Imperial Mining Samples up to 2,506 g/t Scandium Oxide From its Crater Lake Project, Northeastern Quebec

written by Raj Shah | October 30, 2018

October 30, 2018 (Source) – **Imperial Mining Group Ltd. ("Imperial")** (**TSX VENTURE: IPG**) is pleased to announce that it has received very encouraging scandium and rare earth oxide results from its summer field exploration on the Crater Lake project, northeastern Quebec (Figure 1).

The summer field program returned very high grades from grab, outcrop and channel samples of between **264 and 2,506 g/t scandium oxide** (Sc_2O_3) west and south of the previously known Boulder Scandium- Zone (Figure 2). The highest scandium grades were returned from a highly-magnetic pyroxenite horizon, believed to be related to the highest magnetic intensity anomaly defined by ground geophysical surveys on the property. These grades compare well with those reported from other scandium resources presently being explored in Australia and the United States. In addition, large, sub-angular boulders in proximity to the STG magnetic anomaly returned up to **310 g/t Sc_2O_3** as well as **1.410% Total Rare Earth Oxides plus Yttrium (TREO+Y)** (Table 1).

"We are very excited about the scandium potential of our Crater Lake project. Although the geophysical targets related to scandium mineralization on the property remain untested, indications of locally-derived boulders and minor outcrops of pyroxenite returning extremely high-grade scandium results, are

very encouraging," said Peter Cashin, Imperial's President & Chief Executive Officer. "With the drive towards lightweighting in the aerospace, defense and automotive sectors, particularly for EVs, scandium demand is expected to grow rapidly because of its ability to greatly strengthen aluminium alloys, rendering them corrosion resistant and significantly improving the alloy's mechanical properties. Imperial fully intends to be a critical supply-chain contributor to the expanding scandium market."

SUMMER EXPLORATION PROGRAM RESULTS

The 2018 Summer field campaign consisted of detailed prospecting and geological mapping over three highly prospective scandium targets, the TGZ, STG and North Target areas. All targets are characterized by large, strongly magnetic anomalies of variable strike length up to 750 metres. The prospecting and mapping program was followed by mechanical stripping with channel sampling on the best scandium occurrences. These new scandium-rich outcrops and boulders, located in the vicinity of the TGZ and STG targets, confirmed that both zones correspond to a similar scandium-rich target discovered in 2014 at the Boulder Scandium Zone.

A total of 39 grab and 41 channel rock geochemistry samples from 80.0 km of reconnaissance traverses were collected during the program. In addition, twenty-four historical core samples were collected for mineralogical study work to be completed at McGill University in Montreal, Quebec. The best results from the program are illustrated in Table 1. A total of 30.8 m of channel samples were cut on outcrop adjacent and east of the STG magnetic anomaly (Figure 3).

A strongly magnetic, iron-rich pyroxenitic boulder was also found 300 meters north of the STG Target and returned **920 g/t Sc_2O_3 (**sample 15419, Figure 3). This iron rich sample is very

similar in composition and texture to sample 15410, located to the northeast of the Crater Lake intrusion, which returned up to **2,506 g/t Sc_2O_3** (sample 15410). No ferrosyenite outcrops or boulders were observed near the Northern Target and remains unexplained.

The geophysical anomalies related to the TGZ and STG targets measure 750 m and 600 m in strike length, respectively, and are of a higher magnetic intensity than the Boulder Zone. The exploration team has identified a direct relationship of magnetic intensity with increasing scandium grade observed in the rocks. The anomalies represent very attractive scandium-bearing ferrosyenite and pyroxenite targets requiring exploration drilling. 3-D magnetic data modeling of the Crater Lake Intrusive (see Press Release: August 15, 2918) is interpreted to correspond to a deeply-rooted caldera-collapse ring-dyke system that has been traced to a depth of at least one kilometer and a strike length of at least six km, implying significant vertical and lateral continuity of the target features.

Going forward, Imperial plans to undertake a definition drilling program over the TGZ and STG magnetic anomalies early in 2019 with the goal of preparing an initial NI43-101 compliant resource estimate and a Preliminary Economic Assessment (PEA) in 2019.

Scandium Markets

The broader adoption of scandium in the aluminum alloys sector has been constrained by the limited availability of scandium in western commercial markets from primary suppliers, China and Russia. The lack of an assured source of supply to provide material for additional applications has also limited market expansion. 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).

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. Scandium-modified aluminium alloys is highly valued as an important lightweighting material as it is one-third the weight of steel and is 60 % of the weight of titanium alloys.

One of largest potential markets for scandium-aluminum alloys is the use as spherical powders in 3-D metal printing application in the automotive and aerospace sectors. Due to significant technology advantages in manufacturing, complex parts can now be produced by 3-D additive manufacturing using a range of metal alloy compositions. This has allowed for a lower manufacturing cost base at near parity to standard metal forged and cast parts but with a host of superior mechanical and geometric characteristics.

* *– 1 g/t Sc metal = 1.5338 g/t Sc oxide*

Analytical Laboratory and Quality Control

A total of 85, including 5 QA-QC, samples were sent to an analytical laboratory. All sample preparation and analytical work was carried out by Actlabs at their facilities in Ancaster, Ontario. Several analytical techniques were used to characterize the samples, which are combined at Actlabs into the analytical

package “8-REE”. This package includes whole-rock and trace element components. Whole-rock is done via a lithium metaborate/tetraborate fusion inductively coupled plasma (ICP) finish. Trace elements are also analyzed by fusion ICP/MS.

For the quality control, in each transmission, certified standards and blanks were inserted at regular intervals throughout the sequence of samples. As well, some duplicate samples were also inserted.

The technical content in this press release was prepared, reviewed and certified by Pierre Guay, P. Geo., Imperial’s Vice-President, Exploration, a Geologist and Qualified Person as defined by NI43-101.

ABOUT IMPERIAL MINING GROUP LTD.

Imperial is a new Canadian mineral exploration and development company focused on advancing its copper-zinc, gold and technology metals properties in Québec. Imperial is publicly listed on the TSX Venture Exchange as “IPG” and is led by an experienced team of mineral exploration and development professionals with a strong track record of mineral deposit discovery in numerous metal commodities.

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Sample #	Property	Easting	Northing	Sample Type	Zone	Channel	Rock_Type	Sc2O3	TREO+Y
		NAD83, Zone 20N	NAD83, Zone 20N			(m)		g/t	%
15410	Crater Lake	445113	6134932	Boulder	TGZ		Pyroxenite	**2,506**	**0.303**
15351	Crater Lake	440672	6134128	Boulder	TGZ		Syenite	**305**	**4.874**
15352	Crater Lake	440199	6133071	Boulder	TGZ		Syenite	**57**	**8.296**
15356	Crater Lake	440222	6133196	Boulder	TGZ		Syenite	**701**	**0.123**
15402	Crater Lake	440662	6132249	Boulder	STG		Fe-syenite	**250**	**1.319**
15403	Crater Lake	440665	6132256	Boulder	STG		Fe-syenite	**301**	**1.372**

15407	Crater Lake	440362	6131621	Outcrop	STG		Int-syenite	**239**	**0.311**
15409	Crater Lake	440400	6131610	Outcrop	STG		Fe-syenite	**325**	**0.329**
15411	Crater Lake	440662	6132249	Boulder	STG		Fe-syenite	**308**	**1.379**
15412	Crater Lake	440665	6132256	Boulder	STG		Fe-syenite	**305**	**1.410**
15419	Crater Lake	440168	6132371	Boulder	STG		Pyroxenite	**920**	**1.010**
15446	Crater Lake	440359	6131619	Channel	STG, 1A	0.80	Int-syenite	**294**	**0.358**
15501	Crater Lake	440359	6131619	Channel	STG, 1A	0.80	Int-syenite	**298**	**0.362**
15507	Crater Lake	440349	6131639	Channel	STG, 1B	1.00	Int-syenite	**305**	**0.358**
15508	Crater Lake	440349	6131639	Channel	STG, 1B	0.96	Int-syenite	**317**	**0.367**

Table 1 – Best Scandium Results, Crater Lake Project, Québec

Figure 1 accompanying this announcement is available at http://www.globenewswire.com/NewsRoom/AttachmentNg/eb312348-c776-47bf-be3e-8f4011d44b99

Figure 2 accompanying this announcement is available at http://www.globenewswire.com/NewsRoom/AttachmentNg/0ee736e1-3fe9-40a7-9adb-5b80078bae47

Figure 3 accompanying this announcement is available at http://www.globenewswire.com/NewsRoom/AttachmentNg/abfe3d8d-e341-479d-ae2e-7578dd1d5233