



Application for Licence Amendment

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

Licence Number	L7815/2001/11
Licence Holder	Northern Star (Thunderbox) Pty Ltd
ACN	107 154 727
File Number	DWERVT16137~1
Premises	North Eastern Goldfields Operations Legal description – Mining tenements L36/155, L36/157, L36/158, L37/61, L37/73, L37/142, L37/166, L37/199, L37/215, L37/216, M36/35, M36/177, M36/421, M36/462, M36/473, M36/494, M36/503, M36/504, M36/512, M36/516, M36/525, M36/527, M36/541, M36/542, M36/582, M36/584, M36/585, M36/586, M36/587, M36/589, M36/599, M36/600, M36/1148, M37/339, M37/340, M37/356, M37/357, M37/358, M37/359, M37/360, M37/361, M37/367, M37/368, M37/437, M37/465 and M37/1148 LEINSTER WA 6437 As defined in Schedule 1 of the revised licence
Date of Report	18 September 2024
Decision	Revised licence granted

SENIOR INDUSTRY REGULATION OFFICER

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

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1. Decision summary

Licence L7815/2001/11 is held by Northern Star (Thunderbox) Pty Ltd (Licence Holder) for the North Eastern Goldfields Operations (the premises), located at mining tenements L36/155, L36/157, L36/158, L37/61, L37/73, L37/142, L37/166, L37/199, L37/215, L37/216, M36/35, M36/177, M36/421, M36/462, M36/473, M36/494, M36/503, M36/504, M36/512, M36/516, M36/525, M36/527, M36/541, M36/542, M36/582, M36/584, M36/585, M36/586, M36/587, M36/589, M36/599, M36/600, M36/1148, M37/339, M37/340, M37/356, M37/357, M37/358, M37/359, M37/360, M37/361, M37/367, M37/368, M37/437, M37/465 and M37/1148, LEINSTER WA 6437.

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 operation of the premises. As a result of this assessment, revised Licence L7815/2001/11 has been granted.

The revised licence issued as a result of this amendment supersedes the existing licence previously granted in relation to the premises.

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 7 May 2024, the Licence Holder submitted an application to the department to amend Licence L7815/2001/11 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). Licence L7815/2001/11 relates to the North Eastern Goldfields Operations premises, located within the Shire of Leonora about 40 km south-east of Leinster. The premises includes the Thunderbox mine as well as a number of satellite mines, including the Bannockburn pits.

The application is primarily to recommence operation of the Bannockburn pits which has been in care and maintenance since 1998. Ore mined from the recommencement of the Bannockburn pits will be transported to the existing Thunderbox mill for processing. The Licence Holder also applied for performance upgrades to the existing Thunderbox operation's sewage facility. The application is seeking the following amendments:

- Dewatering of the Bannockburn pits requiring the following changes under Category 6:
 - Increase capacity from 450,000 tonnes per annual period (tpa) to 8,000,000 tpa;
 - Construction of 2 new 8,690 kL turkey nest dams to contain dewatering water for process requirements and dust suppression;
 - Installation of new water conveyance pipelines; and
 - Discharging of excess mine dewater into the North Well pits, Slaughter Yard pits, Waterloo underground, Bannockburn pits and/or the Thunderbox pit.
- Additional power supply for Bannockburn requiring the following changes under Category 52:
 - No increase to existing 38 MW capacity;
 - Installation of a mobile 200 kW diesel generator at the administration area; and
 - Additional air emission point associated with the generator.

- Additional sewage treatment and upgrades requiring the following changes under Category 54:
 - Increase capacity from 120 m³/day to 140 m³/day;
 - Construction of a new 20 m³/day leach drain for facilities at the Bannockburn pits area;
 - Additional discharge point for treated sewage at the Bannockburn area; and
 - Upgrades to Thunder Box Operations WWTP comprising new storage tanks and aerators. The upgrades are to reduce sludge generation volumes but not change treatment capacity.
- Additional putrescible landfill requiring the following changes under Category 64:
 - Increase capacity from 5,000 tpa to 7,000 tpa; and
 - Addition of a new 2,000 tpa designated Class II putrescible waste landfill for the Bannockburn pits located on the Bannockburn Waste Rock Dump.
- Additional fuel storage for Bannockburn requiring the following changes under Category 73:
 - Addition of existing 126 m³ of minor fuel storage infrastructure for Bannockburn, located at the various Bannockburn bores (4 m³ tanks) and pump stations (15 m³ tanks);
 - Installation of above ground self-bunded diesel fuel storage tanks with a max capacity of 500 kL;
 - Construction of a concrete refuelling apron and 1.8 m high bunds around the new tanks; and
 - Decrease capacity from 105,000 m³ to 2,500 m³. Although the actual storage capacity on the premises is proposed to increase, the capacity listed on the existing licence is considered an administrative error and vastly exceeds what is currently located on the premises. The amendments result in the actual capacity at the site increasing by 626 m³;
- The following administrative amendments:
 - Replace licence Figure 2a with a new figure showing the Thunderbox Operations containment infrastructure and monitoring bores;
 - Remove licence Figure 2b which is made redundant by the above new figure; and
 - Replace licence Figures 8 and 9 with the revised layout and design of the Thunderbox sewage facility and effluent discharge point.

These amendments are limited only to changes to Category 6, 52, 54, 64 and 73 activities from the existing licence. No changes to the aspects of the existing licence relating to Category 5 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 or throughput capacity	Proposed design or throughput capacity	Summary of proposed amendments
5: Processing or beneficiation of metallic or non-metallic ore	7,000,000 tonnes per annual period	No change	No change required due to ore from Bannockburn being transported to the existing Thunderbox mill for processing.

Category	Current design or throughput capacity	Proposed design or throughput capacity	Summary of proposed amendments
6: Mine dewatering	450,000 tonnes per annual period	8,000,000 tonnes per annual period	Dewatering of the Bannockburn pits with associated storage and discharge.
52: Electrical power generation	38 MW	No change	Power supply for the Bannockburn operations area.
54: Sewage facility	120 m ³ /day	140 m ³ /day	Sewage treatment for the Bannockburn operations area and upgrades to sewage treatment at the Thunderbox operations area.
64: Class II putrescible landfill	5,000 tonnes per annual period	7,000 tonnes per annual period	Putrescible landfill for the Bannockburn operations.
73: Bulk chemical storage	105,000 m ³	2,500 m ³	Additional fuel storage for the Bannockburn operations and correction of licence errors.

During the assessment of the application it was identified that the mining tenements listed in the premises description of the existing licence were outdated and no longer correct. This was due to some tenements changing type from a miscellaneous licence to a mining lease.

2.3 Bannockburn pits operations

No mining has taken place at the Bannockburn pits since 1998 and the mining operation has been in care and maintenance for an extended period. The Bannockburn pits area is already included in the premises boundary, with Licence L7815/2001/11 currently including one dewatering dam at Bannockburn which was historically used to supply water for dust suppression. Existing groundwater licences GWL 63550 and GWL 158766 are also held by the Licence Holder in relation to the premises.

The Licence Holder intends to resume dewatering at Bannockburn, in order to expand the Bannockburn pits and recommence mining operations. Proposed changes to dewatering operations at Bannockburn include the construction and operation of two new dewatering dams: one located east of the Bannockburn pits (East Dam) and one north of the waste rock dump (North Dam). These dams will be used to store mine dewater for reuse.

The two dams will be constructed via cut and fill earthworks with an outer perimeter wall of 1 m high, a maximum cut depth of 3 m and cover an area of 140 m x 50 m. The dams will be HDPE lined and have been designed with an operational freeboard of 300 mm. A standpipe and pipeline/pumping infrastructure will also be installed so that mine dewater can be transported to the Thunderbox processing plant for use in operations. Pipelines will be fitted with flowmeters, telemetry and automatic shutoff systems.

2.4 Mine dewatering and discharge

The Licence Holder intends to reuse approximately four to five Mtpa of the dewater for dust suppression and operation of the Thunderbox processing plant, which is currently supplied from a nearby borefield. Dewatered groundwater from the Bannockburn pits is expected to have a lower salinity than the borefield, and the Licence Holder intends to replace the borefield supply over time by reusing dewatered groundwater from the Bannockburn pits. Dewatered groundwater from Bannockburn is expected to be predominantly fresh to brackish (900 to 1,400 mg/L TDS), with some areas being slightly saline, up to about 6,600 mg/L.

The Licence Holder commissioned groundwater flow modelling which indicated that groundwater volumes from dewatering of the Bannockburn pits will be relatively low for the first four years, reaching up to approximately 750,000 kL/year (Table 2), and will be lower than the demand required by the Thunderbox processing plant until year five of mining. As mining progresses toward the paleochannel, dewatering rates will increase.

Table 2: Modelled average dewatering flow rates

Year	Days	Flow (m ³ /day)	Flow (kL/year)
1	365	433	158,045
2	365	1,222	446,030
3	365	1,127	411,355
4	365	1,973	720,145
5	365	14,148	5,164,020
6	365	12,582	4,592,430
7	288	26,230	9,573,950

Despite the initial deficits, temporary storage of dewater will be required to provide contingency options in the event of a temporary shutdown or if inflow rates exceed processing water consumption. In addition to the one existing and two proposed dewatering dams, groundwater will be discharged and stored in various mining voids across the premises. Discharge of mine dewater will occur to the existing North Well pit, Slaughter Yard pit and Waterloo underground. In pit storage of water will also take place in the Bannockburn and Thunderbox pits, where practicable.

Table 3: Predicted discharge and storage capacity

Discharge location	Maximum predicted demand or discharge (tpa)	Storage capacity excluding freeboard (tonnes)
Water reuse (processing, dust suppression, etc.)	5,000,000	7,000,000
North Well pits	679,941	679,941
Waterloo underground	478,518	478,518
Slaughter Yard pit	110,664	110,664
Bannockburn pits	720,000	5,057,104

Discharge location	Maximum predicted demand or discharge (tpa)	Storage capacity excluding freeboard (tonnes)
Bannockburn underground	-	519,840
Thunderbox pits	720,000	A Zone pit - 4,383,924
		D Zone pit - 8,415,683
Total	7,709,123	26,645,674

2.4.1 Future requirements

The Licence Holder has stated that this application is only in relation to dewatering discharge for the first four years of mine dewatering. A subsequent licence amendment application will be submitted seeking dewatering and discharge beyond year five of mining, when dewatering rates increase.

To support the future amendment, the Licence Holder will conduct additional investigations during the first three years of mining at Bannockburn, to identify further water management requirements for the life of the mine. These investigations will include validation of the dewatering model and a review of the site water balance. The subsequent application will include controls for long term dewatering storage, to accommodate the increased inflow rates predicted beyond year 5 of mining. This may include management methods to decrease dewatering rates or additional water storage infrastructure.

2.5 Department initiated amendments

In addition to the amendments requested by the Licence Holder, the department has made the following amendments to the licence:

- corrected clerical mistakes and unintentional errors in the 29 April 2024 licence amendment that were made when converting the licence to the current licensing format;
- removed or updated any redundant conditions, definitions or information; and
- corrected other clerical mistakes and unintentional errors that were identified.

The full list of amendments as they relate to the revised licence are detailed in Section 5.1.

Errors from the 29 April 2024 licence amendment were corrected by referring to the licence in place previous to this date, which was granted on 28 May 2021.

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 Amendment Report are detailed in Table 4 below. Table 4 also details the proposed control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary.

Table 4: Licence Holder controls

Emission	Sources	Potential pathways	Proposed controls
Construction			
Dust	Earthworks, machinery and vehicle movements	Air/windborne pathway	• Dust suppression water.
Noise			• None specified.
Sediment		Overland runoff	• None specified.
Spills and leaks of hydrocarbons		Overland runoff Seepage through soil to groundwater	• None specified.
Operation – Category 6			
Saline groundwater	Mine dewatering and storage	Overtopping of storage Seepage through soil to groundwater	<ul style="list-style-type: none"> • Mine dewater for dust suppression to be stored in HDPE lined storage dams with 8,690 kL capacity. • Storage dams to have an operational freeboard of 300 mm.
	Discharge of mine dewatering for dust suppression	Direct discharge	<ul style="list-style-type: none"> • Approximately 4 - 5 million tonnes per annum of mine dewater to be used in the processing plant. • Remaining mine dewater volumes to be stored in mining voids and pits. • Mining voids and pits used for dewatering storage will have an operational freeboard of at least 5 m. • Mining voids and pits provide a total storage volume of approximately 19.65 GL at their proposed freeboard levels. • Water supply requirements expected to exceed dewatering volumes for the first five years of mine dewatering.

Emission	Sources	Potential pathways	Proposed controls
Operation – Category 52			
Combustion emissions	Operation of a mobile 200 kW diesel generator	Air/windborne pathway	<ul style="list-style-type: none"> None specified.
Spills and leaks of hydrocarbons	Refueling of diesel generator	Overland runoff Seepage through soil to groundwater	<ul style="list-style-type: none"> None specified.
Operation – Category 54			
Odour	Treatment of sewage and discharge of treated sewage	Air/windborne pathway	<ul style="list-style-type: none"> Enclosed tanks. Leach drains to be buried below ground.
Sewage, treated sewage and sludge leachate	Treatment of sewage and discharge of treated sewage	Overland runoff Seepage through soil to groundwater	<ul style="list-style-type: none"> Village WWTP to have additional storage tanks and aeration provided to reduce sludge generation. Primary treated sewage to be disposed. Two alternating leach drains of 30 m length and width will be constructed with permeable drainage aggregate, 75 mm or 100 mm diameter distributing pipes and at a grade of no more than 1 in 200. Barriers will be installed to prevent to vehicles or heavy machinery from driving over the top of the leach drains and causing damage.
Operation – Category 64			
Noise	Landfilling of solid waste meeting Class II acceptance criteria	Air/windborne pathway	<ul style="list-style-type: none"> None specified.
Dust			<ul style="list-style-type: none"> Dust suppression water. Landfill to be located within the Bannockburn Waste Rock Dump to provide protection from prevailing winds. Landfill trench dimensions to be no more than 30 m x 2 m x 2 m. Landfill trenches to be covered with 1 m of inert and incombustible fill within 3 months of reaching capacity.
Odour			
Windblown waste			
Leachate		Seepage through soil to groundwater	

Emission	Sources	Potential pathways	Proposed controls
Operation – Category 73			
Spills and leaks of hydrocarbons	Storage of diesel fuel	Overland runoff Seepage through soil to groundwater	<ul style="list-style-type: none"> • Diesel to be stored in above ground self-bunded fuel storage tanks with a maximum storage capacity of 500 kL. • Storage tanks will be protected from vehicular contact by concrete bollards adjacent to the refuelling apron. • Concrete refueling apron to be provided with 1.8 m high bunds along the side and a sump for collection of hydrocarbons. • Storage will be in accordance with the <i>Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007</i>. • Hydrocarbon waste will be transported off site and disposed of by a licenced controlled waste contractor.

3.1.2 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 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 5: Sensitive human and environmental receptors and distance from prescribed activity

Receptors	Distance from prescribed activity
Human receptors	
Weebo Pastoral Station	12 km northeast of the premises. Not considered a viable receptor due to distance from the premises.
Town of Leinster	36.5 km northwest of the premises. Not considered a viable receptor due to distance from the premises.
Sturt Meadows homestead	40 km south of the premises. Not considered a viable receptor due to distance from the premises.

Receptors	Distance from prescribed activity
Environmental receptors	
<p>Underlying groundwater – Fractured and weathered rock aquifer Surficial sediment aquifer</p>	<p>The Thunderbox pit and northern portions of the premises are situated in an area comprising local fractured and weathered rock aquifers.</p> <p>The Bannockburn pits and southern portion of the premises are situated in an area containing a large alluvium aquifer where surficial sediments hold low salinity groundwater. Thick sections of Quaternary to Tertiary alluvium (gravel, sand, calcrete, silcrete and clay) overlie the Archaean bedrock and the palaeochannel sediments of Tertiary age both along Marshall Creek and the trunk Lake Raeside palaeodrainage (Rockwater, 2023).</p> <p>Groundwater levels follow topography and before pumping commenced, groundwater flowed to the south-west and south beneath Marshall Creek and within rocks in the creek banks, towards the south-easterly trending Lake Raeside palaeodrainage, where groundwater discharges and is evaporated (Rockwater, 2023).</p> <p>At the Thunderbox pit area, groundwater level ranges from around 15 – 30 meters below ground level. At the Bannockburn pits, pre-mining groundwater levels were about 394 mAHD, 9 m below ground surface (Rockwater, 2023).</p> <p>Beneficial uses of groundwater include mining and stock water. Multiple licensed groundwater users are located within 20 km of the premises.</p>
<p>Surface water – Marshall Creek minor, non-perennial watercourses</p>	<p>Numerous minor, non-perennial watercourses associated with Marshall Creek traverse the premises.</p> <p>The Bannockburn pits are located on the southern margin of Marshall Creek, a major tributary of the Lake Raeside palaeodrainage (Rockwater, 2023).</p>
<p>Surrounding vegetation – Native vegetation containing records of priority flora species</p>	<p>Native vegetation is located adjacent and near to proposed new containment infrastructure and dewatering discharge points.</p>

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 6.

The revised Licence L7815/2001/11 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises.

The conditions in the Revised Licence have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 6. Risk assessment of potential emissions and discharges from the premises during construction and operation

Risk Event					Risk rating ¹	Licence Holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls	C = consequence L = likelihood			
Construction								
Earthworks, machinery and vehicle movements to construct and install: <ul style="list-style-type: none"> - Two 8,690 kL storage dams - Water conveyance pipelines - 200 kW diesel generator - 20 m³/day leach drain - Sewage tanks and aerators - 500 kL of fuel storage tanks and bunding 	Noise	Air/windborne pathway causing impacts to health and amenity	No viable receptors	Refer to Section 3.1.1	Risk event not viable due to distance to sensitive receptors.			
	Dust	Air/windborne pathway causing smothering of vegetation	Native vegetation	Refer to Section 3.1.1	C = Slight L = Possible Low Risk	Y	17: Table 8	N/A - The Delegated Officer considers existing and proposed dust controls to be sufficient.
	Sediment	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Surface water			Y	N/A	N/A - The Delegated Officer considers sediment impacts to be already adequately regulated through the environmental outcomes and performance criteria of the mining proposal.
	Spills and leaks of hydrocarbons	Seepage through soil to groundwater impacting soil and groundwater quality	Native vegetation Surface water Underlying groundwater	Refer to Section 3.1.1	C = Slight L = Unlikely Low Risk	Y	9	N/A – The Delegated Officer considers the existing licence condition to be sufficient.
Operation – Category 6								
Dewatering of the Bannockburn pits comprising: <ul style="list-style-type: none"> - Storage within 2 x 8,690 kL turkey nest dams - Use of 4-5 Mtpa of groundwater for mineral processing - Discharge of up to 679,941 kL/yr to North Well pit - Discharge of up to 478,518 kL/yr to Waterloo underground - Discharge of up to 110,664 kL/yr to Slaughter Yard pit - Discharge of up to 720,000 kL/yr to Bannockburn pits - Discharge of up to 720,000 kL/yr to Thunderbox pits 	Fresh to slightly saline groundwater (900 to 6,600 mg/L TDS)	Overtopping of storage or containment loss from pipelines causing ecosystem disturbance or impacting surface water quality	Native vegetation Surface water	Refer to Section 3.1.1	C = Moderate L = Unlikely Medium Risk	N	1, 6, 7 1: Table 1 2: Table 2	To align with controls previously specified for other containment infrastructure at the premises, the Delegated Officer considers that high water level shutoff switches, perimeter fencing and fauna egress points are required.
		Seepage through soil to groundwater impacting soil and groundwater quality	Underlying groundwater Native vegetation	Refer to Section 3.1.1	C = Moderate L = Unlikely Medium Risk	Y	1, 17: Table 8	N/A – The Delegated Officer considers the Licence Holder's proposed controls to be sufficient due to the similar groundwater quality in the discharge areas.
	Discharge of mine dewatering for dust suppression		Direct discharge causing ecosystem disturbance or impacting surface water quality	Native vegetation	Refer to Section 3.1.1	C = Slight L = Unlikely Low Risk	Y	17: Table 8
Operation – Category 52								
Operation and refueling of a mobile 200 kW diesel generator	Combustion emissions	Air/windborne pathway causing impacts to health and amenity	No viable receptors	Refer to Section 3.1.1	Risk event not viable due to distance to sensitive receptors.			
	Spills and leaks of hydrocarbons	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Native vegetation Surface water	Refer to Section 3.1.1	C = Minor L = Unlikely Medium Risk	N	9 2: Table 2	To align with controls previously specified for other power infrastructure at the premises, the Delegated Officer considers that a bunded concrete hardstand that drains to an oil/water separator is required for the new diesel generator.
Seepage through soil to groundwater impacting soil and groundwater quality		Underlying groundwater						

Risk Event					Risk rating ¹	Licence Holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls	C = consequence L = likelihood			
Operation – Category 54								
Treatment of sewage and discharge of up to 20 m ³ /day of primary treated sewage via a leach drain	Odour	Air/windborne pathway causing impacts to amenity	No viable receptors	Refer to Section 3.1.1	Risk event not viable due to distance to sensitive receptors.			
	Sewage, treated sewage and sludge leachate	Seepage through soil to groundwater impacting soil and groundwater quality	Underlying groundwater	Refer to Section 3.1.1	C = Minor L = Unlikely Medium Risk	Y	2: Table 2, 17: Table 8, 23	N/A – The Delegated Officer considers the Licence Holder's proposed controls to be sufficient.
Performance improvements at the Thunderbox WWTP comprised of additional storage and aeration	Odour	Air/windborne pathway causing impacts to amenity	No viable receptors	Refer to Section 3.1.1	Risk event not viable due to distance to sensitive receptors.			
	Sewage, treated sewage and sludge leachate	Overtopping of storage or containment loss from pipelines potentially causing ecosystem disturbance or impacting surface water quality	Native vegetation Surface water Underlying groundwater	Refer to Section 3.1.1	C = Minor L = Unlikely Medium Risk	Y	2: Table 2, 17: Table 8, 23	N/A – The Delegated Officer considers the Licence Holder's proposed controls and existing licence conditions to be sufficient.
Seepage through soil to groundwater impacting soil and groundwater quality								
Operation – Category 64								
Landfilling of up to 2,000 tonnes per annual period of solid waste meeting Class II acceptance criteria	Noise	Air/windborne pathway causing impacts to amenity	No viable receptors	Refer to Section 3.1.1	Risk event not viable due to distance to sensitive receptors.			
	Odour				Risk event not viable due to distance to sensitive receptors.			
	Dust				Risk event not viable due to distance to sensitive receptors.			
		Air/windborne pathway causing smothering of vegetation	Native vegetation	Refer to Section 3.1.1	C = Slight L = Unlikely Low Risk	Y	10, 11	N/A – The Delegated Officer considers the Licence Holder's proposed controls and existing licence conditions to be sufficient.
	Leachate	Seepage through soil to groundwater impacting soil and groundwater quality	Underlying groundwater	Refer to Section 3.1.1	C = Minor L = Unlikely Medium Risk	Y	10, 11	N/A – The Delegated Officer considers the Licence Holder's proposed controls and existing licence conditions to be sufficient.
	Windblown waste	Air/windborne pathway causing ecosystem disturbance or impacting surface water quality	Native vegetation	Refer to Section 3.1.1	C = Slight L = Possible Low Risk	Y	11, 12	N/A – The Delegated Officer considers the Licence Holder's proposed controls and existing licence conditions to be sufficient.
Operation – Category 73								
Storage of 626 kL of diesel fuel	Spills and leaks of hydrocarbons	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Native vegetation Surface water	Refer to Section 3.1.1	C = Minor L = Unlikely Medium Risk	Y	2: Table 2	N/A – The Delegated Officer considers the Licence Holder's existing and proposed controls to be sufficient.
		Seepage through soil to groundwater impacting soil and groundwater quality	Underlying groundwater					

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. **Underlined text** depicts additional regulatory controls imposed by department.

4. Consultation

Table 7 provides a summary of the consultation undertaken by the department.

Table 7: Consultation

Consultation method	Comments received	Department response
Local Government Authority advised of proposal on 12 August 2024	None received.	N/A
Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) advised of proposal on 12 August 2024	DEMIRS replied on 21 August 2024. Refer to Appendix 1.	Refer to Appendix 1
Department of Health (DoH) advised of proposal on 12 August 2024	DoH replied on 13 September 2024. Refer to Appendix 1.	Refer to Appendix 1
Watarra Aboriginal Corporation RNTBC advised of proposal on 12 August 2024	None received.	N/A
Licence Holder was provided with draft amendment on 9 September 2024	The Licence Holder replied on 11 September 2024. Refer to Appendix 2.	Refer to Appendix 2

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 8 , Table 9 and Table 10 provide 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 8: Summary of non-administrative licence amendments related to the application

Condition no.	Proposed amendments
Category limits	The limits for categories 6, 54, 64 and 73 were changed from 450,000 to 8,000,000 tpa, 120 to 140 m ³ /day, 5,000 to 7,000 tpa and 105,000 to 2,500 m ³ in aggregate respectively.

Condition no.	Proposed amendments
1 – Table 1: Bannockburn - North Dam and Bannockburn - East Dam	The proposed North Dam and East Dam at the Bannockburn mining area were added to the containment infrastructure table, along with infrastructure requirements specified by the Licence Holder as controls and additional regulatory controls imposed by the department.
2 – Table 2: Thunderbox - WWTP	Requirements for the proposed upgrade to the Thunderbox village WWTP were added.
2 – Table 2: Bannockburn - North Dam and East Dam	The proposed North Dam and East Dam at the Bannockburn mining area were added to the table as infrastructure to be constructed, along with construction requirements specified by the Licence Holder as controls and additional regulatory controls imposed by the department.
2 – Table 2: Bannockburn - WWTP	The proposed WWTP at the Bannockburn mining area was added to the table as infrastructure to be constructed, along with construction requirements specified by the Licence Holder as controls.
2 – Table 2: Bannockburn - Power supply	The proposed diesel generators for power supply to the Bannockburn mining area were added to the table as infrastructure to be constructed/installed, along with requirements specified by the Licence Holder and additional regulatory controls imposed by the department.
2 – Table 2: Bannockburn - Fuel storage	The proposed fuel storage infrastructure at the Bannockburn mining area was added to the table as infrastructure to be constructed, along with construction requirements specified by the Licence Holder as controls.
2 – Table 2: Bore field - Fuel storage	The existing fuel storage tanks at the bore field were added to the table.
2 – Table 2: Groundwater monitoring bores	New groundwater monitoring bores TSF-CD-01, TSF-CD-02, TSF-CD-03 and TSF-CD-04 were added to the table, along with an operational requirement to keep them maintained in good working order.
10 – Table 4	Landfilling requirements were amended to account for the proposed landfill at the Bannockburn operation.
14 – Table 6	The table was amended to account for air emissions from the proposed diesel generators for the Bannockburn operation.
17 – Table 8	Condition wording changed to refer to discharges rather than emissions. The table was amended to account for the proposed mine dewatering discharges to voids and for dust suppression, as well as the treated effluent discharges to the Bannockburn leach drain.
21 – Table 10	The table was amended by adding in groundwater monitoring requirements for the new groundwater monitoring bores TSF-CD-01, TSF-CD-02, TSF-CD-03 and TSF-CD-04. The monitoring specifications were sourced from Condition 1.3.3 and Table 1.3.2 of the 28 May 2021 licence.
23 – Table 11	The table was amended to account for the proposed discharge of treated effluent to the Bannockburn leach drain.
Figure 5	A map showing the new containment infrastructure (North Dam and East Dam) at the Bannockburn operation was added.
Figure 13	A map showing the layout of site infrastructure and equipment at the Bannockburn operations was added.

Condition no.	Proposed amendments
Figure 14	A map showing the location of fuel storage tanks at the bore field was added.
Figure 17	A map showing the location of the landfill, emission points to air and discharges to land at the Bannockburn operations was added.
Figure 20	A map showing the Thunderbox pit and Waterloo underground dewatering discharge points was added.
Figure 21	A map showing the Bannockburn and North Well pit dewatering discharge points was added.

Table 9: Summary of department initiated licence amendments to correct previous conversion errors

Condition no.	Proposed amendments
1 – Table 1: TSF cells A and B	Infrastructure requirement corrected by adding in the missing permeability requirement: 1×10^{-8} m/s or equivalent (See Table 1.3.1 of 28 May 2021 licence).
1 – Table 1: Thunderbox - Process water dam	Infrastructure requirement corrected by adding in the missing permeability requirement: 1×10^{-9} m/s or equivalent (See Table 1.3.1 of 28 May 2021 licence).
1 – Table 1	Thunderbox - Process water dam, Thunderbox - Mine dewatering dam 2, Thunderbox - Saline Dewatering Dam, Bannockburn - Mine Dewatering Dam, Otto bore operations - Mine dewatering dam infrastructure requirements corrected by adding in the missing freeboard requirement: Minimum top of embankment freeboard of 300 mm (See Condition 1.3.3 of 28 May 2021 licence).
2	Condition wording corrected by referring to construction requirements in addition to operational requirements.
3	Condition wording corrected by referring to the construction of infrastructure in Table 2 and removing reference to Table 1. This departure condition is intended to be related to the construction of infrastructure only (See Condition 1.3.12 of 28 May 2021 licence).
6 – Table 3	Freeboard inspection requirements corrected by referring to containment infrastructure listed in Table 1 rather than just TSFs: Other types of containment infrastructure listed in Table 1 have freeboard capacities requiring inspection (See Condition 1.3.3 and Table 1.3.2 of 28 May 2021 licence).
21	Condition wording corrected by also referring to the tailings decant rather than just ambient groundwater. (See Condition 1.3.3 and Table 1.3.2 of 28 May 2021 licence)
27(d)(e)	Condition number referencing corrected to refer to the right conditions.
28	Condition number reference corrected to refer to the right condition.
29 – Table 12	Condition number references corrected to refer to the right conditions.
32 – Table 14	Condition number references corrected to refer to the right conditions.

Table 10: Administrative changes in this amendment

Existing condition	Condition summary	Revised licence condition	Conversion notes
Cover page	Premises details	Cover page	Updated to current tenement details.
1 and Table 1	Containment infrastructure requirements	1 and Table 1	Wording and table format updated to refer to containment infrastructure and more accurately reflect the structure of the condition.
Table 1	Infrastructure location	Table 1	Figure numbers revised to remain correct.
Table 2: Saline dewatering dam at Thunderbox pit	Infrastructure requirements	Table 1: Thunderbox - Saline Dewatering Dam	Corresponding requirements moved to Table 1 so that already constructed containment infrastructure is not duplicated in both tables.
Table 2	Infrastructure labelling	Table 2	Slight wording change to distinguish infrastructure for each operational area of the premises.
Table 2	Infrastructure location	Table 2	Figure numbers revised to remain correct.
16	Fugitive dust emissions	16	Figure numbers revised to remain correct.
Figure 1	Premises map (whole)	Figure 1	Replaced with revised figure provided by the Licence Holder.
N/A	Premises map (north)	Figure 2	Figure provided by the Licence Holder included.
N/A	Premises map (south)	Figure 3	Figure provided by the Licence Holder included.
Figure 2a and 2b	Map of Thunderbox containment infrastructure and TSF monitoring bores	Figure 4	Figures 2a and 2b replaced with revised figure provided by the Licence Holder.
Figure 8	Map of Thunderbox treated effluent pipeline and discharge points	Figure 19	Replaced with revised figure provided by the Licence Holder.
Figure 9	Map of existing Thunderbox WWTP and additions	Figure 12	Replaced with revised figure provided by the Licence Holder.
Figure 12	Emissions points to air at Thunderbox	Figure 16	Replaced with revised figure provided by the Licence Holder.

Existing condition	Condition summary	Revised licence condition	Conversion notes
Figures 2 to 14	Maps of infrastructure and emission / discharge points	Figures 4 to 21	To ease interpretation of the licence the figure numbers and order in which they appear were rearranged to match as far as possible the order in which they are referenced in licence conditions.

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.

Appendix 1: Summary of stakeholder comments on the application

Stakeholder	Stakeholder comment	Department's response
<p>Department of Energy, Mines, Industry Regulation and Safety (DEMIRS)</p>	<p>DEMIRS replied on 21 August 2024 advising they approved a Mining Proposal to recommence operations at the Bannockburn project in May 2024 (Registration ID 122128). The proposal was related to the following tenements:</p> <p>L37/61, L37/73, L37/142, L37/215, L37/216, L37/225, L37/227, L37/228, L37/229, L37/256, L37/257, L37/258, L37/259, L37/260, M37/339, M37/340, M37/356, M37/357, M37/358, M37/359, M37/360, M37/361, M37/367, M37/368, and M37/465. M37/819, M37/1063, and M37/1148.</p> <p>And approval was granted for:</p> <ul style="list-style-type: none"> • Expansion of the existing Bannockburn Pit to combine the West Pit, North Pit, East Pit, Turkeys Nest Pit, and the Bruce Decline into a single mining void. The new mining void being referred to as the Bannockburn 'Main Pit'. • Construction of a new WRD to the east (WRD 3) and modification to the existing South WRD (WRD 1). • Expansion of Marshall Creek Borefield • Realignment of the Old Agnew Road which currently runs through the middle of Bannockburn and upgrade the existing pipeline access road between Bannockburn and Thunderbox to handle road trains. • The proposed mining activities will also comprise the following mining related infrastructure to support the development and ongoing operation of the Project: <ul style="list-style-type: none"> ○ Various Mining Ore Pads (MOPs) ○ Two double cell Turkey's Nest Dams (saline water storage) ○ Workshop and fuel storage facilities ○ Maintenance workshops and washdown pads ○ Power (gensets) and fuel facilities ○ Laydown yards ○ Administration building, ablution blocks and parking areas 	<p>Scope of mining proposal, environmental outcomes and performance criteria noted and considered in the assessment.</p>

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	<ul style="list-style-type: none"> ○ Haul roads, access tracks and service corridors ○ Dewatering infrastructure ○ Safety and abandonment bunds surrounding the pit void ○ Topsoil / subsoil and vegetation stockpile areas ○ Explosives magazine storage and compound <p>Northern Star will need to meet the following environmental outcomes and performance criteria during operation and closure of the project:</p> <p style="text-align: center;">Table 9-1: Environmental Outcomes, Performance Criteria and Monitoring</p> <table border="1" data-bbox="439 603 1619 1358"> <thead> <tr> <th data-bbox="439 603 566 643">Environmental Factor</th> <th data-bbox="566 603 730 643">DMIRS Objective</th> <th data-bbox="730 603 913 643">Risk Pathways</th> <th data-bbox="913 603 1077 643">Environmental Outcome</th> <th data-bbox="1077 603 1352 643">Performance Criteria</th> <th data-bbox="1352 603 1619 643">Monitoring</th> </tr> </thead> <tbody> <tr> <td data-bbox="439 643 566 1094" rowspan="4">Biodiversity</td> <td data-bbox="566 643 730 1094" rowspan="4">To maintain representation, diversity, viability and ecological functions at the species, population and community level.</td> <td data-bbox="730 643 913 799">Clearing outside of the approved disturbance envelope or greater than approved disturbance areas.</td> <td data-bbox="913 643 1077 799">{1} No unauthorised disturbance/ clearing of native vegetation.</td> <td data-bbox="1077 643 1352 799">Clearing is within the boundary of the disturbance envelope. 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	<table border="1" data-bbox="441 264 1626 699"> <thead> <tr> <th data-bbox="441 264 568 304">Environmental Factor</th> <th data-bbox="568 264 734 304">DMIRS Objective</th> <th data-bbox="734 264 913 304">Risk Pathways</th> <th data-bbox="913 264 1081 304">Environmental Outcome</th> <th data-bbox="1081 264 1355 304">Performance Criteria</th> <th data-bbox="1355 264 1626 304">Monitoring</th> </tr> </thead> <tbody> <tr> <td data-bbox="441 304 568 472"></td> <td data-bbox="568 304 734 472"></td> <td data-bbox="734 304 913 472"> materials containing elevated concentrations of metals/metalloids or fibrous minerals. Noting that only waste materials are a potential risk. No fibrous minerals are contained within the ore zone. </td> <td data-bbox="913 304 1081 472"></td> <td data-bbox="1081 304 1355 472"></td> <td data-bbox="1355 304 1626 472"></td> </tr> <tr> <td data-bbox="441 472 568 699">Rehabilitation and Mine Closure</td> <td data-bbox="568 472 734 699"> Mines are closed in a manner to make them physically safe to humans and animals, geo-technically stable, geo-chemically non-polluting/non-contaminating, and capable of sustaining an agreed post-mining land use, and without unacceptable liability to the State. </td> <td data-bbox="734 472 913 699"> Inadequate handling and storage of topsoil. </td> <td data-bbox="913 472 1081 699"> {12} Soil stored in suitable manner in order to retain structure and seed viability </td> <td data-bbox="1081 472 1355 699"> Soil to be handled when dry Soil to be stacked <2m high </td> <td data-bbox="1355 472 1626 699"> Soil stockpiles to be inspected during and following stockpiling. Soil stockpiles to be surveyed, labelled and marked on mine plans. GIS records to be retained. </td> </tr> </tbody> </table> <p data-bbox="441 727 1626 788">DEMIRS also confirms it has received a new clearing permit application (CPS 10369) for the project which aligns with expansion activities proposed in the Mining Proposal.</p>	Environmental Factor	DMIRS Objective	Risk Pathways	Environmental Outcome	Performance Criteria	Monitoring			materials containing elevated concentrations of metals/metalloids or fibrous minerals. Noting that only waste materials are a potential risk. No fibrous minerals are contained within the ore zone.				Rehabilitation and Mine Closure	Mines are closed in a manner to make them physically safe to humans and animals, geo-technically stable, geo-chemically non-polluting/non-contaminating, and capable of sustaining an agreed post-mining land use, and without unacceptable liability to the State.	Inadequate handling and storage of topsoil.	{12} Soil stored in suitable manner in order to retain structure and seed viability	Soil to be handled when dry Soil to be stacked <2m high	Soil stockpiles to be inspected during and following stockpiling. Soil stockpiles to be surveyed, labelled and marked on mine plans. GIS records to be retained.	
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<p data-bbox="203 823 383 884">Department of Health (DoH)</p>	<p data-bbox="441 823 1128 852">DoH replied on 12 September 2024 advising the following:</p> <p data-bbox="441 871 1700 932">The proposal is for operations to recommence at the Bannockburn mining site and for associated support services to be instituted.</p> <p data-bbox="441 951 1700 1161">The proposal does not appear to consider control of fugitive dust emissions, other than indicating that water removed from mines will be used for dust suppression. Any dust management plan for the current operations should be updated to include the new mining activities. In doing so, consideration should be given to how to manage any potential impacts on the Kaora Aboriginal Camp which is within the Thunderbox Operation's boundary. It is not clear in the provided documentation where the Camp is exactly located and whether consideration has been given to how mining activities may impact sensitive receptors using the mining tenement.</p> <p data-bbox="441 1181 1700 1299">In relation to water taken from the mine pits for reuse, the company should also ensure that it is fit for purpose and does not present any human or environmental hazards including during dust suppression or discharges that may affect Kaora Camp or produce an impact warranting notification under the <i>Contaminated Sites Act 2003</i>.</p>	<p data-bbox="1715 823 2045 1161">The application has not considered dust emissions from the mining activity itself, as this regulated under the <i>Mining Act 1978</i>. The licence regulates secondary activities associated with mining, such as ore processing, dewatering and support services.</p> <p data-bbox="1715 1181 2045 1362">The department notes that the Koara Camp is a registered Aboriginal Cultural Heritage site due to archaeological finds but is not an inhabited camp.</p>																		

Appendix 2: Summary of Licence Holder's comments on risk assessment and draft conditions

Condition	Summary of Licence Holder's comment	Department's response
Licence		
Premises boundary	Include mining tenement M37/1148 in the premises description.	Included.
	An updated premises boundary figure was provided, along with two additional figures showing the north and south portions of the premises at a lower scale.	New figures included.
1: Table 1	Rename Bannockburn - Mine Dewatering Dam to Bannockburn Mine Hill Dewatering Dam	Infrastructure renamed to match label in provided figure.
	The North and East dam HDPE liner will be 1.5 mm thick.	Included in table.
2: Table 2	The saline dewatering dam at Thunderbox is still part of site infrastructure. Operational requirements and infrastructure location need to stay in this table also.	The dam still remains on the licence and has been moved to Table 1, which contains other containment infrastructure.
	The North and East dam HDPE liner will be 1.5 mm thick.	Included in table.
17: Table 8	Thunderbox A zone and D zone are just names within the same pit. The table should just have one row labelled Thunderbox – Pit.	Reference to A and D zone pits removed and replaced with Thunderbox – Pit.
	The Bannockburn underground is within the Bannockburn pit. The table should just have one row labelled Bannockburn – Pit.	Reference to Bannockburn underground removed and replaced with Bannockburn – Pit.
	5 m freeboard is the correct height for all pits. Waterloo underground has a 6 m freeboard.	Noted.
Amendment Report		
Section 2.2	Remove the words waterloo pit. There is no actual pit as this is a boxcut. Hence call it Waterloo boxcut or Waterloo underground.	Reference to Waterloo pit has been removed.

Appendix 3: Application validation summary

SECTION 1: APPLICATION SUMMARY				
Application type				
Amendment to licence	<input checked="" type="checkbox"/>	Current licence number:	L7815/2001/11	
		Relevant works approval number:	N/A	<input checked="" type="checkbox"/>
Date application received	7 May 2024			
Applicant and Premises details				
Applicant name/s (full legal name/s)	Northern Star (Thunderbox) Pty Ltd			
Premises name	North Eastern Goldfields Operation			
Premises location	Mining tenements L36/155, L36/157, L36/158, L36/181, L36/193, L36/199, L36/202, L37/61, L37/73, L37/142, L37/166, L37/181, L37/199, L37/215, L37/216, M36/35, M36/177, M36/421, M36/428, M36/462, M36/473, M36/494, M36/503, M36/504, M36/512, M36/516, M36/525, M36/527, M36/541, M36/542, M36/582, M36/584, M36/585, M36/586, M36/587, M36/589, M36/599, M36/600, M36/1148, M37/339, M37/340, M37/356, M37/357, M37/358, M37/359, M37/360, M37/361, M37/367, M37/368, M37/437, and M37/465			
Local Government Authority	Shire of Leonora			
Application documents				
HPCM file reference number:	DWERDT944573			
Key application documents (additional to application form):	Application supporting document – Updated through RFI Appendix A - Hydrogeological Assessment – Provided in RFI Appendix B - WWTP details – Provided in RFI RFI response comments			
Scope of application/assessment				
Summary of proposed activities or changes to existing operations.	<p><u>Licence amendment</u></p> <p>Re-commencing operation of the Bannockburn pit which has been on care and maintenance since 1998. Mining operations will comprise a cutback of the existing pit, with ore transported to the existing Thunderbox mill for processing. The licence amendment proposes the following:</p> <ul style="list-style-type: none"> • Dewatering of the Bannockburn pit requiring the following changes under Category 6: <ul style="list-style-type: none"> ○ Increase capacity from 450,000 tpa to 8,000,000 tpa; ○ Construction of 2 new turkey nests dams to contain dewatering water for process requirements and dust suppression; ○ Installation of new water conveyance pipelines; and ○ Discharging of excess mine dewater into the North Well pits, Slaughter Yard pits, Waterloo underground, Bannockburn pit and/or the Thunderbox pit. • Additional power supply for Bannockburn requiring the following changes under Category 52: <ul style="list-style-type: none"> ○ No increase to existing 38 MW capacity; and ○ Installation of a mobile 200 kW diesel generator at the administration area; and ○ Additional air emission point associated with the generator. • Additional sewage treatment and upgrades requiring the following changes under Category 54: <ul style="list-style-type: none"> ○ Increase capacity from 120 m³/day to 140 m³/day; 			

	<ul style="list-style-type: none"> ○ Construction of a new 20 m³/day leach drain for facilities at the Bannockburn pit area; ○ Additional discharge point for treated sewage at the Bannockburn area; and ○ Upgrades to Thunder Box Operations WWTP comprising new storage tanks and aerators. The upgrades are to reduce sludge generation volumes but not change treatment capacity. <ul style="list-style-type: none"> • Additional putrescible landfill requiring the following changes under Category 64: <ul style="list-style-type: none"> ○ Increase capacity from 5,000 tpa to 7,000 tpa; and ○ Addition of a new 2,000 tpa designated Class II putrescible waste landfill for the Bannockburn pit located on the Bannockburn Waste Rock Dump. • Additional fuel storage for Bannockburn requiring the following changes under Category 73: <ul style="list-style-type: none"> ○ Decrease capacity from 105,000 m³ to 2,500 m³. Although the actual storage capacity on the premises is proposed to increase, the capacity listed on the existing licence is considered an administrative error and vastly exceeds what is currently located on the premises. The amendments result in the actual capacity at the site increasing by 626 m³; ○ Addition of existing 126 m³ of minor fuel storage infrastructure for Bannockburn, located at the various Bannockburn bores (4 m³ tanks) and pump stations (15 m³ tanks); ○ Installation of above ground self-bunded diesel fuel storage tanks with a max capacity of 500 kL; and ○ Construction of a concrete refuelling apron and 1.8 m high bunds around the new tanks. <p>The following administrative amendments are also requested:</p> <ul style="list-style-type: none"> • Replace licence Figure 2 with Thunderbox Operations Containment Infrastructure and Monitoring Bores figures; • Remove licence Figure 2b as the new Thunderbox Operations Containment Infrastructure and Monitoring Bores contains this information; • Replace licence Figure 8 with Figure 7 Thunderbox Sewage Treatment Facility and Effluent Discharge Point; and • Replace licence Figure 9 with Figure 8 Thunderbox Wastewater Treatment Plant.
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Category number/s (activities that cause the premises to become prescribed premises)

Table 1: Prescribed premises categories

Prescribed premises category and description	Assessed 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	7,000,000 tpa	No change
Category 6: Mine dewatering	450,000 tpa	8,000,000 tpa
Category 52: Electrical power generation	38 MW	No change
Category 54: Sewage facility	120 m ³ /day	140 m ³ /day
Category 64: Class II putrescible landfill	5,000 tpa	7,000 tpa
Category 73: Bulk chemical storage	105,000 m ³	2,500 m ³

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 type="checkbox"/> No <input checked="" type="checkbox"/>	Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
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 type="checkbox"/> N/A <input checked="" type="checkbox"/>	Certificate of title <input type="checkbox"/> General lease <input type="checkbox"/> Expiry: <input type="text"/> Mining lease / tenement <input checked="" type="checkbox"/> Expiry: <input type="text"/> Other evidence <input type="checkbox"/> Expiry: <input type="text"/>
Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Approval: Expiry date: If N/A explain why? Mining tenement
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: CPS 10369/1
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 Not in a CAWS catchment
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"/>	Application reference No: Licence/permit No: GWL63550, GWL170438, GWL154472, GWL158766, AGR201435
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 Groundwater Area Type: Proclaimed Groundwater Area Will Regulatory Services (Water) be consulted? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> Regional office: Goldfields
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	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"/>
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>)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<i>Dangerous Goods Safety Act 2004, Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007, Environmental Protection (Controlled Waste) Regulations 2004</i>
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Legislative context and other approvals		
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i> ?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<p>Classification: Combination of report not substantiated (RNS), not contaminated – unrestricted use (NC–UU), remediated for restricted use (RRU) depending on which tenement.</p> <p>Thunderbox pit area is RRU, RNS, NC-UU and AC.</p> <p>Date of last classification: 23 October 2019</p> <p>CM Files: DEC12260/1 and DER2015/000433-1</p>