



DECEMBER 2023

WESTERN PLATINUM MINE  
TAILINGS STORAGE  
FACILITY (TSF) 1

## DETAILS OF TAILINGS STORAGE FACILITY

<b>Tailings Storage Facility (TSF) Name</b>	Western Platinum Tailings Dam Complex - Tailings Dam 1 (WPL TD1)
<b>Operation</b>	Marikana
<b>Operational Status</b>	Dormant since 1992
<b>Operating Segment</b>	RSA - PGM
<b>Location</b>	5 km east of the town of Marikana in the North-West province – please refer to Figure 1
<b>Latitude, Longitude (decimals)</b>	-25.7085, 27.5093
<b>Ore Source</b>	Underground
<b>Type of Storage Facility</b>	Impoundment (upstream development)
<b>Deposition Methodology</b>	Spigot
<b>Year of Commissioning</b>	Pre 1980
<b>Consequence Classification (GISTM, 2020)</b>	High
<b>Operating Contractor</b>	Fraser Alexander (Pty) Ltd (FAT)
<b>Engineer of Record (EoR)</b>	SLR Consulting (Pty) Ltd
<b>Current Maximum Height (m)</b>	23
<b>Final Maximum Height (m)</b>	23
<b>Total Volume Already Deposited (Mm<sup>3</sup>)</b>	3.8
<b>Life of TSF (year)</b>	N/A



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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 laboratory test work was conducted in 2023. (SLR Project No: SLR Project No.: 720.19129.00035 Rev 0, July 2023)

All the FoS are above the recommended limits and thus no remedial measures were required.

Piezocone probing to be undertaken in H2 2023 to confirm phreatic surface and foundation material

### Dam Breach Assessment

Assessment completed in 2023  
(SLR Ref No: 723.000006.00001Rev 1, July 2023)

### 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 2023 available

Mandatory Code of Practice (MCOP) Document No: SS-ZA-PGM's-MCOP-CON-TLS-0101 is in place (dated September 2022)

### Design Basis Report (DBR)

Version 2023 available  
(SLR Project No: 720.19129.00035 Rev 1, July 2023)

### Environmental Management System

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

The initial Environmental Management Programme (EMPr) is dated 2004. Numerous addendums have been submitted with the latest being in 2013.



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## **Surveillance:**

### **Surveillance Frequency**

Daily by the Operator and quarterly 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

## **RISK MANAGEMENT / EMERGENCY PREPAREDNESS:**

### **Risk Assessment**

Annual Risk Assessment (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  
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 9 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: 20141966-340280-9, June 2021)

### **Closure Costing**

Adequate financial capacity in place  
Financials prepared by Golder Associates (Golder Reference: 21467970-349390-1, December 2021)

### **Asset Insurance Cover**

In place – July 2023 to June 2024



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## Independent Reviews:

<b>Independent Tailings Review Board (ITRB)</b>	27 June 2023 with no material concerns identified
<b>Future ITRB Review</b>	2026
<b>Performance Reviews</b>	Annual and quarterly reports with inspections completed by EoR (SLR Project No: 720.19129.00035 Rev 0, July 2023)
<b>Dam Safety Review (DSR)</b>	Carried out by an independent third party in 2020. All recommendations at the time have been addressed in the last 2 years. (KP Reference: RI301-00877/02 Rev B, 26 August 2020)  Next review scheduled for 2026



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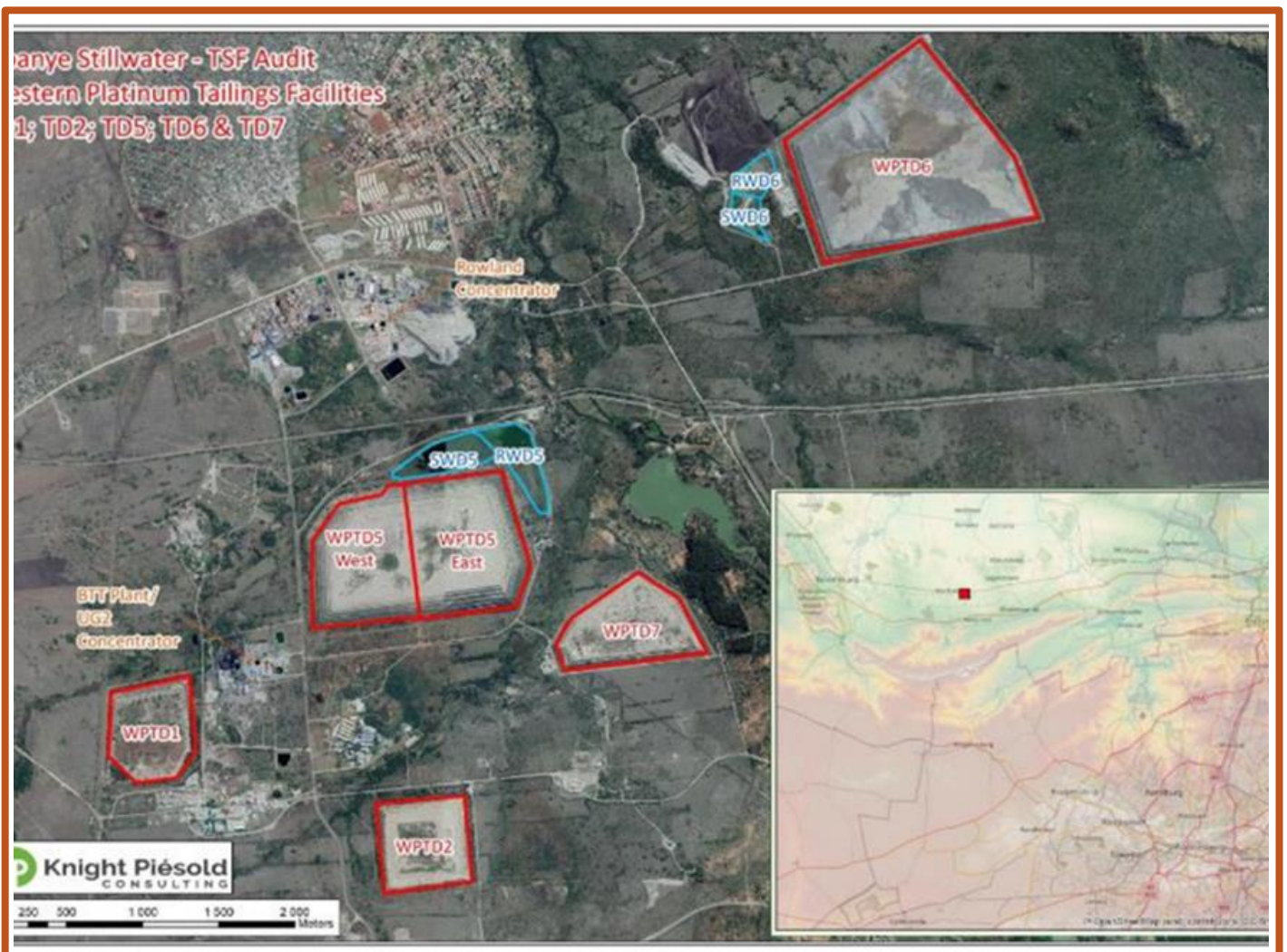


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**Figure 1:** Layout of Western Platinum (WPL) Tailings Dam Complex



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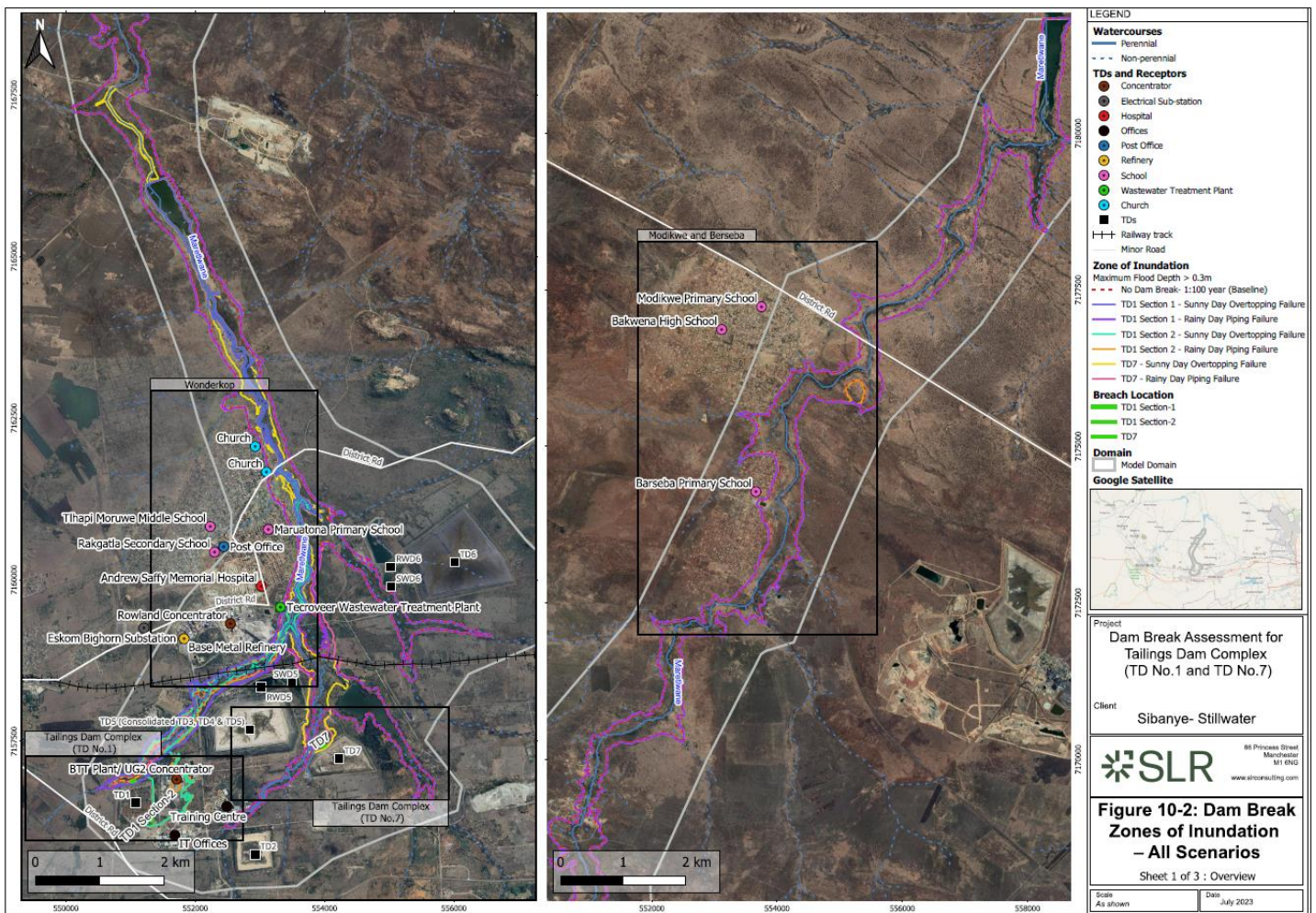


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**Figure 2: Area of Inundation (All Scenarios)**



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