Decision Report

Application for Works Approval

Division 3, Part V *Environmental Protection Act 1986*

Works Approval Number	W6426/2020/1
Applicant	Greenstone Resources (WA) Pty Ltd
ACN	100 341 599
File Number	DER2020/000295
Premises	King of the Hills Gold Operations Shire of Leonora Legal description - M37/67, M37/76, M37/90, M37/201, M37/222, M37/248, M37/330, M37/410, M37/429, M37/449, M37/451, M37/457, M37/547, M37/548, M37/572, M37/573, M37/574, M37/1105
Date of Report	23 October 2020
Status of Report	Final

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1. Definitions of terms and acronyms

In this Decision Report, the terms in Table 1 have the meanings defined.

Table 1: Definitions

Term	Definition
ACN	Australian Company Number
Applicant	Greenstone Resources (WA) Pty Ltd
Category/ Categories/ Cat.	Categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
Decision Report	refers to this document.
Delegated Officer	an officer under section 20 of the EP Act.
Department	means the department established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V, Division 3 of the EP Act.
DWER	Department of Water and Environmental Regulation As of 1 July 2017, the Department of Environment Regulation (DER), the Office of the Environmental Protection Authority (OEPA) and the Department of Water (DoW) amalgamated to form the Department of Water and Environmental Regulation (DWER). DWER was established under section 35 of the *Public Sector Management Act 1994* and is responsible for the administration of the *Environmental Protection Act 1986* along with other legislation.
EP Act	*Environmental Protection Act 1986* (WA)
EP Regulations	*Environmental Protection Regulations 1987* (WA)
m^3	cubic metres
Mt/year	million tonnes per annum
Noise Regulations	*Environmental Protection (Noise) Regulations 1997* (WA)
Occupier	has the same meaning given to that term under the EP Act.
Prescribed Premises	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Decision Report applies, as specified at the front of this Decision Report
Primary Activities	as defined in Schedule 2 of the Revised Licence
Risk Event	As described in *Guidance Statement: Risk Assessment*

2. Decision summary

This Decision Report documents the assessment of potential risks to the environment and public health from emissions and discharges during the construction and operation of the Premises. As a result of this assessment, Works Approval W6426/2020/1 has been granted.

3. Scope of assessment

3.1 Regulatory framework

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

3.2 Application summary

On 17 July 2020 Greenstone Resources (WA) Pty Ltd (the Applicant) submitted an application for a works approval to the department under section 54 of the *Environmental Protection Act 1986* (EP Act). The application is to undertake the following works at the King of the Hills Gold Mine (the Premises);

- Construction and commissioning of a 4 million tons (Mt) per year Carbon in Leach (CIL) processing plant (including a crushing circuit, Run of Mine (ROM) pad, gold room with furnace, ore stockpiles) and associated supporting infrastructure (offices, workshop, accommodation and roads);
- Recommissioning of existing Tailings Storage Facility (TSF) 4 cells A and B; and
- Completion of the construction of a new TSF5 (partially constructed).

The Premises relates to the category and assessed design capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in Works Approval W6426/2020/1. The infrastructure and equipment relating to the premise's category and any associated activities which the department has considered in line with Guidance Statement: *Risk Assessments (DER 2017)* are outlined in Works Approval W6426/2020/1.

The new infrastructure will support the existing crushing and screening and dewatering activities covered under the Existing licence L8345/2009/2 for the King of the Hills Gold Mine. Following construction of the works and subject to the assessment of the critical containment infrastructure report the infrastructure will be allowed to operate under time limited operation conditions within the works approval. The Existing Licence will require an amendment to allow continued long-term operation of the infrastructure approved under this works approval.

4. Overview of Premises

The Applicant is the holder of Prescribed Premises licence L8345/2009/2 for the King of the Hills (KOTH) gold mine (also called Tarmoola Operations) in the Shire of Leonora, approximately 28km north of Leonora in the northern Goldfields. The Premises consists the King of the Hills underground mine, Tarmoola open pit and the Galahad, Rainbow and Puzzle satellite deposits. The site and its infrastructure were acquired by the Applicant from Saracen Mineral Holdings in October 2017. After a period of being in care-and-maintenance, the Applicant began mining the site again in January 2018.

Infrastructure currently existing on the Premises include a crushing and screening plant and dewatering infrastructure and pipelines. Tailing storage facilities are also present on site and include;

- TSF1, TSF2 and TSF3 which have been utilised, decommissioned and rehabilitated;

- TSF4 which is partly rehabilitated (beach and eastern perimeter embankment of Cell 4a capped). TSF4 Cell 4b is currently used as an evaporation pond for mine dewatering; and
- TSF5 which was approved under the *Mining Act 1978* via Notice of Intent (NOI) (MP 4548, Reg ID 17933) in 2004. No records of a works approval have been found. Construction commenced in 2004 with clearing and placement of run of mine (ROM) waste to form the perimeter embankment but was not complete at the time when the project went into Care and Maintenance and has not been completed or commissioned since.

Table 2 lists the prescribed premises categories that has been applied for under this works approval.

Table 2: Prescribed Premises works approval category

Classification of Premises	Description	Approved Premises production or design capacity or throughput
Category 5	Processing or beneficiation of metallic or non-metallic ore: premises on which — (a) metallic or non-metallic ore is crushed, ground, milled or otherwise processed; or (b) tailings from metallic or non-metallic ore are reprocessed; or (c) tailings or residue from metallic or non-metallic ore are discharged into a containment cell or dam.	4 000 000 tonnes per annum

5. Operational aspects

5.1 Processing Facility and Mining Infrastructure

The Applicant is proposing to construct a Carbon in Leach (CIL) processing plant at the Premises. The design capacity of the proposed processing plant is 4 Mt/year of ore, with a project design rate of 4 Mt/year for the life of the project. The plant has been designed to operate 24 hours a day seven days per week at a nominal treatment rate of 500 dry t/h. The process facility will consist of;

- a primary crushing plant to produce a crushed product <325 mm;
- grinding in a SAG mill to P80 of 150 µm in closed circuit with gravity circuit, classification cyclones and a pebble crusher;
- a centrifugal gravity concentrator circuit to recover gravity gold and with intensive cyanidation of the gravity concentrate;
- CIL leach and adsorption circuit for the adsorption of gold onto activated carbon;
- recovery of loaded carbon, elution, and electrowinning of gold and silver from the pregnant eluate;
- calcining and smelting of ore (gold room with furnace and stack); and
- water recovery and treatment.

The layout of the processing plant is shown below in Figure 1. A flow diagram of the recovery process is also shown in Figure 2 below.

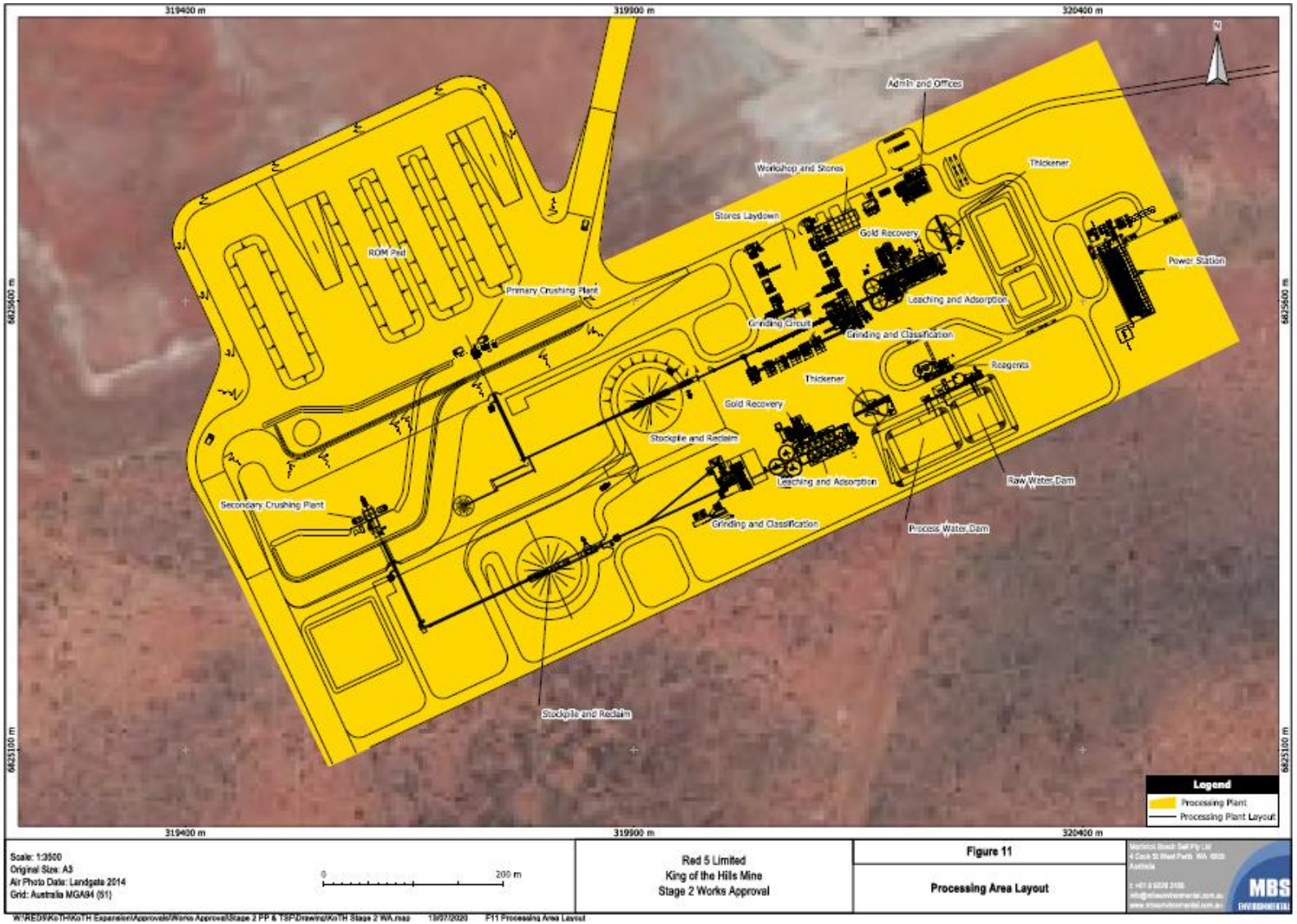

Figure 1: Layout of the proposed processing plan (MBS Environmental, July 2020)

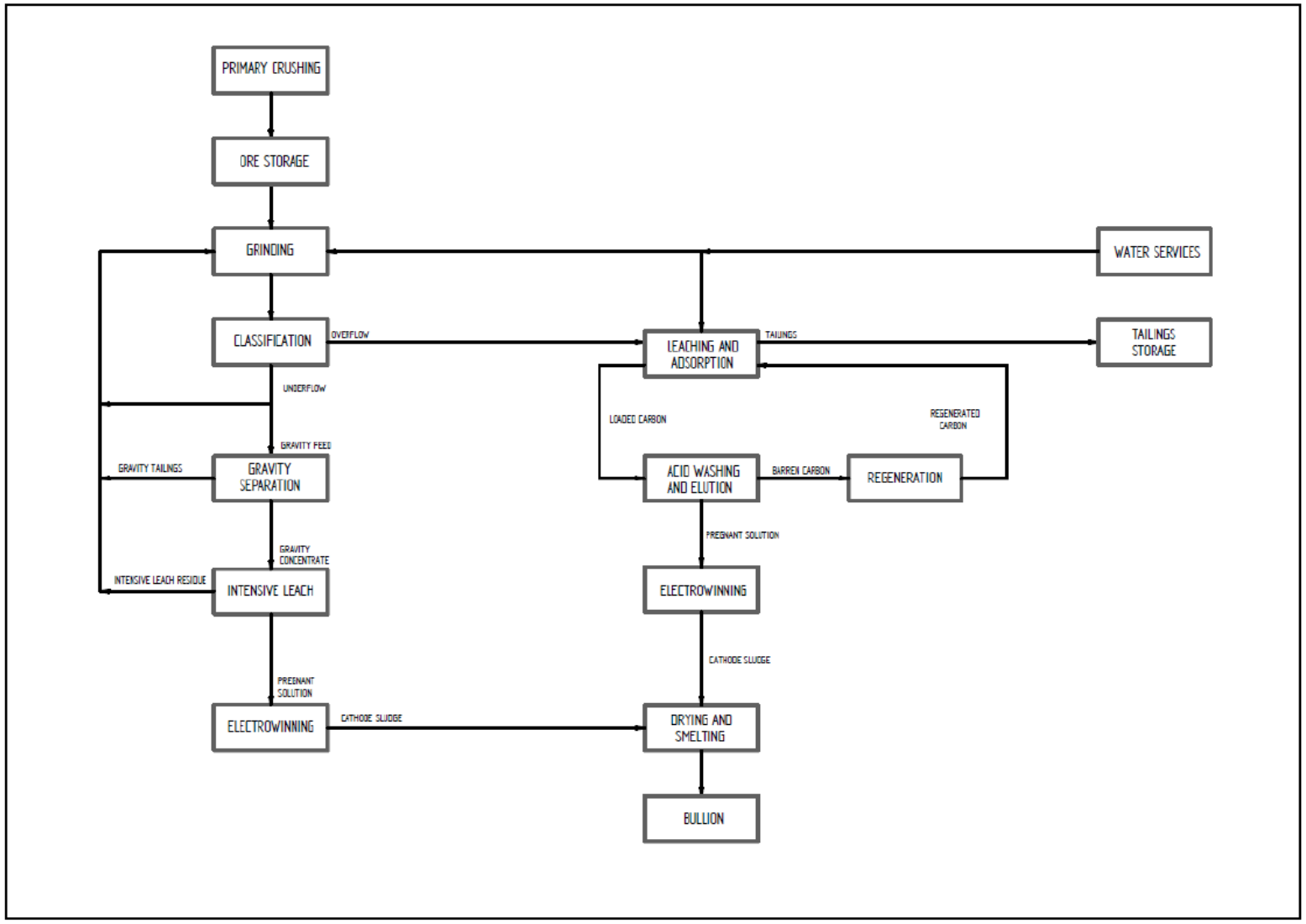

Figure 2: Processing plant Process Flow Diagram (Source: MBS Environmental, July 2020)

5.2 Tailings Storage Facilities

The Application outlines the following works for the proposed TSFs (TSF4 and TSF5):

- Raising of the existing TSF4 (cells A and B) embankments to provide approximately 1 year of initial tailings storage capacity; and
- Construction of TSF5 in a staged manner over time for a further 4.2 years storage capacity.

The TSF preliminary design considers the processing of 21 Mt of gold ore at a rate of 4 Mt/year for approximately 5.2 years discharging into TSF4 and TSF5, and provision for the balance of the tailings to be discharge into TSF6 (a future works approval will be sought for TSF6).

The Applicant is requesting approval to lift TSF4 (cells A and B) to a height of 429.0 mRL (2.3m) and to construct TSF5 (cells A and B) starter embankment (412.5 mRL) and 3 additional lifts to a final height of 422.5 mRL. The current and proposed final crest elevations for TSF4 (cells A and B) and TSF5 (cells A & B) are shown below in Table 3.

Table 3: Stages of construction for TSF4 and TSF5 (and embankment heights)

<table>
<tr><th rowspan="2">Facility</th><th colspan="7">Estimated embankment levels (mRL)</th></tr>
<tr><th>Current</th><th>Stage 6
TSF4–
Year 1</th><th>Stage 1
TSF5 –
Year 1</th><th>Stage 2
TSF5 –
Year 2</th><th>Stage 3
TSF5 –
Year 3</th><th>Stage 4
TSF5 –
Year 4</th><th>Year 6</th></tr>
<tr><td>TSF4A</td><td>426.7</td><td>429.0</td><td rowspan="2">Commence Closure</td><td colspan="2" rowspan="2">Ongoing closure</td><td rowspan="2">Complete closure</td><td rowspan="2">-</td></tr>
<tr><td>TSF4B</td><td>426.7</td><td>429.0</td></tr>
<tr><td>TSF5A</td><td>-</td><td>-</td><td>412.5</td><td>415.5</td><td>418.0</td><td>422.5</td><td rowspan="2">Closure</td></tr>
<tr><td>TSF5B</td><td>-</td><td>-</td><td>412.5</td><td>415.5</td><td>418.0</td><td>422.5</td></tr>
</table>

The Applicant proposes to alternate between TSF4 and TSF5 once the construction of TSF5 is completed. The process plant throughput is 4 Mtpa, with the TSFs designed for a deposition area rate of about 25 ha/Mtpa and a nominal rate of embankment rise of ~3 m/year is expected.

The location and layout of the proposed TSFs are outlined in Figure 3.

5.2.1 Tailings Storage Facility 4 (TSF4) Design

No tailings are currently being deposited into TSF4. Currently, TSF4 Cell A has been decommissioned and is capped and TSF4 Cell B is being used to dispose of mine dewater which has been approved under the Existing Licence as a dewater discharge point. During and in the lead up to construction of the processing plant and re-commissioning of TSF4 the Applicant intends to stop the mine dewater discharge into TSF4 Cell B approximately 6 months before TSF4 works begin to allow drying. Underground mining will be suspended until the new project comes online. Any required dewatering during the 6-month pre-works period will be directed to the other approved dewater discharge points on the licence. The Existing Licence will need to be amended to remove TSF4 Cell B as a dewatering discharge point.

The Applicant proposes to raise the embankment of TSF4 (using a downstream raise construction method) to allow for up to 1 year of additional storage. Once the refurbishment on TSF4 is complete, the facility will be able to contain an additional 4.0 million tonnes of tailings.

Existing capping material in TSF4 Cell A and the tailings surface in TSF4 Cell B will be scarified and recompacted, where possible, prior to deposition to reduce infiltration into the existing tailings mass.

Physical testing of a representative tailings sample from bench scale metallurgical testing was undertaken by Knights Piesold Pty Ltd in May 2020. The tailings permeability results from this testing indicated that the vertical permeability is approximately 2 x 10^{-6}m/s.

The embankments of TSF4 will be constructed utilising oxidised mine waste excavated as part of mining pre-strip operations.

Prior to deposition commencing in TSF4 Cell A, a central decant tower will be constructed with an access causeway to the perimeter embankment. Within TSF4 Cell B, the existing decant tower will be raised to the same height as the embankment. A separate decant system will be constructed for each cell. The decant will be in the northern portion of the facility and the supernatant pond will be in an area buttressed by the waste dump and remote to the free-standing embankments.

5.2.2 Tailings Storage Facility 5 (TSF5) Design

When the site was previously put into care and maintenance in 2004/05, construction on TSF5 had only partially been undertaken. The Applicant proposes to complete the construction of TSF5, giving an additional storage capacity of 17.0 million tonnes of tailings within two separate cells (TSF5A and 5B). The TSF5 has been designed in accordance with *Code of Practice for Tailings Storage Facilities in Western Australia (DMP 2013)* and *ANCOLD Guidelines on Tailings Dam Planning, Design, Construction, Operation and Closure (ANCOLD 2019).* It will be constructed under the supervision of a suitably accredited engineer and in accordance with industry standards and guidelines. Construction of the embankment walls will be undertaken in 4 stages, with the plan to undertake one stage per year, once operational. A cross section of the embankment walls of TSF5 is shown in Figure 4 below.

The southern and western structural zone of the TSF5 embankment to Stage 1 elevation was placed during 2004. The southern structural zone comprises an embankment constructed from ROM waste material which has been dumped with a crest width of approximately 30 m with the upstream and downstream batters at angle of repose. The southern structural zone has been constructed to a height of approximately 14 m.

The embankments of TSF5 will be constructed as zoned soil and rock fill structures utilising ROM waste and selectively stockpiled oxidised waste. TSF5 will be raised annually to provide capacity for approximately 5.2 years.

An underdrainage system consisting of embankment toe drains, collector and finger drains across the basin will be installed within each cell to reduce seepage losses. All drainage will report to a recovery sump located at the upstream toe of the embankment in each cell. A sloping pipe will be installed in the sump as a sleeve to allow placement of a submersible pump at the base of the sump and removal of the pump for maintenance to the embankment crest. A cross section of the proposed cut off trench and toe drain for TSF5 is shown in Figure 5 below.

The underdrainage return pump system will be sized for flows up to 10 L/s and a static pump head of 20 m to accommodate expected seepage rates. The recovered underdrainage will be returned to the decant systems and back to the plant for re-use in the process facility.

The TSF5 basin soil when scarified and recompacted, is expected to achieve an average vertical permeability of approximately 5 x 10^{-8} m/s, with the majority of material possessing a value of less than 1 x 10^{-7} m/s.

There has been extensive resource/sterilisation drilling over the TSF5 footprint (greater than 100 holes). If not sealed, these holes will represent vertical pathways of high permeability which may intercept palaeochannels or other permeable structural features. All holes will be checked and where they are found to be open, bores will be sealed with grout, plugged with a cap approximately 400 mm below ground surface, and covered with clayey waste.

The basin of TSF5 will be soil lined with 300mm depth of in-situ or imported compacted soil liner. A 1.5m High Density Poly Ethylene (HDPE) geosynthetic liner will be placed under the area where it is expected for the maximum average supernatant pond to be located.

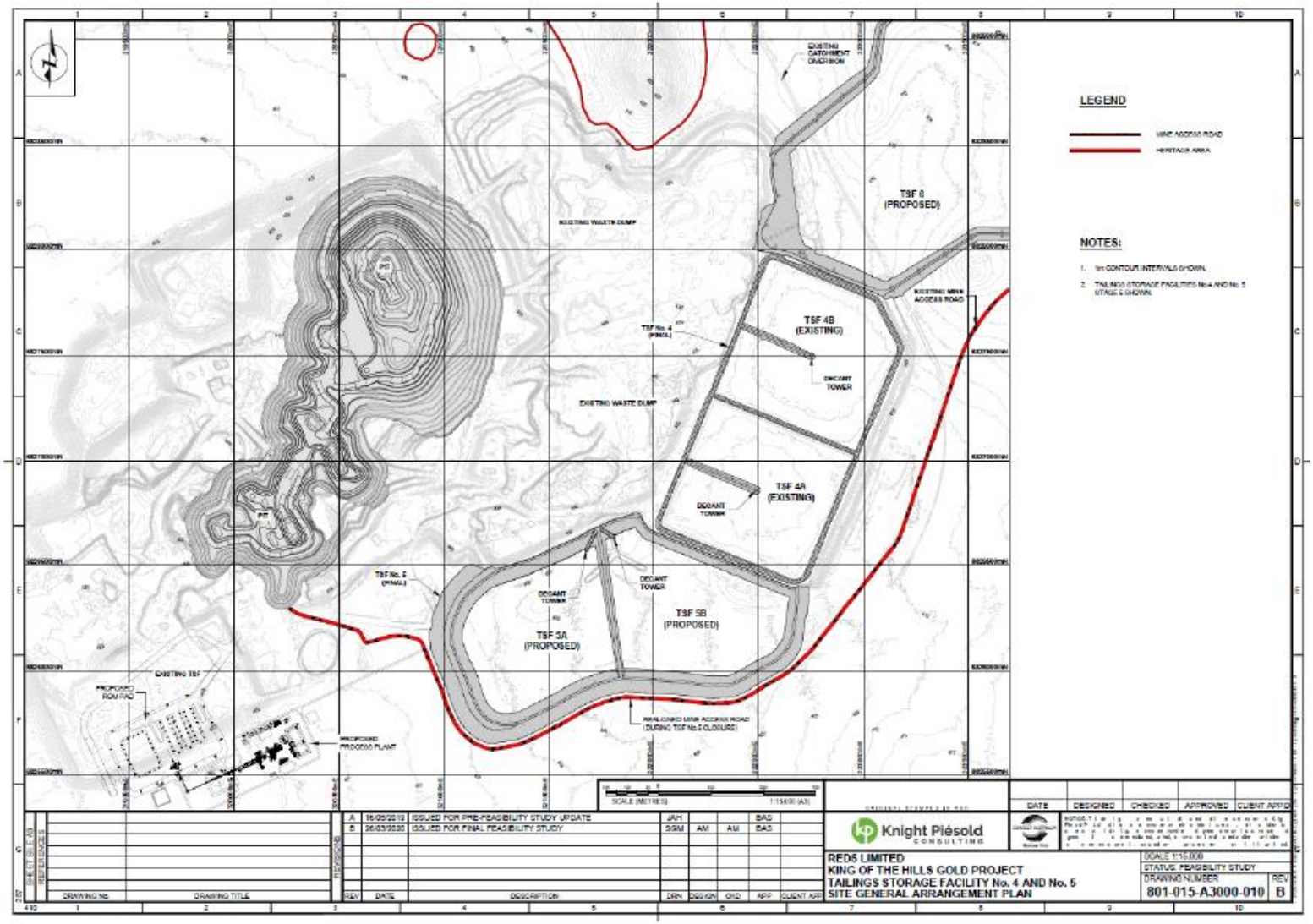

Figure 3: Tailings Storage Facilities (Source: MBS Environmental, July 2020)

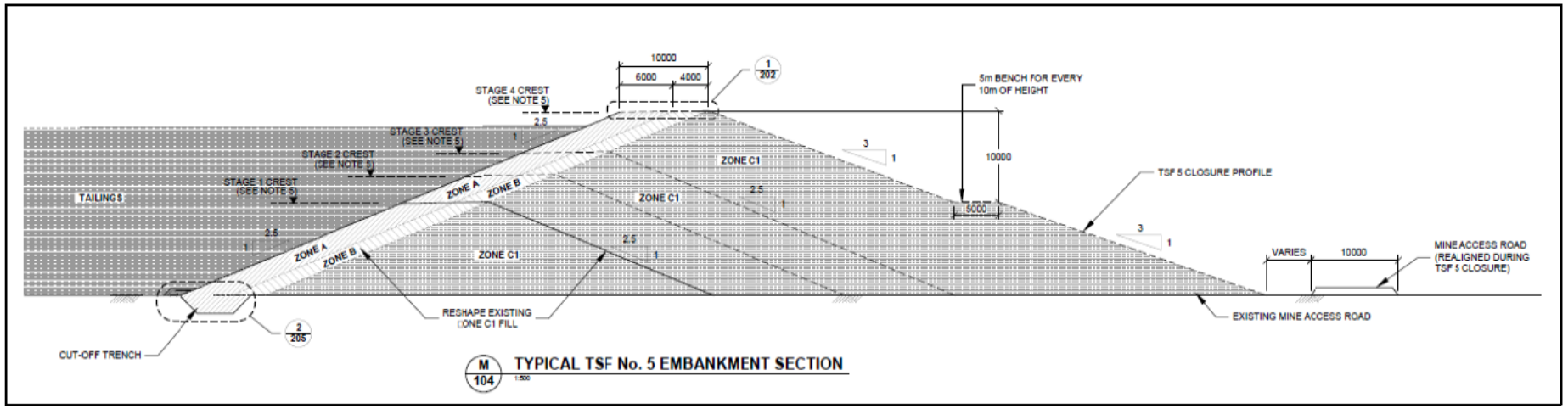

Figure 4: TSF5 Embankment Cross Section (Source: MBS Environmental, July 2020)

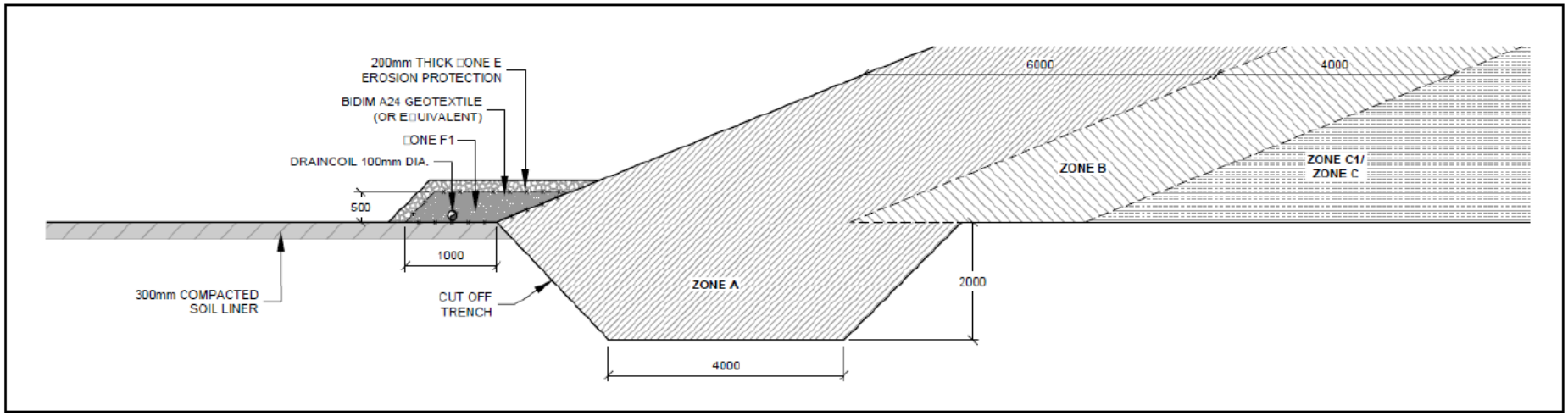

Figure 5: TSF5 Cut off Trench and Toe Drain Cross Section (Source: MBS Environmental, July 2020)

5.2.3 Operation of TSF4 and TSF5

Tailings will be delivered to the operational TSF cell by a HDPE delivery pipeline from the processing plant and distributed to offtake spigots by a HDPE distribution pipe. The tails pipeline will be located within an earth bunded corridor with isolation values and scour pits to allow reclaim of spilt tails or clearing of blocked lines. The pipeline will be fitted with leak detection for operational monitoring.

The distribution line will run along the whole perimeter embankment crest. The distribution pipelines will be fitted with spigot offtakes, located at approximately 25 m intervals along the embankment crest with 4 to 6 spigots in operation at a time. The TSF embankment crest will be sloped towards the basin to ensure any spillage will drain into the facility. The deposition location will be moved progressively along the distribution line as required to control the location of the supernatant pond near the decant tower.

Tailings will be deposited via a sub-aerial technique, which allows for the maximum amount of water removal from the TSF by the formation of a large beach for drying and draining (target slurry density is 45% solids). Deposition of tailings will be carried out on a cyclic basis with the tailings being deposited over one area of the storage until the required layer thickness has been built up. Deposition will then be moved to an adjacent part of the storage to allow the deposition layer to dry and consolidate. Supernatant will be recycled from all operating TSF via pump out decant towers to be used as process make up water (MBS Environmental, July 2020).

The pipeline corridor from the process plant, already used for deposition in TSF4, will be used for the pipework to TSF5. The earth bunded corridor with scour pits will enable containment and recovery of potential spill from the tailings delivery and decant return pipelines. Pipelines will be constructed with isolation values and leak detection sensors monitoring from a central control room at the Process Plant. The tailings distribution pipelines will be relocated from TSF4 and installed along the perimeter embankments and the central divider causeway to form rings around both cells (MBS Environmental, July 2020).

5.2.4 Commissioning

The Applicant has developed a Commissioning Plan that provides a staged approach to commissioning of the processing plant, the tailings storage facilities and the tailings pipeline.

Commissioning undertaken as per the Commissioning Plan is expected to take three months. Commissioning of the tailing storage facilities is to be undertaken during time limited operations under this works approval. Commissioning of the processing plant and associated infrastructure will be managed under commissioning conditions within the works approval.

6. Location and siting

6.1 Residential and sensitive receptors

The distances to residential and sensitive receptors are detailed in Table 4.

Table 4: Receptors and distance from activity boundary

Sensitive Land Uses	Distance from Prescribed Activity
Residential Premises - Pastoralist	Approximately 3km south of the Premises
Wanangari Pool heritage site (site No. 22420)	Existing access road occurs within a 1km buffer for Wanangari Pool.

6.2 Specified ecosystems

Specified ecosystems are areas of high conservation value and special significance that may be impacted as a result of activities at or Emissions and Discharges from the Premises. The distances to specified ecosystems are shown in Table 5. Table 5 also identifies the distances to other relevant ecosystem values which do not fit the definition of a specified ecosystem.

The table has also been modified to align with the *Guidance Statement: Environmental Siting.*

Table 5: Environmental values

Biological component	Distance from the Premises
Threatened/Priority Flora	*Frankenia georgei* (P1) located approximately 1 km north-west of the Premises.

6.3 Groundwater and water sources

The distances to groundwater and water sources are shown in Table 6.

Table 6: Groundwater and water sources

Groundwater and water sources	Distance from Premises
Public drinking water source areas	Leonora Water Reserve, located approximately 7 km south-east of the Premises.
Major/minor watercourses	Sullivan Creek, minor non-perennial watercourse, located approximately 800 m west of the proposed processing plant and approximately 2,500m west of TSF5.
Groundwater	Monitoring bores around TSF4 indicate the groundwater to be approximately 12-4 metres below ground level (mbgl). Groundwater ranges from fresh to brackish. Mounding of the groundwater table has occurred near the eastern corner of TSF4 cell B due to the storage of dewater within this cell, with groundwater standing water levels approximately 4mbgl within bores MBH1S/D and MBH2S/D (AER, 2020). There are no nearby groundwater users in the nearby (<2km) area (other than the applicant). Nearest stock watering bore is approximately 4.3km from TSF5 and 6km from TSF4.

7. Risk assessment

7.1 Determination of emission, pathway and receptor

In undertaking its risk assessment, DWER will identify all potential emissions pathways and potential receptors to establish whether there is a Risk Event which requires detailed risk assessment.

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. Where there is no actual or likely pathway and/or no receptor, the emission will be screened out and will not be considered as a Risk Event. In addition, where an emission has an actual or likely pathway and a receptor which may be adversely impacted, but that emission is regulated through other mechanisms such as Part IV of the EP Act, that emission will not be risk assessed further and will be screened out through Table 8.

The identification of the sources, pathways and receptors to determine Risk Events are set out in Tables 7 and 8 below.

Table 7. Identification of emissions, pathway and receptors during construction

Source/Activity	Potential emissions	Potential receptors	Potential pathway	Potential impacts	Consequence	Likelihood	Risk	Reasoning	Regulatory controls (Refer to conditions of the granted Works Approval)
Category 5: Construction of gold processing plant and TSF's	Dust	Nearest residential dwelling is 3 km south of the proposed processing plant.	Air / wind dispersion	Health and amenity	N/A	N/A	**N/A**	The Delegated Officer considers there is sufficient separation from sensitive receptors to mitigate the risk of dust impacts (no pathway to receptor). Construction is within an existing mine/processing area and for a finite period of time. The applicant will implement management measures during construction to limit dust emissions. These include: • Restricted activities during high winds; and	No regulatory controls are required to manage dust emissions within the works approval. The general provisions of the EP Act apply with respect to the causing of pollution and environmental

								• Using water carts on dust source areas to control dust lift-off. Applicant's controls are sufficient to manage this emission.	harm from dust emissions.
	Noise	Nearest residential dwelling is 3 km south of the proposed processing plant.	Air / wind dispersion	Health and amenity	N/A	N/A	**N/A**	The Delegated Officer considers there is sufficient separation from sensitive receptors to mitigate the risk of noise impacts (no pathway to receptor). Construction is within an existing mine/processing area and for a finite period of time. The Applicant will implement management measures during construction to limit noise emissions. These include: • Regular maintenance of construction equipment; • Engines and generators will incorporate sound-dampening exhaust mufflers; and • Air compressors will be housed within sound-dampening enclosures. Applicant's controls are sufficient to manage this emission.	None specified in the works approval. The *Environmental Protection (Noise) Regulations 2004* will apply in respect to potential noise emissions.
	Stormwater containing hydrocarbons (from vehicles/ equipment/ spills/leaks) and sediments (from earth moving activities).	Soils and vegetation at site of spill and along flow path of contaminated stormwater, Sullivan Creek located 800 m west of the processing plant.	Direct discharge and path of flow	Contamination of soils with hydrocarbons. Increased sediment loads impacting health and viability of terrestrial and	Minor	Unlikely	**Medium**	Hydrocarbon spills / leaks and sediment contamination of runoff may occur during construction activities. These discharges could result in low-level onsite impacts and some minimal off-site impacts (nearby surface water feature). It is unlikely for a significant impact to occur due to the applicants proposed controls. These include:	Works approval condition 4, Table 3 surface water management The general provisions of the EP Act apply The *Environmental Protection (Unauthorised*

				riparian vegetation.				• Diversion bunds to separate clean and potentially contaminated stormwaters; and • Hydrocarbon spills will be cleaned up immediately and disposed of to an offsite licenced facility. The Applicant's controls are sufficient to manage this emission during construction.	*Discharges) Regulations 2004* will apply in respect to potential direct discharges of unauthorised materials.

Table 8: Identification of emissions, pathway and receptors during commissioning / time limited operation (works approval) and operation (licence).

Source/Activity	Potential emissions	Potential receptors	Potential pathway	Potential impacts	Consequence	Likelihood	Risk	Reasoning	Regulatory controls (Refer to conditions of the granted Works Approval)
Category 5: Operation (including commissioning) of processing plant and deposition of tailings into TSFs.	Emissions to Air - Operation of carbon-in-leach (CIL) processing plant – gold room furnace stack emissions	Nearest residential dwelling is 3 km south of the proposed processing plant.	Air / wind dispersion	Health and amenity	N/A	N/A	**N/A**	The Delegated Officer considers there is sufficient separation from sensitive receptors to mitigate the risk of air emission impacts (no pathway to receptor).	No regulatory controls are required The general provisions of the EP Act apply with respect to the causing of pollution and environmental harm from air emissions.

	Dust from crushing plant, conveyors and transfer points, ROM area, stockpiles and TSFs surface	Nearest residential dwelling is 3 km south of the proposed processing plant.	Air / wind dispersion	Health and amenity	Minor	Rare	**Low**	The Delegated Officer considers that dust emissions from processing activities may result in minimal off-site impacts due to the scale of the operations and 3km distance to sensitive receptors. It is considered that this impact will only occur in exceptional circumstances due to the applicant's controls. The applicant will implement management measures during operation to limit dust emissions. These include: • Water sprays on crusher tipping area, roads, ROM pad and stockpile areas; • Dust collector installed on crusher discharge conveyor; • Water cart used where required; and • Dust monitors will be installed at the process plant and up wind and downwind of the TSF's to monitor the amount of dust and geochemical composition. Applicant's controls are sufficient to manage this emission and will be conditioned within the works approval.	Works approval condition 4, Table 3 water sprays to be installed. The general provisions of the EP Act apply with respect to the causing of pollution and environmental harm.

	Noise emissions generated by operational activities including heavy vehicles, pumps, generators, crushers, grinding mills and other ore processing equipment	Nearest residential dwelling is 3 km south of the proposed processing plant.	Air / wind dispersion	Health and amenity	N/A	N/A	**N/A**	The Delegated Officer considers there is sufficient separation from sensitive receptors to mitigate the risk of noise impacts (no pathway to receptor). The Applicant proposes to implement management measures during operations to limit noise emissions. These include: • Regular maintenance of plant equipment and vehicles to ensure operating efficiently; • Engines and generators will incorporate sound-dampening exhaust mufflers; and • Air compressors will be housed within sound-dampening enclosures. Applicant's controls are sufficient to manage this emission.	None specified in the works approval (time limited operations) The *Environmental Protection (Noise) Regulations 2004* will apply in respect to potential noise emission.
	Stormwater runoff from; - processing plant area (containing hydrocarbons / chemicals from spills and leaks) - stockpile area (containing sediment and material runoff)	Soils and vegetation at site of spill and along flow path of contaminated stormwater. Nearby minor water course (Sullivan creek ~800 m west of plant)	Direct discharge to land and flow path to surface water	Contamination of soils and surface water with hydrocarbons /chemicals / heavy metals. Increased sediment loads impacting health and viability of terrestrial and	Moderate	Unlikely	**Medium**	See Section 7.4 for detailed assessment.	Condition 1, Table 1 toe drains / piezometers to be installed TSF5 Condition 4, Table 3 surface water management Conditions 13 & 14 Commissioning conditions Condition 20, Table 8 stormwater

	- TSF area (lateral seepage from TSF embankments expressed at the surface)			riparian vegetation.					management time limited operations Condition 21, Table 9 Inspections The general provisions of the EP Act apply The *Environmental Protection (Unauthorised Discharges) Regulations 2004* will apply in respect to potential direct discharges of unauthorised materials.
	Tailings and return water Pipeline leaks and or ruptures	Soils and vegetation at site of spills and along flow path. Nearby minor water course (Sullivan creek ~800 m west of plant and 2,500m west of TSF5)	Direct discharge to land and flow path to surface water	Contamination of soils and vegetation with tailings containing heavy metals / processing reagents or brackish/saline water from pipelines Flow path of leaks/spills to tributaries of Sullivan creek leading to surface water contamination /decline in health of riparian	Moderate	Unlikely	**Medium**	Spills or leaks from tailings and return water pipelines have the potential to have mid-level onsite impacts (soil and vegetation impacts) and low level off site impacts due to the proximity of surface water tributaries leading to Sullivan Creek. It is unlikely for these impacts to occur due to the Applicant's proposed controls. These controls are listed below: • Pipelines will be located within bunds to ensure liquors are captured and are not released to the environment. • Pipelines will incorporate isolation valves at appropriate intervals and	Condition 4, Table 3 pipeline construction Conditions 13 & 14 Commissioning conditions Condition 20, Table 8 pipeline management time limited operations Condition 22 inspections The general provisions of the EP Act apply The *Environmental Protection (Unauthorised Discharges) Regulations 2004*

				vegetation and fauna				periodic visual inspections will be undertaken. • Scour pits or sumps will be constructed along the length of above ground pipeline corridors to ensure leaks or spillages are contained within bunded areas. • Tailings and return water pipelines will be fitted with flow and leak detection sensors. • Pipelines will be inspected frequently for signs of spills/leaks Therefore, the risk rating for this risk event is Medium. The Applicant's controls are sufficient to manage this emission and they will be conditioned within the works approval.	will apply in respect to potential direct discharges of unauthorised materials
	Overtopping of TSFs	Soils and vegetation at overflow site and along flow path Nearby minor water course (Sullivan creek ~ 2,500m west of TSF5)	Direct discharge to land and flow path to surface water	Contamination of soils with tailings containing heavy metals / processing reagents Flow path of tailings spill to tributaries of Sullivan creek leading to surface water contamination /decline in	Major	Rare	**Medium**	Overtopping of the TSFs leading to release of tailings to land has the potential to have high-level onsite impacts (soil and vegetation impacts) and mid level off site impacts due to the proximity of surface water tributaries leading to Sullivan Creek. It is rare (only occur under exceptional circumstances) for these impacts to occur due to the Applicant's proposed controls. These controls are listed below:	Condition 4, Table 3 TSF construction Condition 20, Table 8 freeboard requirements time limited operations Condition 21 inspections The general provisions of the EP Act apply The *Environmental Protection*

				health of riparian vegetation and fauna				• Sufficient freeboard will be maintained in TSF's to allow capture of rainfall from a 1% AEP 72 hour event. • including daily inspections of the operational TSFs. Existing TSF manual will be updated to include TSF5 and update the parameters of TSF 4. • The TSFs will undergo annual audits by a suitably qualified geotechnical engineer. Therefore, the risk rating for this risk event is Medium. The Applicant's controls are sufficient to manage this emission and they will be conditioned within the works approval.	*(Unauthorised Discharges) Regulations 2004* will apply in respect to potential direct discharges of unauthorised materials
	Seepage from base of TSFs into groundwater	Localised groundwater Nearby minor water course (Sullivan creek ~ 2,500m west of TSF5) Native vegetation adjacent to the TSFs	Indirect discharge through soil	Potentially impacting vegetation due to groundwater mounding and lowering groundwater quality for stock/human use. Potentially contaminating localised surface water systems	Moderate	Possible	**Medium**	See Section 7.5 for detailed assessment.	Condition 1, Table 1 TSF construction Condition 2 – investigation into paleochannel beneath TSF5 Conditions 5, 6 and 7 - Groundwater monitoring well construction and baseline groundwater monitoring Condition 22 and 23 – tailings

				through rising groundwater.					characterisation to be undertaken to verify the composition of the tailings against those assessed against this application Condition 24 and 25groundwater monitoring required during time limited operations. A limit of 4mbgl has been imposed due to the shallow groundwater and risk of groundwater mounding especially near TSF4 cell B. Condition 26 – water balance condition to help monitor seepage losses.

7.2 Consequence and likelihood of risk events

A risk rating will be determined for risk events in accordance with the risk rating matrix set out in Table 9 below.

Table 9: Risk rating matrix

Likelihood	Consequence				
	Slight	Minor	Moderate	Major	Severe
Almost certain	Medium	High	High	Extreme	Extreme
Likely	Medium	Medium	High	High	Extreme
Possible	Low	Medium	Medium	High	Extreme
Unlikely	Low	Medium	Medium	Medium	High
Rare	Low	Low	Medium	Medium	High

DWER will undertake an assessment of the consequence and likelihood of the Risk Event in accordance with Table 10 below.

Table 10: Risk criteria table

Likelihood		Consequence		
The following criteria has been used to determine the likelihood of the Risk Event occurring.		The following criteria has been used to determine the consequences of a Risk Event occurring:		
			Environment	Public health* and amenity (such as air and water quality, noise, and odour)
Almost Certain	The risk event is expected to occur in most circumstances	Severe	• **onsite impacts**: catastrophic • **offsite impacts local scale**: high level or above • **offsite impacts wider scale:** mid-level or above • Mid to long-term or permanent impact to an area of high conservation value or special significance^ • Specific Consequence Criteria (for environment) are significantly exceeded	• Loss of life • **Adverse health effects:** high level or ongoing medical treatment • Specific Consequence Criteria (for public health) are significantly exceeded • **Local scale impacts:** permanent loss of amenity
Likely	The risk event will probably occur in most circumstances	Major	• **onsite impacts**: high level • **offsite impacts local scale**: mid-level • **offsite impacts wider scale**: low level • Short-term impact to an area of high conservation value or special significance^ • Specific Consequence Criteria (for environment) are exceeded	• **Adverse health effects:** mid-level or frequent medical treatment • Specific Consequence Criteria (for public health) are exceeded • **Local scale impacts**: high level impact to amenity
Possible	The risk event could occur at some time	Moderate	• **onsite impacts**: mid-level • **offsite impacts local scale**: low level • **offsite impacts wider scale**: minimal • Specific Consequence Criteria (for environment) are at risk of not being met	• **Adverse health effects:** low level or occasional medical treatment • Specific Consequence Criteria (for public health) are at risk of not being met • **Local scale impacts:** mid-level impact to amenity
Unlikely	The risk event will probably not occur in most circumstances	Minor	• **onsite impacts**: low level • **offsite impacts local scale**: minimal • **offsite impacts wider scale**: not detectable • Specific Consequence Criteria (for environment) likely to be met	• Specific Consequence Criteria (for public health) are likely to be met • **Local scale impacts:** low level impact to amenity
Rare	The risk event may only occur in exceptional circumstances	Slight	• **onsite impact**: minimal • Specific Consequence Criteria (for environment) met	• **Local scale**: minimal to amenity • Specific Consequence Criteria (for public health) met

^ Determination of areas of high conservation value or special significance should be informed by the *Guidance Statement: Environmental Siting.*

* In applying public health criteria, DWER may have regard to the Department of Health's *Health Risk Assessment (Scoping) Guidelines.*

"onsite**"** means within the Prescribed Premises boundary.

7.3 Acceptability and treatment of Risk Event

DWER will determine the acceptability and treatment of Risk Events in accordance with the Risk treatment Table 11 below:

Table 11: Risk treatment table

Rating of Risk Event	Acceptability	Treatment
Extreme	Unacceptable.	Risk Event will not be tolerated. DWER may refuse application.
High	May be acceptable. Subject to multiple regulatory controls.	Risk Event may be tolerated and may be subject to multiple regulatory controls. This may include both outcome-based and management conditions.
Medium	Acceptable, generally subject to regulatory controls.	Risk Event is tolerable and is likely to be subject to some regulatory controls. A preference for outcome-based conditions where practical and appropriate will be applied.
Low	Acceptable, generally not controlled.	Risk Event is acceptable and will generally not be subject to regulatory controls.

7.4 Risk Assessment – Direct discharges to land

Emissions to land from release of contaminated stormwater from the processing plant area (due to hydrocarbon spills and sediment runoff from stockpiles) has the potential to adversely affect the nearby Sullivan Creek and its tributaries and contaminate local soils leading to vegetation death.

7.4.1 Description of risk event

Unintended spillages or leakage of hydrocarbons, chemicals, process reagents have the potential to enter localised drainage lines and contaminate the nearby Sullivan Creek, a watercourse located 800 metres west of the proposed process plant.

Sullivan Creek, which flows for approximately 30 km, discharges into Lake Raeside approximately 15 km south east of the premises. Sullivan Creek has formed an alluvial plain ranging from 2 to 3 km in width and broadening downstream and flows infrequently after periods of heavy rainfall.

An ephemeral tributary is located approximately 300 m to the south of the proposed TSFs and processing plant which, in high rainfall events, drains in a westerly direction towards Sullivan Creek. All creeks are ephemeral and flow intermittently (Figure 6).

Modelling undertaken by the Applicant shows the operational area of the premises has been developed to divert flows of floodwaters around the site. Modelling indicates that flood waters would pond to the south and east of TSF4 and TSF5.

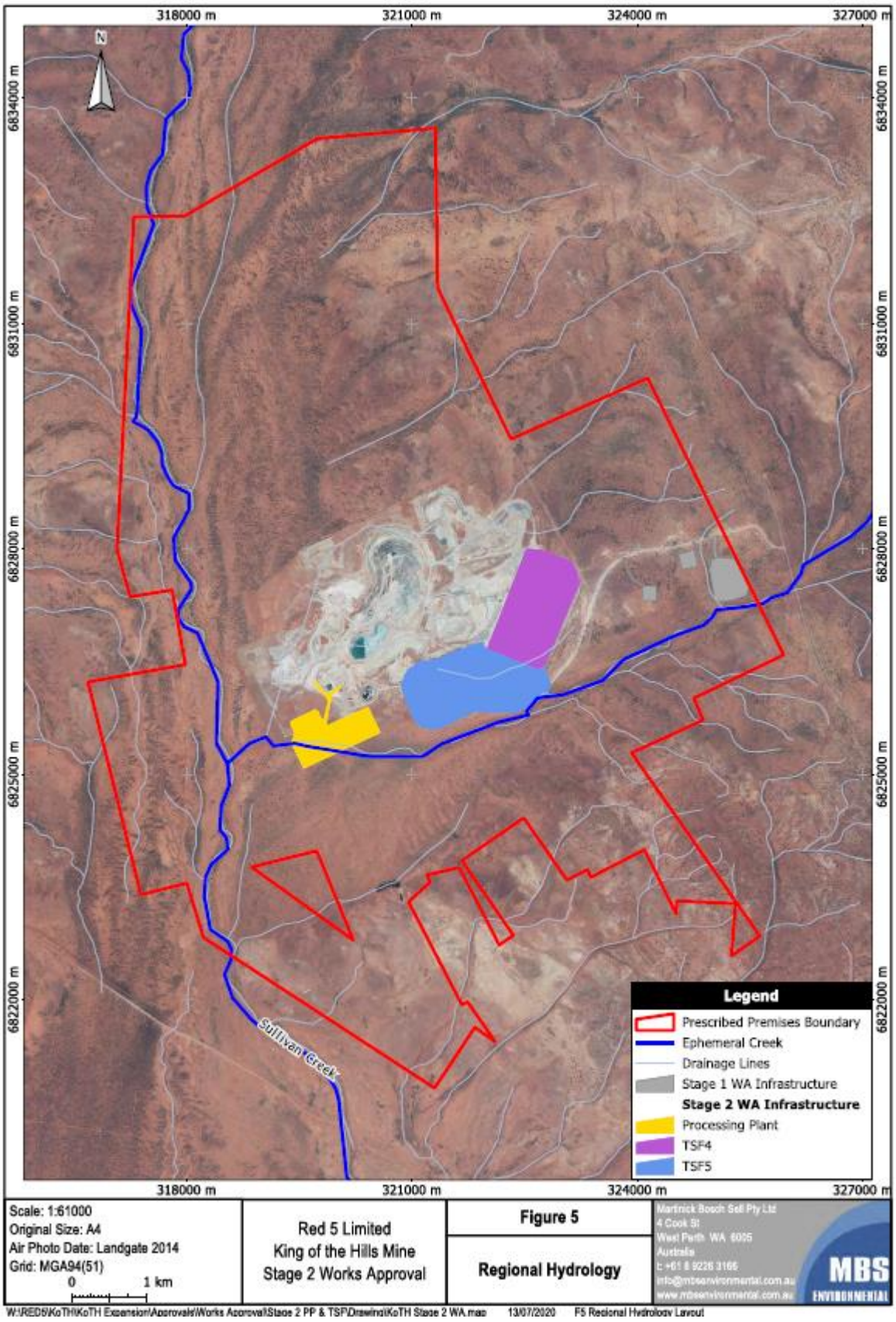

Figure 6: Location of ephemeral tributary (drainage line) and Sullivan Creek in relation to processing plant and TSFs (Source: MBS Environmental, 2020).

7.4.2 Description of potential adverse impact from the emission

Any contaminated water leaving the site during a rain event has the potential to enter the catchment of the nearby Sullivan Creek, ultimately entering Lake Raeside. Any contamination entering the creek system during a rain event has the potential to become highly mobile, potentially affecting downstream remanent vegetation and any possible downstream users such as localised bores and livestock watering.

7.4.3 Applicant Holder controls

This assessment has reviewed the controls set out in Table 12 below.

Table 12: Applicant's proposed controls for Surface Water / soil Contamination

Emission	Control
Contaminated stormwater release from processing plant area / Stockpile area / TSF surrounding area.	Applicant's proposed controls to manage this potential risk are; • Diversion bunds to be constructed to separate clean water from potentially contaminated stormwater. The Process Plant will have an earthen bund constructed along the eastern edge and southern edge of the processing plant to divert flow of surface water away from the Process Plant area; • Stormwater from operational areas (processing plant area) will be collected and captured within the site drainage pond. Water within this pond will be left to evaporate or if needed pumped to processing circuit; • Water quality and level monitoring will be conducted for all constructed water storages and collection ponds; • All process water storage Fponds will be lined, and freeboard markers installed; • Heavy and light vehicle maintenance will be undertaken in designated workshop areas located on concrete pads constructed so that they drain to an oil water separator system. The oily water treatment system will treat water to a total recoverable hydrocarbon (TRH) level of less than 5mg/L. It is not expected that this water will be used for dust suppression; • Minor spillage occurring as a result of accidents or breakdowns will be cleaned up immediately; • Spill kits will be located at strategic locations throughout the project area and employees trained in their use; • Heavy and light vehicles will be washed down in a purpose built wash down facility. Sediment from the washdown pad will be collected in a concrete sump and washdown water treated via a process to separate solids and hydrocarbons from water. The oily water treatment system will treat water to a TRH level of less than 5mg/L. It is not expected that this water will be used for dust suppression; • Fuel bowsers and fuel delivery inlets will be located on concrete or HDPE lined pads to contain any drips and spills. The pads will drain to a sump to allow removal of collected material; • All hydrocarbon and chemical storages will be designed and constructed in accordance with Australian Standards AS1940 and AS1692;

	• Hydrocarbons including diesel fuel will be contained or stored in either an approved bunded area or in double skinned, self-bunded bulk tanks; • Hydrocarbon wastes will be segregated from other wastes and collected for offsite disposal by a licenced contractor; • All chemical reagents will be stored within tanks in appropriately bunded facilities whereby 110% of the largest vessel is contained and 25% of the total volume is contained according to Australian Standards 1940 and AS1692; • The reagent area will have a sump pump to collect spills; • Chemical spill kits will be located at strategic locations throughout the project area and employees trained in their use; and • Potential lateral seepage from TSFs embankments will be captured within toe drains into a collection sump where it will be pumped back to the supernatant pond.

7.4.4 Consequence

If surface water contamination occurs, the Delegated Officer has determined that the impact of discharges from the premises will be offsite impacts with possible adverse health effects to downstream users and the localised environment. Therefore, the Delegated Officer considers the consequence of surface water contamination to be **moderate**.

7.4.5 Likelihood of Risk Event

The Delegated Officer has determined that the likelihood of surface water contamination is unlikely based on the Applicant's proposed controls. Therefore, the Delegated Officer considers the likelihood of this risk event to be **unlikely**. The Applicant's controls will be conditioned within the works approval for time limited operations.

7.4.6 Overall rating of Surface Water Contamination

The Delegated Officer has compared the consequence and likelihood ratings described above with the risk rating matrix (Table 9) and determined that the overall rating for the risk of Surface Water Contamination is **medium**.

7.5 Risk Assessment – TSF Seepage impacting groundwater quality and mounding of groundwater table

7.5.1 Description of risk event

Tailings will be deposited into TSF4 (Cells A and B) for a period of 10 months. Tailings deposition will then switch to TSF5 and continue for a period of 4 years. TSF5 (Cells A and B) will undergo a series of 3 embankment lifts over this period. Seepage of tailings leachate into the surrounding groundwater may occur over this time with the potential to impact groundwater quality and downstream receptor Sullivan creek, which is located approximately 800m west of the TSFs.

Seepage from the TSF may also result in mounding of the groundwater table which could lead to impacts to vegetation.

7.5.2 Identification and general characterisation of emission

Tailings characterization testing, including supernatant water were carried out on a tailings sample obtained from the metallurgical test work in 2020 (Knight Piesold, 2020). The test

results are summarized below;

- The tailings sample was found to be acid consuming based on the strongly negative NAPP values and alkaline NAG pH results;
- The tailings sample had a moderate number of enrichments, with the level of enrichment ranging from slight to significant. There were no elements measured at high enrichment levels;
- The testing indicated the rate of supernatant release of the sample was quick with most of the water released within one day. The expected water release of Combined Sample would be around 39 – 57% of water in slurry, not accounting for rainfall and evaporation but considering the loss of water to re-saturate lower tailings layers; and
- The supernatant was found to be of a poor quality compared to drinking water guidelines due to elevated salinity, metalloids (Nickel, Iron, Copper, Cadmium, Antimony etc) arsenic and cyanide.

Due to only one recent sample of tailings being used to undergo tailing characterisation testing and no leachate testing being carried out a condition will be added to the works approval requiring the Applicant to undertake further tailings characterization testing to confirm the representativeness of this sample.

Seepage Assessment
Seepage modelling was carried out by Knight Piesold Consulting (2020) for TSF4 and TSF5. The modelling assessed the steady state seepage from Stage 6 (TSF4) and through Stage 1 (TSF5) to Final Stage (TSF5) to determine the worst-case long-term seepage from the facility.

The seepage assessment was using steady state flow assumptions. Due to the short operation of the facilities (TSF4 -1 year, TSF5 - 4 years) it is not expected that steady state conditions will be reached. The results are therefore considered upper-bound estimates.

<u>TSF 4 seepage assessment</u>
TSF4 existing basin consists of compacted underdrainage liner to the underdrainage extents and an underdrainage network installed around the decant tower. It is assumed that this network cannot be recommissioned. There is an existing paleochannel identified in the south western corner of TSF4 Cell A and this was included in the model. Based on available data, the underdrainage system in TSF4 Cell A failed during operation and is not repairable (Knight Piesold, 2020).

Conclusions of the assessment (Knight Piesold, 2020):

- The existing drainage system within TSF4 is not expected to be able to be recommissioned and therefore no drainage was adopted as the design case;
- Recommissioning of the basin and / or the toe drain system would reduce seepage from the facility;
- Approximately 26% of the seepage is expected to occur through the paleo channel under TSF4A but could be as low as 7% if the actual in-situ soil permeabilities are closer to the lower-bound estimates. Based on historical monitoring data seepage loss through the paleo channel can be controlled using recovery bores. During the operation of the facility, this was successfully demonstrated during continuous long term operation of TSF4. The seepage from the short-term operation proposed during recommissioning is expected to result in lower seepage (not reaching steady state flow conditions);
- The seepage loss from TSF4 Cell A and TSF4 Cell B is expected at <26 m^3/day (<270 m^3/day using upper bound estimates) and <14 m^3/day (<230 m^3/day using upper bound estimates) respectively during the final Stage for the design case

(underdrainage system not operational). Seepage will reduce if the underdrainage system, either toe drain and/or basin drains, can be recommissioned; and

- It was recommended that pump tests in the production bores within the paleochannel should be completed to confirm the bores can be recommissioned. Further these tests should be used to determine the required pump specifications. Based on previous bore testing in 2003 by others a flow rate of 100 to 200 m^3/day (~1 L/s to 2.5 L/s) was estimated as sufficient.

TSF 5 seepage assessment

A potential paleochannel has been identified (from historical geotechnical data) in the south western corner of TSF 5 Cell B and was included in the model. It is noted that at this stage the existence of a paleo channel under TSF5 has not been confirmed. This was included in the modelling to generate conservative results based on the available geo-physical survey information available. The site investigation completed in 2019 did not provide conclusive evidence of a paleo channel.

Conclusions of the seepage assessment (Knight Piesold, 2020):

- It is noted that the seepage assessment is based on an upper-bound scenario assuming a paleochannel under TSF5 Cell B, indicated in the available geophysical survey;
- The seepage loss from the TSF5 Cell B is expected to decrease from approximately 60 m^3/day (<360m^3/day using upper bound estimates) during stage 1 to <5 m^3/day (<47m^3/day using upper bound estimates) during the final Stage for the design case (partial HDPE basin liner, full soil liner, underdrainage and toe drain operational); and
- TSF5 Cell A is expected to have a considerably better seepage performance under the design conditions with seepage reducing from <21 m^3/day (<220 m^3/day using upper bound estimates) during stage 1 to <3 m^3/day (<30 m^3/day using upper bound estimates) in the final stage. Only minor increases are expected if the underdrainage system fails as long as the supernatant pond is maintained at the minimum size and above the HDPE liner.

Water balance

Water Balance modelling for the project was carried out by Knight Piesold Consulting (2020). The water balance for the project indicates all proposed TSFs will operate water negative for the whole life of the project. Modelling indicates that the supernatant pond will stay at the minimum operating size or very close to the minimum size at all times during average or dryer than average rainfall conditions.

7.5.3 Description of potential adverse impact from the emission

Groundwater is fresh to brackish and of reasonable quality. The predominant land uses in the area is mining and pastoralism with local groundwater used as mine water supply and drinking water for cattle.

Seepage from the TSFs could impact groundwater quality and therefore the health of the nearby Sullivan Creek which is downstream of the TSFs. Sullivan Creek, which flows for approximately 30 km, discharges into Lake Raeside approximately 15 km south east of the premises. Sullivan Creek has formed an alluvial plain ranging from 2 to 3 km in width and broadening downstream and flows infrequently after periods of heavy rainfall.

An ephemeral tributary is located approximately 300 m to the south of the proposed TSFs and processing plant which, in high rainfall events, drains in a westerly direction towards Sullivan Creek. All creeks are ephemeral and flow intermittently.

Groundwater levels are approximately 4-12 m below the ground surface in close proximity to TSF4 and the proposed TSF5. Dewater is currently being discharged within TSF4 Cell B (as approved by the Existing licence) which has resulted in groundwater to mound in the eastern corner of Cell B.

The most recent groundwater monitoring data from the 2020 (January – July 2020) annual environmental report for licence L8345/2009/2 indicates that there is some groundwater mounding near the eastern corner of TSF4 Cell B. Groundwater levels were measured at 4 mbgl within monitoring bore MBH2D and 4.74mbgl at monitoring bore MBH1S in January 2020. Recovery bores exist around TSF4 but are currently not in use. Raising of TSF 4 embankments has the potential to increase mounding of the groundwater table near TSF4 to levels that could impact native vegetation at the surface. The TSFs are within an active mine site and vegetation is in a degraded condition close to the TSFs.

A condition will be added to the works approval time limited operations for a standing water level limit of 4mbgl to prevent impacts to native vegetation.

No impact to the Laverton Water Reserve is expected which is approximately 7 km to the south of the premise's boundary.

7.5.4 Applicant Holder controls

The Applicant has stated in the application that during underground mining operations the dewatering activities are predicted to form a drawdown extending beneath the TSFs and Processing Plant such that any potential seepage from the TSFs are not anticipated to impact the tributary located approximately 300m south of the processing plant. No evidence has been provided to support this statement.

The Applicant will implement management measures during construction and operation of the TSFs to limit seepage emissions. This assessment has reviewed the controls set out in Table 13 below.

Table 13: Applicant's proposed controls to minimise impacts from TSF seepage.

Emission	Control
Seepage from TSF4 and TSF5	Applicant's proposed controls to manage this potential risk are; • Existing monitoring bores used for monitoring around TSF4, will be inspected and recommissioned where possible. Alternatively, replacement bores will be installed; • Groundwater recovery bores will also be inspected and recommissioned where possible or replaced as required. • New monitoring bores will be installed around TSF5, with bores located between the TSF and Sullivan creek; • Monitoring bore MB20-3 will be located within the paleochannel beneath TSF5 (if paleochannel is found to be present) • The TSF5 basin soil when scarified and recompacted, is expected to achieve an average vertical permeability of approximately 5 x 10^{-8} m/s, with the majority of material possessing a value of less than 1 x 10^{-7} m/s; • A partial HDPE liner will be installed on the basin of TSF5 located beneath the typical supernatant pond area. An underdrainage system will be installed to reduce seepage losses; • Vibrating Wire Piezometers, and Standpipe Piezometers will be installed in the walls of TSF4 and 5;

	• Existing seepage control systems for TSF4 (underdrainage system and toe drain systems) will be re-commissioned where possible; • The historic central decant rock fill in TSF4A will be covered using low permeable fill material to limit the seepage flow towards the TSF basin; • Exploration drill holes within the TSF5 footprint will be fully grouted prior to or during construction; • During operation groundwater monitoring for quality and standing Water levels (SWL) will be undertaken on a quarterly basis; and • During operation, the supernatant pond will be managed to reduce size as much as possible. Decant return water will supply approximately 50 to 65% of the process water required.

7.5.5 Consequence

If groundwater contamination or mounding occurs, the Delegated Officer has determined that the impact will have mid-level on-site impacts (groundwater contamination within immediate area of TSFs and possible mounding) and low level off-site impacts (due to distance to surface water feature and depth to groundwater (4-12m)). Therefore, the Delegated Officer considers the consequence of this risk event to be **moderate**.

7.5.6 Likelihood of Risk Event

The Delegated Officer has determined that the likelihood of groundwater contamination / mounding is possible based on the seepage assessment provided by the applicant and the uncertainty of TSF basin and tailings permeability. Therefore, the Delegated Officer considers the likelihood of this risk event to be **possible**.

7.5.7 Overall risk rating

The Delegated Officer has compared the consequence and likelihood ratings described above with the risk rating matrix (Table 9) and determined that the overall rating for this risk event to be **medium**. The Applicant's controls will be conditioned within the works approval. Additional regulatory controls such as a SWL limit of 4mbgl in monitoring bores surrounding the TSFs, water balance requirement and further tailings characterisation testing will be added to the works approval.

8. Consultation

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

Table 14: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website on 24/8/2020	None received.	N/A.
Department of Mines, Industry Regulation and Safety (DMIRS) advised of proposal 20/08/2020.	DMIRS replied on 5/10/2020 advising that a mining proposal had been received for the project on the 1st October 2020. It is currently undergoing assessment.	Noted.

Applicant was provided with draft documents on 15/10/2020	Outstanding information was provided in answer to questions within draft application. Request to waive comment period if information provided was satisfactory.	DWER added condition 2 in response to additional information provided. Applicant provided draft again on 20/10/2020 for final comment on new condition. No further comments received.

9. Conclusion

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

Carmen Standring

Digitally signed by Carmen Standring
Date: 2020.10.23 07:40:37 +08'00'

Carmen Standring
A/MANAGER, RESOURCE INDUSTRIES
Delegated Officer
under section 20 of the *Environmental Protection Act 1986*

References

1. Department of Environment Regulation (DER) 2016, *Guidance Statement: Environmental Siting*, Perth, Western Australia.
2. DER 2017, *Guidance Statement: Risk Assessments*, Perth, Western Australia.
3. DER 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
4. Knight Piesold Pty Limited, July 2020, Tailings Management Final Feasibility Study Report, prepared for Red 5 Ltd, PE801-00015/20, Rev 0.
5. MBS Environmental (Martinick Bosch Sell Pty Ltd), July 2020, King Of the Hills (KOTH) Gold Project, KOTH Works Approval Application Stage 2 – Attachment 3B Project Activities.

Attachment 1: Issued Works Approval W6426/2020/1