Integrated Vat Leaching & Tailings Recovery Revenue Model

Leasing Revenue + Secondary Gold Recovery Opportunity

Executive Summary

The proposed Vat Leaching & Tailings Recovery Project forms part of the broader integrated gold recovery strategy designed to establish sustainable partnerships with artisanal and small-scale miners operating within the surrounding mining region in Zimbabwe.

The project combines:

- direct vat leaching tank leasing revenue,
- strategic tailings accumulation,
- and secondary gold recovery through the planned 200TPD Gravity + Ball Mill + Carbon-in-Pulp (CIP) Processing Plant.

This dual-revenue model creates:

- immediate recurring operational income,
- long-term feedstock security,
- scalable gold recovery opportunities,
- and sustainable regional mining partnerships.

1. Vat Leaching Tank Leasing Model

Proposed Infrastructure

The project proposes the construction and operation of:

12 × Vat Leaching Tanks

supported by:

- carbon houses,
- slurry transfer systems,
- piping infrastructure,
- and water circulation systems.

Weekly Tank Leasing Structure

Artisanal miners and milling operators will:

- transport processed ore or sands,
- load material into the vats,
- conduct cyanide leaching operations,
- and pay weekly leasing fees.

Proposed Leasing Fee

USD $300 Per Week Per Tank

Estimated Leasing Revenue

Item	Value
Number of Tanks	12
Weekly Revenue Per Tank	$300
Total Weekly Revenue	$3,600
Estimated Monthly Revenue	$14,400
Estimated Annual Revenue	$172,800

2. Strategic Tailings Acquisition Model

The core strategic advantage of the vat leaching system lies in the:

Accumulation of residual vat-leached sands.

Following cyanide processing, the remaining sands are generally considered waste material by artisanal miners. However, laboratory test work indicates that significant recoverable gold values may still remain within the tailings.

These sands will be:

- retained or acquired at minimal cost,
- accumulated at the centralized processing site,
- and later processed through the:

Gravity Recovery + Ball Mill + CIP Processing Plant

to recover additional gold values.

3. Tailings Recovery Test Results

Laboratory analysis conducted on regional vat-leached dump material returned the following results:

Test Type	Gold Grade
Bottle Roll Recovery	0.04 g/t Au
Fire Assay Result	0.33 g/t Au

The fire assay result confirms the presence of:

Residual gold values remaining after cyanide leaching.

4. Why Residual Gold Remains in Vat-Leached Sands

Old vat-leached sands commonly contain:

- coarse gravity gold,
- gold locked within quartz,
- sulphide-associated gold,
- and gold coated with iron oxides.

These materials are often not fully recoverable through conventional artisanal cyanide processing methods.

Advanced processing through:

- Ball Milling,
- Gravity Recovery,
- and CIP systems

may therefore recover additional gold from previously discarded tailings.

5. Example Tailings Recovery Opportunity

Example Dump Material

Item	Value
Estimated Tailings Volume	30,000 Tons
Fire Assay Grade	0.33 g/t Au
Estimated Contained Gold	9.9 kg Au

Estimated Gold Value

Using estimated gold price:

USD $155 per gram

9,900 g × USD $155

Estimated Gross Revenue Potential:

USD $1,534,500

Estimated Processing Costs

Operating Category	Estimated Cost
Labor	$3,000
Diesel / Power	$12,273
Cyanide	$15,000
Transport	$40,890
Activated Carbon	$5,000
Maintenance	$3,000
Security	$400
Consumables	$700

Total Estimated Processing Cost

USD $80,263

Estimated Recovery Margin

Item	Value
Estimated Revenue	$1,534,500
Estimated Processing Cost	$80,263

Estimated Gross Margin:

USD $1,454,237

6. Integrated Dual-Revenue Model

The project therefore benefits from:

Two simultaneous income streams.

Income Stream 1

Vat Tank Leasing Revenue

- Weekly leasing fees from artisanal miners.

Income Stream 2

Secondary Gold Recovery Revenue

- Recovery of additional gold from accumulated vat-leached sands.

7. Strategic Project Advantages

The integrated model provides:

- recurring cash flow,
- long-term tailings accumulation,
- sustainable feedstock supply,
- scalable processing opportunities,
- and strong regional miner partnerships.

The model also significantly reduces:

- ore acquisition costs,
- feedstock supply risk,
- and long-term operational dependency on primary mining activities.

8. Long-Term Growth Potential

The broader project area contains:

- numerous active artisanal mining operations,
- multiple milling centers,
- and substantial historical tailings dumps accumulated over many years.

This creates strong long-term expansion potential for:

- vat leasing operations,
- centralized tailings recovery,
- and large-scale secondary gold extraction.

Disclaimer

The technical and financial estimates contained in this document are conceptual projections prepared for investment evaluation purposes only. Actual operational performance may vary depending on:

- ore characteristics,
- metallurgical recovery efficiency,
- tailings composition,
- operational conditions,
- gold market prices,