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THE NORTHERN MINER

MARCH 16-29, 2020 / VOL. 106 ISSUE 6 / GLOBAL MINING NEWS · SINCE 1915 / \$5.25 / WWW.NORTHERNMINER.COM



Charles Beaudry, Orefinders Resources vice president of exploration, on the Knight property. OREFINDERS RESOURCES

Sprott bets on Orefinders

ONTARIO | Junior ready to drill target-rich Knight property



BY TRISH SAYWELL
 tsaywell@northernminer.com

Financier Eric Sprott is putting some of his money behind **Orefinders Resources** (TSXV: ORX) and the junior explorer's properties in the Kirkland Lake

district of Ontario.

Sprott has taken an 8.01% of the company's issued and outstanding common shares on a non-diluted basis and about 11.64% on a partially diluted basis.

"He's had tremendous success in the Kirkland Lake camp and that's clearly what got his attention about us," Stephen Stewart, Orefinders'

president and CEO, said in an interview. "He is obviously interested in our neighborhood."

"Eric's a seasoned investor who has seen it all, has lived through all the cycles, and understands it's a long-term game, writes significant cheques and he brings eyeballs, which is important," Stewart continued.

"He's probably the best shareholder you can have, and it's also nice to have money to execute on our plan."

Over the last five years, Orefinders has quietly put together a portfolio of assets in the Kirkland Lake area that it believes can one day deliver "that billion-dollar drill hole."

The company has followed a slightly different path than many other juniors in the business. Instead of raising money to drill, it took advantage of the downturn and the difficult capital markets to "buy other peoples' drill programs from yester-year," Stewart explained.

"That's not always a sexy strategy because people like to see drill results," he conceded, "but nonetheless that's what we did."

Just because it wasn't drilling, however, didn't mean the company wasn't preparing. It was busy sifting through the data, zeroing in on interesting targets, and getting them drill-ready so that when markets pick up everything is ready to go.

That time has come. This year, Orefinders plans to focus its drill program on its Knight property, 110 km south of the Kirkland Lake-Larder Lake camp.

There are several targets on the

"I DON'T THINK PEOPLE REALLY UNDERSTAND THE DEPTH OF OUR ASSETS. ... WE ARE A \$7 MILLION MARKET CAP COMPANY AND HAVE AN AWFUL LOT GOING ON."

STEPHEN STEWART
 PRESIDENT AND CEO,
 OREFINDERS RESOURCES

Knight land package, all within a kilometre or two of each other: Porphyry Lake, Tyrannite, and the Minto and other select breccia pipes.

Porphyry Lake is a high-priority target. It is a major untested IP high chargeability/low resistivity anomaly over 300 metres long and 250 metres wide under Porphyry Lake.

The mineralization is consistent with a mineralized porphyry system that has the potential of developing into a large, open-pittable deposit.

"We know it's a sulphide system — the question is how rich is it in gold," Stewart said. "It's a very large target confirmed on MAG and three IP lines, and it's within a well-endowed gold system so that's a quick and easy target."

The company's Tyrannite target on the northern part of the Knight

Mining is 'close to home' for Minister O'Regan

INTERVIEW | Minister bullish on Canadian prospects in a changing world

BY DAN SEKULICH
 Special to The Northern Miner

Canada's Minister of Natural Resources Seamus O'Regan made his first appearance at the Prospectors and Developers Association of Canada (PDAC) convention in Toronto last week, knowing he would be under the spotlight as the new man in town from Ottawa. Since taking on the ministerial portfolio last November, O'Regan has faced a series of issues that affect the resources industries in Canada, most notably the recent decision by **Teck Resources** (TSX: TECK.B; NYSE: TCK) to cancel its

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Orefinders Resources director Alexander Stewart at the Knight gold property in Ontario. OREFINDERS RESOURCES

Sprott bets on Orefinders

OREFINDERS From 1

property is a former producing underground mine, and Stewart described it as “a typical shear-hosted Abitibi deposit that has got really good widths and grades.”

“We’re confident that if we drill underneath the shaft we will continue to hit good grades, and we do have an interpretation on this,” he said. “There is 30,000 metres of historic drill core that we have re-logged and re-sampled and re-assayed.”

Tyrinite was previously interpreted and mined as a simple fault-style deposit, Stewart noted, but Orefinders’ new interpretation is focused on the contact zones of the ultramafic units striking at right angles to the fault. Tyrinite has never been drilled using this specific model.

“The contact zone between the ultramafics and our porphyry areas — that’s where we’re seeing some very interesting high-grade mineralization,” said Stewart, “but it has never been drilled with that theory in mind.”

Tyrinite benefits from significant infrastructure, including 4,500 feet of drifts, two surface warehouse buildings, core handling and logging facilities, a dry building, a field office and an electric generator.

The third target consists of breccia pipes like the Minto breccia pipe. The Minto pipe is a cylindrical orebody that has been drilled down to a kilometre and ends in mineralization, Stewart said. “We did some geophysics and reinterpretations of MAG and found its signature, so we have applied that across the entire property and found a bunch of other geophysical targets that have those same characteristics, and there were about a dozen that outcropped with anomalous gold. We’re going to run one line of IP around the circular anomaly.”

Orefinders is planning a 4,000-metre drill program on Knight, and also intends to drill at its McGarry project, which abuts both the Kerr-Addison mine and **Gatling Exploration’s** (TSXV: GTR; US-OTC: GATGF) Chemini mine and Bear Lake deposits.

The Kerr-Addison mine produced

about 12 million oz. gold at an average grade of 7.3 grams gold per tonne over 58 years.

The McGarry project, on 2.4 km of the Cadillac Larder-Lake Break, was put into operation (the high-grade 325 Zone) by previous owners after a 2013 preliminary economic assessment (PEA), and has infrastructure in place, including a shaft and hoist.

McGarry has a historic resource estimate consisting of 447,000 indicated tonnes grading 7.89 grams gold per tonne for 112,000 contained oz. and 157,000 inferred tonnes grading 5.83 grams gold per tonne for 29,000 ounces.

Orefinders believes there is a possibility of finding deep extensions of the Kerr-Addison deposit on the west side of the Armistic fault. It also notes that previous exploration of the McGarry deposit was significant in and near the existing mine infrastructure, but less exploration has been done outside the area of the shaft between the 1,250 and 2,250 ft level.

In addition, the property hosts the Barber-Larder deposit, which was mined as an open pit between 1987 and 1988 and production bottomed at about 46 metres depth. Orefinders says the deposit continues below that depth at similar grades and notes that there has not been significant exploration below the top 120 vertical metres.

The McGarry project offers a number of exploration targets not just around the McGarry and Barber-Larder mines.

The company is exploring a number of zones of interest, including Peninsula, Mill, Western, Dyke and the Arjon shear.

A drill hole into the Peninsula zone, immediately west of the Barber-Larder mine along the same package of deformed and altered rocks, returned 3.4 grams gold over 6 metres at 85 metres depth.

The Mill and Western zones, located in a north-east striking ultramafic unit, returned a drill intercept of 36.7 grams gold over 2 metres (Mill) and a trench assay returned a small mineralized shoot of about 15 metres in length, 2 metres in width, assaying 3.9 grams gold.

The Dyke zone, in the southeast

of the McGarry property, extends for more than 300 metres and was sampled over about 100 metres, yielding an average grade of 7.25 grams gold over 1 metre.

Finally the Arjon shear zone, in the northeast of the property, extends onto the adjacent Kerr-Addison property. The target will be followed up for its potential for intrusion-hosted bulk mineable gold mineralization.

Stewart is excited about the drill program and thinks the company’s timing couldn’t be better.

“We believe investors are coming back to the junior space,” he said. “They’re not there yet, but with producers making a lot more money at US\$1,650 per oz. gold, I do think M&A is going to bring back tension to the juniors.”



A historic headframe on Orefinders Resources’ Knight property. OREFINDERS RESOURCES

“These things will take time to come to fruition, and we want to be prepared to come back with great drill results.”

Orefinders’ other projects include the Mirado mine property, 35 km southeast of Kirkland Lake. Mirado is a past-producing underground mine. Mirado is interpreted as a gold-rich VMS system with a gold-rich stringer footwall (South zone) overlain by a zinc and gold-rich bedded hanging wall (North zone).

Results from a PEA in January 2018 on an open pit in Mirado’s South zone points to a capex of \$2.4 million, an after-tax internal rate of return of 158% and a net present value at a 5% discount rate of \$20.5 million. The early-stage study envisions it as a toll milling operation, given the project’s close

proximity to numerous mills.

In addition, Orefinders owns 25% of **Mistango River Resources** (CNSX: MIS), which is advancing its Omega project, 30 km east of Kirkland Lake.

Omega has two historical production shafts with a 2013 resource of 4.92 million tonnes of 1.39 grams gold in the indicated category and another 4.69 million tonnes of 2.43 grams gold inferred.

The deposit produced 217,500 oz. historically, and Orefinders believes there’s strong evidence of bulk mineable gold potential in syenite intrusions.

Stewart noted that Orefinders had a long drawn out proxy battle with Mistango in November and December last year, and that the company has “a lot of similarities with Orefinders in terms of assets and jurisdiction focus.”

Orefinders also owns 10% of **PowerOre** (TSXV: PORE), a spin-off, which owns the Opemiska copper complex in the Chibougamau region of Quebec. The property hosts two past-producing underground mines — Springer and Perry — both of which were operated by Falconbridge. Falconbridge operated Opemiska from 1953 to 1991, and produced 23 million tonnes grading 2.4% copper and 0.3 gram gold.

In addition, Orefinders owns about a third of Pacific Precious, a private company it plans to spin out in dividend shares in the coming months. “This is exactly what we did with PowerOre,” Stewart said. “We own 32% of the company, which equates to 10 million shares. We’ll dividend out 5 million of them to Orefinder shareholders and then Orefinders will retain the other five million shares for our balance sheet.”

Pacific Precious owns a large, early-stage epithermal gold project in Papua New Guinea on strike from the Porgera mine. Orefinders will assist the company with its initial public offering a few months from now.

“I don’t think people really understand the depth of our assets,” Stewart said. “We are a \$7 million market cap company and have an awful lot going on.” TNM

Toronto stock exchanges sign MOU with Brazilian Mining Association

PDAC | Deal designed to increase investment for mineral development in Brazil

BY CARL A. WILLIAMS
cwilliams@northernminer.com

The Toronto Stock Exchange (TSX) and TSX Venture Exchange (TSXV) have signed a memorandum of understanding (MOU) with the Brazilian Mining Association (IBRAM) that seeks to increase investment in the Brazilian mining sector over the coming years.

The signing of the MOU, which coincided with the Prospectors and Developers Association of Canada convention, is expected to open up opportunities for expanding geological research, which is vital to increasing Brazilian mineral production, exploration and the development of Brazilian mining projects as well as jointly identifying opportunities to boost the investment attractiveness of the Brazilian mining sector.

"We are excited about raising Brazil's profile in the Canadian mining investment community and Canadian capital markets," Wilson Brumer, president of IBRAM's board of directors and signatory of the agreement told *The Northern Miner*. "We recognized that medium-sized and smaller mining companies in Brazil require our support in attracting investment, so our goal is to help countries like Canada to recognize the tremendous potential that exists for investing in Brazil's mining sector."

A private, not-for-profit organization, IBRAM has 130 members representing companies and institutions that work in the mining industry, including employer organizations, mineral engineering, environmental and geology companies, equipment manufacturers, technology centers



Marking the agreement between the TSX, TSXV and Brazilian Mining Association (IBRAM), from left: Evelynne Coulombe, Canada's consul general in Rio de Janeiro, Brazil; Wilson Brumer, president of IBRAM's board of directors; Rob Peterman, vice president of global business development for TSX and TSXV; and Guillaume Legare, TSX and TSXV's head of business development for Latin America. TMX GROUP

and investment banks.

It aims to increase the sector's national and international competitiveness by helping companies to establish a presence in the Brazilian minerals sector, as well as seeking to promote sustainable development practices and the use of better safety and occupational health practices in Brazilian mining.

IBRAM is expected to play a vital role in implementing actions considered in the MOU, which include initiatives to increase the number of Brazilian mining companies on the Exchanges and identifying attractive projects and investment opportuni-

ties in the Brazilian minerals sector.

The value of investments in the Brazilian mining sector is projected to be US\$32.5 billion in 2020-2024, an increase of 18% compared to the forecast for 2019-2023, according to a February announcement from IBRAM, with the rise driven by investments in green and brownfield projects and operational safety.

Less than a third of Brazil's 8.5 million sq. km has adequate geological research currently being undertaken, with mines occupying only around 0.6% of the country, IBRAM says, and the organization believes there is "enormous potential for new

investments and the discovery of future world-class deposits."

IBRAM and the Exchanges are now developing a joint agenda to promote Brazilian mining, such as investor conferences aimed at attracting investment from Canadian companies.

"From our perspective, we've seen a great deal of activity out of Brazil, and some exciting companies are emerging," Robert Peterman, vice president, global business development of TSX and TSXV, and co-signatory to the agreement, said in an interview. "Therefore, we decided to establish a full-time presence in

Brazil and to be part of the ecosystem in South America. The agreement is a perfect example of the collaborative work that is happening on the ground to move the sector forward collectively."

There are currently 35 companies on the two exchanges with over 100 properties in Brazil, and Peterman believes that they will be an essential partner and source of capital for Brazilian mining companies.

The agreement will help to connect Canadian expertise in financing with Brazilian knowledge in mining to try to create more opportunities for growth.

"From my perspective, the number one thing is education — working together to find ways to help the Brazilian mining companies to think of the Canadian financing ecosystem as a pathway for growing their businesses," Peterman said.

Peterman recognizes that there already exists a culture of mining in Brazil and a lot of expertise on the ground, and he believes that Canada has unique experience on the regulatory side through the national instrument 43-101 and the regulatory infrastructure that governs companies on the TSX and TSXV that it can bring to Brazilian mining companies.

"We are not here just to sign an agreement," IBRAM's Brumer said. "We now need to develop an action plan to accelerate investment in the sector by leveraging the experience that Canada brings, especially given the huge companies that are listed on the Exchanges. We are trying to create a new environment for investment in the Brazilian minerals and mining sector." TNM

Coronavirus weighs on mining outlook

PDAC | CRU Group sees palladium advancing, lithium declining in 2020

BY ALISHA HIYATE
ahiyate@northernminer.com

It's usually difficult to find a seat at the commodities session on the opening day of the Prospectors and Developers Association of Canada (PDAC) convention held in early March in Toronto, but there was a noticeably smaller crowd at this year's Sunday afternoon talks.

At the start of his talk on the outlook for metals and mining in 2020, Paul Robinson, a director at CRU Group, noted the unusually sparse attendance — and the reason why.

"We can't not talk about Covid-19 — coronavirus," Robinson said.

"At the moment, there is no real change in global demand. ... Some travel is hit — you can see how empty this room is compared to normal, but we haven't got any sort of level of significant hit like we've seen in China and South Korea."

CRU Group is a London, U.K.-based company that specializes in commodities research, and Robinson shared some of CRU's insights into the current and coming drivers of change and uncertainty in the mining and metals sector — including Covid-19.

As an example of the virus's effects in China, Robinson noted that CRU employees in Beijing have been working from home for the last three and a half weeks — self-isolating, ordering food in, and also not buying consumer goods

"WE HAVE TO GET ON TOP OF FAIR WEALTH DISTRIBUTION. AND YOU CAN ADD TWO CHALLENGES FROM TECHNOLOGY THAT ARE COMING — AUTOMATION COSTS JOBS AND REMOTE WORKING COSTS [LOCAL] SALARIES."

PAUL ROBINSON
DIRECTOR, CRU GROUP

or booking holidays.

Empty streets in the normally bustling capital of China show that they're not the only ones.

"The longer this continues, the bigger the impact on the Chinese economy — and it's starting to have an impact on the global economy," Robinson said.

Important factors that will determine how big the impact will be include: how the virus is contained over the next three to four weeks, how consumers react, and the type of stimulus the Chinese government applies to counter the negative economic effects of the virus.

"A lot about the second half of 2020 depends on the stimulus — there will definitely be a stimulus in China, that is guaranteed."

If the government stimulus is aimed at encouraging consumer spending and subsidizing the green economy, copper, cobalt and nickel would see a boost, and things could start to pick up in the second half of the year.

If that doesn't work, and the government reverts to "old school" infrastructure-type stimulus, it would be good for iron ore, steel and copper, but the impact would be "far less sustainable," Robinson said.

CRU's current forecast for a basket of 38 commodities sees a 5% price decline for 2020 overall. Palladium is expected to do the best this year, with prices increasing at least 15% over 2019, and lithium is expected to perform the worst, with prices falling at least 15%.

There is downside risk to the forecasts, as they assume that the coronavirus effects will largely be contained to China and that the country will apply an economic stimulus.

In December 2019, CRU's view was that the commodity price cycle was at a bottom; however, there's now less certainty about metals demand, Robinson said.

"As long as the rest of the world isn't affected this year [by coronavirus] we should see a return to

positive growth. ... But we need to see a return to sustainable demand growth before we're going to see the bottom of the price cycle."

Because the larger mining companies are currently in a positive free cash flow position after having tackled cost inflation in the industry over 2013-2018, they are well-positioned to control their own destiny — and can choose how to best deploy their cash, whether through share buybacks, M&A or other investment.

However, there is a risk that over the longer term, investors who are looking for "cleaner" low-carbon investments may start to write off the mining industry entirely.

"That's not a challenge for us today because we're in a positive free cash flow territory, and there's not a lot of debt being raised," he said. "But if we don't start to address that challenge now, and why that thinking is wrong — if you don't invest in base metals mining now, there isn't going to be the metals and minerals to actually have that less carbonized world — when we need the money it's not going to be there."

Robinson also touched on another growing theme — the fair distribution of wealth from mining.

"We have to get on top of fair wealth distribution. And you can add two challenges from technology that are coming — automation costs jobs and remote working costs [local] salaries."

"That's not a bad thing, but if you then also try to go forward with local partners on existing mine distribution models on existing headcount models, there's going to be a gap in expectations. So, in a mine that employs 50% less staff and has them all remote working 500 km away, how do I make sure that the local communities [benefit]?"

— Alisha Hiyate is the editor of our sister publication, Canadian Mining Journal, where this article first appeared.

By Order of D.S. Jovanovic, Associate Chair, Mining and Lands Tribunal, dated February 28, 2020, Arthur Lindsay or his executors, heirs, successors or assigns, are ordered to pay \$778.28 (Cdn) to the Applicant, Jan McCambley, being the mining lands taxes for all surface and mining rights in, upon or under Parcels 8040 and 8041, bearing PIN# 73426-0234 (LT) and 73246-0112 (LT), respectively, situate in the Township of Mongowin, District of Sudbury. Payment may be made to Jan McCambley, 78 Gibson Road, Danford Lake, Quebec, J0X 1P0. Failure to make payment or to request a hearing may result in an Order vesting all surface and mining rights in, upon or under the aforementioned Mining Lands in Mr. Jan McCambley pursuant to section 196 of the Mining Act, R.S.O. 1990, c. M. 14.

THE NORTHERN MINER

GLOBAL MINING NEWS · SINCE 1915
www.northernminer.com



The Northern Miner

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(ISSN 0029-3164)

CANADA POST:
Return undeliverable
Canadian addresses to
Circulation Dept.
c/o The Northern Miner
225 Duncan Mill Road, Suite 320
Toronto, ON M3B 3K9
Publication Mail Agreement #40069240
Periodicals Postage Rates paid at
Niagara Falls, NY, 14304.
U.S. office of publication 2424 Niagara Falls
Blvd, Niagara Falls, N.Y. 14304.

U.S. POSTMASTER:
send address corrections to:
Northern Miner Box 1118
Niagara Falls, N.Y. 14304-7118

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EDITORIAL

Disruption: The New Normal

EDITORIAL | Solid PDAC attendance despite fears



BY TRISH SAYWELL
tsaywell@northernminer.com

What was surprising about the Prospectors and Developers Association conference this year was how many people actually showed up, with Covid-19 ripping around the world. According to figures from Johns Hopkins’ Coronavirus Resource Centre on Mar. 10, 118,101 people have been infected and 4,262 have died. While many conferences and large gatherings elsewhere have been cancelled, the Mar. 1-4 mining show carried on in Toronto, whether people really wanted to be there or not. Attendance dipped just 10% to 23,144 people, 2,699 fewer than the 25,843 who attended in 2019.

Over the course of the event I only spotted two folks wearing facemasks, and as far as I know, just Rob McEwen of McEwen Mining decided not to give a scheduled presentation, while another speaker, Nicky Shiels, a commodity strategist at Scotiabank in New York, stayed home and delivered her presentation by video-conference.

Mark Bristow of Barrick Gold and Robert Friedland of Ivanhoe Mines turned up as planned to deliver keynote speeches, and Canada’s Prime Minister Justin Trudeau made an appearance for the second year in a row.

Friedland, who also attended a special pre-PDAC Red Cloud event on Feb. 28, used both occasions to talk about the massive disruption we face with the pivot to the electrification of all things, and the enormous opportunities it presents to miners exploring for and extracting ‘green’ metals like copper, nickel, PGMs and rhodium.

“You have to start thinking about what real electrification means,” he declared at the Red Cloud luncheon. “We’re entering an era of electric everything and this is super-intensive for the metals I’m talking about.”

One of the many imperatives behind electrification is that air pollution associated with massive urbanization is the “greatest environmental risk to global health,” Friedland said, noting that air pollution masks are now a US\$4 billion market and, “if you’re going to get a mask get a good one.” The mine developer and financier pointed to a 2017 study published in The Lancet medical journal that drew a correlation between dementia rates and people living close to heavy traffic and inhaling fumes from cars and trucks with internal combustion engines.

“This explosion of dementia is linked to fine-grained particulates that get into your head and never come out and this is serious stuff and this scientific understanding has just happened,” he warned. “Life is hard, it’s harder if you’re stupid.”

In addition to its role in fighting climate change, copper also will become essential in the control of infectious diseases like Covid-19, Friedland predicted. With its anti-microbial properties, the metal will be employed increasingly as a virus and super-bug killer. As an example of one application, he pointed to Israel’s Argaman Technologies. The company has engineered copper oxide into 100% cotton fibre that it is developing for use in everything from hospital uniforms to hotel linens and face masks.

The Jerusalem-based company ultrasonically blasts enhanced copper-oxide particles into its CottonX material and claims the copper oxide in the fabric can kill 99% of the bacteria and viruses with which it comes into contact. Sonovia, another Israeli company, infuses antiviral, antimicrobial zinc and copper oxide nanoparticles into textiles for facemasks and other protective devices.

Ultimately, the world should be thankful for junior mining companies, which are leading the way in finding new deposits of green metals essential in the electric vehicle and grid storage industries, he declared.

“If we don’t have junior mining companies we wouldn’t have anything ... I can assure you the majors couldn’t find a mine if their lives depended on it ... [and] without funding the junior companies you can’t get there from here. ... There is not going to be an Elon Musk without junior mining companies.”

Tesla’s market cap has surged to more than US\$119 billion and the company “can buy Ford for breakfast and be hungry for lunch,” Friedland continued, adding that according to the International Copper Association, copper demand for electric cars alone should rise 900% between now and 2027.

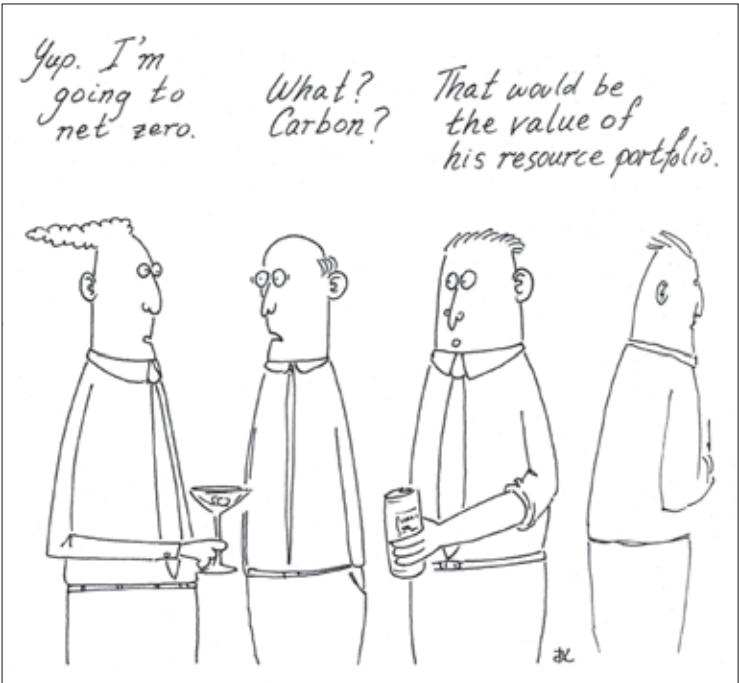
Friedland also cited stats from consulting firm Wood Mackenzie that about US\$240 billion will be needed to meet growing metals demand in the next five years.

“We’ve got a big disruption coming here,” he warned. “The oil price is down and they haven’t a clue. They are like deer caught in the headlights. So now comes the Revenge of the Miners.” ^{TNM}

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OP-ED



Investment bankers discuss state of the mining industry

PDAC | Juniors continue to struggle for funds

BY TRISH SAYWELL
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The capital markets sessions are among the most popular events at the Prospectors and Developers Association of Canada’s annual convention. For the fifth year in a row, investment bankers came together to discuss the main themes and key issues facing the mining industry. Anthony Vaccaro, publisher of *The Northern Miner*, moderated this year’s panel of four bankers — all of whom lead their banks’ metals and mining divisions. The panelists were Michael Faralla of TD Securities, Ilan Bahar of BMO Capital Markets, Chris Gratias of CIBC Capital Markets and Ryan Latinovich of RBC Capital Markets. The following is an edited transcript of the discussion. The full transcript is available at www.northernminer.com. See page 16 for the charts referenced.

Anthony Vaccaro: The global equity financing chart for the mineral sector shows Canada’s role in equity financings (in orange) and the dotted line represents Canada’s percentage of the global financings. It’s interesting how consistent the level of Canadian financings is relative to elsewhere, where there’s a lot more volatility. We’re seeing an overall decline, though, that’s the concerning part.

Chris Gratias: It’s not a pretty chart to look at.

Anthony Vaccaro: Does it concern you?

Chris Gratias: Yeah, and this gets

“CANADIAN CAPITAL MARKETS FROM MY PERSPECTIVE IS THE HEALTHIEST ECOSYSTEM ON THE PLANET.”

RYAN LATINOVICH
GLOBAL HEAD OF MINING AND
METALS, RBC CAPITAL MARKETS

back to time period as well. What’s missing on this page is equity levels. When we were going through the last super cycle, it was much higher than this. So, this is not just a short-term trend, this is a longer-term trend. I think 2019 was probably the slowest year for mining equity issuance in Canada in 15 years. So, that’s frankly one of the biggest challenges we have in our business and then with clients it is access to capital, and it’s tough and when you add in the volatility we’re seeing, it’s that much more difficult. One interesting stat out this morning that I heard was that there wasn’t a single U.S. investment-grade bond issued last week. ...That’s extremely, extremely rare. I think the challenging times are very hard. There’s not great capital formation in the public markets, and that’s why I think we’re seeing alternative forms of capital increase, and the benefit of tough financing markets is that it does push people into thinking more creatively and that’s why we

See **BANKERS / 16**



From Left: Anthony Vaccaro, group publisher of The Northern Miner; Michael Faralla, managing director at TD Securities; Ilan Bahar, managing director of BMO Capital Markets; Chris Gratias, managing director of CIBC Capital Markets; and Ryan Latinovich, managing director of RBC Capital Markets. PHOTO BY TRISH SAYWELL

Mark Bristow hammers home organic growth message

PDAC | Barrick boss says industry needs to get outside ‘geographic comfort zones’

BY DAVID PERRI
dperry@northernminer.com

Mark Bristow used his keynote address at the 2020 PDAC conference to stress the importance of exploration for miners.

“It’s geologists and exploration that drive value creation and delivery in our industry,” said Bristow, president and CEO of Barrick Gold (TSX: ABX; NYSE: GOLD). “The need to invest in its human capital as well as the physical activity itself is pressing.”

“Discovery and development is still the surest route to deliver value, but it’s a long and arduous one, which demands tenacity of purpose and a long-term commitment.”

“Exploration success is measured not only in primary discoveries, but also in the acquisition of early stage projects, where geological skills can add significant value.” He cited two examples from Barrick’s portfolio where exploration turned acquired projects into world-class assets: Goldstrike in Nevada and Kibali in the Democratic Republic of the Congo.

“The industry has been increasing its exploration spend, but it has little to show for it. That’s because it has been investing in safe places — those comfort zones — which are largely mature and have limited potential.”

“Simply sticking to our geographic comfort zones is not going to produce an adequate return on that exploration investment. ... If you’re hunting elephants ... you have to venture into elephant country.”

Bristow’s Barrick is only interested in finding “tier one” mines, which produce at least 500,000 oz. gold annually for at least 10 years at below-average costs. The CEO presented a world map with circles around regions with the most potential for such discoveries, including many “places that are infrastructurally and geopolitically challenged” such as Venezuela, sub-Saharan Africa and North Korea.

The development of the Kibali mine by Randgold Resources, which Bristow helmed prior to its merger with Barrick, shows the commitment required for successful discovery in the 21st century. “Before we could start fully evaluating the project, we had to build a 180 km road through the jungle.”

Adding to their importance, he said, geologists have become brand ambassadors. “They represent the first contact with the local population and set the tone for an all-important future relationship.”

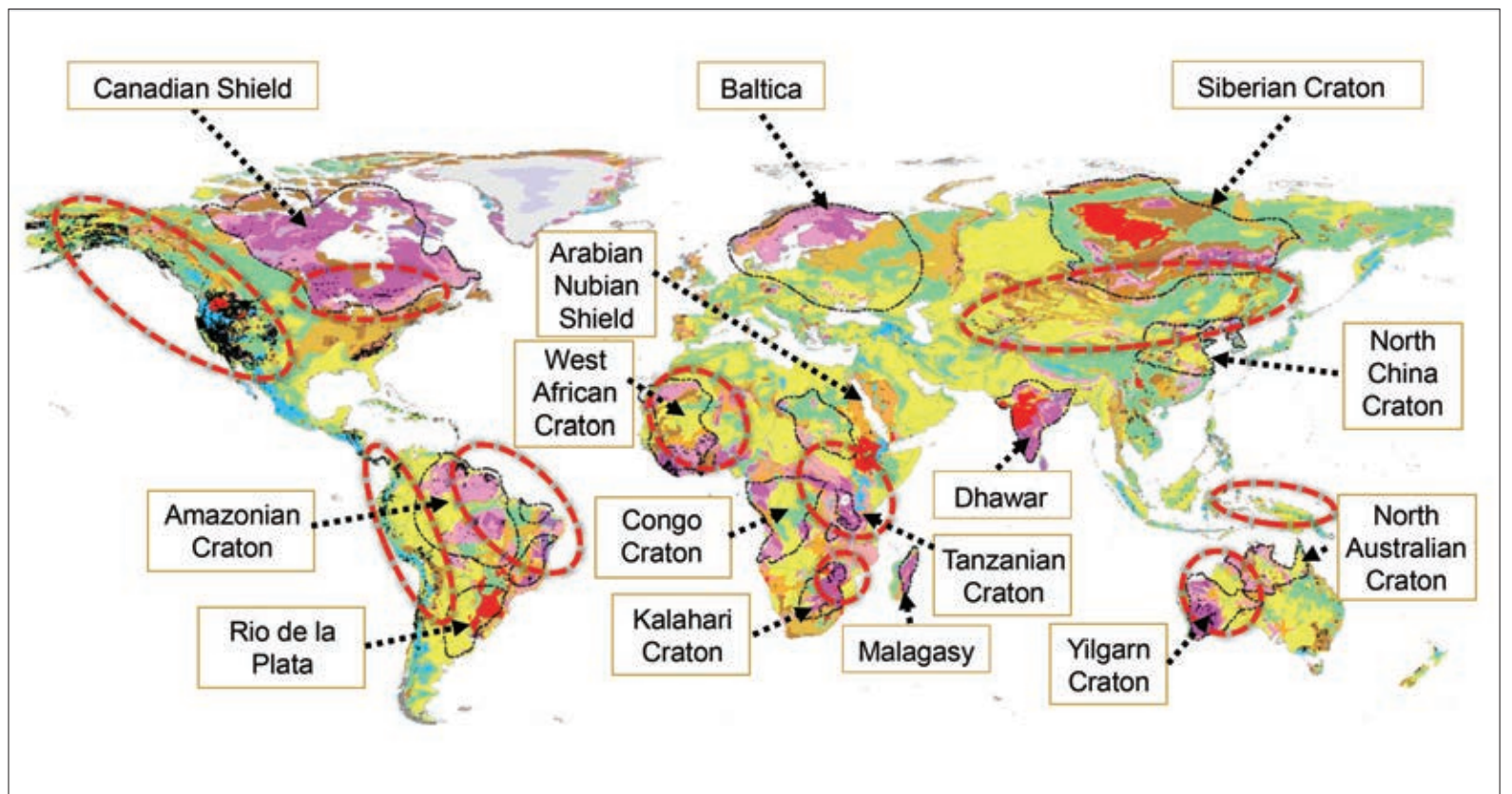
Environmental, social and governance issues are “rapidly becoming a major factor in investment decisions,” Bristow said. “Mining companies have a moral obligation, as well as a commercial motivation, to help develop economies and uplift people through investment, skills transfer, opportunity creation and quality of life improvement.”

“IF YOU’RE HUNTING ELEPHANTS ... YOU HAVE TO VENTURE INTO ELEPHANT COUNTRY.”

MARK BRISTOW
PRESIDENT AND CEO, BARRICK GOLD



Barrick Gold president and CEO Mark Bristow on stage at PDAC 2020 at the Metro Toronto Convention Centre. PDAC



A map highlighting regions Barrick deems to have potential for “tier one” asset discovery. BARRICK GOLD

“Barrick’s recently concluded framework agreement with the Tanzanian government is a model of the kind of partnership that industry should seek, especially in emerging countries,” he noted. The January deal followed a \$300 million tax settlement with Barrick and includes a benefit-sharing agreement and provides for increased government oversight and participation in operations.

Activists from the Mining Injustice Solidarity Network (MISN) attended the event and played jackhammering sounds throughout the presentation. Once Bristow

paused to take audience questions, an activist stood up and shouted at him. “I’m here to disrupt PDAC in solidarity with communities around the world facing down the barrel of a gun at the hands of your projects. Disrupt PDAC, shut down Canada.”

While the activists walked out of the room Bristow responded: “When you go outside, have a look at the city and understand the impact that [mining] has on the society. ... If you take away all the items that mining produced to build this city Toronto, you would just have a heap of rubble.”

MISN helped organize a protest on the opening day of PDAC. A Twitter account linked to the organization gave it credit for the stunt during Bristow’s presentation. “We just crashed the keynote at #PDAC2020, surrounding the room with loud, continuous sounds of drilling — sounds that communities all over the world have to hear as mining companies explore with no consent.” MISN specifically cited its opposition to Ontario’s “free entry” system for mineral claims staking and exploration. “These laws are colonial from top to bottom.” ^{TNM}

“MINING COMPANIES HAVE A MORAL OBLIGATION, AS WELL AS A COMMERCIAL MOTIVATION, TO HELP DEVELOP ECONOMIES AND UPLIFT PEOPLE.”

MARK BRISTOW
PRESIDENT AND CEO, BARRICK GOLD

M&A is back,' says Barrick's Catherine Raw

PDAC | Executive says industry still 'living off the discoveries of the 1990s'

BY TRISH SAYWELL
tsaywell@northernminer.com

Last year was the busiest year for mergers and acquisitions in the precious metals sector since 2010, Catherine Raw, the executive responsible for Barrick Gold's (TSX: ABX; NYSE: GOLD) North America region, told a luncheon at the Prospectors & Developers Association in Toronto on Mar. 2.

Over the last eighteen months, the market has witnessed the \$5 billion merger of Randgold Resources and Barrick Gold; the \$13 billion joint-venture between Barrick and Newmont (NYSE: NEM) in Nevada; and Newmont's \$12.5 billion takeover of Goldcorp, along with 27 other transactions in the space, she said.

"These aren't mega in the broader market but they're mega in our industry," Raw noted. "What we've seen is a pick-up in activity that is really quite remarkable. That consolidation will continue and I believe it will spread into the mining industry as a whole because they are facing many of the same challenges that the gold industry is facing."

The accelerated M&A activity has been driven largely by the portfolio rationalizations of companies like Barrick and Newmont as they sell assets; the Australians, who have taken advantage of strong paper and strong balance sheets to try to deliver the same returns they've been able to deliver in their own operations around the world; and by the Chinese who continue to increase their global presence, she said.

"M&A is back," declared Raw, who joined Barrick as chief financial officer in May 2015. Prior to Barrick, Raw was in the fund management business, and co-managed BlackRock's flagship mining funds. She has also worked for Anglo American in London and Johannesburg, and as a geological assistant in Sweden.

The mining executive noted that the industry now has a gold price that has stabilized with a floor of US\$1,200-\$1,300 per oz., with the potential of heading into a bull mar-

"IF YOU LOOK AT 2019, YOU CAN SEE IT IS THE LOWEST ISSUANCE OF NEW CAPITAL IN THE CANADIAN BASE AND PRECIOUS METALS MARKET FOR OVER A DECADE."

CATHERINE RAW
CHIEF OPERATING OFFICE FOR
NORTHER AMERICA, BARRICK GOLD

ket that allows the industry to plan for the future and consider how to add value for their shareholders over the long term. But it won't be easy.

"The industry faces an environment where a depleting asset base, a lack of new discoveries and a deteriorating quality of reserves means that inorganic growth is really the only solution versus organic growth," she said.

The gold industry has stabilized over the last five years and readjusted to a new price floor and is now looking to plan its business going forward at that level and consider what opportunities it has in front of it. "What's relevant here is how the production for the industry, despite rising gold prices, is plateauing."

"What we've seen is that the growth that was really driven from the 2004-2008 period has now come through into production, and even despite stable to rising gold prices, we're not seeing that next generation of projects coming through in the pipeline, so the forecast is that production will start falling ... And even with higher prices, apart from alluvial production where you do see very elastic response to prices, particularly out of Russia, the industry is inelastic. It's not price sensitive. We've probably got a seven-year, if not ten-year, lead time to new projects, and that is very much dependent



Catherine Raw, Barrick Gold's chief operating officer for North America, speaks at the Mineral Outlook Luncheon at the PDAC convention in Toronto. PDAC

upon what the exploration pipeline looks like. So then you look at what are the new discoveries we've seen over the last decade. Do we have a pipeline to be able to supply the industry going forward and the answer is no."

Even when the gold price was up to US\$1,900 per oz. in the previous cycle, and even now when the gold price is over US\$1,600 per oz., she said, there have been very few major discoveries globally. "We are still, effectively, living off the discoveries of the 1990s, and so the consequence of that is this: The industry is living on

borrowed time, effectively. Reserves are shrinking and the quality of those reserves is deteriorating."

Raw noted that in order to grow reserves, companies typically just changed their price assumptions. They dropped their cut-off grades and added ounces. "So then when the gold price fell we had to lower our gold price assumptions, which meant we had to increase our cut-off grades and reserves began to fall. The benefit, of course, is that the quality of those reserves went up, so if the gold price went back up, at least you'd generate a stronger margin."

"What's interesting over the last three years is that even despite gold prices being stable to higher, even despite all of this change, we're beginning to see grades deteriorate again," she said. "We're running out of the good stuff, and we're having to start mining low grades again, so what we have got is this issue of deteriorating quantity and quality affecting the industry."

The way companies can deal with this, she said, is through M&A and consolidation, or inorganic growth. "Barrick and Newmont are prime examples of that. We came out with our 2019 results and we were able to say we grew reserves year-on-year. But we grew a lot of those reserves through acquisition. What was interesting about Barrick relative to Newmont is that we increased the quality of those gold reserves, as well."

"The question for the industry now is, if it's going to consolidate, if we're going to see this chase for inorganic growth to be able to tell the market that we are able to maintain production at current levels, [that] we are able to deliver value, you have to keep the quality of your reserves either the same or improving, unless there's going to be some major technological or structural change to offset the deterioration of quality. But this issue — this lack of growth, this lack of new discovery, and this deterioration and depletion of existing reserves — is forcing the industry to look at one another to cannibalize in order to be able to stand still or in order to be able to prove they're adding value to their shareholders."

In addition, while the industry has recovered from the fall in the gold price between 2011 and 2013, which has allowed balance sheets to improve, the industry is still "incredibly leveraged relative to historic norms" and the challenge is that the industry "has spent the last five years not investing in our assets."

Capex has been significantly lower than it has been historically, and precious metals companies have been focusing on small-scale brownfields



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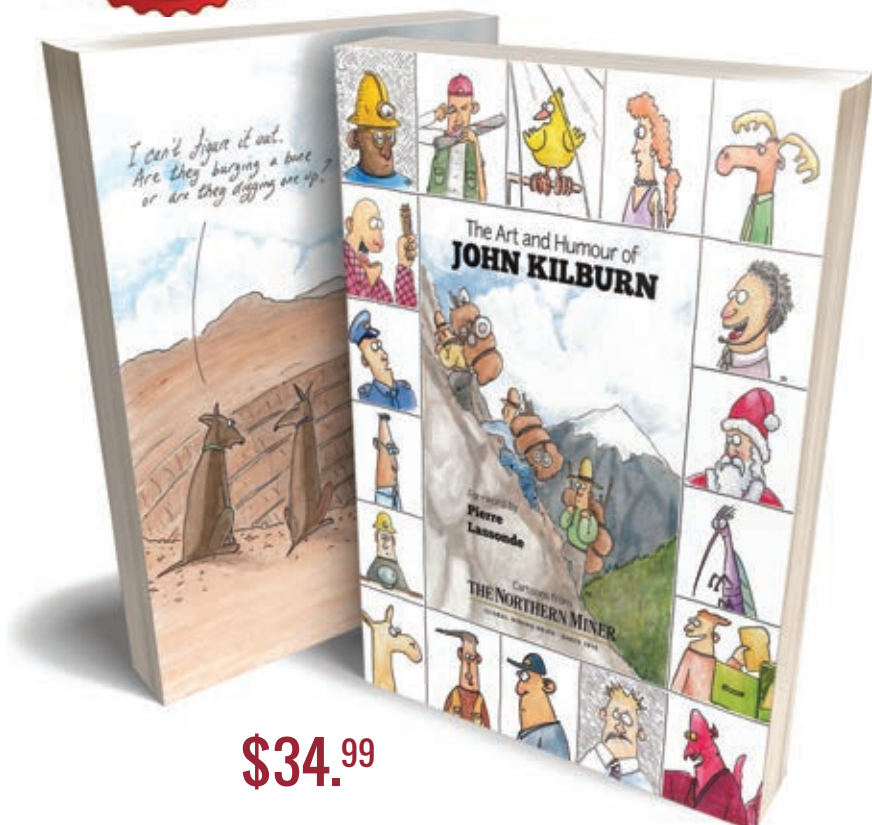
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Robert Friedland speaks to attendees at the PDAC convention in Toronto. PDAC

Friedland previews 'Revenge of the Miners'

PDAC | 'Orgy of government spending' to fuel miners of key metals

BY DAVID PERRI
dperry@northernminer.com

Renowned mining mogul Robert Friedland took a theatrical approach to introduce his message to PDAC convention attendees in early March. The Star Wars theme song filled the packed conference room while iconic yellow text scrolled up from the bottom of screens flanking the stage before **Ivanhoe Mines** (TSX: IVN; US-OTC: IVPF) founder and co-chairman delivered his presentation titled *Revenge of the Miners*.

"We made this little parody just to wake you up," he told his audience at the Metro Toronto Convention Centre.

Friedland sees world leaders moving toward massive investments aimed at combating climate change and urban air pollution, which will be a boon to miners producing key metals such as copper, PGMs, nickel and zinc.

"The next thing that governments are going to do, since we've already reduced the cost of money to zero, is to get into an orgy of government spending. And most of that government spending will be tied to the environment."

Friedland says "Green New Deal" schemes proposed by United States presidential hopeful Bernie Sanders and member of congress Alexandria Ocasio-Cortez total US\$20 trillion and US\$90 trillion, respectively.

"If we get a Green New Deal where bankers just hit the zero keys ... it would make our day, all of us in this audience. It would be quite phenomenal."

Ivanhoe is developing three advanced projects: the Kamo-a-Kakula (copper) and Kipushi (zinc-copper) projects in the Democratic Republic of the Congo and the Platreef (PGMs) project in South Africa.

"January of this year was the hottest January recorded in 141

"WHO BENEFITTED THE MOST FROM THE VIRAL DISRUPTIVE OUTBREAK OF THE [INTERNAL COMBUSTION] AUTOMOBILE? IT WASN'T THE CAR MANUFACTURERS... IT WAS JOHN D. ROCKEFELLER AND THE GUYS IN THE OIL BUSINESS."

ROBERT FRIEDLAND
FOUNDER AND CO-CHAIRMAN, IVANHOE MINES

years," Friedland says. And urban air pollution is an immediate and growing global concern.

"If the world gets three degrees warmer in the next hundred years, people in Russia or Canada — especially if you live in Winnipeg — might think that's not such a bad thing. But the urban air pollution is going to get you right now. It's costing the global economy about US\$5 trillion and killing 7 million people a year. It's a lot more serious than the coronavirus."

"We're going to have 6.7 billion people living in cities — or 68% of the global population — in your lifetime."

Friedland sees massive potential for miners stemming from the rise of electric vehicles (EVs) to replace internal combustion vehicles that produce much of the carbon emissions related to climate change and the particulate matter polluting the air in urban environments.

"Who benefitted the most from the viral disruptive outbreak of the [internal combustion] automobile? It wasn't the car manufacturers ... It was John D. Rockefeller and the guys in the oil business."

"Oil became the world's largest business, the largest enterprise ever entered into by human beings. And when you disrupt something that big, it has a huge impact on the prospectors and developers that have to find the metal to deal with it."

"EV sales in Europe are sched-

uled to hit 7.7 million units by the end of this decade — it's just getting started. And the demand for the underlying metals has not yet started."

Friedland highlights how governments across the globe are beginning to mandate the use of electric vehicles, from busses and trains in Great Britain to garbage trucks in New York City. "All electric garbage trucks — huge improvement. The only thing you're going to smell is the rotting fruit coming off the back."

In the coronavirus he sees specific opportunity for producers of copper with its anti-microbial properties. "Every surface in every hospital will be covered in copper. This is now mandated by the United States' military in military hospitals." Friedland envisions increased copper demand coming from everything from cruise ships and airports to fitness equipment. "Stainless steel loves viruses," he says.

Meanwhile copper grades and discoveries are in decline, he says.

"We're about to go into a massive deficit. The world has mined around 600 million tonnes of copper in human history. If we can maintain 3% world GDP growth for the next 20 years, the world needs to mine more copper in the next 20 years than was mined throughout human history."

"And this comes at a time when we want to electrify the entire world."

While copper is key for electrification and addressing environmental concerns, he says, PGMs will also play a huge role, specifically in hydrogen fuel cells that will power larger electric vehicles. "There is no known technology for the proton exchange membrane in a hydrogen fuel cell that doesn't need platinum."

"Palladium is used to clean a gasoline engine. Because China is tightening its standards on cleaning the air to protect the health of their people, the palladium price has gone crazy because you need it. It's out-performed all other metals except for rhodium."

"Gold isn't that great. It got outperformed by palladium. Gold throughout human history has never been as valuable as palladium is today."

"What really makes a bull market

is when something is needed for human health."

"Volkswagen is loading 0.4 of a gram of rhodium into the catalytic converter on every diesel vehicle they make." The spot price for rhodium is above US\$12,000 per oz.

"If I was talking to you a year ago and I said, 'Go buy rhodium, it's going to go up 10-fold next year,' you'd think I was crazy. But I've seen molybdenum go from US\$1 to US\$30 a pound in the past. And the copper bulls are talking about it going from US\$2 to \$4 a pound — they don't understand. When this world comes out of the current viral slowdown and governments engage in huge, green deficit spending to change the way we breathe our air, to change the way we generate power, you're going to need a telescope to see the copper price." TNM



The introductory slides from Robert Friedland's presentation at the PDAC convention in Toronto. PHOTOS BY DAVID PERRI



Canada's Minister of Natural Resources Seamus O'Regan at the PDAC convention in March 2020. NATURAL RESOURCES CANADA

Mining is 'close to home' for Minister O'Regan

MINISTER From 1

proposed Frontier oilsands mine, the nationwide protests relating to the Coastal GasLink pipeline and the growing economic impact of the coronavirus outbreak.

Over the course of several busy days, O'Regan was front and centre at a variety of PDAC events. These included appearing with Prime Minister Justin Trudeau as the federal government announced it would extend tax write-offs for electric vehicles to include off-road vehicles. As Trudeau pointed out, this means mining companies using EVs in their operations will now be able to write down their costs.

As O'Regan made the rounds at the convention, he was particularly vocal about touting the government's commitment to the mining community, with its Canadian Minerals and Metals Plan, which recognizes that the mining sector is vital as countries shift to low carbon economies and eventually net-zero emission targets.

He also sought to promote the competitive advantage the government believes comes with being on the "right side" of the environment. At several events he said Canadian miners set the world standard when it comes to extracting natural resources safely and with consideration for the environment.

O'Regan also said he has a strong personal affinity for the sector, gleaned while growing up in Goose Bay, Labrador. O'Regan spoke to *The Northern Miner* as the convention was wrapping up in early March.

The Northern Miner: *What are the most important issues you and the government wish to address in the year ahead when it comes to the mining sector?*

Seamus O'Regan: Positioning the industry to attract new investments, that's our big thing. The prime minister made the announcement at PDAC about the new tax measure for electric mining vehicles under the accelerated capital cost allowance, and last year we extended the mineral exploration tax credit for five years. So those are tangible things.

What I've spelled out very clearly, and what the prime minister spelled

"I HELPED NEGOTIATE TWO IMPACT BENEFITS AGREEMENTS WITH THE GOVERNMENT OF NEWFOUNDLAND AND LABRADOR AROUND THE VOISEY'S BAY PROJECT TWENTY YEARS AGO, NEGOTIATING WITH THE INNU AND INUIT, SO THIS IS ALL PRETTY CLOSE TO HOME FOR ME."

SEAMUS O'REGAN

CANADA'S MINISTER OF NATURAL RESOURCES

out as well, is that we are determined to get to net zero by 2050, [and] there is no way we can do that without the mining industry. Net zero is not just a climate plan, it's also an economic competitiveness plan.

TNM: *On Jan. 9, Canada and the United States finalized a Joint Action Plan on Critical Minerals Collaboration. What are the key takeaways from this for the Canadian mining industry?*

SO: We want to position ourselves as the supplier of choice for critical minerals. And that's ensuring you've got domestic value chains that include processing and manufacturing, working with the partners to ensure that you've got secure, sustainable global supplies of critical minerals, and that includes rare earth mineral elements.

This is a moment for Canada. We have an important strategic role to play as an energy power that has these minerals. But the only way we're going to make this happen is with partners, and the only way we're going to make that happen is talking to the United States. It's early days and there's a great deal of enthusiasm about positioning ourselves well again.

TNM: *What is the federal government's reaction to small modular reactors (SMRs) and the memorandum of understanding signed by Ontario, Saskatchewan and New Brunswick?*

SO: We welcome it. I just gave a speech to the Nuclear Association of Canada and said straight out that nuclear is front and centre, and this government is putting nuclear front and centre. Because we cannot achieve net zero without nuclear. I've yet to see a plan that can do that. And I think that when

Canadians reflect on nuclear in a different context — that context being, we have to cut back on our emissions, we have an economy that still needs to grow, and people need to prosper — how do you do all that? Nuclear has got to be part of that plan. I don't think that there is any one thing. Every scenario that we're looking at right now as a government has a mix of several things. An essential part of that mix is going to be nuclear.

We are extraordinarily well-positioned to re-invigorate the nuclear energy market, and small modular reactors will be a big part of that. And another huge competitive advantage for us is our regulatory environment. I mean, people trust us — we're very good at this. We put in the right regulations on things where people need to feel reassured. And nuclear energy would be one of those.

TNM: *The Ontario government and two First Nations (Marten Falls and Webiquie) recently announced their intention to revive plans for a year-round road towards Indigenous communities in the Ring of Fire. What do you think of that development?*

SO: ECCC (Environment and Climate Change Canada) recently launched a regional assessment under the Impact Assessment Agency, and that will provide baseline scientific data for the Ring of Fire. And that will help inform future development.

We want to make sure that all the First Nations in the region benefit from the Ring of Fire development. But I said this to Minister Rickford [Ontario Minister of Energy, Mines, Northern Development and Indigenous Affairs Greg Rickford], in my experience as somebody who's worked very hard on offshore oil

and gas off the shores of my home province, these regional environmental assessments can kind of give industry a bit on an edge.

TNM: *Does the government have any specific plans to address the economic impact of the coronavirus situation as it affects the mining sector?*

SO: We're seeing that it is having impacts on global economic activity and it will affect global supply chains, commodity prices, tourism, travel. This has potential impacts for our economy. At the same time, I would want to say that we are in a strong fiscal position, and that gives us the necessary leverage I think to respond to potential challenges, like coronavirus. G7 finance ministers reaffirmed their readiness to take action if they feel necessary to aid in the response.

I remember SARS. This is a transient world. It's a globalized world, [and] that has brought significant economic benefit to much of the world. At the time of SARS, I think that China was responsible for something like 7% of global trade and now it's responsible for 25%. So, it just shines a light on the fact that we are so interconnected. It just means we have to be extremely vigilant.

TNM: *How does the government feel about ESG (environmental, social and governance) progress being made in the resource industries?*

SO: It's extremely important. What you're seeing is that consumers are demanding it. And many Canadian mining companies are leaders. They're developing some really groundbreaking new techniques to reduce GHGs [greenhouse gasses]. Miners are responding.

And now, it's not just how you're treating Indigenous partners, it is

also now what are you doing with climate change. And consumers are demanding that. They're demanding that at investment houses, whether it be in Toronto or whether in New York or London or Zurich. People follow the money.

I'm surprised that the market is moving as quickly as it is on ESG and particularly on climate change. When you get an investment firm, a leader like BlackRock, coming out and saying that this is what they are looking for, they are looking for jurisdictions that take net zero and GHGs seriously, these are game-changers. The market will respond. And I'm part of a government that wants to lead in that response, and we are the country that can lead — that I am convinced of.

But I know one thing: change can be tough. This is the change that will affect thousands of Canadians, and a lot of energy workers and their families. And we are determined to make sure that no one is left behind. It's too good an opportunity.

TNM: *Finally, what are your personal thoughts about taking on the Natural Resources portfolio at this challenging time for the mining sector?*

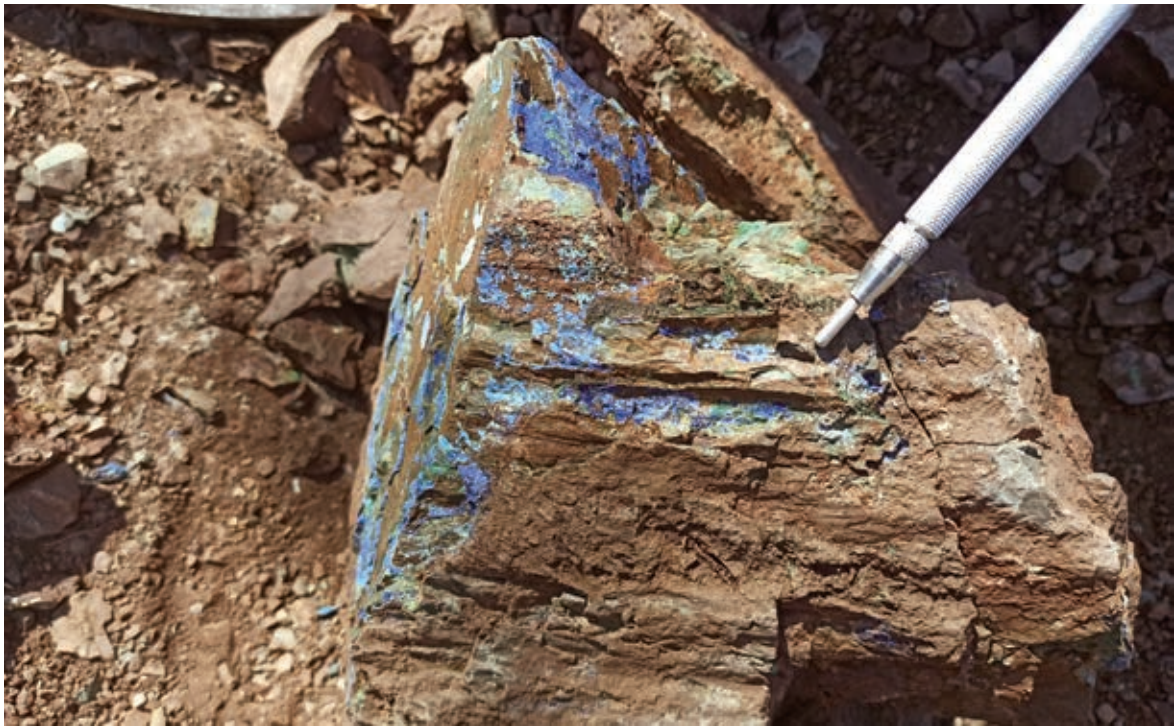
SO: I'm excited. You know my background before I got into journalism was Indigenous relations and economic development in resource development specifically. I helped negotiate two impact benefits agreements with the government of Newfoundland and Labrador around the Voisey's Bay project twenty years ago, negotiating with the Innu and Inuit, so this is all pretty close to home for me.

While a lot has changed since twenty years ago, my passion for this has not changed at all. I feel fortunate. I think it's also a really exciting time for our natural resources [sector]. It is a challenging one at the same time because climate change is changing everything. It's giving us great opportunities, but obviously it's also providing significant challenges.

I feel very strongly in our proud history as a natural resources country, a country built on them, and about a country with the smarts and the ambition to get it right in the changing world. **TNM**



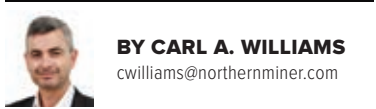
Nexa Resources' Hilarion zinc-lead-silver project in Peru. NEXA RESOURCES



A high-grade sample from the Cesar project in Colombia grading 24.8% copper and 230 grams silver per tonne. MAX RESOURCES

Max Resources hails new Cesar discovery

COLOMBIA | High grade copper-silver samples



BY CARL A. WILLIAMS
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Max Resources (TSXV:MXR; US-OTC:MXROF) has discovered a high-grade outcrop at its wholly owned Cesar copper-silver project in northeastern Colombia, about 140 km north of the capital, Bogota.

The Cesar project comprises two mineralized zones, AM North and AM South. Assays from the AM North-2 mineralized area within the AM North zone of the project, recently returned 24.8% copper and 230 grams silver per tonne over a 4 metre by 1 metre rock chip panel.

The discovery comes only a week after the company reported a 1 metre continuous rock chip sample grading 10.4% copper and 88 grams silver per tonne in the AM North-1 area, around 1.8 km from the AM North-2 find. Grades at the AM South zone include 5.4% copper and 63 grams silver per tonne and the zone is open-ended over 5 kilometres.

“Our geologists made the discovery as they were returning from the AM South zone and collected rock chip samples from the AM North-1 and AM North-2 mineralized areas in one day,” Brett Match, CEO of Max Resources, said in a telephone interview with *The Northern Miner*. “It was extremely unexpected to see not only the 24% grade but also the 10% grade from assays tested the week before.”

Although the samples were collected at the same time, because the grade returned from AM North-2 was so high, the company re-assayed the samples to ensure they were correct, hence the delay in reporting the higher-grade strike, Match said.

The mineralization extends 35 km between the AM North and AM South, and comprises malachite, azurite and chalcocite within the sandstone and resembles a large

“IT WAS EXTREMELY UNEXPECTED TO SEE NOT ONLY THE 24% GRADE BUT ALSO THE 10% GRADE FROM ASSAYS TESTED THE WEEK BEFORE.”

BRETT MATCH
CEO, MAX RESOURCES

horizontal sheet that is open-ended and dips 20 degrees northwest along the zone.

“Although it would appear that the two structures are linked with continuous rock chips wherever you look, we aren’t expecting the same

high grade across the full 1.8 km length,” Match said. “And so we are targeting a grade of plus 1.5% copper with associated silver along a 40-km-long target zone joining

See **MAX** / 10

Nexa completes PEA for Hilarion in Peru

ZINC | Study estimates initial capex of US\$585M



BY TRISH SAYWELL
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Nexa Resources (TSX: NEXA; NYSE: NEXA) has released a preliminary economic assessment (PEA) for a potential underground mine at its Hilarion project in Peru — one of the largest undeveloped zinc projects in South America.

Hilarion, 230 km north of Lima, would produce 115,000 tonnes zinc, 2.6 million oz. silver and 20,000 tonnes lead each year, representing 150,000 tonnes zinc equivalent over an initial mine life of 16 years, according to the study.

The proposed operation would consist of a 10,000 tonne-per-day mine and a conventional flotation plant producing bulk lead-silver and zinc concentrates at an annual throughput of 3.65 million tonnes of ore. (The average overall production rate would be 7,800 tonnes per day over the full 16 years but in excess of 10,000 tonnes per day from year two until year eleven.)

The zinc concentrate will be treated at Nexa’s Cajamarquilla smelter, 20 km east of Lima.

“The Hilarion project is part of our organic growth strategy of achieving full integration in our smelting and mining operations,” Tito Martins, the company’s CEO stated in a news release.

The PEA estimates capex of US\$585 million and an additional US\$165 million of sustaining capital over the life-of-mine, including US\$44 million in mine closure costs. Initial capex could be repaid in about five years.

“THE HILARION PROJECT IS PART OF OUR ORGANIC GROWTH STRATEGY OF ACHIEVING FULL INTEGRATION IN OUR SMELTING AND MINING OPERATIONS.”

TITO MARTINS
CEO NEXA RESOURCES

The study estimated an after-tax net present value of US\$231 million at a discount rate of 8% and a post-tax internal rate of return of 15.5%.

Hilarion’s resources — last estimated in December 2014 — stand at 59 million measured and indicated tonnes grading 3.52% zinc, 0.64% lead and 28.6 grams silver per tonne and 21.5 million inferred tonnes grading 3.28% zinc, 0.78% lead and 28.5 grams silver per tonne.

The resource estimate excludes 17,126 metres that have been drilled since December 2014, and the company plans to drill another 6,000 metres in 2020, targeting the north and south extensions of the deposit.

The study envisions two bulk mining methods, sublevel and longhole stoping, with loose backfill and transverse longhole stoping using paste backfill. The mine would be accessed using multiple

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LUNDIN GOLD

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Nexa completes PEA for Hilarion in Peru

NEXA From 9

ramp entry points and a 3 km conveyor tunnel or ramp.

For the purposes of the PEA, Nexa did not include the project's El Padrino deposit, which will be evaluated in future test work and could provide additional potential. The two deposits are 3 km apart, and Nexa believes they would be developed initially as two separate mines with joint infrastructure, and possibly joining up underground later in the mine life.

According to Nexa's geological interpretation, the Hilarion and El Padrino deposits are located within two parallel northwest mineralized trends with 5 km of strike length, including several surface mineral occurrences. El Padrino is located in the western mineralized trend, and the deposit is open in all directions.

Nexa's Eureka and Mia targets are in the eastern mineralized trend, 2 km and 3 km north of Hilarion, respectively, and have outcropping mineralization mapped and sampled at surface.

The project is accessible by road from Lima, and is 80 km south of the city of Huaraz. It consists of 70 mineral concessions over an area of 150 square kilometres.

In addition to Hilarion, Nexa owns and operates five underground mines — three in the Central Andes of Peru and two in the state of Minas Gerais, Brazil. It is currently developing the Aripuana project in Brazil's Mato Grosso as its sixth underground mine.

Nexa is among the world's top five producers of mined zinc.

At press time in New York, Nexa's shares were trading at US\$6.60 with a 52-week trading range of US\$6.49 to US\$12.80. The company has a US\$914-million market capitalization.

Jackie Przybylowski of BMO Capital Markets has a market perform rating on the company and a target price of US\$7.50 per share.

In a research note, the mining analyst said the Hilarion PEA "shows



Nexa Resources' Hilarion zinc-lead-silver project in Peru. NEXA RESOURCES

there is more work to do" and that "the company will work on several initiatives to improve project economics over the upcoming years, which could represent upside to our estimates." Among the work planned is a metallurgical program, more exploration drilling and an update to its block model.

Przybylowski predicted "modest inflation to initial capex (we estimate US\$650 million versus Nexa's US\$585 million) and estimated an NPV at a 10% discount rate of US\$115 million compared with the PEA's NAV (8%) of US\$231 million. TNM



Nexa Resources' Cajamarquilla smelter, 20 km east of Lima, which would treat zinc concentrate from Hilarion. NEXA RESOURCES

Max Resources hails new Cesar discovery

MAX From 9

AM South and AM North."

An initial exploration program at the Cesar project in November 2019 identified 19 distinct mineralized copper occurrences over an area of 9 sq. km and open in all directions. A Phase 1 exploration program previously returned grab sample assays ranging from 0.3% to 4.2% copper, with 34 out of 43 samples assaying in excess of 1%, 15 samples showing over 2% and four samples returning over 3% copper.

The Cesar project contains a high-grade stratabound copper and silver mineralized zone that is hosted in a well bedded sandstone-siltstone that the company believes may be similar to the Kupferschiefer in Poland. Kupferschiefer is an extensive sedimentary stratabound system that spans the southern Permian basin of Poland covering an area of over 600,000 sq. km.

The mineralized zones at Cesar are characterized by Jurassic sediments and volcanoclastics that extend the length of northern South

America and also host significant stratabound copper and silver mineralization in Ecuador and Peru. The deposit lies along a historic 120 km copper-belt, within a coal and oil and gas district. The region contains extensive infrastructure, including major oil and gas operations, coal mines, ports, railways and roadways.

With the ongoing revolution in green technologies, and particularly the exponential growth in solar photovoltaics and hybrid and electric vehicles, the global demand

for copper and silver over the next decade and beyond will increase sharply. Therefore, deposits like Cesar will become increasingly important to the production of new and renewable technologies, the company said.

Because of the extensive surface cover, Max Resources is using rock chip sampling to define the mineralized structure, the continuity of its thickness, and the strike length, to estimate Cesar's potential size before commencing drilling.

Given that the company only be-

gan exploration work in November last year, Matich is confident that further discoveries will follow these early-stage successes at AM North and AM South in 2020.

"The current discoveries support our belief that Cesar is a large-scale copper-silver mineralized zone," said Matich. "Our team is currently undertaking further rock chip sampling to further our knowledge of the mineralization in the area, with the hope of expanding the project into a world-class copper and silver producing region." TNM



A geologist collects a sample at the Totora target on Auryn Resources' Sombrero copper project in Peru. AURYN RESOURCES

COLOMBIA, ECUADOR & PERU SNAPSHOT

Companies active in prospective countries

Colombia, Ecuador and Peru all host prospective geological settings for mineral exploration. While they remain under-explored by modern-day standards, South America's reputation as an established mining destination gives a head start to companies looking to develop projects in these countries.

AURYN RESOURCES

Auryn Resources (TSX, NYSE: AUG) is an exploration-stage company with a portfolio of precious and base metals assets in the Americas.

In Peru, the company holds the Sombrero, Curibaya and Huilacollo properties.

The 1,300-sq.-km Sombrero property is located 340 km southeast of Lima and is interpreted to be on the western extension of the Andahuaylas Yauri belt. The main target at the property is copper-gold skarn mineralization with four mineralized intrusive centres identified to date. In February, the company announced that it received its environmental permit for Sombrero, covering 10.3 sq. km, allowing it to drill up to 33 holes from 23 platforms on the Ccascabamba Sombrero main target area. Auryn has filed the paperwork to obtain an authorization for starting activities at the property. The company is earning an 80% interest in this project through an option agreement with **Alturas Minerals** (TSXV: ALT).

The wholly owned Curibaya property, at 110 sq. km, is within a copper porphyry belt host to some of the country's largest porphyry deposits. At the end of February, Auryn announced that it has identified a new high-grade vein corridor over approximately 400 metres, within a 4 km by 4 km alteration system.

At the company's 33-sq.-km Huilacollo project, Auryn has identified intense hydrothermal alteration consistent with epithermal gold-silver mineralization over an area of 4 km by 6 km. The company may earn a 100% interest in this property through a combination of work expenditures and cash payments.

The company's wholly-owned Committee Bay project in Nunavut covers over 3,000 sq. km along the Committee Bay greenstone belt and is 180 km northeast of **Agnico Eagle Mines'** (TSX: AEM; NYSE: AEM) Meadowbank mine. The Three Bluffs deposit at the property features indicated resources of 2.1 million tonnes grading 7.85 grams gold per tonne for a total of 524,000 oz. gold, with additional inferred resources of 2.9 million tonnes at 7.64 grams gold for 720,000 ounces. Both resource classifications include a near-surface and underground component. The deposit remains open for expansion.

At the 75-sq.-km Homestake Ridge project within northwestern B.C.'s Golden Triangle district, Auryn has defined a high-grade gold-silver deposit. Current indicated resources stand at 624,000 tonnes grading 6.25 grams gold and 47.9 grams silver for a total of 125,000 oz. gold and 1 million oz. silver. Additional inferred resources are comprised of 7.2 million tonnes at 4 grams gold and 90.9 grams silver.

Auryn Resources has a \$169.5-million market capitalization.

AZINCOURT ENERGY

Azincourt Energy (TSXV: AAZ) is an exploration-stage company with uranium projects in Saskatchewan and Peru.

In Peru, the company holds the

Escalera group of holdings in the Puno district where three separate concessions cover a total area of 74 square kilometres. The Lituania, Condorlit and Escalera concessions feature volcanic-hosted uranium and lithium prospects within the Picotani Plateau. **Minsur** (BVL: MINSURI1), a Peruvian mining company, as well as **Rio Tinto** (NYSE: RIO; LSE: RIO), **Bear Creek Mining** (TSXV: BCM) and **Plateau Energy Metals** (TSXV: PLU) are operating and exploring in this area.

In 2018, Azincourt completed the first phase of ground work at Escalera, with sampling identifying two areas prospective for uranium mineralization with a total strike of 6.5 kilometres. Grab samples from the property assayed up to 0.95% U3O8 (uranium oxide) with a total of 11 rock samples coming in above 0.12% U3O8. The proposed uranium mineralization model for the property is similar to that at Plateau Energy Metals' Macusani uranium deposit, located 100 km to the northwest.

In Canada, the East Preston project on the southern edge of Saskatchewan's northern Athabasca Basin covers over 250 sq. km and features a number of drill targets. This portion of the basin features near-surface targets with East Preston situated along a parallel conductive trend.

In 2017, the company entered into an option agreement with **Skyharbour Resources** (TSXV: SYH) and **Clean Commodities** (now **Dixie Gold** (TSXV: DG)) to acquire a 70% interest in the project by spending a total of \$2.5 million and making cash payments of \$1 million. This property is contiguous with **NexGen Energy's** (TSX: NXE) Arrow and **Fission Uranium's** (TSX: FCU) Triple R deposits.

In February, Azincourt started a drill

program at East Preston, focused on electromagnetic conductors in structurally disrupted areas as well as the 7-km long Swoosh zone located 5 km southwest, a structural feature with geochemical and geophysical anomalies. Azincourt completed the first phase of drilling

at the project in 2019, intersecting formations similar to those at nearby uranium deposits.

Azincourt Energy has a \$3-million market capitalization.

See **SNAPSHOT** / 12



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COLOMBIA, ECUADOR & PERU SNAPSHOT

SNAPSHOT From 11

CALDAS GOLD

Caldas Gold (TSXV: CGC) started trading on the TSX Venture Exchange at the end of February, following a spin-off transaction of **Gran Colombia Gold's** (TSX: GCM) Marmato mining assets. Gran Colombia owns about 72% of Caldas.

The Marmato mining assets within the Zona Baja mining license, 80 km south of Medellin, include the producing Marmato underground mine, a 1,200 tonne per day processing plant as well as the area of the Deep zone mineralization below existing mine workings.

Last year, Marmato produced 25,750 oz. gold and expects production this year will be in a range of 32,000 oz. to 37,000 oz. gold.

Current resources at Marmato, updated in July 2019, stand at 23.6 million tonnes in the measured and indicated category at 3.8 grams gold per tonne for a total of 2.9 million oz. gold with a further 52.9 million tonnes inferred grading 2.6 grams gold for an additional 4.4 million oz. gold.

In October, Gran Colombia released the results of a preliminary economic assessment (PEA) for Marmato, suggesting two separate operations: the first would be the existing mine at the Upper zone with the second consisting of a new Deep zone operation underneath the Upper zone vein system. The study outlined a combined underground mine with a 19-year life, producing an average of 115,800 oz. gold a year at all-in sustaining costs of US\$882 per ounce. The Deep zone would contribute 73% of the gold produced.

The initial capital outlay for development of the Deep zone was pegged at US\$269 million with a resulting post-tax net present value estimate, at a 5% discount rate, of US\$207 million.

The Upper zone operation extends over 300 vertical metres and runs along about 900 metres of vein structures with six production levels. The Deep zone



A drill on SolGold and Cornerstone Capital Resources' Cascabel gold-copper project in Ecuador. SOLGOLD

mineralization has been traced over 600 vertical metres; based on the PEA, its extraction would require an additional 4,000 tonnes per day of processing capacity with dry-stack

tailings and cemented paste backfill in mined stopes.

In March, the company announced that it extended a new zone of mineralization, discovered by Gran Colombia earlier this year and outside of the Deep zone, by over 200 metres down-plunge with an intercept of 87.15 metres of 3.9 grams gold and 1.7 grams silver; this zone is within 50 metres of planned future underground development.

A pre-feasibility study on the Deep zone expansion at Marmato is underway and is expected by mid-year. Gran Colombia acquired the Marmato assets back in 2011 as part of its merger with **Medoro Resources**.

Caldas Gold has a \$108.6-million market capitalization.

CORNERSTONE CAPITAL RESOURCES

Cornerstone Capital Resources (TSXV: CGP) is an Ecuador-focused explorer with a portfolio of properties in the country. The company's strategy is to advance its assets through joint ventures.

The best-known of these is the Cascabel holding in northern Ecuador, where Cornerstone holds a total interest of 22.2% (**SolGold** (TSX: SOLG) owns 85% of Cascabel, Cornerstone also has an 8.5% stake in SolGold). The Cascabel property

features the Alpala gold-enriched copper porphyry deposit with indicated resources of 2.1 billion tonnes grading 0.6% copper-equivalent for a total of 8.4 million tonnes copper and 19.4 million oz. gold. Additional inferred resources stand at 900 million tonnes at 0.35% copper-equivalent. The deposit features a high-grade core of 400 million tonnes at 1.49% copper-equivalent.

In 2019, a preliminary economic assessment (PEA) for Alpala suggested an underground block cave operation with a 55-year mine life producing an average of 207,000 tonnes copper, 438,000 oz. gold and 1.4 million oz. silver annually in the first 25 years of operation at operating costs of US\$0.9 per lb. copper, after precious metals credits, for an after-tax net present value estimate of US\$4.3 billion, at an 8% discount rate.

Exploration at Alpala is ongoing to update both resources and design parameters for the project, with a pre-feasibility study expected in the second quarter of this year.

Cornerstone also has a joint venture with **Enami**, an Ecuadorian state-owned mining company, at the Rio Magdalena, Playa Rica and Espejo properties, which lie southwest and northeast of Cascabel.

In February 2019, Cornerstone signed a farm-in and option

agreement with Newcrest Mining for the Cana Brava gold-copper project in south-central Ecuador; Newcrest has the right to earn up to a 75% interest in the property.

Cornerstone also has a 12.5% interest (87.5% **Sunstone Metals**) in the 49-sq.-km Bramaderos concession in southwestern Ecuador's Loja province, which is underlain by a cluster of gold-copper porphyries. A 5-km-long gold and copper in-soil anomaly has been traced at the property with additional gold-silver targets identified. Drilling is ongoing.

The company also wholly owns the 23-sq.-km Vetas Grandes property in southern Ecuador, prospective for epithermal gold-silver mineralization and the 10.4-sq.-km Bella Maria project in the southwestern part of the country, which features gold-copper targets.

Cornerstone Capital Resources has a \$92.3-million market capitalization.

GRAN COLOMBIA GOLD

Gran Colombia Gold (TSX: GCM) wholly owns and operates the Segovia complex of underground mines, 180 km northeast of Medellin in Colombia.

Last year, Segovia produced 214,000 oz. gold with over 200,000 oz. expected this year. At the 90-sq.-km project, three active underground



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Gran Colombia Gold's Segovia gold mine, 180 km northeast of Medellin, Colombia. GRAN COLOMBIA GOLD

operations feed the 1,500 tonne per day Maria Dama processing plant with additional ore contributed by third-party miners who work on the company's concessions through an artisanal miner model.

The company's operating mines at Segovia are exploiting three of the 27 known veins within the mining title with additional targets identified for follow-up exploration. Proven and probable reserves stand at 1.9 million tonnes grading 11 grams gold per tonne for a total of 700,000 oz., within measured and indicated resources of 3.5 million tonnes at 11.8 grams gold. Additional inferred resources are at 3.6 million tonnes grading 10.1 grams gold.

In February, the company announced the discovery of a new high-grade vein, the 1180 Vein, and confirmed the down-dip extension of the Manto vein by over 1,000 metres at the El Silencio mine within the Segovia complex. Intercepts included 0.95 metre of 48.39 grams gold and 55.5 grams silver from the 1180 Vein as well as 5.62 metres of 12.13 grams gold and 13.6 grams silver from the Manto vein.

The Segovia complex features high-grade mesothermal quartz-sulphide veins within a mining district that produced over 6 million oz. gold over the past 150 years. Gran Colombia acquired the Segovia

assets in 2010.

Also in February, Gran Colombia completed the spin-off of the Marmato mining assets in Colombia to Caldas Gold; it retains a 72% stake in the new company.

At the end of January, the company announced a non-brokered private placement for total proceeds of up to \$40 million. The offering, subscribed for the full amount, closed in early February with net proceeds intended for working capital and corporate purposes, including repurchases of the company's listed warrants.

Gran Colombia has a \$360.6-million market capitalization.

LARA EXPLORATION

Lara Exploration (TSXV: LRA) is a company focused on generating precious, base and industrial metal prospects in South America. Lara holds pre-production projects in Chile, Brazil and Peru.

On the joint venture front, it holds interests in three properties in Brazil and Peru.

Lara has a 30% stake in the Planalto project in northern Brazil (70% **Capstone Mining** (TSX: CS)), which features iron oxide copper-gold (IOCG) mineralization with the option to purchase a 100% stake for total cash payments of US\$500,000;

it has paid US\$200,000 to date. The company also has a 49% interest in the 85-sq.-km Liberdade copper project in northern Brazil's prolific Carajas district. Chilean state-owned **Codelco** earned a 51% stake in the property and has elected to increase its interest by another 24% through funding additional exploration. Lara believes that there may be a large IOCG system at this site, based on exploration results received from Codelco in 2013.

Also in Brazil, Lara is earning a 100% interest for US\$580,000 in the Damolandia nickel-copper-cobalt project. The 18-sq.-km property presents potential for disseminated and stringer-style sulphide mineralization.

In Peru, Lara also holds a 45% interest (55% **Redzone Resources**, now **Global Battery Metals** (TSXV: GBML)) in the Lara project, 400 km south of Lima. This 18-sq.-km property features three mineral concessions with mineralization within a quartz-diorite porphyry traced over an area of 2,000 metres by 500 metres to 800 metres.

In the royalty space, Lara has interests in three projects in Brazil, three in Peru and one in Chile.

One of these is the Celesta copper-gold mine being developed in northern Brazil, within the Curionopolis holding where the company has a 5% interest

and a 2% net smelter return royalty (NSR). Lara's joint venture partner, privately held **Tessarema Resources**, can earn a 100% interest in the project by putting the mine

into commercial production and paying Lara US\$750,000.

See **SNAPSHOT** / 14

THE ANTAKORI COPPER-GOLD PROJECT

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COLOMBIA, ECUADOR & PERU SNAPSHOT

SNAPSHOT From 13

Peruvian royalties include the 83-sq.-km Corina gold project in southern Peru, nearby **Hochschild Mining's** (LON: HOC) Pallancata and Immaculada mines and Selene mill. Lara optioned the project to Hochschild for US\$4.2 million and a 2% NSR royalty.

In the Peruvian base metals space, Lara holds the Puituco and Buenos Aires zinc projects. Puituco, at 4 sq. km, is adjacent to **BHP Group's** (LON: BHP) claims whereas the 16 sq. km Buenos Aires project lies 25 km northeast of Puituco.

Lara Exploration has a \$22.4-million market capitalization.

REGULUS RESOURCES

Regulus Resources' (TSXV: REG) wholly owns the AntaKori copper-gold project in Peru's Yanacocha-Hualgayoc mining district.

The company acquired AntaKori in 2014 through a merger with **Southern Legacy** and has been drilling at the project since 2018.

AntaKori is just north of the operating Tantahuatay and Cerro Corona mines. Compania Minera Coimolache's Tantahuatay gold mine (40% held by **Buenaventura** (BMV: BVNN) who is the project operator, 44% **Southern Copper** (NYSE: SCCO) and 16% **ESPRO**, a private company) is a heap leach gold-silver operation, mining the oxide cap of an extensive copper-gold sulphide resource. **Gold Fields'** (NYSE; JSE: GFI) 100%-owned Cerro Corona is a gold-copper mine, where a porphyry deposit feeds a 20,000 tonne per day concentrator.

In 2017, Regulus finalized a definitive agreement with the owners of the Coimolache grounds to the southwest (which include the Tantahuatay mine), allowing it to see all of the drilling on the agreement grounds with mutual rights of access. In 2017, the company also entered into an agreement with Buenaventura regarding the Colquirrumi grounds to the northeast of AntaKori, allowing it to earn up to a 70% interest in this area by drilling 7,500 metres within three years of obtaining the required permits. Buenaventura retains a one-time option to claw back to 70% by paying Regulus US\$9 million, leaving it with a 30% interest.

In March 2019, Regulus released an updated resource estimate for AntaKori with indicated resources of 250 million tonnes grading 0.74% copper-equivalent for a total of 4.1 billion lb. of copper-equivalent with a further 267 million inferred tonnes



Exploration drilling at Sierra Metals' Yauricocha polymetallic mine in Peru. SIERRA METALS

grading 0.66% copper-equivalent for an additional 3.9 billion lb. of the base metal equivalent. The conceptual pit, both on Regulus and Coimolache grounds (with reported resources only on the Regulus wholly owned area), includes high-grade, near-surface mineralization with an overall strip ratio of 0.85 to 1.

Drilling to date has been focused on the southern claims at the project with additional targets for potential skarn and porphyry mineralization identified to the north. In January, Regulus released the results of drilling at AntaKori, which extended the known zones of mineralization. Intercepts of note included 341 metres of 0.85% copper-equivalent and 168 metres of 1.15% copper-equivalent.

This year, the company plans to continue with drilling at AntaKori, complete metallurgical test work to optimize the resource flowsheet and test geophysical targets at Anta Norte. An updated resource

is currently expected by the end of the year.

AntaKori mineralization is a copper-gold skarn in sedimentary rocks with a potential porphyry centre to the north, and a high sulphidation epithermal system that developed in overlying volcanic rocks to the south.

Regulus was formed in 2010 with the former management of **Antares Minerals** (acquired by **First Quantum** (TSX: FM) the same year for \$460 million). The company is the result of a spin-out of assets following the Antares acquisition.

Regulus Resources has an \$81.5-million market capitalization.

SIERRA METALS

Sierra Metals (TSX: SMT; NYSE: SMTS) operates the Yauricocha, Bolivar and Cusi mines in Mexico and Peru, producing silver, copper, lead, zinc and gold.

The company's largest production contributor is the 82%-owned Yauricocha underground mine in Peru's Yauyos province, which produced 188 million lb. zinc-equivalent last year at all-in sustaining costs of US\$0.88 per lb. and has been operating since 1948. This year, the Yauricocha mill is expected to increase its capacity to 3,600 tonnes per day, up from 3,150 tonnes per day currently. Ongoing exploration at the operation has traced zones of mineralization that is higher grade and wider than suggested by the current resource model. Sierra has also identified additional prospective areas at depth and extending laterally out from the current mine workings, which are contained within a 180-sq.-km land package.

The company's wholly owned underground Bolivar mine in Mexico's Chihuahua state generated 27 million lb. copper equivalent last year at AISCs of US\$2.09 per lb. The 5,000 tonne per day operation sits within a 152-sq.-km land

holding, with Sierra exploring and developing additional targets at the property. Beyond Bolivar, the company holds an additional 748 sq. km of ground in the country.

Also in Mexico, the company's 100%-owned Cusi mine in Chihuahua state churned out 1 million oz. silver equivalent last year at AISCs of US\$20.70 per oz. The underground operation, feeding a 1,200 tonne per day mill, sits within a 117 sq. km land holding. Sierra's grounds cover a 12 km-long stretch of the prospective Cusi fault, a 64 km regional structure. The company's focus at the property is on infill and definition drilling.

This year, on a company-wide basis, Sierra expects to produce 331.1 million lb. to 371.2 million lb. zinc equivalent; AISCs at Yauricocha are expected at US\$0.77 per lb. zinc-equivalent.

Sierra Metals has a \$324.6-million market capitalization.

GRAN COLOMBIA GOLD

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TSX: GCM

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'M&A is back,' says Barrick's Catherine Raw

CATHERINE RAW From 6

opportunities rather than big green-field projects. "We can only do that for so long," she said, adding that those companies that have strong balance sheets and are able to fund that internally will be at a strategic advantage to those companies that require external sources of funding, "because if you've already got a leveraged balance sheet it's going to be very hard to significantly grow debt, and if you can't grow debt, well then you have to grow through equity capital and the question is, is that equity capital available?"

Even if companies find new projects, Raw added, they either need a balance sheet that is strong enough or they can access third party capital. "But the equity market isn't open to gold companies in the way that it used to be," she said. "There is a scarcity of new capital. If you look at 2019, you can see it is the lowest issuance of new capital in the Canadian base and precious metals market for over a decade."

One of the biggest structural changes to the investor base is that the specialty funds that were really driving the funding for junior and mid-tier companies in the last cycle "have all but disappeared."

"What we've seen is the memories of the last cycle, poor returns [and] low liquidity, have meant the end investor, the retail investor and the institutional investor that were providing the capital to these specialist funds, have walked away. So those funds are now not available. And what we've seen to take their place is increasing passive investment in the industry."

Raw pointed out that over the last decade the industry has seen a 300% increase in passive management with over 20% of the shareholder base for the senior gold companies coming from passive investors. "What I mean by that is that they're not willing to fund small projects here and there in the way that a precious metals fund would have done in the past. And so for the gold industry, if it can no longer rely on subject matter expert fund managers that are going to fund one-off projects here and there, you have a different risk appetite to the broader equity market. Who is it going to rely on? How does it remain relevant and how can it source capital? How can it grow? How can it take advantage of this higher price gold environment that we're now in?"

A rising gold price has seen the sector rebound — companies are making free cash flow, balance sheets are stable — they're increasing dividends and returning cash to shareholders. Even so, "we're over \$100-\$200 billion dollars lower in market cap to where we were when the gold price was last at this level, and the reason for that is, a lack of trust by the generalist investor that we're not going to do the same thing again. The generalist investor has moved on."

"We've seen the S&P 500 [and] broader equity markets have grown significantly since the last decade," she added. "The opportunities in the market are very different ... what we've seen, particularly for the juniors and the developers, is a lack of interest from generalist investors. But there are no specialist investors to attract. So how can the industry remain relevant? How do we get those generalist investors back into the gold market, and what will the consequence of that be for consolidation and M&A in the future?"

As the precious metals sector struggles for relevance in broader equity markets, and while that may be less true with the outbreak of the coronavirus when everyone remembers that gold is a safe haven and a store of value, ultimately, and struc-



Catherine Raw, Barrick Gold's chief operating officer for North America addresses attendees at PDAC convention in Toronto. PDAC

turally, "the fundamental problem is there is a lack of scale and a lack of liquidity in the industry."

Raw noted that the entire precious metals industry is worth \$355 billion, which compares to single companies like Exxon (\$250 billion) and Apple (\$1.4 trillion); or the S&P Index (\$28.7 trillion). "If you're a fund manager, and you have a choice of where to invest, and you say, should I invest in a junior exploration company, or should I go overweight/underweight Apple, the priority is always going to be to the larger companies where you can trade in and out very quickly, where you can deal with investor outflows and inflows, where you're not stuck and exposed to random risks like environmental disasters, or regulation issues or government taxation. The choice to take a risk in the precious metals sector given its size is a pretty off-the-wall choice to make, and so, on that basis, we have to encourage the industry and encourage the market to pay attention, and the way you can do that is to provide scale and provide liquidity, and the companies that can do that will attract premium valuations."

You can see that in the market today, she said. If you look at the multiples of senior gold companies relative to the intermediates, there is a widening in valuation inequality, and what that does is reinforce the problem, she explained, because as the seniors become more valuable, they become more liquid, they become larger, they are able to take advantage of their premium and there will be winners and losers.

"The losers will ultimately become so cheap that you can add value through acquiring them," she said, and, as a result, "the scale issue is encouraging intermediates to consolidate. It's encouraging single mine producers to join with other single mine producers to create diversification to persuade investors that they're not exposed to too much risk by owning them, and is ultimately driving what is a consolidation trend within the industry."

The other symptom of the changing investor base, she said, is that "suddenly investors seem to have got a conscience."

"I say that cynically because I was an investor, and none of this is new, but it's as if we've only just woken up to this," she said. "ESG is not a new phrase. Corporate governance, social responsibility, licence to operate, sustainability, these are all words that have been going on, well, at least since I came out of university. I remember I did a course on how can mining be sustainable given it is exploiting finite resources. So this challenge is really only relevant today because the specialist investors that

understood these risks and could deal with these risks are no longer the marginal buyer of mining stocks. The marginal buyer of mining stocks is now either the passive fund, that needs to justify its existence in the world, and so it claims it's that oversight and corporate governance and ESG focus that it applies to all of its investments that is the way it adds value; or it's the generalist investor, the institution, that is not used to taking the kind of risks that exist in our industry."

When you own a supermarket, or you own a retailer, or you own a tech company, she reflected, you don't have the same kind of exposure. However, this can be a driver for M&A activity because investors are identifying management teams they trust — management teams that are able to mitigate or manage the risks associated with ESG issues successfully and have a track record of doing so. Those companies that slip up, however, are getting punished in a far greater way than they ever have done in previous cycles. Companies that manage ESG issues well, that believe it is part of their business, that treat it as core, are likely to outperform those companies who are just going through the motions, she continued.

Looking ahead, Raw summarized, M&A and consolidation is likely to continue. "It has to continue in order to offset what will otherwise be a depletion of the resource base in the gold industry, a disruption of value. So the only way to be able to survive is to consolidate, that gives you scale, it gives you opportunity, and it gives you liquidity, all of which are going to be much more attractive to an investor base that is not used to owning the mining space, that is not used to taking the risks, and that requires a liquidity and a risk mitigation to be able to allow them to invest in the mining industry at all."

What the industry must do this time around is avoid making the mistakes of the past, she emphasized, if they want to encourage the generalist investor to take part, and ultimately, get the support for the consolidation the industry requires.

The first thing companies must do is avoid value-destructive premiums. "There has to be a strategic rational that is more than just that 'we need another asset,'" she added, "and ultimately both sides of the trade have to benefit. There has to be a sharing of that value uplift in theory associated with a well-thought out transaction. And that is the only way that the industry will get support for further consolidation and therefore will be able to start the next leg of the next cycle."

There will also need to be a focus on quality, not quantity.

"When you look at the challenges [Barrick] faced back in 2011-2013, it was this rush to get to 9 million oz. of production, this rush to be in copper, and not focusing on the quality and the nature of that asset base that ultimately led to the severe issues that the company faced when the gold price fell," she noted. "It was overleveraged. It couldn't generate a sufficient margin. It had to redesign its whole business, and, ultimately, it had to carve off those assets that it wasn't able to generate a return from. So the only way we can change that paradigm and deliver value for our shareholders is to understand how we maintain or improve quality."

"And what I mean by that is, it's not necessarily just grade. It's margin. So you can lower your cut-off grades if you are able to lower your costs and you are able to generate margins and protect shareholders in what will still be a very volatile gold price environment going forward. That links on to obviously not taking on too much leverage. If the gold price is volatile — if we can't predict whether the gold price is going to be US\$1,600 or US\$1,200 or somewhere in between — you need to be able to take the rough with the smooth. You need to be able to invest year-in and year-out. And you need to be able to access markets when required and deliver returns when the gold price is high. So the key there is obviously not taking on too much leverage, maintaining that strength of the balance sheet, maintaining that buffer that provides a shield against uncertain gold price environments in the future."

Capital discipline is also key. "We saw a dearth of capital discipline in the previous cycle. As the gold industry starts to reinvest in its business, we need to focus on delivering those returns, on capping capital inflation, on ultimately not taking on too much risk, which leads on to the 'execute on time and on budget.' Easy to say, very hard to do. The norms for the previous cycle were 30% over [budget] and two years late. How do we stop that from happening again? Especially if we're all rushing to develop at the same time again."

To do that, she said, the nature of the projects will have to change. "Staged projects, brownfields first, and even if they are greenfields, how do you bring in partners, how do you de-risk the capital? How do you bring in governments, how do you bring in regulators to ensure that your permitting timeline doesn't stretch out. All of this has to be thought about and engaged with in a very different way than we're used to; otherwise, it will be just like it was last time and we'll see the same issues and the same destruction of capital recurring. "

As for ESG, Raw noted that there are two ways of taking it on.

"One is a cynical way of looking at it, which is a discount rate applies to any project that you develop, and the way of reducing that discount rate is to mitigate your ESG issues."

She noted that one of her former bosses in her pre-BlackRock days always told her that a mine is binary. "If you have a community that doesn't want a mine built, it doesn't matter what discount rate you apply, the return is going to be zero. And that is the way we used to approach ESG issues. So it wasn't about making a difference to the world. It wasn't about reputation. It wasn't about any of the things that we talk about now. It was pure commercial share price performance, which is if a mine can't generate any money, there's no point owning it. So you want a management team that can mitigate and manage those binary risks. You know, technical issues, costs, they're not binary. Normally you lose some of your return; you don't lose all of your return. Financial metrics are relatively straightforward to deal with, it's the other issues, the soft issues, the ones we don't report on, the ones we don't focus investors' attention on, or didn't use to, that really makes the difference."

The flip side — the positive — is that in this new world, with a new generation of people coming up, with investors that aren't used to taking risks, the mining industry has to explain why it's adding value to the world, not just financially but socially, environmentally and reputationally, she said.

"When you drive your Tesla or when you put your solar panel in, you feel good. You feel like you're making a difference. The world is a better place. What we need to do is make the mining industry feel like that ... that we illustrate how we're bringing finance, development, social change to the places that we're operating in. How we are able to mitigate and minimize the impact on the environment and ultimately how we can make making a difference commercially. That will be a very important part of the industry going forward and therefore part of the consolidation, because if you can prove you can do that, you can take over those companies that are doing it so badly."

Finally, she said, it's all about rewarding shareholders and stakeholders for taking risk.

"We need to rebuild trust. Trust has been lost. It is going to take a long time to return and the way you do that is by not only promising jam tomorrow, promising your NAV growth, promising the future, but actually providing some of that return today." TNM

Investment bankers discuss state of the mining industry

BANKERS From 4

have seen a pick-up in M&A activity.

Ilan Bahar: I agree. Last year in Canada and globally was the least amount of equity raised in the last 15 years for the mining industry. It's interesting. Through all of last year a large royalty company or a large producing gold or base metal company could probably raise capital. It wouldn't be difficult. The issue is they don't actually need the capital, the junior space needs the capital, and in the junior space it's been a real struggle and it continues to be. And really what they're turning to for financing is entrepreneurs, other mining companies, thankfully we have flow-through financing in Canada which is a good source, and the royalty and streaming space. And it's unsustainable. Something has to give, the junior companies need more investment or otherwise we'll just stop seeing exploration. And frankly we've seen a lot of that already.

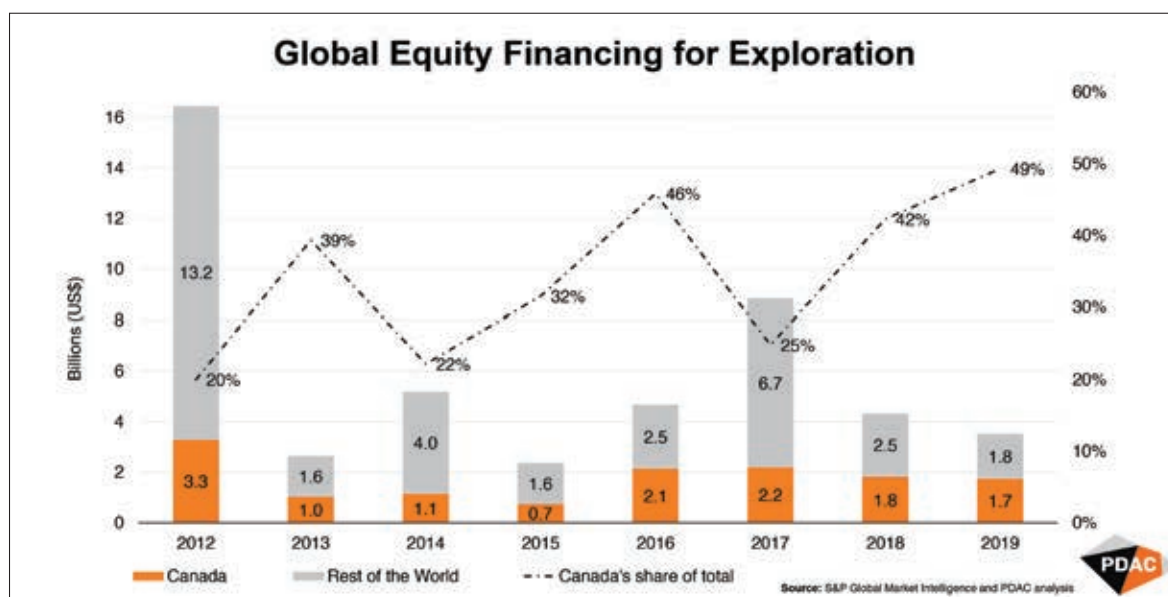
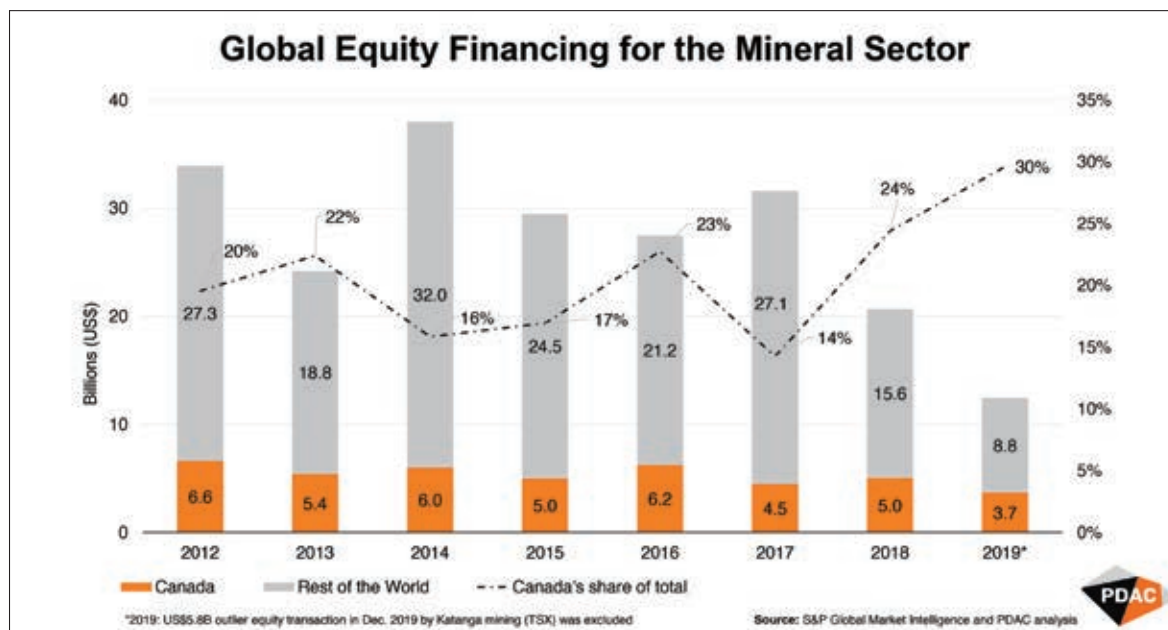
Anthony Vaccaro: What are the macro trends behind this?

Michael Faralla: There have been two trends that have helped propel that downward trend. One specific maybe to the Canadian market more so, and then one more broadly. The first issue that we've seen over the last 10 years is this increasing shift to passive investing in ETFs, and that means increasingly we're seeing capital and public equity flow to index followers and passive fund allocators, which really have no ability to provide capital in an active way to companies looking to raise capital, juniors and so on. That's a trend that we've seen worldwide and it has also impacted the Canadian market. The second trend is the decline of assets under management in specialty or specialist mining fund managers and that was a strong point for the Canadian capital markets going back to the last cycle. Those assets under management have probably declined by a factor of 75% over the last 10 years. So, we have a shift to passive and also a shift to more generalist fund managers from mining specialty fund managers. To Ilan's point, those generalists absolutely are looking for mining exposure, are happy to invest and to put money into large cap producers and so they still have good access to capital, but for the juniors which rely on more of an expertise to understand the story, the exploration and so on, there's just less of that capital available. So, until we see those trends reverse, and the passive investing one probably isn't going anywhere for a while, unless you have a crystal ball. This won't change dramatically until we see money flowing back into more mining specialist portfolio managers or more risk appetite among retail investors looking to go back into

“THERE'S ACTUALLY AN OPPORTUNITY FOR THE MINING SECTOR HERE TO BRAND ITSELF IN A WAY THAT SUPPORTS GENERALIST INVESTORS TURNING TO THE INDUSTRY AND REALLOCATING MORE CAPITAL.”

ILAN BAHAR

CO-HEAD GLOBAL METALS & MINING GROUP, BMO CAPITAL MARKETS



“[LARGE MINERS] SEEM TO HAVE TAKEN A VIEW OF OUTSOURCING THEIR EXPLORATION DEPARTMENTS FOR THE MOST PART TO JUNIORS AND IN MANY CASES ARE ACTUALLY LOOKING TO FINANCE THAT EXPLORATION DIRECTLY THROUGH JOINT VENTURES OR THROUGH STRATEGIC TOE-HOLD STAKES IN THOSE COMPANIES.”

MICHAEL FARALLA

HEAD OF GLOBAL MINING, TD SECURITIES

the mining space, from speculative investments that we've seen in Canada such as cannabis.

Anthony Vaccaro: What's it going to take to get the generalist investor back? Is it just a simple function of the commodity price? We've seen gold do quite well until recently.

Ryan Latinovich: I think about the financing market in terms of both a push and a pull. As a practical matter when we look back on those bars to the left of that chart, and certainly going back even further, our larger mining companies were doing deals of size, and those plus-\$250 million or plus-\$100 million equity deals do a lot for moving those bars higher. Commodity prices have been fairly strong. Mining companies and gold mining companies in particular spent the last four or five years fortifying their balance sheets, optimizing their portfolios, and frankly don't need to raise capital for big-spend projects. What we see as a consequence of that is the natural remainder of companies that are looking for capital are on the smaller end of things. I'm a bit optimistic. Canadian capital markets from my perspective is the healthiest ecosystem on the planet. Ilan mentioned a number of those levers we have to our advantage here. What we see historically as our percentage of ability to raise capital for the rising stars in the industry, the guys that are finding the next projects for the big guys to take on, is very, very healthy. There's no question that that's come under a bit of pressure lately as the specialty mining funds,

those who have the technical capabilities to filter through rising star projects and figure out which ones they want to make a bet on, those funds, actively managed funds, have come under pressure through flow-of-fund issues. Generalists, on the other hand, what we're seeing here is a bit of a bar bell of the mining space portfolio. What we've got is lots of liquidity, lots of flows chasing index-like stuff, and whether that's through closet indexing through the large-cap names, the royalty companies, lots of liquidity, lots of demand. On the smaller end of things, the cheque sizes are smaller, so these charts don't work out very well. But when we do have folks looking for mining and looking for alpha, how to generate alpha in mining, the natural spot to do it is on the smaller stories. Smaller cheques can actually get outsized alpha on those sorts of things, so I continue to be pretty optimistic in terms of the ability for good projects, good management teams, to find capital on the smaller end of things, it won't necessarily help these macro charts get large, but as we see and as we know in the Canadian mining space, and the Canadian capital markets, is very, very, strong for supporting that stuff.

Chris Gratias: If I can add one last thing on generalists. I think a broad statement is, generalists are each benchmarked to a different index so you've got to look at what those benchmarks are and what the weighting of mining and materials are in that index. I think the first comment is, generalists are still significantly

short or underweight mining. So as commodity prices perform well, stocks perform well, the weighting in the index that they're benchmarked to goes up. They can only sit on the sidelines for so long, so an improvement in commodity pricing will get the generalists to re-weight back to where their benchmarks are.

Ilan Bahar: I think it's a time when the mining industry has a great opportunity because when the world is focused on ESG, pollution levels, move to electric vehicles, a transition to less carbon usage, all of those things are things the mining industry supports. All the materials you need for an electric car are mined, all the materials you need for a solar power plant are mined, so I think there's actually an opportunity for the mining sector here to brand itself in a way that supports generalist investors turning to the industry and reallocating more capital and I think as a group, the mining sector realizes that. The largest companies with the support of institutions like the IMF are working together to find a way to access that capital, but I think there is an opportunity to do that, and historically the sector as a whole hasn't worked together to brand itself that way.

Anthony Vaccaro: Let's look at equity financing for exploration. We've already covered the glass half empty, the glass half full is that Canada remains incredibly resilient through all of that. Is that all Eric Sprott in 2019? What is it about Canada that allows us to be this resilient?

Michael Faralla: Certainly flow-through financing for Canadian projects has been a huge benefit and support for the sector, and for projects in Canada and I think we're seeing renewed exploration in places like the Yukon, and in the Far North, and in the Northwest Territories, right across the country. People have this view that all the great deposits have been found in Canada, but that's not true at all as we are seeing new mines get built all the time and in fact in some cases old deposits get reimagined as new mines in a new commodity price environment. The challenge if you look globally, and the rest of the world is the important part of this chart, because we really have seen a really cyclical amount of exploration spend more broadly, and I think that's the challenge for the world. You look at large mining companies. They seem to have taken a view of outsourcing their exploration departments for the most part to juniors and in many cases are actually looking to finance that exploration directly through joint ventures or through strategic toe-hold stakes in those companies. And a lot of that might not get picked up in this data if we're only focused on public financing. So that certainly has been a trend that we're seeing increasingly. And I'd point to the majors and their own exploration budgets. I think Rio Tinto just announced that they're spending \$600 million on exploration in 2020 alone, which is a significant exploration budget globally. So, while this is a worrying trend and a function of all the challenges for access to capital that we've talked about, there are some bright spots — Canadian flow-through and the seniors looking to invest in exploration through junior partnerships.

Anthony Vaccaro: We have seen companies like Agnico Eagle Mines and Barrick Gold taking those 19%-20% stakes. Is this trend sustainable? Are we seeing more of that?

Ryan Latinovich: Certainly in the last several years there has been a pretty material uptick in that type of thing. It's always been part of Agnico's DNA, but we've seen other companies get a lot more active in that type of investment framework. That's a trend we would expect to continue. For projects that need and deserve to move forward more options are coming on the table and a strategic investment framework is one of those avenues that can be attractive to a junior, not least of which is a sanctioning or a level of credibility, the implied merits of the project being amplified through an investment of a more senior company that has obviously done its work. It's easy to get a little bit demoralized when we look at charts going down into the right. We've talked about the ecosystem. As a practical matter, and don't quote me on this number today because I haven't refreshed it in a while, but there are about 2,400 publicly-listed mining companies on the planet and 1,400 of them are listed either on the TSX or the TSXV so in terms of pool of opportunities, that is one of the reasons why we see that type of a chart with that dashed line. That is strengthened by flow-through and it's one of the safest mining jurisdictions in terms of its political stability and things of that nature, combined with the flow-through structure, combined with a capital markets framework that supports, and it's in our DNA in Canada — to support that kind of junior financing. And I think we'll see that type of a chart irrespective of the bars, I think we'll see Canada's percentage hold in there quite strong no matter what the environment and that's something we should be proud of. **TNM**

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MARKET NEWS

TORONTO STOCK EXCHANGE / MARCH 2–6

The S&P/TSX Composite Index fell 0.54% to 16,175.02. The S&P/TSX Global Mining Index rose 3.84% to 74.17, while the S&P/TSX Global Base Metals Index fell 4.94% to 81.10. Spot gold jumped US\$87.60 per oz. or 5.53% to finish the trading week at US\$1,673.10 per oz., sending the S&P/TSX Global Gold Index up 11.92% to 240.63.

Shares of **Balmoral Resources** jumped 55% to 48¢ on news that it is being acquired by Wallbridge Mining in an all-share deal worth \$110 million. Under the terms of the transaction, Wallbridge and Balmoral shareholders will own 82% and 18% of the pro-forma company, respectively. The deal represents a 46% premium to Balmoral’s 20-day weighted average price on the Toronto Stock Exchange. The transaction will consolidate the Fenelon gold property within the Abitibi greenstone belt to 86 km. Wallbridge’s 10.5-sq.-km share of the Fenelon gold property includes the Main Gabbro, Area 51 and Tabasco zones. Last year, Wallbridge drilled 75,000 metres at the project, expanding the Fenelon gold system to 2 km of strike, over a width of 600 metres and down to a depth of 700 vertical metres. Wallbridge’s portion of the property includes underground workings with existing ramp access as well as a water treatment plant and a 79-person camp. Balmoral’s 75-sq.-km portion of Fenelon features extensions of the Area 51

gold system. Balmoral holds over 700 sq. km of ground along the Sunday Lake and Lower Detour deformation zones within the Abitibi greenstone belt.

Equinox Gold reported 2019 production of 201,018 oz. gold at all-in sustaining costs of US\$931 per oz. sold. Its Aurizona mine in Brazil, which achieved commercial production on July 1 2019, produced 75,282 oz. at AISCs of US\$928 per oz., and Mesquite in California produced 125,736 oz. gold at AISCs of US\$933 per oz. The company posted a net loss of US\$20.3 million or 16¢ per share, which included non-cash losses related to the change in fair value of derivative liabilities related to warrants with a Canadian dollar exercise price, and the early debt settlement of US\$14.1 million after refinancing debt with a new revolving credit

TSX MOST ACTIVE ISSUES						
		VOLUME (000s)	HIGH	LOW	CLOSE	CHANGE
Suncor Energy	SU	64114	37.40	32.93	33.52	- 3.47
B2Gold Corp	BTO	38869	6.13	5.20	5.95	+ 0.59
Barrick Gold	ABX	36984	29.26	25.62	28.46	+ 2.86
Kinross Gold	K	34712	7.75	6.79	7.47	+ 0.72
Yamana Gold	YRI	24561	5.87	5.15	5.70	+ 0.47
Teck Res	TECK.B	16997	14.78	12.85	14.12	+ 0.62
IAMGOLD	IMG	15466	4.20	3.70	4.04	+ 0.22
First Quantum	FM	14538	10.19	8.70	8.96	- 0.96
Wheaton Prec	MWPM	11732	41.79	38.10	40.92	+ 2.75
Eldorado Gold	ELD	11615	13.45	11.78	12.59	+ 0.94

facility. Equinox’s merger with Leagold is expected to close in the second week of March. Shares of Equinox closed at \$11.73, a weekly gain of \$2.00 per share.

Maya Gold & Silver jumped 52.4% to \$1.25 after reporting new drill results from the Imarighen and Northern zones at its Bouma-dine polymetallic mine in Morocco. Highlights included 2.5 metres grading 2.27 grams gold per tonne and 80 grams silver per tonne from

149 metres in drillhole 19-25; 2 metres of 2.13 grams gold and 196.45 grams silver in drillhole 20-02 from 77.5 metres, and 3 metres of 1.25 grams gold and 5% zinc in drillhole 20-06 from 55 metres. Surface sampling returned 16.47 grams gold; 10.96 grams gold; and 10.16 grams gold. Boumadine is in the Anti-Atlas mountains of eastern Morocco. The company also owns 85% of the producing Zgounder mine, also in Morocco. ^{TNM}

TSX GREATEST PERCENTAGE CHANGE						
		VOLUME (000s)	HIGH	LOW	CLOSE	CHANGE
Balmoral Res	BAR	10003	0.52	0.41	0.48	+ 54.8
Maya Gold & Sil	MYA	419	1.58	0.97	1.25	+ 52.4
Mandalay Res	MND	862	0.74	0.53	0.66	+ 43.5
Sulliden Mng	SMC	731	0.05	0.00	0.05	+ 42.9
Minco Silver	MSV	243	0.55	0.42	0.49	+ 38.6
St Augustine	SAU	341	0.03	0.02	0.02	+ 33.3
Aura Minerals	ORA	30	82.00	73.80	82.00	+ 26.1
Osisko Mng Inc	OSK	4278	3.50	2.88	3.41	+ 21.8
Condor Gold	COG	53	0.56	0.37	0.56	+ 21.7
Equinox Gold	EQX	4871	12.13	9.99	11.73	+ 20.6
TMAC Resources	TMR	3153	1.80	0.90	0.97	- 39.4
Aquila Res	AQA	576	0.15	0.07	0.12	- 20.7
EurOmax Res	EOX	115	0.03	0.02	0.02	- 20.0
PolyMet Mng	POM	88	0.43	0.38	0.41	- 18.0
Trevalli Mng	TV	6336	0.15	0.12	0.12	- 17.9
Xanadu Mines	XAM	59	0.03	0.03	0.03	- 16.7
Largo Res	LGO	1884	0.93	0.76	0.77	- 14.4
Goldgroup Mng	GGA	60	0.04	0.03	0.03	- 14.3
SolGold plc	SOLG	108	0.33	0.27	0.28	- 14.1
Almonty Ind	ALI	1074	0.59	0.41	0.43	- 14.0

TSX GREATEST VALUE CHANGE				
		VOLUME (000s)	WEEK CLOSE	CHANGE
Aura Minerals	ORA	30	82.00	+ 16.96
Franco-Nevada	FNV	4773	159.73	+ 15.63
Newmont Corp	NGT	2191	70.05	+ 10.85
Agnico Eagle	AEM	6536	71.15	+ 7.46
Kirkland Lake	KL	9779	46.96	+ 3.67
Pan Am Silver	PAAS	4650	29.63	+ 3.06
Barrick Gold	ABX	36984	28.46	+ 2.86
Wheaton Prec M	WPM	11732	40.92	+ 2.75
Equinox Gold	EQX	4871	11.73	+ 2.00
Seabridge Gld	SEA	692	14.74	+ 1.52
Suncor Energy	SU	64114	33.52	- 3.47
Nutrien	NTR	10340	51.68	- 2.57
Labrador IOR	LIF	1485	17.13	- 2.35
Nexa Resources	NEXA	13	8.82	- 1.31
Ero Copper	ERO	1240	13.41	- 0.98
First Quantum	FM	14538	8.96	- 0.96
TMAC Resources	TMR	3153	0.97	- 0.63
Lundin Mng	LUN	9743	6.48	- 0.37
Cameco Corp	CCO	5374	11.34	- 0.27
HudBay Min	HBM	7597	3.02	- 0.25

TSX VENTURE EXCHANGE / MARCH 2–6

The S&P/TSX Venture Composite Index rose 1.80% to 506.54 and gold finished the week at US\$1,673.10 per oz., a rise of US\$87.60 per oz. from the previous week.

Shares of **Aurania Resources** rose by \$0.49 to \$3.44 per share. The company recently closed the second tranche of an \$8 million non-brokered private placement announced in February, with proceeds of \$4.16 million. Combined with the first tranche, the company has raised \$5.63 million so far and expects to close the third tranche in the coming weeks. The proceeds will be used to advance exploration work at its Lost Cities-Cutucu project in the province of Morona-Santiago in Ecuador. The work program will include the completion and interpretation of geophysics surveys to refine target areas and to drill for gold, silver and copper, as well as corporate social responsibility work required to obtain access to concession areas.

Chesapeake Gold’s shares rose \$0.36 to \$2.63. The company announced an option to acquire a 100% interest in the El Duraznito gold-silver project near the town of Tayoltita in Mexico’s Durango state. Mineralization at the project is made up of low sulfidation epithermal quartz veins, breccia and stockwork hosted within zones

of altered and silicified andesitic and rhyodacitic volcanic rocks. Rock chip channel samples from two subparallel quartz and quartz breccia vein structures returned 45 meters grading 1.6 grams gold per tonne and 16 grams silver per tonne; 30 meters of 3.9 grams gold per tonne and 48 grams silver per tonne; 23 meters of 1.8 grams gold per tonne and 58 grams silver per tonne; and 15 meters of 3.1 grams gold per tonne and 24 grams silver per tonne. Channel sampling of well-defined quartz veins returned 10 meters of 4.8 grams gold per tonne and 464 grams silver per tonne; 2.5 meters of 3.9 grams gold per tonne and 756 grams silver per tonne; 2.5 meters of 9.7 grams gold per and 343 grams silver per tonne; and 3 meters of 2.8 grams gold per tonne

TSX-V MOST ACTIVE ISSUES						
		VOLUME (000s)	HIGH	LOW	CLOSE	CHANGE
Leeta Gold	HIVE	17865	0.33	0.26	0.32	+ 0.08
Lucky Min	LKY	8302	0.03	0.02	0.02	+ 0.01
Canada Carbon	CCB	6369	0.38	0.22	0.38	+ 0.17
Goldsource Min	GXS	6161	0.14	0.10	0.12	+ 0.03
K92 Mining	KNT	5664	3.81	3.36	3.76	+ 0.42
MacDonald Mns	BMK	5443	0.11	0.09	0.09unch	0.00
TVI Pacific	TVI	4500	0.01	0.01	0.01unch	0.00
Discovery Harb	DHR	4478	0.09	0.05	0.05	- 0.01
Noront Res	NOT	4473	0.19	0.12	0.16	+ 0.02
Palladium One	PDM	3600	0.14	0.09	0.10	- 0.03

and 113 grams silver per tonne.

With the announcement that it has closed the final tranche of a non-brokered private placement, shares in **Rokmaster Resources** rose to \$0.09 from \$0.07 per share. The proceeds will be used to update a previous preliminary economic assessment from exploration work at its Revel Ridge project, located 35 km north of Revelstoke, B.C. The

property contains two precious and base metal deposits. The Main zone has 4,200 measured and indicated tonnes grading 5.59 grams gold per tonne, 53.4 grams silver per tonne, 1.87% lead and 3.43% zinc. The Yellowjacket zone contains indicated resources of 771,000 tonnes grading 0.09 gram gold, 62.6 grams silver, 2.60% lead and 9.93% zinc. ^{TNM}

TSX-V GREATEST PERCENTAGE CHANGE						
		VOLUME (000s)	HIGH	LOW	CLOSE	CHANGE
Jazz Res	JZR	11	0.28	0.22	0.23	+462.5
Frontline Gold	FGC	139	0.01	0.01	0.01	+100.0
Stans Energy	HRE	266	0.01	0.01	0.01	+100.0
Northern Uran	UNO.H	15	0.01	0.01	0.01	+100.0
Latin American	LAT	410	0.01	0.01	0.01	+100.0
Rokmaster Res	RKR	293	0.09	0.07	0.09	+ 88.9
Tiger Intl	TGR	15	0.13	0.07	0.13	+ 85.7
Canada Carbon	CCB	6369	0.38	0.22	0.38	+ 81.0
Itafos	IFOS	25	0.44	0.32	0.36	+ 75.6
Clarmin Explor	CX	130	0.09	0.05	0.09	+ 70.0
Val-d’Or Mg	VZZ	16	0.14	0.06	0.06	- 57.1
Nevada Energy	BFF	33	0.10	0.00	0.05	- 52.4
Gitennes Expl	GIT	158	0.01	0.01	0.01	- 50.0
Bearclaw Cap	BRL.H	20	0.01	0.01	0.01	- 50.0
Manado Gold	ISGI	498	0.34	0.21	0.21	- 47.5
Essex Minerals	ESX	70	0.30	0.12	0.17	- 45.0
Noble Mineral	NOB	1874	0.08	0.05	0.05	- 44.4
Para Resources	PBR	2430	0.04	0.02	0.02	- 42.9
Candelaria Mg	CAND	322	0.20	0.05	0.08	- 42.9
Handa Mining	HAND	6	0.04	0.02	0.02	- 42.9

TSX-V GREATEST VALUE CHANGE				
		VOLUME	WEEK	
		(000s)	CLOSE	CHANGE
Metalla Rylty	MTA	563	7.06	+ 1.06
Great Bear Res	GBR	900	7.27	+ 1.01
Abitibi Royal	RZZ	14	18.25	+ 0.80
Metalore Res	MET	3	2.20	+ 0.55
Aurania Res	ARU	178	2.95	+ 0.49
Pac Booker Min	BKM	15	2.12	+ 0.47
K92 Mining	KNT	5664	3.76	+ 0.42
Chesapeake Gld	CKG	76	2.63	+ 0.36
Azimut Explor	AZM	900	1.56	+ 0.26
Novo Res	NVO	901	2.41	+ 0.25
O3 Mining	OIII	256	2.05	- 0.39
Canada Nickel	CNC	341	0.58	- 0.32
Cornerstone Ca	CGP	37	2.20	- 0.30
New Pac Metals	NUAG	492	5.15	- 0.26
Lion One Mtls	LIO	931	1.24	- 0.21
Manado Gold	ISGI	498	0.21	- 0.19
Universal Vent	MCLD	147	5.37	- 0.15
Essex Minerals	ESX	70	0.17	- 0.14
Aurion Res	AU	765	0.88	- 0.13
Filo Mg Corp	FIL	371	1.70	- 0.11

U.S. MARKETS / MARCH 2–6

The Dow Jones Industrial Average rose 1.79% to 25,864.78 and the S&P 500 advanced 0.61% to 2,972.37. Spot gold surged US\$87.60 per oz. or 5.53% to US\$1,673.10 per oz.

Fortuna Silver Mines updated shareholders on the status of legal proceedings related to a disputed royalty on one of its mining concessions at the San Jose mine in Oaxaca, Mexico. On Mar. 2, the District Court in Mexico City granted a permanent stay of execution, which protects the company from the cancellation of the concession until a resolution by the court is reached on the legality of the cancellation. In early February, Fortuna initiated legal proceedings against the Direccion General de Minas to contest the procedure taken by the DGM to cancel the mining concession if the disputed royalty plus VAT is not paid before Mar. 15. Fortuna’s other primary assets are its Caylloma silver mine in southern Peru and the Lindero gold project, currently under construction in Argentina. Fortuna’s shares climbed 12.5% to US\$3.32.

Vale fell US29¢ to US\$9.53 per share. The company announced that it will begin disposing of tailings from the Feijao mine site in a work program that it expects to be completed by

2023. The company said it will “streamline the process to remove and dispose of the tailings from the breach of B1 dam,” and noted that “the disposal of tailings in the extraction site is essential to continue the searching operation defined by the Military Fire Brigade and to recover affected areas.” The catastrophic tailings dam breach at the Feijao iron ore mine in January 2019 killed more than 250 people.

Mosaic shares were down US\$2.73 to US\$14.30. The company announced that it intends to combine the company’s potash and phosphates operations in North America under one management team effective April 1. The company said the move is expected to create

U.S. MOST ACTIVE ISSUES						
		VOLUME (000s)	HIGH	LOW	CLOSE	CHANGE
Vale*	VALE	268005	10.91	9.42	9.53	- 0.29
Freeport McMor*	FCX	174269	10.80	9.26	9.43	- 0.53
Barrick Gold*	GOLD	136603	21.83	19.14	21.23	+ 2.19
Yamana Gold*	AUY	132685	4.38	3.85	4.25	+ 0.43
Kinross Gold*	KGC	129519	5.79	5.07	5.57	+ 0.55
United States S* X		86059	8.58	7.00	7.08	- 0.94
Chevron Corp*	CVX	75962	99.02	92.21	95.32	+ 1.98
Cleveland-Clif*	CLF	70228	6.12	5.02	5.18	- 0.63
Newmont Corp*	NEM	63352	52.50	45.39	52.35	+ 7.72
Gold Fields*	GFI	54013	7.21	5.96	6.77	+ 0.84

new opportunities to increase efficiencies by leveraging synergies. Mosaic is one of the world’s top producers and marketers of concentrated phosphate and potash crop nutrients.

Intrepid Potash reported full-year 2019 net income of US\$13.6 million or US10¢ per diluted share. Improvements in net income were

primarily driven by improved domestic pricing for potash earlier in the year and strong water and by-product sales throughout the year. As of Dec. 31, Intrepid had US\$20.6 million in cash and equivalents and US\$54.2 million available to borrow under its credit facility. Shares of Intrepid Potash fell 13.6% to US\$1.53. ^{TNM}

U.S. GREATEST PERCENTAGE CHANGE						
		VOLUME (000s)	HIGH	LOW	CLOSE	CHANGE
DRDGOLD*	DRD	1681	7.64	6.32	7.40	+ 21.3
AngloGold Ash*	AU	22458	21.63	17.90	21.06	+ 20.7
Newmont Corp*	NEM	63352	52.50	45.39	52.35	+ 17.3
Harmony Gold*	HYM	53471	4.06	3.44	3.96	+ 16.5
Endeavr Silver*	EXK	13343	1.85	1.52	1.80	+ 15.4
Gold Fields*	GFI	54013	7.21	5.96	6.77	+ 14.2
Fortuna Silvr*	FSM	17152	3.43	2.96	3.32	+ 12.5
Seabridge Gld*	SA	2946	11.59	9.93	11.00	+ 11.9
Black Hills*	BKH	2358	81.43	72.37	80.68	+ 11.7
Agnico Eagle*	AEM	12510	53.73	47.73	53.06	+ 11.6
Alcoa*	AA	47553	14.04	10.80	11.01	- 20.6
Peabody Enrgy*	BTU	12757	5.97	4.50	4.65	- 20.4
Mosaic*	MOS	36273	17.85	14.13	14.30	- 16.0
Trecora Res*	TREC	169	5.75	4.74	4.80	- 15.0
Intrepid Pots*	IPI	3464	1.88	1.49	1.53	- 13.6
NACCO Ind*	NC	73	42.88	34.20	36.23	- 12.1
Arch Coal*	ARCH	2155	50.22	43.21	44.35	- 11.9
United States S* X		86059	8.58	7.00	7.08	- 11.7
Cleveland-Clif*	CLF	70228	6.12	5.02	5.18	- 10.8
Nexa Resources*	NEXA	577	7.51	6.49	6.65	- 9.4

U.S. GREATEST VALUE CHANGE				
		VOLUME (000s)	WEEK CLOSE	CHANGE
Franco-Nevada*	FNV	5015	119.08	+ 11.58
MartinMarietta*	MLM	3937	238.75	+ 11.22
Black Hills*	BKH	2358	80.68	+ 8.48
Newmont Corp*	NEM	63352	52.35	+ 7.72
Agnico Eagle*	AEM	12510	53.06	+ 5.53
AngloGold Ash*	AU	22458	21.06	+ 3.61
Kirkland Lake*	KL	11877	35.04	+ 2.96
Barrick Gold*	GOLD	136603	21.23	+ 2.19
Wheaton Prec M*	WPM	18434	30.52	+ 2.02
Chevron Corp*	CVX	75962	95.32	+ 1.98
Arch Coal*	ARCH	2155	44.35	- 6.00
NACCO Ind*	NC	73	36.23	- 4.99
Alcoa*	AA	47553	11.01	- 2.86
Mosaic*	MOS	36273	14.30	- 2.73
Suncor Energy*	SU	27320	25.04	- 2.56
Nutrien*	NTR	9947	38.52	- 1.91
Peabody Enrgy*	BTU	12757	4.65	- 1.19
United States S*	X	86059	7.08	- 0.94
Treco Res*	TREC	169	4.80	- 0.85
Rio Tinto*	RIO	24760	46.16	- 0.77

METALS, MINING AND MONEY MARKETS

LME WAREHOUSE LEVELS

Metal stocks (in tonnes) held in London Metal Exchange warehouses at opening, March 6, 2020 (change from February 28, 2020 in brackets):

Aluminium Alloy	7620	(-420)
Aluminium	1030750	(-51400)
Copper	200275	(+17900)
Lead	69775	(+1975)
Nickel	236106	(+681)
Tin	7345	(-200)
Zinc	74400	(-875)

PRODUCER AND DEALER PRICES

Coal: Central Appalachia, 12,500 Btu, 1.2 S02-R,W: US\$59.15
Coal: Powder River Basin, 8,800 Btu, 0.8 S02-R, W: US\$11.65
Cobalt: US\$14.97/lb.
Copper: US\$2.55/lb.
Copper: CME Group Futures April 2020: US\$2.54/lb.; May 2020: US\$2.53/lb
Iridium: NY Dealer Mid-mkt US\$1,510.00/tr oz.
Iron Ore 62% Fe CFR China-S: US\$87.20
Lead: US\$0.85/lb.
Phosphate Rock: US\$86.00/tonne
Potash: US\$226.00/tonne
Rhodium: Mid-mkt US\$13,300.00 tr. oz.
Ruthenium: Mid-mkt US\$250.00/tr. oz.
Silver: Handy & Harman Base: US\$16.91 per oz.; Handy & Harman Fabricated: US\$21.14 per oz.
Tin: US\$7.67/lb.
Uranium: U3O8, Trade Tech spot price: US\$24.90 per lb. U3O8
Zinc: US\$0.90/lb.
Prices current Mar. 10, 2019

NORTH AMERICAN STOCK EXCHANGE INDICES

Index	Mar 6	Mar 5	Mar 4	Mar 3	Mar 2	52-week	
						High	Low
S&P/TSX Composite	16175.02	16553.99	16779.53	16423.62	16553.26	15527.30	12400.15
S&P/TSXV Composite	506.54	521.27	525.74	517.15	513.28	1050.26	883.52
S&P/TSX 60	965.55	987.40	1001.16	979.43	988.97	896.74	709.99
S&P/TSX Global Gold	278.83	281.22	273.40	269.13	256.48	218.90	149.29
DJ Precious Metals	234.68	234.68	229.11	226.21	216.01	420.72	130.95

TSX SHORT POSITIONS

Short positions outstanding as of Feb 29, 2020 (with changes from Feb 15, 2020)

Largest short positions

Sandstorm Gold	SSL	22423103	955983	2/15/2020
New Gold	NGD	17916600	-644732	2/15/2020
Kinross Gold	K	16447581	3527175	2/15/2020
Ivanhoe Mines	IVN	15784555	-38500	2/15/2020
Premier Gold M	PG	15040358	4103905	2/15/2020
Barrick Gold	ABX	14482900	-894240	2/15/2020
Suncor Energy	SU	12196746	-515465	2/15/2020
Nexgen Energy	NXE	11207553	40919	2/15/2020
Lundin Mng	LUN	11090851	791867	2/15/2020
First Quantum	FM	10288193	834106	2/15/2020
Osisko Mng Inc	OSK	10134103	462036	2/15/2020
Trevali Mng	TV	8731095	1423039	2/15/2020
RNC Minerals	RNX	8376635	255506	2/15/2020
Smafo	SMF	8036185	411992	2/15/2020
Fortuna Silvr	FVI	7867689	81640	2/15/2020

Largest increase in short position

Premier Gold M	PG	15040358	4103905	2/15/2020
Wheaton Prec M	WPM	6613055	3810216	2/15/2020
Kinross Gold	K	16447581	3527175	2/15/2020
B2Gold Corp	BTO	6877129	3378810	2/15/2020
OceanaGold	OGC	6613659	2149329	2/15/2020

Largest decrease in short position

GoGold Res	GGD	275828	-1915685	2/15/2020
Almonty Ind	AIL	232586	-1200908	2/15/2020
Barrick Gold	ABX	14482900	-894240	2/15/2020
Dundee Prec Mt	DPM	4980453	-801658	2/15/2020
New Gold	NGD	17916600	-644732	2/15/2020

TSX VENTURE SHORT POSITIONS

Short positions outstanding as of Feb 29, 2020 (with changes from Feb 15, 2020)

Largest short positions

Conic Metals	NKL	3884605	-2326	2/15/2020
K92 Mining	KNT	2827566	582176	2/15/2020
Canada Carbon	CCB	2713790	2524433	2/15/2020
Turmalina Met	TBX	2502921	2153563	2/15/2020
Novo Res	NVO	2098330	3720	2/15/2020
MacDonald Mns	BMK	1658195	1210991	2/15/2020
Advantage Lith	AAL	1589634	1528597	2/15/2020
Palladium One	PDM	1557772	1304340	2/15/2020
New Pac Metals	NUAG	1424944	63657	2/15/2020
Lion One Mtls	LIO	1405135	232379	2/15/2020
Leeta Gold	HIVE	1072923	-2162641	2/15/2020
Uragold Bay Rs	HPQ	1064365	977987	2/15/2020
Bluestone Res	BSR	776291	-505932	2/15/2020
Majestic Gold	MUS	773440	720561	2/15/2020
Ely Gold Royal	ELY	767529	721434	2/15/2020

Largest increase in short position

Canada Carbon	CCB	2713790	2524433	2/15/2020
Turmalina Met	TBX	2502921	2153563	2/15/2020
Advantage Lith	AAL	1589634	1528597	2/15/2020
Palladium One	PDM	1557772	1304340	2/15/2020
MacDonald Mns	BMK	1658195	1210991	2/15/2020

Largest decrease in short position

Leeta Gold	HIVE	1072923	-2162641	2/15/2020
ML Gold Corp	MT	27900	-952404	2/15/2020
Western Mag	WMG	78894	-681169	2/15/2020
Maritime Res	MAE	69308	-527425	2/15/2020
Bluestone Res	BSR	776291	-505932	2/15/2020

DAILY METAL PRICES

Daily Metal Prices

Date	Mar 9	Mar 6	Mar 5	Mar 4	Mar 3
BASE METALS (London Metal Exchange -- Midday official cash/3-month prices, US\$ per tonne)					
Al Alloy	1370/1410	1365/1410	1380/1410	1385/1418	1370/1400
Aluminium	1643/1665.50	1686.50/1708	1714/1725	1722.50/1731	1705.50/1720
Copper	5482/5492	5623/5638	5667/5687	5694/5716	5667/5688
Lead	1849/1813	1878/1841	1855/1825	1886/1839	1898/1846
Nickel	12410/12460	12700/12735	12780/12810	12695/12800	12545/12640
Tin	16555/16525	16905/16900	16975/16975	16975/16975	16725/16750
Zinc	1925/1950	1977.50/1996.50	2001/2018	1963.50/1983	1985.50/2001

PRECIOUS METAL PRICES (London fix, LBMA silver price, US\$ per troy oz.)

GOLD AM	1676.60	1687.00	1647.45	1644.80	1599.05
Gold PM	1672.50	1683.65	1659.60	1641.85	1615.50
Silver	16.89	17.48	17.20	17.25	16.81
Platinum	870.00	895.00	866.00	877.00	862.00
Palladium	2489.00	2571.00	2482.00	2443.00	2470.00

EXCHANGE RATES

Date	Mar 6	Mar 5	Mar 4	Mar 3	Mar 2
US\$ in C\$	1.3394	1.3394	1.3385	1.3379	1.3326
C\$ in US\$	0.7466	0.7466	0.7471	0.7475	0.7504

Exchange rates (Quote Media, March 6, 2020)

C\$ to AUS	C\$ to EURO	C\$ to YEN	C\$ to Mex Peso	C\$ to SA Rand
1.1286	0.6652	79.3335	14.8013	11.6416
C\$ to UK Pound	C\$ to China Yuan	C\$ to India Rupee	C\$ to Swiss Franc	C\$ to S. Korea Won
0.5765	5.1790	54.8763	0.7062	887.7360
US to AUS	US to EURO	US to YEN	US to Mex Peso	US to SA Rand
1.5117	0.8910	106.2615	19.8271	15.5922
US to UK Pound	US to China Yuan	US to India Rupee	US to Swiss Franc	US to S. Korea Won
0.7722	6.9370	73.8736	0.9459	1188.4700

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LEGEND

- A – Australian Securities Exchange
- C – Canadian Stock Exchange
- L – London Stock Exchange
- N – New York Stock Exchange
- O – U.S. over-the-counter
- Q – NASDAQ or U.S. OTC
- T – Toronto Stock Exchange
- V – TSX Venture Exchange
- X – NYSE American
- * – Denotes price in U.S.\$

STAFF INVESTMENT POLICY

The Northern Miner does not permit any editorial employee to file stories about companies in which the writer owns shares. Editorial employees are also not permitted to take part in initial public offerings or to engage in short selling.

CONVERSIONS OF WEIGHTS & MEASURES

1 troy ounce = 31.1 grams	1 gram per (metric) tonne = 0.02917 troy ounces per (short) ton
1 kilogram = 32.15 troy ounces	= 0.03215 troy ounces per (metric) tonne
1 kilogram = 2.2046 pounds	
1 (metric) tonne = 1,000 kilograms	1 kilometre = 0.6214 miles
1 (metric) tonne = 2,204.6 pounds	1 hectare = 2.47 acres
1 (short) ton = 2,000 pounds	
1 (metric) tonne = 11023 (short) tons	

TSX WARRANTS

Alio Gold Inc. (ALO.WT) - 10 Warrants to purchase one common share of the Issuer at \$7.00 until expiry
Alio Gold Inc. J (ALO.WT.A) - One Warrant to purchase one common share of the Issuer at \$8.00 until expiry
Ascendant Resources (ASND.WT) - Wt buys sh @ \$1.25 to Mar 7/22
eColbalt Solutions Inc. J (ECS.WT) - One Warrant to purchase one common share of the Issuer at US\$1.95 per share until expiry
Excellon Resources Inc (EXN.WT.A) - One warrant to purchase one common share of the Issuer at \$2.80 until expiry
Excellon Resources Inc. (EXN.WT) - One Warrant to purchase one common share of the issuer at \$1.40 per share until expiry
Gran Colombia Gold (GCM.WT.B) - One warrant to purchase one common share of the Issuer at \$2.21 until expiry.

Liberty Gold Corp. Wt (LGD.WT) - One Warrant to purchase one common share of the Issuer at \$0.90 until expiry may 16, 2019
Lithium Americas Corp (LAC.WT) - One Warrant to purchase one common share of the Issuer at \$0.90 until expiry
Lydian International Limited (LYD.WT) - One Warrant to purchase one additional ordinary share of the Issuer at \$0.36 per share until expiry
Northern Dynasty Minerals Ltd. J (NDM.WT.A) - Wt buys sh @ \$0.55 to Jul 9/20
Northern Dynasty Minerals Ltd. J (NDM.WT.B) - Wt buys sh @ \$0.55 to Jun 10/21
Northern Dynasty Minerals Ltd. J (NDM.WT.B) - Wt buys sh @ \$0.55 to Jun 10/21
Osisko Gold Royalties (OR.WT) - Wt buys sh @ \$36.5 to Feb 18/22

Platinum Group Metals Ltd. (PTM.WT.U) - One Warrant to purchase one common share of the Issuer at US\$0.17 until expiry
Royal Nickel Corporation (RNX.WT) - One Warrant to purchase one common share of the Issuer at \$0.50 until expiry.
Sandstorm Gold (SSL.WT.B) - One Warrant to purchase one common share of the Issuer at US \$14.00 until expiry.
Sheritt International Corporation (S.WT) - Each whole Warrant entitles the holder to acquire between 1.00 and 1.25 additional common shares (as bulletin 2018-0062 table) determined based on the Applicable Reference Cobalt Price at an exercise price of \$1.95 per Warrant at any time prior to the Expiry Date
Sprott Resource Corp (SRHI.WT) - Wt buys sh @ \$0.3333 to Feb 09/22

TSX VENTURE WARRANTS

ABE Resources Inc. (ABE.WT) - One warrant to purchase one common share at \$0.15 per share.
American Cumo Mining Corp. (MLY.RT) - 2 rights and \$0.07 are required to purchase one share
Antioquia Gold Inc. (AGD.RT) - One (1) Right and \$0.042 are required to purchase one share.
Aurania Resources Ltd. (ARU.RT) - Fourteen (14) Rights exercisable for one common share at \$2.70 per common share.
Avidian Gold Corp. (AVG.RT) - Three rights and \$0.11 are required to purchase one Share.
Boreal Metals Corp. (BMX.WT) - One warrant to purchase one common share at \$0.50 per share.
Boreal Metals Corp. (BMX.WT) - One warrant to purchase one common share at \$0.30 per share.
Cordoba Minerals Corp (CDB.WT) - One warrant to purchase one common share at \$1.08 per share.
Cordoba Minerals Corp (CDB.WT) - One warrant to purchase one common share at \$1.08 per share.
Equinoxgold Corp (EQX.WT) - One war-

rant to purchase one common share at \$3.00 per share.
Falco Resources Ltd. (FPC.WT) - One warrant to purchase one common share at \$1.70 per share.
Firefox Gold Corp. (FFOX.WT) - One warrant to purchase one common share at \$3.00 per share.
Goldstar Minerals (GDM.RT) - One Right to purchase one common share at \$0.03 per share.
Goldstar Minerals Inc. (GDM.RT) - One (1) Right and \$0.05 are required to purchase one common share.
JDL Gold Corp. (JDL.WT) - Wt buy sh @ \$3.00 to Oct 06/21
Kootenay Silver Inc. (KTN.WT) - Wt buys sh @ \$0.55 to Apr 21/21
LaSalle Exploration Corp. (LSX.WT) - One warrant to purchase one common share at \$0.15 per share.
LSC Lithium Corporation (LSC.RT) - One (1) right exercisable for One (1) Unit at \$0.40 per Unit.
Mako Mining Corp. (MKO.RT) - Rights exercisable for One (1) share at \$0.10 per share.
Maple Gold Mines Ltd. (MGM.WT) -

One warrant to purchase one common share at \$0.40 per share
Mexican Gold Corp. (MEX.WT) - One warrant to purchase one common share at \$0.12 per share.
Millennial Lithium Corp. (ML.WT) - One warrant to purchase one common share at \$4.25 per share.
Orezone Gold Corporation (ORE.WT) - One warrant to purchase one common share at \$0.80 per share.
Sandfire Resources America Inc. (SFR.RT) - Eight (8) Rights exercisable for One (1) share at \$0.06 per unit.
Tintina Resources Inc. (TAU.RT) - Nine(9) Rights exercisable for one share at \$0.06 per share.
Trek Mining (TREK.WT) - Wt buy sh @ \$3.00 to Oct 06/21
Ucore Rare Metals Inc. (UCU.RT) - One (1) right exercisable for one share at \$4.00 per share.
Vision Lithium Inc. (VLI.WT) - One warrant to purchase one common share at \$0.15 per share.
Yellowhead Mining Inc. (YMI.RT) - One (1) Right and \$0.12 are required to purchase one Share

NEW 52-WEEK HIGHS AND LOWS MARCH 2–6, 2020

47 New Highs AEX Gold Alpha Lithium Alpha Lithium* Altan Rio Min Altus Strat Andes Gold* Arbor Metals Balmoral Res Balmoral Res* Batero Gold* Blackheath Res BrightRock* Caldas Gold Canada Carbon Canada Carbon* Carlyle Comm* First Point* Fox River Res Franco-Nevada Galway Mtls Galway Mtls* Goldstrike Res*	Goliath Res Goliath Res* Great Thunder Guerrero Vents* Jazz Res KWG Res* Melkior Res Mistango River Newmont Corp Newmont Corp* Northstar Gold Nrthn Superior* Oceanic Iron O Omineca Mining Omineca Mining* Pacific Rim* Ridgestone M'g Sigma Lithium Silver Scott* Starr Peak Exp United Battery Vanstar Mng Rs Vanstar Mng Rs*	Western Atlas* Xtra-Gold Res 84 New Lows Alcoa* Altius Mnrls Alumina Ltd* Amigo Res Amerigo Res* Arch Coal* Aurion Res Azucar Min* BeMetals * Blue Thunder Buenaventura* BWR Explor Cleveland-Clif* CNRP Mng Compass Gold CONSOL Energy* Core Gold Delrand Res Empress Res Ero Copper	EVI Global Grp Fortune Mnrls* Garibaldi Res Glencore Plc * Glencore Plc* HudBay Min HudBay Min* Intrepid Pots* Ivanhoe Mines Labrador IOR Largo Res Largo Res* Latin American* Lucara Diam Lynas Corp* Magna Gold* Manado Gold Metalore Res* Mexican Gold* Midas Gold Midas Gold* Milner Con Silv Mosaic*	Mountain Prov Mountain Prov* NACCO Ind* New Carolin Gd* Nexa Resources* Noble Mineral* Noront Res NRG Metals* Nutrien Nutrien* OceanaGold Peabody Energy* Phoenix Global* Pretium Res Project One PUF Vent Inc * Pure Energy* Rockridge Res SKRR Explor Solitario Ex&R* St-Georges Eco* Standard Graph* Strikepoint Gd*	Sun Metals Suncor Energy Suncor Energy* Syrah Res* Teck Res Teck Res* TMAC Resources Trecora Res* Trevali Mng Trilogy Mtls Trilogy Mtls* Turmalina Met Turmalina Met* United States S* Uranium Roylty Vale* Vanadiumcorp* Venture Mnrls*
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CANADIAN GOLD MUTUAL FUNDS

Fund	Mar 6 (\$)	Feb 28 (\$)	Change (\$)	Change (%)	YTDChange (%)	MER (%)	TotalAssets (M\$)
AGF Gb R A Fd MF		17.83	0.37	2.07	-1.55	2.79	84.25
BMO Prec Mtls Fd A		21.18	0.95	4.18	0.84	2.41	54.95
BMO ZGD	60.84	55.82	5.02	8.99	-1.88	0.61	135.44
BMO ZIG	59.29	54.80	4.49	8.19	-1.11	0.60	96.30
CIBC Prec Metal Fd A	13.08	11.88	1.19	10.05	2.96	2.43	51.92
Dyn Prec Metls Fd A		8.47	0.01	0.13	1.98	2.73	441.49
Harvest HGGG		23.93	0.73	2.85	3.98	0.01	5.13
Horizons HEP		27.36	1.13	3.88	0.40	0.83	
IG MacGbpPreMetCl A	11.75	10.53	1.21	11.53	1.29	2.68	35.28
iShares XGD		15.53	1.01	6.08	1.99	0.61	907.20
Mac Prec Met Cl A	61.68	54.93	6.75	12.28	1.37	2.52	66.08
NBI PrecMetFd Invt		15.44	0.42	2.52	1.74	2.46	31.72
NPT Go&PrMinFd A		37.39	-0.75	-1.81	1.96	3.19	
NPT SilverEquiCl A		5.47	-0.17	-2.74	-3.41	2.98	
RBC GblPreMetFd A	44.90	41.46	3.44	8.31	1.79	2.13	383.21
Sentry Pre Met Fd A	35.17	33.59	1.58	4.69	0.19	2.32	166.01
TD Prec Mtl Fd Inv		40.16	1.76	4.08	2.19	2.26	135.62

THE NORTHERN MINER

GLOBAL MINING NEWS · SINCE 1915

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MINING STOCKS listed on
CANADIAN AND U.S. EXCHANGES
TRADING: MARCH 2–6, 2020

Stock	Exc	(100s) Volume	Week				12-month	
			High	Low	Last	Change	High	Low
A								
12 Exploration	C	0	0.00	0.00	0.15	unch	0.00	0.25 0.15
1911 Gold*	O	122	0.27	0.21	0.26	+	0.03	0.34 0.15
1911 Gold	V	238	0.38	0.29	0.37	+	0.09	0.49 0.22
Abacus Mining	V	561	0.12	0.09	0.11	+	0.02	0.15 0.04
Abacus Mining*	O	623	0.09	0.07	0.07	unch	0.00	0.11 0.03
Abcourt Mines	V	787	0.07	0.06	0.07	+	0.01	0.10 0.05
About Mines*	O	72	0.05	0.05	0.05	+	0.01	0.09 0.03
Aben Resources*	O	124	0.06	0.05	0.05	+	0.00	0.20 0.04
Aben Resources*	O	602	0.08	0.07	0.07	unch	0.00	0.27 0.06
Abitibi Royal*	O	3	14.15	0.00	13.79	+	1.34	15.51 8.01
Abitibi Royal*	V	14	19.75	17.22	18.25	+	0.80	20.55 10.62
AbraPlata Res*	O	1096	0.08	0.06	0.07	+	0.02	0.10 0.03
AbraPlata Res	V	2215	0.10	0.08	0.09	+	0.01	0.13 0.04
Academy Metals*	O	1	0.09	0.09	0.09	unch	0.00	0.96 0.09
Academy Metals*	V	16	0.21	0.17	0.17	-	0.04	0.14 0.11
Adamera Min*	O	84	0.03	0.02	0.03	+	0.00	0.04 0.01
Adamera Min	V	310	0.04	0.03	0.04	unch	0.00	0.05 0.02
Adex Mining	V	44	0.01	0.01	0.01	unch	0.00	0.02 0.01
Advance Gold	V	355	0.10	0.08	0.08	unch	0.00	0.29 0.03
Advantage Lith	V	220	0.33	0.30	0.30	-	0.01	0.61 0.14
Advantage Lith*	O	74	0.25	0.22	0.24	+	0.01	0.46 0.10
Adventus	V	121	0.84	0.73	0.84	+	0.02	1.16 0.73
Adventus*	O	12	0.60	0.56	0.60	+	0.00	0.90 0.53
AEX Gold	V	30	0.63	0.00	0.60	+	0.09	0.63 0.22
Affinity Metal*	O	142	0.18	0.14	0.18	+	0.01	0.20 0.04
African Gold	V	891	0.23	0.17	0.20	+	0.04	0.59 0.08
African Gold*	O	70	0.17	0.12	0.15	+	0.03	0.44 0.12
African Min*	O	55	0.00	0.00	0.00	unch	0.00	0.00 0.00
African Rainb*	O	9	11.05	0.00	11.05	unch	0.00	13.60 9.50
Aftermath Silv*	O	953	0.15	0.11	0.13	+	0.01	0.42 0.05
Agrico Eagle	T	6536	71.98	63.72	71.15	+	7.46	86.39 53.23
Agrico Eagle*	N	12510	53.73	47.73	53.06	+	5.53	64.88 39.66
AgrMinco*	O	515	0.00	0.00	0.00	unch	0.00	0.00 0.00
AJM Res	V	6	0.20	0.17	0.17	-	0.04	0.35 0.10
AJL Resources	C	346	0.40	0.25	0.34	+	0.06	1.34 0.05
Alacer Gold	T	5818	6.86	5.83	6.25	+	0.18	7.66 3.19
Alamos Gold	T	6237	8.78	7.62	8.68	+	0.87	10.12 5.63
Alamos Gold*	N	21300	6.55	5.69	6.49	+	0.66	7.78 4.17
Alaska Pac Egy*	O	770	0.00	0.00	0.00	unch	0.00	0.00 0.00
Alba Minerals*	O	0	0.02	0.01	0.02	unch	0.00	0.09 0.01
Alcoa*	N	47553	14.04	10.80	11.01	-	2.86	29.73 10.80
Aldebaran Res	V	81	0.26	0.24	0.26	unch	0.00	0.69 0.24
Alderion Iron*	O	29	0.14	0.13	0.13	-	0.01	0.27 0.12
Alderion Iron	T	187	0.19	0.16	0.17	-	0.01	0.37 0.15
Aldever Res	V	1	0.00	0.00	0.13	unch	0.00	0.38 0.05
Alexandra Cap*	O	163	0.36	0.24	0.27	+	0.02	0.60 0.22
Alexco Res*	X	8613	1.80	1.42	1.62	+	0.13	2.81 0.93
Alexco Res	T	2891	2.40	1.90	2.16	+	0.15	3.73 1.26
Algoid Res	V	32	0.07	0.06	0.07	+	0.02	0.29 0.05
Algoid Res*	O	5	0.04	0.04	0.04	+	0.00	0.13 0.04
Alianza Min	V	260	0.06	0.00	0.06	+	0.01	0.10 0.04
Alianza Min*	O	53	0.05	0.03	0.04	+	0.01	0.07 0.03
Alien Metals*	O	114	0.00	0.00	0.00	-	0.00	0.01 0.00
Alio Gold*	X	1395	0.76	0.64	0.65	+	0.03	0.94 0.51
Alio Gold	T	509	1.00	0.85	0.85	+	0.01	1.23 0.69
Allegiant Gold	V	108	0.15	0.12	0.14	+	0.02	0.23 0.07
Allegiant Gold*	O	237	0.12	0.08	0.12	+	0.02	0.18 0.04
Alliance Mng	V	41	0.01	0.01	0.01	unch	0.00	0.02 0.01
Alliance Res*	D	2910	7.19	6.05	6.17	-	0.57	20.78 5.96
Almaden Min	T	199	0.61	0.49	0.50	+	0.01	1.10 0.38
Almaden Min*	X	1803	0.42	0.37	0.37	+	0.01	0.82 0.28
Almadex Min*	O	195	0.17	0.14	0.14	-	0.01	0.45 0.13
Almadex Min	V	140	0.23	0.20	0.21	-	0.01	0.45 0.20
Almonty Ind*	O	40	0.44	0.00	0.34	+	0.05	0.81 0.29
Almonty Ind	T	1074	0.59	0.41	0.43	+	0.07	1.10 0.36
Aloro Mining*	O	200	0.03	0.00	0.02	unch	0.00	0.16 0.02
Aloro Mining	V	801	0.04	0.03	0.03	unch	0.00	0.11 0.03
Alpha Lithium	V	136	0.51	0.41	0.50	+	0.10	0.51 0.06
Alpha Lithium*	O	4	0.35	0.33	0.35	+	0.05	0.35 0.19
Alphamin Res	V	68	0.18	0.18	0.18	-	0.01	0.28 0.15
Alphamin Res*	O	17	0.15	0.13	0.13	-	0.01	0.20 0.12
Aital Resource	V	118	0.05	0.05	0.05	unch	0.00	0.12 0.05
Aital Resource*	O	2	0.03	0.03	0.03	unch	0.00	0.08 0.02
Altair Res Inc*	O	1	0.00	0.00	0.00	unch	0.00	0.02 0.00
Altair Res Inc	V	1200	0.01	0.01	0.01	unch	0.00	0.07 0.01
Altamira Gold	V	169	0.07	0.05	0.07	+	0.02	0.12 0.04
Altamira Gold*	O	107	0.04	0.03	0.04	-	0.01	0.08 0.03
Altan Nevada	V	656	0.03	0.02	0.02	-	0.01	0.07 0.02
Altan Rio Min	V	40	0.02	0.02	0.02	unch	0.00	0.02 0.01
Altiplano Met	V	150	0.08	0.08	0.08	unch	0.00	0.17 0.05
Altiplano Met*	O	20	0.05	0.05	0.05	unch	0.00	0.09 0.05
Altius Mnrls	T	561	9.77	9.00	9.11	-	0.02	13.76 9.01
Altius Mnrls*	O	182	7.32	6.70	6.79	-	0.00	10.28 6.70
Alto Ventures*	O	125	0.02	0.02	0.02	unch	0.00	0.04 0.01
Alto Ventures	V	1627	0.03	0.02	0.03	+	0.01	0.04 0.02
Altura Mining*	O	157	0.10	0.02	0.04	+	0.06	0.11 0.02
Altus Strat	V	24	0.61	0.00	0.56	unch	0.00	0.68 0.30
Alumina Ltd*	O	362	5.18	4.59	4.63	-	0.38	7.62 4.80
ALX Resources	V	931	0.04	0.00	0.03	+	0.01	0.08 0.03
ALX Resources*	O	358	0.03	0.00	0.03	+	0.02	0.06 0.01
AM Resources	V	48	0.04	0.04	0.04	+	0.01	0.16 0.04
Amanta Res*	O	1	0.00	0.00	0.00	unch	0.00	0.00 0.00
Amarc Res*	O	1580	0.03	0.03	0.03	+	0.00	0.06 0.02
Amarc Res	V	712	0.05	0.05	0.05	+	0.01	0.08 0.03
Amarillo Gold	V	423	0.21	0.19	0.20	+	0.01	0.29 0.16
Amarillo Gold*	O	317	0.15	0.14	0.15	-	0.00	0.22 0.11
Amer Intl Vent*	O	61	0.00	0.00	0.00	+	0.00	0.02 0.00
American Batt*	O	773	0.16	0.15	0.15	+	0.02	0.40 0.08
American Creek*	O	621	0.06	0.04	0.06	+	0.02	0.09 0.02
American Creek	V	1136	0.09	0.06	0.07	+	0.01	0.11 0.03
American CuiMo*	O	98	0.04	0.03	0.04	+	0.00	0.10 0.00
American Lith	V	1546	0.37	0.25	0.34	+	0.11	0.50 0.09
American Lith*	O	2426	0.28	0.18	0.26	+	0.07	0.38 0.06
American Mang*	O	504	0.16	0.12	0.13	-	0.00	0.24 0.10
American Mang	V	219	0.20	0.17	0.17	-	0.02	0.31 0.13
American Pac	C	1010	0.05	0.04	0.04	unch	0.00	0.31 0.03
American Pac*	O	245	0.03	0.03	0.03	+	0.00	0.24 0.02
AmericanSierra*	O	37	0.01	0.01	0.01	-	0.00	0.03 0.01
Americas Silver	X	4546	2.55	2.15	2.23	+	0.02	3.92 1.46
Americas Silver	T	2670	3.38	2.91	3.00	+	0.15	5.19 1.96
Amigo Res	T	1142	0.36	0.26	0.27	-	0.04	1.15 0.27
Amigo Res*	O	581	0.25	0.19	0.19	-	0.04	0.87 0.20
Amex Expl*	O	141	1.27	1.08	1.14	+	0.06	1.44 0.44
Amex Expl	V	634	1.71	1.45	1.51	+	0.05	1.90 0.58
Amliot Capital	V	334	0.03	0.01	0.03	unch	0.00	0.06 0.01
Amliot Capital*	O	0	0.00	0.00	0.05	unch	0.00	0.05 0.05
Anaconda Mng*	O	119	0.16	0.14	0.15	+	0.01	0.27 0.14
Anaconda Mng	T	868	0.22	0.20	0.21	+	0.02	0.36 0.18
Andes Gold*	O	1340	0.02	0.01	0.01	+	0.00	0.02 0.00
Andrew Mng*	O	1060	0.00	0.00	0.00	unch	0.00	0.00 0.00
Anfield Energy*	O	107	0.06	0.04	0.06	+	0.01	0.20 0.04
Anfield Energy	V	470	0.08	0.06	0.08	+	0.02	0.26 0.06
Angel Gold*	O	0	0.01	0.00	0.01	unch	0.00	0.03 0.01
Angel Gold	V	113	0.02	0.02	0.02	-	0.01	0.04 0.02
Angkor Gold*	O	50	0.07	0.07	0.07	unch	0.00	0.12 0.06
Angkor Res	V	154	0.10	0.09	0.09	+	0.01	0.17 0.08
Anglo American*	O	34	24.82	0.00	24.03	+	1.08	29.51 20.49
Anglo American*	O	2518	12.56	10.90	11.09	-	0.55	14.81 10.07
Anglo Pac Grp	T	4	3.24	2.19	2.19	-	0.01	4.20 2.20
AngloGold Ash*	N	1	20.83	20.15	20.80	+	0.65	22.96 17.07
Angus Ventures	N	22458	21.63	17.90	21.06	+	3.61	23.85 11.29
Antioquia Gold	O	200	0.03	0.03	0.03	unch	0.00	0.03 0.01
Antioquia Gold*	O	184	0.04	0.03	0.04	+	0.01	0.04 0.02
Antler Gold	V	264	0.14	0.12	0.14	+	0.04	0.18 0.04
Antofagasta*	O	15	10.11	9.45	9.50	-	0.18	13.24 9.45
Apex Res	V	197	0.08	0.06	0.08	+	0.02	0.43 0.04
Appia Energy	C	171	0.24	0.18	0.18	-	0.07	0.39 0.11
Appia Energy*	O	151	0.18	0.13	0.14	-	0.05	0.30 0.09
Applied Min*								

Stock	Exc	(100s) Volume	Week				12-month	
			High	Low	Last	Change	High	Low
Emgold Mining	V	896	0.08	0.06	0.06	- 0.02	0.20	0.05
Empire Metals	V	9	0.13	0.00	0.13	unch	0.00	0.20
Empress Res	V	187	0.03	0.00	0.03	+ 0.01	0.07	0.02
EMX Royalty	V	137	2.48	2.01	2.18	+ 0.05	2.77	1.43
EMX Royalty*	X	951	1.79	1.53	1.61	+ 0.04	2.12	1.08
Encanto Potash*O	1	0.06	0.06	0.06	0.06	unch	0.00	0.11
Encanto Potash V	266	0.06	0.05	0.05	- 0.02	0.17	0.05	
EniCore Energy	V	1064	0.15	0.12	0.14	+ 0.02	0.22	0.09
Endeavour Mng T	2103	25.12	23.11	23.66	- 0.04		29.18	17.24
Endeavour Mng*O	56	18.68	17.39	17.53	- 0.28	21.86	13.34	
Endeavor Silver*	N	13343	1.85	1.52	1.80	+ 0.24	3.20	1.44
Endeavor Silver*	T	1655	2.48	2.04	2.42	+ 0.28	4.26	1.94
Endurance Gold*O	50	0.04	0.03	0.04	+ 0.00	0.04	0.02	
Endurance Gold V	68	0.05	0.05	0.05	+ 0.01	0.07	0.03	
Energy Fuels*	X	8874	1.44	1.14	1.23	+ 0.05	3.73	1.04
Energy Fuels	T	1372	1.93	1.54	1.64	- 0.01	4.97	1.40
Engineer Gold	V	249	0.05	0.05	0.05	- 0.01	0.14	0.05
Engold Mines	V	703	0.04	0.03	0.04	unch	0.00	0.12
Engold Mines*	O	165	0.03	0.00	0.03	- 0.00	0.09	0.02
Ensurge*	O	77	0.03	0.03	0.03	unch	0.00	0.06
Entree Res*	O	209	0.29	0.23	0.25	+ 0.02	0.42	0.05
Entree Res	T	290	0.38	0.31	0.34	+ 0.02	0.53	0.22
Equinox Gold*	X	3481	9.09	7.44	8.75	+ 1.45	10.30	5.20
Equinox Gold T	4871	12.13	9.99	11.73	+ 2.00		13.52	4.90
Equitorial Ex	V	402	0.01	0.01	0.01	unch	0.00	0.06
Equity Metals*	O	9	0.06	0.04	0.06	unch	0.00	0.09
Equity Metals	V	255	0.07	0.04	0.06	unch	0.00	0.11
Erdene Res Dev T	554	0.26	0.22	0.23	+ 0.02	0.32	0.16	
Erdene Res Dev*O	150	0.19	0.16	0.18	+ 0.03	0.24	0.12	
Erin Ventures*	O	10	0.04	0.03	0.03	unch	0.00	0.11
Erin Ventures	V	125	0.06	0.00	0.05	+ 0.01	0.15	0.04
Ero Copper*	T	1240	15.09	13.06	13.41	- 0.98	25.69	13.27
Eros Res Corp*	O	55	11.29	9.88	9.99	- 0.65	19.20	9.99
Eros Res Corp*	O	1	0.08	0.00	0.08	unch	0.00	0.99
Eros Res Corp	V	102	0.10	0.00	0.10	+ 0.01	0.12	0.05
Eros Res Corp	V	102	0.10	0.00	0.10	+ 0.01	0.12	0.05
Esday Mng*	O	92	0.18	0.12	0.16	- 0.03	0.27	0.04
Esday Mng	V	455	0.25	0.17	0.21	+ 0.03	0.38	0.07
Essex Minerals	V	70	0.30	0.12	0.17	- 0.14	0.35	0.10
Ethos Gold*	O	123	0.09	0.08	0.08	- 0.02	0.24	0.08
Ethos Gold	V	140	0.12	0.11	0.11	- 0.01	0.32	0.11
Etruscar Res	C	197	0.33	0.23	0.25	+ 0.02	0.50	0.17
Euro ManganeseV	138	0.14	0.12	0.12	- 0.01	0.27	0.10	
Euro Sun Mg*	O	90	0.25	0.17	0.20	+ 0.02	0.83	0.02
Euro Sun Mg	T	780	0.27	0.24	0.25	+ 0.01	1.10	0.21
EuroMax Res*	O	80	0.02	0.01	0.01	- 0.01	0.14	0.01
EuroMax Res	T	115	0.03	0.02	0.02	- 0.01	0.17	0.02
European Elect*O	109	0.02	0.01	0.01	- 0.00	0.09	0.00	
European Elect V	50	0.02	0.02	0.02	unch	0.00	0.12	0.01
European Metal*O	0	0.00	0.00	0.00	unch	0.00	1.00	0.00
Eurofin	V	125	0.03	0.03	0.03	unch	0.00	0.04
Evergold	V	388	0.34	0.28	0.32	+ 0.04	0.38	0.17
Evergold*	O	214	0.26	0.24	0.25	- 0.01	0.29	0.15
Everton Res*	O	4	0.03	0.03	0.03	unch	0.00	0.03
EVI Global Grp	C	1415	0.14	0.09	0.10	- 0.01	1.64	0.09
Evolving Gold	C	66	0.04	0.00	0.02	- 0.01	0.07	0.01
Evolving Gold*	O	8	0.01	0.00	0.01	+ 0.01	0.06	0.00
Evrim Res	V	310	0.33	0.30	0.31	unch	0.00	0.40
Excillon Res*	O	394	0.49	0.38	0.45	+ 0.06	1.15	0.37
Excillon Res	T	1101	0.65	0.52	0.58	+ 0.09	1.51	0.49
Excelsior Mng*	O	339	0.65	0.55	0.55	- 0.01	0.94	0.52
Excelsior Mng	T	522	0.88	0.74	0.75	unch	0.00	1.23
ExGen Res Inc V	333	0.01	0.01	0.01	unch	0.00	0.02	0.01
Explores Res*	O	0	0.00	0.00	0.12	unch	0.00	0.23
Fabled Copper	V	100	0.08	0.08	0.08	- 0.01	0.08	0.02
Falco Res	V	390	0.29	0.25	0.27	+ 0.04	0.36	0.19
Falco Res *	O	39	0.27	0.20	0.27	+ 0.08	0.28	0.10
Falcon Gold	V	882	0.04	0.04	0.04	unch	0.00	0.06
Fancamp Expl	V	254	0.05	0.04	0.05	unch	0.00	0.11
Far Res	C	987	0.04	0.03	0.04	+ 0.01	0.15	0.03
Far Res*	O	50	0.03	0.03	0.03	+ 0.00	0.11	0.02
Fidelity Min*	O	2	0.02	0.02	0.02	unch	0.00	0.26
Fidelity Min	V	229	0.04	0.03	0.03	- 0.01	0.40	0.03
Fieldex Expl	V	365	0.07	0.06	0.07	+ 0.02	0.09	0.04
Filo Mg Corp	V	371	1.89	1.69	1.70	- 0.11	3.25	1.69
Filo Mg Corp *	O	39	1.35	0.00	1.35	+ 0.02	2.31	1.29
Finlay Minnirs	V	36	0.06	0.05	0.06	+ 0.01	0.07	0.03
Flore Gold*	O	812	0.42	0.35	0.38	+ 0.02	0.51	0.18
Flore Gold	V	2055	0.55	0.47	0.51	+ 0.04	0.67	0.26
Fire River Gol*	O	101	0.03	0.00	0.03	+ 0.03	0.38	0.00
FireFox Gold	V	224	0.06	0.05	0.05	- 0.01	0.30	0.05
Firestone Vent	V	74	0.07	0.05	0.07	+ 0.02	0.10	0.04
Fireweed Zinc	V	223	0.61	0.46	0.50	+ 0.02	0.97	0.45
Fireweed Zinc*	O	17	0.45	0.42	0.42	+ 0.07	0.70	0.34
Firma Holdings*	O	155	0.01	0.00	0.00	- 0.00	0.03	0.00
First Cobalt*	O	489	0.11	0.09	0.10	- 0.00	0.18	0.08
First Cobalt	V	1135	0.14	0.13	0.13	unch	0.00	0.25
First Colombia*	O	4509	0.00	0.00	0.00	- 0.00	0.00	0.00
First Energy	C	97	0.08	0.07	0.07	- 0.01	0.20	0.04
First Energy*	O	0	0.00	0.00	0.06	unch	0.00	0.16
First Majestic	N	29152	8.49	7.58	7.92	+ 0.38	12.69	5.48
First Majestic	T	5859	11.34	10.19	10.63	+ 0.50	16.50	7.38
First Mexican	V	29	0.15	0.11	0.11	- 0.01	0.15	0.00
First Mg Fin	T	4941	0.23	0.20	0.20	- 0.01	0.41	0.19
First Mg Fin *	O	4877	0.17	0.15	0.15	- 0.00	0.30	0.14
First Point*	O	130	0.16	0.15	0.15	+ 0.00	0.16	0.08
First Quantum	T	14538	10.19	8.70	8.96	- 0.96	16.63	7.84
First Vanadium	V	335	0.30	0.19	0.24	+ 0.05	0.83	0.17
First Vanadium*	O	388	0.22	0.15	0.18	+ 0.04	0.70	0.12
Fission 3.0	V	365	0.05	0.00	0.04	+ 0.01	0.14	0.04
Fission 3.0*	O	125	0.04	0.02	0.03	- 0.00	0.10	0.02
Fission Uran*	O	504	0.18	0.16	0.17	- 0.00	0.45	0.15
Fission Uran	T	1867	0.24	0.22	0.23	- 0.01	0.59	0.21
Fjordland Exp*	O	29	0.03	0.03	0.03	- 0.01	0.07	0.02
Fjordland Exp	V	517	0.06	0.05	0.05	+ 0.01	0.09	0.03
Focus Graphite*O	337	0.02	0.01	0.02	+ 0.00	0.03	0.01	
Focus Graphite V	1130	0.03	0.02	0.02	- 0.01	0.04	0.01	
Foran Mng	V	202	0.22	0.14	0.17	- 0.05	0.35	0.14
Forsys Metals	T	156	0.11	0.09	0.10	- 0.01	0.29	0.09
Fort St J Nick	V	4	0.11	0.00	0.11	unch	0.00	0.25
Fort St James*	O	0	0.00	0.00	0.08	unch	0.00	0.13
Fortescue Met*	O	39	6.46	5.82	6.46	+ 0.20	8.89	4.53
Fortuna Silvr	T	3011	4.59	3.95	4.44	+ 0.51	6.12	3.22
Fortuna Silvr*	N	17152	3.43	2.96	3.32	+ 0.37	4.59	2.39
Fortune Bay	V	290	0.55	0.00	0.43	+ 0.01	0.60	0.22
Fortune Bay*	O	2	0.32	0.00	0.32	+ 0.03	0.45	0.14
Fortune Mnrls*	O	212	0.06	0.04	0.05	- 0.00	0.11	0.04
Fortune Mnrls	T	468	0.08	0.06	0.06	- 0.01	0.15	0.06
Forum Energy	V	775	0.10	0.10	0.10	unch	0.00	0.11
Forum Energy*	O	81	0.08	0.06	0.08	+ 0.01	0.08	0.02
Fox River Res	O	6	0.05	0.05	0.05	unch	0.00	0.07
Fox River Res	C	31	0.12	0.08	0.12	+ 0.04	0.12	0.04
FPX Nickel	V	989	0.22	0.18	0.20	+ 0.05	0.23	0.10
Franco-Nevada*	N	5015	122.31	107.19	115.08	+ 11.58	122.65	69.16
Franco-Nevada T	4773	163.80	143.45	159.73	+ 15.63	163.20	93.24	
Franklin Mng*	O	396	0.00	0.00	0.00	+ 0.00	0.10	0.00
Freegold Vent	T	1466	0.06	0.05	0.05	- 0.01	0.12	0.04
Freeport McMoRn	T	174269	10.80	9.26	9.43	- 0.53	14.88	8.43
Freeport Res	V	25	0.05	0.05	0.05	unch	0.00	0.15
Fremont Gold	V	115	0.08	0.07	0.07	+ 0.01	0.14	0.04
Fremont Gold*	O	52	0.06	0.05	0.05	+ 0.01	0.12	0.04
Fresnillo plc*	O	76	8.80	7.75	8.70	+ 0.52	11.91	6.89
Fresnillo Lith	V	221	0.25	0.21	0.21	+ 0.02	0.40	0.16
Frontline Gold	V	139	0.01	0.01	0.01	+ 0.01	0.02	0.01
Full Metal Mnl*	O	2	0.00	0.00	0.00	unch	0.00	0.01
Fura Gems	V	188	0.11	0.09	0.09	- 0.02	0.39	0.09
Fura Gems*	O	104	0.08	0.07	0.07	+ 0.00	0.29	0.09

STOCK TABLES

Stock	Exc	Volume	(100s)				Week		12-month	
			High	Low	Last	Change	High	Low	High	Low
MGX Minerals*	O	593	0.08	0.06	0.07	-	0.00	0.30	0.03	
MGX Minerals*	C	435	0.01	0.09	0.09	-	0.01	0.40	0.04	
Mild Resources	C	48	0.25	0.25	0.25	-	0.01	0.50	0.08	
Midco Silver*	O	897	0.56	0.49	0.54	+	0.03	0.91	0.49	
Midco Silver*	O	1364	0.43	0.37	0.39	+	0.01	0.68	0.37	
Midland Expl	V	39	0.77	0.65	0.70	+	0.02	1.46	0.65	
Midnight Sun*	O	99	0.08	0.08	0.08	+	0.00	0.11	0.07	
Midnight Sun	V	46	0.12	0.11	0.11	-	0.02	0.14	0.10	
Millennial Lit*	O	63	0.95	0.72	0.82	+	0.03	1.50	0.69	
Millennial Lit	V	92	1.29	1.00	1.11	+	0.02	1.92	0.98	
Millrock Res*	O	805	0.14	0.11	0.13	+	0.02	0.16	0.05	
Millrock Res	V	625	0.18	0.14	0.17	+	0.04	0.21	0.07	
Miner Con Silv	V	30	0.02	0.02	0.02	unch	0.00	0.08	0.02	
Mineraurum Gold	V	340	0.41	0.35	0.35	-	0.02	0.55	0.32	
Mineraurum Gold*	O	373	0.33	0.27	0.28	-	0.00	0.43	0.23	
Minco Silver*	O	73	0.41	0.31	0.39	+	0.05	0.73	0.28	
Minco Silver*	T	243	0.55	0.42	0.49	+	0.14	0.99	0.35	
Minera Alamos*	O	1390	0.23	0.19	0.20	+	0.02	0.27	0.07	
Minera Alamos	V	3520	0.30	0.25	0.27	+	0.03	0.33	0.10	
Minera IRL*	O	150	0.14	0.11	0.14	+	0.02	0.15	0.10	
Minera IRL	C	213	0.18	0.14	0.18	+	0.03	0.21	0.06	
Mineral Mtn*	O	104	0.34	0.28	0.29	+	0.04	0.43	0.07	
Mineral Mtn	V	1194	0.43	0.35	0.39	-	0.04	0.53	0.10	
MineralRite*	O	1000	0.00	0.00	0.00	unch	0.00	0.00	0.00	
Minework Tech	V	1101	0.13	0.10	0.13	+	0.01	0.24	0.07	
Minework Tech*	O	266	0.10	0.08	0.10	+	0.02	0.18	0.06	
Minifocus Expl	V	36	0.05	0.04	0.04	-	0.01	0.09	0.04	
Minifocus Expl*	O	2	0.04	0.00	0.04	+	0.01	0.07	0.02	
Mining Corp*	O	5050	0.00	0.00	0.00	-	0.00	0.00	0.00	
Minnova Global	V	15	0.08	0.07	0.07	-	0.01	0.20	0.06	
Minsud Res*	O	773	0.06	0.06	0.06	unch	0.00	0.06	0.04	
Minsud Res	V	10	0.07	0.07	0.07	unch	0.00	0.15	0.01	
Miramont Res*	O	65	0.06	0.05	0.05	-	0.00	0.48	0.05	
Miramont Res	C	314	0.08	0.07	0.08	unch	0.00	0.63	0.07	
Miraso Res	V	193	0.49	0.43	0.43	-	0.02	1.14	0.42	
Mirastore River	C	649	0.11	0.08	0.11	+	0.04	0.11	0.01	
Mikango Res	V	52	0.13	0.11	0.11	-	0.02	0.19	0.09	
ML Gold*	O	35	0.09	0.09	0.09	+	0.01	0.54	0.06	
ML Gold Corp	V	191	0.12	0.09	0.11	unch	0.00	0.77	0.09	
Monarca Mnrs*	O	10	0.02	0.02	0.02	+	0.00	0.06	0.02	
Monarca Mnrs	V	67	0.04	0.03	0.03	-	0.01	0.08	0.03	
Monarch Gold	T	790	0.20	0.18	0.18	-	0.01	0.33	0.17	
Monarch Gold*	O	324	0.15	0.13	0.14	+	0.00	0.24	0.13	
Moneta Porcpn*	O	29	0.08	0.07	0.07	-	0.01	0.11	0.06	
Moneta Porcpn	T	1476	0.11	0.08	0.08	-	0.01	0.14	0.09	
Mongosso Mng	C	5	0.14	0.11	0.14	unch	0.00	0.15	0.11	
Monitor Vent	V	5	0.16	0.00	0.16	-	0.01	0.25	0.14	
Monitor Vent*	O	0	0.00	0.00	0.12	unch	0.00	0.22	0.10	
Monterey Min	C	970	0.05	0.04	0.04	-	0.01	0.13	0.04	
Montero Mng&X	V	1	0.00	0.00	0.02	unch	0.00	0.20	0.02	
Monument Mng	V	2137	0.07	0.05	0.06	+	0.02	0.07	0.03	
Morlen Res*	O	109	0.43	0.39	0.39	+	0.03	0.50	0.25	
Morlen Res	V	172	0.58	0.50	0.55	+	0.06	0.65	0.33	
Mosaic*	N	36273	17.85	14.13	14.30	-	2.73	29.16	14.13	
Mount Gibson*	O	10	0.50	0.50	0.50	unch	0.00	0.65	0.50	
Mountain Boy*	O	23	0.19	0.13	0.13	-	0.06	0.21	0.11	
Mountain Boy	V	20	0.25	0.19	0.24	unch	0.00	0.28	0.16	
Mountain Prov	T	256	0.99	0.81	0.82	-	0.08	1.65	0.82	
Mountain Prov*	O	64	0.72	0.00	0.61	-	0.06	0.86	0.61	
Mundooro Cap	V	357	0.16	0.14	0.16	+	0.01	0.25	0.10	
Mundooro Cap	C	23	0.12	0.00	0.12	+	0.01	0.19	0.04	
Murchison Min	V	142	0.12	0.09	0.11	+	0.02	0.18	0.04	
MX Gold*	O	210	0.01	0.00	0.01	+	0.00	0.01	0.00	

N-O

NA Frac Sand*	O	41	0.01	0.01	0.01	+	0.00	0.03	0.01
NACCO Ind*	N	73	42.88	34.20	36.23	-	4.99	66.40	34.20
Namibia Crit	V	169	0.18	0.15	0.16	+	0.01	0.31	0.08
Namibia Crit*	O	202	0.14	0.11	0.12	+	0.01	0.24	0.06
Napier Vent	V	93	0.09	0.09	0.09	-	0.01	0.30	0.09
Napier Vent*	O	2	0.07	0.07	0.07	unch	0.00	0.28	0.07
Natural Res Pt*	N	243	14.15	13.10	13.41	-	0.39	44.71	12.86
Nautilus Mnrs*	O	425	0.01	0.00	0.01	-	0.00	0.04	0.00
Nao Lithium	V	693	0.75	0.59	0.72	+	0.03	1.13	0.39
Network Expl*	O	18	0.16	0.13	0.16	+	0.02	0.45	0.13
Network Expl	V	170	0.24	0.18	0.20	+	0.01	0.54	0.18
Nevada Copper	T	1790	0.26	0.20	0.24	unch	0.00	0.47	0.19
Nevada Energy	O	11	0.08	0.07	0.08	+	0.01	0.17	0.06
Nevada Energy	V	33	0.10	0.00	0.05	-	0.06	0.16	0.05
Nevada Expl*	O	203	0.20	0.17	0.18	-	0.00	0.30	0.11
Nevada Expl	V	145	0.27	0.24	0.24	unch	0.00	0.39	0.15
Nevada Sunrise*	O	93	0.03	0.02	0.03	+	0.00	0.07	0.02
Nevada Sunrise	V	46	0.04	0.04	0.04	unch	0.00	0.10	0.04
Nevada Zinc	V	315	0.06	0.00	0.06	unch	0.00	0.12	0.03
Nevado Res	V	1	0.00	0.00	0.08	unch	0.00	0.20	0.08
New Age Metals*	O	312	0.06	0.04	0.05	+	0.00	0.11	0.02
New Age Metals V	V	2230	0.08	0.06	0.06	unch	0.00	0.15	0.03
New Carolin Gd*	O	168	0.04	0.03	0.03	-	0.01	0.13	0.03
New Carolin Gd V	V	241	0.05	0.04	0.05	+	0.01	0.17	0.04
New Destiny Mng V	8	0.03	0.03	0.03	unch	0.00	0.17	0.03	
New Dimen Res*	V	853	0.03	0.02	0.03	-	0.01	0.06	0.02
New Dimen Res*	O	4	0.02	0.02	0.02	-	0.01	0.04	0.02
New Energy MetV	V	456	0.04	0.03	0.04	unch	0.00	0.32	0.02
New Energy Met*	O	23	0.03	0.00	0.00	-	0.03	0.26	0.00
New Gold	T	7827	1.24	0.87	1.11	+	0.08	2.03	0.82
New Gold*	X	15652	0.92	0.80	0.83	+	0.04	1.56	0.61
New Guinea Gld*	O	211	0.00	0.00	0.00	+	0.00	0.02	0.00
New Jersey MngC	3	0.27	0.27	0.27	unch	0.00	0.27	0.15	
New Jersey Mng*	O	596	0.16	0.14	0.16	+	0.02	0.20	0.11
New Mill Iron	O	189	0.04	0.04	0.04	unch	0.00	0.07	0.03
New Mill Iron T	T	718	0.07	0.06	0.06	-	0.01	0.10	0.05
New Oropert	V	59	0.77	0.73	0.77	+	0.07	0.85	0.22
New Pac Metals*	O	492	4.80	3.56	3.81	-	0.10	5.60	1.24
New Pac Metals V	V	492	5.78	4.78	5.15	-	0.26	6.98	1.66
New Stratus	V	50	0.14	0.14	0.14	unch	0.00	0.25	0.13
New Tech Min*	O	5	0.03	0.03	0.03	unch	0.00	0.03	0.01
New Tech Min C	C	31	0.04	0.03	0.04	+	0.01	0.05	0.01
Newfox Gold	C	565	0.05	0.05	0.05	unch	0.00	0.10	0.03
Newmont Corp	T	2191	70.41	60.75	70.05	+	10.85	70.12	40.01
Newmont Corp*	N	63352	52.50	45.39	52.35	+	7.72	52.50	29.77
Newport Expl	V	115	0.44	0.37	0.38	+	0.02	0.45	0.26
Newport Gold*	O	100	0.00	0.00	0.00	unch	0.00	0.04	0.00
NewRange Gold*	O	245	0.11	0.08	0.09	-	0.02	0.15	0.07
NewRange Gold V	V	589	0.15	0.11	0.12	-	0.03	0.21	0.10
Nexa Resources	T	13	9.97	8.71	8.82	-	1.31	17.05	8.71
Nexa Resources*	N	577	7.51	6.49	6.65	-	0.69	12.80	6.49
Nexco Res	C	75	0.04	0.03	0.03	-	0.01	0.08	0.03
Nexgen Energy*	X	1958	1.02	0.87	0.91	-	0.01	1.84	0.85
Nexgen Energy	T	1649	1.35	1.17	1.21	+	0.02	2.45	1.15
NextSource Mat T	V	965	0.05	0.04	0.04	-	0.01	0.12	0.03
Nexus Gold*	O	90	0.04	0.00	0.04	+	0.00	0.11	0.03
Nexus Gold	V	1050	0.06	0.05	0.05	-	0.01	0.14	0.04
NGEx Minerals*	O	80	0.27	0.00	0.25	-	0.02	0.32	0.20
NGEx Minerals	V	262	0.35	0.32	0.34	+	0.03	0.66	0.27
Nickel Creek	T	880	0.08	0.06	0.07	unch	0.00	0.15	0.03
Nickel Creek*	O	353	0.08	0.05	0.06	+	0.00	0.10	0.02
Nickel North	V	100	0.01	0.01	0.01	unch	0.00	0.03	0.01
Nicola Mng Inc	V	504	0.10	0.08	0.09	unch	0.00	0.14	0.08
Nicola Mng Inc*	O	23	0.06	0.06	0.06	-	0.00	0.11	0.06
Nighthawk Gold*	O	38	1.66	1.41	1.45	+	0.13	2.01	0.23
Nighthawk Gold T	T	296	2.24	1.85	1.95	+	0.16	3.65	1.55
Niobay Metals	V	244	0.38	0.30	0.33	-	0.02	0.53	0.15
Niocoan Inc	V	13	0.19	0.13	0.18	unch	0.00	0.28	0.11
Niocomp Dev	T	834	0.81	0.62	0.65	+	0.07	0.94	0.50
Niocomp Dev*	O	1491	0.61	0.46	0.48	+	0.04	0.72	0.36
Nippon Dragon	V	164	0.05	0.04	0.04	unch	0.00	0.05	0.02
Nippon Dragon*	O	175	0.04	0.02	0.03	-	0.01	0.04	0.01
Noble Metal	V	500	0.01	0.01	0.01	unch	0.00	0.01	0.01
Noble Metal*	O	1	0.00	0.00	0.00	unch	0.00	0.01	0.00
Noble Mineral*	O	112	0.06	0.04	0.04	-	0.02	0.10	0.04
Noble Mineral	V	1874	0.08	0.05	0.05	-	0.04	0.14	0.05
Noble Mineral*	O	6	0.06	0.06	0.06	unch	0.00	0.13	0.04
Noka Res*	O	545	0.07	0.05	0.06	+	0.00	0.20	0.05
Noram Vent*	O	1	0.11	0.00	0.11	+	0.01	0.14	0.04
Noram Vent	V	250	0.17	0.15	0.16	+	0.02	0.21	0.05
Noranda Alum*	O	3	0.00	0.00	0.00	-	0.00	0.02	0.00
Noront Res*	O	355	0.15	0.11	0.13	+	0.02	0.21	0.11
Noront Res	V	4473	0.19	0.12	0.16	+	0.02	0.28	0.12
Norra Metals	V	642	0.04	0.03	0.03	-	0.01	0.06	0.02
Norsemont Cap	C	15	0.30	0.30	0.30	unch	0.00	0.43	0.27
Nortec Mnls*	O	0	0.01	0.01	0.01	unch	0.00	0.02	0.00
Nortec Mnls	V	630	0.02	0.01	0.01	unch	0.00	0.05	0.01
North Am Nickl	O	30	0.13	0.00	0.13	+	0.01	0.35	0.10
North Am Nickl*	V	8	0.10	0.09	0.10	-	0.00	0.29	0.02
North Arrow Mn*	O	6	0.05	0.05	0.05	unch	0.00	0.08	0.03
North Arrow Mn V	V	95	0.05	0.05	0.05	+	0.01	0.10	0.04
North Bay Springs*	O	2530	0.00	0.00	0.00	unch	0.00	0.00	0.00
North Springs*	O	0	0.00	0.00	0.01	unch	0.00	0.03	0.00
Northcliff Res	T	154	0.06	0.06	0.06	unch	0.00	0.09	0.05
Northern Light	C	486	0.06	0.04	0.04	-	0.02	0.07	0.02
Northern Uran	V	15	0.01	0.01	0.01	+	0.01	0.01	0.01
Northeast C&G	V	35	0.06	0.00	0.04	-	0.01	0.11	0.01
Northeast C&G*	O	9	0.03	0.02	0.02	-	0.01	0.06	0.02
Norstar Gold	C	212	0.36	0.30	0.35	+	0.07	0.36	0.19
Northern Res	V	200	0.08	0.07	0.08	-	0.02	0.14	0.07
Norvsta Cap	V	272	0.09	0.07	0.07	-	0.02	0.13	0.07

BID-ASK — MARCH 2-6, 2020

STOCK	EXC	BID	ASK	LAST	12-MONTH		STOCK	EXC	BID	ASK	LAST	12-MONTH		STOCK	EXC	BID	ASK	LAST	12-MONTH	
					HIGH	LOW						HIGH	LOW						HIGH	LOW
12 Exploration	C	0.05	...	0.15	0.25	0.15	GK Resources	V	1.00	1.00	0.26	0.30	0.15	Pac Arc Res	V	0.16	0.24	0.17	0.30	0.17
66 Resources	C	0.07	0.15	0.09	0.37	0.05	Global Cop Grp	V	0.07	0.08	0.08	0.11	0.04	Pac Bay Mnrls	V	0.10	0.14	0.15	0.15	0.06
African Metals	V	0.06	0.09	0.06			Global Vanad	V	0.17	0.24	0.24	0.28	0.16	Pac Cascade	V	0.01	0.02	0.01		
Aftermath Silv	V	0.24	0.25	0.25	0.33	0.05	Gold Rush Cari	V	0.01	0.02	0.01	0.15	0.01	Pac Imperial	V	0.01	0.02	0.01	0.03	0.01
Agula Amer Gd	V	0.14	0.30	0.17	0.24	0.15	Goldbelt Emp	V	0.01	0.01	0.02			Pacific Silk	V	0.01	0.03	0.01	0.04	0.01
Allante Res	V	0.20	...	0.16	0.19	0.15	Golden Cariboo	V	0.04	0.05	0.04	0.06	0.02	Pan Andean Min	V	0.05	0.09	0.09	0.10	0.03
Altair Res Inc	V	0.01	0.02	0.01	0.07	0.01	Goldstream Mnl	V	0.01	0.07	0.05	0.09	0.04	Patriot Gold	C	0.05	0.09	0.05	0.06	0.04
Alturas Min	V	...	0.01	0.01	0.02	0.01	Graphite Egy	C	0.04	0.04	0.47	1.35	0.04	Pedro Res	V	...	0.24	0.10	0.23	0.09
American CuMo	V	0.06	0.07	0.06			Gray Rock Res	V	0.05	0.08	0.05	0.15	0.04	Philippine Mtl	V	0.02	0.04	0.08	0.14	0.04
American Uran	V	0.06	0.24	0.06	0.06	0.06	Great Lakes Gr	V	0.05	0.05	0.04			Phoenix Gold	V	...	0.05	0.05	0.07	0.04
Amseco Expl	V	0.03	0.08	0.04	0.08	0.02	Great Quest Fe	V	0.08	0.08	0.10			ProAm Expl	V	0.07	0.17	0.07	0.12	0.05
AMV Capital	V	0.07	0.20	0.08	0.08	0.08	Green Arrow	V	0.02	0.03	0.02	0.04	0.02	Quantum Cobalt	C	...	...	1.10	3.15	0.20
Anconia Res	V	0.01	0.01	0.01	0.02	0.01	Greenshield Ex	V	0.12	0.20	0.15	0.22	0.00	Quartz Mtn Res	V	0.17	0.40	0.17	0.35	0.15
Anglo-Bornarc	V	0.08	0.08	0.15			Grenville Gold	C	0.08	0.10	0.08	0.35	0.06	Rare Element*	X	0.11	0.16	0.15	0.89	0.06
Antler Hill	V	0.06	0.06	0.06	0.09	0.04	Grosvenor Res	V	0.13	0.18	0.13	0.15	0.08	Razorock Rock Res	C	0.06	...	0.07	0.10	0.07
Arcturus Vent	V	0.50	0.50	0.50	0.97	0.05	GrowMax Res	V	0.03	0.04	0.09	0.13	0.08	Red Moon Res	V	0.08	0.11	0.08	0.24	0.01
Asbestos Corp	V	0.36	0.75	0.40	0.55	0.30	Guerrero Vents	V	0.42	0.42	0.38	0.48	0.09	Regency Gold	V	0.07	0.20	0.13	0.14	0.10
Astoria Res	V	0.16	0.18	0.20	0.30	0.09	HFX Holding	V	0.01	...	0.01	0.06	0.01	Reliant Gold	C	...	...	0.02		
Atlanta Gold	V	0.03	0.04	0.03	0.04	0.03	Highvista Gold	V	...	...	0.17			Remington Res	V	0.12	0.18	0.12	0.19	0.12
Atlantic Indus	V	0.01	0.02	0.01	0.02	0.01	IEMR Res	V	0.01	0.02	0.01	0.02	0.01	Rhyolite Res	V	0.06	0.10	0.07	0.26	0.06
Aurelius Min	V	0.13	0.14	0.14	0.15	0.03	IM Exploration	C	0.03	0.07	0.04	0.15	0.04	Riley Resource	V	0.13	0.24	0.11	0.21	0.11
Aurwest Res	C	0.02	0.04	0.04	0.14	0.02	Indico Res	V	...	0.01	0.01	0.01	0.01	Rizal Res	V	0.01	0.02	0.02	0.02	0.01
Austin Res	V	0.05	0.09	0.06	0.13	0.05	Infinite Lith	V	0.26	0.29	0.28	0.32	0.12	Rockex Mng	C	0.02	0.04	0.02	0.05	0.01
Balto Res	V	0.08	0.12	0.12	0.19	0.06	Inform Res	V	0.06	0.16	0.05	0.06	0.03	Rockland Mnls	V	0.07	0.08	0.08	0.11	0.01
Banro Corp*	X	0.11	0.11	0.11	2.10	0.10	Inspiration Mng	C	0.03	0.03	0.03			Rockwealth Res	V	0.46	0.98	0.46	0.50	0.13
Barker Min	V	0.01	0.01	0.01	0.01	0.01	Intact Gold	V	0.05	0.05	0.06	0.09	0.04	Rojo Res	V	...	0.29	0.19	0.19	0.16
Barrian Mining	V	0.10	0.10	0.13	0.27	0.10	Interconnect	V	0.06	0.35	0.06	0.07	0.04	Ross River	V	...	0.24	0.26		
BC Moly	V	0.05	0.21	0.05	0.07	0.04	Intl Battery	C	...	...	0.31			Roughrider Exp	V	0.08	0.08	0.06	0.09	0.06
BE Res	V	0.18	0.24	0.16	0.30	0.15	Intl Millm Mng	V	...	0.01	0.03			Rover Metals	V	0.04	0.04	0.07	0.08	0.05
BHK Mining	V	0.02	0.02	0.02			Iron South Mng	V	0.24	0.27	0.24	0.28	0.04	RTG Mining	V	0.06	0.08	0.07	0.12	0.07
Bird River Res	C	0.01	0.01	0.01	0.03	0.01	Jasper Mining	V	0.05	0.10	0.04	0.25	0.01	Rubicon Mnrls*	X	...	...	0.03	1.35	0.03
Black Mammoth	V	0.04	0.06	0.04	0.09	0.02	Kanadario Gold	V	0.13	0.25	0.15	0.25	0.15	Sage Gold	V	0.01	0.01	0.02		
Bond Resources	C	...	...	0.15	0.20	0.11	Kapuskasing Gd	V	0.07	0.07	0.10	0.14	0.03	Saint Jean	V	0.02	0.02	0.04	0.04	0.02
Boss Power	V	0.17	0.20	0.17			Karam Min	C	0.16	0.18	0.17	0.17	0.03	Samco Gold	V	0.03	...	0.05	0.07	0.04
Brigadier Gold	V	...	0.70	0.15	0.21	0.13	Kesselrun Res	V	0.04	0.05	0.04	0.07	0.03	Scotch Creek	C	0.07	0.12	0.10	0.13	0.06
Brunswick Res	V	...	0.03	0.03			Kings Bay Res	V	0.03	0.04	0.04	0.05	0.04	Secova Mtls	V	0.05	0.06	0.05	0.06	0.02
Buffalo Coal	V	0.01	0.01	0.01	0.01	0.01	Knick Expl	V	0.01	0.01	0.01	0.01	0.01	Sennen Potash	V	...	1.10	0.45		
Bullion Gold	V	0.06	0.15	0.10	0.47	0.09	Komet Resource	V	0.09	0.12	0.10	0.20	0.05	Shine Minerals	V	0.04	0.07	0.08	0.08	0.01
Cairo Res	V	...	...	0.30	0.34	0.30	Latin Metals	V	0.03	0.04	0.03	0.16	0.02	Sibanye-Stillw*	N	12.27	12.43	12.26	13.27	3.16
Camrova Res	V	0.01	0.01	0.07			Le Mare Gold	V	0.05	0.06	0.09	0.15	0.03	Sierra Madre	V	0.01	0.12	0.03	0.08	0.02
Canadian Silv	V	0.01	...	0.06			Leo Res	C	...	...	1.09			Silver Phoenix	C	0.10	0.19	0.12	0.20	0.12
CaNickel Mng	V	0.06	0.08	0.07	0.11	0.05	Lightspeed Dis	V	0.08	0.17	0.10	0.32	0.08	Skarb Explor	C	0.04	0.10	0.08	0.10	0.08
Carlin Gold	V	0.01	0.02	0.01	0.03	0.01	Lions Bay Cap	V	0.02	0.02	0.02	0.08	0.02	Slam Explor	V	0.02	0.02	0.02	0.03	0.01
Casa Minerals	V	0.05	0.05	0.05	0.18	0.03	Lovitt Res	V	0.08	0.13	0.10			Slave Lake Zn	C	0.04	0.08	0.09	0.10	0.04
Cassius Vents	V	0.06	0.10	0.07	0.09	0.06	Madeira Mnrls	V	...	...	0.03	0.03	0.03	SouthGobi Res	T	0.07	0.11	0.10	0.18	0.07
CAT Strategic	C	0.04	...	0.04	0.06	0.04	MAG Silver*	X	12.52	13.30	12.52	14.40	6.12	Southstone Min	V	0.01	0.01	0.01	0.04	0.01
Cautivo Mining	C	...	...	0.13	0.20	0.09	Magna Terra	V	0.01	0.02	0.02	0.05	0.01	Spey Resources	C	0.03	0.05	0.03	0.09	0.03
Centurion Mnls	V	0.07	0.07	0.07	0.27	0.04	Magnitude Mng	V	0.14	0.23	0.13	0.20	0.04	Stellar Africa	V	0.03	0.04	0.03	0.04	0.02
Century Metals	V	0.06	0.08	0.07	0.11	0.06	Mariner Res	C	0.17	0.25	0.20	0.20	0.15	Surge Explor	V	0.39	0.44	0.39	0.23	0.03
Cerro de Pasc	C	...	...	0.29	0.34	0.12	Martina Mnls	V	0.02	0.19	0.05	0.12	0.04	Talmora Diamd	C	0.01	0.03	0.02	0.06	0.02
Chinapintza Mg	V	0.01	0.02	0.01	0.03	0.01	Mazarin	V	0.08	0.09	0.08	0.13	0.04	Tearlach Res	V	0.15	0.20	0.15	0.28	0.07
CIM Intl Grp	C	0.02	0.10	0.02	0.20	0.02	McChip Res	V	0.55	0.63	0.55	0.80	0.50	Thunder Mtn Gd	V	0.07	0.17	0.17	0.17	0.17
Cliffmont Res	V	0.07	0.09	0.07	0.13	0.05	Meadow Bay Gd	C	...	...	0.04	0.40	0.20	Tisdale Res	V	0.06	0.09	0.08	0.19	0.06
Cliffs Nat Res*	N	1.45	3.20	1.43	7.17	0.98	Mega Copper	V	0.06	0.15	0.06	0.16	0.06	TomaGold	V	0.03	0.05	0.05		
Clydesdale Res	V	0.01	0.15	0.02	0.03	0.02	Meridian Mg	V	0.06	0.07	0.06	0.22	0.04	Transatlantic	V	0.02	0.04	0.04	0.16	0.02
CMX Gold & Sil	C	...	0.06	0.05	0.08	0.03	Meridian Res	V	0.08	...	0.15	0.20	0.09	Tri-River Vent	V	...	...	0.04		
Copper Lake Rs	V	0.02	0.02	0.02	0.02	0.01	Meryllion Res	C	0.01	0.01	0.01	0.02	0.01	Trident Gold	V	0.16	0.24	0.16	0.20	0.14
CR Capital	V	0.05	0.06	0.05	0.08	0.04	MetalCorp	V	0.02	0.03	0.02	0.04	0.01	TriMetals Mng	T	0.11	0.12	0.12	0.12	0.03
Currie Rose Rs	V	0.03	0.05	0.04	0.08	0.02	Micrex Dev	V	0.02	0.02	0.01			Troy Enrgy	V	0.02	0.04	0.03	0.05	0.02
CWN M'g Acq	V	0.01	0.04	0.07	0.08	0.03	Midasco Cap	V	0.09	0.14	0.08	0.15	0.08	True Grit Res	V	0.01	...	0.02	0.02	0.01
Cyntar Venture	C	0.11	...	0.11	0.11	0.07	Midnight Star	C	0.11	0.13	0.15	0.34	0.11	U3O8 Corp	V	0.04	0.05	0.05	0.17	0.04
Cyprium Mng	V	0.03	0.03	0.03			MillenMin Vent	V	0.01	...	0.05			Upper Canyon	V	...	2.00	0.25		
District Metal	V	0.10	0.20	0.14	0.30	0.08	Minecorp Egy	V	...	...	0.12	0.20	0.07	Vale*	N	...	...	10.24	11.10	6.57
EastCoal Inc	V	0.09	0.14	0.09	0.10	0.05	Mineral Hill	V	0.15	0.25	0.15			ValOre Metals	V	0.06	0.07	0.07	0.13	0.07
Edison Cobalt	V	0.04	0.06	0.06	0.09	0.04	Mongoose Mg	C	0.08	0.13	0.14	0.15	0.11	Vallterra Res	V	0.07	0.09	0.06	0.35	0.06
Electra Stone	V	0.01	0.02	0.01			Montana Gold	C	0.09	0.10	0.10	0.10	0.02	Vangold Res	V	0.05	0.05	0.04		
Eurotin	V	0.01	0.03	0.03	0.04	0.01	Mountain Lake	C	...	...	0.05			Vantex Res	V	0.10	0.24	0.15	0.37	0.10
Everton Res	V	0.10	0.10	0.03	0.04	0.02	MX Gold	V	0.11	0.11	0.11			Vatic Vent	V	0.05	0.07	0.10		
Excalibur Res	C	0.09	0.10	0.10	0.11	0.01	Navy Res	V	0.09	0.17	0.12	0.16	0.10	Venerable Vent	V	0.07	0.09	0.09	0.10	0.05
Explorex Res	C	...	0.50	0.18	0.32	0.15	Nebu Res	V	0.04	0.05	0.04			Victory Res	C	0.01	0.01	0.02	0.12	0.01
Fengro Industr	V	0.01	0.01	0.01	0.03	0.01	Nevado Res	V	0.08	0.19	0.08	0.20	0.08	Volt Energy	V	0.04	0.05	0.04	0.10	0.02
Finore Mng	C	0.12	0.12	0.11			New													

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