

# Canadian North Resources Inc. Reports Metal Extraction of 96-98% Nickel and Cobalt Using Low-carbon Footprint Bio-Leaching Technology for the Ferguson Lake Project

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## Highlights:

- Metal extraction of 96.1 - 98.5% nickel and 96.1 - 97.7% cobalt from bioleaching tests.
- Bioleaching could offer much higher metal recoveries than flotation (29-51% nickel and 48-89% cobalt), significantly increasing the value of current mineral resources.
- Both massive sulphides and rougher sulphide tails are amenable to bioleaching, potentially producing nickel/cobalt sulphates onsite for the battery manufacturing industry.
- On-going tests are expanding to include high recoveries of copper and precious metals (palladium, platinum, gold, etc.).
- Bioleaching is a promising, cost-effective, and eco-friendly technology for developing a low-carbon footprint green mine at the Ferguson Lake project.

TORONTO, Oct. 21, 2024 -- [Canadian North Resources Inc.](#) ("Canadian North" or the "Company") (TSXV: CNRI; OTCQX: CNRSF; FSE: E00 (E-O-zero)) is pleased to report the preliminary results from the technical evaluation of bioleaching technology for its Ferguson Lake copper, nickel, cobalt, palladium and platinum project ("the Ferguson Lake Project"). The bioleaching tests were conducted by the New Brunswick Research and Productivity Council ("RPC") at its laboratory in Fredericton, New Brunswick.

Bioleaching is a proven technology that uses naturally occurring oxidizing bacteria to extract nickel, cobalt, copper and precious metals from sulfides. Operating at low temperatures with minimal power consumption, this low-cost, clean technology is a more environmentally friendly alternative than high-temperature and pressure processing methods such as hydrometallurgy, smelting and refining. While bioleaching has been applied in mines worldwide, not all of ores are amenable to this process, and metal extraction can vary significantly depending on ore mineralogy.

The Company has been working with RPC to apply bioleaching technology for the Ferguson Lake project since early May 2024. The bioleaching tests were conducted on two samples: a bulk sample of massive sulphides collected from outcrop in the Central Zone, and a sample of rougher sulphide tails from flotation tests on the massive sulphides completed by SGS Lakefield Canada. RPC grew the bacteria from the massive sulphide sample for the bioleaching process. The initial tests were focused on the extraction of nickel and cobalt from both samples. Preliminary results indicate that both the massive sulphides and the rougher sulphide tails are amenable to bioleaching with very high extraction rates for nickel (96.1-98.5%) and cobalt (96.1-97.7%) (Table 1). Ongoing tests is using the bioleaching solution with extracted metals to produce high purity of nickel/cobalt sulfates for battery manufacturing. Testing is also being extended for copper and precious metals (incl. palladium, platinum, gold, etc.) recovery from both samples.

Table 1: Initial bioleaching test results for the two samples from the Ferguson Lake project

Tested Samples	Head Assay Results		Bioleaching Metal Extraction Rates	
	Ni (%)	Co (%)	Ni (%)	Co (%)
Massive Sulphides	0.950	0.102	97.7 - 98.5	97.6 - 97.7
Rougher sulphide tails	0.733	0.056	96.1 - 97.4	96.1 - 96.7

Dr. Kaihui Yang, President and CEO of the Company, commented: "We are extremely encouraged by the initial bioleaching tests results, which indicate highly efficient metal extraction and suggest the potential to produce nickel/cobalt sulphates on the project site for battery manufacturing. Bioleaching will significantly

simplify mineral processing, bypass smelting and refining, and substantially reduce the capital expenses for mine development, energy consumption, and operating costs for production. We believe that bioleaching is a promising technology for developing a low-cost, low-carbon footprint green mine, reinforcing our commitment to sustainable practices at the Ferguson Lake project."

"Additionally, the consistent and high extraction rates of 96 - 98% for nickel and cobalt will significantly increase the value of the current Mineral Resources, which were estimated using the flotation process with lower and more variable recoveries of nickel (29-51%) and cobalt (48-89%)."(Refer to "Independent Technical Report on the Mineral Resource Estimate for the Ferguson Lake Project, Nunavut, Canada ("the Technical Report")", prepared by SRK Consulting and Ronacher McKenzie Geoscience Inc., effective March 19, 2024, filed by the Company to SEDAR at <http://www.sedar+.com> on May 3, 2024.).

The extremely high nickel and cobalt extraction rates from bioleaching tests are promising. They suggest high recoveries of nickel and cobalt from the current mineral resources of the Ferguson Lake project. The latest resource estimation, filed on May 3, 2024, was based on the metal recoveries (29-51% Ni, 48-89%Co) of the flotation process on massive sulphides (MS) and PGM-enriched low sulphide (LSPGE) materials. Bioleaching, with its much higher metal extraction capabilities, will substantially increase the value of the current mineral resources and potentially allow the Company to add substantial lower-grade mineralized materials as economic mineral resources.

In early September, Dr. Leo Cheung, RPC's principal engineer, visited the project site, to inspect the mineralized zones and local biological environment. He also collected water samples from a stream adjacent to the massive sulfide outcrops in the Central Zone. Additional massive sulfide samples were taken from the outcrops. Indigenous bacteria will be isolated and cultivated from the massive sulfides and water samples for further testing and development.

Further bioleaching tests will be conducted on additional massive sulfides, LSPGE samples and various concentrates and tails from the flotation tests that were completed and are being carried out for MS and LSPGE samples. RPC will develop a conceptual process for the recovery of nickel, cobalt, copper and precious metals through bioleaching in a follow-up program to precipitate/crystallize the high-purity nickel/cobalt sulphates for the battery manufacturers.

#### About RPC:

RPC is a respected research and technology organization providing specialized engineering, scientific and laboratory-based services, based in New Brunswick, Canada. RPC's engineers and technologists are supported by world-class analytical chemistry, air quality and material-testing laboratories and a wide variety of pilot facilities for the development and improvement of industrial and environmental processes and products.

#### Qualified Person:

Dr. Trevor Boyd, P.Geo. and Technical Advisor for Canadian North Resources, a qualified person as defined by Canadian National Instrument 43-101 standards and has reviewed the technical content of this news release and has approved its dissemination.

#### About Canadian North Resources Inc.

Canadian North Resources Inc. is an exploration and development company focusing on the critical metals for the clean-energy, electric vehicles, battery and high-tech industries. The company is advancing its 100% owned Ferguson Lake nickel, copper, cobalt, palladium, and platinum project in the Kivalliq Region of Nunavut, Canada.

The Ferguson Lake mining property contains a substantial National Instrument 43-101 compliant Mineral Resource Estimate announced on March 19 2024, which include Indicated Mineral Resources of 66.1 million tonnes (Mt) containing 1,093 million pounds (Mlb) copper at 0.75%, 678Mlb nickel at 0.47%, 79.3Mlb cobalt at 0.05%, 2.34 million ounces (Moz) palladium at 1.10g/t and 0.419Moz platinum at 0.19g/t; and Inferred

Mineral Resources of 25.9Mt containing 558Mlb copper at 0.98%, 333Mlb nickel at 0.58%, 39.6Mlb cobalt at 0.07%, 1.192Moz palladium at 1.43g/t and 0.205Moz platinum at 0.25g/t. In particular, 80% of the Indicated Mineral Resources is Open Pit with 52.7Mt at 0.65% Cu, 0.43% Ni, 0.05% Co, 0.97g/t Pd and 0.17g/t Pt, which provides a solid Mineral Resource base for the initial development of a potential large mine. The Mineral Resource model indicates significant potential for resource expansion along strike and at depth over the 15 km long mineralized belt and a number of undefined mineralization zones and prospective areas. (Refer to "Independent Technical Report on the Mineral Resource Estimate for the Ferguson Lake Project, Nunavut, Canada ("the Technical Report")", prepared by SRK Consulting and Ronacher McKenzie Geoscience Inc., effective March 19, 2024, filed by the Company to SEDAR at <http://www.sedar+.com> on May 3, 2024. The Technical Report has also been posted on the Company's website at [www.cnresources.com](http://www.cnresources.com).)

Further information please visit the website at [www.cnresources.com](http://www.cnresources.com),

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