

Imperial Mining Sets Comprehensive 2021 Plan at Crater Lake after \$2.6M Financing

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After a positive summer drill program at its flagship **scandium-rare earth** Crater Lake Property in northeastern Quebec, [Imperial Mining Group Ltd.](#) (TSXV: IPG) successfully closed a \$2.6 million financing in December to accelerate the project forward in 2021.

Imperial Mining plans to use the proceeds to complete definition drilling at Crater Lake's "TG Zone", and to deliver both a 43-101 Resource Report and a Preliminary Economic Assessment (PEA) by the end of June 2021.

Last trading at \$0.16, Imperial Mining Group has a market cap of \$20 million and a PEA could re-rate the company, shifting it closer to the \$175 million market cap of NioCorp Developments Ltd. (TSX: NB | OTCQX: NIOBF) that has a Feasibility Study at its Elk Creek niobium-scandium project in Nebraska, United States.

Peter Cashin, President & CEO of Imperial Mining Group, recently [commented](#), "I am very pleased of the positive response that the market has shown for our private placement. The financing was oversubscribed, and we believe that it was motivated by the recent significant announcements in the critical metal space, in particular for scandium and the rare earths."

Scandium Alloys at Home and in Space

Manufacturers in many industries, including automotive,

aerospace, and defense, recognize that scandium-modified aluminum alloy materials could become a critical input into their production processes.

With the push for lighter and stronger materials to make vehicles more fuel-efficient and the need for tough and durable metal alloys for the resurgence in space activity, scandium-aluminum “superalloys” have been already used by NASA and the European Space Agency (ESA).

In a March 2020 speech at the Satellite 2020 Conference, Elon Musk, founder of Tesla (NASDAQ: TSLA) and SpaceX stated that the aerospace engineers at SpaceX were going to switch to a different alloy “pretty soon” to replace the current stainless-steel alloy, known as 301.

Scandium-aluminium alloys are highly valued as an important lightweight material and are one-third the weight of steel and 60 % of the weight of titanium alloys.

Scandium-aluminium alloys are also corrosion-resistant and can be used in a variety of industries, including aerospace, automotive, and consumer products, such as baseball bats, bicycle frames, and golf clubs.

A small percentage of scandium alloyed with aluminum enables aluminum to be effectively welded to another piece of scandium-aluminum alloy, without the need for heavy hardware to join the pieces together.

Scandium-aluminium alloys are currently being used by California-based Relativity Space, a private aerospace manufacturing company. Relativity Space’s massive 3D printer can create a rocket from raw material to flight in 60 days.

The automotive industry could be a large market opportunity for

scandium. With scandium-aluminum's self-welding abilities, engine blocks could be constructed using 3D printers.

In addition, according to a recent report, the average passenger vehicle contains over 150 kilograms of aluminum and the average light truck contains over 230 kilograms of aluminum. If only 1% of the traditional aluminum used in the approximately 17 million light vehicles (cars and light trucks) produced in the United States each year, switched to scandium-aluminum, that impact would create a demand for 35 tonnes of scandium each year.

With current scandium production estimated between 25-35 tonnes per year as such, this type of demand would immediately double the current supply requirement.

Scandium

Scandium is an element, sometimes classified as a rare earth metal, and currently, there are no primary scandium mines. Supply comes from the by-product of other mineral extractions from deposits in China, Russia, and more and recently, Australia.

Scandium is not traded on any metal exchange and the price is negotiated between buyer and seller. According to the most recent USGS data sheet on scandium, over the past five years, the price for scandium-oxide has averaged \$4,560 per kilogram.

Scandium and other "critical metals" were thrust into the spotlight last year when President Trump signed an Executive Order addressing the threat to the United States' supply chain from relying on "critical minerals" from "foreign adversaries", specifically identifying China. The 35 mineral commodities deemed critical under the definition included aluminum, gallium, graphite, lithium, manganese, niobium, the rare earth elements group, and scandium.

Crater Lake Property – Scandium & Rare Earth Metals

The 100%-owned Crater Lake Project is located 200 kilometres northeast of Schefferville, Quebec, and covers 2,780 hectares (approximately 6,900 acres). The project hosts three zones of mineralization (Boulder, TG Zone (TGZ), and STG), determined by scandium-rich outcrops, boulders, and recent drilling.

Highlights from the summer drill program included Hole #CL20037 from the TGZ that returned intervals grading up to 253 grams per tonne (g/t) Scandium Oxide (Sc_2O_3) over 29.14 metres (m), including 9.3 m grading 299 g/t Sc_2O_3 and 21.69 m grading 271 g/t Sc_2O_3 including 9.16 m grading 299 g/t Sc_2O_3 .

Importantly, the true thickness of the scandium mineralized zone is estimated to be up to 110 m and is open at depth and along strike.

The company sees major positive factors with the project, including:

- The resource is exposed at the surface, so it is amenable to a low-cost open-pit operation.
- The deposit is high grade relative to its peers and could reduce the CapEx to develop the mine and the OpEx to run the mine.
- The preliminary metallurgy showed strong scandium mineral recoveries.
- The project is in the mining-friendly jurisdiction of Quebec and supported by Quebec's recently launched \$90 million "critical minerals" development fund and Plan Nord, Quebec's economic development strategy to develop natural resource extraction in northern Quebec.
- The deposit is located in close proximity to the 9 aluminum smelters and one alumina refinery in Quebec.

Final Comment

Look for the definition drill results, 43-101 Resource Report, and the PEA to potentially lift the stock price higher this year.