Scandium International Initiates Pilot-scale Program for Scandium Master Alloy Production and Files for Us Patent Protection on Process

written by Raj Shah | March 5, 2018

March 5, 2018 (Source) – Scandium International Mining Corp. (**TSX: SCY**) (**"Scandium International" or the "Company"**) is pleased to announce that it has initiated a pilot scale program at the Alcereco Inc. metallurgical research facilities in Kingston, Ontario, to confirm and refine previous work on the manufacture of aluminum-scandium 2% master alloy (MA). The pilot scale program is intended to confirm the previous bench-scale test work, and to provide necessary process understanding for commercial scale upgrade of Nyngan scandium oxide product to master alloy product.

The Company also announces that it has filed for patent protection on certain process refinements for master alloy manufacture that it believes are novel methods, and also on certain product variants that it believes represent novel forms of introducing scandium more directly into aluminum alloys. The pilot program is expected to begin in March 2018 and complete in Q2 2018.

HIGHLIGHTS:

- **SCY successfully made Al-Sc 2% master alloy at bench scale in Australia in 2017,**
- **Process recoveries reached 90% on the bench scale process test work,**
- **Pilot scale master alloy manufacturing process test work initiated now,**
- **Novel product variants have been invented, to introduce scandium directly into aluminum, bypassing the MA product step, with higher process recoveries, and**
- **US patent applications have been filed to protect novel processes and inventions.**

DISCUSSION:

The Company initiated work to understand master alloy manufacture from scandium oxide in early 2017, at Nagrom Brisbane Labs, in QLD, Australia. Dr. Nigel Rickets (VP Development for SCY) conducted laboratory test work at Nagrom to confirm that metallurgical grade (2%) Al-Sc master alloy could be manufactured, that process steps and reagents were understood, and that commercially acceptable scandium recoveries to MA product were possible. These goals were achieved by Q4 2017. No work was done at this stage on recovery/recycle of scandium process losses to the waste product (dross) formed in the process, although we have identified several potential paths to readily achieve this recovery.

Separately from the conventional MA process investigations, additional work at Nagrom explored novel methods of packaging scandium oxide into a product form that could be added directly into molten aluminum, bypassing the master alloy step for the ultimate manufacture of finished aluminum alloys containing scandium. This work was also successful, generating very high recoveries of scandium into final aluminum alloys.

The pilot scale program now being conducted at Alcereco will

increase the scale of the processes and perform further confirmatory test work results to the work done in 2017. The pilot program will consist of 5 separate trials on the two product types, production of MA in various forms, and dross analysis to ascertain scandium recoveries to product. The total mass of master alloy and product variants produced in the program is planned at 20kg. The program will also include subsequent efficacy testing against commercially purchased master alloy in the manufacture of aluminum alloys.

The 2018 program will also include test work on scandium recovery from dross produced in the manufacture of the master alloys. This data will allow the company to further reduce MA conversion costs.

Patent applications have been filed with the US Patent Office on both master alloy process techniques and separately on novel product inventions for direct scandium additions.

The Company intends to explore customer interest in the direct addition scandium product, and it believes that the product may well be preferred by smaller batch aluminum alloy manufacturers, or by certain manufacturers who mix their own custom alloys to suit their specific product applications.

George Putnam, CEO of Scandium International Mining Corp. commented:

“It is always an advantage to sell product in a form the target customer can readily use. That statement describes the purpose behind our work to offer a scandium 2% master alloy product to aluminum alloy manufacturers and end-use consumers. These processes allow us to shorten the value chain and limit the scandium pricing uncertainty to the end user. This product upgrade step also allows us to directly control product quality, consistency, and final cost to the aluminum alloy customer –

each a significant valuable factor as we build the scandium market."

QUALIFIED PERSONS AND NI 43-101 TECHNICAL REPORT

Nigel J. Ricketts, BAppSc (Metallurgy), PhD (Chemical Engineering), MAusIMM CP (Metallurgy), holds the position of VP Projects and Market Development, Australia in the Company, is a qualified person for the purposes of NI 43-101, and has reviewed and approved the technical content of this press release on behalf of the Company.

ABOUT SCANDIUM INTERNATIONAL MINING CORP.

The Company is focused on developing its Nyngan Scandium Project, located in NSW, Australia, into the world's first scandium-only producing mine. The project has received all key approvals, including a mining lease, necessary to proceed with project construction.

The Company filed a NI 43-101 technical report in May 2016, titled ***"Feasibility Study – Nyngan Scandium Project"***. That feasibility study delivered an expanded scandium resource, a first reserve figure, and an estimated 33.1% IRR on the project, supported by extensive metallurgical test work and an independent, 10-year global marketing outlook for scandium demand.

This press release contains forward-looking statements about the Company and its business. Forward looking statements are statements that are not historical facts and include, but are not limited to statements regarding any future development of the project. The forward-looking statements in this press release are subject to various risks, uncertainties and other factors that could cause the Company's actual results or achievements to differ materially from those expressed in or

implied by forward looking statements. These risks, uncertainties and other factors include, without limitation risks related to the availability of financing project development, demand for scandium, the contributions of new directors; uncertainties associated with the results of production as described in the feasibility study; and other factors identified in the Company's SEC filings and its filings with Canadian securities regulatory authorities.

Forward-looking statements are based on the beliefs, opinions and expectations of the Company's management at the time they are made, and other than as required by applicable securities laws, the Company does not assume any obligation to update its forward-looking statements if those beliefs, opinions or expectations, or other circumstances, should change.