SCY Completes Program to Demonstrate AL-SC Master Alloy Manufacture Capability

written by Raj Shah | February 24, 2020

February 24, 2020 (Source) – Scandium International Mining Corp. (**TSX:SCY**) (**"Scandium International" or the "Company"**) is pleased to announce it has completed a three year, three stage program to demonstrate the capability to manufacture aluminum-scandium master alloy (Al-Sc2%), from scandium oxide, using a patent pending melt process involving aluminothermic reactions.

This master alloy capability will allow the Company to offer scandium product from the Nyngan Scandium Project in a form that is used directly by aluminium alloy manufacturers globally, either major integrated manufacturers or smaller wrought or casting alloy consumers.

RESEARCH HIGHLIGHTS:

- **Program achieved full 2% target product quality requirement,**
- **Sc recoveries from oxide exceeded target, demonstrated in final tests,**
- **The microstructure and metal quality meet major alloy producer's specification.**
- **Rapid kinetics achieved, important for commercial viability,**
- **Individual testing batches done at 4kg scale, and**

- **Successful program testing forms a basis for a larger scale demonstration facility, supporting large scale samples required for industrial aluminum alloy trials.**

DISCUSSION

The Company has publicly acknowledged an intent to offer scandium product in form of both oxide (scandia) and master alloy since completing a definitive feasibility study on its Nyngan Scandium Project in 2016. The aluminum industry largely relies on independent master alloy manufacturers to make and supply alloying products, including small amounts of Al-Sc 2% product, today. The Nyngan mine scandium output will change the scale of Al-Sc2% master alloy manufactured, globally, and the Company can utilize that scale advantage to effectively minimize the manufacture cost of scandium feedstock to the aluminum alloy customer. This research program success also demonstrates a Company ability to deliver directly to end use alloy customers a product in exactly the customized form they wish to use, transparently, and in the volumes required by large scale aluminum consumers.

This program to establish an upgraded product capability for Nyngan has been completed in three phases, over three years. Phase I in 2017 demonstrated the feasibility of producing master alloy meeting the industrial standard 2% scandium content requirement, at laboratory scale. Phase II in 2018 maintained that industrial quality product standard, at bench scale (4kg/test). Phase III in 2019 showed a capability to maintain the 2% grade product standard, to do so with recoveries that exceeded our target levels, and to combine these achievements with the rapid kinetics essential for low capital and conversion costs.

The next stage in this program will be to consider a large-scale demonstration plant for conversion of oxide to master alloy.

This will allow the Company to optimize product form, and most importantly, to meet the demand for larger product offers that conform to commercial test programs. The size of the demonstration plant is being investigated, but will be flexible in operation and output, and will allow for much more direct customer/supplier relationships with potential scandium product customers globally.

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

"This testwork result demonstrates the Company can make the proper scandium product, exactly as our primary aluminium alloy customers want. This allows us to retain the all-important direct customer relationship, and to remain responsive to customer requirements. Most importantly, this capability will enable Scandium International to keep the cost of our scandium feedstock product as low as possible, and also fully under our control. We see these capabilities as essential to proper market development."

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 owned by our 100% held Australian subsidiary, EMC Metals Australia Pty Limited, 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.

Willem Duyvesteyn, MSc, AIME, CIM, a Director and CTO of 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.

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 uncertainty in the demand for scandium, the possibility that results of test work will not fulfill expectations, or not realize the perceived market utilization and potential of scandium sources that may be developed for sale by the Company. 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.