



## **Prairie Lake Concentrate Demonstrates Excellent Marketability Characteristics Concentrate of >30% $P_2O_5$ with acceptable other element levels obtained**

### **Highlights**

- Concentrate grade up to 34.4% phosphorus ( $P_2O_5$ ) with acceptable levels of other elements.
- Results show potential to produce a saleable concentrate using industry-standard processing methods.
- Results continue to indicate the ability to improve both recovery and concentrate grade.
- Next steps will include discussions with potential end-users/partners.

**Toronto, June 18, 2012** – Nuinsco Resources Limited ("Nuinsco") (TSX:NWI, [www.nuinsco.ca](http://www.nuinsco.ca)) today reported additional excellent results from the metallurgical testing program from its 100%-owned Prairie Lake phosphorus - rare metals project in northwestern Ontario.

"These most recent results clearly show that Prairie Lake rock is amenable to conventional processing and concentration," said Paul Jones, President. "The tests confirm the potential to produce a marketable product by meeting and exceeding most published specifications for phosphate concentrates and most importantly demonstrating that a concentrate grading greater than 30%  $P_2O_5$  with magnesium oxide (MgO) content <1%, and calcium oxide ratio  $CaO/P_2O_5 \leq 1.6$  is attainable. These are important thresholds to viability, and our next step is to hold discussions with potential end-users and partners."

The most recent results were produced from a series of tests conducted on a 1,000kg sample grading 3.18%  $P_2O_5$  (and 0.13%  $Nb_2O_5$ ) with a specific gravity of 2.99 g/cc and a bulk density of 1.59 g/cc (after crushing to -1.7mm). Apatite is the phosphorus-bearing mineral in a rock that also contains calcite, dolomite, biotite, magnetite and rutile. The apatite contains on average 43.1%  $P_2O_5$  and occurs in the form of clear, well-formed crystals up to 250  $\mu m$  in size. The primary use of apatite is in the manufacture of fertilizer and the fact that this mineral can be liberated by conventional methods is a further indication that a viable phosphorus concentrate can be produced that would be marketable to the fertilizer industry.

Selected results from the Prairie Lake tests are tabulated below and are compared to published specifications of the Bureau of Indian Standards (a division of the Government of India's Ministry of Consumer Affairs, Food & Public Distribution) for phosphate concentrates Type I and II. Test 35 from the Prairie Lake program produced the best overall concentrate to date with a  $P_2O_5$  content of 30.6%; along with an  $SiO_2$  content of 1.37%, F content of 0.62%, MgO content of 0.7%, Cl content of 0.012% and  $Al_2O_3 + Fe_2O_3$  of 0.65%. Selected size ranges from Test 35 produced even higher  $P_2O_5$  concentrations with <150 $\mu m$  to >106 $\mu m$  and <106 $\mu m$  to >75 $\mu m$  attaining contents of 38% and 38.1%  $P_2O_5$  respectively, while Test 27 attained 34.4%  $P_2O_5$  with the use of an HCl acid leach to remove carbonate.

<b><u>Bureau of Indian Standards (BIS) - IS: 11224-1985, reaffirmed 2003</u></b>	Type I	Type II	Test 35 Con.	Test 35 Con.	Test 35 Con.	Test 27 Con. after Leach
				-150+106µm	-106+75µm	
Total phosphate (P <sub>2</sub> O <sub>5</sub> ) % by mass	≥ 30	≥ 32	30.6	38	38.1	34.4
Silica (SiO <sub>2</sub> ) % by mass	≤ 10	≤ 5	1.37	1.12	1.2	5
Fluoride (F) % by mass	≤ 2	≤ 4	0.62	0.72	0.83	Insufficient sample
Mixed aluminum and iron oxide (Al <sub>2</sub> O <sub>3</sub> and Fe <sub>2</sub> O <sub>3</sub> ) % by mass	≤ 3	≤ 3.5	0.65	0.44	0.48	2.99
Magnesium oxide (MgO) % by mass	≤ 0.5	≤ 0.5	0.7	0.32	0.39	2.26
Chloride (Cl) % by mass	≤ 0.015	≤ 0.05	0.012	0.033	0.009	0.043

The results continue to indicate the ability to improve both concentrate grade and recovery.

The apatite concentrates were produced during initial metallurgical testing at COREM in Quebec City of a 1,000kg sample submitted in September 2011.

Prairie Lake is one of the largest deposits of its type in the world. Not only does it have tremendous scale (refer below), but its proximity to existing infrastructure and transportation networks, the relative ease with which it could be exploited from surface using quarry methods, the continuing potential for expansion of the known mineralization, and now favourable phosphorus metallurgy all point to Prairie Lake being a very valuable asset within Nuinsco's property portfolio.

#### **About Prairie Lake**

Located about 45 kilometres northwest of Marathon, Ontario, Nuinsco's Prairie Lake property covers the entire 2.8 km<sup>2</sup> (at surface) Prairie Lake Carbonatite Complex and is easily accessible from the TransCanada Highway. In January, 2012, Nuinsco bought back a 2% production royalty making the property royalty-free.

The NI-43-101-compliant Exploration Target Mineralization is 515 – 630 million tonnes grading between 0.09-0.11% niobium (Nb<sub>2</sub>O<sub>5</sub>) (0.9 to 1.1 kg/tonne) and 3.0-4.0% P<sub>2</sub>O<sub>5</sub> if this were confirmed as a resource, it would make Prairie Lake one of the world's ten largest carbonatite hosted niobium deposits as well as a significant phosphorus resource. The current metallurgical work establishes the project as a substantial, recoverable, phosphorus inventory. The suite of minerals of potentially economic significance also includes tantalum (Ta), uranium (U) and rare earth elements (REE) (including lanthanum (La), cerium (Ce), samarium (Sm), neodymium (Nd) and yttrium (Y)). A current economic analysis has not been completed and economic viability has not been established. The Exploration Target Mineralization was undertaken by Eugene Puritch, P.Eng. and Antoine Yassa, P.Geo of P&E Mining Consultants Inc. of Brampton, Ontario.

All exploration work is supervised by Paul Jones, P.Geo, President and Laura Giroux, P.Geo, Senior Geologist, who act as Nuinsco's Qualified Persons under National Instrument 43-101. Mr. Jones and Ms. Giroux have reviewed and approved the technical contents of this news release. The potential quantity and grade of the ETMI is conceptual in nature and there has been insufficient exploration to define a mineral resource. It is uncertain if further exploration will result in the discovery of a mineral resource.

#### **About Nuinsco Resources Limited**

Nuinsco is a growth-oriented, multi-commodity mineral exploration and development company that is focused on uranium, copper, zinc and gold exploration and development in world-class mineralized belts in Canada and internationally. In addition to its property holdings, Nuinsco owns common shares in Coventry Resources Limited (ASX:CVY) and Victory Nickel Inc. (TSX:NI), and a 50% interest in CBay Minerals Inc., a private company that is a dominant player in Quebec's Chibougamau mining camp with assets including a permitted mill, tailings facility, eight past producing copper/gold mines and a 96,000 acre land position. Shares of Nuinsco trade on the Toronto Stock Exchange under the symbol NWI.

### Annual and Special Meeting

As a reminder, the Company's Annual and Special Meeting for Shareholders ("ASM") will take place today, Monday, June 18, 2012, at 4:00 p.m. Toronto Time at the Toronto Board of Trade, 1 First Canadian Place, Toronto, Ontario. The ASM will be webcast and can be accessed at <http://www.gowebcasting.com/3408> and through Nuinsco's website at [www.nuinsco.ca](http://www.nuinsco.ca).

<sup>1</sup> Sis, H. and S. Chander, 2003. Reagents used in the flotation of phosphorus ores; A critical review. In *Minerals Engineering*, v.16, pp577-585

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**Forward-Looking Information:** This news release contains forward-looking information. All statements, other than statements of historic fact, that address activities, events or developments that the Company believes, expects or anticipates will or may occur in the future constitute forward-looking information including the expected use of proceeds. This forward-looking information reflects the current expectations or beliefs of the Company based on information currently available to the Company. Forward-looking information is subject to a number of risks and uncertainties that may cause the actual results of the Company to differ materially from those discussed in the forward-looking information, and even if such actual results are realized or substantially realized, there can be no assurance that they will have the expected consequences to, or effects on the Company. Factors that could cause actual results or events to differ materially from current expectations include, among other things: uncertainty of estimates of capital and operating costs, production estimates and estimated economic return; the possibility that actual circumstances will differ from estimates and assumptions; uncertainties relating to the availability and costs of financing needed in the future; failure to establish estimated mineral resources; fluctuations in commodity prices and currency exchange rates; inflation; recoveries being less than those indicated by the testwork carried out to date (there can be no assurance that recoveries in small scale laboratory tests will be duplicated in large tests under on-site conditions or during production); changes in equity markets; operating performance of facilities; environmental and safety risks; delays in obtaining or failure to obtain necessary permits and approvals from government authorities; unavailability of plant, equipment or labour; inability to retain key management and personnel; changes to regulations or policies affecting the Company's activities; the uncertainties involved in interpreting geological data; and the other risks disclosed under the heading "Risks and Uncertainties" and elsewhere in the Company's annual information form dated March 30, 2012 filed on SEDAR at [www.sedar.com](http://www.sedar.com). Forward-looking information speaks only as of the date on which it is made and, except as may be required by applicable securities laws, the Company disclaims any intent or obligation to update any forward looking information, whether as a result of new information, future events or results or otherwise. Although the Company believes that the assumptions inherent in the forward-looking information are reasonable, forward-looking information is not a guarantee of future performance and accordingly undue reliance should not be put on such information due to the inherent uncertainty therein.