

# **NioCorp Achieves Processing Breakthrough in Demonstration Plant Testing of Niobium and Titanium Production**

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## New Process May Allow NioCorp to Produce Higher-Purity Versions of its Niobium and Titanium Products, Which May Markets to the Company

CENTENNIAL, April 4, 2023 - [NioCorp Developments Ltd.](#) ("NioCorp" or the "Company") (Nasdaq:NB; TSX: NB) and L3 Developments ("L3") are pleased to announce a process breakthrough in niobium and titanium recovery achieved at L3's demonstration-scale processing plant Trois-Rivières, Quebec. The breakthrough points to a potentially more efficient way to process niobium and titanium into higher-purity products, which may in turn open up new markets for NioCorp's proposed Elk Creek Critical Minerals Project (the "Project") planned products, once sufficient financing is obtained to allow the Project to commercial operation.

The breakthrough occurred as part of the Company's final stages of work at L3's plant, which has been testing NioCorp's improved processing flow sheet for the Project. The new flowsheet targets more efficient processing of niobium, titanium, scandium, which could improve rates of recovery and potentially reduce operating costs ("OPEX") and/or capital costs associated with these operations. Final determination of any changes in OPEX or CAPEX for the Project will be determined as an update to the Project's Feasibility Study, which is expected to be completed later this year.

The demonstration-scale plant also has been testing the technical feasibility of recovering several magnetic rare-earth elements from the Project's Nebraska ore and separating and purifying those elements, which include neodymium, praseodymium, lanthanum, dysprosium, and terbium. NioCorp's Elk Creek Project represents the second largest indicated rare earth resource in the U.S. based on data from the USGS' "Critical Mineral Resources of the United States-Economic and Environmental Geology Prospects for Future Supply (2017)" and from company-issued reports.

NioCorp has already determined that overall recoveries for these four magnetic rare earths are likely to be greater than 90% and would meet commercial purity specifications for magnetic rare earth oxides. They are in line with the Company's previous success at demonstration scale in producing high-purity Scandium oxide at an overall recovery rate of approximately 92%. Scandium behaves very similarly to rare earths in solution while it is being separated and recovered into a high-purity oxide product.

Currently, the U.S. is 100% dependent on foreign imports of niobium, scandium, and separated rare earth oxides, even though many modern technologies and virtually all major defense systems require one or more of these critical minerals. The U.S. is also dependent on foreign imports for about 92% of its titanium mineral concentrates, according to the U.S. Geological Survey ("USGS").

"By improving both recoveries and purities of our planned niobium and titanium products, we hope to be able to address new markets and help the U.S. establish more secure domestic supply lines for these critical minerals," said Mark A. Smith, Executive Chairman of NioCorp. "For example, higher-purity niobium may allow us to more directly serve markets associated with rapid-charging niobium-lithium-ion batteries for battery electric and plug-in hybrid electric vehicles. That, in turn, could increase the domestic content of critical minerals in batteries, which would help U.S. automakers meet increasingly stringent domestic content requirements as well as help consumers of these vehicles potentially benefit from federal tax breaks associated with the purchase of electric vehicles."

Mr. Smith added: "Higher-purity titanium also presents us with new potential market opportunities and improve U.S. security with regard to titanium supply. Titanium supply chains are under increasing stress today as a result of the war in Ukraine. This is because many primary titanium units used in both commercial and defense technologies in the U.S. have in recent years been sourced from Ukraine, and a substantial amount of titanium metal was coming from Russia. Prices for titanium concentrate and feedstocks have increased on the order of 250% as a result. More titanium produced in Nebraska can help mitigate these supply chain pressures."

As no economic analysis has been completed on the rare earth mineral resource comprising the Elk Creek Project, further studies are required before determining whether extraction of rare earth elements can be reasonably justified and economically viable taking account all relevant factors.

### Process Breakthrough Points To Potentially Lower Production Costs

Until now, the Project's flowsheet and economics have been based on two sequential hydrolysis steps to produce a niobium product suitable for conversion into ferroniobium and a titanium product suitable as a feedstock for the pigment market. According to the Company's current Project Feasibility Study, the existing flowsheet projects overall recoveries to final product of 39.5% for niobium and 40.3% for titanium.

Recent testing has focused on utilizing a single hydrolysis step followed by chlorination and condensation of niobium chloride and titanium chloride. These chloride compounds can be easily converted to oxide compounds, which is the general form that prospective customers are looking for.

Qualitative testing to this point has demonstrated the production of a high-purity niobium chloride containing no more than 100 ppm Titanium, along with a titanium chloride containing correspondingly low Niobium levels. The work has demonstrated an exceptionally good separation between Niobium and Titanium, and substantially lower base metal impurities in these products was achieved using the currently planned process.

"Our next steps include establishing a closed material balance for this part of the flowsheet and determining overall recoveries of niobium and titanium," said Scott Honan, NioCorp's Chief Operating Officer. "We expect to make announcements on the results of this work in the coming weeks, and I very much look forward to seeing the final numbers."

Mr. Honan added that the demonstration plant expects to complete its final testing operations in April or May.

### QUALIFIED PERSONS:

Eric Larochelle, B.Eng., Co-Owner, L3 Process Development, a Qualified Person as defined by National Instrument 43-101, reviewed and approved the technical information, and verified the data, contained in this news release.

Scott Honan, M.Sc., SME-RM, COO of [NioCorp Developments Ltd.](#), a Qualified Person as defined by National Instrument 43-101, has reviewed and approved the technical information contained in the news release.

### For More Information

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## About NioCorp

NioCorp is developing a critical minerals project in Southeast Nebraska that will produce niobium, scandium, and titanium. Company also is evaluating the potential to produce several rare earths from the Project. Niobium is used to produce superalloys as well as High Strength, Low Alloy ("HSLA") steel, which is a lighter, stronger steel used in automotive, structural, and pipeline applications. Scandium is a specialty metal that can be combined with Aluminum to make alloys with increased strength and improved corrosion resistance. Scandium is also a critical component of advanced solid oxide fuel cells. Titanium is used in various lightweight alloys and is a key component of pigments used in paper, paint and plastics and is also used for aerospace applications, armor, and medical implants. Magnetic rare earths, such as neodymium, praseodymium, terbium, and dysprosium, are critical to the making of Neodymium-Iron-Boron ("NdFeB") magnets, which are used across a wide variety of defense and industrial applications. Visit us at <https://www.niocorp.com>, <https://www.facebook.com/niocorp>, <https://www.instagram.com/niocorp-developments/>, on Twitter @NioCorp, and on LinkedIn at <https://www.linkedin.com/company/74331143/>

## Forward-Looking Statements

This communication contains forward-looking statements within the meaning of the United States Private Securities Litigation Reform Act of 1995 and forward-looking information within the meaning of applicable Canadian securities laws. Forward-looking statements may include, but are not limited to, that the Elk Creek Project will produce niobium, scandium and titanium and a potential addition of magnetic rare earth oxides to NioCorp's planned product suite. Forward-looking statements are typically identified by words such as "plan," "believe," "expect," "anticipate," "intend," "outlook," "estimate," "forecast," "project," "may," "could," "might," "possible," "potential," "predict," "should," "would" and other similar words and expressions, but the absence of these words does not mean that a statement is not forward-looking.

demonstration-scale processing plant; the future price of metals; the stability of the financial and capital markets; other estimates and assumptions regarding NioCorp's business combination (the "Business Combination") with GX Acquisition and NioCorp's previously announced standby equity purchase facility (the "Yorkville Equity Facility Financing" and, together with the Business Combination, the "Transactions") with YA II PN, Ltd., an investment fund managed by Yorkville Advisors Corp. and their expected benefits, including the ability to access the full amount of the expected net proceeds of the Yorkville Equity Facility Financing over the next three years; NioCorp's ability to receive a final commitment of financing from the Export-Import Bank of the United States ("EXIM"); anticipated benefits of the listing of NioCorp's common shares, without par value (the "Common Shares") on Nasdaq; the financial and business performance of NioCorp; NioCorp's anticipated results and developments in the operations of NioCorp in future periods; NioCorp's planned exploration activities; the adequacy of financial resources; NioCorp's ability to secure sufficient project financing to complete construction and commence operations at the Elk Creek Project; NioCorp's expectation and ability to produce niobium, scandium, and titanium at the Elk Creek Project; the outcome of current recovery process improvement testing, and NioCorp's expectation that such process improvements will lead to greater efficiencies and cost savings in the Elk Creek Project; the Elk Creek Project's ability to produce multiple critical minerals; the Elk Creek Project's projected ore production and mining operations over its expected mine life; the completion of the demonstration plant and technical and economic analyses on the potential addition of magnetic rare earth oxides to NioCorp's planned product suite; the exercise of options to purchase additional land parcels; the execution of contracts with engineering, procurement and construction companies; NioCorp's ongoing evaluation of the impact of inflation, supply chain issues and geopolitical unrest on the Elk Creek Project's economic model; the impact of health epidemics, including the COVID-19 pandemic, on NioCorp's business and the actions NioCorp may take in response thereto. Such expectations and assumptions are subject to uncertainties and contingencies regarding future events and, as such, are subject to change. Forward-looking statements involve a number of risks, uncertainties or other factors that may cause actual results or performance to be materially different from those expressed or implied by these forward-looking statements. These risks and uncertainties include, but are not limited to, those discussed and identified in public filings made by NioCorp with the U.S. Securities and Exchange Commission and with applicable Canadian securities regulatory authorities and the following: the outcome of any legal proceedings that may be brought against NioCorp following closing of the Transactions; the inability to access the full amount of the expected net proceeds of the Yorkville Equity Facility Financing over the next three years; the ability to recognize the anticipated benefits of the Transactions; unexpected costs related to the Transactions; NioCorp's ability to receive a final commitment of financing from EXIM on the anticipated timeline, on acceptable terms, or at all; NioCorp's ability to continue to meet Nasdaq listing standards; NioCorp's ability to operate as a going concern; risks relating to the Common Shares, including price volatility, lack of dividend payments, potential dilution or the perception of the likelihood any of the foregoing; NioCorp's requirement of significant additional capital; the risk that our level of indebtedness and/or the terms contained in agreements governing our indebtedness or the Yorkville Equity Facility Financing may impair our ability to obtain additional financing; covenants contained in agreements with our secured creditors that may affect our assets; NioCorp's limited operating history; NioCorp's history of losses; the restatement of consolidated financial statements as of and for the fiscal years ended June 30, 2022 and 2021 and the interim periods from September 30, 2021, December 31, 2021, and March 31, 2022 and the impact of such restatement on NioCorp's future financial statements and other financial measures; the material weakness in NioCorp's internal control over financial reporting, NioCorp's efforts to remediate such material weakness and the timing of remediation; the possibility that NioCorp may qualify as a "foreign investment company" under the U.S. Internal Revenue Code of 1986, as amended (the "Code"); the potential that the Transactions could result in NioCorp becoming subject to materially adverse U.S. federal income tax consequences as a result of the application of Section 7874 and related sections of the Code; cost increases for NioCorp's exploration and, if warranted, development projects; a disruption in, or failure of, NioCorp's information technology systems, including those related to cybersecurity; equipment and supply shortages; current and future offtake agreements, joint ventures, and partnerships; NioCorp's ability to attract qualified management; the effects of the COVID-19 pandemic or other global health crises on NioCorp's business plans, financial condition and liquidity; estimates of mineral resources and reserves; mineral exploration and production feasibility study results; the results of metallurgical testing; changes in demand for and price of commodities (such as fuel, electricity) and currencies; competition in the mining industry; changes or disruptions in the securities markets; legislative or economic developments, including changes in federal and/or state laws that may significantly affect the mining industry; the impacts of climate change, as well as actions taken or required by governments related to strengthening resilience in the face of potential impacts from climate change; the need to obtain permits and comply with laws and regulations and other regulatory requirements; the timing and reliability of sampling and assay data; the possibility that actual results of work may differ from projections/expectations or may not realize the perceived potential of NioCorp's projects; risks of accidents, equipment breakdowns, and labor disputes or other unanticipated difficulties or interruptions; the possibility of cost overruns or unanticipated expenses in development programs; operating or technical difficulties in connection with exploration, mining, or development activities; the management of the water balance at the Elk Creek Project site; land reclamation requirements related to the Elk Creek Project; the speculative nature of mineral exploration and development, including the risks of diminishing quantities of reserves and resources; claims on the title to NioCorp's properties; potential future litigation; and NioCorp's lack of insurance coverage for all of NioCorp's operations.

Should one or more of these risks or uncertainties materialize or should any of the assumptions made by the management of NioCorp prove incorrect, actual results may vary in material respects from those projected in these forward-looking statements.

All subsequent written and oral forward-looking statements concerning the Transactions or other matters addressed in this communication and attributable to NioCorp or any person acting on its behalf are expressly qualified in their entirety by the cautionary statements contained or referred to in this communication. Except to the extent required by applicable law or regulation,

NioCorp undertakes no obligation to update these forward-looking statements to reflect events or circumstances after this communication to reflect the occurrence of unanticipated events.

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