Government of Western Australia
Department of Water and Environmental Regulation

Amendment Report

Application for Licence Amendment

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

Licence Number	L9000/2016/1
Licence Holder	Gruyere Management Pty Ltd
ACN	615 728 795
File Number	DER2016/001956
Premises	Gruyere Gold Project Mining Tenement L38/254 and Part of L38/255 and M38/1267 COSMO NEWBERY WA 6440 As shown in Schedule 1
Date of Report	3 November 2021
Decision	Revised licence granted

Melanie Bruckberger
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Date: 2021.11.03 16:28:58 +08'00'

A/MANAGER RESOURCE INDUSTRIES
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

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1. Decision summary

Licence L9000/2016/1 is held by Gruyere Management Pty Limited (Licence Holder) for the Gruyere Gold Project (the Premises), located at Mining Tenement L38/254 and Part of L38/255 and M38/1267, Cosmo Newbery WA 6440.

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 L9000/2016/1 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this Amendment Report, the department has considered and given due regard to its Regulatory Framework and relevant policy documents which are available at https://dwer.wa.gov.au/regulatory-documents.

2.2 Application summary

On 12 May 2021, the Licence Holder submitted an application to the department to amend Licence L9000/2016/1 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments are being sought:

- Increase the production capacity at the processing plant from a current 8,800,000 tonnes per annum (tpa) up to a new 10,500,000 tpa.
- Replace the HDPE geomembrane liner proposed for the stage 3 to stage 6 embankment lifts at the tailings storage facility (TSF) with a compacted low-permeability fine-grained saprolite material.
- Relocate the existing Class II landfill to a new location within Waste Rock Dump 1. Enable disposal of clinical waste within the new landfill. Increase the throughput to 2,000 tpa.

This amendment is limited only to changes to Category 5 and 64 activities from the Existing Licence. No changes to the aspects of the existing Licence relating to Category 12, 54 and 73 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 throughput capacity	Proposed throughput capacity	Description of proposed amendment
5	8,800,000 tpa	10,500,000 tpa	Through improvements in mining methods, increased apertures on mill screens, and enhanced throughput rates in the pebble crusher, the Licence Holder will be able to achieve a greater throughput at the processing facility.
64	1,800 tpa at the existing putrescible landfill.	2,000 tpa at the new putrescible landfill.	The existing landfill is nearing capacity. The new

			Class II landfill will be located at the waste rock dump 1 and will accept Class II type waste for burial once the existing landfill is closed. The throughput at the new landfill will remain the same as the existing landfill. The Licence Holder also proposes to bury small amounts of clinical wastes at the new landfill. The clinical waste is generated from day to day medical assistance at the Premises from accidents, injury and illness.

2.2.1 Increased throughput for category 5 activities

The Licence Holder plans to increase the throughput at the processing plant from the current 8,800,000 tpa to a new throughput of 10,500,000 tpa. The increase in throughput will be achieved by blasting techniques used in the mined pit which have achieved an increased fragmentation of the ore resulting in less time needed to crush the ore at the plant, increased apertures on mill screens and enhanced throughput rates in the pebble crusher.

2.2.2 TSF lining design amendment

As a result of delays caused by the installation of the HDPE geomembrane liner for Stage 1 and Stage 2 embankment construction at the TSF, the Licence Holder now proposes to use low permeable fine-grained saprolite material for the lining of all future embankments instead of HDPE materials. The liner is used as the primary embankment seepage control.

The existing TSF embankment design comprises a HDPE liner underlain by a 3m wide upstream zone of compacted select mine waste (Zone C1), a 25m wide zone of traffic compacted select mine waste (Zone C) and a bulk fill uncompacted zone of general mine waste (Zone B). The proposed TSF embankment design for the Stage 3 embankment lift will comprise of a 4.5 m wide compacted low-permeability zone (Zone A), a 25m wide zone of traffic compacted select mine waste (Zone C) and a bulk fill uncompacted zone of general mine waste (Zone B). See Figure 1 below.

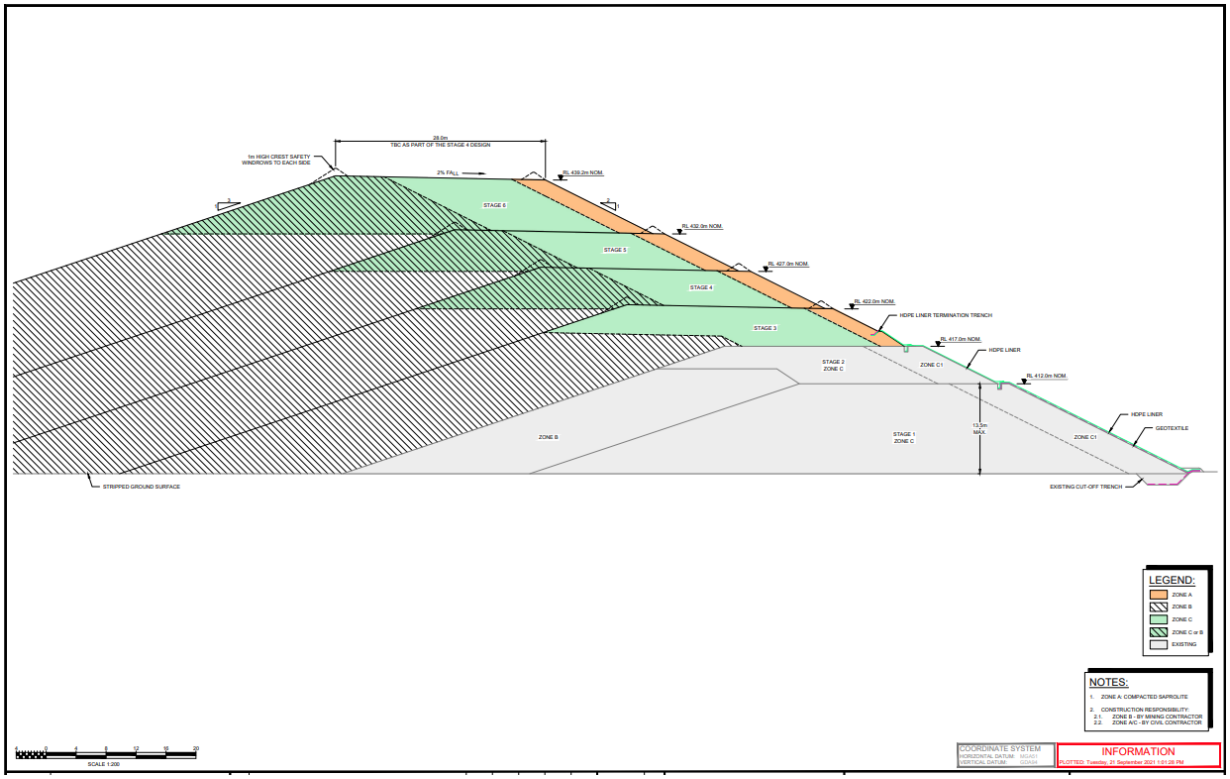

Figure 1 Existing and proposed embankment design

2.2.3 New Class II landfill

The existing Class II landfill as shown in Figure 2 below is nearing capacity. The Licence Holder proposes to construct a new Class II landfill in the location also shown in Figure 2 below.

The new landfill will be located within the waste rock dump therefore removing the requirement for additional vegetation clearing at the Premises.

The Licence Holder estimates up to 1,300 tpa of waste will be deposited at the landfill which will consist of the following:

- Putrescible waste;
- Inert Waste Type 1;
- Inert Waste Type 2, and
- Special Waste Type 2 as defined in the 'Landfill Waste Classification and Waste Definitions 1996' published by the CEO of the Department of Water and Environmental Regulation as amended from time to time.

Only waste generated at the Premises will be buried at the new landfill. The landfill will be constructed at the top of the first lift of the waste rock dump therefore providing a separation distance of between 10 to 20 m above natural ground level.

The landfill will operate as a trench design which will consist of trenches that will be 30 m long, 10 m wide and 4 m deep for the burial of waste. The trenches will be in an area with an overall size of 250 m by 150 m.

Each trench will incorporate a ramp down into the trench where waste can be deposited and then compacted prior to the disposal of additional waste. Each trench will be surrounded by an earthen bund with an approximate height of 1.0 m. The earthen bund will divert stormwater away from each trench and assist in preventing windblown waste escaping.

The landfill will be operated in accordance with the Licence Holder's Waste Management Procedure and existing conditions of the Licence.

As a result of the remote location of the Premises, the Licence Holder also proposes to bury clinical waste (Special Wastes Type 2) at the new landfill. The clinical waste will consist of waste generated from day-to-day medical assistance at the Premises from accidents, injury and illness. The Licence Holder expects up to 8 m^3 of clinical waste will require disposal at the new landfill each year. The Licence Holder proposes to dispose of clinical waste in accordance with the requirements of condition 16 of the *Environmental Protection* (*Rural Landfill) Regulations 2002.*

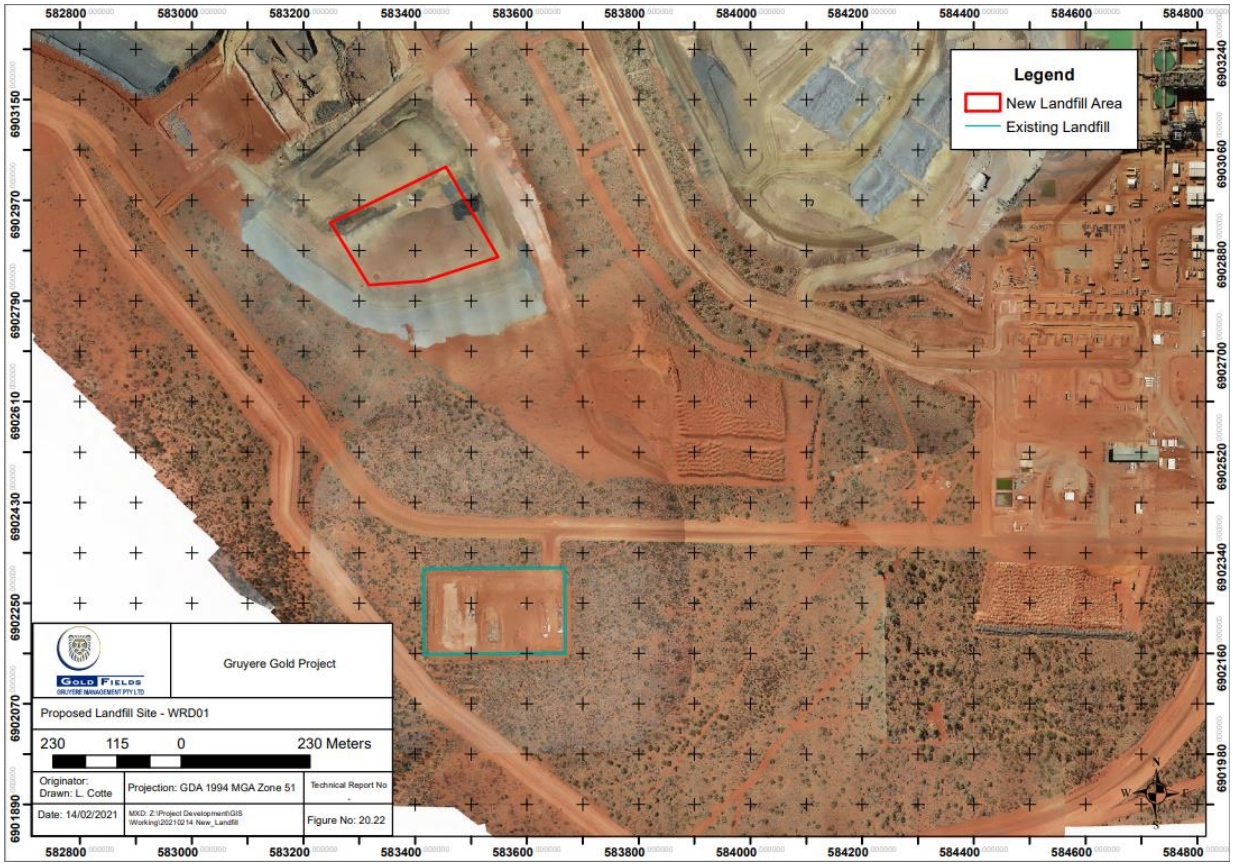

Figure 2 Location of new Class II landfill

2.3 Part IV of the EP Act

The Environmental Protection Authority (EPA) determined that the following were key environmental factors relating to the original proposal:

- **Subterranean Fauna** – potential impacts on stygofauna habitat and species from the abstraction of groundwater from the Yeo and Anne Beadell borefields for production water, noting that abstraction of groundwater would be from the aquifer lying beneath the calcrete habitat of the stygofauna; and
- **Flora and Vegetation** – direct impacts from the clearing of 2,260 ha of flora and vegetation within the development envelopes.

Ministerial Statement 1048 (MS 1048) for the proposal to develop a below water table gold deposit and associated infrastructure at the Gruyere Gold Project was signed by the Minister for Environment on 29 December 2016 and has conditions (6-1 to 6-7) requiring Gruyere Management Pty Ltd (originally named Gold Road Resources Limited) to prepare, submit and implement a Management-based Condition Environmental Management Plan with the objective of maintaining the biodiversity and ecological integrity of subterranean fauna in the

Yeo Paleochannel.

A change to the proposal approved under section 45C of the EP Act (associated with clearing and groundwater dewatering and abstraction) was signed on 4 September 2017 by the Chairman of the EPA.

A change to the proposal approved under section 45C of the EP Act (associated with an increase in the development envelope) was signed on 18 April 2018 by the Chairman of the EPA.

The proposed amendments to the Licence by the Licence Holder are not related to environmental factors considered under MS 1048 and therefore are no longer considered in this assessment.

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 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
New landfill			
Dust	Vehicle movements, construction of trenches, earth moving, lift-off from cover material stockpiles.	Air/windborne pathway	Water cart retained onsite for wetting down of roads and stockpiles when required. Speed limits apply at the Premises.
Leachate	Putrescible waste	Seepage through soil	Landfill located on waste rock dump providing 10-20 m separation to natural ground level. Groundwater approximately 65 mbgl. Stormwater diverted around trenches.
Windblown waste	Uncovered waste contained within the trenches.	Air/windborne pathway	Waste disposed below ground level. Earthen bunding 1.0 m high around trenches reduces the effects of wind creating windblown waste. Boundary fence around the perimeter of

Emission	Sources	Potential pathways	Proposed controls
			the landfill area assists in capturing windblown waste. Waste covered at least monthly with inert material. Windblown waste outside of the landfill area will be collected on a monthly basis.
Contaminated stormwater	Stormwater runoff from waste	Overland runoff	Waste covered at least monthly with inert material. All waste buried within below ground trenches preventing overland runoff. Earthen bunding reducing stormwater entering the trenches.
Change to TSF liner material			
Seepage	TSF	Seepage through embankments and/or base of the TSF	Ongoing seepage recovery system based on three phases of implementation as required by condition 13 of the Licence. Testing of soil liner materials to assess the suitability of the materials as a low permeability liner. Developed and implementation of construction specifications and quality management plans to assist with achieving design permeabilities.
Increased throughput at the processing plant			
Dust	Processing plant	Air/windborne pathway	Ongoing use of existing dust control measures at the processing plant and ROM pad.
Increase in seepage rate at the TSF due to increased tailings deposition	TSF	Seepage through embankments and/or base of the TSF	Ongoing seepage recovery system based on three phases of implementation as required by condition 13 of the Licence. A change in timing for implementation of phase 3 actions maybe required to meet the needs of the revised life of the TSF operation.
Leaks and spills of ore, tailings and chemicals	Processing plant and pipelines	Direct discharge to land and infiltration through soils	Processing plant located on bunded hard stand which drains to sumps for recovery. Processing plant and pipelines routinely inspected to check for leaks and spills. All leaks and spills recovered and returned to the processing circuit.

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 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 *(Guideline: Environmental siting* (DWER 2020)).

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

Human receptors	**Distance from prescribed activity**
Closest residential premises – Cosmo Newberry community	Approximately 80 km northwest of the Premises. **Screened out – distance considered too great to be considered a receptor.**
Environmental receptors	**Distance from prescribed activity**
Declared Rare Flora Threatened/Priority Flora	No Declared Rare Flora within 30km of the Premises. Two Priority Flora taxa *Calytrix warburtonensis* (Priority 2) and *Thryptomene nealensis* (Priority 3) were identified within M38/1267. Neither of these species has been identified in areas of the Premises disturbed footprint. **Screened out as priority flora are not located within the disturbed footprint of the mining area.**
Groundwater Groundwater is considered fresh with salinity (TDS) ranging between 780 to 880 mg/L. Baseline data indicates groundwater is locally recharged and the natural flow direction follows the original surface topography. The location of the TSF area overlies a local drainage network that originally drained to the northeast and northwest either side of a ridgeline present within the TSF footprint.	Groundwater levels at the Premises prior to commissioning were between 10.8 to 19.5 meters below ground level (mbgl). There are no nearby groundwater users or groundwater dependent ecosystems. The nearest groundwater dependent vegetation is located over 20 km away to the west of the TSF.
Surface water	Reetz Creek and Lake Throssell are approximately 15 km to the south and north-east of the Premises respectively. **Screened out as distance considered too great to be considered a receptor.** There are a few unnamed, ephemeral and relatively minor watercourses which drain in a generally south-west to north-west direction towards Lake Throssell.
Groundwater bore	Located approximately 6 km west of the Premises (WIN groundwater database). **Screened out as distance considered too great to be considered a receptor.**

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 4.

The Revised Licence L9000/2016/1 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises i.e. Category 5, 12, 54, 64 and 73 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 construction and operation

Risk Event					Risk rating[1] C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions[2] of licence	Justification for additional regulatory controls
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Licence Holder's controls**				
Operation								
Category 5 Increased throughput at the processing facility.	Gold processing slurry with cyanide and metals in solution	Pipeline failures or tank/bund overflow causing spill to ground. Terrestrial ecosystems adjacent to where the spill has occurred.	Surrounding soils	Refer to Section 3.1.1	Original Risk C = Minor L = Unlikely **Medium** Updated Risk C = Minor L = Unlikely **Medium** **No change to risk**	Y	Conditions 2, 3, 4, 13, 15, 16, 17 and 18	Not applicable. Existing conditions sufficient.
Category 5 Replace the use of a HDPE embankment liner with a low permeable fine-grained saprolite embankment liner at the TSF.	Increased tailings seepage	Seepage to ground adjacent to the TSF (mounding) contaminating soils and causing disruption of normal ecosystem function.	Surrounding soils.	Refer to Section 3.1.1	Original Risk C = Moderate L = Unlikely **Medium** Updated Risk C = Moderate L = Unlikely **Medium** **No change to risk**	Y	Conditions 1, 2, 3, 4, 5, 11, 12, 13, 15, 16, 17, **19 and 20**	Refer to section 3.3

Category 64 Construction and operation of a Class II putrescible landfill site	Windblown waste	Air/windborne pathway causing amenity impacts on surrounding terrestrial environment.	Surrounding landscape.	Refer to Section 3.1.1	C = Slight Minimal local impacts to amenity. L = Possible Could occur at some time. **Low Risk**	Y	Conditions 1, 2, 3, **19, 20 and 21**	Licence Holder controls included as new conditions in the Licence.

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

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

3.3 Detailed risk assessment for use of a low permeable fine-grained saprolite liner instead of a HDPE liner at the TSF embankment

3.3.1 Description of a low permeable fine-grained saprolite embankment liner at the TSF

The Licence Holder proposes to use a low permeable fine-grained saprolite material for the lining of all future (stages 3 to 6) embankment lifts at the TSF.

Works Approval W6002/2016/1 (Works Approval) granted on 3 February 2017 authorised the construction of the TSF at the Premises. The proposed construction method at the time of approval was to use clayey mine waste (saprolite material) to line the embankments to control seepage rates. The Works Approval was amended on 5 July 2018 to include the use of a geosynthetic clay liner (GCL) and a high-density polyethylene (HDPE) liner to control seepage at the TSF embankments. The reason for the change in liner material was additional studies at the Premises had shown that there may have been insufficient suitable saprolite material available from shallow pit area excavation for construction of the embankment liner. The combined GCL and HDPE liner was used for the construction of Stages 1 and 2 with construction being completed in November 2018 and December 2020 respectively.

The Licence Holder has now confirmed suitable quantities of fine grained saprolite materials is available to construct the remaining lifts at the TSF (Stages 3-6) and the use of a HDPE liner is no longer necessary.

The Licence Holder proposes that results from test work undertaken show that the use of a compacted saprolite Zone A material is as effective as using a HDPE liner on the TSF embankment slope to control seepage. The diagram presented in Figure 4 below indicates how HDPE was used for lining the outer embankment for stages 1 and 2 at the TSF, and how a proposed low permeability saprolite material will be used for lining the embankment for stages 3 to 6.

The low permeability zone (Zone A) will be constructed to a width of 4.5m using fine grained saprolite materials (generally bleached upper saprolite) which will be constructed to meet specified grading/plasticity and compaction criteria.

To ensure continuity between the HDPE and the proposed low permeable fine-grained saprolite material liner, the existing HDPE liner will be extended and embedded in the Zone A liner (see Figure 3 below). This will ensure that any seepage travelling through the interface between the HDPE and the Zone A liner is contained within the newly built Zone A.

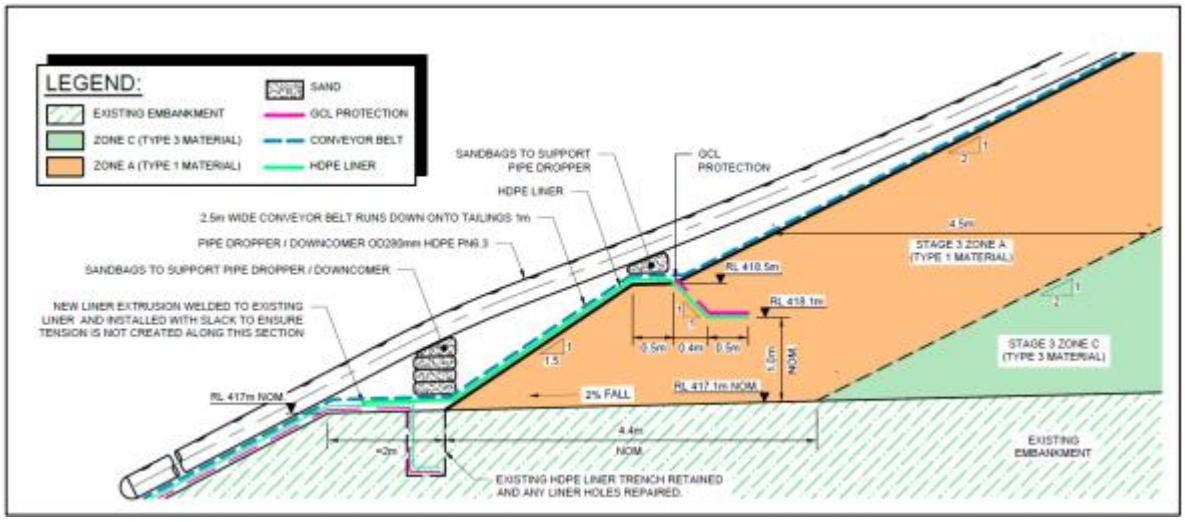

Figure 3 Junction between the Stage 2 HDPE liner and the proposed Stage 3 soil liner

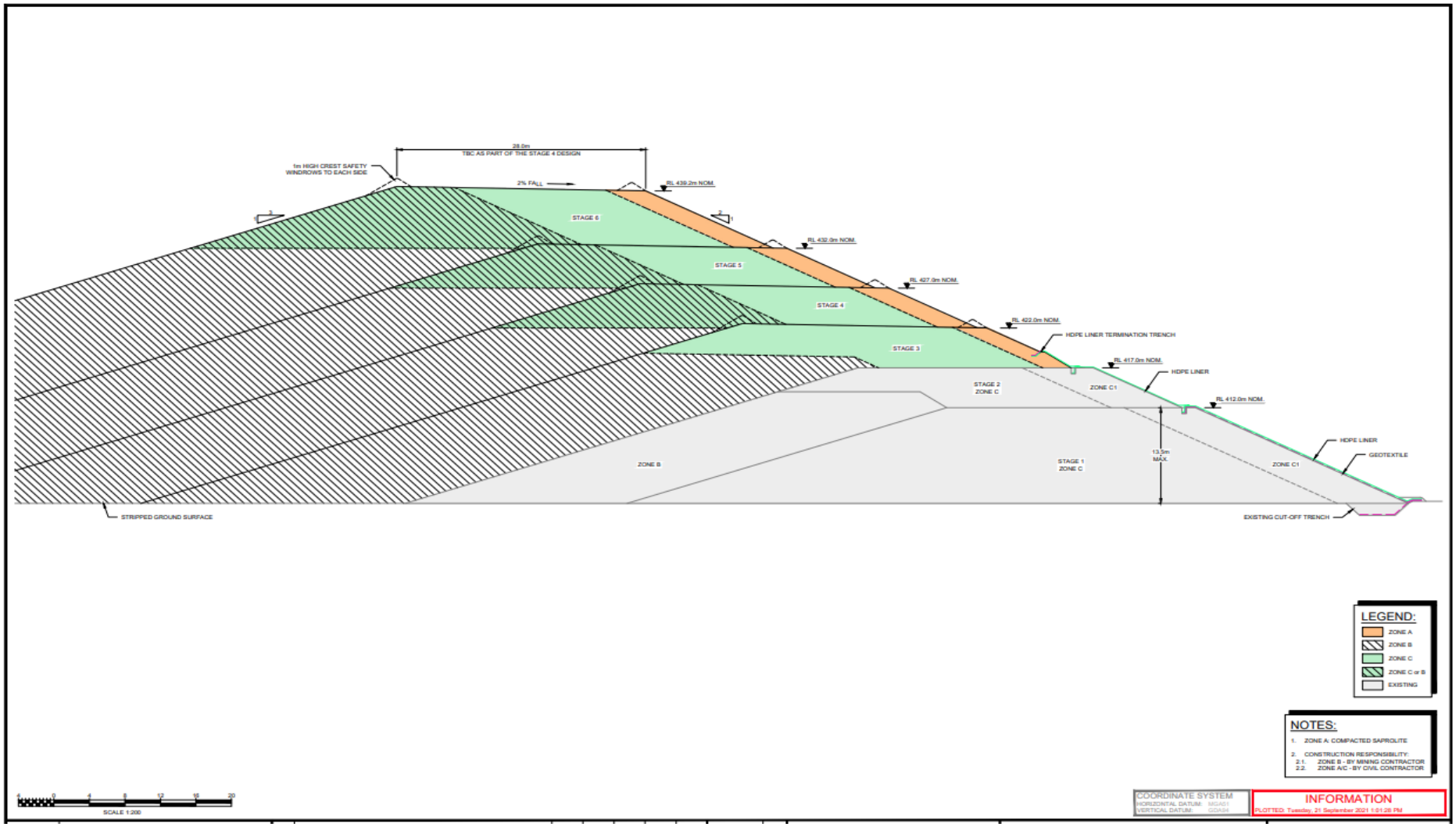

Figure 4 Existing Stage 1 and 2 and proposed Stages 3 - 6 embankment design

3.3.2 Identification and general characterisation of emission

The Zone A liner is expected to achieve a comparable reduction in hydraulic head and seepage through the embankment as a HDPE liner. The permeability of an installed HDPE geomembrane is normally expected to provide the following permeability range:

- Poor liner construction which is defined as approximately 75 holes per hectare – **Permeability 1.1 x 10^{-7} m/s.**
- Good liner construction which is defined as approximately 2.5 holes per hectare – **Permeability 3.6 x 10^{-8} m/s.**

The department notes the Licence Holder stated the installation of the HDPE liner for stages 1 and 2 had been limited by unfavorable conditions and the under-liner material had caused punctures and damage to the HDPE liner. As a result, the installation of the HDPE liner for stages 1 and 2 would be considered more towards a poor liner construction and as a result likely to have an increased permeability which would result in greater seepage. The Licence Holder expects the unfavorable conditions for installing a HDPE liner would continue for future embankment lifts (i.e. stages 3 – 6).

Permeability testing on Zone A samples prepared at proposed construction densities (95% Standard Maximum Dry Density) achieved permeabilities between $3.3E^{-9}$ and $6.1E^{-9}$ m/s. This level of permeability is comparable if not better than the permeability expected from a HDPE liner which has been constructed under good conditions as described above. Therefore, there is not expected to be a change in the rate of seepage at the TSF with a change in the liner material.

3.3.3 Description of potential adverse impact from the emission

In December 2019, the Licence Holder advised the department that that there was an increase in standing water levels by approximately 10 metres in some of the groundwater monitoring bores at the TSF between April and September 2019. The Licence Holder concluded that groundwater mounding was likely occurring in proximity to the TSF.

Further investigation by the Licence Holder, as directed by the department, showed that the seepage flow path was likely to be coincident with a former drainage line that flowed from south to north. The Licence Holder provided a Seepage Recovery Assessment and proposed a seepage recovery approach, based on three phases of implementation:

- Phase 1: Short-term recovery infrastructure.
- Phase 2: Medium-term investigations, based on the outcomes of Phase 1.
- Phase 3: Long-term remedial measures, based on the outcomes of Phases 1 and 2.

On 10 July 2020, the department initiated an amendment to the Licence to include an improvement plan to facilitate TSF seepage recovery. Phase 1 of the seepage recovery program commenced in October 2020.

A change in liner material from the current HDPE to a low permeability saprolite material has the potential to cause an increase in seepage at the TSF resulting in further groundwater mounding. This mounding could result in surface expression causing an increase in salts in the soil and water logging causing impacts to native vegetation. An increase in seepage may also alter the quality of the underlying groundwater which is considered good quality.

3.3.4 Criteria for assessment

Relevant water quality criteria are the Australian and New Zealand Guidelines for Fresh and Marine Water Quality, *Livestock drinking water quality*, October 2000

3.3.5 Applicant controls

- Permeability testing on Zone A samples prepared at proposed construction densities (95% Standard Maximum Dry Density).
- Additional monitoring equipment (vibrating wire piezometers) will be installed at critical locations within the Stage 3 embankment raise to verify that no significant, comparative rise in the phreatic surface elevation/profile is expected. This monitoring will then be repeated for the additional Stages 4 to 6.
- The proposed Zone A construction methodology will be monitored by a site engineer with regular construction quality assurance testing undertaken to ensure compliance with the design intent to achieve the designed permeabilities.

3.3.6 Consequence

Seepage from the TSF has caused groundwater mounding and seepage expressions on the northern side of the TSF and therefore caused mid-level impacts. A seepage recovery program commenced in October 2020 to manage the seepage impacts and has to date been successful in halting the rising trends in groundwater. An increase in seepage due to a change in the liner material at the TSF may reduce the effectiveness of the program and could result in mid-level impacts reoccurring. Therefore, the Delegated Officer considers the consequence to be **moderate**.

3.3.7 Likelihood of Risk Event

The Zone A liner is expected to achieve a comparable reduction in hydraulic head and seepage through the embankment as a HDPE liner. Therefore, the Delegated Officer considers the likelihood of an increase in seepage at the TSF with the use of a low permeability saprolite material liner instead of a HDPE liner is **unlikely**.

3.3.8 Overall rating for replacing future HDPE liners at the TSF embankment with low permeable fine-grained saprolite liners

The Delegated Officer has compared the consequence and likelihood ratings described above with the risk rating matrix detailed in the Guidance Statement: Risk Assessments (DER 2017) and determined that the overall rating for the risks from seepage at the TSF as **Medium**.

4. Consultation

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

Table 5: Consultation

Consultation method	Comments received	Department response
Letter sent to Shire of Laverton on 30 September 2021 seeking comments on draft licence amendment.	No comments received.	N/A
Letter sent to DMIRS on 30 September 2021 seeking comments on draft licence amendment.	No comments received.	N/A

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.	Amendments
Definitions	Included definitions for Clinical Waste, Special Waste Type 2 and suitably qualified geotechnical engineer.
1, Table 3	Inclusion of Special Waste Type 2 as a specified emission.
2, Table 4	Inclusion of the Waste Rock Dump 1 Landfill as an additional authorised discharge point.
3, Table 5	Remove the reference to the TSF – Stage 2 to 6 construction sequence (1) and (2) maps as these are no longer applicable. Remove reference to Stage 2 operational requirements as stage 2 has now been completed. Inclusion of the operational requirements for the Waste Rock Dump 1 Landfill including the acceptance of Special Waste Type 2 materials.
6, Table 7	Update to table to include the acceptance of Special Waste Type 2 at the Premises. Update to table to reflect increase to 2000 tpa of waste.
7, Table 8	Update to table to include the requirement to monitor incoming loads of Special Waste Type 2 accepted for burial. Updated wording to better reflect actual site operations.
11, Table 10	Requirement to conduct fortnightly ambient groundwater monitoring has been removed. This requirement was to occur for the first six months commencing after the issuing (amending) of the Licence which occurred in August 2019.
Condition 12	This condition has been deleted as the requirements of the condition have been completed. This condition was included into the Licence on 24 July 2019 as an amendment to the Licence. The Licence Holder was required to satisfy the requirements of the condition within 120 days of the issuing (amending) of the Licence. The required information was submitted on 30 September 2019.
New condition 19	Infrastructure construction requirements for the new Waste Rock Dump 1 Landfill. Design and construction replicate the existing landfill at the Premises.
New conditions 20 and 21	Compliance requirements following the construction of the Waste Rock Dump 1 Landfill.
New condition 22	Condition authorising the operation of the Waste Rock Dump 1 Landfill following submission of the compliance documentation required under conditions 20 and 21.
New condition 23	Infrastructure construction requirements for the TSF embankment liner for stages 3 – 6.
New conditions 24	Compliance requirements following the construction of the embankment liner for stages 3

and 25	to 6 at the TSF .
Schedule 1, Site Plan 1	Map updated to include the location of the additional landfill.
Schedule 1, Site Plan 3	Map updated to include the location of the additional landfill.
New Schedule 1, Site Plan 5	New map to indicate the location of the new Waste Rock Dump 1 landfill and the existing landfill.
Schedule 1 TSF – Stage 2-6 typical embankment section	Update map to show the use of a low permeable fine-grained saprolite material for the lining of all future (stages 3 to 6) embankment lifts at the TSF. Original embankment section and construction sequence 1 and 2 maps deleted.
Schedule 1 TSF – Stage 2 HDPE liner and Stage 3 Zone A material junction	New map to show the junction between the existing Stage 2 HDPE liner and the new liner.
Schedule 2, Table 13	Updated table to include the increased design capacity at the Category 5 processing facility and increased Category 64 throughput.
Schedule 2, Table 14	Updated table to reflect the inclusion of an additional map in Schedule 1.

References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
3. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
4. Gruyere Management Pty Ltd, *TSF Groundwater Monitoring Review 2018 to 2021*, prepared by AECOM Australia Pty Ltd, 31 May 2021
5. Gruyere Management Pty Ltd, *L9000/2016/1 Annual Environmental Report, Reporting period: 01 July 2019 to 30 June 2020*, 30 September 2020.
6. *Environmental Protection Act 1986* Part V, Division 3 Works Approval W6002/2016/1, issued 4 February 2017.

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

Condition	Summary of Licence Holder's comment	Department's response
N/A	The Licence Holder responded on 1 November 2021 with no comments on the draft licence and amendment report, and requested the remaining comment period be waivered and the amended licence be issued.	Supported. Licence amendment and amendment report prepared for final signing.

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY					
Application type					
Works approval	☐				
Licence	☐	Relevant works approval number:		None	☐
		Has the works approval been complied with?		Yes ☐ No ☐	
		Has time limited operations under the works approval demonstrated acceptable operations?		Yes ☐ No ☐ N/A ☐	
		Environmental Compliance Report / Critical Containment Infrastructure Report submitted?		Yes ☐ No ☐	
		Date Report received:			
Renewal	☐	Current licence number:			
Amendment to works approval	☐	Current works approval number:			
Amendment to licence	☒	Current licence number:	L9000/2016/1		
		Relevant works approval number:		N/A	☐
Registration	☐	Current works approval number:		None	☐
Date application received		12 May 2021			
Applicant and Premises details					
Applicant name/s (full legal name/s)		Gruyere Management Pty Ltd			
Premises name		Gruyere Gold Project			
Premises location		Mining Tenement M38/1267, L38/254 and Part of L38/255, Cosmo Newberry WA 6440			
Local Government Authority		Shire of Laverton			
Application documents					
HPCM file reference number:		DER2016/001956			
Key application documents (additional to application form):		• talis consultants, *Licence Amendment Application, Increased production, new landfill and change in TSF liner,* Prepared for Gruyere Management Pty Limited, 30 March 2021; • AECOM Australia Pty Ltd, *TSF Groundwater Monitoring Review 2018 to 2021,* prepared for Gruyere Management Pty Ltd, 31 May 2021.			
Scope of application/assessment					

Summary of proposed activities or changes to existing operations.	Licence amendment • Relocation of the category 64 landfill to the Waste Rock Dump; • Enable disposal of clinical waste at the category 64 landfill; • Construct the Stage 3 - 6 TSF embankments with a compacted low-permeability liner instead of a HDPE liner as used in stages 1 and 2. • Increase the approved production capacity at the processing facility from the current 8.8 mtpa up to 10.5 mtpa. No significant modifications are required to achieve this increase.

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
Category 5: Processing or beneficiation of metallic or non-metallic ore.	8,800,000 tpa	10,500,000 tpa
Category 12: Screening etc. of material	1,752,000 tpa	No change
Category 54: Sewage facility	225 m^3/day	No change
Category 64: Putrescible landfill site	1,8000 tpa	2,000 tpa
Category 73: Bulk storage of chemicals etc	1,500 m^3 in aggregate	No change

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 ☐ No ☒	Referral decision No: Managed under Part V ☐ Assessed under Part IV ☐
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes ☐ No ☐	Ministerial statement No: EPA Report No:
Has the proposal been referred and/or assessed under the EPBC Act?	Yes ☐ No ☐	Reference No:
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes ☐ No ☐	Certificate of title ☐ General lease ☐ Expiry: Mining lease / tenement ☐ Expiry: Other evidence ☐ Expiry:
Has the applicant obtained all relevant planning approvals?	Yes ☐ No ☐ N/A ☐	Approval: Expiry date:

		If N/A explain why?
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes ☐ No ☐	CPS No: N/A No clearing is proposed.
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes ☐ No ☐	Application reference No: N/A Licence/permit No: N/A No clearing is proposed.
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes ☒ No ☐	Application reference No: Licence/permit No: GWL176189
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes ☐ No ☒	Name: N/A Type: Has Regulatory Services (Water) been consulted? Yes ☐ No ☐ N/A ☐ Regional office:
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes ☐ No ☒	Name: N/A Priority: P1 / P2 / P3 / N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to WQPN 25)? Yes ☐ No ☐ N/A ☐
Is the Premises subject to any other Acts or subsidiary regulations (e.g. *Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx*)	Yes ☒ No ☐	Dangerous Goods Safety Act 2004
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes ☐ No ☒	
Is the Premises subject to any EPP requirements?	Yes ☐ No ☒	

Is the Premises a known or suspected contaminated site under the *Contaminated Sites Act 2003*?	Yes ☐ No ☒	Classification: N/A Date of classification: N/A