

Groundbreaking Research Report on Scandium by Hallgarten Shines a Light on Imperial Mining's Crater Lake Project

written by Tracy Weslosky | December 5, 2023

In the ever-evolving world of mining and mineral exploration, certain elements periodically spring into prominence, reshaping industry landscapes and investment priorities. One such element, Scandium (Sc), has recently been thrust into the spotlight, thanks to a groundbreaking report by Christopher Ecclestone of Hallgarten + Company. This report shines a light on Imperial Mining Group Ltd. (TSXV: IPG | OTCQB: IMPNF), a company poised to become the first primary Scandium miner in North America.

PDAC 2023 – The World's Largest Mining & Exploration Convention Returns with Something for Everyone!

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The Prospector's & Developers Association of Canada's (PDAC) [Convention](#) returns to Toronto, Canada from March 5 to 8 and once again, [InvestorIntel](#) is one of the media sponsors at the world's largest mining and exploration convention. InvestorIntel will be

located on Level 700 and Media Stage #2 if you want to come by and say “hello” as we will be meeting clients and interviewing companies for the duration of the convention.

The convention is a major event in the mineral exploration and mining industry and features programming, business and investment opportunities, networking, and a plethora of social events. The 2023 event will be one of the largest in its 91-year history and will include hundreds of hours of programming such as Capital Markets, Indigenous, Student & Early Career, Sustainability, and Technical programs.

Keynote Speakers

The event will provide exceptional insight into the industry’s future and feature a wide range of speakers, industry experts, and facilitators. There will also be keynote presentations from the following industry experts:

- **Commodities Outlook:**

- Ken Hoffman, Head of Battery Raw Materials from [McKinsey & Company](#), will give the keynote commodities speech on Sunday morning about the future availability of metals as it is facing a critical period due to several factors such as increasing consumption, diminishing reserves, declining ore grades, delays in permitting, limited capital, poor shareholder returns, and a trend towards de-globalization. However, he believes that innovative technologies and efforts to reduce emissions are poised to revolutionize the mining industry. In addition, he thinks that financing and development of these new technologies will be a significant challenge, but potential solutions are on the horizon.

- **Mineral Outlook:**

- On Monday, Sinead Kaufman, Chief Executive of [Rio Tinto Minerals](#) (NYSE: RIO | LSE: RIO), will address the mineral outlook for critical minerals focusing on the opportunities and challenges for the mining industry, as the world shifts to a low-carbon economy. As an example, Rio Tinto recently announced that it plans to provide low-carbon aluminum to BMW's (XTRA: BMW) vehicle production plant in South Carolina, for use in body components starting in 2024. Low-carbon aluminum from Rio Tinto's hydro-powered operations in Canada, combined with recycled content, could reduce CO2 emissions by 70% compared to BMW's benchmark for aluminum.

- **Technology Keynote:**

- The technology keynote speech will be presented by Sally Goodman, Vice President Generative Exploration, of [Newmont Corporation](#) (NYSE: NEM) on Tuesday. She will discuss recent technological advances that already impact the way mineral exploration is conducted and the pace of change that continues to move quickly. Her presentation focuses on how exploration geologists might harness newer technologies to make the next major discoveries. Newmont explains that only one in 3,000 discoveries lead to a mine development, only 10% of the world's gold deposits are economic for development, and exploration can last years to even decades, so it seeks to apply the latest thinking, technologies, and approaches to exploration activities.

- **New Discoveries Keynote:**

- Finally, the new discoveries keynote presentation will be hosted by a team from [Chalice Mining Limited](#) (OTCQB: CGMLF | ASX: CHN) for its platinum group element (PGE), nickel, copper, cobalt, and gold discovery at its Julimar project in Western Australia. At the [PDAC Awards Gala](#) on Tuesday night, Chalice will be presented with the Thayer Lindsley Award for “*a recent significant mineral discovery anywhere in the world*”.

With companies and attendees from over 120 countries, there will be many opportunities to learn more about the mining industry and companies to invest in. We hope to see you there.

Vertical Integration is all the Rage in the EV Industry, is Musk the New Ford?

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Last week, Bloomberg news [reported](#) that [Tesla, Inc.](#) (NASDAQ: TSLA) was in talks to buy [Sigma Lithium Corporation](#) (TSXV: SGML | NASDAQ: SGML), a company that is focused its 100%-owned Grota do Cirilo project, a large hard-rock lithium deposit in Brazil with lithium production aiming for 2024.

The stock price of Sigma Lithium was up 16% after the news was released and is up almost 250% over the past year in lockstep

with other lithium miners. Electric vehicle (“EV”) manufacturers want to lock up lithium supplies as the metal increases since it is a key component in EV batteries and there are worries that demand will soon outstrip supply.

Neither Telsa nor Sigma Lithium released any news release on the subject nor provided any comment to the media. Tesla, led by Elon Musk, is looking at various options to secure its lithium sources, including potentially its own mining and refining.

Previously to fund its exploration and development, Sigma Lithium had signed a funding and 6-year offtake agreement with [Mitsui & Co., Ltd.](#) (TSE: 8031) of Japan and also signed a six-year lithium offtake agreement with Korean-based [LG Energy Solution](#) (KOSE: A373220).

In the past, Tesla signed [contracts for lithium](#) with Ganfeng Lithium Group Co. (SZSE: 002460), one of the largest lithium suppliers in the world, and [more recently, Lontown Resources Limited](#) (ASX: LTR), an Australian miner.

Is Elon Musk the New Henry Ford?

The reappearance of Henry Ford-style vertical integration in car manufacturing marks a big 180-degree turn from the late 1990s when outsourcing to sub-contractors began.

In the early 1900s (over 100 years ago!), Henry Ford had a keen interest in acquiring and controlling the sources of raw materials for his company to achieve manufacturing self-sufficiency for his automobile operations. By achieving vertical integration, a business strategy in which a company controls all aspects of production, from raw materials to finished products, Henry Ford believed he would ensure a reliable supply chain and potentially reduce costs.

To achieve this desire, Henry Ford bought vast tracts of timberland and built sawmills in Michigan to control the wood required in his vehicles but also used to create shipping containers and for heating his factories. Henry Ford had a strong interest in controlling other sources of raw materials for his company, such as iron ore for steel production, a key component of automobiles, and also coal for his factories.

But Henry Ford also went further afield as he sought to secure a reliable source of rubber for his company. In the mid-1920s, he purchased a large tract of land in the Brazilian Amazon rainforest and established a rubber plantation and community called Fordlandia. Unfortunately, it was abandoned in the late 1930s due to challenges with the workers and the physical environment.

The New Vertical Integration Trend Continues...

Not to be outdone by Tesla, earlier this month, [General Motors Co.](#) (NYSE: GM) announced the closing of the initial tranche, [a \\$320 million investment](#), of a previously announced \$650 million investment and offtake agreement with [Lithium Americas Corp.](#) (TSX: LAC | NYSE: LAC). Lithium Americas is advancing the Caucharí-Olaroz lithium project in Argentina towards first production and is also developing the Thacker Pass lithium project in Nevada which is advancing towards construction.

Last year, [Rio Tinto Group](#) (NYSE: RIO | LSE: RIO) and the [Ford Motor Company](#) (NYSE: F) signed [an agreement](#) whereby Rio Tinto would supply Ford with materials including lithium, low-carbon aluminum, and copper and Ford would become the initial customer for Rio Tinto's Rincon lithium project in Argentina.

It's also happening with the smaller technology components in EV batteries. In June 2022, [Nano One Materials Corp.](#) (TSX: NANO), a company with patented processes for the low-cost, low-environmental footprint production of high-performance cathode materials used in lithium-ion batteries, [announced](#) a strategic US\$10 million equity investment and collaboration agreement with Rio Tinto. The two companies entered into an agreement under which they would work together to support the acceleration of the commercialization of Nano One's patented cathode technology.

Also in June of last year, [NEO Battery Materials Ltd.](#) (TSXV: NBM | OTCQB: NBMFF) announced a [C\\$3 million strategic investment](#) from Automobile & PCB Inc. (KOSE: A015260) into its Korean subsidiary for the first phase of its commercial plant project. NEO focuses on producing silicon anode materials for lithium-ion batteries through its proprietary single-step nanocoating process.

Final Thoughts

Ford's attempts to control raw materials were not always successful, and he faced challenges such as labor disputes, market fluctuations, and supply chain issues.

Nonetheless, his focus on vertical integration and self-sufficiency had an impact on the American manufacturing industry.

Perhaps what is old is new again.

Banking on a critical minerals closeology heyday

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Regional mining plays or area plays can be quite exciting for investors if you are a participant in the early stages. Generally speaking, someone announces some exciting results and if there is any unstaked land in the regions, dozens of opportunists will stake claims in the vicinity in hopes that [closeology](#) will benefit them. The most recent example I can think of was sparked by [New Found Gold Corp.](#) (TSXV: NFG | NYSE American: NFGC) in mid-2020. They came out of the starting blocks with some incredible gold drill results in Newfoundland & Labrador. They quickly followed up with a bunch more out of this world drill holes, and all of a sudden, if you were a Newfoundland gold play, you were along for the ride. Every time NFG posted results, almost everyone in the general vicinity got a lift to their stock price.

It's that early stage that creates the most excitement and euphoria because of all the blue sky potential. Albeit, if you bet on a player in the region that finally starts drilling their own play and results aren't spectacular, things can come crashing down in a hurry. But until that time, it's relatively easy for other players in the general vicinity to raise money and get a premium stock price on the back of the area player(s) that started it all. It can be a lot of fun (and quite lucrative) if you are early enough and disciplined enough to have tight stop loss orders or reduce exposure as the stocks jump around on news and rumors.

My introduction to this phenomenon was in the early 1990's when two distinct and separate opportunities began to take shape. One

was the discovery of diamonds in the Northwest Territories. Soon everyone was staking claims and obscure places like Lac de Gras and Snap Lake became well known to a lot of investors who still may not be able to find them on a map. Around that same time was the huge nickel discovery in Voisey's Bay, Newfoundland & Labrador that spawned a frenzy that would be hard to replicate, even today. There were dozens of publicly traded junior miners, some legit and some that pushed the legal limits when it comes to disclosure. Fortunately, between the Voisey's Bay insanity and the Bre-X fiasco, reporting and legitimacy of drill results and resource estimates are something most investors don't have to worry about anymore.

I think we may be on the cusp of another regional mining play but perhaps driven by a couple of extra factors that seem to be important investing themes of late – supplying the carbon emission reduction machine and “friend-shoring” or supply chain security. It should come as no surprise to readers that this is a recurring theme at [InvestorIntel](#). Governments are passing legislation and doling out cash to support local supply, processing and infrastructure of critical minerals, while at the same time attempting to minimize or even eliminate Chinese influence. That is a tailwind for domestic mining companies, at least for the next few years.

So what do I think could be the next big regional mining play? Drum roll please...lithium. More specifically, hard rock lithium or pegmatite in Ontario and Quebec. Obviously, lithium has been a hot place for investors for quite some time now, but the bulk of the excitement was being generated by the big brine plays, mostly in South America. There have already been several big winners there including lots of M&A resulting in a lot of money made by investors.

With that said there has already been some pretty good runs for

some of the Canadian lithium names. A quick look at the one year chart for [Critical Elements Lithium Corporation](#) (TSXV: CRE | OTCQX: CRECF) and [Patriot Battery Metals Inc.](#) (TSXV: PMET | OTCQX: PMETF | ASX: PMT) and you'll see double and a 10 bagger. But I think we are still in the early innings for this part of the world. Primarily because the market is desperate for non-Chinese owned, controlled or processed lithium supply. Additionally, hardrock lithium is simple, understood, and there appears to be plenty of it not far from key EV battery manufacturing locations in Ontario, Quebec and Michigan.

Another reason I think things could get really spicy for this area play is that most of the deposits identified thus far have been close to surface. That means a little bit of capital will go a long way to generating plenty of drill results for the market to chew on. Lots of news in a relatively short period of time keeps the momentum going and draws in more investment dollars that in turn raises the premium of almost everyone in the region (at least initially). Add the potential wildcard of a takeover by a mining major and you could see share prices kick into overdrive. And why would I suggest something like this? Mining giant Rio Tinto (NYSE: RIO) recently stated it is actively searching for lithium assets as it expects prices for the metal to remain high for a long period of time.

To me, all the pieces seem to be falling into place for the type of focused regional mining play that can result in some pretty wild stock gyrations in a relatively short period of time. You have to be wary and nimble to achieve success when participating in this type of opportunity, but the rewards can be worth it. Ontario and Quebec are emerging as top lithium areas in mining friendly jurisdictions. Now the question is whether big money will start chasing this space and reward early investors.

With lithium demand skyrocketing here are 5 early-stage lithium junior miners to watch

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With lithium demand projected to increase [10-11](#) fold this decade, there is a huge opportunity for successful lithium junior miners to prosper. Last year Rio Tinto was [quoted as saying](#) that “filling the supply gap will require over 60 Jadar projects”.

Then just last month Tesla CEO Elon Musk said (Tesla Q1 2022 earnings call [transcript](#)): “...can more people please get into the lithium business? Do you like minting money? Well, the lithium business is for you...” Musk also [said on Twitter](#): “Price of lithium has gone to insane levels! Tesla might actually have to get into the mining & refining directly at scale unless costs improve.”

Of course, industry experts have been warning of EV metals supply deficits for some years, but it appears these warnings mostly fell on deaf ears. With this background in mind, today we take a look at some early-stage lithium junior companies with the potential to help fill the lithium supply gap in the second half of this decade.

China lithium carbonate spot prices – up about 6x over the past year due to lithium shortages



Source: [Trading Economics](#)

5 early-stage lithium junior miners to watch out for in 2022 (in no particular order)

1. Essential Metals Limited (ASX: ESS)
2. Green Technology Metals Limited (ASX: GT1)
3. Metals Australia Ltd. (ASX: MLS)
4. Lithium South Development Corporation (TSXV: LIS | OTCQB: LISMF)
5. Winsome Resources Limited (ASX: WR1)

[Essential Metals Limited](#) (ASX: ESS)

Essential Metals is an Australian exploration company with 9 projects (lithium, gold, gold JV, and nickel JV) all in Western Australia (WA). Three of the projects are 100% owned and 6 are JV's with other companies, with ESS retaining a 20-30% interest (see below).

Essential Metal's flagship project is their 100% owned [Pioneer Dome Lithium Project](#) in WA. The Project is located in a known lithium corridor and the gold-rich Eastern Goldfields region of WA, which contains the Mt Marion, Bald Hill and Buldania lithium mines/projects. The Project has a reasonable sized JORC compliant [Total Resource of 11.2Mt at 1.21% Li2O](#), still with exploration upside. The Resource starts from or near surface. Drill assay results from the recent campaign are due out by the [end of May 2022](#).

Essential Metals also has two other 100% owned gold projects in WA, namely the [Golden Ridge Project](#) (100% owned), 20kms from the

Kalgoorlie super pit and the [Juglah Dome Project](#), 60km east-southeast of Kalgoorlie. In addition, the Company has numerous JV projects including [Acra Gold Project JV](#) (25% interest), [Kangan Gold Project JV](#) (30%), [Balagundi Gold Project Farmin/JV](#) (25%), [Larkinville Gold Project Farmin/JV](#) (25% gold interest) (hosts a JORC Resource of 19,700 t @ 3.02 g/t for 11,600 oz. Au), [Blair-Golden Ridge Nickel Farmin/JV](#) (25% nickel interest) and [Wattle Dam Nickel Joint Venture](#) (20% nickel interest).

Essential Metals trades on a market cap of [A\\$162 million](#).

Essential Metals summary showing the Pioneer Dome Lithium Project location near other successful lithium mines and projects in WA



Source: [Essential Metals company presentation](#)

[Green Technology Metals Limited](#) (ASX: GT1)

Green Technology Metals (GT1) has multiple lithium projects (options to acquire, some at 80% interest others at 100% interest) spread over [39,982](#) hectares in Ontario, Canada. GT1's most advanced project is the Seymour Lithium Project with a JORC Total Mineral Resource of [4.8Mt @ 1.25%](#). Within the Seymour Project, drill results include an impressive [40m @ 1.54% Li2O](#). When combining all GT1's Ontario Lithium Projects the target resource is 50-60 MT @ 0.8-1.5% Li2O.

An updated resource estimate is targeted for Q2, 2022. Management is top tier and highly experienced.

Green Technology Metals trades on a market cap of [A\\$212 million](#).

GT1's portfolio of multiple lithium projects in Ontario Canada



Source: [GT1 website](#)

Metals Australia Ltd. (ASX: MLS)

Metals Australia is an Australian junior miner with several projects. Their most advanced project is the [Lac Rainy Nord Graphite Project](#) in Quebec, Canada with an Indicated and Inferred Resource of [13.3Mt at 11.5% TGC for 1.529M tonnes of contained graphite](#).

With regards to lithium, Metals Australia 100% owns the promising Manindi Lithium and Zinc Project in WA. The Project has several lithium-cesium-tantalum (LCT) pegmatites spread over a total [3km strike length](#). Individual pegmatites have strike lengths of over 300m and widths of up to 25-30m. Past drilling includes intersections of [15m @ 1.2% Li₂O, 117 Ta₂O₅ from 34m](#). Drilling is ongoing notably at the Foundation pegmatite where consistently high grade lithium grab samples ([1% Li₂O and >0.4% Rb](#)) have been detected over the entire 500m strike length. Assay results are expected shortly. Manindi also has an existing JORC 2012 Resource estimate of [1.08Mt at 6.52% Zn, 0.26% Cu and 3.19g/t Ag](#).

Metals Australia trades on a market cap of [A\\$54 million](#).

Lithium South Development Corporation (TSXV: LIS | OTCQB: LISMF)

Lithium South Development Corporation (Lithium South) is already quite advanced at their 100% owned Hombre Muerto North Lithium Brine Project in Argentina. The Project lies near several billion-dollar projects such as Livent's lithium mine, Allkem's Sal de Vida project, and POSCO's quite new project purchased for US\$280 million. Hombre Muerto is the premiere salar in Argentina, known for very high grade lithium and very low

impurities.

The Hombre Muerto North Project has an [M&I Resource of 571,000t contained LCE](#), with an excellent grade of 756mg/L, and a very low Mg/Li ratio of 2.6:1. [Drilling is about to begin](#) at their Alba Sabrina claim with results to follow most likely later in Q2, 2022. The Resource has potential to grow significantly from here.

Lithium South trades on a market cap of only [C\\$68 million](#).

[Winsome Resources Limited](#) (ASX: WR1)

Winsome Resources is a lithium explorer focused on their 4, 100% owned, projects spread over [50,000 Ha](#) in Quebec, Canada. The Projects are Cancet, Adina, Sirmac-Clappier, and Decelles (option to acquire 100%).

The flagship Cancet Lithium Project has had outstanding previous drilling success and boasts a JORC [Exploration Target of 15-25Mt @ 1-2% Li₂O + 100-250ppm Ta₂O₅](#). The past drilling includes 59 holes for 5,216m averaging ~70m drill depth defining a shallow high-grade lithium deposit. Drilling will continue in 2022 with a substantial maiden Resource estimated expected later this year.

Winsome Resources trades on a market cap of [A\\$66 million](#).

Summary of Winsome Resources 4 lithium projects in Quebec, Canada



Source: [Winsome Resources company presentation](#)

Closing remarks

Investing in early-stage lithium juniors carries higher risk and

reward.

Of the 5 companies discussed in this article three (Essential Metals, Green Technology Metals, Lithium South Development Corp.) already have a lithium resource, one (Winsome Resources) has defined a lithium deposit with a resource estimate due later in 2022, and the other (Metals Australia) has a graphite and a zinc-copper-silver resource with an exciting lithium project with drill results out soon.

I could also include [Avalon Advanced Materials Inc.](#) (TSX: AVL | OTCQB: AVLNF) in this group, but I already wrote on them recently [here](#), discussing their lithium projects, lithium resource, and plans for a JV lithium refinery in Thunder Bay which were given a huge boost recently as you can read [here](#).

Finally to answer Elon's question: "Can more people please get into the lithium business?" The problem is it takes at least 5-10 years to build a lithium mine from scratch. I will finish with two key quotes last month from lithium market experts:

- Benchmark Mineral Intelligence [was quoted stating](#): *"Battery capacity is currently growing at twice the speed of lithium raw material supply."*
- Mr. Lithium, Joe Lowry [was quoted stating](#): *"I believe there will be a day in the future when lithium is in oversupply, but it won't be in this decade....You can build a battery factory in two years, but it takes up to a decade to bring on a lithium project."*

Disclosure: The author is long ALL the lithium companies mentioned in this article and intends to hold long term.

Kodiak Copper proves that what shareholders want is leadership, copper – and gold

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On September 14 it was [announced](#) that Teck Resources has agreed to make a strategic investment of a 9.9% interest in Kodiak Copper (TSXV: KDK) ('Kodiak'), at C\$1.95 per share raising C\$10.5m.

Add in drill results on [September 3rd](#) that included [282 m of 0.70% copper and 0.49 g/t gold \(1.16% CuEq\)](#) at Kodiak's advanced MPD copper-gold porphyry project in British Columbia, shareholders have responded positively. In fact, **Kodiak Copper's stock price has risen from C\$0.50 on August 24th to C\$2.80 as of September 28th for a 460% increase in the last month.**



[Source](#)

Today I take a deeper look at Kodiak's MPD porphyry project. As most resource investors know copper porphyry projects can be enormous in size and contain valuable by-products (gold, silver, molybdenum) which can make them economical even at lower grades than other projects.

MPD Copper-Gold Porphyry Project

The MPD Project is located in the prolific Quesnel Trough in southern British Columbia, Canada. Kodiak amalgamated 3 projects into one – Man, Prime, Dillard – hence the name MPD. The region is mining friendly with good access to infrastructure.

The MPD Project has road access and is close to infrastructure



[Source](#)

Previous drilling by Newmont Corporation and Rio Tinto was focused on depths up to 200 meters below the surface. Kodiak's strategy is to use modern mining methods and to drill deeper. So far it is paying off. In November 2019, Kodiak (then known as Dunnedin Ventures) started its first drill campaign at MPD and discovered the Gate Zone, including several promising drill results that followed. The key was they were drilling deeper than before. The January 2020 [announcement](#) included the following:

- **"The new discovery underlies a large copper-in-soil anomaly with over one kilometre of strike** at the 'Prime' area of the project. Over 100 historical drill holes containing copper and gold mineralization define **a large, likely multi-centre porphyry system across 10 square kilometres of the MPD project.**
- The Gate Zone includes intervals of higher grade copper-gold within a broad lower grade interval, with mineralization present from **near surface to a vertical depth of 800 metres**, and remains open at depth.
- Higher grade intervals include: 74.9 metres of 0.54% CuEq (0.43% copper and 0.11 g/t gold) from 297.0 metres to 371.9 metres. 102.0 metres of 0.68% CuEq (0.53% copper and 0.16 g/t gold) from 404.9 metres to 507.0 metres.
- Broad moderate grade intervals include: 763.6 metres of 0.28% CuEq (0.21% copper and 0.07 g/t gold) from 52.3 metres to 816.0 metres (entire bedrock drill hole length). 340.7 metres of 0.42% CuEq (0.33% copper and 0.09 g/t gold) from 219.0 metres to 559.7 metres."

Combining this with the September 2020 result of 282 m of 0.70% copper and 0.49 g/t gold (1.16% CuEq), with further assays results pending, and further drilling in 2020; you can start to see why investors (including mining giant Teck Resources) are getting excited.

Kodiak Copper's MPD project historic drill results, strong discovery potential at depths below 200m



[Source](#)

Closing remarks

Kodiak Copper was founded by Chris Taylor who is well-known for his gold discovery success with Great Bear Resources, Kodiak is lead by President, CEO and Director Claudia Tornquist, the former General Manager at Rio Tinto. Kodiak is also part of the Discovery Group led by one of the most successful mining entrepreneurs in Canada John Robins and added to this, we now have Teck Resources (market cap US\$7.4b) taking a 9.9% interest.

More assay results (drill hole MPD-20-005) are due out soon and then there will be further drill results in Q4, 2020. With a current market cap of C\$102m means, Kodiak now has plenty of cash and plans to drill their US located Mohave porphyry project next.