NioBay Metals improves recovery and concentrate for production of niobium batteries from its James Bay Niobium Project

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Result Highlights:

- Recoveries 40% higher than similar projects
- The concentration of Nb_2O_5 is 10% higher than its peers
- The low silica content and higher Nb_2O_5 concentration should lead to a significant reduction in acid consumption for the production of battery-grade Niobium
- The final results for the production of battery-grade Niobium oxide to come

MONTREAL, Oct. 14, 2021 -- Niobay Metals Inc. ("NioBay" or the "Company") (TSX-V: NBY) (OTCQB: NBYCF), a company focused on exploration, development and use of critical green metals with an Environmentally, Sustainable, Governance, and Indigenous (ESGI) focus, is pleased to provide the first results from its metallurgical program. The program is designed to achieve battery grade Niobium oxide to be used as anode material in fast charging lithium battery technology.

As published on April 6, 2021, the Company announced the beginning of a series of metallurgical testing related to the production of battery-grade Niobium from its James Bay Niobium Project (the "James Bay Project"). This first phase of testing, performed by SGS Lakefield Inc, consisted of producing a Niobium concentrate, similar to the previous tests done on the James Bay Project's ore.

The results demonstrated a 3% improvement from the Company's market-leading Preliminary Economic Assessment ("PEA") recovery, reaching up to 81.3% while producing a Niobium concentrate of 61.7%. In addition, the lack of deleterious material and low silicate content should translate in a significant reduction in acid consumption for the battery-grade Niobium oxide production. The first phase of metallurgical testing also contributed to optimizing the parameters and flowsheet design.

Table 1 : Nb_2O_5 Concentrate Grade (%) and Overall Recovery (%)

		Average	Min	Max
Nb_2O_5	Grade (%)	59.8	56.8	61.7
	Recovery (%)	74.7	67.9	81.3

The higher concentration, recovery and purity of the James Bay Project provides the best potential low-cost Niobium project in North America.

Word from the CEO

"*We are very excited by the 3% metal recovery improvement over the PEA result. These results reinforce the strong economic potential of the James Bay Niobium Project and separate it as the best alternative low-cost source of battery-grade Niobium oxide outside China. We are confident that the ongoing testing will future advance the production of a green metal that will support global decarbonization*", stated Jean-Sebastien David, the Company's new President and CEO.

Niobium Battery Technology

The second phase of the ongoing metallurgical program will focus on the production of niobium battery grade and consist of a hydrometallurgical treatment to purify the concentrate to +99% Nb_2O_5 (battery-grade Niobium oxide). Results are expected in the upcoming months.

Pilot plant

Following these metallurgical results, the team has fast tracked the planning for the construction of a pilot plant to accelerate the potential production of battery-grade material for a testing partner. In addition, this plant will assist in the plant conception for the upcoming pre-feasibility/feasibility studies.

Grant of Options

The Board of Directors granted to the new CEO of the company an option to acquire 150 000 common shares of Niobay. The grant has a seven-year term at an exercise price of $0.37 and the vesting period will follow the Company's policies. The stock options have been granted pursuant to the Company's Stock Option Plan and are subject to applicable securities laws and TSX Venture Exchange policies.

Qualified Person

Jean-Sebastien David, P. Geo., a Qualified Person within the meaning of NI 43-101, has approved this release. Mr. David is also the Company's CEO.

About NioBay Metals Inc.

NioBay will be a leader in the Environment, Sustainability, Governance and Indigenous inclusion supporting the development of smart mine(s) with low carbon consumption and responsible water and wildlife management practices. Critical to our success will be the consent and full participation of the Indigenous communities in whose territories we operate.

The Company holds a 100% interest in the James Bay Niobium Project located 45 km south of Moosonee, in the Moose Cree Traditional Territory of the James Bay Lowlands in Ontario. NioBay also holds a 72.5% interest in the Crevier Niobium and Tantalum project located in Quebec and on the Nitassinan territory of the Pekuakamiulnatsh First Nation and a 48% direct participation in mineral titles situated in the Chibougamau region, Quebec, under a joint venture agreement with SOQUEM.

About Niobium

Niobium is a naturally occurring element. It is a readily available, reliable, soft metal that is ductile, malleable, and highly resistant to corrosion. Because it enhances properties and functionalities, niobium is used in a wide range of materials and applications in the Mobility, Structural and Energy sectors. Niobium transforms materials. When added to materials like steel, glass and aluminum castings, niobium makes them smarter and lower environmental impacts, while also delivering other benefits like better performance, improved safety, and increased value.

Cautionary Statement

Certain statements contained in this press release constitute forward-looking information under the provisions of Canadian securities laws including statements about the Company's plans. Such statements are necessarily based upon a number of beliefs, assumptions, and opinions of management on the date the statements are made and are subject to numerous risks and uncertainties that could cause actual results and future events to differ materially from those anticipated or projected. The Company undertakes no obligation to update these forward-looking statements in the event that management's beliefs, estimates or opinions, or other factors should change, except as required by law.

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

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