

# Asanko DFS confirms robust two-stage expansion plan

*Asanko Gold Inc, listed on the TSX and NYSE MKT, has announced the Definitive Feasibility Study (DFS) results of a staged expansion at the Asanko Gold Mine (AGM) in Ghana, which confirms that the mine is a large scale, long life quality asset with a viable and robust two-stage organic growth plan and strong cash generation capability. The Expansion DFS comprises two growth projects, Project 5 Million and Project 10 Million, which have a combined estimated capital cost of US\$350 million.*

**T**he company engaged DRA Mineral Projects to manage the Expansion Definitive Feasibility Study (DFS) of the mine. DRA were the EPCM contractors for the construction of the existing CIL processing plant and associated infrastructure, which was successfully constructed and ramped-up ahead of schedule and under budget.

Project 5 Million consists of two modules: the upgrade of the existing carbon-in-leach (CIL) processing plant from a design of 3 Mt/a to 5 Mt/a; and the development of the Esaase pit and a 27 km long overland conveyor. Project 10 Million – which maximises production over a shorter life of mine – is the construction of a second replica 5 Mt/a CIL plant to double processing capacity to a total of 10 Mt/a, with a commensurate increase in mining operations.

Under Project 5 Million, which is robust as a standalone project, production at the AGM will average 230 000 oz/a over a 20-year life of mine (LoM) at an AISC of US\$968/oz. Project 10 Million increases output to an average of 450 000 oz/a at steady state for eight years at an AISC of US\$890/oz.

For the purposes of the Expansion DFS, both Project 5 Million and Project 10 Million have been scheduled around the optimal NPV on a capital unconstrained basis for the AGM. This assumes commissioning of the Esaase pit and overland conveyor in Q1 2019 and commissioning of Project 10 Million in Q2 2020, reaching steady state operations in 2021.

The processing plant upgrade of Project 5 Million has already been approved and is currently under construction with completion expected in the fourth quarter of this year. It has a capital cost of US\$22 million. The second module – the development of the Esaase



pit and construction of the overland conveyor linking Esaase with the existing facility – has an expected capital cost of US\$120 million.

Commenting on the staged expansion, Asanko's Peter Breese, President and CEO, said: "Our growth plan has been designed to be fully flexible so that it can be advanced in modular components, according to cash flow generation, balance sheet strength, financing opportunities and market conditions.

"Our first expansion module, the plant upgrade to 5 Mt/a, is a great low cost capital efficient project which is fully funded, delivering a 40 % increase in throughput. We expect to see some volumetric increases in Q3 2017, ahead of full commissioning in Q4 2017.

"The Board is reviewing the optimal timing for the development of Esaase and the conveyor, as well as Project 10 Million, and the respective investment decisions will be dependent on the company's cash position and financing opportunities. This review will enable us to prudently bolster our liquidity position to over US\$100

**Above:** A view of the Asanko Gold Mine (AGM). The processing plant is in the process of being upgraded to a capacity of 5 Mt/a. **Right:** Layout of the Asanko Gold Mine. Operations are currently centered on the Nkran pit but Project 5 Million will see development of the Esaase deposit, 27 km to the north of Nkran.

million by Q2 2018 without over-extending the balance sheet or diluting shareholders, thereby securing our growth pipeline to ultimately deliver a production profile of over 450 000 oz a year, making the Asanko Gold Mine one of the largest mines in Africa."

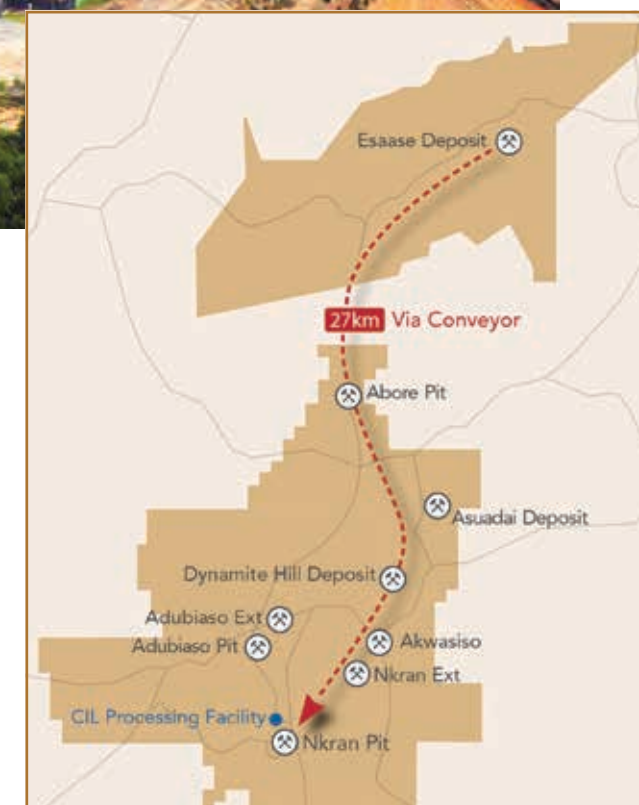
The AGM mineral resources comprise two main pits, Nkran and Esaase and nine satellite deposits, Akwasiso, Dynamite Hill, Adubiaso, Abore, Asuadai, Nkran Extension, Adubiaso Extension, Esaase B zone and Esaase D zone.

## Project 5 Million

The existing processing plant is located at the Nkran site. The Project 5 Million upgrade of the processing facility will see a number of peripheral equipment upgrades being implemented. In the milling area the cyclone cluster will be upgraded. An additional gravity screen and

Knelson concentrator together with a second Intensive Leach Reactor (ILR) will be required to maintain the gravity recovery.

An increased pipeline diameter from the cyclone overflow to the pre-leach thickener will be installed while the thickener underflow pipe to the existing CIL will be replaced to a larger diameter to accommodate the increase in volumetric flowrate. The CIL intertank pump cell screens will be increased from 13 m<sup>2</sup> to 14.5 m<sup>2</sup> and an additional tailings







Another view of the processing plant site. The current capacity of the processing facilities is 3 Mt/a.

pump train and pipeline will be installed.

The original pre-oxidation tank has been converted into a leach tank, maximising residence time in the circuit. An additional electro-winning cell and associated pipework will be installed in the gold room. An additional 5 tonne per day oxygen plant will also be included as part of the upgrade.

The development of the large Esaase deposit – which has mineral reserves of 62,6 Mt at 1,46 g/t gold for 2,94 Moz of gold contained – assumes contractor mining and it is envisaged that PW Ghana, the current mining contractor at the Nkran pit, will also mine the Esaase pit.

Discovered by Asanko in 2008, Esaase is the largest deposit within the AGM. It is a green-field deposit that has not been previously mined, even by small scale miners. Located approximately 27 km from the processing facility, Esaase extends over a 3 km strike length and consists of three pits, South, Main and North, and two satellite pits (Esaase B and D zones).

Mining operations at Esaase will initially mine oxide ore to open up the deposit and then move into more competent fresh ore. The mining schedule will allow both oxide and fresh ore to be delivered to the processing facility.

During the first year of operations, ore will

be mined primarily from the Southern Lobe of the main Esaase pit, resulting in a feed grade to the mill of 1,4 g/t gold at a throughput rate of 2 Mt/a of oxide/transitional ore feed. The balance of the ore will be provided by Nkran, Akwasiso and Dynamite Hill.

The Esaase deposit will be mined utilising a conventional truck-and-shovel surface mining method. The primary mining fleet will initially deliver the 2 Mt/a ore requirement and then step up to 5 Mt/a as ore sources from Nkran and the satellite pits are depleted. The fleet will ultimately comprise three 300-tonne class excavators and twenty-eight 90-tonne dump trucks, supported by ancillary equipment to maintain this mining rate.

Grade control drilling together with expanded laboratory facilities at the processing facility will be used to delineate the ore from the waste. Ore and waste will be drilled and blasted, then loaded and hauled to either the run-of-mine (ROM) pad or the waste dumps. ROM ore will be tipped onto the ROM pad stockpiles and then re-handled initially into a mobile crusher.

The permanent primary crusher and secondary crushing station will be added to the circuit once more competent fresh rock is being mined and processed. ROM ore will be primary crushed (-150 mm) and secondary crushed (-90 mm) at Esaase and then transferred to the expanded central processing facility on an industry standard, troughed overland conveyor.

The overland conveyor will transport ore from the Esaase pit to the central processing facility. The conveyor route has been designed around the optimum geotechnical considerations and the AGM's 11 pits. The conveyor will be constructed within a 12 m fenced servitude. An overhead power line will run along the conveyor route providing power to the conveyor and the Esaase site. There will be a number of

pedestrian and road crossings along the route.

The conveyor will have a maximum capacity of 1 200 t/h of ore from Esaase and will be controlled with a variable speed drive. Dust suppression, spillage control and vibration monitoring have also been incorporated into the design to be environmentally compliant.

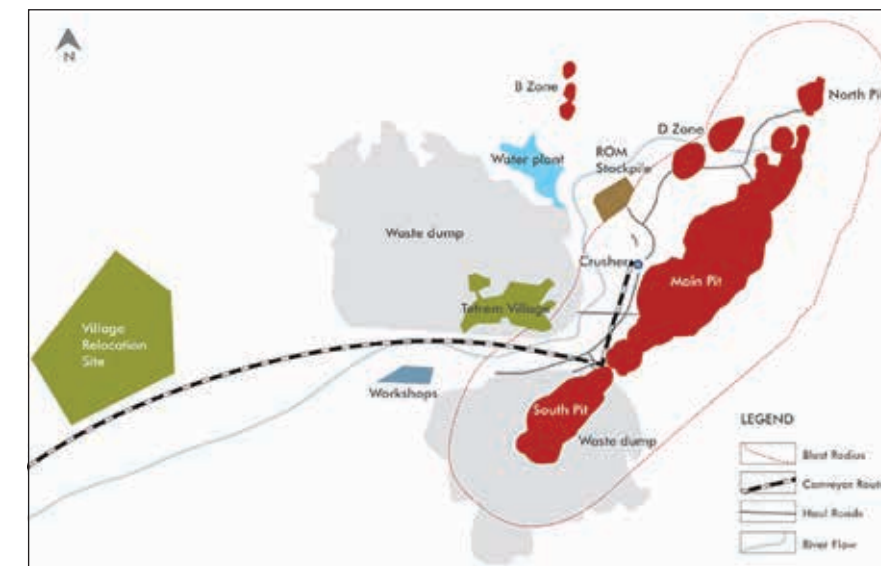
The construction of the conveyor, including commissioning, is scheduled to take 18 months. Asanko has appointed ELB South Africa as the EPCM contractor for the conveyor. ELB recently designed, installed and successfully commissioned a coal conveyor of similar length in South Africa.

### Project 10 Million

Project 10 Million consists of the construction of an additional milling, gravity, CIL circuit to treat an additional 5 Mt/a of ore from the Esaase pit, which will increase the processing facility's total capacity to 10 Mt/a. The second processing plant will be built alongside the existing plant and will leverage off the infrastructure and overheads already in place at the AGM.

The existing CIL processing facility is industry standard technology and has performed above expectations in both recovery and throughput, hence the decision to replicate this facility for Project 10 Million. This plant selection represents a very low risk option as the majority of the equipment is duplicated and the plant operators and maintenance staff are very familiar with all the equipment installed. Synergies will be realised through a common spares holding and common reagents.

The increase in ore feed to the 10 Mt/a processing facility will be sourced from the Esaase



pit, which will ramp up production to an average of 7 Mt/a (approximately 2 Mt/a oxide/transitional and 5 Mt/a fresh ore). The mining fleet will be increased to accommodate the increase in tonnage from Esaase and the conveyor has been designed to accommodate the additional tonnage. A permanent primary and secondary crusher installation will be built at the Esaase site and crush material down to -90 mm. A stockpile will be constructed at Esaase to manage a consistent feed onto the conveyor belt.

The tailings from the Nkran and Esaase pits will report to a common, expanded Tailings Storage Facility (TSF). The TSF will consist of a multi-zoned downstream perimeter embankment, comprising a total footprint area of 386 ha (basin area 279 ha) in its final state.

Photos courtesy of Asanko Gold

Layout of the Esaase site. Mining will take place in three main pits – South, Main and North – and two satellite pits.



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96 Loper Avenue, Airport, Spartan,  
Kempton Park, 1619, South Africa  
T: +27 11 201 2300  
www.takraf.com