Nouveau Monde Reveals its Graphite Expansion Results of 342 mL/g

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SAINT-MICHEL-DES-SAINTS, QUEBEC--(Marketwired - Feb 21, 2018) - Nouveau Monde Graphite Inc. (TSX VENTURE:NOU)(OTCQX:NMGRF)(FRANKFURT:NM9) ("Nouveau Monde") is proud to announce the results of its research project aiming to develop a new expandable graphite production process. The 6-month research project was conducted in partnership with the Natural Sciences and Engineering Research Council of Canada (NSERC) as well as a Quebec research center. The results obtained are most convincing, foretelling expansions of some 342 mL/g. The graphite used to conduct this research was exclusively sourced from the West Zone of the Tony claim block of Nouveau Monde's Matawinie graphite property.

Methodology

The major goal of this first phase of the expandable graphite research program was to prove the process' feasibility in laboratory mode and test out the expansion properties of the Matawinie property graphite concentrate. Influence levels of other factors, such as graphite flake size, treatment time and heating temperature, on the process' successful outcome and expansion levels obtained, were also assessed.

Graphite flakes were initially subjected to the reaction mixture for a predetermined time. Three different treatment times were tested (t, t+1 h, t+2 h). Flakes were then recovered by filtration, washed and dried. To create expansion, they were then rapidly oven-heated at three varying temperatures (T °C, T+100 °C, T+200 °C), at three varying heating times (15, 30 and 60 seconds). After being submitted to such treatment, the graphite was transferred into a graduated tube in order to measure its volume and mass and help determine the process's expansion factor in mL/g. These controlled conditions were tested on two different types of flake samples; a mix of "large" and "medium" flakes (60-120 mesh) and a "medium" and "fine" flakes mix (120-200 mesh).

Main results

This preliminary research draws the conclusion that, in the implemented process, chemical treatment time, expansion temperature and flake size are all important factors that impact substantially the expansion levels of graphite concentrate.

As a matter of fact, the expansion factor obtained varies between 125 and 342 mL/g for flakes of 60-120 mesh, depending on the chemical treatment and heating conditions the mineral was subjected to. The optimal result of 342 mL/g was obtained through a chemical treatment time of t+1 h and a thermal treatment time of 15 seconds at heating temperatures of T+200°C.

Influential Factors

Increasing the chemical treatment time has proven to have nuanced effects. Graphite expansion increased when treatment time was set at t+1 h and decreased at a treatment time of t + 2h. As per the effect of temperature, an increase in heat generally resulted in increased expansion levels. Exposure time at high temperature has proven to have a negative impact in some cases, while its effect appears to be neutral under other heating conditions.

A Graphite Deposit of Appropriate Attributes

Large (-48 + 80 mesh) and jumbo (+ 48 mesh) graphite flakes were proven to best respond to the expansion process. Thicker flakes are also required to obtain large expansion ratios. The graphite flakes of Nouveau

Monde's Matawinie project have these two attributes and are found in distribution ratios of 32% for large flakes and 16% for jumbo ones (see April 11th, 2017 press release).

"We take much pride and motivation in the promising results of our research. Our graphite concentrate has proven to be of high quality and we have successfully tested out the conditions of our process. These are encouraging outcome considering expandable graphite, like spheronised graphite, is a value-added product of great commercialization potential", explains Éric Desaulniers, President and CEO of Nouveau Monde.

"According to our knowledge, this process has never been successfully achieved in Quebec, with graphite coming form this same region. In addition, the quality of the expandable graphite produced through these lab tests compares to the best expandable graphite created elsewhere," adds Andrew Tan, Technical Director at Nouveau Monde and previously Director of an expandable graphite plant in China for SGL Carbon.

Next steps

The process development's next steps will be to identify critical parameters for optimal process conditions and to study the feasibility of recycling reagents for sustainable development objective needs. Further laboratory testing will be funded through applied research and development grants. Work will continue with our current partners. For reasons of competitiveness, Nouveau Monde chooses to maintain the anonymity of its strategic partner. An engineering firm specializing in scaling up the chemical process has also been approached to partake in the development and implementation of the demonstration project. The projected goal is to have a demonstration process in operation by the end of 2019's first six months.

The research project aiming at developing an optimized expanded graphite production process was conducted using graphite concentrate extracted from the Matawinie property. The Nouveau Monde's Matawinie project was the subject of a 43-101 pre-feasibility study in October 2017 (see October 25th 2017 press release). This new research regarding expandable graphite is in direct continuation of the Nouveau Monde's commitment to sustainable development. The expandable graphite process studied and tested is part of Nouveau Monde's desire to use innovative processes that comply with principles of sustainable development as a driving force for the development of value-added graphite products.

About Expandable Graphite

The demand for expandable graphite has been steadily increasing in recent years. Its use in flame-retardant materials is preferred to brominated materials deemed harmful for the environment. Expandable graphite is normally formed by treating graphite flakes in a solution of sulfuric acid in the presence of oxidizing agents. Acidic molecules are inserted in flakes by a process called intercalation. When graphite is heated, encapsulated molecules decompose to form gas bubbles that burst the structure to form expanded graphite. The latter can be pressed to form sheets for use in small electronics. Its chemical and thermal stability makes it a material of choice in fuel cells and a high-quality sealant in the automotive industry.

About Nouveau Monde Graphite

In 2015, Nouveau Monde discovered a graphite deposit on its Tony claims block, part of its fully owned Matawanie graphite property. This discovery recently gave rise to the publication of results from a Prefeasibility Study (PFS), released on October 25, 2017, by Nouveau Monde. This PFS demonstrated strong economy with a planned production of 52,000 tpy of high purity flake graphite concentrate, and a mine life of 27 years. The Probable Mineral Reserves identified over the West Zone of the Tony Block totals 33.0 Mt grading 4.39 % Cg. These Reserves are prepared in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum Definitions Standards for mineral resources in concordance with National Instrument 43-101 - Standards of Disclosure for Mineral Projects (« 43-101 »). The Matawinie graphite project is located in the municipality of Saint-Michel-des-Saints, approximately 150 km north of Montreal. It benefits from direct access to a workforce and the appropriate infrastructure to operate, including abundant and renewable hydroelectric resources. Nouveau Monde's team members are developing this project with the outmost respect for the neighboring communities, while targeting a low environmental impact footprint.

The technical information in this news release was prepared by Martin Brassard PhD, Director Research and development at Nouveau Monde Graphite and reviewed by Eric Desaulniers, M.Sc., P.Geo, President &

CEO of Nouveau Monde Graphite. Mr Desaulniers is a Qualified Person as define by NI 43-101.

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

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