD-CN Condition 9, Table 6 Ambient groundwater monitoring, requires groundwater monitoring in the vicinity of the TSF Condition 10 requires water balance be calculated		

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
	Elevated WAD-CN from the processing of gold ore, within the tailings	Ingestion by fauna, particularly bat populations	Livestock, threatened and/or priority fauna including bat populations	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Y	<p>Condition 5, Table 3 s trigger values, requires WAD-CN trigger that is consistent with the target in the SSMP</p> <p>Condition 6, Table 3 s trigger values, requires WAD-CN trigger that is consistent with the target in the SSMP</p> <p>Condition 7, Table 4 Emission and discharges limits, requires WAD-CN limit that is consistent with the Cyanide Code</p> <p>Condition 8, Table 5 Emissions and discharges monitoring, requires monitoring of WAD-CN</p> <p>Condition 11, Table 7 Management actions required in the event of trigger value exceedance, requires investigations if the trigger for WAD-CN is breached</p> <p>Condition 12 requires information that is in the trigger exceedance report</p> <p>Condition 13 requires that management measures are in place to meet the WAD-CN limit within six months from the date of issue of the licence</p>	N/A

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Bioremediation Facility								
Treatment cells	Hydrocarbon contaminated wastes	Spills, leaks, run-on and run-off during rainfall events	Soils and priority flora	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Condition 5, Table 2 Infrastructure and equipment requirement, requires ongoing requirements for the Bioremediation Facility	N/A
Sedimentation Ponds								
Uncontaminated stormwater from within the Processing Plant facilities	Uncontaminated stormwater	Overtopping	Soils and priority flora	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Condition 5, Table 2 Infrastructure and equipment requirement, requires freeboard and maintenance inspections	N/A
Process Water Pond								
Stormwater from the Processing Plant facilities Process water within banded areas	Sediment laden, and / or potentially contaminated stormwater with elevated WAD-CN from the processing of gold ore, within the tailings	Overtopping	Soils and priority flora, groundwater	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Condition 5, Table 2 Infrastructure and equipment requirement, requires freeboard and maintenance inspections	N/A
		Direct discharge from leaks and rupture	Soils and priority flora, groundwater	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Condition 5, Table 2 Infrastructure and equipment requirement, requires emergency overflow channel	N/A
		Infiltration	Soils and priority flora, groundwater	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Condition 5, Table 2 Infrastructure and equipment requirement, requires HDPE lining maintenance	N/A

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
		Ingestion by fauna	Fauna	Refer to Section 3.1	C = Moderate L = Possible Medium Risk	Y	Condition 5, Table 2 Infrastructure, and equipment requirement, requires maintenance of fencing	N/A
Raw Water Pond								
Raw water and Reverse Osmosis (RO) brine from the Processing Plant and RO Plant Raw water pond	Raw water with contaminants	Overtopping	Soils and priority flora, groundwater	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Condition 5, Table 2 Infrastructure, and equipment requirement, requires freeboard maintenance and inspections	N/A
		Direct discharge from leaks and rupture	Soils and priority flora, groundwater	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Condition 5, Table 2 Infrastructure, and equipment requirement, requires maintenance of scour pits and sumps along pipeline corridors	N/A
		Infiltration	Soils and priority flora, groundwater	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Condition 5, Table 2 Infrastructure, and equipment requirement, requires HDPE lining maintenance	N/A
Category 12 Crushing and Screening Plant								
Screening, crushing, unloading, loading and storage of material. Vehicle movements	Dust	Air / windborne pathway	Priority flora	Refer to Section 3.1	C = Slight L = Possible Low Risk	Y	Condition 1, Table 1 Design and construction / installation requirements, requires dust controls installed, sprinklers, fixed sprays, water sprays, dust collector. Condition 5, Table 2 Infrastructure and equipment requirement, requires maintenance of	N/A

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
							dust controls	
	Noise	Air / windborne pathway	Threatened and/or priority fauna including bats	Refer to Section 3.1	C = Moderate L = Possible Medium Risk	Y	Condition 1, Table 1 Design and construction / installation requirements, requires noise controls, air compressor housing. Condition 5, Table 2 Infrastructure and equipment requirement, requires maintenance of noise controls	N/A
Category 64 Landfill								
Operation of a category 64 landfill	Dust	Air / windborne pathway	Priority flora	Refer to Section 3.1	C = Slight L = Possible Low Risk	Y	Condition 5, Table 2 Infrastructure, and equipment requirement, requires tipping face maximum	N/A
	Waste egress	Windblown waste Ingestion by fauna	Soils, vegetation, livestock and threatened and/or priority fauna	Refer to Section 3.1	C = Slight L = Possible Low Risk	Y	Condition 5, Table 2 Infrastructure and equipment requirement, requires fortnightly covering of waste, monthly collection of windblown waste and weekly inspections	N/A
	Contaminated leachate from wastes	Infiltration with stormwater to groundwater	Separated by at least 3m from the highest level of the groundwater table	Refer to Section 3.1	C = Slight L = Possible Low Risk	Y	Condition 5, Table 2 Infrastructure and equipment requirement, requires separation distances to surface water features and groundwater, stormwater diversions	N/A

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
	Contaminated stormwater	Contaminated stormwater to surface water features	Landfill located more than 100m away from any surface water features	Refer to Section 3.1	C = Slight L = Possible Low Risk	Y	Condition 5, Table 2 Infrastructure and equipment requirement, requires separation distances to surface water features and stormwater diversions	N/A
Tyre fires	Air emissions / smoke	Air / windborne pathway	Livestock and threatened and/or priority fauna	Refer to Section 3.1	C = Slight L = Rare Low Risk	Y	Condition 5, Table 2 Infrastructure and equipment requirement, requires batching sizes, covering and fire breaks maintenance	N/A
Category 85 WWTP and Irrigation Area								
WWTP tanks and pipelines	Sewage and/or nutrient-rich treated effluent and RO brine	Direct discharge via overtopping or ruptures to the WWTP tanks	Soils and priority flora	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	Condition 5, Table 2 Infrastructure and equipment requirement, requires daily inspections	N/A
		Direct discharge from pipelines	Soils and priority flora	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	Condition 5, Table 2 Infrastructure and equipment requirement, requires all piping and fittings to the irrigation spray field are free of damages and leaks	N/A
Irrigation of wastewater to spray-field area.	Nutrient-rich treated effluent and RO brine	Direct discharge to the irrigation area resulting in ponding, ingress of weeds, fauna attraction	Soils and priority flora	Refer to Section 3.1	C = Slight L = Possible Low Risk	Y	Condition 5, Table 2 Infrastructure and equipment requirement, requires design criteria targets and loading rates	N/A

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Hydrocarbons / chemicals storage across the site								
Use of hydrocarbons / chemicals across the site	Hydrocarbons / chemicals	Direct discharges	Soils and priority flora, groundwater	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Condition 5, Table 2 Infrastructure and equipment requirement, requires Australian Standards, storage requirements, spill kits, treatment of oily water etc. Condition 7, Table 4 Emissions and discharges limits, requires Total Recoverable Hydrocarbons limit through Oily Water Separator System in dust suppression	N/A

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

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

4. Consultation

Table 6 provides a summary of the consultation undertaken by the department.

Table 6: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website on 08/01/2024	None received	N/A
Local Government Authority advised of proposal on 04/01/2024	None received	N/A
Department of Planning, Lands and Heritage (DPLH) advised of proposal on 04/01/2024	DPLH replied on 10/01/2024 confirming that the subject area does not intersect with any known Aboriginal Heritage Places or Registered Sites. Therefore, based on the current information held by DPLH, no approvals under the <i>Aboriginal Heritage Act 1972</i> are required in this instance.	Noted.
Nyamal Aboriginal Corporation advised of proposal on 04/01/2024	None received	N/A
Applicant was provided with draft documents on 04/07/2024	Applicant replied on 25/07/2024 Refer to Appendix 1	Applicant replied on 25/07/2024 Refer to Appendix 1

5. Conclusion

Based on the assessment in this decision report, the delegated officer has determined that a licence 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) 2020a, *Guideline: Risk Assessments*, Perth, Western Australia.
3. DWER 2020b, *Guideline: Environmental Siting*, Perth, Western Australia.
4. Calidus Resources Limited, Warrawoona Prescribed Premise Licence Application 29/09/2023, West Perth, Western Australia (DWERDT842704 – application and supporting documentation).
5. Calidus Resources Limited, RE: Warrawoona Gold Project - Licence Application 27/11/2023, West Perth, Western Australia (A2226378 – clarifying premises boundary).
6. Calidus Resources Limited, RE: RE: Warrawoona Gold Project - Licence Application 01/12/2023, West Perth, Western Australia (A2234186 – key updates).
7. Calidus Resources Limited, RE: L9420 Warrawoona Gold Project - Licence Application - Shapefile query 09/01/2024, West Perth, Western Australia (DWERDT888295 – shapefiles).
8. Calidus Resources Limited, RE: L9420 Warrawoona 21/02/2024, West Perth, Western Australia (A2257644 – monitoring results).
9. Calidus Resources Limited, RE: L9420 Warrawoona 25/03/2024, West Perth, Western Australia (A2288974 – monitoring results).
10. Calidus Resources Limited, RE: Sulphide Circuit and Concentrate Loading 17/06/2024, West Perth, Western Australia (A2288035 – Sulphide Circuit).
11. Calidus Resources Limited, RE: RE: Sulphide Circuit and Concentrate Loading 18/06/2024, West Perth, Western Australia (A2288732 – Concentrate Loading Area).
12. Calidus Resources Limited, RE: NOTIFICATION : APPLICATION FOR A LICENCE L9420/2023/1 - CALIDUS RESPONSE 25/07/2024, West Perth, Western Australia (A2297379 – comments on 21 days letter).
13. Calidus Resources Limited, RE: NOTIFICATION : APPLICATION FOR A LICENCE L9420/2023/1 - CALIDUS RESPONSE 30/07/2024, West Perth, Western Australia (A2299345 – queries on Landfill and Bioremediation Facility).
14. Calidus Resources Limited, RE: L9420 Warrawoona Vibrating Wire Piezometers 06/08/2024, West Perth, Western Australia (A2300778 – Vibrating Wire Piezometers).
15. Calidus Resources Limited, Re: L9420 Warrawoona Query 14/08/2024, West Perth, Western Australia (A2302738 – Process Water Pond WAD-CN).
16. Groundwater Resource Management (GRM) (2021) Warrawoona Gold Project. H3 Level Hydrogeological Investigations Report

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

Condition	Summary of applicant's comment	Department's response
Licence		
Front page	Are Categories 5 and 7 required.	No.
Licence History	Update date of L9420/2023/1 to 2024	Date is the date the Licence applied for, so 2023 is correct.
1, Table 1, TSF Stage 2 general details	Request to amend to be done in two stages: Stage 2A - RL 265.5 m (2m raise) Stage 2B - RL 267.3 m (2m raise) Design does not change just the staging - Updated drawings supplied.	Updated as requested.
1, Table 1, TSF Stage 2 spigots	Amend to be flexible - currently using a number of spigots according to deposition plan provided by Tetra Tech Coffey - updated regularly based on flyover survey deposition data.	Updated as requested.
5, Table 2, Pipeline and services corridor (Processing Plant and Sulphide Circuit to TSF)	Request to reword pipeline containment requirements. Suggest a condition of "The tailings delivery and decant return pipelines will be either equipped with a telemetry system to detect leaks or are contained within bunded corridors." Majority of the length of both pipelines are within the LOM TSF footprint therefore is not installed within a containment bund; if a rupture occurred, the return water would flow back into the TSF.	Updated as requested.
5, Table 2, Landfill	Request to remove the landfill groundwater monitoring bores as these groundwater monitoring bores are no longer operational, and are not listed in Table 6. The historic KWE01, KWE7, KWE10 bores have now all been consumed by pit development and are no longer serviceable. KWE06 was converted into a production bore (DB01).	Updated as requested.

Licence: L9420/2023/1

Condition	Summary of applicant's comment	Department's response
	In the replacement of these unserviceable bores Calidus propose to utilise DB1, PB5 and MB10 to monitor any impacts associated with the landfill and bioremediation facilities.	
5, Table 2, Hydrocarbons / chemicals storage across the site	Please remove "adjacent to landfill" for Bioremediation Facility. The Bioremediation Facility is proposed to be located in the same footprint of the WRD as the landfill. Calidus have requested to remove the wording "adjacent to landfill" as the facility may not be directly adjacent, but in the same vicinity. The wording can remain if the word adjacent is sufficient to allow the bioremediation to be located in the same WRD footprint as the Landfill.	Updated as requested.
8, Table 5	Daily Acrylamide is not feasible (requires offsite Lab). Recommend adding a monthly TSF decant sample requirement with the analytes to include Parameters listed in Table 6 and adding Acrylamide to Table 6 for GW monitoring as well.	Updated as requested.
9, Table 6	Rename TSFMB122 to TSFMB12 Rename Village Camp to Village Camp: MB11 Rename Processing Plant to Processing Plant: MB10 Vibrating Wire Piezometers should sit in its own line items at the bottom of Table 6, as the VWP's are only able to measure water level and are not able to be sampled for hydro chem WP01 should be VWP01	Updated as requested.
Definitions, annual period	Annual period requested to be financial year	Updated as requested
Definitions, monthly period	Monthly period requested to be calendar month	Updated as requested
Schedule 1: Maps, Figure 2	Revised Figure 2 and 3 for input.	Updated as requested.
Schedule 1: Maps, Figure 3	Revised Figure 2 and 3 for input.	Updated as requested.
Schedule 1: Maps, Figure 4	Added groundwater bores to revised Figure 2. Suggest changing this figure name to TSF Monitoring Bores	Updated as requested.

Condition	Summary of applicant's comment	Department's response
Schedule 1: Maps, Figure 4	Update figure with revised Stage 2a and 2b raise. to the 267.3 mRL Provided updated figure.	Updated as requested.
Decision Report		
2.2.1 Category 5 Processing Plant, Process Water Pond	Potentially include that the Process Water Pond will also be used to store decant return water. As well as: The Process Water Pond will be used to treat excess WAD-CN levels using Caro's Acid (Cyanide Destruction) to reduce the WAD-CN load into the circuit, and subsequently reducing the WAD-CN levels into the tailings.	Addition of this to the Decision Report. The Process Water Pond will also be used to store decant return water and to treat excess WAD-CN levels using Caro's Acid (Cyanide Destruction) to reduce the WAD-CN load into the circuit, and subsequently reducing the WAD-CN levels into the tailings. The Applicant does not expect the WAD-CN levels to be over 30mg/L. It will be another method to reduce WAD-CN levels recirculating in the process circuit and potentially reduce the WAD-CN in the tailings water. Note Licence L9420/2023/1 Condition 6, Table 3 sets WAD-CN trigger for TSF decant return pump and Condition 7, Table 4 sets WAD-CN limit for TSF decant return pump so Process Water Pond is covered by this trigger and limit.
2.2.2 Category 5 TSF	265.3 mRL should be 267.3 mRL. as per stage 2 design submitted with PP Licence application and to match the Draft Licence.	Updated as requested.
2.7 Other approvals, Table 2: Summary of other regulatory approvals	Do you want to put the Federal EPBC Controlled Action or the Pt IV EP Act Ministerial Statement in here? - EPBC Controlled Action 2019-8584 - Ministerial Statement MS:1150	Section 2.4 addresses <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act). Section 2.5 addresses Part IV of the EP Act Ministerial Statement 1150.
3.1.1 Emissions and controls, Table 3, Category 64 Landfill	Request to remove landfill groundwater monitoring bores.	Updated as requested. DB1, PB5 and MB10 are in the vicinity of the Landfill and Bioremediation Facility.