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THE SOUTH AFRICAN MINERAL CODES

Electra Mining

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SAMCODE – Pre-feasibility Study

A comprehensive study of a range of options for the viability of a mineral project that has advanced to a stage where the preferred mining method, in the case of underground or the pit configuration in the case of an open pit has been established and where an effective method of mineral processing has been determined. It includes a financial analysis based on realistically assumed assumptions of technical, engineering, operating, economic factors and the evaluation of the other relevant factors which are sufficient for a Competent Person, acting reasonably, to determine if all or part of the Mineral Resource may be classified as a Mineral Reserve.

The overall confidence of the study should be stated. A Pre-feasibility Study is at a lower confidence level than a Feasibility Study



Pre-feasibility

- identical in SAMREC and CIM
- SAMREC – Competent Person
- CIM – Qualified Person
- CIM – Preliminary Feasibility Study
= Pre-feasibility Study
- *JORC remains silent*



SAMCODE – Feasibility Study

A comprehensive design and costing study of the selected option for the development of a mineral project in which appropriate assessments have been made **of realistically assumed geological, mining, metallurgical, economic, marketing, legal, environmental, social, governmental, engineering, operational and all the other modifying factors,** which are considered in sufficient detail to demonstrate at the time of reporting that extraction is **reasonably** justified (economically mineable) and the factors **reasonably** serve as the basis for a final decision by a proponent or financial institution to proceed with, or finance, the development of the project.

The overall confidence of the study should be stated.



- *Commodity price volatility*
- *Fluctuating exchange rates*
- *Rampant escalation*
- *Lack of technical capacity*
- *Cost over-runs*
- *Lack of infrastructure capacity*



What the majority of people consider to be 'reasonable' is that about which there is agreement, if not among all, at least among a substantial number of people; 'reasonable' for most people, has nothing to do with reason, but with consensus."

[Erich Fromm]



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Price volatility - gold





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Price volatility - copper

1 Year Copper Spot



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Cost overruns

"The huge Mmamabula project is in trouble," she said, referring to rising construction, equipment and project management costs.

"It was estimated originally at 6 (billion dollars) two years ago, it went up to 9 and now is at \$16 billion."

Source: mineweb.com



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Froneman stepped down as CEO at that stage, to be replaced on an interim basis by Jean Nortier, who was confirmed this week as CEO, just as Dominion's "pre-commercial" uranium oxide output projection for this year was again cut, this time to 0.32m lbs, some 89% less than Froneman's original projection of 2.8m lbs.

Source: mineweb.com



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Project over - runs

LITIGATION!

A capex blow-out, which more than doubled the estimated project cost of NovaGold Resources' Galore Creek project, is the subject of a shareholder class action lawsuit filed against the Vancouver junior gold miner. The lawsuit was filed in the U.S. District Court for the Southern District of New York on behalf of plaintiff Rudolph T. Textor and all purchasers of securities of NovaGold Resources from October 25, 2006, through November 23, 2007.

Source: mineweb.com

**Galore Creek project – initial
estimate US\$2.2bn**

**Revised estimate
US\$5bn**



- 1) Contrary to the Defendants' representations, the Company had failed to make reasonable estimates as to capital expenditures necessary to mine Galore Creek, which were underestimated by more than \$3 billion.
- (2) The development of Galore Creek was not proceeding on schedule and was a year and a half to two years behind schedule;
- (3) The results of the Hatch Feasibility Study announced on October 25, 2006 materially understated the capital costs and construction schedule required to successfully mine the Galore Creek site;
- (4) Defendants knew but failed to disclose that the Hatch Feasibility Study was not a 'Bankable Feasibility Study.'



- *Compliant terminology*
- *Ensure all modifying factors are covered*
- *Develop standards for levels of study*
- *Confidence levels?*

Above all TRANSPARENCY!!



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WEBSITE

ALL SLIDES

WWW.SAMCODE.CO.ZA