Nouveau Monde Graphite Announces Promising Results From Its Demonstration Plant

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SAINT-MICHEL-DES-SAINTS, Dec. 17, 2018 - Nouveau Monde Graphite Inc. (“NMG”) (TSX-V : NOU) is proud to present its latest graphite concentrate results following the mechanical commissioning of its demonstration plant (“DP”) (see Press Release dated September 18, 2018).

From November 29 to December 5, 2018, the DP operated during five (5) days for a total of 43 non-consecutive hours. During that period, 140 tonnes of ore from the West Zone deposit, with an average total carbon (“Ct”) content of 4.5%, was processed. This corresponds to a throughput of approximately 3.3 tonnes per hour (“tph”), which is close to the design throughput of 3.5 tph. This resulted in an output of 6 tonnes of graphite concentrate of which 5.1 tonnes were bagged for distribution to potential customers. The natural flake graphite concentrate reached an average purity content of 96.6% Ct with a recovery rate achieving 95.3% Ct.

Karl Trudeau, Chief of Operations at NMG, is impressed by such results: “I have never seen such a rapid ramp-up and optimization of a graphite processing facility. This demonstrates the outstanding quality of the West Zone deposit of our Matawinie Project. The results shown today clearly exceeded our team’s expectations, especially in the context that we had a very short break-in period. The ore responds very well to the process and its superior quality supports the efficiency of our demonstration plant, which is very encouraging for our future commercial operations.”

The following Table presents the results of the graphite flake size distribution obtained during the stated 5 days of operation.

Table 1. Distribution of the flake size and total carbon analysis (Ct%)

+50 mesh (Jumbo)		+80 to -50 mesh (Large)		+150 to -80 mesh (Medium)		-150 mesh (Fine)	
Weight %	Ct %	Weight %	Ct %	Weight %	Ct %	Weight %	Ct %
21	97.5	33	97.3	24	96.8	22	94.4

These results were obtained from the daily sampling representative of the real production in the DP. Samples are analyzed in our in-house laboratory according to strict internal and tested procedures. Additional information about sampling methodology and quality control is available further down.

In view of the promising results of NMG’s graphite production and to follow up on the orders from multiple potential customers, numerous samples have already been shipped and delivered to demonstrate the quality of our products. In order to meet the expected demand, we are modifying our operating schedule to achieve a production rate of 3 tonnes of graphite concentrate per day. This increase in production will require that, following the Christmas season, the DP will be operating 24 h a day, four (4) days a week.

Having reached its goal of purity for its +150 mesh size concentrate NMG now aims to focus its efforts on the optimization of the graphite content of the fine flakes. To attain this goal, an investigation to better understand lower grades reported in the -150 mesh category was performed last week. Samples from bagged -150 mesh product have been submitted to a specific assay procedure at NMG’s in-house laboratory in order to obtain additional details on the distribution of graphite within the fine size category. Following this investigation, it has been concluded that most of the contamination occurs for particles under 200 mesh size. Possible reasons for the lower grades are non-separated ultrafine particle entrainment at the last steps of flotation or insufficient liberation of the fine flakes.

Table 2. Distribution of the flake size and total carbon analysis (Ct%) in the fine size category

+200 to -150 mesh		+325 to -200 mesh		+400 to -325 mesh		-400 mesh	
Weight %	Ct %	Weight %	Ct %	Weight %	Ct %	Weight %	Ct %
37.3	95.5	41.5	94.2	9.6	92.1	11.6	86.4

These results were obtained during an investigation concerning the distribution and purity of fine size graphite products. A special in-house methodology was adopted to measure these parameters. The results presented here were obtained on one sample of dry -150 mesh material.

NMG is working towards further improving the product purity, especially within the fine category, by optimizing the various unit operations of the DP. For example, the operating parameters of the stirred media mills in the secondary cleaning circuit have not yet undergone a systematic evaluation. Although the company is very pleased with the results presented today, it is confident that actions can be undertaken to further optimize purity and flake size distribution of the graphite concentrate produced in its DP while still maintaining very high graphite recovery rates.

Sampling procedure, methodology and quality control

Sampling procedures used to provide the results displayed in Table 1 are as follows:

- One (1) sample of approximately 125 ml per ½ hour of operation was collected from the filter press feed stream.
- Samples were mixed to create a composite representing the concentrate product of that day.
- Each composite sample was then filtered, dried, homogenized, and sub-sampled using a riffle splitter.
- About 80 g to 120 g was subjected to RoTap-type screening for 10 minutes to separate every composite into the four (4) different size products identified in Table 1.
- The Ct results presented in Table 1 are weighted average of three (3) measurements using 100 mg of every size fraction per composite (a total of 60 measurements were made – 4 size fractions per day for 5 days with three repeat assays for each product). Measurements are performed using an ELTRA HELIOS CS580 carbon and sulfur analyzer.
- The verification and calibration of the ELTRA HELIOS device, for both Ct and for sulphur (“S”), is performed using certified standards and blanks at the beginning of every day and every time there is a significant change in measured Ct content (ex: passing from ore to graphite concentrate). A certified standard is also measured after every batch of 15 samples to ensure proper calibration of the device throughout the day.
- All the scales used in our laboratory have been selected to ensure that the precision of their measurements be adapted to the needs and requirements of the analysis. These scales are checked every day and calibrated if needed.

The technical information in this news release was reviewed by Oliver Peters, MSc, P.Eng, MBA, Consulting Metallurgist for SGS and Principal Metallurgist of Metpro Management Inc. a qualified person under National Instrument 43-101.

About Nouveau Monde Graphite

In 2015, Nouveau Monde Graphite discovered a major and high-quality graphite deposit on its Matawinie property, located in Saint-Michel-des-Saints, 150 km North of Montréal. This discovery led to the completion of a Feasibility Study, the results of which were announced on October 24, 2018. The Feasibility Study revealed strong economics with projected graphite concentrate production level of 100,000 tonnes per year over a 25.5-year period. NMG will operate its demonstration plant until 2020. During this period, NMG expects the production of 2,000 tonnes of concentrated flake graphite to qualify its products with North American and international clients.

Moreover, in a vertical integration and sustainable development perspective, Nouveau Monde is planning the establishment of a large-scale graphite secondary transformation facility, catering the needs of the booming lithium-ion battery market. With over 60 years of experience in the world of graphite, NMG’s team develops its project with the utmost respect of neighboring communities, while favoring a minimal ecological

footprint. NMG’s project is privileged by direct access to the workforce and infrastructure needed to operate its mining project, and it can also rely on an abundant, affordable and renewable source of hydroelectricity.

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Further information regarding Corporation is available in the SEDAR database (www.sedar.com) and on the Corporation’s website at: www.nouveaumonde.ca