



## **Geomega Resources Inc.**

Management's Discussion and Analysis  
Quarterly Highlights

Six months ended November 30, 2018

# Geomega Resources Inc.

## Management Discussion & Analysis – Quarterly Highlights

Six months ended November 30, 2018

The following quarterly highlights management discussion and analysis (the “MD&A Highlights”) of the financial condition and results of the operations of GéoMegA Resources Inc. (the “Corporation”, “Company” or “GéoMégA”) constitutes management’s review of the factors that affected the Corporation’s financial and operating performance for Q2-19 et Q2-19 YTD. This MD&A Highlights should be read in conjunction with the Corporation’s unaudited condensed interim financial statements as at November 30, 2018 prepared in accordance with the International Financial Reporting Standards (“IFRS”), as well as with the management discussion and analysis for the year ended May 31, 2018. All figures are in Canadian dollars unless otherwise noted.

Further information regarding the Corporation and its operations are filed electronically on the System for Electronic Document Analysis and Retrieval (SEDAR) in Canada and can be found on [www.sedar.com](http://www.sedar.com).

Abbreviation	Period
Q1-18	June 1, 2017 to August 31, 2017
Q2-18	September 1, 2017 to November 30, 2017
Q3-18	December 1, 2017 to February 28, 2018
Q4-18	March 1, 2018 to May 31, 2018
Fiscal 18	June 1, 2018 to May 31, 2018
Q1-19	June 1, 2018 to August 31, 2018
Q2-19	September 1, 2018 to November 30, 2018
Q3-19	December 1, 2018 to February 28, 2019
Q4-19	March 1, 2019 to May 31, 2019
Fiscal 19	June 1, 2019 to May 31, 2019

### 1. NATURE OF ACTIVITIES

GéoMégA is a mineral exploration and evaluation company focused on the discovery and sustainable development of economic deposits of metals in Quebec. GéoMégA is committed to meeting the Canadian mining industry standards and distinguishing itself with innovative engineering, high stakeholder engagement and dedication to local transformation benefits. On the TSX Venture Exchange (the “Exchange”), common shares of the Corporation are trading under the symbol GMA.

As society moves from consumption of fossil fuels to more sustainable energy sources, GéoMégA believes that the future of clean energy resides in one of the rare earth elements (“REE”) called neodymium. Neodymium is vital for the production of high-performance permanent magnets used in a wide variety of electrical motors. Such motors are in increasing demand with the growth of sustainable-energy initiatives such as hybrid and electric vehicles and direct-drive wind turbines.

Innord Inc. (“Innord”) is the innovation arm of GéoMégA and was created in March 2015 to optimize the value of the separation technology by facilitating its development through direct investments of key financial partners. Innord is a subsidiary of GéoMégA that holds all the separation rights and laboratory equipment. The primary goal of Innord is to successfully scale-up its proprietary REE separation process. From now on, all research and development initiatives of GéoMégA are conducted by Innord.

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### 2. CORPORATE UPDATE

#### 2.1 Financial Highlights

GéoMégA has \$106,453 of cash as at November 30, 2018. The Corporation has a working capital deficiency of \$650,982 as of November 30, 2018 (\$148,048 as of May 31, 2018). The Corporation is constantly seeking financing or business opportunities.

The Corporation reported a net income of \$172,129 in Q2-19 YTD compared to \$624,644 for Q2-18 YTD. The main variation are as follow:

- Directors fees of \$17,000 (\$27,500 negative for Q2-18 YTD). During Q1-18, two directors waived their directors fees for a total of \$45,000, which created a gain in the financial statements;
- Exploration and evaluation expenses, net of tax credits of \$113,376 (\$156,058 in Q2-18 YTD). Total exploration and evaluation expenditures increased from \$195,094 in Q2-18 YTD to \$226,238 in Q2-19 YTD, but government grants increased from \$39,036 to \$112,864 for the same period, creating a reduction in net expenses. See also analysis of work on the Montviel property in Section 3.1;
- Share of loss of associate of \$668,146 (\$256,146 in Q2-18 YTD) and net gain on dilution of investment in an associate \$1,274,915 (\$106 457 in Q2-18 YTD). Kintavar is the Corporation's only associate and this investment is accounted for under the equity method; The part of Geomega in Kintavar went from 28.76% to 22.49% in Q1-2019 following the issuance of 17,297,007 shares of capital stock by Kintavar. There was no further dilution during Q2-19.

#### 2.1 New sources of financing

On June 27, 2018, the Corporation and its subsidiary Innord, in collaboration with Centre d'études des procédés chimiques du Québec (CÉPROCQ), obtained a total of \$288,000 in grants from several Federal and Provincial government programs to conduct research on selective metal extraction and purification processes. Research will be conducted under the supervision of Innord's CTO, Dr. Pouya Hajiani, in collaboration with CÉPROCQ at Innord's facilities in Boucherville, Quebec.

On September 24, 2018, the Corporation announced having obtained, through its subsidiary Innord Inc., the approval for conditional funding from the National Research Council of Canada Industrial Research Assistance Program (NRC IRAP) for an amount of up to \$350,000 over a period of 18 months to advance the scale up work on the ISR technology for recycling rare earth elements in the permanent magnet industry.

#### 2.3 Change of Chief Financial Officer

On October 25, 2018, the Company announced the hiring of a new Chief Financial Officer. As part of its growth strategy and the many upcoming projects, the Company has made the decision to hire a dedicated internal CFO. Mathieu Bourdeau, CPA, CA, has joined the management team of the Corporation.

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### 3. MONTVIEL PROPERTY (REE – 160 CLAIMS – 100% INTEREST)

#### 3.1 Expense Summary - Montviel Property

Montviel	Three months ended November 30		Six months ended November 30	
	2018	2017	2018	2017
	\$	\$	\$	\$
<b>Acquisition and maintenance</b>	<b>3,076</b>	<b>833</b>	<b>9,162</b>	<b>1,731</b>
<b>Exploration</b>				
Salaries and benefits	-	5,898	-	5,898
Share-based compensation	2,398	5,092	4,879	9,497
Geology	-	119	-	119
Transport and lodging	(203)	379	(745)	732
Geophysics and Geochemistry	-	1,610	-	14,882
Depreciation of property and equipment	3,114	2,808	5,923	5,617
Taxes, permits and insurances	576	283	1,189	1,559
Billing - rental	(13,375)	(7,375)	(27,750)	(22,870)
<b>Total exploration</b>	<b>(7,490)</b>	<b>8,814</b>	<b>(16,504)</b>	<b>15,434</b>
<b>Evaluation</b>				
Salaries and benefits - Metallurgy and processing	72,945	57,298	147,145	129,127
Separation process	27,433	11,998	64,982	23,032
Depreciation of property and equipment	10,776	12,885	21,453	25,770
<b>Total Evaluation</b>	<b>111,154</b>	<b>82,181</b>	<b>233,580</b>	<b>177,929</b>
Gross E&E expenses	106,740	91,828	226,238	195,094
Government grants	(106,742)	(4,033)	(112,864)	(39,036)
<b>Net E&amp;E expenses - Montviel</b>	<b>(2)</b>	<b>87,795</b>	<b>113,374</b>	<b>156,058</b>

Alain Cayer, P. Geo., M.Sc., Vice-President Exploration of GéoMégA, a qualified person as defined in NI 43-101 supervised the preparation of the technical information in this section.

There was no surface exploration activity on the Montviel property during the Q2-2019 YTD (same for Q2-18 YTD).

#### 3.2 Preliminary Economic Assessment (“PEA”)

The corporate commitment to sustainable development dictated the following operational parameters for the Montviel project: i) underground mining scenario with paste backfill, ii) reduction in reagents to be transported by road and iii) electrical operations with a low voltage power line. It has taken more than three and a half years of metallurgical work and optimization to meet these three parameters.

In 2015, Montviel's flow sheet was greatly simplified. All of the acid required for hydrometallurgy will be generated on site with the insertion of a closed loop acid regeneration unit. In addition, two physical adjustments at the beneficiation step significantly decrease the ore mass moving to hydrometallurgy.

To complete the PEA, the primary remaining work is the evaluation of the cost of the plant and infrastructure based on the May 2015 flow sheet (see press release dated May 20, 2015). The Company is focussing on scaling up its activities (see section 3.4) and will pursue the remaining work for the PEA subsequently.

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### 3. MONTVIEL PROPERTY (CONT'D)

#### 3.3 Environmental Geochemistry

There are four (4) environmental studies that are ongoing on Montviel. These are long term studies with repetitive sampling.

#### 3.4 Separation of rare earths through electrophoresis (patent pending) INNORD

Dr. Pouya Hajjani, process inventor and engineer and CTO of GéoMégA supervised and approved the technical information of this section.

Innord is continuing the research and development activities for separating rare earth elements using its proprietary separation technology that does not use organic solvents (“Innord Separation of Rare Earths (ISR Technology)”). Following up on the successful developments of 2017 and 2018, the Corporation is focusing on scaling up activities by processing rare earth enriched feed that is coming from the permanent magnet industry. The products of the Corporation have been already tested and validated by potential end users for manufacturing of permanent magnets.

On November 26, 2018, the Corporation announced to have entered, through its subsidiary Innord, into a collaboration agreement with University of Liege who is conducting work with Comet Traitements SA as part of a pilot study on hybrid and electric vehicle recycling on behalf of a major vehicle manufacturer. Within the scope of this collaboration, Innord will be conducting separation testing on rare earth element (“REE”) concentrates produced by University of Liege from magnets contained in hybrid and electric vehicles which are recovered through the pilot study. Participating in this study opens the door for a potential new supply source through recycling electric motors from the transportation industry in the future.

On November 20, 2018, the Corporation announced to have purchased, through Innord, additional equipment to complete the current scale up activities to a 20 liter unit. The new equipment includes a 30 liter filtration system and pumps, larger capacity furnace and most importantly, a larger crusher with a working rate of 12 kg/hr to process some of the residues that the Corporation is receiving. All the equipment is expected to arrive in December and will be used to fully complete the scale up activities. Furthermore, the equipment was designed and manufactured such that it will be able to be used in future scale ups thereby reducing costs and significantly improving upon construction time.

On October 25, 2018, the Corporation announced that Innord entered into a non-binding Letter of Intent (“LOI”) with a United States NdFeB magnet manufacturer based in Texas to acquire up to 1,000 kg per month of feed material for extracting and refining rare earth oxides using its proprietary ISR technology. The feed material will be processed to produce saleable +99% neodymium and dysprosium oxides. Following a mutual agreement, the amount can be increased to up to 2,000 kg per month. The agreement shall be in effect for a minimum of 1 year starting from the effective date of the definitive agreement. The purpose of this agreement is to begin securing enough material for a commercial production plant to be set up in Quebec, Canada that will be able to process 1.5 tonnes of feed per day or 500 tonnes per year.

On September 17, 2018, the Corporation announced that it has successfully separated Neodymium oxide (Nd<sub>2</sub>O<sub>3</sub>) and Dysprosium oxide (Dy<sub>2</sub>O<sub>3</sub>) using the ISR technology from magnetic residues after removing other impurities such as iron, cobalt, nickel, boron and other minor metals.

Recoveries of Dysprosium per single run range between 60% and 85% and keep improving as the technology advances. Dysprosium that is not recovered in the first separation run, is not lost but is recirculated back to the process.

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#### 3. MONTVIEL PROPERTY (CONT'D)

The key parameter to look at when comparing ISR versus solvent extraction (SX) is the separation factor (SF) between two separating elements which quantifies readiness and efficiency of a single stage of separation. In the case of Nd and Dy, the SF in SX is reported between 22 and 42 while ISR technology shows a consistent SF of around 30 (see Table 1). The higher the SF, the smaller the number of repetitions is required to attain a certain purity which makes the technology more cost effective. Additional work continues to further increase the SF and current indications are positive.

On September 4, 2018, the Corporation announced that it 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.

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### 3. MONTVIEL PROPERTY (CONT'D)

Figure 1

	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	+99.5	+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

On June 11, 2018, the Corporation announced that it will begin offering Neodymium Oxide and Cobalt compounds for sale on its website.

All the sample analyses have been performed internally by Innord using ICP-OES.

### 3.5 Update on the Industry

In November 2018, Kiril Mugeran, President and CEO of the Corporation, participated in the 5th International Conference on Rare Earths. The annual event in Hong Kong brought together existing rare earth producers and end-users to discuss events within the industry over the past 12 months. The main conclusions of the event are as follow:

- The rare earths industry is increasingly orienting towards the permanent magnet realm with the focus on Neodymium (Nd), Praseodymium (Pr), Terbium (Tb) and Dysprosium (Dy). The magnet sector is growing at an average rate of 10-15% per annum. These magnetic rare earth oxides represent only 30% by volume but 80% by value of the market. In 2004 they represented 40% by value of the market. (Curtin-IMCOA, IREC15)
- Significant growth in demand for permanent magnets is building up from the electric vehicle industry which will continue for the next 5-10 years. (Curtin-IMCOA, IREC15)
- An increase in REE pricing, specifically those for the permanent magnet industry, is expected in the coming years as the demand starts outstripping supply. (Curtin-IMCOA, IREC15)

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#### 3. MONTVIEL PROPERTY (CONT'D)

- Renewable energy, specifically wind power, is a major sector which requires large amounts of permanent magnets
- Recycling of neodymium permanent magnets is now in the spotlight and is expected to increase in the coming years

End of life magnet recycling is becoming a focus point for the permanent magnet industry. Electric vehicle manufacturers are no exception and are investing in recycling for the purpose of recovering value from magnets, lithium ion batteries, copper, aluminum and other recyclable products in these vehicles in order to comply with environmental regulations. In the European Union, 85% of every vehicle must be reused or recycled and 95% recovered since 2015 (EU Directive 2000/53/EC).

#### 4. OUTLOOK ON THE UPCOMING MONTHS

Validation of the separation technology through processing industrial residues was and remains GéoMégA's main objective since 2015. The Corporation is focusing on producing rare earth oxides, which are used in the production of permanent magnets, from high grade industrial residues.

The Corporation's objectives over the next months include:

- Obtain the results of the validation tests for the operation of the 20L test unit.
- Subject to positive results, the company will begin planning for the next upgrade, which should generate cash flow for the company.
- Separation tests to obtain a purity of 99.9% and higher.
- Secure more supply to ensure long-term profitability of commercial plant operations.

#### 5. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The Financial Statements should be read in conjunction with the annual financial statements for the year ended May 31, 2018, which have been prepared in accordance with IFRS. The accounting policies, methods of computation and presentation applied in the Financial Statements are consistent with those of the previous financial year ended May 31, 2018, except for the new policy described below.

##### **IFRS 9, Financial Instruments, ("IFRS 9")**

The Corporation has elected to early adopt the requirements of *IFRS 9, Financial Instruments* with a date of initial application of June 1, 2018. This standard replaces *IAS 39, Financial Instruments: Recognition and Measurement ("IAS 39")*. IFRS 9 eliminates the classification of financial instruments as "available-for-sale" and "held to maturity" and the requirement to bifurcate embedded derivatives with respect to hybrid financial assets. This standard incorporates a new hedging model, which increases the scope of hedged items eligible for hedge accounting and aligns hedge accounting more closely with risk management. This standard also amends the impairment model by introducing a new "expected credit loss" model for calculating impairment. This new standard also increases required disclosures about an entity's risk management strategy, cash flows from hedging activities, and the impact of hedge accounting on the financial statements.

IFRS 9 uses a single approach to determine whether a financial asset is measured at amortized cost or fair value, replacing the multiple rules in IAS 39. The approach in IFRS 9 is based on how an entity manages its financial instruments and the contractual cash flow characteristics of the financial assets. Most of the requirements in the IAS 39 for classification and measurement of financial liabilities and for the derecognition of financial assets were carried forward in IFRS 9.

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#### 5. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

The following table summarizes the classification and measurement changes for the Corporation's financial assets and financial liabilities as a result of the adoption of IFRS 9.

	IAS 39	IFRS 9
<b>Financial assets</b>		
Cash and cash equivalents	Loans and receivables	Amortized cost
Accounts receivable	Loans and receivables	Amortized cost
Sales tax receivable	Loans and receivables	Amortized cost
Tax credits receivable	Loans and receivables	Amortized cost
<b>Financial liabilities</b>		
No change	-	-

The measurement for these instruments and the line item in which they are included in the statement of financial position were unaffected by the adoption of IFRS 9.

In accordance with the transitional provision of IFRS 9, the financial assets and liabilities held on June 1, 2018 were reclassified retrospectively without prior period restatement based on the new classification requirements taking into account the business model under which they are held at June 1, 2018 and the cash flow characteristics of the financial assets at their date of initial recognition.

No measurement adjustments were required to the opening balances as at June 1, 2018.

#### 6. SUBSEQUENT EVENTS

On December 10, 2018, the Corporation granted to two consultants a total of 350,000 options exercisable at \$0.08, valid for 5 years. Those options were granted at an exercise price equal to the closing market value of the shares the day of the grant.

January 29, 2019

(s) Kiril Mugerma

Kiril Mugerma  
President and CEO

(s) Mathieu Bourdeau

Mathieu Bourdeau  
CFO