

DECEMBER 2022

LEEUDOORN TAILINGS
 STORAGE FACILITY (TSF)
 UPPER & LOWER

DETAILS OF TAILINGS STORAGE FACILITY

Tailings Storage Facility (TSF) Name	Leeudoorn TSF (upper and lower)
Operation	Leeudoorn
Operational Status	Active
Operating Segment	RSA - Gold
Location	7 km north-east of Fochville in West Rand - please refer to Figure 1
Latitude, Longitude (decimals)	-26.4601028, 27.5680028
Ore Source	Underground
Type of Storage Facility	Impoundment (upstream development)
Deposition Methodology	Day-Wall Paddock
Year of Commissioning	Upper: 1991 Lower: 1990
Consequence Classification (GISTM, 2020)	Extreme
Operating Contractor	Stefanutti Stocks Inland (SSI)
Engineer of Record (EoR)	Knight Piesold (Pty) Ltd
Current Maximum Height (m)	Upper: 32.5 Lower: 38
Final Maximum Height (m)	Upper: 45.4 Lower: 44.4
Maximum Storage Capacity (tons/month)	Upper: 64 000 Lower: 96 000
Life of TSF (year)	Upper: 2046 @1,5/year Lower: 2060 @1,5m/year



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TECHNICAL ASPECTS:

Adopted Factor of Safety	Australian National Committee on Large Dams (ANCOLD) (July 2019)
Stability Assessment and Mitigation Measures (if applicable)	A detailed stability assessment based on piezocone probing and laboratory test work was conducted in 2022. All the FoS are above the required limits (KP Reference: RI301-00840/06 Rev A, 2 June 2022)
Dam Breach Assessment	Assessment completed in 2022 (KP Reference: RI301-00840/06 Rev A, 2 June 2022)
Area of Inundation	Has been identified by EoRs – please refer to Figure 2
Summary of Human Exposure	Consequence classification has been based on Population at Risk (PAR). Communities have been identified and are being engaged through various means including Community Engagement Forums (CEF)

DOCUMENTATION:

Site Specific OMS Manual	Version 2022 available
Dam Safety Review (DSR)	Carried out by an independent third party in 2019/2020 with no material findings (KP Reference: 301-00840/02-003 Rev 1, February 2020)
Design Basis Report (DBR)	Version 2022 available (KP Reference: RI301-00726/27 Rev A, 24 June 2022)
Environmental Management Programme (EMPr)	In place
<u>Surveillance:</u> Surveillance Frequency	Daily by the Operator and monthly reports of critical controls submitted to and reviewed by the EoR
Surveillance Technology/System	K2Fly Decipher
Deformation Monitoring	Interferometric Synthetic Aperture Radar (InSAR)
Phreatic Surface Levels & Pore Pressure Measurements	Standpipe piezometers AquaSense Retrofit piezometers (IoT device)

RISK MANAGEMENT / EMERGENCY PREPAREDNESS:

Risk Assessment

Annual Risk Assessment (Failure Mode Effect Analysis and Bowtie) completed with no untoward risk identified

Risk Management

Site specific OMS Manual in place
 Site specific Trigger Action Response Plans (TARPs) in place
 Critical controls established and implemented

Site Specific Emergency Preparedness & Response Plans (EPRP)

Version 2022 available

Annual emergency mock drill for a catastrophic TSF failure – undertaken on 1 December 2022 with SSW employees and contractors.

CLOSURE & POST CLOSURE

Closure Planning

In place - report prepared by Golder Associates (Golder Reference: 20360027-341339-2, April 2021)

Closure Costing

Adequate financial capacity in place
 Financials prepared by Golder Associates (Golder Reference: 20447293-349381-4, December 2021)

Asset Insurance Cover

In place – July 2022 to June 2023

Independent Reviews:

Independent Tailings Review Board (ITRB)

18 July 2022 with no material concerns identified

Future ITRB Review

2025

Performance Reviews

Annual and quarterly reports with inspections completed by EoR (KP Reference: RI301-00726/07 Rev 0, 30 March 2022)



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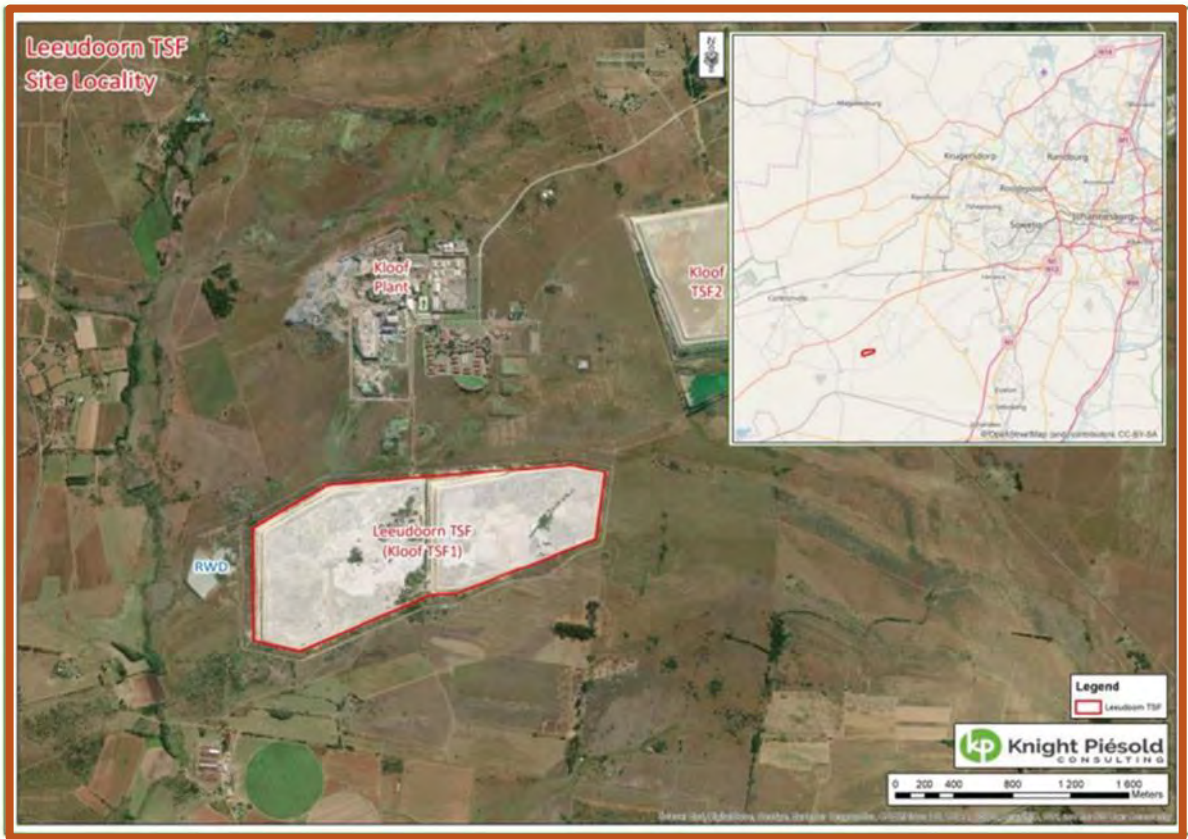


Figure 1: Layout of Leeudoorn TSF

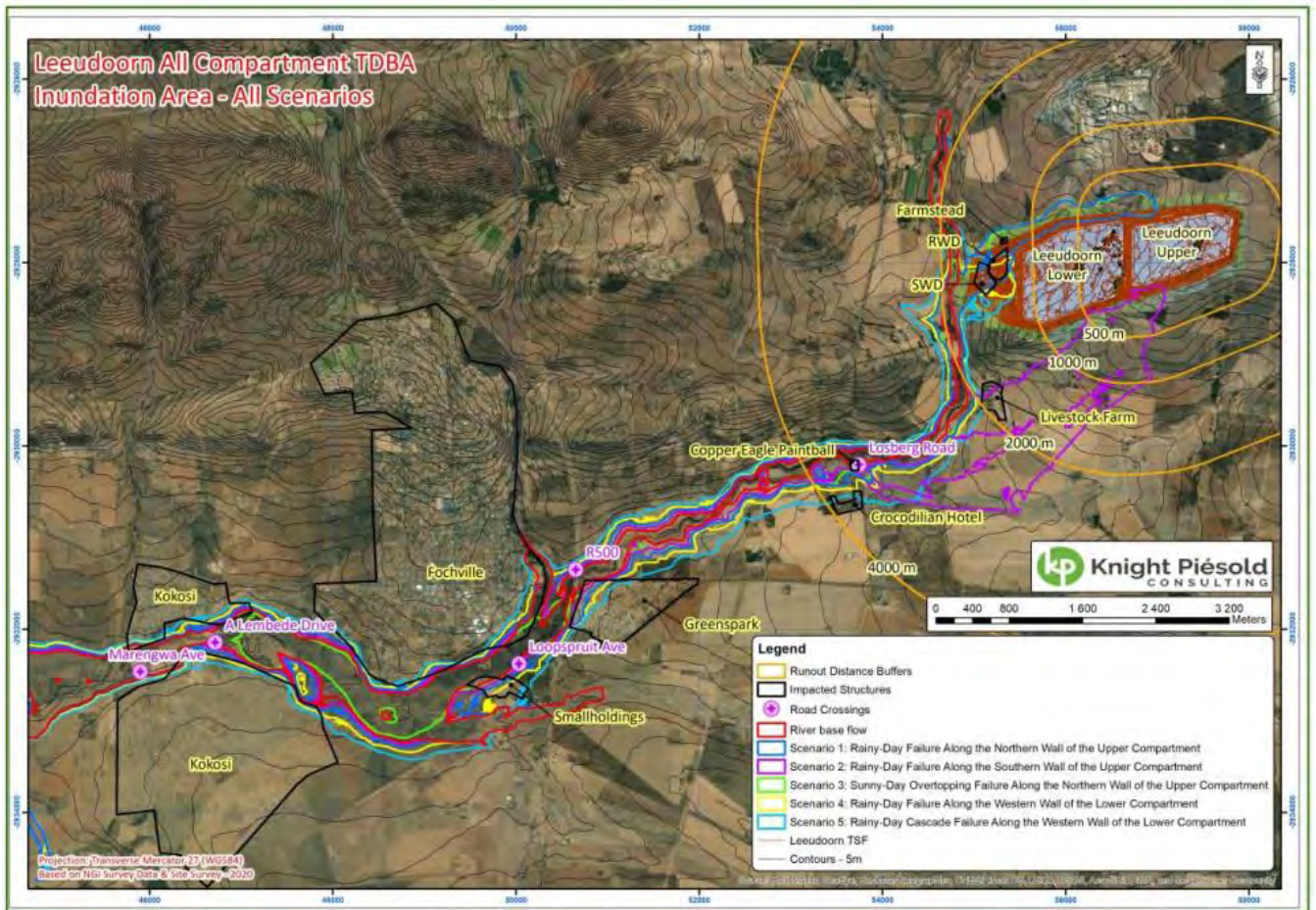


Figure 2: Consolidated view of all scenarios inundations boundaries



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