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Gold Edition

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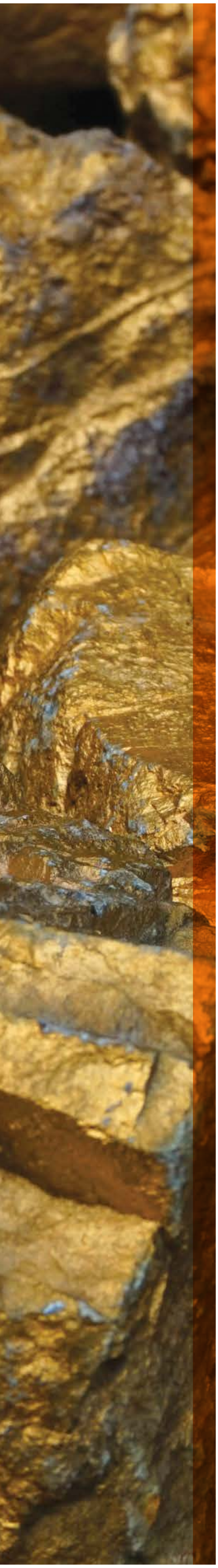

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Finland Has it All

Joe Mazumdar, Exploration Insights

Despite the chill, the conference attracted ~1,200 hardy attendees

Last October, I visited the Lapland region of northern Finland to attend the 12th Biennial Fennoscandian Exploration and Mining (FEM2019) conference and a site visit to Agnico Eagle's (AEM.T, AEM.NYSE) Kittilä underground gold mine.

I also conducted a short course on Capital Markets for Geologists with a few geo-colleagues, moderated a pair of panels, and met with several companies engaged in grassroots exploration in the Nordic nation.

These companies are predominantly exploring for gold in the Central Lapland Greenstone Belt (CLGB), while others are looking for nickel-copper-platinum group metals (PGMs) in the east-west trending Tornio-Näränkävaara Belt (TNB) that extends across Finland and into Russia, (Fig. 1).

In addition to its high mineral prospectivity, the Santa Claus Village, saunas, ice-water dipping, and the best pork fried rice I have eaten in my life, Finland boasts the following advantages for junior grassroots explorers:

Stable jurisdiction — It consistently ranks within the upper quartile for various metrics, including the Fraser Institute's Investment Attractiveness Index (IAI), Policy Potential Index (PPI), and Transparency.org's corruption perception index (CPI, Fig. 2).

Infrastructure — The country has an extensive network of power lines, airports, and roads, which allows for relatively inexpensive exploration as I did not observe any helicopter supported programs.

Although Finland's rank in the World Bank's annual Ease of Doing Business (EODB) Index has deteriorated somewhat (from 10 to 17 of 190 countries, Fig. 3), it still is among the world's best jurisdiction and falls just above Australia.

Human resources — The educational system in Finland is globally recognized as superior, generating a reliable human resource. The average participant at the short course we conducted in Levi, Finland, (Fig. 4), was sent by major precious and base metal companies such as Agnico Eagle Mines (AEM.T, AEM.NYSE), Boliden AB (BOL.SX), Lundin Mining (LUN.T), Newmont Goldcorp (NEM.

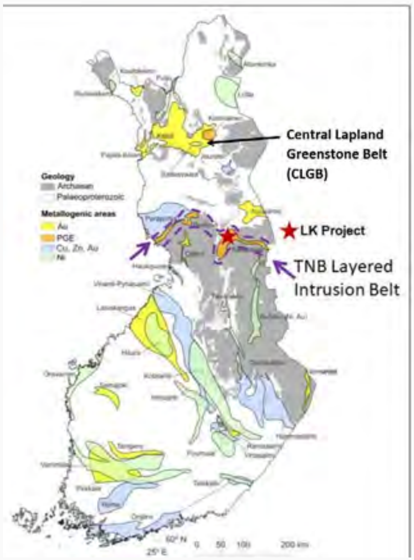


Figure 1
Regional geological map of Finland illustrating metallogenic domains for gold, PGMs, copper, zinc, and nickel highlighting the Central Lapland Gold Belt and the Tornio-Näränkävaara Belt [TNB], Source: Technical Report for the Kaukua Deposit, Läntinen Koillismaa Project, Finland, September 2019

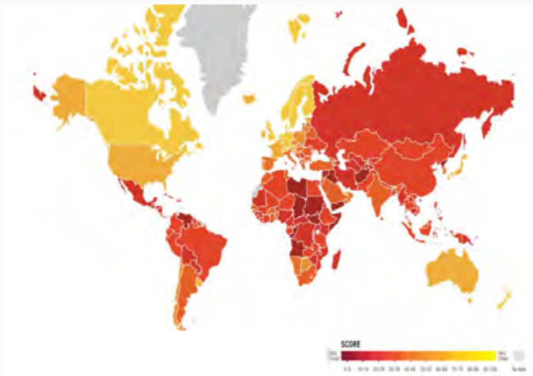


Figure 2
Corruption Perception Index map where the higher the score [yellow], the least corrupt the country is, Source: Transparency.org

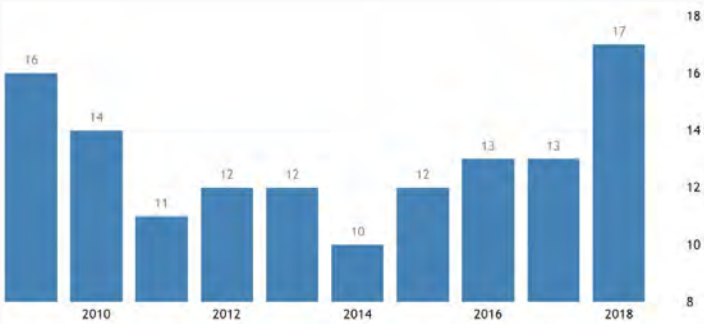


Figure 3
Finland's rank in the annual Ease of Doing Business Survey out of 190 companies surveyed, Source: World Bank and TradingEconomics.com

Figure 4
A group of wide-eyed socialists being exposed to capitalism, Source: Exploration Insights

However, in my opinion, the socialist nature of the population does tend to hinder the entrepreneurial spirit necessary for mineral exploration. This may be the reason for the lack of locally-based exploration companies and the fact that about half of the exploration expenditures are sourced from Canada.

Government support — That said, the Geological Survey of Finland (GTK), which has over 400 employees, offers companies electronic databases of government-collected geological, geochemical, and geophysical (magnetic and gravity) regional surveys. Such proactive effort helps support junior grassroots explorers with limited budgets.

The current focus of the organization is on battery metals, recycling, water management, and the improvement of data products for companies exploring in Finland.

Permitting and exploring — Once a company is granted an all-encompassing exploration license, it's free to start any work immediately, including mapping, sampling, trenching, or drilling.

While the negatives include:

Land-holding costs — Land-holding costs are relatively high, starting at around €20 per hectare in the first few years and rising to €50 after a decade.

For example, Aurion Resources (AU.V), which controls one of the largest land packages (~100,000 ha) in the CLGB, most of which covers the northwest-trending Sirkka Shear Zone, (Fig. 5), should have annual holding costs of about €2.0 million (C$2.9 M). No doubt, it must mitigate them via its joint venture partnerships with Kinross Gold (K.T, KG.NYSE), B2Gold (BTO.T, BTG.NYSE), and Strategic Resources (SR.V).

The rationale behind the high cost of holding land is to prevent companies from holding on to land for long periods without advancing the project. A non-cash flowing junior may find the costs prohibitive, in which case, forming joint ventures may be the best solution.

Access to land — Access to the prospective ground can be hindered by the EU's network of nature protection areas (Natura 2000) and the occasional local opposition group, (Fig. 6).

Although the total land area occupied by claims (~19,200 sq mi) is not significant, it represents 15% of Finland's total area, (Fig. 7), which is comparable to Peru and far exceeds the proportion staked in the U.S for mining and exploration.

Exploration trends

During 2018, Finland's primary revenue drivers from the metals sector included nickel, gold, and copper, (Fig. 8), while the metals with the most significant impact on global production were nickel (1.77%), cobalt (1.44%), and platinum (0.84%).

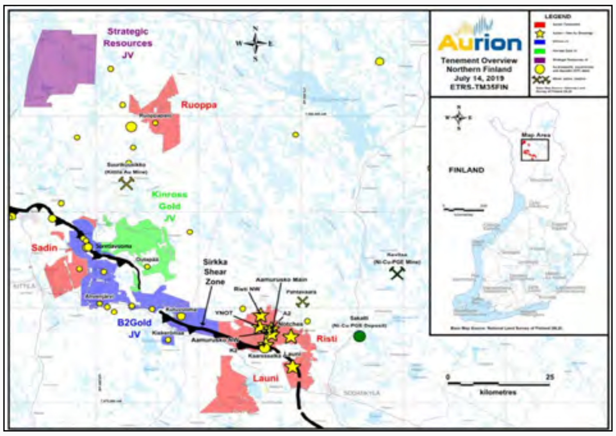


Figure 5

Tenements held by Aurion Resources [AU.V] in the CLGB, Source: Aurion Resources

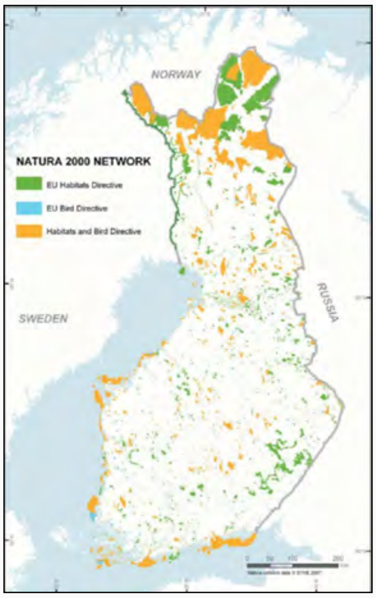


Figure 6

Natura conservation network in Finland including those directed by habitats and birds by the European Union [EU] and locally, Source: Ministry of Trade and Industry, 2007

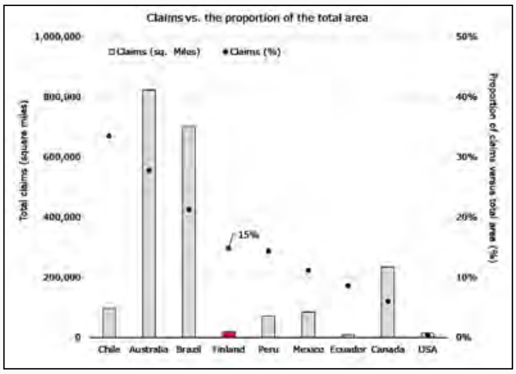


Figure 7

Number of claims staked in several leading mining countries, including Finland, and their proportion of the total land masses. Source: S&P Global Market Intelligence and Exploration Insights

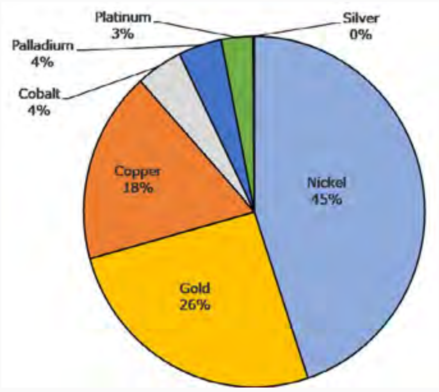


Figure 8

Finland's 2018 metal production revenue employing spot prices. Source: S&P Global Market Intelligence and Exploration Insights

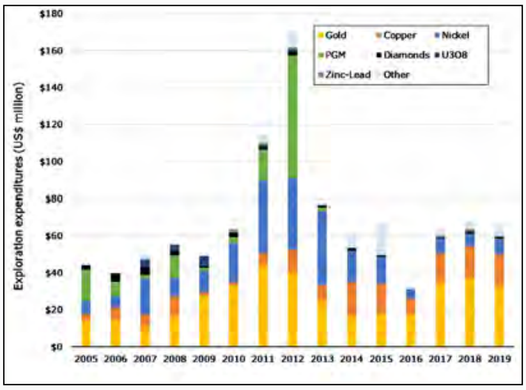


Figure 9
Annual exploration expenditures [US$ M] by commodity since 2005. Source: S&P Global Market Intelligence and Exploration Insights

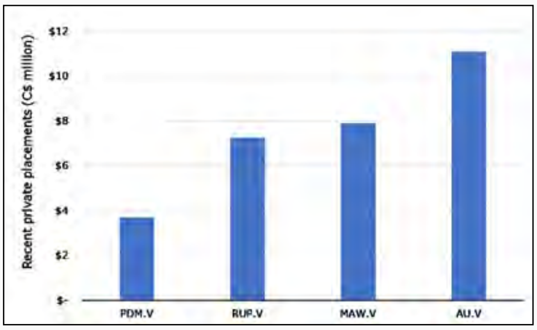


Figure 10
Recent private placements by Canadian-listed exploration junior companies operating in Finland, Source: Company press release and Exploration Insights

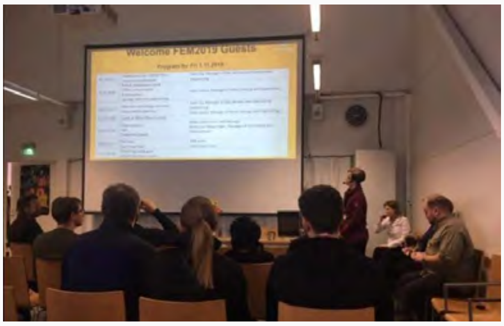


Figure 11
Kittilä mine tour. Source: Exploration Insights

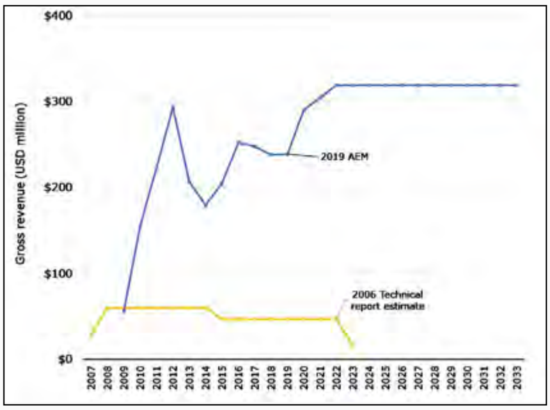


Figure 12
Gross revenue over Kittilä's life of mine according to the 2006 economic assessment [yellow] versus actual levels from 2009 to 2018 [blue], including a forecast to 2023 at spot prices. Source: Agnico-Eagle's March 2006 technical report on the Suurikuusikko Gold Project, Agnico-Eagle's 2019 report, and Exploration Insights

Annual exploration expenditures reached a peak of US$170 million in 2012 and were directed primarily to PGMs (39%), gold (24%), nickel (23%), and, less so, copper (7%), (Fig. 9). Expenditures on PGMs have all but disappeared since then and have also fallen for nickel, but remained increased somewhat in the case of gold and copper. After falling ~60% to below US$40 million in 2016, total expenditures have stabilized at above US$60 million for the past three years.

But given the resurgence of both palladium (+48%) and nickel (+59%) prices year-to-date, there may be room for improvement. For example, this weekend, Independence Gold (IGO.ASX) announced an all-share bid valued at A$312 million for Panoramic Resources (PAN.ASX) for its Savannah nickel project in Western Australia.

Also, one of the participants in a panel that I moderated titled Nordic Financing was the CEO of a local private company with an advanced hard-rock lithium asset, that up to now has been funded by groups in Scandinavia. Therefore, money from the region to support mining is not an issue, the problem seems to be the stage of development and the metal focus. Advanced projects and any metals that support a 'carbon-free' future such as lithium, cobalt, nickel, and copper are favored over the rest.

On the other hand, several Canadian-listed junior mining companies recently raised ~C$30 million to explore for gold and palladium in the country, (Fig. 10), indicating that North Americans have no problem funding precious metal exploration in Finland. Also, see my analysis on Palladium One Mining (PDM.V) at the end of this Rant.

Local heroes – Kittilä and Sakatti

In addition to prospectivity and other significant advantages, including infrastructure and human capital, among other things, investors in a new jurisdiction like to see examples of success stories.

During the conference, I learned about two notable ones for Finland: the expansion of an existing underground gold mine (Kittilä) and the discovery of a new polymetallic deposit (Sakatti Cu-Ni-Co), both of which support current and future exploration programs.

I had the opportunity to visit Kittilä, also known as Suurikuusikko, which is operated by Agnico Eagle and is the largest gold producer in Europe, with reserves of 4.4 million ounces grading ~4.5 grams per tonne, (Fig. 11).

In 2005, Agnico-Eagle made an offer to purchase Riddarhyttan Resources AB, the previous owner of the Suurikuusikko gold deposit, for US$150 million in an all-share transaction. As the asset covers a greenstone belt similar to Agnico's land package in the Abitibi region of Quebec, it was of interest to the Canadian-based gold producer.

Since the acquisition, the company has grown the resource by more than 185%, which, combined with a much higher gold price, generated a significant increase in the life-of-mine revenue stream from the operation.

Despite the successful growth of the asset, the underground grade (4.5 g/t Au) is not exceptional, and since the gold mineralization is refractory (87-88% recovery), it requires pre-oxidation to extract the gold, which is encapsulated by sulfides, such as arsenopyrite, (Fig. 13). The addition of the pre-oxidation circuit (autoclave) would negatively impact both the operating and capital costs versus a free-milling operation.

Regardless, Agnico-Eagle's decision to expand the operation to 2.0 million tonnes per year by constructing a 1.0-kilometer shaft and modifying the processing plant suggests the company is keen on it.

The rationale behind this move may be to take advantage of the existing plant and the inexpensive power to run it and the project's ease of access, despite being proximal to the Arctic Circle. The current high-gold-price environment also helps offset the negative impacts of the unexceptional grade of refractory gold ore, (Fig. 14).

At the conference, I also met, by chance, the project manager of the pre-feasibility-stage Sakatti polymetallic (copper-nickel-PGEs-gold) project, a discovery by Anglo American Plc. (AAL.LSE) of which I was unaware, (Fig. 15).

The major diversified miner began exploring for nickel-copper sulfide deposits in Scandinavia in 2004 and discovered the Sakatti deposit in 2009, thanks in part, it says, to the geological and geophysical data provided by the Finnish geological survey. The deposit was actually Target #8 of its priorities, which supports the need for perseverance in exploration.

The nickel-copper-PGMs mineralization ranges from massive to semi-massive to disseminated and extends to depths of 700 meters, (Fig. 16). Some reported diamond (core) drilling results include intersections of 48 meters grading 3.1% copper, 0.47% nickel, 0.30 grams per tonne PGEs, and 0.47 grams per tonne gold. The current resource hosts over 40 million tonnes grading over 5% copper equivalent, which is impressive.

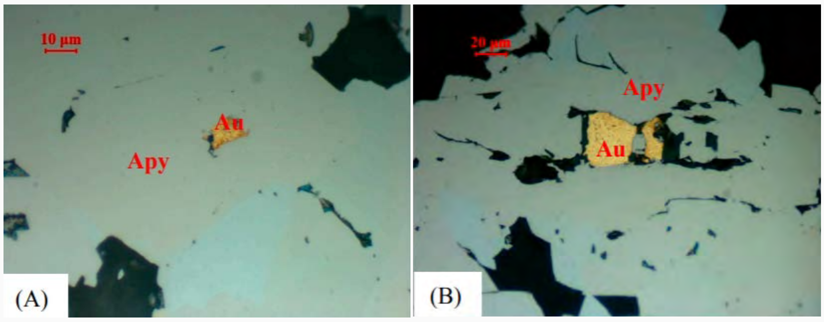


Figure 13

Example of refractory gold mineralization where fine gold grains are enveloped by arsenopyrite crystals. Source: Mineralogy and Pretreatment of a Refractory Gold Deposit in Zambia, Wang et al., 2019

Figure 14:

Overview of the expansion of Kittilä gold mine, Source: Agnico Eagle Mines and Exploration Insights

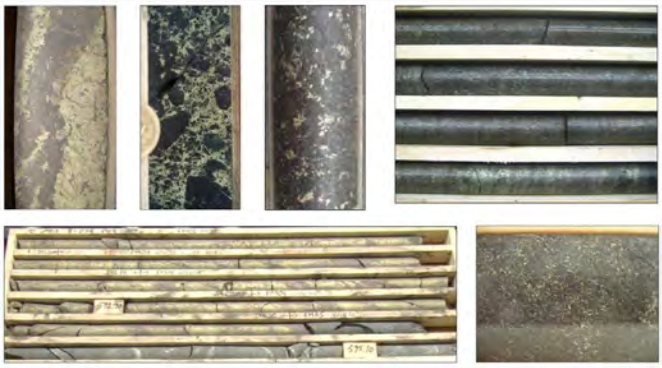


Figure 16

Massive, semi-massive, and disseminated copper-nickel mineralization with PGEs and gold. Source: Anglo American, 2013

Figure 15

Location of the Sakatti polymetallic deposit. Source: Anglo American, 2013

Seen at FEM2019

While at the FEM2019 conference, I caught up with several junior miners, predominantly Canada-based, through presentations and/or meetings, (Table 1). Non-cash flowing juniors will provide about a third of the US$60-70 million budgeted for exploration in the country in 2019, with the biggest slice being directed to gold.

Company	Ticker	Commodity	Land	Since	Stage	Catalysts
Aurion Resources	AU.V	Gold	100,000	2014	Grassroots	Prospecting and drilling
Firefox Gold	FFOX.V	Gold	140,000	Local	Grassroots	Prospecting and drilling
Mawson Resources	MAW.V	Gold	35,756	2009	Resource expansion	Drilling
Palladium One	PDM.V	PGMs-Nickel	3,674	2017	Resource expansion	Drilling
Rupert Resources	RUP.V	Gold	29,700	2016	Resource expansion	Drilling
S2 Resources	S2R.ASX	Gold, PGMs, Nickel	68,400	?	Grassroots	Prospecting and drilling

Table 1: Peer group of junior explorers in Finland. Source: Company presentations and Exploration Insights

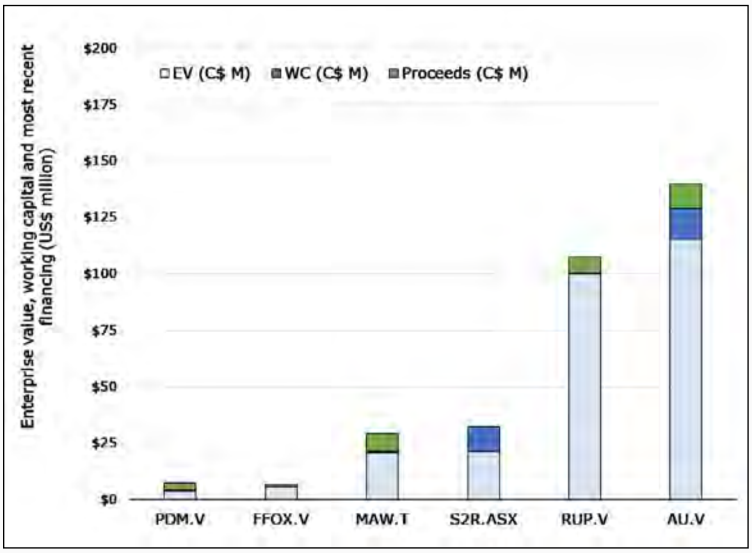


Figure 17

Enterprise value [=market capitalization – working capital], working capital, and most recent gross proceeds from private placements, after last reported financials. Source: Company financials and Exploration Insights

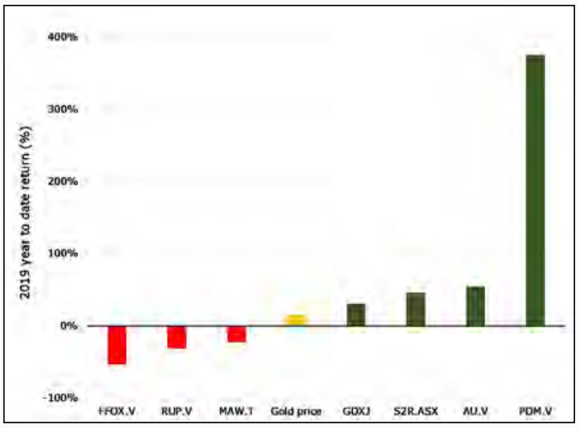


Figure 18

Year-to-date returns for a peer group of junior explorers operating in Finland compared to the GDXJ [gold ETF] and the gold price. Source: Investing.com and Exploration Insights

Aurion Resources (AU.V) and Firefox Gold (for full profile, please see pages 26-27) are both grassroots explorers and hold the largest land packages (>100,000 ha) in Finland, predominantly on the CLGB. Mawson Resources, who arrived in the country in 2009, appears to be the company with the longest history in the Nordic nation.

The average enterprise value of the group is C$45 million but ranges from a low of ~C$3 million for Palladium One Mining (PDM.V) to C$115 million for Aurion, (Fig. 17).

The average of the last reported working capital positions was C$4.4 million, but, again, the range was wide, from C$0.1 million for Rupert Resources (RUP.V) to C$13-$14 million for Aurion.

Five of the six explorers have executed private placements since the end of June for a total of ~C$30 million, (Fig. 10), with Aurion attracting one-third of the gross proceeds (C$11 M).

Half of the companies generated positive returns in 2019 year-to-date (46% to 375%) while the other half underperformed the market and the gold price (-23% to -53%, Fig. 18).

For companies seeking to add precious and base metal assets in low geopolitical risk jurisdictions to their portfolio, Finland presents a good opportunity. The infrastructure challenges for many countries north of the Arctic Circle, such as Canada, have not been an issue for Agnico Eagle at Kittila allowing for moderate underground grade refractory ore to be extracted at a profit. For explorers, the underexplored potential under a thin layer of glacial till will have to be weighed against the costs of land holdings and problematic districts. ■

Company Exposure	Project Locations	Stock Symbol
Gold	Finland	TSX-V: FFOX

FireFox Gold

Gold Discovery in Finland

Company Overview

FireFox Gold Corp. is focused on gold discovery in Finland, one of the most under-explored and highly prospective jurisdictions for gold. The Central Lapland Greenstone Belt (CLGB) is the focus of a recent exploration rush to capitalize on this potential, and FireFox is a leading land-holder and explorer in the belt.

The company's Jeesiö project is strategically located between some of the most recent gold discoveries in the CLGB, and includes high-grade showings along the same corridor. A detailed target delineation program is underway.

The Mustajärvi project has an established gold discovery zone, and a recent FireFox drill program intercepted gold in two 500 metre step-out holes. The area remains open along strike and new drill targets are being planned.

With a commanding land position, a team of leading in-country experts, and multiple exploration programs in progress, FireFox is poised to be the next significant gold discovery in Finland.

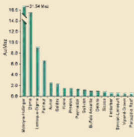
Investment Highlights

Innovative Platform	• Tight structure of a newly-listed company • Paired with a strategy built over time • Focused solely on gold in Finland

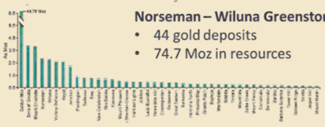
Competitive Advantage	• A balance of technical and financial strengths:
	  • Seasoned gold industry leadership
	  • Paired with deep Finland expertise

Excellent Jurisdiction	• Finland ranked 1st by Fraser Institute in 2017 • Strong mining tradition and clear mining law • World-leading technical databases
Commanding Positions	• Gold prospectivity in a greenstone setting • Control of ~1500 km² in two major gold belts • Strategic positions for short-term discoveries
Ripe for Discovery	• High-grade showings over a large area • New gold targets in key discovery areas • Multiple active exploration programs

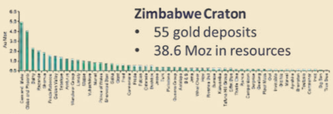
Central Lapland Greenstone Belt - Big Mines Could be coming!



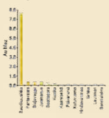
Abitibi Greenstone Belt
- 39 gold deposits
- 83.6 Moz in resources



Norseman – Wiluna Greenstone Belt (W.Australia)
- 44 gold deposits
- 74.7 Moz in resources

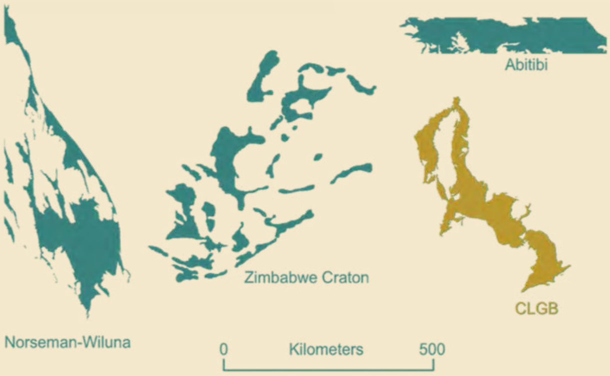


Zimbabwe Craton
- 55 gold deposits
- 38.6 Moz in resources



Central Lapland Greenstone Belt (CLGB)
- 13 gold deposits
- 9.1 Moz in resources

> "Newmont drills more for gold in one year in Nevada alone than has ever been spent on gold drilling in the history of the CLGB."
>
> Patrick Highsmith,
> then Manager, Business Development
> Newmont (2005)



Thr Central Lapland Greenstone Belt (CLGB) in the Fennoscandian Shield is comparable in size to pother major greenstone belts but lacks the same distribution of deposits ...potentially due to a shorter exploration time frame.

Directors & Management

Carl Löfberg	CEO & Director
Patrick Highsmith	Chairman
Andrew MacRitchie	CFO
Joe Mullin	Director
Timo Mäki	Director

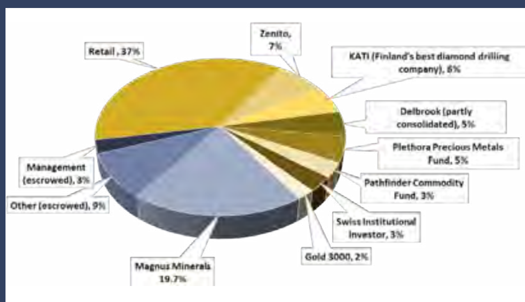
Latest Announcements

26/11/19	FireFox Gold Significantly Extends Mineralization At Mustajärvi Gold Project, Finland
06/11/19	FireFox Gold Initiates Its First Drill Program At Jeesiö Gold Project, Finland
18/09/19	Diamond Core Drilling Underway at FireFox's Mustajärvi Gold Project, Finland
17/09/19	FireFox Gold Closes Non-Brokered Private Placement
19/08/19	FireFox Gold Acquires 984 km² In Kierinki Schist Belt – An Emerging Gold Region In Finland

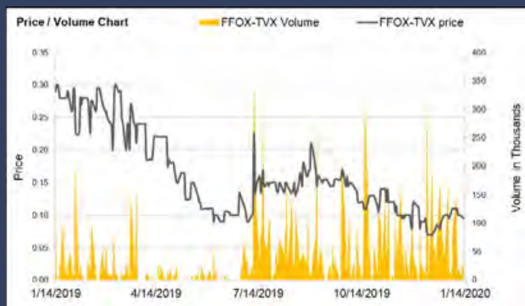
Key Financials (January 2020) (CAD)

Share Price	$0.10
Shares Outstanding	43.2M
Market Capitalisation	$4.3M
Share Price: Year High-Low	$0.30 - 0.07
Cash	$709K
Debt	*Nil*

Major Shareholders



Share Price Performance



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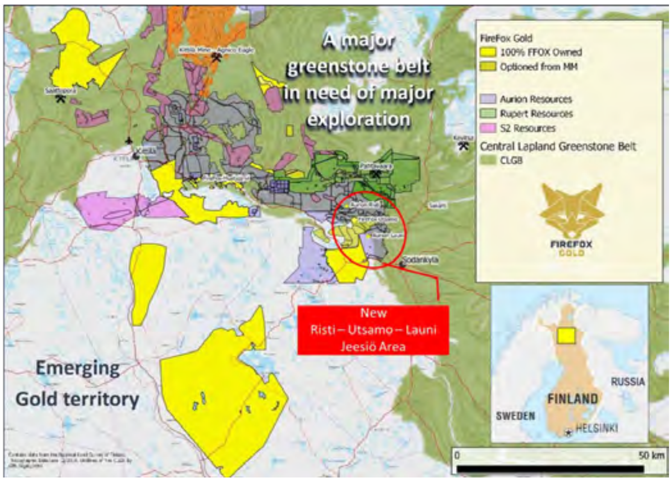
RIPE FOR DISCOVERY - COMMANDING POSITIONS IN THE CLGB & NEW PROSPECTIVE AREAS

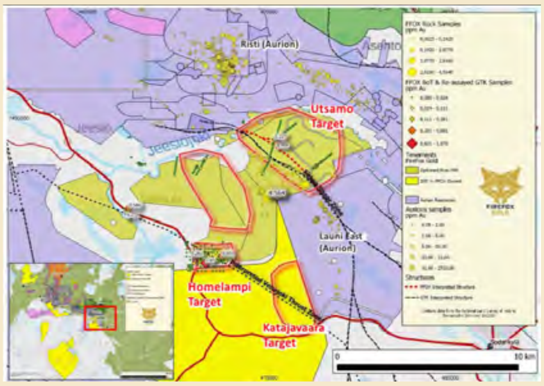
Only 5 companies actively exploring for gold in the CLGB.

FireFox controls ~500 km² - a significant portion of the prospective ground in the belt, including strategic positions within recent discovery corridors.

In addition, FireFox has acquired >900 km² in newly - identified prospective areas to the south of the CLGB.



JEESIÖ GOLD PROJECT – NEW AREA OF INTENSE EXPLORATION & DISCOVERY



Jeesio hosts multiple orogenic gold targets with significant historic investment.

Extensive gold in till anomalies from historic surveys aided identification. The new target areas are defined by interpretations of geochemistry and geology.

Targets also closely associated with the Sirkka and Venejoki Thrust Zones (STZ and VTZ).

The Utsamo target is situated between the recent discoveries by Aurion, (Risti and Launi East).

MUSTAJÄRVI GOLD PROJECT: HISTORIC TARGET WITH NEW EXPANDED POTENTIAL

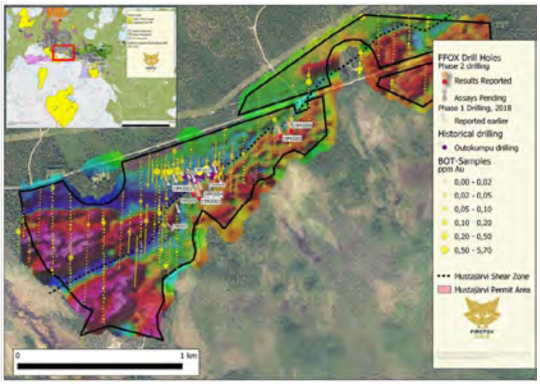
150 hectare granted exploration permit and 1,372 new hectares of exploration reservations, (Sept 2018) 100% owned.

Along the key Venejoki Thrust Zone, with highway access.

Extensive historic database including till anomalies from GTK and Outokumpu.

12 DDH's by Outokumpu in the 1990's & small-scale gold exploitation by a local prospector.

FireFox Base-of-Till (BOT) Sampling Program 2018: ~600 closely spaced (10 to 20m) till and top of bedrock samples - **High gold extends anomaly from historic drilling and identifies important structures.**

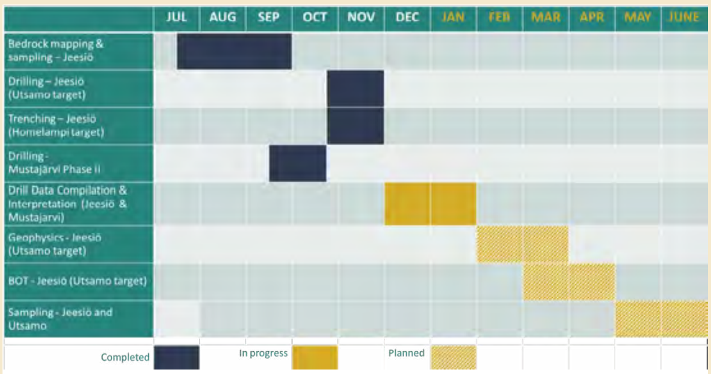


SEURU GOLD PROJECT – SIMILARITIES TO EUROPE'S LARGEST GOLD MINE

Multiple targets identified by combining historic GTK sampling & drilling, plus historic geophysics and till sampling. Similar geology to Kittila Mine, (Agnico Eagle) Europe's largest gold mine, extends onto Seuru properties.

The Sarvilehto target exhibits excellent gold potential in recent studies by the GTK (2009-2010).

2019 H2 MILESTONES & 2020 H1 EXPLORATION GOALS



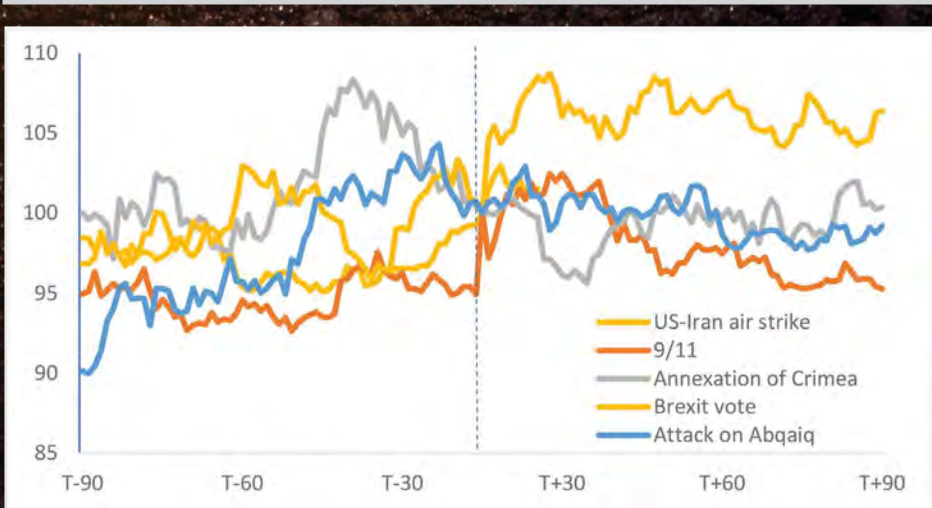
Outlook for Gold: Not Just a Safe Haven

Suki Cooper, Executive Director, Precious Metals Research,
Standard Chartered

We expect gold prices to test seven-year highs in 2020 even though we see the Fed on hold throughout the year. Gold has re-established its safe-haven status and the yellow metal has proved to have many strings to its bow. Prices were buoyed in 2019 by central banks turning surprisingly dovish, but this was not the only catalyst for upside momentum. Falling UST yields and geopolitical uncertainty broadened gold's appeal to a wider audience and gold ETPs set a new record-high.

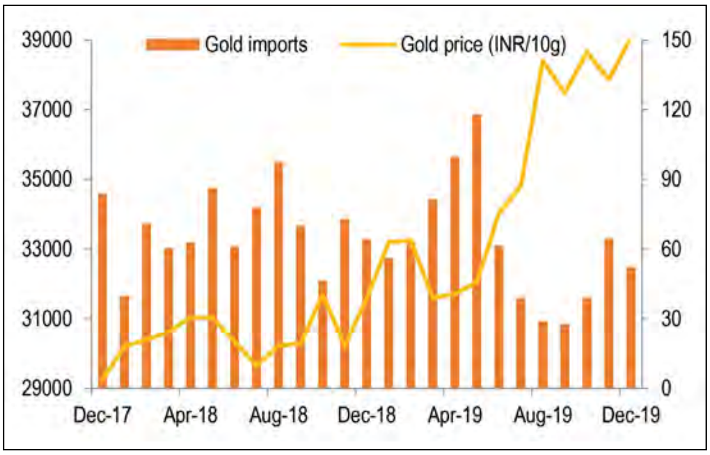
We see scope for further growth in investor positioning and believe the next leg higher will be led by retail investment demand. The physical market is likely to continue to set the floor, and demand has proved to be price-elastic, which bodes well for prices. Central banks remain net buyers, but volumes have eased. Rate cuts usually have a positive impact on the economy with a lag of about one year; we believe investors are more likely to turn to gold in meaningful numbers towards year-end, in line with our expectations for UST yields to ease and for the Fed to cut rates in 2021.

Gold price gains are sustained when the wider economy is impacted
Daily gold price three months before and afetr shocks, indexed to time of stock

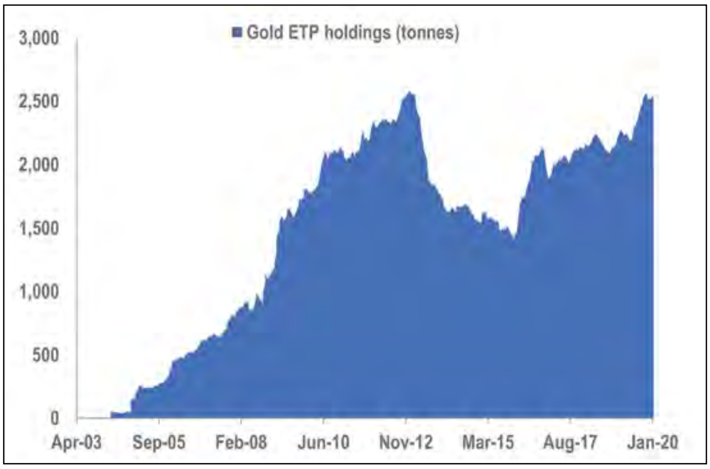


Gold prices continue to track 5yr real yields

India gold imports improve in November as prices softened INR/10g (Gold price, LHS), tONNED (RHS)



Gold ETP holdings hover close to record highs



Geopolitical tensions provided a fillip to gold at the start of the new year, but prices had started to trend higher before the 3 January US drone strike. Gold had found better-than-expected support from the physical market with (1) India's gold imports recovering in November 2019, (2) tactical investors lightening their exposure to gold earlier than normal in November, and (3) the 'phase one' trade deal leaving an expectations gap. The year-end gains appeared to be well supported, particularly as risk appetite returned following the decisive UK election result. In contrast, price gains amid a flight to safety associated with rising geopolitical tensions have tended to fall over successive sessions as markets reassess risks. Price gains tend to be the greatest at the outset of geopolitical shocks and make sustained gains less likely.

Gold kicked off 2020 strongly as a flight to safety boosted prices well beyond our Q1-2020 price target. However, tactical positioning was light ahead of year-end; the price move was perhaps exacerbated by investors not only rebalancing their portfolios, but also the risk-off environment driving safe-haven buying. Gold prices gained 6%, breaching $1,600/oz, in the first week of the year. But safe-haven gains are not necessarily sustained gains in gold. Indeed, such a rally is more likely to be extended if there is a systematic risk that is likely to impact global growth and potentially trigger a recession.

Looking at past geopolitical or political shocks, events that had repercussions for the wider economy were those that had a lasting impact on gold prices, such as the Brexit vote in 2016. Terrorist attacks have tended to drive an initial response in gold, but the effects have faded as markets have reassessed the risk, sometimes within a week. In some instances, the gold market has been focused on non-geopolitical factors. The attacks on Saudi oil infrastructure last year coincided with positive sentiment towards gold, thus prices remained elevated for longer. Therefore, it is not surprising that price gains have been surrendered in early 2020. The key question is, where is the floor? Although the initial flight to safety has faded, the floor has risen. Gold is in the limelight and is likely to remain so this year.

The two key downside factors for gold this year will be jewellery demand and central bank appetite. Jewellery demand fell to 460 tonnes (t) in Q3-2019, the lowest level since Q2-2010. Record-high prices in key gold-consuming markets, along with economic concerns, weighed on demand. While Turkey and Russia were pockets of growth, the largest consumers – India and China – saw double-digit percentage declines. Our conversations with market participants suggest that demand is likely to be fragile in 2020. However, and perhaps importantly, physical demand has proved to be price-elastic, providing a more solid floor for gold prices. Gold prices had tested lows of around $1,450/oz amid 'peak optimism' around the 'phase one' trade discussions and the physical market became increasingly price-responsive as prices softened, supporting the floor for gold prices.

As gold prices traded to six-year highs in September 2019, physical demand came under pressure. Central bank buying helped to plug part of the gap as jewellery demand eased, but official-sector buying also softened in the past two months. The latest Swiss trade data for November shows that global exports declined, but with divergence among regions. Shipments to China remain under pressure, but exports to India rose to six-month highs in November as softer prices amid seasonal buying stoked consumer interest. Shipments to the UK surged over July-October, buoyed by ETP and coin demand. Although overall volumes have softened, we think it still bodes well that physical demand remains price-responsive and offers a cushion for gold. Demand tends to pick up around six weeks before the Lunar New Year holiday, which falls on 25 January in 2020, earlier than in 2019. This reaffirms our view that prices remain supported around $1,450/oz.

Preliminary data suggests that 2019 central bank buying surpassed the 51-year highs set in 2018. The latest quarterly data shows that central bank buying slowed to Q1-2019 levels, and we forecast that buying likely slowed further in Q4-2019. However, for the full year, official-sector demand could have marginally exceeded the 2018 high. Central bank buying was up 11% y/y for the first three quarters of the year. The partial October and November data shows that some consistent buyers, such as Kazakhstan, reduced buying from a run rate of 4 tonnes (t) to marginal selling, and China's holdings were unchanged in October (2019 run rate: 10.6t). Russia's additions slowed to 10t in October (2019 run rate: 14t), but Turkey remained a consistent buyer, with the exception of December activity. YTD purchases reached around 156t compared to 51t for all of 2018. Central bank activity is not typically price-sensitive, but many factors cited for increasing gold reserves remain in place.

Beyond geopolitical tensions resurfacing and the physical floor, key factors to watch in 2020 will be US elections, the Fed easing cycle and trade talks. Gold prices have rallied on a raft of factors, not just trade tensions or easing monetary policy or growing negative-yielding debt. Our economists do not expect the FOMC to cut rates again in the near future. Our base case that US growth will remain near or slightly below trend implies an on-hold policy rate. Furthermore, the latest commentary from FOMC members suggests that the Committee views the current policy stance as slightly accommodative. This suggests that in the event of a slight deterioration in the outlook, the policy stance would stay neutral, with little urgency to ease policy further. Beyond 2020, risks to the US economy are likely to rise, and we expect the Fed to resume its rate-cutting cycle at that point. We do not expect fiscal policy to deliver economic stimulus in 2020, following a slightly expansionary fiscal stance in 2019. Further stimulus is possible in 2021, but this will depend on Congress being aligned with the White House's aims. However, should the Fed cut in 2020, this could surprise the market and expose prices to further upside risk.

Our Rates strategists are broadly positive on the 2020 UST market. The three 'insurance' Fed rate cuts in 2019 and signs that a 'phase one' US-China trade deal is close should mitigate downside growth risks in 2020 and the Fed may thus stay on hold this year. However, we doubt that US or global growth will re-accelerate; instead we expect a more material US slowdown in 2021 and the Fed to resume its rate cuts. We expect the 10Y UST yield to register new all-time lows during H2-2020 as consensus expectations start to reflect such a 2021 slowdown and the market prices in Fed cuts towards zero. Our end-2020 10Y UST yield forecast is 1.25%. Gold remains strongly correlated with real yields.

Geopolitical tensions, US elections, the Fed easing cycle, trade talks and equity-market outperformance will be key factors to watch. We expect the Fed to remain on hold in 2020 before restarting rate cuts in 2021; the USD to soften modestly in H2-2020, with the EUR-USD falling towards 1.15; and 10Y USTs falling to 1.25 by year-end. We note that the positive effects of rate cuts typically last for 12 months; concerns around economic growth are likely to re-emerge later in 2020, although we do not expect the US or the global economy to enter a recession.