Forward Looking Statements

This presentation contains certain “forward-looking statements”, 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.

Claude Dufresne, P. Eng, acted as the qualified person as defined in National Instrument 43-101. He reviewed and approved the technical and scientific content of this presentation.
## Company Information

### Capital Structure ($CAD)

<table>
<thead>
<tr>
<th>Component</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shares Outstanding</td>
<td>52 M</td>
</tr>
<tr>
<td>Warrants</td>
<td>3 M</td>
</tr>
<tr>
<td>Options</td>
<td>4 M</td>
</tr>
<tr>
<td>Cash on hand</td>
<td>$2 M</td>
</tr>
<tr>
<td>Market Cap</td>
<td>$29 M</td>
</tr>
</tbody>
</table>

### Information

<table>
<thead>
<tr>
<th>Component</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>TMX Trust</td>
<td>Julien Lavallière</td>
</tr>
<tr>
<td>PwC</td>
<td>Maxime Guilbault</td>
</tr>
<tr>
<td>Lavery Lawyers</td>
<td>René Branchaud</td>
</tr>
<tr>
<td>Qc Mining Law</td>
<td>Marc Pothier</td>
</tr>
</tbody>
</table>

### Major Shareholders (fully diluted)

<table>
<thead>
<tr>
<th>Shareholder</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Osisko Gold Royalties</td>
<td>20%</td>
</tr>
<tr>
<td>Management</td>
<td>8%</td>
</tr>
<tr>
<td>Caisse Dépôt Placement</td>
<td>4%</td>
</tr>
</tbody>
</table>

### Transfer Agent

- PwC

### Auditor

- Lavery Lawyers

### Legal

- Qc Mining Law

### Corporate Secretary/Legal

- Marc Pothier
Board & Management

Management

Claude Dufresne, P.Eng.  
+ 20 years Nb business  
Iamgold, Camet, Cambior

Derek Teevan, MES  
+ 20 years permitting  
Detour Gold, De Beers

Jacquelin Gauthier, P.Geo  
+30 years exploration  
Falconbridge, Cambior, B2Gold, Kinross

Anthony Glavac, CPA, CA  
17 years financial reporting  
Osisko Metals, Falco, KPMG

President & CEO

VP Aboriginal & Governmental

VP Geology

CFO

Directors

Serge Savard  
ex-NHL, Businessman real estate

Jacques Bonneau, P.Geo  
Ex-Mazarin/Niobec

Dawn Madahbee Leach  
Waubetek Bis Develop/First nation

Raymond Legault  
Ex-Financial advisor

Jean-Sebastien David, P.Geo  
Ariane Phosphate, Osisko

Chairman

Director

Director

Director
Niobium Market
What is Niobium?

Additive in steelmaking process. Niobium improves steel properties.

Production of High Strength Low Alloy Steel
Niobium Demand Globally

Source: HIS Markit for ferro-niobium market
Niobium Demand by Region

2009

- China: 30% (36,500 t Nb)
- Europe: 28%
- Others: 25%
- N.A.: 17%

2019

- China: 38% (82,000 t Nb)
- Europe: 21%
- Others: 26%
- N.A.: 15%

Source: HIS Markit for ferro-niobium market
## Niobium Supply

### 2019 Sales

- **Niobec**: 82,000 t Nb (80%)
- **CMOC**: 8,500 t Nb (11%)
- **CBMM**: 7,000 t Nb (8%)

### Niobium Sources

<table>
<thead>
<tr>
<th>Source</th>
<th>Capacity</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Niobec</strong></td>
<td>100,000 tpy Nb</td>
<td>+500 M t @ 2.5% Nb₂O₅, Price setter – cost: &lt;10$/kg Nb, Araxa, Brazil</td>
</tr>
<tr>
<td><strong>CMOC</strong></td>
<td>8,500 tpy Nb</td>
<td>50 M t @ 1% Nb₂O₅, Poor recovery, Chinese owned, Cost: +12$/kg Nb, Catalao, Brazil</td>
</tr>
<tr>
<td><strong>CBMM</strong></td>
<td>7,000 tpy Nb</td>
<td>+75 M t @ 0.56% Nb₂O₅, Only U/G Nb operation, Cost: 19$/kg Nb, owned by Magris Res. Quebec, Canada</td>
</tr>
<tr>
<td><strong>Others</strong></td>
<td>1,500 tpy Nb</td>
<td>Capacity estimated, poorer quality, raw material from coltan</td>
</tr>
</tbody>
</table>
James Bay Niobium Project

Northern Ontario
Moose Cree First Nation
Traditional Territory
• 40 km south of Moosonee, ON.
• Airport (2 runways, 1.2km & 1km)
• Rail line from Cochrane (4X week).
• Powerline 38 km from project.
• Winter Road 12 km from Wetum Road
James Bay Niobium History

Discovered in 1966
- 14,000 meters of drilling at an average depth of 170 meters in 85 holes
- Historical estimate of 56M t @ 0.52% Nb$_2$O$_5$
- Exploration shaft (~40m) with a 75m cross-cut
- 225 t extracted for metallurgical testing (pilot plant)

Lakefield Research carried out metallurgical tests
- Overall recovery of 78%, very low impurities and high-grade concentrate

Feasibility study completed by Bechtel Canada in 1969

NioBay acquired the property in 2016

Access to all historical technical data and drill cores

Note: NioBay Metals has not yet undertaken the work necessary to verify or classify the historical estimates. Economic studies completed in the 1960s does not mean the James Bay Niobium deposit would be found to be economic today. NioBay Metals is not treating the historical results as a current mineral resource nor as having been verified by a qualified person.
2020 Winter Drill Program

• Completed in March 2020
• 3,090 m in 7 holes
• High-grade core extension, raking north
• Width is expanding toward north
• Open at depth (below 330m)
• Only drilled 3 sections out of 14
• All holes intersected significant mineralization
• All intersections above 0.56% Nb₂O₅
• High potential to extend resource
2020 Winter Drill Program
Section 200N

0.69% Nb₂O₅ over 184m

0.66% Nb₂O₅ over 190m

0.58% Nb₂O₅ over 110m

SECTION: 200 N
Section 400N

- 0.57% Nb₂O₅ over 246m
- 0.58% Nb₂O₅ over 207m

Project: James Bay Niobium

SECTION: 600 N
Section 400N

0.56% Nb$_2$O$_5$ over 169m

0.60% Nb$_2$O$_5$ over 127m
2020 Mineral Resource Estimate

- The Updated Mineral Resource Estimate 2020 was published by Roscoe Postle Associates Inc following 2020 winter program (versus 2018 NI43-101).

- Winter 2020: 3,090 m of drilling increased the combined resources by 24%.
  - NSR$ of $CAD 170/ t

- Mineralization is open at depth and north.
- A crown pillar is excluded from the resource (app. 6 Mt).

<table>
<thead>
<tr>
<th>Classification (cut-off 0.3%(\text{Nb}_2\text{O}_5))</th>
<th>Tonnes (Mt)</th>
<th>Grade (%(\text{Nb}_2\text{O}_5))</th>
<th>Contained (\text{Nb}_2\text{O}_5) (Mkg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicated</td>
<td>30 (+4)</td>
<td>0.53</td>
<td>158 (+19)</td>
</tr>
<tr>
<td>Inferred</td>
<td>34 (+9)</td>
<td>0.52 (+0.01)</td>
<td>177 (+48)</td>
</tr>
</tbody>
</table>

Total Ind. & Inf.$^1$ 64 (+12) 0.53 (+0.01) 335 (+67)

1. The combination of the Indicated & Inferred resource is not NI43-101 Compliance.
2. NSR using $45/kg Nb, FX 13CAD/USD & 78% recovery.
Resources Classification

- Similar criteria as 2018 Model
- Based on drill hole spacing (and first pass)
  - 70 m - Indicated
  - 120 m - Inferred

Looking West

Crown Pillar – 46 m

Untested area

New drilling
Trend Analysis

Looking West

% Nb₂O₅

> 0.2  > 0.3  > 0.4  > 0.5  > 1.0
Benchmark Niobec\(^1\) vs James Bay

3. Niobec valued between US$ 750M and US$ +1B (based on 5 to 8X EBITDA)

1. Niobec data from historical & estimates
2. James Bay data are not 43-101 compliance
Marketing Strategy

Source: Camet Metallurgy Inc

James Bay Project aims to supply no more than 5% WS
No ‘action’ anticipated by CBMM

CBMM sales continue to grow
Marketing Strategy

Looking to become the **smallest** producer with 5% market share

- CBMM
- Step-Up
- James Bay

Source: Camet Metallurgy Inc
Regulatory Road Map

<table>
<thead>
<tr>
<th>Activity</th>
<th>Q1 2020</th>
<th>Q2 2020</th>
<th>Q3 2020</th>
<th>Q4 2020</th>
<th>H1 2021</th>
<th>H2 2021</th>
<th>H1 2022</th>
<th>H2 2022</th>
<th>H1 2023</th>
<th>H2 2023</th>
<th>H1 2024</th>
<th>H2 2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exploration Results</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MCFN Community Meetings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020-2021 Exploration Permit Application if required</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protection Agreement Update if required</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Baseline lead by MCFN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preliminary Economic Assessment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advanced Exploration Definition Drilling</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre Feasibility Study</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feasibility Study</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Assessment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MCFN Business and Training Planning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MCFN Impact and Benefit Negotiations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Assumptions: Federal Impact Assessment with coordinated Ontario review

TSXV:NBY
Moose Cree First Nation

- Signed a “Protection Agreement” for early exploration programs (December 2019).
- New Chief & Council elected July 2019 (4 years term)
  - Favorable to engage with resource developers.
  - Seeking opportunities for local community.
- Regular Information Sessions with community on the project.
- Seeking to have MCFN as an equity partner in the project.
- On-going discussion on a Development Protocol.
- MCFN signed IBA w/ Detour Gold, Victor Mine,
- MCFN have a 25% equity in the Lower Mattagami w/ OPG (2.6B$ project).
Next Steps for 2020 & H1 2021 (JBN)

• Mineral Resource Update NI43-101
  • RPA – July 2020. **COMPLETED**

• Metallurgical test works
  • SGS Lakefield – Q3 2020

• Preliminary Economic Assessment
  • G Mining Services Ltd. - Q4 2020
  • Three scenarios O/P, U/G & hybrid.
    • Hybrid & O/P likely provide better economics & more opportunities to MCFN.

• Protocol Development MCFN
  • Seeking support till construction decision.
    • Q3 2020.

• Geophysics (fall 2020 or Q1 2021)
  • James Bay Niobium.
  • Valentine property.

• 2nd Drill Program
  • From Indicated to Measured.
  • Test section +800N at depth.
  • Winter 2021 (TBC).
Thank You!

Claude Dufresne, P.Eng.
President & CEO
NioBay Metals Inc
300-1100 Ave Canadiens-de-Montreal
Montreal, QC H3B 2S2
cdufresne@niobaymetals.com
Appendice

Other Company Assets
Crevier Project
### Crevier Resource

<table>
<thead>
<tr>
<th>Classification</th>
<th>Tonnage (Million tons)</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Nb₂O₅ (%)</td>
</tr>
<tr>
<td>Measured</td>
<td>12.5</td>
<td>0.20</td>
</tr>
<tr>
<td>Indicated</td>
<td>12.9</td>
<td>0.19</td>
</tr>
<tr>
<td>Total (M+I)</td>
<td>25.4</td>
<td>0.20</td>
</tr>
<tr>
<td>Inferred</td>
<td>15.4</td>
<td>0.17</td>
</tr>
</tbody>
</table>

NI 43-101 Resources update on Crevier property, July 2010.

Mineral resource within the geological deposit, 0.1% Nb₂O₅ cutoff grade.

Niobium: High grades cut to 0.5% Nb₂O₅.

Tantalum: High grades cut to 550 ppm Ta₂O₅.
Status Crevier

2010 • Preliminary Economic Assessment.
2012 • Resources update (NI 43-101).
2013 • Pilot plant SGS / COREM
2019 • Update PEA of 2010 (G Mining).

Completed

1975: Discovery by SOQUEM
1986: Transfer to Cambior/Iamgold

• Metallurgical phase I program (underway).
  • COREM.
• Market Study Update.
• Metallurgical Phase II program (H2 2020).
• Complete Feasibility Study
• Financing and construction

To Do

2008: Crevier Minerals Inc. (CMI) acquire the property from Iamgold in exchange of a 50% stake in CMI
2009: increase its equity in CMI to 72.5%

2025 Production

1986: Transfer to Cambior/Iamgold

2008: Crevier Minerals Inc. (CMI) acquire the property from Iamgold in exchange of a 50% stake in CMI
2009: increase its equity in CMI to 72.5%

2025 Production

Not Budgeted for 2020 (Working on specific funding)
Other Properties

Quebec
Quebec Properties

**JV Soquem (47% NBY)**

**Lac Clairiy**
10% Zn, 1.3% Cu, 24 g Ag / 9.10 m

**Lac Shortt**
10.4 g Au/t / 7.2m, 4.5 g Au/t / 11m

**Le Tac**
1.5% Cu, 61 ppb Au / 8m incl 2.97% Cu / 3.5m

**Lespérance**
3.4% Cu, 260 ppb Au / 4m, 1.63% Cu / 1.5m

**Lac Des Meloizes**
12.6% Zn 44 Ag/t, 17.6% Zn & 45.9 g Ag/t

- All 5 properties are part of the JV
- NioBay may elect to participate or be diluted <10% transfer to 1% NSR
- Looking to monetarize our holding

Comments:
- Drill 2020 (TBC)
- IP survey 2018
- Drilling 2009
- Drilling 2009
- Drilling 2008
Thank You!

Claude Dufresne, P.Eng.
President & CEO
NioBay Metals Inc
300-1100 Ave Canadiens-de-Montreal
Montreal, QC H3B 2S2
cdufresne@niobaymetals.com