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The Growth and Expansion of Kansanshi, an Iconic Ore Deposit in the New Copper-Belt, NW Zambia

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North-Western Province in Zambia is labelled the New Copperbelt of Zambia as it has become the leading producer of copper in Zambia. Mining is the main economic activity of Northwestern. One of the oldest mines in the province is Kansanshi Mine, located 10 km north of Solwezi town. It is a Cu-(Au) mine that exploits a structurally controlled deposit hosted by strongly deformed Neoproterozoic metasediments in the Katangan Basin in Southern Africa and has been operational since 2005.

In efforts to revive the mine, First Quantum minerals, which owns 80% of the mine, approved the S3 Expansion at Kansanshi mine and the extension of the mining pit. The S3 Expansion is meant to boost production and extend the mine life by another two decades. The S3 Expansion, when completed, will comprise of a standalone 25 million tonnes per annum ("Mtpa") processing plant with a new larger mining fleet that will increase Kansanshi's total annual throughput to 53 Mtpa.

This \$900 million project is expected to transition the current high-grade, medium-scale operation to a medium-grade, larger-scale mining operation. Upon completion, copper production from Kansanshi is expected to average approximately 250 thousand tonnes per annum for the remaining life of the mine to 2044. First production from the S3 Expansion is expected in the third quarter of 2025.

The mining pit has been extended into a new section of the orebody called the South-east dome. The open pit mine will be expanded to increase the supply of sulphide ore from the Main Pit and extend into the Southeast Dome deposit. Stripping of the South-east dome is scheduled to start this year. This should take the mine from the 135,000 tonnes of Cu produced in 2023 to 250,000 tonnes post expansion and the average ore grade will approximately be 0.58% Cu.