

Hexagon Enters Rare Earths Downstream Processing Industry

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TORONTO, Oct. 10, 2019 - [Hexagon Resources Ltd.](#) (ASX:HXG) ("Hexagon" or the "Company") is pleased to announce it has executed a binding Investment Agreement ("BIA") whereby Hexagon has an Option to acquire a 49% interest in an advanced, downstream rare-earth elements ("REE" or "REEs") separation technology from Innovation Metals Corp. ("IMC"). IMC's proprietary RapidSX[®] REE separation technology holds the potential to enable current and future REE producers outside of China to serve US, European, Japanese and Korean markets, mitigating the current extreme concentration of REE supply and separation capability in China. The rare-earth processing business meshes well with Hexagon's build-out of downstream processing of energy materials and is well covered by the US team that the Company has already assembled.

IMC and Hexagon's wholly owned US subsidiary, Energy Materials of America LLC are to form an incorporated joint venture, American Innovation Metals Inc. ("AIM") with 49% and 51% ownership respectively, as illustrated in Figure 1 below. IMC will contribute the RapidSX technology IP for REE separation and Hexagon will invest US\$2 million into the construction of a Commercial Demonstration Plant ("CDP") and pay US\$4 million to IMC as Deferred Consideration, payable from Hexagon's share of future AIM cash flows. The exercise of the BIA's Option is conditional on Hexagon shareholder approval, to be sought at Hexagon's AGM in Perth, Western Australia on November 22, 2019.

HIGHLIGHTS

- The RapidSX technology is a proven, de-risked REE separation technology, based on solvent extraction ("SX"), ready to be commercialized, representing a very exciting energy-materials business opportunity to Hexagon.
- The United States Department of Defense ("DoD") contributed US\$1.8 million to an IMC program which led to the development of the RapidSX approach, a unique process for the production of commercial-grade separated REE-oxide ("REO") materials at pilot scale.
- Competitive advantages of RapidSX technology for REEs include:
 - *Low capital costs: due to significantly reduced size and number of separation stages and resulting physical plant footprint, compared to conventional SX approaches;*
 - *Low operating costs: due to significantly reduced separation times (days compared to weeks), reduced reagent and power consumption, reduced manpower requirements and reduced in-process metal inventories;*
 - *All equipment and construction materials are readily commercially available; and*
 - *The RapidSX technology is modular and scalable, capable of entering into a grossly underserved US market without the risks of oversupply.*
- The CDP is planned to have a production capacity of 60,000 to 80,000 kg of REOs per year and construction is planned for completion at a site in North America in Q3 2020.
- Commercialization base case is to licence the RapidSX technology for fixed and revenue-based fee structures. Preceding those agreements, clients will utilize the CDP to test their rare-earth concentrates on a fees-for-service basis.
- Following Hexagon's initial investment, AIM could potentially be self-funding through to commercialization; however, AIM may also qualify for US federal government grants and incentives.
- AIM paves the way for construction and operation of an independent, full-scale RapidSX-based rare-earth separation plant in the USA (*presently, there is no REE separation capacity in the US*).
- The RapidSX CDP is expected to take approximately 6 to 9 months to construct and commission, and operations are anticipated to commence in Q3 of 2020.

Figure 1: The Hexagon-IMC Joint-Venture Structure is available at

<https://www.globenewswire.com/NewsRoom/AttachmentNg/0f1ee544-77b9-4cd8-8a25-035275a93bb1>

Hexagon believes that this JV will complement its existing focus on graphite, and in particular its activities in the downstream graphite-processing sector, which are also an integral component to the energy-materials industry.

Hexagon's Managing Director Mike Rosenstreich said forming the JV with IMC was part of Hexagon's broader US-based energy-materials business strategy.

"Through our graphite marketing discussions, we formed a greater understanding of the strong domestic drivers that are going to underpin the energy-materials business as we see the world embrace electric vehicles and other technological advances in energy," he said.

"There are no US domestic sources of key energy materials such as natural graphite and separated REEs – where China accounts for 85% of global production. There is a REE supply crisis, so we see this as an ideal opportunity to ultimately develop a 'Made-in-USA' brand that can meet growing US and global demand."

"Hexagon is excited to be working with the IMC team to commercialize the RapidSX technology for REE separation," commented Mr. Rosenstreich. "The lack of US-based REE separation capacity presents a serious vulnerability to US national and economic security and the security of its allies, as REEs are critical for defense technologies, electric vehicles and US economic growth plans. Without downstream capacity to separate and purify REEs, the USA and its allies are vulnerable to potential supply disruptions, price spikes and trade disagreements related to REEs. It is our intention to remedy this situation with the successful commercialization of the RapidSX approach to REEs."

IMC developed the RapidSX separation technology with the assistance of US\$1.8 million in funding from the US DoD, resulting in the production of commercial-grade separated REOs at the pilot scale. The technology combines the time-proven chemistry of SX with a new column-based platform, which significantly reduces time to completion and plant footprint, as well as lowering capital and operating costs. It has also been successfully applied to the separation and purification of other metals in solution, such as Ni, Co and Fe in leach solutions produced from Ni laterite ores, as well as Li from Li brines.

Figure 2: REE – REO Generalized Supply Chain is available at
<https://www.globenewswire.com/NewsRoom/AttachmentNg/00d50da2-7a3c-4e2f-90bf-5981964a7c8c>

"IMC has long recognized the need for cost-effective REE separation and purification capabilities in the USA and beyond," commented Dr. Gareth Hatch, Chairman and CEO of IMC. "In addition to ongoing US-China trade tensions, in recent years the authorities in China have been more strictly enforcing environmental protection and pollution-control measures, leading to the closure of non-conforming industrial plants and facilities. The REE industry is no exception, and these steps have led to a gradual reduction in REE production capacity, tightening supply. The joint venture with Hexagon represents a unique opportunity to support the much-needed diversification of the REE supply chain, and we look forward to working with the Hexagon team to realize our shared objectives."

The CDP will be used to conduct staged scoping- to feasibility-level studies on the performance, capital and operating costs of a full-scale, RapidSX-based REE separation plant.

Initial commercialization by AIM will focus on licencing of the RapidSX technology to mixed REE chemical-concentrate producers for fixed and revenue-based fee structures. Ahead of these licensing agreements, clients will have the opportunity to utilize the CDP to test the separation of their mixed REE chemical concentrates, while covering the plant operating costs.

Following Hexagon's initial investment, AIM could potentially be self-funding through to commercialization. It may also attract government grants and incentives, particularly from the USA, with respect to the future construction of a US-based independent, full-scale RapidSX-based REE separation plant, to be owned and operated by AIM.

A photo accompanying this announcement is available at
<https://www.globenewswire.com/NewsRoom/AttachmentNg/8229dbd0-93c1-41fd-b29f-100b524cc2d7>

Hexagon's RapidSX®; REE Presentation: Next-Generation Energy Materials Start Here
can be accessed through the following link:
<https://g-w.sharefile.com/share/view/s9b2e37f7b1448b08>

Hexagon's corresponding October 10, 2019 ASX announcement can be accessed through the following link:
<https://hexagonresources.com/wp-content/uploads/2019/10/20191010-HXG-Enters-US-Rare-Earths-Downstream-Proc>

About Hexagon Resources Limited
[Hexagon Resources Ltd.](#) is listed on the Australian Securities Exchange ("ASX") under the ticker code "HXG". The Company holds a 100% interest in the McIntosh Graphite Project in Western Australia and an 80% interest in the Ceylon Graphite Project in Alabama, USA. With a current focus on the downstream processing of graphite and other energy materials, Hexagon has attained formidable technical knowledge based on test work of its McIntosh project flake-graphite material, which is applicable and highly valuable for a range of specialty-material applications. The Company's focus is on creating sustained shareholder value by maximizing near-term growth opportunities to commercialize that downstream business in the USA, where it has forged strong technical, commercial and investor relationships.

Learn more at www.hexagonresources.com

About Innovation Metals Corp.
Innovation Metals Corp. is a private Canadian company and developer of the proprietary RapidSX®; process for the low-cost separation and purification of rare-earth elements (REEs), Ni, Co, Li, and other technology metals, via an accelerated form of SX. 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.

Learn more at www.innovationmetals.com

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