



## Northern Graphite Develops Proprietary Purification Technology

### *Process consistently achieves 99.95%+C purity levels*

**September 30, 2013** – Northern Graphite Corporation (**NGC:TSX-V, NGPHF:OTCQX**) announces that it has developed a proprietary process for purifying concentrates from its 100% owned Bissett Creek graphite project and has consistently and economically achieved 99.95%+C purity levels in extensive independent laboratory and bench scale testing. High purity graphite is required for many value added and rapidly growing graphite applications including lithium ion batteries (“LiBs”).

For the past two years Northern Graphite has been working with research laboratories and testing facilities in Canada and the US, and equipment manufacturers in the US and Japan, to develop an alternative to the wet chemical purification process used in China and the thermal process commonly used elsewhere. The wet chemical process uses hydrofluoric and hydrochloric acid and is low cost if the waste products are not neutralized. This is generally the case in China and creates a huge environmental issue in terms of soil and water pollution. The chemical process is also used to purify spherical graphite, the product used in LiBs. This approach is not sustainable in the long term as demand for LiBs is expected to grow rapidly with the increased adoption of “green” hybrid and all electric vehicles. The thermal purification process is expensive due to the capital and operating costs of furnaces needed to achieve temperatures of 2400<sup>o</sup>+C.

Northern Graphite has completed bulk sample and pilot plant testing which provided a representative sample of the concentrates that will be produced from the commercial process. Extensive laboratory scale testing on these concentrates resulted in a process that successfully purified micronized, spherical and flake graphite to 99.95%+C levels. This process has subsequently been tested in bench scale models of commercial equipment and spherical graphite with 99.95%+C purity has been consistently produced. Flake graphite purities as high as 99.9%+C have been achieved at the bench scale and further optimization work is ongoing.

Companies that Northern Graphite worked with in perfecting the purification process included Kingston Process Metallurgy Inc., Hazen Research, Hosokawa Micron Powder Systems, Harper International Corp., Nara Machinery Co. Ltd., AAAMachine Japan Inc. and the National Research Council of Canada.

Gregory Bowes, Chief Executive Officer of Northern Graphite commented that: “Our goal is to provide customers with a secure source of competitively priced spherical graphite that is produced in an environmentally acceptable manner. Our consultants estimate that purification costs will be less than \$1,000 per tonne.” He added that: “Consumers buying products that use LiBs should all be asking where the graphite in them comes from.”

The total worldwide graphite market is estimated at \$13 billion dollars per annum. The natural graphite market, consisting of both flake and amorphous graphite, makes up less than \$1 billion of the total. The balance of approximately \$12 billion is synthetic graphite which consists of graphite electrodes for electric arc furnaces, carbon fibers for composite materials and specialty blocks and pieces for many different applications. These three types of synthetic graphite are made from special raw materials such as petroleum coke and do not use any type of natural graphite. Natural graphite does not have the properties to be used in producing or replacing synthetic graphite regardless of purity. There are smaller, crossover markets where micronized, purified natural graphite does compete with powder or granular synthetic graphite, including spherical graphite for LiBs. This is the largest and fastest growing part of the “high purity” powdered graphite market. The spherical natural graphite market is estimated at 25,000 tonnes per year which requires 75,000 tonnes of

flake graphite to make because yields are only 33%. The specialty powder synthetic graphite market is also estimated at 25,000 tonnes per year.

Only natural flake graphite that can be economically rounded and purified to 99.95%+C can be used to make spherical graphite. Spherical graphite manufactured from natural graphite has certain performance advantages and is much lower cost than powdered synthetic graphite specially produced for LiBs. Prices for high purity (99.95%+C) natural graphite are currently in the \$3,000 to \$4,000 per tonne range and up to \$10,000 per tonne with the addition of special coatings needed for use in LiBs.

Northern Graphite has already produced spherical graphite and successfully tested it in batteries. The Company is currently optimizing the process based on feedback from potential customers and partners and is working on its own proprietary coating process.

### **Northern Graphite Corporation**

Northern Graphite Corporation is a Canadian company that has a 100% interest in the Bissett Creek graphite deposit located in eastern Ontario. Northern is the only graphite company that has completed a bankable Feasibility Study and is permitted for construction. Graphite demand is expected to rapidly increase in the future due to strengthening economies and the growth in new technologies such as LiBs, particularly due to their use in hybrid and all electric vehicles. Northern Graphite is well positioned to benefit from this compelling supply/demand dynamic with a high purity, large flake, scalable deposit that is located close to infrastructure. Additional information on Northern Graphite can be found at [www.sedar.com](http://www.sedar.com) and [www.northerngraphite.com](http://www.northerngraphite.com).

### **Renmark Financial**

Northern Graphite is also pleased to announce that it has retained the services of Renmark Financial Communications Inc. to handle its investor relations activities because its standards and methodologies fit best with the message the Company wishes to communicate to the investing public. In consideration of the IR services to be provided, Northern Graphite has agreed pay Renmark a retainer of \$5,000 per month from October 1st, 2013 cancellable by either party on 30 days notice. Renmark does not have any interest, directly or indirectly, in Northern Graphite or its securities, or any right or intent to acquire such an interest.

**For further information** please contact Gregory Bowes, CEO or Stephen Thompson, CFO at (613) 241-9959

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