



NioBay
METALS

Our Future is **Green**

December 2025

TSXV: **NBY** | OTCQB: **NBYCF**

Forward-looking statements and disclaimer



FORWARD-LOOKING STATEMENTS

The reader is advised that the information summarized in this presentation is preliminary in nature and is intended to provide an initial, high-level review of the project's economic potential and design options. The PEA mine plan and economic model includes numerous assumptions and the use of Inferred Resources. Inferred Resources are considered to be too speculative geologically to have economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the PEA will be realized.

Certain statements contained in this presentation may constitute "forward-looking statements". All statements in this presentation, other than statements of historical fact, that address events or developments that the Company expects to occur are forward-looking statements. Forward-looking statements are statements that are not historical facts and are generally, but not always, identified by the words "expects", "plans", "anticipates", "believes", "intends", "estimates", "projects", "potential", "scheduled" and similar expressions, or that events or conditions "will", "would", "may", "could" or "should" occur including, but not limited to, the statements regarding the Company's strategic plans, its anticipated benefits and the use of proceeds resulting thereof, in particular, future financial results, production targets and timetables, the evolution of mineral reserves and resources, mine operating costs, capital expenditures, work programs, development plans, exploration programs, objectives and budgets, the possible determination of additional reserves, and the Company's eventual success to execute its strategy to focus on building its portfolio of properties. Forward looking statements express, at this date, the Company's plans, estimates, forecasts, projections, expectations or beliefs as to future events and results. Forward-looking statements involve a number of risks and uncertainties, and there can be no assurance that such statements will prove to be accurate. Therefore, actual results and future events could differ materially from those anticipated in such statements. Risks and uncertainties that could cause results or future events to differ materially from current expectations expressed or implied by the forward-looking statements include, but are not limited to, factors associated with fluctuations in the market price of metals, mining industry risks, exploration risks, risks associated with foreign operations, environmental risks and hazards, uncertainty as to calculation of mineral reserves, requirement of additional financing or additional permits, authorizations or licenses, risks of delays in construction and production and other risks referred to in the Company's filings on SEDAR.

Although the Company believes the expectations expressed in such forward-looking statements are based on reasonable assumptions, including, without limitation, that all technical, economical and financial conditions will be met to achieve such events qualified by the foregoing cautionary note regarding forward-looking statements, such statements are not guarantees of future performance and actual results may differ materially from those in forward-looking statements. Factors that could cause the actual results to differ materially from those in forward-looking statements include, but are not limited to: niobium prices; access to skilled workers and consultants; mining development and construction personnel; results of exploration and development activities; uninsured risks; regulatory framework and changes; defects in title; availability of personnel; materials and equipment; timeliness of government approvals; actual performance of facilities; equipment and processes relative to specifications and expectations; unanticipated environmental impacts on operations market prices; continued availability of capital and financing; general economic, market and business conditions; and the availability of alternative transactions. Many of these factors are discussed in greater detail in the Company's most recent Management Discussion & Analysis dated May 16, 2023, and Management Discussion & Analysis for the year ended December 2022 dated April 19, 2023, which are available on the Company's profile on SEDAR+ at www.sedar.com. The Company cautions that the foregoing list of important factors is not exhaustive. Investors and others who base themselves on forward-looking statements should carefully consider the above factors as well as the uncertainties they represent and the risk they entail. The Company believes that the expectations reflected in those forward-looking statements are reasonable, but no assurance can be given that these expectations will prove to be correct and such forward-looking statements included in this presentation should not be unduly relied upon. These statements speak only as of the date of this presentation.

DISCLAIMER

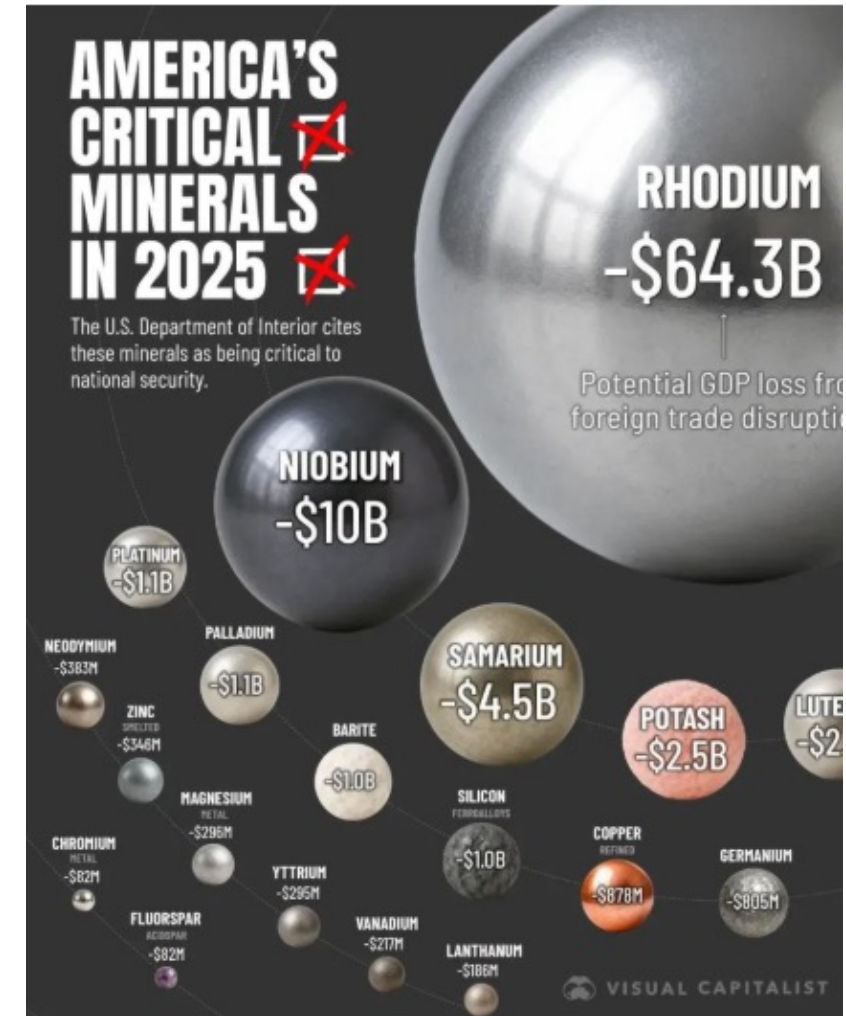
NI 43-101 is a rule developed by the Canadian Securities Administrators that establishes standards for all public disclosure an issuer makes of scientific and technical information concerning mineral projects. Unless otherwise indicated, all reserve and resource estimates referred to or contained in this Slide Deck have been prepared in accordance with NI 43-101. These NI 43-101 standards differ significantly from the requirements of the SEC, and such resource information may not be comparable to similar information disclosed by U.S. companies. For example, while the terms "mineral resource", "measured resource", "indicated resource" and "inferred resource" are recognized and required by Canadian regulations, they are not recognized by the SEC. It cannot be assumed that any part of the mineral deposits in these categories will ever be upgraded to a higher category. These terms have a great amount of uncertainty as to their existence, and great uncertainty as to their economic and legal feasibility. In particular, it cannot be assumed that any part of an inferred resource exists. In accordance with Canadian rules, estimates of "inferred resources" cannot form the basis of feasibility or other economic studies. In addition, under the requirements of the SEC, mineralization may not be classified as a "reserve" unless the determination has been made that the mineralization could be economically and legally produced or extracted at the time the reserve determination is made. Certain of the technical reports referenced in this Slide Deck use the terms "mineral resource," "measured mineral resource," "indicated mineral resource" and "inferred mineral resource". We advise investors that these terms are defined in and required to be disclosed in accordance with Canadian NI 43-101 and the Canadian Institute of Mining, Metallurgy and Petroleum (the "CIM") – CIM Definition Standards on Mineral Resources and Mineral Reserves, adopted by the CIM Council, as amended. "Inferred mineral resources" have a great amount of uncertainty as to their existence, and great uncertainty as to their economic and legal feasibility. It cannot be assumed that all or any part of an inferred mineral resource will ever be upgraded to a higher category. Under Canadian rules, estimates of Inferred mineral resources may not form the basis of feasibility or pre-feasibility studies, except in rare cases. Investors are cautioned not to assume that all or any part of an inferred mineral resource exists or is economically or legally mineable. As a reporting issuer in Canada, we are required to prepare reports on our mineral properties in accordance with NI 43-101. We reference those technical reports in this Slide Deck for informational purposes only, and such reports are not incorporated herein by reference.

Under the United States Securities and Exchange Commission's (the "SEC") Industry Guide 7 as currently in effect ("Guide 7"), the terms "indicated mineral resource" and "inferred mineral resource" are normally not permitted to be used in reports and registration statements filed with the SEC. Under current Guide 7 standards, a "final" or "bankable" feasibility study is required to report reserves, the three-year historical average price is used in any reserve or cash flow analysis to designate reserves, and the primary environmental analysis or report must be filed with the appropriate governmental authority. Disclosure of "contained ounces" in a resource is permitted disclosure under Canadian regulations; however, the SEC normally only permits issuers to report mineralization that does not constitute "reserves" by Guide 7 standards as in place tonnage and grade without reference to unit measures.

Accordingly, information contained in this Slide Deck contain descriptions of the Company's mineral deposits that may not be comparable to similar information made public by United States companies subject to the reporting and disclosure requirements under the United States federal securities laws and the rules and regulations thereunder, included Industry Guide 7.

Who are we?

- **Founded in 1954, Niobay is a Canadian critical minerals explorer** advancing niobium, tantalum, and titanium projects in Quebec & Ontario.
- **Strong technical foundation** with multiple NI 43-101 resources and positive PEAs confirming economic potential.
- **Strategic positioning in growth markets** including steel strengthening, EV batteries, and advanced electronics.
- **Backed by strong partners**, including support from the Quebec government and Osisko as a major shareholder and board participant.



Board of Directors



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Takuhikan



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Metallurgist and R&D director at SGS
Canada inc.



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Aboriginal Affairs Advisor, Ontario and
Canada

Director General, Waubetek Business
Development/First Nations



Jean-David Moore

Strategic Advisor, Quebec junior mining

Mining investor, strategic advisor,
exploration specialist




The Importance of Niobium



A small amount of niobium makes the entire system stronger, lighter, faster, and greener

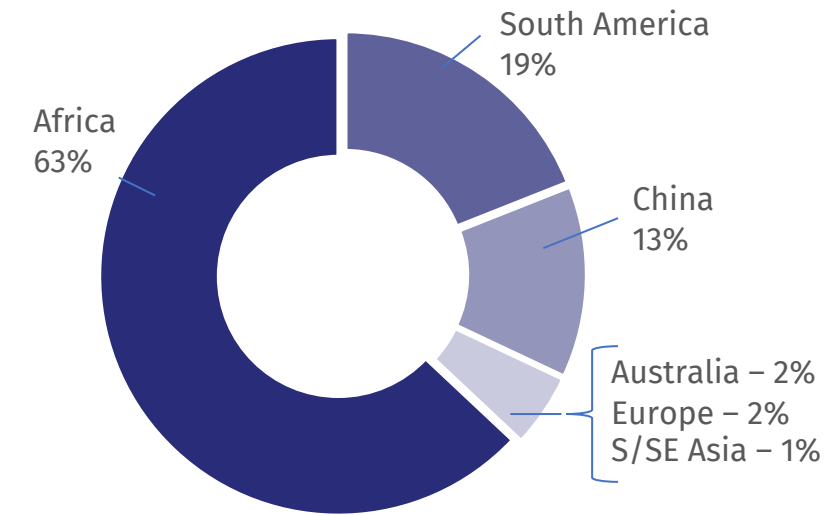
1. **Strengthens steel** → lighter cars, stronger bridges, lower CO₂.
2. **Improves batteries** → ultra-fast charging, safer, longer life.
3. **Critical for aerospace** → jet engines, rockets, high-temp alloys.
4. **Enables superconductors** → MRI, NMR, high-field magnets.

Niobay's Role in the Niobium Supply Chain

RAW MATERIAL	PRECURSOR PROCESSING	BATTERY MANUFACTURING
<ul style="list-style-type: none">Niobium, Tantalum & TitaniumTier-1 jurisdictions (Canada)Secure, ESG-aligned supplyFoundation of battery materials 	<ul style="list-style-type: none">Niobium oxide & niobium saltsBattery-grade chemical refinementValue-added products for anodesHigher margins & vertical integration 	<ul style="list-style-type: none">Electrode fabricationCell manufacturingBattery pack assemblyEV integration & recycling 

Tantalum: Essential for Today's High-Tech World

Product	Application
Tantalum Oxide (Ta ₂ O ₅)	<ul style="list-style-type: none">• High-performance camera lenses (high refractive index)• X-ray detectors and medical imaging components
Tantalum Carbide (TaC)	<ul style="list-style-type: none">• One of the hardest known materials, perfect for cutting tools and industrial wear parts
Tantalum Metal (Ta)	<ul style="list-style-type: none">• Semiconductor sputtering targets for chip manufacturing• Retains strength at extreme temperatures aerospace & defense
Tantalum Salt (K ₂ TaF ₇)	<ul style="list-style-type: none">• Tantalum capacitors used in phones, laptops, EVs, aerospace electronics• Miniaturized high-reliability circuits



Sources: Roskill; <https://www.novethic.fr/actualite/social/droits-humains/isr-rse/afrique-des-grands-lacs-la-quete-du-mineral-sans-conflit-144047.html>

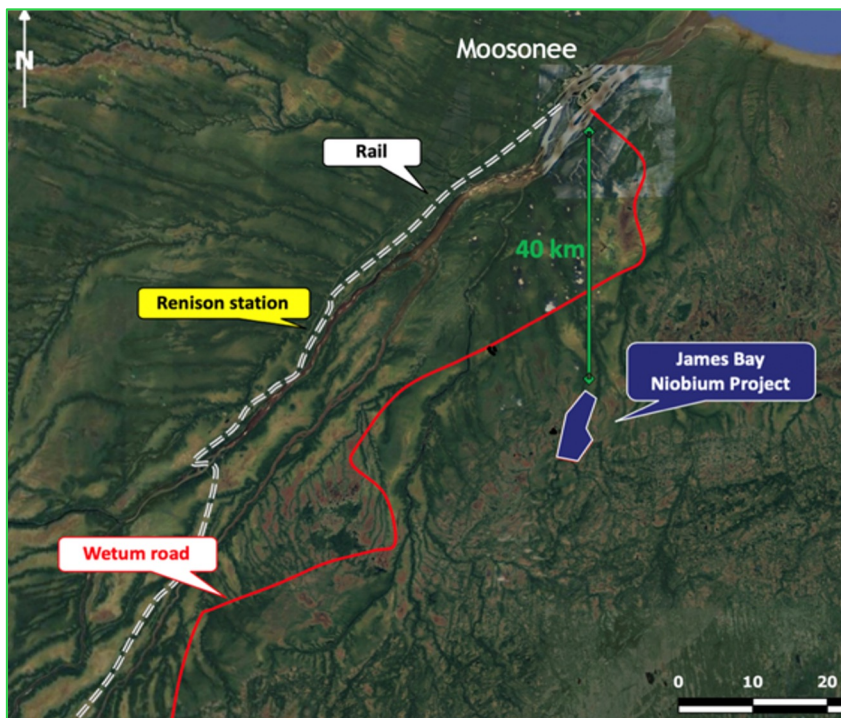
Niobay Assets Overview



3 Core Assets in Tier 1 Jurisdictions:

1. **James Bay Niobium, Ontario**
 - Niobium Oxide
2. **Crevier, Québec**
 - Niobium oxide and Tantalum
3. **Foot Hills, Québec**
 - Titanium and Phosphate

James Bay Niobium Overview



- **Tier-one jurisdiction:** Ontario, 42 km south of Moosonee in the James Bay Lowlands
- **Excellent infrastructure** enabling efficient development and logistics
- **Strong partnership:** Protection Agreement in place with Moose Cree First Nation
- **High-quality resource:**
 - Indicated: 29.7 Mt @ 0.53% Nb₂O₅
 - Inferred: 33.8 Mt @ 0.52% Nb₂O₅
- **Positive PEA** demonstrating robust project economics
- **Significant exploration upside:** Deposit underexplored below 330 m
- **2025 Exploration Permit granted** by the Ontario Government

James Bay Niobium PEA highlights

Scenario	Mine life	Production	Post-tax NPV _{8%}	Post-tax IRR
Open pit	30 years	5,470 tpa	C\$1,008M	27.5%
Open pit and underground	23 years	6,213 tpa	C\$865M	27.0%
Underground	23 years	6,283 tpa	C\$733M	21.6%

PEA Summary

	Underground
Pre-tax internal rate of return	26.0%
Pre-tax net present value (NPV) 8%	\$1,104M
Pre-tax payback (years)	3.8 years
After-tax internal rate of return	21.6%
After-tax NPV 8%	\$733M
After-tax payback (years)	4.3 years
Pre-production CAPEX (Incl. 25% contingency)	\$579M
Average annual LOM Nb production	6,283 t
Mine life	23 years
Total mineral resources mined	53.6 Mt
Average grade mined (Nb ₂ O ₅)	0.51%
Gross revenue after royalties (LOM)	\$8,454 M
After-tax operating cash flow (LOM)	US\$19.11/kg Nb
C1 costs over LOM*	\$66.94
All-in costs (Sustaining CAPEX+closure+OPEX)	US\$21.43/kg Nb \$78.08/t

ECONOMIC IMPACT

- \$500 million Construction
- \$3.8 billion in OPEX
- \$300-\$400 million sustaining
- Provincial Tax: \$479 million
- Mining Tax: \$226 million
- MCFN receive: \$100 million of Mining Tax
- Federal Tax: \$718 million
- \$7 billion GDP impact
- 400 highly paid jobs
- 23-30 years mine life
- High potential to extend mine life

2025 Exploration Permit Granted

- **New 3-year Ontario exploration permit (Oct 2025)** allows NioBay to resume the drill campaign **paused in March 2022**
- **Up to 10,000 m planned** to advance resource expansion and test depth potential
- Assembling our technical team to execute an efficient, low-impact program
- **Updated program designed with Moose Cree feedback:**
 - Drill locations moved **farther from South Bluff Creek**
 - Measures added to **reduce noise impacts on wildlife**
 - Full **removal of drilling mud** committed
 - Winter scheduling to **minimize ground disturbance**
 - Priority placed on **maximizing local labour** throughout the season
- **Operational approach:**
 - Helicopter-supported drilling to reduce surface disturbance
 - Strict water and environmental controls, proven in past campaigns
 - Mining lease remains valid until October 2028



Community & Sustainability at James Bay Niobium

- **Open & Ongoing Dialogue:** Transparent communication and availability to meet anytime.
- **Project Redesigned With MCFN Input:** Adjusted drill locations, winter timing, noise mitigation, and full mud removal.
- **Support for Local Economy:** Prioritizing Moose Cree labour, contractors, and local businesses.
- **Community Support:** Sponsorship of local initiatives, including minor hockey, and commitment to contributing to community well-being.



Crevier Overview



- **Located 50 km north of Girardville**, in Québec's **tier-one mining jurisdiction**
- **Excellent infrastructure** in a well-established industrial region
- **Proximity to an operating niobium mine** supports future development optionality
- **High-value resource** with an NSR of **US\$100/t**
 - **M&I:** 25.4 Mt @ 0.20% Nb₂O₅ (49.7 Mkg) and 234 ppm Ta₂O₅ (5.9 Mkg)
 - **Inferred:** 15.4 Mt @ 0.17% Nb₂O₅ (26.2 Mkg) and 252 ppm Ta₂O₅ (3.9 Mkg)
- **2019 PEA update** outlines a competitive, economically attractive project
- **Strategic niobium–tantalum exposure** with potential upside linked to pricing trends
- **Successful 2025 summer program completed**
 - 15 holes for 3,324 m
 - Mineralization confirmed over >6 km strike length
 - 140-tonne bulk sample completed for advanced mineralogical and pilot-scale testing

Community & Sustainability at Crevier



Indigenous & Community Partnership

- **Collaboration agreement signed with Pekuakamiulnuatsh Takuhikan (Mashteuiatsh)**
- Active dialogue with the **Municipality of Girardville**
- Participation on the **Maria-Chapdelaine MRC Economic Committee**
- Local engagement informing planning, communications, and field operations

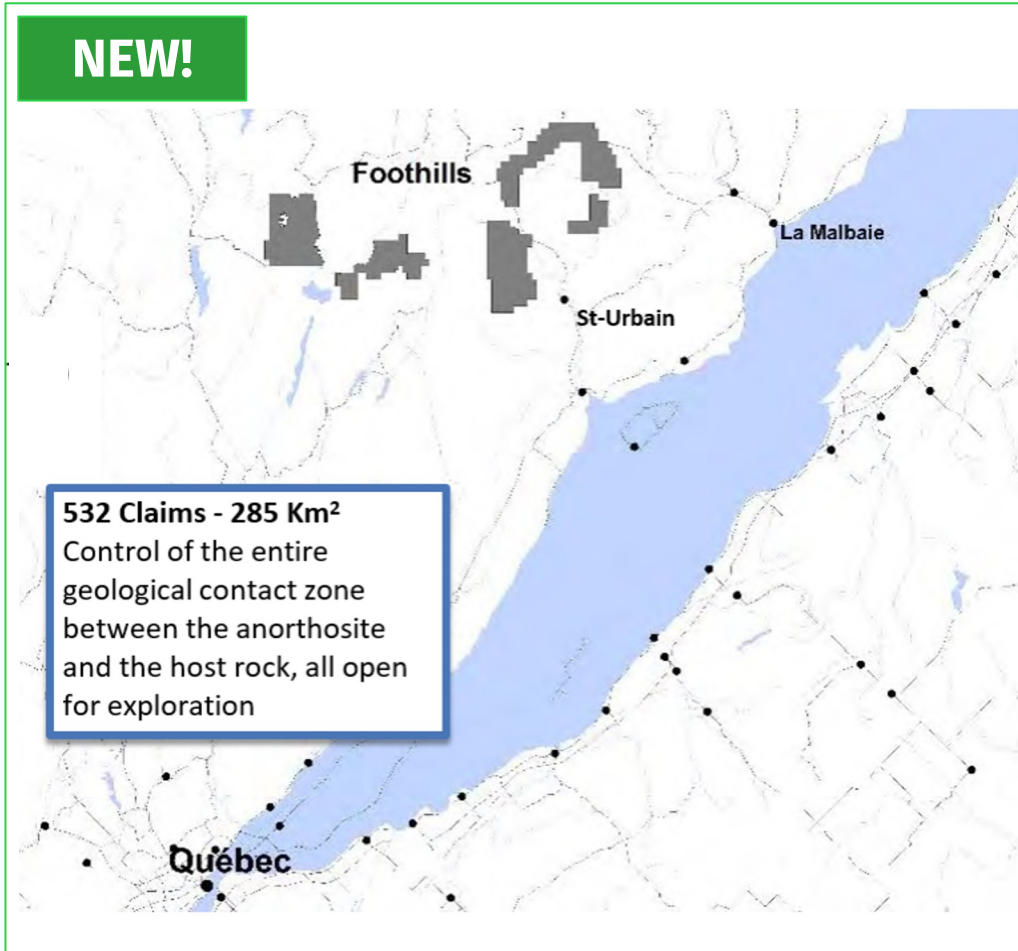
Environmental Responsibility

- GHG emissions offset through **Carbone Boréal** (tree-planting program in Québec)
- Bulk sampling and drilling carried out with **strict environmental controls**
- Commitment to minimizing disturbance across forestry roads and community-used land
- Integration of innovative practices aimed at reducing footprint during future development phases



Foothills Titanium and Phosphate Project

NEW!



PROPERTY STATUS

- Exploration stage to local drilling stage
- February 2024, Definitive option agreement with Vior Inc. to acquire an undivided 80% interest in Vior's Foothills Project
- Ilmenite-bearing anorthosite intrusions containing:
 - Rutile-Ilmenite minerals (up to 57.6% TiO₂)
 - Apatite minerals (up to 12.1% P₂O₅)
- Excellent location near St. Urbain, Quebec (100 km NE of Quebec City)
- Good road infrastructure and easy access to deep water port
- Potential district-scale project

Corporate profile

- NioBay increased its previously announced brokered private placement from C\$5.0M to up to C\$7.5M, after filling up in only 2 hours.
- Our vision is to become a critical minerals leader that applies best practice ESG principles to every stage of mine development
- The NioBay leadership team has extensive experience developing and managing mines
- Niobium is classified as a critical mineral in Canada, the United States, and the European Union, as well as in many other jurisdictions
- The demand for niobium is rising due to an increase in decarbonization applications for critical minerals

TSXV: NBY OTCQB: NBYCF	
Stock price	C\$0.135
Shares outstanding	133M
Fully diluted	176M
Capitalization	C\$18M
Cash Excluding subsidies received	C\$2.2M
Major shareholders Osisko group and management	15.5%

Priorities for 2025

- **JAMES BAY:** Three-year exploration permit obtained; preparing to return to the field and complete the Phase 2 drill program in collaboration with MCFN
- **CREVIER:** Production of customer samples, advancement of partnership discussions, and engagement with groups for metallurgical testing and sample creation for potential offtakers.
- **FOOTHILLS:** Continue exploration work on the Foothills property initiated by Vior, and find ilmenite/rutile zones, mainly on Zone 3
- **OPEN TO OPPORTUNITIES :** Priority given to projects located in Québec



Our Future is **Green**

CONTACT US

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