

# GéoMégA Subsidiary Innord Completes its First Scale Up Unit and Acquires Feed Material for Large Volume Testing

**Montreal, September 4, 2018** – Geomega Resources Inc. (“**GéoMégA**” or the “**Corporation**”) (TSX.V: GMA) is pleased to announce that Innord Inc. (“**Innord**”), a private subsidiary controlled by GéoMégA, has completed the assembly of its first scale up unit for processing magnetic residues containing rare earth elements (“REE”) Neodymium (Nd) and Dysprosium (Dy).

The unit has been built with off-the-shelf equipment and is now ready for larger scale testing at Innord’s laboratory at the National Research Council Canada facilities. The 20-liter unit has been built on budget with an estimated cost of approximately \$20,000 and has the processing capacity of up to 7 kg per batch of recycling material. This unit includes most of the ISR processing features such as water recycling and acid recovery system which is currently estimated to occur at over 90% yield.

Work in 2018 has resulted in several improvements such as higher purities, lower residence time (approximately 8 hours) and a significant increase to the separation factor (Nd/Dy of approximately 30). With this first unit, work will focus on demonstration with larger batches and the objective to further increase the scale in 2019 to up to 200-liter unit. This will include increasing the purity to over 99.9%, increasing the recovery per run, further lowering the residence time and potentially increasing the separation factor. Table 1 below shows the progression over the years and some of the key objectives for 2019.

To begin testing the newly built unit, Innord acquired and has received over 200 kg of several types of magnetic residues with variable grades of rare earths which will allow it to produce over 100 kg of Nd and Dy once it is all processed. Discussions continue with several groups around the world to secure large volumes of magnetic residues and the outlook remains very positive for the supply to keep growing every year as more and more technologies that use large and easily recyclable magnets (e.g. wind turbines, electric vehicles, air conditioners, etc...) reach their end of life. Many global initiatives are focusing on recycling these products and Innord is well positioned with its ISR Technology to extract all the REE and cobalt in these magnets in a sustainable and price competitive way.

Establishing this North American supply chain of Nd, Dy and later of other REE is critical due to the current trade disputes between the United States and China and the ever-growing demand of Nd-permanent magnets in today’s technologies. These additional tariffs on REE bring incertitude for the end-users and Innord’s ISR technology is aiming to become the solution for a North American sustainable supply of rare earth elements.

	2014	2016	2017	2018 <sup>i</sup>	2019 <sup>ii</sup>
<b>Separation Technique</b>	FFE	M. Rotofor	ISR	ISR	ISR
<b>Capacity of a Single Separation Reactor, (ml)</b>	30	50	2,500	20,000	200,000
<b>REE Concentration in Separation Reactor, (g/l) <sup>iii</sup></b>	0.0035	0.0625 - 30	~130	~100	~100
<b>Approx. Cost of Prototype, (US\$)</b>	150,000	15,000	15,000	20,000	< 100,000
<b>Type of Sample Separated</b>	Synthetic	Synthetic	Industrial Residue	Industrial Residue	Industrial Residue
<b>Major Separated Elements</b>	Multi-Elements	La, Eu, Yb	Nd, Dy	Nd, Dy	Nd, Dy
<b>Purity of Separated REO, (%)</b>	94 to 98	85 to 90	85 to 95	+99 <sup>vi</sup>	+99.9
<b>Single Run Recovery, (%)</b>	70 to 90	40 to 55	60 to 90	60 to 95	80 to 95
<b>Residence Time in Separation Reactor, (hr) <sup>iv</sup></b>	1/6-1/2	4-6	~12	~8	4-6
<b>Separation Factor (Nd/Dy) <sup>v</sup></b>	-	-	~10	~30	?

<sup>i</sup> Plan for this year

<sup>iii</sup> Volume averaged concentration

<sup>v</sup> SX: HCl/HDEHP SF = 42; SX: HCl/EHEHPA SF = 22 (Gupta)

<sup>ii</sup> Objectives and estimates

<sup>iv</sup> Single run

<sup>vi</sup> Work on Dy final purity continues

Table 1: Summary of progression over the years and key objectives for 2019.

“This is another chapter for the development of the ISR technology in recycling rare earth elements from magnetic residues. We are dealing with an almost 10-fold increase in our scale which will allow us, for the first time ever, to test the process in conditions resembling those of a commercial operation in a closed system. This first design will be used to thoroughly test the operating conditions, the robustness of the design and to check if any of the key parameters need adjustment due to the increased scale of the reactor. Conditional on successful results, all data will be used for the next scale-up stage of another 5 to 10-fold increase. The simple and scale-up friendly design which are the staples of the ISR technology were confirmed during the construction period, as was shown by the short period of time that it took to receive and to put all the equipment together. Results of the upcoming scale-up tests will be provided to the market gradually as testing progresses.” commented Kiril Mugerma, President and CEO of GéoMégA and Innord.

All the sample analyses have been performed internally by Innord Inc. using ICP-OES and final results validated by an external laboratory, Northern Analytical Laboratory Inc. in Londonderry, NH using GDMS.

All the experiments and the technology development have been conducted and supervised by Dr. Pouya Hajiani (PhD Chemical Engineering), CTO of GéoMégA and he approves the technical information in this press release.

### About GéoMégA ([www.geomega.ca](http://www.geomega.ca))

GéoMégA is a mineral exploration and evaluation company focused on the discovery and sustainable development of economic deposits of metals in Québec. GéoMégA is committed to meeting the Canadian

mining industry standards and distinguishing itself with innovative engineering, stakeholders' engagement and dedication to local transformation benefits.

### **About Innord Inc.**

Innord is a private subsidiary of GéoMégA of which GéoMégA owns 96.1%. The goal of Innord Inc. is to develop and optimize the proprietary separation process of rare earth elements based on electrophoresis, for which it holds all the rights. Electrophoresis is the migration of charged species (ions, proteins, particles) in solution in the presence of an electric field. Innord has filed patents in Canada and the United States to protect its novel separation process and is looking to file in other jurisdictions.

### **For further information, please contact:**

Kiril Mugerma  
President and CEO  
GéoMégA  
450-641-5119 ext.5653  
[kmugerma@geomega.ca](mailto:kmugerma@geomega.ca)

### **Cautions Regarding Forward-Looking Statements**

*Neither TSX Venture Exchange nor its Regulation Services Provider (as that term is defined in the policies of TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this release.*

*This news release contains statements that may constitute "forward-looking information" or "forward-looking statements" within the meaning of applicable Canadian securities legislation. Forward-looking information and statements may include, among others, statements regarding future plans, costs, objectives or performance of the Corporation, or the assumptions underlying any of the foregoing. In this news release, words such as "may", "would", "could", "will", "likely", "believe", "expect", "anticipate", "intend", "plan", "estimate" "target" and similar words and the negative form thereof are used to identify forward-looking statements. Forward-looking statements should not be read as guarantees of future performance or results, and will not necessarily be accurate indications of whether, or the times at or by which, such future performance will be achieved. No assurance can be given that any events anticipated by the forward-looking information will transpire or occur, including additional closings of the private placement referred to above, or if any of them do so, what benefits the Corporation will derive. Forward-looking statements and information are based on information available at the time and/or management's good-faith belief with respect to future events and are subject to known or unknown risks, uncertainties, assumptions and other unpredictable factors, many of which are beyond the Corporation's control. These risks, uncertainties and assumptions include, but are not limited to, those described under "Risk Factors" in the Corporation's annual management's discussion and analysis for the fiscal year ended May 31, 2017, which is available on SEDAR at [www.sedar.com](http://www.sedar.com); they could cause actual events or results to differ materially from those projected in any forward-looking statements. The Corporation does not intend, nor does the Corporation undertake any obligation, to update or revise any forward-looking information or statements contained in this news release to reflect subsequent information, events or circumstances or otherwise, except if required by applicable laws.*