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# Mining in Ontario

*with a special report on:*

# Toronto

*World's Mining Capital*

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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MAY 2012



# Introduction

**Ontario, a fundamental mining province, is home to the renowned Sudbury nickel belt as well as the Timmins, Kirkland Lake and Red Lake gold camps.**

Sitting second behind Québec for overall mining production, and hosting the world's leading mining financial center in the Toronto Stock Exchange, Ontario is a premier destination for mining companies. Ontario's mineral industry is currently valued at approximately C\$8 billion. Nevertheless, explorers believe there is still much more to discover in the province's sparsely populated north.

Over the decades, the mining camps that sprawled throughout Ontario have experienced their fair share of booms and busts. Currently, while the world is experiencing one of the worst economic cycles since the Great Depression, mining and exploration are revitalized.

Benefitting from global demand for precious metals, particularly gold, juniors and majors alike are reaping the benefits of this resurgence. Increase in demand for precious metals resulted in a record C\$1 billion being spent on exploration in Ontario in 2011.

In addition to precious metals, Ontario's attractive geology provides opportunities for the extraction of a wide array of base metals, as well as industrial minerals. Looking to take advantage of increased global demand, Ontarians are looking to produce everything from iron ore to graphite in their own backyard.

While Ontario's mining sector is experiencing a period of prosperity, it is also facing its fair share of challenges. Anticipated future

labor shortages and recently introduced regulations, such as the Far North Act, are seen by many in the mining business as stumbling blocks that could have negative implications for the sector. To sustain growth, it is imperative that both the private sector and government officials practice foresight, addressing these issues before their detrimental ramifications begin to have a significant impact on the industry.

With the multifaceted nature of the sector in mind, E&MJ and Global Business Reports have undertaken this report to provide an overview of Ontario's diverse mining industry. This report will provide an in-depth review of all the interesting projects in Ontario, examining the new developments taking place throughout the Abitibi greenstone belt, as well as shedding light on the new mining frontiers of the province, particularly the Ring of Fire.

Furthermore, we shall examine what is undoubtedly the backbone of Ontario's industry — its service and supply sector — and shed light on the potential opportunities and challenges facing Ontario's mining industry.

Possessing both an exceptionally skillful, experienced labor force and an abundance of under-explored, sparsely populated land, it is an industry that boasts the necessary ingredients for continued success and growth.

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- Established a Proven and Probable reserve and Eagle's Nest of over 11 M tonnes of high grade nickel sulphide mineralization;
- Established a Measured, Indicated and Inferred resource of over 15 M tonnes of high quality chromite at the Blackbird deposit;
- Discovered additional nickel sulphide targets at Eagle Two and AT-12;
- Discovered iron-titanium and vanadium mineralization at Thunderbird;
- Continues to demonstrate the world class potential of the district.

# The Golden Province

Ontario is Canada's leading gold-producing province, comprising 53% of the country's output.



Aerial view of Red Lake, Goldcorp's top-producing mine, yielding in excess of 650,000 oz/y at low-costs. (Photo courtesy of Goldcorp).

With low-grade gold deposits now feasible, many in the mining community have looked to Ontario's established mining camps as guaranteed moneymakers throughout this opportunistic period. Red Lake, Kirkland Lake, and Timmins are undergoing revitalization and, in addition, mining companies have ventured off into less traditional territory, exploring for gold and creating new mining frontiers.

## A Rich History

Ontario's modern mining industry can be traced back to the summer of 1903 in what is presently the small town of Cobalt. Ironically, the mining industry in Northern Ontario, a region known for its gold camps, was spurred on by the discovery of the precious metal's often underappreciated "little brother," silver. By most accounts, the discovery of silver at Cobalt was a fluke; a

railroad worker from the Temiskaming and Northern Ontario Railway serendipitously located a huge silver vein while expressing his annoyance with a local fox. While the authenticity of the story should certainly be questioned, the impact of this silver discovery should not. Within a few years' Cobalt would emerge as one of the largest silver-producing areas in the world. Using skills acquired from the silver (cont. on page 6)

TSX: NOT-V

### Noront's future objectives are:

- Complete the Eagle's Nest Feasibility Study;
- Evaluate opportunities to finance construction of Eagle's Nest;
- Establish an environmentally and socially sustainable mining operation at Eagle's Nest;
- Utilize cash flow from Eagle's Nest to develop a North American chromite, ferrochrome business;
- Utilize cash flow from Eagle's Nest to unlock the vast potential of the Ring of Fire
- Establish Noront as Canada's next diversified mineral producer.

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# Go North!

## Interview with Rick Bartolucci, Minister of Northern Development and Mines, Government of Ontario

### How has the government of Ontario created an environment that encourages investment in the province's mining sector?

The government of Ontario has harmonized its sales tax with that of 130 different countries. This ensures that investors around the world will feel comfortable when coming and doing business in Ontario because of their familiarity with the tax system. Secondly, we have enacted a Mineral Development Strategy that provides for sustainability and growth within the industry.

For lack of a better analogy, it is a blueprint for successful mining companies. In addition, we have modernized the Mining Act to ensure that companies operating within our province have a certainty of purpose. We are asking companies from all over the world to come to Ontario to explore, develop, and produce mineral wealth. Achieving this goal requires substantial and ongoing investments.

### What steps is the ministry taking to facilitate the economic development of Northern Ontario?

Being the Ministry of Northern Development and Mines, we are responsible for ensuring that there is economic opportunity in Northern Ontario. We established the Northern Ontario Heritage Fund Corp., a C\$100 million fund that provides economic opportunity for industry, entrepreneurs, and emerging technologies. Since 2003, the Northern Ontario Heritage Fund has created a little less than 18,000 jobs for Northern Ontarians. As pledged during the elections, our government intends to increase the fund to C\$110 million during this mandate. We have leveraged billions of dollars into Northern Ontario that have dramatically improved the sustainability and opportunity of job creation.

### How significant will the mining industry be in providing jobs for Northern Ontarians in the future?

The best predictor of future behavior is past behavior. Looking at 2011, the mining 'engine' has produced C\$7.7 billion worth of revenue within the province of Ontario, solely in the production of metals. On the



exploration side, approximately C\$1 billion were spent on exploration in Ontario in 2011. To gauge the overall benefits of the industry, one must also look at the supply and services sector of mining. There are roughly 500 supply and services companies currently operating in Ontario, creating 23,000 jobs and generating C\$5.6 billion of revenue. Given these figures, one can safely assume that the mining industry produces approximately 27,000 direct jobs and more than 50,000 indirect jobs.

### How does the Far North Act play into the ministry's overall strategy for northern development? What effects will it have on the mining?

The Far North Act will have a significantly positive effect on the mining industry. Contrary to what one often hears, the Far North Act does not deter development; in fact, it encourages it. However, it encourages development in a fashion that guarantees that First Nations help in the community development plan. This is how it should be; we want our First Nations partners to take part in the mineral extraction cycle and to reap the benefits that come from that cycle. Under the Far North Act, 50% of the land will continue to be available for exploration.

Currently, the footprint of the mining sector in Ontario is only 3%; that means that there is still a lot to be explored and discovered. Exploration and development will not be deterred by the Far North Act. I see the Far North Act as a positive measure that will help Ontario's mining industry

move forward in a very aggressive, yet cooperative, fashion. This is how we will have to conduct business in the future; ensuring that no one is left out of the incredible opportunity that we call mining in Ontario.

### The mining sector is set to face a labor shortage in the near future. What steps is the government of Ontario taking to address this problem?

Admittedly, the work force is getting older. To counteract this trend, the Government of Ontario has put established training programs for First Nations youth. We have to make sure that our fastest-growing demographic in the province, our First Nations youth, have the education necessary to be able to compete for these very attractive, stable jobs. In my view, the best natural resource we have in the province of Ontario is our very competitive and knowledgeable workforce; the best trained workforce in the world when it comes to mining.

### How important will new mining frontiers, such as the Ring of Fire, be to the economic development of Northern Ontario?

New mining frontiers, such as the Ring of Fire, will be critically important to the economic development of the north. This is why we have to ensure that the region is developed in a correct manner that takes into consideration the interests of all the parties involved. It is for this reason that community development plans, and legislation like the Far North Act and the Mining Act, are so important.

### What is your vision for the Ministry of Northern Development and Mines?

As the Minister of Northern Development and Mines, I will work diligently to develop the north. Being from Northern Ontario, I have a passion for the region. During my stay in office, I will strive to create an economic model that allows for sustainable growth, so that both my children and grandchildren can take advantage of the wonderful economic opportunities that are special to the province.





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## MINING IN ONTARIO

(cont. from page 3) mines, men would later begin prospecting and exploring farther north in their effort to discover additional mineral wealth. Exploration carried out by these men would prove instrumental in the gold discoveries at Kirkland Lake in 1906, Timmins in 1909 and Red Lake in 1926. These gold camps continue to shape the economy of Northern Ontario. Although the city of Cobalt is no longer producing silver — its mines were effectively depleted in the 1990s — it nonetheless continues to be referred to as the “cradle of Canada’s mining industry,” indicative of the special place the city holds in the country’s history.

The prolific mining camps of Kirkland Lake, Timmins and Red Lake continue to produce high-quality gold to this day. Over the decades, the camps have created an environment that is unique to Ontario. The gold rushes of the early 20th century resulted in the creation of cities alongside the mine camps. The close proximity of cities and towns to mine camps is a distinguishing feature of the industry in Ontario; allowing miners to go to site with a Tim Hortons’ coffee in-hand.

Benefiting from the high gold prices, Ontario’s gold camps have effectively entered a new era. While Ontario has historically been famous for its high-grade gold, the ever-in-

creasing price of the commodity has transformed the province’s mining landscapes. Low-grade projects, that in the past would have been unimaginable, have become attractive to investors from around the world.

### Red Lake: High-Grade Gold in a Low-Grade World

The Red Lake mining camp has always been famous for its high-grade gold. Home to Goldcorp’s Red Lake mine, the richest mine in the world, initial gold production at Red Lake began with the Howey mine in the 1930s. Since then, numerous gold discoveries have taken place, frequently revealing mines with exceptionally high grades of gold.

Goldcorp’s Red Lake yields an average of 26 grams per metric ton (g/mt) and is expected to produce 650,000 oz in 2012, which, coupled with high gold prices and operating costs below C\$300/oz, drives revenue close to the \$1 billion mark. “Red Lake is one of the best gold mines in the world for a few reasons: the amount of capital investment, the number of ounces produced annually, our operating costs and the mine life,” said Chuck Jeannes, president and CEO of Goldcorp.

Such significant numbers also mean that Goldcorp must work hard to extend the life



Chuck Jeannes, president and CEO of Goldcorp.

of the mine past the current 12-year estimate. With the Cochenour project nearing production in 2014, the company may have found the solution. Cochenour, which is similarly located in the Red Lake district, is estimated to produce around 250,000 oz/y. “Goldcorp is spending C\$400 million to develop the 5-million-oz Cochenour deposit, which is unique because we are driving a 5-km underground drift at 5,400 feet underground to access this deposit and bring the ore to the existing mill facilities already in place. This horizon of the stratigraphy has not been tested along most of the area, so we are very excited to find something over the next couple of years. Cochenour gives



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# Potential

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- Company is currently valued at \$10.00/ounce at \$0.45/share
- 1.53M Measured & Indicated and 1.57M Inferred ounces of gold resources
- Goal is to grow low cost resources that will support a 200+K ounce/year mining operation







Monument Bay gold camp in Manitoba. (Photo courtesy of Mega Precious Metals).

Goldcorp the ability to enhance our overall footprint at Red Lake and sustain our business in the region,” said Jeannes.

The Red Lake mine may be the exception to the rule due to its size and profitability, but today’s gold prices, coupled with market demand for the commodity, means that companies are now looking to develop low-grade deposits in Red Lake for the first time.

One such company is Mega Precious Metals. As of March 2012, Mega Precious Metals flagship asset, the North Madsen mine, has estimated resource of 937,000 oz of gold, with a grade of 1.24 g/mt. Although this grade is unusually low for Red Lake, James Rogers, president and CEO of Mega Precious Metals, does not believe that this low-grade deposit should deter investors from buying into his company. “A lot of investors, from their knowledge of previous explorers, believe that the Monument Bay gold camp is comprised of narrow veins in an isolated location and have not yet fully realized the potential of the entire property. The Preliminary Economic Assessment (PEA) completed in February 2009, before Mega Precious Metals acquired the project, showed potential for approximately 80,000 oz/y at an all-inclusive cost of C\$750/oz. A great start, but now it is our turn to make something much bigger out of this 100%-owned gold camp. By mining the data that previous explorers have compiled we know that there is a lot of low-grade mineralization between the veins in the known resource. We have also outlined more than 30 targets highlighted by coincident geophysical and soil geochemical anomalies across the entire Monument Bay property. Red Lake is a high-grade district and the idea of mining bulk low-grade is a new concept to the district, but as we continue to outline more ounces, people will soon catch on that Red Lake has not even started to capitalize on bulk mining opportunities. We plan to market the property as the next economic wave,” said Rogers.

Over the next six months, Mega Precious Metals will continue to drill on the North Madsen property, with a goal of achieving a new resource surpassing 1.5 million oz of gold (measured and indicated). That being said, Rogers believes companies operating in the area must work together to achieve economies of scale. Doing so will decrease operational costs and increase the attractiveness of the low-grade gold found in the area. “The next objective for the North Madsen property is to consolidate the surrounding properties into a partnership where the parties will profit from success, although no agreements have been made. The logistics around the property are favorable. Claude Resources owns a permitted mill south of the property, and Goldcorp will eventually require a bigger mill. If, as I believe, we can expand our resource on the consolidated property to 3 million to 5 million oz, the project would support economics similar to Prodigy Gold of 15,000 to 20,000 mt/day at 1.2 g/mt to 1.5 g/mt. We look not only at our ground but



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## MINING IN ONTARIO

include adjacent properties when evaluating production targets within our internal strategic business planning, where we plan different scenarios to enable us to capitalize on the opportunities if and when they arise," said Rogers.

Also making moves in Red Lake is Premier Gold. Led by their president and CEO Ewan Downie, Premier Gold entered into a joint venture with Red Lake stalwart Goldcorp. Under the current agreement, Premier Gold has 49% interest in the Rahill Bonanza project, with the remainder belonging to Goldcorp affiliate Red Lake Gold Mines.

Currently Goldcorp is constructing an underground tram to link the Red Lake gold mine complex with the Bruce Channel deposit. A portion of the tram will pass through the joint venture project, providing an excellent exploration platform for Premier Gold. "We hope that this tram will provide a platform for multiple discoveries across the camp in the near future," said Downie.

Looking to take full advantage of this opportunity, Premier Gold has significantly increased its exploration budget for its Red Lake properties in 2012. In addition to the under-construction tram system, Premier Gold has experienced a number of other benefits to working alongside Goldcorp.

"The benefit of this JV is that Goldcorp possesses the infrastructure in Red Lake. One of the big hurdles facing any mining company is going through the permitting process to build a mill. Fortunately, Goldcorp already has two mills operating in the Red Lake district. The only thing we need to do is develop the ore and transport it to the mills. This decreases capital costs for us significantly. In contrast, other companies will require between C\$300 million and C\$800 million to get started. It is a very attractive situation," said Downie.

### Timmins and Kirkland Lake: Reliving the Glory Days

The establishment of the city of Timmins by Noah Timmins in 1912 was the result of a gold discovery in the Porcupine Belt. Since then, Timmins has gone through a number of boom and bust periods, often corresponding directly to the price of gold, and has produced more than 70 million oz of gold. Fortunately, the high gold prices of our current time have breathed new life into the gold-mining city. Spurred on by suitable economic conditions, companies have once again gravitated towards the Timmins gold camp.

One company in particular that has adhered to this pattern is Lake Shore Gold,



Anthony Makuch, president and CEO, Lake Shore Gold.

which currently has five advanced-stage multi-million ounce deposits in the Timmins Area. These include the Timmins West deposit, which is in production. Hoping to increase their total resource of 6.3 million oz of gold, Lake Shore Gold plans to continue to explore aggressively throughout 2012. "Currently, we possess a combined resource of 6.3 million oz of gold. However, there is potential to expand the resource further. In 2011, Lake Shore Gold spent C\$28 million on exploration. We have a budget of C\$31 million slated for 2012," said Anthony Makuch, president and CEO of Lake Shore Gold.

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Excellon Resources produces silver and base metals at its 100%-owned Platosa property in Mexico. (Photo courtesy of Excellon Resources).

In addition to its exploration efforts, Lake Shore Gold has successfully achieved its goal of pouring more than 85,000 oz of gold from its Timmins mine. Fundamental to its growth strategy in 2012 is the company's Bell Creek deposit. The Bell Creek deposit sits near Lake Shore Gold's existing processing site, which is located 42 km away from the Timmins mine site. Commenting on the Bell Creek deposit, Makuch said, "Currently, Lake Shore Gold possesses a 1.8 million oz resource and has been carrying out an advanced underground exploration program, which includes surface drilling to advance the project. Lake Shore Gold will be undertaking the next level of revised resources at Bell Creek and adding to the resource base. Our goal is to advance Bell Creek with a scoping, pre-feasibility, and a feasibility study within the next year to enable us to come up with a capital development program."


Discussing his vision for the future, Makuch likens Lake Shore Gold to another Ontario-based success story. "Lake Shore Gold shares a similar history to that of Goldcorp; having an anchor deposit that will galvanize the company's growth. The company has a long-term vision to grow from a mid-tier producer through its projects in the Timmins area. There are many opportunities for growth, both organic and acquisitive," said Makuch.

Jeremy Wyeth, president and CEO of Excellon Resources is an ardent proponent of the mining potential in the Timmins area. In response to the company's new gold project in one of the most prolific gold camps in the world, Wyeth said, "We believe the Timmins area still has a lot of potential and we see great opportunity in acquiring a couple of good properties and building our presence there."

Excellon Resources acquired Lateegra Gold Corp. in an agreement dated May 2011, which brought six new assets into the company's portfolio including the De Santis property in Timmins that has a 30-year mining history. The acquisition has allowed Excellon to become a precious metals company rather than strictly a silver producer.

Excellon is headquartered in Toronto and recently made the move to the region to diversify its properties and business risk. When asked if Excellon is looking to acquire any additional properties outside of Canada, Wyeth said, "Our focus remains Canada and Mexico; we feel that is it not worth our while to diversify much further than this without diluting our priorities."


Excellon is currently consolidating an abundance of data that has been gathered on the De Santis property and has commenced its 2012 drill program at the Beschefer Project, in northwestern Québec in January 2012. As of February 6, 2012 Excellon completed 1,884 m of drilling at the property. Depending on results the company plans to spend projected budget of \$3.9 million on exploration activities, including approximately 12,000 m of drilling.



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## MINING IN ONTARIO

There are a number of benefits to being in an established mining camp like Timmins. Proximity to infrastructure and a well-trained, knowledgeable labor pool are two of the most obvious. However, there is a drawback to being in a traditional mining town: Usually they are already fully staked and have been explored for decades. Nevertheless, there are exceptions to these rules. At times, a company may be able to acquire relatively under-explored prospects in an established mining camp. This appears to have happened with Gowest Gold and its Frankfield East property.

"Our property is located to the north, in an area that was very difficult to prospect back in the day because it is covered in till. In early 2000, the Ontarian government released a geophysics map of the area and with this information and knowledge of the area, Gowest Gold discovered the Frankfield East deposit which is located in a relatively unexplored area of the Timmins Camp," said Greg Roman, president and CEO of Gowest Gold.

The deposit shows that there was a major geological event that took place at about the same time as the event that took place along the Porcupine Destr fault. "Potentially we are looking at a resource of a couple million ounces within the Frank-

field East deposit alone which is still open at depth below 1,000 m and has a strike length approaching 900 m," said Roman.

However, even with an exceptional property, investor recognition, particular nowadays, can be hard to come by. Fortunately, Gowest Gold has been able to address this through sound planning and setting realistic goals. "To attract investment, we developed a plan that was clear to the investors and one on which we could deliver. So far, all of our capital has been raised through private placements. We have attracted some well-known funds that believe in our plan to develop the Frankfield East deposit," said Roman.

Located close in proximity to the Timmins mining camp is the historic gold-mining district of Kirkland Lake. Second only to Timmins, Kirkland Lake has produced more than 40 million oz of gold throughout its history. Much like Timmins, Kirkland Lake has experienced a renaissance in recent history due to the increase in the commodity's price. In 1979, Charles Page purchased one mineral claim in the Kirkland Lake area from a prospector. Since then, his company, Queenston Mining, has continued to acquire and consolidate land, emerging as the second-largest landholder in the proven mining camp.



Charles Page, president and CEO, Queenston.

Benefiting from the increase in gold price, Queenston Mining has been able to raise extra capital, and, in turn, undertake additional exploration. Other benefits from the increase in the commodity's price include extensive infrastructure development in the area, resulting in significantly improved power and rail lines, as well as easy access to labor from communities and towns in the area.

"The Upper Beaver is Queenston's flagship property. We have been drilling the Upper Beaver property now for three years and have outlined a mineral resource totaling 1.5 million oz of gold (800,000 oz

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at 8.0 g/mt gold in the indicated category and 700,000 oz at 7.0 g/mt gold in the inferred category) that includes an important copper credit. Drilling continues here, as we believe the deposit has the potential to grow to 3 million oz. We have commissioned a Preliminary Economic Assessment for the project that will be completed in February 2012. This document will assist in determining the economic viability of building our first, standalone mine at the site and also lead the project towards the advanced exploration stage and the sinking of a new shaft," said Page.

With regards to Upper Beaver, Queenston's new shaft development program is expected to commence later in 2012 with a goal of completing a feasibility study by mid-2014. "In 2012, the company plans to continue the elevated level of exploration experienced in 2011 with a C\$25 million budget focused on resource expansion of the known deposits and the start of new deposit definition along the unexplored gold trends that exist on our vast land holdings. We currently have 12 drill rigs operating and plan to keep them busy with an 180,000 m program. We are targeting to grow our resource base in the camp to 8 million oz over the next three to four years."

Queenston Mining is aiming to commence commercial production from Upper Beaver at more than 100,000 oz of gold per year combined with 6 million lb of copper per year beginning in 2016 with the ability to expand production to more than 200,000 oz per year with feed from other 100% owned satellite deposits. "Our success in the camp has been through the drill bit and we plan to continue this strategy going forward. Over the past four years we have experienced a steady increase in NI 43-101 mineral resources, which has grown at a clip of 2,600% from 100,000 oz in 2007 to 3.4 million oz in 2011, at a discovery cost of approximately C\$15/oz. What contributes to the low discovery cost is the continuous nature of the gold deposits in the Kirkland Lake camp, the ease at which our geologists can follow these deposits with drilling and the amazing infrastructure in the area which keeps exploration costs some of the lowest on the planet," said Page.

Page and Queenston Mining have been at Kirkland Lake for quite some time. It is only appropriate that they begin to experience some benefits from their undying loyalty to the area and Page believes that they are beginning to see those benefits. "In this business you have got to have perseverance

because you are dealing with nature. We have a good shareholder base who believe in what we are doing and who believe in the district. We are committed to the Kirkland Lake area. Even though, in the past we diversified into other areas and other metals, we always knew we would return to Kirkland Lake at the right gold price," Page said.

Also exploring for gold near Kirkland Lake is Transition Metals. The company's flagship property, the Haultain project, is located near Gowganda, a mining camp famous for its silver production. Nevertheless, Scott McLean, the company's CEO and Director, believes that the area possesses all the necessary features for future gold production.

"The project is easily accessible, located approximately one hour southwest of Kirkland Lake, and is surrounded by a number of active gold operations and development projects, including Aurico Gold's Young Davidson operation in Matachewan located 20 km to the north. The geology of the Haultain project is similar to that observed in the Kirkland Lake camp," said McLean.

In terms of exploration, the company has been trenching to open up large areas of outcrop to reveal rock types and the mineralization. "The most interesting trench was Trench 3 where we opened an area of 100




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## Canada's Newest Gold District

# Rainy River Gold Project

NI 43-101 compliant gold resource of 0.65 Moz Measured, 3.76 Moz Indicated and 2.33 Moz Inferred. Next update: Q1/12.

Preliminary Economic Assessment envisions average annual production of 329,000 ounces of gold and 497,000 ounces of silver over a 13+ year mine-life in a combined open pit and underground setting.



Visible gold from a channel sample at the Haultain project. (Photo courtesy of Transition Metals).

m by 20 m and on average had returns of 3.5 g/mt and over 20 g/mt in grab samples. We drilled several holes to investigate this showing and intersected visible gold in drill core and got returns of 4.7 g/mt more than 3.5 m and close to 2 g/mt," said McLean.

Inspired by the positive results of their initial trenching, Transition Metals has continued to implement the technique throughout 2011. "Mineralization in places has returned some bonanza grades, including up to 95 g/mt, and provided us with some spectacular samples of visible gold. We have also observed wider more continuous zones at surface including 6 g/mt over 7 m. We have now opened up other trenches to the north and the south of the initial discovery trend that have exposed additional syenite intrusions hosting elevated gold values. The regional framework that we are in is similar to other known producers in the area such as Kirkland Lake. To date we have put in 15 drill holes and are continuing to drill towards the end of the year," said McLean.

When asked what he believes Transition Metals' competitive advantage is, McLean promptly referred to his skilled management team. "Our team draws its strengths from a number of areas. Company COO Greg Collins brings to the company a track record of discovery and development in Ontario, Québec, Manitoba and Vietnam with a broad range of skills that have taken him through resource evaluation to the commission of mines. Tom Hart, VP Exploration brings to the company a strong background in gold and other commodities and is well known by everyone in the mineral exploration industry. Anna Ladd, our CFO, has experience working for suc-

cessful mining companies including Grand Cache Coal and Kinross. She brings a tremendous amount of experience on how to set up junior exploration companies within the regulatory and reporting framework. The board is well recognized and has individuals who are senior technical, legal and financing practitioners in the industry. Overall the team has a significant track record of ore discovery which includes two PDAC 'Prospector of the Year' awards and an 'Ontario Discovery of the Year' recipient. Collectively, we have the ability and experience to recognize a good opportunity and know how to add value for our shareholders."

Over the next couple of years, Transition Metals have plans to get involved in a number of additional projects. "It will have ownership of several projects and one key project that it will be driving forward on its own using cash flow streams ranging from option payments to royalties. It is our objective to be a key player in the discovery and development of the next big gold discovery in Canada," said McLean.

### Detour Lake: Low-grade, High Returns

If there is one project that is telling about the age in which we live, it is the Detour Lake gold project. Currently Canada's largest pure gold play with a resource of 15.6 million oz, the 376 km<sup>2</sup> Detour Lake property is located on the northernmost, relatively under-explored region of the Abitibi greenstone belt in northeastern Ontario, 8 km west of the Ontario-Québec border. Detour Lake is already in production, pouring approximately 649,000 oz/y of gold, at cash operating costs of C\$437/oz.

Indicative of the current trend, Detour Lake is a low-grade (1.02 g/mt) open-pit mineral reserve. However, with economics on their side, Detour Gold and its rambunctious president and CEO, Gerald Panneton, are emerging as a low-grade success story. With the intelligence of a Harvard professor and the swagger of a hip-hop mogul, Panneton cannot deny his love for all things gold.

"Detour Gold was founded in 2006 when the Detour Lake project was acquired from Pelangio Mines Inc. I evaluated the project and quickly realized the significant geological potential of Detour Lake to be a large, bulk tonnage, low-grade deposit. We presented Pelangio with an offer to purchase 100% of the project following our due diligence work which indicated a near-surface resource of 3.4 million oz. The agreed price was C\$75 million. The most important factor in the company's success was obtaining 100% of the project," said Panneton.

Since then, the company has gone from success to success, completing a pre-feasibility study in September 2009. At the time of its completion, the pre-feasibility study revealed an excellent-quality reserve of approximately 9 million oz. By the time the feasibility study was completed in May 2010, the resource reached 11.4 million oz. According to Panneton, "the success of the company is being able to deliver on time, to finance at the right time and to form the company at a time where the gold price is high."

Another key piece in Detour's success has been strict focus on its single asset. "Detour Gold has one asset and does not want to be distracted by multiple projects. Our Detour Lake project is world-class and we remain focused on successfully developing the mine to deliver 55,000 mt/day. The open pit mine is projected to deliver an average gold production of 650,000 oz of gold, which will make it Canada's largest



Gerald Panneton, president and CEO, Detour Gold.





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advancing towards production*

- ◆ Queenston Mining is focused on **building the next gold mine** at Kirkland Lake, Ontario
- ◆ Permitting applications have been submitted to construct a new exploration shaft at the **Upper Beaver high-grade gold and copper** deposit
- ◆ With a base of 3.4 million ounces of gold\* Queenston Mining is pursuing a **target of 8 million ounces** at Upper Beaver and its satellite deposits
- ◆ **\$25 million exploration budget** underway for 2012 targeting both resource expansion and new opportunities

\* Indicated mineral resources, 1.5 million ounces of Au; Inferred mineral resources, 1.9 million ounces of Au; Upper Beaver resource grade includes gold equivalent for Cu

### Vision for Queenston's Operations

Queenston's first stand alone high-grade gold mine will be built at Upper Beaver. An inventory of 4 separate 100% owned satellite deposits will provide future mill feed, flexibility and longer mine life.





Permanent camp with 400 en-suite rooms at the Detour Lake property. (Photo courtesy of Detour Gold).

gold-mining operation. We are in the best gold-mining camp in Canada; there are no other places in the country comparable to Ontario and Québec. The development of Detour Lake is facilitated by the presence of an experienced workforce in the area and access to infrastructure and relatively cheap electricity. We can drive to the project (180 km from Cochrane that has rail access) and are now connected to the Ontario power grid," said Panneton.

Under the leadership of Panneton, Detour Gold has made impressive progress in a very short period of time. Nevertheless, the company's president and CEO continues to set high goals and expectations for the future. "In five years, Detour Gold will be making money for our shareholders. In 2016, we will be producing 650,000 oz/y if there is no expansion — and if there is expansion, we could be producing anything up to 800,000 oz/y. The recent acquisition of Tradewind in Q4 2011 will open the door to a near surface deposit (1.9 million oz of resource) where most of our effort will be concentrated in 2012. We have made another discovery of between 1 million to 2 million oz at a vertical depth of 500 to 800 m, but we are looking nearer the surface as it will be cheaper to develop. We are close to a discovery in the southern belt with a shear zone of 80 m wide, with intersection of 53 g/mt over 3 m which will be our focus for the immediate future," said Panneton.

Success in the Abitibi belt has also come to Kirkland Lake Gold, a TSX- and AIM-listed company exploring for gold. The company is on target to produce 1,300 mt/d of ore, and aim to increase production from 100,000 oz/y to 230,000 oz/y by November 2012.

"Kirkland Lake Gold's goal is to decrease our cost per ounce from C\$800/oz to C\$550/oz by increasing tonnage. In addition, we also plan to mine higher-grade gold from the South Mine Complex. In Q1 2011 we produced gold with a grade of 0.45 oz/mt, significantly lower than the 0.61 oz/mt from the South Mine Complex. In short, increased tonnage and higher-grade gold will enable us to decrease our cost/ounce," said Brian Hinchcliffe, president and CEO of Kirkland Lake Gold.

### New Frontiers

While the established mining camps of Ontario are certainly experiencing a renaissance, other less traditional mining regions have also been benefiting from the recent surge in exploration. Two companies that are currently exploring in some of the less traditional mining districts of Ontario are Rainy River Resources and Northern Superior Resources.

"Our properties are located in two districts: the Stull-Wunnumun Gold District in

northwestern Ontario and the Chibougamau Gold District in Québec; both areas have long histories of mining and exploration in gold and other commodities. However, the areas are not heavily staked and explored. Consequently, we have an opportunity to make a big discovery," said Thomas Morris, CEO of Northern Superior.

Consisting of 85 claims covering an area of 18,189 hectares, the Ti-pa-haa-kaaning gold property in northwestern Ontario is Northern Superior's flagship property. Northern Superior is a company that was initially intended to explore for diamonds, but after appointing Morris as CEO in 2007, the company shifted its focus to gold. "I expressed to the board of directors that the focus of the company had to shift from diamonds to gold. Diamonds were falling out of favor with the markets and we had an extensive portfolio of gold projects in our database," Morris said.

Due to the massive size of the property, it took the company four years to gain a comprehensive understanding of the geology. "It has a potential fertile strike length more than 6 km long with gold grain values consistently around 100 grains per sample with the highest being 1,200 grains per sample. Most of these grains are pristine, meaning they have not travelled far from source. The dispersal of these gold grains forms an apron, which is the third largest in North America," said Morris.

Due to the difficult economic conditions of 2008, particularly for many junior exploration companies, Northern Superior entered into an option agreement with Rainy River Resources. "Rainy River offered C\$11 million on Ti-pa-haa-kaaning over a three-year period. Fortunately, Rainy River Resources is a company with a high level of expertise and a lot of success dealing with First Nations, so it made a lot of sense for us to accept their proposal. The deal is only for the eastern



Brian Hinchcliffe, president and CEO, Kirkland Lake Gold.



Thomas Morris, CEO, Northern Superior.





**TRELAWNEY**

Mining and Exploration Inc.

## CÔTÉ LAKE GOLD DEPOSIT. **HOW BIG CAN IT GET?**

**The deposit currently hosts an NI 43-101 resource of 4.22 million ounces of gold (131 million tonnes @ 1.0 g/t Au).**

The exploration and development of the Côté Lake Gold Deposit is the Company's main focus. Located in the southeastern part of the Swayze Greenstone Belt halfway between Timmins and Sudbury, 20 km southwest of Gogama, Ontario, the deposit currently hosts an NI 43-101 resource of 4.22 million ounces of gold (131 million tonnes @ 1.0 g/t Au). An updated resource estimate is anticipated for Q1-2012.

Following the successful takeover of Augen Gold Corp. in 2011, Trelawney now controls a 55-km strike-length of the Swayze Greenstone Belt in Northern Ontario. The Swayze Belt is thought to be the southwestern extension of the prolific gold-producing Abitibi Greenstone Belt, with the Ridout deformation zone interpreted as the extension of the Cadillac Larder Lake Fault zone.

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## MINING IN ONTARIO



Rainy River Resources' team of geologists examines core samples. (Photo courtesy of Rainy River Resources).

third of the property (TPK), which means that Northern Superior still controls the remaining two thirds, the New Growth," said Morris.

Now in a much stronger financial position than in 2008, Northern Superior plans to continue to explore aggressively throughout New Growth, developing a resource in the very near future. Explaining his vision for the next five years, Morris said, "We hope to take on more projects. In addition, we will have developed gold resources on all of our key properties, particularly in TPK, New Growth, Croteau Est and Thorne Lake. We have very extensive geo-scientific databases, which contain heavy mineral and geochemical data, structural information, bedrock and overburden maps, and geophysics data. We are currently looking to acquire somebody who can mine our database for exceptional mineral properties. We are monitoring the growth of emerging countries such as India, China and Brazil, as we know that these developing markets will require resources. We are always looking for opportunities."

Also exploring for gold in one of the less traditional mining camps is the previously mentioned Rainy River Resources. Aside from the exploration work it is currently undertaking at Ti-pa-haa-kaa-ning, the company's flagship asset, the Rainy River gold project has successfully defined a new mining district in Ontario. Located in the northwestern Ontario, the Rainy River gold project currently hosts 4.4 million oz measured and indicated resource, with approximately 2.3 million oz in the inferred resource category. The discovery costs for the property have been remarkable, at just C\$17/oz gold.

Throughout 2011, the company was heavily focused on drilling and exploration at Rainy River, spending approximately \$40 million on the property. The budget for 2012 is estimated to be the same.

"Our potential budget will be the same amount as 2011 but with little infill drilling. Feasibility studies are usually costly because they include the cost of infill drilling whereas our costs will focus more on basic engineering and detailed engineering. Our recovery rate currently looks like 88.5% but our aim is to increase this, and we think that the in-pit resources will increase and that we can lower the stripping ratio. The focus in 2012 will be condemnation drilling for a facility as well as drilling deep into the ore body to make the underground more attractive," said Raymond Threlkeld, president and CEO of Rainy River Resources.

Production is estimated to begin in Q3 2015, and with a capital expenditure of less than C\$700 million. "Our operating costs will be less than C\$550 and average production will be greater than 300,000 oz/y with roughly a 14-year mine life," said Threlkeld.

By establishing a new mining district in Ontario, Rainy River Resources is effectively transforming the province's mining landscape. Nevertheless, being pioneers in the industry does come with a unique set of challenges. "Permitting is going to be the biggest challenge for Rainy River Resources, although the process is straightforward," Threlkeld said. "Our site is the first greenfield site in Ontario to be permitted since 1994. We believe the local people should be able to define what they want and need in terms of protecting the



Raymond Threlkeld, president and CEO, Rainy River Resources.

environment. The company takes pride in helping communities by generating jobs, building hospitals and schools and granting scholarships."

In addition to the aforementioned areas, Hammond Reef is another up-and-coming mining district within Ontario's borders. Currently the home of mid-tier gold producer Osisko, Hammond Reef continues to attract junior exploration companies from around the province. "Sparton Resources decided to embark on our northern Ontario project for two reasons. Firstly, I realized that the deposit was undervalued due to the fact that it was poorly understood. The geology of the Hammond Reef deposit is quite unique. Prior to acquiring the property, one of my colleagues had been working on the deposit. The high price of gold was also a significant factor; the recent increase in the price of gold has allowed for low-grade deposits, like Hammond Reef, to become much more attractive for mining companies. Furthermore, I have extensive experience working on low-grade gold deposits. Having worked on a low-grade mine in Nevada, I was not unfamiliar with them," said Lee Barker, president and CEO of Sparton Resources.

After examining the property, Barker proceeded to auction the area from a number of prospectors. Although not an easy process, the company was eventually able to obtain the property.

In terms of its labor force, the company has made a point of hiring members of the nearby Métis community. "We currently have a joint venture agreement with a member of the Métis on one of our drilling projects. This action has added to the local support for our project. It has been a very positive experience," said Barker.

Located between two of the most famous mining camps in the world, Sudbury and Timmins, Trelawney Mining has also decided to break from the pack and search





Greg Gibson, president and CEO, Trelawney Mining.

for gold in less traditional territory. Nevertheless, the company's Côte Lake property is located in an ideal location only 6 km off the main artery between two of the largest mining centers in Canada, Timmins and Sudbury. In addition, the property is 34 km from main transmission lines and 30 km from a rail line.

Currently possessing a resource of 4.2 million oz, Trelawney Mining is looking to expand Côte Lake over the coming months. "We aim to have an updated NI 43-101 — compliant resource estimate in Q1-2012. After this, however, we will continue to explore; the exploration budget for 2012 is C\$25 million. We are drilling the property as fast as possible, focusing both on infill drilling and expanding the resource. Our goal is to take the mystery out of this deposit; to figure out how big it truly is," said Greg Gibson, president and CEO of Trelawney Mining.

When asked what the distinguishing features of Trelawney were, Gibson said, "One distinguishing characteristic of Trelawney Mining is that we are not driven by pure exploration. Trelawney has a team that is technically sound; we have put together a group of individuals that are builders. As we expand the property we will be building the necessary infrastructure. We have brought engineering teams from AMEC to advance the building process and help us through to the scoping studies. In anticipation to building a mine, we have built large roads and bridges. We are also in talks with Ontario Hydro about building transmission lines."

With everything going to plan, Trelawney had set out an ambitious plan to commence commercial production at Côte Lake in 2016. Since the time of our interview however, Trelawney Mining has been acquired by IAMGOLD at a 36.6% premium based on Trelawney's 20-day volume weighted average share price; a testament to the prom-

ise held by their Côte Lake project. Development of the project will no doubt continue under its new owners.

Copper mining in Canada is also being given a second life, with the revival of a flooded copper mine in Pickle Lake, north-west of Thunder Bay. Cadillac Ventures is an exploration company led by president and CEO, Norman Brewster. It bought the Thierry property in 2010 with plans to restore the mine that once produced copper and nickel from 1976 to 1981, before it was flooded and closed in 1989. Brewster saw potential in this abandoned property and began two drilling programs on-site, with one located at the old Thierry mine which has around 23 million mt of 1.7% copper, 0.18% nickel and the other located 3 km away at the K1-1 deposit that consists of an estimated 20 million mt of material with a grade of 0.4% copper and 0.1% nickel in a whittle wireframe pit. Brewster detailed the exploration program saying, "We have just finished drilling another 40 holes that will hopefully allow us to increase tonnage, improve grade and raise the category of mineral resource found at Thierry."

Cadillac has already reached its target point of 20 million mt at 2% copper for making a production decision and Brewster said, "We foresee Thierry going into produc-

tion in 2014 if everything goes according to plan." Cadillac is currently working with a number of dealers in Toronto to secure the next round of financing which will bring the required capital to support the move into production for the Thierry project.

The next steps for Cadillac are to de-water the Thierry mine that is still flooded and begin the construction of underground drilling platforms. The strategy for K1-1 is to develop a surface open-cut operation, as a large portion of the potential unit cost would be substantially less in this type of development. Cadillac foresees the project going into production in 2012 and, "if the ores of Thierry and K1-1 are metalurgically compatible, as we believe they are, then we will blend the two ores and process them together to reduce unit cost production and lower the cut-off grade at Thierry to increase tonnages," said Brewster.

The importance of copper in infrastructure development around the world is unequivocal and with little construction occurring in the United States and Canada over the last 30 years and new demand for basic building block metals from countries such as China and India, Brewster is a believer in the price of copper and confident that infrastructure development will grow once the global macroeconomic situation is clarified.

**K1-1 Project**

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# The Ring of Fire

## Will it Ever Burn, Burn, Burn?



KWG - Lamon Lake Camp. (Photo courtesy of KWG Resources).

If there is one region of Ontario that symbolizes both the limitless potential and regulatory stumbling blocks often associated with this province, it is the Ring of Fire. Containing one of the biggest chromite deposits in the world, the Ring of Fire has the potential to fuel the economic development of the north over the next century. Named after a Johnny Cash song, the Ring of Fire's roots go back to Noront Resources' Eagles Nest discovery in 2007. Since then, companies ranging from international majors to local juniors, have flocked to this new frontier to develop what many believe will be a new mining camp that could usher in a new era for Ontario's mining industry. Government officials, both at the federal and provincial levels, have been outspoken in their support for the development of the region. Most notably, Dalton McGuinty, premier of Ontario, has voiced his outspoken support for the Ring of Fire on a number of occasions, calling the area "the most promising mining opportunity in Canada in a century".

Nevertheless, before the region can transform into an economic powerhouse, a number of challenges will have to be overcome. The most immediate challenge facing the region is one of infrastructure. Exploration in the isolated Ring of Fire continues to be very expensive for companies. In addition, given the region's swampy terrain, exploration in the area can only be undertaken during frigid winter months. The Ring of Fire has huge potential, particularly for reserves of chrome that could one day supply the North American market. The

challenge is that it is very tough country to do business in; it is remote and the terrain is challenging.

Another difficulty confronting the development of the region is the tenuous relations that exist between the Ring of Fire's diverse bands of First Nation communities and the private sector. Unlike their counterparts in the more established mining camps of Ontario, First Nation groups in the Ring of Fire lack the business savvy and experience to take full advantage of the fantastic opportunities with which their land presents them. Relations between the private sector and First Nations communities in the regions have turned acrimonious in several instances.

If the Ring of Fire is to realize its potential, resolving these outstanding issues is imperative. "First Nation communities have great reverence for the land they live in. The land has been part of their culture and history for centuries. First Nations feel that the vast majority of mining and exploration companies are unable to fully appreciate the importance of the land they live on to their culture and history. A comprehensive understanding of such cultural intricacies on behalf of the operating companies will play a large part in solving outstanding issues with aboriginal communities in the Ring of Fire," said Kirk McKinnon, president and CEO of MacDonald Mines.

Given the region's naturally harsh conditions, its lack of proper infrastructure, and the tenuous relations that exist between the private sector and the region's

First Nations communities, the greater public has begun to view the Ring of Fire and its supposed economic benefits with a degree of skepticism.

Fortunately, many members of the mining community and provincial government remain optimistic that government officials and the private sector will do what it takes to develop the region. With the decline of manufacturing in southern Ontario, politicians have begun to see the James Bay region as the most attractive economic opportunity for the province. Indeed, the government of Ontario displayed its clear support for the development of the region through its recent appointment of Christine Kaszyck as the Ring of Fire Coordinator, a seminal moment in the history of the region.

Nonetheless, despite their efforts to support the economic development of the region, members of the mining community argue that the government has yet to bring clarity and leadership in terms of infrastructure construction and reconciling outstanding First Nations issues.

In terms of support received from the private sector, significant investment by mining stalwart Cliffs Natural Resources has changed investor perception of the region for the better, signaling that the development of the Ring of Fire is merely a matter of time. And while it may be true that Cliffs is spearheading much of the development, juniors are also playing a part in their efforts to advance the region. KWG Resources, a junior exploration company with assets in the Ring of Fire, has taken a lead role in de-



veloping the region's infrastructure. Having staked land using mining concessions, KWG Resources hopes to provide the isolated region with a railroad, effectively connecting the Ring of Fire with the rest of Ontario. "In the last decades it has become commonplace for major infrastructure projects to be initially financed by the private sector, eventually reaching the desk of government officials towards the final stages of the project. We plan to replicate this model with the railroad that we have envisioned for the region," said Frank Smeenk, president and CEO of KWG Resources.

KWG Resources was able to develop an awareness of the utility of Public Private Partnerships (PPP), much earlier than other companies exploring in the Ring of Fire. "Around three years ago, the Federal Government established PPP Canada, an agency whose mission is to provide federal funding for infrastructure projects throughout the country. Given that that the project complies with the criteria set out by PPP Canada, the government will finance 25% of the capital cost for any qualifying infrastructure projects. It is a high priority of PPP Canada to address social issues in the country, financing infrastructure projects that improve economic conditions in poverty stricken areas. The envisioned railroad

will provide significant economic benefits to Northern Ontario. Consequently, the railroad envisioned by KWG Resources meets the criteria mandated by PPP Canada. We have applied for the participation of PPP Canada in the financing of the railroad; requesting that they pay C\$500 million in capital costs," said Smeenk.

In addition, KWG Resources is exploring this option of inviting the Government of Ontario to take part in the construction of the railroad.

With all these factors in play, predicting the region's future proves to be a tricky task.

### Staying the Course

Famous for having made the initial discovery in the region, Noront Resources is continuing to explore the development of the Ring of Fire. The company's flagship asset, Blackbird, is a high-quality chromite deposit with significant resource potential, located approximately 2 km from Eagle's Nest nickel sulphide deposit. The quality of the chromite found in the Ring of Fire is of very high quality and is consistent with chromite deposits in South Africa and Kazakhstan with ore body containing more than 40% chromite with chrome-to-iron ratios of better than 2:1. Blackbird is part of the greater Ring of Fire chromite discoveries, which

are currently approaching 150 million mt of resource. "In my opinion, one day, the chromite discoveries in the Ring of Fire may well rival South Africa in terms of the total chromite resource, but there is a great deal of work to be done before this becomes reality," said Wes Hanson, president and CEO of Noront Resources.

Blackbird has a current NI 43-101 resource of approximately 15 million mt. "This past field season, Noront invested approximately C\$7 million with the objective of doubling the Blackbird resource; an objective we believe we successfully achieved," said Hanson.

Commenting on the lack of infrastructure in the area, as well as the lack of clarity exhibited by the government in spearheading development in the region, Hanson appeared frustrated.

"There is currently no existing infrastructure in this region of Ontario. I believe one of the primary roles of government in society is to develop infrastructure to the benefit of all its citizens. If the Ring of Fire is to realize its full potential, investment by government is necessary to develop the road access and utility supply to allow this region to be effectively mined. Development of this region will generate a number of high-paying jobs,



## North Timmins Gold Project



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Victor is Ontario's first diamond mine. (Photo courtesy of De Beers Canada).

both directly and indirectly. There is potential for significant, long-term, revenue from taxes and there is potential for future discoveries in the region that would further increase the potential revenue base for the citizens of Ontario."

With regard to resolving issues with First Nation's communities, Noront has chosen to pursue a more proactive role than many of its counterparts, directly engaging local First Nations communities. "The company

recognized, at an early stage, the importance of building relationships with the local First Nation communities. While the 'Duty to Consult' is a provincial government responsibility, Noront established exploration agreements with communities on whose traditional lands our exploration work has occurred. We have initiated Mining Matters camps to teach local youth about the mineral exploration and mine-development process. We are holding community open

houses to educate the First Nations communities about mining and processing and what potential impact development in this region would have on local First Nation communities," said Hanson.

While the Ring of Fire may be one of the most significant mineral discoveries in Canadian history, a great deal of work remains to be completed before this potential is realized. It is vital that any development in this region is completed in an environmentally and socially responsible manner, so that all Ontarians benefit.

"We believe that our Eagle's Nest project will be the first of many long-term, successful mining operations in the Ring of Fire. We believe we have presented an environmentally and socially responsible development plan for our project that will provide significant opportunities to local First Nations and that our management team has the skill and experience to meet the challenges of the future and develop a model mine of the future," said Hanson.

A company familiar with operating in the tough terrain of the James Bay lowlands is De Beers Canada, which has been commercially operating Ontario's first diamond operation, the Victor mine since 2008. Tony Guthrie, president and CEO, De Beers Canada explains the fairly conventional open-pit mine. "It is in a muskeg 90 km from the closest First Nations community and nearly 300 km from the nearest year-round road and railway, which does present us with some engineering, logistic and additional financial challenges."

De Beers has developed a mini village on the remote mine site to support the complex operation that requires six months of planning to purchase and transport all materials required for the upcoming year.

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(Photo courtesy of Noront Resources).

The operation in northern Ontario has also become a major contributor to the region's economic and social development with De Beers' contributing a projected C\$6.7 billion to the GDP of Ontario through direct spending over the life of the mine, with C\$4 billion spent in the north alone. Canada has become De Beers' third-largest location operation globally in terms of production levels and value and the company has been operating in Canada for more than 11 years now.

Another interesting story to come out of the Ring of Fire is that of Northern Shield, a junior company currently exploring for platinum group elements at its flagship property Highbank Lake. Historically, Canada has not been known for its platinum mining. According to Ian Bliss, president and CEO, "The fact that there has never has been a standalone platinum mine in Canada leads many to wrongfully assume that we do not have any here. Hence,

there has been very little exploration undertaken in Canada."

Due to political instability in many of the leading platinum-producing countries South Africa, Zimbabwe and Russia, from which 95% of the world's platinum originates, there is a need to find platinum elsewhere. "There are currently only a handful of juniors dedicated specifically to platinum exploration in Canada, so we have found a niche market," said Bliss.



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Ian Bliss, president and CEO, Northern Shield.

Over the years, the company has developed a level of expertise in grassroots platinum exploration that few other companies in Canada have. Leveraging its expertise, the Northern Shield team hopes to overcome the technical challenges that lie ahead at Highbank Lake. "The project is similar to the Bushveld complex in South Africa, but it is difficult to explore as it is deformed and there is only one outcrop on the property. We have 50 m of overburden on top of the intrusion, which is difficult to drill through and hard for geophysics and geochemistry to penetrate and therefore we have relied on our detailed understanding of the geological model," said Bliss.

Instilling confidence in any company it invests in, Sprott Asset Management bought into Northern Shield in 2005, and has increased their position over the years to around 15%. "We have several shareholders from the UK including Anglo Pacific who understand the importance of finding platinum outside of South Africa."

With an interesting project that is sure to transform Ontario's mining landscape, Northern Shield has proven to be both an ambitious and successful company. Nevertheless, Bliss, much like his counterpart from Noront, feels frustrated by government policy, particularly with regards to First Nations.

"Ontario used to be the third-best mining jurisdiction and now it is 18th; the investment climate is still good, the geology is still the same, but the government has unfairly and illegally off-loaded its duty to consult with the First Nations on to the mining companies. After the Ring of Fire discovery, they can no longer turn a blind eye to the situation and the government is now being forced to deal with this issue. There are still excellent opportunities in Ontario as can be seen with the recent discovery of one of the largest chromite deposits in the world in the Ring of Fire," said Bliss.



# Sudbury

## Vive La Big Nickel!



Sudbury's famous "Big Nickel", a 9-meter (30 ft) replica of a 1951 Canadian nickel. (Photo courtesy of Dynamic Earth).

Driving through the mining-obsessed northern Ontario town of Sudbury, one cannot help but notice a gargantuan, oddly-shaped figure atop one of the town's equally impressive 'mountains.' Ask any local what the 'objet d'art' is called and they shall reply, "Why, it's the Big Nickel!" Humor aside, while the Big Nickel certainly does not deserve to be exhibited in the Louvre, it does symbolize the heart and soul of this resilient mining town. Like many cities in this region of the world, Sudbury has experienced periods of both boom and bust. The city's mining history can be traced back to 1883, when blasting and excavation efforts during the construction of the Canadian Pacific Railway exposed high-concentrations of nickel-copper ore. For the decades to come, the city's fortunes would fluctuate with the price of nickel. Throughout much of the 1930s, Sudbury was the fastest-growing city and one of the wealthiest in Canada. Mining juggernauts — Inco and Falconbridge, dominated the economic landscape throughout the 20th century, reaching their height in the 1970s, when Inco employed more than a quarter of the local labor force.

However, in the following decades, globalization would have a dramatic effect on the landscape of the city's mining industry. In 2006, both Falconbridge and Inco were acquired by foreign multinational companies. Brazilian mining giant, Vale, took over Inco, while Falconbridge was replaced by the Swiss company, Xstrata.

With the acquisition of these two companies, Sudbury underwent significant change. Over the next couple of years, the number of Sudbarians directly employed in mining dropped. Nevertheless, mining continued to play an integral role in the city's economy. Today, Vale is the city's leading employer, hiring 5% of the city's work-force. In addition, other mining companies in Sudbury, Quadra FNX and Wallbridge Mining continue to contribute to the local economy.

Furthermore, while the percentage of Sudbarians directly employed in mining has gradually decreased over the years, indirect employment from mining has emerged as the cornerstone of the city's livelihood.

Relying on the mining expertise of its residents, Sudbury has emerged as center of research and manufacturing for the mining industry. The city hosts over 345 mining supply and service companies and a number of public and private firms pursuing research and development into new mining technologies including Mining Innovation Rehabilitation and Applied Research Corp. (MIRARCO), the Northern Centre for Advanced Technology (NORCAT), and the Centre for Excellence in Mining Innovation (CEMI).

In short, taking into consideration the city's rich mining history and present-day success on the supply side, one can only conclude that the mining expertise found in Sudbury is second to none.

### Making Sure to Take Care of the Community

In the eyes of most local communities, mining companies, particularly foreign ones, tend to have a negative impact on communities. It is often wrongly assumed that these companies have no interest in contributing to the wealth of the communities they work near and are merely interested in increasing their own profits.

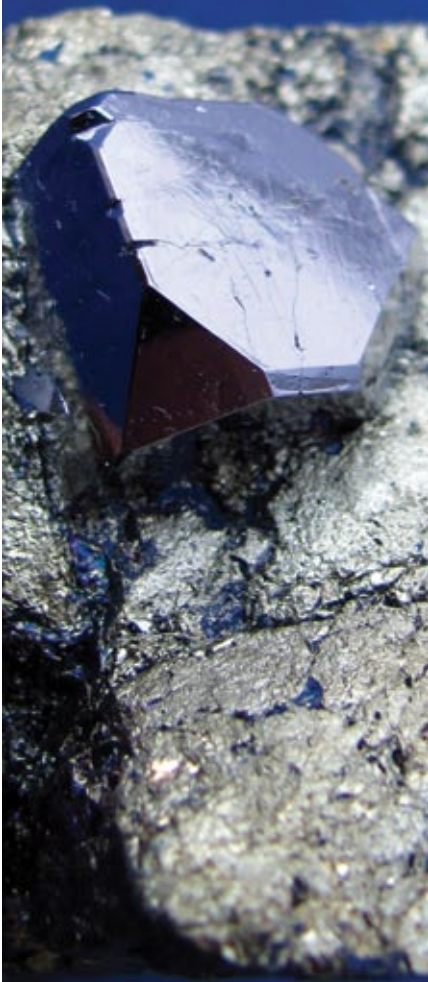
Vale, a company that has gone from success to success around the globe, is fighting tirelessly to assure Sudbarians that its presence is beneficial to the city.

"We employ approximately 4,000 people in our Sudbury operations and a lot of other businesses have been able to build themselves around the company. It also benefits our company because we are able to find good local suppliers and contractors in our own backyard," said Vale Canada's COO, John Pollesel.

Commenting on the company's recent investments in Sudbury, Pollesel said "We are investing \$759 million in the Totten mine project, the first new mine for Vale in Sudbury in almost 40 years, which is currently in the development phase. In addition, we have invested \$200,000 million in the Challenging Ore Recovery project (CORe) where we are installing new technology at the Clara-belle mill to enable us to increase recoveries by 4% in nickel, as well as some improvements in copper and PGMs."

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Sudbury is extremely important for Vale's global base metals, as 70% of revenue that goes through Sudbury operations is generated through the smelting and refining process. "Across the North Atlantic operations we are working on an integrated flow sheet to treat all feed from our Canadian mining operations. Over the next five years we will execute on a US\$10 billion investment plan; US\$3.4 billion will be spent in Sudbury alone with roughly US\$2 billion to be spent on the Clean AER project to reduce sulphur dioxide emissions by approximately 70%," said Pollesel.

With regards to the local community's perception of Vale, Pollesel acknowledged that, "Mining companies in general do not have a good reputation, although I believe the community in Sudbury knows that we are serious about trying to improve the environment and our image. The company spends a lot of money to improve the communities in which we operate and we have replanted areas with greenery and trees. We have carried out soil studies to demonstrate that there are no long-term risks posed to the population, which has been encouraging. The response from the community has been positive; we make sure that we are open and transparent about what we are doing and it is important that our employees are 'Proud to be Vale'."

### **Helping out the Community, One Ambassador at a Time**

Another multinational company operating within Sudbury is Quadra FNX. Employing a total of 500 Sudburians, Quadra FNX does not claim to have as big an impact on the community as the largest employer, Vale. Nonetheless, the company has worked diligently to ensure that Sudbury residents reap the benefits of its operations. Good relations with the greater public have seen Quadra FNX emerge as the employee of choice in the city. "We live by and execute on our values and this is a reason why we are an employer of choice. We have 500 ambassadors in Sudbury whose place of business provides a good living and a good quality of life external to work. We have an impact through success and team work and in our company, our employees' impact counts. It is important to recognize the communities that we live and work in are part of who we are. We want to work with a level of pride," said Adrian McFadden, Quadra FNX's VP of Sudbury Operations.

Recently, the company has worked with educational institutions to benefit the community and ensure future generations of mining in the Sudbury basin. "Our organization

is going to require more people to grow so we want more young people to be interested in the industry. Achieving this goal will require that we work hand-in-hand with institutions of higher learning, and continue to be good stewards in terms of our environmental impact. Our aim is to lead as much as possible within Sudbury and to our external partners," said McFadden.

### **Nickel isn't the Only Thing You Can Find in Sudbury...**

Founded in 1998, Wallbridge Mining is another company that calls Sudbury home. However, unlike other Sudbury-based companies, Wallbridge Mining's focus is not limited to copper and nickel, but PGM assets as well.

While Sudbury is traditionally known for its rich nickel deposits, Alar Soever, CEO and director of Wallbridge, believes the city also possesses a rich variety of PGMs. "What also makes Sudbury somewhat unique is that it is one of the few places in the world where platinum and palladium are found in close to a 1:1 ratio," said Soever.

The Broken Hammer is the company's most advanced project. It was a grassroots surface discovery. "The Broken Hammer property is a PGM-rich deposit, that will be a simple shallow open pit and we expect to make a production decision in 2012 after receipt of the pre-feasibility study and feasibility study which are currently underway. If all goes well, we hope to be permitted and in production sometime in 2013. The operation will use contractor mining with the ore processed at one of the local mills."

In 2012, Wallbridge plans to continue exploring aggressively at Broken Hammer and the company's other Sudbury-based property. "We are also planning further drilling on our Parkin Offset joint-venture with Impala Platinum, where we recently discovered a new massive sulphide zone beneath the past-producing Milnet mine. We recently announced an intersection from here of 8.0 m grading 4.32 g/mt TPM (Total Precious Metals = platinum + palladium + gold), 4.11% nickel, and 0.60% copper," said Soever.

The company's numerous joint venture agreements with other companies in the area have been paramount to the management team's exploration strategy. "The biggest challenge for the company, as for all exploration companies, is to minimize exploration risk and dilution to our shareholders, while still exploring aggressively. This task is made easier by sharing exploration risk with our joint venture partners," said Soever. In 2012, Wallbridge Mining's exploration





Crushed bulk sample material being shipped from Wallbridge's Broken Hammer deposit. (Photo courtesy of Wallbridge Mining).



Pt-Pd-Ni-Cu intersection from Wallbridge's Parkin Offset JV with Impala Platinum. (Photo courtesy of Wallbridge Mining).

budget in Sudbury will be C\$7 million; half of which will be funded through joint ventures. Indeed, Wallbridge Mining, like other companies based in Sudbury, has benefited from being in the established mining city. Being in close proximity to developed infrastructure and the city's supply and service industry has been a boon. "The main benefits of being located in a mining town are the availability of local suppliers and service providers, milling and smelting capacity, and an understanding and acceptance of mining in the local community. This improves the economics, particularly for smaller deposits like the Broken Hammer. The use of local contractors for mining, and processing of the

material on a toll basis at a local mill greatly reduce the capital expenditures required to bring a project into production. Permitting is also easier in a community which understands mining."

With regard to the possibility for future discoveries in Sudbury, Soever believes that there is still much more to come. "The exploration potential in Sudbury is huge. Historically Sudbury has been known as a nickel mining camp. What many people do not realize is that Sudbury is also a major PGM camp in its own right. The rise in copper and PGM prices relative to that for nickel has shifted the exploration emphasis to the more copper and PGM-rich deposits which occurs

in the footwall rocks to the Sudbury basin. Typical footwall deposits which are being mined average 7.3% copper, 1.1% nickel with 7.7 g/mt of TPM."

On April 5, 2012, Impala Platinum vested its 50% interest in Wallbridge's Parkin Offset Property after spending C\$ 6.3 million in required expenditures. "Impala has been a strong partner and we look forward to continuing exploration of the Parkin project with them in the coming years. Impala's continued participation and their vesting decision will allow Wallbridge to advance the Parkin project while minimizing dilution to our current shareholders," said Marz Kord, president of Wallbridge.



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# 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.



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## 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



Exploring iron ore opportunities in the province. (Photo courtesy of Rockex Mining Corp.).

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."

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# Toronto

## World's Mining Capital



Toronto is one of the premier financial centers and the Toronto Stock Exchange is the largest source of investment capital for the mining sector.

Walking through downtown Toronto, one cannot help but notice the sheer wealth that pervades the city's streets. As one of the premier financial centers of the world, Toronto boasts one of the most vibrant professional communities in North America. Teeming through the city's financial district are top-quality financiers and lawyers, with skills exceeding many of their counterparts in London and New York. In addition to the human capital found across this city, is the Toronto Stock Exchange, the leading exchange for mining companies around the globe. With 58% of the publicly traded mining companies in the world choosing to list on the TSX and TSX-V, the stock exchange is unparalleled when it comes to significance in the mining community. In 2010, The TSX and TSX-V dominated the mining finance world, raising 60% of world mining capital. Adding to Toronto's omnipresence

in mining are the city's financial institutions, ranging from boutique shops to global banks; these firms specialize in raising finances for juniors and majors alike.

The reasons for Toronto's preeminence as the center for mining finance are varied. The most obvious reason appears to be the combination of technical knowledge and financial expertise that many white-collar Torontonians possess. "It is the classic story of why Toronto is a global mining center; there are more than 50 mining analysts in Toronto, as well as highly knowledgeable investors with deep technical expertise in the sector. In contrast, other financial centers, specifically London and New York, are flush with investment money; however, they lack

the technical expertise that Toronto possesses," said David Beatty, president and CEO of Rio Novo Gold.

Sharing Beatty's sentiment, precious metals guru Eric Sprott said, "There are hardly any analysts that follow gold stocks in the United States; it is difficult to mention five individuals that even follow an intermediate stock, let alone a junior."

Paul Stein, a partner at mining-focused law firm Cassels Brock, attributes Toronto's success as a global mining hub to historical factors. "Historically Canada is a natural resources nation, built based upon oil, gas and mining. In other places overseas, while there is a degree of enthusiasm in mining, it is not to the same extent as in Canada."



Eric Sprott, CEO, Sprott Asset Management.

### Mining at a Glance - YTD December 31, 2011

Dec-11	TSX Venture (TSX-V)	TSX	TSX-V and TSX
<b>Number of Issuers</b>	1,275	371	1,646
<b>QMV (C\$)</b>	28,356,816,784	398,449,418,435	426,806,235,219
<b>New Listings</b>	152	49	201
<b>Equity Capital Raised (C\$)</b>	5,893,380,329	6,621,265,679	12,514,646,008
<b>Number of Financings</b>	1,803	218	2,021
<b>Volume Traded</b>	40,597,362,879	45,576,382,347	86,173,745,226
<b>Value Traded (C\$)</b>	25,755,843,035	438,539,425,138	464,295,268,173
<b># of Trades</b>	9,047,020	79,221,090	88,268,11

Source: TMX



Tammy Thompson, partner, BDO.

Other reasons for Toronto's dominance in the world of mining finance include its two-tier stock exchange. Often overlooked, the TSX-V has created a venue that successfully allows early stage junior companies to raise capital. "The Toronto Stock Exchange is the best two-tier exchange in the world. The London AIM market does not function very well in my mind. Currently, there is one silver stock listed on the LSE. If a company is listed on the LSE, it certainly must be listed in Toronto. On the other hand, if a company is listed in Toronto, there is no need for it to list anywhere else," said Sprott. As a result of the TSX's attractiveness, foreign mining



Brookfield Place, formerly BCE Place. (Photo courtesy of the City of Toronto).

companies look to the stock exchange to list their projects. According to Tammy Thompson, partner at BDO, a global accounting and consulting firm with a focus on mining in Canada, "There have recently arisen a large number of issues from emerging markets, and there is a lot of concern from an audit perspective if you are dealing in an emerging market."

This puts pressure on the firms dealing with such transactions, said Thompson.

"There is a risk profile one needs to examine; if there is a client coming to Canada we go through a client acceptance procedure. BDO looks at who is on the board and where their assets are located. Emerging markets have created another level of risk that we need to look at and analyze."

Nevertheless, the demand for intermediaries who help with the TSX's listing requirements is strong. "There are companies calling BDO from overseas who want to get

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TMX broadcast center in downtown Toronto. (Photo courtesy of TMX Group).

into public properties in Canada, and we assist them by talking with lawyers, and getting set up as a public company,” said Thompson.

Another key factor to the stock exchange’s success has been its ability to strike the correct balance between regulatory oversight and access to capital. “The TSX’s listing requirements really understand the difference between a major and a junior company, and are very flexible in allowing smaller companies to list. They have the appropriate regulatory oversight, but it is not particularly burdensome as compared to AIM, for example.

It is much cheaper to list on the TSX, which, for a junior company, is a huge advantage. The TSX has created a system whereby a company can be listed relatively easily, without incurring a huge expense. The people at the TSX understand mining companies as well as the NI 43-101 and other technical reports necessary to list,” said Chris Irwin, Partner at Irwin Lowy LLP.

Nevertheless, Irwin concedes that while the TSX has emerged as the most attractive listing venue for junior companies, NI 43-101 does require some fine-tuning, particularly when compared with Australia’s JORC system.

“It is necessary to have the NI 43-101 compliance system but more companies might migrate towards the JORC standard, which is a much simpler document. The NI 43-101 is supposed to be a public document that the average investor can read and understand, but in practice, these documents are often 40 to 50 pages; the JORC documents are much smaller and easier for people to comprehend. The scheme could benefit from some type of simplification. It is appropriate to differentiate between an indicated and inferred resource, and necessary to differentiate the two,” he said.

### Changing the World of Mining Finance

Entering the office of Sprott Asset Management, one gets the impression of entering a museum rather than a place of work. Decorated with gold coins, the office stands to symbolize the impact precious metals and mining have had on the city of Toronto over the decades. Commenting on the importance of Toronto, Sprott said, “Toronto is the mining finance capital of the world; it is certainly the mining finance capital of precious metals. I like to think that this foyer Sprott Asset Management’s office is the capital of the finance capital; everybody that matters has come in here. If you are the head of small company, you know you want to have a meeting here. While there are other investors, we are the biggest and most influential investor.”

Over the years, Eric Sprott has built a name for himself throughout Toronto’s finance community, particularly for his fervent support of gold as an investment. His unique investment strategy has seen his firm perform exceptionally well over the past 10 years; achieving a 20% return on investments. This is in contrast to the global market that has experienced zero growth over the past decade. “For a fund to perform at a high level it is imperative that it assess the secular trend correctly. Sprott Asset Management has been able to do this. In our view, the global markets are experiencing a secular bear trend, paving the way for precious metals to become a dominant means for storing value throughout the

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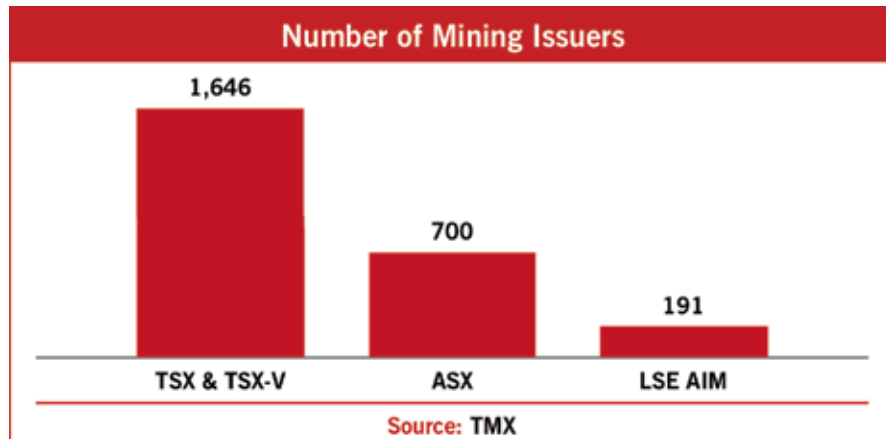


Ned Goodman, president and CEO, Dundee Corp.

globe. Funds must be able to find incredibly interesting investment opportunities; these will never be found with the big cap stocks, everybody already knows about them. It is impossible to discover a major player like Barrick. However, it is possible to find attractive investment opportunities in small and mid-cap companies," said Sprott.

While Sprott has called on investors to purchase bullion in the past, he believes that they should not shy away from investing in gold equities as well. "I believe that gold stocks will have a very serious run; they are incredibly inexpensive and are part of a small group of growth stocks in the world. Unfortunately, the majority of investors do not perceive them as growth stocks even though their profits have increased over the past decade. The price of gold has made almost every project feasible; a company could not have worked on a project in the last 10 years without it being economic. Gold companies have inventories of properties that put them in an excellent position to grow: between the inherent growth that comes from production, the possibility of making synergistic acquisitions and the added value coming from the increase in the price of gold, there is a model for providing investors with very attractive opportunities."

Another very prominent name in the world of mining finance is that of Ned Goodman. A 2012 Canadian Mining Hall of Fame inductee, Goodman's name has become synonymous with mining finance over the decades. Since 1984, his company, Dundee Corp., has spent more than C\$5 billion to fund exploration for junior mining companies. Raising these finances takes a number of forms. "Dundee primarily engages in investment, specializing in the sectors of oil and gas, mining, energy, agriculture, and real estate. We are a brokerage firm which is also involved in underwritings and, although our largest holding



is currently in real estate, a significant part of our business consists of providing financing to resource and commodity companies in Canada. Since 1984 we have spent C\$5 billion on Canadian exploration through our subsidiary manager called CMP Resource Limited Partnership, and for oil and gas we have a similar company called Canada Dominion Resources Group," said Goodman.

There are a number of reasons behind Dundee Corp.'s success over the years. "Dundee stands out largely because of our deep knowledge of the resource industry and our consistent commitment over many years to the sector's successful expansion. We invest our money with careful precision and thorough 'tire kicking,' paying attention to what we are doing day in and day out. It is this higher level of attention, combined with significant industry-specific expertise, that enables us to work so successfully with many companies that the big banks do not generally want to accept as clients — if only because they have not got the time. We have a culture of fairness and thoroughness that is underpinned by proven experience. This really helps us make decisions on investments quickly but wisely. And it helps us stay close to the businesses in which we have taken an interest," said Goodman.

In terms of what the company looks for in a junior mining company, the criteria are simple, yet strict. "Dundee does not buy for the sake of buying a position in what might become an opportunity. When someone approaches us in a search for funding, we evaluate their request on two criteria: good property and good people. If the property is right but the management team is not strong enough in our view, the Dundee Corp. will not invest. We want to support and encourage good management in an effort at protecting our investment," said Goodman.

The Dundee Corp. has traditionally invested in early-stage small- to mid-cap

companies. Nevertheless, the firm has plans to begin investing in more advanced-stage companies through the establishment of the Dundee Global Resource Fund. "We are currently in fundraising mode; we have committed C\$500 million to the Dundee Global Resource Fund, and are looking for one to three investment partners to join with us as part of our expansion plans. When that happens, we will have sufficient depth to take projects from early development through completion without losing them at a later stage. That being said, we are not particularly concerned regarding our own capital; we have a capital base of more than C\$2 billion. As I have said, we are expanding in the resource sector, and have created a 'merchant banking' hybrid specifically for resource as well as for the real estate, agriculture and energy sectors."

Goodman emphasized the importance of focus and determination as two key components needed for the future success of the mining industry. "The world is in need of more resources and we have to work harder to find new ways to identify and develop those assets while working with the churn created by NGOs and governmental regulations. Everyone across the resource industries from engineers to investors, to the people on site, face the same challenges. The obstacles are not going to go away so we have to respond as best we can, keeping our business standards high and our focus sharp in an effort at encouraging those eager to get something underway to join with us in a partnership that promises the opportunity of sustainable profit growth."

Toronto's financial community is known for their understanding of early-stage projects that typically get overlooked by other financial centers. For juniors, another route besides standard capital investment is the royalties model, where companies will purchase a percentage of the project itself in the hopes of a large return once production





David Harquail, president and CEO, Franco-Nevada.

begins. The model has been very successful for companies such as Royal Gold, Silver Wheaton and Franco-Nevada, who has bought royalties in Barrick's Goldstrike, Kinross's Tasiast and the Detour Lake project. "Our model appears to work over and over again; Goldstrike, Detour and Tasiast have gone from \$2 million to \$1 billion, and many more properties that have gone from \$2 million to \$500 million," said David Harquail, president and CEO of Franco-Nevada. The company holds rights in 43 mines, with a further asset base of development and exploration properties.

Franco-Nevada's model has certainly been successful for the company, which at press time is valued at more than C\$6 billion; however, it does require a certain amount of patience from their investors. "We are not a retail stock. Most of the gold funds think they can pick winners better than us and want more leverage to the gold price, although we have outperformed almost every exploration story, gold fund manager and the ETF, because we are getting the benefits of our investments from 15 years ago. Furthermore, we have few risks, no encroachments from governments and a diversified portfolio that allows us greater scalability than a mining company," said Harquail.

### **Boutique Firms with Big Plans**

Being the center for mining finance, Toronto is host to a number of boutique investment firms specializing in mining finance. Jennings Capital is a full-service boutique investment dealer, founded in Calgary in 1993. Initially an oil and gas corporate financing boutique, the firm opened its offices in Toronto in 1999. Since then, the company has diversified with current revenue generation 60% mining and 40% oil and gas. As far as services are concerned, the company undertakes retail sales, sales trading, and equity research, and investment



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Chris Irwin, partner, Irwin Lowy LLP.

banking services. “We have daily morning meetings to review the stories brought in by research analysts, and then the sales people and traders get on the phones,” said Daryl Hodges, president and CEO of Jennings Capital.

As a firm, Jennings Capital separates itself from its competitors by possessing a research team with a strong technical base in exploration and development and an in-depth understanding of geology. “We look to management teams who are knowledgeable and trustworthy, who understand the market, who understand ore bodies and how to develop them, and — most impor-



Michael White, president, IBK Capital.

tantly — can get out there to sell the story and deliver results,” said Hodges.

It is this competitive advantage that has allowed the company to continue to thrive in this very competitive time. “This is a highly competitive industry and recently the larger bank-owned dealers are competing directly with companies like us for our clients. We stay ahead of the curve by using our technical expertise to identify opportunities earlier, knowing the stories inside and out, and continuously communicating with companies and investors. Jennings Capital has a reputation for doing the initial heavy lifting with companies; to get a story out. We can

set up meetings with a variety of institutions and small-cap investors throughout different countries. We have also expanded our research coverage in mining to allow us to move horizontally in that industry.”

With regard to their future plans, Jennings Capital and its management team are not short on ambition. “We keep our noses down, work hard, and surprise people with our aggressiveness and the profitability it yields. There is a constant state of flux in this industry, but we hope to have a renewed, focused, dynamic team in the first half of 2012. We are always trying to improve our research to improve the product that we deliver. We are currently in the top 10 independent dealers in Canada, and our goal is to be in the top five within the next two to three years. We value long-term relationships and try to work with clients through every step of the process. We want all parties to make money, and stick with clients on both sides through thick and thin; that is what Jennings Capital is about,” said Hodges.

Other Ontario-based finance houses are placing even greater emphasis on their mining services, thanks to the industry's strength in the province. Fraser Mackenzie, an independent investment dealer based in Toronto, is boosting staff levels and flesh-



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Daryl Hodges, president and CEO, Jennings Capital.



Marshall Auerback, director and corporate spokesman, Pinetree Capital.



Jason Neal, co-head of global metals and mining, BMO Capital Markets.

ing out its mining research team. “We are fundamentally bullish on metals and mining going forward,” said Michael Starogiannis, research analyst at Fraser Mackenzie. “We will take an opportunistic approach to pick up coverage on good-quality stories whose share prices are suffering thanks to global economics, meaning a broad spectrum of companies from grassroots exploration to current producers.”

Canada’s resource boom provides opportunities for investment houses to grow their mining division, but many companies have traditionally had a very strong focus on financing the industry. Pinetree Capital, a Toronto-based investment dealer, has an investment portfolio of C\$450 million, of which nearly 80% is weighted toward micro- and small-cap mining companies. “Junior companies provide much more leverage and upside, and are effectively like publicly quoted private equity. Most funds that deal with this sector have daily redemptions, or even monthly, or quarterly redemptions, meaning that they cannot lend the same kind of commitment to the sector that we can,” said Marshall Auerback, director and corporate spokesman at Pinetree Capital.

Another boutique firm staying ahead of the curve is IBK Capital. Established in 1989, IBK Capital has focused on raising money for exploration and mining companies, primarily through the completion of private placements. The firm’s primary business is fund raising for emerging companies in the metals and mining space. “IBK is opportunistic; we will work on financing for early stage, development stage, production stage and expansion stage companies world-wide. We look for high-growth opportunities,” said Michael White, president of IBK Capital.

Operating in Toronto for more than 22 years, IBK Capital has made a name for itself as one of the premier boutique firms in the city. The success of the firm has been due in large part to management’s willingness to invest in the companies it works with. “We have been focused on metals mining and exploration for the past 23 years. IBK Capital’s business model is client relationship based and not transaction based. We identify good people with good projects and stick with it. This differentiates from many of our peers. We continue to work with our clients well beyond the closing of a financing and we are at their disposal at any time if necessary. We work very hard with our clients to help them achieve their goals. We care about them and we care about the return to their stockholders which include our buy-side clients and in many cases ourselves,” said White.

Much like Jennings Capital, IBK Capital is seeing increased competition from large banks attempting to enter down-market. Nevertheless, White does not seem too concerned by their activity.

“With regards to big Canadian banks, they have their niche, and

we have our own; however, sometimes the lines are blurred. It is fair to say that big banks tend to come down-market occasionally. A few banks have in the recent past completed financings of approximately C\$20 million for junior exploration companies. Conversely, IBK and many of our peers have occasionally completed up-market financings, working on much larger deals,” said White.

The issue of large banks entering the traditional transactional realm of mid-tier investment houses is not new, according to Jason Neal, co-head, global metals and mining at BMO Capital Markets, the investment arm of Bank of Montreal, one of the six major banks in Canada. “BMO has always had a far greater breadth of companies with whom we have worked; we have participated in many transactions where we have sold developing companies,” said Neal.

Last year BMO sold Andean Resources to Goldcorp for roughly C\$3 billion. BMO began working with Andean when their market

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GMP Securities team.

capitalization was closer to C\$115 million. "Large banks are important to growth companies because they need to raise capital and build a broad shareholder base. If and when these companies look to sell, they engage expertise from a bank like BMO to ensure that they receive the best value for their shareholders," said Neal.

Neal points to the fact that the market for mega-cap transactions is going through a slow period; indeed, in the Canadian mining sector, many blockbuster deals have occurred very recently and current market conditions are not favorable to such big deals and acquisitions. For smaller finance houses, the essential differentiator is client relationships, according to Doug Bell, co-head and managing director of investment banking at GMP Securities, an independent investment dealer that credits the firm's mining clients as comprising nearly 60% of revenues. "We see many large investment houses entering, but banks come and go," said Bell. "We are very focused on developing and maintaining relationships with both the issuing side and the buy side. We tend to be more nimble and can react to market changes much faster than the very large financial institutions."

Last year there was ample opportunity for Toronto's financial community to each feast on a slice of the pie: the first half of 2011 saw more than double the amount of mergers and acquisitions amongst Canadian miners than at the same point in 2010. GMP Securities alone worked with the board of directors at Quadra FNX Mining when they were bought out by KGHM Polska Miedz, a Polish company that is one of the largest copper and silver producers in the world. GMP also acted for Eldorado Gold Corp. when the company purchased European Goldfields: two transactions worth more than C\$2 billion each. "This year is likely to be busy in terms of mergers and acquisitions, due in part to the ability of large companies to raise capital efficiently in a low interest rate environment coupled with the fact that valuations have been greatly strained lately," said Ron D'Ambrosio, GMP Securities's managing director of investment banking alongside Doug Bell.

BMO's Neal agreed that 2012 will likely be active on the M&A front, although he is slightly more cautious in his outlook. In Neal's view, the market's volatility will predict how active companies are with their acquisitions, with a more stable market leading to more activity. "In the last six months there has been a lot of activity deferred in terms of strategic action, but once we approach stability I think we will see an active 2012."

CIBC World Markets co-head and managing director, Chris Gratiias, agreed. "The high commodities prices means that companies have cashed in over the last year, and are looking to make moves; it is an attractive option to consider purchases on the commodities markets."



# The most successful two-tier exchange in the world

## Interview with Kevan Cowan, president, TSX

### How did the TSX become such a reliable source for equity funding?

The realignment of Canadian equity markets in March 1999 was a seminal moment for Canadian stock exchanges. The realignment resulted in the specialization of the TSX as a senior market, the Montreal Stock Exchange as derivatives market, and the formation of a specialized junior market, called the Canadian Venture Exchange — a four-way merger of the Vancouver Stock Exchange, the Alberta Stock Exchange, the Winnipeg Stock Exchange, the OTC Market. In 2001, the TSX purchased the Canadian Venture Exchange, renaming it the TSX Venture Exchange, forming the foundation for our emergence as the preeminent mining exchange in the world.

The TSX possesses what the world covets, the best two-tier exchange system. The TSX purchase of the Canadian Venture Exchange provided a number of synergies in terms of building the two-tier stock exchange system. The first synergy exists in branding; TSX was much more prominent internationally than the Canadian Venture Exchange.

There were also a number of synergies due to the cooperation between both exchanges; the merger made it possible to coordinate and harmonize policy. For instance, the merger would allow for companies graduating from the junior to the senior exchange, to experience a much more streamlined procedure due to the more efficient policy. The Canadian Venture Exchange, while having an interested group of investors, was not as broad. Consequently, the merger allowed us to introduce venture class investments of emerging issuers to the much broader audience of TSX investors. This was the most significant factor in growing our two-tier exchange system. For the last 10 years TSX-V has gone from success to success in terms of its international profile, number of listings, trading liquidity, and financing dollars raised.

### How has TSX-V created a regulatory framework that is suitable for junior mining and exploration?

We have established a balance between the regulatory safeguards of a senior exchange



with more accessible access to capital through a set of financial listings tests that are targeted at emerging issuers. In other words, in addition to the due-diligence that we do around both senior and junior issuers, whether it is conducting background checks on officers and directors or ensuring that a company has appropriate legal and accounting advisors, we have developed a tailored set of financial listing tests. Consequently, companies on TSX-V do not have to be as mature or developed as a senior company.

A very broad example would be that the senior exchange appeals to more production/development stage companies, whereas, TSX Venture Exchange is very accessible for exploration companies. TSX-V's success is due to the fact that it has struck the correct balance between regulatory vigilance and access to capital. We do not compromise the regulatory vigilance, while at the same time making financial listing requirements that are more accessible to junior companies.

### How will the TSX maintain its position as the lead listing venue for mining and junior companies?

Staying ahead of the competition is of utmost importance to us. We have a massive array of programs that are designed to facilitate listing on our exchange. Furthermore, we plan to become increasingly active on the business development side; we will be attending and presenting at more than 200 events this year, both domestic and international. Raising awareness about the

opportunities available for TSX and TSX-V-listed companies will be fundamental to our strategy for remaining number one. We will be attending events in the United States, Latin America, the U.K. and Australia. Increasing exposure in Australia is an integral part of TMX Group's strategy for the future. TSX and TSX-V have become attractive listing venues for foreign companies due to the fact that the community of investors that invest through our stock exchange is very sophisticated, knowledgeable, and international. There is a massive array of programs that we run from business development, relationship management, to education and learning for all of our issuers. All of these initiatives have helped allow listed companies to take full advantage of the value proposition of our two exchanges.

### What are your main competitive advantages?

A competitive advantage that TSX has over its competitors has been our sound policy and innovative spirit. Sound policy has been integral to its success as an attractive listing venue, for mining companies in particular. Furthermore, on the innovation side, our capital pool company (CPC) program — run on TSX-V as an alternative to the IPO route — allows junior companies go public without being as subject to the market fluctuations that often come with going public. It has been a phenomenally successful financial instrument; 80% of all the CPCs formed have gone on to become fully listed public companies, for the most part on TSX-V.

### What is your final message to our readership?

The core opportunity that differentiates the TSX from other exchanges is the fact that we are the world's best two-tier exchange. TSX-V has provided more than 500 graduates to TSX; no other exchange system in the world is close to approaching this figure. This unparalleled two-tier system allows us to service companies from the smallest nanocap to the largest blue-chip. In conjunction, there are many innovative products and services, like the aforementioned CPC program, that continue to differentiate the TSX.

# Toronto Roots, Global Reach

## Canadian juniors tour the globe in search of mineral wealth.



Aerial view of the Eagle Gold camp in Yukon. (Photo courtesy of Victoria Gold).

While Toronto is certainly the premier financial center for mining and exploration companies around the globe, it is also of fundamental importance to the myriad of Canadian companies currently operating within their country's borders.

As a center of mining finance, Toronto is frequently visited by the CEOs and executives of Canadian-based exploration and mining companies. From Newfoundland to British Columbia, Toronto plays an essential role in the lives of all companies active in the Great White North.

One company in particular that is taking advantage of the city's mining finance expertise is Victoria Gold. The company's flagship property is the Eagle Gold Deposit in the Yukon, which possesses resources of over 6 million oz, and should be producing 200,000 oz/y in 2014; at current gold prices, that is a cash flow of over C\$250 million per year. "The capital required to build the mine is fairly modest at C\$350 million, which will allow us to produce gold at a cost of less than C\$600/oz. The Eagle mine will be an open-pit valley leach operation, a simple process with three stages of crushing, and then leaching; the start-up cost is lower because there is no melt or tailings pond. We are moving along in the permitting process, having submitted the environmental assessment one year ago; additionally, there were no significant issues raised in the public commenting period. We expect the environmental assessment to be concluded and the quartz mining license to be in place

by Q2 of this year, which will allow us to begin construction," said John McConnell, president and CEO of Victoria Gold.

A key element in Victoria Gold's success has been the company's ability to attract institutional investments from companies that specialize in mining stocks. Describing his current investor base, McConnell said, "Kinross owns 16%, Sun Valley Gold has 12%, Oppenheimer Gold & Special Minerals Fund is at just under 10%; we have investment from the usual companies who specialize in mining stocks. Part of our growth strategy has been increasing retail ownership of Victoria Gold; we are now at 65%. The speculators who are looking for a quick turnaround are out, leaving us with institutions that are willing to wait a few years for a return."

According to McConnell, executing this strategy would not have been possible

without the mining expertise found in Toronto. "We currently have seven analysts following us in total, six of whom are located in Toronto; this allows us to keep our shareholders abreast of any developments."

A company that owes much of its success to Toronto is Carlisle Gold. Under previous management, the company was delisted from the TSX due to its poor performance in 2008. However, led by a new CEO and president, Bruce Reid, the company was able to relist on the TSX in 2010.

Carlisle's primary focus is on its 20,000-hectare land position in the Lynn Lake Greenstone Belt of Manitoba. This property consists of 182 mining leases and 126 mining claims within the Greenstone Belt where approximately 433,000 oz of gold and 1,308 oz of silver were produced between 1986 and 1999. Of particular interest is the MacLellan mine located within the Lynn Lake Greenstone Belt where approximately 144,000 oz of gold and 432,000 oz of silver were produced between 1986 and 1989. Additional drilling has taken place since 1989 with the primary objective of confirming the "historic geological reserves." The past producing MacLellan mine has current NI 43-101-compliant resource of 1.2 million oz of gold; 600,000 oz contained within the parameter of an open-pit.

There is significant potential at and beyond Carlisle's MacLellan mine site. In total there are 29 known satellite deposits within the company's land package, five with significant historical resources and



John McConnell, president and CEO, Victoria Gold



three with previous production history. All are within close proximity to the MacLellan property. Continuing the capital raising momentum accomplished at the end of 2010, Carlisle secured a further C\$12 million in Q1 of 2011. "As of January 1, 2012 the company has approximately C\$5.5 million in working capital with no shortage of prospective additional capital at its disposal," said Reid.

Commenting on his plans for 2012, Reid said, "New resource estimates will also be produced for the company's Farley Lake property and the newly optioned Last Hope property. NI 43-101 technical reports pertaining to these properties will be produced in Q2, and Q3 of 2012. Management believes that the resulting four new NI 43-101 technical reports will provide a revised resource in the vicinity of 2 million oz of gold, with more than 600,000 oz contained within the parameter of an open pit. Continued expansion drilling and resource development will occur in Q1, 2012 at our Last Hope and Farley Lake properties. Further expansion drilling will occur at the MacLellan and Burnt Timber sites as the year progresses."

Donner Metals, currently exploring Québec, also owes its success to Canadian financial expertise. With the lateral development of its Bracemac-McLeod mine complete, the company's sole focus will be on developmental work, in preparation to start mining in January 2013. "Fortunately, located in the area to the north of our Bracemac-McLeod property is a milling facility that is 100% owned by their partner, Xstrata, reducing production costs and the time required to go into production significantly," said David Patterson, chairman.

Understandably, reaching this phase of development required Donner Metals to raise capital. However, unwilling to hedge its zinc, Patterson found a solution in a TSX-V-listed resource company, Sandstorm



David Patterson, chairman, Donner Metals.



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TSX-V:VIT



## Yukon's next gold mine **EAGLE GOLD**



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- +200,000 oz gold/year at < US\$650/oz
- NPV > \$1.0 billion

Metals and Energy. "In July 2011 we announced a financing with Sandstorm Gold through a volumetric production payment (VPP) whereby we sold 50% of our anticipated copper and precious metals production from the mine at a cost of C\$22.5 million; we made sure to leave the zinc unhedged. The financing is unique and is non-dilutive to our shareholders, providing us with capital without having to hedge our zinc production."

With regard to zinc, Patterson believes that investors should take advantage of the excellent opportunity that this often-undervalued base metal offers.

"Global demand for zinc is growing on a yearly basis, and is expected to exceed supply in the near future," Patterson said. "Consequently, we anticipate that the price of zinc will increase significantly. Large zinc deposits exist in Afghanistan, DRC, and Pakistan, but are not currently being built because of political instability. This provides an excellent opportunity for Canadian companies to provide zinc to markets around the world. Donner Metals hopes to be one of Canadian companies taking advantage of the excellent opportunity that this often-undervalued base metal offers to us and our shareholders."

### **Changing Trends: Canadians See Opportunity in Africa**

Given its mineral wealth, Africa does not receive the share of global mining investment that it seems to deserve. Canadian investors, the largest source of exploration investment worldwide, have traditionally focused more on Latin America and their home market. Nonetheless, some Canadian companies have broken that trend, boldly investing in assets throughout the continent.

One reason for the aversion towards African assets is related to the perception of political volatility, sometimes justified and sometimes not, that implies too high a risk for substantial investment. Moreover, insufficient infrastructure, particularly in West Africa, has in the past significantly increased operating costs for juniors and majors alike. Nevertheless, with resources simply too great to ignore and many nations establishing positive regulatory frameworks, Alan Hill, executive chairman and CEO of Teranga Gold, believes that Africa and, more specifically, African mining has a very bright future.

Hill has proven to be steadfast in his belief that Africa possesses a bright future. Teranga Gold acquired the Sabodala property, the only gold-mining operation in Senegal, from Australian company MDL. Since then, Teranga Gold has aggressively developed the property; Sabodala's first gold pour took place in March 2009, and the mine produced approximately 140,000 oz of gold in 2011. In terms of the infrastructure available near the site, Hill said, "Sabodala possesses one of the best engineered mills that I have ever seen. It is an incredibly impressive facility, performing exceptionally well, certainly as well as, if not better, than some mills found in Canada and Australia. Our current mill capacity is approximately 2 million mt/y and the mill will be expanded to double capacity to about 4 million mt/y for a cost of C\$60 million. All costs required for these improvements will be self-financed." The expansion was expected to be completed in the first quarter of 2012.

In addition, the company has plans to ramp up production to about 220,000 oz/y by the second half of 2012.

With regard to the mining friendliness of Senegal, Hill said, "Having passed a new mining code to World Bank Standards in 2003, the Senegalese government has developed a regulatory framework that encourages foreign investment in the mining sector. Precious metals, such as gold, make up a small portion of the mineral wealth that this country possesses. Senegal has within its borders a wide array of mineral resources, ranging from potash to iron ore, which

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Alan Hill, executive chairman and CEO, Teranga Gold.

have yet to be developed. The new mining code requires that the national government obtain a 10% interest on all mining projects. However, the government has implemented a seven-year tax holiday, which for our current mine license will end in 2015. This tax holiday is indicative of the government's efforts to support the mining sector as it exempts mining companies from paying a 25% annual tax for the duration of the tax holiday granted. In addition, employing local and national Senegalese employees has been a great advantage for us."

When asked about the responsiveness of Canadian investors to Teranga's story,

Hill is unfazed. "Historically, Australian and European investors are more willing to invest in companies with African assets than their Canadian counterparts. Nevertheless, I believe that Toronto's sophisticated investor base is able to appreciate Teranga's unique financial position and exceptional properties. The fact that the majority of our IPO was financed by Toronto-based financial institutions is indicative of the massive potential of our Sabodala project and the strong investor confidence that Canadians have in our company." Companies like Teranga Gold are playing an integral role in transforming Canadian investor appetite for Africa-based mining companies.

### Behind the Iron Curtain

The fall of communism nearly 25 years ago created a pathway for Ontario juniors, who, with a characteristic Henry Hudson-esque spirit of exploration, surveyed their way into the uncharted mining territory of the former Soviet states. Valuable gold mines that had fallen into disrepair proved to be exactly the type of challenge Canadian juniors were looking to tackle.

Dundee Precious Metals (DPM), a Toronto-based mid-tier gold producer, owns and operates two producing mines in Bulgaria and a development project in Armenia. The



Jonathan Goodman, president and CEO, Dundee Precious Metals.

flagship Chelopech mine, located in Bulgaria, currently produces 93,000 oz/y of gold and 35 million mt of copper annually. It has an expansion program underway to modernize the underground crushing and conveying system, which will be completed by the third quarter of 2012. Modernization was at the forefront of DPM's agenda when the company acquired Chelopech in 2003. "At the time we bought Chelopech, the loaders were not properly sized for the dump trucks, and we had to build wooden ramps to move the ore to the truck. Nine years later, not only is DPM mining in a professional way but our health and safety record is better



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than North American and Australian standards, which we have achieved with an all-Bulgarian management team," said Jonathan Goodman, president and CEO.

The company aims to be producing 150,000 oz/y of gold at Chelopech within the next two years, as part of its strategic plan to become a 400,000 oz/y producer.

Part of that total will come from DPM's Krumovgrad project, also in Bulgaria, which was recently permitted by the Bulgarian government despite community concerns about cyanide waste. "The community's concerns have been taken very seriously and DPM has revised the project to meet their needs. We will not be using cyanide, and will use a fine grind; instead of a traditional tailings dam, we will have a solid tailings disposal, which addresses the water concerns. We have also committed to installing a full water treatment plant prior to discharge," said DPM's Goodman.

With these modifications to the project DPM aims to have Krumovgrad producing 75,000 oz/y of gold in the years ahead.

If concerns over cyanide waste sound familiar, it is because a similar issue has sidelined the Rosia Montana project in Romania. Investors are excited by the prospect of massive gold resources, but keenly aware of the problem that Canada's Gabriel Resources has had trying to get the project off the ground. The controversy has had an impact on Carpathian Gold, a Toronto-based junior that owns the Rovina Valley gold-copper project, a 7 million oz gold resource near Rosia Montana. To finance Rovina Valley in the future, Carpathian acquired the Riacho Dos Machados (RDM) project in Brazil, a 1.5 million oz gold project that is currently under construction with the aim to produce 93,400 oz/y by mid-2013. "The company-maker is Rovi-

na Valley, but RDM gives Carpathian two strong legs on which to stand. Our peers in Romania are further advanced than us, but there are some key differentiators: they are 80:20 joint ventures with the government, whereas we own 100% of our project; their projects are legacy mines, and ours is a discovery, and many of the hot-button issues have already been dealt with. Carpathian has local support for the project, as well as political support. We needed a project like RDM to protect our shareholders and to help create potential value for Romania," said Dino Titaro, president and CEO of Carpathian Gold.

### Searching for Precious Metals in Mexico

Moving southwards, a destination that Canadian mining companies are much more familiar with is Mexico, in which Ontario-based companies have been active for decades. While Mexican mining may be synonymous with silver, three Toronto-based companies are placing bets on Mexico's gold reserves.

Primero Mining is the new venture of Joseph Conway, the former president and CEO of IAMGOLD under whose direction the company grew to a \$6 billion player. Primero's investors are surely hoping for a similar result, as Conway acknowledges. "If you look at the depth of our combined experience at all levels of management, especially at the senior level, we know how to succeed and we know we can make a difference," Conway said.

The company's flagship asset is the San Dimas gold-silver mine, which Primero acquired from Goldcorp in 2010 for \$510 million. The mine was a historic producer that yielded 80,000 oz/y of gold and 5 million mt/y of silver in 2010.



René Marion, president and CEO, AuRico Gold.

"We were actively looking for a platform that could easily generate a decent amount of cash flow and found it with San Dimas. Our plan is to invest this cash flow and double the production of this mine over the next two to three years. Beyond that, we plan to use this cash flow to build another business, add additional development projects and producing assets. Essentially, we want to build a portfolio that would bring us into mid-tier range in the industry," said Conway.

AuRico Gold, a gold producer operating in the heart of Mexico, calls itself a "leading low-cost mid-tier precious metal producer". Given that its flagship asset, Ocampo, is producing approximately 100,000 oz/y of gold at an operational cost of less than C\$430/oz it appears that the company is fulfilling its self-proclaimed status. Furthermore, taking into consideration AuRico Gold's recent takeover of Northgate Minerals in 2011, and the resulting acquisition of the, the high-grade, low-cost deposit, Young-Davidson, it appears that AuRico is determined to replicate its winning model beyond the borders of Mexico. Explaining his company's methodology for acquiring and assessing the attractiveness of assets, René Marion, president and CEO of AuRico Gold said, "As part of our strategic plan, we continually evaluate and monitor 150 to 200 companies throughout North America that are at various stages of exploration through to production," Marion said. "The assets are evaluated using a matrix of 25 criteria that include, among many other things, grade, type of asset and jurisdiction. As part of this process we acquired two companies in 2011, Capital Gold Corp. and Northgate Minerals Corp., which moved us into the category of an intermediate producer with five producing mines and the sixth, Young-Davidson, set to begin production in Q1 2012. Our fundamental principle going forward is that all of our assets must have the potential to produce 100,000 gold oz or



Open-pit operations at Young-Davidson in Ontario. (Photo courtesy of AuRico Gold).

more at lower quartile cash cost and have the potential for further expansion. With our recent acquisitions, we believe that we are now in a position to grow the company organically to achieve our goals, while maintaining our low cost per ounce profile."

AuRico Gold's acquisition of the Young-Davidson mine was unquestionably a seminal moment in the company's history. By adding Young-Davidson to the company's already impressive portfolio of assets, AuRico Gold significantly increased its total reserves by more than 3 million oz, as well as increasing its line of credit to C\$100 million.

Outlining his short-term strategy for the property, Marion said, "Through the Northgate transaction we acquired the exciting Young-Davidson mine, located on Abitibi gold belt, the second largest global mining district in Northern Ontario, Canada. The mine is currently completing construction with the first gold pour expected by the end of March 2012. The original feasibility study indicated that all production in the first two years would be from the open pit mine with underground production anticipated to begin in 2014. However, engineering studies are currently underway that could potentially advance and accelerate production from the underground to 2013.

Results of these studies are expected to be released by the end of Q1 2012."

Another success story to come out of Mexico is Torex Gold. Headed by seasoned mining executive, Fred Stanford (president and CEO) Torex Gold's share price experienced a sharp 45% rise from February 2010 to October 2011. "The growth in Torex's share price has been largely exploration-based," Stanford said. "Our resource estimate from December 2010 exhibited a very high-grade of approximately 3.2 g/mt. In addition to the results, we have an experienced board and management team, a good project."

With regard to industry regulations in Mexico, mining is one of the largest land-use priorities, second only to oil. "The Mexican government has gone through considerable effort to remove red tape surrounding the regulatory process. They have successfully set up processes that provide you with certainty about the steps required to obtain an answer. I think the government realizes that there are enough people in Mexico City, and that jobs are needed in the countryside and mining brings employment there," said Stanford. "I believe investors in Toronto look favorably toward projects in Mexico because it has a long history in mining, it is located in the same time zone, and de-

spite some recent concerns over security, this can be managed with appropriate protections, the same as you would implement for safety on the site. Investors in Toronto are well informed of all the risks involved in mining and maintain a long-term approach to their investment decisions."

Gold may be an attractive proposition in Mexico at the moment, but silver was the first girl to the dance. Mexico's long history in silver mining is a benefit to companies that operate in the country, as work crews and management teams are already knowledgeable about the industry. "We have an excellent mine management team, all of whom are Mexican, and imbued with the experience and education necessary to operate a small, underground mine successfully," said Fred Davidson of Impact Silver, who expect to be producing close to 1 million oz of silver from their mines at Zacualpan in 2012.

Mexico's long history with silver mining also means that there are many historically producing mines that are being reexamined, which is the case at Oremex Silver's Tejaman project. The deposit was discovered in the early 1600s, and had a period of production in the 1970s; Oremex is in the process of establishing the resource to make a production decision as soon as pos-



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sible. The area has a lot of further potential, and we have detected high-grade veins under the open pit resource, which has huge potential for major resources," said Mike Smith, president and CEO of Oremex Silver.

Excellon Resources is a Toronto-based silver production company employing around 250 people at its Mexican operations in Durango and Zacatecas states. The company's Mexican operations are home to a 637,000 mt resource measured and indicated with a grade of 836 g/mt, producing around 1.3 million oz/y with lead and zinc as by-products. The company's focus has been dedicated to finding the source of its deposit, which will change the company's resource into tens of millions of tons.

Excellon was surprised in September 2011 to find a discovery of anomalous rare earth elements located on the property of the Platosa mine during a drilling program. "This is definitely not something that will take our focus from our core activities of silver and finding the source at Platosa," said Jeremy Wyeth, president and CEO, Excellon. Despite the company's continued focus on silver, a mapping and prospecting program will continue to take place on the property to better understand the rare earth discovery. Samples of total rare earth element oxides comprised of cerium, dyspro-



First blast. (Photo courtesy of SilverCrest).

sium, lanthanum, neodymium, praseodymium, samarium and yttrium oxides.

Excellon will continue to grow its 350 mt/d operation in Mexico and is looking to fill the 40% spare capacity it has at the mill. In 2012, the company will increase its production to 72,000 mt/y of milled material and will continue its permanent drilling program, which equates to around C\$6 million in expenditure.

Another TSX-listed silver producer is SilverCrest Mines, who recently began production at their Santa Elena mine in the state of Sonora. Currently, Santa Elena is a heap leach open pit operation on target to

produce 33,000 oz gold, and 435,000 oz silver in 2012, but SilverCrest's plan is to install a conventional mill with a production capacity of 3,500 mt per day. "The depleted heaps have a huge amount of unrecovered metal in the form of gold and silver; these heaps will be rerun to increase our recoveries," said J. Scott Drever, president and CEO of SilverCrest.

The company is also banking on their La Joya project to attract attention from the investment community. The La Joya project, located 75 km from Durango, has a resource estimate of 102 million oz silver equivalent including copper, gold, and silver. "Significantly, the resource estimate is based on a very small portion of what we consider to be a very favorable trend. We currently have underway an 80-hole program at La Joya; by mid-year this will give us a good understanding on how much the original estimate of 102 million oz will grow," said Drever.

## Canadian Companies Mine in South America's Giant

A number of Canadian companies have decided to explore aggressively throughout Brazil. These companies range from early-stage explorers to more advanced-stage projects. On the early side of the spectrum, one finds Lago Dourado Minerals, a young

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## TORONTO – WORLD'S MINING CAPITAL

company, headed by president and CEO Forbes Gemmell. Having worked as a gold analyst for Raymond James, he decided to depart from the world of finance in 2010, subsequently joining Lago Dourado that same year. Nevertheless, while Gemmell is no longer working for a financial institution, his financial expertise will prove instrumental to the success of Lago Dourado in the coming years. Gemmell hopes to leverage his investment expertise to market the company's story, ensuring that it receives adequate exposure and attains enough capital and resources to fund its project.

According to Gemmell, the prospect of joining Lago Dorado was too attractive to pass over. "The size potential of the project as well as the favorable jurisdiction of the property and strong management team are enough for me to risk the security of my role and achieve some equity upside in an exciting junior story," Gemmell said.

Gemmell appears to have no regrets. Lago Dorado is currently exploring aggressively on its two Brazilian projects: Juruena and Jauru. "The Juruena project is our flagship project. It hosts an area of 10 square km of artisanal workings and gold-in-soil anomalies. The massive size and shape of the footprint at surface is extremely unusual and is what sets the project apart from most



Juruena in Brazil is Lago Dourado Minerals' main project. (Photo courtesy of Lago Dourado).

others. There has been 500,000 oz mined by the artisanal miners in the top 20 m to 30 m. Our main objective is discovering the source at the core of the system. Our drilling has already identified several high- and low-grade zones, however we believe these zones are on the edges of the system. The property benefits from access via a dirt road, which is accessible all year round and we rely on diesel generators and solar panels for power. Jauru is at an earlier stage but we should begin a drill program there

by the end of 2011. The property hosts a 2 km long gold and soil anomaly and the project should be a lot simpler to drill. Most of the property consists of cleared land being used for ranching activities, although parts are still forested."

As with any early-stage junior company, exploration is of fundamental importance to Lago Dourado's growth strategy. "We are in the process of our Phase One campaign, which is 15,000 m and this should be completed by the first quarter of 2012. The size of the mineralized footprint is what makes the project attractive but it also does make things more difficult from a drilling perspective. Some multi-million ounce deposits are captured in several hundred square meter areas, but we are looking at an area of 10 square km. We are hitting gold in many of our drill holes, although we have not made the large discovery yet that has attracted attention from the market. By the end of Phase One, we should have a much clearer idea of the geological model.

"Our longer-term strategy is to demonstrate that Juruena has multi-million ounce potential and to then look to sell the project to one of the larger producers, as they have a significant advantage both in terms of development expertise and capital capacity to take the project through to production. In the meantime our main priorities are to continue to ensure we remain well capitalized in what are challenging capital markets," Gemmell said.

Colossus Minerals is also aggressively exploring South America. Its flagship property, Serra Pelada, is located in the northeastern state of Pará. In terms of infrastructure, Serra Pelada is an ideal location, a mere 35 miles from the highway. Moreover, there is access to the site by a dirt road that is maintained by Colossus and Brazilian major




## Realising the Potential

- 100%-owned flagship Juruena gold project – 70,000 hectares in Mato Grosso, Brazil
- Massive mineralized footprint (> 10 sq. km)
- +0.5M oz mined in surface workings
- Multiple gold zones already identified
- Phase 2 drill program ongoing through 2012
- Experienced management and board

LDM : TSX-V

**Contact:**  
Forbes Gemmell, President & CEO, Tel: (416) 368-5005, Email: investor@lagodourado.com

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Brazil project, miners at night (Photo courtesy of Colossus Minerals).

Vale. The asset is located on flat-lying topography. Furthermore, power traverses the site and water is amply available. In terms of skilled labor, the city of Parapepis is to this region what Fort McMurray is to the oil sands; it is a mining boomtown that possesses skilled labor and mining services.

In addition to the phenomenal infrastructure that it possesses, Serra Pelada boasts mineralization that is quite unique for this day and age. Claudio Mancuso, president and CEO, described Serra Pelada as being a "low-tonnage high-grade asset which stands in stark contrast to the in-vogue low-grade, high-tonnage deposits found around the world."

Recognizing this differentiating featuring is highly important, as it stands as the primary reason that Serra Pelada has not yet completed an NI 43-10 resource estimate for the site. "The difference is important as resource estimates for high-grade deposits require much smaller drilling space. The only way to achieve this is to perform underground drilling; 5 m to 10 m drill spacing from surface is technically unfeasible. We are currently driving a decline, having reached 600 m to date. We will be in position to commence underground drilling soon," Mancuso said.

While much of Colossus Minerals' success in Brazil can be accredited to the unique land package, equal praise should be given to the management team's ability to build successful partnerships with influential organizations from the host nation. One partnership in particular with Brazilian COOMIGASP has been paramount to the company's success to date.

Operating in Brazil often comes with its own set of unique challenges, particularly with regards to permitting. "Whenever a company undergoes an environmental

process in Brazil, it is imperative to attend town hall meetings and gain social acceptance for your project. COOMIGASP support has been integral to our ability in gaining this social acceptance. Colossus Minerals has not had any problems at all, having received permitting faster than any foreign junior in the state of Para," Mancuso said.

Having discussed Lago Dourado's early-stage projects, it is imperative that we shed light on some of the more advanced-stage projects currently being undertaken by Canadian companies in Brazil. Belo Sun Mining, with its flagship Volta Grande deposit, certainly falls under this category. Volta Grande, the company's flagship asset, currently possesses a large resource estimate, exceeding 3 million oz of gold. Achieving this resource estimate was by no means an easy task.

"Two years ago when Belo Sun took over Verena Minerals, we had already identified 2 million oz of gold with a grading of around 1 g/mt. With our experienced team and investments to the property, we performed a total of 50,000 m in drilling and were able to expand the resource to 3.4 million oz and increased the grade to 1.3 g/mt," said Mark Eaton, president and CEO of Belo Sun Mining.

Eaton has attributed much of Belo Sun's exploration success to his all-Brazilian management team, a distinguishing feature of the company. "Possessing a Brazilian team has helped Belo Sun greatly," Eaton said. "We have had no difficulty obtaining rigs or people; this has been a problem for some other Canadian companies active in Brazil. I have also made sure all of our consultancy partners have an office in Brazil."

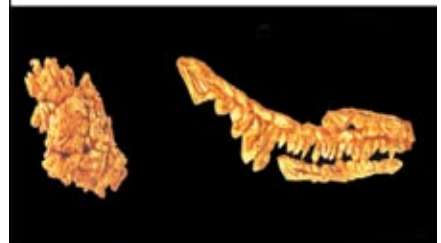
With a land package of 130,000 hectares, it appears that there is still much more gold to be discovered.



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## TORONTO – WORLD'S MINING CAPITAL

Ontario juniors are not just attracted by the promise of gold in Brazil. While the precious metals may offer some of the most attractive projects thanks to market prices, Brazil is also home to iron ore, phosphates and rare earths. Largo Resources, a Toronto-based junior, is actively developing its Maracas vanadium project, where the company is targeting 5,100 mt/y of vanadium by summer 2013. "At 3.4% our concentrate material is double anybody else's, and at C\$14/lb our production costs are around C\$7/lb cheaper than the closest competitor. The deposit is currently small, at 13 million mt, but we are on a 41 km property, which may last us for more than 50 years," said Mark Brennan, president and CEO of Largo Resources.

A current challenge for Largo, besides putting the resource into production, is the spot price volatility of vanadium. "Maracas has the potential to provide the vanadium market with the stability it needs to encourage higher global consumption. The volatility really prices people out of the market and diminishes your demand schedule. At Maracas, we are very lucky in that Mother Nature has already crystallized the vanadium for us," Brennan said.

Another attractive play in Brazil is mining phosphates for use in fertilizers. The Brazilian fertilizer market is heating up,



Aerial view of the Aurora gold project camp. (Photo courtesy of Guyana Goldfields).

thanks to the country's strong agricultural demand; in fact, Vale recently invested US\$1.1 billion to boost its stake in fertilizer producer Vale Fertilizantes. MBAC Fertilizer Corp. in Toronto is actively producing at its Itafós project with the goal of becoming the second-largest fertilizer producer in Brazil. "Itafós is mining 3 million mt of phosphate each year with a focus on the development of a beneficiation plant," said Antenor Silva, president and CEO of MBAC Fertilizer Corp.

The company is investing C\$250 million into the plant, with the aim of having it operational by September 2012. "At the beneficiation plant, we have two products:

one is a concentrate with 28%  $P_2O_5$  and the other is a byproduct with 15%  $P_2O_5$ . We import sulfur to produce sulfuric acid and mix the concentrate with the sulfuric acid to produce SSP powder, which is granulated and delivered to farmers," said Silva.

### Transforming a Nation's Economy: Guyana

It is not every day that one is presented with the opportunity to head a project that has the potential to significantly transform the landscape of nation's economy. However, fortune appears to be on the side of Claude Lemasson, COO of Guyana Goldfields, a company

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5.71 million oz M&I gold resource | High average grade of 3.83 g/t Au  
Production average of ~ 300,000 oz/year | First commercial gold production – Q1 2014 | 17 year mine life

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460,000 oz initial inferred gold resource at a grade of 2.09 g/t

### 2011 MILESTONES

Aurora revised Resource Estimate – Q4 2011 | Sulphur Rose revised Resource Estimate – Q4 2011  
Receive Permit to Operate and Build – Q4 2011 | Definitive Feasibility Study NI43-101 – Q1 2012 | Development Decision – Q1 2012

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Claude Lemasson, COO, Guyana Goldfields.

whose flagship asset, Aurora, could increase the GDP of the South American nation by 25%. Having joined the company in 2009, Lemasson brings a bevy of mine development experience to Guyana Goldfields.

With a total resource of 5.71 million oz of high-grade gold, Aurora is set to undergo earthwork throughout 2012. Outlining the capital expenditure for the project, Lemasson said, "The projected capital expenditure will be spent on two main components; C\$375 to 400 million will be dedicated to financing the construction of surface infrastructure including the mill, which will enable us to produce gold from the open pit. Another C\$375 to 400 million will be dedicated to underground development. Construction for this will take more than five years. Due to the timeline, we will be able to finance the underground capital expenditures using cash flow generated by production. We continue to assess our financing options for the initial capital expenditure."

Naturally, given current market conditions, raising this amount of capital is a challenge for any company. Fortunately, Guyana Goldfields has found a valuable partner in the International Finance Corp. (IFC), the investment arm of the World Bank. "The IFC has provided technical assistance with our Environmental and Social Impact Assessment (ESIA); this was required for our permitting application," said Lemasson.

That said, it should be noted that partnering with the IFC in a project requires companies to follow specific performance standards, meeting certain obligations pertaining to monitoring and reporting, particularly for environmental and social issues. "Having the IFC as a partner in a project requires us to follow specific international performance standards, meeting certain obligations pertaining to monitoring and reporting, particularly for environmental and social issues," Lemasson said. "We are



Sandspring's main asset is the Toroparu gold project in Guyana. (Photo courtesy of Sandspring Resources).

committed to following those performance standards. As a Canadian company, we build mines applying the same standards that we would in North America."

As with any project that is undertaken in a foreign country, it is imperative that a company has the support of the public. Guyana Goldfields certainly succeeds in this regard. As was stated earlier, the Aurora project has the potential to significantly transform the host country's economy. "The Guyanese public has been very supportive of our project. A large percentage of the population will experience, either directly or indirectly, the benefits of this project. Upon

commencing production, Aurora has the potential to increase the country's GDP by approximately 25%. A venture of this magnitude provides the Guyanese public with the opportunity to have steady, long-term jobs and it offers benefits to the economy at large," said Lemasson.

Economic development in the Republic of Guyana through foreign investment is also an outcome of Sandspring Resources Ltd's gold-copper project named Toroparu. Sandspring was able to sign a comprehensive mineral agreement with the government of Guyana in October 2011 that is the first of its kind since the Omai agreement in 1991. The mineral



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### Developing the Toroparu Gold Project Guyana, South America

**Company Objectives**

- Creating value for shareholders through discovering, developing and mining precious metal resources in Guyana
- Providing investors leverage to gold price by efficiently de-risking undeveloped gold resources toward low cost future production
- Generating value for Guyana by providing jobs, generating tax income, developing infrastructure and responsibly extracting valuable resources.

**Developing a Production Asset**

- Updated PEA, Q1 2012 increased LOM grade and cash flow, and reduced initial CapEx
- 10.0 M oz. in gold resource discovered at Toroparu (all categories)<sup>1</sup>
- Robust production economics in 5 M oz. preliminary mine plan<sup>2</sup>
- Estimated Pre-Royalty NPV \$1.050B
- Estimated Pre-Royalty IRR 25.2%
- Deposit open in all directions
- First Mineral Agreement signed in Guyana since 1991

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<sup>1</sup> 6.0 M oz. Measured and Indicated resource (241 MT at 0.78 g/t) and 4.0 M oz. Inferred resource (179 MT at 0.69 g/t)  
<sup>2</sup> 4.3 M oz. Measured and Indicated resource (173 MT at 0.78 g/t) and 0.7 M oz. Inferred resource (36 MT at 0.80 g/t) including 3.3 M oz. of fresh rock Measured and Indicated resource (96 MT at 1.07 g/t) and 0.4 M oz. of fresh rock Inferred resource (13 MT at 0.97 g/t)



TSX-V: ADM

# 10+ million ounces of gold



## Driving towards a 'shovel ready' project

- ▶ Water Rights (secured 2008)
- ▶ Pre-feasibility study (completed 2011)
- ▶ Permit application (Q1-2012)
- ▶ Feasibility study (Q2-2012)
- ▶ Permit possible in 2013

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agreement details all fiscal, property, import-export procedures, as well as an agreement to reduce the corporate income tax rate to 30%, which sets the stage for construction and operation of a major mining operation in Guyana. The agreement also includes a newly implemented two-tiered gold royalty structure of 5% of gold sales and duty and value added tax exemptions on all imports of equipment and materials including the construction and operation of a planned port facility, road and power improvements and the construction and operation of the mine at Toroparu.

The Toroparu deposit is currently in the pre-feasibility stage with plans to build a large-scale mining operation around a high-grade 5 million oz subset of the property's 10 million oz gold resource. The project is located near the capital city of Georgetown, "a thriving city from which we aim to use local vendors to purchase equipment whenever possible," said Wes Adams, manager of investor relations.

Adams discusses Sandspring's production plans: "Our recently updated total gold resource has presented a strong case for future gold production and a recently updated preliminary economic assessment projects an initial investment of \$482 million that would generate more than \$750 million in cash flow over the first five years."

Since going public at a price of C\$0.65, Sandspring has been successful in tripling the size of the Toroparu resource and increased the valuation of the company to C\$160 million as of December 2011.

The management team at Sandspring Resources is not new to the mining sector in Guyana: both Rich Munson the company's CEO, and John Adams, chairman of the board of directors spent 10 years working in the country, with the last five years dedicated to Sandspring's flagship Toroparu site. Sandspring is confident in the tremendous mining potential of the region based on the geology of the Guiana Shield's prolific Mazaruni-Barama mineral belt that holds records of near surface gold mining as far back as the sixteenth century.

### Copper-rich Peru

As the world's second-largest producer of copper, Peru is continuing to attract large numbers of Canadian junior mining companies, including AQM Copper Inc. In 2010, Teck Resources signed a 50:50 joint venture with AQM Copper on the Zafranal project, replacing the original terms for AQM's exercise option, and Teck's back in right and royalty announced in a May 2009 option agreement.





George Bee, president and CEO, Andina Minerals.

The Zafranal project is located in the resource-rich district of the Southern Peru Porphyry Copper Belt, and situated amongst some of the world's largest operating copper mines, including Freeport's Cerro Verde and Southern Copper Corp.'s Cuajone and Toquepala mines. The NI 43-101 compliant resource, recently updated, has 510.7 million mt of 0.36% copper and 0.07% gold, an increase of 70% in resource tonnage from the previous estimate based on 63,000 m of drilling in 2011.

A key challenge, as with many projects in Peru, is accessing available surface water for processing; however, the moderate power cost in the region could make desalinization of seawater a sustainable water source for the project. "The proposed plant site is located 80 km from tidewater at 1,850 m elevation, and while piping desalinated water from the coast is an expensive proposition it appears doable and may be the best way to get the project permitted quickly," said Bruce Turner, president and CEO of AQM Copper.

### Chile: South America's Canada

Chile is, without question, one of the best jurisdictions in South America, if not the world, for mining. With an abundance of well-trained labor and a supportive government, not many places in the world can compete. Hoping to take full advantage of the excellent opportunities available in Chile is Carl Hansen, president and CEO of Atacama Pacific Gold Corp. Currently, Atacama Pacific Gold has a total of six properties in Chile: the Cerro Maricunga oxide gold project, the company's flagship asset, and five other properties that are more grassroots in nature. Cerro Maricunga is located in Chile's Maricunga Mineral Belt, an established mining belt that hosts two operating gold mines and a number of advanced development projects. In fact, located a mere 20 km to the north is the Kinross La Coipa mine. In



Metallurgical test work. (Photo courtesy of Andina Minerals).

August 2011, Atacama Pacific Gold reported its first resource estimate for Cerro Maricunga — 1.62 million oz in the indicated category (93 million mt at 0.54 g/mt gold) with an additional 1.95 million oz in the inferred category (117 million mt at 0.52 g/mt gold).

Commenting on the strengths of the deposit, Hansen said, "Due to the fine grained nature and high purity of the gold mineralization, gold recoveries are quite good with column tests returning anywhere from 76% to 89% at crush sizes of 19 mm to 25 mm. Oxide-associated gold deposits like Cerro Maricunga often receive a premium in the market, having historically been comparably less expensive from an operational side due to the simplicity of the processing method. The work done so far suggests that the deposit will be amenable to heap leaching. The deposit is also quite clean with very low levels of arsenic, copper or other elements which can cause processing issues."

Over the past year, the company successfully removed the exploration risk associated with Cerro Maricunga. Nonetheless, the project does continue to face technical challenges, particularly with regards to water availability. "Our main goal for the following year is to continue growing the gold resource. Also, during the upcoming year, we are focused on acquiring water to develop the project. While the acquisition of water can be challenging, we are confident in our ability to acquire sufficient water in the region. Chile is a very safe jurisdiction to work in from both a corporate and political standpoint. I consider Chile to be the South American version of Canada with a similar long history of resource development. It is a great place to find and develop a mine," said Carl Hansen.

Chile's favorable mining climate has also been beneficial to Andina Minerals, a

Toronto-based junior who owns the Volcan gold project, which is also located in the Maricunga Gold Belt. "Chile is very stable, has a long mining history and a low level of risk. The Maricunga gold belt is characterized by very large lower-grade deposits that have become more attractive with the world's depleted resources," said George Bee, president and CEO of Andina Minerals.

Initial proven and probable mineral reserves for the Dorado deposits of the Volcan project are 6.6 million oz of gold at an average grade of 0.73 g/mt. A 2011 prefeasibility study contemplated an initial project of 15 years, with annual production of 283,000 oz at C\$575 million in capital costs; an updated feasibility study released later in 2012 is expected to increase annual production to 300,000 oz.

The feasibility study will also highlight improvements in technology employed at Volcan, such as the Sulfidation, Acidification, Recycle and Thickening, or SART process. In simple terms, SART is a process that is designed to control soluble copper in cyanide leach solutions and free up additional cyanide for reuse. Volcan's mineralization also includes small amounts of copper, which can be used in the solutions used to leach gold. Andina's expectation is that an 800m<sup>3</sup>/SART plant will reduce cyanide consumption by 10%, resulting in savings of C\$5.9 million per year and generate close to C\$6.8 million in copper sales per year.

Andina's management team is pleased about the prospects at Volcan, specifically in 2012 as the project undergoes further development. "Andina's assets are 100% owned, although the extra land we acquired from Barrick carries a 1.5% NSR royalty on anything we exploit there. We are therefore not complicated by lots of commitments, and our team has the expertise to put the project into production," said Bee.

## Producing Gold Where You Would Least Expect it, Paraguay

Paraguay is not a country known for mining. Nevertheless, Miles Rideout, president and CEO of Latin American Minerals, believe the country possesses wonderful opportunities for companies willing to give the landlocked South American country a chance.

“Brazil, Chile and Peru are the more traditional mining countries in South America, but each individual country has its own challenges. Brazil is heavily regulated and can be expensive for operations; Chile has a significant new mining royalty and has relatively high corporate income tax. Also in a well-explored country like Chile, mining companies are often required to drill to depths of 400 m or more to test for prospective deposits. Peru has significant political and social challenges. Paraguay in contrast is relatively deregulated, with low import tariffs and moderate income tax. Foreign companies are able to invest freely. Paraguay is not well known to investors because historically there have not been any operating mines in the country, in spite of published discoveries of gold, diamonds, REEs and niobium, uranium, titanium and other minerals. There is



New Trend trench located on the Discovery Trend at the Paso Yobai project, Paraguay. (Photo courtesy of Latin American Minerals).

abundant evidence of mineralization at surface, where mapping, trenching and shallow drilling are economical and effective exploration tools. In Paraguay, we have favorable circumstances to achieve significant discoveries for modest investment, and the mine start-up cost is bound to be low,” said Rideout.

Latin American Minerals is currently exploring and producing at its Paso Yobai property in eastern Paraguay. “Gold was discovered at Paso Yobai 14 years ago. Four years ago, Latin American Minerals signed option agreements for the two properties where epithermal gold was mapped.

We dropped the smaller option property in 2010 after disappointing exploration results, and exercised the other option that clearly showed mineable potential along the 4.5 km length Discovery Trend. This trend hosts epithermal-gold vein system, exposed at surface and extending to greater than 100 m depth. Our calculations suggest a 600,000 oz, or greater, deposit; 60% of which is coarse gold. Drilling out the resource is a challenge due to the structural nature of the deposit and the prominent nugget-effect displayed by this coarse mineralization. To economically resolve this circumstance, we have built a

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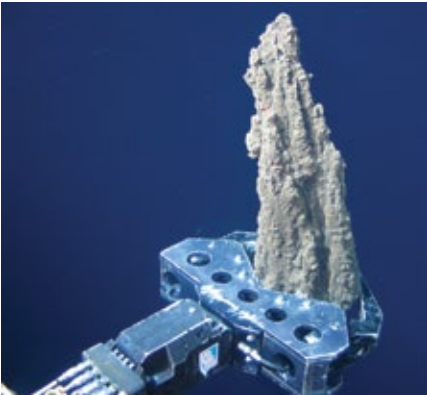
### Cerro Maricunga Oxide Gold Project

- Initial Indicated resource estimate of 1.6 M oz gold (134 Mt @ 0.54 g/t Au) with an additional 1.9 M oz gold (117 Mt @ 0.52 g/t Au) Inferred
- Oxide gold mineralization outlined over a 2.5 km strike to depths of 600 m
- Amenable to heap leaching with 80% gold recoveries
- 42,000 m drill campaign commenced Nov 2011
- Engineering scoping study ongoing
- Strategically located in Chile's Maricunga Mineral Belt



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ROV in the process of taking chimney sample. (Photo courtesy of Nautilus Minerals).

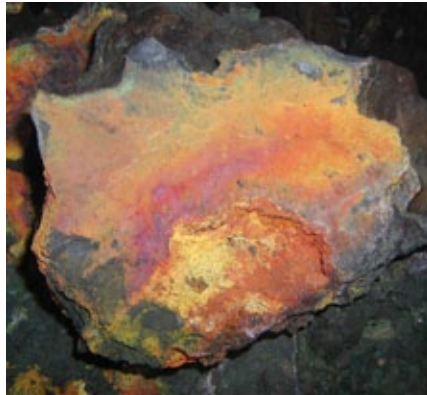
100 mt/d processing facility that started production in January 2012.”

Using revenue from the bulk sampling operation, Latin American Minerals plans to undertake an extensive exploration program throughout 2012. Rideout said, “Our objective is to strip the first 20 m of mineralization, to expose and bulk-sample the ore shoots. As they are identified, these ore-shoots will be drilled out at depth. The cost of this evaluation will be financed from the gold-sales resulting from the bulk sampling. The benefits of this strategy are that we will transition smoothly into a full mine operation at this site, and that our capital can now be directed to new exploration on the much larger New Trend target. Our team has been exploring this new concession for two years. We have identified multiple large gold-soils targets along a 14.8 km-long trend. In 2011, we succeeded in acquiring key surface rights to work in this area, and we secured our drill permits. The results that we have from our surface work suggest there may be bulk-tonnage targets with finely disseminated gold in this area. Exploration success on the New Trend will drastically increase the potential for this project and the value of our company.”

### Deep Sea Mining Off the Coast of Papua New Guinea

Just a few miles off the coast of Papua New Guinea, Toronto-based Nautilus Minerals is preparing to start production at its Solwara 1 copper-gold project, located in the most unlikely of territories – 1,600 m below sea level. While “offshore” used to be a symbol of the oil and gas industry, a few companies, including Nautilus, have begun to unlock the rich mineral potential of the seabed.

Tectonic plate activity on the ocean floor has created what is known as Seafloor Massive Sulphide (SMS) systems, which



Copper on seafloor. (Photo courtesy of Nautilus Minerals).


are similar to volcanic-hosted massive sulphide systems found on land and known to be mineral-rich. The Nautilus Solwara 1 project is a long strip of sea floor at around 1 km in length and anywhere from 100 m to 250 m in width across the deposit. The company will employ a seafloor resource production system, which entails three key components.

“The first is the production support vessel, which is a 200 m by 40 m that is dynamically positioned so that it can stay on location using computer-controlled thrusters referenced back to the GPS system. Another component is the suite of seafloor

production tools, which cut and collect the material on the seafloor and transport it as slurry to the riser and lifting system, which is the third component. This system pumps the solid material mixed with seawater up to the ship. Once on the ship, the material is routed through a dewatering plant. Solid material is then transported to the port of Rabaul,” said Stephen Rogers, Nautilus’s president and CEO.

Solwara 1 is expected to produce 1.2 million mt/y of material, yielding around 80,000 mt/y of copper and 150,000 oz/y of gold once production begins at the end of 2013.

The capital costs for the project are around C\$400 million, in line with traditional underground mining. According to Rogers, there is immense possibility in the future of seafloor exploration. “Once Nautilus has demonstrated the concept of economic recovery of these minerals, it will create considerably more interest in this space. It will take time for the business to grow, but we see a future where a percentage of the world’s minerals will be sourced from the ocean. Given that oceans cover 70% of the world’s surface, once Nautilus goes into production, it will signal to other companies that there is great possibility in seafloor exploration,” Rogers said.



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510.7Mt of  
0.36% Cu &  
0.07g/t Au

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- Outstanding experience on the management team and Board of Directors
- Preliminary Economic Assessment in 2012
- Well funded Canadian Junior

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- 137,000 metres drilled since 2010
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- Close to existing world-class copper producers and several large Cu deposits
- Great location with power nearby, good road access, available workforce, elevation below 3,000m
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Silver production at Galena, located in the historic silver valley of North Idaho. (Photo courtesy of U.S. Silver Corp.)

## The Silver Lining

### Silver may outperform gold

The ever-increasing price of gold has also made investment in alternative commodities, specifically silver, much more attractive, particularly to those who can no longer afford the former. Consequently, over the past decade the price of silver — although not as drastically — has experienced significant growth.

To put things in perspective, the average price of silver was approximately \$13/oz in April 2006; five years later, on 29 April 2011, the price of silver achieved in 31-year high, reaching \$49.21/oz. Since then, the price of silver has cooled off, experiencing a mild decline. However, this drop in price has not detracted from the ever-growing list of investors, the most prominent being Eric Sprott, who believes that silver will be the top-performing commodity of our current decade.

When asked why he believes silver to be the investment of the decade, Sprott said, “The massive value proposition of investing in silver can be understood through the application of simple mathematics. The US mint sells as many dollars of gold coins as silver coins. The price ratio of gold to silver is approximately 50:1. However, there is 6.5 times more silver available than gold for investment on any given year. At this point, one must beg the question: how long will the price ratio of gold to silver continue at 50:1? If the price ratio of gold to silver goes from 50:1 to the natural ratio of 16:1, then

silver will outperform gold. I do not see any reason why this is not possible.”

With silver expected to play such a pivotal role in the global economy in the years to come, we will provide an overview of a few of the most interesting silver stories from around the world. Like gold, these silver plays are not limited to a specific geographic location; each project faces its own unique set of advantages and challenges.

### Rising Price of Silvers Make More Projects Feasible

This interest from Toronto-based investors has enabled TSX-listed companies to pursue projects around the world. One of the more appealing of these silver stories is that of U.S. Silver Corp., a silver-producing company with assets in the prolific Silver Valley of Idaho. Possessing a land package of 14,000 hectares, as well as being in close proximity to world-class infrastructure that allows it to produce 2.4 million oz/y of silver, U.S. Silver plans to take full advantage of the increased global demand. Gordon Pridham, executive chairman, said, “U.S. Silver is the owner of the Galena mine and mill complex, located in Northern Idaho. The Galena mine was brought into production in 1953 under the management of ASARCO, and has produced around 180 million oz of silver over its 58-year history. The Silver Valley, as the area is known, is the most prolific silver producer in the Unit-

ed States and the operation at Galena is the second-largest primary silver mine in the U.S. after Hecla’s Lucky Friday operation.”

Commenting on the exceptional infrastructure located near site, Pridham said, “The Galena property employs around 300 people, is situated near the town of Wallace, Idaho, and is only one and a half miles from the main highway.”

Being a silver producer has put U.S. Silver in an enviable position. Silver production in 2011 resulted in \$1.5 to \$2 million per month. Leveraging their cash-on-hand, U.S. Silver has set high goals for the future that, if achieved, could greatly benefit stockholders. With regard to the company’s future plans, Pridham said, “Our task is to take the cash we have generated and grow the company, where we plan to increase production from 2.5 million oz/y to 5 million oz/y over three to four years through the internal development of resources, further exploration work and looking for an acquisition target in another geographic location. We have also announced the final stages of our resource work at the Coeur mine, which is 6 million oz of resource that will enable us to bring in 500,000 oz/y and give the company a total production of 6 million oz/y.”

While it cannot be denied that U.S. Silver is outperforming many of its peers, Pridham concedes that it does face its fair share of challenges, especially with regards to its high operational costs. “We are a high-cost





Gordon Pridham, executive chairman, U.S. Silver.

producer, because in a narrow-vein underground mine, it is difficult to drill out a large resource. I think we are probably overpenalized for our high costs and I instead like to focus on the margin we produce," Pridham said.

Nonetheless, the executive chairman of U.S. Silver remains confident that the future remains bright for his company. "We are an emerging story that has just made it onto many investors' radars in the last six months. Investors have become more familiar with silver in last 12 months and as a result, our liquidity has improved significantly and our market capital has grown

more than 10 times since 2008. U.S. Silver recently graduated to the TSX from the Venture Exchange and we have a listing application underway with a major U.S. exchange, which will be reviewed by the end of December. We think we are trading at two-thirds the value of where we should be trading, compared with our peer group."

### Prospects in Bolivia

Another interesting silver story is that of Apogee Silver, an early-stage explorer with three main assets: the Pulacayo and Paca deposits in Bolivia, and the Cachinal deposit in Chile. Although Apogee Silver has yet to commence commercial production, the combined resources of its three assets exceed 90 million oz. The bulk of the resource is in Bolivia; 75% coming from the Pulacayo deposit alone. With an abundance of silver ready to be mined, Neil Ringdahl, president and CEO of Apogee Silver, said, "Logically, that is the one we're taking into production. I have been brought on board to transition the company from exploration to production."

With regard to its flagship asset Pulacayo, Apogee Silver remains in the permitting process. Nevertheless, the company did commence trial mining in Q3 2011. "We are employing local people and train-

ing them up to keep costs low and also to honor commitments to develop the local community. Given the lack of previous experience, the learning curve for the team is quite steep and we are taking it easy in terms of production in the interests of safety until the team are more comfortable with the environment. We believe that investing in the community will pay dividends down the road, as they also have a vested interest in the mine. Ore produced will likely be custom toll milled in or near Potosi to provide early cash flow. Cash flow will obviously increase as we bring our planned pilot plant into production at the end of 2012. From there the plan is to grow the mine into a multi-million ounce per year operation," said Ringdahl.

Achieving this goal is by no means an easy task. However, flush with cash, the company finds itself in an enviable position. "According to the independent preliminary economic assessment completed in 2010 for a 1,800 mt/d scenario, approximately \$70 million would be required. Right now we have enough cash to execute on our trial operations and feasibility work. We like the idea of starting production on a smaller scale early on, either through custom toll milling or processing through a pilot plant to generate early revenues and reduce ex-

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education risk. Within the next few years, we envisage the construction of a much larger mine and plant that would perhaps produce, subject to the results of our feasibility, as much as 6 or 7 million oz/y. It may also include an open pit scenario targeting near surface resources as a kicker to get us over 6 million oz, but for now we will have to wait and see."

With regards to the location of Pulacayo, Ringdahl admits that convincing investors of the mining friendliness of Bolivia has been an uphill battle. The country has consistently ranked near the bottom of the Fraser Institute survey due to regulatory duplication and inconsistencies. The leftist leanings of the Bolivian government are well known to all, and have increased investors' reluctance to invest in the emerging Latin American state. In response, Ringdahl has worked hard to communicate the advantages of being in Bolivia and investing in Apogee Silver, "There seems to be increasing investor interest in Apogee Silver, though I think we still suffer a discount due to the perceived sovereign risk operating in Bolivia. I believe that the perceptions are changing as people realize that large mining companies like Coeur d'Alene and Sumitomo continue to produce significant profits from their operations in Bolivia. It will



The old Pulacayo mine in Bolivia, currently owned by Apogee Silver, produced more than 600 million ounces of silver between 1883 and 1958. (Photo courtesy of Apogee Silver).

also change as people learn how friendly the country really is towards mining. There is a long history of mining in Bolivia, and the permitting processes are relatively fast and efficient compared to some other South American countries. We have some significant shareholders: Sprott Asset Management and Coeur d'Alene Mines both hold large positions in the company, Coeur hav-

ing publicly stated that Apogee is a strategic investment. I believe this to be an endorsement in both the company and the country as an investment destination with significant upside. Apogee still has a little way to go before it is recognized as a producer, but we believe that as we hit our milestones we hope to become the next rising star in the silver mining industry."



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# Strategic Minerals

## The battle to secure supply

For many years, the group of 17 elements, which make up what is referred to as the rare earth elements, was paid little attention by the public and national governments. Necessary for manufacturing many of the high-tech and green energy products used around the world, these elements, particularly those falling under the heavy rare earth category, are of strategic importance to both the private sector and national government. Measures taken by the Chinese government to curtail exports of the elements have caused a flurry of activity in the past couple years, with prices rising several thousand percent in many cases, only to fall again in the second half of 2011.

Nonetheless, with some estimates expecting global demand to significantly exceed supply over the next five years, national governments and manufacturers alike are still anxious to secure supplies and, with prices still many times higher than they were two years ago, companies still stand to make significant profits if they can find economic sources outside China's borders.

Despite their name, the greatest challenge facing rare earth production is not in their discovery, but rather in the extraction of the elements, which requires very high levels of extraction expertise and metallurgical know-how. Canadian companies, renowned for their technical abilities, have been quick to join in on the effort to discover alternative sources for these elements. Unconventionally, some Canadian companies have not limited their rare earth exploration efforts to the traditional mining regions of the world, but have looked to less-recognized mining nations as potential sources for rare earth production. A prime example of this is Montero Mining.

Headed by Dr. Antony Harwood, president and CEO, Montero Mining has set a goal of becoming the first rare earth metals producer in Africa by 2013, producing up to 5,000 mt/y of rare earths. The goal to commence production in such a short period of time is by no means a coincidence. Fast-tracking production is paramount to Montero Mining's overarching business strategy. According to Dr. Harwood, "We have embarked on this strategy due to the uncertainty of the future prices of the rare earths; different rare earth analysts and commentators give vastly different views on the future price and demand. In fast tracking our production we wish to lock in the sales of rare earths at the best price, which in our estimation determines that this is the sooner than a later production date."

When asked about the core strengths of his flagship Wigu Hill project, in Tanzania, which will allow him to achieve this goal, Harwood said, "Mining is a simple business and great mineral deposits become mines when they have very specific features; we believe we have these at Wigu Hill. A good mineral grade is essential; we have an average grade of 5% to 10% TREO (total rare earth oxide) but have up to 27.25% TREO values in the mineralization. A great deposit needs size and tonnage potential and at Wigu Hill we have mineralization that is found in a carbonatite complex over 6 km in diameter and 3 km in width; a giant complex. The whole area of Wigu Hill is mineralized in one form or another; the challenge for us is to find the wider and better grade zones in the carbonatite complex. The mineralized rock is exposed at surface and has not been weathered. This will make an open-pit low-cost mining method possible and in addition we believe that the metallurgy will be relatively easy for us to extract the rare earth minerals from the host carbonatite rock. Bastnaesite is the main rare earth mineral present at Wigu Hill, making up



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Kutessay II is the only past producing Heavy Rare Earth Elements (HREE) mine in the world outside of China. Stans Energy owns a 20 year mining license acquired through auction in December 2009. With this purchase, Stans Energy Corp. effectively becomes the only company outside China with proven industrial scale hydrometallurgy for all 15 Rare Earth metals and oxides.

Stans Energy Corp. and our local subsidiaries are working towards rebuilding the mine and refurbishing the processing facilities in order to bring Kyrgyzstan back to the global forefront of Rare Earth Element production.

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95% of the rare earth mineralization. We are confident that the rare earth elements can be economically extracted from bastnaesite because they are extracted from this mineral in China, as well as at MolyCorp's Mountain Pass deposit in California."

With regards to environmental concerns and access to the site, Dr. Harwood said, "Environmentally we believe there are no constraints to mine development and local communities have been engaged and are not located near the main body of the mineralization or potential mining facility. The infrastructure around the site is dirt road, but these are generally good and there is the Tazara rail siding 12 km away. This railway links the property to the major port of Dar Es Salaam. The site is accessible by road, rail, and air; there is an air strip 40 km from the site so we can fly people in and out readily."

With core strengths that are difficult to locate throughout the world, it appears that Montero Mining is set for success. Nevertheless, Harwood conceded that Wigu Hill faces its own set of unique challenges. "We have a world-class deposit and good access to capital, but the time that it takes to drill, to complete feasibility studies, to have assays returned and to have third-party consultants to complete write-ups and QA/QC on time and on budget is hard. These days there is a great deal of exploration work happening around the world so it takes consulting groups a lot longer to complete work than what it used to. Globally there is a shortage of skilled professionals and we are fortunate that we have a skilled team on our Wigu Hill project."

Another Canadian looking to become the next rare earths producer is Stans Energy. With a general focus on the Central Asia and the former Soviet Union, Stans Energy's flagship asset, the Kuttessay II mine, is located in Kyrgyzstan. Although Kyrgyzstan may at first appear to be an unlikely jurisdiction for rare earth production, it should be noted that the country supplied much of the Soviet Union via the Kuttessay II, the only hard-rock, heavy rare earth mine ever to be put into production in the world. Although no longer in production, Stans Energy successfully acquired the Kuttessay II mine in 2009, with the hope of resuscitating the once-prolific deposit. With the previous owner failing to fulfill its licensing agreement with the government resulting in its suspension and the auctioning of the property to the highest bidder, Stans Energy successfully raised the money required to purchase the asset in 2009.

As was mentioned earlier, a fundamental problem in the global endeavor to find

an alternative source for rare earth production pertains to the highly difficult extraction of these elements. Nevertheless, Robert Mackay, president and CEO of Stans Energy, seems hopeful that he has found a solution to this technical hurdle. "What distinguishes Stans Energy from other rare earth companies outside of China is that we have a proven metallurgical process," Mackay said. "The fundamental point to remember when discussing rare earths is that without the proper metallurgy, all one has are rocks. Every time I make this statement in front of other CEOs they cringe, however, this is a fact. There has never been a successful metallurgical separation technology developed for complex silicates. While there has been a lot of money spent on finding a solution to this issue, nobody appears to be close."

Hoping to overcome the technical challenges associated with rare earth production, Stans Energy has teamed up with VNIIT, the Russian Leading Research Institute of Chemical Technology. "The number of heavy rare earth experts outside of China can be counted on one hand. Stans Energy's partnership with VNIIT has provided us with the knowledge and assistance of three of these experts. Dr. Valery Kosynkin, a member of our advisory board, is the most knowledgeable rare earth specialist in the world. His expertise has helped distinguish Stans Energy from the other rare earth companies that have been established over the past couple years," said Mackay.

Prior to the fall of the Soviet Union, one third of the Kutessay II was mined by open pit. Consequently, two thirds of the deposit remain and can be readily extracted. Stans Energy is in the process of drilling under the existing deposit, with the goal of acquiring more knowledge on the grade and mineralization of the asset.

An additional strength of this property is its close proximity to infrastructure. "The beauty of this property is that you can drive your Prius right into the bottom of the pit. The infrastructure is a tremendous asset for Stans Energy. Our private rail terminal acquired by us earlier this year is an invaluable asset, allowing us to transport fuel and mining equipment with ease to our site. The infrastructure is the best of any rare earth property anywhere in the world," said Mackay.

The company's business plan is to expand production dramatically from the historic resource. To execute this plan, Mackay is looking at 2014 as a realistic goal for production. However, Stans Energy may be able to go into production sooner than that, albeit, at the historic production rate.



## 'Green' Minerals

U<sub>3</sub>O<sub>8</sub>, or triuranium octoxide, is one of the more common forms of yellow cake, a fundamental ingredient in any nuclear reaction. Naturally, it would be safe to assume that company named after this chemical compound would be strictly dedicated to the production of uranium. But U3O8 Corp. is proving that this assumption is a false one.

After acquiring its Colombia-based Berlin project, U3O8 is looking to rebrand itself. Although it continues to be focused on uranium, the contents of the Berlin deposit have transformed the company into a multi-commodity green-energy explorer. With a historic resource of 38 million lb of uranium, Berlin contains a suite of other green-energy elements that are highly attractive in this day and age. "The flagship property is the Berlin green element project in Colombia. What I mean by 'green element' is that in addition to uranium, the Berlin deposit contains vanadium, whose principal growth area is in batteries for energy storage, phosphate for agricultural fertilizer, and rare earths, which are used in various high-tech industries with applications in renewable energy. Our recently announced metallurgical results show that we can achieve excellent recoveries of this suite of commodities from the ore. The uranium, vanadium and phosphate account for about two-thirds of the in-situ value of the Berlin rock, while the rare earths contribute another 20%. We have defined an initial uranium resource of 21 million lb to date, but believe there is potential for 70 million to 80 million lb of uranium on the entire property — so far we have only drilled 3 km of a 10 km mineralized trend," said Dr. Richard Spencer, president and CEO.

Admittedly, the biggest challenge facing the Berlin project is that it is a multi-commodity deposit. Dr. Spencer said, "The big question with the Berlin project is that when you have a big suite of commodities, investors tend to get cautious. Risk exists in terms of the metallurgy; will we be able to extract these elements? As of a couple of weeks ago, we received preliminary results from SGS in Australia; they were very encouraging. The results showed that it was possible to extract the uranium, vanadium, phosphate, and rare earths." With momentum on his side, Dr. Spencer believes that 2012 has the potential to be a monumental year for the company. "With our rapid resource growth in the past year from 7 million lb to nearing 50 million lb of uranium, not to mention resources also in phosphate, vanadium and rare earths, U3O8 Corp. is emerging from a junior explorer to one of the intermediate players in the uranium space. 2012 is expected to be



Richard Spencer, president and CEO, U3O8.

a breakout year for U3O8, with a growth trajectory to 70 million to 80 million lb of uranium and two scoping studies on the go."

## Is 2012 the Year Uranium Recovers?

As any investor, or any news-watching member of the public, is aware, 2011 was a detrimental year for uranium thanks to the Fukushima disaster in Japan. Before the earthquake and tsunami in March 2011, the price of uranium was approaching \$75/lb; after Fukushima, prices bottomed at \$50/lb and finished the year at \$52. Share prices of uranium companies followed suit and uranium projects were shelved almost across the board, with many analysts pondering when and how the players would recover. The answer may come sooner than expected, according to Pinetree Capital's Corporate Spokesperson, Marshall Auerback. "Due to incredible population growth, there are more and more people who will consume electricity and there is no one conventional source to satisfy this growth. There will continue to be nuclear power plants built with improved safety measures. Uranium offers much more compelling value right now than almost any other area in the energy sector." In addition, the abundance of uranium, as well as its longevity — technologies exist which can extend its use 60 fold — make it an ideal form of energy for the future.

## Lithium

Lithium has grown in importance over the years. Much like rare earths, lithium is a fundamental component in many of the high-tech green energy products of this era, as well as in batteries. While the applications of lithium appear to be growing on a yearly basis, the general public's understanding of the element and its fundamentals continue to be rudimentary at best. Unlike most strategic minerals, some lithium comes in a liquid state; many investors have difficulties un-

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derstanding this in terms of mining. Furthermore, another idiosyncrasy of lithium is that its global production is currently undertaken by four companies. In terms of the lithium industry, there are more than 100 battery producers and only four lithium producers.

However, Dr. Waldo Perez, president and CEO of Lithium Americas, remains undeterred by this challenge. His company is currently developing its principal property, Cauchari-Olaroz, with the goal of it becoming the world's largest and lowest-cost lithium operation.

Describing the core strengths of the company's asset, Dr. Perez said, "The property is a brine project where we extract hyper-saline water (brine) that contains metal dissolved in it. The liquid looks like drinking water but it is 20% denser than water. The area hosts 5.3 million mt of lithium carbonate as measured and indicated and 2.7 million mt lithium carbonate as inferred; this is only one third of the overall property package. The resource is large and if the project is mined for 40 years at 40,000 mt/y — making it the biggest lithium mine in the world today — there would still be 50% of the resource still in the ground. The resource has a lot of blue-sky promise; it is already around third-largest lithium brine resource in the world and it has the potential to grow."

While entering a market dominated by four players should be a challenge for any aspiring company, Dr. Perez is confident that Lithium Americas can achieve this goal. "Lithium comes from two sources; 30% comes from hard rock and 70% from brines. Hard rock production cannot compete with lithium from brines due to the higher operational costs. Other brine producers have operational costs that are higher than ours, so we will have an advantage. The secret to success in mining is to control large resource with low operational costs. The lithium carbonate market is growing and demand will stay strong in the years to come. We will be able to build the mine and we will be competitive because of the size of our resource and our costs." Achieving this goal will require that Lithium Americas clear a number of technical and financial obstacles. "There are a lot of lithium projects currently being promoted, but very few will go into production because there are many issues that need to be taken into account, such as brine chemistry. The exploration effort required to develop projects is huge and companies need to be capitalized to invest money. Companies need expertise. Fortunately, we are the only junior lithium company that has its own engineering staff. We were lucky because some of the larger producers in the world let their



Waldo Perez, president and CEO of Lithium Americas.

staff go and we now have a full-time Lithium Americas team who are working at Cauchari-Olaroz. The company was built to build the mine," said Dr. Perez. With regards to the financial challenges facing Lithium Americas, Dr. Perez believes that flawed perception and a lack of knowledge is the main culprit. "People have to start getting used to new kinds of projects. Lithium projects need to be discovered and developed. Investors should not be afraid of trusting companies that are making an effort to make new discoveries. Lithium is not a well-understood commodity but this will change in time and people will start to invest more aggressively."

## Vanadium

In addition to their Ontario based Hammond Reef project, Spartan Resources is currently working on a world-class vanadium concession, the Jiangxi project, in China. "We are in the process of seeking a strategic partner to finance this. The project is made up of a large series of deposits, on many of which we have done advanced drilling, exploration and metallurgical testing. Currently the global vanadium market is very strong, particularly in Asia where it has emerged as a major commodity for the steel industry. China, for example, is unable to produce enough vanadium to satisfy domestic demand. Consequently, it imports a third of its required vanadium. With our current project, we will be operating within China in hopes of satisfying some of this domestic demand," said Lee Barker, president and CEO of Spartan Resources.

While Barker sees immense potential in this project, his biggest challenge remains that vanadium is a commodity that is greatly misunderstood. "The vast majority of investors are not aware of the importance of this commodity, despite the fact that it is an essential element in almost every new technology in today's society. From wind farms to basic steel, the applications of vanadium are endless."

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## MINING IN ONTARIO

221,000 square km, Ontario's mining sector is expected to feel the squeeze as companies are effectively deprived from exploring and extracting the province's mineral wealth.

Another point of concern lies with the region's First Nations communities. First Nations, many of whom work in the mining industry and rely on it for their livelihood, will likely be negatively affected by the ban. While the Far North has historically relied on forestry and mining as its two main sources of economic activity, the former has been in a state of decline for the past decade. Consequently, mining remains the only viable industry in the region. In short, it appears that by enacting this bill, the government of Ontario has not only harmed the mining industry, but also the economic prospects for many First Nations' communities in the north.

### The Mining Act: A Source of Confusion and Controversy

The newly amended Mining Act, while having met with less resistance than the aforementioned Far North Act, continues to be a point of contention between the industry and government, specifically with regards to statutes pertaining to the consultation process that companies must undertake with Aboriginal communities. "The new regulations create uncertainty over how compa-

nies are intended to operate, which slows down process in terms of permitting and consultations with local Aboriginals; it becomes difficult, as companies are not certain as to how to implement these regulations," said Paul Stein, partner at Cassels Brock, a leading mining-focused law firm based in Toronto.

Greg Roman, president and CEO of Gowest Gold, attributes the recent frustration experienced by First Nations communities and the private sector to a lack of clear government protocol. "The Ontario government must do a better job in providing a platform from which companies can formalize their relations with First Nations. Currently, companies are advised to consult with Aboriginal communities; however, they are not required to do so, as the government is often expected to play a lead role in the consultation process. Nevertheless, when companies choose to rely on the government of Ontario for assistance with consultation, they run the chance of stalling their projects, waiting for long periods of time before any work is done. Thus, if a company is trying to move a project forward, it is best for the party involved to interact with the Aboriginal communities directly. Current regulations are too loose and do not allow for optimal efficiency. The government must

create a streamlined procedure for which interaction between all parties can be take place in an efficient fashion."

Sharing Roman's sentiments, Thomas Morris, president and CEO of Northern Superior believes that the solution to the confusion surrounding the consultation process may be a financial one. "The Ontario government must make an effort to resolve First Nations issues, providing clear terms of consistent engagement between First Nations and mineral resource companies, perhaps providing the First Nations with a percentage of the Mining Tax like the petroleum industry did years ago. We as an industry need self-imposed standards that set a consistent standard of engagement between our industry and First Nations."

Further complicating the consultation process for companies is the fact that First Nations communities, particularly those residing outside of the establishment camps of Ontario, are often unfamiliar with the process of the mineral resource industry. "The further north you go, the less exposure First Nations have to mining companies and exploration, so they do not have any understanding of what we do. Education becomes the other key factor in explaining the difference between exploration and mining. The current Ontario government has not dealt

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David McIntyre, partner, Gowlings.

with this issue, so it has been our responsibility to provide education and inclusion in the process," said David Palmer, president and CEO of Probe Mines.

In addition to the confusion surrounding the consultation process, the new Mining Act will also require companies to file additional exploration plans and permits, further complicating an already cumbersome procedure. Due to the nature of their business, junior exploration companies are expected to feel the effects of these new requirements the most. "The Mining Act needed to be amended but no one likes change and it is going to be a difficult transition for junior mining companies. There is still a lot of uncertainty regarding the amendments to procedure. One of our concerns is the requirement to file various exploration plans and permits. Exploration companies like to work in a certain amount of secrecy; now we will have to notify the world what our intentions are. We also like to be flexible and dynamic in our exploration programs and I can see that that might be curtailed by having to file plans and permits," said Ian Bliss, president and CEO of Northern Superior.

According to David McIntyre, partner at Gowlings law firm, aboriginal law has changed in interesting ways over the past few years. "Historically, mining projects were very isolated; each one dealt with a new group that had never seen anything like it before. With the arrival of experienced advisers and the Internet, there has been a massive exchange of information amongst local groups. The game has changed to a more equalized level, where communities grant social licenses for projects," he said.

### Obtaining the Social License to Operate

Perhaps the greatest stumbling block facing Ontario's mining industry is one of perception. The general public, particularly southern Ontarians, tend to view the sector in a




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negative light. Perceived by many as being unsafe and environmentally hazardous, the mining community will be facing an uphill battle in its effort to clear the industry of its less-than-positive reputation. Solving these problems will give the mining industry the social license to operate.

"The biggest challenge facing Ontario's mining industry is obtaining the social license that is required to operate. Doing this requires that companies work with First Nations and local municipalities, while at the same time ensuring that the general public understand the importance of mining," said Hodgson of the Ontario Mining Association.

For the industry to prosper, companies will have to better communicate the benefits of mining to the public. "The public must understand that mining has a positive impact on the world. If politicians want to have a green economy, then they have to support the mining industry. All the materials that go into energy-efficient cars, wind-mills, and solar panels come from mining. It is imperative that we communicate this message to the public to help them realize the importance of this industry," said Hodgson.

### Evading the Labor Shortage

Another difficulty facing Ontario's mining industry is the seemingly inevitable and imminent labor shortages that are expected to hit the sector in the near future. While mining has been part of the province's economy for many decades, younger generations appear less enthusiastic to work in the industry. This reluctance is a serious challenge to the sustainability of the industry. If Ontarians hope to continue being leaders in mining, it is imperative that the sector resolves the labor issues that are soon to confront it.

The issue is certainly one at the forefront of Goldcorp's agenda, said Chuck Jeannes, Goldcorp's president and CEO. The company employs nearly 3,000 workers in On-



Chris Stafford, president, CJ Stafford & Associates.



tario at its three producing mines. With Éléonore in Québec and Cochenour due to come into production in 2014, the shortage of skilled labor could indeed become a serious operational problem. "We ensure that our staff are well compensated and have development opportunities to make Goldcorp the employer of choice. We are also engaged in training and education programs to bring new participants into the workforce, and support university programs at a variety of schools across Canada. We are taking a proactive approach because the shortage is so acute, and by making endowments to schools we can move the training process ahead. Overall we simply must continue to be a company of choice so that we attract and retain the necessary people needed to run the business," said Goldcorp's Jeannes.

While companies like Goldcorp are taking a proactive approach by partnering with local schools to teach students about career possibilities in the mining industry, the industry's leading association is also enacting programs of its own.

The Prospectors and Developers Association of Canada (PDAC), which represents the interests of the mining industry on a national level, developed the Mining Matters program to educate students nationwide about careers in mining. The program is designed to introduce geosciences into public schools to foster an appreciation of the industry, with a goal of getting students to consider a long-term career path.

"We need to start aligning the need of getting students into geosciences programs and think about how they will get into the industry, so that there is a direct path for students interested in mining," said Ross Gallinger, executive director of the PDAC.

Traditionally, the mining industry has looked to young males as the primary source of employment. This will no longer suffice. To evade the approaching labor shortage, the mining industry has looked towards immigrants, as well as First Nation communities who already make up approximately about 7.5% of the workforce, as a solution to this challenge. Unfortunately, even the combined total of both groups will be unable to completely satisfy the industry's demands. Solving the labor issue will require that Ontario follow in the footsteps of Australia by employing more women in the sector.

"The only way the mining industry will be able to overcome future labor shortages is through the hiring of women. Currently, the percentage of women making up the labor force of the mining industry is 13%. We would like to increase the portion of women working so that it can approach the national average found in other sectors of the economy, 50%," said Hodgson.

The industry is showing signs of progress in this regard, as more women are graduating from mining programs in Canada than in previous years, said Chris Stafford, president of CJ Stafford & Associates, a recruitment firm with a long history of supplying the mining industry. "The industry must examine a much broader base in their search for talent. The military is one such source; the discipline and adaptability of military personnel make them ideal for the mining industry," said Stafford.

### Future Still Bright

While the mining industry in Ontario has certainly had some setbacks, the province continues to possess some of the brightest and most knowledgeable minds in mining. "The people of Ontario make the province an exceptional jurisdiction for mining. Canadians are known as world-class miners around the globe, particular with regards to hard rock underground mining, in which field we are probably the best in the world," said Daryll Hodges, president of Jennings Capital.

Furthermore, Ontario has some of the best geology in the world. Hodges said, "We have been blessed with an endowment of natural resources that are quite spectacular and we have yet to explore the vast majority of the province." In addition, Ontario has a very stable political and regulatory environment in terms of investment rules and expertise around the Mining Act and how it is administered. Ontario has always been perceived as an honest place to do business, with a clear rule of law.

With all these qualities, understanding why Ontario has lagged behind its neighbors in the Fraser Institute's Annual Survey of Mining Companies can prove to be quite a perplexing task. Nevertheless, with the exploration expenditures and production levels reaching new highs, a wave of optimism has spread throughout the industry. Nowadays, both the private sector and government officials are working vigorously to resolve the issues that obstruct the industry's progress. Cooperation amongst all parties, particularly between mining companies and First Nation communities, will prove instrumental in improving the perceived "mining friendliness" of the province.

Sanguine in his disposition, Ian Bliss, president and CEO of Northern Shield, said, "there are still excellent opportunities in Ontario as can be seen with the recent discovery of one of the largest chromitite deposits in the world in the Ring of Fire. The Ontario Geological Survey has an incredible database of information to stimulate exploration and they provide excellent information to exploration companies to help us progress. So if mining companies, governments and First Nations can all get on the same page everyone will prosper." If this cooperation is forthcoming, it is a fair bet to predict Ontario's rise back up the Fraser Institute rankings. What is perhaps most important is the education of all parties to the economic benefits the industry will bring to the province.

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# The service sector

**Ontario's rich mining history has created a breeding ground for mining innovation and expertise on a global level.**



Canada's mining potential is attracting engineering firms from abroad. (Photo: Labrador Iron Mines' facilities, courtesy of DRA Americas).

The Ontario Mining Association has referred to the province as a "productivity powerhouse," and this extends down to the services sector. The province is home to the largest concentration in Canada of engineers, consultants and manufacturers servicing the mining industry, with more than 1,300 companies with offices in Ontario. According to the most recent data released by the OMA, total capital investment in Ontario mining, including research, exploration, construction and equipment, reached C\$2.7 billion in 2007, representing an increase of 58% from 2004. The value of goods and services procured within 80 km of mine sites in Ontario was more than C\$1.4 billion in 2007, up from C\$836 million in 2005.

The evolution of Ontario's mining industry created two distinct centers for expertise. On the engineering and consultancies front, Toronto is home to numerous Canadian engineering and consultancies that have a long history servicing mining clients. Additionally, many international mining engineers and consultancies have established offices in Toronto to service their clients in Canada as well as abroad; recent entrants to the market have come from as far as Australia, China and mature markets such as the United States. As for technical expertise, the vast mining region of Northern Ontario is home to a variety of established players and startups that are exporting their products on a global level.

Service companies and manufacturers are riding the commodities wave, particularly on the back of precious metals. As any industry insider knows, the cyclical nature of mining is such that auxiliary companies must align their growth targets with that of the industries in which they serve.

## Engineering excellence

Thanks to Minister Bartolucci's promise of eight new mines over 10 years in Ontario, engineering companies are positioning themselves to take advantage of the increased demand for their services.

Global players such as Hatch, SNC Lavalin, AMEC and Ausenco have an established presence in Ontario, but mid-sized engineering firms are finding that more than enough work exists for every company to gain a share of the pie.

Montreal-based BBA, an engineering and consulting firm whose niche lies in the synergies created between their mining and power expertise, recently opened an office in Toronto to better serve their Ontario clients while increasing their focus on the potential client base. "Ontario will be a natural market for us in both proximity and natural resources that will be explored and developed over the coming decades, and the power grid that requires refurbishment and development for new and existing clients. BBA is targeting clients wishing to develop their project with the expertise of a trusted

adviser who can bring innovation, and high value solutions, a service appreciated within the cycle of a project," said Steeve Fiset, president and CEO of BBA.

The company already has an office in Timmins, near the Ontario-Québec border, which was established to service Detour Gold's project in the region, where BBA is engaging in detailed engineering. While the office was established for a specific purpose, Timmins will supplement the Toronto office and serve as part of BBA's growth strategy in the region. "Our Timmins office in northeastern Ontario will complement our Toronto office, becoming a proximity service office with a local workforce as we need to be close to our clients' facilities for on-the-spot needs. If necessary, we have



Wray Carvelas, CEO, DRA Americas.



the back-up strength of large technical groups who are based in the Toronto and Montreal offices,” said Fiset.

With seven offices nationally and a fleet of 400 engineers, BBA will target projects between \$500 million and \$1 billion. “BBA has made a conscious effort to ensure that with its expanding level of service, the high quality of service remains constant; any growth that the company achieves will not be at the expense of BBA’s high quality of service. Our model is to achieve 20% growth without a reduction in quality of service,” said Fiset.

Growth is also the mandate of engineering firm DRA Americas, whose Toronto office will service both North and South America. Originally headquartered in South Africa, the company specializes in all aspects of underground mine design and surface mineral processing. “The idea is that we grow from a small core of engineers into an office that over a short and medium term can support 100 to 200 people and in the longer term has similar capabilities to the African office, which has 1,200 people,” said Wray Carvelas, CEO of DRA Americas.

The company is currently working on two projects out of the Toronto office: the Labrador Iron Mines project in Northern Labrador and Colossus Minerals’s gold project in Brazil. “The target audience for DRA in the Americas is very different to Africa. Globally we are a tier one supplier to Anglo American, which typically includes multi billion dollar projects. Here our target market includes junior to mid-tier mining companies with projects closer to \$200 million to \$300 million,” explained Carvelas.

The challenge for DRA Americas, according to Carvelas, is to establish itself as a recognized brand in the American market. “It is all about growing relationships. It is important to us to partner well, and here in Canada we went to develop Canadian capabilities. We have spent time developing our brand, and it has come a long way in the past year from being virtually unknown to now having acknowledgements in the market.”

The Canadian market is the core of Toronto-based established mining contractors Dumas Mining, who provide EPCM services in Ontario as well as globally. The company’s service level was recently enhanced by their acquisition of Tercon, a surface mining contractor that will complement Dumas’s underground expertise. “We are busy integrating these two to provide a full range of services to our clients,” said Burger Greeff, president and CEO of Dumas Mining. Integration will be the company’s focus in Ontario, while expanding their services to better address the needs of their clients.

As a result of this merger, Dumas will expand their international presence through enhanced service offerings. “As Dumas goes international, we have thus far focused on underground op-



Yves Dessureault, head of Ontario division and Steeve Fiset, president and CEO, BBA.



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## MINING IN ONTARIO



Dumas Mining is expanding its range of services to include surface-based work. (Photo courtesy of Dumas Mining).

erations, but are now able to offer surface-based operations. We have had an unbelievably positive response from our clients regarding our expansion of services. A lot of requests for proposals from underground clients looking for us to do surface based work (and vice versa) have come in. We have gained a number of new clients as a result of this as well, especially in Central and South America," said Greeff.

In Ontario, Dumas works with Lakeshore Gold, North American Palladium, Xstrata and AuRico Gold. According to Greeff, the most growth will come from their international expansion. "Our international growth

is moving very fast, and this year we are looking at a 68% growth in our international operations," said Greeff.

Stantec, a Canadian engineering consultancy with 170 offices in North America, is also boosting their open-pit expertise to add to their core services of underground mining infrastructure. Three years ago, in an effort to solidify their mining division, Stantec acquired McIntosh Engineering, a North American firm focused on underground engineering. "As McIntosh Engineering, we focused on underground mining, which was our niche market. Stantec acquired McIntosh as a strategic means to evolve into offering services in un-

derground mining," said Andy Pitz, managing principal of Stantec's mining division. "We have expanded into open-pits, and we have also reached out to other groups in Stantec, such as the transportation division, who can get involved in roads and bridges with mines where we work," he said. Going forward, the company also in the process of expanding their international presence. "Historically we have always had a balance between international and local. This past year 10% of our revenue has come from international clients, but for this year the domestic demand has been so substantial that we have not had to chase international projects," said Pitz.

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Ontario represents 60% of Foraco's Canadian operations. (Photo courtesy of Foraco).

### Drill, Baby, Drill

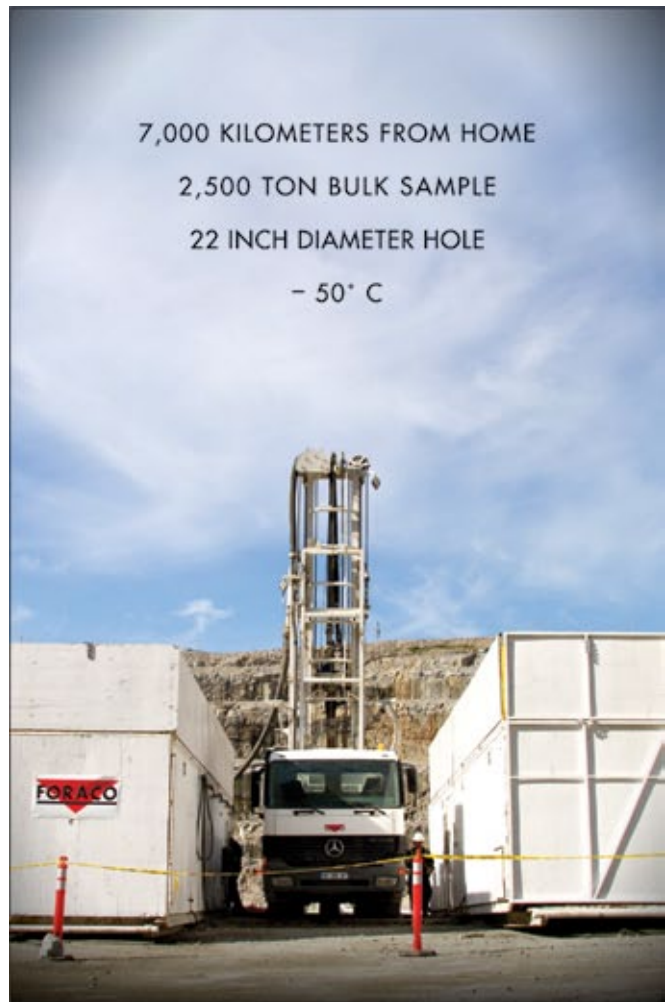
The boom in exploration in Ontario is putting increased pressures on drilling companies active in the market, such as Foraco, the world's third-largest drilling contractor, whose offices in Toronto and North Bay account for 60% of the France-based contractor's Canadian business. "All of our rigs here are assigned to long-term commitments on multiyear contracts. This provides for excellent utilization rates and helps us retain good crews," said Tim Bremner, senior vice president of Foraco in North America.

With such a high demand for drilling services, the need for safety becomes ever more paramount. "We have a reputation for getting the work done, with on time delivery of a safe and quality service. While it sounds straightforward enough, it is becoming increasingly important for our major clients especially when the services industry is stretched like it is today, especially for a number of junior companies who see the value in getting their work done safely and on time," said Bremner.

Foraco's emphasis on safety and timely delivery of service enables the company to be selective about their perception in the Canadian marketplace. "We have made a conscious effort to not service certain parts of the market and be a 'me too' contractor. We like to differentiate ourselves and give value to our customers, which, in turn creates wealth for our shareholders. We take our finite resources and put them to work for our customers who can get value; this gives us an advantage in that we are more technically capable," said Bremner.

Another company looking to make inroads into the Ontario drilling market is drill manufacturer, Spektra Jeotek. With its headquarters in Turkey, Spektra Jeotek has established a Canadian subsidiary, Spektra Drilling Canada, which will specialize in drilling services for all stages of mineral and mine exploration, mainly in diamond core and reverse circulation. Kerem Usenmez is proud of his parent company's eventful history and recent milestones. "Our parent company, Spektra Jeotek, is celebrating 27 years of excellence. We grew from being a small local entity to a major player locally, regionally and internationally. We have provided our services in more than 30 countries across three continents, and now with a North American presence we provide our services in four continents."

Given the nascent stage of Spektra Drilling Canada, Usenmez concedes that market penetration in such a competitive part of the world will be challenging. However, undeterred by the challenges ahead, Usenmez said, "Spektra Drilling Canada will strive to combine Canadian experience with its own global expertise to increase its market share in North America. On the other hand, Spektra Drilling Canada has developed a sound plan for expand-



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ing its market share with initially starting locally, in Ontario and Quebec and expanding nationwide, to the other provinces of Canada, and eventually to the rest of the continent. Opening an office in Toronto was a strategic decision. In addition to its strategic and geographical location, Toronto is the undisputed mining capital of the world. Setting up shop in Toronto will provide Spektra not only with an interminable list of producers and explorers, but an equally impressive number of suppliers with whom we plan to work.”

Usenmez described his vision for the future and the importance of Canada to parent company, Spektra Jeotek's, global growth strategy. “Spektra is well aware that Canada is a significant market for mine exploration in the global sector. Consequently, Spektra will mobilize its resources, will commit its best effort and enthusiasm for maximum customer satisfaction by applying all of the international applicable codes and standards in Canada,” Usenmez said.

As Foraco and Spektra's experience proves, drilling is active in the Ontario marketplace. Singapore-based company Global Drilling Products recently established an office in Toronto to provide the busy market with their products ranging from drilling fluids to exploration equipment. Vladislav Petoukhov, managing director at Global Drilling Products, explained, “Customer service is one aspect that will play a strategic role in gaining market share. We actively started to expand our market in Canada and it already represents 15% of our sales. It is a very competitive market and it is one of the most complex to get in, so this is why it is one of the last countries for us to establish an office. We will continue to grow in Canada and are expecting significant results in the next five years.”

### Chemically speaking: Extracting value from resources

Canada is known for its raw materials, but there is also significant potential in the manufacturing and products-transformation sector. The Ontario government has consulted with industry associations and is currently developing a strategy to guide the chemical industry forward. According to BASF Canada's president Laurent Tainturier, “this proves that they are acknowledging the contribution of the chemical industry to other industries in Ontario.”

Miners, by and large, are not chemists, and global chemical giant BASF may not be synonymous with the mining industry yet, but that link will be further emphasized in the Canadian market. BASF's portfolio of mining chemicals includes grinding aids, tailings treatment, flotation and solid-liquid separation within the Performance Chemicals division. “BASF has always offered mining chemicals, but recently this portfolio was enhanced with two strategic acquisitions which have strengthened our mining offering: Ciba in 2009 and Cognis in 2010; these made us the global leader in solid liquid separation and solvent extraction adding more value to the market. BASF sees potential in the Canadian mining industry and its global mining strategy is being implemented worldwide including Canada. In the near future, new BASF products will enter the Canadian market and we will be increasing its mining sales and technical presence in North America to service the industry accordingly,” said Tainturier.

BASF also provides processing equipment and training support to their customers. “Our chemists are mining experts and they offer customized, long-term support to our clients. Each ore body is different,



Laurent Tainturier, president, BASF Canada.

so we have to know the properties and how to handle them efficiently. They analyze their individual needs, which from a safety and sustainability perspective allow us to ensure our products are used appropriately,” said Tainturier.

The emphasis on safety and sustainability is critical in an industry whose sustainable processes may not be well understood by the general public, and particularly important to Tainturier, who spearheaded the company's sustainability supplier award from the Cascades Group for BASF's work in water treatment. “The use of BASF's LUREDUR® product in Cascades' Norampac's production plants for container board enabled them to increase productivity and reduce the basic weight of their products and the amount of energy required to manufacture them,” said Tainturier.

### Independent verification

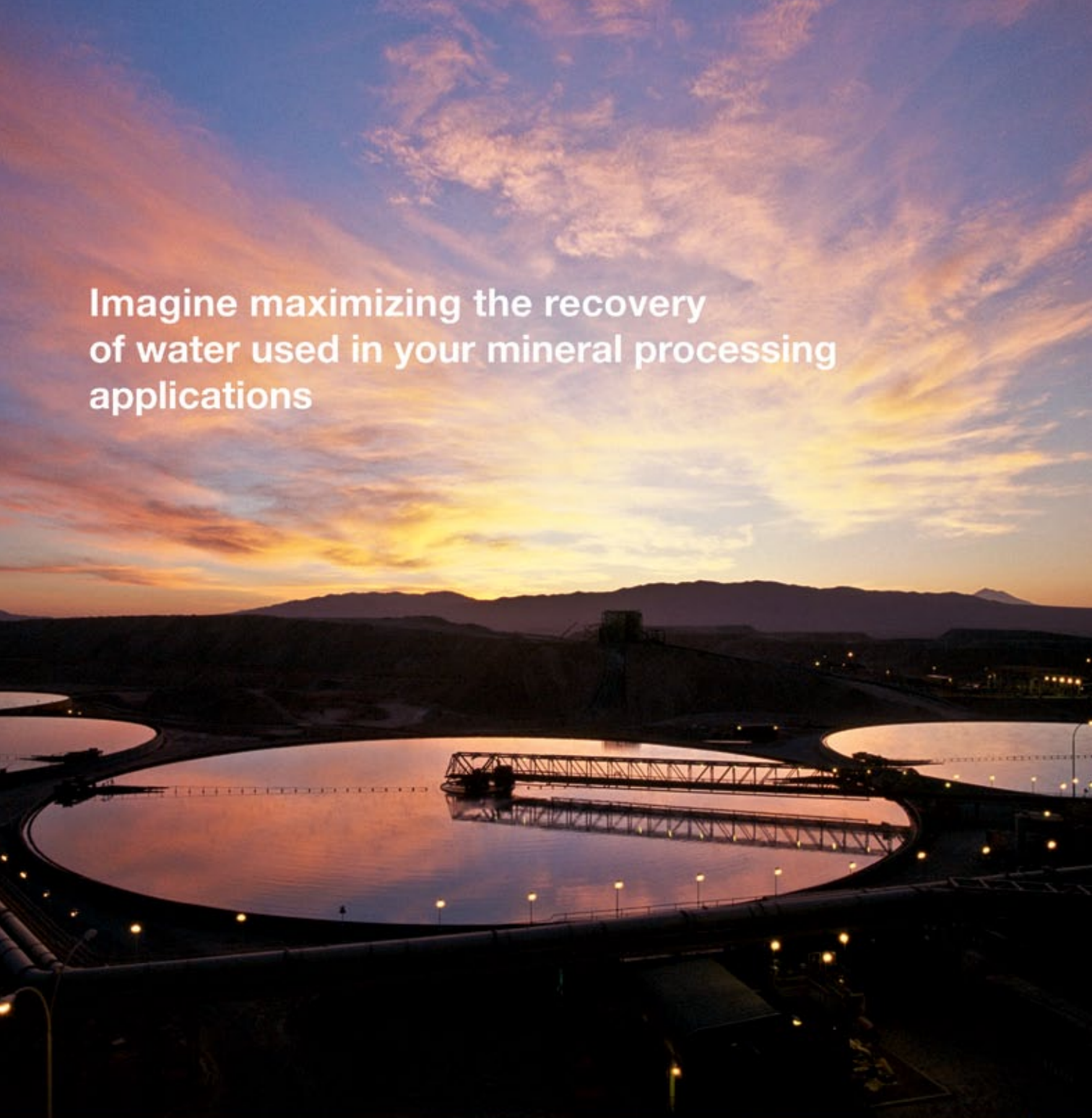
Sudbury-based Xstrata Process Support (XPS) may bear a familiar name, but the company operates as an independent business providing metallurgical testing and consulting to mining clients from all over the world. According to Dominic Fragomeni, director of XPS: “(the company) works with most of Xstrata's commodity businesses, as well as other global mining majors, intermediate and junior companies. We also work in most commodities; we have a strong level of expertise in nickel and copper, lead, zinc, Au and rare earths is an exciting growth market for us as well.”

Lakefield, Ontario houses a repository of metallurgical, geochemical and environmental expertise found at Swiss-based SGS's laboratory, which services mining clients from around the globe. “We are currently investing \$12 million at Lakefield in order to expand our capacity and make the process more efficient,” said Steve Wilson, global vice president of metallurgy and minerals at SGS.



Dumas crew being transported during shaft sinking. (Photo courtesy of Dumas Mining).





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## MINING IN ONTARIO

Ontario's mining camps are often located in remote areas, making transport of materials difficult. To combat this problem, SGS operates onsite mobile labs to service these mining locations; the company has nearly 120 onsite labs that operate globally. "We can do it with semi-portable exploration equipment that can be built to support an exploration camp. If the project is at a more advanced stage, we can set up a full laboratory onsite in a timely and cost-effective manner," said Wilson.

### Riding the commodity wave: Ontario's consultants

With exploration investment topping C\$1 billion in 2011, consulting companies in Ontario are in the enviable position of being able to strategically select their clients. Naturally, this has attracted numerous global players to establish an office in Toronto with the goal of attracting both Canadian and international clients.

Australia's AMC Consultants opened a Toronto office in June of 2011 in response to client demand, many of who were already working with the company's Vancouver office. "It is a very exciting time to be here because of the breadth of companies and projects found in Ontario, or headquartered in the province," said Julia



Steve Wilson, global vice president, metallurgy and mineralogy division, SGS Mineral Services.

Martin, general manager of AMC's Toronto office. "All of AMC's offices offer resource geology, geotechnical and mining services. We engage in a lot of study work, such as prefeasibility and feasibility studies, scoping studies and preliminary economic analyses. We also have benchmarking capability that is mainly contained in our Australian headquarters, though our plan is to expand that capability to our global offices. Our mandate is to source these capabilities for the Toronto office."

While the level of activity in Ontario's mining sector (and indeed globally) equals increased demand for services, companies



Julia Martin, general manager, AMC's Toronto office.

must ensure that they continue on a path of controlled growth. "AMC's Toronto office is currently in a fortunate position whereby we have a steady stream of clients and projects lined up; however, this is not something that we take for granted," said Martin. "We must continue to manage our workload appropriately while providing quality service and developing strong client relationships."

Another Australian company to make inroads into the Ontario market is Coffey Mining, which has three offices in the greater Toronto area as well as an office in Calgary. According to Curtis Clarke, vice president



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Steve Donohue, director, Foth Infrastructure & Environment.

of mining in Canada for Coffey, “Coffey recognized the importance of Toronto in the global scale in its involvement with mining, but particularly in mining financing, accounting and legal services. We want to be understood as a global company and thus must be global in scope. Coffey Mining is relatively new in Toronto; we are forging our own path here and developing relationships with major companies.”

Closer to home, new entrants to the Ontario market include Wisconsin-based Foth, an engineering consulting company with 20 offices across the United States. The company recently opened an office in Toronto and



BESTECH operates the largest SO<sub>2</sub> monitoring network in Canada which has 17 SO<sub>2</sub> monitoring stations and two environmental stations. (Photo courtesy of BESTECH).

will use it as a base to establish a greater presence in the Canadian market. “The business has focused on providing engineering and science services to a variety of sectors, including manufacturing, commercial products and infrastructure; we also offer environmental engineering services to industries such as solid waste and mining,” said Steve Donohue, director at Foth Infrastructure & Environment. “Increasingly, our client base in the Midwest United States have their roots up in Toronto; more recently Toronto-based companies have also been requesting our services in regions such as central Asia. It therefore seemed a natural extension for

Foth to open an office here.” The company is currently working with Victory Nickel on a project in northern Manitoba.

According to Donohue, Foth’s priority is to reach out to the mining industry and find opportunities to offer the company’s services in Ontario, elsewhere in Canada, and internationally. “The mining industry is under a lot of scrutiny, and we recognize that it faces very strong challenges in how it addresses NGOs and the stakeholder engagement. We are therefore looking to work with those companies that are forward-looking and take a very strategic approach to these issues that matches them well with us.”

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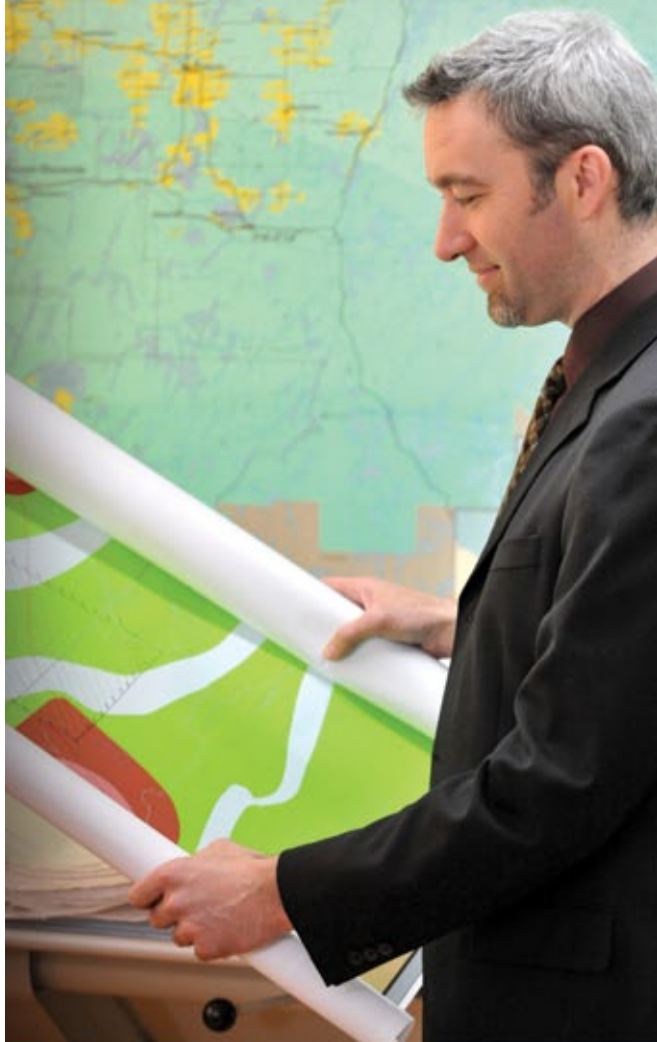
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Carl Pelletier and Alain Carrier, partners, InnovExplo.

InnovExplo, a Val d'Or-based engineering consultancy, is planning to service the Ontario market through their base in neighboring Quebec. "Most of our clients are already based in Toronto, so we already work for many Ontario companies," said Alain Carrier, partner at InnovExplo. "We have completed resource estimates, mine planning and pit optimization in Ontario. We are based in Val d'Or, which is very close to the Quebec-Ontario border, so Ontario is a natural market for InnovExplo."

Although both Alain Carrier and his partner Carl Pelletier have each worked in the Canadian mining industry for 20 years, the company itself is still fairly young in comparison with many of the established players in Ontario, and thus must insulate itself against the cycles of the mining industry. "We are not blind to market downturns; if this occurs, we will retain the core of people that we currently employ and be ready for the next high wave. Our focus going forward is not to increase our revenue but add to the services in which we already offer," said InnovExplo's Pelletier.

The excitement in Canada's mining industry has also caused other companies, such as Hallmark Insurance, a Toronto-based broker, to create a dedicated mining team to service the insurance needs of mining companies. The jurisdiction where a mining project is situated is a determining factor on an insurance company stance for granting policy coverage. "Hallmark analyzes points such as governmental stability, risk of kidnapping and violence, conditions at the mining site, and type of mining to be conducted," said Rob Baron, account executive at Hallmark Insurance.

The technical peculiarities of the project are also taken into consideration. "We examine the construction of the mine, the supports and bracing, correct type of ventilation, sufficient escape routes, types of vehicles being used in the mine, and the likelihood of toxic gases, which all determine the degree of risk," said Baron.

### **Integrity is key**

Ontario is home to numerous independent consultants who play a critical role for mining clients in preparing technical reports and NI 43-101 documents. In the wake of the Bre-X scandal, such reports have become even more important to the success of a project; independence and reputation have become essential components of any service company's mandate.

InnovExplo understands this firsthand, as in 2009 they chose to exit a project instead of compromising their reputation. "InnovExplo's reputation was solidified in Ontario after we discovered serious inconsistencies at the Bear Lake project in 2009. Our reputation and integrity is at the highest level in Ontario and we will never complete a resource estimate without a thorough data valuation," said Carrier.



Pelletier added, "It would have been more time-efficient to keep the data as it was presented and do the resource estimate, but because of our added value, we found inconsistencies in the data."

The quality of technical reports are the "main sales tool" that consultants use to generate new business, said Micon International's Bogdan Damjanović, senior metallurgist. Prospective clients use this information to judge the credibility of a service company. "If this quality is compromised, then the clients will not come back to us," said Damjanović. "In our industry trust is very important; if the financiers are putting their dollars in a project, they want to hear from someone independent and reliable if the project is going to work and what are the risks involved."

A key issue, besides controlled growth and reputation, for Ontario's consultancies going forward is their ability to deliver projects on time and on budget in the face of such excitement surrounding commodities. "The time factor is a matter of managing time; we keep very good cost and time control on our projects, so we are able to deliver on our promises. It is more a case of ensuring that there are no distractions to hinder a project's progression, and being upfront with the client if their desired timeline is not



James Siddorn, practice leader, SRK Consulting's Toronto office.

possible. We take a lot of pride in providing high-quality advice and results, which means that from a resource perspective we make sure there is very solid geological input going into a resource evaluation," said James Siddorn, practice leader at SRK Consulting's Toronto office.

### Exporting Canada's consulting expertise to emerging markets


New companies may be aggressively pursuing the Ontario market, but the reverse trend has also occurred in recent years as established Toronto consultancies look abroad to offer their services.

Toronto-based Watts, Griffith & McQuat (WGM), who have over 50 years of experience in the Canadian market, opened an office in China in 2003 to gain a foothold in the country and attract Chinese mining companies looking to list on the TSX. The Chinese government has encouraged Chinese companies to explore internationally, and Joe Hinzer, WGM's president, is confident that the TSX will be an attractive destination. "Recently we have committed more resources to the Beijing office, such as a new downtown location and staffing. China is going to be one of the big global players in the mining industry. Our rationale was that in order to be effective in this market, you have to understand it; once you have a foothold, the business will flow," Hinzer said.

### Software

As a global hub of mining innovation, Ontario is home to companies developing the latest tools and modeling systems for mining clients to accurately manage and interpret their data. In a highly competitive industry, companies differentiate themselves in both their product offering and training support.

Toronto-based Quantec has been providing the mining and exploration industries with geophysical services for 25 years, uti-



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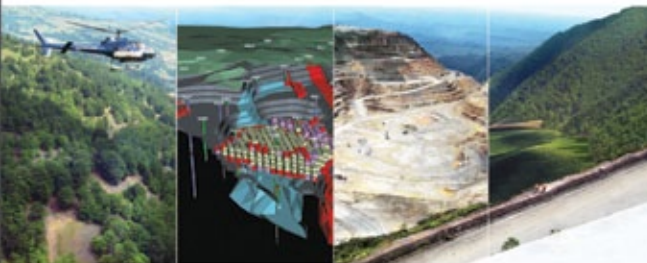
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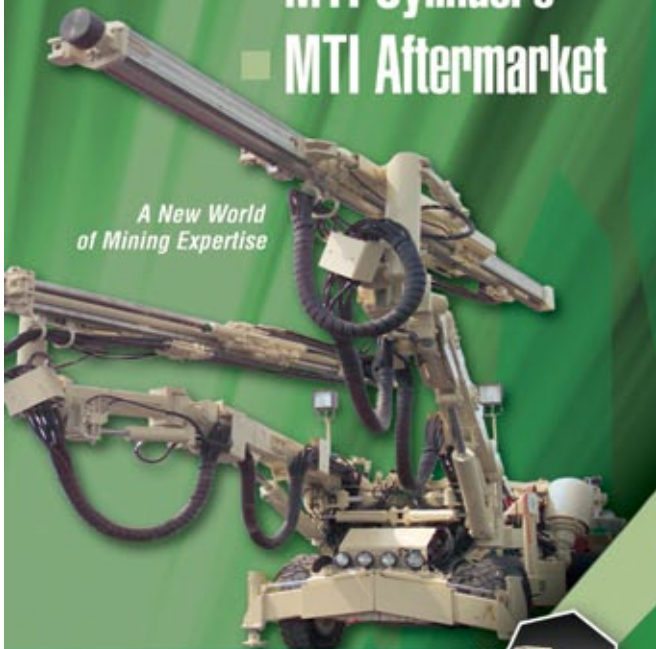


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lizing an array of proprietary technologies to conduct surveys. While not primarily a software company, the company has developed these technologies in-house and employ them in the more than 50 countries in which it works.

Last year the company launched their 3D acquisition system, Orion 3D. "Orion 3D offers a whole new level of detail surrounding geophysics; now we have 3D images of underground exploration," said Ron Vermey, president and CEO of Quantec. "It seems logical but the technology and the science behind it are very advanced. Orion 3D uses 100,000 points of data collection, while other conventional survey measurement tools only use 80 points."

Orion 3D will complement Quantec's existing technologies, Titan 24 and Spartan MT, which are both applicable in both the mining industry as well as oil and gas. "Currently, most projects utilize Titan 24, which provides clients with the ability to measure certain characteristics such as resistivity or conductivity of the earth. We also have Spartan MT, which we use for much deeper investigations that are frequently needed by geothermal companies, oil and gas companies and even geological societies," said Quantec's Vermey.

In 2011, the company spent nearly \$1 million in research and development in both their hardware and software products.

Another key player is Toronto-based Geosoft, who have been present in the market since 1986 and have offices in Rio de Janeiro, Perth, Pretoria and London. The company has a suite of three core products to the mining industry, specializing in exploration software. "Oasis Montaj is fundamentally the workhorse for geophysicists, processing the visualization to allow them to eat through their data and extract the most value," said Tim Doboush, president and CEO of Geosoft. "Geophysicists have to work with high volumes and variable data, so they need the power, ease of use and 3D visualization tools that we provide."

Target, geared towards geologists as a means of interpreting drilling data, and Target for ArcGIS, that incorporates the GIS platform, completes the suite.

CAE, known for their work in modeling, simulation and training for civil aviation and defense, recently acquired Datamine as leverage into mining software. Using Datamine's existing strengths in geological evaluation and mine operation software, CAE hopes to develop their product sets and invest heavily in new products for the mining industry. "Mining plays a strong role in CAE's business strategy, both in Canada as well as globally," said Rod Baker, general manager of CAE Mining's Canadian operations. "CAE is a C\$2.6 billion dollar company; mining and healthcare are new core markets, which comprise around C\$120 million," Baker said.

The company's focus is on simulation and training software, which they plan to use to expand their presence in mine planning and development. "Training is a huge emphasis for CAE; these are complex systems that are tightly related to operational efficiency, cost benefits and safety. We come from a background of strong mine planning and training. The training aspect of software is key to its successful utilization; we are now leveraging CAE's strong understanding of learning management systems to work with the industry and bring that regimen to the mining industry," said Baker.

## Made in Ontario

Moving north, Sudbury is known to the world for their "Big Nickel", and indeed the historically nickel-rich region has led to the development of a vibrant industry servicing the many mines in Northern Ontario. Recently, the area has been recognized as a hub for mining innovation. The Centre for Excellence in Mining Innovation (CEMI), based in Sudbury, directs and coordinates innovation in the areas of exploration, deep mining, integrated mine engineering,



environment and sustainability for the metal mining industry. In late 2010, Rio Tinto established the Rio Tinto Center for Underground Mine Construction at CEMI; a \$10 million investment focusing on mechanized excavation. "CEMI provides an opportunity to combine experts from both the Civil and Mining industries," said Dr. Fred Delabbio, general manager underground innovation at Rio Tinto. "In collaboration with Rio Tinto, CEMI will also be able to expand its Research and Development programs and expand its global reach."

While a stamp of approval from a globally recognized leader such as Rio Tinto is certainly a boost to Sudbury's international reputation, the city (and indeed the region of Northern Ontario) is home to numerous companies who have been demonstrating innovation on a smaller level.

### Equipment manufacturers

Sudbury's own Mining Technologies International (MTI) produces a wide range of equipment for the mining industry, from drilling rigs, dump trucks and rail haulage systems, at their four manufacturing facilities in northern Ontario.

MTI focuses on large diameter rotary drilling tools; the division has introduced some new technology to the industry that



Bob Lipic, president and CEO of MTI.

has allowed some contractors to move to larger equipment. "Redpath has designed one of the largest raise borers in the world, and we designed the drill string and break out systems to help them achieve that objective. The machine they designed was with the understanding that it would have the capability to drill a pilot hole 1,000 m deep and ream a hole 10 m in diameter, which is quite an accomplishment," said Bob Lipic, president and CEO of MTI.

MTI's clients in the industry include Rio Tinto, Xstrata, Vale and Kinross, as well as a variety of Canadian companies. Globally, MTI is looking to Latin America,

where the company will bypass dealers and distributors to establish their own presence in the market.

Another example of a manufacturer exporting globally is RDH Mining Equipment, who has been manufacturing trucks, jumbos, scissor lifts and additional parts at their facility in Alban, Ontario. RDH works with their customers from the design stage to develop their equipment. "We take the time to sit down with our customers and figure out exactly what they want and need from our machines. We will even fly out to the mining site to ensure we design a machine that will fulfill the customer's needs exactly," said Kevin Fitzsimmons, president of RDH.

Globally, RDH recently started working with dealers in Chile, Russia and Africa. "At the moment, we are concentrating on our main markets in Canada, the US and Mexico," said RDH's Fitzsimmons. "We are currently about 60% export and 40% domestic, but we would like to set up a stronger dealer network globally."

The "Made in Ontario" brand has helped the company's recognition in the global marketplace, according to Fitzsimmons. "People look to a Canadian company like ours and see quality and experience, which gives us the advantage over other international companies."



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## MINING IN ONTARIO



Jean-Guy Coulombe, president, Mansour Mining Technologies International.

Jean-Guy Coulombe, president of Sudbury-based manufacturer Mansour Mining Technologies International, agreed that the "Made in Ontario" brand gives a company a significant advantage in the global marketplace. "It is trusted and gets one an opening into foreign markets as a consequence of the professional nature and innovation of the area here," Coulombe said. "It gets immediate credibility, and moves companies forward. The brand gets one in the game; however, it is not sufficient to keep you in the game, as the game is now global."

To that end, MMTI, manufacturers of stratus support systems such as friction



Marc Desjardins, president, Highwork.

sets, mechanical bolts, and rebar dynamic bolts, is launching into the Central and South American markets. Last year the company was acquired by a consortium of private equity investors whose aim is to assist MMTI in the company's international expansion. "Since the acquisition we have started to grow and professionalize the business, broadening our geographic footprint. We have some aggressive growth plans both inside and outside of Canada," said MMTI's Coloumbe.

MMTI also operates a smelter supply business, ventilation supply and distributes rock tools such as drilling bits and steel.

## Engineered protection

As mines become deeper and more complex, the pressure on operational safety increases. For Val Caron-based Highwork Ltd., designing a system to protect against injuries sustained from falls is the core focus of their business.

Engineered fall protection systems are a relatively new business in the mining industry, according to Marc Desjardins, Highwork's president. "In the early 1970s the mining sector was exposed to more hazards and was experiencing more accidents; the companies faced the force of the regulators and lawmakers of the industry. When it came to fall protection systems, the mining industry was one of the first sectors interested," said Desjardins.

The system itself is not limited to the mining industry, but can be applicable anywhere workers are at a height. "All fall hazards are different. Miners are tough on equipment, so durability and reliability are incredibly important," said Desjardins.

Highwork's system is composed of three basics: a full body harness, a tool to connect the harness and the user to the anchor, which is the third component and acts as a shock absorber. The company counts big names such as Xstrata, Vale, Rio Tinto and ArcelorMittal as clients, and has started to work in the United States.

## Sudbury: a center for mining innovation

Many technical advances in mining have emanated from Sudbury, thanks in part to the presence of Vale and Xstrata. Before they were known as such, Inco (Vale) and Falconbridge (Xstrata) employed much of the local population who grew up with the mining industry in their backyards. The techniques and tools used in the mines gave way to new ideas to increase efficiency and decrease costs.

This is certainly the story of Marc Boudreau and his partner Denis Pitre, both ex-Falconbridge, who together formed Bestech, a local leader in innovative solutions to address the mining industry's automation needs.

Established in 1995, the company consists of two business units: service, which comprises of a team of engineers and automation specialists to carry out business development and install software; and products, which involves a team who tailor-make, build and sell an automation solution to the client. "Our current business mix is 70% service and 30% product; looking forward we see the product side of our business developing internationally,"

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Marc Boudreau, president and CEO of Bestech.

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The company defines itself as an integrated solutions provider rather than a product dealer; however, the NRG-1 ECO is the core product in Bestech's portfolio. Defined as an energy management solution for clients, "NRG-1 ECO integrates the infrastructure underground to give better control of their assets, and improves safety by identifying the location of personnel underground at all times by means of tracking personal tagging; if there is an emergency it will be known exactly where people are located."

NRG-1 ECO also has real cost savings in terms of energy. "Rather than having the whole mining ventilation system working at 100% capacity which is costly, the NRG1-ECO instantly controls the ventilation system's air flow, when and where it is needed as people and equipment enter a zone, reducing ventilation costs by as much as \$2 million per year."

Bestech has established itself as a success in Sudbury's mining industry and are looking to expand the company internation-

ally in the coming years. While Bestech builds on its success, another company out of Sudbury hopes to reach the same level.

Symboticware, a four-year-old company, designed the SymBot product to address the need to integrate and store various data sources in the underground mining industry. "We created an open base platform adhering to automation and data standards recognized globally; so moving away from these proprietary systems, and having the ability as a new monitoring or data requirement occurs, we are able to introduce that into the SymBot," said Kirk Petroski, president and CEO of Symboticware.

Some of the SymBot's current applications are monitoring of standard engine, transmission, location base, emissions, and load-weight and production and maintenance statistics; all in one standard device.

Symboticware partnered with Vale and Xstrata to create the technology. "The development of this service was important because it now enables managers to utilize data on demand for decision-making, a service that the new generations of managers have come to expect. SymBot allows real-time data to be collected and aids managers to make decisions on productivity, maintenance, and safety," said Petroski.

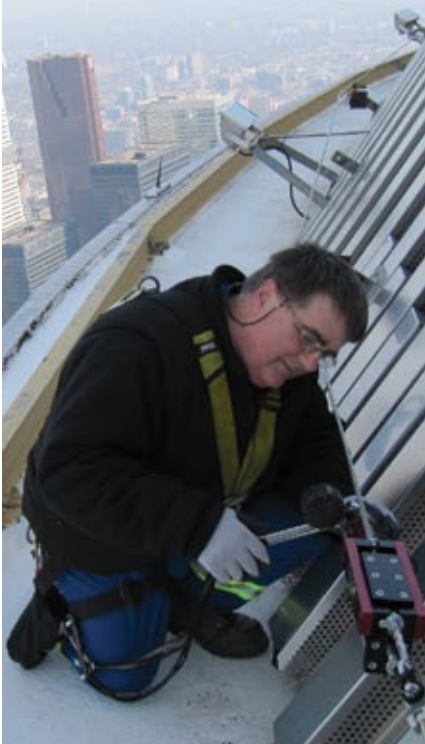
Startup companies such as Symboticware have benefited from the city's reputation as a global mining innovation center. "Sudbury is certainly a hub for innovation and mining expertise; many technical advances in mining have emanated from Sudbury, which is a living-lab for Inco, Vale, and Xstrata who have been very receptive to testing and supporting new technologies. Demonstrating success in Ontario will present opportunities to take a product internationally," said Petroski.



Centralized, real-time equipment data means the ability to tweak productivity goals on the spot. (Photo courtesy of Symboticware).

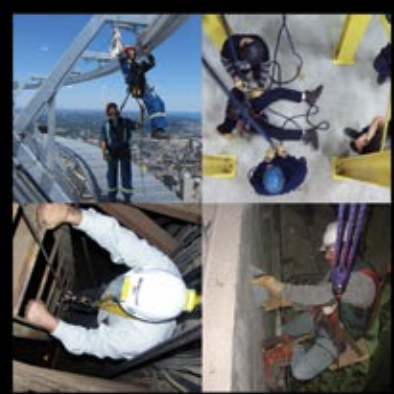
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# Conclusion

## Continued Success in Ontario.



Gold exploration at Marmion, Northern Ontario. (Photo courtesy of Sparton Resources).

The success of Canada's mineral industry on an international level is a tremendous boon for the country's economy as a whole. On a province-by province basis, however, the worry is that the success of an individual jurisdiction could be at the expense of another. Other provinces are higher in

international rankings of favorable mining destinations, and Vancouver, British Columbia, is home to more than 1,200 junior mining companies, all competing nationally for scarce capital. When the country's second-largest mining company, Goldcorp, planned to bring Quebec's Éléonore mine

into production to rival their flagship (and Ontario-based) Red Lake Mine, Ontario's mining industry took note.

Goldcorp's Charles Jeannes reaffirmed the company's commitment to Ontario, which in addition to Red Lake is also home to the Porcupine and Musselwhite producing mines. "Éléonore will add more than 600,000 oz/y, but we are currently producing 650,000 oz/y at Red Lake and 250,000 oz/y at Porcupine and Musselwhite, so Ontario will continue to be the focus of our operations in Canada. The company is investing in our other Ontario mines as well; at Porcupine we have just approved the development of the Hollinger open pit deposit, and we made a new discovery at Musselwhite called the Lynx Zone, which could lead to new investments in the form of a shaft and extend the mine life for many years," said Jeannes.

In a sense, the proof that Ontario's mining industry will continue to thrive for years to come is in the ground. Exploration investments have never been higher in Ontario, and precedent-setting agreements continue to be forged with First Nations groups. The Toronto Stock Exchange is, without a doubt, the premier destination for mining companies big and small, and no other stock exchange approaches the prestige of Toronto's finance community in the international mining arena. Ontario is also home to the highest number of mining-related service companies amongst all of Canada's provinces and territories. Ontario's mining success is Canada's as well, thanks to the numerous mining professionals who call it home.

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