Flow Sheet 2025
GOLD REFINERY

Flow Sheet 2025 – Integrated Gold Processing & Refinery
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Flow Sheet (Text Table – 2025 Version)

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Ore / Mining & Crushing
Extract gold ore, primary crushing
AI & ESG: AI mine design

Flow: 1 → 2

Mill / Ball Mill & Micronizing
Description: Grind ore into fine slurry
AI & ESG: AI energy optimization

Flow: 2 → 3

Slurry / Preparation
Description: Mix crushed ore into pulp
AI & ESG: Water recycling

Flow: 3 → 4

Heap / Leaching
Description: Cyanide irrigation on 7 heaps
AI & ESG: AI leach monitoring

Flow: 4 → 5

Carbon / CIP Adsorption
Description: Gold adsorbs onto activated carbon
AI & ESG: Safe carbon use

Flow: 5 → 6

Gold Room / Carbon Stripping
Description:
Separate gold from carbon (elution)
AI & ESG: Elution optimization

Flow: 6 → 7

Solution / Treatment
Description: Recycle pregnant & barren solution
AI & ESG: Effluent management

Flow: 7 → 8

Smelting / Pre-refining
Description: Initial melting & impurity removal
AI & ESG: AI QC, clean energy

Flow: 13 → 14

Storage / Gold Room
Description: Secure warehouse
AI & ESG: Safety & transparency

Flow: 12 → 13

Entry / Deposits
Melted bars, shot/granules, low-grade & concentrates
AI & ESG: Blockchain registration

Flow: 11 → 12

Crude / Dore
Description: Impure gold production

Flow: 10 → 11

Steel / Gold Recovery
Description: Gold adheres to steel wool
AI & ESG: Recycle cathodes

Flow: 9 → 10

Elution / Electrowinning
Description: Gold deposited on steel wool
AI & ESG: Purity monitoring

Flow: 8 → 9

Refinery / LBMA
Advanced refining (Electrolysis, Aqua Regia, Chlorination)
AI & ESG: AI monitoring, effluent reduction

Flow: 14 → 15

QC / Calibration
Description: Fire Assay, XRF, AI lab tests
AI & ESG: Traceability

Flow: 15 → 16

Serial / Blockchain
Description: Assign LBMA serials, record on blockchain
AI & ESG: Transparency

Flow: 16 → 17

Bars / LBMA Delivery
Description: Cast 999.9 certified bars

Flow: 17 → 18

Bank / Custody
Description: Secure storage in banks/vaults
AI & ESG: Financial transparency

Flow: 18 → 19

Export / Global