Tailings Recovery Assessment — Mpofini, Tshokotshe Milling Area

Location

Approximately 9km from the proposed processing site

Project Overview

Laboratory analysis was conducted on historical vat leached tailings obtained from the Mpofini, Tshokotshe milling area to assess the remaining gold recovery potential within previously processed dump material. The tailings had already undergone conventional cyanide vat leaching methods commonly used by artisanal and small-scale milling operations within the region.

The objective of the assessment was to evaluate the suitability of the material for additional recovery through advanced processing systems, including Ball Mill and Carbon-in-Pulp (CIP) recovery technology.

Laboratory Test Results

Test Method	Gold Grade
Bottle Roll Test	0.09 g/t Au
Fire Assay	1.18 g/t Au

Technical Interpretation

The bottle roll result of **0.09 g/t Au** represents the estimated cyanide-soluble and potentially recoverable gold under standard leaching conditions, while the fire assay result of **1.18 g/t Au** represents the total gold content remaining within the tailings material.

The significant difference between the bottle roll and fire assay results suggests that a considerable portion of the gold may remain locked within the material and not fully recoverable through conventional cyanide leaching alone. This is a common characteristic of historical artisanal mining tailings and may indicate the presence of:

- Coarse gravity gold
- Quartz-associated gold
- Sulphide-hosted gold
- Gold encapsulated within oxidized or refractory material

These characteristics may provide additional recovery opportunities through advanced processing and regrinding technologies.

Estimated Tailings Resource

Estimated Dump Size

Approximately 5,000 Tons

Estimated Total Gold Content

Using the fire assay result:

1.18 g/t × 5,000 tons

= **5,900 grams of gold**
= **Approximately 5.9 kilograms of contained gold**

Preliminary Revenue Estimate

Estimated Gold Price

Approximately USD $155 per gram
(Subject to market fluctuations)

Estimated Gross Gold Value

5,900g × $155

= **Estimated gross value of approximately USD $914,500**

Preliminary Processing Cost Estimate

Operating Cost Category	Estimated Cost
Labor	$3,000
Diesel / Power	$3,750
Cyanide & Chemicals	$1,667
Transport & Logistics	$4,540
Activated Carbon	$833
Maintenance	$600
Security	$400
Consumables	$700

Estimated Total Processing Cost

Approximately USD $15,490

Preliminary Recovery & Economic Assessment

Based on preliminary laboratory analysis and internal recovery evaluations, the dump material demonstrates potential economic viability for further processing through advanced recovery systems.

The identified residual gold values, combined with the scale of the dump resource and moderate estimated operating costs, indicate potential value recovery opportunities associated with historical tailings reprocessing.

Actual recovery performance, operational economics, and profitability will ultimately depend on:

- Metallurgical recovery efficiency
- Plant configuration
- Throughput capacity
- Material characteristics
- Operational conditions
- Gold market pricing

Advanced Recovery Potential

The relationship between the fire assay and bottle roll results suggests that a portion of the gold may remain unrecovered through conventional cyanide leaching methods. In certain operations, additional recovery from historical tailings may be enhanced through:

- Ultra-fine grinding
- Flotation and leaching systems
- Gravity concentration methods
- Concentrate smelting techniques

The project continues to evaluate suitable technologies to optimize recovery efficiency from historical dump material.

Strategic Importance

This dump assessment forms part of the broader regional tailings recovery strategy supporting the proposed centralized 200TPD Gold Recovery Processing Plant. Ongoing sampling, laboratory testing, and partnership discussions continue across multiple milling centers within the surrounding artisanal mining region to support long-term feedstock supply and future operational expansion opportunities.