Northern Graphite Announces Updated Feasibility Study Economics

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Resource increase and lower costs more than offset graphite price declines

OTTAWA, ONTARIO--(Marketwired - Sep 23, 2013) - Northern Graphite Corp. **(TSX VENTURE:NGC)(OTCQX:NGPHF)** announces that the economics in the previously released bankable Feasibility Study ("FS") for its 100% owned Bissett Creek graphite project have been updated to incorporate a new and larger resource estimate, some modifications to the capital and operating cost assumptions, and lower graphite prices. The update was prepared by AGP Mining Consultants.

Gregory Bowes, Chief Executive Officer, commented that: "Despite graphite prices being at the bottom of the cycle, the update confirms that the Bissett Creek project still has solid, attractive economics to go along with low resource, technical and political risk." He added that "Production will be almost entirely large and extra large flake concentrates which gives us a substantial advantage over deposits that will produce a high percentage of small flake and -150 mesh fines as these products have experienced greater price declines and they have significantly greater marketing challenges." **Mr. Bowes will host a conference call to discuss the FS update at 11:00 a.m. Eastern Standard Time (EST) on Monday, September 23. Shareholders, analysts and investors are invited to participate by dialing 1 800 695-1004.**

The Bissett Creek project has a pre-tax internal rate of return ("IRR") of 19.8% (17.3% after tax) and a pre-tax net present value ("NPV") of $129.9 million ($89.3 million after tax) in the base case which uses a weighted average price of US$1,800/tonne for the concentrates that will be produced. This represents a substantial improvement in project economics over the FS which had a 15.6% pre-tax IRR at a price of US $2,100/t. The project has significant leverage to higher prices as the pre tax IRR increases from 19.8% to 25.7% and the pre- tax NPV from $129.9 million to $201.1 million at a price of US $2,100/t.

Table 1
Summary of updated Feasibility Study Results

	Update	Original FS
Probable reserves (million tonnes)	28.3Mt*	19.0Mt
Feed Grade (% graphitic carbon)	2.06%*	1.89%
Waste to ore ratio (excl. low grade stockpile)	0.79	0.50
Processing rate (tonnes per day - 92% availability)	2,670	2,300
Mine life*	28 years	23 years
Mill recovery	94.7%	92.7-94.7%
Average annual production	20,800t	15,900t
Capital cost ($ millions - including 10% contingency)	$101.6M	$102.9M
Cash operating costs ($/tonne of concentrate)*	$795/t	$968/t
Mining costs ($/tonne of ore)	$5.63	$5.79
Processing costs ($/tonne of ore)	$8.44	$9.60
General and administrative costs ($/tonne of ore)	$2.50	$2.94
CDN/US dollar exchange rate	0.95	1.00

* Includes 24 million tonnes ("Mt") grading 2.20% Cg and 4.0 Mt grading 1.26% Cg of low grade stockpile ("LGS") to be processed at the end of the mine life. An additional 12.5 Mt LGS grading 1.26%Cg is stored in the pit and is available for processing through a future expansion or at the end of the mine life. The waste to ore ratio is 0.24 if the low grade stockpile is processed. All grades are diluted.

	Original FS	Updated FS

		(base case)		
Graphite prices (US$ per tonne)	$2,100	$2,100	$1,800	$1,500
Pre tax Net Present Value @8% (CDN$ millions)	$71.7	$201.1	$129.9	$58.7
Pre tax IRR (%)	15.6%	25.7%	19.8%	13.6%
After tax Net Present Value @8% (CDN$ millions)	$46.9	$138.1	$89.3	$36.3
After tax IRR (%)	13.7%	22.3%	17.3%	11.9%

Project Description

The proposed development of the Bissett Creek graphite deposit is as described in the FS and consists of an open pit mine and a processing plant with conventional crushing, grinding and flotation circuits followed by concentrate drying and screening. The capacity of the plant has been increased slightly to 2,670tpd (based on 92% availability) and the update assumes that compressed natural gas ("CNG") will be trucked from the main Trans Canada line, approximately 15 kms away, rather than brought in by pipeline. These changes had minimal effect on estimated capital costs. The processing plant includes a sulphide flotation circuit to remove enough sulphides to make approximately 97% of the tailings benign. All sulphide and non-sulphide generating waste rock will be backfilled into mined out areas of the pit after five years of operation, and all sulphide tailings after eight years, resulting in low final closure costs.

Production and Reserves

Probable mining reserves for the Bissett Creek deposit were established based on measured and indicated resources of 69.8 million tonnes ("Mt") grading 1.74% graphitic carbon ("Cg") based on a 1.02% Cg cutoff as announced on May 7, 2013. The resource estimate was prepared by Pierre Desautels, P.Geo., Principal Resource Geologist, and Gordon Zurowski, P.Eng., Principal Mining Engineer, both of AGP Mining Consultants and Qualified Persons under NI 43-101 who are independent of the Company.

AGP established a breakeven cut-off grade ("COG") and ran optimized Whittle pits on the measured and indicated resources based on a number of parameters including those outlined in Table 1. The final mine plan only contemplated a 25 to 30 year operation and resulted in probable reserves of 28.3 Mt of ore grading 2.06% graphitic carbon based on a COG of 0.96%Cg. Probable reserves include 24.3 Mt grading 2.20%Cg that will be processed first and 4.0 Mt grading 1.26%Cg from a low grade stockpile ("LGS") that will be processed at the end of the mine life. In order to increase head grades in the initial years of production while maintaining a reasonable stripping ratio, measured and indicated resources grading between 0.96%Cg and 1.5%Cg will be stockpiled, largely within the mined out areas of the pit. The total LGS will be 16.5 Mt grading 1.26%Cg and will provide a great deal of flexibility in future operations as it will be available for processing at a later date, either through an expanded facility or at the end of the mine life. It also represents a low cost source of ore that could be processed during periods of depressed prices. The mine plan was also designed to supply blasted rock and glacial till for tailings dam construction during pre-production and to allow for sulphide and non-sulphide waste disposal in mined out areas by year five. Sulphide tailings may also be stored in the mined out pit starting in year eight. Contact dilution was estimated at 1% overall. Due to the gradational nature of the deposit, contact block grades were queried and utilized in individual block dilution calculations. A 1 metre dilution skin was assumed between waste and ore with negligible grade dilution except along the base of the deposit. The resulting global dilution was determined to be 1%. Backhoe support will be utilized to minimize dilution along this and other contacts.

Over 28 years of operation an average of 20,800 tonnes of graphite concentrate at 94.5% Cg will be produced yearly compared to an average of 15,900 tonnes in the FS. The increase is mainly due to higher grades and slightly higher throughput.

Operating and Capital Costs

Cash mine operating costs will average CDN$795 per tonne of concentrate (compared to $968/t in the FS) over the mine life. The decline in operating costs is mainly due to a switch from contract to owner mining, increased grades and throughput, and shorter haul distances in the new mine plan.

The capital cost to construct the processing plant, power plant and all associated mine infrastructure is estimated at $101.6 million including a $9.3 million contingency, compared to $102.9 million in the FS. Increased capital costs of approximately $6.5 for mining equipment due to the switch from contractor to owner mining were largely offset by the removal of costs for detailed engineering which is already under way ($4.5 million), modifications to the SAG mill drive and discharge ($1.3 million), switching to a mobile crusher ($1.0 million) and removal of a redundant mill circuit ($750k).

The Company is required to deposit a financial assurance of $2.3 million with the Province of Ontario ($800,000 is already deposited) to guarantee its obligations with respect to the Mine Closure Plan ("MCP"), compared to the $3.57 million estimate used in the FS. The Company will be discussing additional financial assurance requirements relating to the new mine plan with government ministries and has included an additional potential provision of $2.5 million over four years in the updated FS economics.

Sensitivities (pre-tax)

	$2,100		$1,800		$1,500	
	NPV*	IRR	NPV*	IRR	NPV*	IRR
Base Case	$201.1	25.7%	$129.9	19.8%	$58.7	13.6%
Grade +10%	$250.6	29.7%	$172.3	23.4%	$93.9	16.8%
Grade -10%	$151.6	21.6%	$87.6	16.2%	$23.6	10.3%
Operating costs -10%	$218.8	27.1%	$147.6	21.3%	$76.5	15.2%
Operating costs +10%	$183.4	24.2%	$112.2	18.3%	$41.0	11.9%
Capex -10%	$212.3	28.4%	$141.2	22.0%	$70.0	15.3%
Capex +10%	$189.8	23.4%	$118.7	18.0%	$47.5	12.2%

*$ millions @ 8%

Project Opportunities

1. There is scope to reduce capital costs through the purchase of used equipment, lease financing of the mining fleet and natural gas generators, and additional permitting of lower cost tailings options.
2. The Company has initiated a Preliminary Economic Assessment to show the economics of doubling production in three or four years based on measured and indicated resources only to meet the anticipated growth in graphite demand. Due to the flat lying nature of the deposit, production can be expanding without a significant increase in the stripping ratio or capital and operating costs and can take advantage of lower grade material currently planned to be stockpiled in the mined out pit.
3. The Company has carried out extensive purification testing over the last two years and is developing a commercial process to produce and sell high purity (99.95%Cg+) products.
4. The Company has successfully upgraded Bissett Creek concentrate for use in Lithium ion batteries. Testing to define the capital and operating costs of constructing an upgrading facility is underway.

No revenues or costs associated with mine expansion or upgrading and purifying to sell into value added markets are included in the FS or the FS update.

Graphite Markets and Pricing

After more than tripling from 2005 to 2012, graphite prices have fallen back 50% or more due to the slowdown in China and a lack of growth in the US, Europe and Japan. Recently it has been reported that Chinese flake production has fallen 27% and that the only North American producer has suspended operations which indicates that current prices are close to the marginal cost of production for many producers. These shutdowns have helped stabilize prices for the last six months and should limit further price declines.

Mining projects are commonly evaluated using three year trailing average prices. Recently, graphite projects have been evaluated using 12 and 24 month averages as the three year figure was not representative due to a rapid increase in prices. However, 12 and 24 month averages are also no longer relevant as they are now higher than current prices. Current prices are probably at or near the bottom as the market is experiencing the "worst case scenario" in terms of demand. Accordingly, current prices represent a conservative and realistic long term level for evaluating graphite projects and have been used in the updated FS.

Flake graphite is sold based on 80% meeting the required specification. Therefore, smaller flake sizes can be blended into larger as long as the carbon content is maintained. The -100 flake concentrate produced by Bissett Creek is at least 94%Cg and therefore is suitable for this purpose. Accordingly, 60% of Bissett Creek production will be +50 mesh and a third of this material is actually +32 mesh, 97-98%Cg. Because of the latter, the price for the +50 mesh concentrates has been estimated at US$2,100/t. Current prices of US$1,400/t have been used for the 35% of production that will be +80 mesh, 95%+Cg and US$1,200/t has been used for the 10% that will be +100 mesh, 95-97%Cg. Therefore, the weighted average price that would be realized by Bissett Creek concentrates in the current market is estimated at US$1,800/t. Small flake with 94%Cg is currently selling for well under US$1,000/t and -150 mesh, <90%Cg for significantly less than that, assuming markets can be found. Sensitivities are presented at US$2,100/t to facilitate comparison with the original FS and at US$1,500/t to show the effects of lower prices.

Qualified Persons

Gordon Zurowski, P.Eng., Principal Mining Engineer, of AGP Mining Consultants and Qualified Persons under NI 43-101 and who is independent of the Company, prepared and authorized the release of the updated economics for the Feasibility Study. Readers should refer to the NI 43-101 technical report relating to the FS for further details with respect to the Bissett Creek Project.

Northern Graphite Corporation

Northern Graphite Corp. is a Canadian company that has a 100% interest in the Bissett Creek graphite deposit located in eastern Ontario. Graphite demand is expected to rapidly increase in the future due to strengthening economies and the growth in new technologies such as lithium ion batteries, 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. A copy of this press release which includes detailed cash flows for the updated economics, as well as additional information on Northern, can be found at www.sedar.com and www.northerngraphite.com.

CONFERENCE CALL: MR. Bowes will discuss the FS update at 11:00am EST on Monday, September 23. Shareholders, analysts and investors are invited to participate by dialing 1 800 695-1004.

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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