



## Application for Licence Amendment

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

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<b>Licence Number</b>	L7750/2001/10
<b>Licence Holder</b>	Evolution Mining (Mungari) Pty Ltd
<b>ACN</b>	002 124 745
<b>File Number</b>	2011/009482-1
<b>Premises</b>	Mungari Gold Project  Legal description –  Part of L15/228, L15/246, M15/688, M15/829, M15/830, M15/1287, M15/1407, M15/1741
<b>Date of Report</b>	22 June 2021
<b>Decision</b>	Revised licence granted

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**A/MANAGER RESOURCE INDUSTRIES**  
**REGULATORY SERVICES**

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

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# 1. Decision summary

Licence L7750/2001/10 is held by Evolution Mining (Mungari) Pty Ltd (the Licence Holder) for the Mungari Gold Project (the Premises), located approximately 20 km east of the town of Kalgoorlie.

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 L7750/2001/10 has been granted.

The Revised Licence issued as a result of this amendment consolidates and supersedes the existing Licence previously granted in relation to the Premises. The Revised Licence has been granted in a new format with existing conditions being transferred, but not reassessed, to the new format.

## 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 Amendment summary

On 24 December 2020, the Licence Holder submitted an application to the department to amend Licence L7750 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act).

This amendment is limited only to changes to Category 5 and 89 activities from the Existing Licence and the addition of Category 12. No changes to the aspects of the existing Licence relating to Category 6 have been requested by the Licence Holder.

In amending the licence, the CEO has also:

- updated the format and appearance of the Licence;
- revised licence condition's numbers, and removed any redundant conditions and realigned condition numbers for numerical consistency; and
- corrected clerical mistakes and unintentional errors.

The department has not undertaken any additional risk assessment of the Premises related to previous Amendment Notices.

**Error! Reference source not found.** below outlines the proposed changes to the existing Licence. Further detail regarding amendments being sought under this application are detailed below.

**Table 1: Proposed throughput capacity changes**

Category	Current throughput capacity	Proposed throughput capacity	Description of proposed amendment
5	2,000,000 tonnes per annual period	3,000,000 tonnes per annual period	Increase in Category 5 annual throughput.
6	5,000,000 tonnes per annual period	N/A	No change.
12	N/A	500,000 tonnes per annual period	Addition of Category to authorise crushing and screening activities.
89	2,000 tonnes per annual period	N/A	Increase in permissible landfilling area and change to landfilling methodology.

### 2.2.1 Change to premises boundary

The Licence Holder proposes to reduce the size of the premises boundary so that only areas where prescribed activities are occurring are incorporated within the Premises. The Licence Holder has provided new premises maps and premises boundary coordinates to clearly outline the newly proposed boundary, to be incorporated into the revised Licence.

### 2.2.2 Increase in Category 5 throughput

The Licence Holder proposes to increase Category 5 annual throughput to 3,000,000 tonnes, with no major upgrades to current site infrastructure proposed to facilitate this increase. The Licence Holder has demonstrated that significant changes in ore characteristics between pits on the Premises, along with ongoing minor upgrades to plant infrastructure to improve the processing plant's performance and gradual tonnage increases at the plant, will be sufficient to facilitate the increase in throughput without substantially changing the current processes in use on site.

Should any necessary changes to the processing plant be required to accommodate for the increase in throughput at a later date, the Licence Holder will seek these changes through a works approval application.

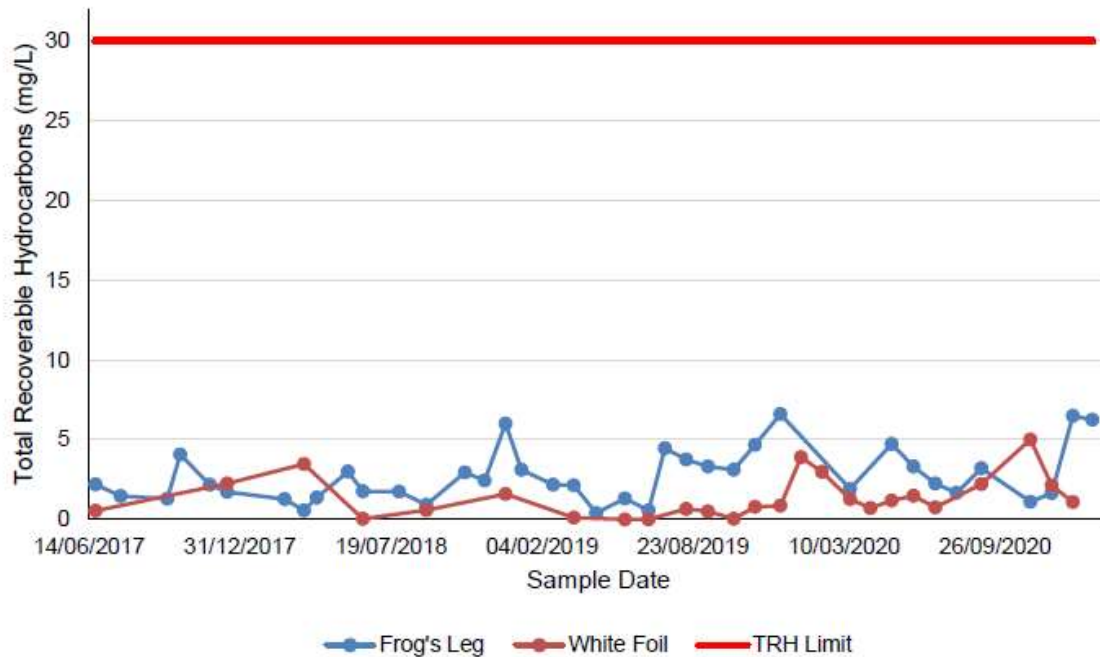
**Key Finding:** The Delegated Officer notes that an increase in Category 5 throughput will also result in an increase in tailings generation and deposition into the Tailings Storage Facility (TSF).

The Licence Holder was granted a works approval (W6364/2020/1) on 10 September 2020 to authorise the construction of two additional TSF cells at the Premises, which will accommodate the increased generation of tailings from the additional Category 5 Premises throughput.

As such, any potential increase in emissions and discharges resulting from increased tailings disposal will be assessed as a part of a future Licence amendment, which will need to be submitted by the Licence Holder to authorise the use of the new TSF cells after their construction and quality assurance verification under W6364/2020/1.

### 2.2.3 Removal of TRH limit for oil-water separators

The Licence Holder has requested the removal of the Total Recoverable Hydrocarbons (TRH) limit of 30 mg/L as specified in the existing Licence. In support of this proposed amendment, the Licence Holder has submitted historical data for TRH within water utilised for dust suppression on site, with calculations based on wastewater TRH values once diluted with groundwater prior to being used as dust suppression. The Licence Holder achieves dilution by adding approximately 1,200L of wastewater to a 20,000L water cart. This historical data demonstrates that water that has been emitted to land for the purpose of dust suppression is well below the 30 mg/L specified limit as demonstrated in Figure 1 below.



**Figure 1: TRH concentrations with water utilised for dust suppression**

**Key Finding:** The Delegated Officer has reviewed the supporting information to justify the removal of the TRH limit from the Licence and considers the following:

1. Concentrations of TRH within water to be used for dust suppression have been calculated post dilution, where approximately 1,200L of wastewater is diluted within a 20,000L water tank (approximately 1 part wastewater and 15 parts groundwater, assuming a full tank water tank is used for dilution). It is noted that concentrations within wastewater pre dilution are estimated to be 15 times higher than the presented values, indicating that the current 30 mg/L limit specified in the Licence is being exceeded by almost triple.

To allow for the removal of the TRH limit from the Licence and ensure TRH concentrations in dust suppression water remain low, conditions will be added to the revised Licence ensuring that this dilution factor is maintained during ongoing operations. The intent of added conditions is to reflect current processes in use at the site by the Licence Holder.

2. Schedule 1 of the existing Licence includes 'Maps of dust suppression areas in accordance with condition 1.3.17', which define dust suppression discharge areas for wastewater in exceedance of the 30 mg/L TRH limit at both the White Foil pit and Frog's Leg pit.

As the Licence Holder has demonstrated that historically TRH concentrations within water discharged to land through dust suppression have been well below the specified limit, these maps are not required on the Licence and will be deleted through this

amendment.

## 2.2.4 Addition of Category 12

The Licence Holder is seeking the inclusion of Category 12 on the Licence to authorise mobile crushing and screening activities at the site. Material will be crushed to varying sizes between 5 mm to 300 mm and will be used for road construction, stemming for open pit and underground blasting operations, and emergency mill feed. The plants annual throughput is anticipated to be under 500,000 tonnes. As the exact location of crushing and screening activities will be variable depending on source rock properties and operational needs, the Licence Holder proposes to conduct crushing and screening activities within the boundaries indicated in Figure 2 below.

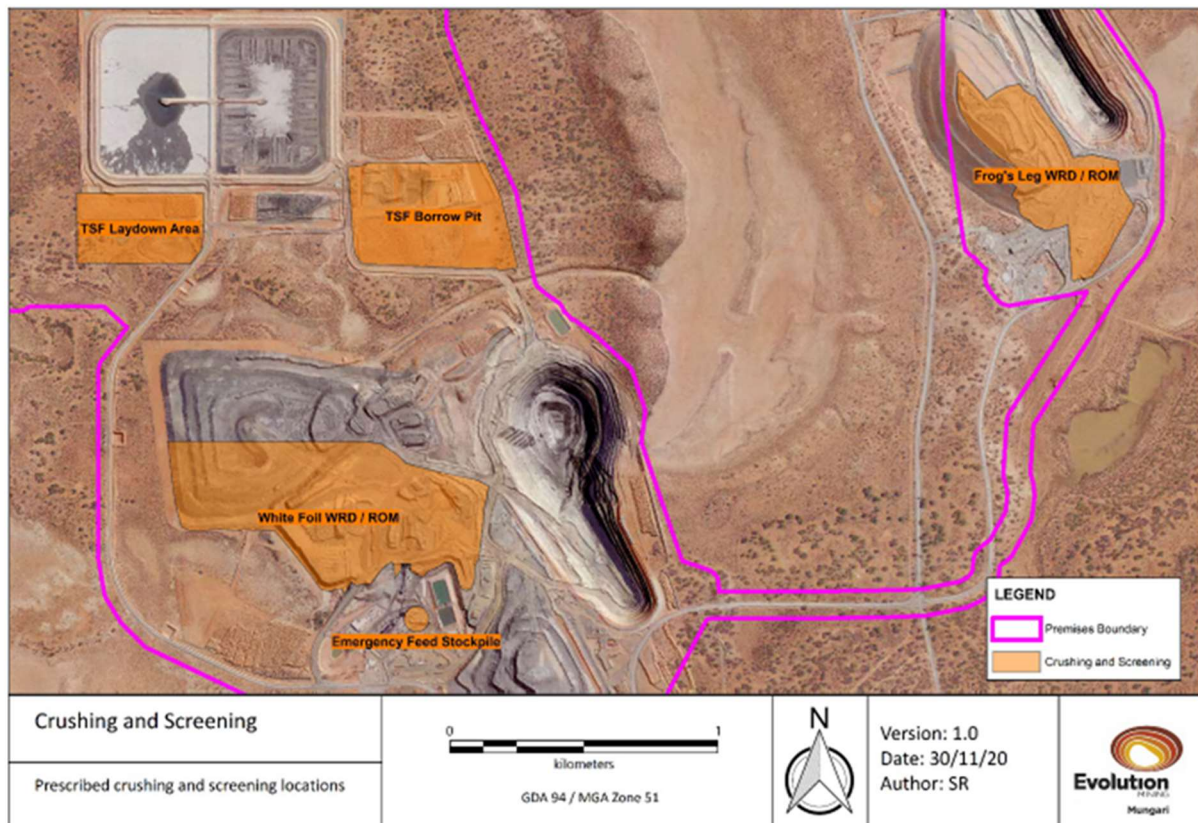


Figure 2: Proposed crushing and screening locations

## 2.2.5 Change to landfilling locations

The Licence Holder is seeking to expand the areas that are currently permitted for landfilling within the White Foil and Frog's Leg waste rock dumps (WRD) on the existing Licence, so that the entire area of both WRD's can be utilised for landfilling purposes. These areas are outlined in Figure 3 below. No change to the current Category 89 throughput, landfill management practices or the waste types accepted to landfill are proposed, however the Licence Holder requires greater flexibility regarding where landfill trenches can be constructed to accommodate for the mining schedule at the site. Landfill location will move in line with the construction of the waste dumps, which will ensure that all trenches will eventually be incorporated into the final profile of the landform.

Landfill trenches are proposed to typically be constructed to the dimensions of 30m long, 15m wide and 3m deep, allowing a total volume of 1,350 m<sup>3</sup> per trench. The White Foil WRD is anticipated to incorporate approximately 15 trenches and the Frog's Leg WRD is expected to incorporate 3 trenches. The WRD's will be surveyed once a new trench is constructed to keep

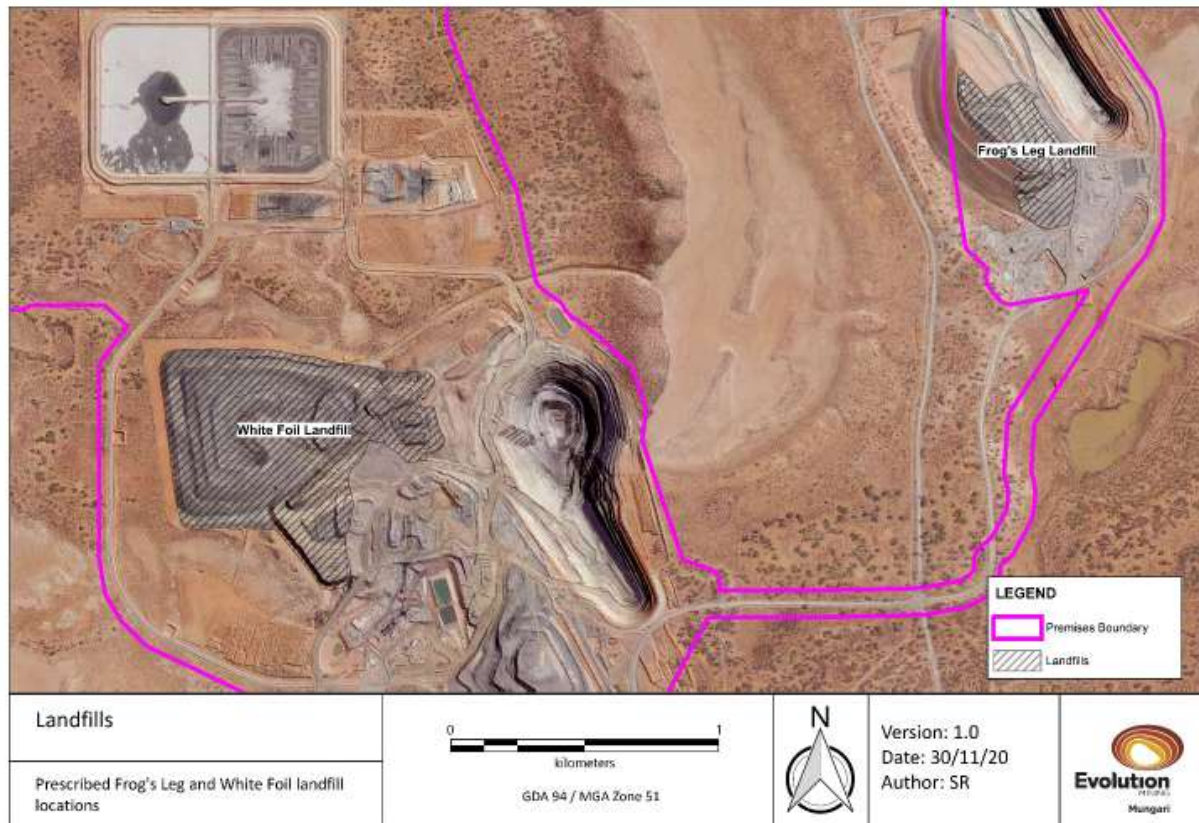


a record of landfill trench location.

The presence of landfill trenches within the WRD's is not expected to affect final landform stability as the position of the trenches will be greater than 20m from the final landform slope crest and will not factor into any slope stability mechanics. This distance also ensures that landfill trenches will not be dug out when pushing the batters to their final slope of 15 degrees.

**Key Finding:** The Delegated Officer notes that current conditions within the existing Licence do not clearly reflect permissible accepted waste types or waste processing requirements.

Licence conditions will be amended to provide greater clarity to the Licence Holder regarding their waste acceptance and processing requirements.



**Figure 3: Proposed landfilling locations**

### 2.2.6 Change to Standing Water Level (SWL) limit

The Licence Holder has requested the removal of the requirement to report an exceedance of the SWL limit of 4 mbgl associated with monitoring bore MB05, as the bore will continue to be non-compliant with this limit for the duration of the TSF operation and a report on this exceedance is currently submitted monthly under current licence conditions.

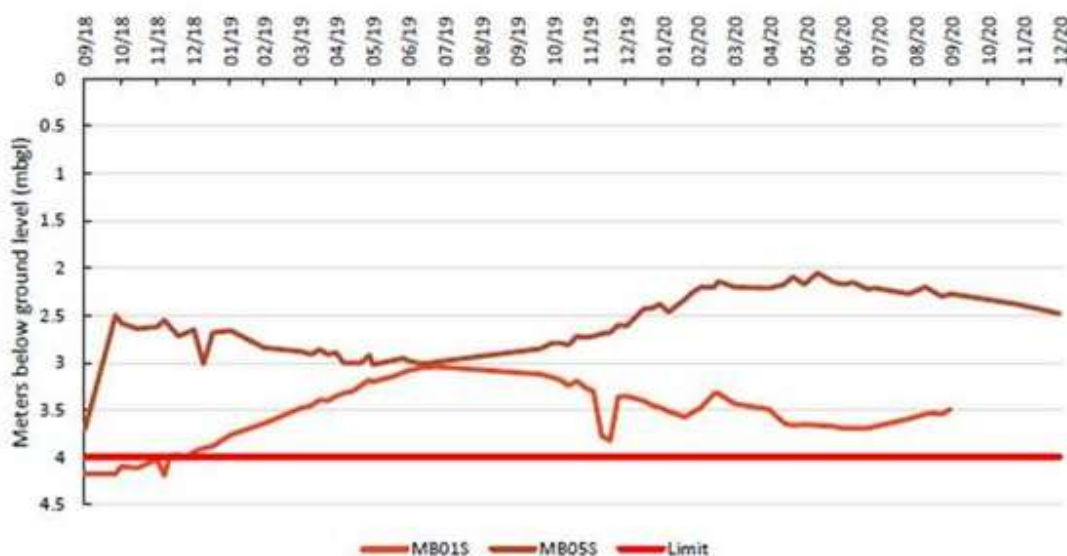
The Licence Holder has conducted a number of investigations into the limit exceedance within groundwater monitoring MB05 since shallow groundwater was identified in this area in 2016. The outcome of these investigations determined that the shallow groundwater was a result of seepage from the TSF causing a groundwater mound. As a result of this, the Licence Holder has implemented the following seepage mitigation measures:

- Monitoring frequency of SWL within the bores was increased to monthly, and cyanide to quarterly;
- An additional monitoring bore (MB06) was installed 50m north of MB05 to determine the

extent of groundwater mounding away from the TSF and potential impacts to vegetation. This bore was installed to a depth of 10 mbgl and has remained dry since its installation in 2017;

- Four recovery bores were installed in 2017 on the north side of the TSF; and
- A groundwater interception trench was installed on the north-western corner of the TSF in 2018, which incorporates a soakwell to send captured water back to the TSF.

Continued monitoring of MB05 has indicated that these mitigation measures have done little to reduce groundwater mounding and prevent the subsequent limit exceedance of the SWL. However, no increase in the SWL within MB05 has been noted since mitigation measures were implemented, with SWL fluctuating between 3 mbgl and 2 mbgl as indicated in Figure 4 below.



**Figure 4: Historical timeline of non-compliant TSF monitoring bores**

**Key Finding:** The Delegated Officer considers the presence of a 10m deep dry bore 50m north of MB05 presents a good indication that groundwater mounding is limited to an area immediately surrounding the TSF.

Noting that the SWL of MB05 has historically exceeded the current licence limit of 4 mbgl, a new SWL limit for MB05 will be introduced to the licence of 2 mbgl. This limit has been deemed appropriate based off historical SWL data that has been submitted to DWER for MB05 and ensures that any significant increase to the SWL of MB05 is reported to DWER in line with the N1 reporting requirements specified on the Licence.

Since groundwater mounding has been confirmed to be present surrounding the TSF, the Delegated Officer also deems it appropriate to include the requirement for annual vegetation monitoring on the Licence specific to this area. This monitoring aims to provide additional assurance that groundwater mounding is localised to the TSF surrounds and is not impacting nearby vegetation.

Should exceedances of the new SWL limit of 2 mbgl be recorded or impacts to vegetation health noted, DWER may seek information from the Licence Holder as to further mitigation measures that can be implemented at the site to reduce environmental harm. DWER may also amend the Licence at a later stage to increase the degree of regulatory control if required.

## 2.2.7 Other proposed amendments

The Licence Holder has provided clarification surrounding current site operations and has



highlighted inconsistencies between premises operations and what is reflected in the existing licence. As such, the following amendments have been requested:

- Site infrastructure to be re-referenced throughout revised licence in relation to new premises maps provided;
- The addition of an option for all pipelines containing tailings, decant recovery, process water or mine dewater to be equipped with telemetry with leak detect alarms;
- The removal of reference to the use of HDPE liners within the TSF as another material has been used to achieve the required permeability;
- The removal of dimension specifications for the tailings storage pad;
- Updates to wording surrounding dewatering activities at the Premises to correct errors within the Licence regarding the dewatering process and pathways;
- Approval for the White Foil Pit to be used as a dewatering discharge location, despite this area having been mistakenly included as a discharge area in previous licence revisions due to an error in the naming of site infrastructure; and
- Removal of a recently decommissioning monitoring bore MB1.

**Key Finding:** The Delegated Officer has reviewed the additional proposed amendments to the Licence and considers the following:

1. The inclusion of an option for all pipelines containing tailings, decant recovery, process water or mine dewater to be equipped with telemetry with leak detect alarms does not align with the risk rating for the existing options of automatic cut outs in the event of pipe failure and secondary containment. A telemetry leak detection system alone does not provide any discharge controls should a fault be detected within any pipelines.

However, the Licence Holder has provided additional clarification advising that telemetry and leak detection systems are currently in use at the Premises only on the two high risk consistently operating lines, being the tailings slurry delivery line and the dewatering pipeline from the Northern Transfer Pond to Pope John Pit. Information has also been provided justifying why a telemetry leak detection system is not practical given current site operations on other pipelines containing tailings, decant recovery, process water or mine dewater across the premises, and that these pipelines are currently fitted with both automatic cut outs in the event of pipe failure and secondary containment.

In light of this new insight into current operations, the option for the telemetry leak detection system for the pipelines will be permitted as a third option for leak and/or spill control from the pipelines.

2. Dimension specifications for the tailings storage pad were provided to DWER in the document 'Tailings Storage Facility – Stage 5 Raise Technical Specification, Knight Piesold Consulting, July 2018' which also outlines specifications for the Stage 5 TSF lift approved under a licence amendment issued on 22 January 2019.

Any material changes to design specifications outlined in the original document provided to and assessed by DWER under a previous amendment application were examined on the submission of the Compliance Document (Construction Report) required on the completion of construction works, which was provided to DWER on 20 April 2021 in support of this amendment application.

A review of the Compliance Document identified that there was no reference to the storage pad dimensions within the document, however there were also no specifications outlining specific storage pad dimensions within the Licence conditions which were required to be adhered to. As such, in this instance no amendment is

required.

Further Compliance Document findings are outlined in Appendix 1.

3. The use of the White Foil Pit as a dewatering discharge location was specified on the licence as an unintentional error, which was identified during compliance inspections undertaken on 10 April 2018 and 9 May 2019 and corrected under an amendment to the licence granted on 18 December 2019. Condition wording at this time amended the 'White Foil Pit' to the 'White Foil Dam' to reflect the correct dewatering pathway, as the correct naming of the lined dam at the north of the White Foil Pit was unknown.

In updating condition wording to further clarify the dewatering process and pathway at the Premises, reference to the 'White Foil Dam' will be changed to the 'Northern Transfer Pond' to reflect the correct reference within the dewatering pathway. Associated monitoring conditions relating to the White Foil Dam area will also be removed from the licence, noting that the Northern Transfer Pond is lined and is not considered a point source emission to groundwater.

As the use of the White Foil Pit as a dewatering discharge location has not been assessed by DWER, the Licence Holder is advised to seek a separate amendment to the Licence, providing proposed methodology around the use of the White Foil Pit, so that it can be considered for inclusion in the Licence.

4. The decommissioning of monitoring bore MB1 is associated with the construction of an additional TSF cell, which is authorised under works approval W6364/2020/1, granted on 10 September 2020. As this bore is located within the footprint of the future TSF cell and construction on the TSF cell has commenced, this bore will be removed from the Licence.

### 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 *Guidance Statement: Risk Assessments* (DER 2017).

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 construction and operation which have been considered in this Amendment Report are detailed in Table 2 below. Table 2 also details the proposed control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary.

**Table 2: Licence Holder controls**

Emission	Sources	Potential pathways	Proposed controls
<b>Category 5 – operation</b>			
Hydrocarbon spills/leaks	Increasing processing plant throughput from 2 million tonnes pa	Direct impact to underlying soils with potential to impact surface	All hydrocarbons will be stored in bunded area. Spills of hydrocarbons and

<b>Emission</b>	<b>Sources</b>	<b>Potential pathways</b>	<b>Proposed controls</b>
	to 3 million tonnes pa	water and groundwater	hydrocarbon contaminated material will be collected and sent offsite for treatment and disposal.  Spill kits will be available across the premises.
Hypersaline water - Spills/leaks from conveyance or storage infrastructure		Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Any reported spills will be banded and contaminated soil removed from site.  Pipelines are inspected daily.  V-drain and pipeline bunding are inspected and maintained in good working order.
Wastewater	Discharge of treated wastewater (from wash down bays) to land for dust suppression	Direct impact to underlying soils with potential to impact groundwater	The Licence Holder has demonstrated that historical concentrations of TRH in wastewater are well below 30 mg/L.  Wastewater (approximately 1,200L) is diluted with groundwater within a 20,000L water cart prior to use for dust suppression.
<b>Category 12 – operation</b>			
Sediment laden stormwater	Screening, crushing, unloading, loading and storage of material	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Stormwater will be captured by earthen bunding surrounding operation areas and either evaporated or infiltrated on site.
Hydrocarbon spills/leaks	Vehicle movements	Direct impact to underlying soils with potential to impact surface water and groundwater	Spills will be immediately contained and any contaminated soil removed and disposed of appropriately.  No consumable chemicals are used within plant machinery.  No hydrocarbons will be stored within the plant.
<b>Category 89 – operation</b>			
Leachate	Deposition of waste to landfill trenches	Land and waters causing impacts to underlying groundwater	Separation distance of 2m between the base of the waste mass and groundwater to be maintained.

Emission	Sources	Potential pathways	Proposed controls
			Putrescible wastes accepted for landfilling limited to cardboard and timber. Waste will be covered on a monthly basis.
Contaminated stormwater		Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Each landfill trench will be bunded to divert stormwater away from the waste mass. Waste will be covered on a monthly basis.

### 3.1.2 Receptors

In accordance with the *Guidance Statement: Risk Assessment* (DER 2017), 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.

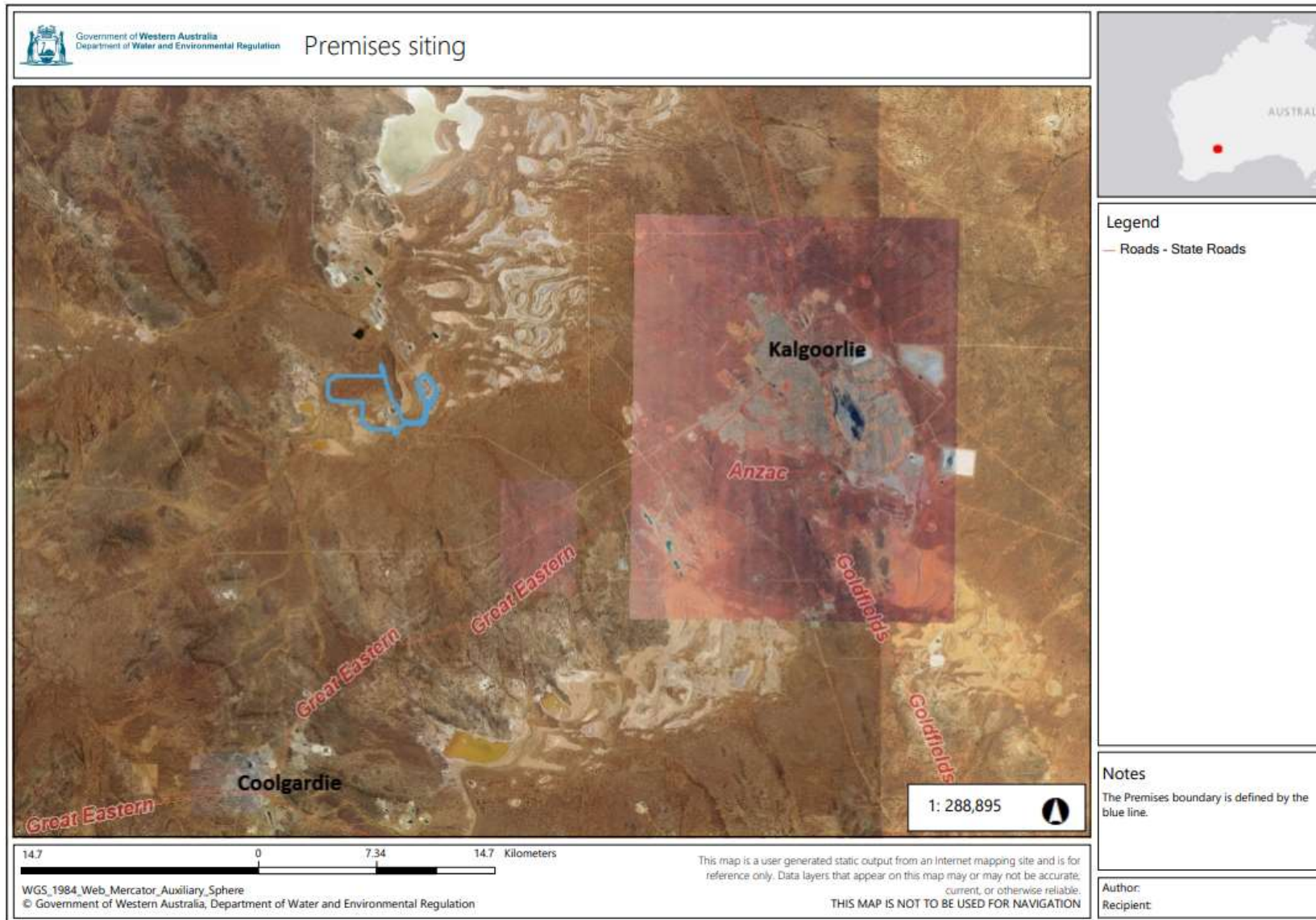
Table 3 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises (*Guidance Statement: Environmental Siting* (DER 2016)).

**Table 3: Sensitive human and environmental receptors and distance from prescribed activity**

Human receptors	Distance from prescribed activity
Coolgardie townsite	20km south of the premises
Kalgoorlie-boulder township	20 km east of the premises
Environmental receptors	Distance from prescribed activity
Inland water bodies (salt lakes)	Unnamed Salt Lake 0.5 km south <ul style="list-style-type: none"> <li>• West Lake 0.7 km west</li> <li>• Cattle Swamp 2.1 km south</li> <li>• Kurrawan Lake 1.5 km south Kopai Lake 2.2 km east</li> <li>• Greta Lake 3.1 km northeast</li> <li>• Kurrawang White Lake 5.8 km northeast</li> </ul>
Groundwater	Regional groundwater is hypersaline. There are no known groundwater dependent ecosystems and the only beneficial use is mining and mineral processing.
Threatened or Priority Flora	Four vegetation zones identified within Premises: <ul style="list-style-type: none"> <li>• Mixed Eucalyptus Woodlands over Sclerophyll shrublands.</li> <li>• Eucalyptus Salubris woodlands.</li> </ul>

	<ul style="list-style-type: none"> <li>• Casuarina pauper over sclerophyll shrublands.</li> <li>• Eucalyptus oleosa thicket over sclerophyll shrublands.</li> </ul> <p>No Threatened or Priority Flora, Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs) have been recorded in the Premises and none are located within 2 km of the premises.</p>
Threatened or Priority Fauna	<p>No significant fauna or conservation significant vertebrate fauna have been detected in the Premises and none are located within approximately 2.5 km of the premises.</p>





**Figure 5: Premises siting**

Licence: L7750/2001/10

## 3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guidance Statement: Risk Assessments* (DER 2017) 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 in-complete 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 4.

The Revised Licence L7750/2001/10 that accompanies this Amendment Report authorises emissions associated with the construction and operation of the Premises i.e. placement of crushing and screening equipment and operation of crushing and screening plant, processing plant with increase in annual throughput and landfilling activities.

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

**Table 4: Risk assessment of potential emissions and discharges from the Premises during operation**

Risk Event					Risk rating <sup>1</sup> C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions <sup>2</sup> of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls				
<b>Category 5</b>								
Increase in premises throughput	Hydrocarbon spills/leaks	Direct impact to underlying soils with potential to impact surface water and groundwater	Surrounding inland water bodies (salt lakes) Threatened or Priority Flora identified within the Premises Underlying groundwater	Refer to Section 3.1	C = Moderate L = Unlikely <b>Medium Risk</b>	Y	Emissions will be regulated under general provisions of the EP Act	N/A
	Contaminated water	Spills/leaks from conveyance or storage infrastructure resulting in overland runoff potentially causing ecosystem disturbance or impacting surface water quality		Refer to Section 3.1	C = Moderate L = Unlikely <b>Medium Risk</b>	Y	Condition 1, 3, 23 and 25	N/A
	Discharge of treated wastewater (from wash down bays) to land for dust suppression	Wastewater		Direct impact to underlying soils with potential to impact surface water and groundwater	Refer to Section 3.1	C = Moderate L = Unlikely <b>Medium Risk</b>	Y	Condition 23
<b>Category 12</b>								
Crushing and screening activities	Sediment laden stormwater	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Surrounding inland water bodies (salt lakes) Threatened or Priority Flora identified within the	Refer to Section 3.1	C = Minor L = Unlikely <b>Medium Risk</b>	Y	Condition 15	N/A

Risk Event					Risk rating <sup>1</sup> C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions <sup>2</sup> of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls				
	Hydrocarbon spills/leaks	Direct impact to underlying soils with potential to impact surface water and groundwater	Premises Underlying groundwater	Refer to Section 3.1	C = Minor L = Unlikely <b>Medium Risk</b>	Y	Condition 15	N/A
<b>Category 89</b>								
Deposition of waste to landfill trenches	Leachate	Land and waters causing impacts to underlying groundwater	Surrounding inland water bodies (salt lakes) Threatened or Priority Flora identified within the Premises	Refer to Section 3.1	C = Moderate L = Possible <b>Medium Risk</b>	Y	Condition 8, 10 and 12	N/A
	Contaminated stormwater	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Underlying groundwater	Refer to Section 3.1	C = Moderate L = Possible <b>Medium Risk</b>	Y	Condition 8, 10 and 12	N/A

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guidance Statement: Risk Assessments* (DER 2017).

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

**Table 5: Consultation**

Consultation method	Comments received	Department response
The Shire of Coolgardie advised of proposal 18 March 2021	None received.	N/A.
Department of Mines, Industry Regulation and Safety (DMIRS) advised of proposal 18 March 2021	DMIRS advised on 28 April 2021 that there were no comments on the application.	Noted – no action required.
Licence Holder provided with draft amendment 20 April 2021	The Licence Holder provided a response to the draft documents on 9 June 2021.  Comments are outlined in Appendix 1.	DWER's response to Licence Holder comments is outlined in 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 6 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 6: Summary of licence amendments**

Condition no.	Proposed amendments
N/A Prescribed Premises table	Increase in Category 5 throughput from 2,000,000 tonnes per annum to 3,000,000 tonnes per annum.  Inclusion of Category 12 on the Licence, with an annual throughput of 500,000 tonnes.
Condition 1	Inclusion of an option for all pipelines containing tailings, decant recovery, process water or mining water to be equipped with telemetry with leak detect alarms, and/or either automatic cut-outs and/or secondary containment.
Condition 2	Inclusion of use of dewatering effluent in on-site processes.  Clarification added as to where dewatering effluent is discharged to in line with Licence Holder advice regarding current site operations.
Condition 3	Addition of Figure reference for TSF.



Condition 8	<p>Inclusion of waste types to ensure accepted wastes are reflected on Licence.</p> <p>Inclusion of waste acceptance specifications.</p> <p>Removal of note for additional requirements for the acceptance of controlled waste, as not required by Licence.</p>
Condition 10	<p>Inclusion of waste types to ensure accepted wastes are reflected on Licence.</p> <p>Removal of note for additional requirements for the acceptance of controlled waste and the landfilling of tyres, as not required by the Licence.</p> <p>Addition of conditions relating to trench construction, location and waste deposition.</p>
Condition 12	Inclusion of waste types to ensure accepted wastes are reflected on Licence.
Conditions 15 – 17 Table 6	Inclusion of installation requirements for Category 12 – Crushing and screening activities.
Condition 1.2.15	Condition deleted from Licence.
Condition 1.2.16 Table 1.2.8	Works have been completed and compliance with condition confirmed – condition has been removed from the Licence.
Condition 2.1.1	Redundant condition deleted from Licence.
Condition 20 Table 7	<p>Condition wording updated to reflect monitoring of dewatering effluent as opposed to point source emissions to groundwater, in line with Licence Holder advise.</p> <p>Emission point reference changed to 'Northern Transfer Pond' in line with Licence Holder advise.</p> <p>Requirement for SWL monitoring removed in line with Licence Holder comments provided in response to the draft revised Licence.</p>
Condition 21 Table 8	<p>Monitoring point references updated with Figure references included.</p> <p>Process description for dewatering updated in line with Licence Holder advise.</p> <p>Change of unit for volumes of tailings deposited into and recovered from the TSF changes from tonnes to m<sup>3</sup>.</p> <p>Inclusion of oily/water separator water to be diluted prior to use for dust suppression.</p> <p>Inclusion of monitoring requirements for landfilling activities.</p>
Condition 22 Table 9	<p>Removal of reference to decommissioned monitoring bore MB1.</p> <p>Inclusion of monitoring bore MB6.</p> <p>Introduction of new SWL limit of 2mbgl for MB5 only.</p>
Condition 23	Inclusion of requirement for annual vegetation assessment.
Condition 28 Table 10	<p>Change of reporting requirement from 'point source emission to groundwater' to 'dewatering effluent'.</p> <p>Inclusion of assessment of vegetation within AER.</p>
Condition 30	Condition wording updated.

Table 11	
Condition 4.3.2	Compliance with previous condition 1.2.16 demonstrated – associated condition deleted from Licence.
Condition 4.3.3	Compliance with previous condition 1.2.16 demonstrated – associated condition deleted from Licence.
N/A Definitions	Moved to new section of Licence in line with new formatting.
N/A Schedule 1	Premises map replaced with updated map showing new premises boundary. 'Map of monitoring locations' replaced with new map 'TSF and Monitoring Bores'. 'Map of emission points' replaced with 'Landfill Locations' map. Redundant dust suppression maps deleted. Insertion of 'Dewatering infrastructure and pathways' map. Insertion of 'Crushing and Screening locations' map.
N/A Schedule 2	Schedule 2 replaced with new Schedule 2 outlining the Premises boundary and coordinates.

**Table 7: Conversion of Licence to new formatting**

Existing condition	Condition summary	Revised licence condition	Conversion notes
All relevant	Licensee	Licence Holder	Updated to standard terminology
1.1.1 1.1.2	Interpretation and definitions	N/A Interpretation section, Definitions and Table 1	Redundant condition. Revised to current licensing format.
1.1.3 1.1.4	Reference to Australian or other standard and code of practice	N/A Interpretation section, Definitions and Table 1	Redundant condition. Revised to current licensing format.
1.2.1	Pipeline management	Condition 1	Inclusion of telemetry detection system option to accompany existing options. Reference changed and reformatted.
1.2.2	Management of dewatering effluent	Condition 2	Addition of acceptable uses for dewater. Reference changed and reformatted.
1.2.3 Table 1.2.1	Containment of tailings	Condition 3 Table 1	Reference changed and reformatted.
1.2.4 1.2.5	Management of tailings storage	Condition 4 Condition 5	Reference changed and reformatted.

<b>Existing condition</b>	<b>Condition summary</b>	<b>Revised licence condition</b>	<b>Conversion notes</b>
1.2.6 Table 1.2.2	Inspection of infrastructure	Condition 6 Table 2	Reference changed and reformatted.
1.2.7	Water balance of TSF	Condition 7	Reference changed and reformatted.
1.2.8 Table 1.2.4	Waste acceptance	Condition 8 Table 3	Inclusion of waste type and acceptance specifications. Reference changed and reformatted.
1.2.9	Non-conforming waste management	Condition 9	Reference changed and reformatted.
1.2.10 Table 1.2.5	Waste processing	Condition 10 Table 4	Inclusion of waste type and processing specifications relating to landfill trench construction, location and waste deposition. Reference changed and reformatted.
1.2.11	Management of landfilling activities	Condition 11	Reference changed and reformatted.
1.2.12 Table 1.2.6	Landfill cover requirements	Condition 12 Table 5	Inclusion of waste types. Reference changed and reformatted.
1.2.13	Security measures	Condition 13	Reference changed and reformatted.
1.2.14	Windblown waste	Condition 14	Reference changed and reformatted.
N/A	Construction requirements crushing and screening	Condition 15 Table 6	New condition to facilitate the installation of crushing and screening infrastructure.
N/A	Submission Environmental Compliance Report (ECR)	Condition 16	New condition outlining ECR submission requirement.
N/A	Crushing and screening operations	Condition 17	New condition outlining the commencement of crushing and screening activities
1.2.15 Table 1.2.7	Dust suppression water quality	N/A	Condition removed from Licence as requested under this amendment.
1.2.16 Table 1.2.8	Works	N/A	Condition removed from Licence as works have been completed.

<b>Existing condition</b>	<b>Condition summary</b>	<b>Revised licence condition</b>	<b>Conversion notes</b>
2.1.1 Table 2.4.1	Point source emissions to groundwater	N/A	Redundant condition - no point source emissions to groundwater. Condition deleted.
3.1.1	Monitoring standard requirements	Condition 18	Reference changed and reformatted.
3.1.2	Monitoring time requirements	Condition 29	Reference changed and reformatted.
3.2.1 Table 3.2.1	Monitoring point source emissions to groundwater	Condition 20 Table 7	Condition changed to reflect monitoring of dewatering effluent. Reference changed and reformatted.
3.3.1 Table 3.3.1	Process monitoring	Condition 21 Table 8	Inclusion of updated monitoring points, oil/water separator water requirements and landfill monitoring requirements. Reference changed and reformatted.
3.4.1 Table 3.4.1	Monitoring of ambient groundwater quality	Condition 22 Table 9	Removal of MB1 as monitoring point and inclusion of MB6.  Inclusion of SWL limit for MB5 only.  Reference changed and reformatted.
N/A	Vegetation assessment	Condition 23	Inclusion of requirement to undertake annual assessments of vegetation.
4.1.1	Record keeping	Condition 24	Reference changed and reformatted.
4.1.2	Responsibility of person at the Premises	Condition 25	Reference changed and reformatted.
4.1.3	AACR	Condition 26	Reference changed and reformatted.
4.1.4	Complaints management	Condition 27	Reference changed and reformatted.
4.2.1 Table 4.2.1	AER	Condition 28 Table 10	Table updated to reflect other amendments. Reference changed and reformatted.
4.2.2	AER inclusions	Condition 29	Reference changed and reformatted.

Existing condition	Condition summary	Revised licence condition	Conversion notes
4.2.3	Other reporting requirements	Condition 30 Table 11	Wording updated and reference to forms within the Licene removed.  Reference changed and reformatted.
4.3.1 Table 4.3.1	Notification requirements	Condition 31 Table 12	Reference changed and reformatted.
4.3.2	Works compliance document submission	N/A	Condition deleted as works have been completed.
4.3.3	Works compliance document requirements	N/A	Condition deleted as works have been completed.
N/A Schedule 1: Maps	Premises map	Schedule 1: Maps	Map updated to reflect new premises boundary.
N/A Schedule 1: Maps	Map of emission points	Schedule 1: Maps	Redundant maps replaced with map of Landfill locations
N/A Schedule 1: Maps	Map of monitoring locations	Schedule 1: Maps	Map replaced by updated map 'TSF and Monitoring bores'
N/A Schedule 1: Maps	Map of dust suppression areas	N/A	Redundant maps deleted.
N/A	N/A	Schedule 1: Maps	Inclusion of 'Dewatering infrastructure pathways' map
N/A	N/A	Schedule 1: Maps	Inclusion of 'Crushing and Screening Locations' map
N/A Schedule 2	Prescribed Premises Category table	N/A	Revised to new format – included on the front page.
N/A	N/A	Schedule 2	Inclusion of new Schedule 2: Premises boundary, including premises coordinates.

## References

1. Department of Environment Regulation (DER) 2016, *Guidance Statement: Environmental Siting*, Perth, Western Australia.
2. DER 2017, *Guidance Statement: Risk Assessments*, Perth, Western Australia.
3. DER 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.



## Appendix 1: Summary of Licence Holder's comments on draft amendment

Condition	Summary of Licence Holder's comment	Department's response
<p>Condition 1 Pipeline leak and failure controls</p>	<p>Evolution currently maintains telemetry and leak detection systems on the two high risk and consistently operating lines; the tailings slurry delivery line, and the dewatering pipeline from the Northern Transfer Pond to Pope John pit.</p> <p>Given the intermittent nature of the existing pipeline networks across the two mine sites and processing plant, and the location of the pipeline network, it is not considered practical to install telemetry and leak detection systems on all lines, as per draft Condition 1.</p> <p>For all other lines current controls are considered adequate and include; daily pipeline inspections, v-drains that have sufficient capacity to contain the volume of water between routine inspections and surface water management that directs any potential overflow water toward either the Frog's Leg or White Foil pits, or a collection pond within the Mungari Mill.</p> <p>It is therefore suggested that Condition 1 be re-worded so as to reflect only the tailings slurry delivery line, and the Northern Transfer Dam to Pope John be fitted with telemetry and leak detection, with all other process water, mine dewater or decant recovery lines provided with sufficient secondary containment to contain any spill for a period equal to the time between routine inspections.</p>	<p>The Delegated Officer considers that due to the additional clarity provided by the Licence Holder relating to pipeline leak and failure controls already in place at the premises, Condition 1 can be reworded to permit all pipelines containing tailings, decant recovery process water or mine dewater to be either equipped with telemetry with leak detect alarms, and/or be equipped with automatic cut-outs in the event of a pipe failure.</p> <p>The Delegated Officer considers this change in condition wording to encompass operational procedures in place at the Premises.</p> <p>The Decision Report will also be reworded to reflect this change based on the additional information provided by the Licence Holder.</p>
<p>Conditions 15 – 18 Crushing and screening activities</p>	<p>There will be no crushing or screening plants constructed on the premises. Evolution plan to utilise mobile crushing or screening plants for temporary use only. These mobile plants will be mobilised to and from site on an as need basis, often dictated by unplanned and short-term site material requirements.</p> <p>The temporary mobile crushing and screening plants will be provided by external contractors, therefore, specific crusher/screen requirements cannot be guaranteed. Example crushers and screens were provided as part of the additional detail in the application in</p>	<p>The Department considers the movement of mobile equipment to a premises as works (being construction and/or installation), in line with the Industry Regulation: Guide to Licensing.</p> <p>Where mobile equipment which would cause a premises to become prescribed is proposed to be used at a location which is not an existing prescribed premises, section 52 of the EP Act requires a works approval to authorise the works. When mobile equipment is proposed to be used at an existing premises but would cause the premises to become prescribed under a new</p>

Condition	Summary of Licence Holder's comment	Department's response
	<p>order to aid DWER's risk assessment.</p> <p>It is also considered inappropriate to establish earthen bunding for temporary mobile equipment given the periodic and short-term nature of the crushing and screening plants. Surface water diversion infrastructure already exists to divert surface water flows away from operational areas.</p> <p>It is therefore recommended Conditions 15 – 18 are removed.</p> <p>A Works Approval will be applied for in the instance that a permanent crushing and screening facility is planned, however, at this stage it is only feasible to continue using mobile plant that can be moved to the location it is required on an as-needs basis.</p>	<p>prescribed premises category, a works approval would also be required.</p> <p>However, the Delegated Officer retains discretion as to whether a works approval or a licence amendment application is appropriate. In this instance, the Delegated Officer has considered that the addition of a new prescribed premises category (Category 12) can be assessed under a licence amendment.</p> <p>As prescribed activities under Category 12 have not been previously assessed at the Premises, conditions outlining the installation and location of the crushing and screening equipment are required to be included on the revised Licence. However, reference to 'construction' has been removed from conditions to reflect that the infrastructure will be installed.</p> <p>As the Licence Holder has now clarified that equipment will be mobilised to and from site as required, the requirement for as constructed plans has been removed from the revised Licence. Condition wording has also been amended to allow flexibility with the components of the crushing and screening plant.</p> <p>Given that further clarification regarding the diversion of stormwater from the crushing and screening operational areas has also been provided, installation requirements for earthen bunding have also been removed from the revised Licence.</p>
<p>Condition 21 Monitoring of dewatering effluent</p>	<p>It appears that the requirement to measure SWL on the Northern Transfer Dam has remained as a legacy of a previous licence.</p> <p>Monthly standing water level monitoring is not appropriate for a lined dam as the freeboard of the Northern Transfer Pond is continuously changing and its level at any one time is irrelevant.</p> <p>The dam has been designed to overtop into the White Foil Pit if necessary. The dam level is currently managed by a float system that contains two pumps that automatically pump to Pope John Pit when</p>	<p>The Delegated Officer agrees with comments that the monitoring of SWL at the lined Northern Transfer Pond is not required due to the design specifications of the Pond.</p> <p>The requirements to monitor SWL will be removed from Table 7 of the revised Licence.</p>

Condition	Summary of Licence Holder's comment	Department's response
	<p>the dam reaches a trigger freeboard using a float system.</p> <p>Overtopping of the Northern Transfer Pond into the White Foil Pit occurs on an extremely infrequent basis (less than once per year), historically only during severe rainfall events.</p> <p>It is therefore requested that the requirement for SWL of the Northern Transfer Pond be removed.</p>	
<p>Condition 22 Process monitoring</p>	<p>The parameters "volume of tailings deposited from the TSF" and "volume of water recovered from the TSF" are recorded in the unit m3 as opposed to tonnes, due to the measurement of volume instead of weight.</p> <p>It is requested these two parameters therefore be adjusted from "tonnes" to "m3".</p>	<p>Noted – units have been changes to m3 for these parameters as requested.</p>
<p>Condition 23 Monitoring of ambient groundwater quality</p>	<p>Correspondence was sent to the Licence Holder from the Delegated Officer on 4 June 2021 advising that new monitoring bore 6 (MB6) would be added as a compliance monitoring bore in the Licence as an addition to Condition 23 (Table 9).</p> <p>The Licence Holder responded on 4 June 2021 that they accepted the inclusion of the additional bore and provided an updated map including the location of MB6.</p>	<p>Reference to MB6 has been incorporated into Condition 23 and Table 9.</p> <p>The updated Figure 3 detailing the location of MB6 has been incorporated into the revised Licence in Schedule 1.</p>
<p>Condition 33-35 Works – Stage 5 TSF embankment raise</p>	<p>It was noted upon review of Condition 33 that the Stage 5 Raise of Cells 1 &amp; 2 were completed in January 2020, in which an 'Environmental Compliance Report' was not required as per the previous license conditions. Instead, a compliance document following the construction and prior to commissioning was required.</p> <p>Please find attached a digital copy of the TSF Stage 5 Construction Report provided by Knight Piesold to satisfy Condition 34 of draft L7550/2001/10. The attached report satisfies compliance with Condition 33 and the specifications outlined in Table 13.</p> <p>It is therefore recommended that Condition 33 be removed upon receipt of the attached Environmental Compliance report for</p>	<p>A review of the Construction Report was undertaken to ensure that compliance was demonstrated with conditions 1.2.16 and 4.3.2 of the previous Licence.</p> <p>This review determined that:</p> <ul style="list-style-type: none"> <li>• The stage 5 embankments for both cells were constructed using the upstream method to an elevation of RL 360.8m;</li> <li>• The divider embankment (7m wide crest) was raised to RL 360.8m using materials from a cut back in the White Foil open pit. The central divider embankment was raised using the upstream method extending onto the Cell 1 tailings beach;</li> </ul>

Condition	Summary of Licence Holder's comment	Department's response
	Condition 33, as it is no longer relevant to this licence.	<ul style="list-style-type: none"> <li>• The decant/underdrainage causeways were raised using the centreline method to RL 360.8m using materials from a cut back in the White Foil open pit;</li> <li>• The toe drain tower top elevation is approx. RL 363.1m for Cell 1 and RL 362.0m for Cell 2, which is in exceedance of the specified height of RL 360.8m specified in the Licence. However, the toe drain will function as required to manage seepage from both cells regardless of the exceedance in the maximum specified height and the risk rating for the TSF cells will not change as a result of the exceedance;</li> <li>• The access ramp was extended downstream of the embankment using materials from a cut back in the White Foil open pit; and</li> <li>• No commissioning of infrastructure was required.</li> </ul> <p>The Delegated Officer considers that the Construction Report submitted demonstrates compliance with conditions 1.2.16 and 4.3.2 of the previous Licence.</p> <p>As such, works conditions relating to the Stage 5 TSF embankment raise have been removed from the revised Licence.</p>
N/A Schedule 1 – Maps	<p>Many of the maps displayed are pixelated and of poor image quality. See attached maps provided in 300 dpi resolution to be used at DWER's discretion.</p> <p>An updated Figure 3 has also been provided, with current bores and recent aerial imagery.</p>	<p>Maps provided in 300 dpi resolution were previously provided during assessment and have been incorporated into the revised Licence.</p> <p>The updated Figure 3 detailing the location of MB6 has been incorporated into the revised Licence.</p>