

DECEMBER 2023

HOEDSPRUIT TAILINGS STORAGE FACILITY (TSF)

DETAILS OF TAILINGS STORAGE FACILITY

Tailings Storage Facility (TSF) Name	Hoedspruit TSF
Operation	Rustenburg - Western Limb Tailings Retreatment Plant (WLTRP)
Operational Status	Active
Operating Segment	RSA - PGM
Location	Approximately 15 km east of the town of Rustenburg in the North-West Province - please refer to Figure 1
Latitude, Longitude (decimals)	-25.6727, 27.4097
Ore Source	Underground
Type of Storage Facility	Impoundment (upstream development)
Deposition Methodology	Hybrid paddock system
Year of Commissioning	2004
Consequence Classification (GISTM, 2020)	Very High
Operating Contractor	Fraser Alexander (Pty) Ltd (FAT)
Engineer of Record (EoR)	Knight Piesold (Pty) Ltd (KP)
Current Maximum Height (m)	40
Final Maximum Height (m)	81
Maximum Storage Capacity (tons/month)	480 000
Total Volume Already Deposited (Mm³)	76.8
Life of TSF (year)	2044 @2.5m/yr



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TECHNICAL ASPECTS:

Design Criteria

GISTM and best practice guidelines including Australian National Committee on Large Dams (ANCOLD) (Guidelines on Tailings Dams, July 2019). Site specific design criteria were specified by the EoR. Details are included in the Design Basis Report (DBR).

Stability Assessment and Mitigation Measures

A detailed stability assessment based on piezocone probing and limited laboratory results was conducted in 2023.
(KP reference.: RI301-00869/03 Rev 0, July 2023).

All the FoS are above the recommended limits and thus no mitigation measures were required. This assessment will be refined based on laboratory testing results once they become available in Q1 2024

Dam Breach Assessment

Assessment completed in 2022
(KP Reference: PR301-00869//07 Rev 0, 20 October 2022)

Area of Inundation

Has been identified by EoRs – please refer to Figures 2 and 3

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
Mandatory Code of Practice (MCOP) Reference No: SS-ZA-PGM's-MCOP-CON-TLS-0101 is in place (dated June 2019)

Design Basis Report (DBR)

Version 2022 available
(KP Reference: RI301-00869/06 Rev 0, 23 February 2023)

Environmental Management System

The Environmental Management System is ISO accredited (ISO 14001:2015)

The initial Environmental Management Programme (EMPr) is dated 2016.



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Surveillance:

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 (Bowtie and Fault Event Tree) 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
Operating contractor Technical and Operational Risk Assessment System (TORAS)

Site Specific Emergency Preparedness & Response Plans (EPRP)

Version 2023 available

Annual emergency mock drill for a catastrophic TSF failure – undertaken on 14 June 2023 with SSW employees and contractors.

Environmental emergency preparedness is managed on site according to ISO14001: 2015.

CLOSURE & POST CLOSURE

Closure Planning

In place - report prepared by Golder Associates (Golder Reference: 20138269-341343-2, April 2021)

Closure Costing

Adequate financial capacity in place
Financials prepared by Golder Associates (Golder Reference: 20138269_SS_RPM_CC_FINAL_incl. ARP_20210804)

Asset Insurance Cover

In place – July 2023 to June 2024



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Independent Reviews:

Independent Tailings Review Board (ITRB)

13 July 2022 with no material concerns identified

Future ITRB Review

2025

Performance Reviews

Annual and quarterly reports and inspections completed by EoR
(KP Reference: RI301-00869/06 Rev 0, 14 April 2023)

Dam Safety Review (DSR)

Carried out by an independent third party in 2020. All recommendations at the time have been addressed in the last 2 years.
(KP Reference: RI301-00869/01 Rev B, May 2020)

Next review scheduled for 2025



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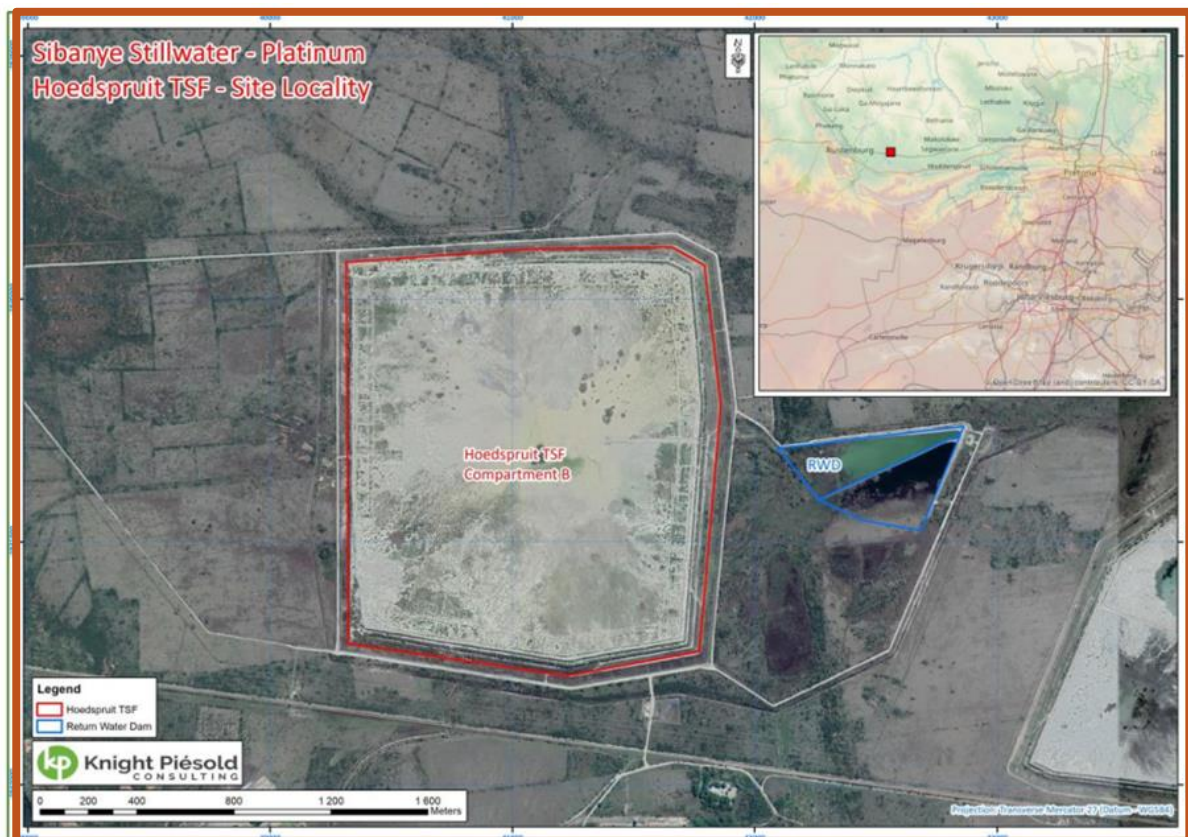


Figure 1: Layout of Hoedspruit Tailings Dam



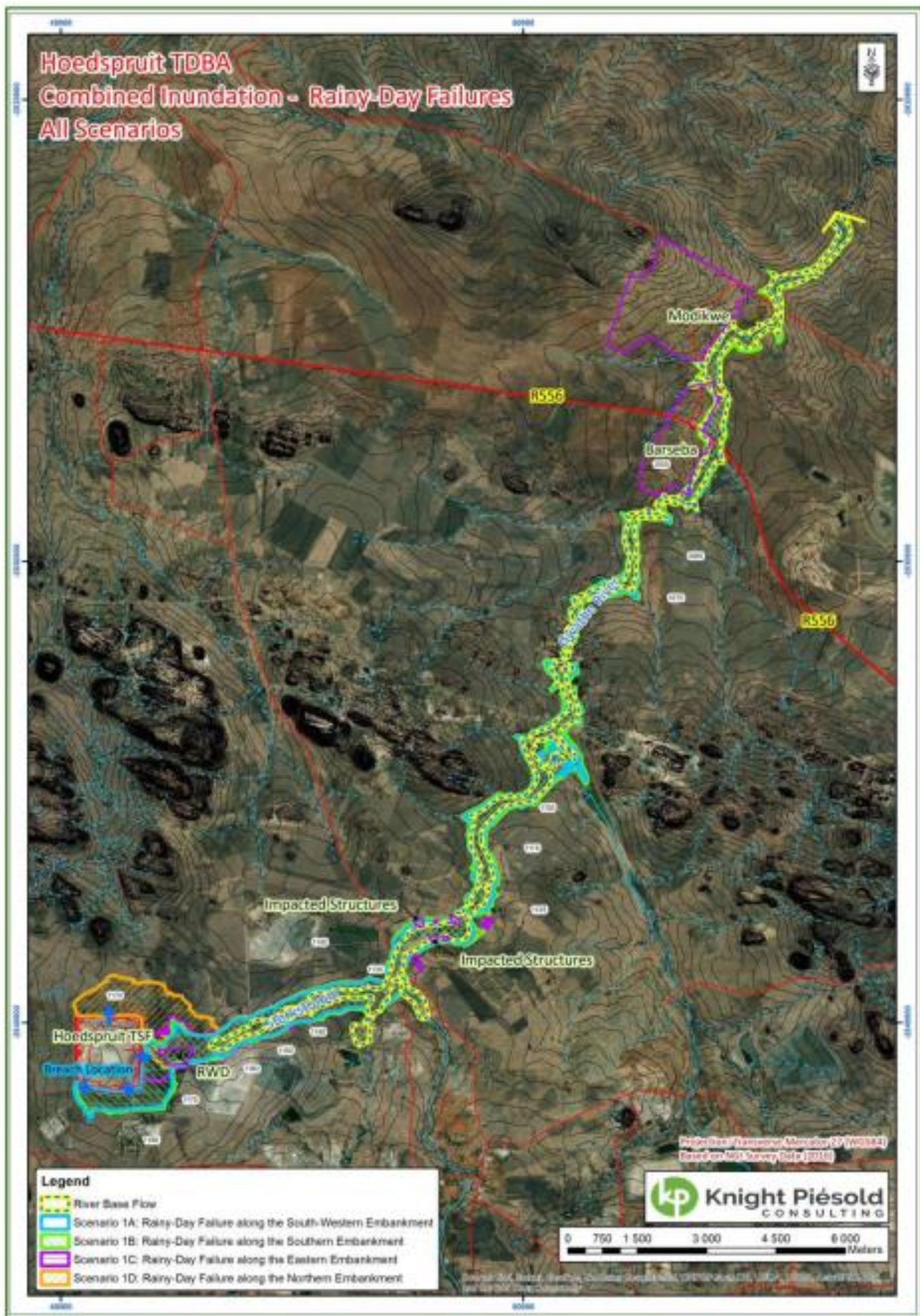


Figure 2: Consolidated view of the rainy-day failure scenario inundation boundaries



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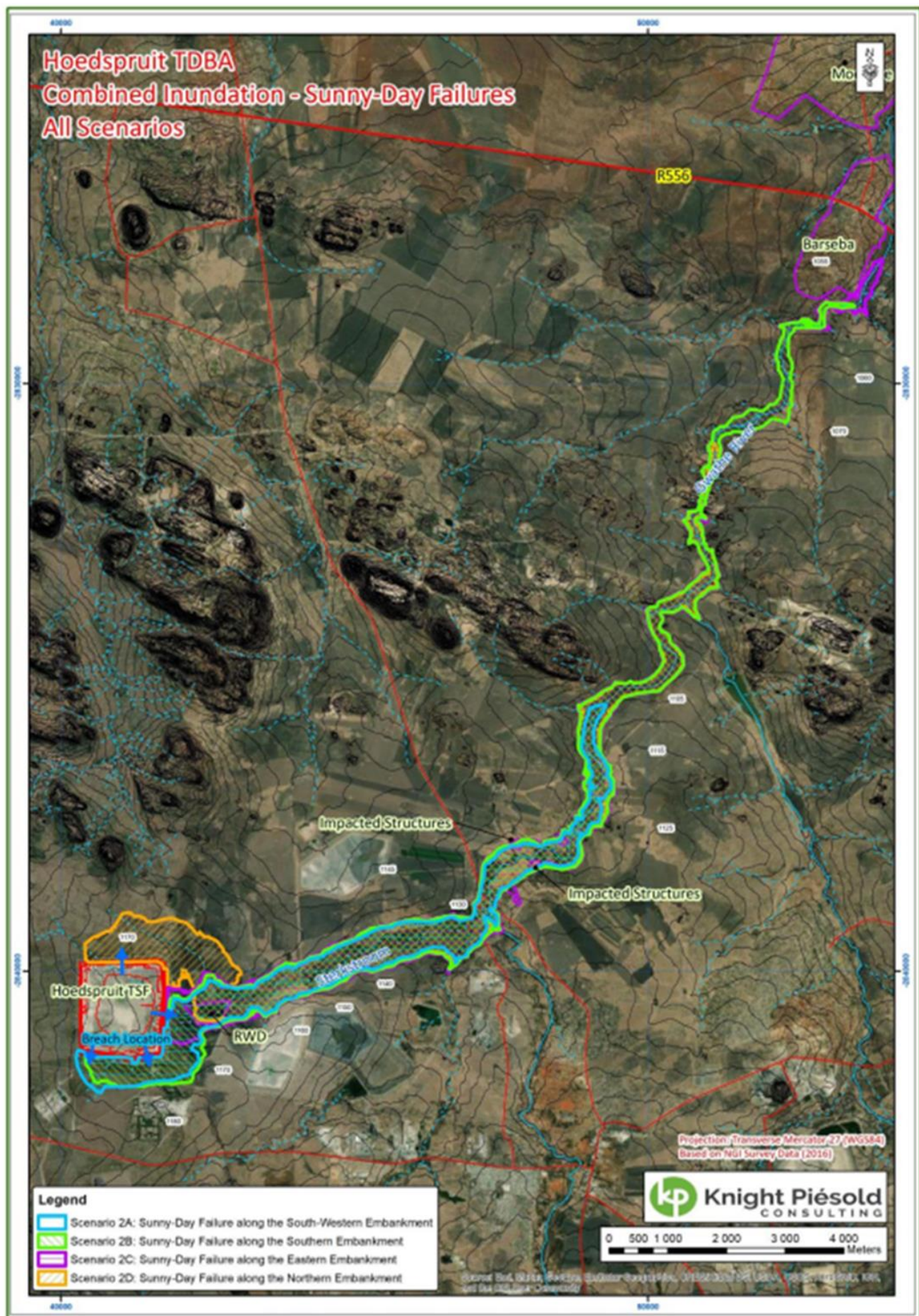


Figure 3: Consolidated view of the sunny-day failure scenario inundation boundaries



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