SCY Seeks Copper Industry Partner To Demonstrate Scandium, Cobalt, And Other Critical Metals Recovery Technology

written by Raj Shah | May 13, 2020

May 13, 2020 (Source) – Scandium International Mining Corp. (**TSX:SCY**) (**"Scandium International" or the "Company"**) is pleased to announce that it will pursue copper industry interest in SCY ion exchange (IX) technology and knowhow to recover scandium, cobalt and other critical metals from solvent extraction (SX) raffinate and other acidic waste streams in certain acid leach copper operations.

Recovery metals targeted by this application include cobalt, copper, nickel, scandium, and zinc, and possibly other metals and rare earth elements, depending on recovery economics. The suitability of this IX technology, and the target metal opportunities, vary with the specifics of individual orebodies, and associated SX plant characteristics. Depending on specific project variables, and the value and volume of critical metals recovered, the end result economics are expected to be significant to the parties involved.

CONCEPT HIGHLIGHTS:

- **IX technology offers rapid deployment to existing Cu**

operation waste streams,

- **Recoveries target critical metals with transparent, established markets,**
- **Includes potential for significant scandium production alongside other products,**
- **Represents near term production sources that can address security of supply issues, conflict metal issues, and concentrated supply source issues, and**
- **The concept has real potential to deliver positive economic benefits to both SCY and the established copper producers that can host this program.**

DISCUSSION

The copper industry is fully aware of the opportunity to harvest valuable metals from copper process waste streams, and the industry does so with significant success today in precious metals. Other specialty metals recovery work has historically been considered un-economic, based on effective recovery costs and recovered metals pricing. The technology in this area has advanced, improving both operating costs and recoveries. New, technology-driven uses for critical metals are stressing supply channels. Traditional jurisdiction risk concerns are now multiplied by ethical sourcing issues, and long-term sustainability questions, all of which elevate the interest in broader, more localized sourcing. These issues are receiving heightened governmental and industry priority, and metals markets customers are now seeking and favoring new, economic, responsible solutions.

On the basis of this dynamic critical metals opportunity, and the fact that SCY has a significant capability to apply advanced mineral recovery technologies to the separation of critical metals from both ores and waste streams, the Company began a search for a North American scandium production source. This

effort immediately recognized an attractive economic value in secondary recoveries of other critical metals from certain copper operations, in addition to scandium, specifically from source systems employing solvent extraction techniques. Depending on orebody specifics, the residual metals content in raffinate can also include economically recoverable quantities of cobalt, nickel, additional copper, and other valuable metals.

The potential new revenue stream of the combined metals residual varies by orebody, and also by the specifics of the mineral processing systems in place, but collectively the metals basket is more instantly marketable and shows superior economics to the solo scandium target we had in mind at the start. This IX technology also represents a viable precursor for direct refining cobalt, nickel and potentially copper into high purity sulfate product forms, as required for battery manufacture, specifically in the electric vehicle (EV) industry.

This SCY program is led by SCY’s Chief Technology Officer, Willem P.C. Duyvesteyn, who is the primary inventor of close to 100 US patents and patent applications in the field of materials processing and commercial recovery processes for base metals, specialty metals, and chemical compounds. The Company has filed for patent protection on various aspects of its relevant technical program ideas with the US Patent Office, using technical information from preliminary bench-scale testing with actual copper SX raffinate solutions.

The Company believes this work can be demonstrated with a working and successful copper plant installation, with proven know-how, and intends to pursue a copper industry partner to demonstrate the economic viability of this technology. It is the Company’s intent to fully participate in the operation, ownership and production economics associated with a plant asset that is developed in concert with that partner.

SCY shareholders should note that this new critical metals recovery program contains a scandium component that utilizes the same technology applied to other targeted critical metals recoveries. This program is intended to allow SCY to benefit from early and attractive scandium production, in addition to producing a basket of other metals with currently established markets. The program has the potential to generate commercial-scale scandium production from the USA and the Americas, which produces little or no scandium today. Early scandium production can be expected to more quickly build the nascent scandium market globally, thus supporting the development of the Company's Nyngan and Honeybugle scandium assets in Australia.

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

"The copper industry enjoys a relatively well distributed global production footprint. Marry that with the idea that a number of copper orebodies have significant un-harvested critical metal content, and we see an opportunity to tap 'local' critical metals sources, and more value, specifically in North America. We are excited to pursue this opportunity, with a specific site and producing copper partner, and make an economic demonstration for the entire industry."

ABOUT SCANDIUM INTERNATIONAL MINING CORP.

The Company has completed a Definitive Feasibility Study[1] on its 100% owned Nyngan Scandium Project, located in NSW, Australia, and has received all key approvals, including a development consent and a mining lease, necessary to proceed with project construction. The Company is currently seeking long term sales agreements with potential customers for scandium products, prior to finance and construction.

The Company retains a portfolio of minerals processing patents relevant to base metals and specialty metals recoveries. While the primary patent focus is fundamentally on scandium recoveries, the associated technology and knowhow has direct application for critical metals recoveries. In addition, the Company has done extensive market development, application engineering and metallurgy work with many of the world's leading companies to accelerate the adoption of scandium into manufactured products, some of which also utilize other critical metals as well.

[1]**NOTE:** 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.

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.