

GLOBAL BUSINESS REPORTS

INDUSTRY EXPLORATIONS



CIRCUMPOLAR MINING 2015



*Economy | Government | Exploration | Production | Alaska | Yukon |
the Northwest Territories | Nunavut | Greenland | Sweden | Services*



PROJECT AND CONSTRUCTION MANAGEMENT SOLUTIONS **WORLDWIDE**



Construction Managers that know how to simplify and manage the pieces for a successful project.

Project and Construction Management Services

Study Management & Support Project Execution Planning
Site Supervision Scheduling Contract Management
Purchasing Expediting Warehousing Document Control
Quality Assurance Site Safety Remediation Plant & Project Audits
Cost Control and Reporting Capital Cost Estimating
Constructability Review Cashflows Risk Analysis

tel. 604.669.8444

www.meritconsultants.net

info@meritconsultants.net

Dear readers,

With high exploration potential and solid producing opportunities, Yukon is an investment destination. Mining exploration and development have been key drivers of Yukon's economy, contributing to years of growth. Yukon's steadily expanding population is projected to be between 40,000 and 42,000 by 2021. In addition, when a new Yukon Act came into effect on April 1, 2003, it gave Yukon a greater variety of province-like powers to control land, water and resources, to make laws and to form policies. This devolution of responsibility was a turning point in self-determination and resource management for Yukon and has allowed Yukon to work even more effectively with Canada to secure a place of leadership and innovation in the circumpolar world.

Taking these factors into consideration, the Yukon government knows that having clean, reliable, affordable, renewable energy is an integral part of Yukon's economic and social development. Over 95 per cent of Yukon's current electrical generation comes from hydroelectricity. There are currently four hydro facilities that provide approximately 92 megawatts of energy for residents, businesses and industrial customers. Our resource sectors rely on the abundant hydroelectric power that is available throughout much of the territory. However, Yukon's hydroelectrical supply is now close to capacity and there is currently no transmission connection to another jurisdiction, where power can be bought or sold. While the existing infrastructure provides a solid foundation for continued growth, the Yukon government believes that new sources of electricity are required to sustain future needs.

It is time for bold leadership to take charge of Yukon's energy future so that the next generation of Yukoners will continue to enjoy the benefit of affordable and reliable hydroelectricity. As a result, the Yukon government has decided to develop its own solutions to ensure a future supply of clean electrical energy – that meets both mid-term and long-term needs. Work has begun on developing Yukon's own new sources of renewable energy. The Yukon Development Corporation has been tasked to explore the potential and lead the development of a business case for Next Generation Hydro. The Yukon government supports a Next Generation Hydro project to address the gap between Yukon's existing capacity and future demand, complemented by additional renewable sources and a backup supply of fossil fuels. We see this as the best possible solution to meet growing residential, commercial and potential industrial demand. The new hydro development will address the growth in energy demands expected from long-term population growth of the territory. Future mining developments are expected to need a significant amount of electricity intermittently over the long term. These industrial customers, if connected to the transmission system, could buy hydroelectricity and help pay for new Next Generation Hydro infrastructure. By doing so, industry would reduce some of its greenhouse gas emissions associated with on-site fossil fuel electrical generation.

While the long-term vision is to develop a hydroelectric project as a reliable means of generating and increasing green energy available in Yukon, there are also short to medium-term energy projects being implemented. In recent years, additional capacity was added and enhancements made to existing hydroelectricity facilities. Over the long term, Yukon hopes to be able to connect and sell excess power to neighbouring jurisdictions such as British Columbia and Alaska. The Yukon government is moving forward with an independent power production policy and has approved a micro-generation program. The government has also put legislation and regulations in place for the use of natural gas – as a transitional fuel. Our government is committed to developing renewable and sustainable sources of electricity to meet the growing energy demands in the territory. We are working to ensure that an adequate and abundant supply of clean, reliable, affordable, renewable energy will be available to support our expected long-term demand for power, our economic growth and our quality of life in Yukon.



Hon. Darrell Pasloski
Premier of Yukon

Circumpolar Mining

The Last Terrestrial Frontier?

- 8. An Introduction to Mining in the Circumpolar Region
- 11. Expert Opinion by Knight Piésold Ltd.

Alaska

Exploring for the Exceptional

- 14. Mining in Alaska
- 17. Interview with NovaCopper Inc.
- 18. Interview with Millrock Resources Inc.
- 19. Interview with Northern Dynasty Minerals Ltd.

Yukon

Paving the Way for Canada's North

- 22. Mining in Yukon
- 26. Interview with Government of Yukon
- 28. Interview with Yukon Mining Alliance
- 29. Interview with Western Copper and Gold Corp.
- 30. Interview with Wellgreen Platinum Ltd.
- 32. Interview with Victoria Gold Corp.
- 33. Interview with North American Tungsten Corp. Ltd.

The Northwest Territories

Defining New Rules for "the Last Frontier"

- 36. Mining in the Northwest Territories
- 39. Interview with Government of the Northwest Territories
- 40. Interview with Aurora Geosciences
- 41. Interview with Kennady Diamonds
- 42. Interview with Proxima Diamonds Corp.
- 43. Interview with Avalon Rare Metals Inc.
- 44. Interview with Gekko

Nunavut

Canada's Newest Frontier Brims with Potential

- 48. Mining in Nunavut
- 51. Interview with North Country Gold Corp.

Greenland

On the Edge of Ice

- 54. Greenland's Untapped Potential
- 57. Interview with Avannaq Resources Ltd.

Sweden

A Mining Legacy

- 60. Mining in Sweden
- 62. Interview with Flinders Resources Ltd.

Circumpolar Mining Services

Overcoming Obstacles

- 66. Service Companies in Circumpolar Mining
- 68. Interview with Reutech Mining
- 70. Interview with ETP Energy Technology Products
- 71. Interview with Merit Consultants International Inc.
- 72. Interview with KBL Environmental Ltd.
- 73. Interview with Rakia Recruiting
- 74. Expert Opinion by Reutech Mining
- 75. Interview with Glencore Technology Canada
- 76. Interview with Tetra Tech
- 77. Interview with Castle Rock Enterprises
- 78. Interview with BBE (Braden-Burry Expediting Ltd.)
- 79. Interview with BMT WBM Canada Inc.
- 80. Interview with Northways Consulting
- 81. Interview with All-Terrane Mineral Exploration Services

Appendix

Into the Future

- 84. Final Thoughts
- 86. Company Index
- 87. Credits

This research has been conducted by
Katie Bromley, Anita Kruger and Andrew Mason.
Edited by John V. Bowlus
Graphic Design by Leigh Johnson and Gonzalo Da Cunha

A Global Business Reports Publication
For updated industry news from our on-the-ground teams
around the world, please visit our website at gbreports.com,
subscribe to our newsletter by signing up to our VIP list
through our website, or follow us on Twitter: @GBReports.

Exclusive Interviews

Leading figures from mining jurisdictions around the world's northern circumpolar region describe current conditions and strategies as well as future prospects for this exciting frontier.

**17, 26, 39, 51,
57, 62, 68**



Editorial Analysis

Global Business Reports' journalists provide unique insights into the industry that they acquire from working on the ground for months and meeting face to face with industry leaders.

**8, 14, 22, 36,
48, 54, 60, 66**



Maps and Quantitative Data

Maps and quantitative data highlight and clarify the key trends in the world's northern circumpolar region in the six individual jurisdictions analyzed in this report.

**8, 10, 14, 15, 22,
23, 38, 48, 50,
55, 56, 60, 61**



Expert Opinions

Company leaders write in-depth thought pieces on issues pertaining to mining in the world's northern circumpolar region and the particular challenges involved.

11, 74



Final Thoughts

Company leaders from mineral exploration companies to service providers offer highlight trends that are likely to shape the industry both in the world's northern circumpolar region and around the globe.

84-85







Circumpolar Mining: The Last Terrestrial Frontier?

"Canada is open for business with mining projects being successfully completed throughout the country.

Although Canada has a positive reputation for being a safe investment environment, international investors sometimes view it as having confusing regulatory regimes, including aboriginal issues. Failure to understand Canada's constitutional protection of aboriginal and treaty rights will cloud the issue of its regulatory regime."

- Thomas Isaac, Partner, Regulatory, Environmental and Aboriginal, Osler, Hoskin & Harcourt LLP

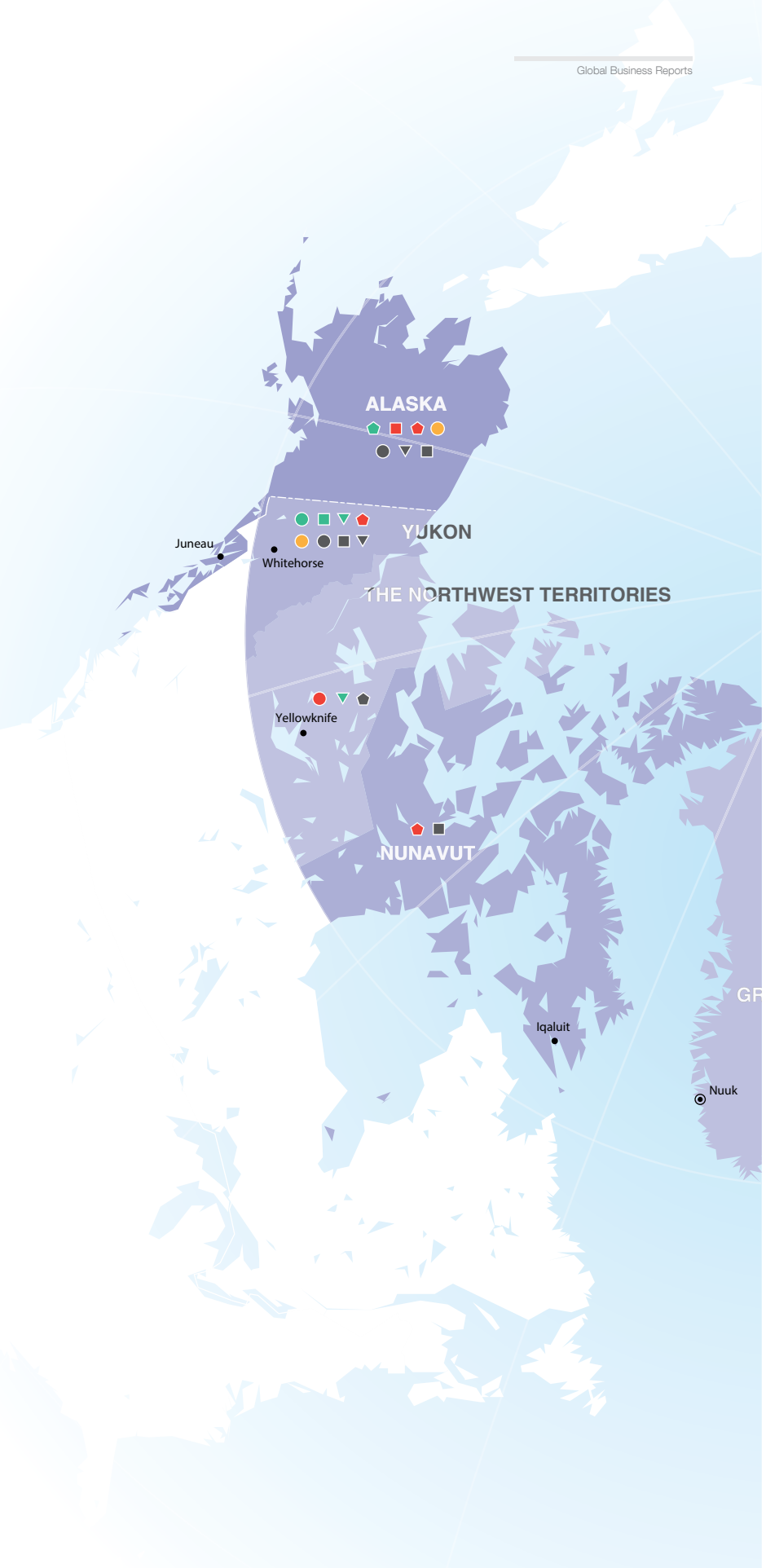
An Introduction to Mining in the Circumpolar Region

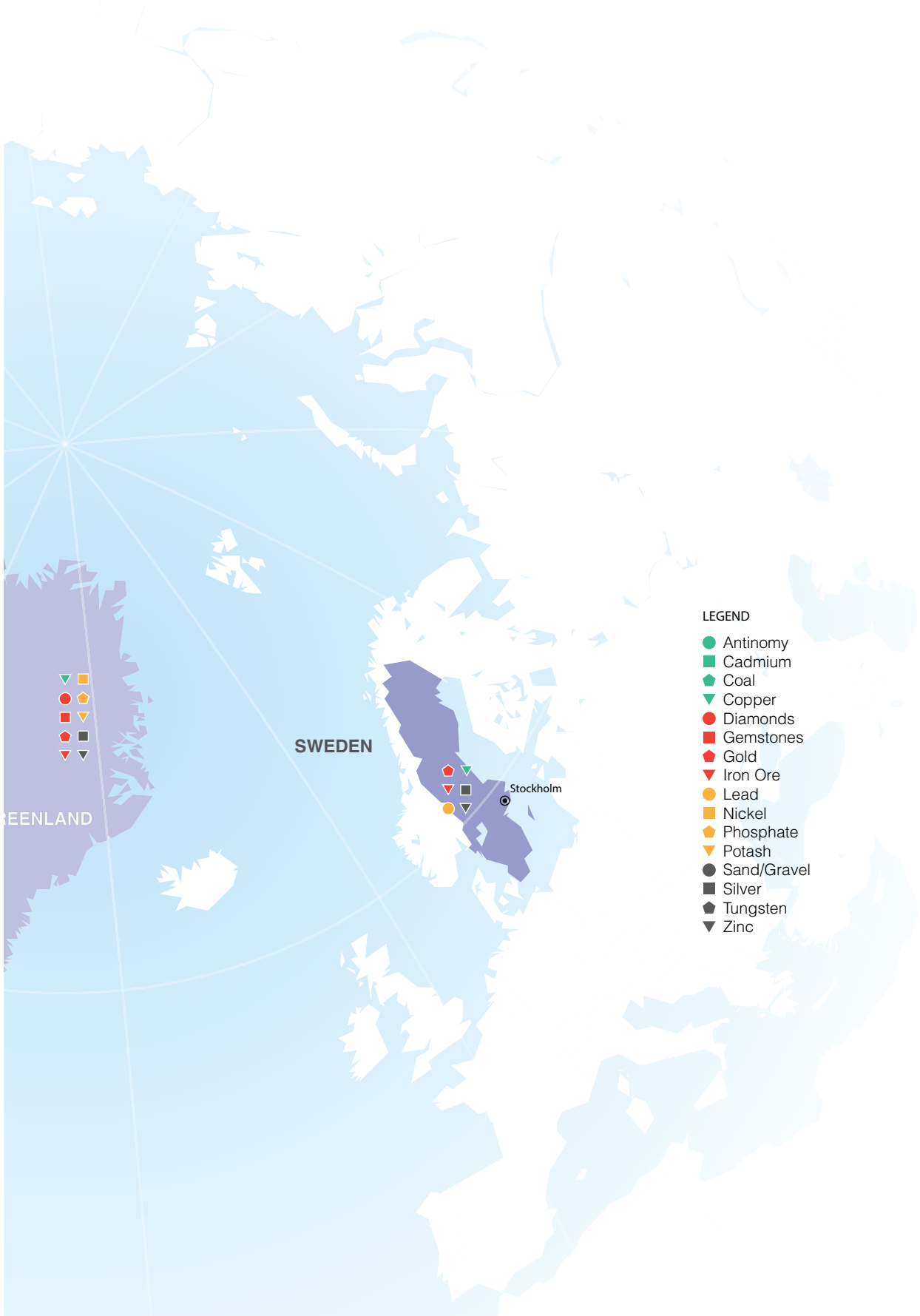


The world's northern circumpolar region could be the last terrestrial frontier for natural resources exploration, and its vast, untapped potential has mining companies closely eyeing the region.

Much of the attention surrounding the circumpolar region pertains to geopolitics. Russia has the largest share of sovereignty over the waters of the Arctic Ocean and was the first to stake claim to the Arctic pole by symbolically planting its flag on the seabed there in 2007. In the context of Russia's tension with West over Ukraine, Russia's intentions in the Arctic are viewed with increasing suspicion, and its military buildup in northern Russia only fuels fears. Canada, Denmark (Greenland), Norway, and the United States also have territorial waters in the Arctic and are not going to allow Russia to overstep its legal rights to territory as outlined by the United Nations Convention on the Law of the Sea.

The region's major prizes of access to oil and natural gas fields and shipping lanes are guiding the political jostling. According to the U.S. Energy and Information Administration, the region has roughly 90 billion barrels of undiscovered, technically recoverable oil. Although exploration and production costs are extremely high, these reserves are noteworthy





LEGEND

- Antimony
- Cadmium
- ◆ Coal
- ▼ Copper
- Diamonds
- Gemstones
- ◆ Gold
- ▼ Iron Ore
- Lead
- Nickel
- ◆ Phosphate
- ▼ Potash
- Sand/Gravel
- Silver
- ◆ Tungsten
- ▼ Zinc

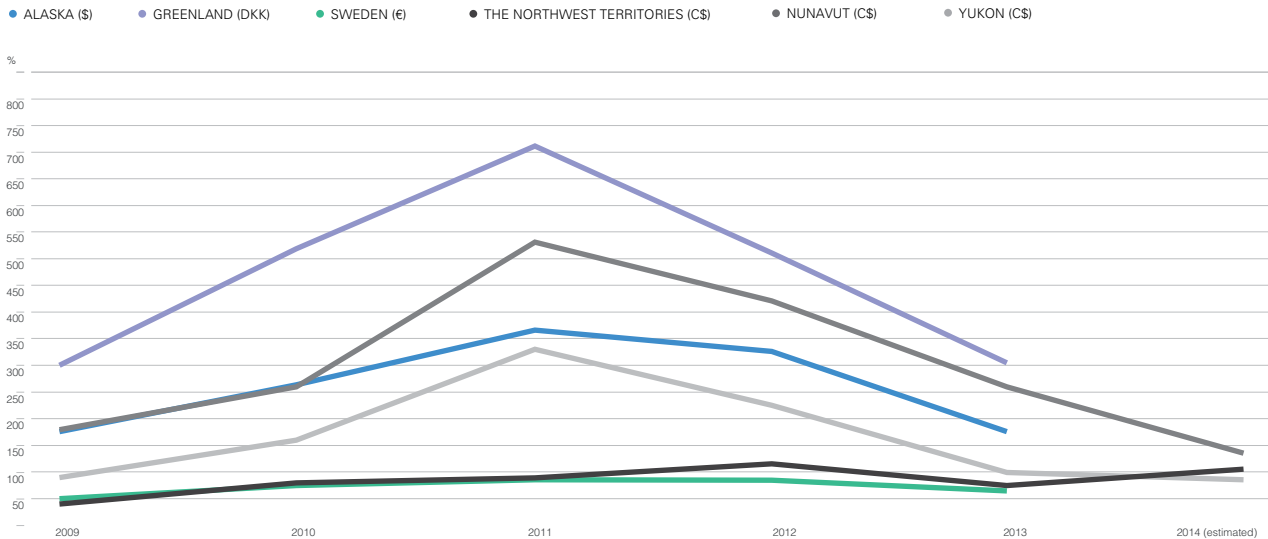
GREENLAND

SWEDEN

Stockholm

EXPLORATION BY EXPENDITURE, 2009-2014

Sources: Natural Resources Canada, Government of Greenland, Alaska Miners Association, Raw Materials Group, Swedish Geological Society



next to the top-tier, oil producing centers, including Saudi Arabia (267 billion barrels), Venezuela (212 billion), Canada (174 billion), Iran (151 billion), and Iraq (141 billion). The region's natural gas reserves are even greater. In addition to fighting over energy resources, the Arctic offers new shipping and trade routes, including between northwestern Europe and China's eastern seaboard. The region could also be a boon to Russian-Chinese energy and trade relations by increasing Russia's energy reserves and expanding its transit routes to Asia.

Mining may be second to energy in geopolitical significance, but the circumpolar region offers such an abundance and diversity of minerals that it is a massive prize in its own right. The three Territories in Canada's North analyzed in this book, including Yukon, the Northwest Territories, and Nunavut, demonstrate the potential of the region as well as the capacity of the industry to overcome extreme weather conditions and down markets. Temperatures drop to as low as -50°C with only a few hours of daylight in the winter, to summers where the sun hardly sets on the vast landscape. Over the last few years, the cyclicity of the mining industry in Canada's North has been as extreme as the seasons. In 2008, the North, especially Yukon, the most developed of the three Territories, experienced what seemed to be a second gold rush, with the exploration industry booming. However, since 2013, there has been a halt in exploration and a general contraction in the industry. "Mining business in the North is vibrant,

however, for early-stage projects that are being conceptualized or under exploration, junior companies are experiencing difficulty in securing investment to forward their projects," said Brent Thompson, president, mining and minerals for Tetra Tech.

Just as the population of Canada's Territories is resilient during the cold winter months, the mining industry remains buoyant despite the downturn. "The development of the global mining industry continues to be suffering for reasons that range from capital cost blowouts to project viability. As a consequence financiers are concerned, and there are not as many projects moving forward to production as they might have done during better financial times. Regardless, the industry is busy preparing itself for a resurgence and there remains a huge interest in northern Canadian prospects including Yukon, the Northwest Territories and Nunavut," said Jay Collins, president of Merit Consultants International.

The non-Canadian jurisdictions that appear in this book, including Alaska, Greenland, and Sweden, reveal differences but overwhelming similarities in the circumpolar region. Alaska and Sweden, like Yukon and the Northwest Territories, have long mining histories. The Alaskan mining industry began in the 1870s, after the United States purchased the territory from Russia, and now offers a variety of minerals, including produce coal, gold, lead, silver, zinc, as well as construction materials, such as sand, gravel, and rock. Sweden is even older, with some dating mining activities to the 12th century.

Today, Sweden is one of Europe's most reliable suppliers of copper, zinc, gold, and silver.

Like Nunavut, Greenland is less explored. Its industry did not become independent from Denmark until 2009, and a vast sheet of ice covers the center of the country; however, the periphery offers mineral deposits of gold, nickel, platinum group elements, copper, lead, zinc, molybdenum, tantalum and niobium, iron ore, several forms of industrial minerals, diamonds, rubies and rare earths.

Opportunity abounds in the circumpolar region, and juniors and producers alike are looking to harness innovation and new technologies to unearth new deposits of base and precious metals. By positioning themselves in the burgeoning circumpolar region now, companies could yield major rewards when global mining markets return to form in the future. However, companies must be ready and capable of handling complex social and environmental challenges. As this book details, the companies operating in the circumpolar region and the governments managing them are making extraordinary efforts to work hand in hand with First Nations to ensure that mining benefits local communities and preserves the environmental integrity of their lands. Moreover, all industrial activities in the region carry an even larger burden for protecting the environment in light of the fact that the Arctic polar icecap has melted so significantly in recent decades. The companies that pay attention to the environment and the consultancies that support them have an urgent task at hand. •

Northern Mineral Development : We All Need to Have Skin in the Game

Richard Cook, Senior Scientist,
Knight Piésold Ltd.



All stakeholders involved in northern mineral development have a role to play in positively advancing an industry that represents an opportunity for socio-economic development. Mining has the potential to bring self-sufficiency to the North; empower people with education, training, and employment; increase territorial revenues; and support infrastructure development. In the author's experience as an environmental assessment (EA) practitioner working on resource projects across Canada's north, elders have consistently stressed that their youth need the opportunities of a modern economy to be productive and raise healthy families. It is imperative that we explore how stakeholders can work together to support responsible northern development that values traditions and the environment.

Northern mineral development has over a 100-year heritage, with a handful of environmental legacies. However, it is mining's dirty history that has transformed it into a leader in environmental stewardship today. Regulatory regimes in the North are less than two decades old, involving made-in-the-north land use planning and EA processes that emphasize the integration of local knowledge and perspectives. Successful projects demonstrate sensitivity to northern concerns and maximize the involvement of, and support and benefit for local people.

Circumpolar regions are underexplored and present "low hanging fruit" for explorers, as they prospect with bedrock close to the ground surface. However, the remoteness from southern markets and populations, a lack of transportation infrastructure, short seasonal windows, and extreme cold make these regions expensive to explore and develop. Other challenges include typically scarce, pre-existing environmental baseline information, potential wealth of traditional knowledge to collect and consider, and communities that have limited experience with mining.

Who are the stakeholders? A "stakeholder" is an individual or a group with the potential to effect, or be affected by, a project. There are many stakeholders involved in a mining project, each aiming to maximize the potential benefit while minimizing undesirable effects. This includes communities, aboriginal organizations, interest groups, regulatory bodies, investors, customers, and of course the environment. Since there are often competing interests among stakeholders, responsible project development is about finding the right balance.

What can be done? There are structural improvements that can be made to organizations and regulatory processes that can make it easier to achieve responsible northern mineral development. Often it comes down to adopting a synergistic viewpoint.

Spend your client's money like it is your own: In the consulting world, long-term, trust-based relationships can be developed with clients when you spend their money like it is your own. In the world of northern community engagement and review processes, the default can be to focus on quantity. Stakeholders must understand that a company's resources are limited. We need to focus on content and quality rather than volume, with respect to engagement, documents, processes, mitigation measures, and monitoring programs.

Focus on what's really important, and use best management practices for the rest: Our main goal in an EA is to identify and address key issues by focusing on valued eco-systematic components (VECs). Too often, though, practitioners and regulators are reluctant to exclude anything, and thus the focus is on everything. Credit is due to the Mackenzie Valley Environmental Impact Review Board in the Northwest Territories for prescribing EA reports to focus on "key lines of inquiry" for the most significant issues, and allowing lighter treatment for "subjects of note" best addressed through environmental management commitments. More streamlined EA documents will reduce the burden on proponents, and the documents will be more readable and accessible to communities.

Ask not what are you going to do for me; seek win-win and synergize: It is commonplace for companies to negotiate agreements such as Impact and Benefit Agreements (IBAs) with local communities during the permitting process. In Nunavut, the successful negotiation of an IBA is a legislated requirement for any major project. These agreements commit money, training and employment, preferential business opportunities, compensation mechanisms for harvesting, and other benefits. It is just good business sense. However, often they can take an unreasonable amount of time and money to negotiate. An abbreviated negotiation process focused on fairness for both parties does not necessarily mean the receiving group will fall short on the benefits they might have otherwise received.

Mining is important to the circumpolar world, as the benefits are large within these small and remote economies. While northern individuals and organizations characteristically show a high level of cooperation, all stakeholders can better promote the sustainability and demonstrate that we all have skin in the game.

Knight Piésold is an international consulting company providing comprehensive engineering and environmental services for the mining, power, water resources, transportation, and construction sectors. Founded in South Africa in 1921, the company has expanded worldwide, with over 800 employees based in offices across five continents. Knight Piésold opened its first Canadian office in Vancouver in 1975, and currently employs over 160 people in Canada working on projects worldwide.

Richard Cook is a senior scientist in Knight Piésold's North Bay, Ontario office. He started his northern consulting career in Yellowknife, the Northwest Territories in 1995, and has been active in northern regulatory affairs, mining, and power projects since that time. He is a big fan of Stephen Covey's book, 7 Habits of Highly Effective People, and promotes the implementation of these concepts for better project outcomes. He proudly shares that his Inuit colleagues in the North Baffin region of Nunavut call him by his Inuktitut name, "Qunguya" meaning "smiley guy." •





Alaska: Exploring for the Exceptional



"The Government of Alaska is very supportive of infrastructure development and Alaska is a great place in which to partner with the government on infrastructure projects as they have the necessary funding. Alaska has a \$50 billion Permanent Fund and \$15 billion Statutory Budget Reserve Fund. AIDEA's modus operandi is to leverage Alaska's strong financial position to attract low interest financing to use on building infrastructure. Alaska is all about resource development and doing it properly. It is a pristine environment with a rigorous permitting process and everybody who operates there understands and respects that."

- Rick Van Nieuwenhuyse, President and
CEO, NovaCopper Inc.

Mining in Alaska



NOVA COPPER

A PROMISING FUTURE

7.6 billion pounds of copper!

Strong relationships in Alaska
and in the Region



NYSE-MKT TSX: NCQ

NOVACOPPER INC.

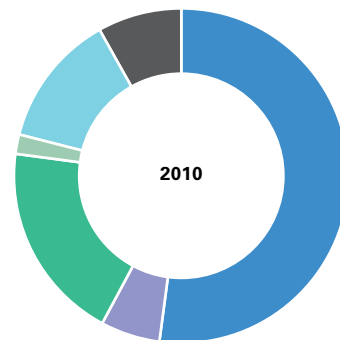
Suite 1950 - 777 Dunsmuir Street, Vancouver, BC V7Y 1K4
Tel 604-638-8088 www.novacopper.com

Mining has historically been a cornerstone in the Alaskan economy since the production of gold in 1870. As in many cases worldwide, it has been a driver for infrastructure development. In 2013 Alaska's real GDP growth was just under 2% in 2013 and is forecast to climb to 2.8% in 2014.

Alaska's well developed mining industry includes exploration, mine development, and mineral production with mines that produce coal, gold, lead, silver, zinc, as well as construction materials, such as sand, gravel, and rock. Alaska's seven large operating mines (Fort Knox, Greens Creek, Red Dog, Usibelli, Pogo, Kensington, and Nixon Fork) provided nearly 2,300 full-time jobs of the nearly 9,500 mining industry jobs in Alaska in 2012.

EXPLORATION EXPENDITURES BY REGION

Source: Special Report 65, Alaska's Mineral Industry, DGGG/DCCED.



● Southwest	52%
● Western	6%
● Eastern Interior	19%
● Northern	2%
● Southcentral	13%
● Southeast	8%

Transportation, Generation and Exploration

While Alaska has proven mineral wealth, the industry faces the two challenges that are prevalent in the circumpolar region: a lack of energy and transportation access to remote potential mine sites. For NovaCopper Inc., a junior mining company exploring the Upper Kobuk Mineral Project in the Ambler district in northwestern Alaska, the greatest challenge remains a lagging energy infrastructure. However, the strong drive for LNG is yet again a buzzing topic. "The level of infrastructure is lacking in the entire North. Mine sites in the North are typically reliant on diesel generator set power. Diesel is expensive and requires a lot of transportation,

MINING PRODUCTION VALUE BY COMMODITY

Source: Special Report 65, Alaska's Mineral Industry, DGGs/DCCED.

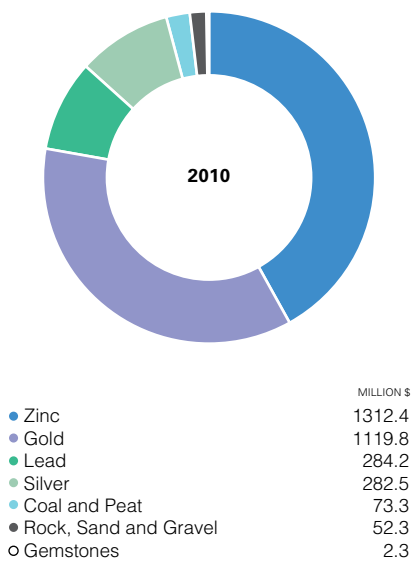


Image: NovaCopper Inc.



“

In northern frontiers such as Alaska a discovery has to be big enough and rich enough to overcome the infrastructure deficit. For example, we would not target base metal deposits in the central part of Alaska where no road or power grid exists.

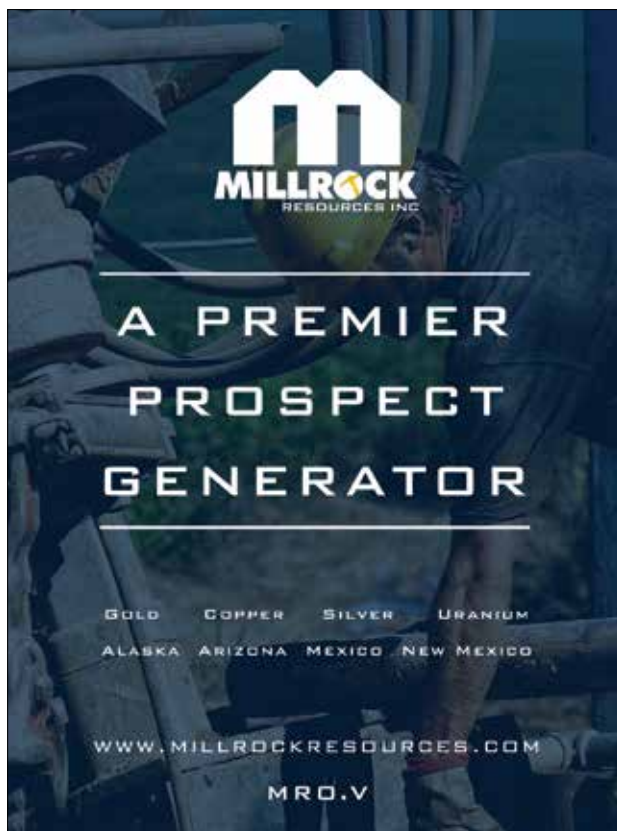
Gregory A. Beischer, President and CEO of
Millrock Resources Inc.

”

which is adds to the already high cost of operations. One of the aspects that we are working on in Alaska in cooperation with the government is to wean remote sites and communities off of diesel and get them on Liquid Natural Gas (LNG). LNG on a unit basis has a lot more British thermal units-power generation capability than diesel and therefore is less expensive to transport. In rough numbers it costs about half as much to produce power with LNG based gas as it does with diesel. Another feature of Alaska that makes LNG a viable option is that there is a lot of gas on the North Slope, rendering it the ideal source for LNG. The Alaska Industrial Development and Export Authority (AIDEA) partnered with MWH, to build a LNG plant on the North Slope and NovaCopper hopes to tap

into that,” said Rick van Nieuwenhuysse, president and CEO of NovaCopper Inc.

To offset the high costs of mining in Alaska, Millrock Resources, an explorations company with a number of assets in Alaska applies high value criteria before looking to develop a project. “In northern frontiers such as Alaska a discovery has to be big enough and rich enough to overcome the infrastructure deficit. For example, we would not target base metal deposits in the central part of Alaska where no road or power grid exists. However, we do explore for gold in remote parts of the state. Operational costs can be lower and margins higher on high-grade gold deposits. Still, deposits have to be truly exceptional in remote parts of the world to be economically viable,” said Gregory A. Beischer, president and CEO of Millrock Resources. To further reduce the standard risks associated with exploration in Alaska, which is similar to Canada’s North and Greenland, Millrock, an exploration company, has come up with a diversified strategy. “Early on in our development, we firmly adopted the Prospect Generator joint venture business model. We have numerous projects at any one time. The over-arching idea is to reduce the risks that are naturally inherent in early-stage mineral exploration by having multiple projects and financing them primarily with funds provided by producing mining companies, or in a good market, by cash-rich junior companies. Early-stage exploration discoveries often result in exceptional rewards for shareholders, but the odds of discovery are long. So far Millrock has been successful in attracting a multitude of mining companies that earn into our projects, and we have built a long-term sustainable pure exploration company,” said Beischer. So far the strategy seems to have paid off, sparking the interest of copper giant First Quantum Minerals for a partnership in the Alaska Peninsula copper-gold project. •



Rick Van Nieuwenhuyse

President and CEO
NOVACOPPER INC.



Could you tell us about the origins of NovaCopper; the spin-off from NovaGold; and its principle asset in Alaska, the Upper Kobuk Mineral Projects?

NovaGold was founded 17 years ago and the Upper Kobuk Mineral Projects was one of the assets acquired during the time I was President and CEO of NovaGold. We were in the process of consolidating our land position in the Ambler mining district when we decided that this project would be better off on its own and to that end, we created a new company. NovaCopper was established and in 2012 was spun-out and listed on the TSX and NYSE-MKT exchanges to publically trade on its own right. Over the last two years NovaCopper has been exploring the Upper Kobuk Mineral Projects or UKMP in the Ambler mining district in Northwestern Alaska. The UKMP contains two specific deposits namely the Arctic and Bornite deposits. Through our exploration efforts we have put together a resource base close to 8 billion pounds of copper and have a goal of reaching 10 billion pounds of copper within the Ambler mining district. To put that into a global perspective, that is about half of the copper

produced at the Mount Isa copper district in Australia – one of the world's large copper districts. We are working on a plan that would see annual production in the range of 100,000 to 200,000 metric tons per year (mt/y) in copper concentrate, yet there is still a lot of work to be done to demonstrate a viable mine along those lines. Another important asset to our project is NovaCopper's partnership with the NANA Corporation, a Regional Alaska Native Corporation (ANC) representing the Iñupiaq people of Northwestern Alaska who are very familiar with mining - being the owner of the Red Dog mine – one of the largest zinc mines in the world and in its 25th year of operation.

With such a vast mineral resource, how do varying grades at the Arctic and Bornite deposits influence operations moving forward?

Arctic and Bornite are two different geologic deposits. Arctic is a poly-metallic deposit of Cu-Pb-Zn-Au-Ag, with 60% of the value being copper, 25% Zinc, and the balance is made up of precious metals. Bornite's value lies almost exclusively in copper at 95% with minor amounts of silver and cobalt. Arctic is unique in the fact that it has a 6% copper grade, which not many sites in the world can boast. In addition, it is in a location that can be mined with an open pit, albeit with a fairly high strip ratio. At Bornite, one can almost say that there are two deposits. Although it is one ore body, part of it can be mined as an open pit with a grade of about 1%, and then continue as an underground mine with a 3% grade.

How far along is NovaCopper in the exploration process and how long before we see any kind of production?

Through exploration we have already identified more than 7.6 billion pounds of copper at Arctic and Bornite. We have published a Preliminary Economic Assessment (PEA) on the Arctic deposit. Our next steps would be to advance Arctic toward a Feasibility Study. We would expect to complete a Feasibility Study in two to three years and then another three years to permit followed by another two years to construct. Thus, we are looking beyond 2020 for production. This is on par with typical mines today. Once a re-

source has been defined and identified, it takes around 10 years to start production.

With your extensive experience both in Northern Canada and Alaska, can you highlight some of the challenges you face in Alaska on how the approaches to these challenges differ from one jurisdiction to the other?

The key challenges in both jurisdictions relates mostly to infrastructure especially in terms of roads and ports, and power. The level of infrastructure is lacking in the entire North. Mine sites in the North are typically reliant on diesel generator set power. Diesel is expensive and requires a lot of transportation, which adds to the already high cost of operations. One of the aspects that we are working on in Alaska in cooperation with the government is to wean remote sites and communities off of diesel and get them on Liquid Natural Gas (LNG). LNG on a unit basis has a lot more British thermal units-power generation capability than diesel and therefore is less expensive to transport. In rough numbers it costs about half as much to produce power with LNG based gas as it does with diesel. Another feature of Alaska that makes LNG a viable option is that there is a lot of gas on the North Slope, rendering it the ideal source for LNG. The Alaska Industrial Development and Export Authority (AIDEA) partnered with MWH, to build a LNG plant on the North Slope and NovaCopper hopes to tap into that. •

Gregory A. Beischer

President and CEO
MILLROCK RESOURCES INC.



Can you give us a brief overview of the origin of Millrock and highlight your main copper-gold assets in Alaska?

Millrock was founded seven years ago and has a solid team that has gained respect in the industry. Early on in our development, we firmly adopted the Prospect Generator joint venture business model. We have numerous projects at any one time. The over-arching idea is to reduce the risks that are naturally inherent in early-stage mineral exploration by having multiple projects and financing them primarily with funds provided by producing mining companies, or in a good market, by cash-rich junior companies. Early-stage exploration discoveries often result in exceptional rewards for shareholders, but the odds of discovery are long. So far Millrock has been successful in attracting a multitude of mining companies who earn into our projects, and we have built a long-term sustainable pure exploration company.

Which is your flagship copper-gold asset and whom are you exploring it with?

Our flagship project is always the one that we are going to drill next. The closest one today would be the Alaska Peninsula project for which we have an active agreement with First Quantum Minerals and it has been a good partnership. They have top-notch exploration geologists and geophysicists that mesh well with our technical team. We are hoping for a great copper discovery on this project.

What are Millrock's criteria for selecting projects?

Since our main funding source is major mining companies, we create exploration projects that will be attractive to majors. Therefore we target mineral deposit models such as porphyry copper, intrusion-related gold, and sedex/replacement zinc deposits. These can result in mines that would make a difference to the bottom line of major companies. In northern frontiers such as Alaska a discovery has to be big enough and rich enough to overcome the infrastructure deficit. For example, we would not target base metal deposits in the central part of Alaska where no road or power grid exists. However, we do explore for gold in remote parts of the state. Operational costs can be lower and margins higher on high-grade gold deposits. Still, deposits have to be truly exceptional in remote parts of the world to be economically viable.

Would you say that your business model has insulated you from the mining downturn?

Given the low rate of discovery success, very few exploration companies are sustainable and ultimately fail when venture capital is unavailable. Our model of diversification does reduce some of the risk. Nevertheless, these have been three very difficult years. However, we have survived, and in fact, are positioning ourselves to thrive when the markets turn better. This is a great time to acquire assets and we have recently done so at low cost recently by acquiring an entire Mexican exploration company.

Is Mexico or Alaska more preferable as a mining destination?

We do not have a preference between these two jurisdictions. Mexico, because of its developed infrastructure, history

of mining and relative ease of permitting makes it attractive. A gold deposit of one million contained ounces in Mexico could be a mine, whereas a similar deposit would be unlikely to become a mine in Alaska because of the additional operational and development cost. Possible mine developments in certain areas of Alaska attract opposition from anti-development NGOs and lawsuits ensue. This is less prevalent in Mexico, but in some areas there is security risk, and Millrock would not operate in them.

Are you actively looking for different geographical locations to explore?

The goal is always to grow and we would consider expanding to other jurisdictions, however, only in the most measured and systematic fashion. We want to maintain a laser-focus on our objective of finding giant mineral deposits and do not want to become too diffuse in our effort. We strive to be excellent on all fronts: technical, safety, environmental and social responsibility. Successful explorers build companies that are sustainable over the long run, that have the ability to do excellent, systematic, scientific exploration over time.

Can you highlight a few key objectives that you have for Alaska in the next five years?

Alaska is our home and we are always going to be very active there. We hope to soon formulate a new strategic alliance with a major gold company to help finance new exploration projects. We are also looking at acquiring more advanced stage assets at low valuations. We do not have a huge amount of cash, but we are prepared to gamble some of it on the right projects. Now is the time to acquire assets, as mining is a cyclical business. Soon, there will be a multitude of junior companies looking for quality projects, not to mention the major companies.

Do you have a final message?

We have recently refinanced and restructured the company. It is very tightly held by highly influential shareholders and thus is highly leveraged. Any exploration success should result in strong share price increase. Now would be an excellent time to build a position in Millrock. •

Ron Thiessen

President and CEO
**NORTHERN DYNASTY
MINERALS LTD.**



Could you please begin with a recap on the highlights of your Pebble Mine project?

The Pebble Project, located in western Alaska 200 miles from Anchorage, was discovered in 1986 by Cominco (now Teck). The deposit is located in an area of Alaska that is not quintessentially Alaskan; its subdued terrain is free of permafrost and flat to slightly rolling. The deposit is located 700 feet to 800 feet above sea-level. There are very few roads in the area and the site is located 65 miles west of Cook Inlet and about 120 miles north-east of Bristol Bay. In 2007, Northern Dynasty sought an asset-level partner to help develop Pebble, and signed a 50-50 limited liability partnership with Anglo American (Pebble Limited Partnership "PLP"). Over the next six years Anglo invested approximately \$575 million; in December 2013, Anglo walked away from Pebble due to its own project development and cash flow constraints. The project is now 100% owned by Northern Dynasty. To date, between the two parties, some \$730 million has been invested in the Pebble Project. Significant amounts of geotechnical drilling and engineering have been completed, and we are now at the stage where we can develop a project of different

scales, and are ready to enter permitting. However, permitting in the United States is an arduous process and has a time-span of four to six years with an estimated annual cost of \$25 million to \$50 million. Therefore our immediate strategy is to bring in a new partner, or partners, before we initiate the permitting process.

Since spring 2011, the Pebble Project has been pressured by various environmental non-government organizations (ENGOS) and the US Environmental Protection Agency (EPA). While Northern Dynasty was initially positive about EPA's February 2011 announcement of what became known as the Bristol Bay Watershed Assessment study ("BBA"), in reality the final BBA report issued January 2014 is materially flawed and reflects very poor science. We will prove to federal and state regulators, as well as all stakeholders, that the Pebble Project can be built safely, in an environmentally responsible fashion that fully protects fisheries in the two Bristol Bay watersheds influenced by our project.

Why do you think that there was a change of focus by the EPA?

From the Freedom of Information Act disclosures that PLP and Northern Dynasty have seen to date, it is clear that, as far back as 2008, EPA has worked in partnership with environmental organizations to conspire to prevent PLP and the State of Alaska access to their right to due process at Pebble. We have uncovered very serious issues of bias, process irregularities and collusion with ENGOS in the agency's preparation of the BBA. At Northern Dynasty's urging, the Inspector General ("IG") of the EPA has launched a full investigation into these very serious matters. When the IG investigation is completed in mid-to-late 2015, it will substantially discredit the BBA as a document upon which regulatory decisions can be made.

How important will Pebble become to HDI as a group?

Internally (and globally), Pebble is considered a flagship at Hunter Dickinson ("HDI"). The HDI business model is to acquire assets for low value that others have abandoned or de-emphasized, and create substantial value from these assets. At the time of purchase Pebble had about 1 billion metric tons (mt) of resource. Today it has 10.8 billion mt (Measured, Indicated &

Inferred) and is acknowledged as both the largest undeveloped copper resource and the largest undeveloped gold resource in the world.

What are the infrastructure challenges at Pebble?

The area is remote; the nearest community is 18 miles distant on the northern shores of Lake Iliamna and the deposit is 65 miles from the small port of Williamsport on the west side of Cook Inlet, east of Lake Iliamna. There are local roads, and a further road connecting Williamsport to Pile Bay on the east end of Lake Iliamna that facilitates local barging. Northern Dynasty will have to build a port facility and will ultimately be financially responsible for it and other project infrastructure. We have several proposed road routes, three different port alternatives, and two alternatives for power - primarily natural gas or liquefied natural gas (LNG) with a power plant at the port with lines into the mine site, or the power plant at the mine site using the heat generated from the plant to heat the buildings. A power plant could be integrated into an enhanced energy system to benefit communities throughout southwest Alaska.

Do you have a final message?

Pebble is strategic. It could produce 20% of American copper needs for decades into the future. It is a Tier 1 project in every sense. The project can be responsibly developed so that Alaskans can have access to the tremendous economic benefits of two valuable resources: the fishery AND mining, and that with time we will have access to federal and state permitting under NEPA, during which we expect to prove to regulators and stakeholders, including investors, that Pebble can be developed in a responsible manner. •





Yukon: Paving the Way for Canada's North

"It could be argued that Yukon and the Northwest Territories are richer in minerals than Alberta is in oil and only 16% of the North has been explored to date. Financing issues for projects will swing back in the favor of industry again soon, and mineral prices will adjust to higher values. Mining and exploration will resume again in full force. The opportunities are there for corporations that have found a way to work respectably with First Nations."

- Jeff Peters, Client Executive, Vice President, CMW Custom Risk Solutions
Former Director/Treasurer for Yukon Chamber of Mines

Mining in Yukon

Yukon is the most developed of Canada's Territories and has a rich mining heritage and an efficient regulatory framework. While 2013 was a tough year, with GDP growth at 1.3% down from 3.3% in 2012, the mining sector continued to perform well and mining, quarrying, and oil and gas extraction rose by 8%.

Mineral Wealth

With a population of just over 36,000 in a land area of 482,443 square kilometers (km), Yukon boasts a wide variety of mineral wealth. John McConnell from Yukon Mining Alliance (YMA) said: "Historically, Yukon has been renowned as a gold district, in large part because of the Klondike Gold Rush of 1898, but the Territory also hosts large deposits of silver and base metals such as copper, lead, zinc and tungsten. Yukon's mining sector is vital to the province's economic development accounting for 18.8% of the Territory's GDP in 2012." The importance of the success of individual projects is also evident as one big project can have a great effect on the wider economy. As Paul West-Sells president and COO of Western Copper and Gold said of its Casino mine: "It will likely increase the province's GDP by 15% to 20% and over the life-of-mine will add \$10 billion to Canada's GDP."

While gold has been at the forefront of the mining industry in Yukon, there is renewed interest in other mineral potential. One interesting example is the Wellgreen project, a platinum group metals (PGM) resource being explored by Wellgreen Platinum Ltd. "There are very few major PGM resources outside of southern Africa or Russia and the sheer size of the resource at Wellgreen makes it a world-class PGM deposit. The resource also contains significant nickel and copper, which will factor in favorably to the overall economics," said Greg Johnson, president and CEO of Wellgreen Platinum Ltd.

The presence of Tungsten, as much for its global rarity as for its specialized application, further makes the case for Yukon's mineral wealth. "Tungsten is a rare commodity and there is a shortage; we can sell all we produce and more. The biggest users of tungsten are the expanding aerospace and automotive

industries," said Allan Krasnick of North American Tungsten Corp. Ltd.

As mining continues to grow and develop in Yukon, so does the tension between those who wish to get the wealth out of the ground and those who want to keep the Northern American pristine landscape and unique cultural heritage in place. This has led to the development of a very unique regulatory landscape, which strives to please both sides of the spectrum.

Regulation

Since the Territory's devolution that commenced in 1993 with the signing of the Umbrella Final Agreement between the Canadian government and the Council of Yukon First Nations, Yukon has been leading Canada's Territories in the development of a social-sensitive regulatory regime. "Yukon is starting from a strong position; it has devolution and land claims in place and a different system of government compared to other jurisdictions in the North," Yukon's (then) minister of Environment and Economic Development, Hon. Currie Dixon said.

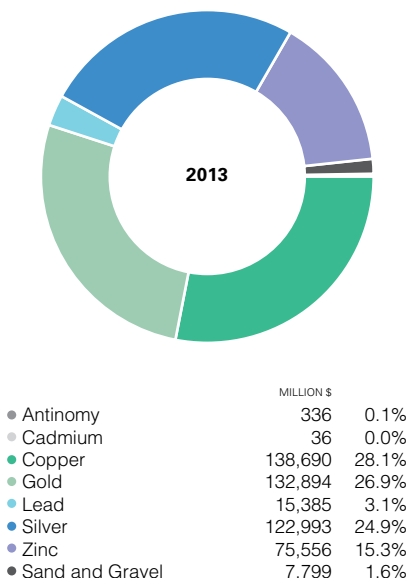
With 14 different Yukon First Nations and people of aboriginal descent representing 25% of the province's population, Yukon is home to a number of unique traditions and regulations. Yukon has set the standard for establishing land claim agreements that enable First Nations' self-governance and formally recognizes their legal rights to their lands.

For any mining operation to take off there have to be unique agreements with First Nation governments and the mining company involved. North American Tungsten Corp. Ltd. has firsthand experience in setting up such tailored agreements. "The environmental co-management agreement is unique, and it incorporates the concept of an environmental license as an important document issued by the First Nation. Our deeper planning will include important contributions and involvement of the Kaska. Our company has had a long-standing three-generation relationship with the Kaska Dena First Nation and we wish to maintain the goodwill between both parties," said director Allan Krasnick.

Developmental corporations have been established by and for First Nations that

YUKON MINERAL PRODUCTION BY COMMODITY, 2013

Source: Natural Resources Canada



encourage collaboration between First Nation communities and mining companies, ensuring sustainable and responsible use of labor and mineral resources through legislation such as the Yukon Environmental and Socio-economic Assessment Act. The government of Yukon has established one board, YESAB, to assess the impact of projects and activities on the territory.

Recognizing the importance of the mining sector, the Yukon government spends more per capita on direct financial incentives for mining exploration than any other Canadian jurisdiction. The Yukon Mining Incentives Program, that provides a portion of the risk capital required for prospectors to explore, has been allocated funds of almost C\$800,000. However, exploration incentives are not the only matter of concern as mining operations in the isolated North still tend to face more significant costs than elsewhere.

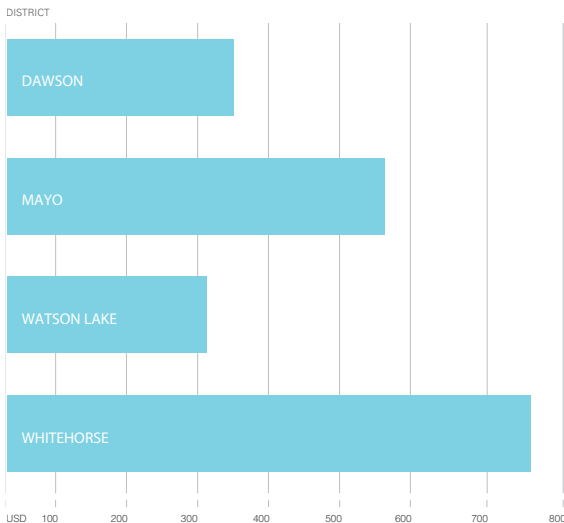
Infrastructure: Roads and Power

Infrastructure in the North still remains the biggest challenge for the mining sector, as operations are costly and the development of road, rail, and power, a lengthy process.

This government spending will go mostly to the development of the Three Gold road and Nahanni Range road leading to Kaminak Gold's Coffee Gold project, Western Copper and Gold's Casino project and Selwyn Resources' Chihong lead-zinc project, as well as to the upgrading of the existing Klondike Highway. This is welcome news for miners who have become used to bearing expensive transportation costs. "Trucking and shipping in the North remains Castle Rock's single biggest cost. In 2014, we have seen lower prices from the construction industry and it will be interesting to see for how long that line of pricing will be sustainable. High transportation costs

**YUKON REVENUE SUMMARY
APRIL 2013 TO MARCH 2014**

Source: Government of Yukon, Department of Energy, Mines and Resources



invest YUKON CANADA

FOLLOW THE KLONDIKE TRAIL
 DISCOVER YUKON'S LEADING EXPLORERS AND DEVELOPERS AT THE
YUKON PAVILION

January 19-20, 2015
Vancouver Convention Centre

Invest Yukon Pavilion Opens
 Hon. Currie Dixon
 Minister of Economic Development & Environment

Invest Yukon Reception
 Hon. Darrell Pasloski
 Premier of Yukon

ATAC Resources Ltd.
 TSX.V:ATC Booth: 1823

Banyan GOLD
 TSX.V:BYN Booth: 1813

WELLGREEN PLATINUM
 TSX:WG | QTC-QX:WGPLF Booth: 1818

western COPPER AND GOLD
 TSX:WRN | NYSE-MKT:WRN Booth: 1815

Victoria GOLD CORP
 TSX.V:VIT Booth: 1814

KAMINAK GOLD CORPORATION
 TSX.V:KAM Booth: 1820

northern freegold
 TSX.V:NFR | FRANKFURT:8N6

ALEXCO
 TSX:AXR | NYSE-MKT:AXU

PRESENTED BY:

Yukon Economic Development and **YUKON MINING ALLIANCE**



Image: Government of Yukon

have to be incorporated into pricing, otherwise a business cannot remain viable,” said Ted Danyluk, vice president of Castle Rock Enterprises, a Whitehorse-based construction company.

Yukon is situated near deep-water ports; Skagway and Haines, Alaska, allowing for easy access to key shipping routes. Grid connectivity and access to roads is a game changer for mines in the North that are already drumming up high exploration and operation costs and project viability is more often than not more closely correlated to the access to infrastructure than to the value of the asset itself. John McConnell, director, president and CEO of Victoria Gold Corp., and its Eagle Gold project in Yukon explained: “Some parts of Yukon, Nunavut and the Northwest Territories are isolated, but Dublin Gulch (where the Eagle Gold project is located) enjoys good infrastructure. The

benefit to Eagle in terms of lower capital and lower operating costs are very attractive and affords a significant competitive advantage. This, in part, enables Eagle to compete on an attractive return basis with several comparable more southern projects currently in production.”

While powering the mines remains a costly challenge, Yukon is powered by clean hydro, with diesel generation serving as emergency backup and to meet peak demand during the coldest months of the year. However, following the temporary shutdown of Alexco Resources’ Bellekeno mine, Capstone Mining’s Minto mine is currently the only mine in Yukon connected to the grid. Similarly to the rest of the North, Liquefied Natural Gas (LNG) is becoming increasingly attractive as a short to medium-term replacement for diesel generation at mining sites.

Exploration company Wellgreen Platinum is typical of many Yukon miners that are currently examining their options. “Our site is 100 km from existing hydro-power, and one favored option is to build a power line and connect to the grid. The Yukon government is actively exploring options for expanding the grid and we may be in a position to benefit from decisions in this regard. The most likely option, at least in the nearer term, is LNG, which is definitely coming to Yukon. We have signed MOUs with groups developing neighboring LNG facilities as well as with General Electric for the supply of LNG power infrastructure and systems. It is likely that LNG will be the base case for our next study. Arguably, LNG trucked in will be our initial power source, and as the project develops, it is likely we will connect to the grid,” said Johnson of Wellgreen Platinum Ltd. •




Victoria
 GOLD CORP

TSX-V: VIT

One of the
Largest Undeveloped Gold Resources
 in North America

Eagle Gold is a Shovel Ready gold mine
 - 2.3 million ounce gold Reserve
 (92 M tonnes averaging 0.78 g/t)
 - 200,000 ounces of gold per year

Eagle Gold Project

vitgoldcorp.com

NORTHERN PROUD

NORTHERN OWNED AND NORTHERN EXPERIENCED

Castle Rock Enterprises has the knowledge and large project experience that only comes from working and living in the North since 1997. Based in Whitehorse, Yukon, our diverse team is committed to excellence in everything we do, for every project, big or small.



UNDERGROUND UTILITIES · QUARRY SERVICES · ASPHALT PAVING · TRUCKING
LANDSCAPING · SNOW REMOVAL · LAND REMEDIATION · MINE CONSTRUCTION

867.668.6188 | castlerockent.com

Hon. Scott Kent & Hon. Currie Dixon

HSK: Minister of Energy, Mines and Resources

HCD: Minister of Environment and Economic Development

(November 5, 2011 to January 16, 2015)

GOVERNMENT OF YUKON



HSK



HCD

What sets Yukon apart as a mining destination from the other two territories in the Canadian North?

HSK: Yukon is relatively under-explored with exciting opportunities and has an incredibly rich mineral endowment, including precious metals such as gold, silver, platinum; and base metals such as copper, tungsten, molybdenum, nickel, lead, zinc, iron; and coal deposits. There have been 2,600 mineral occurrences found in Yukon on mining claims, which still only covers a fraction of Yukon land. The Yukon Geological Survey does an excellent job of mapping the territory, greatly benefiting prospectors and exploration companies.

How much responsibility does Yukon Government take on in providing geological information to potential investors?

HSK: The Yukon Geological Survey is world-renowned for its information and the work it carries out. Its staff of 30 personnel plays an incredibly important part in the government's Department of Energy, Mines and Resources. They provide information at conferences, such as the Yukon Geoscience Forum, the Mineral

Exploration Roundup and the Prospectors and Developers Association of Canada (PDAC). From a geological perspective, we also have sent representatives globally to promote Yukon's resource potential. In 2013, we had an exciting partnership with several universities, museums and institutions in Europe and North America, including the Federal Institute for Geosciences and Natural Resources of the Federal Republic of Germany and the Institut des sciences de la Terre de Paris, Université Pierre et Marie Curie, to understand some of the geological characteristics of the North slope of Yukon; a re-visit is planned for 2015.

Yukon has settled 11 of the 14 land claims, but investors are still skeptical how this will evolve with imminent new court cases. What would you say to investors who are still wary of the stability of Yukon's regulatory framework?

HSK: The fact that 11 of the 14 First Nations settled their land claims and are self-governing brings certainty to those companies and individuals who are looking to explore in Yukon. We have ongoing discussions with Yukon First Nations focusing on how we can work together with industry to maintain an active and competitive mining industry and for Yukon First Nations to continue to engage in business opportunities and to benefit from employment that mining projects offer.

HCD: Yukon is starting from a strong position: it has devolution; land claims in place; and a different system of government compared to other jurisdictions in the North.

When a new Yukon Act came into effect on April 1, 2003, it gave Yukon a greater variety of province-like powers to control land, water and resources, make laws and form policies. This devolution of responsibility for lands and resources was a turning point in self-determination and resource management for Yukon. It has resulted in significant changes in Yukon that allow us to work even more effectively with Canada to secure a place of leadership and innovation in the circumpolar world. Yukon government's priority is to ensure the regulatory and assessment processes are competitive, transparent and understandable. We have a number

of initiatives to ensure our regulatory system is streamlined and constantly improving. For example, recent changes to our Waters Act regulations establish clear timelines for internal review processes of quartz mining applications. Additionally the federal government has just tabled its changes to the Yukon Environmental and Socio-economic Assessment Act (YESAA). The Yukon government is continuing its commitment to building strong relationships with Yukon First Nations, which enable all Yukoners to take advantage of opportunities to continue to build strong, healthy communities and adaptable, vibrant economies.

The major infrastructure challenges for mining in Yukon have been power and access to roads. Do you have any specific plans to improve these areas?

HCD: The Yukon government recently passed the largest capital budget in its history for road development. We are investing \$50 million in updating our current road network, which already provides a strategic competitive advantage to Yukon compared to neighbouring jurisdictions in terms of access and infrastructure. These investments will have a direct impact on the resource industry. For example, investments in the Freegold Road that leads to Western Copper and Gold Corp.'s Casino project and Kaminak Gold Corp.'s Coffee Gold project will have a direct positive impact on those projects moving forward; funds have been allocated to undertake functional planning for the Nahanni Range Road which services Selwyn Chihong Mining Limited's lead-zinc project; and plans are in place for upgrading the existing Klondike Highway, a major route linking Yukon's current and future mining projects to deep sea ports.

HSK: The Yukon government has undertaken initiatives to accommodate affordable power for industry: in the short and medium term we see opportunities with natural gas as a cheaper alternative to diesel for mine operators; and in the longer term, we are working to develop options for new hydro power in the territory. At the Whitehorse Rapids generating facility, two aging diesel generators are being converted to natural gas; construction is underway on this project. The liquefied natural gas (LNG) will be shipped from

Vancouver; the supply route has already been proven as Inuvik has been shipping LNG in recent months. Yukon government has signed a Memorandum of Understanding (MOU) with the State of Alaska to look at a grid connection between Yukon and southeast Alaska from Whitehorse to Skagway. It would include telecommunications and a transmission line that would facilitate the viability of additional hydro projects at West Creek in Skagway as well as potential projects along the South Klondike Highway. In November 2013, we issued a directive to the Yukon Development Corporation to investigate the opportunities for Next Generation Hydro with a time frame of 10 to 15 years. Currently, 95% of Yukon's power is generated by renewable sources and to maintain this percentage and accommodate the economic and industrial growth in Yukon, we need to invest in large-scale hydro as well as transmission.

How much responsibility is there on the mining sector to help develop infrastructure, and how is it shared between the government and mining?

HCD: The Yukon government is committed to making investments to develop infrastructure that is beneficial to all Yukoners, including the resource sector. Large scale investments such as a new legacy hydro project in Yukon will have a significant impact locally and nationally. The ability to supply clean power to resource projects and export to other jurisdictions will have a significant impact on Yukon's economy. Yukon cannot solely fund a large hydro project and I believe there are opportunities for partnerships with industry, the federal government, Yukon First Nations and First Nations Development Corporations that will have a long term positive impact for all parties.

There is the perception that there is a trade-off between the pristine landscape of Yukon and the economic development that comes with mining, i.e. Peel Watershed Regional Land Use Plan. What is the current situation and the far-reaching effects this could have on the rest of Canada when there is finality on the plan?

HSK: In early 2014, Yukon government

adopted a land use plan for the Peel Watershed Region, and legal actions were initiated by two First Nations (Nacho Nyak Dun, and Tr'ondek Hwech'in), and two Yukon environmental groups (Canadian Parks and Wilderness Society Yukon Chapter [CPAWS] and Yukon Conservation Society). The court's decision in December 2014 could have serious implications on future land use planning processes so the Yukon government is appealing the decision in order to seek clarity that the Yukon government retains authority to make final decisions on public lands. Clarity is important to the Yukon government and for our economy and that is what we are ultimately seeking in this case. Our government is a leader in finding the right balance between mining development and the environment. Our environmental and socio-economic assessment process is open and transparent to the public, and we lead the field in science and technology around the development of natural resources. Yukon Research Centre at Yukon College is finding solutions to problems that regularly occur in Yukon, i.e. how to use local services and supplies to clean up water, remediate land and re-vegetate previously developed areas.

How does the Yukon Government solidify its credibility in the industry?

HCD: Mining has been a cornerstone of Yukon's economy for over 100 years and the Yukon government is committed to keeping it that way through modern, responsible resource development. Yukon is the only jurisdiction in Canada that has a legislated industry body tasked with providing recommendations to the Minister of Energy, Mines and Resources on matters affecting mineral development. The Yukon Mineral Advisory Board (YMAB) is an industry body that has representation from all sectors of the Yukon mining industry. This relationship has proven to be very successful. Historically, there is a correlation between the board's recommendations and actions taken by the government.

Labor and the long-term retention of skills in the mining industry in the North is often seen as a great challenges. How does the Yukon Government address this?

HCD: The Yukon government is taking action to secure availability of labor and skilled trades in Yukon for the mineral sector. Together with our federal partners we have committed over \$11 million over a five-year period to establish the Centre for Northern Innovation in Mining (CNIM) at Yukon College. The Centre is expected to contribute to the economic viability of Yukon's industry by growing a skilled workforce within the territory through comprehensive skills and trades training. Such training offers Yukon residents, and those wanting to live and work in Yukon, access to a variety of training opportunities that are nationally recognized and uniquely customized for the North. In 2013, we invested \$2 million in a mobile training unit, which has the ability to offer formalized trade and skills training to communities throughout Yukon. We also recognize that Yukon has a limited working population and the government is proactive in attracting workers from outside Yukon. We are working closely with the mining industry to attract new residents to Yukon. It is beneficial for both mining companies and the Yukon government if those non-Yukoners settle in the territory, saving mining companies "fly-in-fly-out" costs, with the government benefiting from growing communities.

Do you have a final message?

HSK: Industry says that in its experience Yukon has the most accessible politicians it has ever encountered in any jurisdiction. Our relatively quick decision-making process and accessibility elevates us above other jurisdictions. Looking forward, the Yukon government is enthusiastic about the potential of the mining industry, and in addition to advancing current activity, we eagerly anticipate the next generation of mining projects across a diversity of commodities.

HCD: The mining industry remains a cornerstone of Yukon's economy and a proud part of our territory's history and the Yukon government intends to keep it that way. A prosperous mining industry in Yukon is important as it is the foundation on which a growing vibrant Yukon economy is based. The Yukon government is committed to ensuring the territory is a world-class destination for mineral investment. •

John McConnell

Chairman
**YUKON MINING ALLIANCE
 (YMA)**



Can we begin with a brief overview of the role that the Yukon Mining Alliance plays in the industry and an update on any changes within the organization since we spoke in 2012?

Yukon Mining Alliance (YMA), previously Yukon Gold Mining Alliance, is an industry alliance focused on creating innovative capital attraction initiatives to market and promote Yukon as an attractive investment jurisdiction. YMA highlights leading exploration and mining companies who have significant Yukon projects and demonstrate a commitment to advancing their projects providing value for investors and for Yukon. When YMA was formed in 2009 the Yukon mining sector was burgeoning and reached a peak in 2011 noted as Yukon's New Gold Rush and it was during this period that the mining sector progressed from a dozen to well over a hundred companies. With the discovery of the White Gold District and the North's first-ever carlin-style deposits in the Rackla belt, dozens of companies flocked to Yukon and YMA's goal was to highlight to investors the high-quality companies in Yukon with strong management and the necessary expertise to advance and develop projects in the North.

It was these mining companies who formed a strategic industry alliance under the YMA banner setting themselves apart from other mining companies in Yukon and in other jurisdictions. YMA's aim was also to dispel the myths and misconceptions of mining in the North and inform investors on the competitive advantages Yukon possessed. There is no other industry alliance that carries out this type of jurisdictional marketing and demonstrates a strong partnership with government.

As the junior sector, and arguably the entire minerals sector, is experiencing a difficult period, there is a unique opportunity to align producing companies with our advanced development companies and juniors, showing the progressiveness within the territory of moving projects through their stages. YMA's membership has multiple tiers based on an evaluation of their current market cap, expenditure and flagship activity in Yukon and this system is continuously being re-evaluated to determine where it is best to promote them. YMA's Board of Directors are presidents or CEOs of the tier-one member companies. Their experience, knowledge, and innovative foresight allow YMA to promote Yukon and to partner with the Government of Yukon and Government of Canada.

Have you started rolling-out this new structure and will you be extending membership outside purely mining companies?

We established new membership criteria in June 2014 and the Board will use this to consider and evaluate companies on an ongoing basis. We are pleased that ATAC Resources Ltd and Banyan Gold Corp joined us this year. YMA's goal is to be flexible and adaptive as it is the only way to operate in an ever-changing market environment. We have a clear and specific mandate - national and international investment marketing and our members focus on those objectives.

What are the key advantages of mining in Yukon versus the other territories?

Yukon's geological diversity is a big advantage and remains largely underexplored. Historically, Yukon has been renowned as a gold district for more than a century, in

large part because of the Klondike Gold Rush of 1898, but for the past 100-plus years the Territory has also hosted large deposits of silver and base-metals such as copper, lead, zinc and tungsten. As a historic mining jurisdiction, with close ties to our north-west neighbour in Alaska, Yukon has had opportunities to become the most well-connected Canadian northern jurisdiction and as a Territory there are efforts underway to expand and improve on infrastructure, focusing on power and roads. We are also in a jurisdiction that is acting as the trailblazer for Canada in regards to First Nations relations, with 11 of 14 First Nations in Yukon having settled land claims, approximately 50% of all settled land claims in Canada. As with any trailblazing there are new lessons, modifications and opportunities to be learned and developed and that is what the Territory is working on today. Our member companies are dedicated to ensuring that they have a proactive and positive relationship in the areas and communities of their projects. All members currently have either exploration agreements, cooperation agreements and/or benefit agreements with the affected First Nations.

What are the main challenges for new international and local investors in Yukon?

Investors who are not familiar with northern jurisdictions can mistakenly paint Yukon as remote, isolated and barren and we are quick to alleviate these concerns. With warm winds from the gulf and protection from the east by a large mountain range, Yukon's exploration season is longer than people may think with some projects opening camp in March and running until late November. From a production perspective you can operate year-round both underground and open-pit, as current operational mines are doing. Investors, particularly in international markets, have a lot of questions about First Nations and mining companies' relationships with them. Many Yukon First Nations have established their own development corporations and are keen to see the economic benefits from mining in their communities and in Yukon. •

Paul West-Sells

President and COO
**WESTERN COPPER
AND GOLD CORP.**



We last spoke after Western Copper and Gold entered into a royalty sale agreement in December 2012. Could we begin with a brief update on the company's major events and milestones since our last interview?

Since our meeting in April 2012, we have continued to de-risk the project by completing our stated milestones. At the end of 2012, we converted a pre-existing net profits interest (NPI) royalty to an NSR Royalty on the Casino project for \$32 million and completed a full bankable feasibility study in January 2013. The great economics outlined in the study encouraged us to finish our 7000-page Environmental Assessment Application (EAA) for Casino that was submitted in January of 2014.

The Casino project is targeted to be construction-ready in 2016. What are your key objectives in the next six to 12 months to ensure this construction timeline is achieved?

We are in the process of achieving our timeline objectives having submitted the EAA in January 2014. There have had five mines permitted in Yukon in the last seven years and on average those

mines were granted permits after two to three years of assessment. As we move through the application process, there are intermediate timelines: the key one is for the application to be declared "adequate." Achieving adequacy is an important milestone as the timetable switches over to the regulator, who is obliged to review the application in a fixed timeframe. We expect adequacy in Q1 2015, and from then we will have a clearer picture as to when the project will be fully permitted. Detailed engineering, major talks with potential partners, and finalization of the financing strategy as well as construction decisions will be ramped up following declaration of adequacy.

At the end of Q2 2014, the company had a healthy \$20 million in cash. What is your timing for going to the market to source financing for the Casino project and the amount required?

For the company to continue engineering and permitting, we are fully financed for the next couple of years and will not be seeking financing from the market. The Casino project, however, has a capital-cost of \$2.5 billion and as part of the funding package equity may be involved.

In our 2012 interview, you stated that the period after submitting a feasibility study and obtaining permits produces a lull of excitement from investors. Currently, what will excite and draw investors to the Casino project?

PWS: Excitement is increasing as the finishing line is becoming closer. In 2016, the project will be fully permitted, engineered and shovel-ready; the closer we are to this point, the more valuable the project becomes. Casino is a project with strong economics at any authoritative commodity price forecast; a project of this magnitude with its strong economics, fully permitted and ready to go is an incredibly rare and valuable asset in Canada's Yukon jurisdiction. It will likely increase the province's GDP by 15% to 20% and over the life-of-mine will add \$10 billion to Canada's GDP. The Casino mine will be the catalyst that starts the second wave of big mine operations in Yukon.

What kind of partner are you seeking to move forward with your Casino project, and what owner-operator model are you looking for Western Copper to retain as it pursues a partner?

Western Copper will ramp up its selection of a strategic partner in conjunction with achieving adequacy during environmental assessment. On the subject of being an owner-operator, Western Copper is working towards bringing in a partner for up to 50%. We have also provided a solution for the Operations of the Casino Mine by signing a letter of intent with M3 Engineering, for not only the announced EPCM Contract, but to be the operator of the mine. This solution compliments our in-house team and increases the number of potential partners. However, as we have seen with other developers this year, a mid-tier copper or gold company, who is interested in having an annual 200 million pounds of copper and 300,000 ounces (oz) to 400,000 oz gold, may have an interest in our entire operation.

You are looking to use liquefied natural gas (LNG) inside the fence. What have been the benefits and challenges of this approach in view of some LNG resources being developed in British Columbia and other parts of Canada for export?

Since 2012, Western Copper has been backing LNG as a solution to provide energy at mine operations; now, in 2014, the LNG solution is now being received as the viable alternative to diesel generators. Proof is in one of Yukon's largest communities, Watson Lake, which is converting its power generation to LNG and Yukon Energy has completed the permitting process to convert diesel generation in the city of Whitehorse over to LNG. When Western Copper is ready to go on Casino, LNG will be available as the mine's power source. Since our intention to use LNG was published, we have had offers from three companies to supply us with LNG. •

Greg Johnson

President and CEO
WELLGREEN PLATINUM LTD.



Can you tell us a little about the formation of Wellgreen Platinum Ltd.?

Wellgreen Platinum was founded in 2013 through a change in management, board of directors and company focus following a 2011 spin out and subsequent rebranding. The Wellgreen asset, our flagship project for which the Company's name derives, is a platinum-palladium-nickel-copper deposit in the southwest of Canada's Yukon. The renaming was initiated just over one year after the 2012 introduction of a new executive management and employees with the strong technical background necessary to take the project to the next step. We currently have 15 full-time employees, expanding well beyond this in the field season utilizing contractors and, in December we graduated from the TSX Venture to the senior board of the Toronto Stock Exchange.

Wellgreen is your flagship project. Can you please give a brief overview of its current status?

The Wellgreen project was discovered in the 1950s, developed into a high-grade underground mine in the 1970s by Hud-Bay and, since the late 1990s, the focus has been on looking at a potential bulk

open-pit mine. In 2011, the initial bulk mineable resource was defined and, in 2012, the first engineering assessment of an open-pit operation was completed. Over the last 18 months, we have made significant progress in advancing Wellgreen and are very close to completion of an updated Preliminary Economic Assessment (PEA) that will essentially reintroduce the project as one of the potentially largest PGM producers in the first world. Over the past 18-24 months, we have compiled approximately 40,000 m of new drill information and incorporated that with existing information to produce a new resource estimate showing the project to contain 5.5 Million Oz. Platinum, Palladium & Gold ("3E") in M&I Resources and 13.8 Million Oz. 3E Inferred. Subsequent to this, in September, we released updated metallurgy results, which were a marked improvement over prior figures in terms of both recoveries and confidence level. In addition, we have been focused on new engineering, LNG power supply options and new mining concepts that will, along with the new resource and metallurgy, form the basis of the 2014 PEA.

In this study, we want to consider a lower capital investment by initially running lower through-put but at higher grades; once the mine is producing, move onto an expansion phase through to its ultimate production potential.

It should also be emphasized that not only does the deposit remain open in both directions and at depth, the current resource is hosted in a 2.5km stretch of an overall 18km strike, so expansion is certainly a possibility moving forward as well.

What makes Wellgreen unique as a PGM resource?

There are very few major PGM resources outside of southern Africa or Russia and the sheer size of the resource at Wellgreen makes it a world-class platinum group metals deposit. In addition, the geology is such that the mineralization comes right to surface and will accommodate open-pit mining with the associated scalability and benefits of low-cost structure. The resource also contains significant nickel and copper, which will factor in favorably to the overall economics, as will the presence of the exotic PGMs.

In 2015, you plan to initiate the environmental assessment process for Wellgreen taking 18 to 24 months. Does this time-line compare favorably with other jurisdictions?

The mining fraternity considers Yukon as being one of the better jurisdictions in Canada for its permitting process and the government has taken important steps to further improve its assessment process, which includes allowing the federal and territorial process occur in parallel. Globally, 18 to 24 months is a reasonable time-line for the environmental assessment process. If development concepts are locked-down from prefeasibility, permitting environmental assessment process work can be carried out simultaneously with feasibility. We are looking to initiate feasibility activities in 2015 concurrently with the environmental process; this is subject to change and depends on our activities over the next year and our 2014 discoveries. The parameters of the project remain open.

Is the strategy of initially going for high-grade in an open-pit a normal approach?

It is normal to focus on early optimization of the high-grade material provided it is available near-to-surface. The Wellgreen project is a very large, world-class PGM resource and some of its high-grade is near-to-surface allowing open-pit early extraction. Wellgreen right now has the potential to be the third largest PGM producer in the first world after the Stillwater Mine and Vale's Coleman Mine. We have the opportunity to further grow and develop the project moving forward.

Wellgreen is near the Alaskan Highway but grid connections could be an issue. What are the infrastructure challenges of Wellgreen?

Any northern project will have two infrastructure components that need to be addressed: access to site and power. Wellgreen is just 14 kilometers (km), or roughly 8 miles, by all-weather access road to the paved Alaska Highway, which leads directly to two port accesses; one of which already has a concentrate handling facility. The site is 100-km distance from existing hydropower, and one favored option is to build a power line and



Image: Wellgreen Platinum Ltd.

connect to the project. The Yukon government is actively exploring options for expanding the grid and we may be in a position to benefit from decisions in this regard. The most likely option, at least in the nearer term, is liquefied natural gas (LNG), which is definitely coming to Yukon. We have signed MOUs with groups developing neighboring LNG facilities as well as with General Electric for the supply of LNG power infrastructure and systems. It is likely that LNG will be the base-case for our next study. Arguably, LNG trucked-in will be our initial power source, and as the project develops, it is likely we will connect to the grid.

Do you have a final message for our international readership about mining in Yukon?

The current Yukon government is looking at ways to further improve its regulatory environment and support the Territory's mining industry. Initiatives include: expansion of hydroelectric capacity and improvements of the overall sequencing of the permitting process and prescriptive time-lines giving guidance as to the duration of those processes. We are also working closely with Kluane First Nation who are strong supporters and proponents of our project and with whom we enjoy an excellent relationship. •

Platinum & Palladium in Canada

- **Yukon Territory, Canada**
Mining-friendly jurisdiction
- **Large, Near Surface Deposit**
Suitable for open pit
- **Road Accessible**
Off the paved Alaska Highway
- **Blue Sky**
Multiple large exploration targets

WELLGREENPLATINUM.COM

* Mineral resource update was prepared in accordance with the guidelines of National Instrument 43-101 by independent Qualified Person Ron Simpson, P.Geo., of GeoSim Services Inc. and John Sagman, P.Eng., Wellgreen Platinum's Senior VP & COO and a Qualified Person, with an effective date of July 23, 2014.

John McConnell

Director, President and CEO
VICTORIA GOLD CORP.



Victoria Gold has completed its environmental assessment and received the construction license for the Eagle Gold Project since we last interviewed you. What are the latest plans for Eagle?

When the price of gold dropped in 2013, we made the decision we would not move forward with construction in 2014. We are continuing to de-risk the project as well as proceeding with our water license application, (which is required to operate), and we are conducting technical studies with a view to optimize the site before we proceed with construction. This summer we conducted an exploration drilling program on the Dublin Gulch property at the Olive Zone, located 2 kilometers (km) from the Eagle gold deposit, and results indicate that Olive could have a meaningful economic impact on the proposed Eagle Gold Mine.

Have speculative investors exited Victoria Gold's shareholder-base as you move towards development? How does this impact the company's perception to shareholders given your estimated production costs?

There are always speculative investors

who tend to be focused more on the gold price of the day than the underlying value of the company. General investors are not too concerned about our projected operating cost of \$615 per ounce (or \$729/oz all-in sustaining cost (includes: operating costs \$615, royalties \$13, sustaining capital \$73, exploration and corporate G&A \$28) because we are not in production. Once Eagle is in production, investors will see this as a more meaningful metric and one that out competes the vast majority of other projects. Our bigger concern is to get Eagle into production, and then investors will start to appreciate Eagle's favourable operating cost base.

There is a large group of institutional investors who are major shareholders of Victoria. Will this same group finance the construction of Eagle?

Financing the \$430 million construction of Eagle will probably consist of 25% or less from equity. We have some very strong institutional shareholders and we would expect a number of them to be supportive on project financing.

Is it Victoria Gold's desire to maintain an operatorship role in the Eagle Gold Project? How do you plan to make the transition from junior to operator?

It is our desire to become the operator; we believe that we can do it better than most teams. However, I learned a long time ago that when you work for a public company you are not always the boss. Victoria Gold's core team and board of directors have experience in building and operating mines. Our core team is still in place despite some staffing cuts to the company, and we will add capacity as required once construction gets underway.

Is a project's proximity to existing infrastructure more attractive to investors?

Some parts of Yukon, Nunavut and the Northwest Territories are isolated, but Dublin Gulch (where the Eagle Gold Project is located) enjoys good infrastructure. We have year round access to the project site and are within 30 km of grid power. The community of Mayo is 50 km away with a full service airport. This provides Eagle with lower capital and operating costs and helps it compete on an

attractive return basis with several comparable more southern projects currently in production.

Even through the downturn, Yukon has aggressively promoted itself as a mining jurisdiction. What are some of its advantages?

The biggest advantage is the one-window permitting process; it is the only jurisdiction in Canada that has such a system. Other jurisdictions have a provincial or territorial process and a parallel federal process. In Yukon, the federal authorities participate within Yukon's process. The Northwest Territories are trying to move to this system, but they have other complications relating to First Nations' land claims.

What were some of the strategies Victoria Gold undertook to persevere through the downturn?

Victoria is in a fortunate position stemming from our decision three years ago to focus on our Yukon properties and to sell off our non-core assets in Nevada. We raised close to \$75 million through those sales. As a result we have not had to finance in three years and still have about \$20 million in cash and investments. When the price of gold dropped and we decided not to start construction in 2014, we made the decision to lay off 60% of our workforce, including two officers. We also benefit from the fact that basically all the costs associated with drilling, engineering, permitting and other technical studies have already been completed.

What are Victoria Gold's top three priorities over the next 12 months?

Our top priorities are to continue permitting Eagle to completely de-risk the project, to complete a resource estimate for Olive, and to proceed with financing. Also, given our cash position we attract companies offering their projects for sale. We used the downturn in 2008 to buy two companies and are currently looking at transaction opportunities. We have looked at approximately 40 projects over the last six months and have narrowed our focus to three projects. If it makes sense from a shareholder value perspective, we have the means to execute a transaction without going to market. •

Allan Krasnick

Director

NORTH AMERICAN TUNGSTEN CORP. LTD.

When we last saw North American Tungsten you mentioned the importance of Cantung Mine to the local economy and local population of Yukon. Could you please give us an update on your mining operations since 2012?

The modernization of the Cantung Mine continues, with positive results at the mill, as evidenced by the increased throughput, and in our tailings management program, where improvements include a wastewater treatment plant and increased development of our plans for a dry stack facility. Our workforce is stable. In Yukon, our Mactung mine project recently received the decision documents, which signify successful passage through environmental assessment. Putting this lengthy process behind us validated our plans with respect to environmental impact: North American Tungsten has been liaising with the indigenous people in the surrounding area of the mine, and enjoys a comprehensive and unique environmental co-management agreement with the Ross River Dena Regional Council. We can now move into the licensing phase to which there are two aspects: the Quartz Mining License and the Yukon Water License where the environmental review will be used as a framework. Our mining will be conducted in accordance with the environmental assessment. We will be carrying out fieldwork at Mactung throughout the coming winter and into the spring and summer. Test sampling and other types of fieldwork have been ongoing but the work will now involve more detailed design for the mine. Bulk samples from Mactung will likely be tested at our improved milling operation at Cantung. We hope to replicate at Mactung all we have learned at Cantung, however Mactung will be a bigger operation with over 2,000 metric tons per day (mt/d) versus Cantung's 1,350 mt/d.

Having recently gone through the environmental approval process, how difficult was this and do you feel it is a process that requires streamlining?

Approval for Mactung took five years, far longer than anyone had expected. It is difficult for a company that historically has felt cash flow pressures to juggle the operations of a working mine and the comprehensive requirements of an assessment process. From a public policy perspective, of course, and we readily accept this, it is essential that the process be conducted correctly. Being a small company, it was difficult to switch focus from re-establishing Cantung as a profitable operating mine that had been closed for 16 years, to the new operation

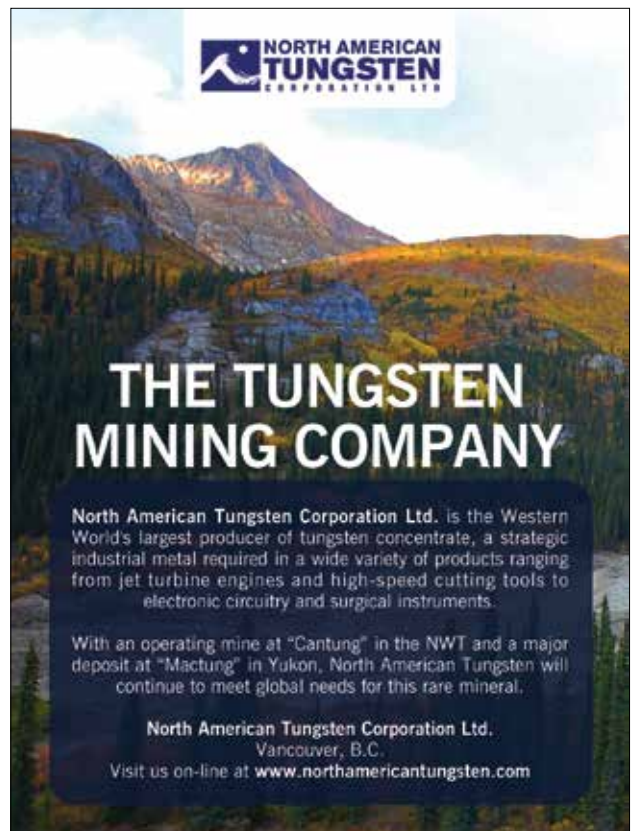
of Mactung. Arguably, there are changes that could be made to the approval process: we are now in a two-year liaison with the water board replicating some of what has already been carried out. Merging of the assessment process, and involving the water board earlier in the procedure, could shorten the time-span for project approval.

Can you elaborate on your unique co-management agreement with Kaska Dena First Nation?

The environmental co-management agreement is unique, and it incorporates the concept of an environmental license as an important document issued by the First Nation. Our deeper planning will include important contributions and involvement of the Kaska. Our company has had a long-standing three-generation relationship with the Kaska Dena First Nation and we wish to maintain the goodwill between both parties.

Tungsten prices rose sharply in 2011 when China restricted exports; since then, the price has declined. What do you foresee happening in the tungsten market over the next five years; and where do you see the geographical destination of your production?

Tungsten is a rare commodity and there is a shortage; we can sell all we produce and more. The biggest users of tungsten are the expanding aerospace and automotive industries. The geographical destination of our production will be China, Austria and United States. •



NORTH AMERICAN TUNGSTEN CORPORATION LTD.

THE TUNGSTEN MINING COMPANY

North American Tungsten Corporation Ltd. is the Western World's largest producer of tungsten concentrate, a strategic industrial metal required in a wide variety of products ranging from jet turbine engines and high-speed cutting tools to electronic circuitry and surgical instruments.

With an operating mine at "Cantung" in the NWT and a major deposit at "Mactung" in Yukon, North American Tungsten will continue to meet global needs for this rare mineral.

North American Tungsten Corporation Ltd.
Vancouver, B.C.
Visit us on-line at www.northamericantungsten.com





The Northwest Territories: Defining New Rules for “the Last Frontier”

“Proxima is focused solely on the prospective diamond producing area of the Northwest Territories. Using a unique proprietary database and capitalizing on 24 years of diamond exploration experience in the area, we have staked a large and very target-rich property portfolio with prospects along the length of the belt. Once public, Proxima will be tightly held by committed insiders, who understand diamond exploration from both the technical and business perspective.”

- Mike Power CEO,
Proxima Diamonds Corp.

Mining in the Northwest Territories

Despite the tough times that juniors are currently experiencing, mining has been the economic backbone of the Northwest Territories for almost 80 years and its legacy continues as the industry contributes to over 25% of the GDP directly and is the largest private sector employer. Mining employs more than 2,000 people, including a substantial number of aboriginals. In 2013, GDP grew 1.9% in the Northwest Territories, which is equal to the growth the territory saw in 2012.

Known for its diamond reserves, mining and production of this precious stone increased 6% in the Northwest Territories in 2013. "In terms of resource potential the Northwest Territories has always featured prominently in the top few jurisdictions. The Northwest Territories currently produces close to 15% of the world's diamonds by value," said the Northwest Territories' government minister of justice, minister of industry, tourism and investment, Hon. David Ramsay. Its reserves are of top quality, as explained by Patrick Evans, president and CEO of Kennady Diamonds, who operates the Kennady North project close to Mountain Province Diamonds and De Beers' joint venture Gahcho Kué diamond mine: "The highest grade can be found in Russia (8 carats/mt). There are also similarities between Kennady North and Gahcho Kué in terms of the quality of the diamonds that have been recovered. However, Kennady North seems to have a higher grade and better quality."

In this same area, Proxima Diamonds is also encouraged by data obtained by preliminary studies. "The company's assets consist of 16 claim blocks covering 178,000 acres in an area extending from the Ekati mine in the North to the Gahcho Kué deposit," said Mike Power, CEO

of Proxima Diamonds. "We believe that the greatest value in diamond exploration is realized when the discovery of a diamond bearing kimberlite is made. Our strategy is to concentrate on this phase of the business by capitalizing on our database to generate exploration targets, and by using our experience and expertise to define and test drill targets."

Over the last 16 years, diamond mines in the Northwest Territories have generated close to \$10 billion in business contracts, of which over \$4 billion have benefitted aboriginal-owned businesses. As Gary Vivian, president of Aurora Geosciences, said: "Diamonds are one of the few commodities that is still generating positive market sentiments."

Although diamonds are the backbone of the mining industry, the Northwest Territories' mining potential also includes precious and base metals, rare earth elements and more. There are exciting advanced exploration projects that may lead to mines in the near future. Minister Ramsay said: "In the mining sector, the Northwest Territories has significant opportunities other than diamonds and we

want to try and diversify our portfolio. The Northwest Territories is very interested in seeing new mines open. There is significant exploration for gold in and around Yellowknife. The Northwest Territories has a mining heritage and the resources, and all that we needed was a strategy to help us attract more investment into the Northwest Territories."

First Nations regulations in the Northwest Territories differ from those of Yukon. On April 1 2014, land and resource management responsibilities in the Northwest Territories were devolved to the government of the Northwest Territories, mirroring federal regulations but in a system that better meets current administrative, industry and legal requirements.

Though devolution in the Northwest Territories has taken place relatively peacefully, there are some ripples in the devolutionary pool. One point of contention has been the creation of the new Mackenzie Valley Land and Water Superboard, which requires the inputs of four land and water boards that administer the Gwich'in, Sahtu, Wek'eezhii and Mackenzie Valley jurisdictions. As Gary Vivian, president

of Aurora Geosciences, said: "Industry is worried how communities react due to the new Mackenzie Valley Land and Water Superboard that will be based in Yellowknife. This Superboard will now determine the issuance of permits in areas where permits used to go through the Sahtu or Wek'eezhii land and water boards. Devolutions have been peaceful overall, but some aboriginal groups have tried to take the federal government to court over the Superboard."

The devolution of power from the federal government to the territorial government aims to provide new opportunities for Northerners to work together to manage the Northwest Territories' land, water and natural resources. In this framework, resource revenues will be shared according to the Northwest Territories Intergovernmental Resource Revenue Sharing Agreement. These coincide with Impact and Benefits Agreements between developers and the impacted aboriginal community and stipulate the terms of employment and economic benefit throughout the mining operations. While devolution has been peaceful, the fact



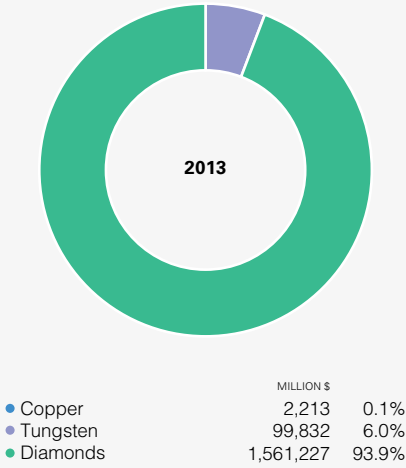
AURORA GEOSCIENCES
BRAINS FOR ROCKS
Innovate. Adapt. Repeat.

To make things work North of 60, you need to 1—know the land, and 2—be ready for anything. Through 33 years of innovation and adaptation in the face of the North's profound challenges, Aurora Geosciences has carved out its reputation as true northern experts. The northern company with brains for rocks. Whether you need geological, geophysical or exploration support services, our ideas, experience and northern expertise mean you'll have the best thinking on your project.

auroraesciences.com

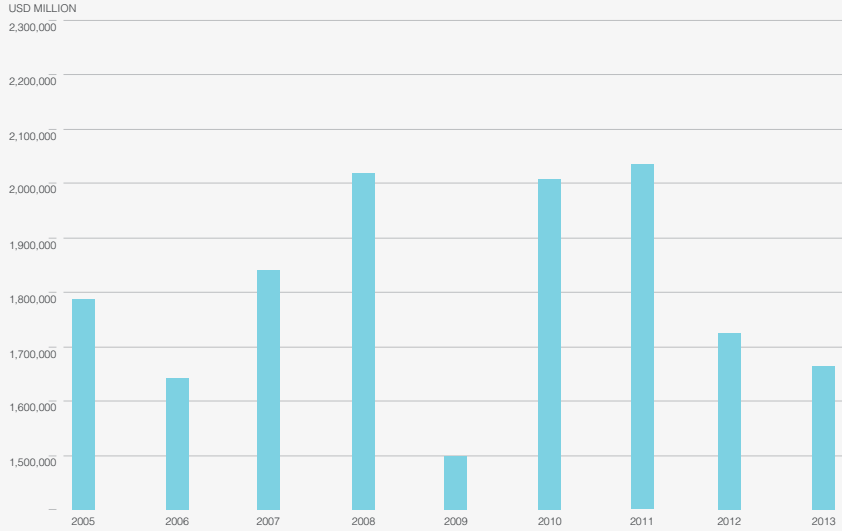
THE NORTHWEST TERRITORIES MINERAL PRODUCTION BY COMMODITY, 2013

Source: Natural Resources Canada



THE NORTHWEST TERRITORIES MINERAL PRODUCTION, 2005-2013

Source: Natural Resources Canada



that the Northwest Territories is still in a development phase as far as governance is concerned, it is likely that there will be a few “trial-and-error” agreements in the future. This may slow down the pace of the development of the mining sector in the short-term, but as these problems are ironed out, mining in the Northwest Territories holds undoubted potential. In the coming years, the Northwest Territories will need major investments in infrastructure if it is to keep up with Yukon, its western neighbor. “Nearly all areas of the Northwest Territories have infrastructure challenges,” said Donald Bubar,

president and CEO of Avalon Rare Metals Inc. This is the case throughout the Territories and, the government of the Northwest Territories plans to spend \$600 million over the next decade to improve the Territory’s all-season roads, highways and bridges as well as its marine and airport infrastructure. As far as the Territory’s energy infrastructure is concerned, hydropower generation could be a game changer in the region enabling operating mines in the region to move away from diesel generators to renewables. “There is a big push in the Northwest Territories to expand the hydro generation capacity

and the transmission grid to get more of that green hydropower north of Great Slave Lake,” said Bubar. Fortunately, the transition to low cost and environmentally friendly energy generation will not be limited to consumers north of Great Slave Lake. As mapped out by the government of the Northwest Territories, an Energy Action Plan is to be rolled out over the next three years, which represents investments of over \$31 million. Apart from hydropower, the development of solar, wind and biomass energy facilities will be central to this action plan. •

proxima diamonds corp.

NWT Diamond Prospect Generator

3502 Raccine Road,
Yellowknife NWT X1A 3J2
P: 867.766.7744

www.proximadiamonds.ca

David Ramsay

Minister of Justice and Minister of Industry, Tourism and Investment
GOVERNMENT OF THE NORTHWEST TERRITORIES



Can you tell our readership what sets the Northwest Territories (NWT) apart as a mining destination in Canada's North?

In terms of resource potential the NWT has always featured prominently as a top jurisdiction. The NWT currently produces close to 14% of the world's total production of diamonds by value. A fourth diamond mine, the Gahcho Kué project, is going into construction this winter and will create hundreds of jobs (approximately 700 during construction and 400 during its operation). In the mining sector, NWT has significant opportunities other than diamonds and wants to diversify its portfolio and see new mines open. There is significant exploration for gold in and around Yellowknife. The NWT has a mining heritage and the resources, but required a strategy to attract more investment. Since April, with devolution, we have gone from managing 1% of the land area in the NWT to managing 80%. The government that was elected in 2011 has a new department of lands and a mineral development strategy. Currently we are implementing those strategies and laying

the foundation to attract the right investment.

How has the mineral development strategy been received and what tangible milestones should we look out for?

The tangible milestone would be the opening of new mines and getting back to first place when it comes to exploration dollars being spent. Exploration is a good indication of development, and we need to encourage the exploration projects out there, as well as put more money into grassroots prospecting programs to get field assistants trained.

The recent devolution does create an area of uncertainty, as investors are aware that this is still a developmental space. What would you say to skeptics looking at NWT for investment?

Investors should not be afraid, as they are dealing with a government that is small and accessible. The government has a collective approach to ensure that resource development happens in a way that maximizes the benefits for its people. Given our track mining record and our resource base, we have a very bright future. The government in the NWT is very much committed to the industry's success, to see our resources being developed in a sustainable, responsible manner and to provide jobs for people that live here. The government wants to encourage companies to come and pay attention to what is happening in the NWT, and instead of being skeptics they should be encouraged by all the things lined up in our favor.

What are the greatest challenges in creating socioeconomic benefits and economic development?

One of the greatest challenges is to increase the skilled labor force and trying to ensure that people who are working in the NWT stay in the NWT. Currently we have a huge issue with migrant workers and we probably lose about \$400 million a year (leaving the NWT economy because of migrant workers). The government continuously works with industry to encourage people to stay in the NWT. The NWT has the highest wages in Canada, but the cost of living

here is also significantly higher and thus we need to find a strategy to retain employees.

What are your plans to build new infrastructure to power the NWT?

We are currently in negotiations with Ottawa on increasing our borrowing limit from \$1 billion to \$1.8 billion, as that would free up a billion dollars for us to invest in infrastructure. 2015 is an election year and the federal government announced a plan for new infrastructure funds. The NWT has put our plan in and in our department alone we hope to get about \$3 million approved for infrastructure spending. If we can leverage that with some of our own dollars, we could be seeing adequate investment in the required infrastructure. The government in the NWT is investing in its future through infrastructure.

We have a Power System Plan that outlines a number of community-based investments in local and renewable energy solutions such as biomass and solar. In the long term, we need to take advantage of our tremendous hydro potential and develop our resources by leveraging partnerships with industry. Our northern and southern regions are on hydro-power today as a result of partnerships with mining development decades ago. We need to return to that approach, develop our resources, and at some point develop a transmission link to the continental grid.

What would be the biggest changes in the mining regulatory environment that we can expect over the next five years?

We want to first grow into our new responsibilities and ensure that we know what we are getting ourselves into. At the end of the day, we want a regulatory system that is respected but also fair. The NWT has the support of a government that wants to see the resources developed in a safe, responsible manner and we are very excited about the future. •

Gary Vivian

President
AURORA GEOSCIENCES



Can you give an overview of Aurora Geosciences and the main services that you provide to the mine industry?

Aurora has been around since 1981, providing junior and major mining companies with geological and geophysical consulting and contracting services. We have about 30 fulltime employees and in good years we have 150 people on staff, most on contract. There are many people coming out of university wanting high paying jobs over the short term. This particular perception needs to change and we need to encourage people that this is a lifetime commitment.

Is the fact that you are working predominantly with diamond mining clients indicative of the industry trend?

Diamonds are one of the few commodities that are still generating positive market sentiments. In the Northwest Territories, we are working at the Ekati mine with Dominion Diamond Corporation, Kennady Diamonds at Kennady North, and we still do geophysics for De Beers at the Gahcho Kué diamond mine. Although most of our projects currently

in the Northwest Territories are diamond related, Aurora's original partners were base metal, gold, uranium and copper nickel specialists and we still have the expertise for these projects as well. In the diamond sector, we have been on an exponential learning curve since 1991. The price of diamonds is going up and seems to be something that people can raise money on. The clients that we are working for have been in the business for a while and they are diamond miners and prospectors. In 1991 we were the only consulting and contracting company based in the North and have since then continued to build ourselves a good name.

How would you rank Northwest Territories in terms of the availability of geological data and being well mapped?

Yukon in general is fairly well mapped, the Northwest Territories are not well mapped, and Nunavut is very poorly mapped. There is a significant onus on the governments to make sure that more geological data in the North is available to users. The GSC and the government of the Northwest Territories have tried to keep up their mandate of building up the geological database but funds are terribly lacking. We have been very clear with the governments that it is not their responsibility to find deposits, but it is their responsibility to have a map and data well documented that someone can look at an area and say this is where we want to be. The geological database for the NWT is lacking and Nunavut lags significantly behind in their geological database.

You have said in your previous interview in 2012 that one of the problems you face is working with the aboriginal communities. Is this a problem that you still face?

This is still the case but not as serious as it was a few years ago. Industry is worried how communities react due to the new Mackenzie Valley land and water superboard that will be based in Yellowknife. There are lots of questions on how industry and aboriginal communities will work with the superboard. This superboard will now determine the issuance of permits in areas where permits used to go through the SAHTU or Wek'eezhii

land and water Boards. Devolution has been peaceful overall, but some aboriginal groups have tried to take the federal government to court over the superboard.

What do you think will be Aurora Geosciences' main growth drivers in the industry?

Growth is going to continue to be driven by diamonds, although gold is getting stronger. Zinc is also going to be a sought after commodity. There are some base metal deposits in the Northwest Territories that can certainly use exploration and infrastructure, so we are hoping that our base metal expertise is going to be required again.

Do you have a final message to both the mining industry and international investors looking at the mining industry in the Northwest Territories and it's potential?

Devolution is a good thing and the government is going through a steep learning curve. There is a tremendous amount of mineral potential in the Northwest Territories. The only cumbersome factor is having a land use plan which makes total sense, yet freezing large tracts of land to parks is probably the worst thing you can do for a process for there to be economic development. The bottom line for the industry should be that you must be able to put a mine into production with very little harm to the environment, while making sure that people's concerns are being addressed. We are getting better at that in the Northwest Territories, but until we settle land claims, the playing field is very uneven and no one knows what the final makeup of the territory is going to look like. •

Patrick Evans

President and CEO
**KENNADY
DIAMONDS**



Can you provide us with an introduction to Kennedy Diamonds?

Kennedy Diamonds spun out of Mountain Province Diamonds in July 2012 and is focused on 100% controlled Kennedy North project located adjacent to Mountain Province Diamonds and De Beers JV Gahcho Kué diamond mine.

In November 2013, Kennedy Diamonds released results of a sample grade of 5.37 carats per ton from the Kelvin kimberlite. How does this grade compare to neighbouring Gahcho Kué and other diamond deposits?

The results that we received in November 2013 are a sample grade. Grades received at Kelvin and Faraday are among the highest in the world. The highest grade can be found in Russia (8 carats/ton). There are also similarities between Kennedy North and Gahcho Kué in terms of the quality of the diamonds that have been recovered. However, Kennedy North seems to have a higher grade and better quality.

Kennedy Diamonds has been very successful in raising capital in tough market conditions. What distinguished you from other diamond juniors?

Capital markets are going through a difficult period, and as a result juniors have been seriously hit by the lack of available funds. Recently, juniors focused on large, low grade resources to support appetite coming from China. However, because of rigid financial markets and lower demand than anticipated, many investors have lost a lot of money and consequently interest in low grade, high tonnage projects. Kennedy Diamonds is a high-grade kimberlite, which distinguishes us from the majority of other juniors. Another winning factor is close proximity to the Gahcho Kué mine, because the best place to do exploration is always close to existing mines.

How are you planning to keep up the information flow in the future, given the constraints of the seasonal drilling program?

Kennedy's 2014 drilling program will be ongoing between March and May, this will allow us to keep the market up-to-date, until the final results come out in late 2014. Following the completion of the fieldwork, we expect a hiatus, which will draw attention away from the market. Luckily, we are not under serious pressure, as we have already raised close to \$16 million in 2013 to fund our drilling program.

What is the end goal for Kennedy Diamonds?

Our vision is to define between 9 and 12 million metric tons of kimberlites between Kelvin and Faraday at a grade of between 2 and 2.5 carats per mt. We envision a resource of at least 16 million carats. Initial diamond valuations will help us to look at the economics of the deposit. Kelvin and Faraday will either be developed as an independent mine or as a part of the Gahcho Kué JV, which would require some sort of transaction between Kennedy Diamonds and Mountain Province Diamonds.

How do you expect the investment climate for diamond industry to change over the coming years?

It is important to look at long-term credentials when discussing diamond mining, as it takes close to ten to 12 years to develop a mine. Long-term fundamentals for the diamond industry are very good; with few discoveries and an increasing demand for engagement rings and other jewelry.

What is your longer term vision for Kennedy Diamonds?

We operate within a very strict environmental licensing regime. We have secured land use and water licenses, which have been very difficult to obtain and maintain. We want to take the company through the entire process exploration, engineering and permitting process and bring the asset to shareholders as soon as possible. Our vision is to have an operating mine by 2019. •

Highest Grade Diamond Exploration Project

TSX-V: KDI
www.kennadydiamonds.com

Mike Power

CEO
PROXIMA DIAMONDS CORP.



Could you tell us a bit more about Proxima Diamonds?

Proxima Diamonds is a mineral exploration company scheduled to go public in the winter of 2015. We are focused on looking for diamonds in the established diamond mining areas of the Northwest Territories (NWT). The company's assets consist of 17 claim blocks covering 224,000 acres in an area extending from the Ekati Mine south to the Gahcho Kué deposit. Proxima's exploration approach is a little different than other diamond companies working in the area. We have acquired and developed an enhanced database consisting of both public and proprietary data collected over a 20-year period. This data allows us to refine targets. Consequently, our individual claim blocks are smaller, more widespread and have a higher target density. We are generating a project pipeline containing grass roots projects defined by kimberlite indicator mineral bearing till samples right up to known diamond-bearing kimberlites. The end product is a set of drill-ready targets which we hope to test either independently or with joint venture partners. The greatest value in diamond exploration is when the discovery of a diamond bear-

ing kimberlite is made. Our strategy is to concentrate on this phase by capitalizing on our database to generate sound exploration targets and drilling them. There is always an element of chance in mineral exploration, and expertise only reduces the odds. Our exploration team is based in the NWT and has worked on all of the major diamond deposits in the area at one stage or another since 1991.

Proxima has identified three main targets out of its 16 project areas. Could you elaborate on the potential of Sancy, Tavernier and Hortensia?

Our Sancy target appears to be quite promising. In 1997 Cypango Resources discovered the T-10 pipe, north of the Ekati Mine leases by drilling beneath a small pond. Drilling intersected diamondiferous kimberlite including a 6 kg sample with 39 microdiamonds. It appears that there is potential to host a much larger kimberlite at this location. So we have a situation where we have a diamondiferous kimberlite, which might be larger than originally thought.

Hortensia and Tavernier cover two well-defined kimberlite indicator mineral trains west of Kennady Lake. The KIM trains are embedded in the regional KIM train from Gahcho Kue, Kelvin and Doyle but are nonetheless evident in even the public domain data. Monopros released microprobe results for garnets from the KIM train at Hortensia and nearly half of these plot clearly in the diamond stability field. We are awaiting results from sampling at Tavernier to confirm that garnets in this train also indicate a source prospective for diamonds. Past drilling in the area by Winspear suggests this is likely the case.

What are the statuses of the on the ground sampling, ground geological surveys, geological mapping and bathymetric surveying at these sites?

We completed confirmatory KIM sampling, prospecting, geological mapping and both grid and drill hole relocation on most of our targets this summer. At Sancy, we noted that the T-10 pipe was intersected approximately 100 meters south of an isolated airborne magnetic and that ground geophysical surveys were not conducted prior to drilling. We concluded that the historic drilling never tested the

airborne anomaly, leaving plenty of room to hide a much larger kimberlite in the area than that indicated by the initial drilling. Confirmatory till sampling conducted on prospects further to the south will be used to design ground geophysical surveys to test the most promising of these targets in spring 2015. Given the current industry focus in the southern area near Gahcho Kue, we will likely concentrate on our Hortensia and Tavernier targets.

What are the next steps in the development of the three sites and what are the capital requirements to achieve these targets in the next year?

Geophysical surveys are required at Sancy, Hortensia and Tavernier before they can be drill tested. With the results of this work in hand, we would like to drill at Sancy, Hortensia and Tavernier in that order. We are confident that drill targets will be defined at all three sites. This would require approximately \$1.3 million. We will also be continuing exploration on our other 14 targets, but exploration there will likely be confined to confirmatory till sampling, mapping, prospecting and restricted geophysical surveys.

Do you have a final message for potential investors?

Proxima is focused solely on the prospective diamond producing area of the NWT. Using a unique proprietary database and capitalizing on 24 years of diamond exploration experience in the area, we have staked a large and very target-rich property portfolio with prospects along the length of the belt. Once public, Proxima will be tightly held by committed insiders, who understand diamond exploration from both the technical and business perspective. This offers investors the best chance for eventual success. •

Donald Bubar

President and CEO
AVALON RARE METALS INC.



.....

The Nechalacho project in the Northwest Territories (NWT) has a significant percentage of heavy rare earths. How does it compare to deposits globally?

The heavy rare earths enrichment is the key to Nechalacho's importance. Deposits that have a high enrichment of light rare earths are relatively common and are being advanced in places such as Australia and the United States, but the market for heavy rare earths remains underserved. Nechalacho also has a relatively high grade in terms of total concentration of rare earths compared to resources with a similar enrichment in the heavy versus light rare earths.

One of the key challenges in the Northwest Territories is lack of infrastructure. Do you have a plan to overcome this obstacle?

Nearly all areas of NWT have infrastructure challenges, but Nechalacho is in close proximity to Great Slave Lake and we can use the lake to access road and rail routes south at Hay River. Avalon will use barge transportation to ship its rare earths concentrate once production begins. Our energy model contemplates diesel generators and we are hoping to supplement that with renewables like wind and solar power. The Government of NWT has a strategy to invest to expand hydro generation capacity and the transmission grid in the North to provide lower cost energy to consumers north of Great Slave Lake, and we hope to be able to take advantage of that initiative.

Now that Avalon has a rare earth refining solution in place and a feasibility study completed, what is the next step at Nechalacho?

The next step at Nechalacho is to start construction. As the project is not a traditional precious or base metals project, the key to raising capital is to identify customers who will commit to buying the material before it is produced. It is a significant challenge to find customers willing to enter into such agreements so that financial institutions and lenders are satisfied that there is a market for these products. Avalon is confident that it will find an offtake partner because the reason for bringing these projects into fruition outside of China remains valid: customers want to see alternative sources of rare earths come onstream so they do not have to rely on a sole source of supply.

How are you able to overcome the technical and financial risks that have plagued the industry?

Avalon's most recent feasibility study at Nechalacho came up with a reasonably attractive economic model to reduce the perceived risk to investors. There is both technical and financial risk: we have to build two fairly major processing plants to be able to produce the refined form of rare earths that are saleable in the marketplace, which we have not done before. We significantly de-risked the Nechalacho Project in March 2014, when Avalon signed a tolling agreement with Solvay to have Solvay process Avalon's rare earth concentrate into pure rare earth oxides. This removed the need for Avalon to build its own refinery.

What is the value of Avalon's Ontario properties?

Avalon's Ontario properties are critical raw materials assets that we have had for a while. Critical raw materials are niche market commodities and we have to wait for demand to grow before we can serve that need. One property is a lithium minerals prospect enriched with petalite used in glass ceramic products. Historically, there has only been one sole supplier in Zimbabwe, but they are not able to commit to long-term deliveries. •

AVALON
RARE METALS INC.
MATERIALS FOR CLEAN TECHNOLOGY

THE LEADING DEVELOPER
OF NEW SOURCES OF
CRITICAL RAW MATERIALS
IN NORTH AMERICA

TSX & NSYE MKT: AVL www.avalonraremetals.com

Tim Bell & Peter Latta

TB: Manager WA and Asian Operations
 PL: Regional Manager, North American Operations
GEKKO



TB



PL

Gekko was founded in Australia in 1996. Can we discuss your evolution in Canada and the importance of Canada to Gekko globally?

TB: We have had our office in Canada for over ten years. Our Canadian office is very important as it gives an interface with North America. Our local presence provides us with traction for projects in the region and the ability to solve local problems, creating a portfolio of installations illustrating how Gekko can help the industry.

What is the strategic importance of Canada and its territories to Gekko?

TB: Gekko is predominantly a gold-focused company. Strategically, Canada is very important to Gekko as from a western viewpoint Canada, Australia and South Africa are the three gold mining centers. Canada and Perth, Australia are excellent regions for providing Gekko access into Africa; a large proportion of companies that mine in Africa are based in Canada and Perth.

PL: Northern Canada will be the future for prospecting and mineral operations in Canada, and a number of gold projects are in progress. Gekko already has exper-

ience in northern Canada and the expertise to assist further operations.

What is the percentage breakdown of Gekko's business concentration in North America, Africa and Australia; and do you have any growth figures for the Canadian office?

TB: We focus on specific priorities as they arise; currently, our business development is focused in North America there being many business opportunities. Traditionally, North America has contributed less than 20% of our business; over the next three to five years, we expect rapid growth.

PL: Gekko is increasing its staff numbers in Canada to accommodate this anticipated growth. In the last year, our Canadian office has grown 30%.

You have carried out projects in Nunavut (Meadowbank) and the Northwest Territories (Ekati). Can you give details of those installations and how they have affected operations in those two mines?

PL: Meadowbank Gold Mine is operated by Agnico-Eagle Mines in the Kivalliq district of Nunavut. The gold operation has a large gravity recoverable gold component, which is typically an inexpensive way of boosting overall gold recovery while decreasing the time it takes to produce a bar of gold from raw ore. Gekko supplied one of its well-known InLine Leach Reactors (ILR) to treat the gravity concentrate, leaching the coarse high grade gold in intensive conditions with a reliable 98% recovery!

TB: Our vision for all regions, including North America, is to increase the percentage of installations that are more significant complete modular turnkey plant installations as opposed to single-unit specialist niche equipment, i.e. our ILR.

Do you have examples of modular turnkey plant installations that you have provided in the region?

TB: To date, we have yet to install modular turnkey plant installations in Canada, but have supplied these plants in South America, Australia, South Africa and Mexico. We are looking to break into the modular-market in North America.

Has it been difficult to introduce new technology in Canada?

TB: Canada is similar to South Africa and Australasia in embracing Gekko's new technology. However, it is a long cycle to establish and achieve maturity of new products. The life cycle of new technology can take 20 years to 25 years before mining companies are totally convinced. The industry has a very conservative approach to change and is not renowned for pioneering new technology. Gekko is promoting the benefits of its new technology and underground processing; a prototype running underground operation will furnish case-history data. Our Python modular system has proved to be very effective above ground, practical and viable.

PL: A key factor that ties-in with northern Canada's mining operations is the Python modular processing plant designed for underground operations and pioneered by Gekko. There are numerous advantages of an underground processing plant: it involves less land disturbance and environmental footprint; significantly reduces capital and operating costs; and the underground facility is not at the mercy of northern Canada's harsh environment. However, there is pushback from companies for processing underground, as they are reluctant to change. Realistically, the benefits and opportunities of adopting underground operations far outweigh any perceived challenges. Due to Canada's environmental regulations and the impact of a surface plant, Gekko is confident that Canada will soon introduce the company's Python modular processing unit underground.

How difficult is it to furnish post-installation support to remote locations in the North?

TB Three years ago, we initiated a dedicated services technical group. We are increasingly seeking strategic technical service/operating contracts.

PL: Gekko is developing its BOOM model - build, own, operate and maintain. We have two key clients in North America where we could potentially introduce the BOOM model. Gekko is optimistic that an announcement will soon be forthcoming. •



2015

WHERE THE
WORLD'S MINERAL
INDUSTRY MEETS

ONLY GOING TO ONE MINING INVESTMENT SHOW THIS YEAR? MAKE IT PDAC.

March 1–4, 2015

International Convention, Trade Show & Investors Exchange
Metro Toronto Convention Centre
Toronto, Canada
www.pdac.ca/convention

Teck



2015
Diamond
Sponsor

Prospectors & Developers Association of Canada





Nunavut: Canada's Newest Frontier Brims with Potential

"Since the discovery of the 300-kilometer (km) greenstone belt in Nunavut 18 years ago, the work we have done on the large land package indicates that the Three Bluffs gold deposit holds excellent mineral potential. Three Bluffs remains North Country Gold's main focus and currently hosts a combined open pit and underground resource of 4.30 Mt at 4.91 grams per ton (g/t) gold for 683,000 ounces 9 (oz) gold (indicated) and 5.52 Mt at 5.43 g/t gold for 965,000 oz gold (inferred)."

- Brian Budd, President and Director,
North Country Gold Corp.

Mining in Nunavut

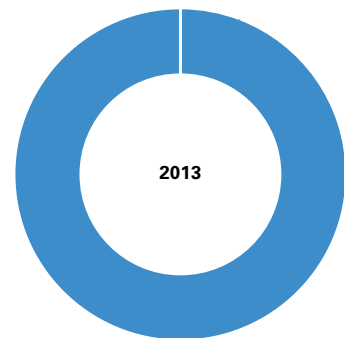
While the Northwest Territories often claim the title of "Canada's last frontier," Nunavut is truly the lesser explored of all three Canadian territories. With limited accessibility, a sparse population and with extreme temperatures that often drop below -50 degrees Celsius during the winter months, mining in Nunavut is certainly an adventure only undertaken by the brave.

Growing Pains

As the new kid on the block, having only become a territory as recently as 1999, Nunavut has faced difficult economic times. Initially, money was poured into the newly established territory by institutions of public government. However, the territory stood in icy shock as it saw all three of its first operating mines close, with no prospective private players lining up to take over and take the lead in the industry.

NUNAVUT MINERAL PRODUCTION BY COMMODITY

Source: Natural Resources Canada



Commodity	Production (Million \$)	Percentage
Gold	624,331	99.6%
Silver	2,468	0.4%

In 2013, Nunavut's GDP grew by 10.5%, which is almost 10% more than growth in 2012. Mining, quarrying, and oil and gas extraction, including support activities, rose by 16%, contributing greatly to the Territory's impressive growth, albeit from a lower base. Nunavut has a population of about 35,000 people and remains one of the world's most sparsely populated regions, however since 2009 population growth has exceeded the 2% mark.




A hindering factor in all three Territories, but especially in this last mining frontier, is a lack of geological data available for potential investors. Gary Vivian from Aurora Geosciences draws a comparison amongst the three Territories: "I would say that Yukon in general is fairly well mapped, the Northwest Territories are pretty poorly mapped and Nunavut is very poorly mapped. There is a significant onus on the governments to make sure that more geological data in the North is available to investors. The Geological Survey of Canada (GSC) and the government of the Northwest Territories have tried to keep up their mandate of building up the geological database but funds are terribly lacking. We have been very clear with the governments that it is not their responsibility to find deposits, but it is their responsibility to have a map and data well documented. The Northwest Territories and Nunavut are not well enough documented."

Today, however, there are many silver linings as the past decade of investment is finally starting to pay off. Two mines are currently operating in Nunavut; the Meadowbank gold mine and the Mary River iron project. There are also positive signs that juniors are returning, including North Country Gold Corp.'s vast gold potential on the greenstone belt at Three Bluffs, as well as Sabina Gold and Silver's Back River gold project.


The Mary River iron ore mine, is a good example of Nunavut's unique experience with accelerated growth alongside downside risk associated with softening commodity prices and an overall global mining slump. Owned 50% by ArcelorMittal and 50% by Nunavut Iron Ore, Mary River finally started production this year after 50 years of talks. However, the project has been scaled back significantly from a planned C\$4 billion rail and port project to a C\$740 million expenditure. This meant cutting out the development and construction of a railway and the inlet port and producing less iron ore, but cutting down on the timeline of starting up operations.

Another challenge will be structuring impact benefit agreements with the Inuit population of Nunavut. There is however positive signs on this front as the Mary River project brought benefits of C\$20 million to the Qikiqtani Inuit Association (QIA) over the last year, mostly from land leases and royalties.

Being at such an early stage of development, the territory has a lot of catching up to do in terms of socio-economic performance if it is to afford the Nunavummiut the same level of well being as the majority of Canadians enjoy. Housing for the local Inuit community remains a challenge that the other two territories do not struggle with to such an extent. Increased benefits from the two current operating mines and potential mines in the future will aid greatly in solving this problem. The mining sector will again play a pivotal role and, with a number of projects moving closer to development, it has the potential to create a large number of jobs in the near future.

HIGH GRADE + FLEXIBILITY



www.northcountrygold.com
info@northcountrygold.com
 NCG: TSX-V NCGDF: OTCQX



The resource endowment, fully settled land claims and clear permitting regime all speak to Nunavut’s jurisdictional attractiveness. It is certainly a pro-development Territorial government; they want responsible development in the territory. This is backed by the federal government’s prioritization of resource development as well.

Rob Pease, President and CEO, Sabina Gold and Silver Corp.



Gold Exploration

Increased exploration activity is much needed for Nunavut to pull through and vie for investment attention from its western neighbors. “The resource endowment, fully settled land claims and clear permitting regime all speak to Nunavut’s jurisdictional attractiveness. It is certainly a pro-development Territorial government; they want responsible development in the Territory. This is backed by the federal government’s prioritization of resource development as well. It is clear that mining is a high priority in Canada’s North,” said Rob Pease, president and CEO of Sabina Gold and Silver, owners of the Back River gold project. “Located in Nunavut, Back River has evolved from a curious gold occurrence to one of the more interesting gold deposits in Canada, if not globally. Back River now stands at 7 million ounces (oz) of gold discovered across all categories, but perhaps more significantly, 5.2 million oz of those 7 million oz are now measured and indicated,” he added.

Such results help attract attention to the territory. North Country Gold (NCG) might also have found the golden ticket with their Three Bluffs project. Brian Budd, president and director of

North Country Gold elaborated: “Since the discovery of the 300 km greenstone belt in Nunavut 18 years ago, the work we have done on the large land package indicates that the Three Bluffs gold deposit holds excellent mineral potential. Three Bluffs remains North Country Gold’s main focus and currently hosts a combined open pit and underground resource of 4.30 million metric tons (mt) at 4.91 g/mt gold for 683,000 oz gold (indicated) and 5.52 million mt at 5.43 g/mt gold for 965,000 oz gold (inferred). To date, Three Bluffs has been drill tested along a strike length of 4.1 kilometers (km) to depths of 500 meters below surface with gold mineralization persisting to depth where the company has identified additional mineral potential comprising 4.5 to 7.5 million mt grading between 3.8 g/mt and 7.3 g/mt gold.”

The fact that Nunavut has a vast mineral potential is undisputed, but the wounds of the recent downturn are still fresh for exploration companies as well as investors. “Risk capital had all but completely left our industry,” said Budd.

NCG was one of the few explorers in Nunavut that managed to ride out the storm by taking a different approach and

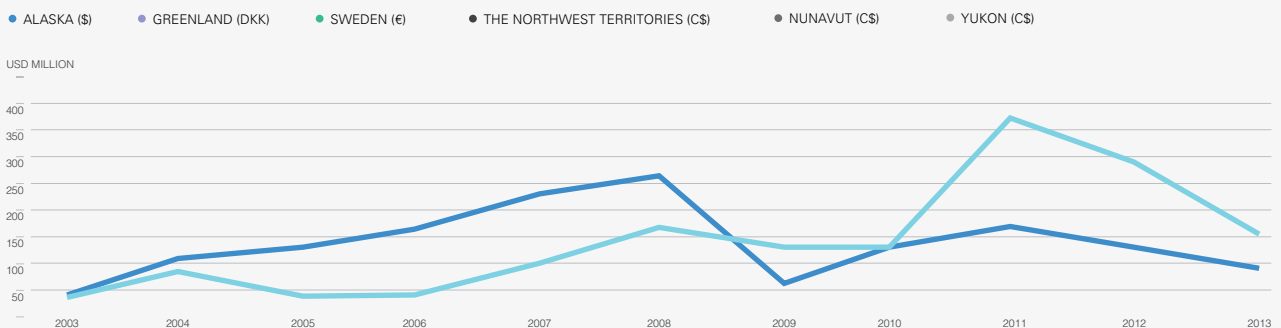
managing their costs by managing the project scale. “Looking at mining projects in the Canadian North, they all start out with spending millions of dollars on exploration and defining millions of ounces. After all that time and effort has been spent they reduce back to what is economic. The Canadian exploration finance strategy has become all about how exploration companies can get the most ounces on board to make the company so that the evaluations of these companies get to their upper level,” said John Williamson, chairman, CEO and director of NCG.

NCG’s approach is different: “At Three Bluffs we could spend millions of dollars drilling off the resource and potentially growing it to a significantly larger size than at present, but it will actually cost more than it costs to theoretically put a smaller scale project into production while remaining viable. Key to our strategy is the right sizing of the project to make money for our shareholders. Grade is what conquers everything. By switching our focus to the grade and how many ounces at the grade that you need to make the project economic, we can find a way to get to a potential production decision at the lowest capital cost and to generate a payback on capital in the shortest number of years,” continued Williamson.

Nunavut has a steep hill to climb if it is to catch up with its mining neighbors. While regulation is evolving in this young territory, its framework is similar to that of the Northwest Territories and the devolution that it has undergone. Processes in some cases tend to be lengthy, but should not encumber the serious investor. •

EXPLORATION WORK IN NUNAVUT

Source: Natural Resources Canada



John Williamson & Brian Budd

JW: Chairman, CEO and Director

BB: President and Director

NORTH COUNTRY GOLD CORP.



JW



BB

Could you give us an overview of North Country Gold (NCG) and your principle asset, the Three Bluffs mineral resource in Nunavut?

BB: Since the discovery of the 300-kilometer (km) greenstone belt in Nunavut 18 years ago, the work we have done on the large land package indicates that the Three Bluffs gold deposit holds excellent mineral potential. Three Bluffs remains North Country Gold's main focus and currently hosts a combined open pit and underground resource of 4.30 Mt at 4.91 grams per ton (g/t) gold for 683,000 ounces 9 (oz) gold (indicated) and 5.52 Mt at 5.43 g/t gold for 965,000 oz gold (inferred). To date, Three Bluffs has been drill tested along a strike length of 4.1 km to depths of 500 meters below surface with gold mineralization persisting to depth where the company has identified additional mineral potential comprising 4.5 to 7.5 million metric tons grading between 3.8 g/t and 7.3 g/t gold. Utilizing an overall block cut-off grade of 5.0 g/t, which the company believes better reflects the underground mining grade cut-offs at these deposits and at this location, a high-grade underground only subset of the existing Three Bluffs resource esti-

mate contains an indicated resource of 1.140 Mt grading 11.21 g/t Au for 411,000 oz gold and an inferred resource of 1.900 Mt grading 9.15 g/t for 558,000 oz.

At the time of our last interview in 2012, the price of gold was at around \$1660/oz but has dropped around \$1300. How has this affected NCG?

BB: We should look at how it has affected the junior market as a whole and NCG was one of the companies that were impacted by the market environment. Risk capital had all but left our industry. It impacted us just like every other junior, yet we still managed to increase our resource. Fortunately NCG had raised enough capital prior to the downturn and was careful about spending our capital throughout our program. Unlike some of our peers, we implemented innovations and were able to bring our costs down.

What still needs to happen at Three Bluffs before going into production?

BB: We have established the 2015 work program plan that will revolve around activities required to collect the necessary information to prepare for and potentially obtain the required permits to allow the company to initiate a 2 year underground exploration and bulk sampling of the Three Bluffs gold project planned in conjunction with focused drilling targeted at further delineating high grade mineralized structures identified to date. The company also plans to implement strategies to realize the potential of other assets within its property portfolio across the remainder of the Committee Bay Belt.

JW: Looking at mining projects in the Canadian North, they all start out with spending millions of dollars on exploration and defining millions of oz. After all that time and effort has been spent they reduce back to what is economic. The Canadian exploration finance strategy game involves exploration companies trying to get the most oz it can so that their evaluations will rise. NCG is employing a different strategy. At Three Bluffs we could spend millions of dollars drilling off the resource and potentially growing it to a significantly larger size than present, but it will actually cost more than it costs to theoretically put a smaller scale project into production while remaining viable.

Key to our strategy is the right sizing of the project to make money for our shareholders. Grade is what conquers everything. By switching our focus to the grade and how many ounces at the grade that you need to make the project economic, we can find a way to get to a potential production decision at the lowest capital cost and to generate a payback on capital in the shortest number of years.

Do investors recognize this kind of responsible way of developing this mine?

BB: Investors are still licking their wounds from the last two years. There are some visionaries out there, but the leap has not been taken yet. There has got to be a shift in thinking. The ideal scenario is to get to a smaller scale production that enables you to fund your own exploration and not be as dependent on the capital markets.

JW: Most brokers and fund managers want projects to be bigger because there is a misconception that the chances of failing will be less. As long as that mentality is in the market place there is going to be a huge demand to just keep ratcheting exploration projects up, and it hurts all of us when you have the majors writing off of hundreds and millions dollars on projects that probably were never there in the first place. It is a cycle. •





Greenland: On the Edge of Ice

“As long as we have been in Greenland (since 2002), the mining law has not materially changed. A royalty was recently introduced, but it is net of after-tax income and not unusual in the mining industry. Before 2009, there was a joint committee comprised of half Danish and half Greenlandic politicians, who administered the licensing regimes.

After 2009, Greenland became the benefactor of 100% of its minerals, so all decisions on licensing were then made solely by the Government of Greenland. The reality is it [the Self-Government Act] sped up the granting of licenses because it removed some of the bureaucracy.”

James Tuer, President,
Hudson Resources Inc.

Greenland's Untapped Potential

From the Archean to the Quaternary, the geological development of the world's largest island spans a period of almost four billion years. A former Danish colony, Greenland was granted home rule in 1979. While the Danish government is still in charge of foreign affairs, financial policy, and security, Greenland assumed independence in 2009 with responsibility for judicial affairs, police, and natural resources.

Looking at Greenland's geology, a large ice sheet, a remnant of the previous ice age, covers the central part of the country. The ice-free zone around the ice cap

is up to 300 kilometers (km) wide and covers an area of 410,000 square km. The shining forces of the glaciers have left behind large areas of exposed rock that hosts mineral belts that are highly prospective for gold, nickel, platinum group elements, copper, lead, zinc, molybdenum, tantalum and niobium, iron ore, several forms of industrial minerals, diamonds, rubies and rare earths.

The Bank of Greenland estimates that GDP declined just under 1% in 2012 and a further 0.5% in 2013. Expectations of zero growth have been set for 2014. Greenland's economy has always relied

heavily on its hunting and fishing industries, but with the reduction in the Arctic Ocean's sea ice, new opportunities are arising in the mining and oil and gas sectors. It is also becoming increasingly important for Greenland to supplement economic growth through leveraging its natural resources in the mining and energy sectors, as growth in fisheries industry in the country will be modest at best.

Regulation

Since 2002, the number of exploration licenses in Greenland has increased

Image: Avannaq Resources Ltd.



According to Jay Collins: “[The] challenge is that all permit approval and documentation goes through the Danes and the process then becomes quite bureaucratic. The Northwest Territories, Nunavut and Yukon’s mining jurisdictions are far easier to deal with. Here one is dealing with small groups of people who are the decision makers. While First Nation regulations still present a challenge at times, these jurisdictions are some of the friendliest in the world.”

Greenland needs mining legislation that is transparent and predictable if it wants to compete with other Arctic mining jurisdictions.

more than six fold. This is partly due to Greenland’s government wishing to see its resource sector expand, but the true test for foreign investors will be to obtain political clarification of the final design of the planned taxation through royalties in the extraction phase.

To attract the necessary investment in the country’s mining industry, there needs to be clarity on policies and not just strings of bureaucratic red tape. Merit Consultants International is one of very few Canadian construction management companies that have done work in Greenland’s mining sector. Ac-

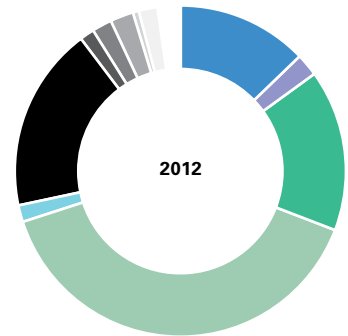
Challenges: Infrastructure and Skills Availability

When it comes to transportation and shipping, a lot has changed in Greenland because of the reduction of the Arctic ice cap. Not only has this reduction increased accessibility to the region’s minerals and oil and gas deposits, it has also created new shipping routes that decrease transportation times between Europe and Asia.

Transportation and shipping between Can-

VALUE-BASED TURNOVER OF GREENLAND’S MINERAL RESOURCES

Source: Raw Materials Group



● Copper	13%
● Diamonds	2%
● Gold	16%
● Iron Ore	39%
● Nickel	1.75%
● Others	18%
● PGMs	1.5%
● Phosphate	2%
● Potash	2.25%
● REE	0.5%
● Silver	2%
○ Zinc	2%



“

We value Greenland for its proactive government that wants to develop mines. They have a tremendous database of information that is available to all explorers. We started looking at diamonds in 2002...There is a very transparent staking policy which means money is spent in the ground and not on bureaucracy. This expedites research and development. We are currently applying for a license to mine calcium feldspar, an industrial mineral, and the government is being very supportive.

James Tuer, President, Hudson Resources Inc.

”

“

From a logistical perspective, one of the great things about Greenland is that it has deep-water access to a lot of the ice-free land area. This means that you can sail right into the coastal area in West Greenland for 10 months of the year and put your barge on shore and build your drill camp close to your drill targets. It is really easily accessible with most sites having towns a few tens of kilometers away.

Stefan Bernstein, Exploration Director, Avannaa Resources Ltd.

”

ada and Greenland compares favorably to the process in the interior of Canada’s North, where roads are needed to transport the product across vast distances before it reaches a railway or port. Transportation distances from mining sites to open water in Greenland, on the other hand, are usually around tens of kilometers. Stefan Bernstein, exploration director at Avannaa Resources explains the advantages of Greenland’s geology for mining operations. “From a logistical perspective, one of the great things about Greenland is that it has deep-water access to a lot of the ice-free land area. This means that you can sail right into the coastal area in West Greenland for 10 months of the year and put your barge on shore and build your drill camp close to your drill targets. It is really easily accessible with most sites hav-

ing towns a few tens of kilometers away. Temperatures in coastal parts of Greenland are also fairly mild by comparison with Arctic Canada, due to the proximity of the ocean, with winter temperatures typically in the range of -10°C to -15°C,” he said. A big challenge in Greenland, with a population of 56,000 including foreigners, is finding the right skills. Companies will have to resort to getting more foreign workers in to develop operations at a satisfactory pace. Despite all these challenges, opportunities in Greenland cannot be overstated with possibilities of accessing 13% of the world’s undiscovered oil, 30% of its untapped natural gas, and 20% of global liquid gas reserves as well as other metals and minerals. •

GREENLAND MINING INDUSTRY (2007 TO 2011)

Source: Statistics Greenland



Stefan Bernstein

Exploration Director

AVANNAA RESOURCES LTD.



Could you please give us a brief overview of Avannaa and its exploration strategy in Greenland?

Avannaa means North in Greenlandic and is fitting given our activities in Greenland. Founded in 2006, Avannaa is a privately owned company with a 100% focus on base metals, primarily in greenfield exploration in Greenland. Avannaa's strategy is to only explore for robust deposits that can yield world-class assets. By this definition, we look at deposits with a minimum potential NPV between \$500 million and \$1 billion. Through our current owner and partners we have invested about \$30 million to date.

Can you tell us about your two key projects?

Both projects are located in West Greenland, concern base-metals, and have the potential to uncover giant deposits directly adjacent to deep ice-free seawater. One is a SedEx lead-zinc target close to the former Black Angel mine. The other consists of multiple nickel-copper-PGM targets in two districts in the Disko Bay region. During the last three years Avannaa has developed this mag-

matic nickel-copper-PGM project at Disko and building on three decades of exploration by Cominco, Falconbridge and Vismand Exploration. The province is recognised to be the best analogue to the Norilsk-Talnakh nickel camp outside of Siberia. Possible presence of hydrocarbons makes test drilling at Disko more expensive than the average Arctic exploration program, but the potential size of the deposits we are after here certainly justifies the added costs. The Norilsk nickel camp covers nearly 25% of the world's supply of nickel.

Over the past seven years Avannaa has tested about 25 exploration plays. With very high criteria on project performance we have now ended up with the two exploration projects that have advanced to the test drilling stage. We have also recently tested a Pb-Zn play in North Greenland in partnership with Boliden and a sedimentary copper play in East Greenland in partnership with Anglo America. Presently, Avannaa and Boliden are partners in targeting lead-zinc in Greenland.

How do logistics in Greenland compare to other Arctic mining destinations?

From a logistical perspective one of the great things about Greenland is that it has deep-water access to a lot of the ice-free land area. This means that you can sail right into the coastal area in West Greenland where our two main projects are located for 10 months of the year and put your barge on shore and build your drill camp close to your drill targets. It is really easily accessible with most sites having towns a few tens of kilometers away. Temperatures in coastal parts of Greenland are also fairly mild by comparison with Arctic Canada, due to the proximity of the ocean, with winter temperatures typically in the range of -10°C to -15°C.

What have been the main factors behind the lack of partnerships for the Kangerluarsuk and Disko-Nuussuaq projects?

The issue that we have with our two sole ventures is that all the big mining companies appear to have frozen up in terms of taking on new ventures and also that their more cautious strategy

calls for more modest investments. While our two assets should be attractive to any major mining company, we realize that in the present climate getting conventional partnerships is difficult. We have therefore recently approached the market with a novel approach, in which we propose to invest via a consortium in which both industry and institutional investors can take interests. This seems to attract quite some interest and after all, consortiums with several parties are standard practice for the oil and gas exploration industry, so why not for mineral exploration?

How transparent do you find mining regulations and legislation in Greenland and how difficult and intricate is doing business here? What other challenges need to be overcome?

Greenland is part of the Danish kingdom but has had a self-governance agreement for many years so the government of Greenland basically decides everything that has to do with the land and the extraction of minerals from it. Avannaa is in very good standing with Greenland's government. Greenland contains all the geological building blocks that characterize great mineral potential such as Canada, South Africa and Northern Scandinavia and the government and the population is really pro-mining. The country views mining as a way to become more financially independent from Denmark. Greenland's legislation is transparent and has a fairly competitive tax regime and once you know your way around Greenland it is a very friendly country to do work in. At a first glance infrastructure appear to be challenging, but there are a lot of boats going up and down the coast, and it is quite easy to get around.

Do you have a final message to our international readership?

Avannaa's strong expertise in Greenland comes from the executive management that has worked in Greenland for more than 25 years and has an unparalleled network both within the geological community and within Greenland. Greenfield exploration is the only way to unlock value and finding big deposits will open the market back up. •





Sweden: A Mining Legacy

“Sweden is a very civilized country with great infrastructure. Having worked extensively in developing mining jurisdictions it is truly refreshing conducting business without the hassles of security and logistics. In terms of regulations, Sweden has standard European mining legislation that is clear and transparent with a rulebook that is quite amenable even to non-Swedish speakers. Sweden is in essence a mining country with a mining heritage and it is apparent when you work there. While labor is expensive, similarly to Canada, Australia and the UK, productivity and skill is also high which basically offset the cost.”

- Blair Way, President and CEO,
Flinders Resources Ltd.

Mining in Sweden

The Swedish mining heritage dates back hundreds of years, with the first mining data recorded in the early 1200s. Today, Sweden is one of Europe's leading producers of ores and minerals and by far the biggest producer of iron ore. Other minerals that play a significant role in Sweden's mining economy are copper, zinc and lead as well as gold and silver. In 2013, the Swedish economy grew by 1.5%. The Swedish mining industry has largely recovered from the global contraction, posting double digit growth in 2010 and 2011, followed by a decline in 2012 similar to mining jurisdictions world wide. A decline was expected for 2013, but 2014 carried high hopes that the industry would expand again.

Ease of Doing Business

The Mining Inspectorate of Sweden is the official body responsible for issuing permits for exploration and mining and decides on matters falling under the

Minerals Act (1991:45). Owning and operating the Woxna graphite mine in Sweden, Canadian-based Flinders Resources has first hand experience in a country that has been ranked as one of the world's top mining friendly destinations by the Fraser's Institute. As Blair Way, president and CEO of Flinders described, "Sweden is a very civilized country with a great infrastructure. Having worked extensively in developing mining jurisdictions it is truly refreshing conducting business without the hassles of security and logistics. In terms of regulations, Sweden has standard European mining legislation that is clear and transparent with a rulebook that is quite amenable even to non-Swedish speakers. Sweden is in essence a mining country with a mining heritage and it is apparent when you work there. While labor is expensive, similarly to Canada, Australia and the UK, productivity and skill is also high which basically offset the cost." With ready access to the European and

North American markets, Sweden has a distinct competitive advantage when it comes to supply cost. "[Flinders has] a big advantage over Chinese producers as our product is from CAD\$150 to CAD\$200 cheaper due our proximity to our customers. Another benefit is that if customers need our product on short notice we are right there, where China is a month's shipping away," said Way.

The Swedish Mining Association's recently released its vision for the mining sector's growth to 2025, which forecasts that mining production will triple and create 50,000 new jobs. Establishing a research and innovation program will be central to this strategy and highlights Sweden's long standing commitment to leadership in research education and innovation as a mining jurisdiction. Sweden remains one of the circumpolar jurisdictions to watch not only as a strong player in primary extraction, but also in secondary extraction. •

SWEDEN MINING PRODUCTION, 2011

Source: Government of Sweden

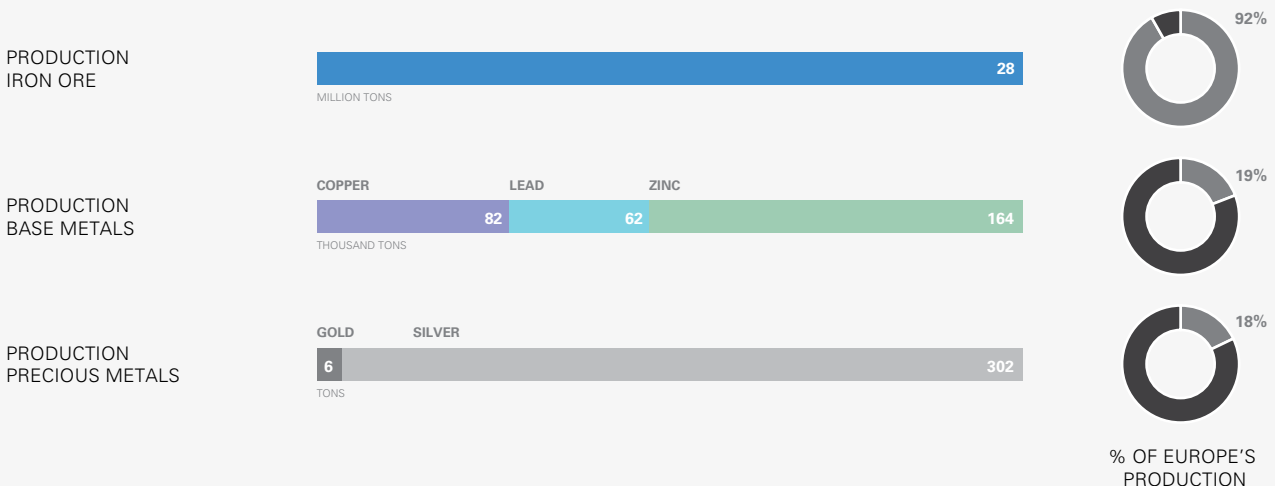
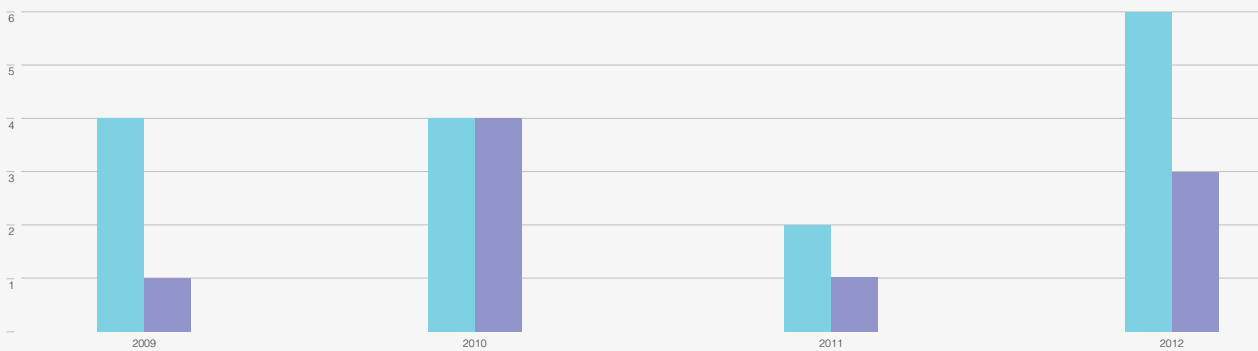




Image: Flinders Resources Ltd.

GRANTED EXPLOITATION CONCESSIONS NEW MINES IN OPERATION



Blair Way

President and CEO
FLINDERS RESOURCES LTD.



What is the reasoning behind Flinders Resources restarting production at its Woxna Graphite Mine in Sweden?

The primary reason for acquiring Woxna was that it is a former producing mine, already equipped with a processing plant, an open pit mine and tailings and storage facilities. The necessary infrastructure such as roads, power and communication is also already in place so getting to production is fast and cost effective. The resource is there, and we have proven it up to meet the TSX requirements that give us 10 to 20 years under NI 43-101. The preliminary economic assessment (PEA) that was published mid-2013 provided a good map of how the plant could be restarted. In a public company for greenfield operations, you follow certain steps: exploration, discovery, PEA, pre-feasibility study, feasibility study, before building a plant and getting it started. Already having a plant and a PEA meant that Flinders did not have as much groundwork to do to establish production and a revenue stream quickly.

How expensive an exercise is the reopening of the Woxna mine?

There was an existing budget in our PEA and I proposed to the board that we restart it a staged manner to reduce the initial capital required and cost less than CAD\$5 million. Flinders have taken the PEA, stripped it down to its necessities and sourced used equipment to reduce costs. I sourced second hand equipment, the majority of which was brand new, never installed, but was slated for other projects that have been shut down. Woxna is not going to produce at full capacity from the start and are thus staging some of the additional equipment. We will consequently ramp up production to meet sales. This is a contrary approach to mining most other commodities such as precious metals, which if a mine produces, the product will be bought. In the case of industrial minerals such as graphite, customer relationships must be built, and only people who know the real value and price of the commodity will buy and sell it. These types of industrial products are also tailored to the customer's specifications, which result in varied prices for varied product specifications. The scenario is more similar to commodities such as nickel and zinc.

What steps remain to bring Woxna online and how much graphite are you planning to produce initially?

Woxna was brought on line July 2014. At Woxna we currently have the capacity to produce 10,000 mt per year (mt/y) under the existing permit while the plant will have the capacity to produce upwards of 15,000 mt/y. In an ideal scenario we will get production up to 10,000 mt/y pretty quickly, but it all remains dependent on sales. In the first 12 months we will most likely be selling a few thousand mt and that will lead to more sales. Most of our customers may consume in the order of 3,000 to 4,000 mt/y, so if they are sourcing from a number of sources including China, they will not give Flinders their entire market until we have proven our reliability."

How does sourcing graphite from Flinders compare in costs to importing graphite from China?

Interestingly, price is not the main driver for our customers, who are more interested in consistency of supply. This is where Flinders has a big advantage over Chinese producers, as our product is from CAD\$150 to CAD\$200 cheaper due to our proximity to our customers. Another benefit is that if customers need our product on short notice we are right there, where China is a month's shipping away. Flinders has and can supply at prices similar to other producers and we know we can run our operations leaner and meaner than it was previously operated. The market for traditional uses of graphite in Europe is in the order of about \$50 million a year and Flinders' target is to initially get 10% to 20% of that. If you look at the graphite market size compared to other commodities, the graphite market is close to one million mt a year compared to, for example, nickel that is a 1.7-million mt/y market. While this sounds impressive, the value of the nickel is \$26 billion while the value of the graphite is in the order of \$1 billion. Graphite is a different type of commodity and requires more focus on marketing.

What trends do you foresee in graphite prices in the next five years?

The high that graphite prices hit in 2011 was just one of those random spikes that happen when China turns the taps off for

a bit. The graphite market is growing as people continue to invent more uses for it. In North America and Europe, there will be a steady increase as demand increases, but I foresee a normal demand path following inflation more than anything. There may be some deviations as some new specialty stream of graphite is developed that may go up considerably more than the average. As an average price it will be somewhere from \$1,500/mt to \$2,000/mt. While there will be some specialty products that will be more expensive, the demand volume of that will be much less, offsetting the higher prices. Graphite is a commodity that has a decent demand currently and will have more demand in the future that will have a positive impact on the price. It is, however, hard to say how much.

Sweden is heralded as one of the best mining destinations in the world. In your experience, does the country deserve this reputation?

Sweden is a very civilized country with great infrastructure. Having worked extensively in developing mining jurisdictions it is truly refreshing conducting business without the hassles of security and logistics. In terms of regulations, Sweden has standard European mining legislation that is clear and transparent with a rulebook that is quite amenable even to non-Swedish speakers. Sweden is in essence a mining country with a mining heritage and it is apparent when you work there. While labor is expensive, similarly to Canada, Australia and the UK, productivity and skill is also high which basically offset the cost.

What are Flinders Resources strategic objectives over the next few years?

Flinders Resources strategy is to prove itself with the Woxna asset and grow our marketing and sales. The natural next step would then be to acquire other assets and repeat the process. We have had discussions with a number of former

and near producers in North America and we will take the same approach as we did with Woxna. Ideally in the next three years we will pick up another asset in North America and then in Australia.

Do you have a final message?

There are many people making outrageous claims and I want to differentiate Flinders. We are focused on building a graphite company and demonstrating the value that you can build in this space with a company that is profitable, not just because you are selling shares but because you are selling product and generating profit. •

TSXV:FDR



FLINDERS

Resources

TSX V's only graphite producer

In production, supplying the European Market

www.flindersresources.com
Sweden – Woxna Graphite AB, Skolallén 2 B
821 41 BOLLNÄS, P +46 271 30120

info@flindersresources.com
Canada – corporate office, 1305-1090 West Georgia Street
Vancouver BC V6E3V7, P +1 604 685 9316







Circumpolar Mining Services: Overcoming Obstacles

“We have worked closely with Cameco on their Key Lake project where we deployed two of our MSR systems to monitor the stability of a slope wall during construction...These two systems were the first MSR's able to operate at -50°C without the need for external heated buildings/enclosures or additional heating blankets. The technology has recently been tested to further extremes at a Centerra Gold mine in Eastern Europe where MSR is constantly monitoring a rapidly moving wall of ice. Our goal is to increase the safety and productivity of Canadian open cast mines by offering a solution with unrivalled reliability and accuracy.”

Alex Pienaar, Regional Marketing and Sales Manager, Reutech Mining

Service Companies in Circumpolar Mining

There are a plethora of mining service companies that are equipped to deal with the harsh terrain. In such an empty land, recruiting agencies have to be especially innovative when it comes to supplying the industry with the right skills. Mining and other service companies have achieved remarkable feats to be able to serve the sector in these unique and remote locations.

Multinational and Local Service Providers in Canada's Territories

The mining downturn since 2010 has forced service providers to reconsider their options and diversify. "To compensate for the downturn in mining activity, BBE has continued to diversify; for example, in November 2013, we acquired a procurement

company adding another layer of supply chain integration. Demand in other markets such as oil and gas and construction have mitigated the impact of the mineral exploration lull," said Heather Stewart, president of Braden Burry Expediting (BBE) based in Yellowknife in the Northwest Territories.

Most players are taking a long-term view of their operations in this distant and underdeveloped part of the world. "Canada's North generally still represents a huge amount of potential for mineral development and therefore for Knight Piésold as we continue to focus on mineral development. Each territory goes through its own cycle. In the last five to ten years, Nunavut tended to get the most dollars in terms of exploration, while exploration has grown in Yukon and has dropped off a fair bit in the Northwest Territories. Knight Piésold has been fortunate to work on projects throughout all three Territories, and this diversification will allow us to continue to ride out

the ups and downs," said Richard Cook, senior scientist at Knight Piésold.

While it is to be expected that multinational, listed companies have this "ride-it-out" approach to the industry in the circumpolar region, smaller local companies have demonstrated remarkable loyalty and resilience. Evolving legislation can open opportunities. Michael P. Meade, general manager of ETP Energy Technology Products said: "We are seeing more emphasis on emissions, whereas in the past, keeping equipment working was the main concern. Local governments have definitely had a role to play in this shift."

Taking partial ownership of projects has also helped contractors and consultants adapt to the new environment and adopt strategies to support exploration activity in the North. "It has been the perfect storm, as a financial crisis combined with a huge increase in project and operating costs as well as global political and regulatory changes. This has created a really unnerving time for financial organizations in particular. There are a substantial number of companies out there that are project-ready but cannot secure financing. However, there is light on the horizon. We are starting to see a new wave rippling through the industry where participants of the projects are taking ownership of the project. This takes the risk away from solely the financiers and puts it in the hands of the people who are really doing the work. Financiers would like to see executives' skin on the table and not just their own," said Jay Collins, of Merit Consultants International.

In picturesque Yukon, Whitehorse stands out for the number of service companies that have established there through the boom and bust. Carl Schulze, owner and chief consultant of All-Terrane, a contract mining exploration company based in

Whitehorse, said: "In the early 1990s major companies were doing most of their own exploration, but by the early 2000s the juniors entered that space. Many juniors did not have enough capital to afford their own entire exploration programs. Instead of hiring a lot of staff for fairly short projects, they could call on All-Terrane to do it for them on a contractual basis. It worked really well through one of the best-built markets we have ever had in the mining industry. The deep bear market of 2009 did not affect the junior mining sector as much as other sectors."

In terms of catering for a callous climate in the North, equipment manufacturers have been innovative make sure that downtime and risk are minimized. Across the world, mining conditions vary greatly and the circumpolar region presents its own set of unique challenges, especially relating to the intense cold. Alex Pienaar, regional marketing and sales manager for South African based Reutech, that specializes in radar systems explains, "Our systems have withstood the harshest environmental and operational conditions within the African mining industry. This ranged from extreme heat to dust storms and torrential rains. With that being said, an African winter and a Canadian winter is not quite the same thing. It is relatively easy to develop a system that is operational to -20°C; most commercially available electrical and mechanical components are specified to operate at those temperatures. However, it becomes exponentially more challenging to develop a system able to operate at -50°C without having to construct and use heated enclosures." Pienaar also adds that equipment in this environment has to be tailored to the mining operators' unique requirements saying, "The first key objective is to work closely with regional stakeholders in order to determine their unique technical and functional requirements, with the goal of further aligning or solution with their specific needs." BMT WBM's Machinery Group, focusing in machine design and forensic analysis reiterates the need for monitoring and specialization in the harsh climate. Charles Constancon, director of Canadian services for BMT WBM Canada said, "None of our technologies is limited by region; however, in

the North the extreme cold weather is an issue for machinery, as is working in those conditions. The company's focus with its PULSE TerraMetrix product line is to improve the productivity of draglines and mining shovels and limit machine harm; this is achieved by quantifying machine health, payload and productivity. Machine health measures the harm or damage that has been inflicted either by operational mining conditions or operator induced influence. Arguably, once this is understood, a better design can be introduced."

Remediation and Reclamation

The downturn has brought new opportunities in remediation and reclamation services. Castle Rock Enterprises has recently branched out their construction services into the mining sector as part a diversification strategy. "As a result of the harsh winters, Yukon basically has six to seven months of construction time per year. Moving into mine remediation and construction would push us into the winter months for road construction and reduce our seasonality. Another reason for this drive is that mine remediation in Yukon represents great new opportunities for Castle Rock over the next 15 years, with seven mines that currently need to be remediated," said Ted Danyluk, vice president of Castle Rock Enterprises.

The belief that mining remediation and reclamation represent growing opportunities while the sector awaits a new upswing is repeated by KBL Environmental Ltd., based in Yellowknife in the Northwest Territories. "There has been a significant shift by KBL to remediation work. However, our mining clients have remained the same and our business with operating mines is consistent, although exploration-related work has reduced. In Yukon, the exploration downturn has affected us more, with mines going into care-maintenance; this has resulted in KBL turning to remediation type work," said John Oldfield, general manager.

Skills Recruiting and Retention

While Canada's North boasts some of the world's most pristine landscapes, the sparseness of the population does

not offer a wealth of skilled labor. Amir Marciano, managing partner of Rakia Recruiting said: "The government and Rakia's figures for the mining sector show that over the next 10 years there will be a shortfall of 20,000 workers in Canada's mining industry.... the solution is foreign workers." The fact that foreign labor is not as adverse to the idea of relocating to the North for the right positions certainly strengthens the case for this possible solution. "It is difficult to persuade Canadians to sacrifice their urban lifestyle and leave their families to work in remote locations. This is not an issue for immigrant workers amongst whom it is common to leave home to earn good wages and also further a career," said Marciano.

Another partial solution to the labor shortage problem is the up skilling and education of the local populations, especially aboriginals, and to make sure that they are aware of the opportunities in the mining sector, as well as equipped with the right skills to contribute to

it. For this we see bodies such as the Northwest Territories Mine Training Society (MTS) play a prominent role. "The MTS runs a program that involves and is supported by both levels of government, federal and territorial, as well as the mines and aboriginal organizations. The MTS has a board of directors, which is comprised of mining companies as well as aboriginal and government representatives. They develop programs that are specifically targeted for jobs in the mining sector. Aurora College also develops and delivers a number of very good mining and mining related programs. These programs tie in neatly with what NorthWays aims to do which is to get unskilled workers trained up and into the workplace," said Allan Twissell principal/lead consultant of NorthWays Consulting based in Yellowknife. •



ETP
Energy Technology Products
A Division of Industrial Pollution Control, Inc.

FOR MINING DUST COLLECTION APPLICATIONS IT'S ONE DECISION NOBODY WILL SECOND GUESS

ETP Energy Technology Products has been providing custom solutions for dust control in BC since 1981. Dust control strategies - and the systems to make them work - are often unique to a process or facility, requiring problem solving in an area that many are not familiar with.

Contact a knowledgeable ETP Specialist today.

ETP ENERGY TECHNOLOGY PRODUCTS
a division of Industrial Pollution Control, Inc.
#107-9295 198th Street, Langley, BC V1M 3J9
Tel: 604-882-8886 Toll free: 1-866-291-6855 Fax: 604-882-8896
E-mail: sales@etpbc.ca Website: www.etpbc.ca

Alex Pienaar

Regional Marketing and Sales Manager
REUTECH MINING



Can you tell us a bit more about Reutech's origin and your evolution in the mining industry?

Reutech Radar Systems started out as a defense contractor, successfully designing and developing ground based radar systems for the defense market. In 2004 we were approached by Anglo Coal South Africa to help them detect and accurately track slope stability issues at their collieries using cutting edge radar technology. Extensive collaboration between both companies led to the introduction of the Movement and Surveying Radar (MSR) to the mining industry in 2006. We have since then experienced unprecedented global growth and what used to be a business unit focused on mining is now a stand-alone division within the company.

What is Reutech's current presence in Canada and what are your goals for this jurisdiction?

We have worked closely with Cameco on their Key Lake project where we deployed two of our MSR systems to monitor the stability of a slope wall during construction. It was an interesting project with a very unique set of challenges. Deploying any type of equipment in the northern latitudes with the guarantee of being 95% operationally available on a 24/7 basis, all year round, provided testing conditions with uncharted territory for our product. These two systems were the first MSR's able to operate at -50°C without the need for external heated buildings/enclosures or additional heating blankets. The technology has recently been tested to further extremes at a Centerra Gold mine in Eastern Europe where MSR is constantly monitoring a rapidly moving wall of ice. Our goal is to increase the safety and productivity of Canadian open cast mines by offering a solution with unrivalled reliability and accuracy.

You have also developed technologies for the harsh conditions in southern Africa. How challenging and different was that from what you have done here?

Our promise to our clients across the board is increased safety and productivity. To keep that promise on a daily basis requires a high level of operational avail-



Image: Reutech Mining

ability. Our systems have withstood the harshest environmental and operational conditions within the African mining industry. This ranged from extreme heat to dust storms and torrential rains. With that being said, an African winter and a Canadian winter is not quite the same thing. It is relatively easy to develop a system that is operational to -20°C; most commercially available electrical and mechanical components are specified to operate at those temperatures. However, it becomes exponentially more challenging to develop a system able to operate at -50°C without having to construct and use heated enclosures.

How much more expensive would your products be that you developed for the North vs. the standard systems?

There is a minimal price difference, but the -50°C MSR will certainly not break the bank. We remove a lot of the components that are unnecessary in the extremely cold conditions. There aren't any major modifications necessary so the form-fit factor remains the same. This helps to keep the costs in check.

How difficult do you find introducing these new technologies to the mining industry?

In the current tough economic times where resource prices are under pressure, mines are looking for multi-dimensional solutions. The advantages in increased safety and productivity of the MSR technology are a definite benefit to any mine. Even in tough economic times, mines refuse to compromise on safety, but when the product that is introduced to help solve safety problems also significantly increases productivity, objections are usually overcome.

Do you have a case study where the MSR has increased productivity and safety?

A slope failure at a large open pit copper mine in South America resulted in a 20,000-metric ton collapse directly on to a haul road. The failure developed over a period of 21 hours and was detected six hours in advance by an MSR system operating at a range of 800 meters. The warning not only provided sufficient time for the evacuation of personnel and equipment from the area but also provided the planning department with enough time to arrange alternative access to the pit. There were no resultant injuries, damage to equipment or extended production loss due pit access.

What do you envision for Canada's North and territories like Greenland and Scandinavia?

It is definitely important territories that Reutech Mining would like to focus on going forward. Our technology is mature enough to be able to operate in those environments. We have proven ourselves globally and it is just a question of getting to the people and educating the market.

How are technologies received and perceived from South Africa?

South Africa has a very good reputation in the mining industry. South Africa currently is the fourth biggest supplier of mining equipment to the Canadian market. This statistic speaks volumes about how South African technology is received and perceived. We often meet sceptics when it comes to the technological abilities of the African continent. Not only has Reutech Mining more than proved itself in highly challenging environments as well as markets, but it is quite impressive to see how many industries in the

modern world make use of South African designed and manufactured technology. The US and Norwegian defense forces are prime examples.

What would be your key objectives over the next three to five years in Canada?

The first key objective will be to work closely with regional stakeholders in order to determine their unique technical and functional requirements, with the goal of further aligning or solution with their specific needs. The second objective will be to gain substantial market share by using our existing platform as a springboard.

Do you have a final message for our international readership and the local players?

Reutech Mining, in collaboration with the mining industry, has worked hard to design and develop the world's best slope stability radar in the form of the MSR product range. We offer systems that can be installed in fixed installations, on the back of utility vehicles or on trailers. We continually strive to improve our offering by means of industry consultation and input. We remain committed to improving the safety and productivity of open cast mines around the world through the accuracy and reliability of the MSR system. •



Safety & Productivity
through Accuracy & Reliability

Michael P. Meade

General Manager
ETP ENERGY TECHNOLOGY PRODUCTS



Could you give a brief overview of ETP Energy Technology Products?

ETP Energy Technology Products has been around since 1981 as a supply company strictly focused on the local commercial engineering community. They sold a lot of products to schools and hospitals and some light industrial type applications. Since 2007, ETP Energy Technology Products has focused its efforts by going after some of the mining business, because we have the right product mix for the industry. We specialize in dust collection and industrial ventilation products that we sell into the mining sector.

Can you provide a case study in which a solution made a significant difference at a mining site?

The question is difficult to answer because sometimes we are a step removed from the site. As an example, a couple years ago, we introduced a type of air filtration unit to Newmont Mine that had a much smaller footprint than was typical. We have introduced very small pressurization units to the mining business in Mongolia. Good results mean developing a good reputation with the engineers so that they will use us for another project.

What technology trends in ventilation are helping mines lower their footprint?

We are seeing more emphasis on emissions themselves, whereas in the past, emissions may not have been a secondary concern after keeping the equipment working and in good operation. Local governments have had a role to play in this shift. For every project now, we have to provide an emissions guarantee for the equipment. Offering technology and lessening the footprint are areas in which ETP Energy Technology Products offers an advantage.

How do you capitalize on that advantage and stay on the forefront of these changes?

We represent several manufacturers and combine their excellent knowledge with our in-house expertise. There is a definite need to have a small footprint filtration process is critical. If emissions need to be controlled and something will not fit into a limited space, it is a lose-lose

situation. Our filtration technology allows customers to put the same amount of filtration into a smaller box and save space.

What will be your next steps in the North?

Working with the mining community here is a continuous effort. We attend a lot of shows and are involved in the associations. The trick is to keep up with the engineers. While there are smaller projects that go directly through the mines for the packaging that we do with their procurement of their crushers and their conveyer systems, we will always work with the engineering company.

What is the normal lead-time for project in British Columbia compared to Nunavut?

The lead times can vary from mine to mine and not necessarily from the engineering houses. The bigger engineering houses tend to take a little longer. Regardless, it is the mines that dictate how quickly the project moves. To give you an idea, Mongolia took five years to supply to, but Newmont they took less than two weeks. We concern ourselves with the logistics. Once a project is approved, the engineers send us specifications. It can take us from four to eight weeks to build the product. Inside North America, shipping times are generally one to two weeks. Going to Nunavut, the procurement team will take on the task of figuring out the logistics of getting it from a drop point to the site. •

Jay Collins

President
**MERIT CONSULTANTS
 INTERNATIONAL INC.**



Merit is active in project construction and management all over the world. Could you highlight some of its key current projects in Canada's North?

The development of the global mining industry continues to suffer for reasons that range from capital cost blowouts to project viability. As a result, financiers are hesitant, and there are not as many projects moving forward to production as they were during more financial times. Regardless, the industry is poised for resurgence, and there remains a huge interest in northern Canadian prospects including Yukon, NWT and Nunavut. As a Project and Construction Management company interested in moving projects through the hurdles of development, Merit is involved in more northern Canadian projects than ever before. Investment in mining is returning to Canada as the problems with offshore development that have caused so much uncertainty are being resolved.

In Yukon, there are numerous budding opportunities, not least of which is Victoria Gold's Eagle Heap leach Gold Project. Restoring this project to a simple, viable, practical heap leach project at a reasonable and realistic cost This project has

been a focus for the company, and there are several others waiting for the same attention.

Merit is working with the Government of Canada on the reclamation of the Giant Mine in Yellowknife and has the potential to help on a number of other non-reclamation bonded properties north of the 60th parallel.

Our work in the North continues. We are preparing to construction Avanti's Kitsault 40,000 metric tons per day molybdenum project in British Columbia's northwest, but communications, access to power, and weather present unique logistical challenges. Whether the Selwyn Lead-Zinc project moves forward will depend on access to power, but Merit has been close to developing this untapped lead-zinc opportunity for some 15 years.

How has Merit evolved as a company in terms of growth and services offered in the last three years?

With the slump in the mining sector, business has diminished considerably over the last three years. It has been the perfect storm in the sector: global economics are forcing changes, in project and operating costs are increasing dramatically, and global political and regulatory changes are taking place. This has unnerved financial organizations in particular. There are a substantial number of companies that are project-ready but cannot secure financing. However, there is light on the horizon. We are starting to see a new wave rippling through the industry where project participants are assuming ownership. This shifts the risk from the financiers to those doing the work, and financiers reward executives willing to assume the risk alongside them.

Can you elaborate on the main challenges that you face in project and construction management in Canada's Territories?

We face all the same challenges in northern Canadian projects. There are limited construction periods, lasting between four and seven months, and major obstacles to working in and accessing power during winter months. Take the Selwyn project as an example, where I have been involved on and off for 12 years through different ownerships: we have

examined many different sizes and types mine, including underground and open pit. Ultimately, energy and transportation have been the nemeses of almost every project. Transportation is incredibly expensive.

Merit has also been one of a few Canadian companies who have been involved in mining projects in Greenland. How does Greenland compare as a mining jurisdiction to Canada's North?

Merit worked on the Nalunaq Gold Project for Crew Development Corporation in Greenland roughly 10 years ago. Greenland is incredible logistical challenge, not least because there is a limited workforce with a population of only 45,000. There are also problems with ice flows shutting down whole areas. Another challenge is that all permit approval and documentation goes through the Danes and the process then becomes quite bureaucratic. The Northwest Territories, Nunavut and Yukon's mining jurisdictions, on the other hand, are far easier to navigate because there are small groups of people who make decisions. While First Nation regulations still present a challenge at times, these jurisdictions are some of the friendliest in the world. Merit's experience in these areas also helps immensely.

What are Merit Consultants' strategic objectives over the next few years?

In the next few years Merit is aiming to grow in a slightly different direction. Ten years ago Merit was perhaps the only construction management company. As a boutique company, we addressed a niche in the industry. However, new players have entered the market, many of which have little or no experience in navigating local policies and procedures. That is the result of the Internet age and of the fact that many companies in the industry have gone through mergers and acquisitions and fired experienced managers. Others have started their own consultancies. Our competitors can be therefore characterized as numerous but inexperienced. While we will continue to focus on project and construction management in the mining industry, we could still move in a new direction. •

John Oldfield



General Manager
KBL ENVIRONMENTAL LTD.

Could you give us a brief overview of KBL and any changes since we saw you last in 2012?

KBL is an environmental company with its head office in Yellowknife, specializing in assisting mining and exploration sectors of the North with their waste management requirements. Our major clients include the four large diamond mines, a gold mine in western Nunavut, and several exploration companies. We also service the commercial and industrial clients within the City Yellowknife. In addition to the NWT, 18 months ago, we opened a facility in Whitehorse. This facility services Yukon's mining and exploration, as well as mining remediation and covers the Mackenzie Delta area, as the highway system to Inuvik runs through Whitehorse. Since 2012, we have carried out work in the oil and gas sector in the Sahtu

Region of the Northwest Territories (NWT). KBL plans to open a facility there to help service the oil and gas sector. Our Edmonton office carries out project management, our trucking division, and site remediation projects throughout western and northern Canada

Since 2012, how much has your focus shifted to remediation versus environmental consulting for developing mines?

There has been a significant shift by KBL to remediation work. However, our mining clients have remained the same and our business with operating mines is consistent, even if exploration-related work has declined. In Yukon, the exploration downturn has affected us more, with many mines going into care-maintenance. Between the two territories, NWT currently has more remediation programs that we are involved with.

Can you highlight some of your flagship projects?

In mining, we service some of the big players: Dominion Diamond Corporation; Ekati diamond mine; Diavik diamond mine; Debeers Snap Lake and soon its Gahcho Kue project; and TMAC Resources - Hope Bay gold mine in Nunavut. We are not typically the prime contractor for mine site remediation. The larger construction companies handle this, although we subcontract with them in the management of hazardous waste.

What is your biggest challenge serving the sector for waste management handling?

One of our biggest challenges is sourcing the required number of experienced staff to carry out the projects. Waste management is not the most attractive occupation, but KBL's business is waste, and its employees are fully aware of their job responsibilities, carrying out the agreed waste management project according to all territorial and federal regulations. Partnerships are certainly beneficial and KBL currently have two: Central Mackenzie Environmental (CME) in the Mackenzie Valley for the oil and gas sector; and recently signed a partnership with Kitnuna Corp., which then developed Kitnuna Environmental Ltd (KEL), which will be operating out of Cambridge Bay in the Kitikmeot Region of Nunavut. These partnerships have been very successful. KBL provides the expertise while its partners supply some labor, equipment and local knowledge.

How much growth has KBL experienced over the last five years and what are you targeting for the future?

KBL was recently rated number 30 among the top-500 fastest growing companies in Canada and over the last five years, KBL has grown from to a staff of 50 in 2014. In the next three years, KBL is looking at 200 plus percent increase in business. Remediation of soil of contaminated sites with hydrocarbons will be a growth driver. We recently opened a soil-treatment facility in Yellowknife, have taken over the operation of one in Hay River on the south shore of Great Slave Lake, and are planning more facilities within the North. •

KBL
Environmental LTD.

Waste Management Services:

- Classification
- Packaging
- Labeling
- Manifesting
- Transporting
- Recycling & Disposal

Complimentary Services:

- Staffing placement
- Emergency response
- Environmental products

Whitehorse 867.393.4373
Yellowknife 867.873.5263
info@kblenv.com

Yellowknife - Whitehorse - Edmonton
WWW.KBLENV.COM

Amir Marciano

Managing Partner
RAKIA RECRUITING



.....
Established in 1995, can you please highlight some of Rakia's key role as a recruiter in Canada?

Rakia Recruiting is associated with Rakia Global, specializing globally in the industries of mining, construction and energy. Rakia has three divisions: North America; Europe; and Middle East. Our niche is recruiting highly skilled professionals from around the world.

Rakia serves three main industries: construction, mining and energy. How important and what share does mining in Canada contribute to your business compared to the other two industries; and how many job placements did you secure in 2013 in the mining sector?

Mining in Canada is a big contributor to our business, albeit there is currently a lull in mining activity. Mining is a good long-term investment and the global demand for commodities will stimulate the market. Most of our placements in 2013 were of a high-skilled engineering and science nature. With mining activity increasing, we will have more call for the lower-skilled workforce. Rakia Recruiting's placements in mining increase 3% to 5% annually. In

some areas of the industry there has been a 10% growth year by year.

What signs have you seen that the mining market is beginning to improve?

The big mining companies have their own agenda and goals; activity is determined by global commodity demand, securing land agreement, etc. The smaller mining companies are more dependent on the value of markets as to whether they will delay or proceed with exploration. The government and Rakia's figures for the mining sector show that over the next 10 years there will be a shortfall of 20,000 workers, even after training programs and drawing from other industries, i.e. construction, oil and gas, and energy; the solution is foreign workers. The Canadian government is supportive of this solution and is expediting the granting of work visas.

Can you elaborate on your international workforce program and how it complements Canada's mining sector?

We have two channels in our international workforce program: highly skilled, i.e. scientists and engineers, and those with talents that can be utilized globally, as mining standards are consistent worldwide, as well as personnel with labor skills. Our clients sometimes perceive language barriers and achieving Canadian work standards as problematic, but this fear is unfounded as we recruit from English-speaking countries. In countries where English is not the national language, we provide training programs and a translator on site. Rakia's agency workers are ideally equipped to fill any vacancy, but it will not be at the expense of a Canadian worker.

Do you agree that it is difficult to recruit Canadians into the mining industry and easier to source foreign workers from outside especially for remote locations? Which countries supply foreign workers for the Canadian mining industry?

It is difficult to persuade Canadians to sacrifice their urban lifestyle and leave their families to work in remote locations. This consequence is not an issue elsewhere in the world. It is common for workers to leave home to work in remote

locations, earn good wages and also further a career; upon returning to their homeland they will be wealthier and have a greater expertise. Rakia has workers coming from the from many countries in South America, a region with substantial mining expertise; several countries from Eastern Europe, including Russia; and also a few countries in Africa. In the high-skilled professional sector, the countries of origin vary; this group of roving professionals is in great demand.

Mining activity will be increasing and there will be a greater demand for lower-skilled workers. How will you adapt your strategy to accommodate the service offering for lower-skilled workers?

Rakia is a flexible organization; it has the facility to accommodate the requirements for lower-skilled workers, and has a global database of personnel to satisfy its clients' needs. Rakia outsources to consultants the relocation and immigration services contained within its international program. Remuneration packages and benefits have to be good to encourage movement of workers. We have experience with the placement of staffing low skilled workforces all over the world.

How have remuneration packages evolved in Canada's northern mining sector over the last five years?

Remuneration packages are generous and are regularly reviewed. Top skilled non-foreign personnel can be persuaded to move jobs for better remuneration packages and benefits. Foreign workers sign binding agreements and therefore cannot switch companies before the agreement ends.

What are Rakia Recruiting's strategic objectives in the Canadian mining industry over the next five years?

Rakia Recruiting would like to be the number one recruitment consultant for the mining industry in Canada, and be the leading supplier of foreign workers. Rakia Recruiting supports the initiative of introducing Canadians into the mining industry via training and academic institutions; in the interim, it can supply foreign workers, who are the only solution to bridge the current gap in the Canadian mining industry's workforce. •

Advancing Safety and Productivity through Accuracy and Reliability

Alex Pienaar,
Reutech Mining

Slope failures are an unfortunate reality of open cast mining. A seemingly arbitrary combination of uncertain stresses, strains and volumetric changes could potentially be catastrophic even in mines with the most conservative of slope designs.

Geotechnical engineering is no longer limited to the confines of the mine design process. Safety and productivity in modern day open pits requires geotechnical engineers to oversee an integrated slope stability management program; with the most important aspects being the monitoring of rock slopes and the interpretation of measured data.

The utilization of radar technology as part

of a slope stability management program is a well-known concept. Recent advances have substantially improved the technology, even though the basic functional requirements from the user in the field remain unchanged. The Movement and Surveying Radar (MSR) is one example where research and development is being driven by the need for a highly accurate and integrated monitoring system. Measured data is provided to the geotechnical engineer in near real-time on a 24/7 basis and more often than not, in the harshest of atmospheric conditions. Seamlessly integrating radar data with other established systems that form part of the slope stability management

program plays a pivotal role in assisting geotechnical engineers to understand overall slope behavior. The functionality to directly interface with data from extensometers and Automatic Total Stations is one example of integration. As a result, the geotechnical engineer is able to quickly review and identify changing slope conditions which in turn facilitates accurate monitoring and ensures a rapid response to any anticipated slope failure.

A properly implemented slope stability management program has tremendous benefits for the safety and productivity of the mining operation as a whole. Data can be used to make key management decisions that impact the safety of workers and equipment. This is especially relevant in cases where mining has to be suspended due to instability or where special blasting precautions have to be planned for.

The same data can also be used to make important economic decisions that have a direct impact on the profitability of the operation. Known cases exist where the steepening of slope angles – a decision based on reliable slope stability data - has had a telling impact on the bottom line. •



Image: Reutech Mining

Greg Rasmussen

Manager, Process and Business

Development

**GLENCORE TECHNOLOGY
CANADA**



How has the merger between Xstrata and Glencore impacted the company?

As of October 2014, our division is now known as Glencore Technology (GT). With this comes a whole rebranding strategy for Glencore. Structurally and in terms of business planning nothing has changed for GT. Due to the reason that we have one of the strongest metallurgical teams there is a focus for us to support the internal operations of Glencore more. Our business plan was well received at Glencore's head office and has just been through a restructuring, which will make us much stronger.

How many IsaMills™ does the company have operating worldwide and in North America? What business development opportunities do you see in northern jurisdictions?

There are currently 125 IsaMills™ worldwide with 27 operating in North America. The market has generally been slow, and people are not spending money, but we did have a handful of sales late last year and a good start early this year. Both the Jameson Cell and IsaMill™ technologies are attractive to the North because they reduce the environmental footprint and

operating costs, as both technologies are known for energy efficiency. At the moment there are not many projects moving forward in the North and in northern Canada. However, we are seeing a lot of interest about how mines are going to proceed once markets recover and companies have money to spend.

GT has an office in Moscow. What opportunities do you see in Russia and surrounding jurisdictions?

The office was opened in November last year after two years of groundwork. Russia and the CIS are a big, untapped market for a lot of technologies, as the country is blessed with a wide array of natural resources. As infrastructure is constantly being improved, a lot of these ore deposits previously inaccessible are now within reach. In addition, the new generation of metallurgists and plant managers are beginning to engage western companies in searching for new technologies and optimized flow sheets. Having the office in Russia and employing local engineers have allowed us to take part and play a role in these changes. Russia and the CIS have a very strong mining history with many institutes dating back a hundred year or more. GT's role is to work with these local engineering companies and institutes to provide the most efficient flow sheet and our technologies will do that. We see Russia and surrounding jurisdictions as a potentially huge market and are focusing on long-term business.

How has GT achieved a greater presence in the market over the last five years?

When we entered the market, we were often the second or third choice for companies. Now, when I look at company's 43-101s our technology is often incorporated in their flow sheets before the company has even talked to us! We are starting to become more of the standard in the industry. All of our competitors are now comparing themselves to us and try to differentiate themselves from us.

What differentiates IsaMill™ from other technologies especially in northern jurisdictions?

The Red Dog Mine in Alaska has changed out seven of our competitor's mills to two IsaMills™. In doing so the project

study completed by site showed they are going to save \$1.2 million per year in power costs because their diesel generation is very expensive. In the area of continuous improvement we are presently looking at further efficiency gains on our mills in order to stay ahead of our competitors. Companies used to be overly concerned with capex, i.e. the initial price something costs, but now they are realizing they can save a lot of money down the road from investing in more efficient technologies.

What advances, both technologically and from a business development perspective, are you striving to make over the next three years?

GT is making our technology more efficient. As mentioned earlier, we are strongly focused on continuous improvement. We have done some test work that is showing positive results. Furthermore, we have a larger, eight-megawatt IsaMill™ hitting the market. Tonnages at site are becoming massive so it is key to have larger mills.

Our biggest priority is our quality and balancing the needs of our clients with their wants. The needs and wants of customers do not always match. When potential clients come to us and ask for a Request for Quote, we often come back and ask technical questions, not just supply a standard quotation. Clients are not used to that, they oftentimes think that they are only buying equipment. GT's team comes from technical backgrounds so we analyze and support our clients instead of just selling our products. Our existing customers have frequently expressed that we have the best after sales support they have ever had. As someone who comes from an operations background, I know technologies are similar and supplier support ends up being the key to controlling operating costs. This is why after market support is our strong suit. •

Brent Thompson

President, Mining and Minerals
TETRA TECH



Tetra Tech has been active in Canada's North for 60 years. How do you describe today's market, especially given conditions worldwide?

Mining business in the North is vibrant; however, for early-stage projects that are being conceptualized or undergoing exploration, junior companies are experiencing difficulty in securing investments to forward their projects. Existing operations, especially in diamonds, are investing significant capital for strategies to uphold good practice in environmental performance, plus project investment to lower operating costs and increase operational efficiency, a trend that is being adopted in the North and other Canadian mining jurisdictions. The current strategy of mining companies is to develop the efficiency and environmental performance of established operations rather than move to a greenfield or brownfield site. Short-term, the returns from this strategy are insulating them from fluctuating commodity prices. The Alaskan economy is recovering more quickly than Canada's, and there is increasing interest for mining projects in Alaska. From a mining perspective, the North is still a frontier with areas yet to be explored

and infrastructure challenges to overcome, albeit a safe environment and in close proximity to big markets. Northern First Nations and Inuit communities are very receptive to mining projects, appreciating the employment permeating from these operations. All the ingredients for mining in the North are there. It is only a matter of time before capital begins to flow back into the mining industry.

It appears that companies in project development, construction and operation are active within the mining industry but the junior exploration market is slow. Is this correct?

Base-level exploration is slow. In the interim, time is being productively used to cultivate social management with local communities and develop a social license to operate in the North in preparation for commencement of operations when investment returns.

Tetra Tech has had dealings with aboriginal development corporations in both Alaska and Canada. What have been some of the differences in engaging with these two groups?

There is a lot of commonality when dealing with the two corporations. Both peoples have similar values for conducting projects but there are differences in the legal frameworks and governmental processes requiring individual attention. It is essential to regularly update the communities on project planning. This social engagement is critical to move a mining operation forward. Tetra Tech has developed excellent relationships with council units in Alaska and First Nations communities in Canada, especially those who have established a First Nations corporate structure to assist with mining projects. Tetra Tech as a corporation is one of the largest companies in the United States to route money to small support-businesses for mining projects.

In GBR's British Columbia/Vancouver report, you stated that mega-projects are becoming less feasible. Does this apply to Canada's North, Alaska and Greenland, where there is potential for mega-projects but challenging logistics and infrastructure?

A project has to be sufficiently lucrative to compensate for the high invest-

ment associated with logistics and infrastructure in these jurisdictions. Currently, raising capital for a mega-project is a challenge, as illustrated by Ontario's Ring-of-Fire, where challenges have resulted in government involvement in how the infrastructure will be delivered. The government has developed frameworks with First Nation communities and outlined what support it can offer to leverage infrastructure development to move projects forward economically, paving the way for other projects. Arguably, this model may be repeated throughout Canada with the government being a stakeholder. Putting infrastructure costs solely on one mining developer is a reason why projects have not progressed. In the current economic climate, the only projects that will move forward are those situated close to established infrastructure and with decent grades. Good infrastructure is not just road and rail, but also access to water and power.

What has been some of the challenges for Tetra Tech working in Greenland, a newer jurisdiction?

Historically, due to its remoteness and challenges, Greenland has received little mining attention. Over the last two years, its government has clarified its approach and dealt with governance issues heightening the interest of the global mining community. Greenland is now being seriously considered, especially in the southern part of the island with access to shipping and less ice. Greenland has an interesting mix of rare earth elements and uranium. There will be a number of interested parties looking for high-grade specialty deposits. Over a number of years, Tetra Tech has worked on the Malmbjerg project, and is now working with Greenland Minerals and Energy Limited to advance its Kvanefjeld project.

Tetra Tech has the philosophy of taking on projects that no others would tackle. Is this applicable to jurisdictions in the North?

Tetra Tech is excellent at solving problems and is often asked to become involved when others fail. Planning and logistics can be challenging in the North with its extreme weather conditions. These challenges motivate Tetra Tech personnel to turn a problem into a solution. •

Ted Danyluk

Vice President

CASTLE ROCK ENTERPRISES



Established in 1997, a fully integrated Yukon based construction company, could you give us a brief overview of the role you play in the mining sector?

Castle Rock is primarily an underground deep utility; surface works; and road and earth works contractor. We provide full spectrum of services for mining clients. Castle Rock has capabilities in reclamation and remediation of existing works as well as new construction for subdivisions of any underground facilities. We also moved into paving in the last few years and have a fully operational state of the art asphalt paving plant where we can produce up to about 170 metric tons of asphalt per hour. In addition to the work we do in the mining and infrastructure space, we also do full residential work, snow removal, trucking, and waste management. Castle Rock truly is a one-stop shop with our design-build capabilities and has engineers on staff that can do a range of different scales of projects.

Castle Rock is branching out quite aggressively into the mining industry. Could you elaborate on what motivated this move?

Castle Rock saw an opportunity in this sector to offset the seasonality of construction in Yukon. As a result of the harsh winters, Yukon basically has six to seven months of construction time. Moving into mine remediation and construction would push us into the winter months for road construction and reduce our seasonality. Another reason for this drive is that mine remediation in Yukon represents great new opportunities for Castle Rock over the next 15 years, with seven mines that currently need to be remediated. Most companies who offer remediation services are based outside of Yukon, so we can provide them with the local construction services that they need. We have done remediation projects on airports, roads, hydrocarbon sites and mines in the past with consultant firms focused on remediation. Our focus on the mining industry is just a natural extension into where we should be going.

We have completed working with CH2M HILL on a remediation project at the Faro mine site for 2014. CRE has also working with Hemerra Envirochem Inc. on a Road/Bridge/Remediation project for the Ketza River Mine. Castle Rock is in the process of bidding for remediation projects with Tetra Tech amongst others.

Could you elaborate on Castle Rock's affiliation with Dakwakada Development Corporation?

Castle Rock is a subsidiary of Dakwakada Development Corporation (DDC) whose sole shareholder is the Champagne and Aishihik Trust (CAT). In Yukon 11 of the 14 First Nations are self-governing and the Champagne and Aishihik First Nation is one of them. Part of the final agreement was that they have an economic development fund to invest as they transition into their own taxation service. In order to this CAT was formed with a board of directors who run their trust. Part of that trust was put towards DDC who aim to look at investments in growing sectors. In 2008 Castle Rock was purchased by DDC, but they retained the company branding and key management to operate the company.

How do construction costs differ in Yukon from elsewhere you have

operated such as northern British Columbia?

Trucking and shipping in the North remains Castle Rock's single biggest cost besides the labor component. In 2014 we have seen lower prices from the construction industry and it will be interesting to see for how long that line of pricing will be sustainable. High transportation costs have to be incorporated into pricing, otherwise a business cannot remain viable. We have seen new construction companies putting their feelers out in Yukon both for the mining sector and other infrastructure development over the last few years.

Where will Castle Rock's growth drivers and greatest opportunity come from?

If the Yukon government moves towards getting a better transportation system, either through building a railroad or better roads that would alleviate many of the current constraints that we face in the territory and open the mining industry up. Not only will Castle Rock be involved with the construction of the enhancement of the transportation system, but also in the new mining business that it attracts. Over the last few years, Castle Rock has experienced tremendous growth, more than doubling in revenue. A big contributor to that growth has been the addition of the asphalt manufacturing that we have branched out into. Much of our growth has been driven by diversification and our design-build capabilities, as developers now come to us for turnkey operations, especially on civil works. Castle Rock is seen as the "go-to-guys" because we complete the work on time and deliver on quality thanks to the high level of skills of our personnel.

Do you have a final message about Castle Rock and your plans over the next three to five years?

Castle Rock believes that growth is good but smart growth is better and that is what we will be doing over the next few years. We expect to double in revenue over the next two years and then double again over the following two and we are planning that mining will contribute 25% of this anticipated growth. •

Heather Stewart & Ryan Heslep

HS: President

RH: General Manager, Yellowknife
**BBE (BRADEN-BURRY
 EXPEDITING LTD.)**



HS



RH

When we last interviewed BBE in 2012, 65% of your total revenue was attributed to mining and you had 130 employees. Can you please give an update on any significant changes or milestones over the last two years?

HS: Since we last spoke, very little has changed. To compensate for the downturn in mining activity, BBE has continued to diversify, for example in November 2013, we acquired a procurement company adding another layer of supply chain integration. Demand in other markets such as oil and gas and construction have mitigated the impact of the mineral exploration lull.

Through this acquisition, have you shown growth? If so, what percentage? Looking forward, will procurement be part of your focus area?

HS: Since the acquisition, we have shown growth of 10%, and procurement will be a key part of our future focus.

RH: Arguably, we have always indirectly been involved in procurement. In the past, clients have requested us to purchase on their behalf, for example, transportation and goods from local vendors.

BBE has a number of partnerships

including aboriginal corporations. How important are these to the company and what is their strategic significance?

HS: As BBE is itself an aboriginal business, these partnerships are very important to us. In 2014, we have continued developing regional partnerships, launching a new venture in the Kitikmeot region of Nunavut. With Kitnuna Corporation we have formed a company called Kitnuna BBE Expediting, KBX. Collaborations like this will continue to foster growth for us and our partners, as well as stimulating local economic benefits, often driven by mineral explorer and developer's regional benefit agreements.

You have offices in Alberta, Ontario, and Northwest Territories (NWT). How important is NWT to BBE's operation and where is your greatest potential market?

HS: Our roots are in NWT and this region will always be important to us. NWT is growing; even when mining is in a downturn there are other opportunities for BBE in the territory.

Looking forward, how much focus do you place on oil and gas?

HS: Over the last two years, BBE experienced a major upswing on business in the oil and gas sector; in the NWT as well as Western Canada. We are continually working on growing our oil and gas client base on everything from business segment to infrastructure to safety programs.

In our last interview we discussed your technology for tracking and tracing and how competitive that arena is becoming. How does BBE keep abreast of these technologies and has it developed any new systems?

HS: When we spoke to you in 2012, we had just launched a new module in our tracking and tracing IT infrastructure to support the freight-forwarding sector of our business. It allows clients visibility before their cargo reaches a consolidation hub; for example, whether cargo originates from Australia or Europe it can be tracked into the point of entry for the North and cost allocated per leg per line item. In the last 12 months, we have also

introduced a data-capture system. It is an efficient way of linking-up our different operations; BBE is now essentially paperless. For 2015 we have further enhancements in the works.

Does BBE find different challenges across the jurisdictions, and what are NWT's greatest challenges?

RH: BBE is susceptible to market cycles. Our Edmonton office has worked hard over the last two years to enhance the air cargo side of BBE's business. We act as agents at Edmonton International Airport for twelve airlines, six of which are international. At our Yellowknife office we are primarily mining-focused and therefore exposed to the cycles of this industry, which we will respond to, by staffing-up or staffing-down. If necessary, we will move personnel to other field roles, as retention of our talented workforce is important to our team.

What are BBE's strategic objectives over the next two to three years?

HS: To develop BBE's ISHOP4U; continue the company's strategy of diversification, by region and by industry; and continue the development of our team via succession plans and encouraging career growth. In November 2014, we moved into a new facility in Edmonton doubling the footprint of our Edmonton operation. BBE is a partner with the Edmonton International Airport who has a major involvement in the multi-modal Port Alberta concept. We are the chosen provider for those types of services in Edmonton giving us a big opportunity in Alberta for the next three years. •

Charles Constançon

Director, Canadian Services
BMT WBM CANADA INC.



Could you please begin with a brief overview of BMT WBM and its niche in the mining industry?

BMT WBM was established over 40 years ago initially to service the oil and gas industry in Australia. The company quickly grew to service the mining industry on the strength of its forensic analysis capability. At the same time the company developed lead expertise in water and environmental analysis. This has resulted in a two core technical streams - The Machinery Group and The Water and Environmental Group. The Machinery Group's capabilities include several high level services ranging from machine design to forensic analysis; these capabilities, carried out by our exceptionally skilled high-level engineers, cover the broad range of technologies required by the mining industry.

A developing aspect of our work involves Smart Sensors or Smart Machines; these are focused products whose potential for application has been identified through our direct exposure to client problems across the globe. Smart Sensors and Machines will play a growing role in improving the productivity of mining operations and reducing the health

and safety risks that the workforce may be exposed to. Smart products meld artificial intelligence, robotics and innovative strategies: these products embody a capacity to measure, analyze and quantify the operating environment; reduce maintenance by causing less damage to machines; and produce valuable information quantifying production capacity and identifying strategies to improve production. We also work in the oil and gas sector in port design and materials handling. We have seven branch offices in Australia, our Denver office has been established for 30 years, and our Vancouver office for 18 years. Our client portfolio includes Africa, South America and Asia; our Vancouver office focuses on Canada and South America.

Can you elaborate on how applicable your technologies would be in the North, and what unique challenges would they face?

None of our technologies is limited by region; however, in the North the extreme cold weather is an issue for machinery. The company's focus with its PULSE-TerraMetrix product line is to improve the productivity of draglines and mining shovels and limit machine harm; this is achieved by quantifying machine health, payload and productivity. Machine health measures the harm or damage that has been inflicted either by operational mining conditions or operator-induced influence.

How does your range of products compare to what is currently being used in the mining sector?

There is one fundamental difference between BMT WBM and other vendors. Products can take on the persona of just being products with an appealing software interface rather than achieving the technical depth and accuracy required to create a meaningful impact. Our product development philosophy achieves the former but leverages the product depth through our current in depth knowledge of the structural and forensic analyses executed on behalf of our global clients. This aspect of our service offering reflects the more challenging aspect of solving customers' problems; other vendors are product-orientated and cannot offer the same depth of service or insight.

Can you tell us more about extending the life of machinery especially for the harsh conditions in the North?

We do not adapt products from OEMs, but manufacture adaptations to the standard OEM offering. For example, we have clients with a fleet of Haul Trucks reaching 70,000 hours of operating life. At this stage the machines are typically beyond warranty and have seen repeated weld repair; the mine has to consider the options for re-fleeting at a high capex. An alternative option could be to extend the life of the machine, but this could potentially result in catastrophic frame failures; brittle fractures could occur as these fatigue failures develop, especially in the North with its extreme temperature range. Our haul truck frame life extension kits been developed via consultation with client mine sites. To engineer these solutions, we conduct extensive test measurements on site, ascertain design weaknesses and formulate a practical solution. With this approach, a haul truck's operating life could be extended from 70,000 hours to 120,000 operating hours.

What will drive your growth for the next two years?

Product development and forensic analysis will be our particular focus, combining both practical aspects of engineering science with strong analytical capability. Consulting companies that rely only on one technology, such as forensic analysis, are at risk in today's commercial environment. For a high level forensic practice to survive it must embody both a product development and forensic capacity. Although there is a vital need for high level forensic analysis, there is insufficient forensic work available to sustain the commercial needs of a company. Amplifying our product offerings and presence will complement our strong forensic practice.

If we come back in five years' time, where will BMT WBM in the market?

From our Machinery Group viewpoint and in terms of mining, in addition to the climatic challenges of the North, there is deep-sea level mining to consider and the technologies that will be need to be at the core of how these technologies will be achieved. •

Allan Twissell

Principal/Lead Consultant

NORTHWAYS CONSULTING

Can you give us a brief overview of NorthWays Consulting and the role that you play in the mining industry?

NorthWays Consulting have been in business for about 18 years with our areas of expertise being strategic planning, human resource development and community development. Depending on the nature of the project, NorthWays has the capacity to draw on the expertise of various contractors and individuals giving us quite a range of capabilities and experience. For the last 10 years, NorthWays has worked with each of the major mining companies in town including De Beers, Diavik and BHP Billiton (now Dominion Diamonds) as well as the mining service industry. A lot of that work has been in human resource development and strategic planning. NorthWays has also done a lot of projects that have focused on mining companies and Aboriginal relations. Currently and for a third time, NorthWays is doing a review of an impact benefit agreement between one of the mining companies and the communities that are impacted by the mines' activities. NorthWays also specializes in obtaining funding for skills development. We have developed several skills devel-

opment programs and I personally teach human resources development courses. In terms of mining sector that would be where our main focus and core strength lies.

How much focus should be on up skilling in the North vs. attracting skills to relocate to the North?

It is a personal bias but the focus must be on up skilling. Most of us in the North would like to see more northerners being trained and hired for the jobs.

Can you elaborate on available training programs in the Northwest Territories?

The Northwest Territories Mine Training Society (MTS) runs a program that involves and is supported by both levels of government, federal and territorial, as well as the mines and aboriginal organizations. The MTS has a board of directors, which is comprised of mining companies as well as aboriginal and government representatives. All parties contribute to the MTS. They develop programs that are specifically targeted for jobs that are available in the mining sector. Aurora College also develops and delivers a number of very good mining and mining related programs. These programs tie in neatly with what NorthWays aims to do which is to get unskilled workers trained up and into the workplace. A big emphasis is getting the emerging labor force knowledgeable in mining, starting early and educating students on the opportunities in the mining sector. While the Mine Training Society tends to focus more on adult learners, they also do a fair amount of communications with students in schools. There also is a role for the Department of Education and the schools themselves to play in partnership with the mines to spread the word of possibilities in the sector.

Is there any case study that you can highlight, where you feel that you have made an impact on the way a company up skills its laborers?

We have worked with Aurora College, the Mine Training Society and each of the major mining companies to develop skills development programs and identify gaps in terms of hiring northerners, and particularly northern aboriginal persons.

We recently worked with a local mining services company, Aurora Geosciences Inc., to develop a Geosciences Field Assistant Program. The program will allow northerners to develop the knowledge and skills required to work at the entry level in the mining exploration field. As a result, it is anticipated that more northerners will go on to become mining technicians and geologists.

In the coming years, what do you think will be the main growth driver for NorthWays Consulting?

One of the areas in which I think there is a concern, is making sure that there is growth at the grass roots level. The current mines have identified closure dates and that is a big concern. So encouraging more mining development is key for us and everyone else. We see growth as helping northerners and northern Aboriginal persons obtain those jobs. Largely also providing support to the mining companies.

Do you have a final message to our international readership investors looking at the Northwest Territories as an investment destination?

From an investment perspective I think that the current government is on the right track. I feel that they are trying to do things to attract investment. The mining sector is once again showing encouraging signs. •

Carl Schulze

Owner and Chief Consultant
**ALL-TERRANE MINERAL
 EXPLORATION SERVICES**



Can you give us a brief overview of the work that All-Terrane has been doing in the mining sector?

All-Terrane formed as a contract mineral exploration company at a time when the markets had just started to rise. In the early 1990s major companies were doing most of their own exploration, but by the early 2000s the juniors entered that space. Many juniors did not have enough capital to afford their own exploration programs. Instead of hiring a lot of staff for fairly short projects they could call on All-Terrane to do it for them on contractual basis. It worked very well through one of the best-built markets that we have ever had in the mining industry. The deep bear market of 2009 did not affect the junior mining sector as much as other sectors. All-Terrane is able to do mineral exploration on any kind of commodity in any terrain because many of the approaches to exploration for various commodities are very similar.

What do you hope to achieve with All-Terrane in the next five years?

I would like to keep the company fairly small so that it remains manageable and our service remains of the highest quality. In this business there are some small players that do really well because they purposely remain small. With enough stable clients to warrant having two or three crews, we are able to do quality work and be fully dedicated to our clients. This model also lowers the overhead somewhat. If you get past a certain size level you are going to need more people, more land and more equipment and then charge accordingly.

What are some of the advantages of having a local medium-sized company doing their contract work?

If a smaller company gets a large client, it can dedicate more time and resources to the client and its project or projects become much easier to manage. What we also can provide is a lot of local expertise, including experience in permitting; we have the necessary knowledge and expertise in this process. The idea is to be as true to our clients as possible.

Is it necessary for a contract mineral exploration company to have partnerships with First Nations?

If you have a project in Yukon, I would recommend that if you are doing any kind of work with significant disturbance, you should contact the relevant First Nation, even before applying for a permit. At this point it is the government's responsibility to direct applications to the First Nation, but it is also important that the mining companies do so themselves.

What would you say are the main challenges of mining up here in the North?

Access to land is being compromised and the regulatory regime is constantly evolving. The permitting and licensing processes are getting progressively more onerous. We are now required to apply for notification for early stage exploration, allowing for the possibility a project could be denied if the applicable First Nation(s) or other governments feel that the project is unsuitable.

What is your outlook on the mining industry in Yukon over the next two to five years?

It will recover somewhat as the bust periods generally last about 30% as long as the boom periods. We have been in a bust from mid-2012 onwards, so it has been about two years now. Overall it seems that we have hit bottom and after awhile the exploration money has to come back, as the larger companies need to keep their inventory current.

What are All-Terrane's strategic objectives over the same time?

All-Terrane recognizes the need for a more aggressive marketing campaign, prior to the market picking up again. One of our strong points is that we are effective as a smaller, more focused company, so rather than trying to get 12 major clients to keep a large stable of people going, we only need three or four major clients that can keep a smaller number of crews going at any one time. That enables All-Terrane to adapt and survive much better in a tight market. •





Into the Future: Final Thoughts, Company Index, and Credits

"A large percentage of our core business is social infrastructure, but we recognize that our growth area is definitely in the mining industry in Canada's North. Base metal and commodity prices are cyclical; indications show that there will soon be an upward trend. Arguably by 2017, there will be a large global turnaround on pricing as reserves are exhausted; exploration and development activities in the mining industry will accelerate to facilitate extra demand."

Steven Meister, Regional Director,
Arctic, Williams Engineering Canada Inc.

“

“The reason for creating Nunavut in the first place was for a comprehensive land claim settlement with the Inuit people. Therefore, from a regulatory point of view there is a very clear framework for dealing with aboriginal people. The rights of the aboriginal people as well as the responsibilities of a company are fairly clearly laid out. That ties very closely to permitting. In most other jurisdictions, the permitting regimes are reasonably well understood in their essence and it is in the interest of project proponents to follow them. The huge complication for most jurisdictions, and the Territories in Canada's North are an example of this, is permits to proceed become clouded in problems that arise from unresolved aboriginal land claims. Nunavut's solved land claims differentiate it.”

- Rob Pease, President and CEO, Sabina Gold and Silver Corp.

.....

“AMC has worked in the Northwest Territories, Nunavut and Yukon territories. Further afield, we have had project work in Norway, and our Australian offices have projects in north Russia. We apply our techniques and knowledge of working in Canada's Arctic North to other areas of Canada, i.e. northern British Columbia and northern Saskatchewan.”

- Mo Molavi, Mining Services Manager, Principal Mining Engineer, AMC Consultants

.....

“Permafrost is a major challenge: it requires special ventilation, and water usage for dust control and drilling where a brine solution is used to reduce freezing potential due to the underground mine being operated at freezing temperatures. Outside temperatures can be as low as -50 Celsius; the air coming through the ventilation into the mine has to be balanced to achieve a temperature conducive to working conditions without melting the permafrost around the mine. The heating of air is very expensive and is a significant cost of operating in the Arctic.”

- Tony Wachmann, Director Mining, Metallurgy and Infrastructure, Stantec Consulting Inc.

.....

“When working with permafrost, Foraco uses indirect fire heaters. Previously we used drip oil stoves but these had the inherent danger of hot oil on the workers or causing a fire. There is an extra fuel cost using indirect fire heaters, but this is more than compensated by extra safety.”

- Rick Guile, Field Superintendent, Yellowknife Branch, Foraco



“In the future, Canada will have an enormous impact on Atlas Copco. The country has massive untouched areas of resource exploration potential, which with developing infrastructure technology, i.e. airships, will become accessible, enabling large shipments of equipment to be transported across vast territories all year round. Only a small percentage of Canada’s North has been explored... Looking ahead, Nunavut will be just one of the next exciting challenges for the company, and is virtually untapped. Atlas Copco has in-house expertise for working in the extreme climate that Nunavut presents.”

- Andrew Lyon, General Manager, Atlas Copco Mining and Rock Excavation Canada

.....

“In Yukon, there is an increasing desire to understand the parameters of the settled land claims agreements; in spite of these agreements being in place, there is always a question as to what they mean and how they interact with the broad duty to consult that Canada has created in its court system. When the final agreements were created, the duty to consult did not exist; boundaries are now being tested as to how the two interrelate, and when they do, what is their meaning? This process is a natural evolution in the land claims system. Three First Nations have yet to settle land claims, and one of those Ross River Dena Council won quite a large case for non-settlement land.”

- Greg Fekete, Partner, Austring Fendrick & Fairman LLP

.....

“DPRA is a consulting firm that specializes primarily in socioeconomic and environmental consulting. We have been active in Northern Canada since 1971 and present in Yellowknife since 1987. One of our current flagship projects is at Giant Mine where we are working on two projects related to its remediation. Giant Mine is probably the largest cleanup of toxic waste associated with mining in the world. DPRA is providing secretariat support for the remediation project and we are working on a socioeconomic analysis of the remediation site.”

- David M. Finch, Senior Associate, DPRA Canada

.....

“ERM Rescan is still significantly involved in the North in Nunavut and the Northwest Territories. In Nunavut, we are currently doing a large project which we have completed a draft EIS. The draft went through the regulatory review process very well and now we are responding to questions on the draft to move forward with the final EIS. We are also doing the EIS for another major project as well as a number of smaller exploration projects. In the Northwest Territories we are actively working with Dominion Diamonds on the Ekakti Project.”

- Clem Pelletier, Principal Partner, ERM Rescan

”

GOVERNMENT, ASSOCIATIONS AND ORGANISATIONS

Government of the Northwest Territories	36, 37, 38, 39, 43, 87
Government of Yukon	3, 23, 24, 26, 27, 28, 77, 87
NWT and Nunavut Chamber of Mines	87
Prospectors & Developers Association of Canada (PDAC)	26, 45
Yukon Chamber of Mines	21
Yukon Mining Alliance (YMA)	22, 23, 28, 87

MINERAL EXPLORERS AND PRODUCERS

Avalon Rare Metals Inc.	38, 43
Avanna Resources Ltd.	52, 53, 54, 55, 56, 57
Flinders Resources Ltd.	58, 59, 60, 61, 62, 63
Hudson Resources Inc.	52, 53, 56
Kennady Diamonds	36, 41
Millrock Resources Inc.	16, 18
North American Tungsten Corp. Ltd.	22, 33
North Country Gold Corp.	47, 49, 50, 51
Northern Dynasty Minerals Ltd.	19
NovaCopper Inc.	12, 13, 15, 16, 17, 82, 83
Proxima Diamonds Corp.	34, 35, 36, 37, 38, 42
Sabina Gold and Silver Corp.	49, 50, 84
Victoria Gold Corp.	20, 21, 24, 32
Wellgreen Platinum Ltd.	6, 7, 22, 24, 30, 31
Western Copper and Gold Corp.	22, 23, 29

CONSULTING, ENGINEERING AND TECHNOLOGY

AMC Consultants	84
Aurora Geosciences	37, 40, 49
DPRA Canada	85
ERM Rescan	85
ETP Energy Technology Products	66, 67, 70
Glencore Technology Canada	75
KBL Environmental Ltd.	67, 72
Knight Piésold Ltd.	11, 66
Merit Consultants International	2, 10, 55, 66, 71
Northways Consulting	67, 80
Reutech Mining	64, 65, 68, 69, 74
Stantec Consulting Inc.	84
Tetra Tech	10, 76
Williams Engineering Canada Inc.	83

CONSTRUCTION, DRILLING, EQUIPMENT, EXPEDITING AND SERVICES

All-Terrane Mineral Exploration Services	66, 81
Atlas Copco Mining and Rock Excavation Canada	85
BMT WBM Canada Inc.	66, 79
BBE (Braden-Burry Expediting Ltd.)	66, 78
Castle Rock Enterprises	23, 24, 67, 77
Foraco	84
Gekko	44

LEGAL, RECRUITING AND RISK MANAGEMENT

Austring Fendrick & Fairman LLP	85
CMW Custom Risk Solutions	21
Osler, Hoskin & Harcourt LLP	7
Rakia Recruiting	67, 73

EDITORIAL AND MANAGEMENT TEAM

Senior Project Director: Katie Bromley (kbromely@gbreports.com)

Senior Journalist: Anita Kruger (akruger@gbreports.com)

Senior Journalist: Andrew Mason

With assistance from GBR's Toronto office:

Senior Project Director: Gabrielle Morin (gmorin@gbreports.com)

Senior Journalist: Angela Harmantas (aharmantas@gbreports.com)

Regional Director, EMEA: Sharon Saylor (ssaylor@gbreports.com)

General Manager: Agostina Da Cunha (agostina@gbreports.com)

Executive Editor: John V. Bowlus (jbowlus@gbreports.com)

Graphic Designers: Leigh Johnson (leigh@gbreports.com) and

Gonzalo Da Cunha (gdc@d-signa.com)

For updated industry news from our on-the-ground teams around the world, please visit our website at gbreports.com, subscribe to our newsletter by signing up to our VIP list through our website, or follow us on Twitter: @GBReports.

Additional copies of this book can be ordered through Elif Ozturk (elif@gbreports.com).

THANK YOU

We would also like to sincerely thank all the governments, associations, and companies that took the time to give their insights into the market and share their experience and knowledge.

GOVERNMENT OF THE NORTHWEST TERRITORIES

<http://www.gov.nt.ca/>

NWT AND NUNAVUT CHAMBER OF MINES

<http://www.miningnorth.com/>

GOVERNMENT OF YUKON

<http://www.gov.yk.ca/>

YUKON MINING ALLIANCE (YMA)

<http://yukonminingalliance.ca>

We would also like to thank the staff at The Yellowknife Inn, Yellowknife, the Northwest Territories, for their attentiveness and warm hospitality



GLOBAL BUSINESS REPORTS