Imperial Mining Commences Exploration on its Crater Lake Scandium Project, Northern Québec

written by Raj Shah | March 29, 2018
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Highlights:

- A large scandium-bearing (Sc) intrusive complex **returned up to 167.8m grading 260 g/t Sc including 62.8 m grading 304 g/t Sc and including 27.6 m grading 351 g/t Sc** in drilling.
- Completing data compilation, 3D geophysical modelling and metallurgical testing of Sc mineralization from the Boulder Sc Zone: represents a critical, alternative Sc supply source.

Imperial Mining Group Ltd. ("Imperial") (TSX VENTURE:IPG) is pleased to announce it has commenced an exploration program on its 100% owned Crater Lake scandium project in view of the rapidly growing demand and limited supply for this important new technology metal.

The property consists of 57 contiguous claims covering approximately 27.9 km^2 and is located approximately 200 km east northeast of Schefferville, Québec (*see* Figure 1 and *link* at Crater Lake Project Page). Property rights were transferred to Imperial from Peak Mining Corporation, a private company, in a rollover transaction completed in December 2017 (*see NQ Exploration Press Release, December 28, 2017*).

“Scandium is showing increased demand for its use in high-strength, lightweight aluminum alloys in the aerospace, automotive, defense and alternative energy sectors,” said Peter Cashin, Imperial’s President & Chief Executive Officer. “Currently, scandium is only produced as a minor by-product in China and Russia and, with supplies limited, it is our belief that Crater Lake represents an important alternative, primary scandium supply source to serve western markets.”

Crater Lake Exploration History (2007 to present)

Crater Lake was first explored in 2007 as a rare earths prospect by Quest Rare Minerals Ltd. (“Quest”). This early work led to the location of the “Discovery Outcrop” in 2009 which **returned up to 9.0% rare earth oxides plus yttrium (“REE”) and up to 1,000 g/t (0.1%) scandium (“Sc”)**. An airborne geophysical survey completed in 2008, identified a strong, concentric, six-km diameter magnetic anomaly, defining the host Crater Lake Alkaline Intrusive Complex. (Figure 2). The scandium is associated with a distinct, highly magnetic layer of ferrosyenite within this intrusion. Subsequent geochemical, geological and geophysical programs were supplemented by reconnaissance diamond drilling of the best targets.

In 2014, Quest drilling intersected a 225m long Sc bearing zone (Boulder Zone) within a thick, highly magnetic, ferrosyenite layer (Figure 3) returning up to **167.8m grading 260 g/t Sc including 62.8 m grading 304 g/t Sc and including 27.6 m grading 351 g/t Sc**. These grades compare favourably with known Australian laterite scandium deposits which **grade between 260 to 410 g/t Sc**, some of which are advancing to pre-production.

Review of the drilling data from a program conducted by Quest in 2010 revealed areas of higher grade mineralization grading **506 g/t Sc over 19.0m** along the western side of the Crater Lake

intrusion. Subsequent prospecting and **grab sampling in this new target area returned between 404 g/t and 790 g/t Sc in outcrop**. The geophysical anomalies related to these targets measure 750 m and 600 m in strike length, respectively, and represent very attractive higher-grade targets for further exploration and drilling.

Scandium Markets

Scandium, is a silvery-white non-toxic transition metal, often associated with REE, together with yttrium, tantalum and niobium. Scandium is often found in trace amounts in other REE deposits and occurrences and has been mined as a by-product in a few uranium and REE mines in the world, for example in the Zhovti Vody deposit, Ukraine and at Bayan Obo, China. Primary, hardrock scandium deposits of sufficient size and grade to be economically important are scarce and Crater Lake represents one of the few such opportunities in the world.

Scandium acts as a grain-refiner and hardener of aluminum alloys. Aluminum-scandium alloys combine high strength, ductility, weldability, improved corrosion resistance and a lower density. The combination of all these properties makes aluminum-scandium alloys well-suited for the aerospace, automotive and defense industries. Other applications of aluminum-scandium alloys include consumer products such as baseball bats, golf club heads and high-end bicycle wheel rims.

The broader adoption of scandium in the aluminum alloys sector has been primarily constrained by the limited availability of scandium in western commercial markets, today estimated to be 10 to 15 metric tonnes per year. This has resulted in much higher prices for Sc compared to competing alloy materials, such as titanium, and has limited its broader use. The current price of the metal oxide published by USGS indicates that **scandium oxide**

trades at approximately US$3,700/kg for 99.99% purity for small lots (10s to 100s of kg) and US$2,500/kg for large lots (greater than one tonne).

Increasing demand is placing supply pressure on the Solid Oxide Fuel Cell ("SOFC") industry because of its heat stabilization and electrical conductivity characteristics. In SOFC applications, scandium is important in the scandia stabilized electrolyte of the cell, which allows lower operating temperatures and a longer operating life of the cell. It has also found a growing market in Light Emitting Diode (LED) industry, especially those seeking "natural light", where, in certain applications, no substitute exists due to the unique properties of the metal. The presence of scandium also reduces the flammability of aluminum oxide and it is beginning to find wide acceptance in the 3-D printing of short run and complex, high-tech parts, especially where aluminum is the target media.

2018 Exploration Program

Imperial's 2018 exploration program at Crater Lake commenced in February with geophysical data modelling, to gain a better understanding of the 3D geometry of the Crater Lake complex and the vertical and lateral extent of the known areas of scandium mineralization on the property.

In addition, SGS Lakefield of Lakefield, Ontario, has been contracted to undertake mineralogical and metallurgical studies on a small bulk sample of drill core from Quest's 2014 program. This work was motivated by microprobe and mineralogical studies by McGill University which showed that 100% of the Sc associated with the ferrosyenite unit is related to a single mineral, Hedenbergite, a highly magnetic clinopyroxene (CPX) mineral that should be amenable to concentration through magnetic separation techniques. This offers the possibility of a relatively low-cost

initial production scenario involving near surface open pit mining and production of a scandium mineral concentrate at site.

The current work is anticipated to be completed sometime in May 2018. This work will be followed by a summer exploration program to field test new scandium targets in preparation for a fall diamond drilling program.

The technical content in this press release was reviewed and certified by Pierre Guay, P. Geo., Imperial's VP Exploration, a geologist and Qualified Person as defined under National Instrument 43-101.

ABOUT IMPERIAL MINING GROUP LTD.

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Figure 1 – Crater Lake Property Location Map, Québec:
http://www.globenewswire.com/NewsRoom/AttachmentNg/7babe6ec-0cae-47b6-b1dd-e515d0238237

Figure 2 – Residual Ground Magnetic Contour Map, Crater Lake Project, Québec:
http://www.globenewswire.com/NewsRoom/AttachmentNg/f26624c9-542c-4a9b-94a4-7c0180a97cef

Figure 3 – Crater Lake Project Compilation Map, Québec:
http://www.globenewswire.com/NewsRoom/AttachmentNg/4d6a5dac-96df-4fed-bed7-424e1e320b76