

Ucore Updates on Innovation Metals Corp.'s Successful Completion of Initial Extraction-Rate Testing of the RapidSX Technology for Rare-Earth Elements Separation

HALIFAX, NOVA SCOTIA — June 30, 2021 — [Ucore Rare Metals Inc.](#) (“Ucore” or the “Company”) (TSXV:[UCU](#)) (OTCQX:[UURAF](#)) is very pleased to announce that the Company’s wholly owned subsidiary, [Innovation Metals Corp.](#) (“IMC” or the “company”), has successfully completed initial extraction-rate testing of its proprietary RapidSX™ separation technology and to provide an update on the company’s RapidSX commercialization demonstration program and related timelines. Being a key technical milestone in the commercialization of RapidSX, the extraction-rate testing quantitatively confirmed the ability of the technology to rapidly extract rare-earth elements (“REEs”) from an initial REE feedstock using a standard extractant, at rates at least ten times faster than conventional solvent extraction (“SX”) technology.

Highlights

- i. Successful initial extraction-rate testing demonstrated and re-confirmed that the RapidSX technology is highly effective at extracting REEs from solutions, within a range of flow rates;
- ii. RapidSX column design for commercial deployment is now in the finalization/optimization stage; and
- iii. IMC continues to advance the commercialization of the RapidSX technology via proprietary commercial hardware and software capabilities. This innovative, dual-channel approach will underpin the successful commercialization of RapidSX for REE separation, while also advancing non-REE RapidSX applications.

“The IMC team continues to make great strides in the RapidSX technology commercial deployment effort,” commented **Pat Ryan**, P.Eng., Ucore Chairman and CEO. ***“This latest round of extraction-rate testing foreshadows the expected results as we embark on an Independent Evaluation of the RapidSX technology at the Kingston facility which will take place over the summer months of 2021. This Independent Evaluation will be conducted by the scientific team at [Kingston Process Metallurgy](#) (“KPM”) under the supervision and direction of an independent third party who will report on the findings.”***



Image 1:
KPM technicians operating the RapidSX™ test platform during REE extraction-rate testing. The test was conducted on June 28, 2021, at IMC's RapidSX Commercialization Development Facility in Kingston, Ontario.
Photo: Innovation Metals Corp.

RapidSX Extraction-Rate Testing

The rate of extraction is an important contributor to the final design of the individual columns that will be used in RapidSX-based SX circuits, influencing their overall size when deploying the technology for particular applications. The recent testing looked at the effects of flow rate and residence time on the rate of extraction from a mixed REE solution.

The initial quantitative test results using a standard, commercial extractant for REEs indicate that the rate of mass transfer during operation of the **RapidSX columns is at least one order-of-magnitude higher than that which occurs with the use of mixer-settler units for conventional SX extraction of REEs from solutions, i.e., at least ten times faster.**

IMC Chairman, CEO and Co-founder, **Dr. Gareth Hatch**, stated, “*The results of the initial extraction-rate testing for the current RapidSX columns are highly encouraging. Additional extraction-rate testing to validate and optimize platform parameters will be undertaken in the coming weeks, as IMC finalizes the design of the physical RapidSX hardware for deployment in IMC's forthcoming RapidSX Demonstration Plant. Additional extraction-rate testing will also be utilized to look at the influence of alternative extractants, currently being evaluated via equilibrium isotherm work.*”

Finalization of RapidSX Column Design

In addition to the initial extraction-rate testing, IMC has been working to finalize the individual physical RapidSX column assembly design so that it will be suitable for commercial deployment. Computational fluid dynamics (“**CFD**”) software has been used to model fluid flows to subsequently fine-tune the design of certain components that will be utilized in the physical column assemblies.

Final column designs for the RapidSX Demonstration Plant (“**Demo Plant**”) are in the process of completion, and will be tested in a demo-scale module ahead of construction of the Demo Plant, to empirically confirm effectiveness, at IMC’s RapidSX Commercialization Development Facility (“**CDF**”) in Kingston, Ontario, Canada.

Commercialization of the RapidSX Technology

IMC’s ongoing commercialization work for the processing of REE feedstocks using RapidSX has now converged to simultaneous commercial hardware and software development. Together, these two initiatives will underpin the deployment of the RapidSX technology at commercial scale.

RapidSX Commercial Hardware Platform Development

The hardware platform development focuses on all of the physical hardware that is required for utilization of the RapidSX technology. This includes the proprietary RapidSX columns, as well as the supporting instrumentation, controls, sensors, piping, pumps, and all other physical equipment required.

Wherever possible, IMC will utilize the same hardware components in the forthcoming Demo Plant, as those that will be deployed at commercial scale. This will allow the Company to operate a Demo Plant at the CDF — scheduled for construction and commissioning later this year — that will very much look and feel like a full-scale, commercial facility.

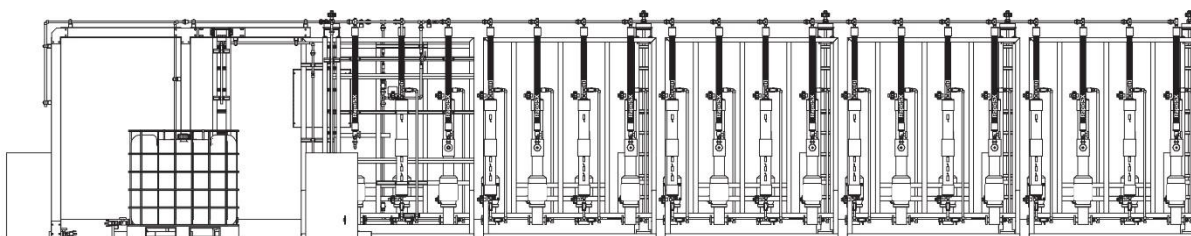


Image 2:

Left-side elevation of a commercial-scale RapidSX™ multi-stage circuit for REE separation, under development for the forthcoming RapidSX Demonstration Plant.

Source: Innovation Metals Corp.

RapidSX Commercial Software Tool Development

In parallel to the RapidSX hardware development work, IMC’s technical team is focused on the development of a proprietary RapidSX software tool to instruct and control the hardware platform during operation. At the heart of this software tool will be the mathematical model previously disclosed by IMC, which will utilize the empirical REE extraction and separation data generated by IMC over the past several months, from a number of REE feedstocks. Once complete, the integrated software tool will work in concert with the hardware platform to provide near real-time adjustments to variations in feed and flow parameters, as appropriate. The same tool will also be responsible for determining the optimal metallurgical

flowsheet for specific mixed REE concentrate feedstocks (input) and the specific REE oxides to be produced (output). This dictates the configuration and staging of the RapidSX hardware and controls the hardware platform. The software tool will allow IMC to analyze numerous flowsheet scenarios to achieve cost optimization, without the need for onerous and time-consuming “wet chemistry” development work.

For more information on IMC’s RapidSX commercialization development, please refer to the following IMC video: ['Dr. Hatch discusses the commercialization-development program for the RapidSX™ separation technology'](#).

RapidSX Commercialization Timeline

As announced on [January 29, 2021](#), and [May 4, 2021](#), the commissioning of IMC’s RapidSX Demo Plant is scheduled to commence in late Q3 / early Q4 2021, with a comprehensive, independent techno-economic study and the design of a commercial-scale REE separation facility, both planned for completion by Q1 2022. With the anticipated ability to demonstrate the effectiveness of the Demo Plant on currently available REE feedstocks, IMC expects the RapidSX technology to be ready for commercial adoption and implementation in less than 12 months (in Q2/Q3 2022), via revenue-producing licensing agreements with strategically selected IMC customers.

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About Ucore Rare Metals Inc.

Ucore is focused on rare and critical metals resources, extraction, beneficiation and separation technologies with potential for production, growth, and scalability. Ucore has a 100% ownership stake in the Bokan-Dotson Ridge Rare Earth Element Project in Southeast Alaska. Ucore’s vision and plan is to transition to become a leading advanced technology company that provides metal separation products and services to the mining and mineral extraction industry. Innovation Metals Corp. is a wholly owned subsidiary of Ucore.

Through strategic partnerships, this vision includes disrupting the People’s Republic of China’s dominance of the US REE supply chain through the development of a heavy rare earth processing facility – the Alaska Strategic Metals Complex (“**Alaska SMC**”) in Southeast Alaska and the long-term development of Ucore’s heavy rare earth element mineral resource property located at Bokan Mountain on Prince of Wales Island, Alaska.

Ucore is listed on the TSXV under the trading symbol “[UCU](#)” and in the United States on the OTC Markets’ OTCQX® Best Market under the ticker symbol “[UURAF](#)”.

For further information, please visit www.ucore.com.

About Innovation Metals Corp.

IMC has developed the proprietary RapidSX™ process, for the low-cost separation and purification of rare-earth elements, Ni, Co, Li and other technology metals, via an accelerated form of solvent extraction. IMC is commercializing this approach for a number of metals, to help enable mining and metal-recycling companies to compete in today’s global marketplace.

For more information, please visit www.innovationmetals.com.

About the RapidSX™ Technology

IMC developed the RapidSX separation technology with the assistance of US\$1.8 million in funding from the United States Department of Defense ("US DoD"), resulting in the production of commercial-grade, separated REOs at the pilot scale. RapidSX combines the time-proven chemistry of conventional SX with a new column-based platform, which significantly reduces time to completion and plant footprint, as well as potentially lowering capital and operating costs. SX is the international REE industry's standard commercial separation technology and is currently used by 100% of all REE producers worldwide for bulk commercial separation of both heavy and light REEs. Utilizing similar chemistry to conventional SX, RapidSX is not a "new" technology, but represents a significant improvement on the well-established, well-understood, proven conventional SX separation technology preferred by REE producers.

Forward-Looking Statements

The "About Ucore" section of this press release includes certain statements that may be considered "forward-looking statements" regarding, among other things, the development of the Alaska SMC, the use of Innovation Metals Corp.'s RapidSX technology, and the long-term development of Ucore's heavy rare earth element mineral resource property located at Bokan Mountain in Alaska, USA. All statements in this release (other than statements of historical facts) that address future business development, technological development and/or acquisition activities (including any related required financings), timelines, events, or developments that the Company expects, are forward-looking statements. Although the Company believes the expectations expressed in such forward-looking statements are based on reasonable assumptions, such statements are not guarantees of future performance or results and actual results or developments may differ materially from those in forward-looking statements. In regard to the disclosure in the "About Ucore" section above, the Company has assumed that it will be able to procure or retain additional partners and/or suppliers, in addition to Innovation Metals Corp., as suppliers for Ucore's expected future Alaska SMC. Ucore has also assumed that sufficient external funding will be found to prepare a new National Instrument 43-101 ("NI 43-101") technical report that demonstrates that the Bokan Mountain Rare Earth Elements project ("Bokan") is feasible and economically viable for the production of both REE and co-product mineral materials and metals and the then prevailing market prices based upon assumed customer off-take agreements. Ucore has also assumed that sufficient external funding will be secured to develop the specific engineering plans for the Alaska SMC and its construction. Factors that could cause actual results to differ materially from those in forward-looking statements include, without limitation: Innovation Metals Corp. failing to protect its intellectual property rights in RapidSX; RapidSX failing to demonstrate commercial viability in large commercial-scale applications; Ucore not being able to procure additional key partners or suppliers for the Alaska SMC; Ucore not being able to raise sufficient funds to fund the specific design and construction of the Alaska SMC and/or the continued development of RapidSX; adverse capital-market conditions; unexpected due-diligence findings; the emergence of alternative superior metallurgy and metal-separation technologies; the inability of Ucore and/or Innovation Metals Corp. to retain its key staff members; a change in the legislation in Alaska and/or in the support expressed by the Alaska Industrial Development and Export Authority ("AIDEA") regarding the development of Bokan and/or the Alaska SMC; the availability and procurement of any required interim and/or long-term financing that may be required; and general economic, market or business conditions.

Neither the TSXV nor its Regulation Services Provider (as that term is defined by the TSXV) accept responsibility for the adequacy or accuracy of this release.

CONTACT

Mark MacDonald

Vice President, Investor Relations

Ucore Rare Metals Inc.

+1 902 482 5214

mark@ucore.com