

Lac Knife High Purity Spherical Graphite Holds Potential to Extend Range in Lithium-Ion Cell Powered EVs

OTTAWA, ONTARIO--(Marketwired - Nov 25, 2015) - [Focus Graphite Inc.](#) (TSX VENTURE:FMS) (OTCQX:FCSMF) (FRANKFURT:FKC) ("Focus" or the "Company") is pleased to announce excellent results from independent laboratory tests conducted to compare the long term cycling performance of Lac Knife surface coated spherical crystalline fine flake graphite with two commercial grades of coated crystalline flake graphite in the anodes of CR2016 coin cells.

The results presented are a follow up from data presented in Focus' February 26, 2015 news release where similar tests were run on "as-is" minus 200 mesh fines of Lac Knife graphite which also showed to have excellent long term cycling performance.

Testing was conducted at a globally recognized laboratory in Europe. The name of the laboratory is being withheld because of commercial and competitive confidentiality.

Highlights:

- Coin cell tests run on purified uncoated and coated standard grades of Lac Knife spherical graphite (SPG) showed that both grades exhibited essentially no loss in capacity up to the limit of the tests of 110 cycles
- Coin cell tests run under the same formulation and conditions showed that the two commercial grades of coated flake graphite exhibited capacity losses of 4.35% and 6.43% up to the limit of the tests of 110 cycles.

Focus Graphite is the sole owner of the high purity Lac Knife natural flake graphite project in the Côte-Nord region of northeastern Québec.

The Company's aim is to become one of the lowest cost producers of high-purity technology graphite. The purpose of its ongoing battery materials testing efforts is to validate the commercial viability of the high purity crystalline flake graphite recovered from its Lac Knife deposit, and to demonstrate that Lac Knife graphite holds the potential to improve the performance of anodes in Lithium Ion batteries. (See May 27th, 2014 and February 26th, 2015 News Releases).

The properties of the flake graphite recovered from the Lac Knife high quality and high carbon content graphite deposit, allow for the recovery of concentrate that grades 98% C even in the finer size fractions down to 200 mesh (75 microns) that are usually the most difficult products to sell. This holds the potential for Focus to create a high-margin business opportunity by providing customers with a finer grade, lower cost, value-added graphite product.

The Company's material testing program is supervised by Dr. Joseph E. Doninger, Focus' Director of Manufacturing and Technology, and a global expert in graphite processing and product development.

"Of particular note is that these new results showing that the Lac Knife graphite exhibits excellent long-term stability, adds to the results reported in our February 2015 news release," said Dr. Doninger.

"That previous data," he said, "presented Lac Knife's graphite as exhibiting very high reversible capacities and very low first cycle capacity losses.

"Combined, these improved properties would make Lac Knife graphite an excellent replacement for both the synthetic and natural flake graphites currently being used in the manufacture of Lithium-Ion batteries," said Dr. Doninger.

Battery manufacturers require a cost competitive alternative to current sources of synthetic and natural flake graphite. China produces the majority of the world's purified SPG, using methods generally regarded as environmentally unsustainable.

Presentation of Data:

All Lac Knife flake graphite materials tested were purified, spheronized and sized for application in the anodes (negative electrodes) of Lithium-Ion batteries. The anodes for all samples tested consisted of 90% graphite, 7% PVDF binder and 3% carbon black and a copper coil current collector with a thickness of 20 microns. All cells were assembled and tested in a CR2016 coin cell configuration prepared with 1M LiPF₆/EC/DMC electrolyte and lithium foil counter electrodes. The coin cells were then cycled between 0.003 and 1.5 volts. Formation was carried out with C/10 current density and cycling was carried out with the same voltage limits at C/10. To evaluate the cycling performance, half cells made with the lithium metal counter electrode were charged and discharged at a relatively low current density and cycled galvanostatically at a C/10 rate until the limit of the test was reached.

Figure 1 below compares the long-term cycling performance of both the spheronized uncoated and surface coated standard

grade of purified Lac Knife graphite. The standard sizing of the Focus Graphite's Lithium-Ion coated graphite has a d50 in the range of 23 to 29 micrometers. The surface area of the uncoated SPG was 5.25 m²/gram which actually is too high and not suitable for use directly in Lithium-Ion batteries.

The use of high surface area graphites have been known to contribute to thermal runaways and fires in Lithium-Ion batteries. It was this material that was coated with a passivating surface coating which reduced the surface area to less than 2.0 m²/gram to produce the standard grade of coated SPG and make it suitable for use in the anodes of Lithium-Ion batteries.

Figure 1. Long-term cycling performance of Lac Knife Purified Spheronized Standard Grade of natural crystalline flake graphite with and without surface coating (CR2016 cells, Li/Li⁺ counter electrode; C/10 cycling rate; reversible capacity only shown). <http://file.marketwire.com/release/fms1125.jpg>

As shown both the uncoated and coated standard Lithium-Ion grade of the Focus graphite exhibited essentially no capacity loss after 105 and 110 cycles, respectively which effectively was the end of both tests. What is important here is that, although the surface coating applied to the SPG is critical to the safety of Lithium-Ion batteries, it is the high quality of the Lac Knife graphite that provides the long term cycling stability to the Lithium-Ion battery. The data also show that the surface coating improves the reversible capacity of the Lac Knife SPG in the cell.

Figure 2 compares the long term cycling performance of the Lac Knife standard grade of coated SPG with two commercial Lithium-Ion grades of purified coated crystalline flake graphite. As noted previously both of these commercial Lithium-Ion grades were tested in CR2016 half cells under the same formulation and conditions of the Lac Knife cells.

Figure 2. Long-term cycling performance of Lac Knife Purified Spheronized Coated Standard Grade of natural crystalline flake graphite compared to two commercial grades of purified coated spheronized natural flake graphites (CR2016 cells, Li/Li⁺ counter electrode; C/10 cycling rate; reversible capacity only shown). <http://file.marketwire.com/release/fms21125.jpg>

The long term cycling performance of the standard grade of coated SPG is the same as that in Figure 1 which showed that there is essentially no capacity loss after 110 cycles. Although the cells made with all three graphites start out with a reversible capacity of around 350 mAh/g (Figure 2), only the cell made with the Lac Knife standard grade of coated SPG showed essentially no loss in capacity after 110 cycles and the conclusion of the test. The long term cycling tests of the first commercial grade of Lithium-Ion grade flake graphite ended up with a reversible capacity of 335.16 mAh/g after 110 cycles and a capacity loss of 4.35%. A similar loss in performance is observed with the second commercial Lithium-Ion grade of flake graphite ending up with a reversible capacity of 322.84 mAh/g and a 6.43% capacity loss after 110 cycles.

The fact that the Lithium-Ion half-cells made with the standard coated grade of Lac Knife SPG showed essentially no loss in capacity after long term cycling is critical to the performance of Lithium-Ion batteries for all applications in the field. For example, these data suggest that the excellent long-term stability achieved in half cells with the use of Lac Knife graphite in Lithium-Ion batteries should ultimately result in an increase in the range of electric vehicles before they have to be re-charged.

Qualified Person

Joseph E. Doninger, PhD., M.Sc., B.Sc. (Chemical Engineering) and Focus' Director of Manufacturing and Technology, a Qualified Person under National Instrument 43-101 - *Standards of Disclosure for Mineral Projects*, has reviewed and approved the technical content of this news release.

About Focus Graphite Inc.

[Focus Graphite Inc.](#) is an advanced exploration and development mining company with an objective of producing graphite concentrate at its Lac Knife deposit located south west of Fermont, Québec. In a second stage, to meet Quebec stakeholder interests of transformation within the province and to add shareholder value, Focus is evaluating the feasibility of producing value added graphite products including battery-grade spherical graphite.

The Lac Knife project hosts a Measured and Indicated Mineral Resource Estimate* of 9.58 million tonnes grading 14.77% graphitic carbon (Cg) (432,000 tonnes Measured @ 23.66% Cg and 9,144,000 tonnes Indicated @ 14.35% Cg) as natural flake graphite with an additional Inferred Mineral Resource Estimate* of 3.1 million tonnes grading 13.25% Cg. Focus' goal is to assume an industry leadership position by becoming a low-cost producer of technology-grade graphite concentrate.

The Feasibility Study filed with SEDAR on August 8, 2014 for the Lac Knife Project indicates the project is economically viable and has the potential to become a low cost graphite concentrate producer based on 7.86 million tonnes of Proven and Probable Mineral Reserves** grading 15.13% Cg included in the Mineral Resource (429,000 tonnes Proven @ 23.61% Cg and 7,428,000 tonnes Probable @ 14.64% Cg).

On May 27, 2014 the Company announced the potential for high value added sales in the Li-ion battery sector following battery

coin cell tests performed on Spherical Graphite ("SPG") produced from the Lac Knife graphite concentrate. Testing measured the performance metrics and confirmed Focus' capability to tailor Lithium-ion battery-anode-grade graphite and value added products to meet the most stringent customer specifications.

Focus Graphite is a technology-oriented graphite mining development company with a vision for building long-term, sustainable shareholder value. Focus also holds a significant equity position in graphene applications developer Grafoid Inc.

** Mineral resources are not mineral reserves and do not have demonstrated economic viability*

*** The Measured and Indicated Mineral Resources are inclusive of those Mineral Resources modified to produce the Mineral Reserve. The reference point for the Mineral Reserve Estimate is the mill feed.*

For more information about Focus Graphite, please visit www.focusgraphite.com.

Forward Looking Statement

This News Release contains "forward-looking information" within the meaning of Canadian securities legislation. All information contained herein that is not clearly historical in nature may constitute forward-looking information. Generally, such forward-looking information can be identified by the use of forward-looking terminology such as "plans", "expects" or "does not expect", "is expected", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates" or "does not anticipate", or "believes", or variations of such words and phrases or state that certain actions, events or results "may", "could", "would", "might" or "will be taken", "occur" or "be achieved". Forward-looking information is subject to known and unknown risks, uncertainties and other factors that may cause the actual results, level of activity, performance or achievements of the Company to be materially different from those expressed or implied by such forward-looking information, including but not limited to: (i) volatile stock price; (ii) the general global markets and economic conditions; (iii) the possibility of write-downs and impairments; (iv) the risk associated with exploration, development and operations of mineral deposits; (v) the risk associated with establishing title to mineral properties and assets; (vi) the risks associated with entering into joint ventures; (vii) fluctuations in commodity prices; (viii) the risks associated with uninsurable risks arising during the course of exploration, development and production; (ix) competition faced by the Company in securing experienced personnel and financing; (x) access to adequate infrastructure to support mining, processing, development and exploration activities; (xi) the risks associated with changes in the mining regulatory regime governing the Company; (xii) the risks associated with the various environmental regulations the Company is subject to; (xiii) risks related to regulatory and permitting delays; (xiv) risks related to potential conflicts of interest; (xv) the reliance on key personnel; (xvi) liquidity risks; and (xvii) the risk of potential dilution through the issue of common shares. Forward-looking information is based on assumptions management believes to be reasonable at the time such statements are made, including but not limited to, continued exploration activities, no material adverse change in metal prices, exploration and development plans proceeding in accordance with plans and such plans achieving their stated expected outcomes, receipt of required regulatory approvals, and such other assumptions and factors as set out herein. Although the Company has attempted to identify important factors that could cause actual results to differ materially from those contained in the forward-looking information, there may be other factors that cause results not to be as anticipated, estimated or intended. There can be no assurance that such forward-looking information will prove to be accurate, as actual results and future events could differ materially from those anticipated in such forward-looking information. Such forward-looking information has been provided for the purpose of assisting investors in understanding the Company's business, operations and exploration plans and may not be appropriate for other purposes. Accordingly, readers should not place undue reliance on forward-looking information. Forward-looking information is made as of the date of this News Release, and the Company does not undertake to update such forward-looking information except in accordance with applicable securities laws.

Cautionary notes related to the industrial transformation plant project

Feasibility studies on any value-added industrial projects are not the same as feasibility studies for mineral projects as defined under NI 43-101 and CIM Definition Standards for Mineral Resources and Mineral Reserves. Although Focus continues to work towards its objective of developing value-added products using graphite concentrates to be produced at the Lac Knife project or obtained from other graphite concentrate producers, the Corporation reiterates its primary objective of advancing the Lac Knife mineral project towards production of large, medium and fine flake graphite concentrate as demonstrated in the Lac Knife Feasibility Study dated August 8, 2014 (a copy of which is available on SEDAR at www.sedar.com). The feasibility of a transformation plant for value-added products remains to be demonstrated and could be determined to be uneconomical and therefore not feasible for the Corporation. It is therefore possible that Focus might never move forward with such a transformation plant despite its corporate objective to do so. Readers are therefore cautioned against undue reliance on this corporate objective given its uncertainty at the present time. Focus intends to put the Lac Knife deposit into production despite any potential negative decision on the fabrication of value-added products.

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

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