# Tailings Recovery Assessment — Nsingo Mine, TM Milling Area

### Location

**Approximately 17km from the proposed processing site**

## Project Overview

Laboratory analysis was conducted on historical vat leached tailings obtained from the Nsingo Mine,TM 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 potential 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 | 0.35 g/t Au |
| Fire Assay | 0.99 g/t Au |

## Technical Interpretation

The bottle roll result of **0.35 g/t Au** represents the estimated cyanide-soluble and potentially recoverable gold under standard leaching conditions, while the fire assay result of **0.99 g/t Au** represents the total gold content remaining within the tailings material.

The difference between the two results suggests that a significant portion of the gold may remain locked within the material and not fully recoverable through conventional cyanide leaching alone. This type of recovery gap is commonly associated with 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 systems.

# Estimated Tailings Resource

## Estimated Dump Size

**Approximately 40,000 Tons**

## Estimated Total Gold Content

Using the fire assay result:

**0.99 g/t × 40,000 tons**

= **39,600 grams of gold**
= **Approximately 39.6 kilograms of contained gold**

# Preliminary Revenue Estimate

## Estimated Gold Price

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

## Estimated Gross Gold Value

**39,600g × $155**

= **Estimated gross value of approximately USD $6,138,000**

# Preliminary Processing Cost Estimate

| Operating Cost Category | Estimated Cost |
|---|---|
| Labor | $3,000 |
| Diesel / Power | $30,000 |
| Cyanide & Chemicals | $13,333 |
| Transport & Logistics | $54,540 |
| Activated Carbon | $6,667 |
| Maintenance | $2,000 |
| Security | $400 |
| Consumables | $1,000 |

## Estimated Total Processing Cost

**Approximately USD $110,940**

## 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 scale of the dump resource and relatively moderate estimated operating costs, highlight the potential opportunity associated with historical tailings reprocessing within the region.

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

- Plant configuration
- Metallurgical recovery efficiency
- Processing throughput
- Material behavior
- Operational conditions
- Gold market pricing

## Technical Recovery Potential

The relationship between the fire assay and bottle roll results indicates 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

## Strategic Significance

The Nsingo Mine dump assessment forms part of the project's broader regional tailings recovery strategy focused on securing long-term feedstock supply for the proposed centralized 200TPD Gold Recovery Processing Plant.

The dump material demonstrates characteristics that may be favorable for further recovery evaluation, particularly considering that many historical tailings recovery projects operate at grades below similar assay ranges. Additional dump sites within the surrounding artisanal mining region continue to be evaluated through ongoing sampling, laboratory testing, and partnership discussions.