

# **Focused on the key green metals, Murchison Minerals has quadrupled the HPM claims in Quebec**

One effect, on the global green energy transformation, of the Russian invasion of Ukraine is that Western governments have finally woken up to the emphatic need to create local supply chains for critical materials such as those needed to support the green energy revolution. In the past few weeks, the USA has released a fact sheet titled *Securing a Made in America Supply Chain for Critical Minerals* and last week the Intercept reported *Biden Administration Drafting Order to Invoke Defense Production Act for Green Energy Storage Technology*. In Canada, 2 weeks ago the Ontario government released their *Critical Minerals Strategy*. Also in March the Australian government released their 2022 Critical Minerals Strategy.

All of the above means companies with promising critical materials projects in Western countries are set to be the winners in 2022 and beyond. Today's company has two key critical materials projects in Canada, with strong exploration potential for nickel, copper, cobalt, and zinc.

**The green energy revolution will lead to an enormous opportunity for miners of the green energy metals**

As countries accelerate their efforts to reduce greenhouse gas emissions, **clean energy technologies** are becoming one of the **fastest growing segments of the economy**. Some of the main inputs in these new technologies are critical metals like **Copper, Cobalt, Nickel, and Zinc**.

Source: Murchison Minerals website

Murchison Minerals Ltd.'s (TSXV: MUR | OTCQB: MURMF) (Murchison) two Canadian projects are:

- HPM (Haut-Plateau de la Manicouagan) Project – Nickel sulphide-copper-cobalt project (Quebec) (100% owned)
- BMK (Brabant-McKenzie) Deposit – Copper-zinc-precious metals project (Saskatchewan) (100% owned)

Both of the above are at the exploration stage with multiple strong targets for drilling.

### **HPM (Haut-Plateau de la Manicouagan) Project (100% owned)**

The HPM Project has a dominant land position of 576 km<sup>2</sup> with camp scale Ni-Cu-Co potential. It has rail access within 8 km of project area and is 225 km to Port of Sept Iles. Murchison has recently completed an acquisition of an additional 43,689 hectares of mineral claims.

The Project has upwards of 50 anomalous EM targets identified. The best historical result is at the Barre de Fer Deposit and is **43.18 m of 1.74% nickel, 0.90% copper and 0.09% cobalt**.

At the 1.95 km long PYC geophysical anomaly, mineralization has been outlined so far over a strike length of ~550 metres. Murchison's inaugural drill program was completed at the PYC

target in December 2021 with assay results below and others expected soon. Murchison has already reported: "Intersected sulphide mineralization in all holes completed in 2021 at the PYC target- portable Niton X-ray fluorescence (XRF) spectrometer analyses confirm the presence of nickel, copper and cobalt within the sulphide intervals." And, "sulphide mineralization in drill core from PYC is similar to that observed on surface where 2021 backpack drill core samples assayed up to 0.79% Ni, 0.14% Cu, and 0.15% Co." The recently announced assay results at PYC included:

- Hole PYC21-007 drilled to a depth of 158 m included **25.5 m grading 0.30% Ni Eq** (72.5 m to 98.0 m) and 27.41 m grading 0.23% Ni Eq (3.24 m to 30.65 m).
- Hole PYC21-008 drilled to a depth of 182 m included **39.5 m grading 0.24% Ni Eq** (5.5 m to 45.0 m) and 13.0 m grading 0.27% Ni Eq (From 75.0 m to 88.0 m).

*Note: Murchison still has assays pending from the remaining six holes at the PYC target, which tested 0.55 km of the 1.95 km strike length.*

At the Syrah target (just 350 m from the Barre de Fer Deposit), Murchison has recently reported some 2021 outcrop assay results with more to come soon. The results included a newly discovered mineralization to the northeast extending the surface strike length by approximately 200 metres and assaying as high as **0.69% Ni Equivalent** (0.42% Ni, 0.10% Cu, 0.08% Co). Murchison stated: "Today's results confirm Ni-Cu-Co sulphide mineralized outcrops and sub-crops over approximately a 375-metre strike length, within the footprint of an approximately 600-metre-long conductive geophysical anomaly at the Syrah Target."

### **BMK (Brabant-McKenzie) Deposit (100% owned)**

The BMK Deposit is on a 627 km<sup>2</sup> land package which has year round road and power access. It has an Indicated Resource

of 2.1 Mt @ 9.98% ZnEq and an Inferred Resource of 7.6 Mt @ 6.29% ZnEq. The Property has 10 highly prospective VMS targets with VMS style mineralization already intersected at Main Lake and Betty target areas.

In 2022 at BMK, Murchison intends to do a comprehensive desktop study on results to date, in order to systematically optimize future drill programs. Also, Murchison plans to do further testing along strike and down dip from current deposit extents as well as to continue exploration drilling at Main Lake and Betty.

### **Closing remarks**

With nickel, copper and cobalt prices surging higher in 2021 and 2022 it means any junior explorer who finds significant amounts of these key green energy metals can expect their stock price to surge higher. At the HPM Project, Murchison is still awaiting further drill assays and has a total of 50 anomalous EM targets to explore. Results so far are solid for nickel, copper, and cobalt and suggest there is significant mineralization to explore, so really it is still very early days.

At the BMK Deposit, there is already a zinc resource and exploration upside in 2022.

Both opportunities are in Canada which these days is a huge advantage.

Murchison Minerals trades on a market cap of only ~C\$17 million, meaning any significant discovery can be company changing. Stay tuned for more assay results soon at HPM.

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# **Significant Early Results in Energy Metals at Murchison Minerals' HPM Project in Quebec**

Three of the most valuable green energy metals are cobalt, nickel and copper. Their current LME prices are – cobalt US\$50,615/t, nickel US\$19,840, and copper US\$9,488/t. This means that miners that can find, not too deep and reasonable grade deposits, with all three metals, can potentially grow a very economical resource. Today's company is working on doing just that in Quebec and Saskatchewan, in Canada.

Murchison Minerals Ltd.'s (TSXV: MUR) ("Murchison") three green energy metal projects in Canada are:

1. HPM (Haut-Plateau de la Manicouagan) nickel-copper-cobalt project (Quebec) (100% owned)
2. Brabant-McKenzie zinc-copper-silver project (Saskatchewan) (100% owned)
3. Barraute-Landrienne project (Quebec) (earn-in option to acquire 100%) (base metals)

**Murchison Minerals three exploration stage projects in Canada gives exposure to nickel, copper, cobalt, zinc, and silver**

# Murchison Minerals Asset Base & Share Structure



## HPM Ni-Cu-Co Project in Quebec - 139 km<sup>2</sup>

- **Best Drill Assay at Barre de Fer:**
  - 43.18 m of 1.74% nickel, 0.90% copper and 904 ppm cobalt (**5.5% CuEq**)
- Identified 54 EM conductors in a recent VTEM survey
- Sampling at PYC confirms the presence of Ni-Cu-Co over 1,700m strike, up to 59 m wide on surface
- 10 nickel-copper-cobalt gossan areas identified
- Excellent infrastructure, 8 km to railroad, about 225 km to the Port of Sept Iles
- 100% owned

## Brabant-McKenzie VMS Project

- **Resource Base**
  - **Inferred:** 7.6 Mt @ 6.29% ZnEq<sup>(1)</sup>
  - **Indicated:** 2.1 Mt @ 9.98% ZnEq
- Entire property package covered by VTEM surveys
- Excellent established infrastructure
- 100% owned

## Barraute-Landrienne Base Metals Project

- Option to earn 100% in 75 mineral claims
- Believed to host some of the best untested drill targets in the area
- 2 km away from the 15.7 Mt Zn-Ag Abcourt-Barvue deposit



(1) The resource for the Brabant-McKenzie zinc deposit was estimated based on metal prices of US\$1.20/lb zinc, \$2.50/lb copper, \$1.00/lb lead, \$16.00/oz silver and \$1200/oz/gold, and a US\$ exchange rate of \$1.25.

## Share Structure as of September 14, 2021

Share Price	CA\$0.08
Shares O/S	108.9 M
Current Market Capitalization <sup>(1)</sup>	CA\$8.7 M US\$6.9 M
Working Capital	CA\$0.3 M

Source: Company presentation

## HPM Project's recent grab samples and short backpack drill results

Murchison has made two recent announcements regarding exploration results at their HPM Project in Quebec.

Announced on August 16, 2021 Murchison reported: "The results are from grab samples and short backpack drill core samples, featuring assays as high as **1.27% Nickel Equivalent** or **2.59% Copper Equivalent** (0.79% Ni, 0.14% Cu, 0.15% Co) from 0.83 metres of backpack drill core. The assay results also confirm mineralization south-east of the PYC target at the newly discovered Dix showing, which assayed as high as **0.90% Nickel Equivalent** or **1.83% Copper Equivalent** (0.44% Ni, 0.39% Cu, 0.10% Co) from 0.45 metres of backpack drill core."

Then announced on September 1, 2021, Murchison reported: "The assay results confirm the presence of surface nickel-copper-cobalt mineralization at the Syrah and 4048 targets, in addition to PYC and the newly discovered Dix (see August 16,

2021 release) and SVT showings. The results from the prospecting program are considered a major success and indicate a strong likelihood that the HPM property hosts significant nickel-copper-cobalt mineralization outside of the Barre De Fer mineralized body....The grab samples from the Syrah target assayed as high as **0.84% Nickel Equivalent or 1.70% Copper Equivalent** (0.58% Ni, 0.24% Cu, 0.05% Co) from multiple short backpack drill holes.....Grab samples collected during the June 2021 prospecting at the 4048 target assayed as high as **0.96% Nickel Equivalent or 1.94% Copper Equivalent** (0.53% Ni, 0.36% Cu, 0.09% Co). ”

These are good preliminary results from grab samples and short drill lengths (“backpack drilling”) and potentially point towards a growing body of mineralization at the HPM Project.

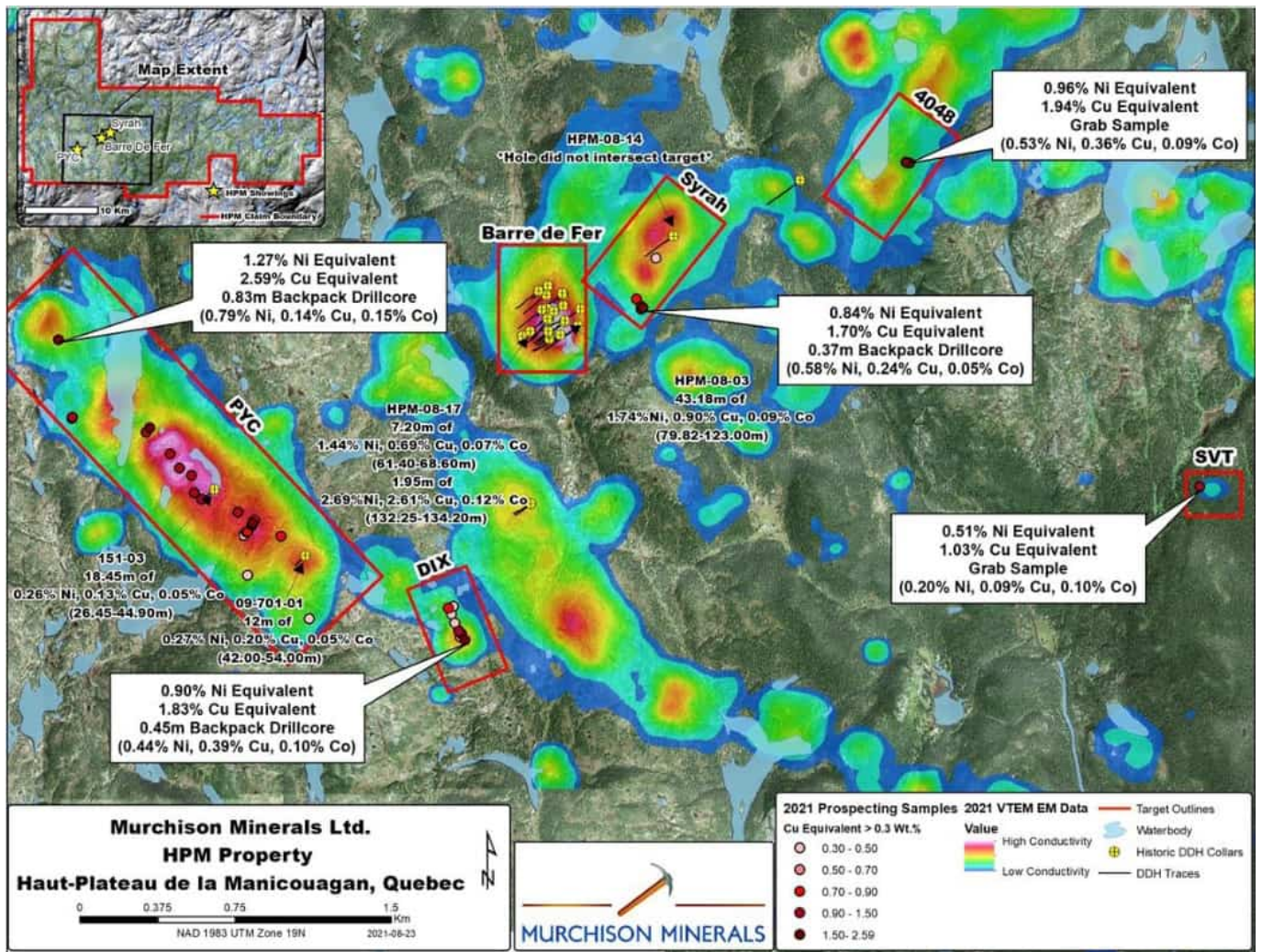
On September 1 Murchison’s CEO and President, Jean-Charles Potvin, commented: “The results we are seeing from HPM continue to exceed our expectations. We are very eager to commence drilling on the HPM project as the team strongly feels that we will see exceptional results.”

The company also stated: “The majority of the past drilling at HPM targeted the Barre de Fer geophysical conductor and confirmed the known nickel-copper-cobalt mineralization approximately 300 metres along strike and to a depth of about 280 metres. The mineralization remains open at depth and partially along strike.”

Whilst it is still too early to tell, the good news is that the initial surface and near surface samples are very encouraging, as are the presence of multiple electro-magnetic (“EM”) conductor showings.

**Murchison Minerals HPM property with recent sampling results and numerous Versatile Time Electromagnetic (VTEM) conductors showing**





Source: Company presentation

Next steps at the HPM Project include a 3,550-metre helicopter supported drill program this October (subject to drilling permit approval), and results from preliminary metallurgical flotation tests on HPM surface sample mineralization.

Murchison is also expecting to soon receive assay results from recent drilling at the Betty Zone at their Brabant-McKenzie zinc-copper-silver project in Saskatchewan, Canada. The Brabant-McKenzie Project has an Indicated Resource of 2.1 Mt @ 9.98% ZnEq and an Inferred Resource of 7.6 Mt @ 6.29% ZnEq.

### Closing remarks

Murchison Minerals offers investors a significant exploration optionality on some very valuable energy metals such as cobalt, nickel and copper, as well as zinc and silver. It is



still early days in the exploration and discovery process but early signs are promising, especially the recent news coming from the HPM Project in Quebec.

Murchison Minerals trades on a market cap of only C\$8.7 million, thereby giving large potential upside should a significant discovery be made. Risk is high with junior explorers, so invest accordingly and be patient.

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## **For lithium, party like its 1790**

The demand for Green Energy Metals (GEMs) as processed fine chemicals and high purity metals and alloys, ready for use in both consumer and military goods, already exceeds their supply. A good example of this is Tesla's decision to put back its pickup truck introduction, originally scheduled for Fall 2021, until sometime in 2022 due to a "shortage" of the correct type of battery cells. This is explained as a shortage of processing capacity, but, in fact, is obscuring an even more important shortfall, that of the supply of mineral raw materials, such as those of lithium, cobalt, and the rare earths – the heavy rare earths.

One primary reason that the Soviet Union collapsed in 1991 was its central planning of industrial output with no other goal than increasing supply with the assumption that the demand was infinite. This was not socialism, fascism, or capitalism. It was stupidity in the form of the intellectual commandments of a self-appointed elite class of bureaucrats who knew what was good for the "masses." These Communist apparatchiks proved even more inept at understanding economics than their

predecessors of the Tsar's bureaucracy.

China has now learned from the Soviet experience what not to do in managing a national economy. Its long-time mandarin class, still ruthlessly chosen on merit, has been retained and co-opted by the Chinese Communist Party, the CCP, to review the Party's long-term goals and recommend, get approval for, and carry out the steps required to achieve them, in five-year steps.

One brilliant achievement by the mandarin class has been the construction of a mineral resource acquisition and conversion (to industrially useful forms) system sufficient to achieve the long-term technological infrastructure mandates of the CCP.

I think, for example, that the EV revolution has already been won by China through economic imperialism focused on the acquisition of intellectual and mineral resources necessary to transform China's domestic transportation sector into the sole use of electricity for its power trains.

Just one generation ago China had essentially no original domestic production of automobiles, trucks, railroad engines, cars, airplanes, or ocean-going ships, except for its military and even that was limited to copies of foreign designs in factories themselves copied from or supplied by friendly foreign powers, such as the then just recently collapsed Soviet Union.

The Soviet Union, like the United States, was a landlocked empire gifted with essentially all of both the fuel and non-fuel resources it needed until the end of World War II, which saw the dawn of the age of miniaturized electronic technology. China adopted internal self sufficiency as a national program in the 15th century, but lost that advantage in the 19th century to the great European seaborne empires that were seeking natural resources and markets globally to make up for

deficiencies in both in their home markets.

China seems to have learned again how to become self-sufficient in both critical structural and critical technology mineral resources by adapting both its signature socialism and state-supported limited capitalism, which even China's Communist Party recognizes as Socialism/Capitalism with "Chinese characteristics." China is determined to recapture its 1790 position as the richest nation in the world.

With the long term planning that is very characteristic of Chinese thinking applied as a modifier to market capitalism's prohibition of price manipulation by government, China has acquired ownership of and access to both fuel and non-fuel mineral resources globally while limiting the building of resource processing to only domestic operations to ensure that its long term program for domestic self-sufficiency in both fuel and non fuel mineral resources is achieved in five-year steps that are intended to make China not only self-sufficient but also the world's leading economic power by 2049.

From the perspective of the human race, the distribution of both fuel and non-fuel mineral deposits is random. It can be argued that beginning in antiquity one important driver for imperialism has been at heart a quest to secure sufficient supplies of those mineral resources for one nation state to meet its demand for those resources within its own political control. From earliest times desirable or necessary resources were sought out first by trade and then by military or (lately) economic conquest.

I've been reading the Magazine of Fantasy & Science Fiction since it began (originally) as the Magazine of Fantasy "and" Science Fiction in 1949. Full disclosure: in the summer of 1955 my friend's older brother went off to college and he gifted me with most of the Astounding, Galaxy, and F and SF magazines published since the end of World War II. I spent

that summer reading them voraciously and have continued to do so ever since.

The latest announcement by the analytical data service, Benchmark Minerals' Intelligence, on lithium-ion battery cathode production in 2030, is something that I think should be in the Magazine of Fantasy & Science Fiction.

Benchmark tells us that their review of built and planned battery "giga factories" makes them predict a global total of 610 gigawatt hours of lithium-ion battery cathode production by 2030. This "prediction" is a projection that vitiates all of the EV transformation predictions except for the one within China.

To make 100 kWh batteries for one million vehicles, such as the Tesla Model 3s, would take 90 million gigawatt hours of batteries, which would require 16,000 tons of lithium measured as metal. To make the 5 million such vehicles mandated (required of it) by the Chinese OEM automotive industry for 2025 will require some 80,000 tons of lithium for the batteries. This would be equal to all of today's annual production of lithium, globally. China today, in mid 2021, is well on its way to achieving that goal. It, today, already processes more than 60% of the world's lithium mineral production into 82% of the world's lithium-ion chemicals for battery cathodes, which is incorporated into its, today's, 82% of world cathode production capacity!

China has made substantial investments, globally, in additional lithium production for its internal use. Many of these investments make no sense to Western capitalists because they do not seem to have profitability as their goal, but, rather, just supply increase. Western capitalism rejects this goal and calls it "discredited" state planning of supply. They are all wrong. The Chinese mandarin state is attempting to match future supply to future demand in China!

How much lithium will be processed in China in 2025? Enough to meet the EV production goal required by the current 5-year plan. How many lithium-ion batteries for vehicles will be produced in China in 2025? Enough to meet the production goal of the current 5-year plan.

These are the only predictions/projections that matter for EV battery demand in 2025.

Chinese money, externally, will continue to flow to the lithium exploration, early stage pilot production, and production sectors. Analysts will puzzle over China's strategy and bleat about nonsensical overpayment. They say the same about cobalt and puzzle over Chinese rare earths pricing.

But we know what they're doing.

Enjoy the Western GEMs rush while the Chinese are building their capacity for China 2025 and beyond(?).

Finally, I note that many Western economists are stating that the commodity markets are overpriced. Solely for Western demand they are, but not yet for Chinese demand.

1790 here we come.

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## **Murchison Minerals targeting the green energy metal ring**

As the green energy revolution begins investors are becoming increasingly aware of the coming demand tsunami expected for green energy metals. One of the better ways to play this thematic is via junior miners with a diversified green metals base and potential to significantly grow their resource. One

such junior offers exposure to two projects in Canada with exploration potential for copper, nickel, cobalt, silver, zinc and graphite.

The company is Murchison Minerals Ltd. (TSXV: MUR) ("Murchison"). Murchison's two 100% owned green energy metal projects in Canada are:

1. Brabant-McKenzie zinc-copper-silver project (Saskatchewan)
2. HPM nickel-copper-cobalt project (Quebec)

### **Brabant-McKenzie zinc-copper-silver project (Saskatchewan)**

The Brabant VMS project is located 175 kilometres northeast of La Ronge, Saskatchewan. The 626.9 km<sup>2</sup> property contains a high grade zinc-copper-silver deposit and covers favorable geology, multiple mineralized showings and geophysical conductors. The property can be accessed year round by a provincial highway and is just 1 km from the provincial highway, power, and water.

The current Resource estimate is Indicated 2.1 M t @ 10.97% Zn Eq. and Inferred 7.6 M t @ 6.92% Zn Eq. The deposit outcrops at surface and the mineralization is tentatively correlated over a 1.1km strike length. The mineralization can be further defined into an upper (averages 5.3 m thick) and a lower mineralized zone (averages 6.7 m thick). The deposit remains open at depth and laterally.

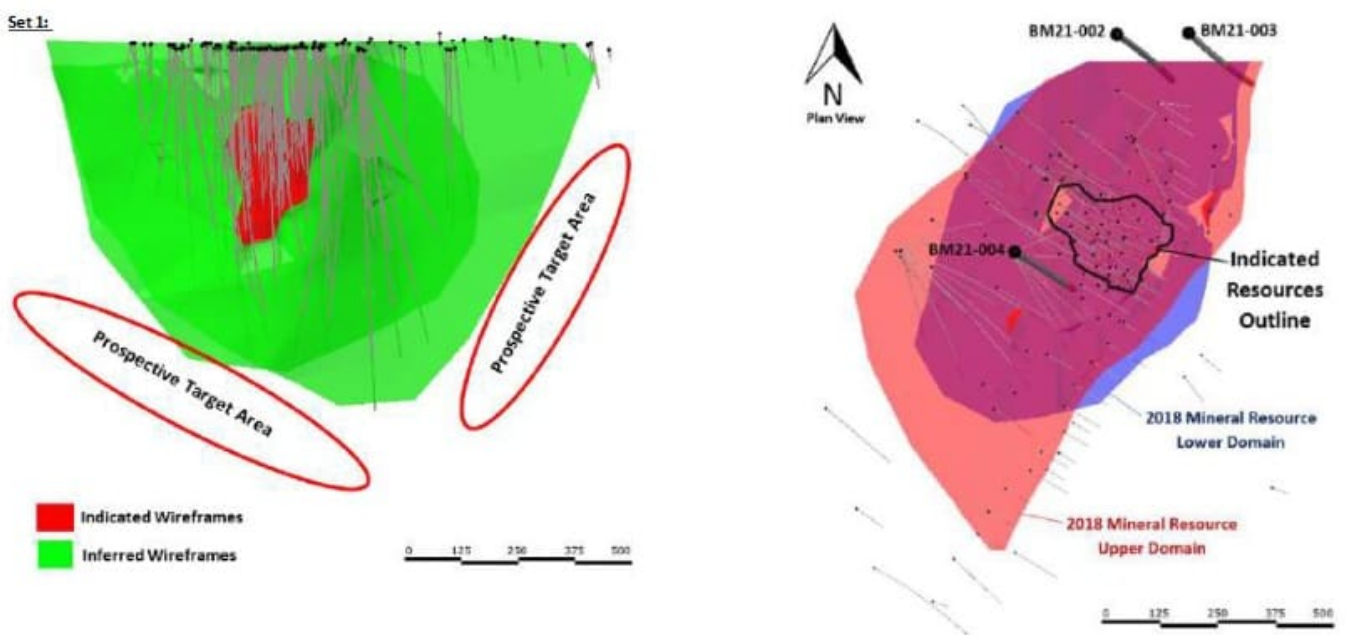
Looking at the resource details below it is notable that both the zinc and copper grades would be considered medium grade; however combining the Zn, Cu, Pb, Au, Ag leads to a high zinc grade (>10%) when calculating the zinc equivalent grade. The Brabant-McKenzie Project also has significant graphite potential.

### **Resource estimate for the Brabant-McKenzie zinc-copper-silver project**



Indicated Resource	Tonnes	% Zn	% Cu	% Pb	g/t Au	g/t Ag	% Zn Equiv.
Lower Mineralized Zone	1,200,000	8.13	0.75	0.67	0.28	48.00	12.67%
Upper Mineralized Zone	900,000	5.7	0.6	0.24	0.17	28.52	8.72%
Total	2,100,000	7.08	0.69	0.49	0.23	39.60	10.97%
Inferred Resource							
Lower Mineralized Zone	2,700,000	4.88	0.55	0.42	0.14	29.02	7.84%
Upper Mineralized Zone	4,900,000	1.22	0.57	0.06	0.08	12.46	3.37%
Total	7,600,000	4.46	0.57	0.19	0.10	18.46	6.92%

**Oblique view of drill hole traces and Mineral Resource wireframes with the prospective target areas**



Source: Company presentation

Murchison recently announced drilling 9.22% Zn Eq. at their newly acquired Betty Zone.

Murchison President & CEO, Jean-Charles Potvin, stated: “The Betty Zone intersections, in conjunction with the newly discovered geophysical target horizon, are an exciting development on the property. The two drill holes completed at the Betty Zone narrowly missed the primary conductor and yet still intersected mineralization – there is extremely promising potential.”

Next steps involve receiving assay results then further

drilling to grow the resource. In particular, at the Betty Zone where downhole geophysics identified a 700m x 200m conductor and new drilling is planned for Q3 2021.

### **HPM nickel-copper-cobalt project (Quebec)**

The Haut-Plateau de la Manicouagan (“HPM”) property is located between Baie-Comeau and Fermont, Québec, about 20 kilometres from an all-season road connecting the two communities. The property has a history of exploration notably with findings of high grade nickel-copper-cobalt sulphide mineralization.

At Barre de Fer, hole HPM-08-03, intersected 43.15 metres grading 1.74% Ni, 0.90% Co and 904 ppm Co (5.5% Cu equivalent). There are also numerous other historic drill results resulting in copper equivalent grades ranging from 1.4% to 6.6% with drill lengths up to 43.18 m.

At PYC, an EM conductor was traced for 1,400 m and a single hole drilled intersected 15.3 m @0.28% Ni, 0.14% Cu 0.06% Co (0.84% Cu equivalent). The initial deposits are open in all directions.

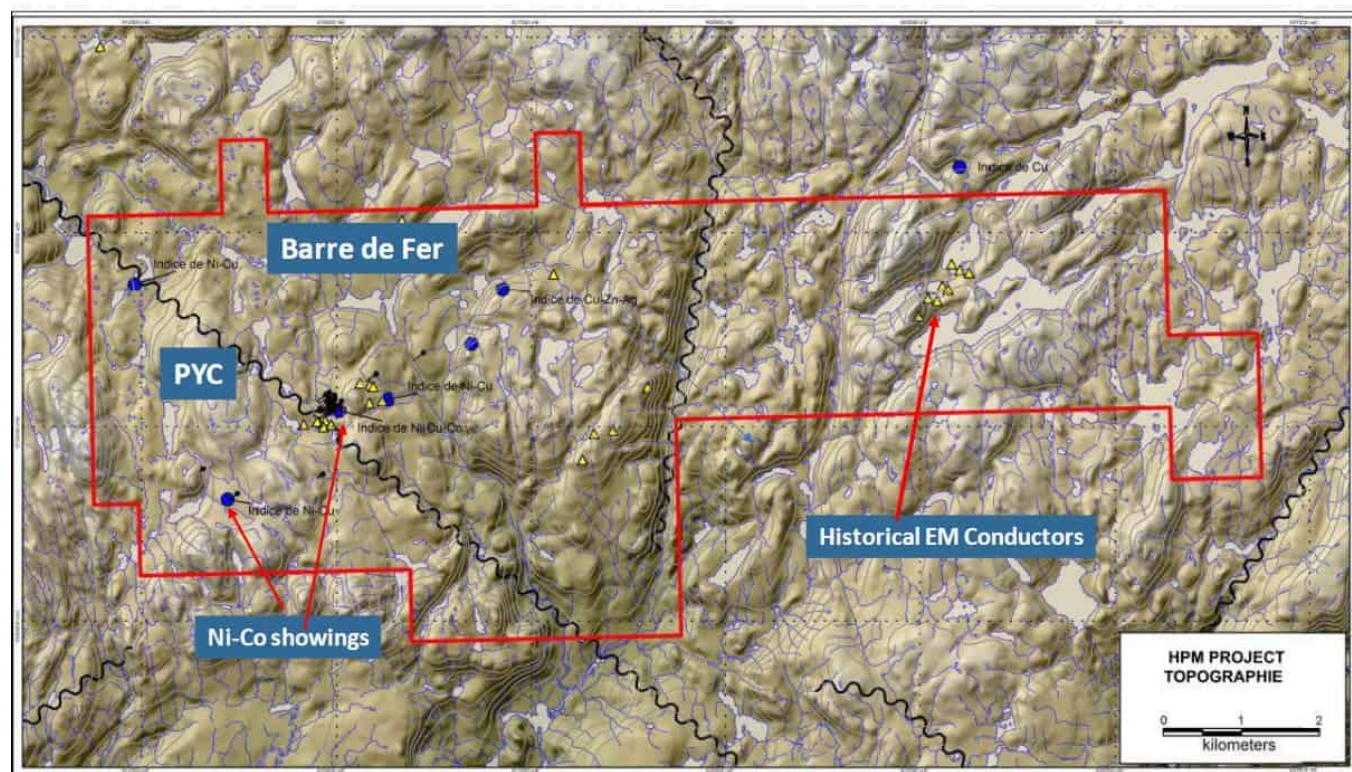
Murchison is currently running a VTEM airborne geophysical survey and a satellite remote sensing study with results expected out soon. A desktop compilation of the available technical data will be used to identify targets and plan a ground exploration program.

Murchison’s President & CEO, JC Potvin, commented: “The HPM project continues to show tremendous promise with its numerous gossanous nickel-copper-cobalt-bearing outcrops spatially linked to historical airborne EM anomalies. It is well-known that the prolific Voisey’s Bay Mine, some 620 km from our HPM project, was originally prospected and mapped as a pyritic gossan...”

It is still early days at the HPM Project, but based on the property’s history there looks to be good potential

exploration upside with valuable metals such as nickel, copper and cobalt.

## HPM Project (Barre de Fer deposit, PYC deposit) major faults, topography, mineral showings & EM conductors



Source: Company presentation

### Closing remarks

Murchison Minerals trades on a market cap of C\$7.6 million. The low market cap reflects the relatively early stage of the exploration, but if either of the projects can produce some great drill results and/or grow the size and quality of the resource then the stock price should potentially move higher.

One to watch in 2021.

# TNR Gold's Klip says all cars will go electric much sooner than anticipated

March 14, 2018 – “I am really in this game because I believe that all cars will be electric much sooner than a lot of people are anticipating. It means that we will have to produce, moving from today's level of just 217,000 tons of lithium carbonate as a market total in sales to 1 million tons annually,” states Kirill Klip, CEO and President of TNR Gold Corp. (TSXV: TNR), in an interview with InvestorIntel's Jeff Wareham.

**Jeff Wareham:** Kirill is the executive chair of TNR Gold. Now the name confused me, Kirill, because to be honest with you as much as I like gold I love what you are trying to do. Can you tell me what TNR is up to?

**Kirill Klip:** Thank you very much Jeff for having me today. We are building on a base of TNR Gold, the green energy metals royalty company. Our roots go far back. The company is more than 20 years old. I joined it 10 years ago. One of our most exciting projects, in the gold now, will be in Alaska, Shotgun Gold; right close in proximity of Donlin Gold. Now, as we know, Alaska is heating up, if I may, for mining again. My real dream is to build the green energy metals royalty company. I still remember the days when I was buying Royal Gold, if you remember. I was lucky enough to buy it below \$5. Then, of course, I was very happy to sell it over \$70. I would like to do the same, but now in the space of so-called energy metals.

**Jeff Wareham:** Okay. What energy metals excite you?

**Kirill Klip:** Energy metals excite me because I really think that we are at the very beginning of the megatrend and very

famous now in our still small circles is the Morgan Stanley report, which almost halves the valuation of all lithium mining companies. Just telling me we are at the very, very beginning of this megatrend because at the moment we just crossed 1% in sales of our general so-called internal combustion engine, so-called ice cars being taken over by electric cars. Now they are closing on 2%. As we discussed just recently in my interview about International Lithium, I am really in this game because I believe that all cars will be electric much sooner than a lot of people are anticipating. It means that we will have to produce, moving from today's level of just 217,000 tons of lithium carbonate as a market total in sales, to 1 million tons annually. It is not my focus, but by UBS. Then I will give you my focus. We have to produce in total 12 million tons of lithium by 2030 just to have 200 million electric cars worldwide, and then up to 36 million tons...to access the complete interview, [click here](#)

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