

Tailings Recovery Assessment — Zuma Mine, Khoza Milling Area

Location

Approximately 22km from the proposed processing site

Project Overview

Laboratory analysis was conducted on historical vat leached tailings obtained from the Zuma Mine, Khoza 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 purpose of the assessment was to evaluate the opportunity for additional gold 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 0.31 g/t Au

Fire Assay 2.98 g/t Au

Technical Interpretation

The bottle roll result of **0.31 g/t Au** represents the estimated cyanide-soluble and potentially recoverable gold under standard leaching conditions, while the fire assay result of **2.98 g/t Au** represents the total gold content remaining within the tailings material.

The significant variance between the bottle roll and fire assay results suggests that a substantial portion of the gold may remain locked within the material and not fully recoverable through conventional cyanide leaching alone. This characteristic is commonly observed in 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 create additional recovery opportunities through advanced processing, regrinding, and alternative recovery systems.

Estimated Tailings Resource

Estimated Dump Size

Approximately 900 Tons

Estimated Total Gold Content

Using the fire assay result:

2.98 g/t × 900 tons

= 2,682 grams of gold

= Approximately 2.68 kilograms of contained gold

Preliminary Revenue Estimate

Estimated Gold Price

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

Estimated Gross Gold Value

2,682g × \$155

= Estimated gross value of approximately USD \$415,710

Preliminary Processing Cost Estimate

Operating Cost Category Estimated Cost

Labor	\$3,000
Diesel / Power	\$675
Cyanide & Chemicals	\$300
Transport & Logistics	\$1,200
Activated Carbon	\$149
Maintenance	\$135
Security	\$400
Consumables	\$225

Estimated Total Processing Cost

Approximately USD \$6,084

Preliminary Recovery & Economic Assessment

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

The identified residual gold values, combined with the relatively low 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 recovery 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 planned 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 processing expansion opportunities.