MINING



Fortune Minerals announces positive updated feasibility study

by Ellsworth Dickson

Fortune Minerals Ltd. [FT-TSX; FTMDF-OTCQX] recently released a positive, updated feasibility study prepared by independent consultant Micon International for the 100%-owned NICO gold-cobalt-bismuth-copper project 160 km northeast of Yellowknife, Northwest Territories. In addition to the proposed mine and mill, the company plans to build a refinery 26 km northwest of Saskatoon, Saskatchewan.

The study comes at a good time as Fortune's cobalt chemicals will be used to make batteries for electric cars as well as electronic devices. **Tesla Motors Inc.** [TSLA-NASDAQ] recently announced that it will seek out North American suppliers of cobalt to manufacture rechargeable lithium-ion batteries that use cobalt at its planned \$5 billion plant in the southwest United States. Currently, 60% of world cobalt production is sourced from the Democratic Republic of Congo.

The updated feasibility study includes improvements made to the NICO Project over the past year and provides a comprehensive document to support project financing efforts with potential strategic partners and their banks. Fortune is working with Deloitte Corporate Finance Canada to complete project financing. Fortune announced an investment by Procon Resources in 2013 to provide interim financing to advance work at NICO.

Information in the feasibility study utilized updated capital and operating costs and site designs by Procon Mining & Tunnelling Inc. and Hatch Engineering, additional underground reserves and mining designs by Procon and a financial model, execution plan and marketing plan by Fortune.

The NICO Mine will be a combination of open pit and underground operations. Combined proven and probable reserves are 33,077,000 tonnes grading 1.03 g/t gold (1.1 million oz), 0.11% cobalt (82.3 million lbs), 0.14% bismuth (102.1 million lbs) and 0.04% copper (27.2 million lbs). Bismuth is used as a non-toxic, environmentally safe replacement for lead in a number of products such as coatings and paints as well as pharmaceuticals (Pepto-Bismol). NICO contains 12% of global bismuth reserves and is positioned to become a reliable North American source in a market where China is the dominant producer supplying 80% of bismuth production.

The open pit operation will be by conventional truck and shovel in four phases at an average waste-to-ore strip ratio of 3.0:1. The underground part will be mined by retreat blasthole open stoping using a contractor and is designed to provide early access to gold-rich, higher grade ores to optimize cash flow scheduling. Most of the underground pre-production development has already been constructed from the test mining programs in 2006 and 2007 costing approximately C\$20 million.

Highlights of the Micon study include a levered base case pre-tax Internal Rate of Return of 15.6% (after-tax 15.1%) and a levered base case pre-tax 7% discounted Net Present value of C \$254 million (C \$224 million after-tax).

Pre-production capital costs total C \$589 million, including indirect costs and engineering, procurement and construction costs. Initial capital expenditures will be financed 30% by equity and 70% by debt. The average cash cost of total ore mined and processed is forecast to be C \$57.83/tonne.

Cash operating costs (C1) are estimated to be: US \$673.54/equivalent gold ounce; US \$9.50/equivalent cobalt lb; US \$(702.12)/oz of gold net of by-product credits; US \$(5.19)/lb of cobalt net of byproduct credits; US \$(10.18)/lb of bismuth net of by-product credits over a 20-year life of mine metal production.

NICO operations will be on grid power, not diesel. At the NICO site, 4,650 dry



A three dimensional rendering of the Fortune Minerals proposed Saskatchewan Metals Processing Plant near Saskatoon. Image courtesy Fortune Minerals Ltd.

tonnes/day (average) of ore will be processed in a crushing, grinding and flotation concentrator to produce approximately 180 tonnes of wet bulk concentrate/day.

NICO bulk concentrate will be bagged and transported by truck on an access road to be constructed (to Hay River, NT) and then transferred to rail for delivery to the company's proposed Saskatchewan Metals Processing Plant (SMPP) on the CN railway line near Saskatoon. At the SMPP, the bulk concentrate will undergo additional grinding and flotation to produce separate gold-bearing cobalt and bismuth concentrates. Gold will be recovered from the combined leach residue using cyanide and precipitated by the Merrill Crowe process followed by melting to pour gold doré bars.

Fortune Minerals decided to locate the downstream processing of metals to Saskatchewan due to lower cost power plus support from the provincial government, which has attractive tax legislation to encourage processing raw materials sourced outside of the province. The site has access to railways, highways, natural gas, lime and other reagents, and skilled labour.

Fortune Minerals (80%) is also developing the Arctos anthracite coal project in collaboration with POSCO (20%). Arctos, 150 km northeast of Stewart, northwest British Columbia, is in the environmental assessment process.