



<b>Licence Number</b>	L9000/2016/2	
<b>Licence Holder</b>	Gruyere Mining Company Pty Ltd	
<b>ACN</b>	615 729 005	
<b>Registered business address</b>	Level 1, 26 Colin Street WEST PERTH WA 6005	
<b>File Number</b>	INS-0001970	
<b>Duration</b>	4/08/2017 to 3/08/2037	
<b>Prescribed Premises</b>	Category 5 – Processing or beneficiation of metallic or non-metallic ore Category 12 – Screening etc. of material Category 54 – Sewage facility Category 64 – Class II putrescible landfill site Category 73 – Bulk storage of chemicals etc.	
<b>Premises</b>	Gruyere Gold Project  Mining Tenement L38/254 and Part of L38/255 and M38/1267  COSMO NEWBERY WA 6440  As shown in Schedule 1	
<b>Date of Amendment</b>	18/12/2025	

This amended Licence is granted to the Licence Holder, subject to the following conditions, on 18 December 2025 by:

**MANAGER, RESOURCE INDUSTRIES**  
**STATEWIDE DELIVERY (ENVIRONMENTAL REGULATION)**  
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

## Licence history

Table 1 provides the history for Licence L9000/2016/1.

**Table 1: Licence history**

Instrument	Issued	Nature and extent of licence or amendment
L9000/2016/1	4/08/2017	New licence for a category 54 WWTP at the Miner's accommodation village, constructed under W5997/2016/1.
L9000/2016/1	19/10/2017	Amendment Notice 1 Licence amendment to include the category 64 landfill constructed under W6002/2016/1.
L9000/2016/1	12/03/2018	Amendment Notice 2 Licence amendment to include category 12 for the MCSP.
L9000/2016/1	27/08/2018	Amendment Notice 3 Licence amendment to excise the location of the Gruyere Power Station (category 52) from the existing prescribed premises boundary. The Gruyere Power Station is operated by APA Power Holdings Pty Ltd under Licence L9153/2018/1.
L9000/2016/1	5/04/2019	Amendment Notice 4 Licence amendment to increase the capacity of category 64 from 1,400 tpa to 1,800 tpa and to include inert waste type 2 as a waste type to be accepted in the landfill.
L9000/2016/1	24/07/2019	Licence amendment (and amendment notices consolidation) to include category 5 (process plant and TSF); category 73 (bulk fuel facility); and increase the design capacity of category 54 with the inclusion of the process plant WWTP.
L9000/2016/1	12/01/2021	Licence amendment (DWER initiated) to implement an improvement condition as controls to address Tailing Storage Facility seepage recovery.
L9000/2016/1	3/11/2021	Licence amendment for the: - construction of a Class II landfill (Category 64); - construction of the tailings storage facility embankment stages 3 to 6 with a compacted low-permeability liner instead of a HDPE liner as used for stages 1 and 2; and - increased production capacity at the processing facility from the current 8.8 million tonnes per annum (Mtpa) up to 10.5 Mtpa.
L9000/2016/2	18/12/2025	Licence amendment for: - Extending stage 6 toe line and increase tailings storage

<b>Instrument</b>	<b>Issued</b>	<b>Nature and extent of licence or amendment</b>
		<p>capacity from 92 to 102 million tonnes.</p> <ul style="list-style-type: none"> <li>- Increasing the category 73 bulk storage of chemicals from 1,500 m<sup>3</sup> to 2,410 m<sup>3</sup> in aggregate.</li> <li>- Transfer of company from Gruyere Management (GRM) Pty Limited to Gruyere Mining Company Pty Ltd with updated ACN. The licence number version has been updated to L9000/2016/2.</li> </ul>

# Definitions and interpretation

## Definitions

In this Licence, the terms in Table 2 have the meanings defined.

**Table 2: Definitions**

Term	Definition
ACN	Australian Company Number.
Amendment Notice	means an amendment granted under s.59 of the EP Act in accordance with the procedure set out in s.59B of the EP Act.
Annual Audit Compliance Report	means a report in a format approved by the CEO as presented by the Licence Holder or as specified by the CEO (guidelines and templates may be available on the Department's website).
Annual Period	means a 12 month period commencing from 1 July until 30 June in the following year.
ANZECC, 2000 Livestock	Australian and New Zealand Guidelines for Fresh and Marine Water Quality (Paper No. 4, Volume 3) Primary Industries – Rationale and Background Information (available at <a href="http://www.waterquality.gov.au">http://www.waterquality.gov.au</a> ).
Approved Policy	has the same meaning given to that term under the EP Act.
AS 1692	means the Australian Standard AS 1692-2006 <i>Steel tanks for flammable and combustible liquids</i> .
AS 1940	means the Australian Standard AS 1940-2004 <i>The storage and handling of flammable and combustible liquids</i> .
AS/NZS 5667.1	means the Australian/New Zealand Standard AS/NZS 5667.1 <i>Water Quality – Sampling – Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples</i> .
AS/NZS 5667.10	means the Australian/New Zealand Standard AS/NZS 5667.10 <i>Water Quality - Sampling – Guidance on sampling of waste waters</i> .
AS/NZS 5667.11	means the Australian/New Zealand Standard AS/NZS 5667.11 <i>Water Quality – Sampling – Guidance on the sampling of groundwaters</i> .
Australian & New Zealand Guidelines for Fresh & Marine Water Quality	Australian & New Zealand Guidelines for Fresh & Marine Water Quality (available at <a href="http://www.waterquality.gov.au">http://www.waterquality.gov.au</a> ).
Averaging Period	means the time over which a limit is measured or a monitoring result is obtained.
Books	has the same meaning given to that term under the EP Act.

Term	Definition
Category/ Categories/ Cat.	Categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations.
CEO	<p>means Chief Executive Officer.</p> <p>CEO for the purposes of notification means:</p> <p style="padding-left: 40px;">Director General Department Administering the <i>Environmental Protection Act 1986</i> Locked Bag 10 JOONDALUP DC WA 6919 <a href="mailto:info@dwer.wa.gov.au">info@dwer.wa.gov.au</a></p>
cfu/100mL	colony forming units per 100 millilitres.
Clean Fill	has the meaning defined in the Landfill Definitions.
Clinical waste	means waste generated by medical, nursing, dental, veterinary, pharmaceutical or other related activity which is poisonous or infectious; likely to cause injury to public health; or contains human tissue or body parts.
Condition	means a condition to which this Licence is subject under s.62 of the EP Act.
Delegated Officer	an officer under section 20 of the EP Act.
Department	means the department established under s.35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V, Division 3 of the EP Act.
Department Request	<p>means a request for Books or other sources of information to be produced, made by an Inspector or the CEO to the Licence Holder in writing and sent to the Licence Holder's address for notifications, as described at the front of this Licence, in relation to:</p> <ul style="list-style-type: none"> <li>(a) compliance with the EP Act or this Licence;</li> <li>(b) the Books or other sources of information maintained in accordance with this Licence; or</li> <li>(c) the Books or other sources of information relating to Emissions from the Premises.</li> </ul>
Discharge	has the same meaning given to that term under the EP Act.
DWER	means Department of Water and Environmental Regulation.
Emission	has the same meaning given to that term under the EP Act.
Environmental Harm	has the same meaning given to that term under the EP Act.
EP Act	means the <i>Environmental Protection Act 1986</i> (WA).

Term	Definition
EP Regulations	means the <i>Environmental Protection Regulations 1987 (WA)</i> .
Freeboard	means the distance between the maximum water surface elevation and the top of the retaining banks or structures at their lowest point.
GWL	Groundwater level
Hardstand	means a surface with a permeability of $10^{-9}$ metres per second or less.
HDPE	high density polyethylene.
Implementation Agreement or Decision	has the same meaning given to that term under the EP Act.
Inert Waste Type 1	has the meaning defined in the Landfill Definitions.
Inert Waste Type 2	has the meaning defined in the Landfill Definitions.
Inspector	means an inspector appointed by the CEO in accordance with s.88 of the EP Act.
kl	kilolitres.
Landfill Definitions	means the document titled "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.
Licence	refers to this document, which evidences the grant of a Licence by the CEO under s.57 of the EP Act, subject to the Conditions.
Licence Holder	refers to the occupier of the premises being the person to whom this Licence has been granted, as specified at the front of this Licence.
L/s	Litres per second.
Material Environmental Harm	has the same meaning given to that term under the EP Act.
mbgl	metres below ground level.
MCSP	Mobile Crushing and Screening Plant
NATA	National Association of Testing Authorities, Australia.
NATA accredited	means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis.
NTU	Nephelometric Turbidity Units.
OWS	Oil Water Separator.

Term	Definition
Phase 1	short-term management
Phase 2	medium-term management
Pollution	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Licence applies, as specified at the front of this Licence and as shown on the map in Schedule 1 to this Licence.
Prescribed Premises	has the same meaning given to that term under the EP Act.
Primary Activities	refers to the Prescribed Premises activities listed on the front of this Licence as described in Schedule 2, at the locations shown in Schedule 1.
Putrescible	has the meaning defined in the Landfill Definitions.
quarterly	means the 4 inclusive periods from 1 July to 30 September, 1 October to 31 December and in the following year 1 January to 31 March, and 1 April to 30 June.
RL	Reduced Level.
Serious Environmental Harm	has the same meaning given to that term under the EP Act.
Special Waste Type 2	has the meaning defined in the Landfill Definitions.
Spot sample	means a discrete sample representation at the time and place at which the sample is taken.
Suitably qualified geotechnical engineer	<p>Means a person who:</p> <ol style="list-style-type: none"> <li>hold a Bachelor of Engineering recognised by the Australian Institute of Engineers, and</li> <li>has a minimum of 5 years of experience working in geotechnical engineering including experience in the design of tailings storage facilities.</li> </ol>
TSF	Tailings Storage Facility.
TRH	Total Recoverable Hydrocarbons.
Unreasonable Emission	has the same meaning given to that term under the EP Act.
Waste	has the same meaning given to that term under the EP Act.

Term	Definition
WWTPs	means Wastewater Treatment Plants at the Miners accommodation village and at the Process Plant.
$\text{m}^3/\text{day}$	means cubic metres per day.
$\mu\text{S}/\text{cm}$	means microSiemens per centimeter.

## Interpretation

In this Licence:

- (a) the words 'including', 'includes' and 'include' in conditions mean "including but not limited to", and similar, as appropriate;
- (b) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning;
- (c) where tables are used in a condition, each row in a table constitutes a separate condition;
- (d) any reference to an Australian or other standard, guideline, or code of practice in this licence:
  - (i) if dated, refers to that particular version; and
  - (ii) if not dated, refers to the latest version and therefore may be subject to change over time;
- (e) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act; and
- (f) unless specified otherwise, all definitions are in accordance with the EP Act.

**NOTE:** This licence requires specific conditions to be met but does not provide any implied authorisation for other emissions, discharges, or activities not specified in this licence.

## Conditions

The Licence Holder must ensure that the following conditions are complied with:

### Emissions

1. The Licence Holder must not cause any Emissions from the Primary Activities on the Premises except for specified Emissions and general Emissions described in Column 1 of Table 3 subject to the exclusions, limitations or requirements specified in Column 2 of Table 3.

**Table 3: Authorised Emissions table**

Column 1	Column 2
Emission type	Exclusions/Limitations/Requirements
<b>Specified Emissions</b>	
Discharge of tailings to the TSF	Subject to compliance with Condition 2 and Condition 3 (Row 4).
Treated wastewater from the WWTPs	Subject to compliance with Condition 2 and Condition 3 (Rows 6, 7, 8 and 9).
Class II Waste (Putrescible, Inert Waste Type 1, Inert Waste Type 2 and Special Waste Type 2)	Subject to compliance with Condition 2, Condition 3 (Rows 10, 11, 12 and 13) and Condition 6.
<b>General Emissions (excluding Specified Emissions)</b>	
Emissions which arise from the Primary Activities set out in Schedule 2	<p>Emissions excluded from General Emissions are:</p> <ul style="list-style-type: none"><li>• Unreasonable Emissions; or</li><li>• Emissions that result in, or are likely to result in, Pollution, Material Environmental Harm or Serious Environmental Harm; or</li><li>• Discharges of Waste in circumstances likely to cause Pollution; or</li><li>• Emissions that result, or are likely to result in, the Discharge or abandonment of Waste in water to which the public has access; or</li><li>• Emissions or Discharges which do not comply with an Approved Policy; or</li><li>• Emissions or Discharges which do not comply with a prescribed standard; or</li><li>• Emissions or Discharges which do not comply with the conditions in an Implementation Agreement or Decision; or</li><li>• Emissions or Discharges the subject of</li></ul>

Column 1	Column 2
Emission type	Exclusions/Limitations/Requirements
	offences under regulations prescribed under the EP Act, including materials discharged under the <i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i> .

2. The Licence Holder must ensure that all Emissions specified in Table 4, are discharged only from the corresponding discharge point and only at the corresponding discharge point location.

**Table 4: Authorised discharge points**

Emission	Discharge point	Discharge point location
Tailings	TSF	As shown in Schedule 1: Maps – Site Plan 1 and 2.
Treated wastewater from the miners accommodation village WWTP	L1	As shown in Schedule 1: Maps – Site Plan 1.
Treated wastewater from the Process Plant WWTP	L2	As shown in Schedule 1: Maps – Site Plan 2.
Putrescible and Inert Waste Type 1 (bricks and concrete)	Landfill	As shown in Schedule 1: Maps – Site Plan 1, 3 and 5.
Inert Waste Type 2 (tyres and cleaned ammonium nitrate bags)	Waste Rock Landform	As shown in Schedule 1: Maps – Site Plan 3.
Putrescible, Inert Waste Type 1 (bricks and concrete), Inert Waste Type 2 and Special Waste Type 2	Waste Rock Dump 1 Landfill	As shown in Schedule 1: Maps – Site Plan 1, 3 and 5.

## Infrastructure and equipment

3. The Licence Holder must ensure that the site infrastructure and equipment listed in Table 5 is maintained and operated in accordance with the corresponding operational requirements set out in Table 5.

**Table 5: Infrastructure and equipment requirements**

	<b>Site infrastructure and equipment</b>	<b>Operational requirements</b>
1	Ore processing	Conducted within a bunded area which drains to sumps with recovery pumps.
2	Reagent area	Processing reagents stored in accordance with AS 1940 and AS 1692.
3	Process water pond and sedimentation pond	HDPE maintained. Total freeboard of 300 mm maintained.
4	TSF  Refer to Schedule 1: Maps – TSF section layout and TSF – Stage 3 to 6 typical embankment section.	<p><u>General</u></p> <p>Integrated Waste Landform, with a total design storage capacity of 102,000,000 tonnes.</p> <p><u>Embankment</u></p> <p>Freeboard of 500 mm over and above the freeboard required to hold the volume of water associated with a 1:100 year, 72 hour storm event.</p> <p>Stage 3 - Embankment crest level of RL 422.0 m.</p> <p>Stage 4 - Embankment crest level of RL 427.0 m.</p> <p>Stage 5 - Embankment crest level of RL 432.0 m.</p> <p>Stage 6 (Final) – Embankment crest level of RL 439.2 m.</p> <p><u>Cut-off trench</u></p> <p>Located beneath the perimeter embankment.</p> <p><u>Underdrainage</u></p> <p>HDPE lined underdrainage sumps located immediately adjacent to the upstream embankment toe and at the lowest point within the TSF basin.</p> <p>Sumps with a full storage capacity of 585 m<sup>3</sup>.</p> <p>Central underdrainage piping network around the decant structure to the extent of a decant pond of nominal 150 m radius connected to underdrainage discharge pipes that report by gravity to the perimeter underdrainage sump.</p> <p>The recovered underdrainage water is returned to the tailings beach and hence to the decant system and back to the plant for re-use in the process facility or alternatively directly back to the plant via a dedicated pipeline.</p> <p>Flowmeters installed to allow volumes of seepage recovered from the underdrainage system to be recorded.</p> <p><u>Tailings and return water pipelines</u></p> <p>Fitted with flow and leak detection sensors.</p> <p><u>Tailings deposition</u></p> <p>Sub-aerially and cyclically via multiple spigots.</p> <p>Deposited tailings layer thickness: nominal 300 to 400 mm thickness.</p> <p>Spigotting/tailings deposition carried out such that a tailings beach forms and</p>

	Site infrastructure and equipment	Operational requirements																		
		<p>the supernatant pond (from both rainfall events and tailings deposition) is maintained around the central decant structure.</p> <p><u>Decant facility</u></p> <p>Decant pond central and as small as practical (i.e. nominal 150 m radius).</p> <p>Decant water recovered is pumped back to the process plant for reuse.</p> <p><u>Seepage trench</u></p> <p>Long term seepage cut-off trenches installed in accordance with IR 4(b)(ii) to be maintained in order to remain functional.</p>																		
5	MCSP	<p>Mobile crusher with a processing ability of 90-200 tonnes per hour, a feeding size of 480-750 mm producing an outlet size of 65-200 mm.</p>																		
6	WWTPs	<p>All sewage and treated wastewater storage and treatment tanks, transfer pipelines and conveyance infrastructure must be impermeable and free of leaks or defects.</p> <p>Storm-water conveyance infrastructure must not direct storm-water into any sewage and treated wastewater storage and treatment tanks, transfer pipelines and conveyance infrastructure.</p> <p>All above ground infrastructure located on a hardstand.</p>																		
7	Miners accommodation village WWTP	<p>MAK Water designed 200 m<sup>3</sup>/day WWTP.</p> <p>Wastewater treated before being discharged to the spray field.</p> <p>Boundary of WWTP fenced with appropriately signposted.</p> <p>Be capable of treating sewage to the following standards:</p> <table> <tbody> <tr> <td>Treated wastewater outflow</td> <td>≤200 m<sup>3</sup>/ day</td> </tr> <tr> <td>Biochemical Oxygen Demand</td> <td>&lt;20 mg/L</td> </tr> <tr> <td>Total Suspended Solids</td> <td>&lt;30 mg/L</td> </tr> <tr> <td>Total Nitrogen</td> <td>&lt;40 mg/L</td> </tr> <tr> <td>Total Phosphorus</td> <td>&lt;5 mg/L</td> </tr> <tr> <td>Turbidity</td> <td>&lt;5 NTU</td> </tr> <tr> <td>Free chlorine</td> <td>0.2-2 mg/L</td> </tr> <tr> <td>pH</td> <td>≥6.5-≤8.5 pH units</td> </tr> <tr> <td><i>E.coli</i></td> <td>&lt;10 cfu/100mL</td> </tr> </tbody> </table>	Treated wastewater outflow	≤200 m <sup>3</sup> / day	Biochemical Oxygen Demand	<20 mg/L	Total Suspended Solids	<30 mg/L	Total Nitrogen	<40 mg/L	Total Phosphorus	<5 mg/L	Turbidity	<5 NTU	Free chlorine	0.2-2 mg/L	pH	≥6.5-≤8.5 pH units	<i>E.coli</i>	<10 cfu/100mL
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8	Process Plant WWTP	<p>MAK Water designed 25 m<sup>3</sup>/day WWTP.</p> <p>Wastewater treated before being discharged to the spray field.</p> <p>Contingency storage capacity for up to two days of normal flow if discharge is suspended while any problems are fixed.</p> <p>Boundary of WWTP fenced with appropriately signposted entrance / exit gate.</p> <p>The WWTP will meet the following emission standards:</p> <table> <tbody> <tr> <td>Biochemical Oxygen Demand</td> <td>&lt;20 mg/L</td> </tr> <tr> <td>Total Suspended Solids</td> <td>&lt;10 mg/L</td> </tr> </tbody> </table>	Biochemical Oxygen Demand	<20 mg/L	Total Suspended Solids	<10 mg/L														
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	Site infrastructure and equipment	Operational requirements
		<p>Total Nitrogen &lt;30 mg/L</p> <p>Total Phosphorus &lt;8 mg/L</p> <p>Turbidity &lt;5 NTU</p> <p>Chlorine Residual &gt;0.2-2 mg/L</p> <p>pH 6.5-8.5 pH units</p> <p><i>E.coli</i> &lt;10 cfu/100mL</p>
9	Spray fields (refer to Schedule 1: Maps – Site Plan 1 (L1) and Site Plan 2 (L2))	<p>2 hectares.</p> <p>Fenced and appropriately signposted.</p> <p>Effluent discharge from the WWTP managed to allow effluent to infiltrate or evaporate and prevent surface ponding or runoff from the spray field.</p>
10	Landfill fence, signage	<p>To be maintained.</p> <p>Sign to be legible.</p>
11	Landfill trench	<p>250 m x 150 m landfill area.</p> <p>Each cell approximately 30 m long x 10 m wide x 4 m deep, surrounded by an earthen bund of 1 m in height at surface level.</p> <p>Tip face to not exceed 30 m in length and incorporates a ramp down where the waste is deposited.</p> <p>Firebreak of at least 3 m in width around the boundary of the Landfill.</p> <p>Windblown waste to be collected and put back in the Landfill.</p> <p>Waste to be covered at least weekly with 300 mm of soil or Clean Fill.</p> <p>Conduct at least weekly inspections.</p> <p>Maximum of up to 8 m<sup>3</sup> per annual period of clinical waste generated at the premises and accepted for burial at the Waste Rock Dump 1 Landfill.</p> <p>Licence Holder to appoint a nominated person to supervise the disposal of the Special Waste Type 2.</p> <p>Special Waste Type 2 is covered as soon as practical after disposal with clean fill to a depth of at least 1 m.</p> <p>Prepare a plan of the location of the Special Waste Type 2.</p> <p>Licence Holder is to keep a register of Special Waste Type 2 disposed of at site, including;</p> <ul style="list-style-type: none"> <li>- Date;</li> <li>- Nominated person's name;</li> <li>- Quantity disposed;</li> <li>- That waste has been covered in accordance with requirements above; and</li> <li>- Grid reference to the plan of the landfill so that the position of the waste can be easily and accurately ascertained.</li> </ul>
12	Designated pallet cell	<p><u>Broken wooden pallets – storage and burning (for training purposes only)</u></p> <p>Located within the landfill compound.</p> <p>Stored within a designated cell within the Landfill area.</p>

	<b>Site infrastructure and equipment</b>	<b>Operational requirements</b>
		To be surrounded by 2 m high earthen perimeter bunds. Fire control measures to be present when pallets are burned.
13	Waste Rock Landform	<u>Tyres<sup>1</sup> and ammonium nitrate bags (Inert Waste Type 2)</u> Directly landfilled. No more than 100 tyres stored at the Premises at any one time. Tyres to be disposed in batches not exceeding 1,000 whole tyres. Tyres covered at regular intervals such that no more than 1,000 whole tyres are left exposed at any one time. Each batch of tyres to be separated by at least 100 mm of soil or another dense inert and incombustible material, with a final cover not less than 500 mm. Ammonium nitrate bags shaken to remove prill prior to disposal. Regular inspections.
14	Wash down facilities	Located on concrete pads, which drain to an OWS. Heavy and light vehicles washed down at a purpose-built wash down facility. Sediment from the wash down pad collected in a concrete sump and wash water treated to separate solids and hydrocarbons.
15	Workshops	Workshop facilities (heavy, light vehicle and maintenance) located on concrete pads which drain to an OWS. Heavy and light vehicle maintenance occurs within the workshops.
16	OWS	Located within a bunded area. Designed to treat all stormwater and wastewater likely to be contaminated with hydrocarbons.
17	Bulk oil tanks located within the mining area workshops	Comprise 7 x 10 kL bulk oil self-bunded tanks. Stored in accordance with AS 1940.
18	Bulk diesel storage tanks	Comprise 14 x 110 kL self-bunded storage tanks. Stored in accordance with AS 1940.

Note 1: Requirements for landfilling and covering of tyres are set out in Part 6 of the EP Regulations.

**4. The Licence Holder shall:**

- (a) undertake inspections as detailed in Table 6;
- (b) where any inspection identifies that an appropriate level of environmental protection is not being maintained, take corrective action to mitigate adverse environmental consequences as soon as practicable; and
- (c) maintain a record of all inspections undertaken, with each inspection signed off by the person who conducted the inspection.

**Table 6: Inspection of infrastructure**

Scope of inspection	Type of inspection	Frequency of inspection
Tailing pipelines (delivery and distribution)	Visual integrity	Daily
Return water pipelines	Visual integrity	Daily
TSF embankment	Visual to confirm required freeboard capacity is available	Daily
Process water pond and sedimentation pond	Visual integrity, leak assessment and freeboard capacity	Daily

5. The Licence Holder must undertake an annual water balance for the TSF. The water balance shall as a minimum consider the following:

- (a) site rainfall;
- (b) evaporation;
- (c) tailings return water recovery volumes;
- (d) seepage recovery volumes; and
- (e) volumes of tailings deposited.

## Waste Acceptance

6. The Licence Holder must only accept onto the Premises Waste of a Waste type, which does not exceed the corresponding rate at which Waste is received, and which meets the corresponding acceptance specification set out in Table 7.

**Table 7: Types of Waste authorised to be accepted onto the Premises**

Waste type	Rate at which waste is received	Acceptance specification <sup>1</sup>
Sewage	200 m <sup>3</sup> /day Miners accommodation village WWTP 25 m <sup>3</sup> /day - Process plant WWTP	Accepted through sewer inflow(s) only
Putrescible Waste	2,000 tonnes per Annual Period	Must meet the acceptance criteria for Class II landfills
Inert Waste Type 1		Bricks and concrete
Inert Waste Type 2		Tyres and cleaned ammonium nitrate bags
Special Waste Type 2	8 cubic metres per Annual Period	Clinical waste generated at the Premises

Note 1: Additional requirements for the acceptance of controlled waste are set out in the *Environmental Protection (Controlled Waste) Regulations 2004*.

## Waste Input Monitoring

7. The Licence Holder must record the total amount of Waste deposited on the Premises for each Waste type listed in Table 8, in the corresponding unit, and for each corresponding time period, as set out in Table 8.

**Table 8: Waste deposited on Premises**

<b>Waste type</b>	<b>Unit</b>	<b>Time period</b>
Waste Inputs – Sewage	$\text{m}^3$	Continuous
Putrescible Waste	Tonnes	Incoming load
Inert Waste Type 1	Tonnes	Incoming load
Inert Waste Type 2	Tonnes	Incoming load
Special Waste Type 2	$\text{m}^3$	Incoming load

## Monitoring

8. The Licence Holder must ensure that:
  - (a) all samples are collected and preserved in accordance with AS/NZS 5667.1;
  - (b) all waste water sampling is conducted in accordance with AS/NZS 5667.10;
  - (c) all groundwater sampling is conducted in accordance with AS/NZS 5667.11; and
  - (d) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured, unless indicated otherwise in the relevant table.
9. The Licence Holder must ensure that monitoring is undertaken in each quarterly period such that there are at least 45 days in between the days on which samples are taken in successive quarters.

## Emissions and Discharge Monitoring

10. The Licence Holder must monitor emissions:
  - (a) for each discharge point;
  - (b) at the corresponding monitoring location;
  - (c) for the corresponding parameters;
  - (d) in the corresponding units;
  - (e) for the corresponding Averaging Period,
  - (f) at the corresponding frequency; and
  - (g) using the corresponding method.

as set out in Table 9.

**Table 9: Emissions and discharge monitoring**

Discharge point	Monitoring location	Parameters	Units	Averaging period	Frequency	Method
Miners accommodation village WWTP	Offtake discharge point for the spray field	pH	pH units	Spot sample	Quarterly	AS/NZS 5667.1 AS/NZS 5667.10
		Total Suspended Solids	mg/L			
		Total Phosphorus	mg/L			
		Total Nitrogen	mg/L			
		Biochemical Oxygen Demand	mg/L			
		<i>Escherichia coli</i>	cfu/100mL			
		Free Chlorine	mg/L			
		Volume	m <sup>3</sup>	Continual	Continuous	Flow metering device

## Ambient Monitoring

11. The Licence Holder must monitor the groundwater for concentrations of the parameter listed in Table 10:

- at the corresponding monitoring location;
- in the corresponding unit;
- at no less than the corresponding frequency;
- for the corresponding Averaging Period; and
- using the corresponding method.

as set out in Table 10.

**Table 10: Monitoring of ambient concentrations**

Parameter	Monitoring location	Unit	Frequency	Averaging Period	Method
Standing Water Level		mbgl			
pH <sup>1</sup>		pH units			
Electrical Conductivity		µS/cm			
Bicarbonate Alkalinity as HCO <sub>3</sub>					
Chloride, Cl	TSFM1				
Sulfate, SO <sub>4</sub>	TSFM2				
Sodium, Na	TSFM3				
Potassium, K	TSFM4				
Calcium, Ca	TSFM5				
Magnesium, Mg	TSFM6				
Antimony, Sb	TSFM7				
Arsenic, As	TSFM8				
Cadmium, Cd	(as shown in Schedule 1: Maps – TSF monitoring bore locations)	mg/L	Spot sample	Quarterly	AS/NZS 5667.1
Chromium, Cr					AS/NZS 5667.11
Cobalt, Co					
Copper, Cu					
Iron, Fe					
Manganese, Mn					
Mercury, Hg					
Molybdenum, Mo					
Nickel, Ni					
Selenium, Se					
Thallium, Tl					
Total Recoverable Hydrocarbons					
Uranium, U					
Zinc, Zn					
Weak Acid Dissociable (WAD) cyanide					
Total cyanide					

Note 1: In-field non-NATA accredited analysis permitted.

## Improvements

12. The Licence Holder must undertake the improvements in Table 11

**Table 11: Improvement program**

Improvement reference	Improvement	Date of completion
IR1	<p>The Licence Holder must implement <b>Phase 1</b> (short-term management) TSF seepage recovery actions by the Date of Completion.</p> <p><b>Phase 1</b> actions are described in Schedule 3.</p>	31 May 2021
IR2	<p>The Licence Holder must implement Phase 2 (medium-term management) TSF seepage recovery actions by the Date of Completion, following <b>Phase 1</b> compliance.</p>	
IR3	<p>The Licence Holder must implement long-term seepage actions by the Date of Completion following <b>Phase 1</b> and <b>Phase 2</b> compliance, respectively.</p> <p>Long-term seepage actions are described in Schedule 3.</p>	

## Record-keeping

13. The Licence Holder must maintain accurate and auditable Books including the following records, information, reports and data required by this Licence:

- (a) the calculation of fees payable in respect of this Licence;
- (b) the maintenance of infrastructure required to ensure that it is kept in good working order in accordance with Condition 3 of this Licence;
- (c) monitoring undertaken in accordance with Conditions 7, 10 and 11 of this Licence;
- (d) complaints received under Condition 14 of this Licence.

In addition, the Books must:

- (e) be legible;
- (f) if amended, be amended in such a way that the original and subsequent amendments remain legible and are capable of retrieval;
- (g) be retained for at least 3 years from the date the Books were made; and
- (h) be available to be produced to an Inspector or the CEO.

14. The Licence Holder must record the number and details of any complaints received by the Licence Holder relating to its obligations under this Licence and its compliance with Part V of the EP Act at the Premises, and any action taken by the Licence Holder in response to the complaint. Details of complaints must include:

- (a) an accurate record of the concerns or issues raised, for example a copy of any written complaint or a written note of any verbal complaints made;
- (b) the name and contact details of the complainant, if provided by the complainant;
- (c) the date of the complaint; and

- (d) the details and dates of the actions taken by the Licence Holder in response to the complaints.

**15.** The Licence Holder must, within 7 days of becoming aware of any non-compliance with Conditions 1, 2, 6 and Schedule 2: Table 5 of this Licence, notify the CEO in writing of that non-compliance and include in that notification the following information:

- (a) which condition was not complied with;
- (b) the time and date when the non-compliance occurred;
- (c) if any environmental impact occurred as a result of the non-compliance and if so what that impact is and where the impact occurred;
- (d) the details and result of any investigation undertaken into the cause of the non-compliance;
- (e) what action has been taken and the date on which it was taken to prevent the non-compliance occurring again; and
- (f) what action will be taken and the date by which it will be taken to prevent the non-compliance occurring again.

**16.** The Licence Holder must:

- (a) undertake an audit of their compliance with the conditions of this Licence during the preceding Annual Period; and
- (b) prepare and submit to the CEO by no later than 90 days after the end of that Annual Period an Annual Audit Compliance Report in the approved form.

**17.** The Licence Holder must submit to the CEO by no later than 90 days after the end of each Annual Period, an Annual Environmental Report for that Annual Period for the Conditions listed in Table 2, and which provides information in accordance with the corresponding requirement set out in Table 2.

**Table 12: Annual Environmental Report requirements**

Condition	Requirement
5	Annual water balance for the TSF.
7	Total amount of waste accepted onto the Premises.
10	Tabulated monitoring data results including an interpretation and comparison against previous monitoring results.
11	Tabulated ambient groundwater monitoring data results including a summary of the monitoring results with an interpretation and comparison against background results, the Australian & New Zealand Guidelines for Fresh & Marine Water Quality; and ANZECC, 2000 Livestock guidelines.
12	Report on the status of improvement program, including compliance with the long-term seepage recovery management plan outlined in Schedule 3.

**18.** The Licence Holder must comply with a Department Request, within 14 days from the date of the Department Request or such other period as agreed to by the Inspector or the CEO.

## Construction of infrastructure

19. The Licence Holder must:

- (a) construct and/or install the infrastructure and/or equipment;
- (b) in accordance with the corresponding design and construction/installation requirements; and
- (c) at the corresponding infrastructure location,

as set out in Table 13.

**Table 13: Design and construction/installation requirements**

Infrastructure	Design and construction/installation requirements	Infrastructure location
Waste Rock Dump 1 Landfill	<ul style="list-style-type: none"> <li>- The landfill shall be constructed at the location shown in Schedule 1, Site Plan 5.</li> <li>- 250 m x 150 m landfill area.</li> <li>- Each cell approximately 30 m long x 10 m wide x 4 m deep, surrounded by an earthen bund of 1 m in height at surface level.</li> <li>- Maintain a minimum separation distance of at least 3 m between the base of the deepest excavation and the highest seasonal level of the groundwater.</li> <li>- Tip face to not exceed 30 m in length and incorporates a ramp down where the waste is deposited.</li> <li>- Firebreak of at least 3 m in width around the boundary of the Landfill.</li> <li>- A wire fence is installed around the boundary of the landfill to act as an effective barrier to fauna.</li> <li>- An entrance/exit gate incorporated into the fence.</li> </ul>	Schedule 1: Maps: Site Plan 1, Site Plan 3 and Site Plan 5
Gruyere TSF Southern Seepage cut-off trench	<ul style="list-style-type: none"> <li>- As per Improvement Reference (IR) 3 condition 4(b)(ii) found in Schedule 3.</li> <li>- Constructed with controls to minimise the risk of sediment ingress and blockage of pipelines including: <ul style="list-style-type: none"> <li>o Drainage rock (Zone A) placement: Material immediately surrounding the seepage collection pipework to comprise of clean drainage rock with a particle size range of 9.5–19 mm and no fines. All drainage rock will be washed (hosed)</li> </ul> </li> </ul>	Schedule 1: Maps: TSF Seepage cut-off trench and TSF cut-off trench detail

	<p>prior to placement to ensure removal of any residual fines and to maintain high hydraulic conductivity around the pipe.</p> <ul style="list-style-type: none"> <li>○ Coarse aggregate layer (Zone B): Material placed above the pipework and Zone A to consist of coarse aggregate ranging from 19–150 mm, also free of fines. This layer provides a stable, highly permeable medium above Zone A to maintain flow efficiency and limit downward migration of fine sediments.</li> <li>○ A geofabric separation layer to be installed above both Zones A and B to prevent fines from overlying materials or surface activities from infiltrating the seepage collection system.</li> </ul>	
8 x 110 kL diesel storage tanks	<ul style="list-style-type: none"> <li>- Tanks to be self-bunded.</li> <li>- Stored in accordance with AS 1692 and AS 1940.</li> </ul>	Schedule 1: Maps: Site Plan 4
1 x 30 m <sup>3</sup> sodium hydroxide tank	<ul style="list-style-type: none"> <li>- Tank to be located in purpose built concrete bunded area.</li> <li>- Stored in accordance with AS 1692 and AS 1940.</li> </ul>	Schedule 1: Maps: Site Plan 4

**20.** The Licence Holder must within 30 calendar days of an item of infrastructure required by condition 19 being constructed or installed:

- (a) undertake an audit of their compliance with the requirements of condition 19; and
- (b) prepare and submit to the CEO an Environmental Compliance Report on that compliance.

**21.** The Environmental Compliance Report required by condition 20, must include as a minimum the following:

- (a) certification by a suitably qualified professional engineer that the items of infrastructure or components thereof, as specified in condition 19 have been constructed in accordance with the relevant requirements specified in condition 19;
- (b) as constructed plans and a detailed site plan for each item of infrastructure or component of infrastructure specified in condition 19; and
- (c) be signed by a person authorised to represent the Licence Holder and contains the printed name and position of that person.

**22.** The Licence Holder shall operate the landfill in accordance with the conditions of this Licence, following submission of the Environmental Compliance Report required under condition 20.

**23.** The Licence Holder is authorised to:

- (a) construct embankment raises for TSF to the construction height; and
- (b) operate TSF until the end of Stage 6 to the operating height,  
as specified in Table 14.

**Table 14: Construction – Critical Containment Infrastructure**

Infrastructure	Design and construction requirements	Infrastructure location
TSF embankment Stage 3	<ul style="list-style-type: none"> <li>- Zone A constructed with fine grained saprolite material which is compacted to achieve a hydraulic conductivity of at least <math>1.0E \times 10^{-8}</math> m/s (95% UCL).</li> <li>- Junction between the Stage 2 HDPE liner and Stage 3 Zone A liner constructed as shown in Schedule 1: Maps: TSF – Stage 2 HDPE liner and Stage 3 Zone A material junction.</li> <li>- Blanket drain sump to be relocated beyond future stage 7 footprint.</li> </ul>	Schedule 1: Maps: TSF – Stage 3-6 typical embankment section; TSF – Stage 2 HDPE liner and Stage 3 Zone A material junction.
TSF embankment Stage 4		
TSF embankment Stage 5		
TSF embankment Stage 6		
TSF embankment Stage 6.1		Schedule 1: TSF Stage 6.1 toe line extension design

24. The Critical Containment Infrastructure Report required by condition 24 must include as a minimum the following:

25. (a) certification by a suitably qualified geotechnical engineer that each item of critical containment infrastructure or component thereof, as specified in condition 23, has been built and installed in accordance with the requirements specified in condition 23;

(b) as constructed plans and a detailed site plan showing the location and dimensions for each item of critical containment infrastructure or component thereof, as specified in condition 23;

(c) photographic evidence of the installation of the infrastructure; and

(d) be signed by a person authorised to represent the Licence Holder and contains the printed name and position of that person.

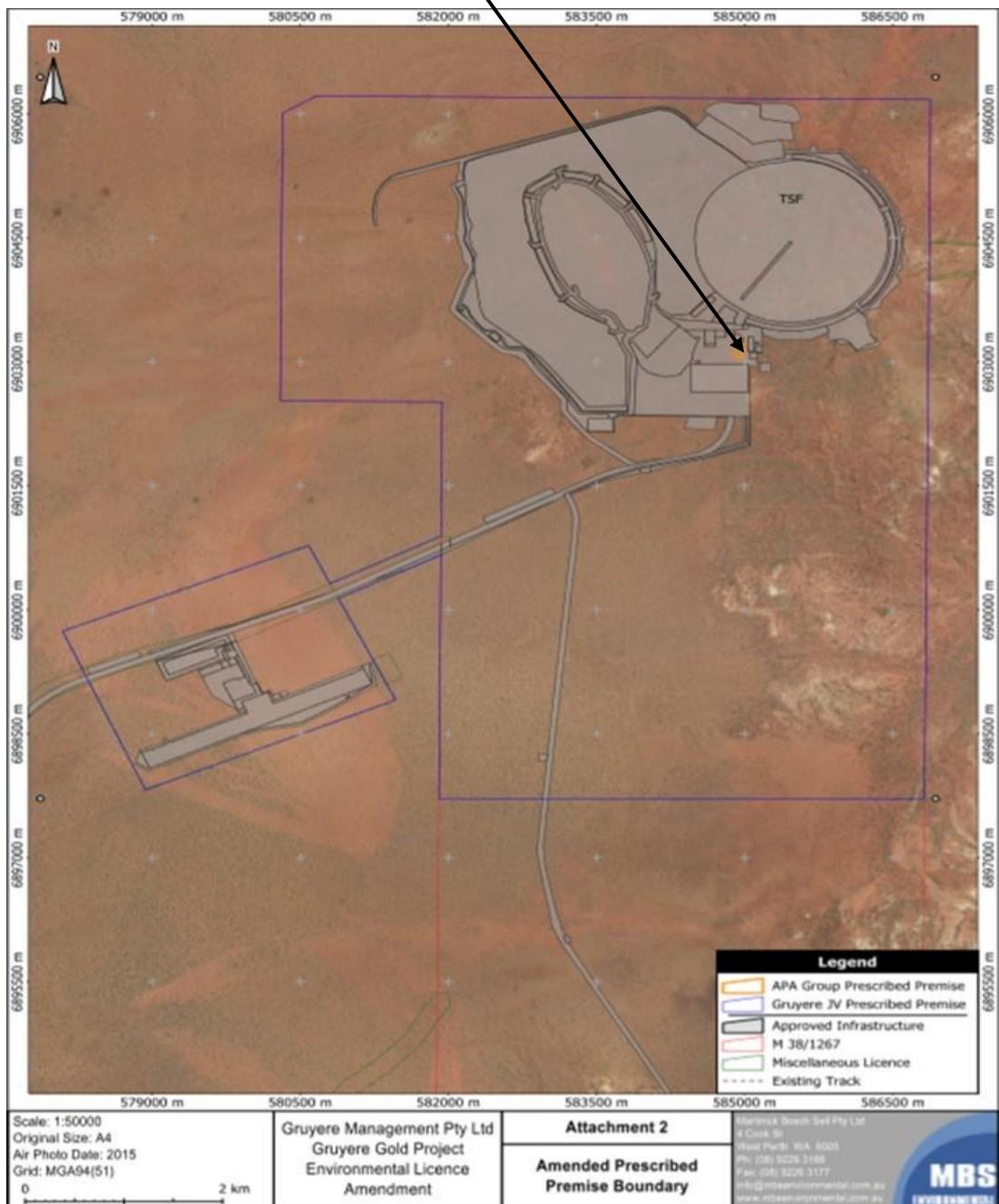
## Schedule 1: Maps Sharp

### Premises map

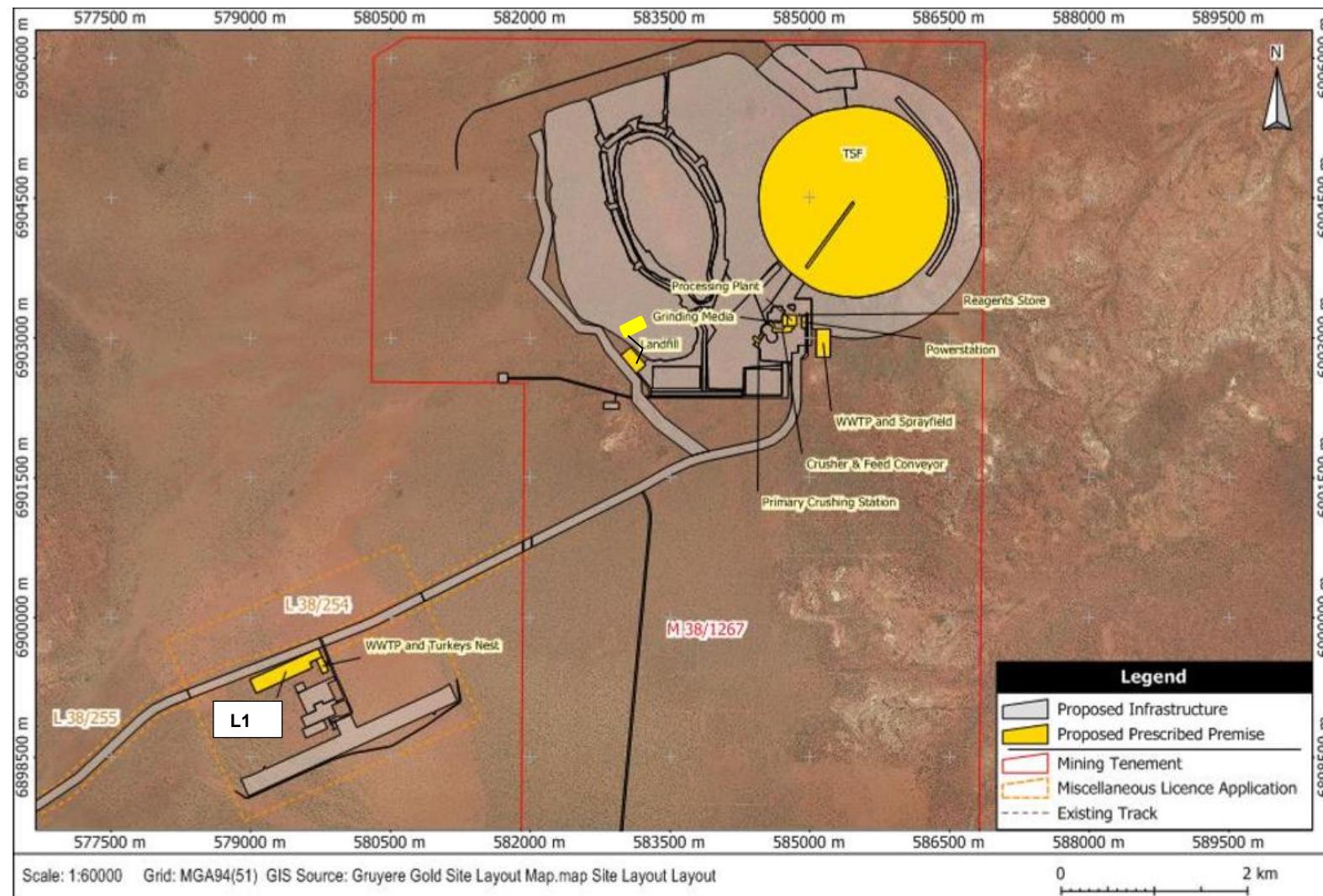
The Premises is shown in the map below. The purple line depicts the Premises boundary.

The orange outline and coordinates below depict the area excluded from the Premises boundary:

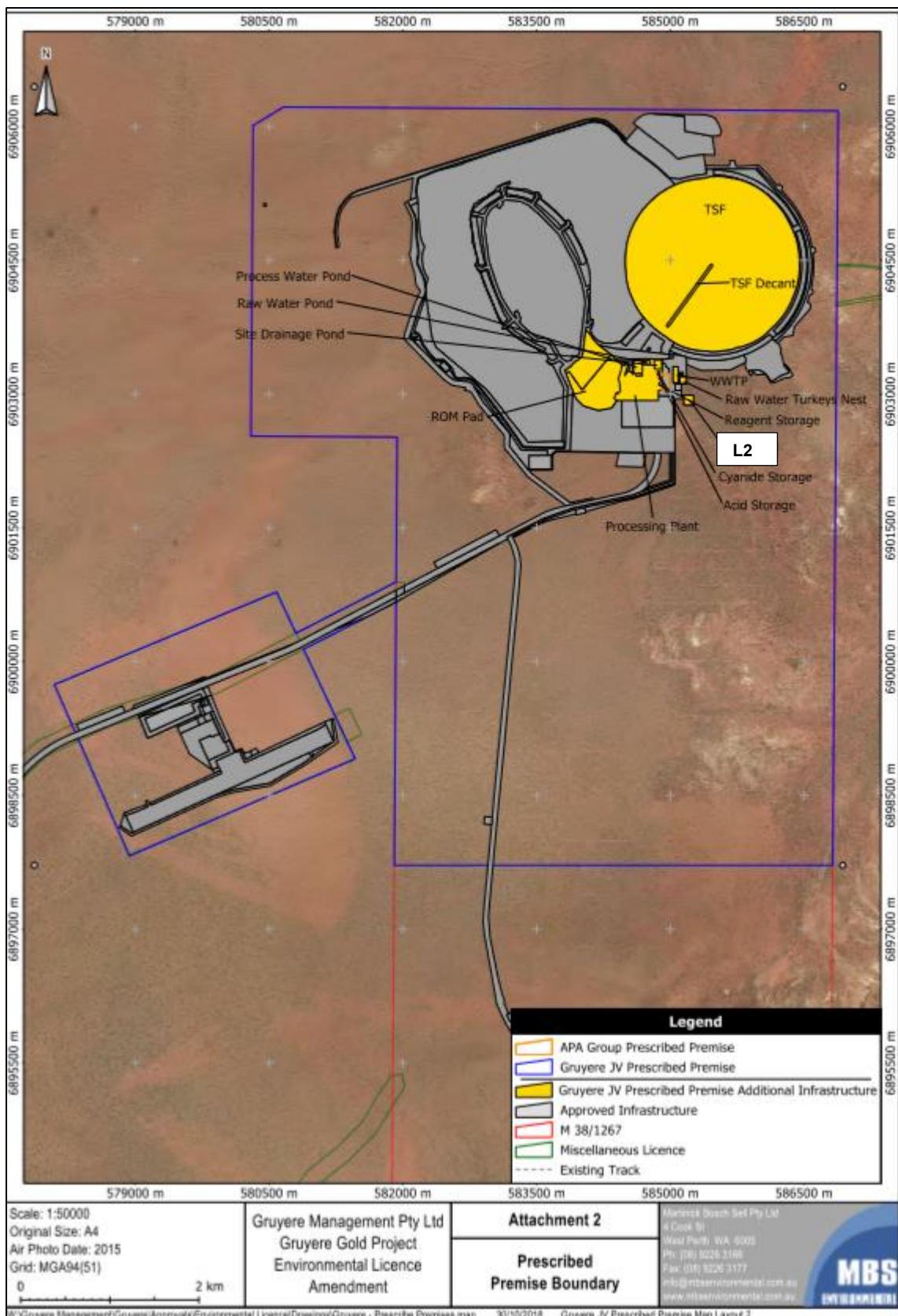
Eastings	Northings	Eastings	Northings
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584900.191	6903223.981	584985.191	6903223.981



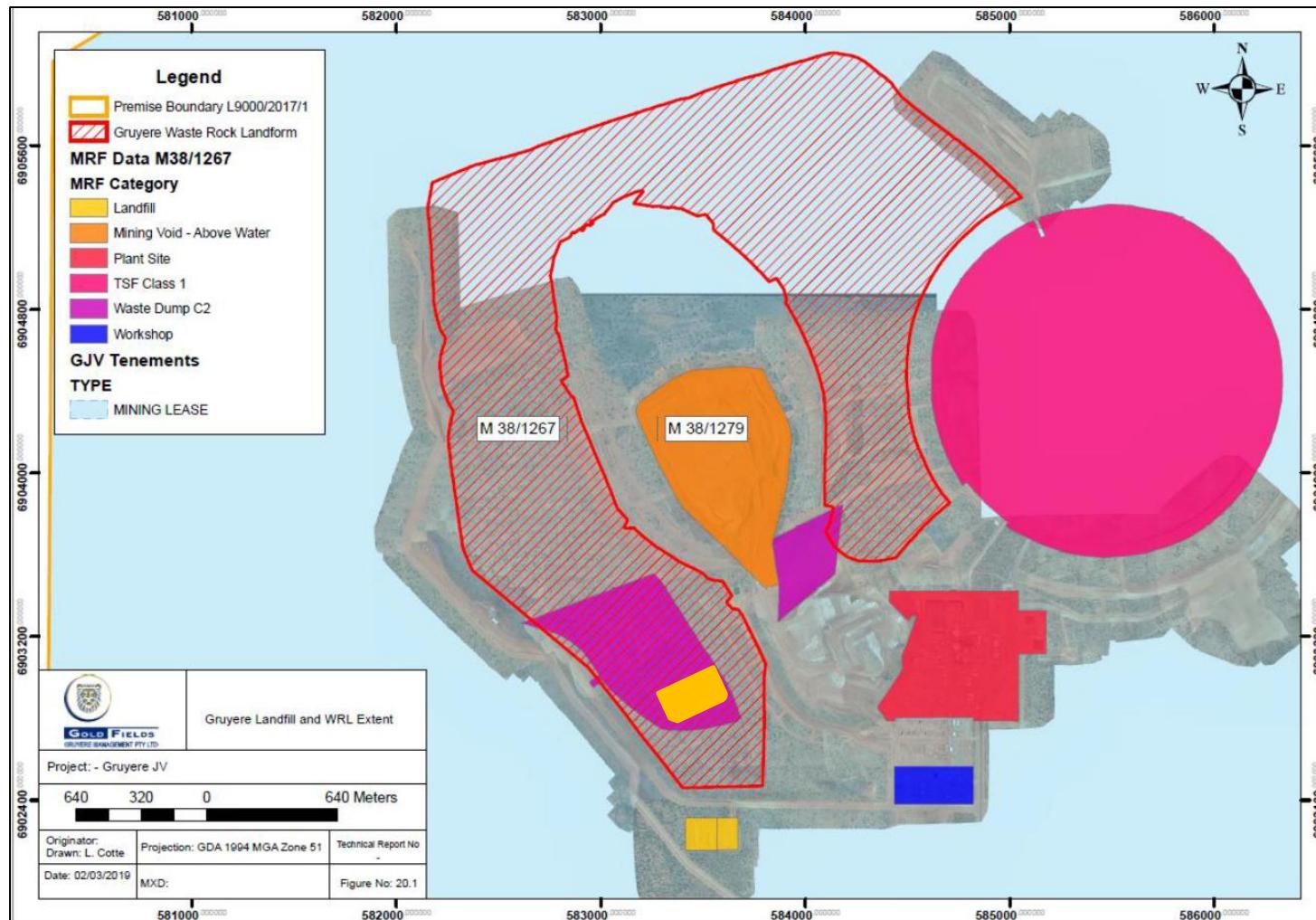
## Site Plan 1



## Site Plan 2



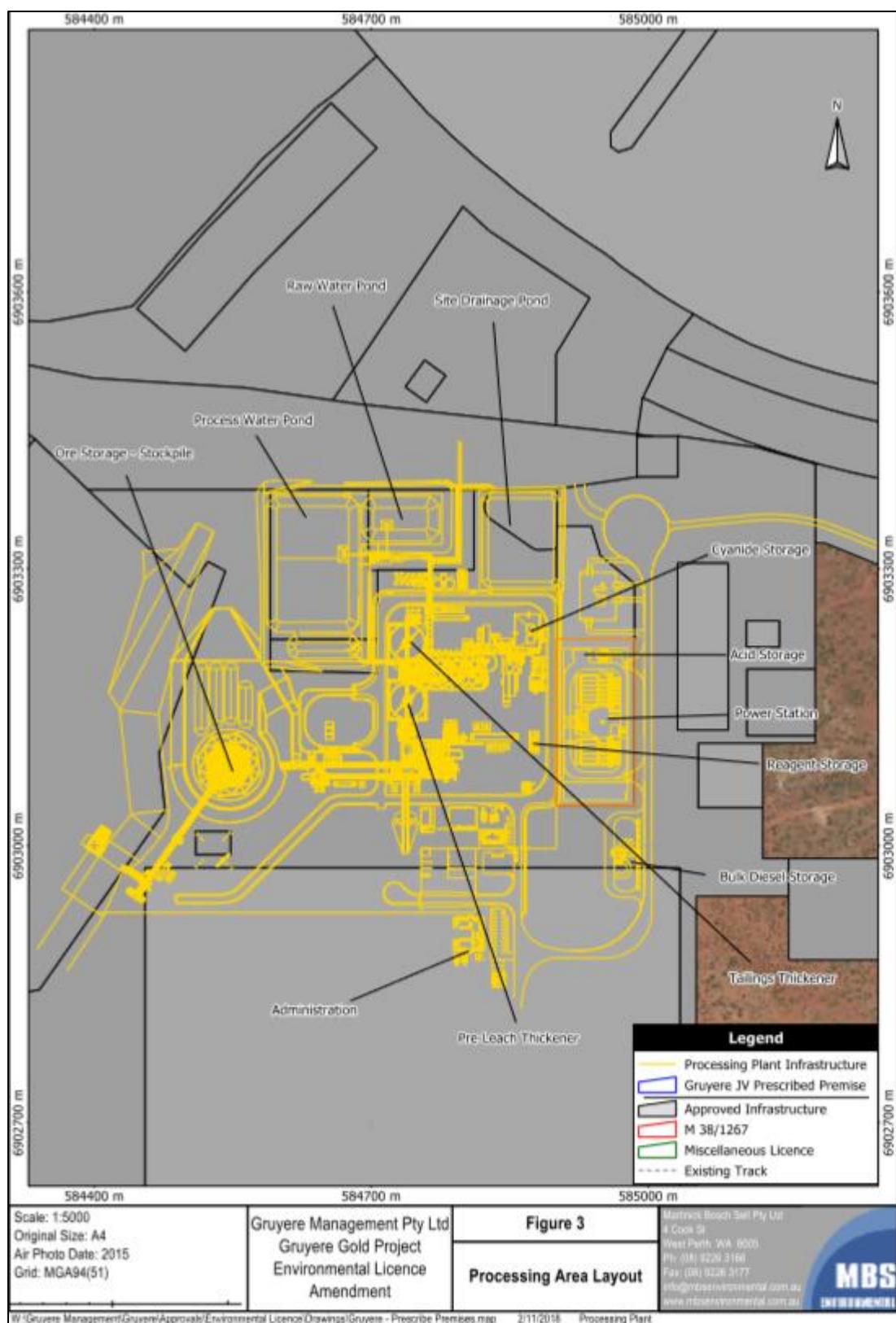
## Site Plan 3



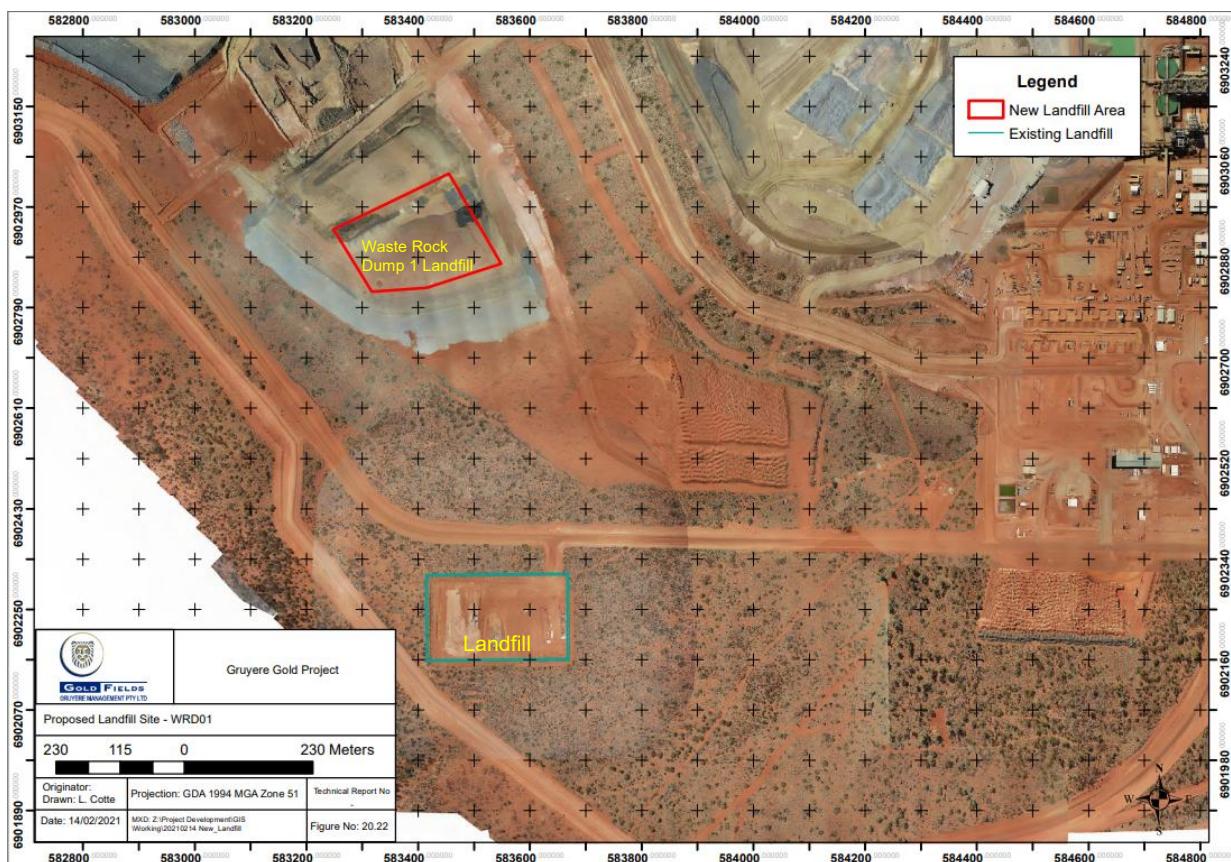
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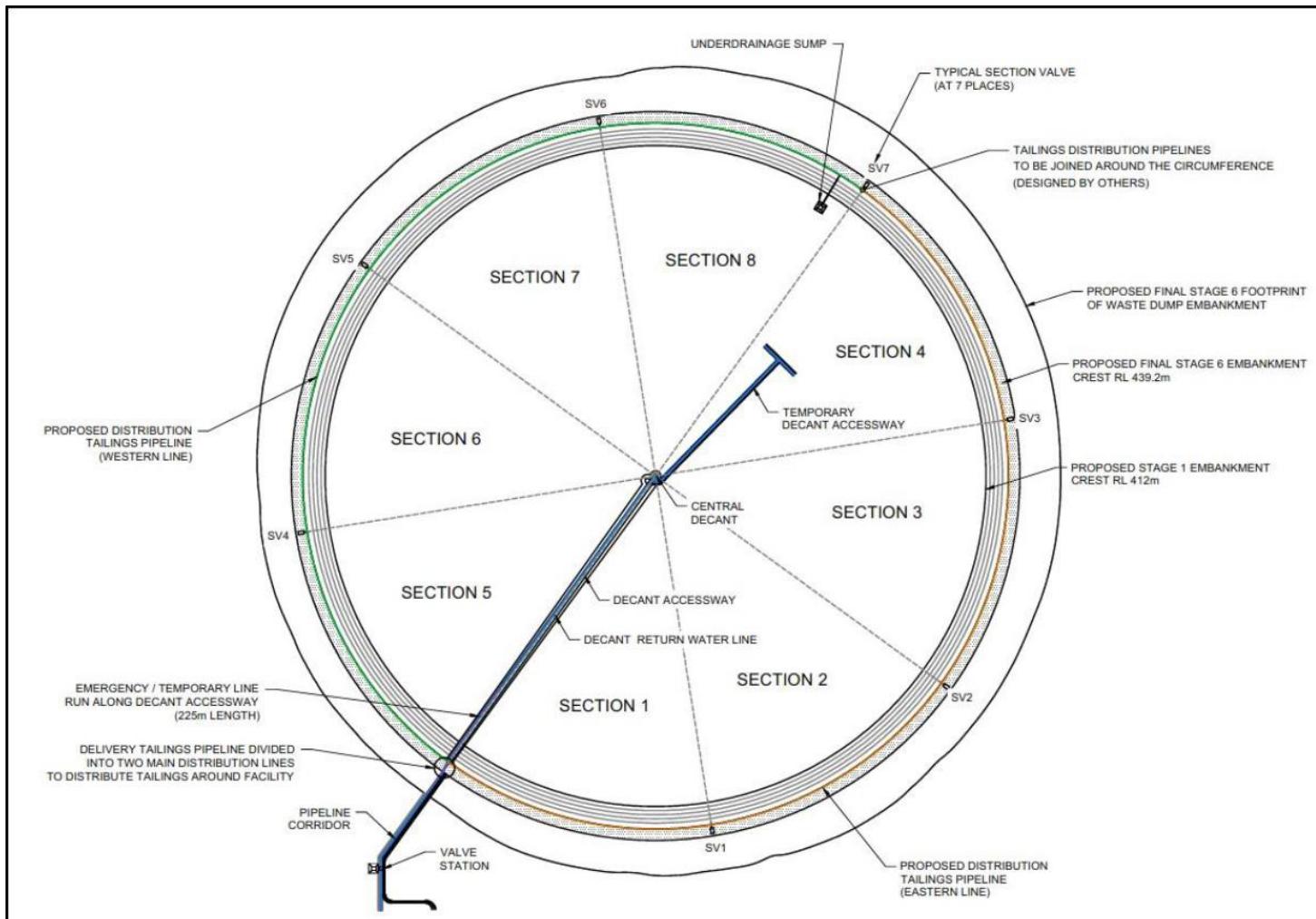
## Site Plan 4



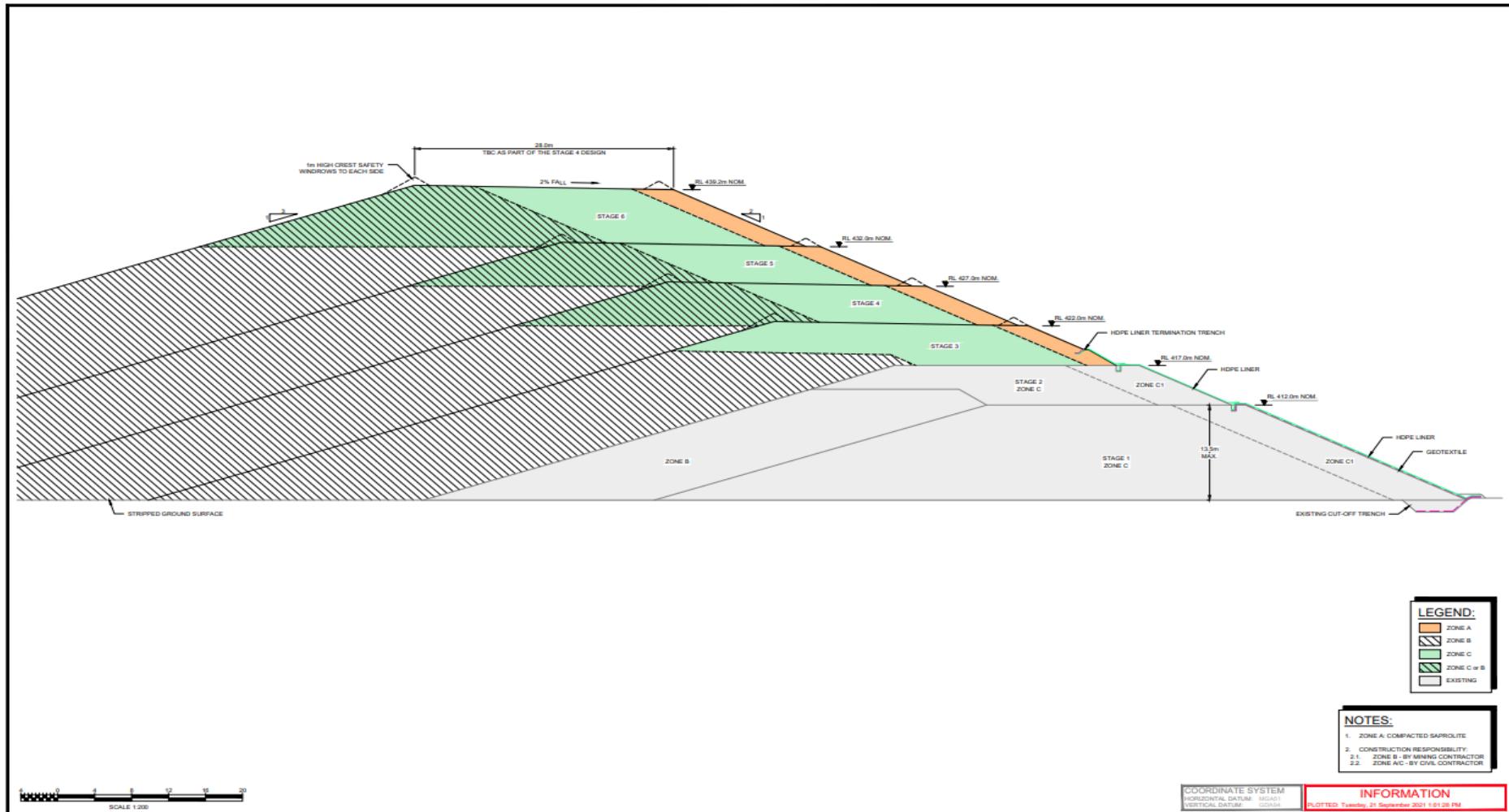
## Site Plan 5



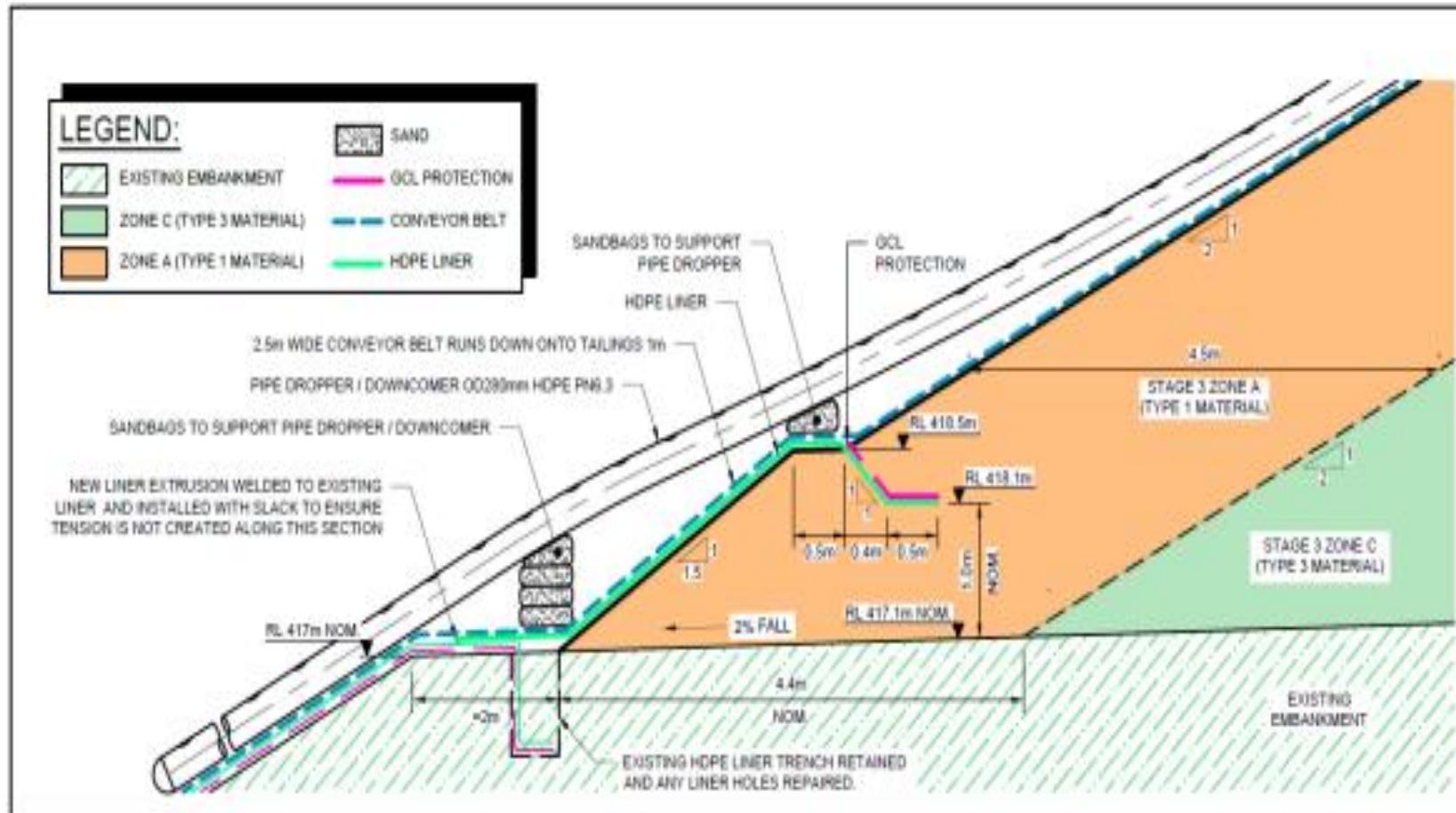
## TSF section layout



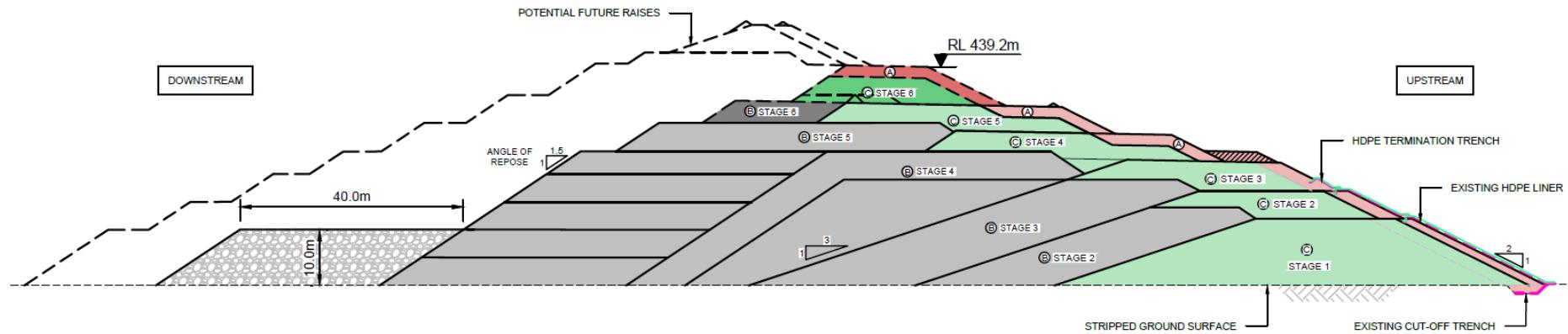
## TSF – Stage 3 – 6 typical embankment section



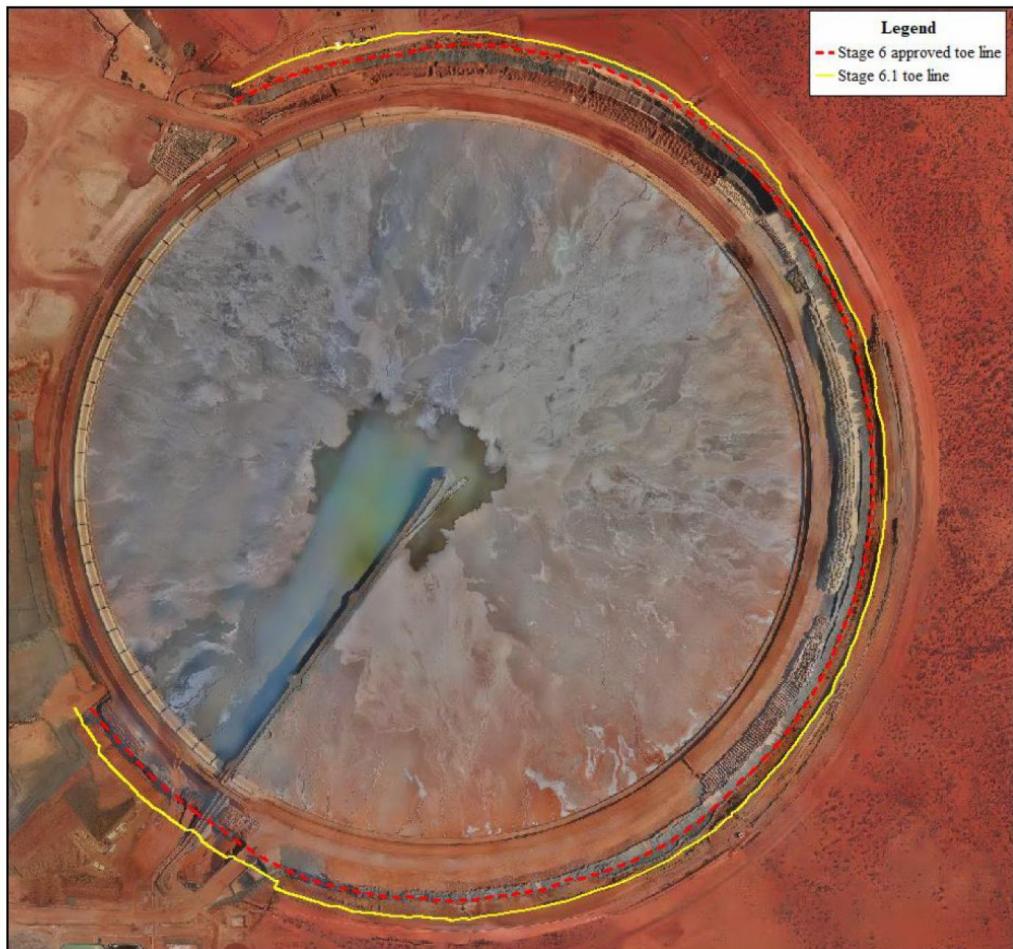
## TSF – Stage 2 HDPE liner and Stage 3 Zone A material junction



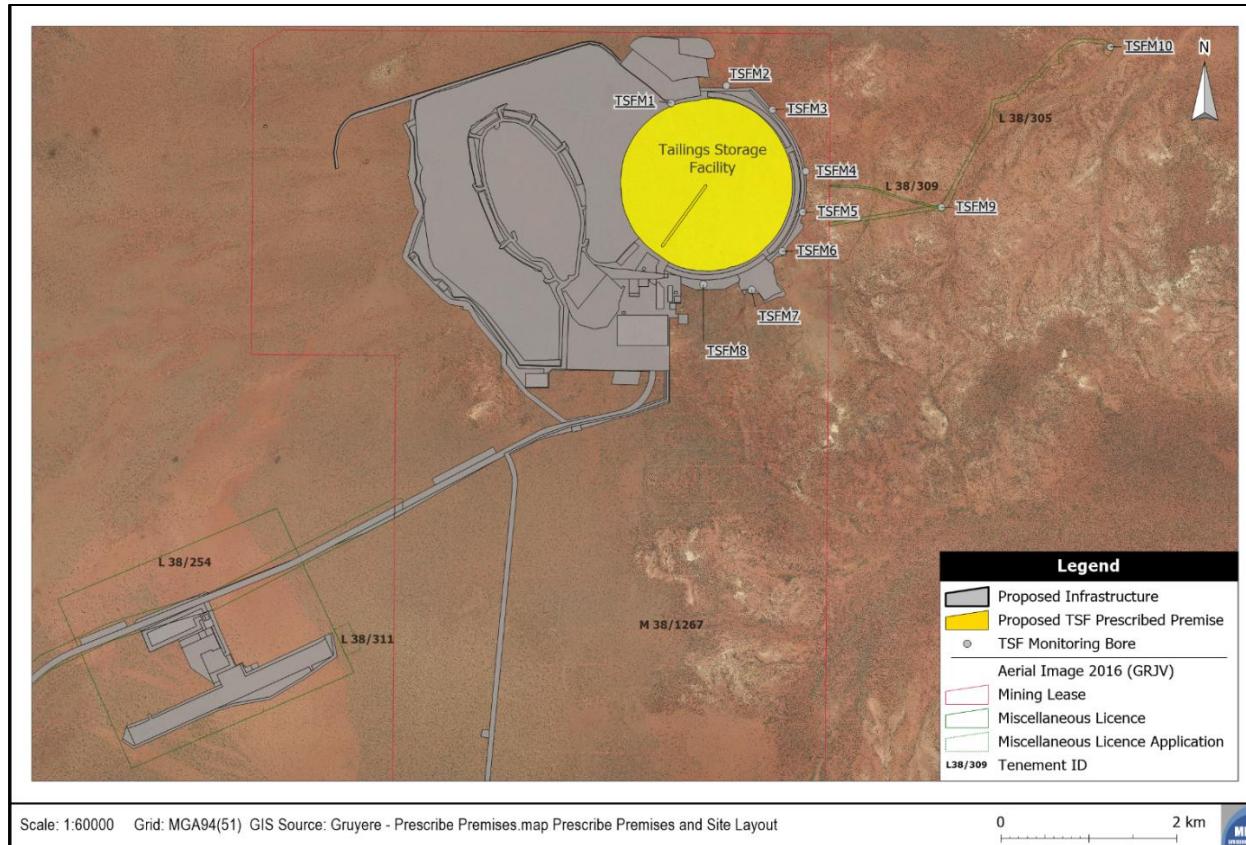
## TSF Stage 6.1 toe drain extension



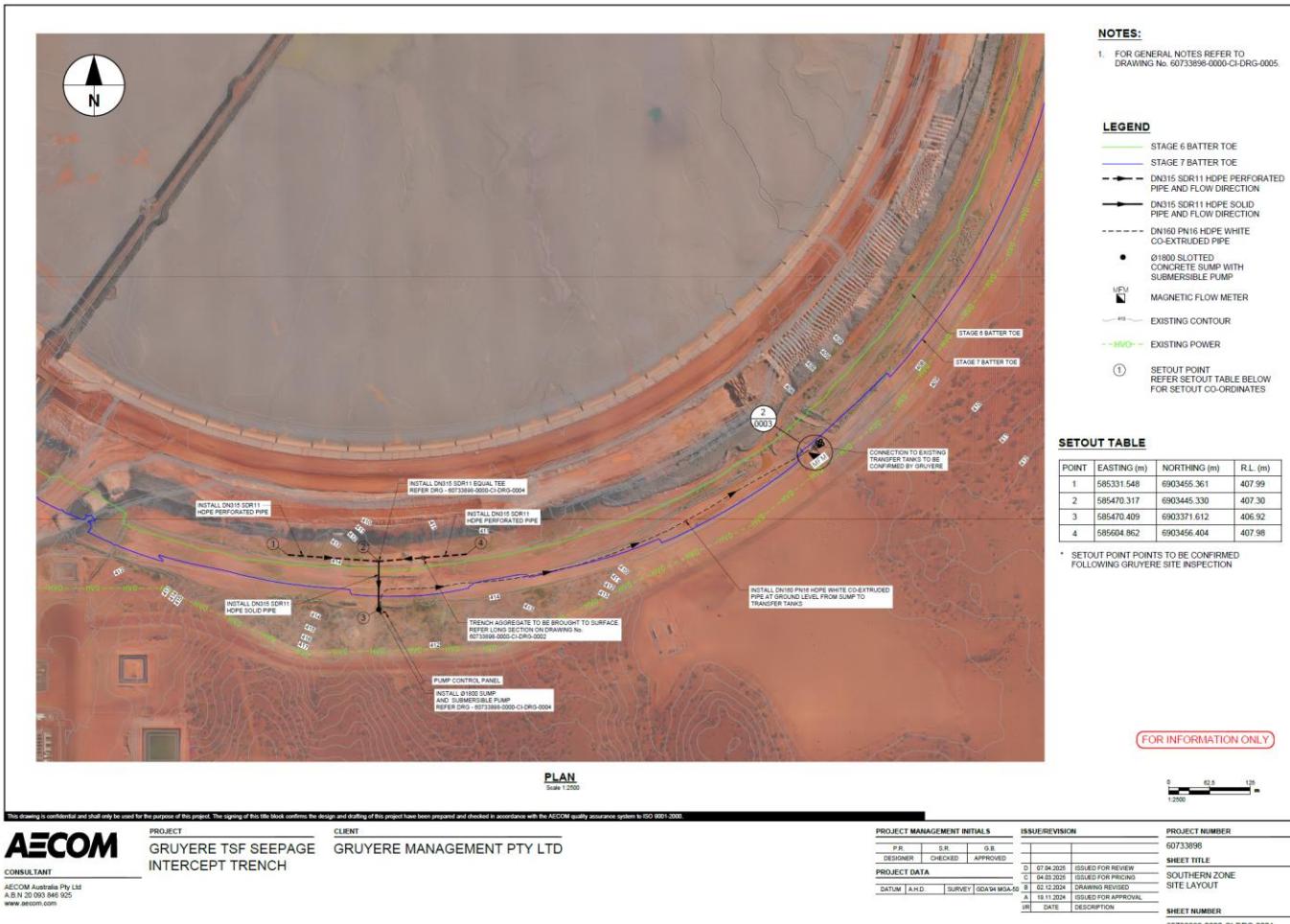
## TSF aerial depicting Stage 6.1 toe line extension



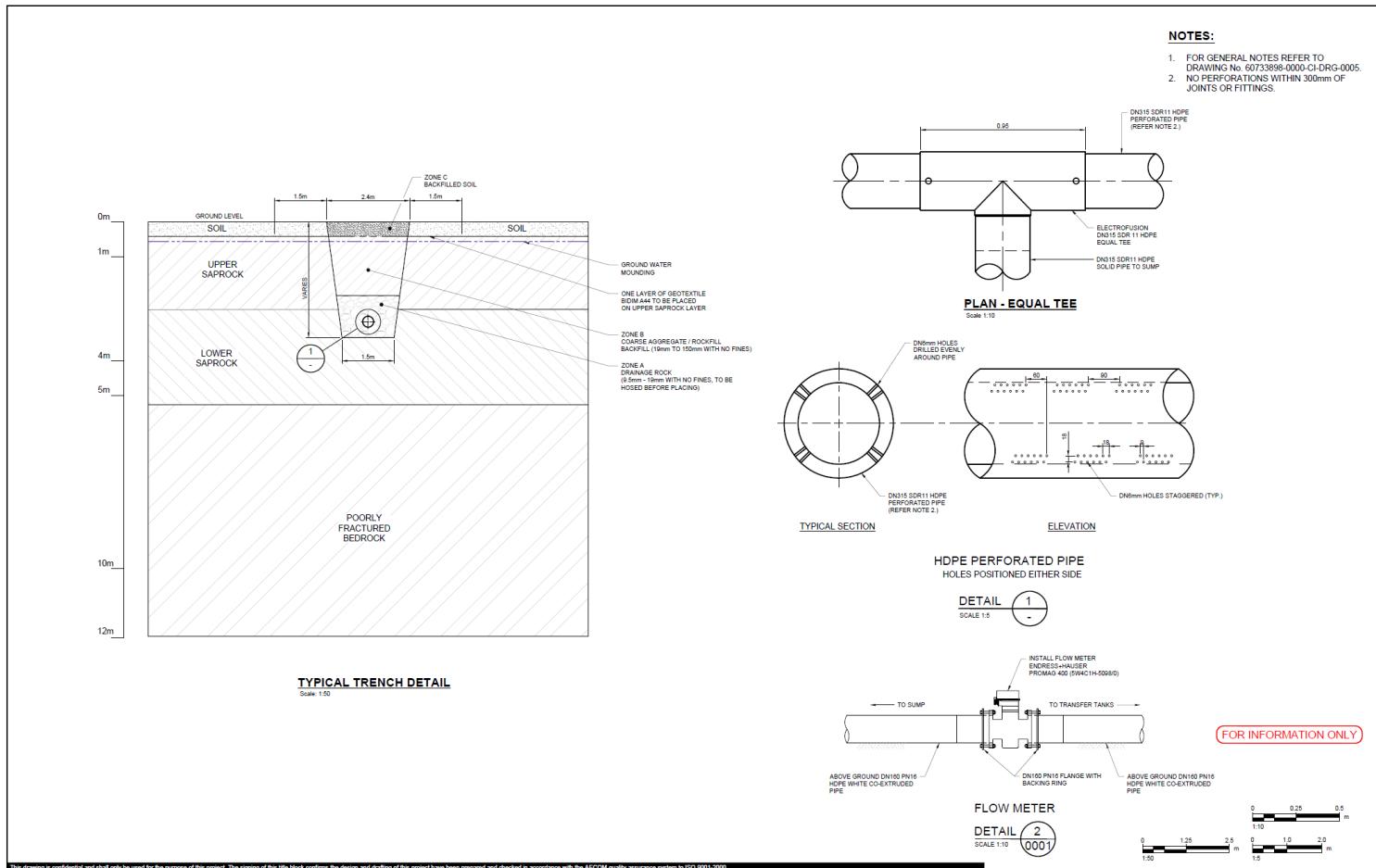
## TSF monitoring bore locations



## TSF Southern Seepage cut-off trench



## TSF Southern Seepage cut-off trench detail



This drawing is confidential and shall only be used for the purpose of this project. The signing of this title block confirms the design and drafting of this project have been prepared and checked in accordance with the AECOM quality assurance system to ISO 9001-2000.

**AECOM**

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PROJECT  
**GRUYERE TSF SEEPAGE  
INTERCEPT TRENCH**

CLIENT  
GRIEVURE MANAGEMENT PTY LTD

PROJECT MANAGEMENT INITIALS			ISSUE/REVISION	PROJECT NUMBER
P.R.	S.R.	G.B.		60733898
DESIGNER	CHECKED	APPROVED		
PROJECT DATA				
DATUM	A.M.D.	SURVEY	GDA '94 MGA-55	
			D 07/04/2025	ISSUED FOR REVIEW
			S 20/04/2025	ISSUED FOR PRICING
			S 22/04/2024	DRAWINGS RECD
			UR 18/11/2024	ISSUED FOR APPROVAL
			UR DATE	DESCRIPTION
SHEET TITLE				
SOUTHERN ZONE				TRENCH AND SUBSOIL PIPE DETAILS
SHEET NUMBER				60733898-0000-CL-DRG-0003

L9000/2016/2 (Amended 18 December 2025)

IR-T06 Licence Template v2.0 (July 2017)

## Schedule 2: Primary Activities

At the time of assessment, Emissions and Discharges from the following Primary Activities were considered in the determination of the risk and related Conditions for the Premises.

The Primary Activities are listed in Table 15.

**Table 15: Primary Activities**

Primary Activity	Premises production or design capacity
Category 5 - Processing or beneficiation of metallic or non-metallic ore: premises on which — <ul style="list-style-type: none"> <li>(a) metallic or non-metallic ore is crushed, ground, milled or otherwise processed; or</li> <li>(b) tailings from metallic or non-metallic ore are reprocessed; or</li> <li>(c) tailings or residue from metallic or non-metallic ore are discharged into a containment cell or dam.</li> </ul>	10,500,000 (dry) tonnes per Annual Period
Category 12 - Screening etc. of material: premises (other than premises within category 5 or 8) on which material extracted from the ground is screened, washed, crushed, ground, milled, sized or separated.	1,752,000 tonnes per Annual Period
Category 54 - Sewage facility: premises – <ul style="list-style-type: none"> <li>(a) on which sewage is treated (excluding septic tanks); or</li> <li>(b) from which treated sewage is discharged onto land or into waters.</li> </ul>	225 m <sup>3</sup> /day
Category 64 - Putrescible landfill site: premises on which waste (as determined by reference to the waste type set out in the document entitled "Landfill Waste Classification and Waste Definitions 1996" published by the Chief Executive Officer and as amended from time to time) is accepted for burial.	2,000 tonnes per Annual Period
Category 73 - Bulk storage of chemicals etc.: premises on which acids, alkalis or chemicals that – <ul style="list-style-type: none"> <li>(a) contain at least one carbon to carbon bond; and</li> <li>(b) are liquid at STP (standard temperature and pressure), are stored.</li> </ul>	2,410 m <sup>3</sup> in aggregate

## Infrastructure and equipment

The Primary Activity infrastructure and equipment situated on the Premises is listed in Table 166.

**Table 16: Infrastructure and equipment**

Infrastructure and equipment		Plan Reference
<b>Prescribed Activity Category 5</b>		
1	Run of Mine pad and coarse ore stockpile	As shown in Schedule 1: Maps - Site Plan 2 – ROM Pad; and Site Plan 4 - Ore Storage - Stockpile
2	Primary Crushing Plant (open circuit gyratory crusher)	
3	Two stage grinding circuit (semi-autogenous milling with pebble crushing and ball milling)	
4	Gravity recovery circuit with intensive leach and dedicated electrowinning	
5	Leaching and Adsorption (hybrid carbon in leach circuit that consists of a single stage of leaching and six stages of leaching and adsorption)	
6	Thickening	
7	Smelting	
8	Carbon regeneration	
9	Above ground TSF – waste fines slurry pipeline, perimeter embankment, cut-off trench, decant tower, decant return pipeline, seepage recovery sump, perimeter underdrain, underdrainage network and perimeter surface water diversion structure	As shown in Schedule 1: Maps – Site Plan 1 – TSF; and Site Plan 2 - TSF and TSF decant
10	Processing reagents (carbon, flocculant, hydrochloric acid, sodium cyanide, sodium hydroxide, smelting fluxes and quicklime)	As shown in Schedule 1: Maps – Site Plan 1 – Reagents Store; and Site Plans 2 and 4 - Reagent Storage, Acid Storage and Cyanide Storage
11	Containment ponds (HDPE lined process water pond and a sedimentation pond)	As shown in Schedule 1: Maps – Site Plans 2 and 4 - Process Water Pond, Raw Water Pond and Site Drainage Pond
<b>Prescribed Activity Category 12</b>		
1	MCSP	Not shown, but located within the TSF footprint (Schedule 1: Maps – Site Plan 1 – TSF)
<b>Prescribed Activity Category 54</b>		

Infrastructure and equipment		Plan Reference	
<b>Miner's accommodation village WWTP</b>			
1	Pump pits with duty/standby macerating pumps, control panel and alarms	Not shown, but refer to Schedule 1: Maps – Site Plan 1 - WWTP and Turkeys Nest; and Spray field (L1) for location	
2	Influent screen		
3	Influent feed pump		
4	3 x 55 kL modular fiberglass bioreactor		
5	250 kL balance tank		
6	50 kL sludge tank		
7	250 kL treated effluent tank		
8	2 hectare spray field with above ground sprinkler arrangement		
9	Fencing around the boundary of the WWTP and spray field		
<b>Process plant WWTP</b>			
1	Pump pits with duty/standby macerating pumps, control panel and alarms	Not shown, but refer to Schedule 1: Maps – Site Plan 1 – WWTP and Sprayfield (L2); and Site Plan 2 – WWTP	
2	Influent screen		
3	Influent feed pump		
4	Moving bed reactor		
5	32 kL balance tank		
6	9 kL sludge tank		
7	32 kL treated effluent tank		
8	2 hectare spray field with above ground sprinkler arrangement		
9	Fencing around the boundary of the WWTP and spray field		
<b>Prescribed Activity Category 64</b>			
	<b>Landfill facility</b>		

<b>Infrastructure and equipment</b>		<b>Plan Reference</b>
1	Fencing around the boundary	Not shown, but refer to Schedule 1: Maps – Site Plan 5 - Landfill for location
2	Signage	
3	Firebreak at least 3 m in width around the boundary of the facility	
<b>Landfill trench</b>		
1	250 m x 150 m landfill area	As shown in Schedule 1: Maps – Site Plan 5 - Landfill
2	Each cell approximately 30 m long x 10 m wide x 4 m deep, surrounded by an earthen bund of 1 m in height at surface level	
3	Length of 30 m which incorporates a ramp down into the trench	
<b>Designated pallet cell</b>		
1	Located within landfill facility	Not shown, but refer to Schedule 1: Maps – Site Plan 5 - Landfill for location
2	Surrounded by a 2 m earthen perimeter bund	
<b>Waste Rock Landform</b>		
1	For the disposal of Inert Waste Type 2 (tyres and cleaned ammonium nitrate bags only)	As shown in Schedule 1: Maps – Site Plan 3 – Waste Rock Landform
<b>Prescribed Activity Category 73</b>		
1	14 x 110 kL (~1,540 m <sup>3</sup> total capacity) self bunded diesel storage tanks for refuelling of light and heavy vehicles located directly north of the power station	As shown in Schedule 1: Maps – Site Plan 4 - Bulk Diesel Storage
2	7 x 10 kL (~70 m <sup>3</sup> total capacity) self bunded oil storage tanks (total capacity 70 kL)	As shown in Schedule 1: Maps – Site Plan 3 - Workshop
3	Various ore processing reagents, including: <ul style="list-style-type: none"> <li>• hydrochloric acid (1 x 70 m<sup>3</sup> tank)</li> <li>• sodium cyanide (734 m<sup>3</sup>); and</li> <li>• sodium hydroxide (2 x 30 m<sup>3</sup>) (60 m<sup>3</sup>).</li> </ul> Processing reagents are stored in a designated reagents shed or bulk storage units.	As shown in Schedule 1: Maps – Site Plan 1 – Reagents Store; and Site Plans 2 and 4 - Reagent Storage, Acid Storage and Cyanide Storage
<b>Other activities</b>		
1	OWS	Not shown, but refer to Schedule 1: Maps – Site Plan 4 – Bulk Diesel Storage for location
2	Washdown facility	Location not shown

<b>Infrastructure and equipment</b>	<b>Plan Reference</b>
3 Workshops	As shown in Schedule 1: Maps – Site Plan 3 – Workshop

## Schedule 3: Improvement program

The improvement program details are described in Table 17.

**Table 17: Improvement program details**

Improvement reference	Program details
IR1	<p>The Licence Holder must implement <b>Phase 1</b> (short-term management) TSF seepage recovery actions identified in Condition 12, including at a minimum the following:</p> <ol style="list-style-type: none"> <li>1. Re-purpose the existing TSFM5 bore to recover groundwater and increase the TSFM5 bore pumping capacity to accommodate a pumping rate of at least 5 L/s and at most 15 L/s.</li> <li>2. Drill at least 9 exploration holes around existing bores TSFM2 and TSFM5 (in aggregate). Exploration holes are to be drilled to a depth of at least 30 m or 6 m into the fresh bedrock.</li> <li>3. Using the drilled exploration holes in IR1 point 2, install at least two recovery bores near TSFM2 and one recovery bore near TSFM5.</li> <li>4. Construct the new recovery bores in IR1 point 3, so the slotted intervals are placed against the existing aquifer and also within the area that may be affected by mounding above the water table.</li> <li>5. Test each new recovery bore using a step-rate test of at least 4 x 30-minute steps. Then undertake an 8-hour constant rate test after the step-rate test to determine: <ul style="list-style-type: none"> <li>(i) the yield for duty rate assignment, pump selection and site water balance purposes; and</li> <li>(ii) the aquifer response for capture zone assessment.</li> </ul> </li> <li>6. Once the new recovery bores have been tested as per IR1 point 5, begin operating the recovery bores to recover seepage.</li> <li>7. Monitor the following at the recovery bores, and at the already-built interception trenches and decant pond: <ul style="list-style-type: none"> <li>(i) groundwater level (GWL in mbgl – at recovery bores only);</li> <li>(ii) abstraction volumes (in m<sup>3</sup>/hour – at recovery bores and interception trenches only);</li> <li>(iii) pH (field);</li> <li>(iv) conductivity @ 25°C (field) (in µS/cm);</li> <li>(v) Weak Acid Dissociated (WAD) Cyanide (in mg/L);</li> <li>(vi) Sulfate: Chloride and Alkalinity; and</li> <li>(vii) Other analytes (in mg/L): Total Dissolved Solids, Bicarbonate Alkalinity as HCO<sub>3</sub>, Sulfate (as SO<sub>4</sub>), Chloride, Calcium, Magnesium, Potassium, Sodium, Total Cyanide.</li> </ul> </li> <li>8. Monitoring as described in IR1 point 7 should commence as soon as the recovery bores are operational.</li> <li>9. Monitoring as described in IR1 point 7 is to be undertaken progressively at the following frequencies: <ul style="list-style-type: none"> <li>(i) every 4 to 8 hours for no less than three days;</li> <li>(ii) daily for at least a week;</li> <li>(iii) weekly for at least a month; and</li> </ul> </li> </ol>

Improvement reference	Program details
	<p>(iv) monthly throughout <b>Phase 1</b>.</p> <p>10. Install at least one monitoring bore within 50 m of TSFM5, and at least one monitoring bore between TSFM2 and TSFM3, drilled to a depth of at least 30 m or 6 m into the fresh bedrock. The monitoring bores are to measure GWL (in mbgl) at the frequency identified in IR1 point 9.</p> <p>11. Recovered groundwater is to be sent to the sedimentation/process pond or into another existing impervious holding area. Recovered groundwater is not to be sent to the TSF during <b>Phase 1</b>.</p> <p>12. Monitor GWL at all groundwater bores for the TSF at least weekly.</p> <p>13. Submit a report to the CEO after <b>Phase 1</b> has been completed which must include as a minimum:</p> <ul style="list-style-type: none"> <li>(i) compliance with the <b>Phase 1</b> actions detailed in IR1 points 1 to 12 and any other actions implemented during <b>Phase 1</b> for seepage recovery;</li> <li>(ii) interpretation of the results of the actions undertaken during <b>Phase 1</b>;</li> <li>(iii) assessment of the capacity of the seepage recovery system to determine if recovered groundwater deposited onto the TSF would be appropriately contained or recovered;</li> <li>(iv) a water balance, including the parameters as per Condition 5;</li> <li>(v) all water quality monitoring laboratory reports;</li> <li>(vi) coordinates of, and a map with, the locations of the recovery and monitoring bores; and</li> <li>(vii) IR2 <b>Phase 2</b> actions and associated implementation timeframes based on the progress of the seepage recovery.</li> </ul> <p>14. Submit a <b>Phase 2</b> seepage recovery management plan. The aim of the plan is to investigate whether unplanned seepage is occurring elsewhere around the TSF following the implementation of the actions in <b>Phase 1</b>. The plan must include a summary and interpretation of outcomes of the <b>Phase 1</b> TSF seepage recovery actions, and must specify triggers for actions and execution timeframes for the implementation of at least the following commitments:</p> <ul style="list-style-type: none"> <li>(i) Install additional monitoring bores around the TSF to assist with determining the hydraulic properties of the groundwater flow system once recovery begins and identifying the capture zones after the Phase 1 bores have been operational for at least one month.</li> <li>(ii) Install additional GWL monitoring bores further downstream of TSFM2 and TSFM5 to monitor longer-term mounding trends.</li> </ul>

Improvement reference	Program details
IR2	<p>Following compliance with IR1, the Licence Holder must implement <b>Phase 2</b> (medium-term management) TSF seepage recovery actions identified in Condition 12, including at a minimum the following:</p> <ol style="list-style-type: none"> <li>1. Continue monitoring of recovery bores, and at the already-built interception trenches and decant pond, as described in IR1 point 7 monthly during <b>Phase 2</b>.</li> <li>2. Continue to measure GWL (in mbgl) at monitoring bores monthly during <b>Phase 2</b>.</li> <li>3. Continue sending recovered groundwater to the sedimentation/ process pond or into another existing impervious holding area. Recovered groundwater can be sent to the TSF if the activity is approved prior to implementing <b>Phase 2</b>.</li> <li>4. Implement actions within the <b>Phase 2</b> seepage recovery management plan identified in IR1 point 14.</li> <li>5. Undertake electromagnetic surveys around perimeter of the TSF to identify: <ol style="list-style-type: none"> <li>(i) baseline conditions in areas that have not had tailings deposited;</li> <li>(ii) current conditions in areas affected by seepage; and</li> <li>(iii) whether seepage is passing beneath the embankment along undetected geological structures or zones of highly fractured bedrock.</li> </ol> </li> <li>6. Develop a seepage recovery operation plan that defines how the bores and sumps are to be operated to maximise seepage recovery.</li> <li>7. Submit a report to the CEO after <b>Phase 2</b> has been completed which must include as a minimum: <ol style="list-style-type: none"> <li>(i) compliance with the <b>Phase 2</b> actions and any other actions implemented during <b>Phase 2</b> for seepage recovery;</li> <li>(ii) interpretation of the results of the actions in <b>Phase 2</b>;</li> <li>(iii) if not undertaken prior to implementation of <b>Phase 2</b>, assessment of the capacity of the seepage recovery system to determine if recovered groundwater deposited onto the TSF would be appropriately contained or recovered;</li> <li>(iv) the seepage recovery operation plan as described in IR2 point 6;</li> <li>(v) a water balance, including the parameters as per Condition 5; and</li> <li>(vi) coordinates of, and a map with, the locations of the recovery and monitoring bores, where relevant.</li> </ol> </li> </ol>

Improvement reference	Program details
IR3	<p>Following compliance with IR1 and IR2, the Licence Holder must implement Long-term TSF seepage recovery actions as identified in Condition 13, including at a minimum the following:</p> <ol style="list-style-type: none"> <li>1. Continue monitoring of recovery bores, and at the already-built interception trenches and decant pond, as described in IR1 point 7, monthly.</li> <li>2. Continue to measure GWL (in mbgl) at monitoring bores monthly.</li> <li>3. Continue sending recovered groundwater to the sedimentation/ process pond or into another existing impervious holding area. Recovered groundwater can be sent to the TSF if this activity is approved after implementing <b>Phase 2</b>.</li> <li>4. Implement the seepage recovery operation plan as described in IR2 point 6.</li> </ol> <p>The Licence Holder must submit a long-term seepage recovery management plan prior to the Date of Completion identified in Condition 12. The plan must include a summary and interpretation of outcomes of the <b>Phase 1</b> and <b>Phase 2</b> TSF seepage recovery actions. The plan must identify triggers for actions and execution timeframes for the implementation of at least the following commitments:</p> <ol style="list-style-type: none"> <li>a) Long-term electromagnetic survey program to assess whether conditions have changed in areas where changes are otherwise undetected by the existing bore network.</li> <li>b) Long-term seepage recovery solutions that will be considered and the circumstances in which the seepage recovery solutions may be used, including but not limited to the following: <ol style="list-style-type: none"> <li>(i) Increase the number of recovery and monitoring bores targeting high risk areas, including potential for GWL bores further downstream of TSFM2 and TSFM5 to monitor longer-term mounding trends; and/or</li> <li>(ii) Install cut-off trenches where seepage is within 5 to 7 m of the surface; and/or</li> <li>(iii) Install drainage bores within the base of the cut-off trenches to collect deeper seepage not normally accessible using trenches; and/or</li> <li>(iv) Install underdrains beneath downstream embankment lifts.</li> </ol> </li> <li>c) Regular updates of the water balance, including the parameters as per Condition 5.</li> </ol> <p>The Licence Holder must submit an annual report outlining the compliance with the long-term seepage recovery management plan, which will form a part of the AER.</p>

Note 1: existing bore locations shown in Schedule 1: Maps (TSF monitoring bore locations)