

# Operational Improvements at FCF Minerals Runruno Process Plant

*X. Zheng<sup>1</sup>, A. Crawford<sup>2</sup>, D. Bowden<sup>3</sup>*

<sup>1</sup> Technical Director, FCF Minerals Corporation, 22<sup>nd</sup> Floor, Salcedo Towers, 169 H. V. Dela Costa Street, Salcedo Village, Makati City 1227, Metro Manila, Philippines. Email: [xiaofeng.zheng@metalsexploration.com](mailto:xiaofeng.zheng@metalsexploration.com)

<sup>2</sup> Operations Manager, FCF Minerals Corporation, 22<sup>nd</sup> Floor, Salcedo Towers, 169 H. V. Dela Costa Street, Salcedo Village, Makati City 1227, Metro Manila, Philippines. Email: [andrew.crawford@fcfminerals.com](mailto:andrew.crawford@fcfminerals.com)

<sup>3</sup> Chief Executive Officer, Metals Exploration Plc., 200 Strand London WC2R IDJ. Email: [darren.bowden@metalsexploration.com](mailto:darren.bowden@metalsexploration.com)

## ABSTRACT

FCF Minerals' Runruno is a sulphide gold operation. Most of the gold is finely grained and disseminated in pyrite hence refractory to direct cyanidation. The Runruno process plant uses single stage SAG milling, gravity separation followed by intensive cyanide leaching of the gravity concentrate, and flotation followed by bio-oxidation of the concentrate and cyanide leaching to extract the gold.

Since the beginning of 2019, the mill throughput has gradually increased and reached 26% above the design capacity. Meanwhile, the overall plant gold recovery has also improved significantly, i.e., from 61% in January to 85% in September, by optimising the flotation operating conditions and eliminating the frothing issue in the BiOX circuit.

Further optimisation and improvement projects are currently being developed, including retreatment of the ILR solid residue, installation of a variable speed drive for the SAG mill, additional flash flotation and gravity separation inside the grinding circuit, regrinding of the flotation concentrate prior to bio-oxidation, and additional aeration capacity for the bio-reactors. The aim is to increase Runruno gold production from 48.5koz in 2018 and estimated 67.5koz in 2019 to 85koz in 2020 and beyond.

**Key words:** gold, flotation, bio-oxidation, throughput, recovery