

# GLOBAL BUSINESS REPORTS

INDUSTRY EXPLORATIONS



## QUÉBEC MINING

**2016**



*Legal Regime - Abitibi Gold - Commodity Diversification  
Plan Nord - Financing - Innovation- Services and Support*

# MINING DEVELOPMENT

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## Mining Development Anchored in the 21st Century

*Welcome letter by Pierre Arcand, Minister of Energy and Natural Resources and Minister Responsible for the Plan Nord, Government of Québec*

Mining development in Québec has changed significantly in recent years, and is now built on a foundation of best practices. Our Government, to ensure that its actions are consistent with the principles of sustainable development, has prepared a Strategic Vision for Mining Development in Québec, centred around three guidelines.

### **Advance existing mining industries and develop new ones**

We have introduced a variety of tax-related measures for exploration and mining that provide even greater incentives for mining investments. We also hope that our measures to stimulate R&D investments will strengthen existing industries and allow for the emergence of new ones in areas such as electric transportation, information technology and health. Thanks to these Government incentives, we are able to assert that Québec now offers one of the most investment-friendly mining sectors in the world.

### **Prevent and mitigate environmental impacts**

The environment is a priority for Québec. We are taking a proactive approach to this issue, not only by valorising mine waste, but also by rehabilitating mine sites and promoting mineral-based energy innovation.

### **Promote transparency and citizen participation**

We have amended our legislation to ensure that mining projects are able to coexist harmoniously with host communities. Pre-project industry-community collaboration and hiring of local and Aboriginal workers are now intrinsic aspects of mining development in Québec. The *Act respecting transparency measures in the mining, oil and gas industries* and the *Green Paper presenting the Guidelines of the Ministère de l'Énergie et des Ressources naturelles in the Area of Social Acceptability* are additional examples of our commitment to social involvement.

### **Plan Nord**

Lastly, the Government, through the Plan Nord, has laid down the foundations for a 20-year cycle to achieve planned, harmonious development of Northern regions and their vast potential for mining.

Thanks to all these measures, I can unequivocally state that Québec's mining sector is firmly anchored in the 21st century!



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Québec





# INTRODUCTION TO QUÉBEC



"Québec is a great mining jurisdiction: the quality of our geoscientific database is tremendous, the tax incentives for exploration are great, and the expertise we have in the province is world-renowned, and globally exportable. But we still have things to improve, in terms of environmental regulation uncertainty, and uncertainty regarding access and protection of land."

Frank Mariage,  
Chairman of the Board,  
AEMQ

# Québec Looks Forward to the Upturn

The Province sees political improvements and legislative stabilization

Positive evolution would be the best way to describe the development of Québec's mining industry over the past several years. The prestigious annual survey of mining companies, conducted by the Fraser Institute, perfectly reflects this trend, with Québec gradually improving its appeal as an investment destination for the industry: from 24th in the world in 2013, to 10th in 2014, to 8th in 2015. This report will analyze why and how these positive changes occurred, and see what role the province will assume for itself in the future.

Keeping these facts in mind, we arrive in present-day Québec, a mining jurisdiction traditionally known for its exceptional gold and iron ore reserves situated in the north of the province in regions such as Abitibi-Témiscamingue (gold), and the Labrador Trough (iron ore); gold is trading at roughly US\$1,250/oz, while iron ore prices are hovering at US\$60/mt. So is it all doom and gloom for "La Belle Province" and its miners? Quite simply put: no, not at all.

Many developments have been occurring within Québec's internal structure in the last five years. The accomplishment with the biggest impact was the adoption of Bill 70, "an Act to amend the Mining Act," which cleared the waters for many potential investors. "With Bill 70 finally being passed in December 2013, the whole legislative uncertainty is now gone. The actual amendments are quite subtle, so there were little changes to the daily operations of mining companies," stated Eric Levy, partner at Osler, Hosking, & Harcourt LLP.

As always, politics also played a major role in the metamorphosis of Québec's attractiveness as a mining jurisdiction. On April 7 2014, the Liberal Party won a provincial majority government of 70 seats in the National Assembly of Québec, with the con-

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Image: Courtesy of Aquarone Photographie



QUÉBEC AT A GLANCE

Source: Statistics Canada, Institut de la Statistique Québec

**Provincial capital:** Québec City  
**Premier:** Philippe Couillard (Québec Liberal Party)  
**Surface:** 1.67 million km<sup>2</sup>  
**GDP growth (2015):** 1.1%  
**Population:** 8.3 million (2015)  
**Unemployment rate:** 7.6% (2015)

**GDP PER CAPITA** **\$41,260**  
 (USD, 2014)

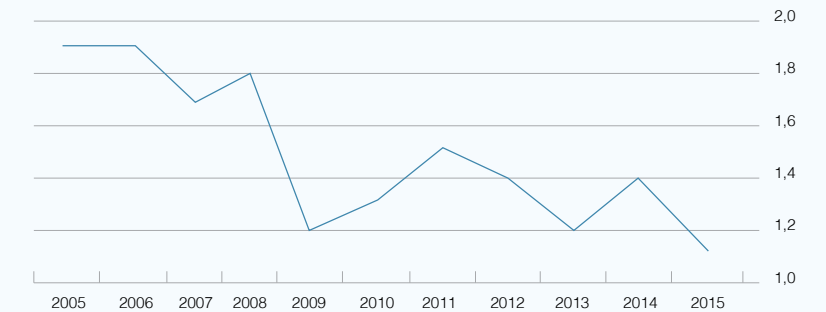
**GDP PER CAPITA PPP** **\$36,162**  
 (USD, 2014)



**GOLD AND SILVER MINING GROWTH (2015)** **24%**

**METAL MINING GROWTH (2015)** **10%**

GDP GROWTH (%)



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# Pierre Arcand

Minister of Energy and  
Natural Resources and  
Minister responsible for the Plan Nord  
**GOVERNMENT OF QUÉBEC**



## What were the main objectives you set for your mandate?

When the Québec Government came to power in April 2014, it made a number of commitments. We undertook to share mining, oil and gas royalties with local and Aboriginal communities, use natural gas supplies to aid in the recovery of the Côte-Nord region, and develop a world-class network of suppliers and equipment manufacturers in the mining, hydroelectricity and forest sectors. In addition, we promised to reactivate sustainable Northern development with the Plan Nord.

Our Government has established a favorable environment for mining investment. We have a new mining regime, clear, stable and predictable. Indeed, Québec's business structure is competitive and offers some of the most advantageous measures in Canada.

## How would you characterize the evolution of Québec's mining sector since you came into office?

The mining industry is an important sector of Québec's economy. In 2015 alone, it generated nearly C\$3 billion in investments and supported more than 30,000 direct and indirect jobs. Québec's mining shipments in 2015 were valued at C\$7.7 billion. Québec is responsible for 20% of Canada's total mining production. It produces and develops 15 metals and 13 non-metallic minerals, and is considered to be Canada's most diversified mining producer.

In spite of the difficult economic context, there are a number of positive elements. Champion Minerals has bought the Bloom Lake mine from Cliffs Natural Resources. The Québec Government has also purchased Cliffs' facilities at Pointe-Noire, along with the Arnaud railway. In doing

so, it hopes to support the revival of the Plan Nord by providing access to strategic infrastructure to mining companies.

With regard to mine operations, the Éléonore gold mine began commercial production last summer. The processing plant for the DSO iron project in Schefferville recently began operations too, and Stornoway's Renard diamond mine is also starting production this year. Other projects may also start between now and the end of the decade. Examples include Ariane Phosphate and Mine Arnaud, which are expected to begin apatite production in 2019. Royal Nickel's Dumont project, a large open-cast nickel mine, could also start up in 2019. In addition, Nemaska Lithium's Whabouchi project will be starting a pilot plant in Shawinigan this year.

## What has been done so far as part of the new Plan Nord?

The Plan Nord has a budget of C\$450 million over five years. The Société du Plan Nord (Plan Nord Corporation), created a year ago, already has a number of achievements to its credit, including investments in the Bloom Lake mine, the acquisition of railway and port infrastructure in the Pointe-Noire sector of Sept-Îles, a direct-shipping iron mine project in Schefferville, measures to promote regional employment, a telecommunications investment in Nunavik, assistance to the Town of Sept-Îles for economic and environmental projects, the signature of a new agreement with the Cree Nation, and funding for a feasibility study for a rail link between Sept-Îles and the Labrador Trough.

## What factors make Québec a globally attractive and competitive mining jurisdiction today?

Québec offers many advantages to mining companies, including its mineral potential

and government financial support through, among others: Investissement Québec, a state-owned enterprise which participates in the capital of companies, grants loans and loan warranties; the Caisse de dépôt et placement du Québec, a state-owned enterprise which manages the assets of the public and parapublic insurance and pension plans; and the Fonds de solidarité FTQ, a development capital fund that calls upon the savings of all the Québécois. Québec also offers advantageous tax credits, a qualified workforce throughout its territory, a top-notch geo-scientific database, a competitive network of suppliers and equipment manufacturers, and road, railway and maritime links to much of its territory.

The stable business environment created by the adoption of the Mining Act has also helped maintain the level of investment in Québec. Furthermore, in the last Québec Government Budget, mining exploration credits were increased by 25% and a 20% rebate on electricity prices has been given for a period of four years to companies who process natural resources. Clearly, Québec is open for mining business.

## What are the Department of Mines' main objectives for the medium term?

The Québec Government unveiled its new Strategic Vision of Mining Development last March. This takes the form of a five-year plan containing 50 actions designed to achieve 38 objectives. Three main guidelines are identified: advance existing mining industries and develop new ones, prevent and mitigate environmental impacts, and promote transparency and citizen participation. The Vision applies to the entire mining sector and also touches upon primary metal processing, suppliers and equipment manufacturers. —



Image: Courtesy of Stornoway Diamond Corporation

## ► 8

servative Parti Québécois coming in second, with 30 seats. "The election of a new provincial government has had a good impact. The dialogue between the industry and the authorities has improved, there is a better general mood within the sector and investors now view Québec as once again being open for business," said Levy. Communication and investor perception were not the only elements of the equation that improved as a result of this political change. One year later, in April 2015, Premier Philippe Couillard announced the revival of Jean Charest's "Project of a Generation," the development of 72% of Québec's land surface, covering 1.2 million km<sup>2</sup> in the north of the province: the Plan Nord. However, this new version would be a scale-down of its 2011 original predecessor – Couillard called for public and private investments totaling C\$50 billion over 20 years through to 2035, a significant change from Charest's initial plan, of C\$80 billion over 50 years. Breaking that down further, C\$20 billion would come from Hydro-Québec's new projects, C\$2 billion from the government as public infrastructure, while the other C\$28 billion would be constituted by private-sector investments. Consequently, the Société du Plan Nord was created in 2015 to implement this major endeavor. Over its intended timeline, the organization will benefit from a total estimated budget of C\$2.7 billion, which is generated by tax-money coming from

the extractive industries operating within the Plan Nord area, and yearly Hydro-Québec contributions. Furthermore, a special fund, the Capital Mines Hydrocarbures (CMH), worth C\$1 billion, was also included within the initiative. This was entrusted to Ressources Québec, Investiss-

ment Québec's natural resource subsidiary. "The CMH fund is fully operational now. Out of that, C\$500 million will be exclusively dedicated to Plan Nord projects; the rest will cover all the province of Québec. Ressources Québec has made several investments in the market over the past years and in 2015-2016, we had 10 interventions over a broad scope of companies at different development stages of their projects for a total of C\$220 million. The two main projects we supported this year belonged to Osisko and Agnico Eagle, but in the past, we also offered help to Stornoway Diamond Corporation (Project Renard's construction phase), and Canadian Royalties (Project Nunavik Nickel's operational scale-up)," explained Denis Williams, general manager of Ressources Québec.

Leaving politics aside and diving deeper into Québec's mining operations, we see numerous, overall positive developments. From favorable US\$/C\$ exchange rates improving gold producer profits, to non-traditional mineral projects marching strongly to operation, Québec is visibly rallying up forces and moving in the right direction. —



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# Josée Méthot

President and CEO  
**QUÉBEC MINING ASSOCIATION (QMA)**

### What have been the QMA's recent milestones?

The QMA has made important reforms in terms of membership, governance, and rules of operation. We have opened our doors to become more inclusive. Nowadays, the essential support system that the mining industry needs to operate is part of our association: service providers, equipment suppliers and research organizations. Moreover, the QMA is committed in two important programs: the *Towards Sustainable Development* initiative, and a new Health & Safety innovative project.

### Could you give us more details about your Health & Safety programs?

Health & Safety (HS) is one of the top priorities for the QMA and its members. In the last few years, we have created a Workplace Health and Safety strategic committee (WHS). Québec has a strong track record in this field, but the QMA is now pushing this further through a revolutionary initiative to identify the typology of responsible employees. We are trying to see what makes some people accident-prone and some not, and

how we can emulate the right behavior. We are proud that 4,500 mine workers have accepted to participate.

### What has been the overall effect of the new Mining Regime?

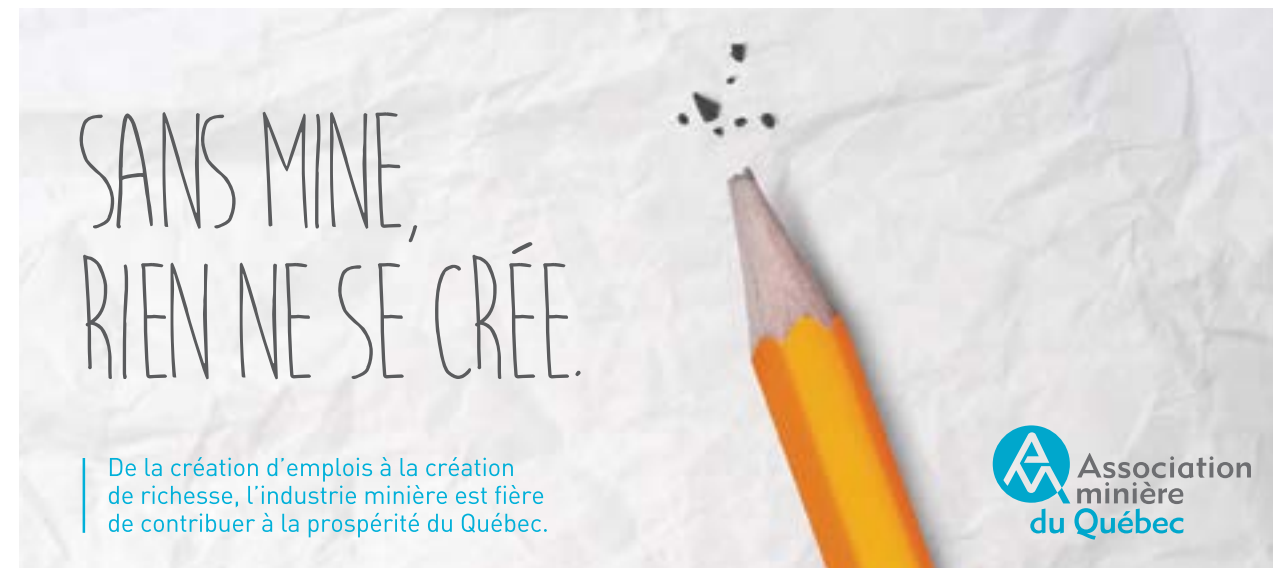
The new Mining Act helped clear the waters in terms of predictability, however it also brought new obligations. The intent was to create more communication with local communities and municipalities. However, the new monitoring committees have to be financially sustained by the mining company; it is unclear for us where this actually stops. Another measure was related to site rehabilitations. Now, before getting a permit, a mining company must provide a financial guarantee covering 100 % of the restoration's costs. That translates to considerable increased costs in the early stages of development. Also, we are now obliged to submit a complete environmental assessment study for operations exceeding 2,000 mt/day, as opposed to 7,000 mt/day before. Finally, public consultations are mandatory for all projects, irrespective of their size. Consequently, it is difficult for us to remain competitive on the global scale.

### Are we seeing more mineral diversification in play in Québec?

The diversity of our mineral potential will ultimately carry us through the downturn. When the liberals launched the Plan Nord 2.0, they sent out a clear message: that mining is a core business for Québec. We all know this is a difficult time for iron ore, zinc or nickel. Thankfully, we have strong gold production in Québec; and we are getting good news in apatite, with Arianne Phosphate, and diamonds, with Stornoway. Moreover, Royal Nickel's Dumont project is expected to start construction soon. Projects in lithium and rare earths also bring some hope.

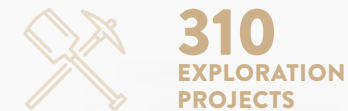
### What makes Québec a great mining jurisdiction, and what are the QMA's plans for 2016?

The quality of our manpower in Québec and the excellence of our universities and research centers are core strengths. Furthermore, we are still a very stable and predictable jurisdiction, as compared to others. For 2016, the QMA is targeting to improve communication and dialogue with local communities and First Nations. Otherwise, another important step will be the integration of Minalliance, an organization meant to promote mining to the general public, within our structure. —



## QUÉBEC'S MINING SECTOR

Source: Government of Québec



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# Frank Mariage

Chairman of the Board  
**QUÉBEC MINERAL  
 EXPLORATION ASSOCIATION  
 (AEMQ)**



**What has been the overall effect of Bill 70 on the mining industry?**  
 Québec went through four legislative attempts to reform the Mining Act in five years. Moreover, during this time, provincial elections occurred as well, where mining was a hot topic. All these factors created a very difficult environment. Venture capital does not mind risk, because investors can calculate; what they cannot calculate or measure is uncertainty. Now, we have greater certainty; unfortunately, we are confronted with an unfavorable global commodity climate. The AEMQ is working with the government to see what we can do together to offset that.

**Québec saw a resurgence in the 2015 Fraser Institute's Mining Survey. What makes Québec a top mining destination today?**  
 Taking a step back, in 2007/2008, Québec was ranked first in the world by the Fraser Institute. That occurred due to reasons such as a favorable tax regime, incentives, and sound government planning. Then, Québec

started falling in the rankings all the way to the 18th place because of the uncertainty that surrounded the numerous attempts to amend Québec's mining regime. The 2015 report put us up to the sixth place, and the reality is that Québec is a great mining jurisdiction: the quality of our geoscientific database is tremendous, the tax incentives for exploration are great, and the expertise we have in the province is world-renowned, and globally exportable. But we still have things to improve: we are ranked 60th in the world in terms of environmental regulation uncertainty, and uncertainty regarding access and protection of land.

**In 2015, the government of Québec placed a moratorium on uranium mining in the Province. How did that affect the industry?**  
 Although the moratorium is not yet official, there is presently a de-facto moratorium on uranium which has been in effect since 2012-2013. Strateco Resources is now suing the government for more than C\$190 million, and all this stems from the fact that Strateco put about C\$120 million in developing its project, promoting it, even attending international events with the Premier, as being a core part of the Plan Nord, only to get their permits rejected in the end. There is a spillover effect across all resources, and the industry. International financiers know what is happening in Québec, and they can quickly dismiss any projects, no matter the commodity or resources, if they are in the proximity of Strateco's propriety; this has happened to some of our members.

**In April 2015, Premier Philippe Couillard announced a scaled-down revival of Plan Nord. What has been done so far?**  
 We had a Plan Nord 1.0, and now a Plan Nord 2.0. The initial objective was to help out the iron ore mega projects in the Labrador Trough, which needed massive infrastructure investments, but with the downturn of the iron prices, people started looking West in the province, analyzing what else is out there. So now we are happy to see the advancement of other projects not related to iron ore, like Stornoway, Nemaska or Ariane's projects. We have strategic minerals that will require secondary transformation, which will occur in Québec, and thus generate more jobs, and more added value.

**What are AEMQ's main plans and objectives for 2016?**  
 As explorers, access to land is AEMQ's first priority for 2016. Secondly, we will be focusing on helping the government review its regulations regarding the permitting processes for mining companies, which have become cumbersome. Thirdly, we will continue our proactive approach with communities, both Aboriginal and non-Aboriginal. In addition to that, the AEMQ will continue developing its annual congress, Xplor, into a world-class event. —

# THE ANSWERS



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# Eric Levy & Hugo-Pierre Gagnon

EL: Partner

HPG: Partner

**OSLER, HOSKIN & HARCOURT LLP**



HPG



EL

## How has Québec's mining sector evolved in recent years?

EL: Overall, our mining clients in Québec are experiencing a very difficult climate at the moment, mostly because of the harshness and the duration of the commodity prices' downturn. However, positive changes have occurred since 2013: the election of a new Provincial government has had a good impact – the dialogue between the industry and the authorities has improved, there is a better mood within the sector, and investors now view Québec as once again being open for business. Furthermore, with Bill 70 finally being passed in December 2013, the whole legislative uncertainty is now gone. The actual amendments are quite subtle, so there were little changes to the daily operations of mining companies. The royalty payment debate was a very tricky one however, and thankfully, that was settled mid-2013 with a hybrid solution, containing a minimum, and a progressive tax, based on mining companies' outputs. This flexible measure was essential, as it gave the industry some air – otherwise, a heavy, first-dollar type of royalty would have suffocated the sector.

## What are some of the strategies that Osler's mining clients are using to attract the much-needed financing?

EL: Gold is currently a stabilizing factor for Québec's mining industry, due to the very favorable USD/CAD exchange rate. That said, the issue is that none of the big gold producers, currently active in the province, are Québec Inc. anymore. Osisko is the exception, and they are doing tremendously well, having just settled a C\$150 million financing deal in early February, but they are a royalty company, which operates under a completely different business-model. The exploration companies that Osler represents have mostly been in survival mode these past couple of years, and they are starving for cash: public company costs, renewal of permits, auditing – all these expenditures make life very complicated for juniors right now. On top of that, even the end-of-the-year, flow-through financing, which used to be more prevalent, is considerably weaker today.

## What are some of the key strengths that recommend Osler to the mining sector?

HPG: Osler benefits from extensive synergies between its offices in Canada and New York: we have offtake arrangement specialists in New York, infrastructure, project finance and oil and gas expertise in Calgary and Vancouver (our newest office), and mining, financing and mergers and acquisition expertise in

Toronto. Here, in Montréal, we have a great local team with tremendous experience in all transactional aspects relevant to the mining in mergers & acquisition dustry. We are especially adept at dealing with the TSX Venture Exchange, where most of Québec's juniors are listed. Our real strength is that all our offices work together as one team. Furthermore, through our network, Osler is able to assist clients even in foreign jurisdictions.

## What are the fundamental qualities a mining company needs to survive the downturn?

HPG: The most important asset is the management team, which needs to have geologists, engineers, miners and business people with a proven track record of success, in Québec and abroad. Obviously, juniors also need great mineral assets. We are seeing more and more companies being active in non-traditional commodities, such as rare earths, lithium, or niobium, which are heavily used in the constantly growing, high-tech industries. We see these non-traditional commodities as an area of growth for mining companies in Québec. In addition to that, fostering good relationships with Québec's key financial, governmental and mining institutions such as SOQUEM, Ressources Québec, Investissement Québec, Fonds de solidarité des travailleurs du Québec (FTQ), or the Caisse de dépôt et placement du Québec, is also essential.

## Going forward, what should we expect from Québec's mining sector in 2016?

HPG: As a trend, we expect more and more insolvency proceedings to occur for mining companies with projects that have become too costly, such as Cliffs Natural Resources' Bloom Lake project. In addition to the strong M&A consolidation activity we already mentioned, we also believe that smaller exploration companies will be going private, so as to mitigate their significant public company, governance and disclosure costs. Moreover, this move would facilitate easier access to private financing sources. In 2016, Osler will continue to help its mining clients during these difficult moments for the industry. We know that business will be back due to the cyclical nature of the mining industry, and when that happens, we will still be here. —



# René Branchaud

Partner  
**LAVERY**

## Could you outline some of the mining projects you have been working on?

Lavery has been heavily involved in the consolidation process that is currently happening within Québec's mining industry, with cases like the creation of Oban Mining. At an op-

erational level, we are involved with Mason Graphite. Internationally, Lavery mining specialists are in the boards of several Québec mining companies that are active outside of Canada and that are performing very well at the moment, like Dynacor Gold in Peru and Maya Gold and Silver in Morocco.

## What is your view on Bill 70 and how has it changed Québec's mining industry?

The adoption of Bill 70 was important because it put a lid on legislative uncertainties in Québec. The actual changes that it brought were not so dramatic, but, once again, people did stop talking about it, which was a very positive effect. The industry still confronts itself with PR issues, but most of this bad reputation comes as a result of the abandoned sites of the 40s and 50s. People need to understand that the times have changed: we cannot blame the miners of today for the actions of the industry 70 years ago. Nowadays, our clients pursue responsible mining practices and on most accounts, they were ahead of the legislation present in Bill 70. It is a paradox to hear people complain about mining in Québec, since this a Province that was significantly built with the help of this particular industry.

## Have there been improvements in the dialogue between First Nations and the mining industry?

The relationship between the mining industry and the First Nations has become a lot more business-focused nowadays. Companies look at First Nations and see partners willing to help and contribute to developing projects by offering various services (manpower, contracting, equipment, etc.) at a local level. Communication has improved dramatically and that has led to a win-win situation.

## Are Québec companies leveraging their experience to offset the market conditions by finding contracts abroad?

Companies from Québec have been exporting their expertise abroad for years. We are forming world-class geologists, and mining engineers at universities such as McGill or Laval, who are then able to work all over the world. There are several cases of drilling companies formed in the Abitibi region, which are now globally recognized brands. Essentially, that means that even if the mining industry goes quiet in Québec, these companies can still continue to do good work in other jurisdictions abroad. —

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# Making the Most of Each Dollar

## Québec offers its own financing alternatives to the industry

Previous boom years in the industry created the impression that the sources of financing were limitless. This is how hundreds of junior companies flourished, with the same groups spinning off two, three or four different assets into new entities. Then, suddenly, the free buffet was over, and even today, when we seem to be reaching the final stages of this long low cycle (at least for certain commodities), access to funds continues to be the main headache for project developers.

Eric Levy, partner at Osler, Hoskin and Harcourt LLP, explained that exploration companies have been in "survival mode" over the last years: "They are starving for cash; public company costs, renewal of permits, auditing – all these expenditures make life very complicated for juniors right now. On top of that, even the end-of-the-year, flow-through financing, which used to be more prevalent, is considerably weaker today."

And yet, companies in Québec benefit from advantageous tax regimes when it comes to exploration: "It is primarily the tax regime that has improved Québec's mining industry. We receive money back for putting hard dollars in the ground. Since 2011, the tax filings have been taken over by Revenu Québec, who efficiently process and refund money to junior companies in need of exploration funds to move forward," explained Laura Lee Duf-

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We are pleased with what Québec is doing to foster a very stable exploration and mining environment. The province remains one of the best places in the world to pursue metal prospecting."

Michael White, President and CEO, IBK Capital Corp

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fett, president and CEO of Tres-Or Resources. Companies active in Québec can also look out for the support of several public and private bodies that provide financing and promote economic development in the Province, including Ressources Québec, development capital fund Fonds de Solidarité FTQ, the SIDEX diversification fund, and the Caisse de dépôt et placement du Québec. And, this does not exclude the possibility of knocking on the door of other federal-level agencies, like Nemaska Lithium did when it obtained a C\$12.87 million grant from Sustainable Development Technology Canada (SDTC). Raising dollars continues to be tough, even in Québec, but the truth is that juniors operating in other jurisdictions in Latin America or Africa do not have the same access to these sorts of investment vehicles to obtain financing. Beyond survival, being able to add value by the drill bit in the current context is the key differentiator for juniors in the marketplace,

as investors will focus their eyes on those few companies that are actually moving forward. In the words of David Grondin, president and CEO of TomaGold, "a company will see significant financial growth if it can manage to raise a large amount of cash for project development in the current environment. Drilling is currently not expensive, and by only increasing drilling activities, mining companies can prepare themselves for when the markets increase."

In Québec, gold activities are recovering, thanks to the favorable currency exchange rates and to higher price levels in the precious metals spectrum during 2016. Iron ore, however, does not see the light at the end of the tunnel yet. In this context, Québec is looking to leverage its geological richness to promote other commodities, and this is where having an investment fund with a clear mandate to promote diversification like SIDEX can pay off.

Michel Champagne, general manager of SIDEX, acknowledged that the fund has had to reduce the size of their financings in the current market, from C\$500,000 to between C\$50,000 and C\$100,000 per project. He put emphasis on the promotion of non-traditional commodities: "Diversification is a way to alleviate the effects of struggling commodity markets. Different mineral markets are not always on the same cycle, which means that if one commodity market is down, the industry can be carried by another market." —

Image: Courtesy of Richmond Mines



## Denis Williams

General Manager  
**RESSOURCES QUÉBEC**

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Our investment needs to have a direct, visible impact. Nowadays, you cannot finance an entire operation in one go, projects need to be delineated into development phases. That gives us more confidence that our money will be spent properly.

**What has Ressources Québec achieved over the last years?**

Ressources Québec was launched in 2012, so we spent some time successfully putting a team into place, and getting our name in the industry. We manage our own budget, as part of Investissement Québec, but we were also entrusted with a provincial governmental fund. In 2011, when the initial Plan Nord was envisioned by Jean Charest's liberals, the idea was to give Ressources Québec C\$750 million to manage. In 2015, one year after Premier Philippe Couillard's election, the liberals renewed their promise and even supplemented it with C\$250 million, creating the Capital Mines Hydrocarbures (CMH) fund, for a total of C\$1 billion, which is fully operational now. Out of that, C\$500 million will be exclusively dedicated to Plan Nord projects.

Ressources Québec has made several investments in the market over the past years and in 2015-2016 we had 10 interventions over a broad scope of companies at different development stages of their projects, for a total of C\$220 million. The two main projects we supported this year belonged to Osisko and Agnico-Eagle, but in the past, we also offered help to Stornoway Diamond and Canadian Royalties.

**What is the current status of SOQUEM?**

SOQUEM continues its mandate of helping companies discover new projects in Québec, doing excellent work on that front – they have a total portfolio of around 70 projects, and they take on about 15-17 new tasks yearly. Their goal is to help mining companies to further develop their projects, making them marketable, and then finding partners that can bring those operations into production.

**Stornoway Diamond, Arianne Phosphate, Nemaska Lithium – just a few examples of solid projects moving ahead in Québec.**

**Are we seeing increased mineral diversification today, and is iron ore still a valid mid-term option?**

It is very encouraging to see mineral diversification happening in Québec, a province traditionally known for its iron ore and gold resources. More and more, new discoveries of rare earths, graphite, lithium, apatite, and even diamonds are making the headlines, strengthening Québec's brand as a mining industry, and offsetting the risks of being too focused on one or two commodities. In the short-term, it is unlikely for us to act in any way in regards to iron ore projects in Québec:

since we are only a complementary financing actor, we need others to be involved as well, and that is not happening right now. However, in the long-run, we expect to become active in this segment again, due to the large, untapped potential in the Labrador Trough.

**What characteristics in a company make it an attractive target for Ressources Québec?**

Ressources Québec will always be a complementary player on the financing scene. Therefore, the first thing we look at when deciding to invest in a project is whether there are other financial institutions backing it up as well. Afterwards, we obviously analyze the strength of that project's management team, the quality of its mineralization, and the global economics of the commodity involved. Our investment needs to have a direct, visible impact. Nowadays, you cannot finance an entire operation in one go – projects need to be delineated into development phases: that gives us more confidence that our money will be spent properly.

**What makes Québec an attractive mining jurisdiction for foreign investors?**

Because of the difficult global commodity climates, we are finding that financiers are more prudent now; however, they still see the potential here. Québec is a diversified, and politically stable mining jurisdiction, with great geology, and it has also become predictable, with the new mining regime passed in late 2013. Investors needed that, and they currently feel comfortable knowing the rules of the game. Moreover, there is a wealth of human expertise in the province: we have the schools, the mining companies, and the service support system, which all operate at a world-class level. Lastly, there is good access to capital, in Québec, and also throughout Canada.

**What should we expect from the mining sector moving forward?**

We expect to see more M&A activity in the market, because some companies, especially in the exploration phase, will have to rethink their ways of developing their projects, in this cash-tight investment scene. In the meantime though, Ressources Québec will continue to support the mining sector, as we know that the industry will come back. It is essential for projects to continue to be developed, so that when the downturn finally ends, they are ready to tackle the markets, and hit the ground running. —



## Michel Champagne

General Manager  
SIDEX

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There are more regulations in Québec and mining companies need to work harder to satisfy the stakeholders. However, flow-through share financings, tax credits for money spent exploring and credits for mining duties still make Québec one of the most favorable jurisdiction to explore.

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### Can you give an update of SIDEX's activity in the mining industry?

Since 2011 there has been a downturn and operating within the mining industry has been challenging, but we are currently starting to see a pickup in the market. Our core business is to finance exploration ventures and we have succeeded in financing a significant amount of projects over the last few years. Although the volume of projects that we finance has not significantly decreased, the size of the projects and financing has been reduced. Instead of financing C\$500,000, we have scaled down to finance only about C\$50,000 to C\$100,000 for individual projects. SIDEX does not have a specific annual budget and we are trying to meet all the needs of the industry.

### What are the main elements that SIDEX looks at when deciding to finance a project?

SIDEX will firstly look at the quality of the project, and we also consider the management and the capital structure of the company before deciding to finance. Over the last few years, we have been looking significantly more at the Corporate Social Responsibility (CSR) of the projects that we finance. Companies need to provide a CSR plan that takes into account the environment, communities and safety and security.

### Can you give a case study of a successful project that SIDEX financed?

SIDEX is a diversification fund and we want to encourage and diversify mineral exploration, thus we are restricted from financing gold projects in established mining camps. We are involved in a broad range of exploration projects for any commodity with an attractive market outlook such as phosphate, diamonds, lithium and graphite. With regards to lithium, we are focused on the Nemaska project as we think that this deposit has the most chances of going forward. In terms of graphite, we are mostly focused on the project with Nouveau Monde. Some of our success case studies include the Stornoway Diamond project, the Virginia Baie James projects, and we also financed the first exploration drill holes for the Canadian Royalties mine.

### How important is mineral diversification for the attractiveness of Québec?

Diversification is a way to alleviate the effects of struggling commodity markets. The

major production of minerals in Québec is iron, but the mining industry also depends on gold, nickel, and other commodities. It is important for the mining industry in Québec not to be dependent on one mineral. Different mineral markets are not always on the same cycle, which means that if one commodity market is down, the industry can be carried by another market.

### What do you think of the new Plan Nord?

Plan Nord was based on the possible iron production coming from the Labrador Trough. Since the iron ore price has decreased significantly, the project has taken on another focus and targets other commodities, such as diamonds or lithium. Everybody wants to build infrastructure during the low cycles, but attaining investment for infrastructure is always challenging, as investors cannot see immediate return on the risk that they are taking.

### Is Québec a better mining jurisdiction today compared to 2013?

There has been a significant amount of changes within the mining industry since 2013, and the mining environment has probably improved. CSR is currently more of a preoccupation, but it does result in increased time for project completion and thus increased costs. There are also more regulations and mining companies need to work harder to satisfy the stakeholders. However, flow-through share financings, tax credits for money spent exploring and credits for mining duties still make Québec one of the most favorable jurisdiction to explore.

### What are SIDEX goals for the next three to five years?

In 2015, we devised a funding instrument in collaboration with the Solidarity Fund and Caisse de dépôt to support companies that are struggling in the current climate. Our aim is to assist companies to survive while the markets are down. We also saw that companies have difficulty raising funds and thus, from 2014, we started to offer companies a quick fix financing option. We will offer companies with a good project and serious management C\$100,000 for fieldwork.

Companies and investors should keep an eye on the Québec mining industry. Projects are doing well and succeeding and there are still many opportunities to invest in the industry. —

### How has BMO evolved within the Québec mining industry over the last three years?

BMO Capital Markets is a North American investment bank, but within the mining industry, we have a truly global franchise. Our mining platform has continued to be large and strong over the past three years, including in Québec. While certain banks have been downsizing, we have not changed our stance relative to the mining sector.

One of the main challenges in the mining industry is access to capital. Fortunately, in Québec's mining sector, there are a number of government related institutions, such as Ressources Québec, Sodémex and SIDEX, which help stimulate mining investment in the province. These financing institutions are complementary solutions to the market, but private companies and private sources of funding are still required. The ultimate objective is not for the institutions to do transactions on their own, but rather to unlock financing situations.

### In this difficult climate, what are the main factors BMO looks at before financing mining companies?

We will look at the economics and feasibility of the project, the demand of the commodity, project margins, quality of management, contemplated funding, and the capital structure of the company. The mix between the various security classes has changed, depending on market windows and general conditions, but the general criteria and principles have not changed.

### Compared to 2013, is Québec currently regarded as having a more stable business environment?

Uncertainty in the business environment is never a good thing. The regulatory changes that were effected in 2013 have been kept in place, and the new mining code has been implemented according to plan. Currently there is an element of confidence which is partly due to the majority government that is in place. In my opinion, Québec has remained a very good place to do mining and business in general.

### How does your international reach help you provide better services and solutions to clients?

The mining space is truly a global sector in terms of the being in a flow of dialogue

with companies and international investors. BMO is interested in what is trending, what are the key concerns, and what are the opportunities globally and locally. This global interest makes us relevant within all the cycles in the mining industry.

### What is your take on the current levels of M&A activity?

There is an expectation that the larger companies facing certain debt burdens will have to divest their assets. In all likelihood, there will also be some consolidation between the junior companies in the market in order to have a better chance at raising capital.

### What differentiates BMO within a very competitive sector?

The scale and depth of BMO's mining platform, combined with our commitment to the mining sector during all periods of the cycle, gives us a great advantage in the market. We are active in the space from an investment banking standpoint, working for corporations, as well as from an institutional sales standpoint, working with institutional investors. The depth of our franchise makes us relevant and active on all fronts, which in turn drives deal flow.

Operating in Québec also has great benefits, particularly as it relates to working with local mining funds. Stornoway Diamond is a great case study for any company seeking a sizable financing in the mining sector. Their very successful transaction in 2014, raising more than \$900 million, called upon various classes of security, equity, convertible debt and royalties, in addition to working with the local funds such as Ressources Québec, Fonds FTQ and CDPQ.

### Finally, can you elaborate on BMO's conference held in Florida earlier this year?

In 2016, we celebrated the 25th edition of the conference and it was again a huge success in the context of challenging markets. We had a significant amount of participation, with over 245 investors and 215 companies attending the conference, providing a good split between investors and companies. In addition, we had a significant representation of private equity funds. In total, over 4,000 one-on-one meetings between companies and investors took place at the conference. —



## Nicolas Brunet

Director, Global Metals & Mining,  
Investment & Corporate Banking  
BMO CAPITAL MARKETS

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There is an expectation that the larger companies facing certain debt burdens will have to divest their assets. In all likelihood, there will also be some consolidation between the junior companies in the market in order to have a better chance at raising capital.

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## Olivier Grondin

President and CEO  
SOQUEM

### Can you provide an update of SOQUEM and the evolution of the company over the last three years?

As a corporation, SOQUEM is lucky to have a constant budget, contrary to the rest of the industry, which is finding it difficult to attain financing for exploration projects. Over the last three years, we have been doing a significant amount of drilling on various projects, particularly the B26 gold-zinc-silver-copper project. SOQUEM has also been focusing on the Kwyjibo REE project.

### While financing for early exploration is difficult to obtain, how important is SOQUEM's role in the market?

SOQUEM is investing money into projects to help them survive in the current market. We are not only funding exploration, but we are gaining interest in their properties, owning shares in the different companies. Our goal is to see those companies grow and succeed in their operations.

### How many projects can SOQUEM take on at the same time and what are the criteria for choosing partners?

With our team, SOQUEM can work on 12 to 15 projects per year, depending on their scale. We aim to promote local Québec companies: in the last two years, we have signed agreements with Adventure Gold and Midland. For more advanced projects, we will look at partnering with a mining operator that will be able to bring the mine into production.

### How is SOQUEM contributing to sustainable development in Québec?

SOQUEM is applying the highest standards in our operations on the ground. The mining sector is an industry where resources are not renewable, but are rather replaceable, and thus conducting exploration the right way is the best strategy to be sustainable.

### SOQUEM is improving the technologies that are being used for exploration activities. Can you elaborate on this?

SOQUEM aims at being innovative and continuously developing new technologies. We were directly involved in the development of INFINITEM, a successful electromagnetic geophysical technique.

We are always trying to find new, more efficient ways of exploring. Funding masters theses and PhDs is also a method we use to improve exploration technologies. SOQUEM collaborates with the universities and technical schools and we hire young geologists and technicians to keep new information and ideas coming into the company.

### What are your comments on the diversification of the mineralization spectrum in Québec?

Québec is a province that is very rich in mineral resources and our job is to explore all of them. With new technologies and trends in the power generation market, for example, the need for lithium will start to increase significantly and we need to be prepared for this demand escalation. SOQUEM is also involved in one of the top REE projects in Québec, the Kwyjibo project in joint venture with Focus Graphite. We are of course involved in more traditional exploration for precious and base metals, and we were also behind the discovery of the Renard diamond deposit, with Ashton Mining of Canada.

### Since 2013, there has been a revival of the Plan Nord. How has this impacted SOQUEM's operations?

The revival of the Plan Nord has had a positive impact on our operations in terms of infrastructure. There are government initiatives to build more access roads to the North, which is beneficial for SOQUEM and other exploration companies, as it opens new exploration areas with cheaper means of transportation than a helicopter or a floatplane.

### What are SOQUEM's main goals and objectives for the short term?

SOQUEM has three advanced projects in our pipeline for the rest of 2016, which are Moblan, Kwyjibo and B26. We hope to benefit from the hot lithium market with the Moblan project, in partnership with Perilya. For the Kwyjibo project, we will conclude the metallurgical testing. The B26 project will remain our main focus in terms of diamond drilling. We are also conducting lots of grassroots fieldwork to keep our pipeline of projects full and to generate our next drill-ready projects. —

### What are the main differences between Jean Charest's original initiative and the Plan Nord 2.0?

The approach towards sustainable development and stakeholder partnerships remains the same in Plan Nord 2.0 as it was in the original initiative. The concept had been well organized and thought of, and what remained to be achieved was the actual implementation of the plan: this is where the Plan Nord 2.0 starts becoming different than its predecessor. The creation of the Société du Plan Nord, getting the Québec government behind the idea of taking concrete action, making funding available and facilitating infrastructure projects has been essential. Another different aspect is related to knowledge and research: during the initial plan, we realized that we had information gaps in terms of the biodiversity and the mineral diversity of our mandated territory. We are actively engaging universities and research centers to improve our knowledge base in that sense. Moreover, since we are not currently within a mining boom, we can take more time in adequately preparing the layout. We are strategizing issues such as access to territory, telecommunications, energy, and new technologies.

### Could you further elaborate on the specifics of "The Plan Nord toward 2035", and the "2015-2020 Action Plan"?

The Plan Nord 2.0 is based on the sustainable development triangle of economic, social, and environmental components. Our long-term vision will lead us towards our final 2035 objectives, but in the meantime, we have created a mid-term five-year action plan called the "2015-2020 Action Plan". Within this intermediary step, we have 90 items. The five main sectors of focus are mining, energy, forestry, bio-agriculture, and tourism. One of the main mining-related economic objectives is to promote the diversified potential we have in the province: nickel, cobalt, zinc, iron, lithium, vanadium, graphite, rare earths, gold, diamond, apatite—all these minerals exist in the Québec, but traditionally, iron, gold, and sometimes nickel got all the attention of the industry. We want to put more emphasis on elements such as lithium, graphite, and vanadium, metals which are related to fast-developing technologies. Stornoway Diamond's Renard project represents a great example of this new approach: as Québec's very first diamond mine, it will create many positive spin-offs for the Cree Nation, while having a minimal impact on the environment.

### Could you provide us with an overview of the financial framework behind the Plan Nord?

Our ambition is to reach C\$50 billion of investment by 2035. More specifically, within the next five years, the Québec government will make C\$1.7 billion available to the Plan Nord, with C\$360 million coming from the Fonds du Plan Nord, and the remaining C\$1.34 billion coming from various departments within the governmental apparatus. On top of that, we have the newly created CMH (Capital Mines Hydrocarbures) fund, totaling C\$500 million, and Ressources Québec's C\$500 million budget managed by Investissement Québec, which will both be targeted at supporting the private sector.

### What were the reasons behind the government's acquisition of the railway and port infrastructure of Pointe-Noire, in Sept-Îles?

The acquisition was related to the potential we see in the Labrador Trough, where we have eight advanced projects in development, apart from the existing ones, which will be relaunched once the iron ore prices come back. We could face the scenario of having a regional production of 150 million mt/y, and for that we need proper infrastructure in place. We took advantage of the market context and Cliffs' exit to acquire the Pointe-Noire facilities at a very competitive price, to prepare for that prolific future. Moreover, we are also looking at ways of increasing the railway capacity in the region as well.

### Would you like to add a final message to our readership?

Québec has tremendous development potential, and this is a secure jurisdiction, open for investments. There are many projects that can be completed here, and for that to happen, we need financing and technology to adequately optimize them. We want to establish partnerships with foreign investors, institutions, and companies. We want the development of Northern Québec to serve as a model for other parts of the world that share its characteristics, and we plan on achieving that by pursuing a diversified mineral spectrum, in a responsible way. We are seeking to secure long-term off-take agreements for mining companies, and to multiply the positive effects of the mining industry, by engaging in secondary and tertiary processing right here, in Québec. —



## Robert Sauvé

President and CEO  
SOCIÉTÉ DU PLAN NORD

“ We want the development of Northern Québec to serve as a model for other parts of the world that share its characteristics, and we plan on achieving that by pursuing a diversified mineral spectrum, in a responsible way. ”



The revival of the Plan Nord has had a positive impact on our operations in terms of infrastructure. There are government initiatives to build more access roads to the North, which is beneficial for SOQUEM and other exploration companies, as it opens new exploration areas with cheaper means of transportation than a helicopter or a floatplane.



# Plan Nord 2.0

A vision for 2015-2035

AREA COVERED:  
**1.2 million km<sup>2</sup>**

**72%**  
OF QUÉBEC'S  
TOTAL LAND MASS

## WHERE EXACTLY?

Land located north of the  
**49<sup>TH</sup>**  
PARALLEL

Land located north of the  
**ST. LAWRENCE RIVER & GULF OF ST. LAWRENCE**



Image: Société du Plan Nord

## QUÉBEC'S NORTH RICHNESS



**75%**  
75% of the province  
hydropower installed capacity



**200,000 km<sup>2</sup>**  
OF FORESTS



EXTENSIVE  
MINERAL  
DEPOSITS



POPULATION:  
**120,000**

ABORIGINAL NATIONS:  
*Inuit, Cree, Innu, Naskapi*

**50%**  
of land dedicated to  
**NON-INDUSTRIAL  
PURPOSES BY 2035**  
(20% by 2020)

**C\$356.7**  
MILLION

Fonds du Plan Nord money  
available until 2020

**C\$1.34**  
BILLION

Total estimated investments in  
government-supported actions  
until 2020

**C\$50**  
BILLION

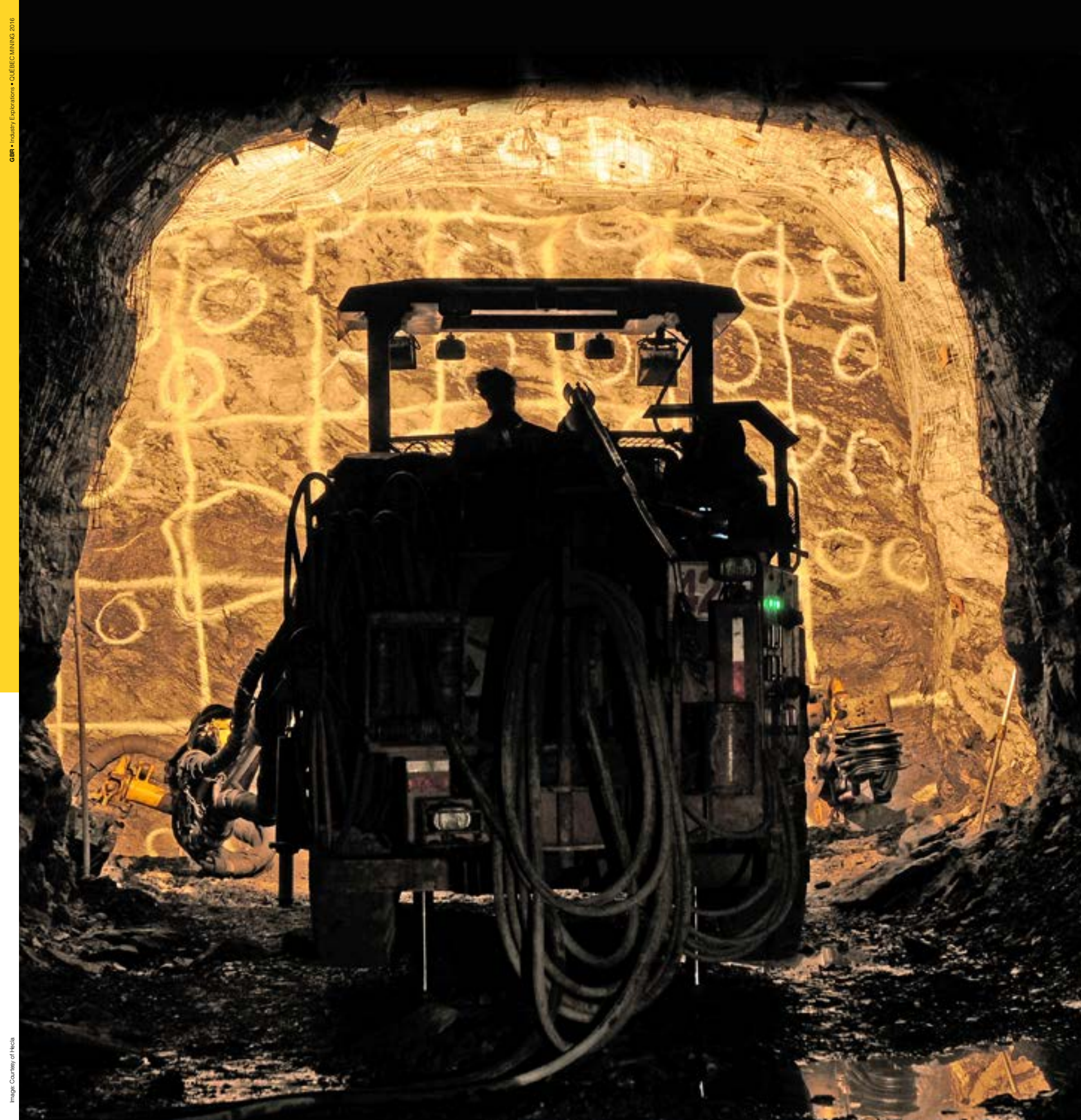
Total expected investments  
until 2035



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# DOWNTURN RESOURCEFULNESS



"It is encouraging to see mineral diversification happening in Québec, a province traditionally known for its iron ore and gold resources. More and more, new discoveries of rare earths, graphite, lithium, apatite, and even diamonds are making the headlines, offsetting the risks of being too focused on one or two commodities."

Denis Williams,  
General Manager,  
Ressources Québec

## Beacons of Hope

Québec's increasingly diversified mining scene

Over the past two years, press headlines largely covered the rather negative aspects related to Québec's mining industry. Iron ore prices steadily descended towards the \$40/mt mark, making the life of iron ore companies extremely difficult in Québec, a jurisdiction with tremendous potential for this commodity, especially in its Labrador Trough region. Moreover, in July 2015, the Bureau d'Audiences Publiques sur l'Environnement (BAPE) issued a 626-page study, advising Québec's authorities against uranium exploration and mining in the province, triggering the discontent of the Canadian Nuclear Safety Commission (CNSC), and sending a negative message to the international investor community. Add these events to an already depressed global mining environment, all within a climate of scarce financing sources, and the results should not contribute to a beautiful picture for La Belle Province's mining scene. Yet, somehow, within this scenery, riding the overall positive trends of Q2/Q3 2016, and benefiting from strong governmental support, several companies, with a line-up of non-traditional minerals for Québec, are fighting their way onto success.

### Québec Mining's Unexpected Beacons of Hope

Having topped the 2016 OTCQX Best 50, a ranking of the best performing companies traded on the OTCQX Best Market, Nemaska Lithium is in a prime position to profit from the favorable dynamics of the global lithium market, which is expected to need up to 100,000 mt of new lithium compounds by 2021. Nemaska's Whabouchi project recently received a big vote of confidence from Canadian authorities mid-February 2016, when it secured a C\$12.87 million grant from Sustainable Develop-

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## Quebec's Whabouchi Lithium Mine to Power the Future



The New Standard For Lithium-ion Batteries  
Lithium Hydroxide

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**NEMASKA**  
LITHIUM



# Guy Bourassa

President and CEO  
NEMASKA LITHIUM

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The 2016 feasibility study confirmed that Nemaska Lithium will be the lowest cost producer of lithium hydroxide in the world. Firstly, we will have the lowest concentrate transportation cost; secondly, we will achieve great savings on energy thanks to the cost of hydroelectricity in Québec.

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## Could you present us with a summary of the main recent developments at Whabouchi?

Nemaska Lithium has been involved with the development of the Whabouchi Project since late 2009, and throughout that time, our plans have evolved from producing lithium spodumene concentrate to producing lithium hydroxide, because otherwise we would have been at the mercy of a war price with the Australians, in supplying raw materials to Chinese plants. On the other hand, there were very few producers of battery-grade lithium hydroxide in the world, so we decided to adapt a known electrolysis process to the conversion of lithium sulfate.

In 2012, we issued another pre-feasibility study encompassing the mine, concentrator and also the hydrometallurgical plant, which showed that we could leverage Québec's excellent energy supply market to create a cheaper, greener lithium hydroxide. Our first complete feasibility study was published in May 2014, and that milestone also led to the closing of the Social Economic Impact Partnership Agreement with the Grand Council of the Crees, the Cree Nation Government, and the Cree Nation of Nemaska, in November 2014: the Chinuchi Agreement. We received the favorable federal decision in July 2015, and the general mine authorization certificate in September 2015. In the meantime, at the end of 2014, we took another major decision, changing the proposed location of the hydromet plant from Valleyfield to Shawinigan. The main reason for that was that we could use existing infrastructure in Shawinigan, buildings belonging to a former paper-mill company. That led to the release of an improved feasibility study in April 2016.

## What are the highlights of the new feasibility study?

The real takeaway of the 2016 feasibility study was that it strongly confirmed that Nemaska Lithium will be the lowest cost producer of lithium hydroxide in the world. Firstly, we will have the lowest concentrate transportation cost, given the proximity between our mine and our plant; secondly, we will achieve great savings on energy thanks to the cost of hydroelectricity in Québec. On the other hand, the Chinese are importing all the raw materials needed to perform the transformation.

So we are looking at a project worth C\$1.2 billion (after tax), with an initial 26-year mine-life, with a payback of 2.4 years, and a little over 30% IRR. The capex will amount to C\$549 million.

## Nemaska Lithium has been endorsed by both SDTC and Ressources Québec. How did these financing rounds help you?

Sustainable Development Technology Canada (SDTC) is an organization that helps companies commercialize green technologies. The fact that we received a C\$12.87 million grant from them in February 2015 is an incredibly important endorsement because it shows we proved that our technology is viable to an array of high-level PhDs. At the time, that was the largest assistance SDTC had ever awarded. On the governmental side, over the past several years, Québec, as a mining jurisdiction, has not had a great image internationally: the frequent changes of government, the moratorium on uranium, and the long-debated Mining Act changes did not help in that sense. However, in March 2016, with Ressources Québec putting C\$10 million in Nemaska Lithium equity, not debt, we saw a clear statement being made: that the government sees us as a real opportunity, and is supporting us in the long-term. Simultaneously, it sent a message to the international financial community that Québec is once again “open for business”.

## What are the current market dynamics for lithium hydroxide?

The outlook is very good: demand has been growing consistently, and production has not been able to keep pace with it. South American producers have lost 30% of the market in favor of the Chinese in recent times, and at the moment, there are only four or five mega players in the world. Most of the commodities are down, whereas lithium is in a very good place; that, combined with the fact that ours is an advanced project, makes us a very attractive investment opportunity. We will have completed the construction of the Phase 1 Plant by the end of 2016, and by that time, we will also probably have a couple of off-take agreements in place. From there on, we will complete the C\$550 million project financing, and we will start the construction of the main plant, with a vision to be in commercial production in 2018. —

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Today, you have to understand the market differently than in the past, as the end users are much more technical and selective. Working with industrial minerals is very complex as significant negotiations with banks, buyers and end users have to be done. This entails months of verification processes, as buyers and end users want to make sure that the specific quality and purity of the commodity is right for their product.

Kiril Mugerma,  
President & CEO,  
Geomega Resources

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ment Technology Canada (SDTC), the institution's largest grant at the time. “This is an incredibly important endorsement because it shows we proved that our technology is viable to an array of high-level PhDs. In March 2016, with Ressources Québec putting C\$ 10 million in Nemaska Lithium equity, not debt, we saw a clear statement being made: that the government sees us as a real opportunity and is supporting us in the long-term. Simultaneously, it sent a message to the international financial community that Québec is once again open for business,” said Guy Bourassa, the president and CEO of Nemaska Lithium.

Elsewhere, Stornoway Diamond has built Québec's first diamond operation. The Renard mine, employing close to 500 people, processed its first ore in July 2016, with total costs of construction amounting to C\$775 million – several months ahead of schedule and C\$36 million less than its original expected cost. Stornoway Diamond boasts indicated mineral resources of 30.2 million carats (ct), with a further 13.35 million ct as inferred mineral resources, which should enable the company to produce 1.6 million ct/y over the initial 11 years of Renard's mine life. “It is very encouraging to see mineral diversification happening in Québec, a province traditionally known for its iron

ore and gold resources. More and more, new discoveries of rare earths, graphite, lithium, apatite, and even diamonds are making the headlines, strengthening Québec's brand as a mining industry, while offsetting the risks of being too focused on one or two commodities,” said Denis Williams of Ressources Québec, which financed C\$240 million of Renard's costs. But Investissement Québec is not the only Québec Inc. financial player involved in this up-and-coming success story. Caisse de dépôt et placement du Québec, another traditional and long-standing finance player in the province, also contributed C\$105 million to the project.

Another unsuspected positive development came from Arianne Phosphate and its Lac à Paul apatite project, located in Québec's Saguenay-Lac-Saint-Jean region. With reserves of 472 million mt of 6.9% P2O5, and an expected 72 million mt of high-off grade concentrate at 38.6% P2O5, which will assure a 26-year mine-life, Lac à Paul will create more than 1,000 direct and indirect jobs during its operation. Additionally, the project, which holds a C\$1.9 billion net present value, is expected to only need 4.4 years for its capital payback. And there could not have been a better way for Arianne to end the year 2015 than it did, by receiving the ministerial decree from Québec's government to go ahead with its C\$1.2 billion phosphate project, for which it is now actively looking for financing.

Rare-earths also constitute an up-and-coming mineral segment in Québec, and companies such as Geomega Resources, Quest Rare Minerals, and Commerce Resources have been able to advance their projects in recent years, aiming to help create a Western counter-poll to China's dominance in the sector. “Since 2013, and the positive economics we had released in 2012 for our Ashram rare-earth deposit in Nunavik, we have had great metallurgical advancements on several different aspects of the project. We have been able to perform a significant amount of drilling, advance our environmental baseline data collection, and continue our talks with the other stakeholders in Nunavik that could benefit from Ashram going into production,” said Chris Grove, president and director of Commerce Resources. —



ASHRAM RARE EARTH DEPOSIT  
RARES ASHRAM  
LES MÉTAUX DE  
L'AVENIR

ASHRAM RARE EARTH DEPOSIT  
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COMMERCE RESOURCES CORP.  
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## Chris Grove

President  
COMMERCE RESOURCES

**The last years have been very eventful for Commerce Resources. Could you give us an overview of the Ashram rare earths project?**

Since 2013, we have been able to perform a significant amount of drilling at Ashram, advance our environmental baseline data collection, continue our talks with the other stakeholders in Nunavik, and we have had some really exciting advances in our metallurgy. Also, in October 2015 Commerce Resources received the e3 Plus Award from the AEMQ. In addition to this, Commerce Resources was also able to recently identify fluorite as a by-product at Ashram, fact which further strengthens the economics of the project.

**What are the main values and policies that have enabled you to win the e3 Plus distinction?**

Our belief is that the project, irrespective of where it is located, needs to be a positive factor for all stakeholders. This philosophy goes back to the work we originally did in British Columbia, which led to the signing of an agreement for our Blue River tantalum-niobium project with the Simpcw First Nation. We used these same principles with our Ashram project in Québec: we have been in communication with the Inuit based in Kuujuaq and their representative bodies. We are also now in contact with the Naskapi of Kawawachikamach. Last year we hosted several round table discussions with the Inuit and the Naskapi, and organized site visits. When it comes to environmental responsibility, the key was to start the environmental baseline data collection from the onset.

**Could you provide us with more information about Ashram's metallurgy?**

Our work on the metallurgy front has gone exceptionally well. This success goes back to the fundamentals of the project: when we started looking out for an opportunity in rare earths, we educated ourselves on what was already in production, which are carbonatite deposits with the three REE bearing minerals that dominate commercial processing: monazite, bastnaesite, and xenotime, and these are the fundamentals of the Ashram deposit. We performed bench scale laboratory samples, which returned exceedingly positive results and based on that, we scaled up the work to the pilot plant level in 2016, with Hazen Research,

in Golden, Colorado.

The best results that we have had so far are a 42% total rare earth oxide (TREO), at 76% recovery, and these numbers are some of the best in the sector at the moment. Besides, the economics of our Ashram project are also highly attractive, with the operating cost of US\$7.91/kg of rare earth oxide (REO), potentially giving us the best margin in this field.

**At the end of the day, what is Commerce Resources' value proposition for the investor community?**

The rare earth commodity sector has been a very complex one for investors in recent times, which stems directly from the dispute between China and Japan regarding the sovereignty of the Senkoku Islands in the South China Sea, which led China to cut off all the REE supplies to Japan. This triggered a dramatic price escalation and five years were needed in order for a semblance of equilibrium in terms of supply and demand to be reached again.

The increase in demand is primarily driven by green technologies while the recent, significant opportunity and price increase for lithium should arguably next be expressed in REE prices. Secondly, investors should understand that the REE's can be hosted by over 200 different minerals, but that most of the world's commercial production is based on only three of those – incidentally, the same three minerals that our deposit is hosted by. Investors should also understand that with Canada finally signing the Paris Climate Accord (COP 21), and with increasing global interest in solving global warming, the demand for REE's and for magnet feed materials will continue to grow. Moreover, given today's low price-points, Commerce Resources has one of the very few projects out there that are still potentially economic.

**What are your next goals and objectives?**

Looking forward, we are very optimistic about being able to restart our pilot plant and produce samples for major global producers, such as BASF, Treibacher Industrie AG (the original rare earth manufacturer), or Solvay (the largest rare earth producer outside of China). We hope that those samples will lead the path to a JV with one of the majors, which will be the most attractive way of securing the capital we need to complete our pre-feasibility and bankable feasibility studies. —

**Can you elaborate on the technology at play in Geomega's projects?**

In 2014, we started using free flow electrophoresis as a method of separation for rare earth elements. Free flow electrophoresis is widely used today in biochemistry and other fields, but it had never previously been used in the mining industry. We demonstrated that the method can be used on neighbor series REEs, such as neodymium and praseodymium, which are used in permanent magnets, the biggest driver of REE today.

In 2014, Geomega did not only work on innovative separation methods, but also on hydrometallurgical processes for the Montviel REE project itself. This project is located at driving distance from Montréal and all the required infrastructure is in place. Another advantage is that the project is significantly large with a substantial resource estimate. If we look at a mining operation of 800,000 metric tons (mt) per year, we will be able to mine for approximately 120 years. The mine will produce about 2,000 mt of neodymium a year, which is a very large portion of the market, and production will be primarily dedicated to the magnet industry.

In the first stages of exploration of the Montviel project, Geomega investigated different processing methods. In 2012, we were using a pure sulfuric acid treatment method; in 2013, we moved to a sulfuric acid and hydrochloric acid combination; and in 2014, we moved more towards using hydrochloric acid. In 2015, we managed to significantly reduce our acid consumption. We went from using 600 kg of acid per mt in 2012, to only using 58 kg/mt in 2015. The reduction of acid consumption also allowed us to reduce the power consumption of the project to less than 60 MW/mt.

In 2015, Geomega also created Innord as to simplify the structure of the company. Innord is the innovation arm of Geomega, and creating this body made it easier to attract investors and financing straight into the technology segment of our business.

In 2016, we built two prototypes in our facilities for separation using electrophoresis in which we achieved a significant

reduction in scale and cost while increasing the concentration relative to our tests in 2014. Today, work continues in order to achieve our initial target throughput per module of approximately 1 kg/day.

**How important is innovation in the mining industry in the eyes of investors?**

Over the last couple of years, a significant amount of financing institutions and investors started to shift their focus away from the mining industry. It is difficult to find financing for mining operations if every commodity is decreasing in price. It is currently easier to attract funds and investment for innovation and technology, although we now see a reversal in that trend as the gold price began to rise.

Our technology is currently patent pending and we got approval for 23 out of 25 claim requests. Innord was created in March 2015, and we received financing from the Québec and federal governments. With the government investment, we fully focused our attention on separation technology.

**Did the revival of the Plan Nord positively impact Geomega's operations?**

The Montviel Rare Earth project falls inside the Plan Nord region and thus the revival had a very positive impact. We believe that the Montviel project has the potential to become a mine due to its proximity to infrastructure. The government currently has a significant amount of interest in rare earth elements and building a rare earth industry in Canada and thus we are receiving healthy support from them.

**What are the next steps for Geomega?**

Our focus has been to identify secondary sources from industrial users of rare earth elements. We believe that our technology opens the door for the recycling of rare earth elements. The development of our mine is going to be a long process, but in the meantime, with our electrophoresis technology, we can separate waste residues and sell back to end users, generating revenue while the mining project is still in development. —



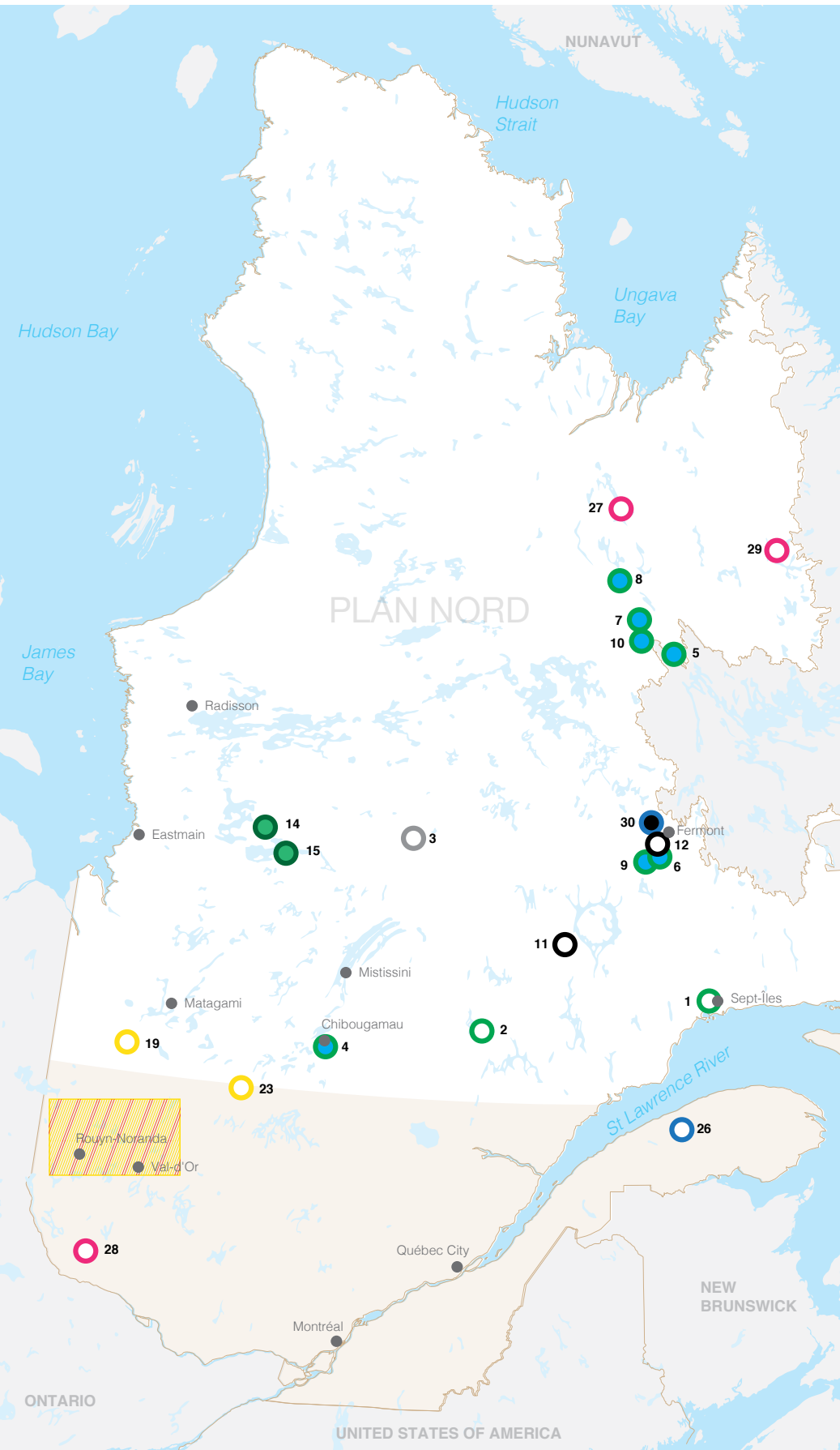
## Kiril Mugerma

President and CEO  
GEOMEGA RESOURCES

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## Mining Projects

- APATITE**
  - 1- Arnaud (Mine Arnaud)
  - 2- Lac à Paul (Arianne Phosphate)
- DIAMONDS**
  - 3- Renard (Stornoway Diamond Corp)
- IRON ORE, IRON AND TITANIUM**
  - 4- BlackRock (BlackRock Metals)
  - 5- DSO (Tata Steel Minerals Canada)
  - 6- Fire Lake North (Champion Iron)
  - 7- Full Moon - Sunny Lake
  - 8- Lac Otehluk (Lac Otehluk Mining)
  - 9- Lamêlée (Lamêlée Iron Ore)
  - 10- NuTac (New Millennium Iron Corp.)
- GRAPHITE**
  - 11- Lac Guéret (Mason Graphite)
  - 12- Lac Knife (Focus Graphite)
- LITHIUM**
  - 13- Authier (Glen Eagle Resources)
  - 14- Rose Tantalé-Lithium (Critical Elements Corp.)
  - 15- Whabouchi (Nemaska Lithium)
- NICKEL, COPPER**
  - 16- Dumont Nickel (Royal Nickel Corporation)
- GOLD**
  - 17- Akasaba West (Agnico Eagle Mines)
  - 18- Croinor Gold (Monarques Gold)
  - 19- Douay West (Aurvista Gold Corporation)
  - 20- Fayolle (Hecla Québec)
  - 21- Granada (Gold Bullion Development Corp.)
  - 22- Home 5 (Falco Resources)
  - 23- Windfall Lake (Osisko)
  - 24- Lamaque South (Integra Gold Corporation)
  - 25- O'Brien (Radisson Mining Resources)
- SILICA**
  - 26- Langis - HFP (Canadian Metals)
- RARE EARTHS**
  - 27- Eldor (Ashram) (Commerce Resources Corp.)
  - 28- Kipawa (Zeus) (Matamec Explorations)
  - 29- Strange Lake / B-Zone (Quest Rare Minerals)

## Care and Maintenance

- IRON ORE**
  - 30- Lac Bloom (Champion Iron)
- LITHIUM**
  - 31- Québec Lithium (RB Energy)

Source: MERN, Government of Québec

### Could you briefly introduce the Lac Doré project?

Located a short drive from Chibougamau in Québec, Lac Doré has an easy access high purity vanadium resource with all infrastructure nearby. With the increasing need for energy storage, there will be a higher demand for vanadium electrolyte within the high purity segment. 10% of global vanadium production is high purity, and very few vanadium resources globally have the capability to supply it economically. Currently, there is very limited North American production of high purity vanadium, and almost 100% of the vanadium is imported from disruptive sources. This is a dangerous situation for steel, critical alloys for aerospace, automotive catalysts and electrolyte.

Vanadium production for steel and alloys can be cost prohibitive or highly lucrative given the boom or bust nature of this market. Existing producers generally prefer to wait out the storm when prices are low. When prices are high the smaller electrolyte producers suffer and have to transfer this cost to the vanadium redox battery (VRB) producers. VRB technology remains positioned at a higher cost without a primary supply solution. Vanadium-Corp has exclusive primary supply to solve this paradox.

### What are the advantages of using vanadium for batteries?

The state shifting properties of vanadium replace the need for a second electrolyte. It holds energy indefinitely, does not emit heat or emissions, enables separation power and energy and never degrades. The energy

storage industry consensus is that vanadium is imperative for grid storage application. Large-scale, long-duration VRB storage deployment has just begun and a new vanadium battery installation in China is set to be 100 times larger than anything like it in the lithium industry. The new world requires renewable power, battery backup, load leveling, micro grids and clean power charging stations which is where vanadium technology shines. With globalization and changes in government mandates for energy storage and real climate change solutions, the demand outlook for high purity vanadium is significant. As an emerging high purity vanadium supplier, we see a significant opportunity in the technology as well as a different model for producing battery materials. Our objective is to produce vanadium and manage its use in batteries. We can reclaim the vanadium at the end of the life and resell it again. This would result in an inexhaustible supply of vanadium while mitigating the carbon footprint.

### What are the advantages of being part of the Vanadium Electrolyte Process Partnership (VEPP)?

We formed the partnership as a platform for electrolyte development. Collaborative partners include government groups, research academia, vanadium battery producers and vanadium electrolyte developers. Technology developers tend to guard their competitive trade secrets, but inevitably, the two groups need to work together. We have successfully launched the first impurity initiative through VEPP. The battery producers need to map out what impurities their technologies are sensi-



# Adriaan Bakker

President and CEO  
**VANADIUMCORP**

tive to, and start testing different sources to ensure there is compatibility and they can utilize them.

### Where would you like to be positioned in the market in three to five years?

We would like to establish the gold standard and dominant supply of high purity vanadium and battery materials for energy storage, aerospace, national security, infrastructure and electric vehicles. Vanadium batteries with VanadiumCorp cost-reducing electrolyte are a real solution to help achieve zero carbon. —



## Matt Manson

President and CEO  
**STORNOWAY DIAMOND CORPORATION**

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There is some turbulence with diamond trade, and in 2015 prices decreased, but prices are up by 10% this year. We do not get bothered by the short-term fluctuations of the market because diamonds are non-discretionary luxury products and culturally-necessary gifts, giving it long-term stability in the market.

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### Could you provide us with a brief evolution of Stornoway Diamond Corporation and the Renard project?

As of three years ago, we have completed our feasibility report, achieved our permits, and accepted a financing agreement with Québec for Plan Nord to get roads constructed. We finished pre-financing the project in 2014 and began construction. Since this past summer, we have been producing and are going through ramp-up for the operations phase of the project. It has been a 16-year journey from the discovery of the deposit to now.

### What innovation is Stornoway bringing to the table at Renard?

We are the first mine in Canada to use liquefied natural gas (LNG) for power generation. Our project is sufficiently remote that bringing in a power line and connecting it to hydro power sources would have been extremely expensive. However, the road allows us to truck in LNG for power, cutting costs, and reducing our carbon footprint. The application of LNG for mining is innovative. However, for companies such as ours attempting to establish new mines, innovation is not always favorable for investors and stakeholders, who only want to see technology that is already proven to work. The forces of financing motivate mining companies to not innovate.

### What is your vision for community relations?

Since the beginning, we showed the Cree Nation of Mistissini the financial model of the project in order to be transparent with our intentions. We have a formal agreement with the full gamut of social commitment for business. About 20% of our employees are Cree, and we are continuously looking to increase these numbers. Our agreement with Chibougamau and Chapais has statements of objectives, and they encompass another 20%-25% of our workforce. Also, almost all of our small-scale contracts come from Chibougamau. The economic impact of our project has been carefully planned pursuant to these agreements.

We are cognisant of our social impact and of the fact that we are borrowing the land. Our environmental impact is also tailored to that sensibility. The Cree are sophisticated in their governance and institutions, and they are represented in the Renard committee.

### What makes Stornoway's Renard a great mining project?

Mining projects are measured on the value of their resource. We have a large value of ore with the potential for a long-life mining operation at Renard. The objective is being an economic cornerstone for the region that will go on for generations. Our diamond mine has been built from the ground up in a greenfield location by a single asset company, raising all the money and risk capital from lenders and investors in a bad mining market. Additionally, our ethos of inclusion and good intent for all of the participants is also a distinctive feature of Stornoway.

### What are the current market dynamics for diamonds?

The mechanics of how diamonds are sold is ineffective, but the financing is changing. There is some turbulence with diamond trade, and in 2015 prices decreased, but prices are up by 10% this year. We do not get bothered by the short-term fluctuations of the market because diamonds are non-discretionary luxury products and culturally-necessary gifts, giving it long-term stability in the market. Diamond market dynamics are therefore positive for our business.

### What key changes you have seen in mining financing?

Mining project financing used to be dead equity, but this is changing. Now, there are more bespoke financing solutions. Streams and royalties are becoming more accepted as financing toolkits. Term loans from banks are going towards different types of debt products and more sensible deals, and our financing deal is a perfect example.

### What is your final message regarding Stornoway and Québec?

Stornoway has successfully executed the various steps of the Renard project, and now we are focused on making the operation a success. We want to mine the ore at the right value going forward.

Quebec has the best possible environment for mining. There are great resources in the region as well as a conducive mining culture. Whether you work with government, international institutions, financing institutions, or contracting firms, people understand mining, its benefits, challenges, and best practices. —

### Can you elaborate on Nouveau Monde's graphite project?

The Matawinie graphite project is a brand new discovery that was made in 2015, after exploring over 10,000 square km. Over the last six months, we have drilled 11,000 meters and we have found 84 million metric tons at an average rate of 4% graphite. This deposit is located an hour and a half north of Montreal and the entire deposits is at surface. There is a very wide intersection and the strip ratio is low at 0.94:1. We have done 14 different metallurgy tests; our most significant was done on 364 drill core subsamples taken from all over the West zone mineralization where we are planning to build the mine. The results were outstanding with a combined purity across all flakes of 98.2%.

In terms of infrastructure and power, the project is very well located, only about 4 km from existing infrastructure. Our capex is reasonable at C\$144.5 million. The *opex* is C\$660 per metric ton of concentrate produced while our expected average selling price is US\$1,492 per mt. In addition to the West zone where we expect to build the first pit for a 25+ year mine life, we have also identified two other potential pits. There is also an existing 20,000 square meter facility, which is currently under care and maintenance that could potentially be used for doing a second transformation of graphite flakes into value-added products such as battery anode material.

### How is Nouveau Monde leveraging the availability of financing?

Currently Nouveau Monde has four major Québec institution shareholders, which are Caisse de dépôt, FTQ, SIDEX and Desjardins. We are also working with Investissement Québec to assist us in financing after our preliminary economic assessment. The advantage of operating in Québec is that the financial institutions and government are significantly supportive. We can also count in the support of two other institutions outside Québec, Matrix Advisors of New York City and Dundee Corporation of Toronto.

### Can you elaborate on the end markets for graphite?

Mining graphite makes it easy to work in the area in which we are located. The way graphite is processed is very mechanical and it does not have a significantly large impact

on the environment. The biggest growing market for graphite is lithium-ion batteries, which used to be 9% of the market and has now grown to 25% of the market. Lithium-ion is currently taking the share that the refractories have in the graphite market. The refractories used to take 55% of the graphite market, which has now decreased significantly to 35%.

With the flakes distribution and high purity levels of our graphite, we intend to sell our medium and fine flakes to the lithium-ion battery market, which requires high purity graphite. It is less expensive for us to create a value-added product for lithium-ion batteries. Tesla Motors is continuously increasing production and they aim to sell 500,000 vehicles by 2018. This will require over 100,000 mt of graphite flakes per year. Imerys is currently producing 20,000 mt of graphite per year at its Lac des Iles location but they only have a few more years of mine life left. The North American market is already consuming 80,000 mt of graphite per year.

### What aspects will attract investors to participate in Nouveau Monde?

Nouveau Monde has the best location in North America, next to existing infrastructure and with easy access to green and cheap hydro-electricity. We also have one of the three largest resources in North America with a 50+ year mine life. The deposit is of the highest purity and has great flake distribution. If an investor wants to penetrate the electrification of transport and the power storage revolution that has started unveiling, they should invest in Nouveau Monde.

### What are Nouveau Monde's main objectives for 2016 and the future?

In June 2016 we presented the results of our preliminary economic assessment. We aim to complete additional drilling to further define the West zone resource, launch and conduct our pre-feasibility study, and baseline environmental study as well. We are also actively working on defining a flow-sheet for our second transformation to produce coated spherical graphite. We will then apply for a mining permit, which we expect to obtain in 2018, after which we will start construction. We also have a plan to start producing value added products while we wait to start our mining operations. —



## Eric Desaulniers

President and CEO  
**NOUVEAU MONDE**

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The biggest growing market for graphite is lithium-ion batteries, which used to be 9% of the market and has now grown to 25% of the market. Lithium-ion is currently taking the share that the refractories have in the graphite market.

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# Jean-Sébastien David

Chief Operating Officer  
**ARIANNE PHOSPHATE**

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There will always be demand for food, so we are definitely in the right business. Furthermore, diets have changed nowadays, and more protein is being consumed, which puts pressure on farmers around the world to improve their productivity, making them need more fertilizers.

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## Arianne Phosphate achieved a major milestone in December 2015, receiving the Ministerial Decree for the Lac à Paul project. How is the project going?

Arianne Phosphate released its Bankable Feasibility Study (BFS) for its Lac à Paul project late 2013, and afterwards completed its Environmental Impact Study in 2014. However, the most important milestone occurred in 2015, when the Bureau d'audiences publiques sur l'environnement (BAPE) issued a favorable independent report for Lac à Paul. That process took about six months, and it eventually led to Arianne Phosphate receiving the Ministerial Decree to go ahead with the project. Now, we are focusing on finding the financing. We are talking about a big project: 3 million mt/y, 55,000 mt/day throughput at the mill, \$1.2 billion to develop – it is essentially the size of Malartic. Since 2013, we have also increased our resources, which made us reevaluate the life of the project: the initial plan was to mine for 26 years, but now we are looking at 38 years. Realistically though, based on the resources we seem to have, we could be there for much longer. Furthermore, ever since we completed our BFS, we have been very committed to improving our project numbers: we have officially reduced our costs from \$94/mt, to \$79/mt, and that was calculated at the CAD/USD 0.95 exchange rate.

## What are the dynamics of the phosphate market at the moment?

There is a great need for phosphate in North America today. Canadian and American farmers are currently using products from Morocco, Peru, Togo, Tunisia, or Russia. First of all, the reality is that these jurisdictions, for the most part, are not as geopolitically stable as Québec. Secondly, Arianne is far closer to the market: the Saguenay River is essentially a big highway, which works all year round, being able to assure a continuous phosphate supply. The third aspect to be considered is that Lac à Paul will be 100%-powered by the Chute des Passes Dam's hydropower station, allowing us to make a green end product. Finally, Arianne Phosphate is very proud of the quality of its product: at 40% P2O5, this will be the best option on the market, both in terms of the concentrate's high grade, and in terms of its purity.

## What is the projected economic impact that Lac à Paul will have on the Saguenay-Lac-Saint-Jean region, and what feedback are you getting from the local community?

The Saguenay-Lac-Saint-Jean region needs a project like Lac à Paul badly. The logging, and the pulp and paper industries were once the economic drivers there, but that is not the case anymore. In 2015, Arianne Phosphate was invited by the government to the “Sommet Economique Régional du Saguenay-Lac-Saint-Jean”, which was chaired by Québec's Premier, Philippe Couillard, and the message was clear: let us look at mining as a solution. It really was a vote of confidence for Arianne, and our Lac à Paul project, which now benefits from a very strong popular, and governmental support. We will create 2,200 jobs during the construction phase, and then generate 1,000 direct and indirect jobs during the operation.

## Could you give us more details about your innovative project with University of Laval?

The project, developed over the last four years, yielded a great final discovery. Essentially, by using our apatite concentrate, bacteria and mycorrhizae, we are able to make a plant assimilate the product directly, without the need of phosphoric acid. This is highly innovative, and great news for all the organic farms out there, which, at the moment, only represent about 2% of the world's food consumption; however, that number will just continue growing in the future.

## What are Arianne Phosphate's main objectives for the medium term?

There will always be demand for food, so we are definitely in the right business. Furthermore, diets have changed nowadays, and more protein is being consumed, which puts pressure on farmers around the world to improve their productivity, making them need more fertilizers. However, this is not the only market that Arianne will be targeting – our very high-quality and low-impurity product qualifies us for the specialty markets, where the markup is very attractive. In 2016, Arianne Phosphate will look to put all its financials in place, and start construction this fall, while also securing offtakes in the meantime. This is the world's largest greenfield project of its kind, and we will be here for a very long time, producing green, high-quality phosphate. —



# Michel Lafontaine

Project Director  
**MINE ARNAUD**

## Please introduce Mine Arnaud and recent milestones for the project.

Mine Arnaud is a phosphate mining project located in the region of Sept-Îles and in close proximity to the Saint Lawrence River. Mine Arnaud is a subsidiary of Ressources Québec and manages the mining project on behalf of Ressources Québec and Yara International. In early 2015 Mine Arnaud received the Ministerial decree to go ahead with the project, and we are currently in the process of completing the financial arrangement for Canada's largest open pit mine near an inhabited area. Furthermore, we hired an international phosphate expert in order to start discussions with potential off-takers.

## What are some of the key qualities of Mine Arnaud's project?

The apatite deposit at Mine Arnaud is of exceptional quality, reflected in the richness of the ore concentrate produced, which is 39-40% phosphorus pentoxide (P2O5). We have very low contaminants, allowing markets like Europe, with strict guidelines regarding the level of these contaminants, to import our phosphate. Furthermore, we are in close proximity to the town of Sept-Îles where we can source a talented local workforce, eliminating the need to create housing on site. In terms of infrastructure, the proximity to Sept-Îles allows us access to the port. Finally, Investissement Québec has acquired the infrastructure of Cliffs, which will allow us much easier access to rail transportation, among other advantages.

## What are the environmental and social components of your project?

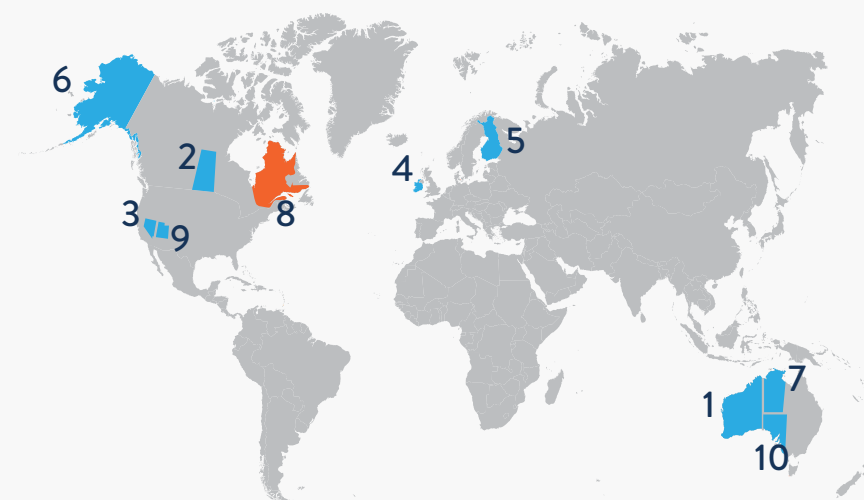
Our environmental director, Caroline Hardy, has more than 18 years of professional experience and since joining Mine Arnaud in 2013 has ensured the highest standards for our operations. We will carry out our project with environmentally friendly practices and technologies at every phase by including environmental monitoring systems, site rehabilitation, and greenhouse gas emissions controls. With regards to social acceptability, we have been actively involving the surrounding residents and main stakeholders, including the local Innu community.

## What will be the economic impact of the project in the area?

We plan to invest more than \$800 million in the region for the planning, construction and operation of the mine. There are several positive impacts that our project will have for the region of Sept-Îles. In the construction phase we will create 1,000 jobs over the course of two years and 300 direct jobs will be created while the mine is in operation, which is estimated to be 30 years. We will also generate indirect employment amongst regional suppliers of the mining project.

## What is the outlook for Mine Arnaud?

The outlook for the short term is to release our updated feasibility study, which has been unanimously approved by Yara International and Investissement Québec. The updated feasibility study will be released in early 2017, reflect the cost savings of the acquisition of Pointe-Noire and feature the final figures for the project. —



## TOP MINING JURISDICTIONS

1. Western Australia
2. Saskatchewan
3. Nevada
4. Ireland
5. Finland
6. Alaska
7. Northern Territory
8. Québec
9. Utah
10. South Australia

Source: Investment Attractiveness Index, Fraser Institute Survey of Mining Companies 2015

# A Bright Future

## QUÉBEC'S NON-TRADITIONAL MINERALS

### LITHIUM

**Lithium**  
3  
**Li**  
6.941



Sources: The Economist, El Pais, Goldman Sachs, Citigroup, Nemaska Lithium

Lithium demand to grow by 11 times to reach  
**300,000**  
MT/Y IN 2025

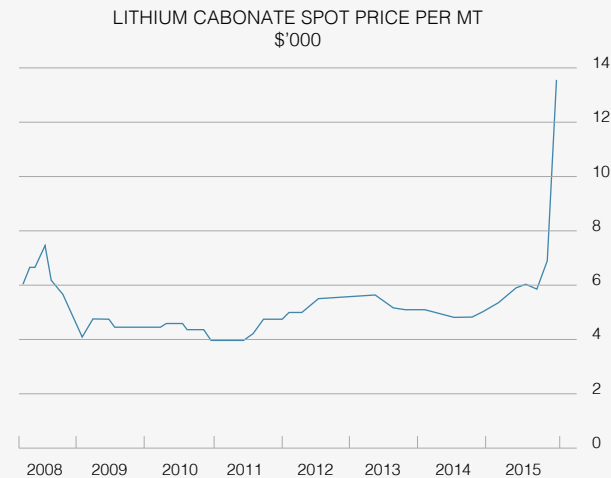
Consumption in the transport / car battery industry to increase  
**25% annually**  
UP TO 2025

New battery mega-factories in the pipeline:



Tesla, BYD, Boston Power, Foxconn, LG Chem and others

Space for new players:  
**%25**  
OF GLOBAL LITHIUM PRODUCTION currently controlled by four companies

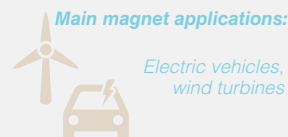


Source: CITIGROUP

### RARE EARTHS

Neodymium 60 <b>Nd</b> 144.24	Dysprosium 66 <b>Dy</b> 162.5
Praseodymium 59 <b>Pr</b> 140.91	Terbium 65 <b>Tb</b> 158.92

Demand for permanent magnets to grow by  
**8-12%**  
ANNUALLY



OTHER RARE EARTH APPLICATIONS:  
Healthcare technologies  
Consumer electronics  
Defense technologies  
Energy efficiency lighting  
Oil refining

Sources: Commerce Resources, Geomega Resources

### VANADIUM

**Vanadium**  
23  
**V**  
50.9415

OLD MODEL:  
Main consumer was the steel industry

NEW MODEL:  
Demand set to increase from the energy storage market

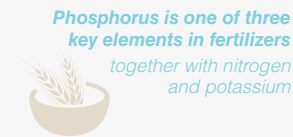
Advantages of VANADIUM REDOX BATTERIES (VRBS)  
- Highly scalable  
- Holds energy indefinitely (no thermal runaway)  
- No overheating or possibility of fire or explosions  
- High energy conversion efficiency



Source: VanadiumCorp

### PHOSPHATE

**Phosphorus**  
15  
**P**  
30.974



USES OF PHOSPHORUS



**87%** fertilizers  
**7%** animal feed  
**6%** food, metallurgy, water treatment, personal care, ceramics, other

**%70**

of phosphate sourced from the Middle East and North Africa

Sources: Ariane Phosphate

### GRAPHITE

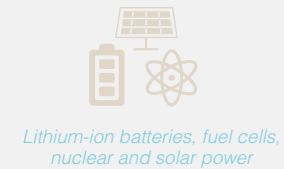
**Carbon**  
6  
**C**  
12.011

**5%**  
ANNUAL GROWTH in demand since 2000

**10-18%**  
ANNUAL GROWTH EXPECTED until 2020

TRADITIONAL USES:  
Steel, automotive industries

NEW DRIVERS:



A lithium-ion battery has **10 to 20** TIMES MORE GRAPHITE THAN LITHIUM

MAIN PRODUCERS OF FLAKE GRAPHITE  
China - Brazil - Canada - India  
Madagascar - Norway  
Zimbabwe - Germany

Sources: Nouveau Monde, Mason Graphite

Partenaire sur le terrain  
Partners on the Ground

**V=QR<sup>2</sup>**

Valeur = Qualité, Relations, Résultats  
Value = Quality, Relationships, Results

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Richard Aubé  
Gérant Régional Rouyn-Noranda, Québec  
Regional Manager Rouyn-Noranda, Québec  
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richard.aube@majordrilling.com www.majordrilling.com



# PRECIOUS METALS



"At the moment, the US\$/C\$ exchange rate is a major positive factor for all of Canada's gold producers. That said, the mining industry is still experiencing difficult times in terms of financing, but we need to look past that, and identify the winning combinations that will move us forward. Ultimately, mining success requires four basic elements: good projects, capital access, great teams, and social acceptability."

Luc Lessard,  
President and CEO,  
Falco Resources

# Canada's Favorable Gold Context

## Exchange rates help producers

Throughout recent years, gold miners have been struggling with high operating expenditures, low ore prices and tough financing conditions, leading producers around the world to decrease capacity and reassess strategies, and juniors to fiercely fight for the little exploration financing still available in the market. During all this time, gold prices steadily decreased all the way to a seven-year low of \$1050/oz, in December 2015. Therefore, in this context, it should come as no small surprise to hear that Québec's gold producers are currently having somewhat of a field day. But why is that?

The first factor of the equation is related to the C\$/US\$ exchange rate. Throughout recent years, gold miners have been struggling with high operating expenditures, low ore prices and tough financing conditions, leading producers around the world to decrease capacity and reassess strategies, and juniors to fiercely fight for the little exploration financing still available in the market. During all this time, gold prices steadily decreased all the way to a seven-year low of \$1050/oz, in December 2015. Therefore, in this context, it should come as no small surprise to hear that Québec's gold producers are currently having somewhat of a field day. But why is that?

The first factor of the equation is related to the C\$/US\$ exchange rate. On July 4, 2014, the two currencies were almost at par, with C\$1.06 buying US\$1. However, on January 20, 2016, the situation looked dramatically different, with \$1 being valued at C\$1.46. Translating that into Canadian gold mining operations where costs are incurred in C\$ and revenues are obtained in US\$, we see great improvements in these companies' margins. Moving forward, the second factor is one which gives hope to the entire gold mining value chain: over the first half of the year, gold recorded an average price of \$1220/oz, a significant increase from the prices of December 2015, and yet another profit amplifier for those producing the precious commodity.

In other words, companies such as Agnico Eagle (LaRonde, Lapa, and Goldex mines), Goldcorp (Éléonore mine), Canadian Malartic (Agnico Eagle and Yamana JV), Richmond Mines (Beaufor mine), and IAMGOLD (Westwood mine) are going through a very favorable period, despite gold's still precarious global profile.

"The beauty of the situation is that we have had increased operational efficiencies during a development period for Richmond Mines. We analyzed the Canadian dollar situation, and strategically planned for a two-year window, in which we could maximize development work at Island Gold [...] So we have partially sacrificed 2015 and 2016, with the vision of reducing costs by nearly 50% during 2017-2022. Richmond Mines will essentially position a mine with six or seven years of pre-developed infrastructure already in place, which is quite unique," said Renaud

“

In the current environment, a company will see significant financial growth if it can manage to raise a large amount of cash for project development. Drilling is currently not expensive, and by only increasing drilling activities, mining companies can prepare themselves for when the markets increase.

- David Grondin,  
President and CEO,  
TomaGold

”

Adams, president and CEO of Richmond, which leveraged its Québec assets to develop its Ontario propriety.

However, this state of well-being is not yet shared by the vast majority of Québec's gold juniors that are still finding it very difficult to procure financing. Consequently, the market context favors mergers and acquisitions activity and sustained consolidation campaigns from the strongly financed players. Osisko Gold Royalties is perhaps Québec's prime example of

► 51

TSX: RIC

NYSE MKT: RIC





## POSITIONING FOR SUSTAINABLE GROWTH

- **Quality asset base** in safe, mining friendly jurisdictions, and favourable Canadian dollar exposure
- **Growing production profile:** 2016 forecast of 87,000 to 97,000 Au ounces
- **Strong cash position and capital structure:** CAN\$61 million\* in cash, minimal debt and low share count of 58 million
- **Island Gold Mine PEA highlights potential for increased production and lower All-In-Sustaining Costs**
- **Track record of success** — 35 years operating in Canada

\* As of March 31, 2016



[www.richmont-mines.com](http://www.richmont-mines.com)



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## Renaud Adams

President and CEO  
RICHMONT MINES

46

development work at Island Gold. We have been operating there at a higher cash, and all-in sustaining cost, partially sacrificing 2015 and 2016, with the vision of reducing costs by nearly 50% between 2017 and 2022. Richmond Mines will essentially position a mine with 6-7 years of predeveloped infrastructure already in place, which is quite unique.

### Richmont Mines was born in Québec. What role will the province play in the future?

2015 and 2016 represent free cash flow being generated from our Monique and Beaufor assets. Monique was the only open-pit story in Richmont's 35-year history, and it was a complete success for us. The mine was less capital depleted than we initially thought, and the mining grade and tonnage extracted outperformed our predictions. Monique is now depleted, but we managed to fully leverage it in the meantime to become more aggressive at Island Gold. This balancing policy will continue with the Beaufor mine, which is a free cash flow option at all times for us. We are positioned to continue operations there for at least another two years. Our priority is at Island Gold for the moment however, so we will once again look at Québec after all the work is done in Ontario.

### What is Richmont's relationship with the Abitibi community?

In Québec, we operate in a region alongside all the big players, and we do our share of CSR in Abitibi, even though we are already in such a mining prolific and proficient area. This industry is an integral part of the society there, and operating next to Val-d'Or, we can feel that every day. Richmont Mines has been offering steady employment opportunities throughout the cycles: this alone makes us a respected company.

### Amidst increased talks of diversification, what role does gold mining still play for Québec?

Gold mining is and will remain a very strong aspect of Québec's society, especially in Abitibi. As producers, we are going through favorable times at the moment, and our hope is that we have learnt from the previous cycles that the good times do not last forever. The players in the market need to start thinking of themselves as nationwide Canadian gold producers, because fundamentally speaking, we are all striving to achieve the same things, whether we are in Abitibi, Timmins, Sudbury, or Wawa.

### What are the gold market perspectives looking ahead?

Over the last 35 years, we have learnt to try and not predict too much. The main risk that we are aware of is that nothing out there lasts forever, so the actions we are taking today, with Island Gold, are meant to make us perform even during the most pessimistic future scenarios. We have had a very good 2015, and without a doubt, this was largely possible due to the Canadian dollar situation: starting 2017, we are going to be entering a tremendously fruitful period, which will make us a good investment opportunity, invulnerable to most external factors. —

### What key factors have led to increased efficiencies at Island Gold?

We analyzed the Canadian dollar situation, and strategically planned for a two-year window, in which we could maximize



## Alain Grenier & Josée Plouffe

AG

AG: VP and General Manager  
JP: Regional Communications  
Coordinator  
HECLA MINING COMPANY

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### Could you provide us with an introduction to Hecla Mining and its activities in Québec since the Aurizon acquisition?

AG: Hecla Mining, the oldest precious metals mining company in North America, is celebrating its 125th anniversary in 2016. Last year, we reached our 50th year mark on the NYSE. Hecla Mining had been eyeing Casa Berardi for several years, but only made the move to acquire it in mid-2013. In addition to that, Hecla also gained access to other promising exploration projects, such as Opinaca Wildcat, Fayolle, and Heva-Hosco. Even with the global decrease of commodity prices, Hecla Mining continued to invest in Casa Berardi: we spent C\$45 million in 2013, C\$55 million in 2014 and C\$45 million in 2015, and we expect to spend C\$80 million in 2016.

### The Casa Berardi mine is rapidly advancing its East Mine Crown Pillar open-pit. What is the current state of that development?

AG: Casa Berardi has a long history, dating back to 1988, and throughout the years, approximately 1.9 million gold ounces were produced here, including about 930,000 oz since production recommenced in November 2006. We are recognized as a low-cost producer, at less than US\$ 800/oz; in 2014 and 2015, this mine accounted for roughly 130,000 oz of gold. We have put a lot of emphasis on automation these last few years and the next phase of the underground exploration and operation, at over 1,000 meters depth, will call for increased autonomy, with the goal of increasing efficiencies.

Now, we are moving towards a new important stage for Casa Berardi, with the East Mine Crown Pillar (EMCP) open-pit. Located near the East mine, the capital for this project is expected to be US\$39 million over 5.5 years, with about C\$20 million in 2016. The project has an expected IRR of 90% and should contribute 5,000 oz in 2016, and about 30,000 oz of gold starting in 2017, and until the end of the project. Our mill was processing around 2,100 mt/d in 2015, and with the EMCP, we expect that number to increase to 3,100 mt/d. This new phase will extend the mine life of the project, and we expect that by 2024, the open-pit component will be the only one still active.

### Casa Berardi has played an important role in the regional economy of La Sarre for many years. What are the values that guide Hecla Québec's community policies?

JP: Around 80% of Casa Berardi's workers are based in La Sarre and the surrounding areas. Hecla Québec has offered more than C\$500,000 per year of donations and sponsorships. One of the commitments we made back in 2009 was a partnership with the Abitibi-Témiscamingue University of Québec foundation. The agreement stipulated that for every ounce of gold at Casa Berardi, we will donate C\$1 to the foundation, and since 2009, a total of C\$1.1 million was given to this global development fund. At the moment, we also have a biomass project at the mine-site to reduce our carbon footprint and develop local technical expertise. While using forestry in-

dustry residues to heat the mine and reduce propane dependence, we will also create an exportable human resource asset for the region.

### Through what ways has Hecla Mining countered the mining downturn?

AG: Throughout all our history, we have seen many downturns and we were not afraid to tackle this current one. In Canada, and Québec more specifically, the mining industry's exploration segment peaked in 2012, and after that, we all witnessed a setback that was felt throughout the sector. Canada is lucky compared to the US however: it has not been affected as much by the metal prices' decrease, due to the favorable USD/CAD exchange rate. Québec's potential has not been fully unlocked yet. We are in a world-class, politically stable jurisdiction, and I would encourage investors to come discover our operational potential.

### What should we expect from Hecla in the future, and what is your outlook in 2016 for the Casa Berardi mine?

AG: Our regional goal at Casa Berardi for 2016 will be to achieve one of our highest annual gold production figures, with the addition of the EMCP. Hecla Mining has a lot of confidence in the drilling and exploration programs currently happening in Québec. From a corporate level, the objective will be to increase production across all operations: 2015 was the company's record year in terms of silver output, and we hope to break more records like that, while focusing on increased efficiencies, and high safety standards. —





# Bryan Coates

President  
**OSISKO GOLD ROYALTIES**

“

With Oban we saw an opportunity to consolidate some great advanced projects, and put money into the ground. We have always believed that you can create value by the drill bit. We are having some great success now at Windfall Lake, and just recently, Oban Mining consolidated with NioGold, whose property is right next to Canadian Malartic.

”

—

### Osisko Gold Royalties was formed in June 2014. Could you tell us more about the evolution of the company since its incorporation?

Osisko Gold Royalties was created following the sale of Osisko Mining to Agnico Eagle and Yamana Gold. We came out of a hostile takeover with a transaction that provided over C\$4 billion to our shareholders. We started the company with a 5% net smelter return (NSR) on the Canadian Malartic project, a portfolio of small emerging companies, and C\$157 million in cash. We have now done transactions worth C\$750 million, and raised C\$500 million in equity and some debt. Overall, this has been a very active period for us, having gone from three royalties to over 50 in less than two years. Simultaneously, Osisko Gold Royalties kept investing in promising junior mining companies, in order to allow them to keep exploring, and hopefully find new mines that could create value in the future.

### Oban Mining, a company that Osisko Gold Royalties is sponsoring, has been one of the most active players in the gold M&A market. Can you tell us more about this strategy?

Oban Mining is a company we sponsor, in which we have an interest of 19%. John Burzynski, who leads the business, was one of Osisko’s founders, alongside Sean Roosen and Robert Wares. What we saw with Oban was an opportunity to consolidate some great advanced projects, and put money into the ground to properly explore those properties, increasing their resources and reserves. We have always been a strong believer of the fact that you can create value by the drill bit. We are having some great success now at Windfall Lake, and just recently, Oban Mining consolidated with NioGold, which was one of our other market investments. Their property is right next to Canadian Malartic, and we see great potential for development and shareholder value there.

### Is there currently an exploration gap in Québec’s mining industry?

Lack of exploration leads to lack of discoveries. That decreases the attractiveness of mining as an industry for those young

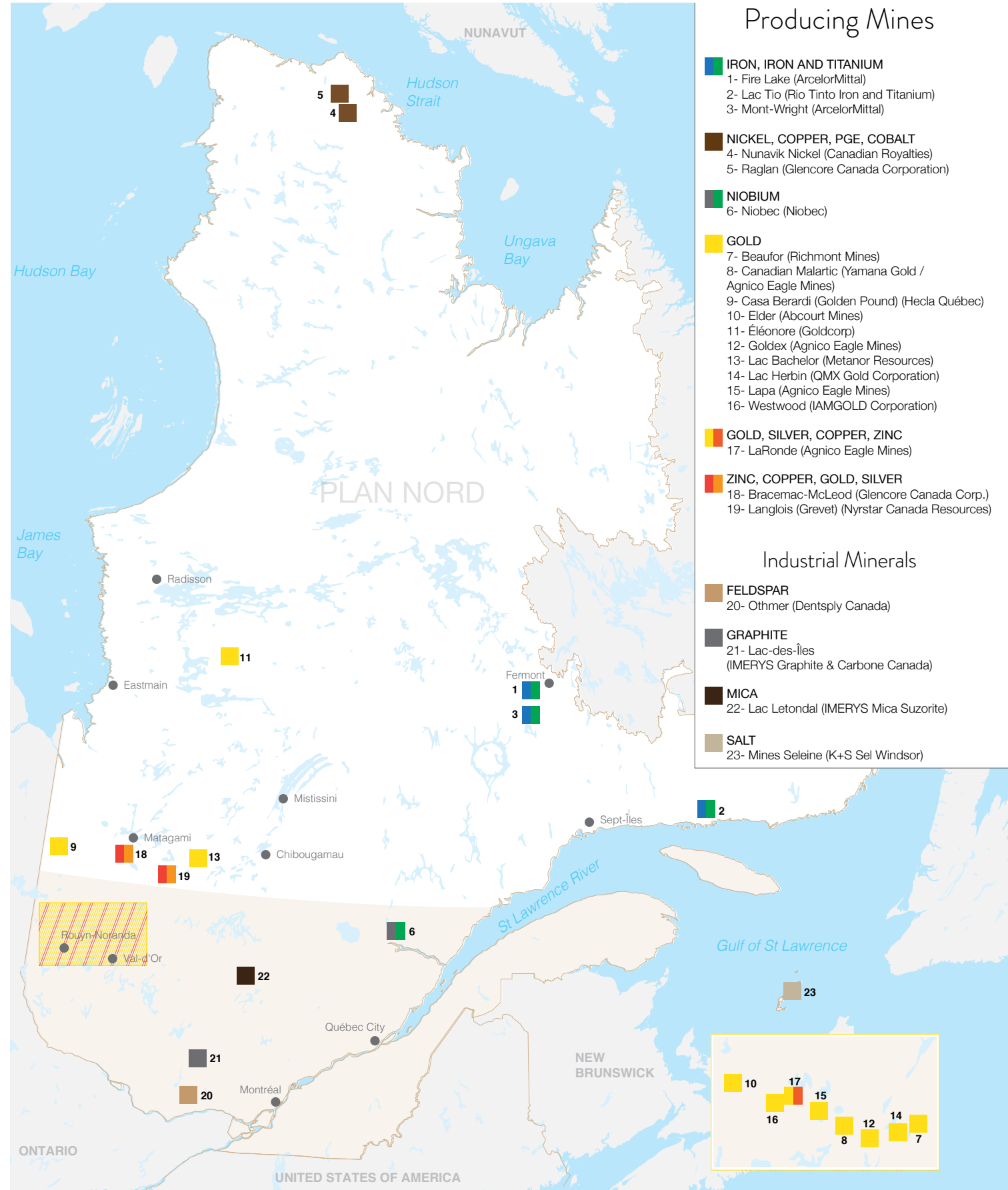
people out there that want to have stable jobs and careers. We need the best and the brightest, and mining is already a challenging business to operate in. Cutting off exploration funding decreases the chance of discovering new mines, and puts a lot of downward pressure on commodity supplies. We have to get better at exploring again, but that takes a strong financial commitment to discover and create value.

### What are the factors that make Québec an attractive mining jurisdiction today?

We have always been big fans of mining in Québec, and today, Osisko Gold Royalties is the province’s most important explorer, especially in its far north. Just in 2016, Osisko, alongside its affiliated companies, such as Oban Mining and Falco Resources, invested around C\$50 million in exploration work alone. Québec is our home: we like the jurisdiction, and the talent here. This province has a strong mining culture, a good government, and a legal and fiscal framework within which we can operate. Québec has a qualified, large supplier base that has been developed over the years that can support mining in a very professional way, helping us deliver projects.

### What is Osisko Gold Royalties’ mid-term market outlook?

Looking forward, we want to continue building our business, seeking transactions that will deliver greater gold price exposure to our shareholders. In 2015, we acquired Virginia Mines, which holds a royalty on the Éléonore mine, and we believe that is going to be a very stable royalty for the future. We expect 2016 to bring us new opportunities and successes, as a result of our extensive drilling campaigns. Osisko Gold Royalties is looking to come out of this year stronger, with higher revenues, and more opportunities for itself. We have close to C\$500 million in cash and another C\$150-200 million as credit: that means we possess considerable deployable capital, during a time when financing is challenging. We think of ourselves as being part of the solution and we are committed to making some of that money work for exploration. We are very proud of our accomplishments to date, and we are excited for the road ahead. —



Source: MERN, Government of Québec



## Darin Wagner

President and CEO  
BALMORAL RESOURCES

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During these difficult years, we have managed to reach out to the markets, and attract that crucial funding everyone needs. However, we have also been courageous enough to consistently spend that on drilling programs.

”

### How has Balmoral Resources evolved over the last years?

The biggest change for Balmoral since early 2014 has been the Grasset Ni-Cu-PGE discovery, for which we published the first NI 43-101 just earlier this year, in March. It took us two years and about C\$12 million to get this done, but now we have a sizeable nickel resource, and a valuable asset for the company moving forward. In 2015 nickel prices went down, so we will need the market to come back in this segment before we can start targeting deeper holes. This will give us time to go back to our core gold assets, in the Martiniere Property, which have grown in the meantime, and are now ready for further development, with the gold market performing again. Our drilling programs in 2016 have been the cheapest we have run in the last 12-13 years in terms of cost per meter of drilling; moreover, we are getting everyone's A-teams, experienced veterans with over 30 years in the busi-

ness. Back in 2010-2012, we were paying a lot, and often getting inexperienced crews because of the high market demand at the time. It was a seismic shift for some of our stakeholders to see us diversify beyond our traditional expertise, but ultimately, our job as explorers is to create money for our shareholders, and we did that: we are in great shape, in an enviable position, with two completely different, high-grade assets, in a great jurisdiction.

### Do you intend to become a producer at some point?

On the gold side, the situation is pretty clear: time and again, we have seen how good gold projects in this part of the world get the attention of the majors, who then end up owning and operating them. Usually, with gold, the main questions that are asked refer to the size of the asset. With nickel projects, the path towards production, especially for a smaller or mid-sized company, is even harder to achieve, because of the significant logistics costs associated with these types of projects.

### What are the main advantages of working in Québec?

Québec has the lowest power cost in North America, and you probably get the most skilled workforce from early exploration all the way to mine closure here. Furthermore, the government is among the best to interact with, and that is not even a function of politics, but rather of the desire of this province to have mining operations enhance their economy, and open up the north. Even though our projects are located just south of the Plan Nord jurisdiction, the government recognized the development opportunities that exist for the Matagami community, and helped partially finance a local road network in the region, in partnership with the AEMQ and a couple of the mining companies activating there. This sort of regional development strategy is not something you see very often in other places.

### Balmoral Resources is the only company to have received AEMQ's "Prospector of the Year" award for two years in a row. What are the core values that enable your success?

We have an experienced crew of dedicated explorers. During these difficult years, we have managed to reach out to the markets, and attract that crucial funding everyone needs. However, we have also been courageous enough to consistently spend that on drilling programs. Luckily, we succeeded in giving our shareholders a great 2014 with our Grasset asset, while diversifying our portfolio. You absolutely have to spend at least some of the money you have and show progress to the investors. We have about 700 km<sup>2</sup> in the area and because this is a historically remote region, not a lot of exploration has ever been done here. We know the geological opportunities are great, but you have to take the risks, knowing that you are going to be wrong most of the time. It was fantastic to get this recognition from the AEMQ, especially since we come from outside of Québec: it was proof that our work was appreciated and that we contributed to the development of the province. The opportunities are just beginning to emerge for Balmoral Resources, so stay tuned, and enjoy the ride! —



Image: Courtesy of Richmond Mines

▶45

that and the company wasted no time by financially backing Oban Mining. Oban completed several deals over the last 18 months, including the acquisitions of Eagle Hill, Corona Gold, Ryan Gold, Northern Gold and, more recently, NioGold. Moreover, in their own ways, other gold juniors, such as Eastmain Resources, Midland Exploration and Balmoral Resources, are also finding their way to success. In fact, Balmoral's story is quite unique within Québec's mining landscape. The Vancouver-based company has won the AEMQ's prestigious "Prospector of the Year" award twice in consecutive years, for two completely different types of as-

sets: in 2013, with its gold Martiniere property, and in 2014, with its Ni-Cu-PGE Grasset discovery. This project line-up and quality makes Balmoral stand out from the crowd, said Darin Wagner, president and CEO of Balmoral Resources: "During these difficult years, we have managed to reach out to the markets and attract that crucial funding everyone needs. However, we have also been courageous enough to consistently spend that on drilling programs, knowing that the money was high-risk both for the investors and for the future of Balmoral itself. Luckily, we succeeded in giving our shareholders a great 2014 with our Grasset asset, while diversifying

our portfolio. Now that nickel prices are down, we are shifting our attention to our gold Martiniere property, which has kept growing since 2013." Meanwhile, two other gold juniors, Integra Gold and Falco Resources, also stand out from the crowd. While their strong financial positions are impressive, their projects also share a different key characteristic that truly enforces their positions as gold junior leaders. Both Integra Gold (Lamaque South gold project) and Falco Resources (Horne 5 project) have their properties adjacent to two of the world's most revered gold mining towns, true symbols of Québec's mineral industry: Val-d'Or and Rouyn-Noranda. —

51





## George Salamis

Executive Chairman  
**INTEGRA GOLD CORP**

52

“

Not a lot of gold exploration has been done over the last few years, as a result of the market conditions. Moreover, the major producers are gradually reducing their reserves. Meanwhile, global economic uncertainties have put gold in the spotlight once again, making it behave like a currency, and decoupling it from the US dollar, which is a key aspect.

”

### What led Integra Gold to acquire the Sigma-Lamaque complex?

Late 2014, Integra Gold Corp acquired the Sigma-Lamaque milling complex and mine out of bankruptcy, with the purpose of securing the mill. This was a fire sale situation, as we acquired the whole thing for approximately C\$8 million (constructing the mill from scratch would have cost us roughly C\$100 million). However, there was an environmental overhang on this property, with about 30 million mt of waste rocks sitting on the site: these were not acid generating, and made for great road ballast. Fournier & Fils, one of the major road construction players in the area, jumped at the opportunity, making the deal a win-win situation. Integra Gold Corp essentially got rid of approximately 75% of the environmental liability on site.

### The Integra Gold Rush Challenge was an innovative initiative to unlock more of Sigma-Lamaque's potential. Could you tell us more about the competition and its purpose?

When we purchased the Sigma-Lamaque property, we also received an inventory of auxiliary equipment on site, and on that list, we found several hard-drives full of information (6 TB total). Upon further study, we realized that the data contained 75 years' worth of past mining history on site, compiled into a digital format, which was never utilized by the former owners. Rather than decipher this data internally or hiring a consulting company, we decided to run a crowdsourced analytical challenge. Integra Gold Corp open-sourced the data and made it available to everyone: this had been previously done by Goldcorp in 2000, but this time around, the amount of data was far bigger, and the means available for processing it were far more advanced. We took full advantage of the internet and social media to spread the word, and we also benefited greatly from associating ourselves with HeroX, a crowdsourcing platform which is a spinoff of XPRIZE. The two winning submissions were a mix of traditional geological thinking, with machine learning, and artificial intelligence.

### Over the past three years, Integra Gold Corp has vastly increased its resources. Where does the project stand today?

In 2013, financing was still scarce. We saw that there was a direct correlation

between discovered ounces and the total market value of Integra: it cost us \$5 to add an ounce, which was directly contributing \$40 to the company's valuation. Integra went from 735,000 oz indicated and inferred in late 2013, to 1,673,000 oz indicated and inferred in late 2015. In January 2015, we released a PE with great economics: a Pre-tax NPV of C\$180 million, a Pre-tax IRR of 77%, and a low capex of only C\$62 million. Moreover, since early 2015, our exploration team has identified six steeply dipping "C" structures at Triangle, which will be mined using long hole mining techniques that are cheaper, safer, faster, and more productive. Therefore, our next PEA model should be even more impressive.

### What is the social acceptance of your project in the Val-d'Or area?

There has never been any opposition in Val-d'Or to our project, and most of the town meetings that we organize are attended by people who just want to know when we will be hiring. At the moment, the town is lending its workforce to all sorts of remote projects up in the far north of Québec, but once we start operating, people will much prefer to work just outside of town, and be able to come back home during the evening. Integra Gold Corp will have a significant economic impact on the community.

### What are the prospects for Integra and the gold segment?

The reality of the gold sector is that not a lot of exploration has been done over the last few years, as a result of the market conditions. Moreover, the major producers are gradually reducing their reserves, and it is foreseeable that most of those reserves will be running out over the next 10 years. If we look at the trends in both production and exploration, we will see that sometime around 2015-2016, we had a peak in gold production, which will soon begin to steadily decrease. Meanwhile, global economic uncertainties have put gold in the spotlight once again, making it behave like a currency, and decoupling it from the US dollar, which is a key aspect. For Integra, the year 2016 will be a pivotal one: we have a 90,000-meter drilling campaign underway and we expect an updated resource estimate in Q4 2016. Moreover, we eagerly await the new, improved PEA. —

### Could you provide a brief overview of Tres-Or and the evolution of the company over the last years?

Tres-Or's joint venture with Aurizon Mines ended in April 2013 on its takeover by Hecla Mining. However, we benefited from our work with Aurizon, having C\$2.4 million of exploration work completed on our Duvay and Fontana assets as well as receiving C\$1 million in cash payments during the life of the agreement. Since then, Tres-Or has secured a 25% interest in Fontana, which contains approximately 160,533 ounces of gold, and holds an option to acquire the remaining 75%. Tres-Or has optioned the Duvay project, which contains a historic resource of approximately 6.65 million mt grading 2.06 g/mt Au. A 5,250-meter drill program is proposed this winter to prove-up a geologic model and expand mineralization along strike.

Tres-Or has been advancing on our diamond project in Québec, specifically the Guigues kimberlite pipe, which is a five to seven hectare pipe. Based on the Guigues indicator chemistry, we understand its similarity to the Victor Diamond Mine. Guigues will require a large test, so instead of looking for a significant number of micro diamonds in single drill holes, we will be focusing on a larger sample to test for diamond content. Indications from our chemistry suggest the Guigues pipe will likely be a low-grade, high tonnage diamond deposit, delivering high-valued stones. Tres-Or intends to raise funds to drill Guigues to establish if the pipe has the potential to host an economic diamond deposit.

### Could you elaborate on Tres-Or's relationship with the First Nations communities?

Tres-Or signed a Memorandum of Understanding (MOU) with the Timiskaming First Nation in 2002 and this diamond exploration deal was heralded a new era of co-operation. The signing of the MOU permitted exploration on traditional territorial lands. The Timiskaming First Nation asserts unextinguished Aboriginal Title to its territorial land, which extends on both sides of the Ontario-Québec border. These lands encompass some of the most prolific mining zones in Canadian history.

In 2005, Tres-Or discovered the largest kimberlite pipe in Ontario, the Lapointe kimberlite pipe, and this sparked one of the largest staking rushes in the region. With the help of First Nation members, Tres-Or staked claims, took over 40,000 samples, and engaged the First Nations community during the drilling

activities. It was a reciprocal education exercise. We have an ongoing working relationship with the Timiskaming First Nation and will continue to use First Nations suppliers and service providers for our exploration and drilling activities.

### Has Québec improved as a mining jurisdiction after the implementation of the new mining code?

It is primarily the tax regime that has improved Québec's mining industry. There are tax incentives for exploration companies operating in Québec. We receive money back for putting hard dollars in the ground. Since 2011, the tax filings have been taken over by Revenue Québec, who efficiently process and refund money to junior companies in need of exploration funds to move forward.

Sometimes regulations are not thought through, but they can be changed if considered detrimental to the industry. Québec's moratorium on uranium is problematic, for example. Also the new requirement that claims can only be renewed eight times by the same holder is problematic as it relates to diamond exploration. Diamond exploration is expensive. It is a lengthy process to move a diamond project to feasibility, and certainly would be inappropriate to investors to lose the moneys banked on the claim after the eight-year renewal period. This rule did not apply to Renard, Québec's first diamond mine.

### What makes Tres-Or an attractive opportunity for investors?

Tres-Or is an undervalued company. We are maturing our gold assets by exploring and developing resource models so now is the time to bring our diamond assets back on the balance sheet. Tres-Or is not yet appreciated in the gold market. We have the opportunity to move forward with our partner at the Duvay gold project. Together, the Duvay property and Tres-Or's Fontana gold Project provide an excellent opportunity for proving-up substantial gold resources for potential development.

Tres-Or intends to reward our shareholders by examining the benefits of moving our diamond assets into a wholly owned subsidiary. In this way shareholders will retain their gold shareholdings and receive parity on a spin-out of their diamond assets. Management is currently engaged in these discussions and will endeavor to provide the best benefits to our shareholders. —



## Laura Lee Duffett

President and CEO  
**TRES-OR RESOURCES**

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The new requirement that claims can only be renewed eight times by the same holder is problematic as it relates to diamond exploration. It is a lengthy process to move a diamond project to feasibility, and certainly would be inappropriate to investors to lose the moneys banked on the claim after the eight-year renewal period.

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## Normand Champigny

President and CEO  
SPHINX RESOURCES

great. Thirdly, our projects have a high degree of metamorphism, which represents some challenges to identify but these types of mineralization tend to be high grade and with good metallurgical recoveries.

### Could you give us with more information about the developments at the Somanike, Green Palladium, and Calumet-Sud projects?

On the Somanike project, we have done airborne surveying, ground geophysics, and some drilling. We have also compiled all the available data that existed from the previous three owners. We have intercepted some high grade Ni-PGE deposits, so now, the next step is to continue with the drilling program.

For Green Palladium, our drilling program has identified a potential sulphide-bearing magmatic reef horizon, which shows great promise. We do not have economic grades yet, but we can do plenty of low-cost, surface drilling. The next step will be to do an airborne survey using drone technology.

For Calumet Sud, we are pleased to announce that as of February 2016, we have signed a letter of agreement with SOQUEM, according to which they have an option to acquire an undivided 50% interest in the project.

### How has Bill 70 changed the life of exploration companies working in Québec?

The industry was not happy with all the measures approved, but, to a large extent, it can live with them. The fact that we have a stable legislation now, one that will not change for many years to come, is a very positive thing. Québec remains a great mining jurisdiction, for a number of reasons: it has great tradition in mining, an excellent base of qualified workers, a good taxation regime, and a great geological potential. Unfortunately however, the global climate is a challenging one, so it is extremely difficult to find financing.

The exploration process continues to work today as it did before Bill 70 came into play, with the exception of a few added administrative tasks, so it is too early to tell. However, as a responsible mining company, you want to stay ahead of the curve, and be pro-active. The part in which you can do that the most is with the community relations.

### How has Sphinx Resources been managing community relations for its projects?

Social acceptability is a very important topic for Sphinx Resources. With Somanike, the first thing we did was to talk to the four municipalities that cover the project area. We did not do the geophysical survey during the hunting season, and we did not perform any drilling during on the beautiful lake in the region. The Pontiac area is a very interesting one, poorly known in Québec – its people are mostly of Irish and Scottish descent. It is isolated and economically depressed, so Sphinx Resources was welcomed with open arms there, because we represent hope, and an economic alternative. —

### In 2014, Donner Metals changed its name to Sphinx Resources. Can you tell us more about this rebranding?

We rebranded the company because we needed to turn the page on what had happened in the past – we essentially had a success story turning into a perfect storm, as we forfeited an interest in a mine that had begun production in Québec. So we decided to change the name, the shareholder base, the strategic focus of the company, everything. Sphinx is a Greek word that means 'hidden', so that is essentially what we are doing now: searching for a hidden deposit, a mine. We have acquired several interesting exploration projects in the province: our Somanike Ni-Cu-PGE propriety is a combination of assets bought from Virginia Mines, Royal Nickel Corporation, and Globex Mining Enterprise, in 2014 and 2015. In addition to this, Sphinx Resources also acquired the Green Palladium Pd-Pt-Cu, and the Calumet Sud Zn-Pd-Pt-Cu proprieties from Amixam Resources, and Gardin Resources. In 2014, we were also very close to acquiring an operating mine, so we are looking at that option again. These are tough times for the industry, but it is the right moment to acquire good assets.

This strategic refocusing of Sphinx Resources came as a result of different factors: first of all, we liked the Ni-PGE commodities, as they represent an unsaturated market segment. Secondly, our acquisitions were also a result of seizing opportunities in the market: the Pontiac area, where we have the Green Palladium and the Calumet Sud projects, has not been explored; it is easy to work in, the infrastructure is good, the social acceptability is



## Luc Lessard

President and CEO  
FALCO RESOURCES

ground. This will be a big advantage for Falco, as we will minimize the impacts on surface. Moreover, we will have a great water management system in place, which will leverage the large reserves that currently exist underground to feed its mill. Finally, our treatment plant will dispose of the latest equipment and technology. Horne 5 is situated in an industrial park, and so we will tap into the town's electrical power infrastructure, and its municipal services. Finally, we will benefit from having all those exceptional service providers as neighbors.

### How do you assess the governmental support that Québec is offering to the mining industry today?

Both Falco and Osisko maintain close relationships with the government, which has been very open to dialogue with the mining community. We believe in transparency, and in properly communicating with all our stakeholders. The government understands the value of Québec's mining industry: they want to help the sector, and initiatives such as the Plan Nord are a good example of how authorities could make a difference.

We also have a very close relationship with the town of Rouyn-Noranda, its population, and its authorities. The Osisko brand has a great reputation, and therefore it is easier for the community to recognize us as a credible actor, and to trust our project. Rouyn-Noranda has a tremendous amount of mining expertise, and we could not have been positioned better. Abitibi's service sector players have decades of experience in the business, domestically, and abroad. Falco Resources' plan is to construct the mine using mainly local suppliers. For the next 15 years, we plan to have not only a direct, but also an indirect positive impact on Abitibi's business community.

### Where do you see the industry heading in the mid-term?

If the gold price remains in the US\$ 1,150-1,250 range in the near future, Falco Resources will be very strongly positioned for success in the market. At the moment, the US\$/C\$ exchange rate is a major positive factor for all of Canada's gold producers. That said, the mining industry is still experiencing difficult times in terms of financing, but we need to look past that, and identify the winning combinations that will move us forward. Ultimately, mining success requires four basic elements: good projects, capital access, great teams, and social acceptability. It is essential for the industry and society to understand that we cannot stop exploring. Innovation is also a key item, and we expect new engineering-based solutions to gradually reduce *opex* and *capex*.

### What are the next big milestones looking ahead for Falco Resources?

One objective was to demonstrate the robustness of Horne 5, which we did, by more than doubling our resources. The next step will be the feasibility study and the environmental impact assessment, which we hope to release sometime by mid-2017. Moreover, Falco Resources is already preparing itself for the mandatory BAPE process, and the subsequent environmental studies, which we believe will be very straight-forward. —

### Today, Falco Resources owns 70% of the emblematic Rouyn-Noranda mining camp. How has the company developed the property over the last years?

In 2012, Falco Resources acquired 70% of one of Canada's most established districts, 74,000 hectares of the Rouyn-Noranda mining camp. Historically, more than 300,000 meters of drilling had been done on this site, between 1924 and 1976. In 2014, Falco Resources combined that data with its own drilling and research program, and the result was a new geological model for the Horne 5 project. In 2015, we undertook another focused drilling campaign, which led to us to confirm the silver by-product potential. We continued collecting data, and in October 2016 Falco Resources announced that the Horne 5 site had 736,000 gold equivalent ounces in the measured category, 6.3 million ounces in the indicated category and a further 1.7 million gold equivalent ounces in the inferred category. In parallel to our 2015 drilling program, we also wanted to verify other aspects of the project, including the metallurgical work and what recovery rates could look like. We found that Horne 5 was eligible for exploitation as an underground bulk tonnage mine. This will enable Falco Resources to process more than 10,000 mt/day at the mill when operational, making this one of the biggest underground mines in North America.

### What will Falco Resources bring to the table in terms of cost optimization and innovation?

We will be disposing of waste and tailings material directly under-



# Mario Bouchard

President and CEO  
**RADISSON MINING RESOURCES**

as the richest mine by grade in the Abitibi Greenstone Belt, a title it still holds today with historic production of 587,121 oz of gold at 15.25 g/mt Au.

**Radisson just announced a 10,000-meter drill program. Can you elaborate on your exploration project at O'Brien?**

When I arrived at Radisson Mining Resources three years ago we were focused on producing our preliminary economic assessment (PEA). We had a positive PEA result indicating that our project was viable, however we lacked drilling. The principle recommendation from the PEA was to do 25,000 to 35,000 meters of further drilling to better define the deposit, therefore to de-risk the project we decided to employ this recommendation and better define our resource. As of August 2016 we have completed 6,000 meters of drilling and following the positive results of that drill program we decided to finance another 10,000-meter campaign. Subsequent to an oversubscribed private placement in September, we began our 10,000 meter drill program in early October 2016.

**The O'Brien project is situated half way between Val d'Or and Rouyn Noranda. Can you talk about the amplitude of expertise in the region?**

There is a strong history of gold production in the area, and this has helped develop a strong workforce with knowledge and experience that we can tap into. The technical services are accessible and available at prices that are very affordable, while still maintaining high quality. Within a radius of

175 km there are various types of expertise available, from engineering and consulting to drilling and equipment suppliers.

**We are seeing juniors engaging in various methods of financing. Can you tell us about your crowd funding experience with Red Cloud?**

My mandate when I arrived at Radisson in 2013 was to get access to capital, however between 2013 and 2015 this was very difficult. In 2016 we started to work with a firm from Toronto called Red Cloud Klondike Strike, which is a crowd funding platform focused on providing innovative financing alternatives. During PDAC we launched a \$1 million crowdsourcing financing with Red Cloud. Crowdsourcing accounted for around 15% of the private placement. It was a very good experience from a financing standpoint and helped to get Radisson's story out on the street. In September, we closed \$2.59 million in oversubscribed non-brokered private placement with the collaboration of RCKS.

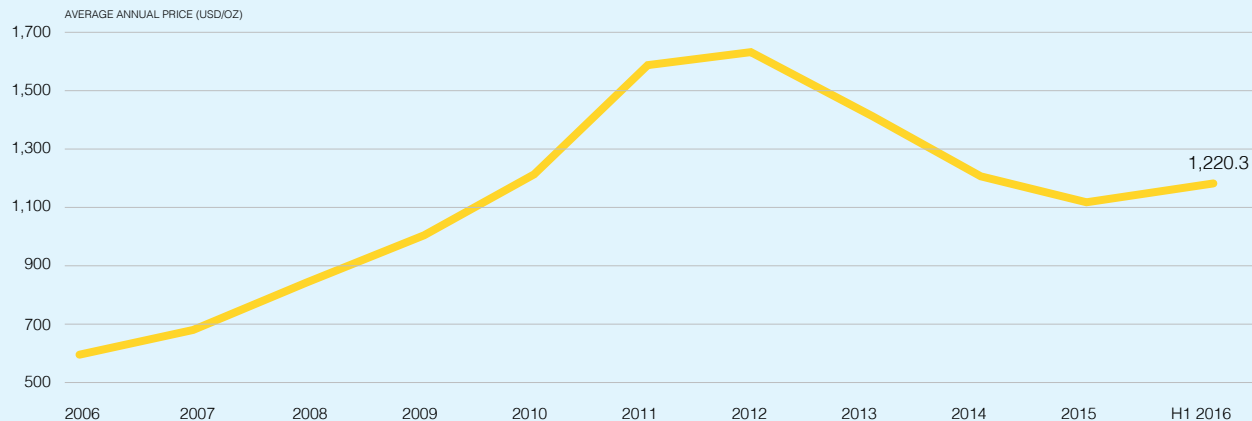
**Is Québec a better place to do mining now than three years ago?**

I think that the political landscape has definitely changed and for the better. The government passed one of the most progressive laws for the mining industry, which has industry support. It is a modern, contemporary mining law that manages the regulatory framework around mining, and has removed a lot of uncertainty for investors. It is important for the industry to align its operation with the law and integrate it into their business practices. —

56 **Please provide a brief introduction to Radisson Mining Resources.**

Radisson Mining Resources is a Québec-based mineral exploration company involved in the acquisition, exploration and development of mining properties. The O'Brien project is our flagship asset and is located on the Cadillac fault, and surrounded by three active mines, Laronde, Lapa and Westwood. The project hosts a former active mine during 1934-1956 that was recognized

GOLD PRICE CHART  
Sources: KITCO / GBR



# From Abitibi-Témiscamingue to the world

## A tale of two mining towns

Since its discovery in 1901, the Abitibi Greenstone belt, shared by Ontario and Québec, has generated over 170 million ounces of gold production. The mineralization is rich beyond doubt, but a bigger resource, one that is more sustainable and more beneficial to the regional and national economy of Canada, is increasingly affirming itself on the Québec side of the belt. Over the past 10 years, in the historically symbolic mining towns of Val-d'Or and Rouyn-Noranda, local service companies have developed such a tremendous amount of human expertise that they are now influencing mining practices around the world. Indeed, this knowledge base and mining tradition were built locally. Val-d'Or's historic Sigma and Lamaque mines operated for 75 and 52 years respectively, producing a total of 9 million oz of gold, before shutting down in 1985. In more recent times, the service expertise was developed by assisting mines such as Hecla Mining's Casa Berardi (200 km north of Val-d'Or), Agnico Eagle's Goldex (Val-d'Or), and the Canadian Malartic Complex (20 km west of Val-d'Or). Now, Integra Gold, one of Québec's strongest gold juniors, is marking yet a new revival of the town's mining production, with its Lamaque South gold project and its recent acquisition of the Sigma/Lamaque milling complex and mines: "On the Lamaque South gold project, Integra Gold went from 735,000 oz indicated and inferred in late 2013, to 1,673,000 oz indicated and inferred in late 2015. Moreover, late 2014, we

acquired the Sigma-Lamaque complex and mine out of bankruptcy, with the purpose of securing the mill. Our original plans did not include exploring the old mining operations but upon further study, we realized that we had also inherited 75 years' worth of mining and exploration data which had never been utilized," said George Salamis,

executive chairman of Integra Gold Corp. InnovExplo, a Val-d'Or consultancy founded in 2003 by Alain Carrier and Carl Pelletier, has been consistently supporting Integra in recent years. "The mining market is still difficult, but we are involved with the important projects happening in Québec, like Integra Gold Corp's Sigma-

**FALCO RESOURCES**

**RESOURCES<sup>1</sup>**

**7.1 MILLION**  
GOLD EQUIVALENT OUNCES  
NI 43-101 M&I Resource

**1.7 MILLION**  
GOLD EQUIVALENT OUNCES  
NI 43-101 INFERRED Resource

1. See Oct. 3, 2016 press release

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Initiation of drilling campaign on Horne 5 West and Quémont extension targets.

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**INITIAL PEA**

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QUÉBEC MINING 2016

Industry Explorations

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Image: Courtesy of Canarail Consultants

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Around 80% of Casa Berardi's workers are based in La Sarre and the surrounding areas, and we have a partnership with the Abitibi-Témiscamingue University of Québec foundation. The agreement stipulated that for every ounce of gold at Casa Berardi, we will donate C\$1 to the foundation, and since 2009, a total of C\$1.1 million was given to this global development fund.

Alain Grenier,  
VP and General Manager,  
Hecla Mining Company

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Lamaque. Over the past years, InnovExplo has been growing, increasing its number of employees and hiring senior staff. This increase has allowed us to now add complete feasibility studies to our service offering,” mentioned Carrier.

That said, InnovExplo is not restricting itself geographically: “We have been able to enter the African market, where we are active in countries like Mali, Côte d’Ivoire, and Mauritania. In Senegal we were called upon to provide training and short NI 43-101 regulations courses,” explained Carrier.

Denis Gourde, InnovExplo’s engineering and sustainable development VP, completed: “In Mali, we are working directly with an African client, overseeing an operation which was initially closed down in 2012. We are helping the operation completely relaunch itself, from drilling planning, to resource estimates, to mine design, and even coaching staff for the operational phase.”

The favorable local gold market activity, amplified by internationalization opportunities, is helping out local companies – Malartic-born contractor CMAC-Thyssen Mining Group has taken full advantage of that: “CMAC-Thyssen can serve its cli-

ents throughout the entire mine planning and construction process and, over the last years, we have hired over 400 people, for a total of 600 employees today. This was made possible by our producing partners, which, in Abitibi, have been accelerating their projects recently, notably in the gold sector. The vast majority of our business consists of servicing clients, but we also have a smaller portion dealing with equipment manufacturing. This has enabled us to expand internationally and broaden our portfolio,” said Luc Guimond, president of CMAC-Thyssen Mining Group.

Naturally, the focus of most of Abitibi’s service providers is West Africa. Ghislain Blanchet, executive VP of CMAC-Thyssen Mining Group, explained why: “Franco-phone countries like working with us due to the cultural similarities we share, but also because they realize the level of underground mining expertise we possess as Québécois. For us, French Africa and Morocco, in particular, is the next big market.”

Just 65 miles east of the entrepreneurial Val-d’Or, another town proudly boasts its mining tradition: Rouyn-Noranda. And while a rivalry clearly exists between the two, there are more similarities that bring them together than differences to set them

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The market conditions have created a gap in exploration, and as service-sector entrepreneurs in Abitibi-Témiscamingue, we could not stand aside and hope for the best on the part of juniors and producers. Instead, we have tried to develop new business approaches: this is what happened with Integra Gold, when we jointly acquired the former Sigma mine camp.

- Jérémie Fournier,  
VP Operations and Logistics,  
Fournier & Fils

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apart. Since its discovery in 1923 until its shutdown in 1976, Noranda’s Horne gold mine produced 11 million oz of gold, while the entire regional Rouyn-Noranda mining camp accounted for an additional 8 million oz.

The industry’s service sector players have thus developed tremendous expertise, which has been leveraged since to assist the Greenstone belt’s mines, the same that Val-d’Or’s companies have been helping. Blais Industries is one of Rouyn-Noranda’s reference-points; a family-business dating back to 1952. Over the last 38 years, the company has enjoyed a close collaboration with the historical Horne Copper Foundry (Glencore), Canada’s only facility of its kind, which has been active in town since 1927. Having worked on almost all of Québec’s major mining projects, Blais Industries is now expanding abroad: “We have worked on projects in Mexico, Namibia, Russia, and Burkina Faso. That said, we want to expand wisely, and not sacrifice quality for quantity: unrealistic targets and mismanaged expectations have hurt the

industry,” said Jean-François Blais, executive officer for business development at Blais Industries.

“The industry is going through a long downturn and exploration work has suffered as a result. Over the past couple of years, some companies have been looking at the lowest cost options in terms of service providers and overall, that is not beneficial to anyone, since most of the time, the quality is absent,” said Richard Aubé, regional manager at Major Drilling, one of the largest drilling service companies in the world.

Headquartered in New Brunswick, Major Drilling expanded significantly in Québec in 2011, when it acquired Rouyn-Noranda’s Bradley Group, and throughout Canada in 2014, when it took over Taurus Drilling, thus gaining access to the underground percussive market. “We know the market is going to return and Major Drilling has the advantage of being financially strong and capable of investing in expanding its portfolio, even during the downturn,” mentioned Aubé, a professional with over 35

► 65

# INTEGRA GOLD

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## EMPLOYMENT IN QUÉBEC

Sources: Statistic Canada, Government of Québec



POPULATION:  
**8.3 million**



Population,  
15 years and over:  
**6.8 million**



LABOR FORCE:  
**4.4 million**



UNEMPLOYMENT RATE:  
**7.6%**

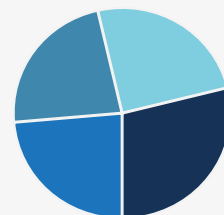
### MINING INDUSTRY EMPLOYMENT

**12,000**  
DIRECT JOBS

**16,000**  
INDIRECT JOBS

**CS\$101,000**  
AVERAGE ANNUAL SALARY

### BREAKDOWN OF MINING JOBS BY REGION



**23%**  
CÔTE-NORD

**25%**  
NORD-DU-  
QUÉBEC

**24%**  
ABITIBI-  
TÉMISCAMINGUE

**29%**  
OTHER REGIONS

# Luc Guimond & Ghislain Blanchet

LG: President

GB: Executive Vice-President

**CMAC-THYSSEN MINING GROUP**



GB



LG

### What are CMAC-Thyssen Mining Group's main achievements over the last couple of decades?

LG: CMAC-Thyssen Mining Group started off in Malartic in 1995, as a long-hole drilling company which, in 2002, evolved by acquiring a local mining contractor, thus expanding its service offering. The year 2006 marked the first JV agreement with Thyssen Mining Group Canada, which later on, in 2007, became a major shareholder of the newly formed CMAC-Thyssen Mining Group. The company then established many partnerships with local communities and the Cree Nation, in places like the Abitibi, Nunavik, or Nunavut. Around 90% of our business today is focused on the mining industry, although we have also worked in subway infrastructure, or hydropower station excavations. We also have a smaller portion of our business dealing with equipment manufacturing: this has allowed us to expand internationally, and broaden our client portfolio. At the moment, we are active in around 15 countries outside of Canada, with a focus on French-speaking Africa. CMAC-Thyssen has the capacity to serve its clients throughout the entire mine planning and construction process. We put a lot of emphasis on health and safety, but also on innovation: we have a specialized engineering department, and we devote more than C\$1 million yearly to manufacturing R&D.

### As a mining contractor, people, and the quality of their work represent keys asset for CMAC-Thyssen Mining Group. How are you leveraging your presence in Val-d'Or for that?

LG: In terms of internal health and safety policies, CMAC-Thyssen has an integrated system which allows a continuous monitoring of all its employees based on four key criteria: the health and safety of all staff, the quality of the work performed, the appropriate usage of the equipment involved, and the resulting integrated productivity. Our thinking is that a lack of healthy, happy employees will make all the other elements impossible to achieve. The last couple of years have seen CMAC-Thyssen dramatically increase its labor force: we have hired over 400 people, and today, we have about 600 total. That said, we have just signed several contracts and we will have to further increase our ranks to 700 employees. Val-d'Or is a great place to source people, but we are seeing how nowadays, due to trends such as mechanization

and automation, there is a greater demand for electromechanical engineers, and for computer programmers. For these particular segments, we now have to look outside of Abitibi to find people.

### What is your strategy to unlock the potential of foreign markets?

GB: Abroad, our presence usually starts off with supplying equipment – we have three types of long-hole drills that help us get a foot in the doorway: from then on, we start providing training programs, and eventually get involved with providing complete mining contracting services. Francophone countries like working with us due to the cultural similarities we share, but also because they realize the level of underground mining expertise we possess, as Quebecers. The fact that we can assist our clients throughout the whole life-cycle is an extremely important advantage for us.

### What are some of the key elements that make this province performant in the industry?

GB: Mining is an integral part of Québec's history, and since 2013, the industry has seen more stability and certainty. There are some fiscal advantages in place for the mining sector, and there is a clear interest to develop the industry. Moreover, the quality of the work performed here is world-class: we look at projects in Abitibi, and further north, and we see that they are on budget, and on time, and this sort of performance is a rare feature nowadays, on the global mining scene.

### What should we expect from CMAC-Thyssen Mining Group in the future?

LG: Even though the majority of our services are done in Québec, we cannot say that the market here is booming: there has been very little exploration work done since 2012, and that constitutes a problem. The relaunched Plan Nord has a promising start, with developed infrastructure as we see with mines like Stormoway Diamond's. Operating mines attract future mines. For CMAC-Thyssen, French Africa is the next big market, since it is becoming more and more mining-prone: we expect to see three, or four new mining projects in Morocco over the next years, and we are well positioned to secure contracts there. —

# Richard Aubé

Regional Manager Rouyn-Noranda  
**MAJOR DRILLING**



## Could you give us an overview of Major's evolution within Québec, and how important the province is for its overall business?

We are a global company, one of the largest drilling services business in the world, with a total of about 700 rigs. Our headquarters are situated in Moncton, New Brunswick. Major Drilling was founded in 1980 in Bathurst, and ever since, the company has been consistently expanding geographically: our presence in Québec dates back to 1981, when Major acquired Dominik Drilling, in Val-d'Or. However, a new push for this market was conducted more recently, in 2011, when the company bought out Rouyn-Noranda's Bradley Group Limited. Moreover, in 2014, Major Drilling acquired Taurus Drilling, which had both Canadian and U.S. operations, and that gave us access to the underground percussive market. Therefore, presently, Major Drilling can meet the needs for all the development phases of a mining project: from mineral exploration, directional drilling, definition or infill drilling, mine development, dewatering, grade control, to percussive drilling for a producing mine. Furthermore, our environmental and sonic group can help sample tailings piles, monitor tailings dams, and install grout curtains or ground water sampling wells. All this evolution is proof of the confidence that Major Drilling has in Québec and the global market, looking forward. Major Drilling is still a fairly up-and-coming player in Québec.

## What are the current realities of Québec's mining industry for Major Drilling and where do you believe the opportunities are coming from?

Québec's mining industry is certainly a challenging environment to work in at the moment. The market has been down for quite a long time, and the number of overall rigs operating here has been reduced accordingly. This reality is not specific only to Québec or Canada: the markets where Major has current operations are experiencing similar difficulties. Right now, we manage rigs for the Québec market and this includes projects in certain parts of Ontario, such as Sudbury or Timmins. Our biggest project at the moment is with Glencore, at their Raglan operation situated in

northern Québec. In addition to that, we have been doing work with Kirkland Lake Gold and Richmond Mines across the border, in Ontario. What is encouraging is that we are seeing more and more opportunities coming up, with companies announcing significant drilling campaigns. Other market players, based in Rouyn-Noranda, are also following that trend, and we are keeping a close eye on all the opportunities here in Abitibi-Témiscamingue, which is still a very prolific area.

## What are the factors that allow Major Drilling to differentiate itself in a densely populated market?

Major Drilling's core belief is that V=QR<sup>2</sup>, which means that our Value comes from the Quality, Relationship, and Results that we provide. Safety is our utmost priority, and in order to achieve that, we implement very rigorous training programs for all our projects. In terms of equipment, Major Drilling has one of the most diversified fleets you can find on the market, and our maintenance is impeccable in that sense. We strive to be a technology provider, and to always expand the scope of the services that we can provide to our clients: as an example, we are now coming up with truck mounted drill rigs. That makes Major Drilling a responsive and flexible company in terms of market demand.

## The year 2016 may finally mark the end of the mining industry's global downturn. What are your perspectives on that, and what should we expect from Major Drilling in Québec?

I have been in the industry for 35 years, and I have seen many downturns, but this is the longest one we have experienced so far. That said, the market boom that follows the downturn is usually proportional to it, so I am very optimistic about the amount of work that will be coming ahead. The first half of 2016 has shown promising developments in the market, and the upturn might be just around the corner. Major Drilling is very well positioned to take advantage of all that business ahead as a quality provider, with an important global structure and a strong financial position. We are one of the world's best drilling companies and we look forward to helping out our clients, both in Québec and around the world. —

# Alain Carrier & Denis Gourde

AC: Co-President Founder  
DG: VP Engineering and Sustainable Development  
**INNOVEXPLO**



AC



DG

## How has Québec's mining market evolution influenced InnovExplo's development over the last years?

AC: Over the past three years, InnovExplo has been growing: we went from 23 people in 2013, to almost 40 in 2016. This increase has allowed us to add feasibility studies to our service offering, whereas before we were only doing pre-feasibility and PEA work. Senior staff experience helps us bridge theories with practical realities, and makes us better equipped to realistically add value to projects. Although InnovExplo's base expertise is in underground mining, we are increasingly gaining knowledge in open pit operations as well. The mining market is still a difficult one, but we are involved with the important high-value projects currently happening in Québec, like Sigma-Lamaque and Horne. Beyond that, we keep expanding to other Canadian provinces as well. Most notably, over the past two years, we have been able to enter the African market, where we are active in countries like Mali, Côte d'Ivoire, and Mauritania. In Senegal, we were even called upon to provide training and short NI 43-101 regulations courses.

## Could you tell us more about your contribution to Richmond's Island Gold project?

DG: InnovExplo got involved at the Island Gold mine due to our good market credibility. Richmond Mines knew we were a solid firm with great underground mining expertise, and they wanted us to be part of this project, which is a real company-maker, given the resources they have, and the operational efficiencies they can achieve on the site. InnovExplo did an initial PEA for the project, and now we are working with Richmond on strategic planning.

## How is InnovExplo helping companies become more socially and environmentally responsible?

DG: The concept of sustainable development has impacted the array of services that InnovExplo provides today, so with the *Towards Sustainable Mining* (TSM) program from the Mining Association of Canada (MAC), we now have a person almost exclusively dedicated to that type of work. We are involved with the likes of Canadian Malartic, and Agnico-Eagle's Goldex mine when it comes to sustainable development initiatives. It is all part of the social license concept, and it is

important to note that we are not only TSM auditors: we are also able to coach companies on how to achieve their target ratings on each of the TSM protocols.

## Val-d'Or constitutes a true global center of mining expertise. Could you provide us with relevant InnovExplo examples in that sense?

AC: In Mali, we are working with an African client, overseeing an operation which was initially closed down in 2012. Now, we are helping it completely relaunch itself: from drilling planning, to resource estimates, to mine design, and even coaching staff for the operational and administration aspects. InnovExplo comes from the right place, has the right methodology, and is a credible, trusted partner for them. DG: There is always a trade-off: being in Val-d'Or, we are not a big, multinational company, but the industry players know that along our 12 years of history, we have been consistently performing quality work. This is our best business card, and we have been called up for numerous third-party reviews and audit-processes. People are our most important asset, and the best retention tool we have for them is to keep offering them interesting projects across the mineral spectrum. Being in Val-d'Or allows us to draft expertise throughout a pool of high quality people, and also brings proximity to some projects and clients

## What are the perspectives for Québec's mining industry?

DG: Québec is a more stable jurisdiction nowadays, but commodity prices still remain a challenge. Gold is doing much better lately, but even so, investors are not coming back just yet, because there have been too many over-budget and late schedule projects in the recent past: trust has to be regained. What we see is that good advanced projects still get financed. InnovExplo will continue to increase its capacity and expand geographically, and position itself on top of the preference lists for all those upcoming projects out there. However, we will do that while maintaining a high level of quality work for our current clients, because we need to keep our market credibility. We have just opened an office in Montreal, and that allows us to be closer to some clients, but in the same time, also to be more attractive for a new pool of potential employees. —





## Léandre Gervais

VP Mining Industry Québec  
WSP | PARSONS  
BRINCKERHOFF

### What is the role that WSP Canada is playing within Québec's mining industry?

WSP Canada is the biggest supplier of environmental and construction engineering expertise across Québec. We have been active on virtually all the mine-sites here, at some stage of the process, whether we are talking

about Osisko, Agnico Eagle, Goldcorp, or IAMGOLD. We are a business that operates across several sectors. Here in Québec, mining represents about 15% of our total revenue, double our national average for the industry. As a matter of fact, our office in Val-d'Or is WSP's global center of expertise for the mining industry. WSP has certainly leveraged its home-grown experience to assist its Canadian clients that decided to undergo projects abroad. Québec's service sector providers are recognized across the world for their proficiency in automation, and underground mining.

### What are the elements that allow WSP Canada to differentiate itself within its market segment?

A mandatory 2% of all payroll is required to be invested in training in Québec, but at WSP we invest 6%. There are many little things that make a difference between a good mining operation and a bad one, and we like to pay attention to those details. We possess a high level of expertise, and only here, in Québec, we have over 150 mining specialists. With more and more regulations governing the industry, the complexities of projects have increased,

and mining clients need global companies like WSP to help them.

### What are some of the trends that are currently shaping mining in Québec?

One of the industry's main challenges after 2000 has been to properly cope with the increased environmental regulations. In Québec, the closure and restoration of mine sites became items on the agenda that needed to be solved even before starting a project. Nowadays, the sector is facing even a bigger challenge: energy efficiency and the reduction of the carbon footprint. In January 2013, Québec instituted a cap-and-trade system for greenhouse gas emission allowances. In January 2014, Québec linked with California's program in the first regional agreement of the Western Climate Initiative (WCI), which has the target of reducing greenhouse gas emissions in North America by 15% below 2005 levels by 2020. Other Canadian provinces have also instituted this system, which enforces the payment of taxes by companies not able to meet the program's emissions. Consequently, green mining technologies are in high demand, and everyone is trying to develop solutions in that sense. —

### ► 59

years of experience with both underground and surface drilling operations.

Tradition seems to be the key word in Rouyn-Noranda, and the town's other major family-owned business is Moreau, a construction company that has grown since its inception in 1977 to have over 1,200 employees today, generating an annual revenue of over C\$200 million. Entities such as Moreau, heavily active in Nunavik, show that the Abitibi-Témiscamingue serves as the center of mining expertise and gateway to the north of Québec, despite the 1,000 miles that separate the regions.

While unlocking the north will prove rewarding one day, intriguing developments are presently occurring in the heart of Rouyn-Noranda itself. In 2012, Falco Resources, another strongly-positioned gold junior, entered the scene and bought 70% of the historical Rouyn-Noranda mining camp, determined to make good use of the 300,000 meters of historical drilling and exploration done by Noranda Inc. Combining its own drilling and the digitalization and compilation of historical data, in October 2016, Falco Resources boasted 8.7

million gold equivalent ounces, the majority of which in the indicated category, for its Horne 5 project. "We now know that Horne 5 is eligible for exploitation as an underground bulk tonnage mine. This will enable us to process more than 10,000 mt/day at the mill when operational, essentially making this one of the biggest underground mines in North America. There are so many elements both in the *opex*, and in the *capex* that can be improved, and all of those are opportunities for us to increase the attractiveness of our project," said Luc Lessard, president and CEO of Falco Resources.

With an international career of more than 25 years in the industry, during which, among other accomplishments, he oversaw the design, construction, and commissioning of Canadian Malartic's gold mine, Lessard is confident about Québec's mining future: "There is strong support for mining in this province and Falco Resources is proud to be here. The people and the government are on board, and we have a longstanding tradition of mining excellence. I strongly believe in Québec." —



Image: Courtesy of Stornoway Diamond Corp



## Louis Valade

President  
MEGLAB

### Could you provide us with an introduction to Meglab?

Today, Meglab has 140 people, complete with electrical engineering, electronics and instrumentation control departments. We have

extensive underground mining expertise and some of the best electricians in the mining industry, many of them assuming roles of superintendents, planners, foremen, and engineers at mines in Surinam, Argentina, or Canada. There is a new generation of mining engineers out there now, and they are hungry for technology, and seeing how implementing it can optimize and bring efficiencies at their mines. Meglab can work with them to find the best solutions for power, data transfer, and instrumentation control, to make that happen. We do not copy and paste our work, every customer has his particular needs.

### Meglab has been involved with a variety of high-profile mining projects, such as Goldcorp's Éléonore. How have you optimized costs for mining operations?

During our initial conversations at Goldcorp's Éléonore mine, they asked us about the advantages of our radio communication system. Meglab uses a basic radio system to also transfer data: by doing that, we evolved from our experiences in past years with wireless cage signals and data transfer to WIFI and Ethernet capabilities. Further discussions enabled us to showcase our expertise in elec-

trical design for underground environments and favored us to help with the electrical engineering and custom manufactured products. It is common knowledge in mining that there is a need for a substation every 300 meters to avoid voltage drops. In some mines, our team has set up substations one kilometer apart! That is a savings of at least two substations, which translates into saving two months of electrical labor for a cost of well over C\$1 million. That is appealing to a well informed customer.

### Have there been improvements in the dia- How are you taking your experience acquired in Val-d'Or elsewhere?

All the expertise and experience that allowed us to go to other jurisdictions and countries comes from Val-d'Or. Creating jobs in rural areas is important to families, the community and the customers. That said, Meglab is growing, and we recently opened offices in Saskatchewan and Rouyn-Noranda, and we are seriously looking at a new opportunity in Ontario. Moreover, we have an international presence as well, with our partners in Mexico, Morocco, and Argentina, and our growing sales team. —

# InnovExplo

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# QUÉBEC'S PROVIDERS AND SUPPORT BASE



"In 35 years in the industry I have seen many downturns, but this is the longest one we have experienced so far. That said, the market boom that follows the downturn is usually proportional to it, so I am very optimistic about the amount of work that will be coming ahead. The first half of 2016 has shown promising developments in the market, and the upturn might be just around the corner."

Richard Aubé,  
Regional Manager Rouyn-Noranda,  
Major Drilling

# Innovation and Smart Design

## Mining's new ideals

Irrespective of their target commodity prices, over the last years, miners have learnt the hard way that controlling their costs is essential in today's extremely competitive environment. From EPCMs, to consultancies, to drilling companies, to equipment providers, everyone is striving to be ahead of the game, coming up with innovative cost-optimization methods.

"Sustaining capital work is essential because this is where the clients are currently spending their money. We analyze client operations in order to create sustainable

cost reductions: anyone can do headcount cuts, but to introduce automation, generating safer work environments, smaller carbon footprints, modeling bottom-lines, and assuring predictability – that is where the added value comes into play," said José Suárez, president of Global Mining & Metallurgy at SNC-Lavalin, which made a significant move in 2014, acquiring 15,000 employee-strong Kentz.

Equipment-providers are traditionally known for having a rather conservative business model; selling and maintaining

machinery. But more and more, technology is added nowadays into their product and service offering. David Hewitt, VP of Resource Industries at Hewitt Equipment, CAT's exclusive Québec dealer, explained: "In this cycle, our customers need us to help them extend the lives of existing fleets and drive down their costs. Our gold mining partners are looking at new technological opportunities, such as autonomous vehicles. In fact, in March 2016, Hewitt Equipment was the first in Canada to commission an underground autonomous CAT loader.

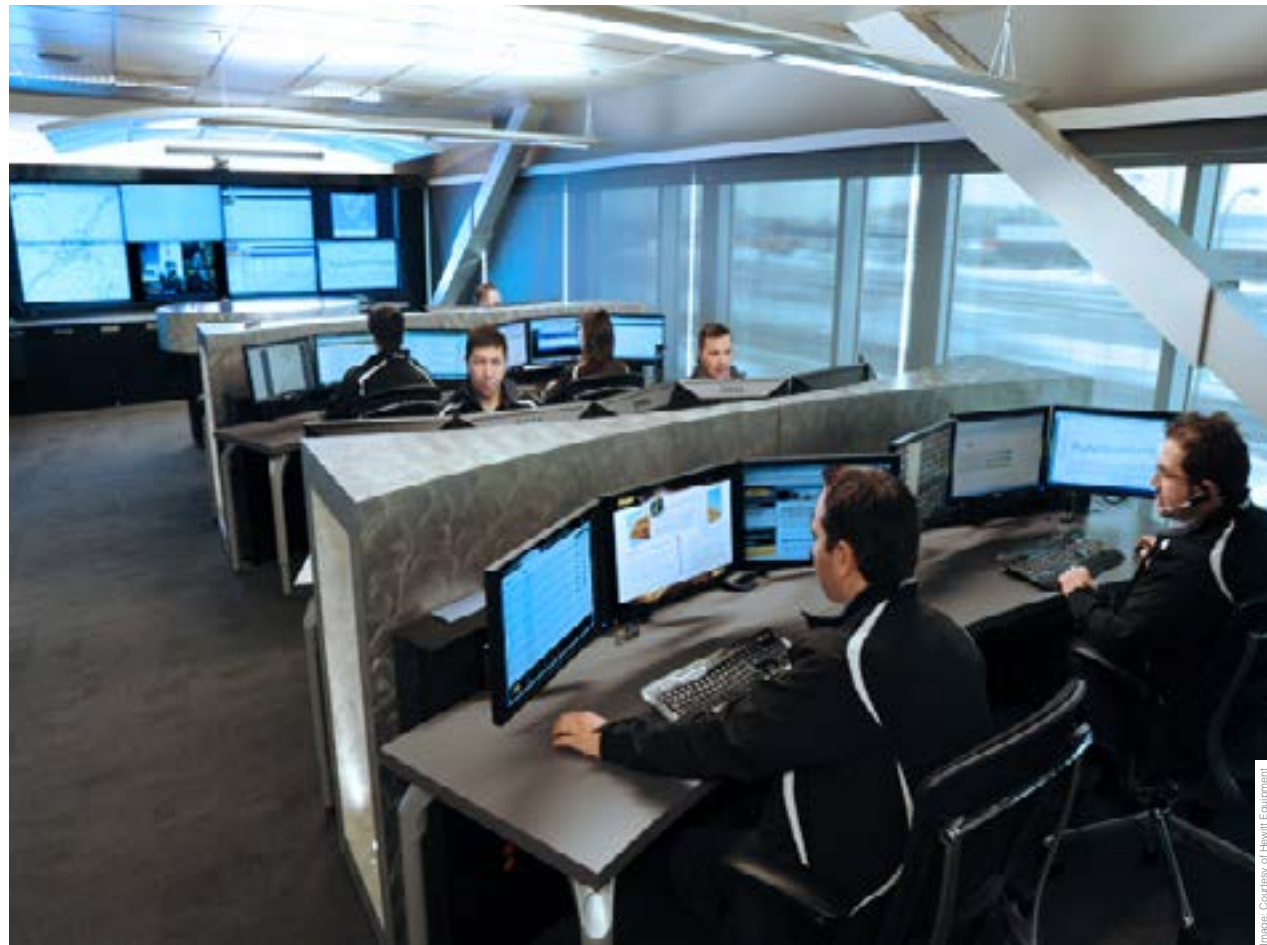


Image: Courtesy of Hewitt Equipment

Many discussions were carried out regarding the usage of more analytics for machine performance improvements underground, an aspect that has always been a challenge for the sector. There are plenty of data-streams nowadays, but there is a gap in the proper utilization of them."

Having managed to keep its 2,200 workforce fairly intact during these last challenging years for the industry, Hewitt Equipment is now spearheading the remodeling of the traditional equipment provider concept: "We were among the first five dealers worldwide to undergo the condition monitoring pilot programs, and our fluid analysis lab is within the top five most certified facilities within CAT's global network. Our end goal is to help clients succeed, because we believe that by making their operations more efficient, in the long-term, they will give us more of their business," added Hewitt.

The idea of increased efficiencies and technological input is so influential that some companies, such as Hatch, went as far as reinventing themselves on the basis of smart design. "We are now entering a new era for Hatch, which will mark our return to the core, innovation-based values that this company was founded on. Project execution has traditionally been a key area of focus, but we have seen that more and more companies are calling for innovation and smart design nowadays. What is needed is a step-change, and not the continuous improvement of existing models," said Martin

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One trend in equipment design is related to automation: the environmental regulations have made engine control essential, especially to monitor emission levels. By adding sensors and electronics, manufacturers are increasingly transforming their equipment into advanced intelligent machines.

- Paul Bertrand,  
Product Manager Mining,  
SMS Equipment

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HATCH

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## Martin Dionne

Director, Iron Ore and Metal Powders  
**HATCH**

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We have been continuously working with Rio Tinto Iron and Titanium for more than 50 years now, Alcoa for more than 15 years and ArcelorMittal for more than 10 years. We are not looking for projects; we are looking for partners that we can assist in the long-run.

”

**What are the new dynamics of work for Hatch today, and how are you leveraging your technological prowess to help customers?**

These challenging times call for agility and effectiveness, and the fact that hierarchy is a virtual concept at Hatch empowers our employees to take the initiative and bring forth creative ideas and solutions. We have seen that more and more companies are calling for innovation and smart design nowadays. What is needed is step-change, the status quo and continuous improvement mode is simply not enough.

Throughout the super-cycle, R&D was not necessarily in the spotlight: priority was given to larger *capex* projects, and delivering those on time by employing traditional engineering methods. With Hatch's new era, we are giving the signal that our R&D and innovation capacities continued to expand even during that super cycle, providing a global network of experts that work cross-industrially. Our partners want us to treat their money as if it were our own, and come up with the lowest *capex* and *opex* possible, and look for fit for purpose solutions. They encourage us to come with riskier, more-technologically prone solutions. Hatch has a dedicated Technology Group which focuses exclusively on developing new processes and methods that we patent and sell to our customers, or creates customized-solutions for them.

**What are the particularities that make Québec special for Hatch?**

Between 2000 and 2015, Hatch expanded and consolidated its global presence, acquiring and opening offices around the world. Now, we are entering a new era for Hatch that will mark our return to the core values of this company, which was founded with an innovation-based approach and a long-term partnership with clients in mind. Québec, and the entire North-Eastern American region is essential for Hatch, one in which we have established traditional partnerships with our clients. We have been continuously working with Rio Tinto Iron and Titanium for more than 50 years now, Alcoa for more than 15 years and ArcelorMittal for more than 10 years. With Rio Tinto, we have a 100-employee strong satellite office right next to their plant, performing engineering work. We are not looking for projects; we are looking for partners that we can assist in the long-run.

**Recent years have seen a shift in the focus of mineral development in Québec. Have you been proactive in leveraging these new opportunities?**

The current diversification of Québec's mining industry is linked to the new Plan Nord 2.0. The initial version of this grand initiative was largely driven by iron ore's evolution, but with the current market realities, the government is now looking at promoting and developing other minerals like rare earths, lithium, and graphite. Hatch is fully on-board this trend, and we have been working with Mason Graphite for about two years now, having just finished their new mine and concentrator feasibility study. We want to make our relationship with Mason Graphite a long-standing partnership, and still be there with them 10-15 years from now.

**What makes Québec a good mining jurisdiction today?**

We have quality ore bodies and great access to electricity, not to mention one of the safest, most stable political environments in the world. Our natural gas and LNG availability will prove to be a long-term advantage for us, and further developments will be made in this respect in the future. Finally, we possess great seaborne transportation capabilities, with deep-water ports, and the Saint Lawrence River, which links us to the global markets in an accessible way. However, Québec should be looking to increase its secondary transformation capacity, because at the moment, we are losing the secondary and tertiary transformation added value.

**What is the philosophy behind Hatch's new "Positive Change" era, and how do you see your role within the mining industry?**

The world is changing rapidly, and the increased global urbanization process will undoubtedly be calling for more mines, metals, energy as well as more infrastructure to be put in place. Thus, Hatch's Mines and Metals component of the business, as well as its Infrastructure and Energy components will represent key aspects of our activity moving forward. We are agile, diligent, and responsive, and we have the people, the skills, and the technology to provide innovations and out-of-the-box solutions to our partners, providing them with that step-change they need. —

**Could you provide us with an update of BBA's activity within the mining sector?**

Our strategy has always been to split our efforts between existing mining clients and greenfield projects. Now, because of the market conditions during these past two-three years, most mining companies are looking at ways of achieving productivity improvements throughout the value chain, and this is where we have dedicated most of our efforts over the past three years. Even so, we are seeing more and more front-end studies coming through, which means that the industry is preparing itself for the next wave of projects; that said, BBA is not involved with major construction projects anymore.

**How are you able to leverage your cross-industrial expertise in the mining sector?**

Mining still represents about 50% of BBA's business, with the majority of that going towards sustaining capital projects. Things are changing and we are seeing more synergies at work between our mining and energy departments. Power efficiency is a key item nowadays, especially in the case of remote operations, and BBA is helping companies by integrating wind and solar energy solutions on those sites, improving productivity, while also reducing carbon footprints. We are also performing more studies related to grinding optimizations, thus lowering electricity costs, while increasing the production numbers for those operations. BBA has also supervised laboratory test work which looked at reducing the consumption of reagents like cyanide, in various plants, or at improving ore recovery rates.

**Canadian service companies are recognized worldwide for their expertise. Is BBA targeting foreign markets as well?**

We are a Québec-based company, but we follow our Canadian clients internationally, whether they are going to Africa or South America. Overall, however, we focus on having a good Canadian presence, and making sure that the industry knows us here, at a national level. Over the last five years, we have expanded across the country, opening offices in Vancouver, Calgary, Toronto, and even in Labrador City, just so that we could be near to all our clients' operations. This is our development strategy at the moment.

**Québec is seeing more projects coming up in non-traditional commodities. What are the benefits of this diversification?**

The mineral diversification of Québec's resource landscape is definitely a positive trend. When you look at our mining industry nowadays, you will see that gold is doing quite well, but that there are also other elements such as lithium, and graphite, which are also going through a favorable period. Moreover, Stornoway Diamond is going to be the first mine of its kind in Québec. Looking to the future, the development of the mining industry will be closely tied with the development of northern Québec, so this diversification will only help in that sense. At the end of the day, having a varied mineral spectrum allows you to navigate downturns better.

**BBA operates in a densely populated market segment: what are your key differentiators?**

BBA really differentiates itself with its human resource strategy: the majority of our workforce (around 95%) is composed out of full-time employees, and not temporary staff. For that to be viable, you need a steady workload stream, which you cannot have with massive construction projects. Our technical staff continuously helps on improving efficiencies for clients, so even when there is a downturn, we get a chance to keep our employees, helping them further develop their skills. BBA is a high-value added company, and the optimization work we do is just as interesting and challenging for engineers as plant-construction would be. Additionally, BBA is very good both at front-end studies, and at optimization processes. Just during this last year, we have helped four projects throughout Canada transition from their construction phases to their operational ones.

**How do you see Québec's mining market evolving?**

The mining market is still a difficult one. Even if the commodity prices will go back up, it will take quite a long time for the industry to come back as well, since it is so capital reliant: this is why we believe the majority of the work will continue in the short-term to be in the sustaining capital segment. That said, we do see more activity happening with front-end studies, and there seem to be more opportunities coming up in Québec with gold, and special metals. —



## André Allaire

President  
**BBA**

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The majority of our workforce (around 95%) is composed out of full-time employees. For that to be viable, you need a steady workload stream, which you cannot have with massive construction projects. Our technical staff continuously helps on improving efficiencies for clients.

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JH



DH

## Jim Hewitt & David Hewitt

JH: Chairman and CEO

DH: VP Resource Industries

**HEWITT EQUIPMENT**

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During the 2010-2012 period, we invested C\$200 million in internal infrastructure, building facilities all around the province, implementing our ERP system, and developing training capacity. Then the industry did not expand as predicted, but Hewitt was able to leverage all those investments to achieve operational excellence.

- Jim Hewitt, Chairman and CEO

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**Could you tell us more about Hewitt Equipment's recent evolution in the market?**

JH: The last three years have been challenging for Québec's heavy construction industry, which includes the mining, construction, and forestry sectors of the economy. There were less new heavy equipment deliveries and, as a result, our revenues decreased since the peak we experienced in 2012. That said, we are maintaining profitability, and Hewitt is still generating about C\$1 billion on a yearly basis. Back in 2013-2014, we committed not to make major cutbacks in the organization. Rather, we allowed attrition to kick in: that has translated into Hewitt having around 2,200 employees today, as opposed to 2,750 before. During the 2010-2012 period, we actually invested C\$200 million in internal infrastructure, building facilities all around the province, implementing our ERP system, and developing training capacity. Then, the industry did not expand as predicted, but at the same time, Hewitt was able to leverage all those investments in order to achieve operational excellence.

**David, could you please introduce yourself to our readers and guide us through how the new mining realities have influenced Hewitt Equipment's mining work dynamic in Québec?**

DH: In January 2015 I took responsibility for Hewitt's Mining Division, and have therefore seen how difficult the current commodities cycle has been for mining companies. A few years ago we had the challenge of finding enough machines to meet all the demand. In the current cycle our customers need us to help them extend the lives of existing fleets and to drive down their cost/ton. There are two separate mining regions in Québec right now: we have the western part with the largest sector being gold, and that segment has been relatively healthy. Then we have the eastern/northern part, which is dominated by iron ore mining, and there the challenges are greater, and the emphasis is put on reducing costs per ton in a very timely fashion.

**Is Hewitt Equipment seeing more activity in its underground mining segment due to the better performance of the gold segment?**

DH: Our gold mining partners are making investments to a certain extent, looking at

new technological opportunities, such as autonomous vehicles. In fact, in March 2016, Hewitt Equipment was the first in Canada to commission an underground autonomous CAT loader. There are also a lot of discussions being carried out in respect to using more analytics for machine performance improvements underground, an aspect that has always been a challenge for the sector. There are a lot of data-streams nowadays, but there is a gap in the proper utilization of this available information, and surface operations have the edge over underground ones in maximizing it. In addition to that, we are also performing more machine and component rebuilds, giving second and third lifecycles to underground equipment, an aspect which CAT prides itself with.

**According to the Fraser Institute, Québec is Canada's second most attractive mining jurisdiction. Is Québec a better mining market today than it was in 2013?**

JH: The current government is business and mining friendly, and even though the overall global resources climate is more challenging than it used to be, things are now in place to have Québec fully leverage the future upturn. The Société du Plan Nord is also acting out a very intelligent role at the moment, focusing on key areas in infrastructure development, training human resources, and managing local community and First Nation relationships.

**Would you like to add a final message for our readers?**

JH: There are a lot of new products and programs in the market, but the key is to use them the right way, and maximizing benefits. CAT is pushing in this direction, and Hewitt Equipment is at the forefront of CAT's global efforts: we were among the first five dealers worldwide to undergo the condition monitoring pilot programs, and our fluid analysis lab is within the top five most certified facilities within CAT's global network. We like to sell equipment and parts, but paradoxically, we are also working with our customers to extend the lives of the machines we sell to them as much as possible. Our end goal is to help clients succeed, because we believe that by making their operations more efficient, in the long-term, they will give us more of their business. —

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Dionne, director for Iron Ore and Metal Powders at Hatch.

Dionne noted that, throughout the super-cycle, R&D was not necessarily in the spotlight: "priority was given to big capex projects, and delivering those on time by employing traditional engineering methods. With Hatch's new era, we are going back to innovation expertise and leveraging our global network of specialists, asking them to work cross-industrially [...] Our partners encourage us to come with riskier, more-technologically prone solutions that they can analyze and decide whether to pursue or not," he said.

André Allaire, president of BBA, another important engineering firm that sees 50% of its revenues come from mining, reinforced the idea that project optimization has been the core business for consultants lately: "At BBA, our strategy has always been to split our efforts between working with existing mining clients and doing green-field projects. Now, because of the market conditions during these past two-three years, the majority of our work lately has been focused on sustaining capital costs, and the optimization of existing operations. Most mining companies are looking at ways of achieving productivity improvements throughout the value chain."

This is leading to more collaboration with other departments within the firm, Allaire said: "We are seeing more synergies at work between our mining and energy departments. Power efficiency is a key item nowadays, especially in the case of remote operations, and BBA is helping companies by integrating wind and solar energy solutions on those sites, improving productivity, while also reducing carbon footprints."

Given the moderate optimism displayed by Canada's mining markets over the last months and the hard lessons learnt during one of the longest down-cycles in recent history, engineering consultants and equipment providers will continue to play a vital role in maintaining good cost positions for their clients, constantly looking at projects from different angles and identifying opportunities to introduce efficiencies. That being said, the markets will come back at some point, reactivating the need for new green-field projects. In the words of Allaire, "we are already seeing more and more front-end studies coming through, which means that the industry is preparing itself for the next wave of projects." —

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# Eric Thomassin-Lacroix

Director - Business Development  
ENGLOBE

## What is Englobe's positioning following the acquisition of LVM?

We have seen a lot of M&A activity over the past years, and Englobe was certainly a relevant actor within that framework, acquiring a leading Canadian geotechnical, materials and environmental engineering firm called LVM, in April 2014. Headquartered in Laval, LVM brought approximately 1,400 people, and a network of 41 offices across Canada to the Englobe brand. In addition to that, our portfolio was greatly expanded, enabling us to have a complete mining life-cycle service offering: from feasibility, to construction, to operation, to closure, Englobe is now a worldwide leader in soil, materials and environmental engineering. The integration process has been going on for about two years now. In June 2015, it was decided that "Englobe" would be the new official name of the company, which would still encompass the services of Biogenie, Solution EAS, GSI Environment, Tanknology, Celtic Technologies, Environnement Illimité and LVM. Our geographical focus remains in Canada, France and the UK, but we are also working on developing other markets.

## Local community partnerships are increasingly important in Québec. What are Englobe's policies regarding this?

It is vital for companies operating in Québec's north to create sustainable partnerships with the local aboriginal entities and businesses. These agreements greatly improve the social license and acceptability of projects, by getting the local community on board and reducing overall costs. That is why in 2009, in Nunavik, Englobe

created a partnership with the Nayumivik Landholding Corporation of Kuujuaq for a sustained cooperation on the contaminated-soil treatment facility. The partnership has proven to be very effective, it brings you employment and real presence on the ground in remote areas. Moreover, Englobe also has a partnership of this sort in Nunavut, and is developing relationships with the Cree Nation in the Eeyou Istchee region (James Bay).

## Québec's new mining code has put emphasis on site-rehabilitation plans. Does this particular subject provide increased opportunities for Englobe?

The rehabilitation of former military and abandoned mine-sites represents a very important opportunity for Englobe, and we have been very active on that front. Local businesses are going to be the front-runners in this competition, and so by having First Nations partnerships, we are positioning ourselves very well. Projects like Faro Mine, Tundra Mine, or Giant Mine all represent opportunities for us, since the government is allocating significant funds to clean-up these sites. Over the past years, Englobe has worked on several of Québec's high-profile mining projects, providing feasibility and construction baseline studies. In 2015, we performed biophysical inventories for an operating gold mine, while in 2014, we helped on the tailings and mine drainage management designs for a developing mine north of Québec City.

## What is Englobe's take on innovation?

Innovation is a key element of Englobe's business: just here in Québec City, we

have a group exclusively focused on the development of new technologies which address the mining industry's constantly changing challenges. We have more than 30 patents, and with the help of our in-house lab, we are always able to test the processes we come up with, assuring predictability. Also, the fact that we can manage contaminated soils directly at the mine sites saves important transportation costs. Furthermore, by using composting facilities, we are able to create organic materials that assure a better revegetation than just the addition of normal soil. We are lucky to be a fully integrated environmental engineering company, with enough resources to create complex technologies and processes for niche-applications: smaller firms do not have that luxury.

## What is your mid-term outlook for Québec's mineral sector, and what should we expect from Englobe in the future?

There are good things happening in Québec's mining industry, and its position in the Fraser Institute's new rankings is a reflection of that. The Plan Nord 2.0 is an admirable governmental initiative, but the metal markets need to come back before any real development can actually happen on a large-scale. Looking forward, Englobe will continue developing its business in the mining sector, especially now since we can assist our clients throughout the entire lifecycle of their projects, with our expanded portfolio. We will also further strengthen our First Nation partnerships, because we believe this business model will shape the future of the industry. —

## Could you tell us more about Atlas Copco Mining and Rock Excavation's recent evolution?

AL: Our main goals over the last few years in Canada have been to decentralize our structure, and to better position ourselves next to the customers. We have 22 branches and, whenever possible, we try to employ locally. In this business, what is crucial is to have all the parts that are potentially needed by miners readily available. So in that sense, we have been undergoing a development strategy that will allow Atlas Copco to be even more responsive.

## What is the relative importance of Québec for Atlas Copco's apparatus within Canada?

RL: Atlas Copco Mining and Rock Excavation has four regions in Canada, and Québec is part of our Eastern Region, which includes Labrador, Newfoundland, and New Brunswick. Québec is an extremely important part of our business today, and we devote about 25% of our entire budget to it: we see great promise here, and we have found the province to be one of the most active around.

EP: The Abitibi-Témiscamingue region is essential to us, but so is northern Québec, where we are working with most of the active mines. Atlas Copco is involved throughout the entire mine-life cycle of the projects, starting with the PEA, leading all the way to the operational stages. In our Val-d'Or branch, we have simulators that help our customers see the value of the product and of what we can offer before even purchasing anything.

## How is Atlas Copco helping the industry increase efficiency?

AL: We are talking about multi-million dollar machines that need to be operated in tough conditions, on narrow roads. It is unreasonable to expect accidents not to happen, given these circumstances. This is where our simulators come into play and we have a three-step process to assure that proper training is provided. Phase one includes a simulated environment and tests, phase two is a practical driving one, assisted by a trainer, while phase three comprises total independence of the operator. Atlas Copco has had a lot of success with this method, generating less mechanical issues, better availability, better econom-

ics, and overall, a smaller frequency of accidents.

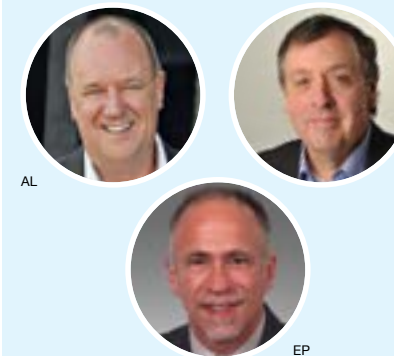
RL: One of the other innovative solutions we are already utilizing successfully in the north of Québec is surface tele-remote drilling. The ultimate goal for that is to have one operator running three machines. More and more, projects are getting developed in remote locations, and the costs associated with transporting, lodging, and feeding personnel there are very high. Consequently, getting one person to perform the job for three generates tremendous cost savings. These automations allow companies to drill through shift changes, eliminating the downtime while getting people down in and out of the mine. We have estimates of 30-40% increases in productivity as a result of this. Another factor we are helping with is related to human exposure to the areas with very high rock temperatures of 40-50 degrees Celsius that exist at those depths.

## What are the advantages of your new battery-powered scoop?

AL: The launch of the battery scoop came as a result of requirements voiced by a growing number of our customers, some in Québec, to solve the extra heat and air contamination issues present underground. Ventilation represents one of the highest costs of a mining operation. The battery innovation is opening up opportunities for mines to go deeper, and have their lives extended without the burden of capital expense which might have prevented them from taking place at all. Equipped with the battery, the machinery produces virtually zero noise, and has little heat coming off it.

## What should we expect from Atlas Copco in the mid-term future?

AL: Looking forward, we want to keep growing, and the opportunities developing in the northern parts of Québec, and Canada, as a whole, will definitely become prevalent. You look at this country and the way the population is dispersed and you see that only one third has really been explored: the potential going north is tremendous. Atlas Copco will continue to give support to its customers, and stay close to them, assisting clients even in the most remote areas. We are prepared to work with local communities and First Nations in order to create economic benefits to all mining stakeholders. —



# Andrew Lyon, Reg Labelle & Eric Paquet

AL: General Manager  
RL: National Sales Manager  
EP: Regional Manager Québec and the

Maritimes  
ATLAS COPCO MINING AND  
ROCK EXCAVATION

“

The battery innovation is opening up opportunities for mines to go deeper, and have their lives extended without the burden of capital expense which might have prevented them from taking place at all. Equipped with the battery, the machinery produces virtually zero noise, and has little heat coming off it.

- Andrew Lyon,  
General Manager

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## Nicholas Nickoletopoulos

President & CEO  
URECON

### Urecon's history dates back to 1969. Could you guide us through the evolution of the company?

The company was originally founded as a contractor over 47 years ago in Montreal. In 2013 we commissioned a state-of-the-art factory on our 600,000 square foot property in Coteau-du-Lac that combines our prior St Lazare and Rigaud manufacturing facilities. We also have a 400,000 square foot property in Calmar, Alberta, established in 1981. Since 1991, Urecon has also been an exclusive North American supplier for Logstor's EN253 hot water district heating pipe products and insulated flexible piping systems. Logstor is headquartered in Denmark and is the highest quality producer of modern hot water district energy piping systems. From our manufacturing locations we are able to meet customer demand and delivery schedules economically from coast to coast. Our primary selling regions include Canada, the US, the Caribbean, Central America and certain regions of South America. We also supply customized pre-insulated piping systems to Europe and Asia.

### Can you give us more details about your product range?

Urecon designs, engineers and also manufactures pre-insulated pipe systems with our proprietary void-free U.I.P. polyurethane foam insulation process. For extreme cold weather applications the systems are often equipped with another proprietary technology, Thermocable, an electric heat tracing system, which is ready for immediate installation once on site. Our insulation systems can be applied to any type of core pipe manufactured today, from about half-inch to about 50 inches in diameter, with or without electric tracing conduit. To date, millions of meters of Urecon pre-insulated pipe have been installed for freeze prevention in cold climates, while in temperate and tropical climates, we have had great success with centrally chilled water piping systems.

### Could you tell us more about your value proposition for mining companies?

Typical mining-related applications include shallow buried water and sewer pipe systems, mine process water, reclaim water and tailings or even shallow buried or above ground fire water lines. In many cases, the piping used in northern mining is laid directly on grade. Carrier pipe can vary

from steel to plastic but the most common material for these applications is HDPE. Pre-insulated polyethylene pipe is resilient yet flexible (even with urethane insulation and PE jacket) allowing for fewer fittings as the pipe simply follows the topography of the landscape. PE casing is used as an outside jacket as it is tough enough to resist the friction from initial placement and the expansion and contraction on jagged terrain while in operation. Fused HDPE joints create a constant insulation jacket outer diameter which is ideal for laid-on-grade pipe. We are present in around 90% of Canada's mines. Some in Québec would be Bloom Lake, Perseverance, Nunavik Nickel and Éléonore, while more recently we participated on Stornoway's diamond mine.

### Could you tell us more about the advantages of your U.I.P. insulation system?

U.I.P.'s main advantage is its superior insulating efficiency: for a given thickness, rigid polyurethane foam resists the transfer of heat better than any other material used in the construction industry today. The temperature range of a typical foam insulation is -45°C to +150°C (-49°F to +300°F) though Urecon is able to formulate specialty foams and systems that exceed this range. The foam is water and moisture resistant. It is also resistant to fuel oils, most solvents and other chemicals.

### How do you see the mining market here in Québec evolving for Urecon?

We are expanding our international business on a continuous basis. Geographic expansion has been the primary focus for the last decade, and for the next 10 years, perhaps, we will be able to look into Europe and Asia as well. Domestically, I believe opportunities are going to come from the additional demand for commodities and also from innovation and new technologies, whether we are talking about exploration methods or processing methods. Global demand is perhaps the single most important driver for any commodity market. There is a very good correlation between world GDP and commodity prices. Global population is growing at 1.1% annually (75 million people per year), and all these people are future commodity consumers. We are also living longer and the quality of life is constantly increasing. Personally, I am optimistic that the mining sector will recover, as it always has in the past. —



## Gaston Tanguay

Sales and Business Development  
Manager  
FOURNIER INDUSTRIES

### Please introduce us to Fournier Industries?

M. Renaud Fournier began our mining division with asbestos in 1960. Eventually, we moved away from asbestos and started working closely with Cambior, which allowed us to grow into the gold business. Today, Fournier Industries has 280 employees and is a leading service provider. We specialize in manufacturing, design, engineering, project management, fabrication and installation of various types of mining equipment. In 2009, we acquired the Trois-Rivieres division of Kamtech Services, a well-established construction company, to offer enhanced on site installation services. Also, in 2007, we grew our engineering and manufacturing segments. Following this our business doubled between 2007 and 2014.

### What is the importance of your international projects in mining?

We have been working internationally together with our current mining clients. We worked in Suriname with Cambior and IAMGOLD and in Burkina Faso with IAMGOLD, Semafo and B2Gold. Our focus today is West Africa, British Columbia, and western United States. West Africa is the place to be in the following years.

The mining industry represents 60 to 65% of our business. The fact that we are a diversified

company allows us to keep our positioning in the mining industry also during downturns.

### What factors contribute to the success of Québec companies in West Africa?

There are several factors: first of all, we speak the same language. Being able to converse in French allows us to foster relationships with local clients. Secondly, there is also a lot of know-how coming from Québec. It is easy for us to export our expertise overseas because many companies are already familiar with our skills in Canada.

### Fournier Industries bought a stake in TecoSol. How did this help you adhere to changes in environment regulations?

Tecosol specializes on decontamination of soils and subterranean water mostly in the oil and gas industry. Initially, Tecosol was hired by M. Fournier to work on one of the projects. The collaboration between the two organizations was so successful that eventually, Fournier Industries bought a 50% stake in the company. Then, in partnership with INRS, TecoSol created another company, Metox, which is dedicated to decontaminating soils

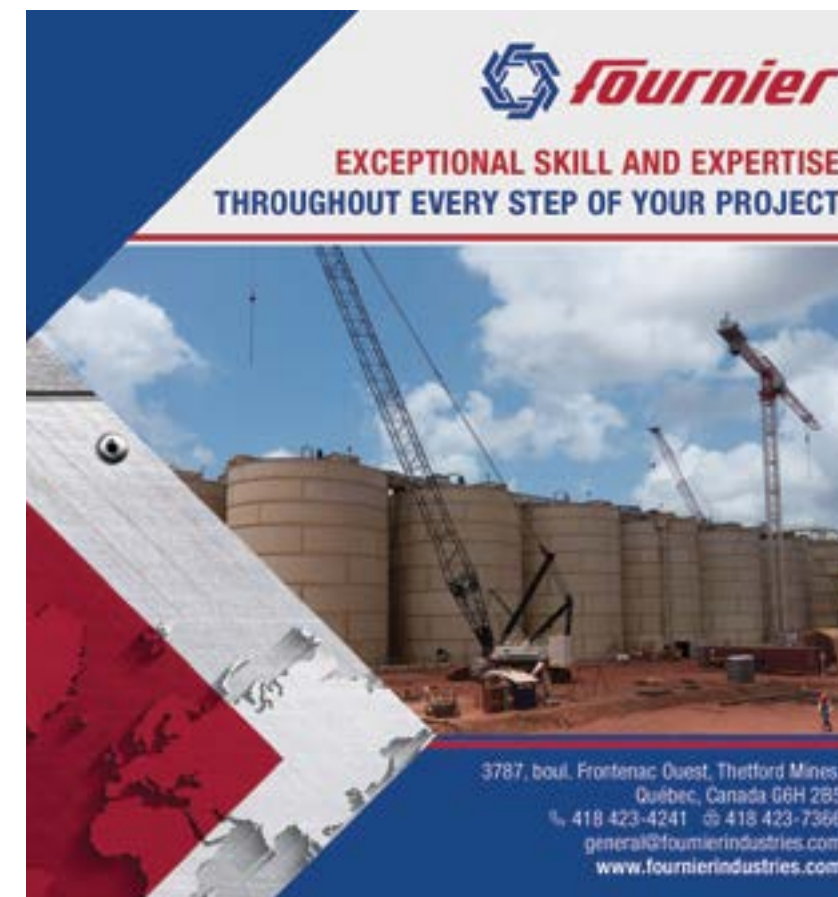
that are polluted with heavy metals. They are currently testing this new technology with the city of Québec at a former army-testing site.

### How is the mining industry changing in Québec?

With the new government, we have a party that is supportive of the mining industry and committed to creating better conditions for investors to return to Québec. We still need to solve the issue of the lack of financing, but other than that Québec is an excellent place to do business for miners.

### What is the company's near term growth strategy?

We are looking to expand, however we are aware of the fact that the mining industry is still a challenging sector. We are well positioned financially, and are actively looking to create new partnerships or acquisitions throughout Canada. Even if the rest of 2016 is expected to be quite slow, many engineering firms are seeing a pick up in the industry. We will also continue to expand in Western Canada and in West Africa, as we see a lot of opportunities in those jurisdictions. —



Global population is growing by 75 million people per year, and all these people are future commodity consumers. We are also living longer and the quality of life is constantly increasing. Personally, I am optimistic that the mining sector will recover, as it always has in the past.

# Positive Deviants

Taking action on behavior to improve the OH&S record of the mining sector

By Tanguy Paquot, Director, Health and Safety, Québec Mining Association



The issue of workplace health and safety (WHS) has always been a concern for the authorities in the mining industry, who are constantly trying to innovate in this field. In 2015, the Québec Mining Association (QMA) and several of its member corporations launched a unique and innovative project in Québec: *Positive Deviants*. Since mining industry statistics concerning accident frequency tended to plateau over the last five years, the mining industry began to examine the best way to push the curve down toward zero accidents and keep it there. After improving the safety of machines and tools; after launching an WHS focus in work organization; after instilling a culture of accident prevention, there was still one issue that had not been broached: behavior. It is far easier to make a machine safe than to change people's behavior, so it was a significant challenge.

To tackle the problem, the QMA decided, with the support of Professor Jean-Pierre Brun, that rather than look at what other industries were doing elsewhere in Canada or internationally, it would focus on what was positive in the mining sector in Québec. In every work environment, there are people who distinguish themselves as leaders and whose behavior and attitude inspire a natural desire to follow them. These are the positive deviants. By their exemplary behavior, they deviate from the standard for achieving excellence.

Beginning with this premise, the QMA presented the project to its members and, with the unanimous support of the general managers of its member corporations, it

launched Phase I, which was to identify and interview 50 positive deviants at six mining sites, from different departments, in different parts of Québec. After the interviews, the QMA made a list of the common characteristics and values of the positive deviants. Seven central values have emerged as the crucial foundation that motivates the actions and thoughts of positive deviants every day. Phase II was to validate the portrait in all Québec mining sites by means of a survey issued to all employees in the mining sector, with the tagline "health and safety in our hearts and minds." The purpose of the survey was to confirm Phase I and identify the industry's position on the Bradley curve, which assesses the maturity of a business based on its accident frequency rate. With a remarkable and voluntary participation rate of over 50% of all industry workers, and thanks to the unconditional support of the mining sites, thousands of surveys were completed, allowing the QMA to very accurately isolate the factors it need to work on to lead employees toward excellence. This exercise also helped to determine the accurate industry's position on the performance indicator on the Bradley curve, revealing that the mining industry is halfway between independence and interdependence. This means that to improve this performance, the Association had to work on a very specific aspect of behavior: working with people and teams to develop a sense of interdependence and concern for others, based on the central values of our positive deviants. Finally, Phase III was to develop the tools to achieve the objective. A task force made

up of managers and mining industry specialists was set up to validate every step of the project. Two major mining operations volunteered to test the tools in 2016.

The first tool seeks to develop interdependence in work teams by involving the positive deviants through small discussion groups that focus on dialogue among employees, rather than monologues given by supervisors. The supervisors play a very secondary role in the discussions. Several visits are expected to the sites in question to train the positive deviants, monitor the progress of the project and maintain ties between the QMA and the management and prevention teams.

The second tool is a companion guide to help the management team acquire the know-how of interdependence. Site visits by management are very important, serving as a springboard to promote interdependence within the company. This guide will provide suggestions on how to align with best practices.

The third tool is a management audit that includes several cultural indicators, to help the company assess its results over the years. This audit validates not only management involvement in WHS efforts but also how the priorities are communicated and how they are received and understood by the workers.

The mining industry hopes that this project will drive down the accident frequency rate even further and achieve a sustainable zero accident environment by introducing a culture that fosters and stimulates interdependence in the heart of our industry. —

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# FINAL THOUGHTS



"In 2015, mining generated nearly C\$3 billion in investments and supported 30,000 direct and indirect jobs. Québec's mining shipments were valued at C\$7.7 billion. Québec is responsible for 20% of Canada's total mining production. With 15 metals and 13 non-metallic minerals, it is considered to be Canada's most diversified mining producer."

Pierre Arcand,  
Minister of Energy and Natural Resources,  
Government of Québec



Image: Courtesy of Stornoway Diamond Corp.

## Conclusion

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### Leading by example

In no way can the effects of the global mining downturn be overlooked or minimized. Despite the recent positive signals in Canada, it would be risky to say that the industry has passed the final hurdle: even if the upturn is truly around the corner, it will take time for the whole sector to heal and benefit from it. But once it does, it will be stronger than ever.

“The mining market is still a difficult one and the situation will not change soon. Even if the commodity prices go back up, it will take quite a long time for the industry to come back as well, since it is so capital reliant,” stated André Allaire, president of BBA, a Canadian engineering company with a long-lasting tradition in the mining sector.

Without a doubt, the planet will continue to eat more, build more and innovate more and, from cloud-breaking skyscrapers, to burgers, to the lithium ion cells that power electrical cars, everything in the value chain is dependent on mining, whether we are considering iron, phosphate, or lithium.

“The market is heading in the right direction, and we are excited about all the upcoming projects. Val-d’Or has certainly been among the most prolific gold towns in Canada for the last 80 years, but that said [...] the next big things will happen up north, and not only in Québec, but in Ontario as well, in the Ring of Fire. Our big environmental department will focus over the next years on mine closure procedures, for which a significant

provincial budget of C\$650 million was allocated,” said Nicola Fournier, VP sales and technical services at Fournier & Fils, one of Abitibi’s main surface-work providers.

Québec is one of the most mature and experienced mining jurisdictions in the world and this comes with a trade-off; but here, the positives vastly outweigh the negatives. Yes, La Belle Province is not a cheap place to mine in, but its service providers, like those from Val-d’Or and Rouyn-Noranda, are some of the best in the world, and they will get the job done right from the outset, generating long-term cost efficiency. Yes, Québec has more regulations and is more sensitive to community relations than other jurisdictions, but no coup d’état will endanger a project here. Furthermore, authorities, when feasible, will put in a real shift to help miners see their projects become reality (just ask Agnico Eagle, Stornoway Diamond, or Nemaska Lithium). And yes, Québec still needs an infrastructural network to develop its far north, but, at the same time, companies like Integra Gold and Falco Resources are reviving important historical mining sites adjacent to fully developed and serviced municipalities.

So what can Québec achieve during this transition period from downturn to upturn? Well, what it has been doing already – to innovate and to lead the world’s miners by example, across the various layers of its industry supply-chain. Québec is in the sector’s driving seat: as it should be. —



## MINING CALENDAR 2017

	<b>ZIMEC</b> 7 <sup>TH</sup> ZAMBIA INTERNATIONAL MINING CONFERENCE & EXHIBITION 5 - 6 April 2017   LUSAKA, ZAMBIA   zimeczambia.com
	<b>SMG</b> GUINEA MINING CONFERENCE AND EXHIBITION 9 - 11 May 2017   CONAKRY, REPUBLIC OF GUINEA   smguinee.com
	<b>MINING ON TOP</b> AFRICA - LONDON SUMMIT 6 - 7 July 2017   LONDON, UK   ametrade.org/miningontopafrica
	<b>EIMC</b> 2 <sup>ND</sup> ETHIOPIA INTERNATIONAL MINING CONFERENCE & EXHIBITION 25 - 26 October 2017   ADDIS ABABA, ETHIOPIA   miningethiopia.com
	<b>SURIMEP</b> 2 <sup>ND</sup> SURINAME INTERNATIONAL MINING CONFERENCE & EXHIBITION 1 - 3 November 2017   PARAMARIBO, SURINAME   surimep.com

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"Québec is a great territory, uniquely shaped by two glaciations, which gives it a unique geomorphology. But the challenge here has always been to get the resources to the port, and looking closely over the past few months, we saw how miners have paid a big price for expensive developments during the peak of the iron ore market. The government now has a great vision. Already, the port of Sept-Îles is a great piece of infrastructure, and now all we need is to link that to an efficient and economic multi-user railway to make the system complete."

- Steve Rousseau, VP Civil Projects,  
Canarail Consultants

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"Lack of exploration leads to lack of discoveries. That decreases the attractiveness of mining for young people that want stable jobs and careers. Cutting off exploration funding puts a lot of downward pressure on commodity supplies. We have to get better at exploring again, but that takes a strong financial commitment."

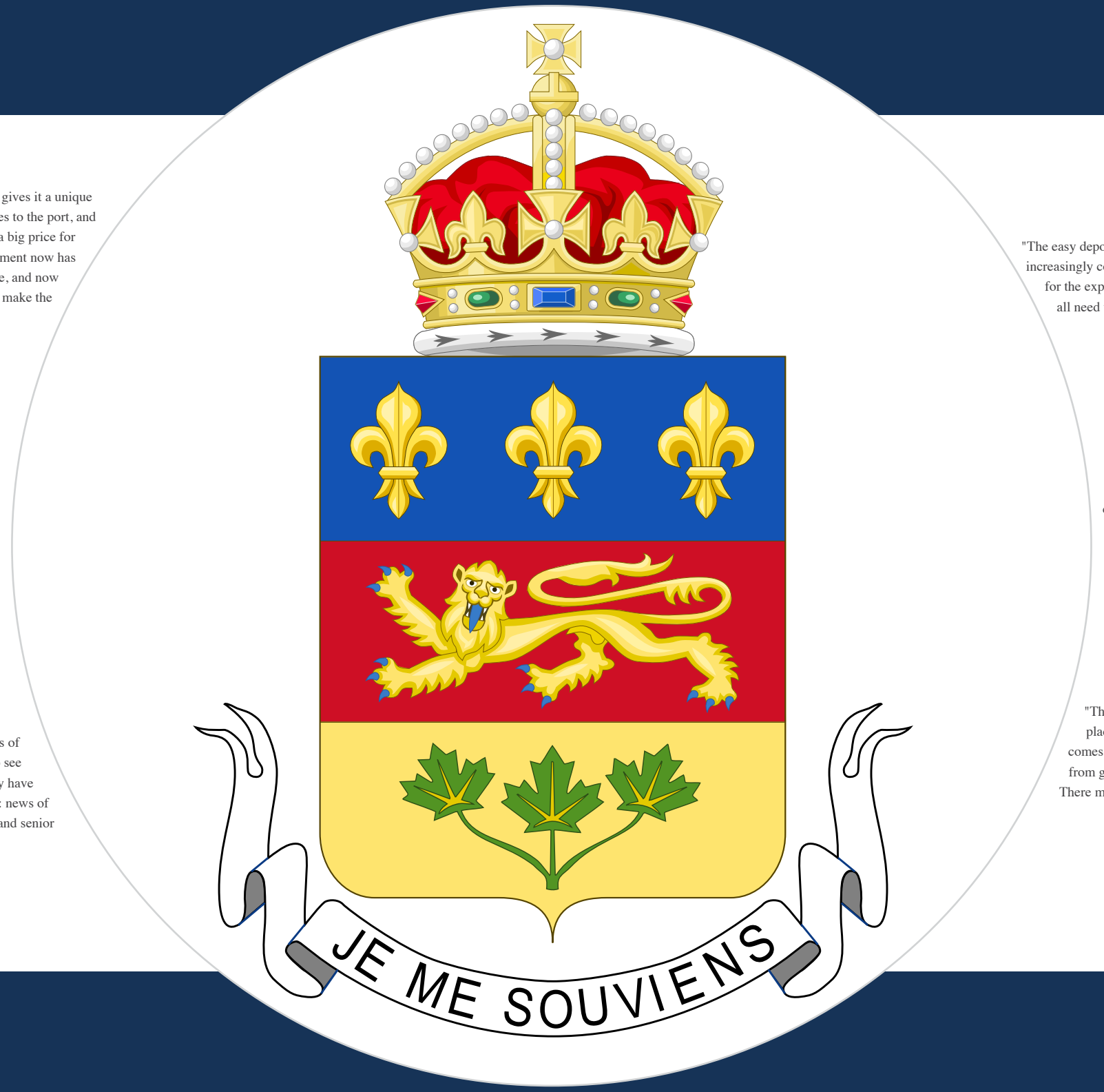
- Bryan Coates, President,  
Osisko Gold Royalties

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"The vision of model-based engineering needs to be understood at all levels of a client organization. If you can get the industry's CEOs and presidents to see the value, it allows those running the project to implement it, knowing they have management support. The mining world is not as big as one would imagine: news of the successful application of model-based engineering has spread rapidly, and senior management is usually well aware of what approaches work."

- Matt McGarry, VP Global Business Development,  
Andritz Automation

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"The easy deposits have been already uncovered, and so the new mines out there will face increasingly complex scenarios in order to be profitable. The solutions we have been using for the exploitation of those less complex projects will not stay relevant forever so we all need to innovate in order to be able to mine at greater depths, higher elevations, and in more extreme environments."

- Andrew Pyne, Vice-President Mining, GEOVIA,  
Dassault Systèmes

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"Looking to the future, the development of the mining industry will be closely tied with the development of northern Québec, so this diversification will only help in that sense. At the end of the day, having a varied mineral spectrum allows you to navigate downturns better."






- André Allaire, President,  
BBA







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"The global mining playing field is quickly becoming level, and there are fewer places for rogue operators to hide. Often, the financing of big mining projects comes from international funding agencies, like the IFC, who impose rules derived from global frameworks such as the Equator Principles, which are very stringent. There may still be places where you can get away with things that you could not in Québec and Canada, but these places are disappearing quickly."

- Paul MacLean, President and Founder,  
EEM



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	Abitibi Royalties	2864, chemin Sullivan Val-d'Or, Québec J9P 0B9	(888) 392-3857	abitibiroyalties.com
	AEMQ (Association de l'Exploration Minière du Québec)	132, avenue du Lac, Bureau 203 Rouyn-Noranda QC J9X 4N5	(819) 762-1599	aemq.org/EN
	Agnico Eagle	145 King St E, Toronto, ON M5C 2Y7	(416) 947-1212	agnicoeagle.com
	Air Creebec	18 Nottaway Street Waskaganish, Quebec J0M 1R0		aircreebec.ca
	Alexandria Minerals Corporation	1 Toronto St, Toronto, ON M5C 2V6	(416) 363-9372	azx.ca
	Andritz Automation & Separation Mining	2260 - 32nd Avenue Lachine, QC H8T 3H4 Canada	(514) 631 7900	andritz.com/index.htm
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	Commerce Resources	Suite 1450 - 789 West Pender Street Vancouver, BC Canada V6C 1H2	(604) 484-2700	commerceresources.com/en
	Dassault Systèmes	1066 W Hastings St #1100, Vancouver, BC V6E 3X1	(604) 684-6550	3ds.com
	Dundee Sustainable Technologies	1002, Sherbrooke Street West, Suite 2060 Montreal, Qc H3A 3L6 CANADA	(514) 866-6001	dundeetechnologies.com/en

	Earthmetrix	8 Chemin du Moulin, Duparquet, QC J0Z 1W0	(514) 924-6840	earthmetrix.ca/geo
	EEM	4115 Sherbrooke West, Suite 310 Westmount, Québec H3Z 1K9	(514) 481-3401	eem.ca/en
	Englobe	4495 Boulevard Wilfrid-Hamel, Ville de Québec, QC G1P 2J7	(418) 653-4422	englobecorp.com/canada/fr
	Falco Resources	1100, avenue des Canadiens-de-Montreal, Suite 300, Montreal, QC H3B 2S2	(514) 905-3162	falcores.com
	FanCamp Exploration	340 VICTORIA AVENUE WESTMOUNT (QUEBEC) H3Z 2M8	(514) 481-3172	fancampexplorationltd.ca
	Fasken Martineau	Stock Exchange Tower 800 Square Victoria, Suite 3700 P.O. Box 242 Montréal, QC H4Z 1E9	(514) 397 7400	fasken.com/montreal
	Forage G4 Drilling	1275 Rue Jules Brisebois, Val-d'Or, QC J9P 6X1	(819) 825-4079	g4drilling.com/en
	Fournier & Fils	1095 Rue Léo-Fournier, Val-d'Or, QC J9P 3X7	(819) 825-4000	fournier-fils.com
	Fournier Industries	3787 Boulevard Frontenac O, Thetford Mines, QC G6H 2B5	(418) 423-4241	fournierindustries.com/en
	Funding Portal	20 Bay St., 11th Floor, Toronto, ON M5J 2N8	(855) 850-3863	fundingportal.com
	GDD Instrumentation	860 Bd de la Chaudière, Ville de Québec, QC G1X 4B7	(418) 877-4249	gddinstrumentation.com
	Geomega Resources	75 Boulevard de Mortagne, Boucherville J4B 6Y4 Québec	(450) 641-5119	ressourcesgeomega.ca
	Globex Mining Enterprises	86, 14e rue Rouyn-Noranda, Quebec J9X 2J1	(819) 797-5242	globexmining.com/index.php
	Golden Valley Mines	152, chemin de la Mine École Val-d'Or, Québec J9P 7B6	(819) 824-2808	goldenvalleymines.com
	H2O Innovation	330 rue St-Vallier Est, suite 340 Quebec, QC G1K 9C5 Canada	(418) 688-0170	h2oinnovation.com
	Hatch	5 Place Ville Marie, Montreal, Québec H3B 2G2	(514) 861-0583	hatch.com
	Hecla Mining	1010 3e Av, Val-d'Or, QC J9P 1T3	(819) 874-4511	hecla-mining.com
	Hewitt Equipment LTD	5001, Trans-Canada Highway Pointe-Claire (QC) H9R 1B8	(514) 630-3100	hewitt.ca
	Howden Simsmart Technologies	4 Place du Commerce Suite 100 Brossard Québec Canada J4W 3B3	(450) 923-0400	howden.com
	HPQ Silicon Resources	3000 Rue Omer Lavallée #306, Montréal QC H1Y 3R8, Canada	(514) 846 3271	hpqsilicon.com
	Hydro Tech Mining	297, 7e rue Val-d'Or (Quebec)	(819) 874-4499	hydrotechmining.com
	IBK Capital	130 King St W #640, Toronto, ON M5X 1E4	(416) 360-4505	ibkcapital.com
	InnovExplo	560 3e Av, Val-d'Or, QC J9P 1S4	(819) 874-0447	innovexplo.com
	Integra Gold Corporation	1055 W Georgia St, Vancouver, BC V6E 3P3	(604) 629-0891	integragold.com
	K8aranda	345 chemin des Castors Rouyn-Noranda, Qc, Canada J9Y 0E7	(819) 290-4354	k8aranda.com
	KN Equipment	8254 rang du vieux pont, Rouyn-Noranda, QC J9Y 0H4	(819) 797-4919	knmining.com
	KPMG	600 De Maisonneuve Blvd. West, Suite 1500	(514) 840-2100	home.kpmg.com/ca/en/home.html
	Lavery	Suite 4000 1, Place Ville Marie Montreal QC H3B 4M4	(514) 871-1522	lavery.ca

	Machines Roger	1161 Rue des Manufacturiers, Val-d'Or, QC J9P 6Y7	(819) 825-4657	<a href="http://machines-roger.ca/en">machines-roger.ca/en</a>
	Major Drilling	270 Boulevard Industriel, Rouyn-Noranda, QC J9X 6T3	(819) 797-0755	<a href="http://majordrilling.com">majordrilling.com</a>
	Maxam Canada East	15709 Boulevard Valcartier Quebec City, QC G2A 0B1	(418) 915 7750	<a href="http://maxam.net/en">maxam.net/en</a>
	Mecanicad	559 Boul Témiscamingue, Rouyn-Noranda, QC J9X 7C8	(819) 797-2009	<a href="http://mecanicad.ca/en">mecanicad.ca/en</a>
	Meglab	96 Boul Armand Gilbert, Val-d'Or, QC J9P 2Y7	(819) 824-7710	<a href="http://meglab.ca/en">meglab.ca/en</a>
	Metanor Resources	2872 chemin Sullivan, suite 2 Val-d'Or QC J9P 0B9 Canada	(819) 825-8678	<a href="http://metanor.ca/en">metanor.ca/en</a>
	Mine Arnaud	418 960-0060 690 Boulevard Laure, bureau 121 Sept-Îles, Qc, G4R 4N8		<a href="http://minearnaud.com/en/accueil">minearnaud.com/en/accueil</a>
	Ministère de l'Énergie et des Ressources naturelles	5700 4e Av O, Ville de Québec, QC G1H 6R1	(866) 248-6936	<a href="http://mern.gouv.qc.ca">mern.gouv.qc.ca</a>
	Monarques Gold	1, Place Ville Marie, Bureau 2901 Montréal, (Québec) H3B 0E9	(888) 994-4465	<a href="http://monarquesgold.com">monarquesgold.com</a>
	Moreau	160, boulevard Industriel Rouyn-Noranda (Quebec) J9X 6T3	(819) 797-0088	<a href="http://moreau.ca/en/home">moreau.ca/en/home</a>
	MRB & Associates	1748 Chemin Sullivan, Val-d'Or, QC J9P 7H1, Canada	(819) 874-8768	<a href="http://mrbweb.com/index.php">mrbweb.com/index.php</a>
	Nemaska Lithium	450, Gare-du-Palais Street Quebec, Quebec Canada G1K 3X2	(418) 704-6038	<a href="http://nemaskalithium.com/en">nemaskalithium.com/en</a>
	New Millenium Iron	1303 Greene Ave., 2nd Floor, Montreal QC Canada H3Z 2A7	(514) 935-3204	<a href="http://nmliron.com">nmliron.com</a>
	Niobay Metals	Suite 106-1693 Saint-Patrick street Montreal, Quebec, Canada H3K 3G9	(514) 866-6500	<a href="http://niobaymetals.com">niobaymetals.com</a>
	Nolinor	11600, rue Louis-Bisson Mirabel (Québec) J7N 1G9	(450) 476-0018	<a href="http://nolinor.com/en">nolinor.com/en</a>
	Nouveau Monde Mining Enterprises	410 St-Nicolas Street, Suite 236 Montreal, QC H2Y 2P5	(819) 923-0333	<a href="http://nouveau monde.ca">nouveau monde.ca</a>
	Orbit Garant	3200 Boulevard Jean Jacques Cossette, Val-d'Or, QC J9P 6Y6	(819) 824-2707	<a href="http://orbitgarant.com">orbitgarant.com</a>
	Osisko Gold Royalties	1100, av. des Canadiens-de-Montreal Suite 300, P.O. Box 211 Montreal, QC, H3B 2S2	(514) 940 0670	<a href="http://osiskogr.com/en">osiskogr.com/en</a>
	Osler, Hoskin & Harcourt LLP	1000, rue De La Gauchetière Ouest Bureau 2100 Montréal QC H3B 4W5	(514) 904-8100	<a href="http://osler.com">osler.com</a>
	PwC	1250 René-Lévesque Boulevard West, Suite 2500 Montréal, Quebec H3B 4Y1	(514) 205-5000	<a href="http://pwc.com">pwc.com</a>
	QMA (Québec Mining Association)	Place de la Cité – Tour Belle Cour 2590 Laurier Blvd. Suite 720, 7th Floor Québec, Québec G1V 4M6	(418) 657-2016	<a href="http://amq-inc.com">amq-inc.com</a>
	Quest Rare Minerals	1155 Robert-Bourassa Blvd. Suite 906 Montreal, Québec H3B 3A7	(514) 878-3551	<a href="http://questrareminerals.com">questrareminerals.com</a>
	Radisson Mining Resources	Rue de la Baie Verte, Rouyn-Noranda, QC J0Z 2X0	(819) 797-0396	<a href="http://radissonmining.com/EN">radissonmining.com/EN</a>
	RBC Capital Markets	200 Bay St, Toronto, ON M5J 2J5	(416) 842-2000	<a href="http://rbccm.com">rbccm.com</a>
	Red Cloud Klondike Strike	79 Wellington St W, Toronto, ON M5K 1B1	(877) 919-5979	<a href="http://klondikestrike.com">klondikestrike.com</a>
	Ressources Québec	600, rue de la Gauchetière Ouest, bureau 1500 Montréal (Québec) H3B 4L8	(514) 873-4664	<a href="http://investquebec.com">investquebec.com</a>

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	Royal Nickel Corporation	220 Bay St #1200, Toronto, ON M5J 2W4	(416) 363-0649	<a href="http://rncminerals.com">rncminerals.com</a>
	SAENCAT	624, 3rd Avenue Val-d'Or (Quebec) J9P 1S5	(819) 824-9888	<a href="http://creenation-at.com/en-ca/index.php">creenation-at.com/en-ca/index.php</a>
	Seneca	7100, Jean-Talon East office 410 Anjou (Quebec) H1M 3S3 Canada	(514) 353-4443	<a href="http://seneca.ca">seneca.ca</a>
	SIDEX	Rue Saint-Jacques, Montréal, QC H2Y 1M6	(514) 383-2612	<a href="http://sidex.ca/en">sidex.ca/en</a>
	Sirios Resources	1000 St-Antoine Ouest, suite 415 Montréal (Québec) Canada H3C 3R7	(514) 510-7961	<a href="http://sirios.com/en">sirios.com/en</a>
	SMS Equipment	120, rue de New-York St-Augustin de Desmaures, QC, G3A 0A8	(418) 870-1502	<a href="http://smsequip.com">smsequip.com</a>
	SNC Lavalin	455 Boulevard René-Lévesque O, Montréal, QC H2Z 1Z3	(514) 393-1000	<a href="http://snclavalin.com">snclavalin.com</a>
	Société du Plan Nord	900, boulevard René-Lévesque Est, suite 720 Québec (Québec) G1R 2B5	(418) 643-1874	<a href="http://plannord.gouv.qc.ca/en/spnen">plannord.gouv.qc.ca/en/spnen</a>
	Sodemex	65, rue Sainte-Anne, 14th floor Québec (Québec) G1R 3X5	(418) 684-2334	<a href="http://cdpq.com">cdpq.com</a>
	SOQUEM	1740, chemin Sullivan Suite 2000 Val-d'Or (Québec) J9P 7H1	(819) 874-3773	<a href="http://soquem.qc.ca/en/home">soquem.qc.ca/en/home</a>
	Spektra Drilling Canada	100 King Street West Suite 5600 Toronto ON M5X 1C9	(416) 644-5096	<a href="http://spektra.com.tr/en">spektra.com.tr/en</a>
	Sphinx Resources	2100-1000 De La Gauchetière Ouest Montreal, QC, Canada H3B 4W5	(514) 979-4746	<a href="http://sphinxresources.ca">sphinxresources.ca</a>
	SRK Consulting	151 Yonge Street, Suite 1300 Toronto, Ontario Canada M5C 2W7	(416) 601 1445	<a href="http://srk.com">srk.com</a>
	Stantec	600-1060 Robert-Bourassa Boulevard Montreal, Quebec H3B 4V3	(514) 281-1010	<a href="http://stantec.com">stantec.com</a>
	Stornoway Diamond Corporation	1111 St-Charles Ouest, Tour Ouest, Suite 400 Longueuil, Québec J4K 5G4	(450) 616-5555	<a href="http://stornowaydiamonds.com">stornowaydiamonds.com</a>
	Strateco Resources	186 de Normandie Street, office 106 Boucherville, Quebec, J4B 7J1 CANADA	(450) 641-0775	<a href="http://stratecoinc.com">stratecoinc.com</a>
	Tata Steel Minerals Canada Limited	1000 Rue Sherbrooke Ouest Suite 1120 Montreal, QC H3A 3G4	(514) 764-6700	<a href="http://tatasteelcanada.com">tatasteelcanada.com</a>
	Tawich Mining	21 Hilltop Drive Wemindji, Quebec J0M 1L0	(819) 978-0264	<a href="http://tawich.ca">tawich.ca</a>
	Technominex	20 Rue Doyon, Rouyn-Noranda, QC J9X 7B4	(819) 797-7515	<a href="http://technominex.com/en">technominex.com/en</a>
	Technosub	1156, av Larivière Rouyn-Noranda (Québec) J9X 4K8	(819) 797-3300	<a href="http://technosub.net/en">technosub.net/en</a>
	TomaGold Corporation	410 St-Nicolas, Suite 236 Montréal, QC, Canada H2Y 2P5	(514) 583-3490	<a href="http://tomagoldcorp.com/en">tomagoldcorp.com/en</a>
	Tres-Or Resources	Royal Centre, Suite 1500 1055 West Georgia Street PO Box 11117 Vancouver BC V6E 4N7	(604) 688-8700	<a href="http://tres-or.com">tres-or.com</a>
	Urecon	75 Dupont Blvd. Coteau-du-Lac, Quebec J0P 1B0	(450) 455-0961	<a href="http://urecon.com/main/home.html">urecon.com/main/home.html</a>
	VanadiumCorp	Suite #711 675 West Hastings Street Vancouver, BC Canada V6B 1N2	(604) 385-4489	<a href="http://vanadiumcorp.com">vanadiumcorp.com</a>
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