



Application for Licence Amendment

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

Licence Number	L8249/2008/3
Licence Holder	Focus Operations Pty Ltd
ACN	115 821 255
File Number	2011/005901-2
Premises	Three Mile Hill Gold Project COOLGARDIE WA 6429 Legal description – Mining Tenements M15/1114, M15/154, M15/645, M15/646, M15/660, M15/958, M15/1294 and M15/1432, M15/1788 and L15/161 As defined by the Premises maps attached to the Revised Licence
Date of Report	30 May 2024
Decision	Revised licence granted

**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

Licence L8249/2008/3 is held by Focus Operations Pty Ltd (Licence Holder) for the Three Mile Hill (TMH) Gold Project (the Premises), located at: Mining tenements M15/1114, M15/154, M15/645, M15/646, M15/660, M15/958, M15/1294, M15/1432, M15/1788 and L15/161, COOLGARDIE WA 6429.

This Amendment Report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during the construction and operation of the Premises. As a result of this assessment, Revised Licence L8249/2008/3 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this Amendment Report, the department 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

On 15 March 2023 and 22 January 2024, the Licence Holder submitted applications to the department to amend Licence L8249/2008/3 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments are being sought:

- Increase the embankment height at the existing TMH Tailings Storage Facility (TSF) by an additional 6 metres to RL428m (Stage 3); and
- Construction and operation of the Greenfields In-Pit TSF.

This amendment is limited only to changes to Category 5 activities from the Existing Licence. No changes to the aspects of the existing Licence relating to Categories 6 and 89 have been requested by the Licence Holder.

Table 1 below outlines the proposed changes to the existing Licence.

Table 1: Proposed design or throughput capacity changes

Category	Current design throughput capacity	Proposed design throughput capacity	Description of proposed amendment
05	1.5 million tonnes per annual period	1.5 million tonnes per annual period	Modifications to the licence to increase the embankment height at the existing TMH TSF by an additional 6 metres to RL 428 (Stage 3). Addition of construction and operational conditions to the Licence for the Greenfields In-Pit TSF. This does not result in an increase in the design capacity.
06	475,000 kL per annual period	475,000 kL per annual period	N/A

Category	Current design throughput capacity	Proposed design throughput capacity	Description of proposed amendment
89	200 tonnes per annual period	200 tonnes per annual period	N/A

Processing Aspects

The gold bearing ore is processed via a series of crushing and screening units, ball mill and leaching using cyanide to extract gold.

No cyanide destruction is installed in the process flow for the tailings and, therefore, WAD-CN is elevated in tailings deposited to the TSFs. WAD-CN is only currently tested in surrounding groundwater bores. Cyanide destruction is recommended to be implemented to the TMH Processing Plant to reduce WAD-CN levels in tailings entering the TMH TSF and Greenfields TSF. The current TMH Processing Plant operating in absence of cyanide destruction is not considered operational best practice (irrespective of the receiving environment having limited beneficial use). The Licence Holder should be taking actions to improve their management of cyanide use in their operations as per the *“International Cyanide Management Code For the Manufacture, Transport, and Use of Cyanide In the Production of Gold”* (Cyanide Code).

Tailings slurry density existing the plant at 42.1% solids average for the last 6 months with 72 – 79% average water return from the tailings slurry.

Figure 1 shows the infrastructure layout at the TMH TSF and location of the Greenfields In-Pit TSF.

Tailings Geochemical Characterisation

Tailings will originate from the TMH Processing Plant and are likely to be very similar to those that are currently stored within the TMH TSF:

- The tailings are expected to be non-acid forming with the total sulphur content modest (between 0.37% and 0.64%) and mostly present in the form of sulfate (70% or more). The samples contained a moderate acid neutralising capacity (between 28 and 64 kg H₂SO₄/t);
- Leach solutions were circum-neutral (around pH 7.6) and contained high concentrations of major cations and anions (mainly Na and Cl). Most trace elements were present at very low concentrations (close to, or below, analytical detection limits). While Al, As, B, Cd, Co, Mn, Mo, Ni, Sb, Se, Sr, U, V, and Zn were detectable in solution;
- Results suggest that the tailings contain a store of ready soluble salts that will dissolve in water encountering them (such as rainwater). This water is likely to be saline initially, but salinity levels are expected to decrease with successive flushes;
- The tailings does not pose a dispersion risk or contain asbestiform minerals; and
- Naturally occurring radioactive material elements (U, Th, Rb and K) were present at low concentrations, the inferred radioactive potential was found to be low, and the tailings do not require any particular management measures for disposal.

Tailings Geotechnical Characterisation

Setting tests confirm that the material settles relatively quickly. Tailings will be deposited sub-aerially, as opposed to the sub-aqueous method, to maximise the evaporation of pore water through solar and air drying. These processes will be optimised by depositing thin layers and alternating disposal areas so that most of the pore water evaporates before a surface crust is formed which will inhibit further evaporation. As the dry beach develops, desiccation of the drying tailings will support further evaporation and densification.

Embankment Height Raise At Existing TMH TSF

The TMH TSF was originally an in-pit facility commissioned in 2002. After filling of the in-pit, the TMH TSF was expanded to an above ground facility in two stages (Stage 1 and Stage 2). The TMH TSF has been in Care and Maintenance since 2013.

The TMH TSF Stage 3 raise will be the final raise to the TSF, with a final crest level of RL428m, providing 27 months of tailings deposition.

The north embankment will be constructed on the foundation platform prior to the recommencement of Stage 2 deposition with a centreline raise methodology. The south embankment will be constructed on the existing embankment and Waste Rock Dump (WRD) using a downstream raise methodology. The Stage 3 raise design requires the embankment to be constructed with a low-permeability clay zone and waste material on either side of the low-permeability zone. This material will be sourced from the Greenfields Pit (during mining) and/or borrow pits.

Tailings deposition will occur via perimeter pipelines and spigots to control the supernatant pond to a central location around the decant tower. Supernatant water will be reclaimed via a pre-cast slotted concrete decant tower located in the centre of the facility, which is fitted with a submersible pump to return the collected water back to the TMH Processing Plant via a decant return pipeline.

Table 2 shows Stage 2 and Stage 3 capacity assessments.

Table 2: TMH TSF Capacity Assessment

Raise method	Storage volume (Mm ³)	Tonnage (Mt)	Time to fill (total months)	Maximum tailings level mRL
Stage 2	0.71	1.00	10	421.7
Stage 3	1.95	2.73	27	4.27.7

Sinkhole

A sinkhole was first identified in 2015 within the northwest corner of the TMH TSF. During the Stage 2 TMH TSF works, foundation preparation works included remediation of the sinkhole that was located near the northern end of the foundation platform. The design required the sinkhole to be backfilled with Mass Fill and a layer of tailings placed at the surface. This information was provided as part of the Stage 2 Compliance Report and DWER deemed compliance on 10 January 2024.

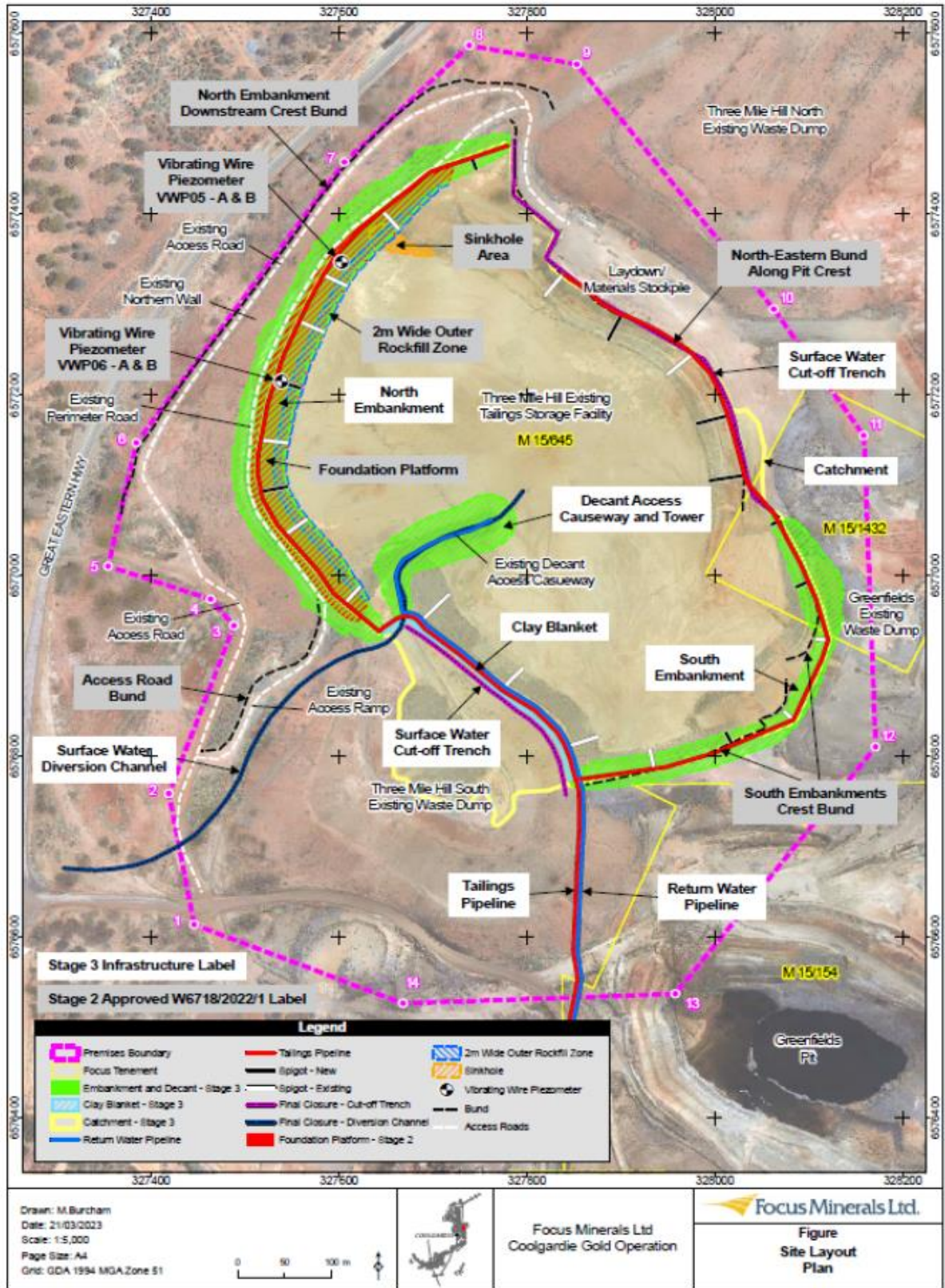


Figure 1: Infrastructure layout.

New Greenfields In-Pit TSF

Focus is currently mining the Greenfields Pit and proposes to convert the pit into an In-Pit TSF upon completion.

The Greenfields In-Pit TSF will provide tailings storage capacity of approximately 6,570,000 tonnes. With a tailings production of 1,200,000 tonnes per annum, the Greenfields In-Pit TSF is expected to be operational for 5.5 years.

Tailings deposition will be conducted in stages to control the tailings beach and supernatant pond development, facilitate supernatant water recovery and optimize the tailings capacity.

Deposition locations and staging will optimize storage capacity of the pit void whilst enabling the use of the existing access ramp and decant pump for supernatant water recovery. Tailings will be deposited from two-point discharges initially, then up to eight-point discharges in subsequent stages to increase density and maximize filling volume.

Tailings deposition

Tailings discharge in Greenfields TSF will be conducted in six stages to control tailings beach development and facilitate water recovery from the facility. Refer to Table 3.

Table 3: Sequencing of tailings deposition

Years	Stages	Operating Spigot(s)	Time Phase	Maximum Tailings Level (RL m)	Cumulative Tailings Storage Volume (Mm ³)
1 – 2 Tailings will be deposited into the facility from up to two (2) discharge point(s) located at east and west sides of the pit (i.e. switching discharge points between the east and west sides of the pit). The supernatant pond will be developed progressively and located at the opposite side of the pit, where a pontoon-mounted pump will be deployed and moved up the pit access ramp (when the tailings and the water level rise) to recover water from the facility and return to the processing plant for re-use	1	SP 7	0.5 month	267.5	32,500
	2	SP 2	3 months	288.0	200,900
	3	SP 7, SP 8	6 months	302.0	413,900
	4	SP 1, SP 2	2 years	343.5	1,649,400
3 – 6.5 tailings will be deposited into the facility from up to eight (8) discharge points comprising the initial point and additional points located at the eastern, southern and western pit sides and / or appropriate locations around the pit. The supernatant pond will subsequently be located close to the pit access ramp's entry point. The pontoon-mounted pump will be relocated to recover water from the facility and return it to the processing plant for re-use.	5	All	4 years	374.5	3,411,400
	6	SP 4, SP 5, SP 6, SP 7 and SP 8	5.5 years	309.2	4,715,400

Ambient Groundwater Monitoring

Six groundwater quality monitoring bores are located around the TMH TSF to monitor groundwater levels and water quality (refer to Figure 2). Groundwater in the area has elevated levels of metals and salts, as is expected in the saline environment. There are a number of parameters that are above the ANZECC & ARMCANZ (2000) water quality guidelines, livestock drinking water guidelines. However, due to the TDS of the groundwater, it is not considered suitable for this beneficial use. TDS generally ranges between 9,400 to 83,800 mg/L. Refer to Table 4.

Table 4: Groundwater Quality Summary

Parameter	Average (mg/L)	Livestock drinking water guidelines
Cd	0.78	0.01
Cu	1.43	0.40
Pb	12.27	0.10
Hg	0.00	0.00
Zn	5.03	20.00
As	7.77	0.50
Cr	0.46	1.00
Mg	2,633.53	2,000.00
Ni	25.71	1.00
Ca	1,066.19	0.01
Se	2.81	0.02
SO ₄	3,647.47	1,000

There are some elevations in WAD-CN in groundwater ranging from <0.004 mg/L up to a maximum of 1.1 mg/L, indicating that seepage is occurring to the groundwater beneath the TMH TSF. DWER has recommend the implementation of a cyanide destruction unit to the Processing Plant to reduce the levels of WAD-CN entering the TSFs as per the Cyanide Code.

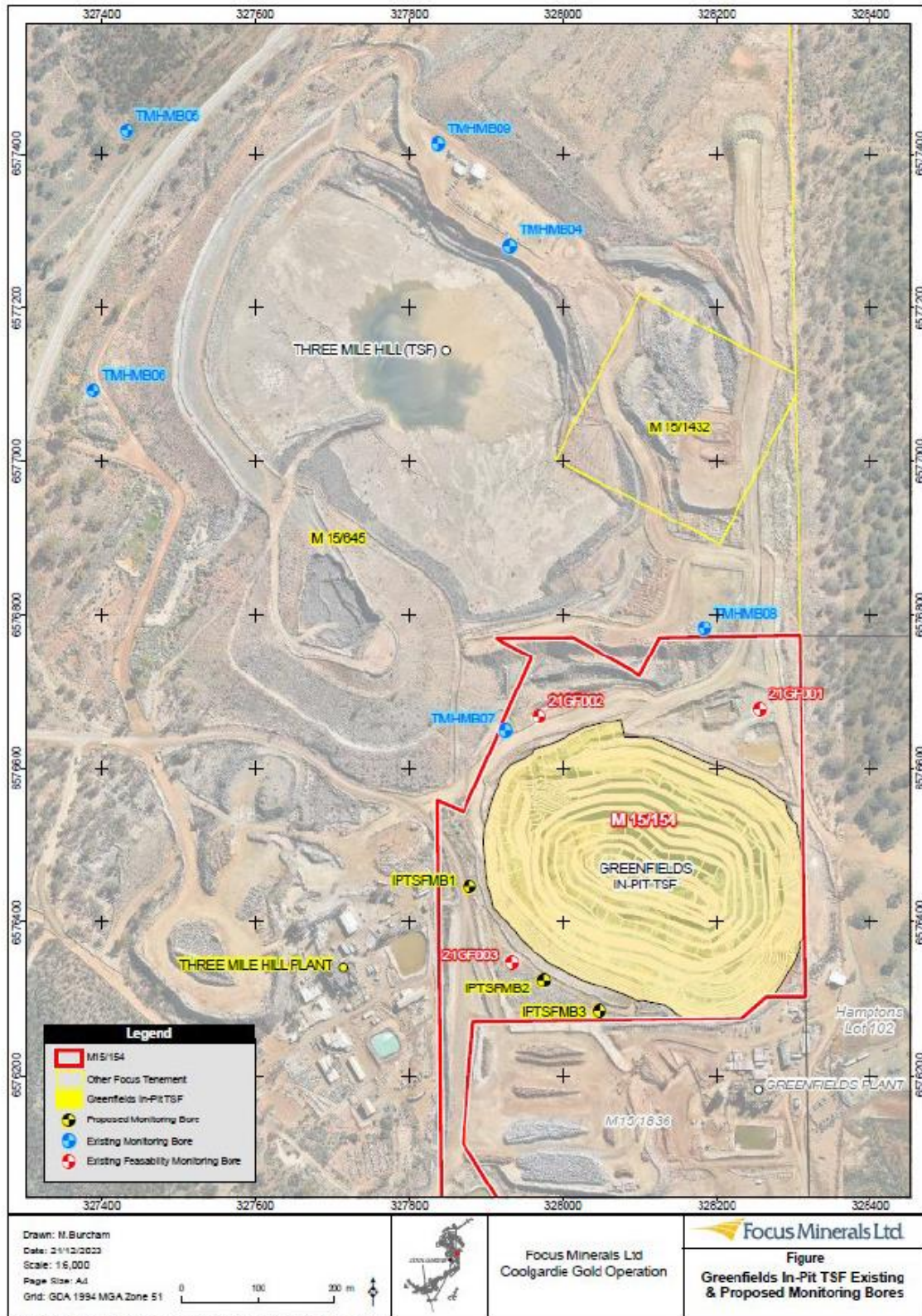


Figure 2: Ambient groundwater monitoring network

A further three ambient groundwater monitoring bores are to be established for the Greenfields TSF. Refer to Table 5 and Figure 2.

Table 5: Greenfields TSF additional ambient groundwater monitoring bores

BORE ID	Easting	Northing	Depth (mbgl)	Hydrogeological Conditions
IPTSFMB1	327,878	6,576,445	23	Interface in-between the saprock and fractured basement rock
IPTSFMB2	327,975	6,576,323	132	Fractured basement rocks
IPTSFMB3	328,047	6,576,284	132	

2.3 Hydrogeological Technical Review

Both the embankment height raise at the existing TMH TSF and the Greenfields In-Pit TSF were assessed by DWER's Senior Hydrogeologist. The key recommendations provided are outlined below:

- The water balance is recalculated at regular intervals during operations. Such an assessment would indicate whether the seepage rate from the TSF is increasing over time, and would help determine whether active measures would be required to protect nearby vegetation from the effects of groundwater mounding and soil salinization;
- Further geochemical testing of the tailings is not required, however, the concentrations of metalloids and metals should be periodically analysed in the pore-water of tailings discharges from the TMH Processing Plant. This is considered to be necessary as the high cyanide concentrations in the pore-water are likely to leach significant concentrations of these elements from tailings particles into solution; and
- Groundwater mounding may occur in the vicinity of the Greenfields In-Pit TSF and, therefore, has recommended that the licence holder develop a contingency plan to indicate what measures would be implemented to protect the environment in the event that excessive groundwater mounding were to take place near the Greenfields In-Pit TSF.

2.4 Part IV of the EP Act

Ministerial Statement 246 was published on 14 April 1992, however, a section 47A withdrawal request has been submitted by the Applicant to the EPA.

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

Emissions and controls

The key emissions and associated actual or likely pathway during premises construction and operation which have been considered in this Amendment Report are detailed in Table 6 below. Table 6 also details the proposed control measures the Licence Holder has proposed to assist

in controlling these emissions, where necessary.

Table 6: Licence Holder controls

Emission	Sources	Potential pathways	Proposed controls
Embankment Height Raise at Existing TMH TSF			
Construction			
Dust	Dust generation from earth moving equipment	Air/windborne pathway	<ul style="list-style-type: none"> Using water carts for dust suppression; and Visual inspections.
Noise	Noise generation from earth moving equipment	Air/windborne pathway	Emission screened out due to distance to sensitive receptors.
Operations			
Dust	Dust from vehicles and from surface lift off from TSF	Air/windborne pathway	<ul style="list-style-type: none"> Using water carts for dust suppression; Visual inspections; and Average slurry solids concentration is 35% w/w so wet.
Tailings with detectable levels of Al, As, B, Cd, Co, Mn, Mo, Ni, Sb, Se, Sr, U, V and Zn and WAD-CN	Overtopping of the TSF pond from rainfall ingress	Direct discharges	<ul style="list-style-type: none"> 1:100 AEP, 72-hour runoff storm capacity; and Total freeboard 500 mm with sub-minimum of 300 mm operational freeboard..
	Pipeline leaks / spills	Direct discharges	<ul style="list-style-type: none"> Tailings pipelines and decant return pipelines fitted with pressure monitors and automatic shut off valves; Tailings pipelines and decant return pipelines located in a V drain or bunded area; and Flow meter on the decant pipeline; and Regular pipeline inspections and maintenance.
	Seepage through the base and embankments	Infiltration	<ul style="list-style-type: none"> Inclusion of low permeability material sections in TSF lifts; Construct TSF based on design Construction QA/QC; Groundwater monitoring and Groundwater Recovery Plan; and External TSF Geotechnical Audits Piezometers monitoring.
		Mounding	<ul style="list-style-type: none"> Routine ground water monitoring in line with Licence 8249/2008/3 conditions;

Emission	Sources	Potential pathways	Proposed controls
			<ul style="list-style-type: none"> Dewatering of seepage mound; Maintain water levels below target/limit outlined in Licence 8249/2008/3; and Visual vegetation and soil monitoring.
New Greenfields In-Pit TSF			
Construction			
Dust	Dust generation from earth moving equipment	Air/windborne pathway	<ul style="list-style-type: none"> Using water carts for dust suppression; and Visual inspections.
Noise	Noise generation from earth moving equipment	Air/windborne pathway	Emission screened out due to distance to sensitive receptors.
Operations			
Dust	Dust from vehicles and from surface lift off from TSF	Air/windborne pathway	<ul style="list-style-type: none"> Using water carts for dust suppression; Visual inspections; and Average slurry solids concentration is 35% w/w so wet.
Tailings with detectable levels of Al, As, B, Cd, Co, Mn, Mo, Ni, Sb, Se, Sr, U, V and Zn and WAD-CN	Overtopping of the TSF pond from rainfall ingress	Direct discharges	<ul style="list-style-type: none"> 1:100 AEP, 72-hour runoff storm capacity; Total freeboard 500 mm with sub-minimum of 300 mm operational freeboard; and Flood control bund breaks with competent rock armour located at the main streamlines entering the pit to assist in drainage of surface rainfall-runoff water from the external catchment area above the pit. The rainfall-runoff water will then eventually flow into the Greenfields In-Pit TSF supernatant pond and be pumped back to the TMH Processing Plant for reuse.
	Pipeline leaks / spills	Direct discharges	<ul style="list-style-type: none"> Tailings are transported from the processing plant to the GFIPSTF via a large-diameter HDPE pipe (designed by others). The delivery pipeline for tailings slurry will be located in a bunded corridor with associated scour sump(s) to be constructed at the low point(s) along the corridor to contain overflow tailings if the pipeline is ruptured. At the discharge point location, the tailings delivery pipe extends a minimum distance of 3 m

Emission	Sources	Potential pathways	Proposed controls
			<p>over the pit rim, from where the tailings are deposited into the facility;</p> <ul style="list-style-type: none"> • Tailings pipelines and decant return pipelines fitted with pressure monitors and automatic shut off valves; • Tailings pipelines and decant return pipelines located in a V drain or bunded area; and • Flow meter on the decant pipeline; • Regular pipeline inspections and maintenance; and • Pipeline bunding corridor and access road / track associated with the Greenfields In-Pit TSF will have a nominal width of 10 m (comprising a 5 m wide pipeline bunding corridor and an access road / track of 5 m wide). Containment bunds along both sides of the pipeline corridor will have a minimum height of 0.5 m.
	Seepage through the base and embankments	Infiltration	<ul style="list-style-type: none"> • Tailings deposited to have a permeability of 10^{-8} m/s; • Supernatant water liberated from the tailings slurry will be recovered using a pontoon-mounted pump deployed along the existing access ramp within the pit. Supernatant water recovered from the facility will be pumped back to the processing plant for re-use; • The tailings deposition plan was assessed to position the supernatant water pond adjacent to the pit access ramp, and at the opposite side of the pit from the discharge point. As the tailings and water levels rise within the pit, the supernatant water pond will move up the pit access ramp, with the pump to be moved along up the ramp. The ramp will provide access to the pump for operation and maintenance purposes; • An annual average water return of 72% to 79% of tailings slurry water deposited into the In-Pit TSF will be available for recovery; • Groundwater monitoring in line with Licence 8249/2008/3 conditions with addition of three new monitoring bores in the vicinity of the Greenfields TSF; • Groundwater monitoring and

Emission	Sources	Potential pathways	Proposed controls
			<p>Groundwater Recovery Plan; and</p> <ul style="list-style-type: none"> Licence Holder has committed to prepare a Contingency Plan to indicate what measures would be undertaken at the site to manage the potential adverse environmental impacts of seepage from the proposed in-pit TSF based on the 40% solids versus liquid content.
		Mounding	<ul style="list-style-type: none"> Dewatering of seepage mound if required; Maintain water levels below target/limit outlined in License 8249/2008/3; Visual vegetation and soil monitoring; TSF located below ground (In-Pit) this will reduce mounding risk to surface; and Regular groundwater monitoring and trend analysis will provide an early warning if this situation arises. There are three existing groundwater monitoring bores (21GFRC001, 2 and 3) currently in place surrounding the Greenfields Pit. Furthermore, there are three additional monitoring bores proposed for the Greenfields Pit (IPTSFMB1, IPTSFMB2 and IPTSFMB3) Together these monitoring bores are well positioned to capture any significant rise in groundwater levels due to tailings deposition/operations of the In-Pit TSF.
Other			
Hydrocarbons / chemicals	Fuels used onsite and chemicals, such as cyanide used in gold processing.	Direct discharges	<ul style="list-style-type: none"> All hydrocarbons, fuels and chemicals to be used during the construction and operation of the TSF facility will be adequately stored within bunds and managed at TMH Processing Plant and in accordance with the Environmental Management System, dangerous good licenses and Safety procedures; Store diesel fuel and other hydrocarbons in self-bunded fuel storage tanks at the TMH Processing Plant and workshop areas; Lubricants and waste oil will also be contained within sufficient bunded areas and portable bunding;

Emission	Sources	Potential pathways	Proposed controls
			<ul style="list-style-type: none"> All refuelling and vehicle maintenance will occur within a bunded area located at the TMH Processing Plant and workshop area; and Spill kits will be placed at the refuelling area and in all service vehicles and staff will be trained in the proper use of the kits.

Receptors

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

Table 7 below provides a summary of potential human and environmental receptors that may be impacted because of activities upon or emission and discharges from the prescribed premises (*Guideline: Environmental siting* (DWER 2020)).

Table 7: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
Great Eastern Highway	Approximately 130m west of the TMH TSF northern foundation platform.
Coolgardie Townsite	Approximately 4 km west of the Premises The townsite is sparsely populated, with a large community of fly-in-fly-out workers along with the longer-term residents. Gold and nickel mining, pastoralism and tourism are the principal economic activities in the area.
Native Title Claims	There is no Native Title Determination across the Prescribed Premises area. The Prescribed Premises area is located within boundaries of two registered Native Title claims, the Marlinyu Ghoorlie Claim, Number WC2017/007, and the Maduwongga Claim, Number WC2017/001. There are no Registered heritage or unregistered heritage sites located within or close to the proposed works areas.
Environmental receptors	Distance from prescribed activity
Surface water	There are no significant surface water bodies within or near L8249 premises boundary, however some ephemeral creek lines cross through the L8249 premises boundary and drain to numerous ephemeral salt lakes present to the east. Significant water bodies include Brown Lake, Red Lake, White Lake and Douglas Lake; and all are located in excess of 4km to

	<p>the northeast of the proposed stockpiles and TMH TSF. The ephemeral creek lines in the region are dry for most of the year, only flowing briefly immediately following significant rainfall.</p> <p>Two minor non perennial watercourse are located northeast of the TMH TSF, the closest being approximately 1.2km north-east. These watercourses feed into Brown Lake (salt lake system), approximately 6km east of the prescribed premises. Italian Gully, a non-perennial minor watercourse, is located approximately 1.4km south-west of the TMH TSF.</p>
<p>Underlying groundwater (non-potable purposes)</p>	<p>Groundwater is hypersaline with TDS generally ranging between 9,400 to 83,800 mg/L. Groundwater generally flows in an easterly direction (Focus 2022).</p> <p>Groundwater quality results from the most recent monitoring period (July 2021 to June 2022) indicate groundwater around the TMH TSF ranges from saline to brine (12,000 mg/L in TMHWB06 to 78,000 mg/L in TMHWMB08) and has pH ranging from 6.8 – 7.10. Historically Lindsay’s pit water quality is saline with a TDS of 37,000mg/L and a pH of 7.1 (from application)</p> <p>Standing water levels (mbgl) results from the nearest monitoring bore to the foundation platform (TMHWMB06) indicate groundwater depth in the vicinity ranges from 11.11-11.70 mbgl and TDS at this bore ranged from 12,000 to 15,000 mg/l.</p> <p>The potential receptors are nearby groundwater users, however, given the natural regional water quality is considered hypersaline, the groundwater is deemed unusable by humans or plants/animals.</p> <p>No groundwater is currently consumed or used by site personnel and all potable water for the TMH mine site is sourced directly from Water Corporation’s supply through the Goldfields Pipeline.</p> <p>The only historically active groundwater abstraction point for dust suppression was a bore in the northern borefield located approximately 12 km north of the TMH site and there is no hydrogeological connection between the northern borefield and the TSF borefields within M15/645.</p> <p>The regional groundwater is deemed hypersaline with no other suitable downstream users.</p>
<p>Conservation Significant Flora Species</p>	<p>Clearing permit 9513-1 assessed M15/154 (TMH TSF) and M15/1543 survey areas.</p> <p>A total of 95 species of flora from 28 families were recorded within the survey area (Terratree, 2021a). The most common families were Scrophulariaceae, Chenopodiaceae and Myrtaceae, followed by Fabaceae (mostly Acacia spp.) and Poaceae (360 Environmental, 2021; Terratree, 2021a).</p> <p>No Threatened Flora were recorded within the application area (Terratree, 2021a; 360 Environmental, 2022; GIS Database). However, there</p>

	<p>is a database record of <i>Gastrolobium graniticum</i> (Threatened) approximately 3.8km from the application area (GIS Database).</p> <p>A targeted survey for <i>Acacia websteri</i> (P1) recorded three individuals in the survey area (Terratree (2021b), however they are located outside the permit area (360 Environmental, 2021; Terratree, 2021b).</p> <p>No conservation significant fauna species were recorded in the survey area (Terratree 2021a).</p>
<p>Native vegetation</p>	<p>The survey area is dominated by Eucalypt Mallee Woodlands and Open Woodlands with small areas of Mallee Shrublands and one Isolated Eremophila Heathland (Terratree 2019).</p> <p>Scattered vegetation located west of Great Eastern Highway approximately 160m of the foundation platform and immediately surrounding Lindsays Pit and Bayleys turkey nest.</p>
<p>Malleefowl,- <i>Leipoa ocellata</i> (Threatened – Vulnerable at a State level and Vulnerable at a Federal level)</p>	<p>Western Ecological undertook a desktop assessment and field survey in 2020, which identified four fauna species of conservation significance. Malleefowl is considered as Possibly occurring and three are considered unlikely to occur in the survey area. No evidence of significant fauna species were observed during the field survey. The proposed works area does not contain potential Malleefowl habitat (Refer Figure 4 below).</p> <p>Malleefowl have previously been sighted near the premises (DWER Geocortex):</p> <p>Malleefowl, <i>Leipoa</i> – sightings approximately 1.5km north-north-west and 2km north-north-east of CNX Pit. Sightings range from 2013 to 2016.</p>
<p>Native fauna</p>	<p>A total of 40 fauna species from 26 families were recorded in the survey area. All fauna species recorded are considered relatively common and widespread (Focus 2022).</p>

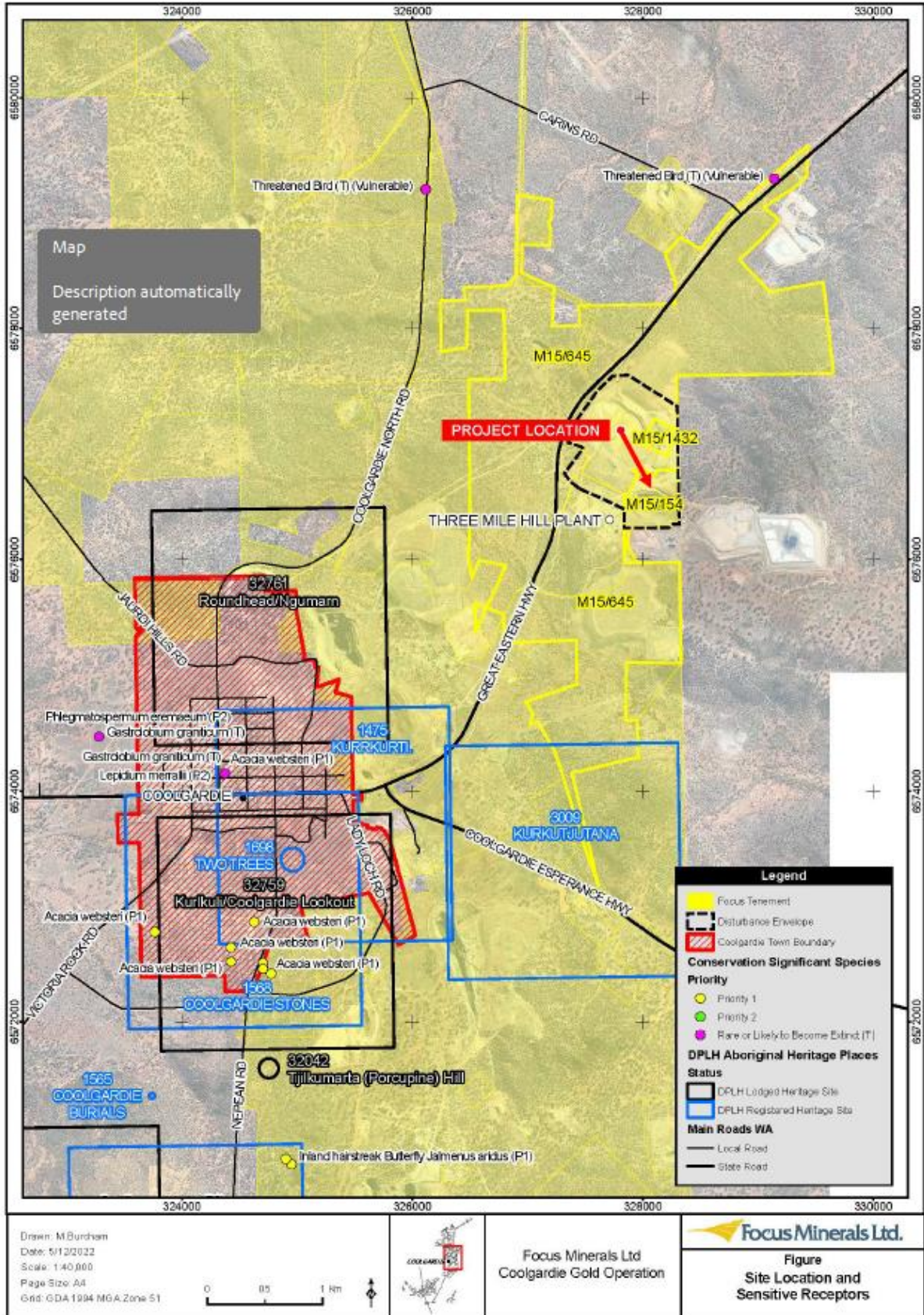


Figure 3: Distance to sensitive receptors

3.2 Risk ratings

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

Where the Licence Holder 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 Licence Holder'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 Licence Holder's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 8.

The Revised Licence L8249/2008/3 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises i.e. Category 5 activities. Licence conditions have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015). It is important to note that, beyond the conditions of the Part V licence, general provisions of the EP Act apply (i.e. general offences relating to pollution or unreasonable emissions (section 49), environmental harm (sections 50A, 50B and 50C)).

Table 8. Risk assessment of potential emissions and discharges from the Premises during construction, commissioning and operation

Risk Event					Risk rating ¹ C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls / DWER comments
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls				
Embankment Height Raise at Existing TMH TSF								
Construction								
Dust generation from earth moving equipment	Dust	Air/windborne pathway	Vegetation and Great Eastern Highway	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	Condition 5 requires dust emissions to be managed. Condition 6 requires no visible dust generated to cross the boundary of the premises.	N/A
Operations								
Dust from vehicles and from surface lift off from TSF	Dust	Air/windborne pathway	Vegetation and Great Eastern Highway	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	Condition 5 requires dust emissions to be managed. Condition 6 requires no visible dust generated to cross the boundary of the premises.	N/A
Overtopping of the TSF pond from rainfall ingress	Tailings with detectable levels of Al, As, B, Cd, Co, Mn, Mo, Ni, Sb, Se, Sr, U, V and Zn and WAD-CN	Direct discharges	Soils, vegetation	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Y	Condition 4 requires management of stormwater. Condition 11 requires freeboard and reduction of erosion of the embankments. Condition 13 requires an ongoing (operational) water balance for each TSF onsite. Condition 14, Table 3 inspection of infrastructure, requires visual integrity monitoring of tailings infrastructure.	Refer to 2.3 Hydrogeological Technical Review

Risk Event					Risk rating ¹ C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls / DWER comments
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls				
							Condition 29, Table 11 Process monitoring, requires volumes of tailings, decant water, seepage from TSFs to be recorded.	
Pipeline leaks / spills		Direct discharges	Soils, vegetation	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Y	Condition 8 requires that pipelines have telemetry, pressure sensors, automatic cut-outs, secondary containment etc. Condition 14, Table 3 inspection of infrastructure, requires visual integrity monitoring of tailings infrastructure. Condition 29, Table 11 Process monitoring, requires volumes of tailings, decant water, seepage from TSFs to be recorded.	N/A
Seepage through the base and embankments		Infiltration	Groundwater, vegetation	Refer to Section 3.1	C = Moderate L = Possible Medium Risk	Y	Condition 10, Table 2 Containment infrastructure, requires permeability specifications for respective containment infrastructure. Condition 12 requires seepage collection and recovery system, return of seepage to TSF and supernatant pond minimised. <u>Condition 13 requires an ongoing (operational) water balance for each TSF onsite.</u> Condition 14, Table 3 inspection of infrastructure,	<u>Refer to 2.3 Hydrogeological Technical Review</u>

Risk Event					Risk rating ¹ C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls / DWER comments
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls				
							requires visual integrity monitoring of tailings infrastructure. Condition 18, Table 6 Design and construction requirements, requires heights, permeability, construction materials etc. Condition 29, Table 11 Process monitoring Requires volumes of tailings, decant water, seepage from TSFs to be recorded. <u>Condition 30, Table 12 Monitoring of decant water, requires monitoring of decant water from the TSFs.</u> Condition 31, Table 13 Monitoring of ambient groundwater quality, requires monitoring of the TMH TSF groundwater bores.	
		Mounding	Groundwater, vegetation	Refer to Section 3.1	C = Moderate L = Possible Medium Risk	Y	Category 31, Table 13 Monitoring of ambient groundwater quality, requires SWL monitoring of the TMH TSF Condition 32 requires Groundwater Recovery Plan if SWLs are outside the target/limit range Condition 33 requires management actions of Groundwater Recovery	N/A

Risk Event					Risk rating ¹ C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls / DWER comments
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls				
							Plan.	
<u>New Greenfields In-Pit TSF</u>								
Construction								
Dust generation from earth moving equipment	Dust	Air/windborne pathway causing impacts to health and amenity	Vegetation and Great Eastern Highway	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	N/A	N/A
Operations								
Dust from vehicles and from surface lift off from TSF	Dust	Air/windborne pathway causing impacts to health and amenity	Vegetation	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	Condition 5 requires dust emissions to be managed. Condition 6 requires no visible dust generated to cross the boundary of the premises.	N/A
Overtopping of the TSF pond from rainfall ingress	Tailings with detectable levels of Al, As, B, Cd, Co, Mn, Mo, Ni, Sb, Se, Sr, U, V and Zn and WAD-CN	Direct discharges	Soils, vegetation	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Y	Condition 4 requires management of stormwater. Condition 11 requires freeboard and reduction of erosion of the embankments. <u>Condition 13 requires an ongoing (operational) water balance for each TSF onsite.</u> Condition 14, Table 3 inspection of infrastructure, requires visual integrity monitoring of tailings infrastructure. Condition 29, Table 11 Process monitoring, requires	<u>Refer to 2.3 Hydrogeological Technical Review</u>

Risk Event					Risk rating ¹ C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls / DWER comments
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls				
							volumes of tailings, decant water, seepage from TSFs to be recorded.	
Pipeline leaks / spills		Direct discharges	Soils, vegetation	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Y	Condition 8 requires that pipelines have telemetry, pressure sensors, automatic cut-outs, secondary containment etc. Condition 14, Table 3 inspection of infrastructure, requires visual integrity monitoring of tailings infrastructure Condition 29, Table 11 Process monitoring Requires volumes of tailings, decant water, seepage from TSFs to be recorded	N/A
Seepage through the base and embankments		Infiltration	Groundwater, vegetation	Refer to Section 3.1	C = Moderate L = Possible Medium Risk	Y	Condition 10, Table 2 Containment infrastructure, requires permeability specifications for respective containment infrastructure. Condition 12 requires seepage collection and recovery system, return of seepage to TSF and supernatant pond minimized <u>Condition 13 requires an ongoing (operational) water balance for each TSF onsite.</u> Condition 14, Table 3 inspection of infrastructure, requires visual integrity monitoring of tailings	<u>Refer to 2.3 Hydrogeological Technical Review</u>

Risk Event					Risk rating ¹ C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls / DWER comments
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls				
							infrastructure Condition 18, Table 6 Design and construction requirements, requires TSF design controls, installation of three ambient groundwater monitoring bores at Greenfields In-Pit TSF, freeboard, decant etc. Condition 27, Table 11 Process monitoring, requires volumes of tailings, decant water, seepage from TSFs to be recorded. Condition 30, Table 12 Monitoring of decant water, requires monitoring of decant water from the TSFs. Condition 31, Table 13 Monitoring of ambient groundwater quality, requires monitoring of the new Greenfields In-Pit TSF groundwater bores	
		Mounding	Groundwater, vegetation	Refer to Section 3.1	C = Moderate L = Possible Medium Risk	Y	Category 31, Table 13 Monitoring of ambient groundwater quality, requires SWL monitoring of the new Greenfields In-Pit TSF groundwater bores Condition 32 requires Groundwater Recovery Plan if SWLs are outside the target/limit range. Condition 33 requires management actions of Groundwater Recovery	N/A

Risk Event					Risk rating ¹ C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls / DWER comments
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls				
							Plan.	
Other								
Fuels used onsite and chemicals, such as cyanide used in gold processing.	Hydrocarbons / chemicals	Direct discharges	Soils, groundwater	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Condition 2 requires correct storage of environmentally hazardous materials. Condition 3 requires that spills are managed appropriately.	N/A

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

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

4. Consultation

Table 9 provides a summary of the consultation undertaken by the department.

Table 9: Consultation

Consultation method	Comments received	Department response
Local Government Authority advised of: Embankment Height Raise At Existing TMH TSF on 20 June 2023 Greenfields In-Pit TSF on 17 April 2024	No comments received.	N/A
Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) advised of: Embankment Height Raise At Existing TMH TSF on 20 June 2023 Greenfields In-Pit TSF on 17 April 2024	DEMIRS replied to the Licence Holder on 14 May 2024 approving the Mining Proposal (Object ID: A76043253).	Noted.
Licence Holder was provided with draft amendment on 28 May 2024	Licence Holder replied on 29 May 2024 Refer to Appendix 1	Licence Holder replied on 29 May 2024 Refer to Appendix 1

5. Conclusion

Based on the assessment in this Amendment Report, the Delegated Officer has determined that a Revised Licence will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

5.1 Summary of amendments

Table 10 provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the Revised Licence as part of the amendment process.

Table 10: Summary of licence amendments

Condition no.	Proposed amendments
10, Table 2	Addition of Greenfields TSF to the Containment Infrastructure.

Condition no.	Proposed amendments
13	Addition of water balance for TSFs as per Section 2.3 Hydrogeological Technical Review recommendations.
14, Table 3	Addition of Decant system, visual integrity inspections.
15, Table 4	Addition of Management of waste requirements that have been moved across from the Design and construction requirements table for the Greenfields Landfill.
18, Table 6	Removal of infrastructure that has been constructed. Addition of the Embankment Height Raise at Existing TMH TSF and the Greenfields In-Pit TSF.
28, Table 10	Acronym now defined in Definitions.
29, Table 11	Minor wording updates to clarify monitoring requirements
30, Table 12	Addition of decant monitoring as per as per Section 2.3 Hydrogeological Technical Review recommendations.
31, Table 13	Addition of groundwater monitoring bores for the Greenfields In-Pit TSF.
Definitions	Addition of definitions (TDS, SWL and WAD cyanide).
Schedule 1: Maps	Addition of maps for the Embankment Height Raise at Existing TMH TSF and the Greenfields In-Pit TSF. Addition of map for proposed groundwater monitoring wells at the Greenfields In-Pit TSF. Removal of redundant maps due to removal of constructed infrastructure from Condition 18, Table 6.
Schedule 2: Design Drawings	Addition of design drawing of the Embankment Height Raise At Existing TMH TSF.
Schedule 3 – monitoring well design and installation requirements	Monitoring well design and installation requirements – linked to requirements specified in Condition 18.
Schedule 4: Reporting & notification forms	Updated form.

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. Focus Minerals - L8249/2008/3 - Licence Amendment Application - TSF Stage 3 - design update 15/05/2023, East Perth, Western Australia (DWERDT778596 - Embankment Height Raise At Existing TMH TSF Application).
5. Focus Minerals Limited, RE: NOTIFICATION : APPLICATION ENQUIRY FOR AN AMENDMENT TO LICENCE (L8249/2008/3) - REQUEST FOR FURTHER INFORMATION 22/12/2023 (A2245332 – updated Embankment Height Raise At Existing TMH TSF Application).
6. Focus Minerals Limited, Focus Minerals Ltd - Greenfields In-Pit TSF - Prescribed Premises Licence Amendment Application 22/01/2024 (DWERDT895169 – Greenfields In-Pit TSF Application).
7. Focus Minerals Limited, RE: NOTIFICATION: APPLICATION FOR AN AMENDMENT TO LICENCE (L8249/2008/3) - REQUEST FOR FURTHER INFORMATION 07/03/2024, East Perth, Western Australia (DWERDT917137 – RFI response).
8. Focus Minerals Limited, RE: NOTIFICATION : APPLICATION ENQUIRY FOR AN AMENDMENT TO LICENCE (L8249/2008/3) - REQUEST FOR FURTHER INFORMATION 03/05/2024, East Perth, Western Australia (A2281603 – reply to RFI).
9. Focus Minerals Limited, RE: NOTIFICATION : APPLICATION ENQUIRY FOR AN AMENDMENT TO LICENCE (L8249/2008/3) - REQUEST FOR FURTHER INFORMATION 09/05/2024, East Perth, Western Australia (A2281601 – reply to RFI).
10. Focus Minerals Limited, RE: L9249 Three Mile Hill 14/05/2024, East Perth, Western Australia (A2278564 – construction update).
11. Focus Minerals Limited, RE: L8249 Three Mile Hill 15/05/2024, East Perth, Western Australia (A2278980 – sinkholes).
12. Focus Minerals Limited, RE: L8249 Three Mile Hill Groundwater Quality 17/05/2024, East Perth, Western Australia (A2281232 – GW monitoring).
13. Focus Minerals Limited, RE: NOTIFICATION : PROPOSED AMENDMENT TO LICENCE L8249/2008/3 28/05/2024, East Perth, Western Australia (A2283246 – reply to draft package).
14. Focus Minerals Limited, RE: NOTIFICATION : PROPOSED AMENDMENT TO LICENCE L8249/2008/3 29/05/2024, East Perth, Western Australia (A2283245 – reply to draft package).
15. Focus Minerals Limited, RE: NOTIFICATION : PROPOSED AMENDMENT TO LICENCE L8249/2008/3 29/05/2024, East Perth, Western Australia (A2283247 – reply to draft package).

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

Condition	Summary of Licence Holder's comment	Department's response
18, Table 6	Licence Holder queried why infrastructure has been deleted from the table. The figures that are proposed to be deleted cover existing infrastructure.	Licence Holder advised that as works for the infrastructure has been actioned, the Department generally removes construction requirements from licence conditions as they are no longer needed (i.e. the works have been completed and compliance validated by the Department). Separate conditions are however in-place for visual inspections of pipelines (Condition 14), management of waste disposal in respective landfills (Condition 15, 16, 17) and stormwater management (Condition 4).
	TSF Raise - it references the Foundation Platform that needs to be built – but it is already constructed and signed off.	Condition updated (reference to foundation platform needing to be constructed has been removed).
Schedule 1: Maps	Licence Holder queried why some infrastructure maps deleted.	Licence Holder advised that unless the figures are linked into licence conditions (referenced) then they are generally removed.