Government of Western Australia
Department of Water and Environmental Regulation

Amendment Report FINAL

Application for Licence Amendment

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

Licence Number	L6079/1988/14
Licence Holder	Greatland Pty Ltd
ACN	108 498 997
File Number	APP-0029116
Premises	Telfer Gold Mine Mining Leases: G45/1, G45/2, G45/3, G45/4, L45/99, L45/106, L45/110, L45/622, M45/6, M45/7, M45/8, M45/9, M45/10, M45/11, M45/33, M45/203, M45/204, M45/205, M45/206, M45/207, M45/208, M45/209, M45/210, M45/211, M45/249, M45/631, M45/632, M45/633, M45/709, M45/710, M45/720, M45/721, M45/722 and M45/772 TELFER WA 6762 As defined by the Premises maps attached to the Revised Licence
Date of Report	25 August 2025 **(FINAL)**
Proposed Decision	Revised licence granted

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1. Decision summary

Licence L6079/1988/14 is held by Greatland Pty Ltd (Licence Holder) for the Telfer Gold Mine (the Premises), located approximately 210 km east of the town of Nullagine, within the Great Sandy Desert in the Pilbara region of Western Australia.

This Amendment Report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during the operation of the Premises. As a result of this assessment, Revised Licence L6079/1988/14 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 Amendment summary

On 14 May 2025, the Licence Holder submitted an application to the department to amend Licence L6079/1988/14 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments are being sought:

- Construct two (Stages 3 and 4) additional raises to Tailings Storage Facility (TSF) 8 (Category 5) – refer to section 2.2.1.
- Increase the Category 6 design capacity due to an increase in dewatering volumes to Pit 13 – refer to section 2.2.2.
- Increase the Category 12 design capacity by installing a new mobile crushing plant – refer to section 2.2.3.
- Increase the Category 63 design capacity by extending the boundaries for tyre disposal and inert waste landfill areas - refer to section 2.2.4.

Refer to Figure 1 for the location of the infrastructure associated with this amendment (with the mobile crushing plant indicatively located within the Southern Waste Rock Dump (WRD)).

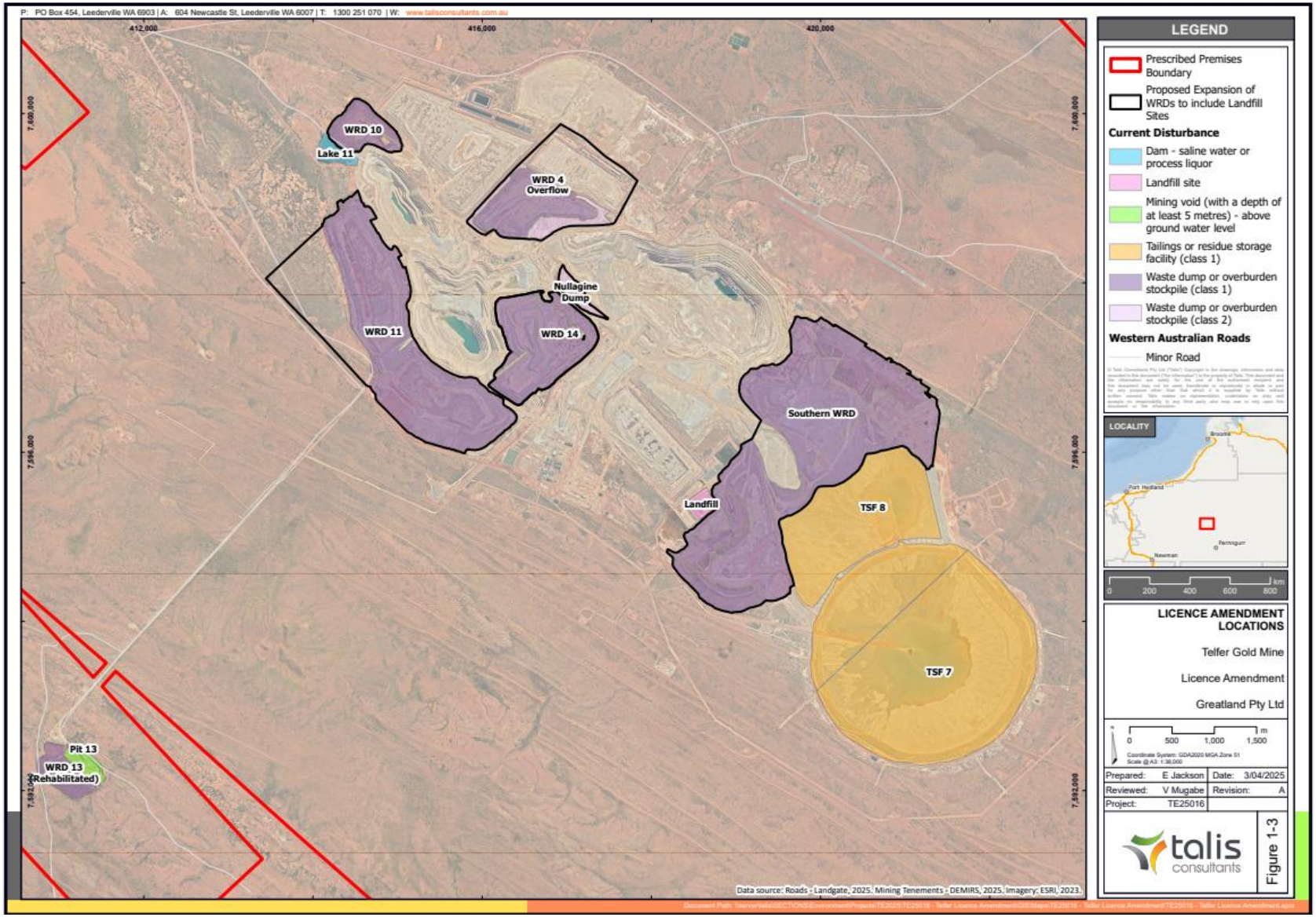

Figure 1: Location of infrastructure associated with this amendment

Table 1 outlines the proposed category design capacity changes to the existing Licence.

Table 1: Proposed design capacity changes

Category	Current design capacity	Proposed design capacity	Description of proposed amendment
5	26,000,000 tonnes per annual period	No change	The Licence Holder has stated in *Greatland 2025a* that "*The design and operating capacity of the Telfer processing plant does not exceed the current approved throughout of 26,000,000 tonnes per annum.* *An error was made during the submission which confused the increased capacity in TSF 8 by the construction of Stages 3 & 4.* *As such, please disregard the proposed increase to Category 5 request."*
6	2,840,000 tonnes per annual period	4,740,000 tonnes per annual period	Lake 11 maximum discharge of 940,000 tonnes per annual period (no change) Pit 13 from 1,900,000 to 3,800,000 tonnes per annual period Increase of 1,900,000 tonnes or 1.9 gigalitres (GL) – refer to section 2.2.2
7	12,000,000 tonnes per annual period	No change	No change
12	200,000 tonnes per annual period	1,700,000 tonnes per annual period	Additional mobile crushing plant required to support the Havieron Project road construction and Telfer's stemming, drainage and wearing course for the TSF construction – refer to section 2.2.3
52	158.2 MW (natural gas)	No change	No change
54	907 m^3/day	No change	No change
57	40,000 tyres	No change	No change
63	2,500 tonnes per annual period	10,000 tonnes per annual period	Extension of inert waste landfill and tyre disposal areas – refer to section 2.2.4
64	10,000 tonnes per annual period	No change	No change
73	9,000,000 m^3 in aggregate	No change	No change

2.2.1 TSF 8

Existing operations

The Premises currently has one operational open pit (West Dome) and one underground mining operation from which ore is mined and processed through the onsite mill and heap leach systems, creating gold bullion and gold/copper concentrate products.

Ore from the open pit is trucked to two crushers, which feed the processing plant. Ore from the underground pit is crushed underground, hoisted to the surface via a shaft and transported via conveyor to the processing plant.

The key processing stages are:

- primary crushing, semi-autogenous grinding (SAG) mill, ball mill,
- gravity gold recovery circuit, flotation circuit,
- cyanide leaching of pyrite concentrate utilising carbon for additional gold recovery;
- recovery of the gold from carbon by elution;
- recovery of cyanide and copper sulphide from leach tailings liquor prior to tailings disposal; and
- tailings thickening and disposal,

Tailings generated during the ore treatment process are transported to TSF 8 as a slurry via the tailings delivery pipework. The pipework enters the TSF from the southwest corner and is spilt into two lines: the northern (clockwise) and the southern (anticlockwise). Tailings deposition into TSF 8 occurs from the full perimeter via spigots at nominal 60 m intervals.

Decant return from TSF 8 occurs from diesel pumps mounted near the end of the northern decant causeway. The decant pipeline returns water to the ore treatment plant for reuse.

The operational features / aspects of tailing delivery and decant return water for the proposed Stages 3 and 4 raises remain largely unchanged from prior stages of TSF 8. Existing infrastructure will only be relocated following a raise.

TSF 8 Stages 3 and 4 raises

TSF 8 is designed to be raised using the downstream construction method. TSF 8 perimeter has a mixed embankment structure comprising the following and as shown in Figure 2:

- Saddle dams (three downstream raised saddle dams located at the west, northeast and east directions);
- Existing Southern Waste Dumps (composed of Waste Dump 6; Run of Mine (ROM) C and the potentially acid forming (PAF) Cell; and Outer Siltstone Member (OSM) Stockpile), which are regraded and lined; and
- TSF 7 / TSF 8 common wall, which covers the south flank of TSF 8 and is a critical structure for the stability of both tailings' impoundments.

TSF 8 has already been raised twice (Stage 1 and 2 raises) by downstream method to a crest elevation of Reduced Level (RL) 5,511 metres (m).

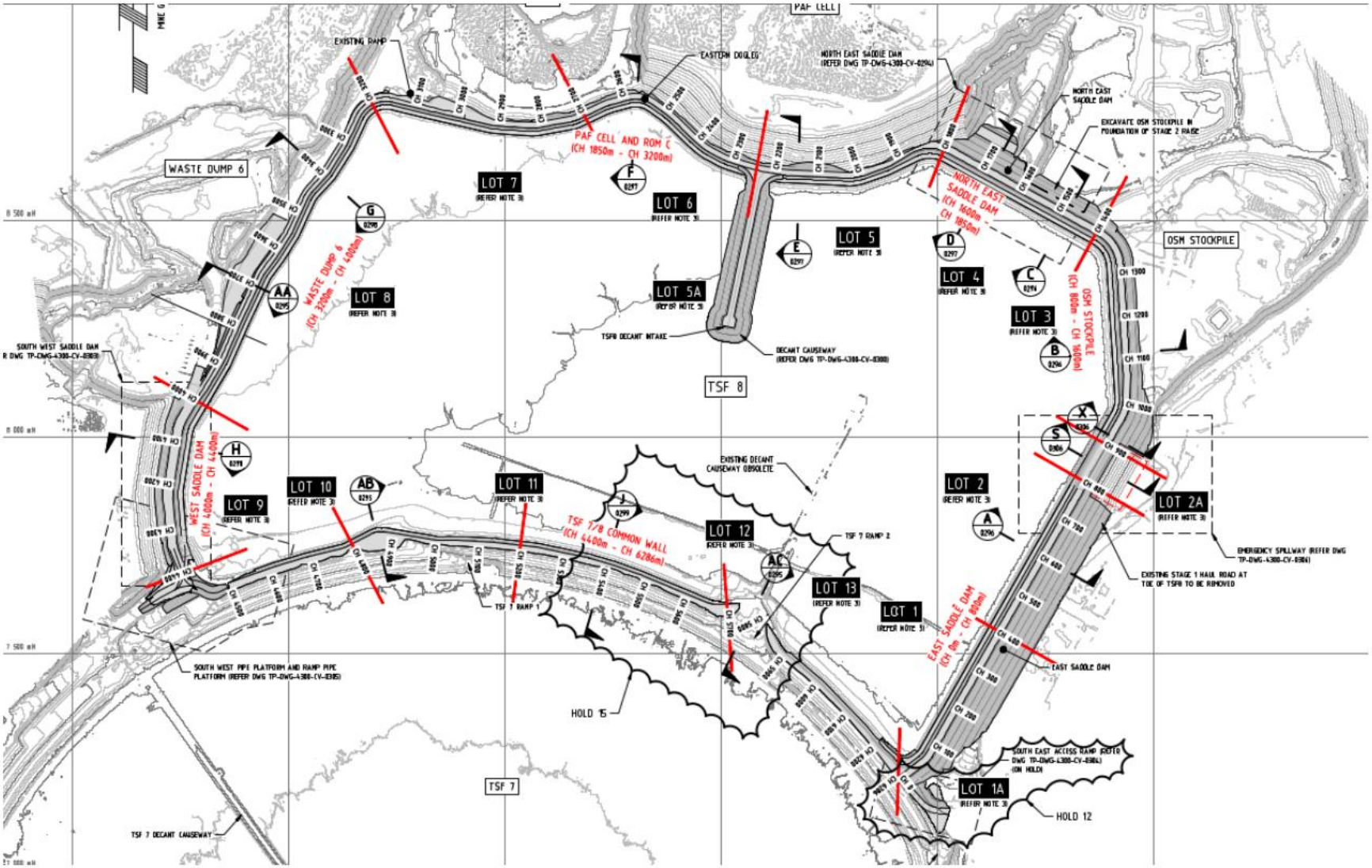

Figure 2: TSF 8 general arrangement

Under this licence amendment the Licence Holder is proposing to construct two additional raises (Stage 3 and Stage 4) to TSF 8 as shown in Table 2. The raises will increase tailings disposal capacity at the Premises and support the operations until 2029.

Table 2: Summary of TSF 8 raises

Stage	Dates	Crest Elevation m (RL)	Cumulative Storage Volume (Mm^3)
Starter	2020-2021	5,499.4	13.0
1	2022-2023	5,506.0	17.9
2	2024-2025	5,511.0	27.8
3 (proposed)	2026-2027	5,516.0	38.2
4 (proposed)	2028-2029	5,521.0	49.4

Stage 3 and 4 will be constructed on the existing and operating facility, with proposed raise geometries different from the prior raises. This will provide a wider bench at Stage 2 and 3 crests to allow simultaneous operation and construction. The design allows for concurrent deposition during the construction of each raise and minimisation of any potential operation downtime or delays in construction activities.

The embankment will consist of two distinct zones, Zone 2B (compacted OSM material (silty / clayey overburden)); and Zone 4B (Rockfill) as shown in Figure 3.

Zone 2B is a low-permeability soil liner built with compacted OSM material aiming to control seepage. The Zone 2B material conforms the lining system of upstream slopes of TSF 8 embankments.

Zone 4B is composed of coarse and rocky mine waste material to provide a resisting mass to support upstream Zone 2B.

A 1 m lift step-in is required at the downstream toe of Stage 3 to maintain a consistent vertical thickness of OSM material along the upstream batter, as shown in Figure 3. Figure 4 shows the typical cross section along the common wall. Operational access to the tailings pipeline will be limited to a width of approximately between 3.0 and 3.5 m during the Stage 3 construction.

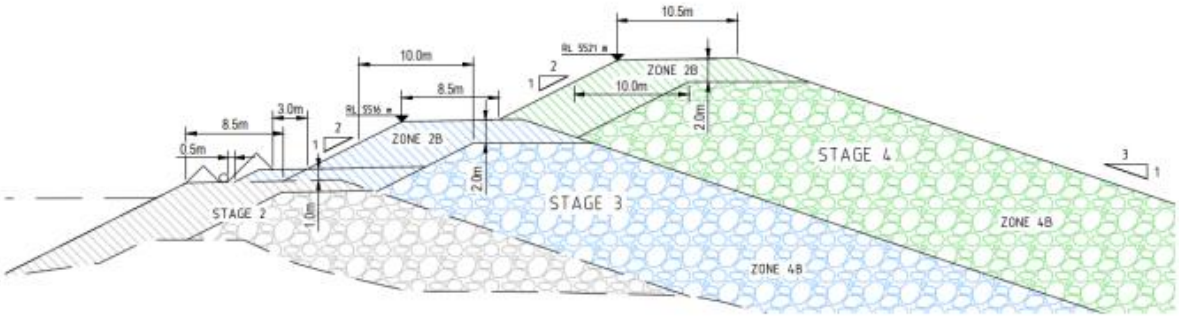

Figure 3: Typical section of Stage 3 and 4 for all wall except for the common wall

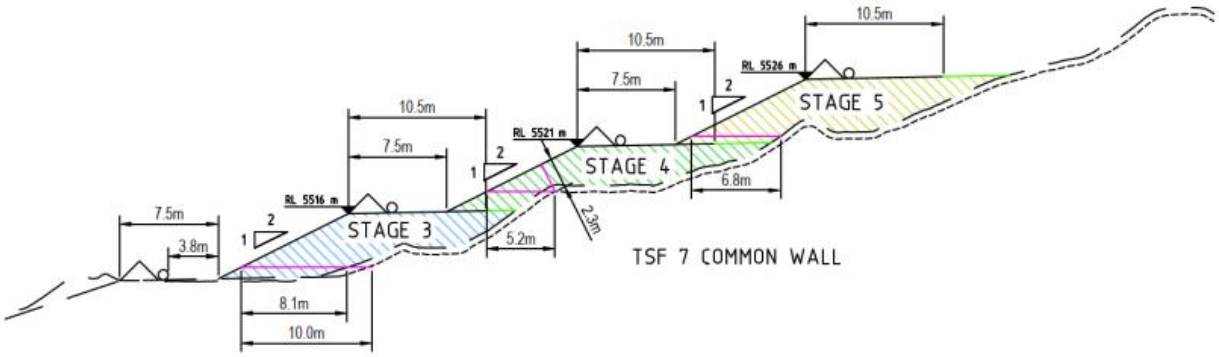

Figure 4: Typical section of Stage 3 and Stage 4 along the common wall between TSF 8 and TSF 7

Tailings geochemisty

Talis 2025 states the most recent geochemical data on tailings is based on data from TSF 7. Key findings are summarised in Table 3.

Table 3: Summary of geochemical characteristics of TSF 7 and Decant Pond TSF 8 water quality

Parameter	Design Basis
Geochemical Characteristics of TSF 8 and TSF 7 Tailings	• Sulphide content in tailings varies over time, with high-sulphide zones interbedded with neutralizing materials Total sulphur content: 0.05-2.5 weight percent (wt%) • High Acid Neutralising Capacity (ANC): 50-200 kg sulphuric acid per tonne (H_2SO_4/t), provided by the carbonate-dominant units (dolomite, limestone, and dolomite siltstone), which act as a pH buffer • Maximum Potential Acidity (MPA): 5-80 kg H_2SO_4/t • pH values in underflow tailings: 6.1-9.2 • Net Acid Generation pH: 2.5-8.5 • If acidity is generated, it is expected to be neutralised upon contact with carbonate-dominant units before reaching the aquifer
TSF 8 Decant Pond	• Tailings liquor pH: 6.6-8.5 • Electrical Conductivity (EC): 965-13,070 micro Siemens per centimetre (µS/cm) • Total Cyanide: up to 3.6 mg/L

Seepage

A seepage analysis was conducted as part of the feasibility study design for Stages 3 and 4 of TSF 8. The seepage analysis was performed using the two-dimensional finite element method (SEEP/W software) to model steady-state and transient conditions.

Some key observations from the seepage analysis sections include:

- The zero-pressure isoline closely aligns with the inferred groundwater level under

current conditions, indicating adequate model calibration at the initial state.

- Under current conditions, high saturation (>90%) appears near the toe and slopes of the upstream batter in contact with tailings. As tailings are deposited in stages, these high-saturation zones expand towards the embankment core, due to the increasing hydraulic head.
- The models show that benches serve as preferential pathways for water flow, as their perpendicular-to-the-flow thickness allows more rapid seepage infiltration. This can create localised zones of higher saturation.
- By Stage 4, around 40% of the embankment body is expected to exhibit significant saturation.
- The foundation itself does not show a substantial increase in saturation. The groundwater level in the foundation remains largely unaffected, suggesting that vertical seepage into deeper strata may be minimal under the modelled conditions.
- Although not fully saturated in current conditions, Zone 2B OSM gradually approaches higher saturation ratios as the tailings levels raises progressively.

Seepage is expected to be produced at an average rate of 0.4 – 0.7 megalitre per day (ML/day). Maximum seepage rates are expected to range between 4.1 – 4.8 ML/day.

Refer to section 3 for the risk assessment for TSF 8 (Category 5).

2.2.2 Pit 13 dewatering

Under normal operations, groundwater from the open pit operation is pumped to the raw water dams, and is then used in the processing plant.

The Licence Holder is currently authorised to discharge mine dewater from West Dome pits (pits 8 and 9) to Lake 11 and Pit 13.

Lake 11

The disposal of excess dewater from the West Dome pits (during excessive rainfall and mill shutdowns) to be discharged to Lake 11 (a series of disused gravel pits) was assessed and authorised under an amendment to L6079/1988/13 granted 4 December 2017 (L6079/1988/13 Amendment Notice 1).

L6079/1988/13 Amendment Notice 1 states *"The disposal of pit water to Lake 11 is expected to occur four times a year. A total of up to 940,000 tonnes could be discharged each year if the maximum capacity of Lake 11 (235,000 tonnes) was reached those four times."*

There are no changes to the disposal of dewatering water to Lake 11 under this licence amendment.

Pit 13

Water is transferred to Pit 13 when dewatering supply exceeds the process plant raw water demand and this usually occurs during process plant shutdowns or after rainfall events where decant return from TSF 8 is prioritised.

The disposal of up to 1,900,000 tonnes (or 1.9 GL) per annual period of dewatering water from the West Dome pits to be discharged to Pit 13 was assessed and authorised under an amendment to L6079/1988/13 granted 02 October 2024 (L6079/1988/13 Amendment Report).

The first transfer of water to Pit 13 occurred between 23 April 2024 and 20 October 2024. Monitoring bores in the vicinity of Pit 13 were monitored twice a week during the discharge period and for a period of recovery after the discharge ceased.

The groundwater elevations showed an increasing response throughout the discharge period. Following cessation of the discharge, the groundwater elevations at the majority of the bores

declined to stabilise at levels that were similar to the pre-discharge condition, with a drain down duration of approximately 2 months.

Groundwater chemistry samples were collected from the surrounding monitoring bores in August and October 2024. Observations from the data are summarised below:

- Alkalinity (bicarbonate and total) generally shows an increase over the transfer period followed by a decrease (recovery) to pre-transfer concentrations.
- Chloride increased in all bores over the transfer period and continued to increase post-transfer. This is also reflected in increases in EC and Sodium. Total Dissolved Solids (TDS) values for the discharge water were between 4,000 and 6,000 mg/L (approximately equivalent to an EC of approximately 5,700 to 8,600 µS/cm). EC values in sampled groundwater from the bores prior to the discharge were less than 4,000 µS/cm, with increases observed at all of the bores during and after discharge. The largest increase was observed at HB491, from 4,580 to 6,450 µS/cm post-discharge.
- pH increased over the transfer period, with pH from the groundwater prior to the transfer approximately 7.2 pH units, and approximately 7.4 after the transfer, which is consistent with a slightly higher pH in the discharge water.
- Sulfate increased in HB489 and HB493 but decreased in HB491 and HB490 during the post-transfer period.
- Increases were recorded in Nitrate as N in the post-transfer samples at all of the bores; this may be related to historical blasting residue on the pit walls that has mobilised into the groundwater as the pit water level increased/decreased.

Under this licence amendment the Licence Holder is seeking to increase the permitted dewatering volumes into Pit 13 from 1.9 GL to 3.8 GL (increase of 1.9 GL). *Talis 2025* states that the annual mine water storage volumes to Pit 13 could potentially vary between 0.126 million cubic metres per year (Mm^3/year) and 0.826 Mm^3/year.

Klohn Crippen Berger (KBC) assessed the feasibility of Pit 13 to store excess mine dewatering volumes. To consider the proposed dewatering of 3.8 GL into Pit 13, two time/flow rates were assessed –

1. A simulated constant discharge of 120.5 litres per second (L/s) per year; and
2. A constant discharge of 290 L/s for 152 days (up to a total of 3.8 GL).

If water is discharged at 120.5 L/s, the pit level is predicted to reach RL 5,486 m within 45 days and equilibrate to RL 5,487.6 m. Particle tracking shows that after 1 year the particles would have travelled a maximum distance of 820 m east and 610 m west.

When water is discharged at 290 L/s for 152 days, the maximum pit water level of RL 5,000.5 m will be reached after 152 days followed by a drain down period of 89 days and particles would have travelled 900 m west and at least 800 m east (extent of the model boundary, and therefore may extend further).

The assessment (KCB 2025a) concluded the following:

- Pit 13 has potential to store 3.8 GL water, and the pit capacity is not considered as a limiting factor for discharge total volumes, based on the information from the 2024 water transfer.
- Groundwater level rise and chemistry changes are expected to be similar to the 2024 water transfer, with the maximum rise controlled by the Pit 13 water level. The estimated level is expected to remain below RL 5,500 m (5 m higher than the 2024 water transfer), which is approximately 20 m below ground level (mbgl).

Refer to section 3 for the risk assessment for the increase in mine dewater discharged to Pit 13

(Category 6).

2.2.3 Mobile crushing plant

An additional mobile crushing plant (mobile crusher) is required at the Premises. The mobile crusher will be used to crush non-acid forming waste rock material (expected input is approximately 1,500,000 tonnes per annum (tpa)), to support the Havieron Project road construction and the Premises stemming, drainage and wearing course for the TSF construction.

Refer to section 3 for the risk assessment for the mobile crusher (Category 12).

To note a 200,000 tpa crushing and screening plant has previously been assessed under Licence L6079/1988/13 Amendment Report – granted 07 June 2022 (L6079/1988/13 Amendment Report). This plant has not been constructed and will operate within the premises boundary as required. This plant has not been re-assessed under this Amendment Report.

2.2.4 Inert waste landfill and tyre disposal area extension

The existing Licence L6079/1988/14 allows for Inert Waste Type 1 and Inert Waste Type 2 (tyres) as defined in the *Landfill Definitions* (DWER 2019) to be buried into a number of inactive WRDs at the Premises.

Under this amendment the Licence Holder is seeking to increase the volume of inert waste listed above being disposed from 2,500 tpa to 10,000 tpa. This increase is a result of the Licence Holder proposing to extend both the tyre disposal and inert waste landfill areas by utilising all existing active WRDs on the Premises as shown in Figure 1 depending on where the fleet is working.

This assessment doesn't authorise the extension of WRDs. Approvals must be sought under other legislation as applicable.

Refer to section 3 for the risk assessment for the increase in inert waste disposal (Category 63).

2.2.5 Other amendments

Electronic waste (e-waste) disposal exemption:

On 26 April 2025 the Licence Holder applied for an exemption under Regulation 16 of the *Waste Avoidance and Resource Recovery (e-waste) Regulations 2024* (e-waste Regulations).

The grounds for the exemption was from the requirement imposed through Regulation 16(2)(b) – *it is unreasonable to expect the applicant to comply with the requirement because regulated e-waste is in a remote location*.

The Exemption Notice (EWE00001) applies to the following categories of regulated e-waste as defined in Schedule 1 of the e-waste Regulations:

- Screens, information technology and telecommunications
- Lighting and lamps
- Large appliances when used in a home, office or professional environment
- Batteries (not including embedded batteries
- Temperature exchange equipment when used in a home, office or professional environment.

The Exemption Notice applies a limit of 5 tonnes of regulated e-waste being disposed of to the putrescible landfill in an annual financial year.

During this amendment the department has updated Condition 4, Table 2 (previous Condition

3, Table 1) for the management of waste to define regulated e-waste as a waste type to be disposed of by landfilling into the Class II Landfill on the Premises.

In line with the Exemption Notice for regulated e-waste the following requirements have also been included:

- No more than 5 tonnes per annual period is to be disposed; and
- E-waste be disposed into a designated e-waste disposal area (i.e. separate from other waste).

Construction requirements:

During this amendment construction requirements associated with Condition 11 Table 5 (previous Condition 16 Table 7) for the TSF 8 tailings decant pipeline to Dump Leach (DL) 5 and the Process Water Pond have been removed.

The Licence Holder provided compliance documentation (Greatland 2025b) to the department on 09 June 2025. The department notes that while the tee and valves for DL 237 have been constructed, the long spur line from the constructed line to DL 237 has not been completed. This connection is scheduled for 2026. The requirement to submit compliance documentation once this has been completed has been retained.

During this amendment previous Condition 17 Table 8 has been removed for the staged construction and operating heights for TSF 8 Stages 1 and 2. The Licence Holder provided compliance documentation for these raises to the department on 09 January 2025 (KCB 2024) and 24 July 2025 (KCB 2025b) respectively meeting these construction requirements.

2.3 Department of Mines, Petroleum and Exploration (DMPE)

The Licence Holder has advised (Greatland 2025a) the following:

- The entire TSF 8 design has been approved under Mining Proposal Reg ID: 89440.
- A High-Risk Activity application has been submitted to the previous Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) to complete geotechnical review of the Stage 3 and 4 embankment design.

The department (DWER) referred the application to the newly formed DMPE on 03 July 2025.

DMPE responded on 04 July 2025 stating -

- Mining Proposal Reg ID 89440 approved TSF 8 to a height of RL 5,546 m. A Geotechnical Engineer reviewed the design report titled "*Newcrest Mining Limited Telfer Tailings Storage Facility TSF8 Permitting Design Report*", prepared by Klohn Crippen Berger (KCB), dated August 2020, at that time.
- Greatland Pty Ltd liaised directly with DEMIRS in April 2025 and it was confirmed that an amendment to the approved Mining Proposal was not required for the Stage 3 and 4 raises.
- Mines Safety would require a High-Risk Mining Activity Notification, but this is a Mines Safety process rather than an Approval. So long as Greatland Pty Ltd have submitted that notification, they have met the requirements of the conditions.

2.4 Part IV of the EP Act

The Premises was constructed in 1975 and was operated until November 2000, when the project was placed into care and maintenance. A proposal to recommence and expand the mining operations at Telfer Gold Mine was approved under Part IV of the EP Act in 2002 (Bulletin 1059).

Ministerial Statement (MS) 0606 was published on 01 October 2002 and provides regulatory

requirements for the following aspects:

- Flora and fauna – clearing and loss of habitat;
- Dewatering and borefield operation – drawdown effects on groundwater resources and stygofauna;
- Greenhouse gas emissions – from mining and processing;
- Acid mine drainage – management of potentially acid forming waste rock; and
- Mine closure – planning for closure and integration with existing facilities.

The above requirements of MS 0606 have not been duplicated within this Amendment Report or Licence L6079/1988/14.

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

Table 4: Licence Holder controls

Emission	Sources	Potential pathways	Proposed controls
Construction			
Dust	Earthworks associated with TSF 8 Stages 3 and 4 raises	Air / windborne pathway	Ongoing dust suppression through the application of water on unsealed road surfaces via water cart.
Noise	Construction activities associated with the installation of the new crushing plant Vehicle movements	Air / windborne pathway	No controls proposed.
Operation			
Category 5			
Dust from TSF surfaces	Tailings surface and embankment walls	Air / windborne pathway	Spigot rotation – deposit tailings in thin lifts and rotate frequently, so that solar drying is maximised and dust generation is minimised.

Emission	Sources	Potential pathways	Proposed controls
Tailings supernatant	Deposition of tailings into TSF 8	Seepage	Minimise the size of the decant pond as far as practicable by pumping decant return water to the processing plant. Routine daily inspections by mine personnel identifying change in seepage conditions or sudden change in water level.
Tailings and contaminated water		Discharges to land from overtopping	Distribution of tailings around TSF 8 achieved through an existing ring main. Maintain decant pond in the middle of TSF 8 so that it is as far as practicable from the TSF 8 walls, particularly the TSF 7 / TSF 8 common wall. Decant water return managed through a dedicated return line fed by diesel pumps and three 3 m diameter turrets located on the decant causeway. Existing spillway crest raised. TSF designed to withstand a 1 in 100-year, 72-hour ARI storm event.
Tailings and return water	Tailings delivery and return water pipelines	Discharges to land	Tailings and decant lines bunded to contain pipeline leaks. The lines are also monitored by telemetry for differential pressure as an indication of pipeline leaks. Visual inspections of the tailings and decant return pipelines also undertaken.
Category 6 (Licence L6079/1988/13 Amendment Report dated 02 October 2024)			
Mine dewater (brackish to saline)	Increase in mine dewater discharged to Pit 13	Seepage through base and wall of Pit 13	Six groundwater monitoring bores installed around Pit 13.
		Discharges to land from overtopping	2 m freeboard maintained.
		Discharges to land from pipeline leaks / ruptures	At two locations containerised magnetic flowmeters installed. The flow from both flow meters is transmitted to the mine control system where the flows are compared in real time. If there is any discrepancy between the two flows an alarm is raised and the pumps supplying the pipeline are tripped (to cease flow). Following a pump trip the pipeline is fully inspected to determine if a

Emission	Sources	Potential pathways	Proposed controls
			leak is present. Located within a dedicated corridor.
Category 12			
Dust	Operation of the mobile crusher	Air / windborne pathway	Water sprinklers fitted at the feed hopper and conveyors. If water sprinklers cannot be fitted at feed hopper, dust controlled by use of water cart. Dust from stockpiles managed via water carts. Mobile crusher to be located at existing WRDs in areas of existing mining activities.
Sediment laden stormwater		Overland runoff	Locations of the mobile crusher demarcated by earthen windrows to retain any stormwater in the crushing area.
Hydrocarbons and chemicals	Leaks and spills from the mobile crusher	Discharges to land	Refuelling undertaken using a dedicated service truck with the following controls in place: • Dry-break hoses. • Refuelling not to occur within 30 m of a watercourse. Spills cleaned up and reported in line with site procedures. Spill kits stocked and carried on service trucks. Spill kits available at mobile crusher location. Earth moving equipment available to control larger spills (if required). Hydrocarbons stored in bunds.
Category 63			
Dust	Increased disposal / burial of inert waste within WRDs	Air / windborne pathway	No controls proposed.
Fire		Air / windborne pathway	Existing condition on Licence requires tyres to be buried.
Contaminated stormwater		Discharges to land	WRDs designed to be internally draining with external bunds / windrows in place around the external batters, which serve to capture any stormwater and ensure no mixing occurs.
Leachate		Infiltration - only inert	Groundwater beneath site is greater than

Emission	Sources	Potential pathways	Proposed controls
		materials will be disposed, so there should be no generation of contaminated leachates	40 mbgl. Proposed disposal locations within existing WRDs which increases distance to groundwater by another 20 m minimum. Inert waste to be buried only.

3.1.2 Receptors

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

Table 5 below provides a summary of potential environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises *(Guideline: Environmental siting* (DWER 2020)).

Table 5: Environmental receptors and distance from prescribed activity

Environmental receptors	Distance from activity / prescribed premises
<u>Groundwater</u> Premises located within the Canning-Kimberley Groundwater Area proclaimed under *Rights in Water and Irrigation (RIWI) Act 1914*. <u>Groundwater levels</u> Standpipes surrounding TSF 8, particularly in the eastern / northeastern zone shows an increase in groundwater levels up to 3 m from June 2022. The shallowest groundwater levels were observed in bore HB495 (~RL 5,448 m) located on the west side of TSF 8. The deepest groundwater levels were observed at the north side of TSF 8, particularly at bore HB496 (RL 5,434.9 m) and HB498 (~RL 5,431.2 m), which are potentially influenced by the pit dewatering located at the northeast. <u>Groundwater quality</u> Groundwater quality from the Premises raw water and potable water borefields is generally slightly saline and has historically ranged between <500 to 3,500 mg/L TDS in underground workings (RL 4,620 m). Surveys show there has been an increase in groundwater levels observed since TSF 8 deposition began, this has also altered the groundwater quality. Key observations include: • pH ranges from 6.85 to 8.05. • EC, Total Alkalinity and Sulphate show a gradual increase after TSF 8 commissioning, particularly at HB499 (EC up to 4,452 µS/cm), alkalinity up to 208 mg/L as Calcium Carbonate ($CaCO_3$) and Sulphate up to 580 mg/L. • All bores around TSF 8 show some degree of seepage	Overlays the Premises.

Environmental receptors	Distance from activity / prescribed premises
impact. Pit 13 Groundwater chemistry monitoring showed an increase in concentration post water discharge into Pit 13, elements measured include Alkalinity, Chloride, pH, Sulphate and Nitrates. The infiltration rate of the filling and drain down of Pit 13 were estimated as 178 L/s and 132 L/s.	
Surface water Minor ephemeral drainage lines are present in the surrounding area; however, drainage is relatively undefined and limited to drainage lines receiving surface water runoff following periods of heavy rainfall.	There are no major or minor waterbodies located at the Premises. The department's spatial database shows surface water lines but these are not in vicinity of TSF 8 or Pit 13.
Priority Flora Numerous populations of *Goodenia hartiana:* Priority 2	Are known to occur in and adjacent to the Premises.
Threatened or Priority Fauna • *Macrotis lagotis* (Bilby) (Vulnerable – *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act)) • *Falco peregrinus* (Peregrine Falcon) (Other Specially Protected – *Biodiversity Conservation Act 2016* (BC Act)) • *Apus pacificus* (Fork-tailed Swift) (Migratory – EPBC Act and BC Act) • *Dasycercus cristicauda* (Crest-tailed Mulgara) (Priority 4 – Department of Biodiversity, Conservation and Attractions (DBCA)) • *Notoryctes caurinus* (Northern Marsupial Mole) (Priority 4 – DBCA)	Recorded in the Premises area or vicinity.
Cultural receptors	**Distance from activity / prescribed premises**
Aboriginal Cultural Heritage – Register (DPLH) Njuri Hills 5 (site no. 12015) Sub surface cultural material; Artefacts / Scatter; Camp; Painting Telfer Dune 1 (site no: 12052) Artefacts / Scatter; Camp	Approximately 7 km south-west of TSF 8 and 5 km north-west of Pit 13 Approximately 9 km north-east of TSF 8

3.2 Risk ratings

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

Where the Licence Holder has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the Delegated Officer considers the Licence Holder's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the licence as regulatory controls.

Additional regulatory controls may be imposed where the Licence Holder's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 6.

The Revised Licence L6079/1988/14 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises.

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

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

Risk Event					Risk rating[1] 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**				
Construction								
Earthworks associated with TSF 8 Stages 3 and 4 raises Construction activities associated with installation of new crushing plant Vehicle movements	Dust	**Pathway:** Air/windborne pathway **Impact:** Vegetation health	Surrounding vegetation	Refer to Section 3.1	C = Minor L = Possible **Medium Risk**	Y	Existing Condition 18 (previous Condition 20) on Licence relating to managing dust generation at the Premises associated with construction activities	N/A
	Noise	**Pathway:** Air/windborne pathway **Impact:** Vibration / disturbance to Fauna	Fauna	Refer to Section 3.1	C = Slight L = Unlikely **Low Risk**	N/A	N/A	*Environmental Protection (Noise) Regulations 1997* applies Construction works within already pre-disturbed areas within a mine site
Operation								
Category 5								
Tailings surface and embankment walls	Dust from TSF surfaces	**Pathway:** Air/windborne pathway **Impact:** Vegetation health	Surrounding vegetation	Refer to Section 3.1	C = Slight L = Unlikely **Low Risk**	Y	N/A	General provisions of the EP Act apply
Deposition of tailings into TSF 8	Tailings supernatant	**Pathway:** Seepage **Impact:** Contamination and waterlogging of	Soil and vegetation in vicinity of TSF 8 Groundwater	Refer to Section 3.1	C = Moderate L = Possible **Medium Risk**	Y	Conditions on existing Licence relating to TSF 8 include: • Condition 13 (previous Condition	During this amendment construction requirements for TSF 8 Stage 3 and 4 raises have been applied through Condition 11. The Licence Holder is also

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**				
		soil impacting on vegetation health and groundwater quality Groundwater mounding					10) – Operational requirements • Condition 17 (previous Condition 13) – Inspection of Infrastructure • Condition 32 (previous Condition 34) – Monitoring of ambient groundwater quality • Conditions 33 and 34 (previous Conditions 35 and 36) – Monitoring limit exceedances • Condition 35 (previous Condition 37) – TSF water balance monitoring • Condition 43 (previous Condition 46) – Environmental reporting requirements	required to submit compliance documentation following each item of infrastructure being constructed.
Deposition of tailings into TSF 8	Tailings and contaminated water	**Pathway:** Discharges to land from overtopping of TSF 8 **Impact:** Vegetation health and contamination of surrounding soils	Soils and vegetation in vicinity of TSF 8	Refer to Section 3.1	C = Moderate L = Unlikely **Medium Risk**	Y		N/A
Tailings delivery and return water pipelines	Tailings and return water	**Pathway:** Discharges to land and infiltration from leaks, pipeline ruptures or failure **Impact:** Soil and groundwater contamination	Soil and vegetation along pipeline route Groundwater	Refer to Section 3.1	C = Moderate L = Unlikely **Medium Risk**	Y	Conditions on existing Licence relating to TSF pipelines include: • Condition 16 (previous Condition 9) - Requirement to ensure all above ground pipelines are equipped with telemetry; or equipped with automatic cut-outs;	N/A

Risk Event					Risk rating[1] C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions[2] of licence	Justification for additional regulatory controls
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Licence Holder's controls**				
							or provided with secondary containment • Condition 17 (previous Condition 13) – Inspection of Infrastructure	
Category 6								
Increase in mine dewater discharged to Pit 13	Mine dewater (brackish to saline)	**Pathway:** Seepage of mine dewater through base and walls of Pit 13 **Impact:** Contamination of soil and impacting groundwater quality Groundwater table rise (mounding)	Groundwater Weathered Puntapunta Aquifer System	Refer to Section 3.1	C = Moderate L = Unlikely **Medium Risk**	Y	Conditions on existing Licence relating to: • Condition 3 (previous Condition 15) – Design capacity limit for Pit 13 • Condition 21 (previous Condition 23) - Pit 13 authorised to accept dewatering water from West Dome pits • Condition 29 (previous condition 31) - Monitoring of volume and quality of water discharged to Pit 13 • Condition 32 (previous Condition 34) - Limits and triggers for the standing water level for Pit 13 • Conditions 33 and 34 (previous	N/A

Risk Event					Risk rating[1] C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions[2] of licence	Justification for additional regulatory controls
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Licence Holder's controls**				
							Conditions 35 and 36) - Reporting of corrective actions for any exceedance of a limit or management action trigger	
Increase in mine dewater discharged to Pit 13		**Pathway:** Overtopping of mine dewater from Pit 13 **Impact:** Poor health/death of adjacent native vegetation and threatened flora	Adjacent soil and vegetation Priority flora	Refer to Section 3.1	C = Moderate L = Rare **Medium Risk**	Y	Condition 13 (previous Condition 10) on existing Licence requiring a minimum 200 mm freeboard to be maintained on Pit 13	N/A
		Pathway: Mine dewater discharged to environment via pipeline leaks/ruptures **Impact:** Poor health/death of adjacent native vegetation and threatened flora	Adjacent soil and vegetation	Refer to Section 3.1	C = Moderate L = Unlikely **Medium Risk**	Y	Conditions on existing Licence relating to: • Condition 16 (previous Condition 9) – Requirement to ensure all above ground pipelines are equipped with telemetry; or equipped with automatic cut-outs; or provided with secondary containment • Condition 17 (previous Condition 13) – Requirement for daily (if operational) visual inspections of the Pit 13 dewatering	N/A

Risk Event					Risk rating[1] C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions[2] of licence	Justification for additional regulatory controls
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Licence Holder's controls**				
							pipeline	
Category 12								
Operation of the crushing plant	Dust	**Pathway:** Air/windborne pathway **Impact:** Vegetation health	Surrounding vegetation	Refer to Section 3.1	C = Slight L = Possible **Low Risk**	Y	Conditions on existing Licence relating to: • Condition 11 (previous Condition 16) – Construction requirements for the mobile crushing and screening plant/s • Condition 18 (previous Condition 20) – Management of dust associated with the stockpiles, and crushing and screening equipment	During this amendment, Condition 13 (previous Condition 10) has been updated to include operational requirements for the mobile crushing and screening plant/s. The mobile plants can then be operated in accordance with Condition 13 following the submission of compliance documentation
	Sediment laden stormwater	**Pathway:** Overland runoff **Impact:** Contamination of soils and vegetation / increased sedimentation	Soil and vegetation along flow path of the contaminated stormwater	Refer to Section 3.1	C = Slight L = Unlikely **Low Risk**	Y	Condition 11 (previous Condition 16) on existing Licence relates to construction requirements for the mobile crushing and screening plant/s including diversion of stormwater	During this amendment, Condition 13 (previous Condition 10) has been updated to include operational requirements for the mobile crushing and screening plant/s. The mobile plants can then be operated in accordance with Condition 13 following the submission of compliance documentation
Leaks and spills from the crushing plant	Hydrocarbons and chemicals	**Pathway:** Discharges to land	Soil and vegetation in vicinity of the	Refer to Section 3.1	C = Moderate L = Unlikely	Y	Condition 1 on existing Licence requiring the immediate recovery, removal and disposal of	*Environmental Protection (Unauthorised Discharges) Regulations 2004* apply

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**				
		Impact: Contamination of soils and vegetation due to presence of hydrocarbons and chemicals Inhibiting vegetation growth and survival	spill		**Medium Risk**		spills	
Category 63								
Increased disposal and burial of inert waste	Dust	**Pathway:** Air/windborne pathway **Impact:** Vegetation health	Surrounding vegetation	Refer to Section 3.1	C = Slight L = Possible **Low Risk**	Y	Condition 18 (previous Condition 20) on existing Licence requiring the management of dust associated with the inert landfill areas	N/A
	Fire	**Pathway:** Air/windborne pathway **Impact:** Vegetation health	Surrounding vegetation	Refer to Section 3.1	C = Moderate L = Unlikely **Medium Risk**	Y	Condition 4 (previous Condition 3) on existing Licence which has tyre burial requirements	N/A
	Contaminated stormwater	**Pathway:** Direct discharges **Impact:** Contamination of soils and vegetation	Soil Vegetation	Refer to Section 3.1	C = Minor L = Rare **Low Risk**	Y	No conditions imposed	*Environmental Protection (Unauthorised Discharges) Regulations 2004* apply
	Leachate	**Pathway:** Infiltration –	Soil	Refer to Section 3.1	C = Slight	Y	No conditions imposed	N/A

Risk Event					Risk rating[1] C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions[2] of licence	Justification for additional regulatory controls
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Licence Holder's controls**				
		only inert materials will be disposed, so there should be no generation of contaminated leachates **Impact:** Contamination of soils and vegetation Infiltration to groundwater depending on depth	Vegetation Groundwater		L = Unlikely **Low Risk**			

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

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

4. Consultation

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

Table 7: Consultation

Consultation method	Comments received	Department response
DMPE advised of proposal 03 July 2025	Refer to section 2.3	Noted
Licence Holder was provided with draft amendment on 05 August 2025	Refer to Appendix 1	Noted

5. Conclusion

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

5.1 Summary of amendments

Table 8 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 8: Summary of licence amendments

Condition no.	Proposed amendments
Prescribed premises category description	Category 6 assessed production / design capacity updated from 2,840,000 tonnes per annual period to 4,740,000 tonnes per annual period – refer to section 2.2.2 Category 12 assessed production / design capacity updated from 200,000 tonnes per annual period to 1,700,000 tonnes per annual period – refer to section 2.2.3 Cateogry 63 assessed production / design capacity updated from 2,500 tonnes per annual period to 10,000 tonnes per annual period – refer to section 2.2.4
Licence history	Removal of history for Licence L6079/1988/12 Retained for L6079/1988/13 and L6079/1988/14
Condition, Table and Figure numbering	Updated throughout the Licence as required
Condition 2	Now requires all exceedances (descriptive or numerical) in the Licence to be investigated rather than just in a section
Condition 3 (previous Condition 15)	Premises production or design capacity limits updated for Category 6 and 12
Condition 4 (previous	Administrative updates

Condition no.	Proposed amendments
Condition 3)	Class II landfill: Inclusion of regulated e-waste as a waste type and specified requirements in line with the Exemption Notice – refer to section 2.2.5 Inert Landfill: Increase in capacity for the inert landfill from 2,500 tonnes per annual period to 10,000 tonnes per annual period
Condition 11 (previous Condition 16)	Inclusion of column for Infrastructure location Inclusion of location for the mobile crushing and screening plant/s Removal of DL 5 and the Process Water Pond for TSF 8 tailings decant water pipeline as compliance documentation has been submitted – refer to section 2.2.5 Inclusion of construction requirements for TSF 8 Stage 3 and Stage 4 raises and associated Figures
Previous Condition 17	Deleted, compliance documentation for Stage 1 and Stage 2 for TSF 8 has been submitted – refer to section 2.2.5
Condition 13 (previous Condition 10)	Administrative updates Inclusion of operational requirements for the mobile crushing and screening plants
Condition 17 (previous Condition 13)	Inclusion of 'signs of movement in the embankment including cracking' for the visual daily inspections for TSF 8
Previous Condition 19	Deleted, now covered by Condition 2
Condition 30 (previous Condition 32)	Inclusion of regulated e-waste
Previous Condition 42	Deleted. Previous Condition 17 has been deleted and construction requirements for the TSF 8 including the raises are now covered under Condition 11 Compliance documentation submission is now covered under Condition 39 (previous condition 41)
Definitions	Updated as required
Figures	New Figure 1 Deletion of previous Figure 3 and new Figure included Deletion of previous Figure 4 Inclusion of new Figures 10, 13, 14, 15, 16 and 17 Updated Figures 23 and 24

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. DWER 2019, *Landfill Waste Classification and Waste Definitions 1996 (as amended 2019)* (Landfill Definitions), Joondalup, Western Australia.
5. Greatland Pty Ltd (Greatland) 2025a, *Application for an amendment to Licence L6079/1988/14 – Request for Further Information*, dated 18 June 2025.
6. Greatland 2025b, *DWER Licence L6079/1998/14 – Construction Compliance Report – Tailings Decant Pipeline from TSF8*, dated 02 June 2025.
7. Klohn Crippen Berger (KCB) Australia Pty Ltd 2024, *Telfer Gold Mine TSF8 Stage 1 Raise – Construction Record Report*, Revision 0 (DX10230C01), prepared for Newmont Mining, September 2024.
8. KCB 2025a, *Telfer Mine, Pit 13 Water Transfer Final* (DX10230D03), prepared for Greatland Pty Ltd, 01 April 2025.
9. KCB 2025b, *Telfer TSF 8 Stage 2 Construction, Construction Record Report*, Revision 0 (DX10230E01), prepared for Greatland Pty Ltd, July 2025.
10. Licence L6079/1988/13 Amendment Notice 1 – 4 December 2017 available at https://www.der.wa.gov.au/our-work/licences-and-works-approvals/current-licences.
11. Licence L6079/1988/13 Amendment Report – granted 07 June 2022 available at https://www.der.wa.gov.au/our-work/licences-and-works-approvals/current-licences.
12. Licence L6079/1988/13 Amendment Report – granted 02 October 2024 available at https://www.der.wa.gov.au/our-work/licences-and-works-approvals/current-licences.
13. Talis Consultants (Talis) 2025, *Telfer Gold Mine – Licence Amendment Application L6079/1988/14, Supporting Documentation: Attachment 8* (Project Number: TE25016, Version 3.0), prepared for Greatland Pty Ltd, 13 May 2025.

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

Condition	Summary of Licence Holder's comment	Department's response
31	The decant pipeline from Tailings Storage Facility (TSF) 8 to the Processing Water Pond (PWD) via Dump Leach (DL) 5 has been constructed, and the construction requirements have been removed. This new pipeline now directs decant water exclusively from TSF 8, creating two discharge points into the PWD, one from TSF 8 and one from TSF 7. The existing sampling point (P2), described in Table 14 of the Draft Licence, represents decant water from TSF 7. A new sampling point (P4) has been installed to represent TSF 8 decant water. It is proposed that 'P4' be added to the table with the same monitoring requirements as 'P2'. Updated versions of Figures 23 and 24 are provided as attachments.	P4 monitoring added to Condition 31. Updated versions of Figures 23 and 24 included in the final amended licence.
Draft Amendment Report Outstanding Matter 1 – defining "depending on different tipping locations".	The tipping location refers to the waste rock dump (WRD) in use at a given time. Expanding inert waste tipping to all WRDs gives operations greater flexibility, allowing inert waste to be deposited where the fleet is already working.	Noted.
Draft Amendment Report Outstanding Matter 2 – acknowledgement of limitations of Part V approvals relating to WRD.	Greatland acknowledges that this Part V approval does not authorise any extensions to the waste rock dumps on the premises. The extension of WRD 11 was most recently approved under the Mining Act in February 2020, and under Part IV of the Environmental Protection Act in 2013.	Noted.
Condition 11 and 13 Mobile crushing and screening plants – reference to Figure 10	Updated figure 10 to indicate indicative mobile and crushing locations to active mining area provided to the department after phone call with Greatland on 20 August 2025.	Revised Figure 10 included in Schedule 1, and respective references in Tabe 5 and 6 updated.