Northern Graphite Announces Positive Bankable Feasibility Study

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Study indicates robust operating margins and attractive economics

OTTAWA, ONTARIO -- (Marketwire) -- 07/09/12 -- Northern Graphite Corporation (TSX VENTURE: NGC)(OTCQX: NGPHF) is pleased to announce the results of its bankable feasibility study ("FS") for its 100% owned Bissett Creek graphite deposit. The FS was prepared by GMining Services Inc. and included contributions from SGS Canada Inc. (Lakefield-metallurgy and Geostat-resource modelling), Knight Piesold Ltd. (environmental, permitting, tailings management and road infrastructure) and Met-Chem Canada Inc. (process engineering). A conference call will be held at 9:00 am Eastern Standard Time, on July 10, 2012 to discuss the FS results (see details below). A National Instrument 43-101 technical report relating to the FS will be filed on SEDAR within 45 days of this news release.

Gregory Bowes, Chief Executive Officer, commented that: "The FS confirms the technical and financial viability of constructing and operating an open pit mine and a 2,300tpd processing plant on the Bissett Creek property and establishes Northern Graphite as an industry leader with a large flake, high purity, scalable deposit that is located close to infrastructure and has very competitive operating costs". He added that "This is a conservative and realistic study that indicates the project has attractive economics and that there are a number of immediate, low risk opportunities to further enhance project returns."

Table 1
Summary of Feasibility Study Results ($CDN- 1Q 2012)

Probable reserves (tonnes)		18,977,000t			
Grade (graphitic carbon)		1.89%			
Waste to ore ratio		0.50			
Processing rate		2,300tpd	(92% availability)		
Mine life		23 years			
Mill recovery		94.7%	(years 3 to 23)		
Average annual production (tonnes of graphite concentrate @ 94.5% C)		18,600t	(first five years)		
Capital cost ($ millions)	$	102.9M	(including $9.4M contingency)		
Mine Cash Operating costs ($ per tonne of concentrate)	$	851/t	(first five years)		
Mine Cash Operating Costs ($ per tonne of concentrate)	$	968/t	(mine life)		
Mining costs ($ per tonne of ore)	$	5.79/t	(mine life)		
Processing costs ($ per tonne of ore)	$	9.60/t	(mine life)		
General and administrative costs ($ per tonne of ore)	$	2.94/t	(mine life)		
CDN/US dollar exchange rate		1.00			
Graphite prices (US$ per tonne)	$	2,800	$ 2,600	$ 2,300	$ 2,100
Pre tax Net Present Value @8% (CDN$ millions)	$	182.8	$ 151.0	$ 103.5	$ 71.7
Pre tax IRR (%)		25.9%	23.1%	18.7%	15.6%
After tax Net Present Value @8% (CDN$ millions)	$	125.0	$ 103.2	$ 69.9	$ 46.9
After tax IRR (%)		22.4%	20.0%	16.4%	13.7%

Prices of US$2,100 and US$2,600 per tonne of concentrate represent the 24 and 12 month weighted average price for the various sizes and grades of flake graphite that will be produced from the Bissett Creek deposit, based on prices quoted by Industrial Minerals Magazine. Prices of US$2,300/t and US$2,800/t represent the 24 and 12 month weighted average prices with the inclusion of a conservative 10% premium over +80 mesh large flake graphite prices for the +50 mesh (XL) and +32 mesh (XXL) flake components that will make up approximately 50% of Bissett Creek production. The Company believes that it will realize premiums in excess of 20% over the price of standard large flake graphite based on historical pricing for XL and XXL flake graphite.

Project Description

The proposed development of the Bissett Creek graphite deposit includes the construction of an open pit mine, a 2,300tpd flotation processing plant based on 92% availability, a natural gas fueled power generating plant and associated infrastructure. The processing plant will consist of conventional crushing, grinding and flotation circuits followed by concentrate drying and screening. The Company plans to build a natural gas pipeline to the site from the main Trans Canada line which is approximately 15 kms away. The natural gas will fuel five 1.0 MW-generators to produce electrical power and waste heat from the generators will be used to dry the concentrate. This will result in low overall energy costs. Infrastructure includes upgrading the last 5 kms of access road, site preparation, and building a non-acid generating tailings facility and a very small sulphide tailings facility. The processing plant will include sulphide flotation at the end of the circuit to remove enough sulphides to make approximately 97% of the tailings benign. After year 12 of operation, the sulphide tailings will be moved to the bottom of a mined out pit for permanent storage under water. Sulphide tailings and non-sulphide tailings will subsequently continue to be deposited in a mined out pit for the balance of the mine life which will result in a low final closure costs.

Resources and Reserves

Probable mining reserves for the Bissett Creek deposit were established based on indicated resources estimated as at September, 2011 by Francois Thibert, M.Sc. P. Geo. from SGS Canada Inc. (Geostat), an independent qualified person under NI 43-101, using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Standards on Mineral Resources and Reserves, Definitions and Guidelines (see Table 2).

Table 2
Bissett Creek Flake Graphite Deposit
2011 Updated Mineral Resources (Diluted), September 2011

	Indicated			Inferred		
%Cg Cut-off	Tonnage(i) (metric tons)	Cg(%) by LECO	In Situ Graphite(ii) (metric tons)	Tonnage(i) (metric tons)	Cg(%) by LECO	In Situ Graphite(ii) (metric tons)
0.986	25,983,000	1.81	470,300	55,038,000	1.57	864,100
1.227	24,588,000	1.85	454,900	50,472,000	1.62	817,600
1.50	19,954,000	1.99	397,100	33,672,000	1.81	609,500
1.75	16,031,000	2.34	375,100	21,417,000	2.21	473,300
2.0	11,921,000	2.50	298,000	14,584,000	2.37	345,600

Relative density 2.63t/m3, 10% dilution, 90% mine recovery, (i)rounded to nearest 1k, (ii)rounded to nearest .1k
Mineral resources that are not mineral reserves do not have demonstrated economic viability

G Mining established a breakeven cut-off grade ("COG") and ran optimized Whittle pits on the indicated resources based on a number of parameters including those outlined in Table 1. The final mine plan resulted in a probable reserve of 19.0 million tonnes of ore grading 1.89% graphitic carbon ("Cg") based on a cut-off grade of 1.2% Cg. In order to increase head grades in the initial years of production while maintaining a reasonable stripping ratio, ore between 1.2% Cg and 1.6% Cg will be partially stockpiled and added to the mill feed at a later date. The mine plan was also designed to supply blasted rock and glacial till for tailings dam construction during pre-production and to allow for tailings disposal in mined out areas by year 13 for sulphide tailings and year 16 for non-sulphide tailings. A mining recovery factor of 90% and a dilution factor of 7.8% at a grade of 0.5% Cg were applied.

Metallurgy

SGS-Lakefield has completed the full suite of metallurgical tests on the Bissett Creek deposit including lab and bench scale work, a bulk sample/pilot plant test, and variability testing to ensure recoveries and flake size distribution are consistent across the deposit. A similar program was also carried out in the 1980s as part of a previous feasibility study (non NI 43-101 compliant) with consistent results.

The FS is largely based on pilot plant results from the processing of slightly weathered material that does not respond as well to flotation as unweathered rock. The locked cycle tests, which were performed on fresh drill core, were better in terms of recoveries, concentrate grades and flake size distribution which represents potential upside in the project.

The FS assumes recoveries of 92.7% in the first year of operation, 93.7% in year two and 94.7% over the balance of the project. Recoveries in the eight locked-cycle test averaged 97.2% and ranged from 95.2% to 99.1%.

The FS assumes an average concentrate grade of 94.5% compared to 94.9% in the locked-cycle tests. However, the locked cycle tests generated average grades of 98.1%, 97.0% and 95.1% for the important +32 (XXL), +50 (XL) and +80 (L) mesh size fractions respectively.

Based on pilot plant results, the FS assumes that production will consist of 18% +32 mesh at 95.1% C, 31% +50 mesh at 95.1% C, 28.2% +80 mesh at 94.5% C, 5% +100 mesh at 97.3% C, 7% +150 mesh at 98% C and 11% -150 mesh at 92.7% carbon.

Production

Over the first five full years of operation a total of 4.2 million tonnes of ore will be processed at an average head grade of 2.22% Cg to produce an average of 18,600 tonnes of graphite concentrate at 94.5% C per year. Over the 23 years of operations contemplated in the FS, the mine will produce an average of approximately 15,900 tonnes of graphite concentrate (94.5% C) per year which includes processing of the low grade stockpile.

Operating Costs

Over the first five years, cash mine operating costs will average CDN$851 per tonne of concentrate. Over the life of the project operating costs are estimated at $968 per tonne of concentrate. These estimates are based on operating costs per tonne of ore of $9.60 for processing, $2.94 for general and administrative costs and $5.79 for mining.

Capital Costs

The capital cost to construct the processing plant, power plant and all associated mine infrastructure is estimated at $93.5 million before contingency. The total capital cost, including a $9.4 million contingency, is $102.9 million (Table 3). In some instances the Company chose options that increased the capital cost but reduced operating costs and improved the overall project economics. In addition, the Company is required to post a financial assurance with the Province of Ontario to guarantee its obligations with respect to the Mine Closure Plan ("MCP"). The amount and timing of the financial assurance is currently being negotiated.

Table 3
Capital Costs ($CDN millions)

Power plant and pipeline	$	11.7
Infrastructure	$	9.3
Mobile equipment	$	1.7
Tailings and water management	$	6.7
Processing plant	$	39.9
EPCM and construction indirects	$	14.2
General services and other	$	5.8
Preproduction and commissioning	$	4.2
SUBTOTAL	$	93.5
Contingency	$	9.4
TOTAL	$	102.9

Sensitivities

Table 4
Project Sensitivities (Pre tax)

	$2,800		$2,600		$2,300		$2,100	
	NPV(i)	IRR	NPV(i)	IRR	NPV(i)	IRR	NPV(i)	IRR
Base Case	$ 182.8	25.9%	$ 151.0	23.1%	$ 103.5	18.7%	$ 71.7	15.6%
Grade +10%	$ 219.0	28.2%	$ 184.7	25.4%	$ 133.2	21.0%	$ 98.9	17.9%
Operating costs -10%	$ 198.0	27.2%	$ 166.2	24.4%	$ 118.7	20.1%	$ 86.9	17.1%
Operating costs +10%	$ 167.6	24.6%	$ 135.8	21.7%	$ 88.3	17.3%	$ 56.5	14.1%
Capex -10%	$ 193.0	28.5%	$ 161.3	25.5%	$ 113.7	20.8%	$ 82.0	17.5%
Capex +10%	$ 172.5	23.6%	$ 140.8	21.0%	$ 93.2	16.9%	$ 61.5	14.0%

(i)$ millions @ 8%

Project Opportunities

It is the opinion of Northern Graphite management that a number of significant, low risk opportunities exist to improve upon the FS. A 10% increase in grade and a 10% reduction in operating costs for example, both of which management believes are achievable for the reasons outlined below, would increase the pre tax IRR by up to 20% and the NPV by up to 40%.

1. The final pit includes approximately 1.5 million tonnes of inferred resources grading 1.54% Cg which are treated as waste. The processing of this material would reduce the stripping ratio and mining costs and improve cash flows.
2. The mine plan does not consider inferred resources outside the pit where significant tonnages in excess of 2% Cg exist. Upgrading these resources to indicated and including them in a revised mine plan, instead of processing the low grade stockpile, would reduce costs, greatly extend the mine life, and further enhance the economics of the deposit. The Preliminary Economic Assessment on the Bissett Creek project states there is a relatively high probability that inferred resources can be upgraded due to the thick, flat lying and continuous nature of the mineralization in the Bissett Creek deposit. Mineral resources that are not mineral reserves do not have demonstrated economic viability.
3. Actual graphite production from the pilot plant was approximately 4% higher than indicated by the assayed head grade of the bulk sample while graphite production from eight locked cycle tests was approximately 12% higher than the assayed head grades. The bulk sample consisted of partially weathered near surface material which does not respond as well to flotation while the locked cycle tests were performed using fresh drill core. Therefore, the reserve grade is considered conservative and potentially understated. Further investigation of assay procedures and mineralogy is planned to explain the understatement but sufficient testing has been done for the Company to conclude that the performance of the mill will likely exceed levels used in the FS.
4. The FS assumed contract mining. It is highly likely the Company will buy and operate its own mining fleet. The incremental capital cost is approximately $7 million but with lease financing, and 20% down payment, the incremental financing requirement is approximately $1.4 million. Owner mining would reduce operating costs by approximately $50 per tonne of concentrate.
5. The Company expects to achieve 95% mill recoveries earlier than projected in the FS and ultimately to exceed the 95% level and to do better than the 92% mill utilization rate used in the FS.
6. The Company's business plan is to significantly expand production in the future by incorporating inferred resources and to reduce unit costs below $800/tonne of concentrate. Inferred resources are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is therefore no certainty that the Company's business plan in this regard will be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability.
7. There is scope to reduce capital costs through the purchase of used equipment, lease financing of the natural gas generators, and additional permitting to provide access to lower cost tailings options.
8. The Company has successfully upgraded graphite concentrate from the Bissett Creek deposit for use in Lithium ion batteries and other high purity markets. Testing is ongoing and will assist the Company in defining the capital and operating costs associated with constructing an upgrading facility. No revenues or costs associated with upgrading and selling into value added markets are included in the FS. Industrial Minerals Magazine recently reported that spherical graphite used in Lithium ion batteries sells for US$6,000-8,000 per tonne.

Environmental, Permitting and Local Community

The Company expects to file its Mine Closure Plan ("MCP") with the Ministry of Northern Development and Mines ("MNDM") within three weeks. The MCP is a comprehensive document that describes in detail the scope of the project including the nature of mining and processing operations, buildings and infrastructure,

potential effects on the environment, mitigation measures to protect the environment, a description of First Nation, government agency and local community consultation, and the Company's plan to rehabilitate the site and return it to its natural state at the end of operations including an estimate of the cost of doing so. The Company is required to post a financial assurance to ensure that funds are available to complete the closure plan. The MNDM has 45 days to respond and the Company anticipates that acceptance and approval of the MCP will be received by the end of the third quarter of this year. Approval of the MCP will enable the Company to initiate construction and to apply for a number of other permits that relate to operations.

Qualified Persons

The FS was prepared in accordance with NI 43-101 standards by G Mining Services Inc. Louis Gignac, ing., Nicolas Menard, ing., Antoine Champagne, ing., Ahmed Bouajila, ing., Robert Menard, ing., and Robert Marchand, ing. are the independent "qualified persons" under NI 43-101 who were responsible for preparing the FS on behalf of GMining Services Inc. The scientific and technical information in this press release has been reviewed and approved by Louis Gignac, ing., President of GMining Services Inc.

This press release has also been reviewed and approved by Don Baxter, P.Eng, President of the Company and a non-independent "Qualified Person" under NI 43-101.

Readers should refer to the NI 43-101 technical report relating to the FS for further details of the project development. The technical report will be filed on SEDAR (www.sedar.com) within 45 days of this news release in accordance with NI 43-101.

The Graphite Market

Graphite production and exports from China, which produces 70% of the world's supply, are expected to decline and an export tax and a licensing system have been instituted. As a result, both the European Union and the United States have declared graphite a supply critical mineral and end users are actively seeking secure, alternative sources of quality supply.

Graphite demand and prices have increased substantially over the past few years due to the ongoing modernization of China and other emerging economies which has resulted in strong demand from traditional steel and automotive markets. In addition, new applications such as lithium ion batteries, vanadium redox batteries, fuel cells and nuclear power have the potential to create significant incremental demand growth. The manufacturing of Li ion batteries requires up to 30 times more graphite than lithium and their use in the growing EV/HEV market is expected to require significant increases in graphite production.

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 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 under the Company's profile on SEDAR at www.sedar.com and on the Company's website at www.northerngraphite.com.

Conference Call

The Company has scheduled a conference call to discuss the FS at 9:00 a.m. Eastern Standard Time (EST) on Tuesday, July 10th 2012. Gregory Bowes, CEO, and Don Baxter P.Eng, President of Northern Graphite will host the call and invite analysts and investors to participate.

Time: 9:00 a.m. Eastern Standard Time

Dial in Number: 800 734 8507

This press release contains forward-looking statements, which can be identified by the use of statements that include words such as "could", "potential", "believe", "expect", "anticipate", "intend", "plan", "likely", "will" or other similar words or phrases. These statements are only current predictions and are subject to known and unknown risks, uncertainties and other factors that may cause our or our industry's actual results, levels of activity, performance or achievements to be materially different from those anticipated by the forward-looking statements. The Company does not intend, and does not assume any obligation, to update forward-looking statements, whether as a result of new information, future events or otherwise, unless otherwise required by applicable securities laws. Readers should not place undue reliance on forward-looking statements.

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