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## Mining in Ontario

*with a special report on:*

## Toronto

*World's Mining Capital*

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This report was researched and prepared by Global Business Reports ([www.gbreports.com](http://www.gbreports.com)) for Engineering & Mining Journal.

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A REPORT BY GBR FOR E&MJ

PDAC EDITION

# Ontario still has much more to offer

**With the price of gold reaching exorbitant levels, the precious metal has often stolen the spotlight from other minerals currently experiencing resurgence.**

While Ontario is known for its history of gold production, the province is also blessed with a wide array of industrial minerals and base metals. Due to technological advancement and macroeconomic forces, Ontario has a unique opportunity to produce many of these minerals for the global community, and, in turn, to increase the wealth of the province.

## Graphite: Bringing Sexy Back!

Graphite is a common component in the high-tech gadgets that we use on a regular basis. Nevertheless, one rarely hears about graphite and the many benefits it provides humanity.

Much like the case of rare earths and other strategic minerals, increased demand for graphite has seen its once-abundant global supply shrink. There is only one producing graphite mine in North America, and even this is experiencing a gradual decrease in its supply of ore. An Ontario-based company,

Northern Graphite, is hoping to change this with its plans to commence production at its Bissett Creek deposit by the second quarter of 2013. In addition to Northern Graphite's endeavors to come on-stream, there will be two other companies going into production as well: a private company, Ontario Graphite, and Focus Metals, based out of Québec.

Northern Graphite's Bissett Creek property has a unique geology; it is a low-grade, high-tonnage, large-flake deposit. According to Donald Baxter, President of Northern Graphite, "Graphite is a unique mineral; it cannot be judged the same way as copper or nickel. The physical characteristics of graphite are far more important than grade."

Bissett Creek is by all measures, a low-grade deposit; however, the host rock matrix contains extremely coarse flake graphite. This will enable Northern Graphite to produce a very coarse grade, high purity flake graphite in large quantities. This stands in

stark contrast to high-grade deposits, which tend to have a higher proportion of fine-size flake, which is less suitable for production.

Admittedly, high-grade deposits may possess lower operating costs; however, graphite produced at Bissett Creek will have a higher average selling price.

"The key factor with the Bissett Creek deposit is that it is a large tonnage deposit, containing very coarse-flake graphite that can be easily crushed, ground, and liberated, yielding a very high percentage of graphite concentrate," said Baxter. Indeed, the biggest challenge facing graphite companies is one of perception. "The difficulty with graphite is that it is not perceived to be a 'sexy' commodity like gold." In the past, investors would not consider graphite projects attractive. However, this is changing and investors have begun to approach Northern Graphite. "Northern Graphite is currently in talks with several of the major battery manufacturers from Korea and Japan. Our preferred option is for interested parties to come in from a minority position, funding the build with a low-interest loan in exchange for an off-take agreement at a certain percentage of production," said Baxter.

Nevertheless, it cannot be assumed that the problem of investor perception, especially retail investment, has been fully overcome. However, after being exposed to the rare earth situation, the markets have been educated on the Chinese supply concerns. "The market is currently saturated with lithium companies and investors are beginning to wonder what is next? The answer is graphite. You cannot make batteries without graphite. Furthermore, there is 10 times more graphite in a lithium ion battery than actual lithium. The traditional uses of graphite continue to be perceived by investors as mundane, however, the expected increase in lithium ion battery production has significantly increased graphite's attractiveness. Moreover, China will no longer be supplying the world with cheap abundant minerals, graphite being one of them, as it has done in the past. With that being said, it is imperative that we continue to educate investors on graphite; it is not a traded commodity and this is very much a marketing game," said Baxter.

## The Lost Art: Iron Ore Production in Ontario

When it comes to most discussions about iron ore production in Canada, Ontario is very rarely mentioned. This was not always the case. While the vast majority of Canadian iron ore is currently produced in Labrador, up until the 1970s there were several producing iron mines in northwestern Ontario. Unfortunately, in the 1970s, cheap Brazilian iron ore flooded the world and Canadian markets. Plans for new iron mines in northwestern Ontario were put on hold or abandoned and Ontario's iron-mining industry experienced a sharp decline.

However, in the last decade, prices have risen due to increased demand for iron ore from China and resuscitating Ontario's iron ore industry appears to be a very likely possibility. As a result of increased demand and dramatically increasing prices, steel producers are looking to politically stable jurisdictions, like Ontario, to protect themselves from the huge price fluctuations that iron ore is experiencing. They are returning to the old model of trying to acquire their own iron mines or securing off-take agreements to guarantee long-term supplies. Hoping to take advantage of this opportunity, Ontario-based Rockex Mining acquired several historic iron ore deposits in the Lake St. Joseph area of northwestern Ontario in 2008. In early 2011, the company obtained a resource estimate for one of those deposits, the Eagle Island deposit, which estimated one part of the deposit to contain approximately 1 billion mt with an average iron grade of 29%.

According to Donald Sheldon, President and CEO of Rockex Mining, the company's properties are exceptional. "Location and proximity to infrastructure are key advantages of Rockex's properties. Rockex's Lake St. Joseph projects are a short distance – just 80 km - from the main Canadian national transcontinental rail line, connecting the area to the United States' industrial heartland and to shipping ports on Canada's west and east coasts, as well as the Great Lakes. Transportation often becomes a stumbling block with bulk commodities like iron ore; however, being close to the CNR line means that Rockex Mining can easily ship its iron ore to the United States or to overseas markets in Asia or Europe."

With a resource estimate already exceeding 1 billion mt, Rockex Mining will be focusing on conducting infill drilling on its Eagle Island deposit, as well as completing a feasibility study for the deposit over the coming months. "The next stage of exploration will involve infill drilling, converting our inferred resources into measured and

indicated at Eagle Island and establishing resource estimates at the other deposits. Fortunately, approximately 55% of the 1 billion mt at Eagle Island already fall within the indicated category; less than half is inferred," said Sheldon.

Completion of the feasibility study is of utmost importance to Rockex Mining. "The feasibility study will enhance our ability to raise funds in the future to finance development of the project. In addition, it will make us more attractive to strategic investors, as well as potential customers who may be interested in entering into off-take agreements with us. Furthermore, we could possibly enter into a joint venture or get acquired by another iron ore-focused company or by a steel company looking to become more vertically integrated to protect itself from further increases in the price of iron ore," said Sheldon.

Nevertheless, despite the current wind in its sails, Rockex Mining does face a number of challenges, the most significant being investors' lack of confidence in Ontario's iron ore industry. "The biggest challenge facing Rockex is attracting investment. As an exploration company, we are dependent on financial institutions and capital markets for funding. We need the investment community to recognize the potential for iron

ore production in Ontario and to recognize the proximity to infrastructure – roads, rail, electricity and natural gas – as well as access to an excellent labor force. The iron deposits speak for themselves," said Sheldon.

Fortunately, Sheldon remains hopeful that Ontario will re-emerge as a global iron ore producer. "The iron ore deposits of northwestern Ontario are of excellent quality, as well as close in proximity to exceptional infrastructure. They are large enough to create an industry in northwest Ontario that will last for many generations."

## Service Companies Make Moves in the Great White North

Everyone knows that for an exploration program to be successful it is imperative that top-quality equipment and supplies be available for a project. Due to its illustrious mining history, Canada already boasts an impressive array of mining supply and service companies, which will be further explored in the May 2012 edition of E&MJ. Canadian equipment is in high demand both domestically and around the globe. From international players Redpath to Sudbury based Mining Technologies International (MTI), the province boasts a diverse service sector that should continue to grow in the coming years. Led by their President and



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