

## FROM THE WIRE

Regulus Resources has appointed **Adam Greening** to the position of vice-president, corporate development. Greening will be joining Regulus from Yamana Gold and is a professional geologist with over 12 years of experience in the industry.

Anaconda Mining has announced that **Kevin Bullock**, former founder of Volta Resources, which was acquired by B2Gold in 2013, has joined the company as its new CEO. He will be replacing Dustin Angelo, who will remain with the company as president.

In order to help develop its Arrow uranium deposit in northwest Saskatchewan, NexGen has recruited **Brad Wall**, former premier of Saskatchewan, to its board of directors. Wall will be replacing Craig Parry, a founding member of the NexGen board of directors.

Hudbay Minerals has received the approved Mine Plan of Operations from the U.S. Forest Service for its **Rosemont** copper project in Arizona. According to Hudbay president Alan Hair, "Rosemont is now a fully permitted, shovel-ready copper project."

A group of Guyana Goldfields "concerned shareholders" have opted to engage an independent consulting practice to review the resource model at Guyana's **Aurora** gold mine as a counter to the company's official model released in April. Guyana says its plan is "prudent and achievable," and that shareholders should ignore the commissioned review.

Kirkland Lake Gold has announced that **Eric Sprott** will be retiring as chairman and board member of the company. On his retirement Sprott said that he "fully [expects] to remain a very interested and engaged shareholder of the company." Jeff Parr will replace Sprott as interim chairman.

CanAlaska Uranium announced that it has agreed to purchase the **Manibridge** nickel mine in Manitoba from Pure Nickel. The Thompson Nickel Belt, where the mine is located, is the fifth largest and third highest grade sulphide nickel belt on Earth, according to CanAlaska.

development of mining projects," Bristow said. "We believe that despite the legacy challenges relating to the Pascua-Lama project there are exciting opportunities here, especially in the El Indio Belt, and we will be pursuing this in line with our strategy of creating value for all our stakeholders, includ-

ing the governments, and people, of our host countries."

The company also reported in the same month that it had recorded a \$429 million pre-tax impairment on the project and the downgrading of the project's reserves to measured and indicated resources. — **Matthew Parizot**

## Exploring with electromagnetism

### Beauce Gold Fields is using new surveying technology to find a historic gold deposit

By Virginia Heffernan

Montreal-based Beauce Gold Fields is using a time-domain electromagnetic (TDEM) system developed in Russia to find the hard rock source of the Beauce placer gold deposits in southern Quebec.

The company hopes that by separating out induced polarization (IP) and conductivity measurements, the high-resolution system will be able to see past the conductive black shales – commonly mistaken for sulphides – that have stymied previous geophysical attempts to detect the source of the gold in the Gilbert River Valley near St-Simones-les-Mines, about 100 km south of Quebec City.

Preliminary testing along a local road has detected conductors and areas of high induced polarization (IP) in both conductive (shales) and resistive (sandstones and volcanic rocks) zones, suggesting the presence of disseminated sulphides, said Marc Richer-Lafleche, a professor at the Institute National de la Recherche Scientifique (INRS) in Quebec City, who is leading Beauce's geophysical team.

"This demonstrates the importance of being able to separate the electrical conductivity and induced polarization components," he said. Added to that feature is a horizontal resolution of about 15 centimetres, allowing the team to detect relatively narrow sulphide mineralized bodies, such as gold veins.

Richer-Lafleche decided to give the mobile TDEM system a try after reading several articles written by Professor Georgy Trigubovich and Dr. Anton Chernyshev of Aerogeophysical Surveys, a leading airborne geophysical company in Russia. Trigubovich, the deputy director of science in geophysics at the Siberian Research Institute of Geology, Geophysics and Mineral Resources, has developed a number of innovative techniques to improve the reliability of resource predictions. His academic colleague Chernyshev specializes in using mathematical methods to solve geophysical problems.

The Beauce ground survey follows an audio magnetotelluric, gravimetric and geological survey conducted by INRS to detect discontinuities that might represent faults or shear zones that could be conduits for gold mineralization. The comprehensive survey detected a 1,500-metre-deep structure underneath the placer deposits and multiple conductors that could be either graphite or sulphide mineralization. The TDEM survey will better characterize the location and physical characteristics of these anomalies.

In 1846, the discovery of a 2.5-ounce nugget in the Gilbert River near St-Simon-Les-Mines triggered Canada's first gold rush. Beauce, formerly HPQ Silicon Resources, holds claims cover-

ing a six-kilometre-long unconsolidated sedimentary unit that hosted placer gold mines from the 1860s to the 1960s. Although the mines produced an estimated 1.5 short tons of gold, the source of the placer deposits has never been found.

More recent discoveries of gold in the saprolite — formed by deep weathering of the bedrock surface — suggest that the source lies nearby, but a one- to 25-metre thick cover of quaternary till and dense forest have made prospecting in the area a challenge.

According to Richer-Lafleche, the Russian technology has located both gold and diamondiferous kimberlites in Siberia. It has been adapted to operate on relatively narrow Canadian forest roads and can be towed behind a snowmobile on land and behind a boat on lakes and rivers.

The system uses an induction loop powered by currents of 10 to more than 50 amps and two receiving antennas positioned to allow optimal decoupling of conductivity and IP.

Depending on the power of the current, the number of turns of the induction loop and the conductivity of the ground, the system can probe depths of up to 250 metres.

“The critical point of the method is the configuration of the transmitter-receiver system and the quality of the algorithms used to separate the electrical conductivity and IP components,” said Richer-Lafleche, who is also testing the technology on Falco Resource’s Noralex project in the Rouyn-Noranda mining camp, where historical drilling returned low-grade gold values over wide intercepts.

Beauce is currently using the system on country roads and will expand the survey to agricultural fields and private forest roads at the end of the year. “Using this new state-of-the-art exploration technology will add to our understanding of the geology and help us reach our goal of finding a hard rock source of the famous Beauce placer gold deposits,” said Beauce president Patrick Levasseur. **CIM**

## Mining Association of Canada sees promise in 2019 budget

Despite having reservations about the future of Canada’s competitiveness in the mining sector, the Mining Association of Canada (MAC) announced that it viewed the Liberals’ 2019 budget proposal as a net positive for the industry.

In a March 19 press release, MAC expressed its support for the over \$700 million of investment in the country’s Arctic territories over the next ten years, which will provide the communities living there with access to more roads and expand hydroelectric plants as well as create clean energy projects in small communities.

There are currently several operating mines in the Arctic, such as Baffinland’s Mary River iron mine in Nunavut and Rio Tinto and Dominion Diamond’s Diavik diamond mine in the Northwest Territories. However, these

operations experience increased costs, mainly due to the lack of proper infrastructure.

“Mining is the largest private sector driver in Canada’s North, directly employing approximately [eight per cent] of the total territorial population. However, it is much more expensive... to build the same precious or base metal mine in the North than in a centrally located region, and 70 [per cent] of this cost differential derives from the infrastructure deficit,” MAC president and CEO Pierre Gratton said. “The future of Canada’s mining industry lies increasingly in remote and northern regions, but will remain unrealized unless we close the infrastructure gap.”

The budget also allocates resources to bring high-speed internet to rural communities across the country, including to communities in the North.

MAC further mentioned the budget’s focus on work-training initiatives, which includes the new Canada

**Michele Buchignani**, a former director with Teachers’ Private Capital, CIBC World Markets and CIBC Capital Partners, has joined Copper Mountain Mining’s board of directors. Copper Mountain’s chairman Jim O’Rourke referred to Buchignani as “an outstanding addition with an ideal skill set for our company.”

Centerra Gold and Premier Gold Mines announced that the provincial environmental assessment for its **Hardrock** project in Ontario was approved. The companies plan to continue developing and de-risking the project over the course of the year.

**Geoscience BC** will do an airborne survey on northern Vancouver Island to help identify mineral potential. The results of the research will be made public, and complement an earlier survey of the neighbouring area published in 2013.

**David Cataford** has been appointed to the position of CEO at Champion Iron, replacing Michael O’Keeffe who will remain in his current position as executive chairman. Cataford oversaw Champion’s purchase and subsequent revival of the Bloom Lake mine in Quebec.

Detour Gold announced that it has selected **Michael McMullen** to be its new CEO. McMullen has 25 years of experience in the industry, and was the former CEO of Stillwater Mining from 2013 to 2017. Bill Williams, who was acting as interim CEO since January, will remain on the board of directors.

Trevali Mining has announced the appointment of **Ricus Grimbeek** as its new president and CEO, replacing Dr. Mark Cruise. Before joining Trevali, Grimbeek was the COO of Vale Base Metals North America as well as president and COO of South32 Australia.

Mine planning software company Commit Works will be opening an office in Sudbury, Ontario, as its first expansion into North America. Commit Works has hired **Joseph Gladu** as its North American vice-president and **Derek Polano** as its adoption and results manager.

— Compiled by Matthew Parizot