How the Chinese dominance in the rare earths space creates a barrier for non-Chinese companies to enter the supply chain

In this episode of the **Critical Materials Corner with Jack Lifton**, Jack interviews Ed Richardson, President of American's oldest magnet maker, Thomas and Skinner Inc., and a longtime veteran himself of the permanent magnet manufacturing industry, about the possibility of the revival of an American rare earth permanent magnet industry capable of supplying the needs of the North American market.

In this InvestorIntel interview, which may also be viewed on YouTube (click here to subscribe to the InvestorIntel Channel), Ed went on to explain how the Chinese companies are competitive in the rare earths space and how the Chinese dominance in the rare earths space creates a barrier for non-Chinese companies to enter the supply chain. Jack and Ed also discussed how China is using rare earths raw materials from other countries to expand its magnet-making capacity to satisfy its own local demand.

To watch the full video, click here

About Thomas and Skinner Inc.

Thomas & Skinner is the world's leading manufacturer of cast and sintered alnico magnets, magnetic assemblies, and transformer laminations. Through its wholly owned subsidiary, Ceramic Magnetics, Inc., Thomas & Skinner is also a leading manufacturer of soft ferrite magnets. They are committed to providing our customers with the highest-quality, highest-

performing magnetic materials available.

To learn more about Thomas and Skinner Inc., click here

Disclaimer: This interview, which was produced by InvestorIntel Corp. (IIC) does not contain, nor does it purport to contain, a summary of all the material information concerning the "Company" being interviewed. IIC offers no representations or warranties that any of the information contained in this interview is accurate or complete.

This presentation may contain "forward-looking statements" within the meaning of applicable Canadian securities legislation. Forward-looking statements are based on the opinions and assumptions of management of the Company as of the date made. They are inherently susceptible to uncertainty and other factors that could cause actual events/results to differ materially from these forward-looking statements. Additional risks and uncertainties, including those that the Company does not know about now or that it currently deems immaterial, may also adversely affect the Company's business or any investment therein.

Any projections given are principally intended for use as objectives and are not intended, and should not be taken, as assurances that the projected results will be obtained by the Company. The assumptions used may not prove to be accurate and a potential decline in the Company's financial condition or results of operations may negatively impact the value of its securities. Prospective investors are urged to review the Company's profile on Sedar.com and to carry out independent investigations in order to determine their interest in investing in the Company.

If you have any questions surrounding the content of this interview, please email info@investorintel.com.

Only through a Secure Supply of EV Metals (Rare Earths) can a Hegemony Be.

It has been reported today that the Biden administration is looking to allied nations as primary sources of critical mined raw materials, and that it, the administration, will focus on supporting the domestic American processing of such imported ores into useful products focused on domestic production of EVs, their batteries, and components. This is an example of a complete disregard by the Biden administration for America's competitive advantage, safety, and, ironically, its economy to placate a loud anti-mining luddism that pervades the American left. It is in two words, hypocritical and stupid. It's hypocritical because it assumes that out-of-sight, out-of-mind, will placate the left's "greens" into thinking that pollution in Australia, Canada, or Brazil and its attendant costs doesn't exist. It's stupid, because it makes no economic sense. Transporting raw material concentrates to the USA for processing is rarely cheaper than mining and processing them domestically. In the case of cobalt, for example, its "ore" is mostly a byproduct of copper or nickel production, and there is no cobalt mine in the USA and there is only one facility in North America (Canada) capable of processing the ore concentrate into "battery grade" cobalt. In the case of the rare earths almost all ores are radioactive and thus have to be "cleaned" at licensed and specialized facilities. Only one such private facility exists today in the USA.

There is today no commercial rare earth separation, metal making, alloy making, or rare earth permanent magnet manufacturing in the USA. The combined annual demand of the

military and consumer industries in the USA for rare earth permanent magnets is between 10,000 and 15,000 tons per year. Never in American history has so much of any of these forms of rare earths been produced in a single year.

Yet Washington believes that the annual processing into fine chemicals and metallurgical forms of 170,000 tons each of lithium and cobalt (the amount required annually for 17 million BEVs if each has a 60 kWh battery [the smallest battery now offered by Tesla]) and of 50,000 tons per year of rare earth permanent magnets (the amount required by 17 million EVs annually if each uses one rare earth permanent magnet motor) could be accomplished by 2030.

The Biden administration's plan for sourcing critical materials for EVs is also an indication of the end of American dominated natural resource globalization and the acceptance of the fact that China has already constructed and is operating a global sourcing system for critical materials for China's domestic economy, which includes an emphasis on domestic Chinese processing of the ores of critical materials and a total domestic Chinese supply chain for the end-use products that depend on downstream forms of the critical materials for their operation and use both in the civilian and military markets. China today processes 60% of the world's lithium and 80% of the cobalt as well as 90% of the rare earths!

China has published its China2025 plan to become independent in 10 key technologies by 2025. Its globalization of secure sources of technology materials to ensure the success of China2025 is for all practical purposes already complete, as planned.

It is said that we live in the age of technology, and that we are all enjoying the fruits of applied science (aka, technology), but we have to ask "What is the purpose of a technology, in human terms?" Is it the jobs and spin-offs from the manufacturing and distribution of high-tech, consumer-

oriented, and quality-of-life-improvement -goods to the general population through the economies of miniaturization, which alone makes them economically available? Is it primarily for military uses? Is it for both, the civilian and military markets, needs, and satisfaction?

For the fifty years from the successful conclusion of the manned lunar landing program in 1969 until today the target of technology has been upon making economically available business and leisure travel (civilian jet passenger and freight airliners), making individual wireless mass communication, both audio and video, cheap and available, and making electrical energy universally available and affordable.

The last of these, the universality of cheap available electric power, is now the basis of our technological civilization!

Unquestionably it was military patronage of science and engineering from 1940 to 1970 that brought about the discovery of deposits, production, and processing of the technology metals that enable the miniaturization, and thus widespread consumer availability, in today’s society, of high-tech goods and services. But since President Nixon canceled the Space Shuttle Program in 1973 original research for product development in the USA has been the purview of private industry.

We are now at a turning point.

There are two directions to go for the need to have secure supplies of **technology enabling metals.**

One is to let the free market system as practiced in the USA make sure that items are always available through demand driven supply. The USA maintains a (ridiculously) small supply of critical materials for the Defense Department in case of emergencies, and private industry balks at inventory costs.

The other is to formulate and act upon an industrial policy, with which the State mandates a supply agenda and sets production quotas for all companies involved in a particular technology enabling metal supply chain. The Chinese government maintains large stocks of technology enabling metals to smooth out both demand spikes and prices.

The United States' financial system, known as free market capitalism, operates as if profit is the sole purpose of the existence of any manufacturing or service enterprise. China has adopted a Capitalism with Chinese Characteristics in which the sole purpose of any Chinese venture is to do something which is good for China. Private enterprise is allowed, and individuals may accumulate enormous wealth if and only if this purpose, the good of China, is the goal.

A hegemon is the first among equals. Athens was the first to be known as a hegemon, followed by Alexander's Macedon, then Imperial Rome, and more recently, the British Empire, and the United States. In 1947 America had half of the world's gold, produced half of the world's steel, the most powerful military in history, and was embarking on an unparalleled era of technological brilliance.

There can only be one hegemon, by definition.

Globalization of the sourcing of critical materials with American characteristics (Neoliberal, free market, economics) can't work. It's too late.

To paraphrase the poet: This is how hegemony ends. Not with a bang but with a whimper.

Vital Metals aims to become the lowest cost producer of mixed rare earths oxide outside of China

Demand for secure supply of rare earths grows with technology and electric vehicles

We have known about this ”problem” for more than 20 years. You don’t have to be sinophobic, but if you are a manufacturer who relies on the sourcing of Rare Earth Elements (REEs) for your manufacturing outputs, maybe you should be. China still counts for about 80% of the world’s REE production. They have dominated the world of rare earths since the late 1990s, but growing reliance on technology requires more and more of the somewhat obscure but necessary REE minerals to create our electronic gadgets and increasingly, electric vehicle and accessory components.

Enter Vital Metals Limited, (VML: ASX) an Australian listed global explorer of rare earths. While their initial impact may be small in the future supply-chain for REEs, they are an important part of the global movement for the diversification of REE production from a concentrated source – think eliminating the OPEC dominance of oil production 50 years ago and how the world succeeded (mostly) with that.

OK – what is a rare earth element and why are they important? There are technically 15 REEs, although two others are generally included as they have similar characteristics. They are further broken down into “light” REEs that are produced globally (and are in abundance) and “heavy” REEs that are

produced mostly in China and are in limited supply. Heavy REEs are in demand for their usage in high technology and clean-energy applications. The US military is buying these from China to manufacture – among other things – their armored vehicles, precision-guided weapons, batteries and night vision goggles. China is not the enemy, but at the very least the global supplier is not considered a "friendly".

REEs are mined. Mining of these elements is usually in remote and not-so-hospitable locations. Any region that has REE potential that is close to accessible infrastructure should be on the list of "mines to be developed".

Vital Metals has two of these projects, one in Canada and one in Africa. Their Nechalachco rare earths project in the Canadian Northwest Territories (NWT) on the edge of Great Slave Lake is scheduled to commence the production of rare earth oxide in the first half of 2021. Everything is on track to meet this production schedule as a result of years of previous work on the project (and expenditures of more than $100 million), and the design of the project parameters is aimed at early cash flow (and low capital costs) of a production stream that is highly desirable to end users.

On August 22, 2020, Vital Metals announced a binding term sheet for the construction and operation of a rare earth extraction plant to produce a mixed rare earth carbonate product. Significantly, the plant will be located adjacent to the Saskatchewan Research Council's (SRC) planned separation plant which will be able to convert rare earth carbonate mixes to commercial grade rare earth oxides. Vital's plant is expected to be operational in Q3-2021 with feedstock from their Nechalachco mining project.

Most people do not know that the SRC has almost a decade of expertise in REEs (associated with uranium mining in Saskatchewan) and recently announced the construction of a rare earth processing facility in Saskatchewan, the first of

its kind in Canada. The SRC facility is expected to be operational in late 2022. It is hard to overestimate the importance of Vital Metals' rare earth extraction plant being built in the neighborhood of the SRC facility.

Source: company presentation

The team at Vital are recognized for their expertise in the global rare earth element arena including all necessary elements of mining, processing, geology and marketing. The devil really is in the details, and Vital's team has a cost and time effective strategy to deliver early production and cash flow. Remote locations require extensive planning and timing is everything as mining and processing equipment can only be delivered and setup during certain weather windows.

The company's market capitalization is only about A$26 million. They estimate that developing the first mine in northern Canada will require less than A$20 million total capital cost for their first project (North-T, 100% interest), some of which can be funded by future generated cash flow. There is also significant potential upside in the area for exploration and production expansions, which would likely also be funded by internally generated cash flow. The company has a plan to develop the bigger Tardiff Project by 2024, aiming for a 20 year mine life and leveraging off existing infrastructure as the "next phase" in the area.

Vital Metals' second REE project is in Tanzania, with rail and power infrastructure within approximately 10 km of their 90% owned Wigu Hill Project. Previous owners spent approximately $10 million and management is of the view that this is a high grade, potential world class resource. This asset has an older NI 43-101 evaluation report attributing to it 3.3 Mt at 2.6% REO.

The global movement away from China as the main source of rare

earth elements has been underway for a number of years. The world always knew that as technology developed REEs would become more and more important, but with the development of electric vehicles in particular it is now becoming increasingly apparent that there is a need for more secure and friendly sources of REEs. Vital Minerals' aim is to become a global player in the production of REEs. Their expertise, projects and potential appear to have put them squarely on this path.

See also video: Interview with Vital Metals' Managing Director Geoff Atkins on their rare earths production and new extraction facility.

Vital Metals new Rare Earths Extraction Plant planned adjacent to SRC's Separation Plant

Vital Metals on track to become a rare earths carbonate producer in 2021

In news out today rare earths carbonate developer Vital Metals Limited (ASX: VML) ('Vital'), through its 100% owned subsidiary Cheetah Resources, has signed a binding Term Sheet with the Saskatchewan Research Council ('SRC') to negotiate definitive agreements for the construction and operation of a Rare Earth Extraction Plant to produce a mixed rare earth

carbonate product. The capital cost estimate of the Rare Earth Extraction Plant is A$5.25m.

The Rare Earth Extraction Plant is planned to be located adjacent to a recently announced Rare Earth Separation Plant in Saskatchewan, Canada, and could provide a rare earth carbonate feedstock to produce a commercial grade separated rare earth oxide. The proximity makes it natural for SRC's Separation Plant to be a potential customer of Vital/Cheetah's mixed rare earth carbonate product from their planned Extraction Plant.

Vital Metals' Managing Director Geoff Atkins comments

"The signing of this Term Sheet with SRC marks an important milestone for Vital and the development of the Nechalacho Project," said Vital Metals' Managing Director Geoff Atkins. "Whilst the Definitive Agreements continue to be finalised in line with the Term Sheet, the Company is excited about the prospect of the construction and operation of a rare earth demonstration extraction plant, as well as it being co-located with SRC's recently announced rare earth separation plant. Being the only rare earth project in Canada with near term production capability, co-located with Canada's only Separation Facility, provides Vital the opportunity to be a cornerstone of the North America Critical Minerals Strategy."

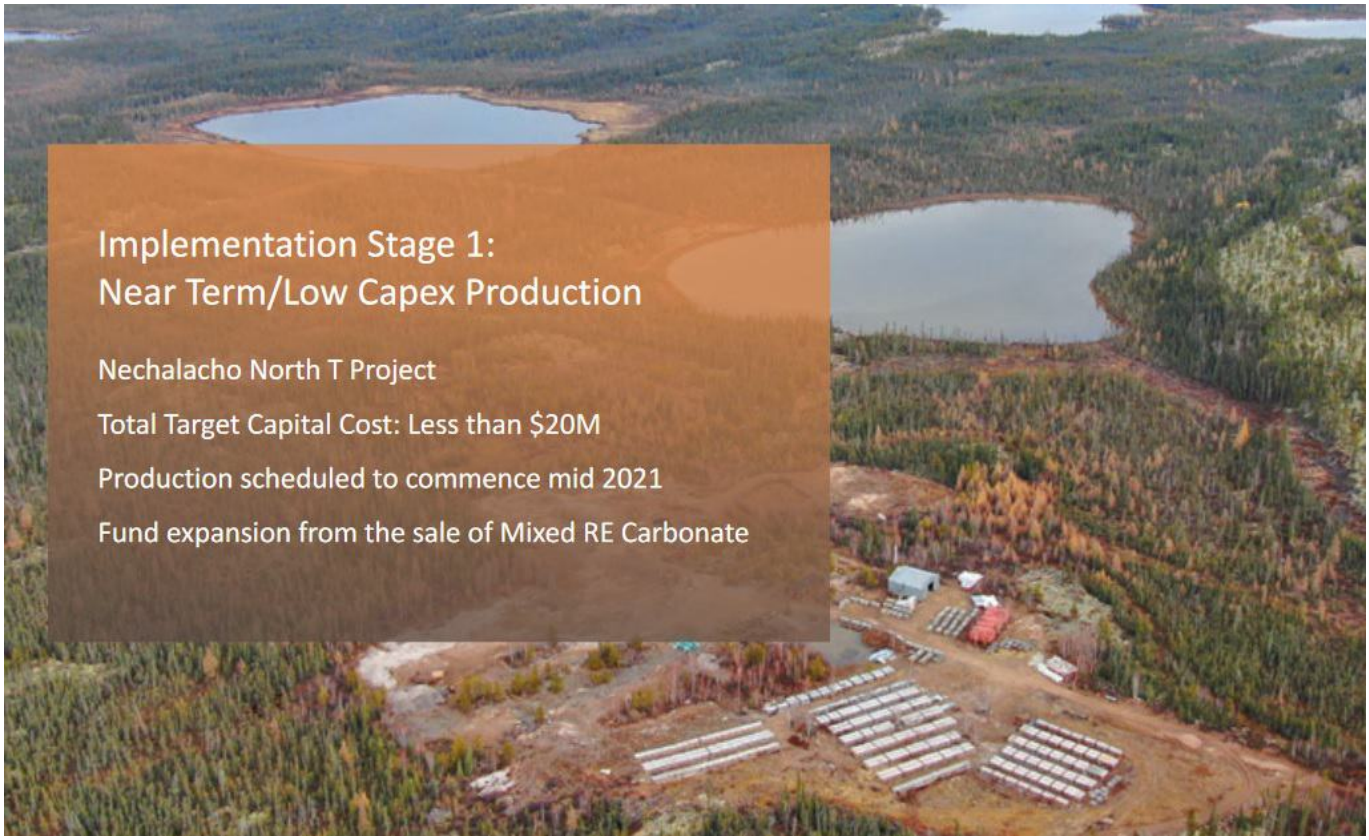
Vital Metals low CapEx strategy to become a rare earths carbonate producer in Canada

Traditionally rare earth miners would look to build a huge plant to make a rare earths end product, however Vital Metals has a different strategy to reach production quicker and with a much lower CapEx, as well as supporting a much needed **non-China rare earths supply chain**.

Vital is an explorer and developer with highly prospective mineral projects, focusing on their world-class rare earth Nechalacho Project in Canada. **Their strategy is to be the**

largest independent supplier of clean mixed rare earth feedstock outside of China, with a goal to produce a minimum 5,000 tonnes of contained rare earth oxide (REO) by 2025. A key component to the plan is a much smaller scale plant with an extremely low CapEx of just A$20m to produce rare earth carbonate. Subject to the various hurdles such as funding, Vital Metals hopes to begin production at their Nechalacho Project in 2021. Once in production, Vital's strategy is to generate low cost near-term cash flow to fund the development of large-scale operations.

Vital Metals Nechalacho Project and Stage 1 strategy



Source

Vital owns two world class rare earth projects – Nechalacho in Canada with ~95mt at 1.46% TREO, and Wigu Hill in Tanzania with 3.3mt at 2.6% TREO.

The Nechalacho Project (Canada)

The Nechalacho Project is a rare earth project located in

Northwest Territories, Canada. The current resource estimate is 94.7mt at 1.46% REO (measured, indicated and inferred). The North T Zone at Nechalacho hosts a high-grade resource of 101,000 tonnes at 9.01% LREO (2.2% NdPr). Vital is targeting production of rare earth oxide in 2021 with early production from the North T starter pit.

More than $120 million has been spent by previous owners on drilling, permitting and project development at Nechalacho, which includes a 40-person camp and airstrip. The Project is **fully permitted for a 600kt mining and ore sorting operation** and is 100km from Yellowknife. The local infrastructure is well established with access to the Canadian National Railway at Hay River. Access to the site is via barge in summer and ice road in winter.

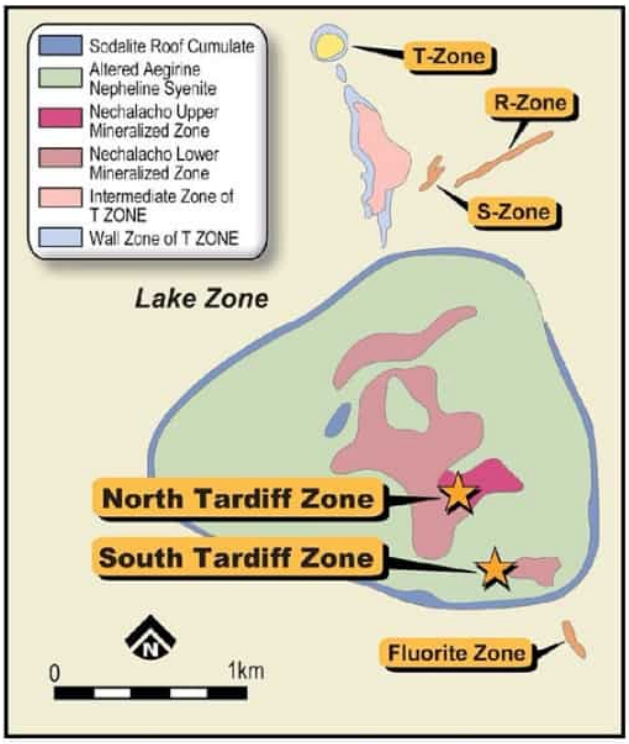
The metallurgy is a simple process involving a 35%+ initial beneficiation via ore sorting and 97% recovery into solution via hydrochloric acid using an industry standard process.

Vital has already completed detailed engineering for the ore sorting plant, defined capital and operating costs, and begun site preparation works. Off-take negotiations are reported to be progressing well with a number of non-China buyers.

Vital Metals next steps and map showing the Tardiff Zones

Next Steps

- Site preparation works to commence in Q3 2020 including site clearing, camp upgrade and installation of the ore sorter sub-structure
- Finalisation of a contract for the construction and operation of a Rare Earth Extraction Facility to produce Mixed Rare Earth Carbonate product for sale - Q3 2020
- Confirm Off-take agreements - Q3 2020
- Sampling program to undertaken in South T, R Zone and S Zone to evaluate potential of T-Zone expansion
- Undertake infill drilling at Tardiff Zone



Source: company presentation

Management is highly experienced. For example, Managing Director Geoff Atkins has 25 years of project and corporate development experience, including four years as Corporate Planning Manager at Lynas Corporation where he oversaw the strategic planning process and the development of the Mt Weld Concentration Plant and Lynas Advance Materials Plant in Malaysia.

Today’s news from Vital suggests that, assuming progress continues successfully, the SRC will support Vital in its construction and operation of their Nechalacho Project. Subject to execution of definitive agreements, processing operations are planned to start in the third quarter of 2021.

The current market cap of Vital Metals is A$52m.

Demand for scandium set to rise and Imperial Mining offers an early stage high grade project

Scandium is the key to lightweight electric vehicle boom

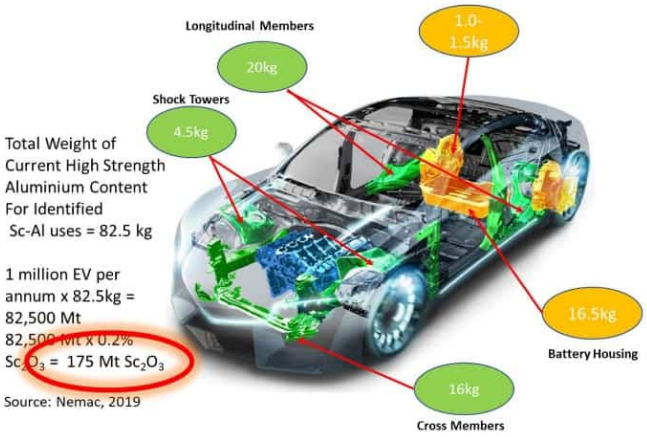
With the electric vehicle boom set to take off this decade, expect a surge in demand for the ‘lightweighting’ of key materials. An essential part of reducing the weight of electric vehicles (EVs) is scandium, which mixed with aluminum creates lighter and stronger alloys for EVs. Lighter weight means extending battery range in EVs and improving fuel efficiency and reducing greenhouse gases in combustion engines.

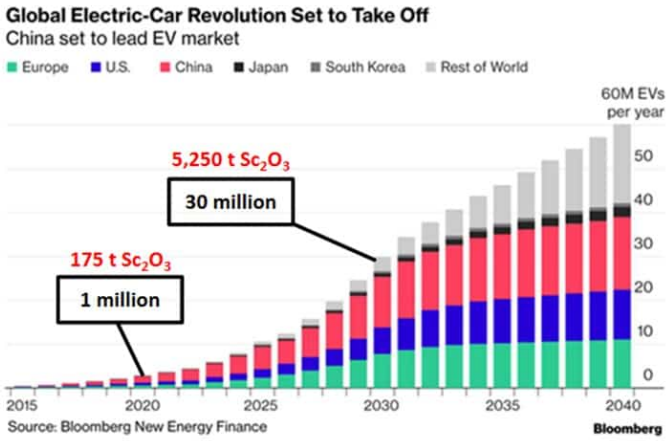
The current scandium market size is estimated to be about 35 tonnes per year, however Bloomberg forecasts this could grow to reach 1,800 tonnes pa by 2035 – a 51 times increase in demand. However, if the sales of electric vehicles surge as some forecast and reach 30 million by 2030, the demand for scandium would jump to a staggering 5,250 tonnes pa – a 150-fold increase on today’s demand based on just a 0.2% scandium oxide-aluminum alloy in each EV.

This exponential increase in demand for scandium does not include its additional consumption by key industries such as solid oxide fuel cells, aerospace & defense, aviation, electronics, sporting goods, and ceramics.

Building 30 million new electric cars a year by 2030 will require an additional 5,250 tonnes of scandium oxide every

year to achieve 100% lightweighting





Source: Imperial Mining Group investor presentation

Imperial Mining Group Ltd. (TSXV: IPG) owns a diverse portfolio of high-grade assets including gold, base metals and scandium-rare earth projects. The company’s focus is on development of its high-quality scandium-rare earth Crater Lake property in northeastern Quebec, Canada. The property has a large 6km diameter complex that is host to high-grade scandium and niobium deposits.

The Crater Lake scandium rare earth project

The 100% owned Crater Lake Project is located 200km northeast of Schefferville, Québec, 95 km from the end of the Trans-Labrador Highway. The property consists of 57 contiguous claims covering 27.8km^2.

Crater Lake location map

Source: Imperial Mining Group investor presentation

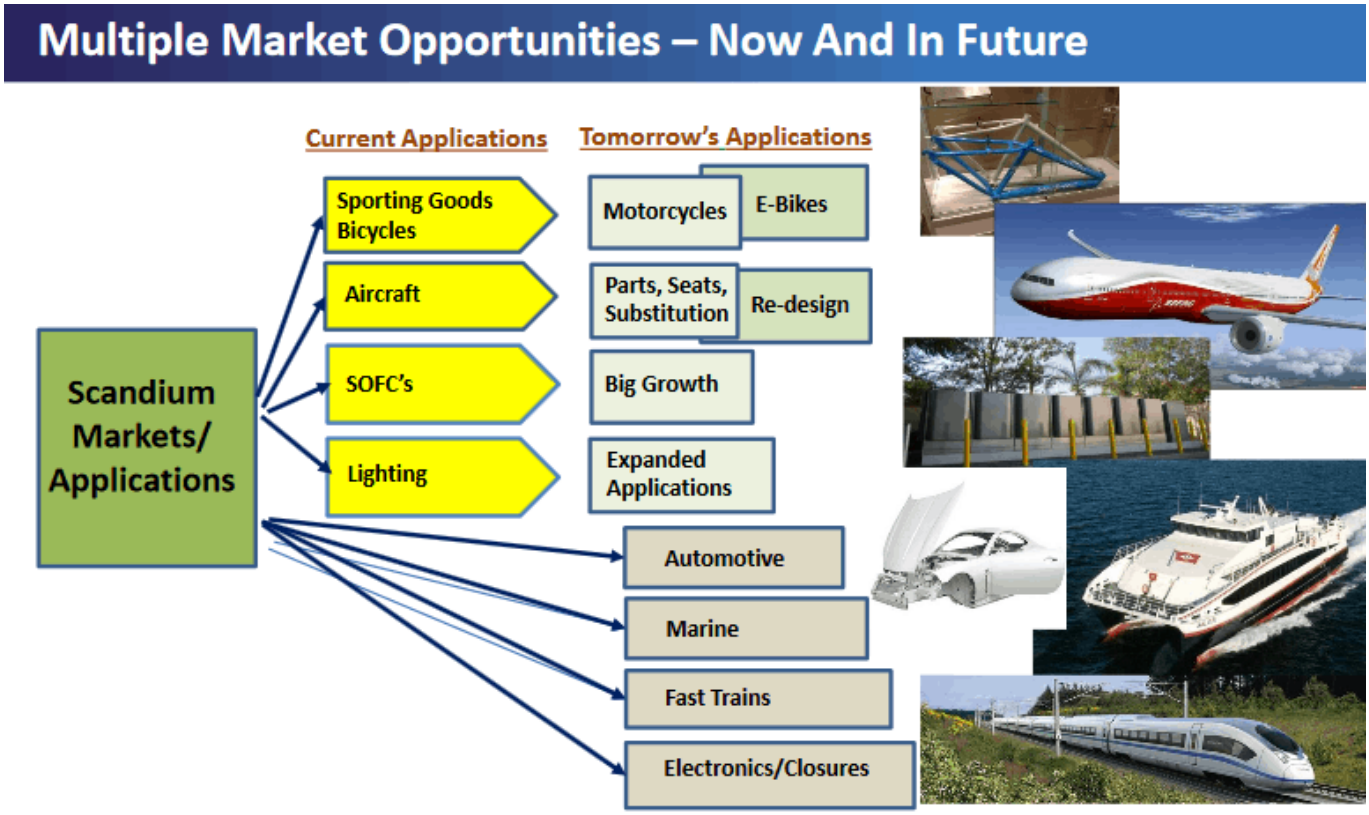
Imperial Mining Group is currently working to expand the resource. Previous drilling has defined a mineralised zone over 250 meters in strike and 170 meters in depth. Scandium oxide grades ranged from 0.0235% to 0.0319% (235-319g/t), which is pretty good. Scandium is not rare, however finding commercially viable grades (>200-300g/t) of scandium is very rare. More recent drill results have included 528g/t scandium oxide over 8.8 meters, showing the high grade potential of the Crater Lake Project.

The company expects the Crater Lake Project to be a small open-pit operation with an on-site magnetic concentrator and/or sensor-based sorting. This should reject 50-60% of mined material, resulting in high scandium recoveries and

lessening transportation risks and costs. It is anticipated that the project will be low CapEx, OpEx due to the higher grades and expected simple process recovery methods.

Future catalysts will include planned further metallurgical work, a PEA expected by Q1 2021, permitting, and an anticipated FS by Q3 2023, subject to financing.

Multiple market opportunities ahead as the demand for scandium increases dramatically



Source

Closing remarks

I have no doubt that the EV boom will take off, which means lightweighting will become essential for electric cars to boost performance, especially range. In the meantime there are plenty of other areas that demand scandium, so I expect the scandium sector to perform well this decade.

Imperial Mining Group has an exciting early stage high grade

scandium-niobium project in northeastern Quebec. Also of interest is their 100%-owned Opawica Gold Project in the Abitibi region of northwestern Québec where recent drilling discovered 1.21 g/t gold (Au) over a 13.3 meter length.

Risks are always high with junior mining stocks at the early stages and in this case the scandium market is another risk as it is yet to be fully developed. Of course with high risk comes the chance for high reward. Imperial Mining Group trades on a current market cap of just C$9 million. One to follow closely, especially since securing a source of North American scandium could soon be very much in demand.

Jack Lifton says the ‘best choice’ for a producing rare earths mine in North America is…

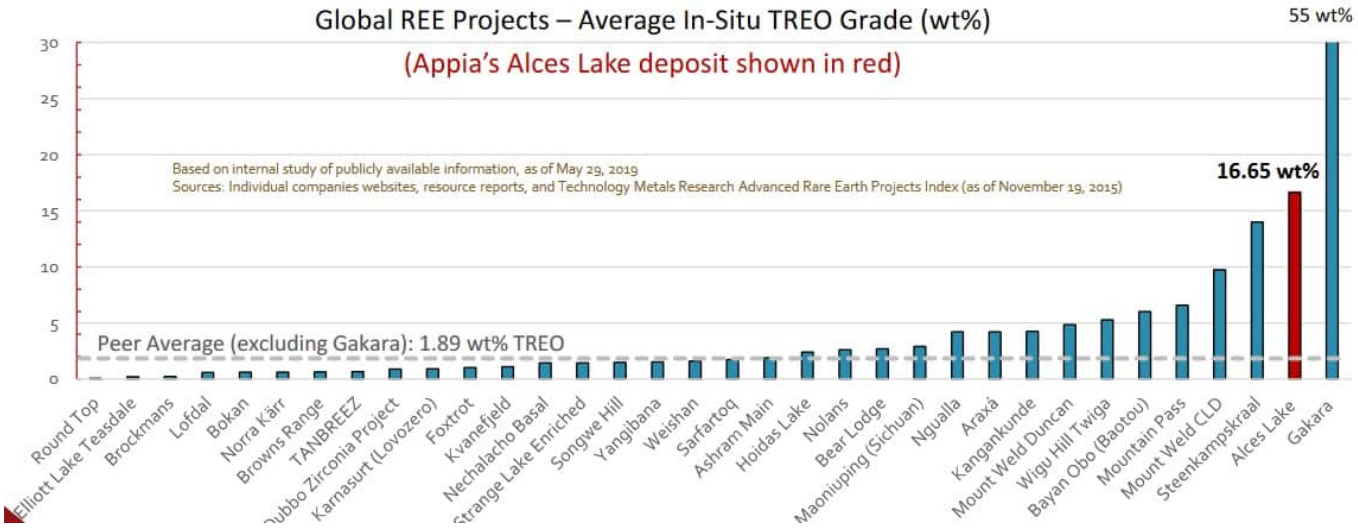
As the electric vehicles (EV) decade begins the need for quality rare earths in top tier locations is becoming a key focus for governments, OEMs, and electric motor manufacturers. Safer supply chains that can provide critical rare earths such as Neodymium (Nd) and Praseodymium (Pr) for electric motor magnets are becoming critically important, as we saw this week with the US Senate bill on rare earths.

Appia Energy Corp. (CSE: API | OTCQB: APAAF) is currently exploring and developing uranium and rare earth deposits in its Alces Lake property, in the Athabasca Basin area of northern Saskatchewan, Canada. They also have a promising uranium-rare earths project in Ontario, Canada.

Alces Lake Rare Earth Project

What is unique about Alces Lake is that it hosts some of the highest rare earth elements (REE) grades in the world (2nd highest average grade as shown on the chart below). At a 4 wt% total rare earth oxide cutoff, Alces Lake average grade is 16.65 wt% Total Rare Earth Oxides (TREO).

A grade comparison of global rare earth projects



Source

Alces Lake has excellent mineralogy with high value rare earths

At Alces Lake all the REEs have simple mineralogy and are hosted 100% within 'monazite', which means it can be economically extracted.

Even better is that the monazite is enriched in valuable critical rare earth elements, namely Neodymium (Nd), Praseodymium (Pr), Dysprosium (Dy), and Terbium (Tb). These 4 elements account for between 23-25% of the TREO, or ~85% of the potential value at Alces Lake.

Alces Lake has high-grade outcrops and drill hole intersections comprising an average of 27% monazite. Locally up to 85% monazite is naturally pre-concentrated

Source

Appia have access to a nearby pilot plant and extraction lab in Saskatchewan, Canada

The Alces Lake Project is located close to a pilot plant and REE extraction lab in Saskatoon, Saskatchewan, which is the same Provincial jurisdiction as the Project. It has a capacity of 2,000 tonnes of material per annum. This gives Appia a significant advantage by having a low start up CapEx to commence some production via a fully permitted plant and extraction facilities at the Saskatchewan Research Council (SRC). Unlike competitors this means the rare earths can be produced in North America and not China.

Considering environmental regulations, especially due to safe handling and disposal radioactive materials, the Province of Saskatchewan, and SRC, are miles ahead of other global jurisdictions because they permit high-grade uranium mines in the northern parts of the province. A country like India, or USA, has policies in-place that are detrimental to processing monazite for REEs because of the presence of Uranium/Thorium. In Saskatchewan, and working with SRC, a lot of these problems are already resolved, as Saskatchewan is a global jurisdiction that continuously leads efforts in safely working with radioactive materials.

Appia's projects summary and strategy

Alces Lake Rare Earths Project

Based on mineralization discovered to date, Appia would "ideally" consider a surface and near-surface operation to start production, smaller than open pit scenario, easier to permit and manage, potentially low CapEx and OpEx. Given the nearby pilot plant and extraction facility in Saskatchewan the Project will be easier to put into small scale production of rare earth oxides.

Saskatchewan Uranium Projects

Appia also holds surface rights to exploration for about 57,048 hectares (140,968 acres) in Saskatchewan. Within this area Appia has high-grade uranium deposits in the prolific Athabasca Basin area; including Loranger, Eastside and North Wollaston properties.

Elliot Lake Uranium-REE Project

This Project is located in northern Ontario. Elliot Lake has a NI 43-101 Mineral Resource Estimate of 8.0 million lbs contained metal U3O8 and 47.7 million lbs contained metal TREE Indicated; and 47.7 million lbs contained metal U3O8 and 133.2 million lbs contained metal TREE Inferred. Indicated TREE grades are 1,647ppm, and CRE 344ppm.

The next step for Appia is to raise additional capital to fully fund aggressive property-wide exploration on Alces Lake as well as the Saskatchewan uranium properties for the next 12 to 24 months, with a view of producing a mineral resource estimate at Alces Lake.

Experts view

Rare earths expert and host of the Technology Metals Show Jack Lifton quoted to InvestorIntel:"Appia Energy's Alces Lake deposit in Saskatchewan is probably the best choice for

development into a producing rare earth magnet materials' mine in North America."

Closing remarks

The rare earths sector looks highly likely to follow in the foot-steps of uranium, which recently got a huge boost from the US Government. A rare earths funding bill has now been put to the US Senate with the intent to help revive the U.S. rare earths industry.

Investors can look to capitalize on the positive sentiment in the rare earths sector, especially those companies in safe countries with lower start-up CapEx.

Appia Energy offers a North American high grade rare earths project with a low CapEx pathway to production via a third party existing fully permitted plant and extraction facility in Saskatchewan. Plus Appia also has uranium projects.

Rare earths expert Jack Lifton and the man who coined the term "technology metals" is also very positive on Appia Energy, making them a top tier junior for investors to consider.

Note from the Publisher: To become a member of the Technology Metals Report, go to TechnologyMetals.com

---

The U.S. Rare Earths Supply Chain Challenge – Part 4

In an ongoing series on how to solve the U.S. rare earths supply chain challenge, 3 Sr Editors from InvestorIntel and well-known Rare Earths Consultants debate on what are the skills needed to create a rare eaths supply chain in North

America.

Participants include Tracy Weslosky, InvestorIntel's Sr Editor, Publisher and Rare Earths Consultant; Jack Lifton, InvestorIntel's Sr Editor, Host and Rare Earths Advisor; and Alastair Neill, InvestorIntel's Sr Editor and Rare Earths Expert.

Alastair started by saying that there is no facility in the US to convert rare earth alloys to magnets. Jack continued by saying that "the US Department of Defence doesn't want any rare earth permanent magnet from China. The only thing they will accept from China is the raw material which the Chinese do not export. They want extraction, separation, metal making and alloy and magnet making done either in the US or in NATO or SEATO ally countries."

Alastair concluded the discussion by saying, "To achieve this goal it is going to take a couple of different skill sets. It is one set of skills to get something out of the ground and turn it into a separated oxide. That is completely different from metalization and alloy production and then getting into assembly. So you will need three special types of industries that need to be managed. That is where you have to have someone with a vision to be able to bring that type of team together to be able to manage such a diverse set of skills."

- To access the complete discussion, click here
- To access Part 1 of this rare earths series, click here
- To access Part 2 of this rare earths series, click here
- To access Part 3 of this rare earths series, click here