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Northcliff eyes N.B. tungsten play

BY ROB ROBERTSON

Mindful of a rising tungsten price, the Hunter Dickinson Group has picked up an option on **Geodex Minerals'** (GXM-V, G2W-F) advanced exploration-stage Sisson Brook tungsten-molybdenum project in central New Brunswick.

Northcliff Exploration, a private company controlled by Hunter Dickinson, can earn a 70% interest in the project by investing \$17 million in exploration, feasibility and project costs. In addition, as operator, Northcliff will seek to obtain project financing for mine construction and start-up. Geodex will retain the remaining interest in the project.

As part of the deal, Northcliff closed a \$1-million private placement in Geodex, at 30¢ per share, representing a 160% premium to the Aug. 30 closing price, the day the transaction was first announced. Geodex says the funds will be used for general working capital purposes.

"Sisson Brook has been an important discovery, for Geodex and for New Brunswick," stated Jack Maris, chairman of Geodex, in a press release. "The Northcliff agreement sets Sisson Brook on a clear development path towards the opening of a new Canadian mine."

"We were having a difficult time raising financing to get to the next level," Geodex's president Mark Fields further elaborated. "We had an equity offer on the table, but it would have been very dilutive for the company."

Instead, Geodex chose to dilute its interest in the project, rather than the company, by partnering with Hunter Dickinson. "The Hunter Dickinson guys have the mining expertise, we know the group very well and they move ahead very aggressively," explains Fields to *The Northern Miner*.

The Sisson Brook property, 100 km

north of Fredericton, N.B., hosts a large porphyry-type deposit that is potentially amenable to open-pit mining.

Measured and indicated resources total 177.4 million tonnes grading 0.094% tungsten oxide (WO₃) and 0.031% molybdenum, based on a 0.1% WO₃-equivalent cutoff.

Inferred resources contain an additional 69 million tonnes of 0.086% WO₃ and 0.033% moly.

Northcliff says there is potential to both expand and upgrade these resources with additional drilling.

"Sisson Brook is very attractive for both open-pit development potential and its location in a secure and mining-friendly jurisdiction," stated Robert Dickinson, chairman of Hunter Dickinson, in a press release. "It is well-suited to the mining development strengths we have developed at Hunter Dickinson over the past 25 years.

"I am pleased to return to the tungsten industry at a critical juncture in the industry's evolution as the tungsten price continues to rise and a secure supply source, such as New Brunswick, becomes increasingly vital to the global industry," said Dickinson.

The Hunter Dickinson stable of companies include **Northern Dynasty Minerals** (NDM-T, NAK-X), **Taseko Mines** (TKO-T, TGB-X), **Continental Minerals** (KMK-V, KMKCF-O), **Farallon Mining** (FAN-T), **Anooraq Resources** (ARQ-T, ANO-X) and **Amarc Resources** (AHR-V, AXREF-O).

Tungsten and molybdenum mineralization at Sisson Brook was first defined through drilling programs that ran from 1978 to 1982 by Kidd Creek Mines. This work outlined two tungsten-copper zones, known as zones I and II, and the much larger tungsten-moly de-

posit, called zone III.

Since acquiring the property in 2004, Geodex has worked primarily on better defining the resources in zone III and the new Ellipse zone. Sisson Brook straddles the contact between the Howard Peak granodiorite batholith and a deformed sequence of Ordovician-age, Teteguche Group volcanic and sedimentary rocks. Separating these two units is a gabbro body up to 200 metres wide.

The Sisson Brook deposit comprises four wide and steeply-deeping zones of porphyry-style vein and fracture-controlled tungsten, moly and copper mineralization.

The original Kidd Creek discoveries, zones I, II and III, all strike roughly north-south. The more recently discovered Ellipse zone has a northwest-southeast orientation.

Zone III is the largest and best explored part of the deposit. It is at least 1,500 metres long and up to 700 metres wide. Zone III narrows considerably at its southern end but remains open in that direction. The mineralized zone straddles a major north-south oriented shear zone at the gabbro-felsic volcanic contact.

Zone III contains an oval-shaped core measuring 600 by 300 metres that is still open to the east-northeast. One of the richest holes to date on the property is drilled in this area. Hole 07-53 intercepted 85.5 metres of 0.08% WO₃ and 0.305% moly, starting from 128 metres downhole.

The Ellipse zone is a northwest trending splay off of the southern end of zone III. It contains similar grades and mineralogy as found in zone III and is the only deposit found so far that is entirely hosted by intrusive rocks.

Zone III and Ellipse are characterized

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by sheeted quartz veins and stockworks carrying scheelite and molybdenite, whereas zones I and II, to the north of zone III, are younger vein systems carrying chalcopyrite, wolframite and increased pyrite and pyrrhotite.

The depth extent of the Sisson Brook deposit is still unknown. Most of the holes in zone III ended in mineralization. Geodex has drilled only one deep hole, 07-66, which reached a vertical depth of 525 metres below surface, compared to a maximum depth of 325 metres in most of the other holes. The last 20 metres of hole 07-66 returned 0.03% WO₃ and 0.023% moly.

The preliminary economic studies completed to date have considered only the potential mine development of zone

III and the smaller Ellipse zone off-shoot.

An updated preliminary economic assessment in 2009, suggested a 20,000-tonne-per-day operation could support a mine life of 20 years and provide a pre-tax internal rate-of-return of 23%, with a payback of less than four years. Capital costs were estimated at US\$339 million.

The base case scenario used metal prices of US\$220 per metric tonne unit (mtu) WO₃ and US\$15 per lb. molybdenum. Tungsten prices are currently hovering around US\$260 per mtu. Metal recoveries were estimated at 74% for tungsten and 70% for molybdenum.

Geodex has continued to work on improving projected costs and metal recoveries by conducting further metal-

lurgical testwork. The initial results from the current program suggest that a crushing and pre-concentrate sorting circuit could significantly boost pre-concentrate grades ahead of the more cost intensive mill processing steps, such as grinding and flotation.

"This allows for up to half the mined rock volume that is ore sorted to go directly to the mine dumps, resulting in an increase in the grade sent to the mill and a reduction in capital and operating costs," reports Geodex. Final results should be out shortly.

The junior recently closed at a 52-week high of 21¢ on the private placement news.