



Application for Licence

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

Licence Number	L9362/2022/1
Applicant	Norton Gold Fields Pty Limited
ACN	112 287 797
File number	DER2022/000510
Premises	Binduli Operations Legal description - Part mining Tenements M26/115, M26/243, M26/387, M26/420, M26/430, M26/445, M26/446, M26/447, M26/474, M26/629 and M26/833. BINDULI WA 6430 As defined by the premises maps attached to the issued licence
Date of report	29 March 2023
Decision	Licence granted

**A/Manager, Resource Industries
REGULATORY SERVICES**

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 L9362/2022/1 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 30 September 2022, Norton Gold Fields Pty Limited (the Applicant) submitted an application for a licence to the department under section 57 of the *Environmental Protection Act 1986* (EP Act).

The Application is to seek approval to operate ore processing and heap leach facility infrastructure at the Binduli Operations site (the Premises) located approximately 2.3 kilometres (km) east of the town of Kalgoorlie-Boulder. The Applicant is seeking approval for the operation of the following infrastructure constructed under Works Approval W6504/2021/1:

- Three staged crushing and screening plant for crushing, screening and agglomeration of ore;
- Heap leach circuit and Stage 1 of the heap leach pad;
- Processing and saline ponds (including pit water dam (PWD), raw water pond (RWP), intermediate liquor pond (ILP), pregnant liquor pond (PLP), barren liquor pond (BLP) and storm water pond (SWP));
- Nano filtration water treatment plant (WTP);
- Mine dewater pipeline infrastructure for the transportation of mine dewater (from Navajo Chief and Centurion Pits) to the WTP prior to being discharge as brine water to Fort Scott Pit; and
- Diesel power generation plant (13 Mega Watts (MW)).

The Prescribed Premises boundary is depicted in red as shown below in Figure 1 and a more detailed site layout is illustrated in Figure 2.

The Premises relates to categories 5, 6, 7 and 52 activities and assessed design capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in licence L9362/2022/1. The infrastructure and equipment relating to the premises categories and any associated activities which the department has considered in line with *Guideline: Risk Assessments* (DWER 2020) are outlined in Licence L9362/2022/1.

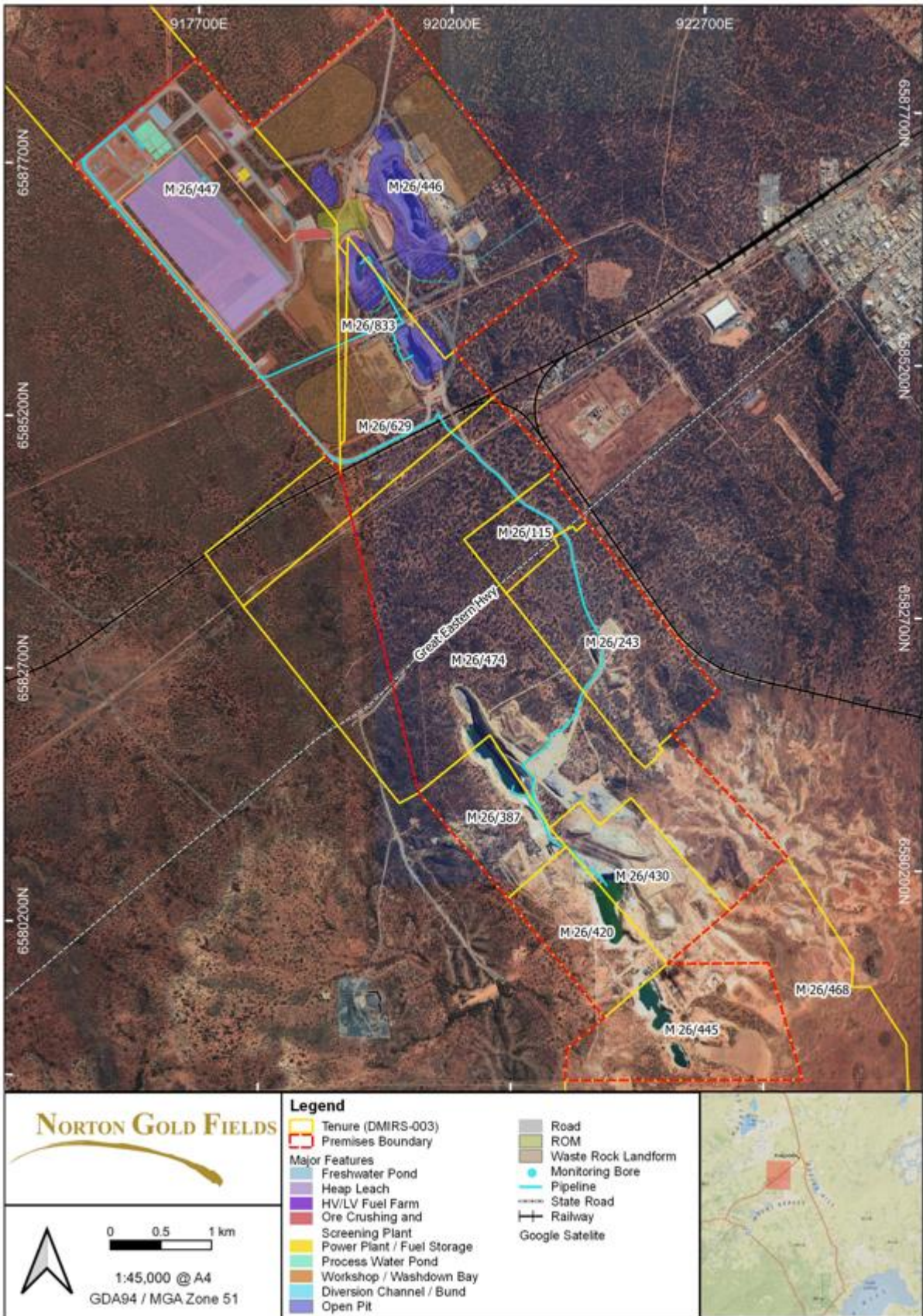


Figure 1: Map of the boundary of the Prescribed Premises



Figure 2: Prescribed Premises map showing locations of key infrastructure

2.3 Description of proposed activities

2.3.1 Category 5: Ore Processing – Crushing and Screening Plant

The three staged crushing and screening plant was constructed under Condition 1 (Table 1), Item 1 of W6504/2021/1 and determined by the department to be compliant with the conditions of W6504/2021/1 following review of an Environmental Compliance Report (ECR) on 27 June 2022. Time Limited Operations (TLO) of the crushing and screening plant under W6504/2021/1 commenced on 1 August 2022 and is for a period not exceeding 260 calendar days ending on 18 April 2023. The plant will be in operation up to 24 hours a day and will have a production capacity of up to 5 million tonnes per annum (Mtpa).

Ore that is sourced from the open pits will be fed into the run-of-mine (ROM) bin where it is processed through a two-stage crushing, screening and high-pressure grinding rolls plant via a series of fixed overland conveyors. The ore feed from the surge bin is received in the agglomerator drum via a conveyor on which lime and cement are added to the ore. Agglomerated ore is then transported to the heap leach pad via a series of overland and grasshopper conveyors to a radial stacker which will stack the ore in a series of heap leach cells. Figure 3 demonstrates the ore and heap leach facility infrastructure process.

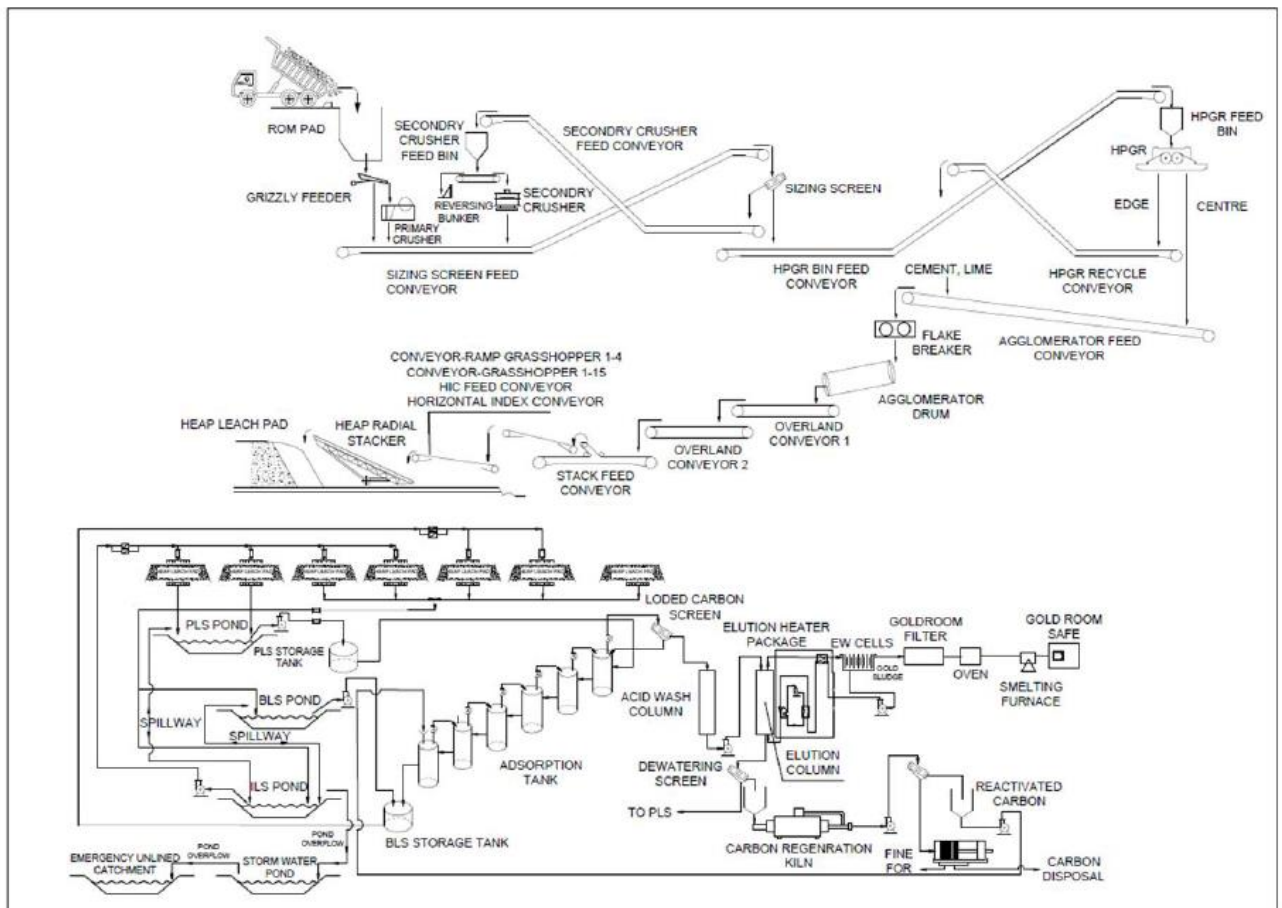


Figure 3: Crushing and screening plant and heap leach facility processing flow diagram

2.3.2 Category 7: Heap Leach Facility

The Heap Leach pad is proposed to be constructed in three stages and will comprise of 25 cells that will have a total design capacity of 50 million tonnes (Mt). Each cell will therefore have a capacity to contain 2Mt of ore. The annual throughput for the heap leach pad is limited

by the annual throughput of the crushing and screening plant of 5Mtpa of ore as the heap leach is essentially a mound of irrigated ore.

The Applicant confirmed in a ECR on 27 June 2022 that Stage 1 of the Heap Leach pad consisting of five cells has been constructed which based on the production capacity of the crushing and screening plant allows for two years of operations. Environmental Commissioning for Stage 1 of the Heap Leach pad has been completed and TLO commenced following submission of the Environmental Commissioning Report as required by Condition 8 of works approval W6504/2021/1. It is noted that the emergency pond that was required to be constructed in accordance with Condition 1 (Table 1), Item 6 of W6504/2021/1 will not be constructed until the Stage 2 construction of the Heap Leach pad is completed.

Construction of Stage 2 of the Heap Leach pad which comprises of 10 cells is planned to commence in January 2023. Upon completion and submission of the Environmental Compliance and Commissioning reports, this will allow for an additional 20Mt of ore. Construction of Stage 3 that will comprise of 10 cells will follow. The additional stages of the Heap Leach pad to be constructed will not alter the annual throughput of ore for processing, only increase the total capacity of the Heap Leach facility.

This licence will only authorise operation of stage 1 of the Heap Leach pad. Subsequent stages will need to be assessed through a separate licence amendment process once construction has been completed (and ECR submitted in accordance with works approval W650/2021/1).

The Applicant submitted an ECR to demonstrate compliance for the installation of nine groundwater monitoring bores surrounding the Heap Leach pad. The department confirmed the Applicant sufficiently demonstrated compliance with Condition 4 (Table 2) of W6504/2021/1 on 29 November 2022. The Applicant commenced monitoring of the groundwater bores in March 2022 for a four-month period prior to ore being placed onto the Heap Leach pad in July 2022. The results provided a base level of groundwater quality prior to heap leach activities commencing. A review of the baseline and monthly groundwater results (following placement of ore onto the Heap Leach pad) indicate that total cyanide levels are detected to be low with concentrations being under 0.05mg/L. Quarterly monitoring of the groundwater bores surrounding the Heap Leach pad during operation will be a regulatory requirement on the licence to detect any potential seepage from the Heap Leach pad and processing ponds.

2.3.2.1 Saline and processing water ponds

A number of saline and processing water ponds are required for the Heap Leach operation. The Applicant submitted an ECR to demonstrate compliance with Condition 1 (Table 1) of W6504/2021/1 for the construction of the ponds. The department noted several departures from the infrastructure designs conditioned in W6504/2021/1 which included six ponds and one pit water dam being constructed at a larger volume than the construction requirements listed in the Works Approval. The Applicant noted in correspondence dated 4 November 2022 that the volume of water stored in the ponds will remain consistent with the original plant design capacity and that the increased volume would provide additional freeboard further reducing the likelihood of overflow, therefore reducing the risk profile of the infrastructure. Noting that the processing ponds are all HDPE lined and have been designed with a freeboard sufficient to manage the capacity of each pond, the Delegated Officer believes that the additional depth of the ponds is unlikely to change the risk profile and the risk of seepage and overtopping will be managed appropriately.

The Applicant advised in the ECR submitted on 27 June 2022 that the emergency pond required to be constructed under W6504/2021/1 will not be constructed until the Stage 2 construction of the Heap Leach pad as additional capacity is not required until this stage. The Applicant has provided additional information in a response to the department's request for further information

dated 22 November 2022 on the processing and saline ponds to demonstrate how the Stage 1 Heap Leach pad will be managed without the emergency pond in the event that there is an emergency or extreme rainfall event.

The saline and processing ponds each have an overflow capability to allow water to overflow into the adjacent pond during an extreme rainfall event. The BLP, ILP and PLP are interconnected via two spillways providing a total combined capacity of 51,788m³. In the event that the capacity of the ponds are exceeded, an additional spillway on the northern edge of the ILP will overflow into the SWP which has a storage capacity of 83,272m³.

During the operation of the Stage 1 Heap Leach pad, the SWP will only collect drainage from the constructed five cells that cover an area of approximately 24ha, being 20% of the final area. The area comprising of the SWP, BLP, ILP, PLP and the solution channel calculates to a total area of 316,787ha. Noting the size of the Heap Leach catchment area and the capacity of the SWP, a rainfall event of 262.86mm would be required to fill the SWP which is equivalent to 72% of the annual mean rainfall for Kalgoorlie (365.6mm – BOM, 2022). Noting the total monthly rainfall has not exceeded 200mm in the last 30 years and the annual mean evaporation for Kalgoorlie is 2,628mm, this further reduces the likelihood of the SWP overflowing. Given the above, the delay in constructing the emergency pond until the commencement of the Stage 2 Heap Leach operation is unlikely to increase the risk of the processing ponds overflowing in the event of an extreme rainfall event or emergency that requires the emptying of any pond containing saline or process water.

2.3.3 Category 6: Mine Dewatering

The mine dewatering infrastructure that was approved for construction under W6504/2021/1 is for both operational mining and production. The mine dewatering pipeline is proposed to be constructed using a staged approach with additional connections added to the pipeline as required, to allow for the dewatering of active pits into inactive pits. The dewatering infrastructure that has been constructed at the Premises to date is limited to that required for processing and the discharge of brine water from the WTP. The Applicant is yet to reach an operational stage whereby mining is required to undertake mine dewatering to progress the mining operation. Given this, subsequent amendments to the Licence will be required to include additional mine dewater discharge points following construction of dewatering pipeline infrastructure as required by the mining sequence.

The construction of the main section of the pipeline required for pit water supply for processing has been completed and reported to the department in an ECR dated 23 January 2023 to demonstrate compliance with Condition 1 (Table 1), Item 11 of W6504/2021/1. As shown in Figure 4, the main section of the pipeline constructed consists of three pipelines including:

- the pipeline referred to as 'pit water pipeline' that sources pit water from Navajo Chief and Centurion Pits discharges into the PWP prior to feeding into the WTP. Treated water from the WTP is used in the heap leach circuit. The WTP will produce a waste stream (brine) which will be discharged to Fort Scott Pit via the 'brine water pipeline' mentioned below;
- the pipeline referred to as 'brine water pipeline' that discharges brine water from the WTP to Fort Scott Pit; and
- the pipeline that discharges dewater from Fort William Pit to Fort Scott Pit to support mining activities (yet to be commissioned and therefore outside the scope of this assessment).

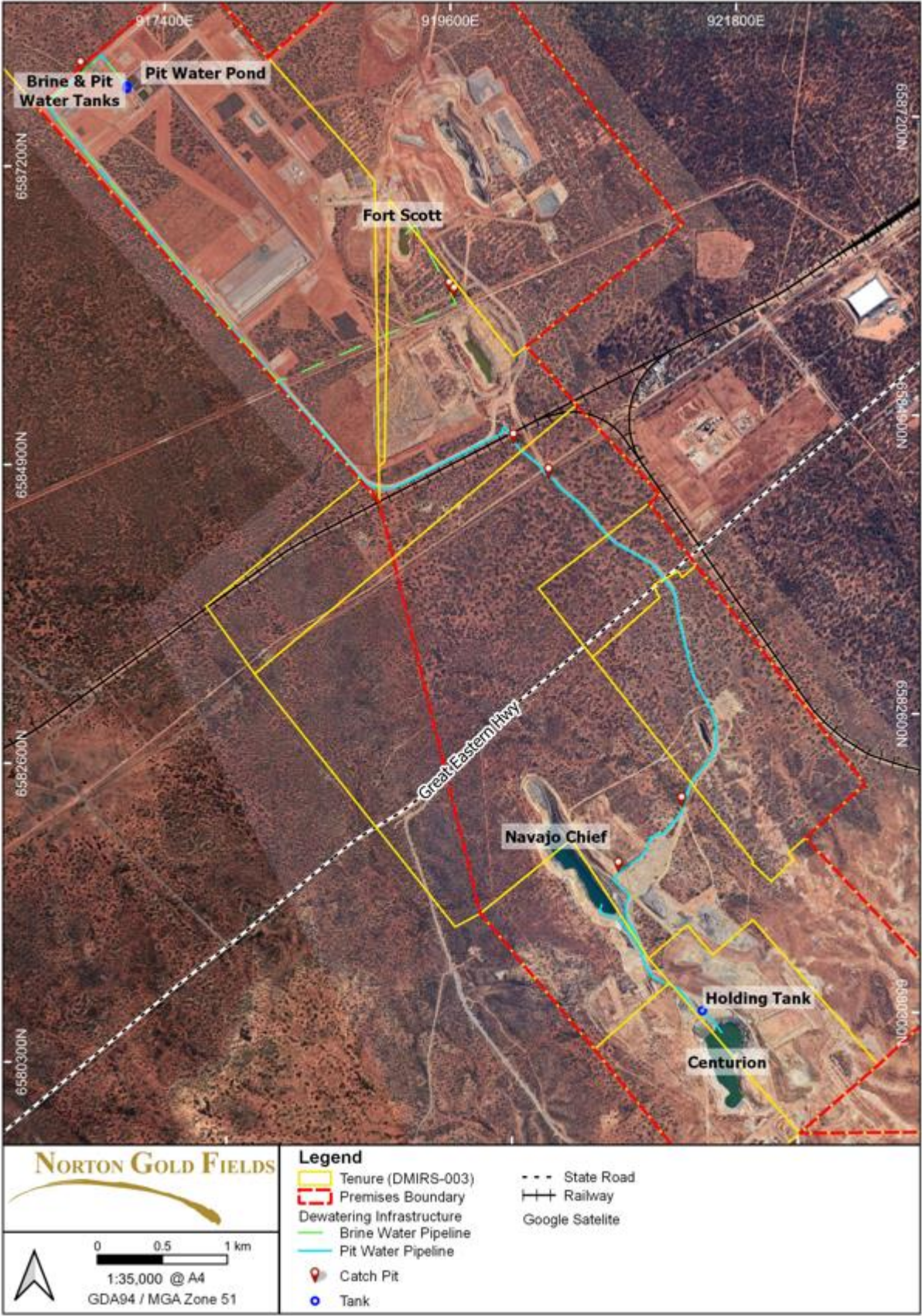


Figure 4: Constructed dewater and brine water pipeline infrastructure

Environmental Commissioning of the pit water and brine water pipeline infrastructure which involved testing of the pipeline leak detection and automatic shut-off system was completed on 19 February 2023. The Applicant submitted an Environmental Commissioning Report to the department on 20 February 2023 to demonstrate compliance with the requirements set out under Condition 8 (Table 3) of W6504/2021/1. The Environmental Commissioning of the Fort William dewatering pipeline has not yet been completed, therefore will be included as an amendment to the Licence at a later stage.

Therefore, the scope of the assessment for Category 6 activities is limited to the discharge of brine wastewater from the WTP which treats dewatering effluent from Navajo Chief and Centurion pits for use in the heap leach circuit.

A detailed risk assessment of the Category 6 activities has been conducted under section 3.4 of this report.

2.3.4 Category 52: Power Generation

The Applicant submitted an ECR on 27 June 2022 to demonstrate compliance with the infrastructure requirements of Condition 1 (Table 1), Item 8, for the installation of 13 x 1 megawatt (MW) Cummins KTA50-G3 diesel generators within a steel framed power station building centred on a concrete pad. Each generator has a continuous output power of 900kWm based on an engine speed of 1500RPM or 1000kWm based on an engine speed of 1800RPM. The power plant has been designed to operate 11 of the 13 power generators at 85% capacity to provide power for operation of the Premises with the remaining two generators being on standby. The power station is fuelled by a 15kL self-bunded storage tank which is supplied diesel from the GHASA fuel station comprising of 3 x 100kL self-bunded storage tanks. The Applicant also demonstrated compliance with the infrastructure requirements for the power plant diesel storage and light vehicle refuelling diesel storage as specified under Condition 1 (Table 1), Item 13 of W6504/2021/1.

3. Risk assessment

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

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

3.1 Source-pathways and receptors

3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during Premises operation which have been considered in this decision report are detailed in Table 1 below, table 1 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

Table 1: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Processing Plant			
Dust	<p>Crushing and screening of gold bearing ore.</p> <p>Unloading, loading and stockpiling of material onto ROM pad during ore processing.</p> <p>Dust lift-off from stockpiles.</p> <p>Vehicle movements on unsealed surfaces</p>	Air/windborne pathway	<ul style="list-style-type: none"> • Dust suppression sprays installed within the crushing and screening plant to suppress dust generation during plant operation; • Water cart maintained on site for wetting down of roads and high traffic areas; • Daily visual monitoring during operations to ensure controls for managing dust emissions are effective; • Any dust complaints received to be investigated immediately; and • On-site vehicle speeds limited.
Noise	<p>Crushing and screening of gold bearing ore.</p> <p>Unloading, loading and stockpiling of material onto ROM pad during ore processing.</p> <p>Vehicle movements on unsealed surfaces</p>	Air / windborne pathway	<ul style="list-style-type: none"> • Night-time noise monitoring to be undertaken following commencement of 24-hour operations; • Regular maintenance of ore crushing and screening plant; • A noise complaint register to be maintained at the Premises; • All noise complaints to be recorded on the register and investigated as soon as practicable; and • Existing transportation routes to be utilised to shield noise.
Contaminated stormwater/ sedimentation	<p>Contaminated stormwater/sedimentation discharging from plant, ROM pad and crusher and materials conveyors areas.</p> <p>Vehicle movements on the ROM pad.</p>	Overland runoff from Processing Plant area during high during rainfall events.	<ul style="list-style-type: none"> • Contaminated stormwater runoff from the plant area is collected within the diversion drains and directed to the surface water catchment pond; • Surface water catchment pond to maintain a minimum operating freeboard of 0.3m; • Sedimentation shall be captured within sedimentation traps and toe drains; and • Diversion bunds and a central drainage channel installed to manage surface water flow and mitigate potential flooding.
Spills/leaks of hydrocarbons	Hydrocarbon spills or leaks from vehicles, plant	Direct discharge to	<ul style="list-style-type: none"> • Hydrocarbon testing shall be undertaken from the surface water

Emission	Sources	Potential pathways	Proposed controls
and chemicals	<p>and equipment used during operation of the plant.</p> <p>Spillage, leakage and seepage of hydrocarbons and chemicals used and stored within the processing plant area</p>	<p>land</p> <p>Potential seepage to groundwater</p>	<p>catchment pond where greater than 30mm of rainfall has been recorded over a 24-hour period or standing water level breaches 0.3m freeboard;</p> <ul style="list-style-type: none"> All hydrocarbons and chemical storage areas to be located within bunded internally draining hardstands; Refueling activities to occur over containment features (steel traps) to contain any potential spills or drips; and Hydrocarbons and chemicals will be managed in accordance with '<i>Norton's Hydrocarbon and Other Chemicals Management Plan</i>'.
Mine Dewatering			
Discharge of Brine water from WTP	Discharge of brine water to Fort Scott Pit	Lateral movement of pit lake water through pit walls	<ul style="list-style-type: none"> Flow meter to be maintained on pipeline discharge point(s) to measure cumulative volumes (tonnes or m3) of brine water discharged to Fort Scott Pit; PWP receiving mine dewater prior to being processed through the WTP to be maintained with a minimum freeboard of 0.5m; and Freeboard of 6m from below the pit crest to be maintained for Fort Scott Pit.
	Transfer and storage of brine water in Fort Scott Pit	Overtopping of pits	
	Operation of dewater and brine water discharge pipelines to Fort Scott Pit.	Pipeline leak or rupture	<ul style="list-style-type: none"> Dewatering pipelines shall be bunded or buried; Pipelines to be visually inspected twice daily; Pipelines shall be equipped with automatic cut-outs in the event of a pipeline failure and equipped with telemetry systems for detection of leak or spills; and All bunding to have catch pits at low points on the land, designed to hold at least the maximum volume of water contained in the pipeline.
Heap leach operations			
Leachate/spillage of contaminated	Operation of heap leach facility	Seepage through soils to groundwater.	<ul style="list-style-type: none"> Heap leach pad to be maintained with a 1.5mm HDPE liner; Monitoring of the nine groundwater

Emission	Sources	Potential pathways	Proposed controls
liquids			<ul style="list-style-type: none"> monitoring bores installed around the heap leach facility for seepage; and Heap leach pad area to be bunded by safety berm to direct all surface water runoff and leachate into a diversion channel for reprocessing through heap leach circuit.
Dust		Air/windborne pathway causing impacts to health and amenity	<ul style="list-style-type: none"> Water cart maintained on site for wetting down of roads and high traffic areas; Daily visual monitoring during operations to ensure controls for managing dust emissions are effective; Any dust complaints received to be investigated immediately; and On-site vehicle speeds limited.
Contaminated stormwater	Overland runoff from Heap Leach facility area during high during rainfall events	Direct discharge onto soil and native vegetation	<ul style="list-style-type: none"> Heap leach pad area to be bunded by safety berm to direct all surface water runoff and leachate into a diversion channel for reprocessing through heap leach circuit.
	Overtopping of processing and saline ponds	Direct discharge onto soil and native vegetation	<ul style="list-style-type: none"> PWP, RWP, ILP and PLP to be maintained with a minimum freeboard of 0.5m; and Maintain integrity of 1.5mm HDPE liner on PWP, RWP, ILP and PLP.
Operation (Category 52: Electric Power Generation)			
Particulates, NOx, SO2, CO airborne emissions.	Operation of 13 x 1 MW diesel generators	Air/windborne dispersion	<ul style="list-style-type: none"> Regular servicing and maintenance of Power Plant; Air emissions data from fuel combustion and particulate generation will be collected via a third party consultant for inclusion in the National Pollutant Inventory report and the National Greenhouse and Energy Report that will be submitted on an annual basis to DWER.
Noise			

3.1.2 Receptors

In accordance with the *Guideline: Risk Assessment* (DWER 2020), the Delegated Officer has excluded the applicant's employees, visitors, and contractors from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

Table 2 and Figure 5 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 2: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
Residential and Industrial Premises	<p>Six Premises (R1 to R6) are located within seven kilometres of the ore crushing and screening plant location:</p> <ul style="list-style-type: none"> • R1 – 2.8kms southeast of the plant (residential); • R2 – 2.6kms southeast of the plant (residential); • R3 – 2.4kms south of the plant (not considered a sensitive receptor – see section 3.3); • R4 – 2.6kms south of the plant (not considered a sensitive receptor – see section 3.3); • R5 – 6.4kms southeast of the plant (industrial); and • R6 – 4.4kms east of the plant (industrial).
Environmental receptors	Distance from prescribed activity
Kurrawang Nature Reserve - vested in the National Parks and Nature Conservation Authority for the conservation of flora and fauna	<ul style="list-style-type: none"> • 3.6kms southeast of the ore crushing and screening plant; • 2.7kms southeast of the heap leach facility (Stage 1); and • 1.7kms southeast and 3.5kms south east of the dewater pipeline and Fort Scott discharge pit respectively.
Native vegetation	<p>The majority of the native vegetation that occurs within the Premises boundary is classified as Mixed Eucalyptus woodlands (<i>Eucalyptus horistes</i>, <i>Eucalyptus gracilis</i>, <i>Eucalyptus griffithsii</i>, <i>Eucalyptus salubris</i>, <i>Eucalyptus gracilis</i>, <i>Eucalyptus salmonophloia</i>) over <i>Eremophila scoparia</i>, <i>Exocarpos aphyllus</i>, <i>Scaevola spinescens</i>, <i>Eremophila ionantha</i> open mid to low shrubland, and <i>Triodia scariosa</i> sparse hummock grassland.</p> <p>As shown in Figure 4 and Figure 5, native vegetation located adjacent to the ore crushing and screening plant, heap leach pad, power plant, dewatering infrastructure and dewater/brine water discharge pit.</p>
Conservation significant fauna species	<p>Carnaby’s Cockatoo (<i>Calyptorhynchus latirostris</i>) – medium chance of breeding in tree hollows of Wandoo, Tuart, Jarrah, York gum, Karri and Marri. Foraging in woodlands, forests, riparian vegetation, heath, and Banksia woodland as well as introduced species; and</p> <p>Malleefowl (<i>Leipoa ocellata</i>): medium chance of utilising dense shrubland and low woodlands</p>

	dominated by mallee vegetation.
Conservation significant flora	Fourteen priority (P) flora species were considered in a desktop assessment undertaken by Spectrum Ecology in 2020 likely to occur within the Premises boundary. Six (3 x P2 and 3 x P3) considered to have a high likelihood of occurrence and eight (3 x P1, 1 x P2, 2 x P3 and 2 x P4) considered to have a medium likelihood of occurrence within the Operations area.
Surface water bodies	<p>The Premises is located within the DWER regional 'Salt Lake' Basin whose streams and drainage drain to inland lakes. There are no significant streams that occur around the proposed mining operation.</p> <p>A surface water assessment undertaken by AQ2 Pty Ltd in 2020 noted that the Premises generally drains to the north-northwest and is a small portion of a larger catchment of salt lakes located approximately 2kms to the northwest of the Premises boundary.</p> <p>The series of salt lakes are located:</p> <ul style="list-style-type: none"> • 3.6km northwest of the gold bearing ore crushing and screening plant; • 2.6kms northwest of the power plant and diesel storage area; • 3km northwest of the Stage 1 heap leach pad; and • 1.4kms northwest of the brine water pipeline.
Groundwater	<p>The Premises is located within the Goldfields Groundwater Area proclaimed under <i>Rights in Water and Irrigation Act 1914</i>.</p> <p>Mine dewatering (abstraction) is undertaken under Groundwater Licence GWL 167686(4).</p> <p>Groundwater flow is generally to the east towards the major palaeodrainage systems, the ephemeral lakes and salt pans.</p> <p>Recent groundwater monitoring data from groundwater monitoring bores surrounding the heap leach pad indicates that groundwater at the Premises ranges from 7.38 mbgl (MBH08) to 29.74 mbgl (MBH05).</p> <p>Groundwater quality data indicates that water quality is hypersaline, with total dissolved solid (TDS) concentrations ranging from 47,400 mg/L (monitoring bore MBH05) to 220,000 mg/L (pit water at Fort Scott Pit).</p> <p>The only known groundwater users within 5kms of the Premises are for mining processing purposes only. There are no other known groundwater users in the local area of the Premises (5km radius).</p>

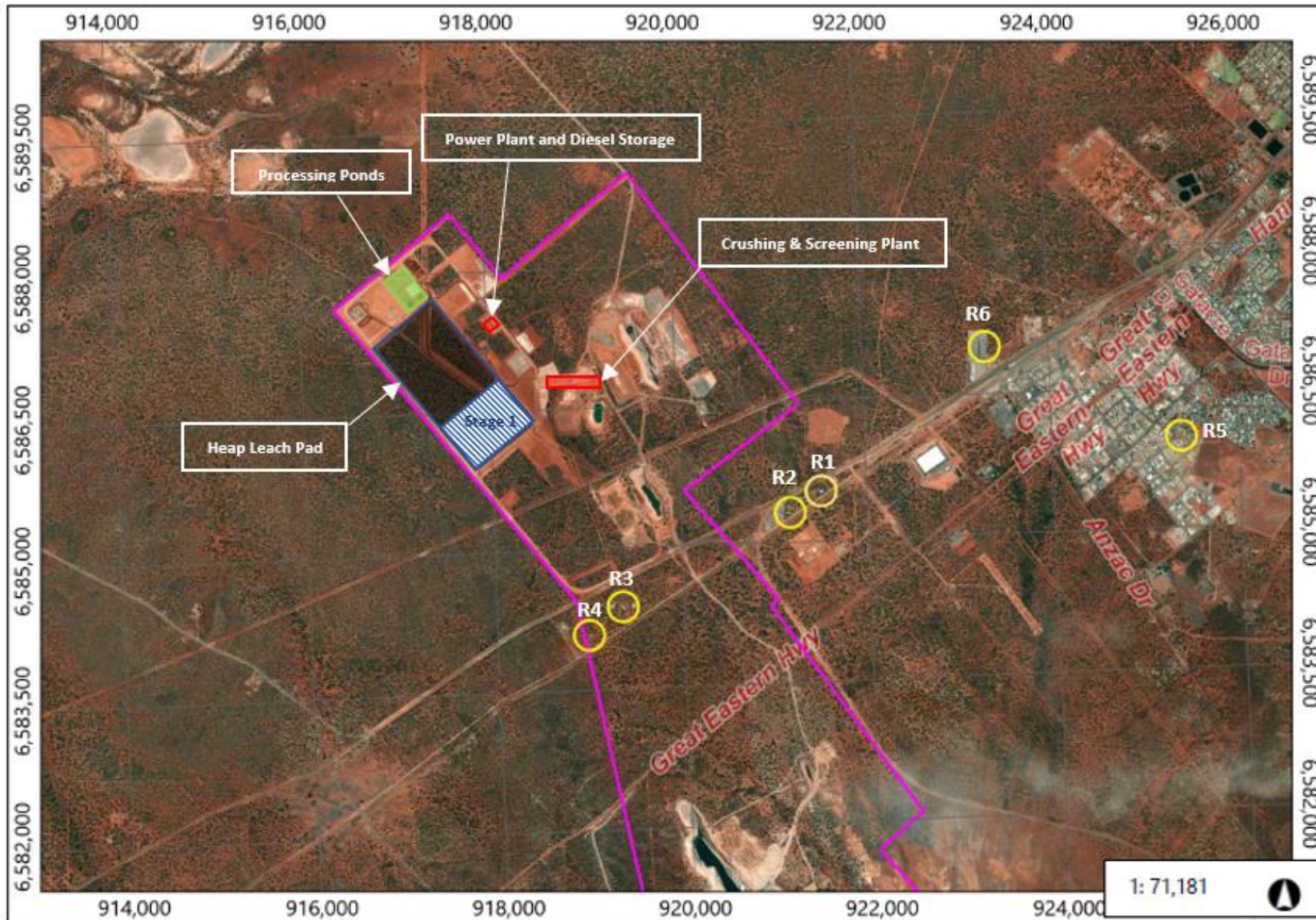


Figure 5: Location of noise sensitive receptors to ore processing and heap leach infrastructure

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

3.2 Risk ratings

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

Where the applicant has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the delegated officer considers the applicant's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the 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 3.

Licence L9362/2022/1 that accompanies this decision report authorises emissions associated with the operation of the premises i.e. gold processing activities, dewatering and power generation.

The conditions in the issued licence, as outlined in Table 3 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 3: 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				
Operation (Category 5: Processing or beneficiation of metallic or non-metallic ore)								
Screening, crushing, unloading, loading and storage of gold-bearing ore material Vehicle movements	Dust	Air/windborne pathway causing impacts to health and amenity	Closest residence is R2- 2.6kms south of the gold bearing ore crushing and screening plant	Refer to Section 3.1	C = Slight L = Possible Low Risk	Yes	Condition 1 (Table 1), Items 1: Requirements for the Gold-bearing ore crushing and screening plant to control dust during operation. Condition 3 (Table 2): Inspection of gold-bearing ore crushing and screening plant infrastructure to ensure dust controls are effective.	N/A
	Noise				C = Minor L = Unlikely Medium Risk	Yes	N/A	See section 3.3 – detailed risk assessment
	Contaminated stormwater	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Series of salt lakes 3.6km north-west of the gold bearing ore crushing and screening plant.	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Yes	Condition 1 (Table 1), Item 7: Requirements for the Stormwater Management System to control contaminated stormwater/sedimentation runoff.	N/A
Hydrocarbon spills or leaks from vehicles, plant and equipment used during operation of the plant. Spillage, leakage and seepage of hydrocarbons and chemicals used and stored within the processing plant area	Spills/leaks of hydrocarbons/chemicals	Overland runoff during rainfall events or seepage through the soil profile to groundwater causing groundwater contamination or impacting surface	Series of salt lakes 3.6km north-west of the crushing and screening plant. Native vegetation and potential	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Yes	Condition 1 (Table 1), Item 6: Requirements for the Gas, diesel, hydrocarbon and chemical reagent storage area to control spills, leaks of hydrocarbons/chemicals. Condition 1 (Table 1), Item 7: Requirements for the Stormwater Management	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				
		water quality	habitat for conservation significant flora to the north and south of the crushing and screening plant.				System to capture stormwater contaminated by hydrocarbons.	
Operation (Category 6: Mine dewatering)								
Storage of brine water discharge to Fort Scott Pit	Discharge of Brine water from WTP	Lateral movement of pit lake water through pit walls, leading to mounding of groundwater into the root zone of the surrounding native vegetation causing stress of death.	Native vegetation and potential habitat for conservation significant flora surrounding the pit	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Yes	Condition 1 (Table 1), Item 4: Requires that a freeboard is maintained on the discharge pit to prevent groundwater mounding. Condition 3 (Table 2): Inspection of discharge pit to confirm required freeboard capacity is available. Condition 4 (Table 3): Authorised discharge points for mine dewater and brine water. Condition 5 (Table 4): Dewater discharge monitoring of dewatering volume and pit lake level.	See section 3.3 – detailed risk assessment The Delegated Officer has included a requirement for the Licence Holder to inspect the discharge pit to confirm the required freeboard capacity is available to prevent groundwater mounding and overtopping from occurring. Condition 4 (Table 3) has been included as an additional regulatory control to specify the discharge points that are authorised at the Premises on the Licence. This is to ensure the Licence reflects what category 6 activities are authorised for operation at the Premises.
		Overtopping of Fort Scott pit resulting in overland runoff impacting on native vegetation causing plant stress or death.	Native vegetation and potential habitat for conservation significant flora surrounding the pit	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Yes	Condition 1 (Table 1), Items 4 and 5: Requires that a freeboard is maintained to prevent overtopping of the pit water pond and discharge pit. Condition 3 (Table 2): Inspection of discharge pit to confirm required freeboard capacity is	Condition 5 (Table 4) has been included as a regulatory control on the Licence to monitor the volume of brine being discharged to Fort Scott pit and the pit lake levels during operations.

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				
							available. Condition 4 (Table 3): Authorised discharge points for mine dewater and brine water. Condition 5 (Table 4): Dewater discharge monitoring of dewatering volume and pit lake level.	
Operation of dewater and brine water discharge pipelines to Fort Scott Pit		Pipeline leak or rupture resulting in discharge onto native vegetation causing topsoil contamination and plant stress or death.	Native vegetation surrounding dewatering pipeline infrastructure	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Yes	Condition 1 (Table 1), Item 3: Includes infrastructure requirements for the pipeline infrastructure. Condition 2: Requires secondary containment sufficient to hold spilled material between inspections and pipelines to be equipped with telemetry systems/automatic cutoffs for leak detection. Condition 3 (Table 2): Inspection of pipeline infrastructure to check visual integrity and leak assessment.	N/A
Operation (Category 7: Vat or in situ leaching of material)								
Heap leach operations	Overtopping of processing ponds containing contaminated liquids (Pregnant Liquor Pond, Barren Liquor Pond and Intermediate	Direct discharge onto native vegetation causing topsoil contamination and plant stress or death.	Native vegetation and potential habitat for conservation significant flora adjacent to heap leach facility.	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Yes	Condition 1 (Table 1), Items 2 and 5: Operational requirements for the heap leach facility and associated processing ponds. Condition 3 (Table 2): Inspection of processing ponds to confirm required	The Delegated Officer has included a requirement for the Licence Holder to inspect the processing ponds to confirm the required freeboard capacity is available to prevent overtopping from occurring.

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				
	Liquor Pond)						freeboard capacity is available.	
	Leachate/spillage of contaminated liquids	Seepage or leachate potentially causing ecosystem disturbance or impacting surface/groundwater quality	Series of salt lakes 3km north-west of the Stage 1 heap leach pad. Groundwater Native vegetation and potential habitat for conservation significant flora adjacent to heap leach facility.	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Yes	Condition 1 (Table 1), Items 2 and 5: Operational requirements for the heap leach facility and associated processing ponds. Condition 3 (Table 2): Inspection of heap leach pad for leak detection. Condition 8 (Table 4): Requirement to undertake groundwater monitoring of the nine bores surrounding the heap leach facility for leak detection.	The Delegated Officer has included a requirement for the Licence Holder to inspect the heap leach pad for leak detection as a measure to prevent any potential seepage.
	Dust	Air/windborne pathway causing impacts to health and amenity	Closest residence is R2- 2.8kms south of the heap leach pad.	Refer to Section 3.1	C = Slight L = Possible Low Risk	Yes	N/A	N/A
	Contaminated stormwater (containing elevated levels of cyanide)	Overland runoff from the heap leach pad during rainfall events causing ecosystem disturbance or impacting surface/groundwater quality	Series of salt lakes 3km north-west of the Stage 1 heap leach pad.	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Yes	Condition 1 (Table 1). Item 2: Operational requirements for the stormwater infrastructure at the heap leach facility including bunding and containment of contaminated stormwater in the SWP.	N/A
		Overtopping of the SWP potentially causing ecosystem disturbance or impacting	Native vegetation and potential habitat for conservation	Refer to Section 3.1	C = Slight L = Possible Low Risk	Yes	N/A	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				
		surface/ground water quality.	significant flora adjacent to SWP.					
Operation (Category 52: Electric Power Generation)								
Operation of 13 x 1 MW diesel generators	Noise	Air/windborne pathway causing noise impacts	Closest residence is R2- 3.6kms southeast of the power plant	Refer to Section 3.1	C = Slight L = Rare Low Risk	Yes	Condition 4 (Table 3): power station stacks as authorized discharge points.	N/A
	Particulates, NOx, SO2, CO airborne emissions.							

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

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

3.3 Detailed risk assessment for noise emissions to human receptors

3.3.1 Overview of risk event

Noise emissions from the mining operation are likely to be generated primarily from the activities associated to ore processing under Category 5, namely the crushing and screening of gold bearing ore, stockpiling of material, loading of trucks and vehicle movements on unsealed surfaces. Noise emissions have the potential to affect the health and amenity of nearby sensitive receptors, especially during nighttime hours when background noise levels are lower.

As indicated in Table 2 under Section 3.1.2 of this report, there are six residential and industrial Premises (R1 to R6) located within seven kilometres of the crushing and screening plant location, with the closest receptor (R3) being located 2.4kms south of the plant.

3.3.2 Noise Assessment Review

The risk assessment undertaken for noise emissions as part of W6504/2021/1 identified that due to the predicted exceedance of assigned noise levels (outlined within the Environmental Protection (Noise) Regulations 1997 (Noise Regulations)) at R3, R4 and R6, a design and construction requirements condition to construct noise bunds 1, 2 and 3 was imposed on W6504/2021/1 to reduce the received noise levels at non-compliant receivers to the below assigned levels. The condition was worded to allow a level of flexibility as to whether the noise bunds would be constructed or not based on the outcomes of the noise assessment undertaken during TLO in accordance with Conditions 15 and 16 of W6504/2021/1.

Construction requirements for noise bund 4 (which was required to shield receptors R6 from mining activities being undertaken near the Eastern Waste Rock Landform) was not conditioned within the works approval as noise bund 4 will not be required to be built until prior to the beginning of activities in this area, which is expected to be two years after operations commence. A condition was to be placed on the licence to ensure noise bund 4 is constructed prior to activities commencing at the Eastern Waste Rock Landform.

The Applicant submitted an Environmental Noise Assessment Report (ENAR) on 22 November 2022 to demonstrate compliance with the requirements set out under conditions 15 and 16 of W6504/2021/1. The ENAR noted that since being granted W6405/2022/1, the Applicant has acquired the dwellings associated with R3 and R4 which were the two sensitive noise receptors identified as being the most heavily impacted by noise emissions.

A review of the ENAR noted the following:

- Noise monitoring was conducted at six locations (Val1 to Val6) where noise emissions from mining and fixed plant was dominating;
- The measured results were used to verify the modelled results at the six locations. The comparisons indicated that the accuracy of the original modelling was within 2.6 decibels (dB) at all validation locations, with modelled results over the measured ones at most locations;
- Noise was measured from individual equipment to verify the sound power levels used in the original noise modelling. The results showed some variations between the sound power levels used in the original model and the measured sound power levels, with the levels in the model over the measured ones for more equipment, particularly those with the higher sound power levels such as crushers;
- Noise modelling was updated with the measured sound power levels and run under worst case operational and meteorological conditions to predict noise emission levels at 16 neighbouring noise sensitive receivers;

- The results show that noise emissions from operations at all assessed noise sensitive receivers comply with the assigned noise levels for both day and night operations;
- The newly modelled noise levels were slightly lower than what were previously predicted at all noise sensitive locations. As a result, noise emission levels at R6 are marginally below the night-time assigned noise level at the worst-case scenario; and
- As the operations are compliant with the assigned levels at all assessed receivers, bunds 1, 2 and 3 are not required to be built.

In response to the submission of the ENAR under W6549/2021/1, the Department undertook a technical review and assessment of the report and determined that:

- Noting the two properties (R3 and R4) that have been acquired will be treated as an accommodation village for the proposed operation, the assigned noise levels for highly sensitive areas are not likely to be applicable which would satisfactorily address the major issue of noise exceedance at these properties;
- The department agrees with the conclusion that noise bunds 1, 2 and 3 are not required to be constructed based on the results of the ENAR;
- The Applicant's proposal to not construct noise bund 4 in the future given the noise emission level at R6 is now predicted to be compliant seems acceptable and therefore will not be conditioned on the licence; and
- The Applicant's alternative noise management control of restricting certain operations to daytime hours only to reduce noise emission levels at R6 seems reasonable.

3.3.3 DWER's determination

Having taken into account the results from the ENAR, the Applicant's proposed controls outlined in Table 1 of this report and the technical review undertaken by the department, the Delegated Officer considers that the likelihood of noise emissions from ore processing activities under Category 5 impacting on neighbouring sensitive receptors is 'unlikely'. As noted above in the Noise Assessment Review, compliance with the assigned noise levels at assessed receivers should be achievable without the construction of noise bunds 1, 2 and 3. Given this, the Delegated Officer considers the consequence of the Risk Event to be "Minor" and the overall rating for the risk posed by noise emissions impacting on sensitive receptors to be "Medium".

It is noted that the Applicant has proposed a noise management control of restricting operations on the lower east Waste Rock Dump (WRD) to daytime hours only. Noting the activities occurring at the WRD are mining related (placement of waste rock onto the WRD from Janet Ivy open pit) and not associated with Category 5 ore processing operations, the Delegated Officer has determined not to condition this control on the Licence. The Applicant will however be required to ensure compliance against the assigned noise levels under the Noise Regulations for these mining activities.

The Delegated Officer has determined the proposed Applicant controls are deemed suitable to manage noise emissions during operations and that additional regulatory controls are not required.

3.4 Detailed risk assessment for mine dewatering effluent and brine water to discharge pits

3.4.1 Overview of risk events

The dewatering infrastructure that has been constructed at the Premises for pit water supply for processing under Category 6 has the potential to impact on native vegetation that surrounds the

discharge pits and pipeline infrastructure as a result of the following risk events:

- the discharge of brine water to Fort Scott Pit may result in the mounding of groundwater levels close to the surface;
- overtopping of the Fort Scott Pit containing brine water received from WTP; and
- the rupturing of pit water and mine water pipeline infrastructure containing mine dewatering effluent and brine water.

3.4.2 Review of water quality data

As discussed under section 2.3.3, mine dewater that is sourced from Navajo Chief Pit and Centurion pits will be pumped through a pit water pipeline to the WTP. The waste stream from the WTP (Brine water) will then be discharged into Fort Scott Pit. Water quality sampling data for the pit lake water (Fort Scott Pit) and the brine water (from the WTP) are detailed in Table 4.

Table 4: Water quality data for brine water and receiving environment

Discharge point locations		Fort Scott Pit	WTP
Description		Pit lake water (receiving environment)	Brine water from WTP
Sample Date		September 2022	28 February 2023
Parameter	Unit		
pH	pH	7.1 (field)	7.43
Electrical conductivity	µS/cm	186,900 (field)	209,000
Total dissolved solids	mg/L	220,000	250,000
Total suspended solids	mg/L	-	-
Alkalinity (total)	mg/L	120	185
Aluminium (filtered)	mg/L	< 0.05	-
Antimony (filtered)	mg/L	< 0.005	<5.2
Arsenic (filtered)	mg/L	< 0.001	7.2
Barium (filtered)	mg/L	0.03	-
Beryllium (filtered)	mg/L	0.006	<1.0
Bicarbonate	mg CaCO ₃ /L	120	185
Boron (filtered)	mg/L	4.6	4690
Cadmium (dissolved)	mg/L	0.0018	20.7
Calcium (filtered)	mg/L	1,400	701
Carbonate	mg CaCO ₃ /L	< 5	<1
Chloride	mg/L	140,000	71,350
Chromium	mg/L	< 0.002	296
Cobalt (filtered)	mg/L	0.098	13.8
Copper (filtered)	mg/L	0.037	74
Hydroxide	mg CaCO ₃ /L	< 5	<1
Iron (filtered)	mg/L	0.06	-
Lead (filtered)	mg/L	0.002	56.4
Magnesium (filtered)	mg/L	1400	12500
Manganese (filtered)	mg/L	3	520

Mercury (filtered)	mg/L	0.0004	-
Molybdenum (filtered)	mg/L	< 0.005	4.3
Nickel (filtered)	mg/L	0.15	395
Nitrate	mg/L	< 0.01	-
Potassium (filtered)	mg/L	140	537
Reactive Silica	mg/L	2	-
Selenium (filtered)	mg/L	< 0.001	<10
Silver (filtered)	mg/L	0.008	6.7
Sodium (filtered)	mg/L	6,400	-
Sulphate	mg/L	14,000	33,486
Tin (filtered)	mg/L	< 0.005	<52
Zinc (filtered)	mg/L	1.1	1110

A review of the groundwater quality data indicates that brine water from the WTP has elevated levels of pH, electrical conductivity, a number of dissolved major cations and metal concentrations than the receiving pit (Fort Scott). The elevated levels of concentrated metals in the brine water as shown in Table 4 are expected given it is the left-over salt and metals that have been removed by the WTP. Although metal concentrations recorded in the brine water samples are elevated, the water discharged into Fort Scott pit is likely to become diluted when it is mixed into the large volume of pit water and the change in groundwater chemistry is unlikely to impact upon potential receptors (The only known groundwater users within 5kms of the Premises are for mining processing purposes only i.e no stock watering bores) as discussed further under section 3.4.3 below

3.4.3 Applicant's regulatory controls

3.4.3.1 Groundwater mounding and overtopping of Fort Scott discharge pit

The Fort Scott Pit is the first pit that has been selected for receiving brine water discharge for processing given its late stage in the mining sequence. It is expected that 1 Gigalitre (GL) of brine is required to be discharged per annum. The Applicant has confirmed that the Fort Scott Pit has a current storage capacity of 1,244,635m³, with 1,062,031m³ currently remaining (excluding freeboard). The Fort Scott Pit has sufficient storage capacity to hold the expected volume of brine water for just over a year. It is expected that mining activities will be completed at Fort William during this period and will be the next pit selected for receiving mine water discharge and or Brine (subject of a future licence amendment).

As indicated in Table 2 there are no groundwater users within five kilometres of the Premises, only for mine processing use. Water quality data indicates that water is hypersaline across all of the pits. Depth to groundwater at Fort Scott Pit is likely to be similar to the results from test drilling of the adjacent Janet Ivy Pit with groundwater levels recorded at between 28.69 and 31 mbgl. Noting the distance to groundwater, hypersaline water quality of the discharge pit and that no groundwater users or surface water bodies are close by, the risk of groundwater mounding or overtopping of Fort Scott Pit is considered to be low.

Groundwater mounding and overtopping of the Fort Scott Pit may impact upon adjacent native vegetation. However, as the Applicant has committed to maintaining a freeboard of 6m below the pit crest, the risk of groundwater mounding or overtopping of pit water to the environment impacting on adjacent native vegetation will be reduced. The Delegated Officer has determined the proposed applicant controls are deemed suitable and necessary to manage groundwater mounding / overtopping of the Fort Scott discharge pit during operations; therefore, these aspects have been conditioned as regulatory requirements within Licence L9362/2022/1 (Condition 1, Table 1). To further reduce the risk of overtopping and groundwater mounding, an additional regulatory control of inspecting the discharge pit has been imposed on the Licence

under Condition 3 (Table 2). Monitoring of discharge volume and pit lake level have also been added to the licence (Condition 5).

4. 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 on 15 December 2022.	None received	N/A
City of Kalgoorlie – Boulder advised of proposal on 15 December 2022.	The City of Kalgoorlie (the City) replied on 3 January 2023 and noted that DWER and the Department of Mines, Industry Regulation and Safety (DMIRS) are to approve the noise, dust and air quality reports/conditions. The City also noted the proposal must demonstrate compliance with the <i>Environmental (Noise) Regulations 1997</i> (Noise Regulations) as noise sensitive Premises are located within 2kms of the site.	A detailed risk assessment on the impact of noise emissions to nearby sensitive receptors has been undertaken under section 3.3 of this report. The assessment determined that compliance with the noise regulations is likely to be met at nearby sensitive receptors.
City of Coolgardie advised of proposal on 15 December 2022.	None received.	N/A
DMIRS advised of proposal 15 December 2022.	DMIRS replied on 20 December 2023 advising that the mining proposal REG 101262 that was granted on 12 March 2023 is consistent with the licence application as such has no objections/concerns regarding the approval of the licence. DMIRS noted that the approved mining proposal includes the mining tenement M26/468 which was not listed as in the licence referral documents.	Noted. The Delegated Officer notes that mining tenement M26/468 is located outside of the Prescribed Premises boundary, there is not included in the licence application.
Applicant was provided with draft documents on 21 March 2023.	Comments from Applicant received on 28 June 2022. Comments are summarised in Appendix 1	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) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
3. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
4. DWER 2023, Technical advice received from DWER's Environmental Noise Branch for L9362/2022/1, dated 27 January 2023, DWER Reference: A2152572.
5. Norton Gold Fields Pty Ltd 2022, Binduli Operations – W6504/2021/1 – Environmental Compliance Report, dated 27 June 2022, DWER Reference: DWERDT623052.
6. Norton Gold Fields Pty Ltd 2022a, Applicant's response to the department's request for further information for W6504/2021/1 – Environmental Compliance Report, dated 4 November 2022, DWER Reference: A2136399.
7. Norton Gold Fields Pty Ltd 2022b, Applicant's response to the department's request for further information for L9362/2022/1, dated 22 November 2022, DWER Reference: DWERDT689933.
8. Norton Gold Fields Pty Ltd 2023, Environmental Compliance Report for W6504/2021/1 – Mine dewatering pipelines, dated 23 January 2023, DWER Reference: DWERDT714615.
9. Norton Gold Fields Pty Ltd 2023a, Water quality data for Category 6 activities provided by Applicant for L9362/2022/1, dated 17 February 2023, DWER Reference: A2163320.
10. Norton Gold Fields Pty Ltd 2023b, Environmental Commissioning Report for W6504/2021/1 – Mine dewatering pipelines, dated 20 February 2023, DWER Reference: DWERDT737219.
11. Norton Gold Fields Pty Ltd 2023c, Additional information provided regarding Environmental Commissioning Report for dewatering infrastructure for W6504/2021/1 dated 20 February 2023, DWER Reference: A2163325.
12. Norton Gold Fields Pty Ltd 2023d, Additional information provided regarding groundwater users in local area provided by Applicant for L9362/2022/1, dated 21 February 2022, DWER Reference: A2163332.
13. Norton Gold Fields Pty Ltd 2023e, Brine water sampling results for Category 6 activities provided by Applicant for L9362/2022/1, dated 3 March 2023, DWER Reference: A2163336.
14. Norton Gold Fields Pty Ltd 2023f, Additional information provided regarding groundwater depth at discharge location provided by Applicant for L9362/2022/1, dated 6 March 2023, DWER Reference: A2163558.
15. Norton Gold Fields Pty Ltd 2023g, Additional information provided from Applicant requesting to include an additional source pit for Category 6 activities for L9362/2022/1, dated 17 March 2023, DWER Reference: A2164168.
16. Norton Gold Fields Pty Ltd 2023h, Applicant's response to draft licence and draft decision report for L9362/2022/1, dated 27 March 2023, DWER Reference: A2166031.
17. Talis Consultants 2022, *Binduli North Operations – Environmental Noise Compliance Report – Project Number: TN20011-15*, prepared for Norton Gold Fields Pty Ltd, dated 15 November 2022, DWER Reference: A2149211.

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

Condition	Summary of Applicant's comment	Department's response
Licence		
<p>Front page of Licence: Premises details.</p> <p>DWER requested the Applicant confirm whether the Premises name should be "Binduli North Minesite" consistent with the existing Works Approval for the Premises (W6504/2021/1).</p>	<p>The Applicant requested the Premises details be referred to as the "Binduli Operations".</p>	<p>Noted and updated the Premises details on the front page of the Licence accordingly.</p>
<p>Figure 2 of Schedule 1: Premises layout map.</p> <p>DWER requested the Applicant provide an updated Premises layout map that shows location of the Stage 1 operation of the heap Leach pad, including the number of cells.</p>	<p>The Applicant provided an updated Figure 2 that clearly showed the location of the Stage 1 operation of the heap leach pad as requested.</p>	<p>Replaced Figure 2 under Schedule 1 in the Licence with the figure provided by the Applicant.</p>
<p>Figure 3 of Schedule 1: Discharge point and pipeline infrastructure locations map.</p> <p>DWER requested the Applicant provide an updated figure that includes the layout of the dewater pipeline from Navajo and Centurion pits and the brine water pipeline from WTP to Fort Scott Pit.</p>	<p>The Applicant provided an updated Figure 3 showing the authorised discharge point location and constructed pipeline infrastructure as requested.</p>	<p>Replaced Figure 3 under Schedule 1 in the Licence with the figure provided by the Applicant.</p>
<p>Figure 4 of Schedule 1: Map of groundwater monitoring bore locations.</p> <p>DWER requested the Applicant provide an updated groundwater monitoring map with better resolution that also details the stages of Heap Leach Pad construction.</p>	<p>The Applicant provided an updated Figure 4 with better resolution showing the staged construction of the heap leach pad as requested.</p>	<p>Updated Figure 4 under Schedule 1 of the Licence accordingly.</p>
<p>Table 8 of Schedule 2: Premises boundary.</p> <p>DWER advised the Applicant that the GPS coordinates provided appear to contain errors and are unable to be uploaded onto DWER's Geographic Information System.</p>	<p>The Applicant provided GPS coordinates in GDA2020 Zone 50 format as requested.</p>	<p>Updated Table 8 of Schedule 2 of the Licence accordingly.</p>

Licence: L9362/2022/1

Condition	Summary of Applicant's comment	Department's response
DWER requested that the Applicant check that the GPS coordinates provided are correct and provide correct coordinates that are in GDA2020 Zone 50 format.		
Decision Report		
<p>Front page of Decision Report: Premises details.</p> <p>DWER requested the Applicant confirm whether the Premises name should be "Binduli North Minesite" consistent with the existing Works Approval for the site (W6504/2021/1).</p>	The Applicant requested the Premises details be referred to as the "Binduli Operations".	Noted and updated the Premises details on the front page of the Decision Report accordingly.
<p>Figure 2 of the Decision Report: Prescribed Premises map showing locations of key infrastructure.</p> <p>DWER noted the Prescribed Premises map is to be updated to show location of the Stage 1 operation of the Heap Leach Pad once provided by the Applicant (as requested under Figure 2 under Schedule 1 of the Licence).</p>	The Applicant provided an updated Figure 2 that clearly showed the location of the Stage 1 operation of the heap leach pad as requested.	Replaced Figure 2 of the Decision Report with the figure provided by the Applicant.
<p>Section 3.3.3 of the Decision Report: DWER's determination on the Detailed risk assessment for noise emissions to human receptors.</p> <p>DWER advised that the Applicant is required to confirm whether the mining activities at the East WRD are associated to Category 5 activities.</p>	The Applicant advised that the WRD will serve for the placement of waste rock from the Janet Ivy open pit and that category 5 activities will not occur at this location. The Applicant noted that noise levels will be managed at this location by restricting operations to daytime activities to ensure compliance with the noise regulations. Activities will only occur outside of prescribed day time hours following adequate noise assessments to ensure compliance with the Noise Regulations can be met.	Noted and updated section 3.3.3 of the Decision Report to reflect the Applicant's comments.

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY					
Application type					
Works approval	<input type="checkbox"/>				
Licence	<input checked="" type="checkbox"/>	Relevant works approval number:	W6504/2021/1	None <input type="checkbox"/>	
		Has the works approval been complied with?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
		Has time limited operations under the works approval demonstrated acceptable operations?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/>		
		Environmental Compliance Report / Critical Containment Infrastructure Report submitted?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
		<p>The Environmental Compliance Report (ECR) provided on 27 June 2022 (DWERDT623052) is limited to the construction of the following items listed under Condition 1, Table 1 in W6504/2021/1:</p> <ol style="list-style-type: none"> 1. Ore crushing/screening plant 2. Heap leach pad 3. Pit water dam 4. Raw water pond (RWP) and barren liquor pond (BLP) 5. Intermediate liquor pond (ILP) and pregnant liquor pond (PLP). 6. Storm water pond (SWP) and emergency pond (EMP) 7. Surface Water Catchment Pond (SWCP) and Sediment Pond 8. Diesel power plant 13. Power plant diesel storage and Light vehicle refueling diesel storage. <p>Time Limited Operations (TLO) has been conducted for the Category 12 operation of the crushing and screening plant and a TLO report provided and determined to be compliant.</p> <p>TLO for the ore crushing and screening plant commenced 27 June 2022 and ends 18 April 2023.</p>			
Renewal	<input type="checkbox"/>	Current licence number:			
Amendment to works approval	<input type="checkbox"/>	Current works approval number:			
Amendment to licence	<input type="checkbox"/>	Current licence number:			
		Relevant works approval number:		N/A <input type="checkbox"/>	
Registration	<input type="checkbox"/>	Current works approval number:		None <input type="checkbox"/>	
Date application received	30 September 2022 RFI response provided on 22 November 2023 (DWERDT689933).				

Applicant and Premises details	
Applicant name/s (full legal name/s)	Norton Gold Fields Pty Limited
Premises name	Binduli Operations
Premises location	Mining tenements: M26/115, M26/243, M26/387, M26/420, M26/430, M26/445, M26/446, M26/447, M26/474, M26/629, M26/833.
Local Government Authority	City of Kalgoorlie Boulder and City of Coolgardie
Application documents	
HPCM file reference number:	DER2022/000510
Key application documents (additional to application form):	Supporting Documents (DWERDT665980) including: <ul style="list-style-type: none"> • <i>Mining Tenement summary reports for M26/115, M26/243, M26/387, M26/420, M26/430, M26/445, M26/446, M26/447, M26/474, M26/629 and M26/833;</i> • <i>20220921_Discharge Points;</i> • <i>20220921_Processing Infrastructure Location;</i> • <i>20220921_Premises Boundary;</i> • <i>20220921_Surrounding Landuse;</i> • <i>DMIRS Approval Letter REG ID 101262 MP;</i> • <i>City of Kalgoorlie-Boulder letter of Approval for land access/use of Lake Douglas Recreation Reserve for mining activities;</i> • <i>EPA Referral Decision - Proposal not to be assessed under Part IV of the EP Act;</i> • <i>Stakeholder Consultation;</i> • <i>Attachment 1B_ASIC Company Summary;</i> • <i>Attachment 3_Operation Activities;</i> • <i>Attachment 6A_Emissions and Controls;</i> • <i>Attachment 7_Siting and Location; and</i> • <i>Attachment 10_Fee Calculation.</i>
Scope of application/assessment	
Summary of proposed activities or changes to existing operations.	<p>The Applicant has applied for a licence to authorise the operation of the ore processing and heap leach facility infrastructure for the Binduli Operation following the completion of works under Works Approval W6504/2021/1. The Applicant is seeking approval for the operation of the following processing infrastructure:</p> <ul style="list-style-type: none"> • Three staged crushing circuit; • Heap leach pad; • Processing ponds (including pit water dam, raw water pond, intermediate liquor pond, pregnant liquor pond, barren liquor pond, storm water pond); • Water Treatment Plant; • Mine dewater pipelines; and • Diesel power plant. <p>*The Applicant has noted under Page 10 of Attachment 3 that the emergency pond as required to be constructed under W6504/2021/1 will be constructed during the stage 2 construction of the heap leach pad.</p>

Category number/s (activities that cause the premises to become prescribed premises)

Table 1: Prescribed premises categories

Prescribed premises category and description	Proposed production or design capacity	Proposed changes to the production or design capacity (amendments only)
Category 5: Processing or beneficiation of metallic or non-metallic ore	5,000,000 tonnes per annual period	
Category 6: Mine dewatering	1,500,000 tonnes per annual period	
Category 7: Vat or in situ leaching of material	5,000,000 tonnes per annual period	
Category 52: Electric power generation	13 MW capacity	

Legislative context and other approvals

Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Referral decision No: CMS 17944 Decision made for the proposal not to be assessed under Part IV of the EP Act.
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Ministerial statement No: EPA Report No:
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Reference No:
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Mining lease / tenement <input checked="" type="checkbox"/> M26/115: Bellamel Mining Pty Ltd Expiry: 16/03/2029 M26/243: Bellamel Mining Pty Ltd Expiry: 11 June 2032 M26/387: Bellamel Mining Pty Ltd Expiry: 10 December 2034 M26/420: Bellamel Mining Pty Ltd Expiry: 16 September 2035 M26/430: Bellamel Mining Pty Ltd Expiry: 24 October 2035 M26/445: Bellamel Mining Pty Ltd Expiry: 19 January 2037 M26/446: Norton Gold Fields Pty Ltd Expiry: 29 November 2036 M26/447: Bellamel Mining Pty Ltd Expiry: 24 January 2037 M26/474: Bellamel Mining Pty Ltd Expiry: 03 November 2039

		M26/629: Bellamel Mining Pty Ltd Expiry: 19 November 2042 M26/833: Norton Gold Fields Pty Ltd 27 January 2036
Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	N/A
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	CPS No: 8950/1 – Paddington Gold Pty Ltd (subsidiary of Norton Gold Fields Pty Ltd) - Expiry 2 October 2025. Authorises clearing of native vegetation on mining tenements M26/115, M26/446, M26/447, M26/474, M26/629 and M26/833. Clearing Permit CPS 6528/1 – Paddington Gold Pty Ltd (subsidiary of Norton Gold Fields Pty Ltd) - Expiry 31 July 2020. Authorised clearing of native vegetation on mining tenements M26/446, M26/447, M26/629 and M26/833. Clearing Permit CPS 3504/3 – Paddington Gold Pty Ltd (subsidiary of Norton Gold Fields Pty Ltd) – Expiry 20 February 2023. Authorises clearing of native vegetation on M26/387, M26/420, M26/430 and M26/474.
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Application reference No: N/A Licence/permit No: N/A
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Licence/permit No: GWL167686(4)]
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Name: Goldfields Type: Proclaimed Groundwater Area Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>

<p>Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Name: N/A Priority: N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to WQPN 25)? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/></p>
<p>Is the Premises subject to any other Acts or subsidiary regulations (e.g. <i>Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx</i>)</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p><i>Mining Act 1978 - Mining Proposal Ref: 101262</i> <i>Rights in Water and Irrigation Act 1914</i></p>
<p>Is the Premises within an Environmental Protection Policy (EPP) Area?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>N/A</p>
<p>Is the Premises subject to any EPP requirements?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>N/A</p>
<p>Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i>?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Classification: N/A Date of classification: N/A</p>