NioBay METALS

PEA PRESENTATION

October 2020

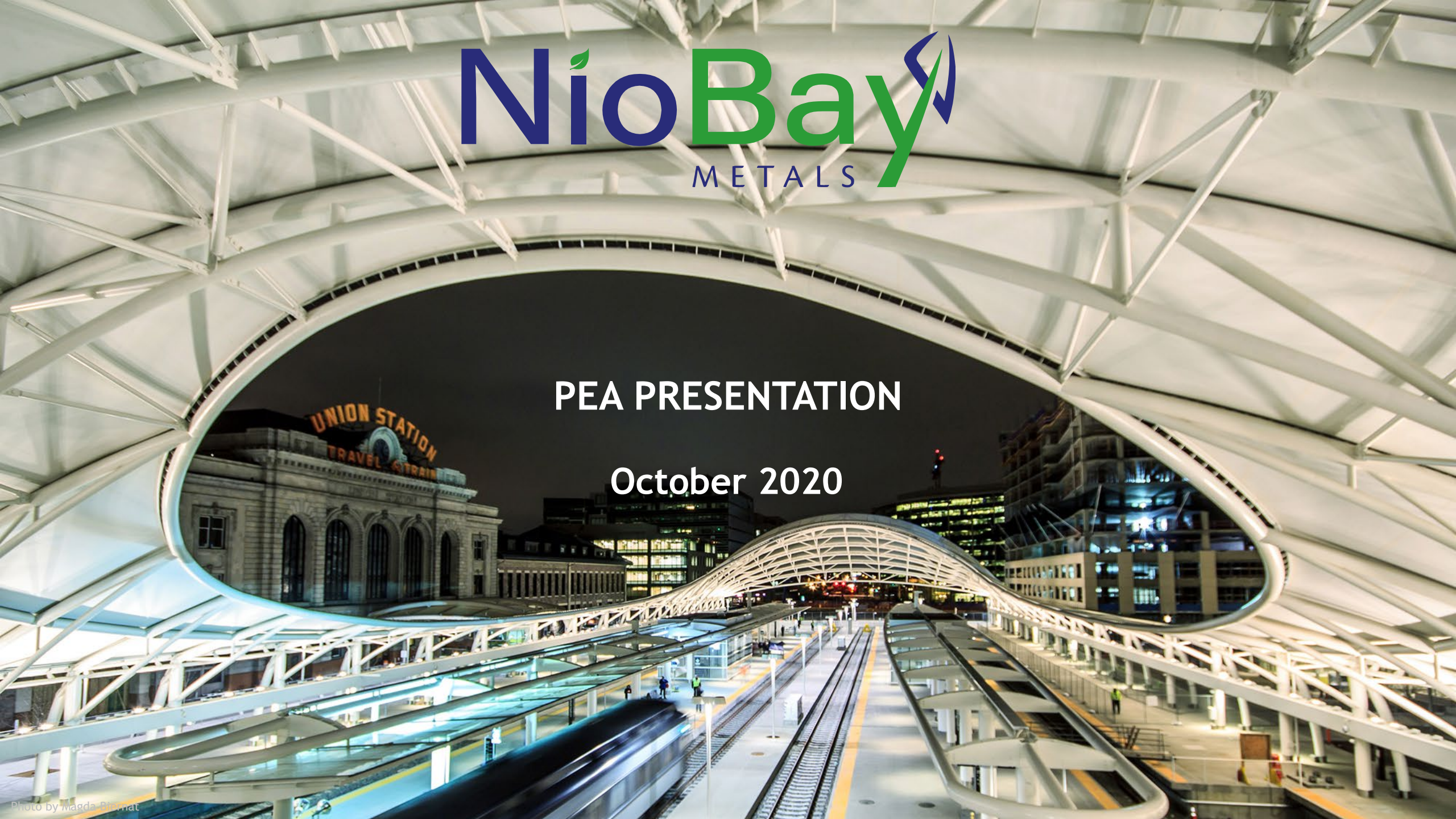


Photo by Magda Ehlers

Forward Looking Statements

The reader is advised that the PEA 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.

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.

Corporate Structure

Stock Symbol	NBY - TSX-V
Share Price	$0.81
Shares Outstanding	52 M
Options	4 M
Warrants	3 M
Market Cap	$42 M
Cash on hand	$1.4 M
52-week High/Low	3 M

Major Shareholders (fully diluted)	
Osisko Gold Royalties	20%
Management	8%
Caisse Dépôt Placement	4%

Share Performance

Board & Management

Management

Claude Dufresne, P.eng. - *President & CEO*
+ 20 years Nb business:
Iamgold, Camet, Cambior

Derek Teevan, MES - *VP Aboriginal & Governmental*
+ 20 years permitting:
Detour Gold, De Beers

Jacquelin Gauthier, P.Geo - *VP Geology*
+30 years exploration:
Falconbridge, Cambior, B2Gold, Kinross

Anthony Glavac, CPA,CA - *CFO*
+17 years financial reporting:
Osisko Metals, Falco Resources, KPMG

Directors

Serge Savard. - *Chairman*
Ex-NHL, Businessman, Real Estate

Jacques Bonneau, P.Geo - *Director*
Ex-Mazarin/ Niobec

Dawn Madahbee Leach - *Director*
Waubetek Business Development/First Nations

Jean-Sebastien David, P.Geo - *Director*
Ariane Phosphate, Osisko Mining Corp.

Raymond Legault - *Director*
Ex-Financial advisor

An Investment in NioBay

Minable Historic Resource with Team Capable of Bringing it Through to Production

Our Value

A Team that has Built Mines in the Region
- Ex-Niobec Leadership
- Ex-Detour Gold & DeBeers

Long Life Minable Resource
- 23 to 30 years

Very Robust Niobium Project
- $1B NAV(8) & 27.5% IRR

Community Support and Engagement
- Protection/ Exploration Agreement with Moose Cree First Nation

Safe Mining Jurisdiction
- Nearby Victor and Detour Gold Mines

Experienced Team

Claude Dufresne P. Eng. - CEO & Director
- 20+ years selling and marketing Niobium
- Built the Niobec brand selling Niobium globally

Jacques Bonneau, P.GEO - Director
- 40+ years experience in the mining industry
- Former CEO of Mazarin Inc - 50% ownership in Niobec mine

Derek Teevan, MES - VP Aboriginal & Government
- Leadership roles in permitting and building the $1B DeBeers Victor Mine and the $1.2B Detour Gold mine

Jacquelin Gauthier, P.Geo - VP Geology
- 40+ years experience in mining exploration and geology

G Mining Services - Technical Consultant
- IAMGOLD - Essakane Mine, Burkina Faso
- Newmont Mining - Merian Mine, Suriname
- Lundin Gold - Fruta del Norte, Ecuador

Osisko Gold Royalties - Strategic Partner
- 20% equity ownership
- Option to purchase 1% NS

Niobium – A Green Metal

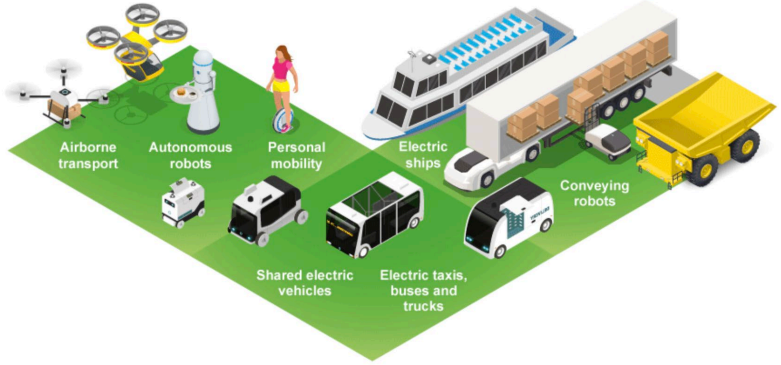
Why Niobium?

- Niobium transforms materials. Materials that can build greener structures, help make energy cleaner and mobility more sustainable.

- $10 of Niobium reduces the weight of a mid-sized car by 150kg leads to ~ 5% increased fuel efficiency

- Øresund Bridge was constructed with 82,000t steel
- 0.02% Nb addition led to 15,000t reduction in weight and a cost savings of $25 million

Next-generation SCiB™, made of Niobium Titanium Oxide a supporting smart mobility in the age of MaaS



James Bay Niobium Project

Description

- **42 km south of Moosonee, in the James Bay Lowlands, Ontario, Canada**
  - 42 km south of Moosonee, ON
  - Airport (2 runways, 1.2km & 1km)
  - Rail line from Cochrane (4X week)
  - Powerline 38 km from project
  - Winter Road (Wetum Road) – 12km from project
- **Located within Moose Cree First Nation Homeland**
- **Mineralization is open at depth and north**
- **Project is now entering advanced exploration and development stages**

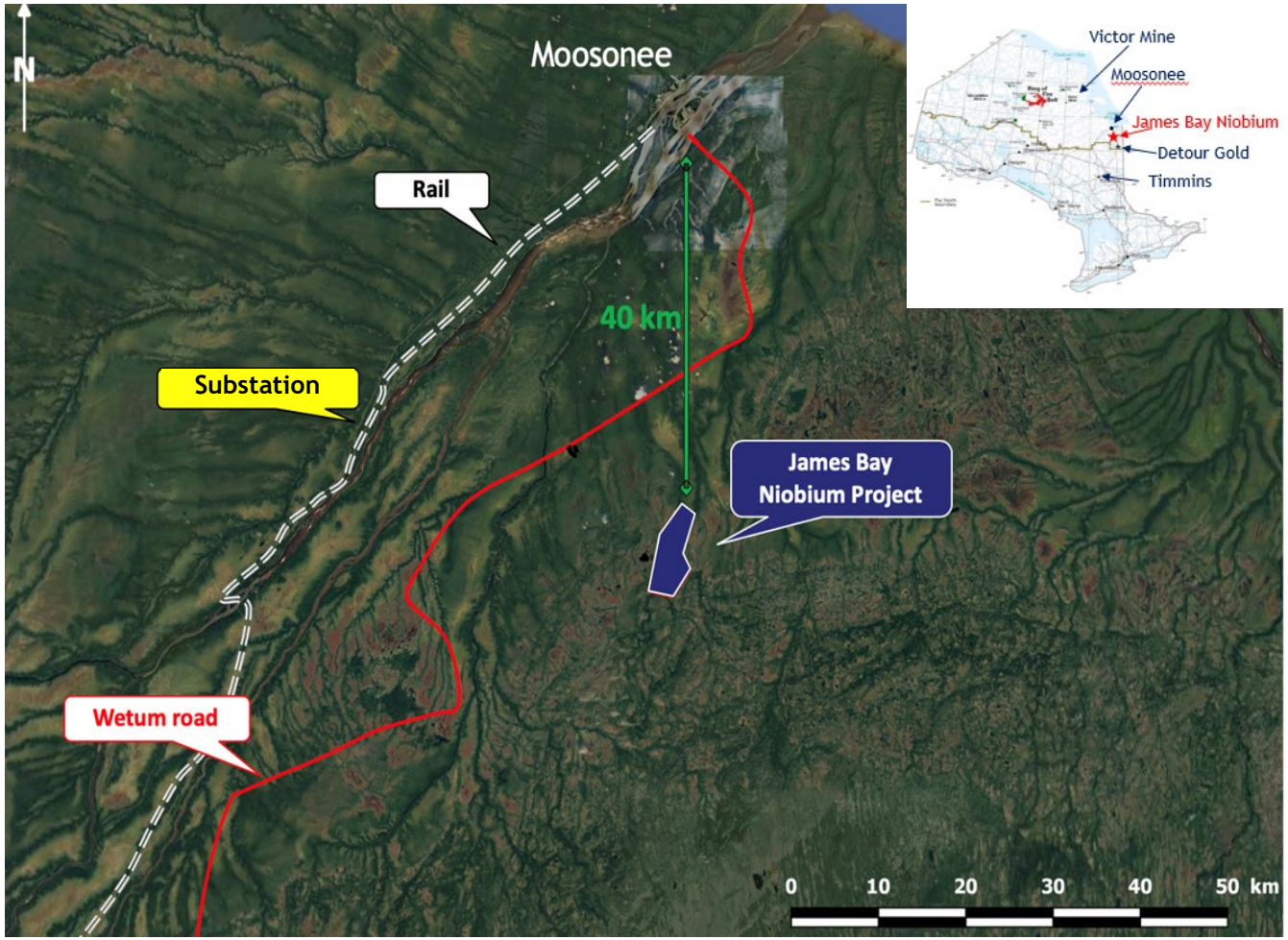
James Bay Resource July 2020

Classification (cut-off 0.3%Nb_2O_5)	Tonnes (Mt)	Grade (%Nb_2O_5)	Contained Nb_2O_5 (M kg)
Indicated	29.7	0.53	158
Inferred	33.8	0.52	177
Crown Pillar	7.2	0.50	36

PEA* Summary

Scenario		OP	OP+UG	UG
Mine Life	Years	30	23	23
After-Tax $NPV_{8\%}$	$C M	1,008	856	733
Payback Period (beg. at production)	Years	3.2	3.1	4.3
Initial Capex	$C M	510	482	579

Project Map



TSXV:NBY * PEA prepared by G Mining Services

2020 Mineral Resource Estimate

- The Updated MRE 2020 was published by Roscoe Postle Associates Inc following 2020 winter program (versus 2018 NI43-101) based underground mine.

Classification (cut-off 0.3%Nb_2O_5)	Tonnes (Mt)	Grade (%Nb_2O_5)	Contained Nb_2O_5 (Mkg)
Indicated	30 (+4 or 14%)	0.53	158 (+19 or 14%)
Inferred	34 (+9 or 34%)	0.52 (+0.01 or 2%)	177 (+48 or 34%)
Crown Pillar*	7	0.50	36

* Crown Pillar excluded from Inferred & Indicated

- Winter 2020: 3,090 m of drilling increased the Indicated and Inferred resources by respectively 14% and 34%.
- Open at depth (below 330m).
- High-grade zone raking 20° to 30° to the north in the center of the deposit.

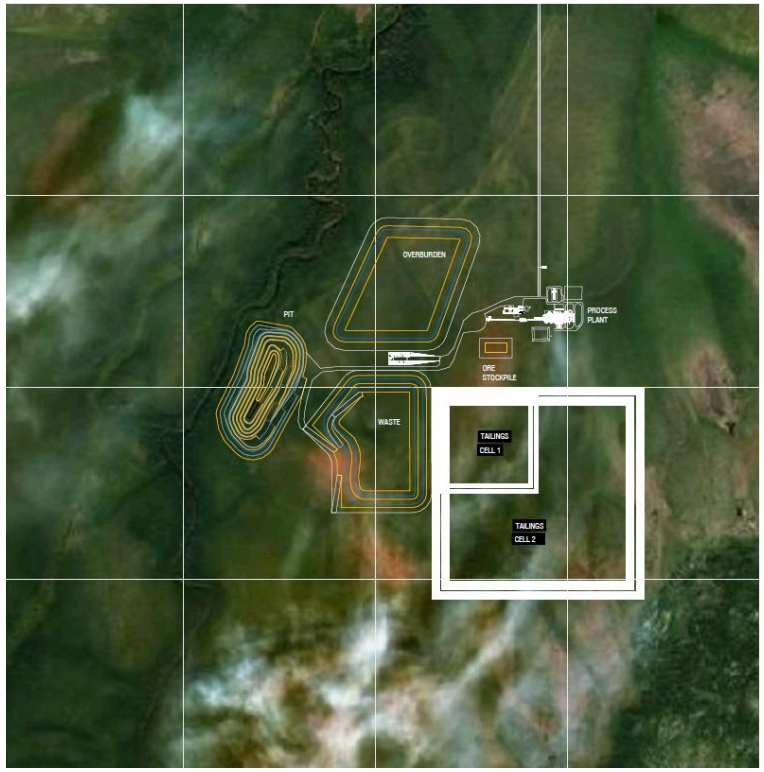
PEA Mining Scenarios

1. Open Pit

+ Employment/contractor Opportunity
+ Lower mining cost
+ Access crusher rock
- Divert river/creek
- Larger footprint

2. Open Pit + Underground

+ Employment/contractor Opportunity
+ Lower footprint
+ Access to crusher rock
+ O/P mining contractor (lease 4-5 y)
+ Reduced tailing pond



3. Underground

+ Lower footprint (borrow pit ?)
+ Carbon Free possibility (EV fleet)
+ Reduced tailing pond
- Access to crusher rock
- Crown pillar (7mm t)

PEA Summary

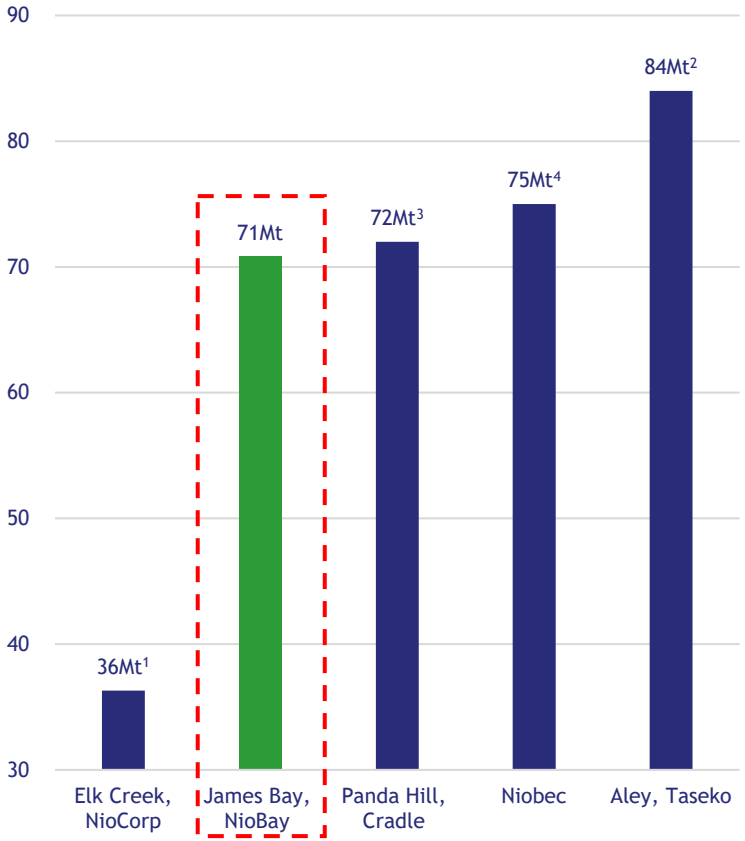
	Open Pit	Open Pit + UG	Underground
Pre-Tax Internal Rate of Return (IRR)	33.6%	33.4%	26.0%
Pre-Tax Net Present Value (NPV) 8%	$1,475 M	$1,268 M	$1,104 M
Pre-Tax Payback (years)	2.6 years	2.5 years	3.8 years
After-Tax Internal Rate of Return (IRR)	**27.5%**	**27.0%**	**21.6%**
After-Tax Net Present Value (NPV) 8%	**$1,008 M**	**$856 M**	**$733 M**
After-Tax Payback (years)	**3.2 years**	**3.1 years**	**4.3 years**
Pre-Production CAPEX (incl 25% Contingency)	**$510.5 M**	**$482.0 M**	**$579 M**
Average Annual LOM Niobium Production	**5,470 t Nb**	**6,213 t Nb**	**6,283 t Nb**
Mine Life	**30 years**	**23 years**	**23 years**
Total Mineral Resources Mined	70.8 Mt	53.7 Mt	53.6 Mt
Average Grade Mined	0.44 % Nb_2O_5	0.51 % Nb_2O_5	0.51 % Nb_2O_5
Gross Revenue After Royalties (LOM)	$9,264 M	$8,360	$8,454
After-tax Operating Cash Flow (LOM)	$3,581 M	$2,696 M	$2,536 M
C1 Costs over LOM*	**US$16.10 / kg Nb**	**US$18.45 / kg Nb**	**US$19.11 / kg Nb**
	$48.48/t	$63.85/t	$66.94
All-in Costs (sustaining CAPEX + Closure + OPEX)	US$17.58/kg Nb	US$20.52 / kg Nb	US$21.43 / kg Nb
	$52.93 / t	$70.98 / t	$75.08 / t
LOM Niobium Price	US$45/kg Nb	US$45/kg Nb	US$45/kg Nb
Exchange Rate (CAD/USD)	1.30	1.30	1.30

- Very Robust Economics
- Supported by stakeholders
- Room in market (max 5%)
- Capacity to increase output
- Simple Mining & Metallurgy
- Low Mining Costs
- Deposit only drilled to 330m
- Long Mine Life

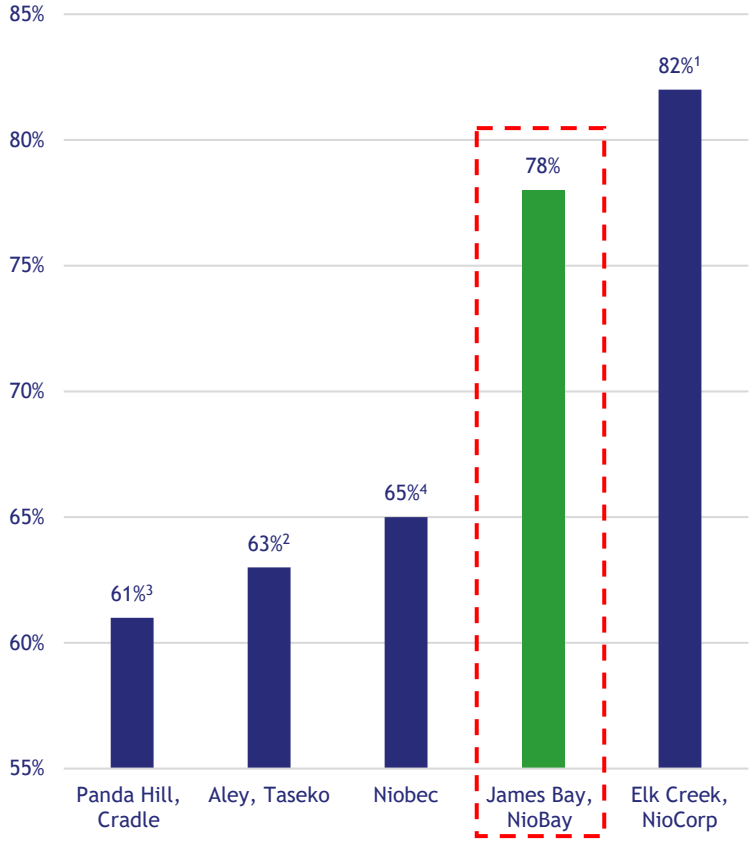
Niobium Peer Group Comparison

Niobay's James Bay has competitive resources and high recoveries amongst Niobium Peer Group

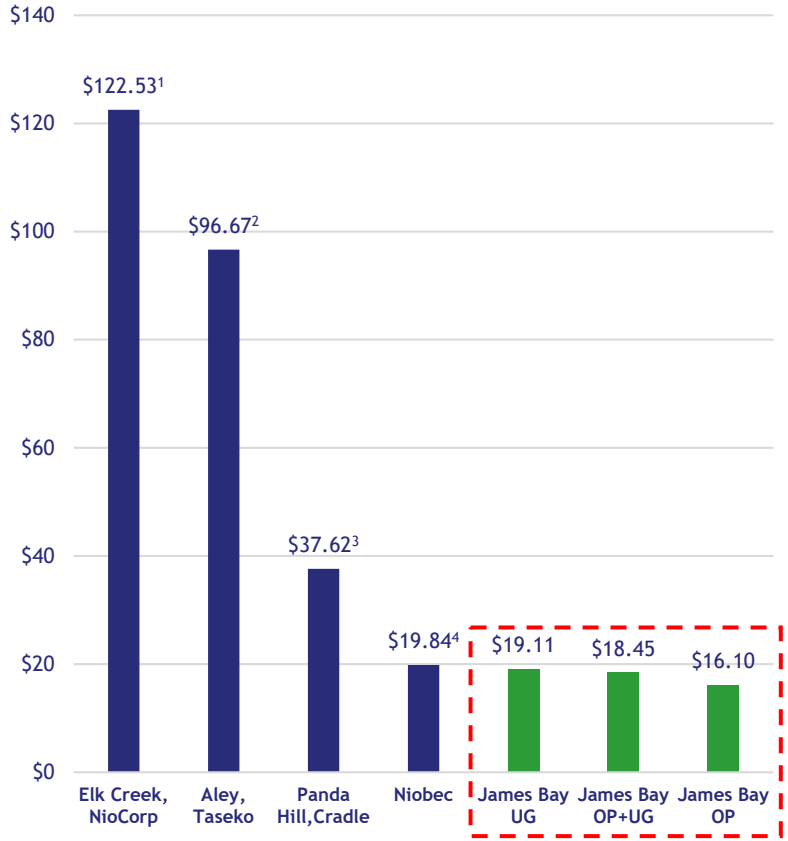
Resources (Mt)



Recoveries (%)



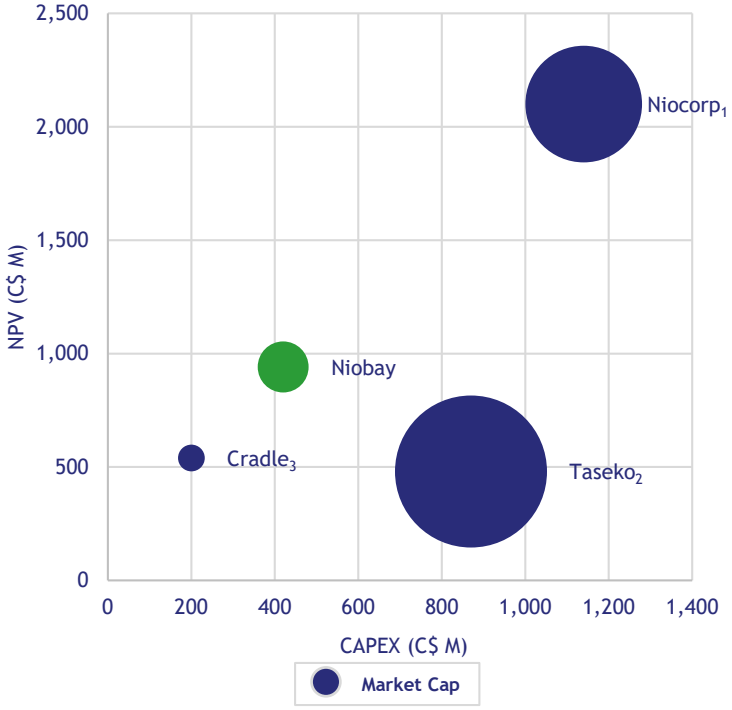
OPEX Comparison (US$/kg Nb)



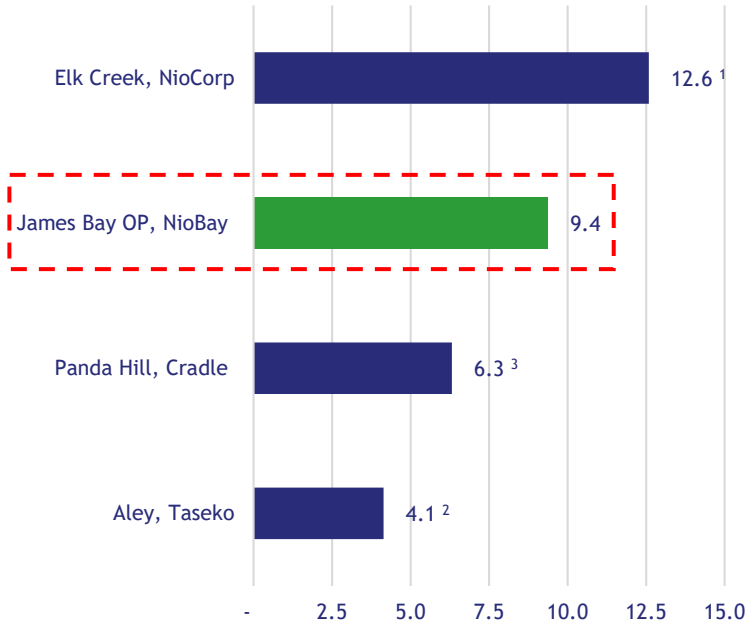
[1] NioCorp assumes long term price of $47/kg Nb, Only ~38% of production is Niobium (60% of revenue of Scandium -> Sc $3500/ kg). NioCorp has 283mt of resources but will only mine 36mt of ore
[2] Taseko also has assets currently in production and is not solely focused on the Aley Project - Project has been halted
[3] Cradle only has 50% ownership of the Panda Hill project - located in the politically unstable Africa – Project has been halted
[4] Based on 105mt of resources at time of acquisition

Niobium Peer Group Comparison

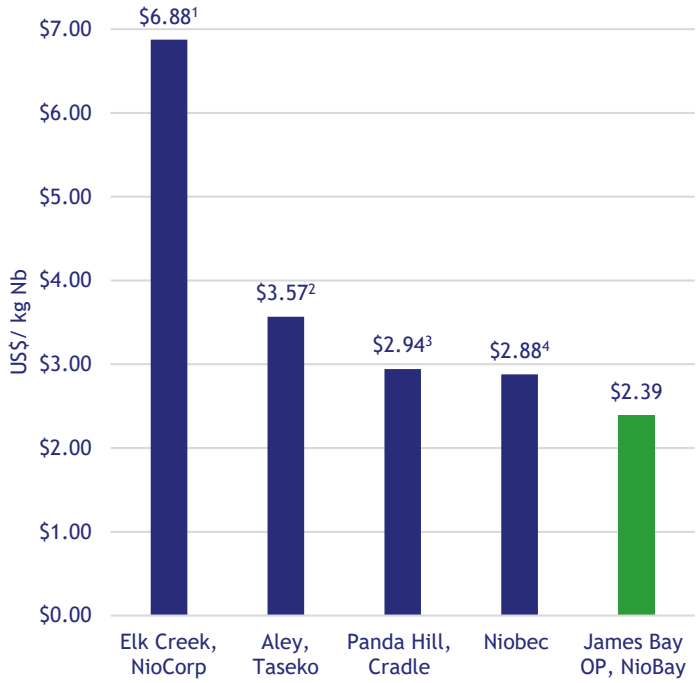
NPV/ CAPEX



Mine life / Payback



CAPEX / LOM Nb Prod.



Niobay's current market value leaves room for huge potential investment growth

TSXV:NBY

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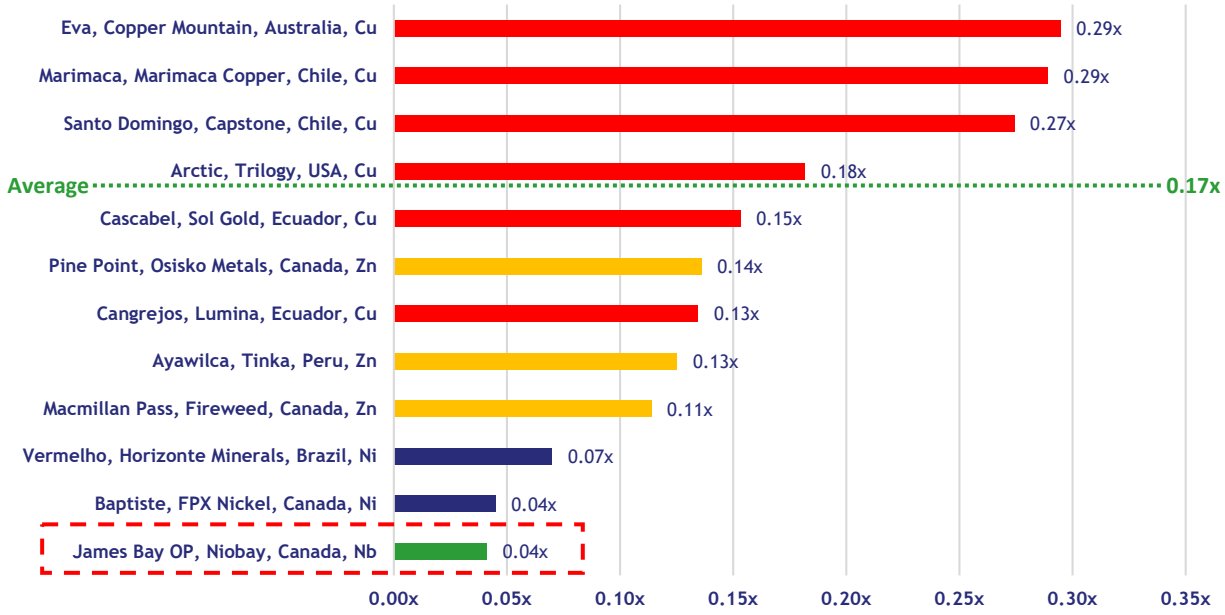
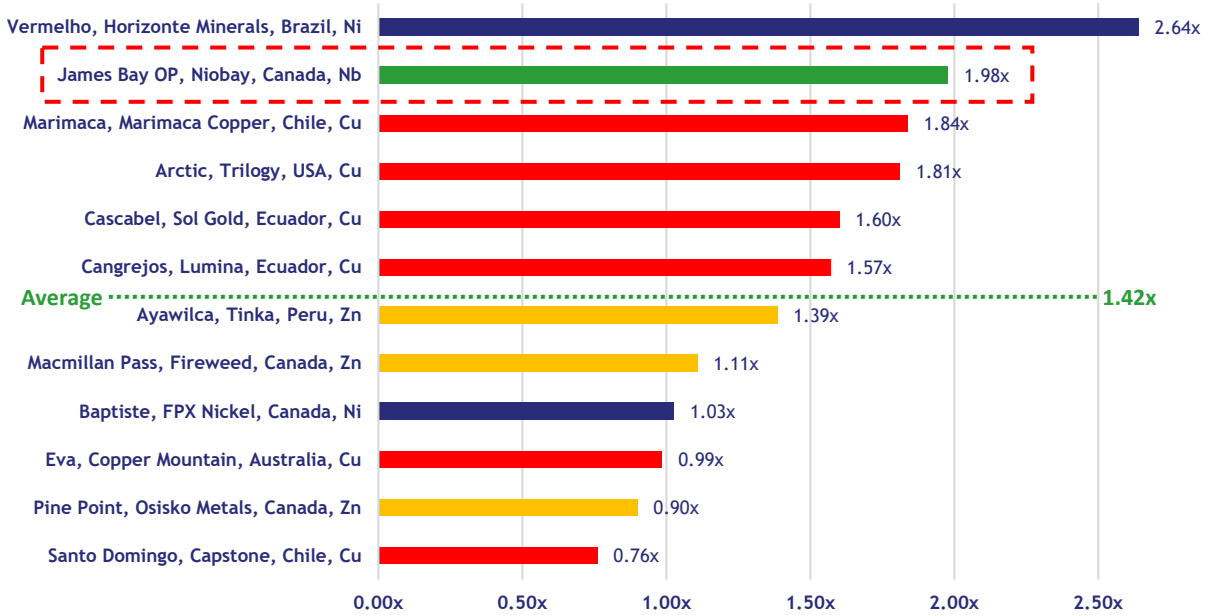
High Value Relative to Base Metals

The project is well positioned to deliver high returns will relatively low initial capital requirement compared to Exploration/ Development stage base metal projects ➔ NAV/CAPEX of 1.98x vs. 1.42x

P/NAV[1]



NAV/CAPEX[1]



At the corporate level, NioBay is trading at only 0.04X $NAV_{8\%}$ - far below base metal company multiples

[1] All projects valued at 8% NPV except for Cangrejos (5% NPV)

High Value Relative to Base Metals

Company	Country	Project	Metal	(Mt) Resource	(C$ M) NPV	(C$ M) Capex	IRR	Payback Years	Project Life	NPV/ CAPEX	P/ NAV	Project life/ Payback
Sol Gold	Ecuador	Cascabel	Cu	2,429	5,741	3,584	25.9%	3.6	55	1.60x	0.15	15.3
Capstone	Chile	Santo Domingo	Cu	392	2,191	2,878	23.0%	3.5	18	0.76x	0.27	4.9
Trilogy	USA	Arctic	Cu	43	1,865	1,029	33.4%	2	12	1.81	0.18	6.8
Lumina	Ecuador	Cangrejos	Cu	640	2,074	1,320	16.2%	5.1	25	1.57	0.13	5.1
Marimaca Copper	Chile	Marimaca	Cu	70	692	376	33.5%	2.6	12	1.84	0.29	4.5
Copper Mountain	Australia	Eva	Cu	170	577	585	29.0%	2.5	15	0.99	0.29	8.8
Horizonte Minerals	Brazil	Vermelho	Ni	142	2,273	861	26.3%	4.2	38	2.64	0.07	9.0
FPX Nickel	Canada	Baptiste	Cu	1,501	2,270	2,211	18.3%	4.0	35	1.03	0.04	6.0
Osisko Metals	Canada	Pine Point	Zn	39	500	556	29.6%	2.9	10	0.90	0.14	6.0
Tinka	Peru	Ayawilca	Zn	38	479	346	27.1%	3.1	21	1.39	0.13	3.4
Fireweed	Canada	Macmillan Pass	Zn	33	448	404	23.5%	4.0	18	1.11	0.11	4.6
Average					**1,737**	**1,286**	**26.0%**	**3.4**	**24**	**1.42**	**0.17**	**6.8**
NioBay Metals												
OP	**Canada**	**James Bay**	**Nb**	**64**	**1,008**	**510**	**27.5%**	**3.2**	**30**	**1.98**	**0.04**	**9.4**
OP + UG	**Canada**	**James Bay**	**Nb**	**64**	**856**	**482**	**27.0%**	**3.1**	**23**	**1.76**	**0.04**	**7.3**
UG	**Canada**	**James Bay**	**Nb**	**64**	**733**	**579**	**21.6%**	**4.3**	**23**	**1.27**	**0.05**	**5.35**

ADDITIONAL INFORMATION

James Bay Niobium Project PEA

PEA Financial Highlights

Scenario		Open Pit	Open Pit+ Underground	Underground
Average Annual LOM Nb Production	*T Nb*	5,470	6,213	6,283
Net Revenue				
Net Revenue	*M CAD*	9,264	8,360	8,454
Net Revenue / tonne of ore	*C$/t ore*	130.8	150.2	152.1
Life of Mine Niobium price	*US$/kg Nb*	45.0	45.0	45.0
Operating Cost Summary				
Total OPEX	*M CAD*	3,434	3,428	3,589
Total OPEX/t ore	*CAD/t ore*	48.5	63.8	66.9
Total OPEX/kg Nb	*US$/kg Nb*	16.1	18.5	19.1
Capital Cost Summary				
Total Initial CAPEX	*M CAD*	510.5	481.9	578.7
Total Sustaining CAPEX	*M CAD*	283.2	359.1	416.1
Rehabilitation & Closure Cost	*M CAD*	32.4	24.0	20.7
LOM Average Annual EBIDTA	*M CAD*	194	202	199
Cash Flow				
LOM Before-Tax Cash Flow	*M CAD*	5,004	3,774	3,553
NPV @ 8%	*M CAD*	1,475	1,268	1,104
IRR	*% p.a*	33.6%	33.4%	26.0%
LOM After-Tax Cash Flow	*M CAD*	3,581	2,696	2,536
NPV @ 8%	*M CAD*	1,008	856	733
IRR	*% p.a*	27.5%	27.0%	21.6%
Payback Period	*years*	3.2	3.1	4.3
Mine Life	*years*	30	23	23

Compelling Results

NPV/Capex - 1.98x

- Profitability index key comparison against base metals and Niobium company peers

P/NAV - 0.04x

- Significant growth opportunity

Production Cost - US$16.10/ kg Nb

- Lowest amongst Niobium company peer group

Payback - 3.2 years

- 3.2-year payback period over a 30-year mine life

IRR - 27.5%

- Few projects with similar returns over a 30yr life

Community Support

- Protection agreement in place and Moose Cree First Nation informed of mining operations

James Bay Niobium Project PEA

LOM Production and Processing Summary

Scenario		Open Pit	Open Pit+ Underground	Underground
LOM Production				
OP				
Total tonnage mined	kt	198,143	24,317	-
Ore tonnage mined	kt	70,845	9,764	-
Ore grade mined	% Nb_2O_5	0.44	0.51	-
UG				
Total tonnage mined	kt	-	43,929	53,625
Ore tonnage mined	kt	-	43,929	53,625
Ore grade mined	% Nb_2O_5	-	0.51	0.51
Total Mines				
LOM tonnage mined	kt	198,143	68,246	53,625
Ore tonnage mined	kt	70,845	53,693	53,625
Ore grade mined	% Nb_2O_5	0.44	0.51	0.51
LOM Processing				
Milling rate	tpd	6,600	6,600	6,600
Ore processed	kt	70,845	53,693	53,699
Avg. ore grade mined	% Nb_2O_5	0.44	0.51	0.51
Nb production	t Nb	164,100	142,900	144,508
LOM Net Revenue				
Net revenue	M CAD	9,263.8	8,067.1	8,157.8
Net revenue / tonne of ore	C$/t ore	130.8	150.2	152.1

Design and Optimization

Processing Plant Design Criteria

General		OP	OP+UG	UG
Annual production	tpy		2,400,000	
Mill throughput	tpd		6,600	
Mill availability	%		93	
Niobium feed grade	% Nb_2O_5		0.526	
Concentrate and Recovery				
Grade	% Nb_2O_5		60	
Nb recovery	%		78	
Tonnes of concentrate	tpy		15,044	
Production				
Yield	**kg Nb_2O_5/t**	**4.4**	**5.1**	**5.1**
Nb_2O_5 production	000's kg	311,895	271,602	274,658
Convertor Nb_2O_5 recovery	%	96.5	96.5	96.5
Nb in Nb_2O_5	%	69.9	69.9	69.9
Nb production	000's kg	164,100	142,900	144,509

Mining Optimization Criteria

Category		OP	OP+UG	UG
Niobium price	US$/kg Nb		45.00	
Marketing & converter costs	US$/kg Nb		5.00	
Royalty costs	US$/kg Nb		0.90	
Exchange rate	C$/US$		1.30	
Concentrator Nb_2O_5 recovery	**%**		**78.0%**	
Converter recovery	%		96.5%	
Concentrator operating cost	C$/t ore	14.62	14.62	14.62
Converter cost	C$/t ore	11.48	11.48	12.89
G&A operating cost	C$/t ore	10.00	10.00	10.00
Mining dilution	%	4.0	4.0	4.0
Mining cost	**C$/t mined**	**4.34**	**26.42**	**29.39**
Strip Ratio (O/P)		1.8	1.5	-
Rock slope	degrees	45°	45°	-

James Bay Project LOM Costs

Capital and Operating Cost Breakdown

Pre-Production CAPEX (C$ 000)	Open Pit	OP + UG	Underground
Infrastructure	133,575	133,575	112,615
Power & Electrical	31,485	31,485	31,485
Water & Tailings	31,413	13,575	20,482
Mobile Equipment	5,612	5,612	5,612
Mining	-	-	117,729
Mining Pre-production	31,312	31,338	-
Mining Equipment	29,405	29,405	-
Process Plant	69,985	69,985	99,985
Total Direct	**332,788**	**314,977**	**387,908**
Construction Indirect	35,018	32,699	34,772
General Services	40,406	37,730	40,122
Pre-Prod, Startup, Commission	150	150	150
Contingency	102,090	96,389	115,738
Total Indirect	**177,664**	**166,968**	**190,782**
Total Pre-Production CAPEX	**510,452**	**481,945**	**578,691**

Operating Costs (C$ 000)	Open Pit	OP + UG	Underground
Open Pit Mining	859,209	133,187	-
UG Mining	-	1,285,250	1,575,963
Stockpile Rehandling	18,861	2,795	2,509
Processing	1,034,460	784,830	783,835
General & Admin	708,445	536,932	536,248
Converter Costs	813,231	685,242	690,994
Total Operating Costs	**3,434,206**	**3,428,236**	**3,589,548**
Sustaining Costs	**283,163**	**359,123**	**416,080**
Closure Costs	**32,418**	**23,992**	**20,692**
Total	**4,260,239**	**4,293,296**	**4,605,012**

Operating Cost by Area (C$/ t)	Open Pit	OP + UG	UG
Mining Cost*	12.13	26.42	29.44
Processing Cost	14.60	14.62	14.62
Converter Cost	11.48	12.76	12.89
G&A	10.00	10.00	10.00
Total	**48.48**	**63.85**	**66.94**
US$/ kg Nb	**16.10**	**18.45**	**19.11**

*Unit mining cost of $4.43/t based on 1.8 strip ratio and including stockpile rehandle.

Niobium Peer Group Comparison

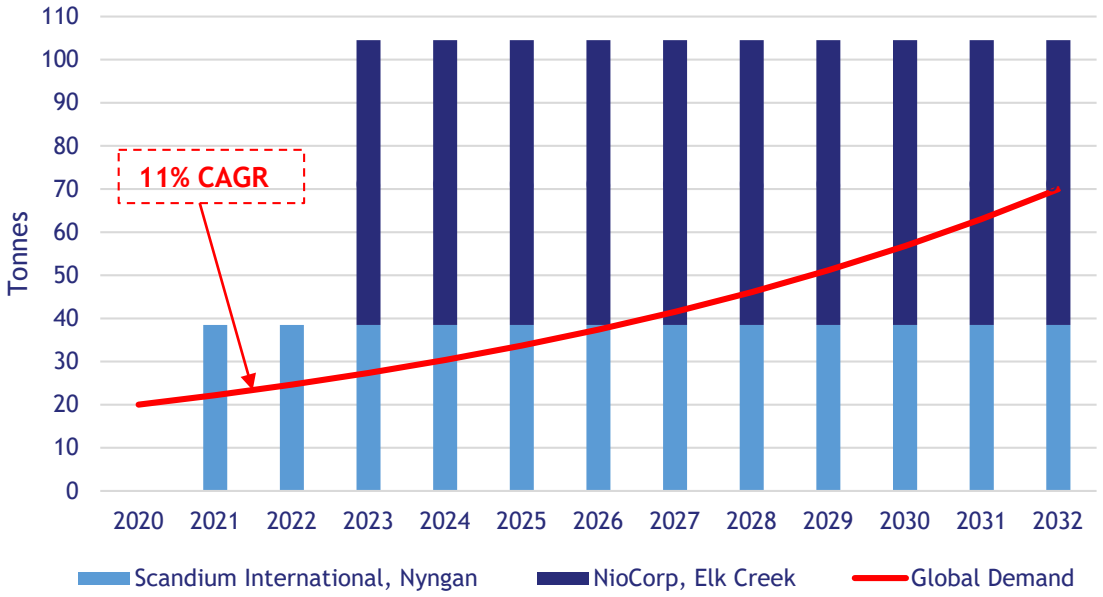
(C$ M)	Scenario 1	Scenario 2	Scenario 3	NioCorp Developments Ltd.[1]	Taseko[2]	Cradle Resources Limited[3]
Key Asset	James Bay	James Bay	James Bay	Elk Creek	Aley	Panda Hill[4]
Location	Ontario	Ontario	Ontario	Nebraska	BC	Tanzania
Stage	Exploration	Exploration	Exploration	Feasibility	Halted	Halted
Mine Type	OP	OP+UG	UG	UG	OP	OP
Market Cap	37	37	37	201	325	10
Debt	0	0	0	5	373	0
Cash	2	2	2	0	64	1
EV	35	35	35	206	634	8
Resource (Mt)	70	64	64	36	84	178
Grade %Nb2O5	0.44%	0.51%	0.51%	0.81%	0.37%	0.54%
EV/ Resource (Mt)	0.50x	0.55x	0.55x	5.67x	7.55x	0.06x
After-tax NPV (8%)	1,008	856	733	2,769	480	715
Capex	510	482	579	1,509	870	218
NPV/ CAPEX	1.98x	1.76x	1.27x	1.83x	0.55x	3.28x
After-Tax Project IRR	27.5%	27.0%	21.6%	25.8%	14.0%	27.0%
Mine Life	30	23	23	36	24	30
Payback Years	3.2	3.1	4.3	2.86	5.8	4.75

[1] NioCorp assumes long term price of $47/kg Nb, ~38% of production is Scandium
[2] Taseko also has producing assets and is not solely focused on the Aley Project – project has been halted
[3] Cradle only has 50% ownership of the Panda Hill project
[4] Project located in Tanzania; Feasibility study completed prior to Mining Act – project has been halted

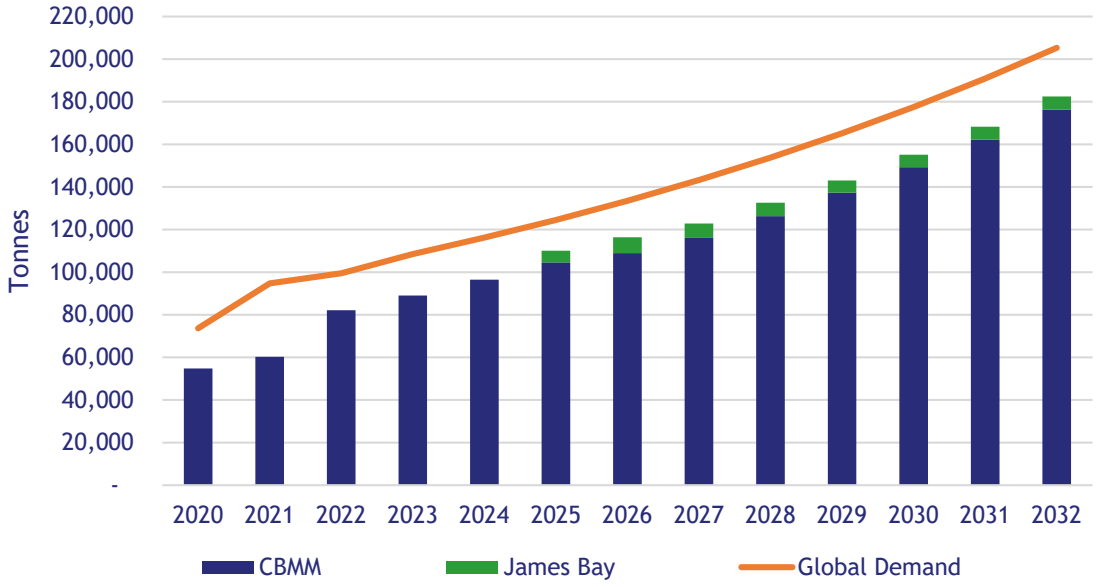
Niobium vs Scandium

The global Scandium market is on the verge of oversupply. Combined, Scandium International's Nyngan Project and NioCorp's Elk Creek Project would add ~105tpa of Scandium to the global market, 3x current demand of ~20tpa.

Scandium Demand & Supply



Niobium Demand & Supply

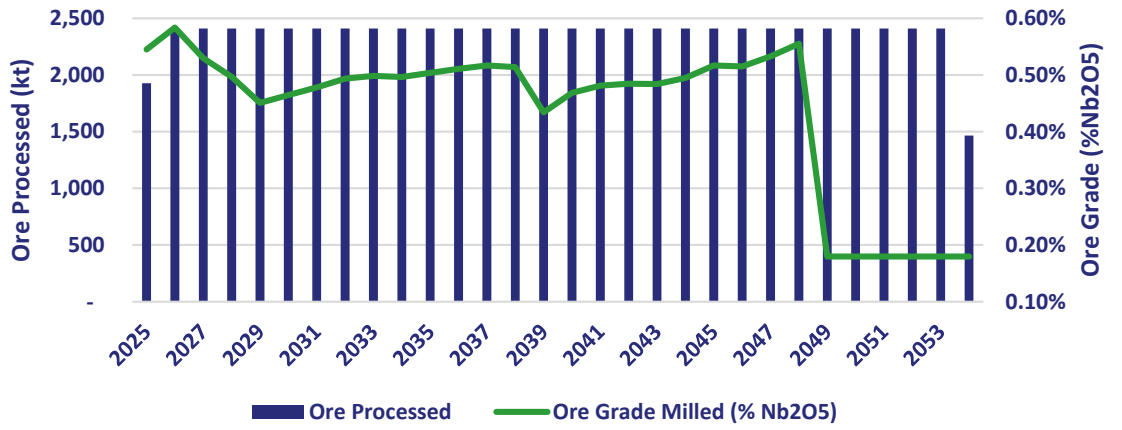


NioBay's James Bay Project, is expected to contribute only 5% of the global Niobium market, with no action expected from CBMM.

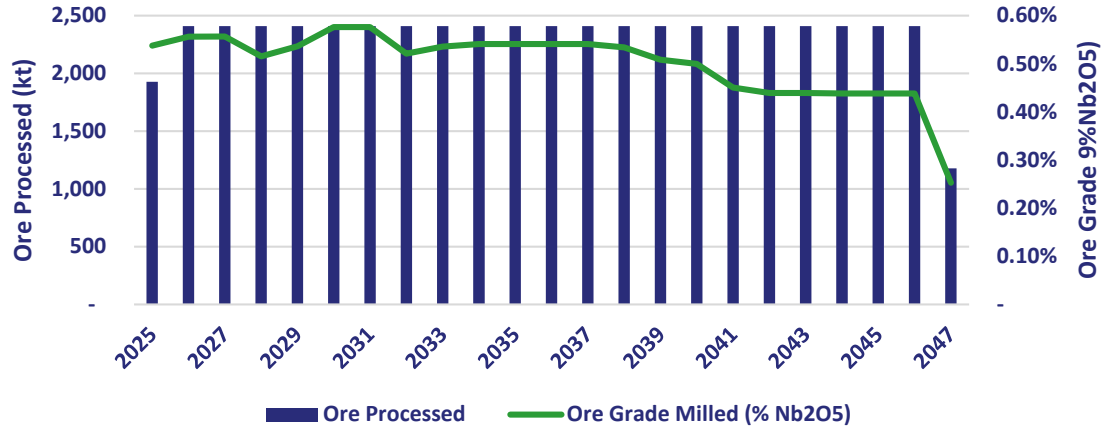
Source: Mordor Intelligence Industry Reports

Processing Schedule Scenarios

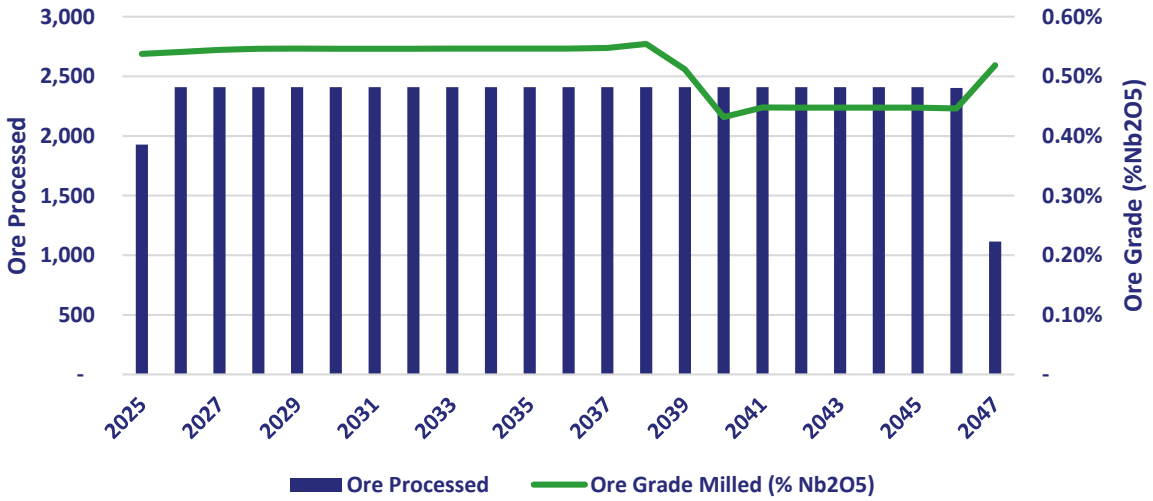
Scenario 1: Open Pit



Scenario 2: Open Pit + Underground

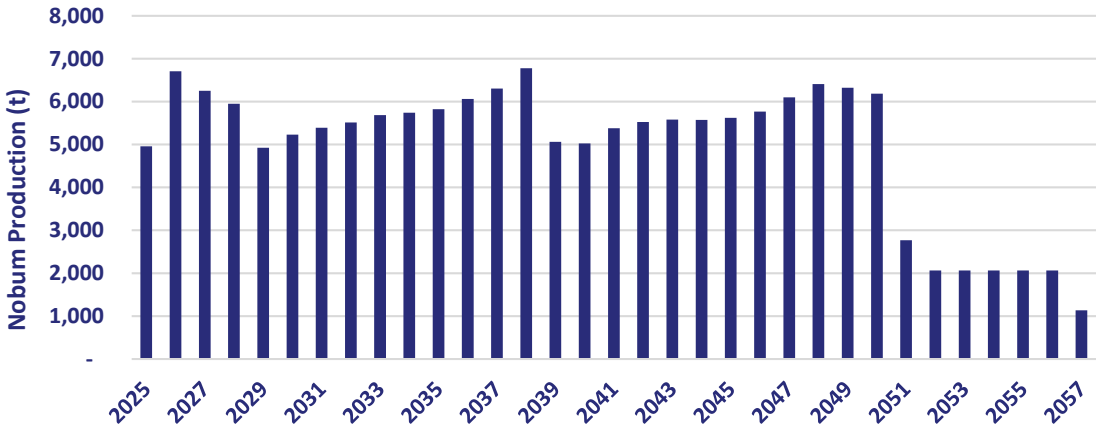


Scenario 3: Underground

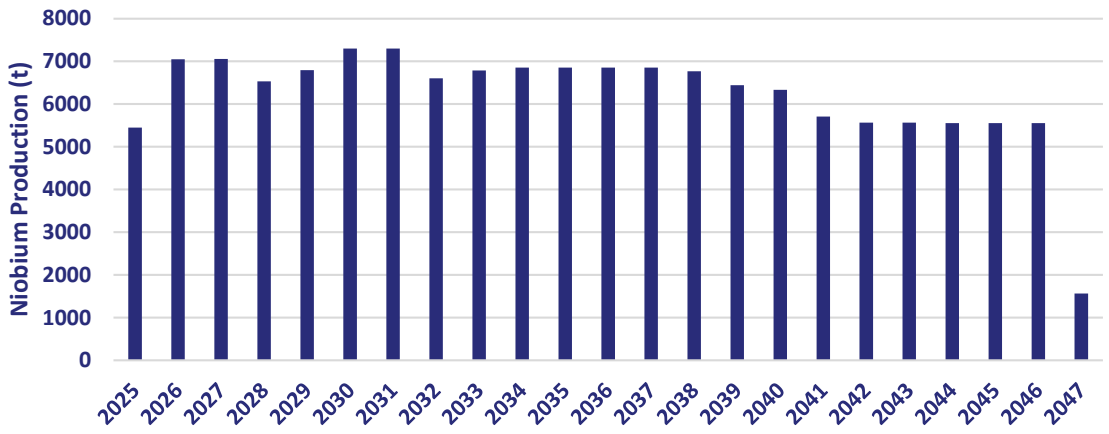


Production Schedule Scenarios

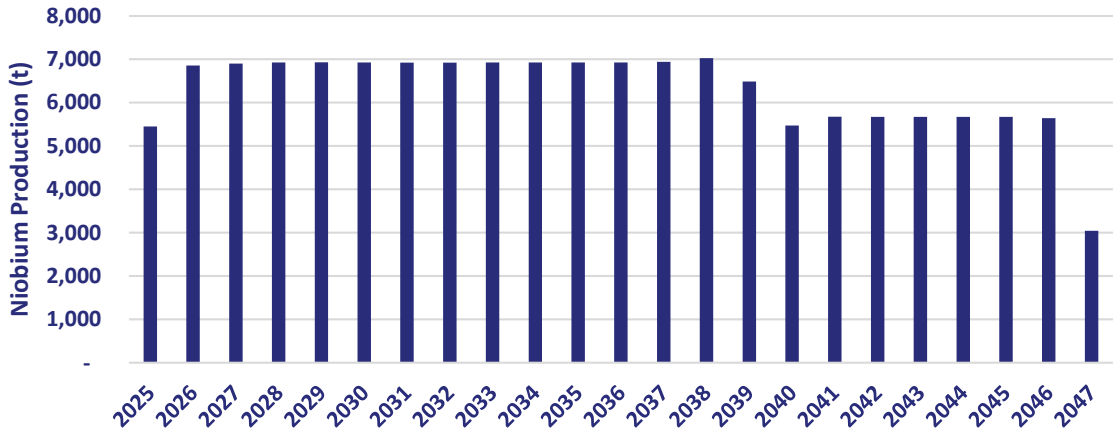
Scenario 1: Open Pit



Scenario 2: Open Pit + Underground



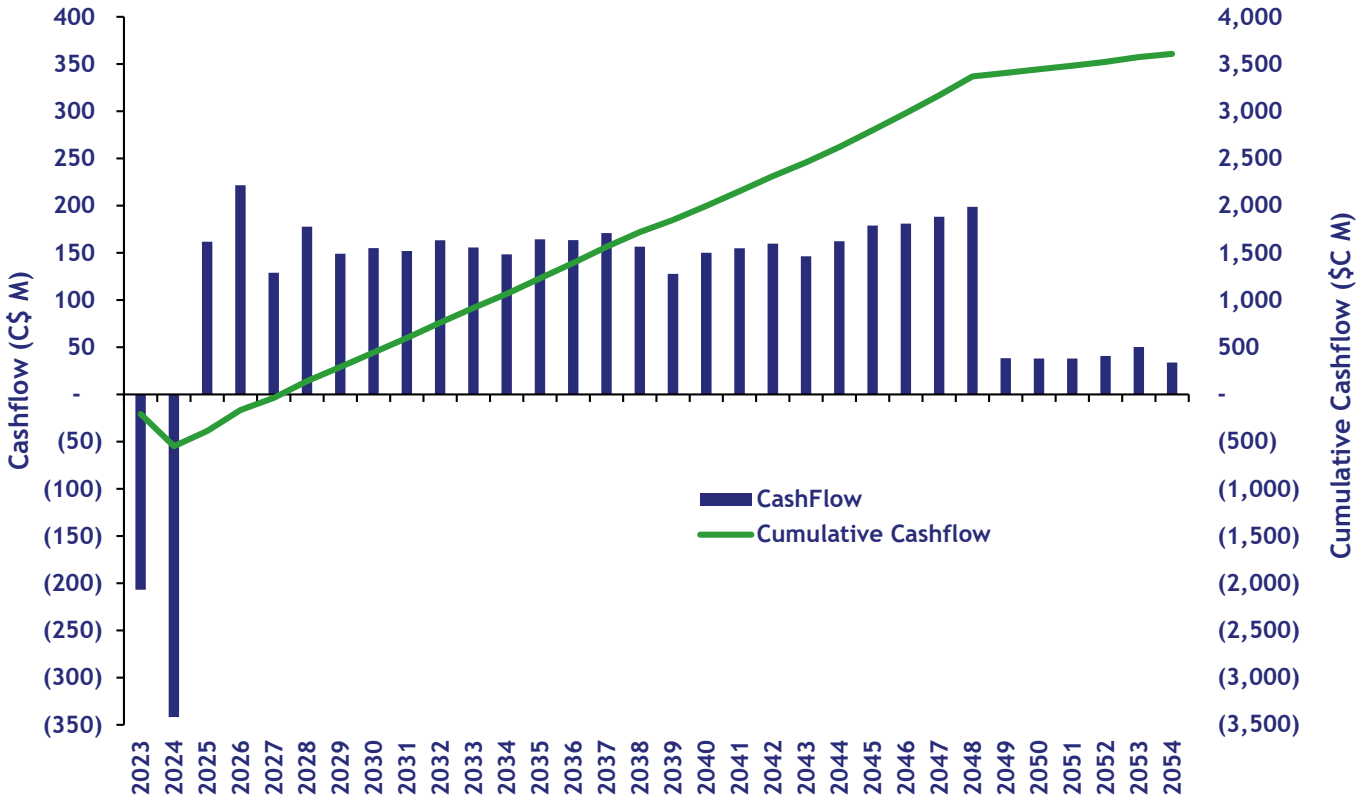
Scenario 3: Underground



James Bay Niobium Project Economics

Scenario 1: Open Pit Economics

Project After-tax Free Cashflow



NPV & IRR Sensitivity to Niobium Price

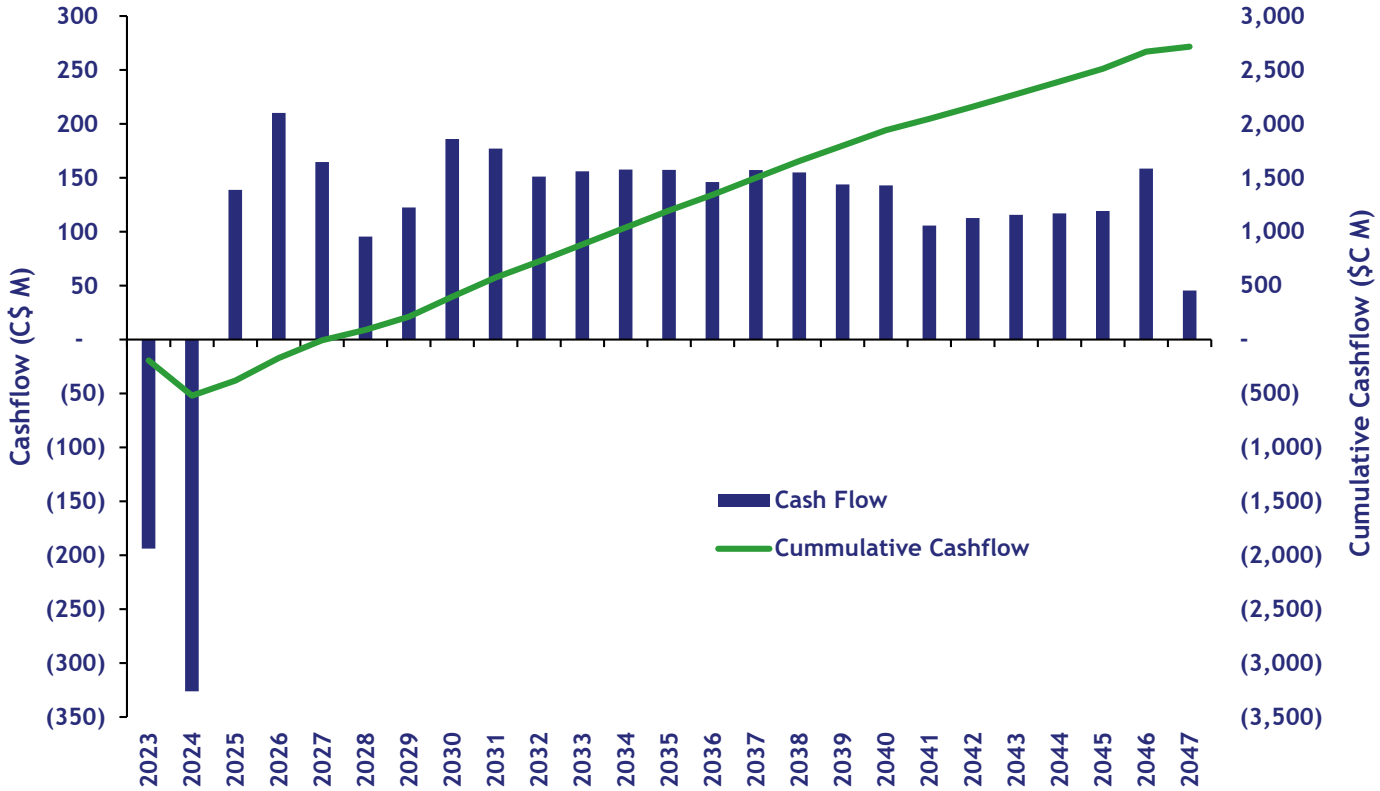
Niobium Price ($US/kg Nb)	$35	$40	$45	$50	$55
After-Tax NPV_8	$490	$749	$1,008	$1,267	$1,396
After-Tax Project IRR	18.2%	22.9%	27.5%	31.8%	33.9%
After-Tax Payback (Years)	4.9	3.8	3.2	2.7	2.3

Assumed Case

James Bay Niobium Project Economics

Scenario 2: Open Pit + Underground Economics

Project After-tax Free Cashflow



NPV & IRR Sensitivity to Niobium Price

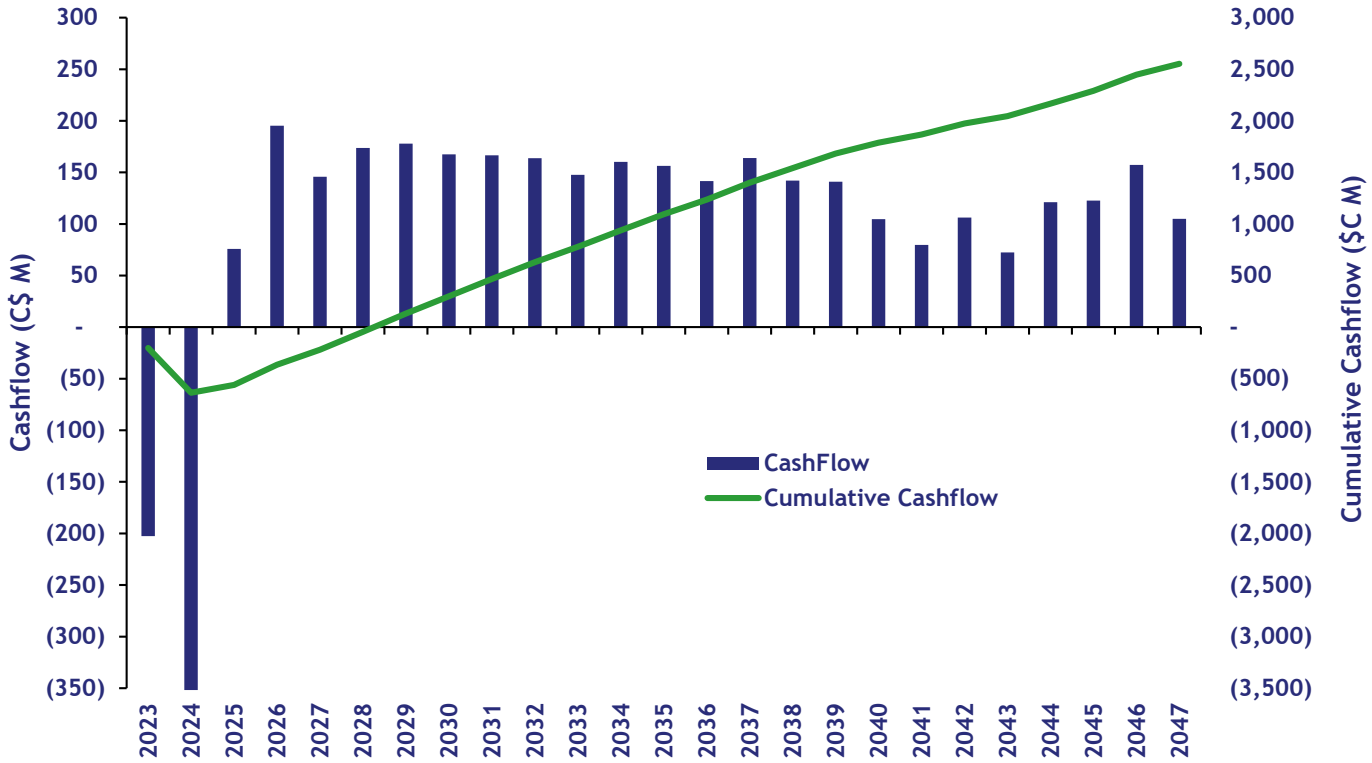
Niobium Price ($US/kg Nb)	$35	$40	$45	$50	$55
After-Tax NPV_8	341	599	856	1,114	1,372
After-Tax Project IRR	16.5%	21.9%	27.0%	31.8%	36.3%
After-Tax Payback (Years)	5.7	4.3	3.1	2.6	2.3

Assumed Case

James Bay Niobium Project Economics

Scenario 3: Underground Economics

Project After-tax Free Cashflow



NPV & IRR Sensitivity to Niobium Price

Niobium Price ($US/kg Nb)	$35	$40	$45	$50	$55
After-Tax NPV_8	210	472	733	992	1,251
After-Tax Project IRR	12.4%	17.2%	21.6%	25.7%	29.5%
After-Tax Payback (Years)	6.6	5.1	4.3	3.7	3.2

Assumed Case

Open Pit Mining Fleet

NioBay METALS

Haul Truck Komatsu HD605-8

70t (X 9)

Excavator PC1250-8

7m³ (X 2)

Wheel Loader Komatsu WA800

8.2m³ (X 1)

Track Dozer D155AX-8

317HP (X 3)

Underground Mining Fleet

Sandvick LH621 Loader

Tramming capacity : 21t

Sandvick TH663i Truck

Payload capacity : 63 t (X 6)

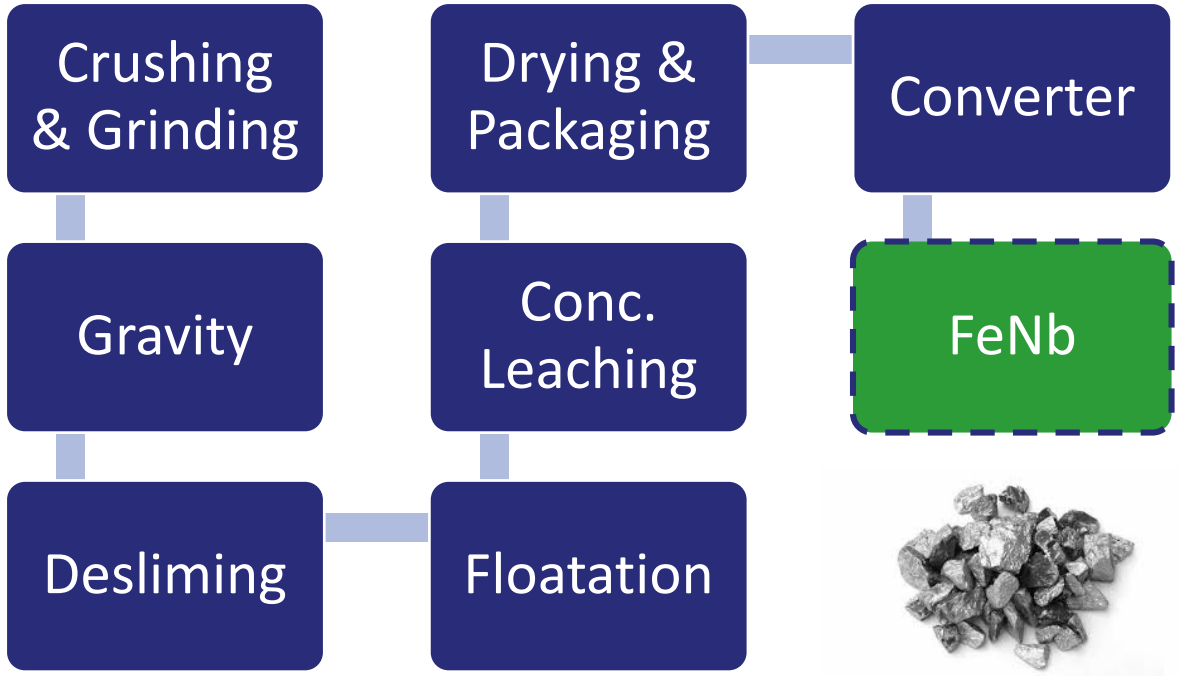
Sandvick DD422i Jumbo

Hole size:43 - 64 mm

Sandvick Articulated ITH DU421-C

Hole size: 89 - 216 mm

Niobium Processing



Crushing & Grinding

- The primary grinding will be done using a Semi autogenous (SAG) mill in close circuit with cyclone at a final product passing 500 microns

Gravity

- The characteristics of the James Bay ore provide the opportunity to remove a significant part of the worthless material with limited Niobium mineral losses

Desliming

- To prepare the ore for the flotation step, the ore is deslimed

Flotation

- The material will proceed through 4 stages of flotation: Sulfide, Mica, Carbonate and finally Niobium flotation

Concentrate Leaching

- The Niobium concentrate is thickened with leach and chloridric acid, then washed to remove additional silicate minerals, producing two niobium concentrate grades, a low silica and a standard silica grade

Drying & Packaging

- The two concentrates are filtered and then dried in a rotative kiln before being stored

Converter

- The dried concentrate is finally processed through the converter to produce Ferroniobium

Corporate Social Responsibility

How we Intend to support local communities:

- Watershed Protection and Maintenance
- Employment Opportunities
- Health Care and Services
- Access to education
- Minimize Footprint and Preserve Natural Ecology

Thank You !

Claude Dufresne, P.Eng.

President & CEO

NioBay Metals Inc

300-1100 Ave Canadiens-de-Montreal

Montreal, QC H3B 2S2

cdufresne@niobaymetals.com

Appendix

Niobium Market

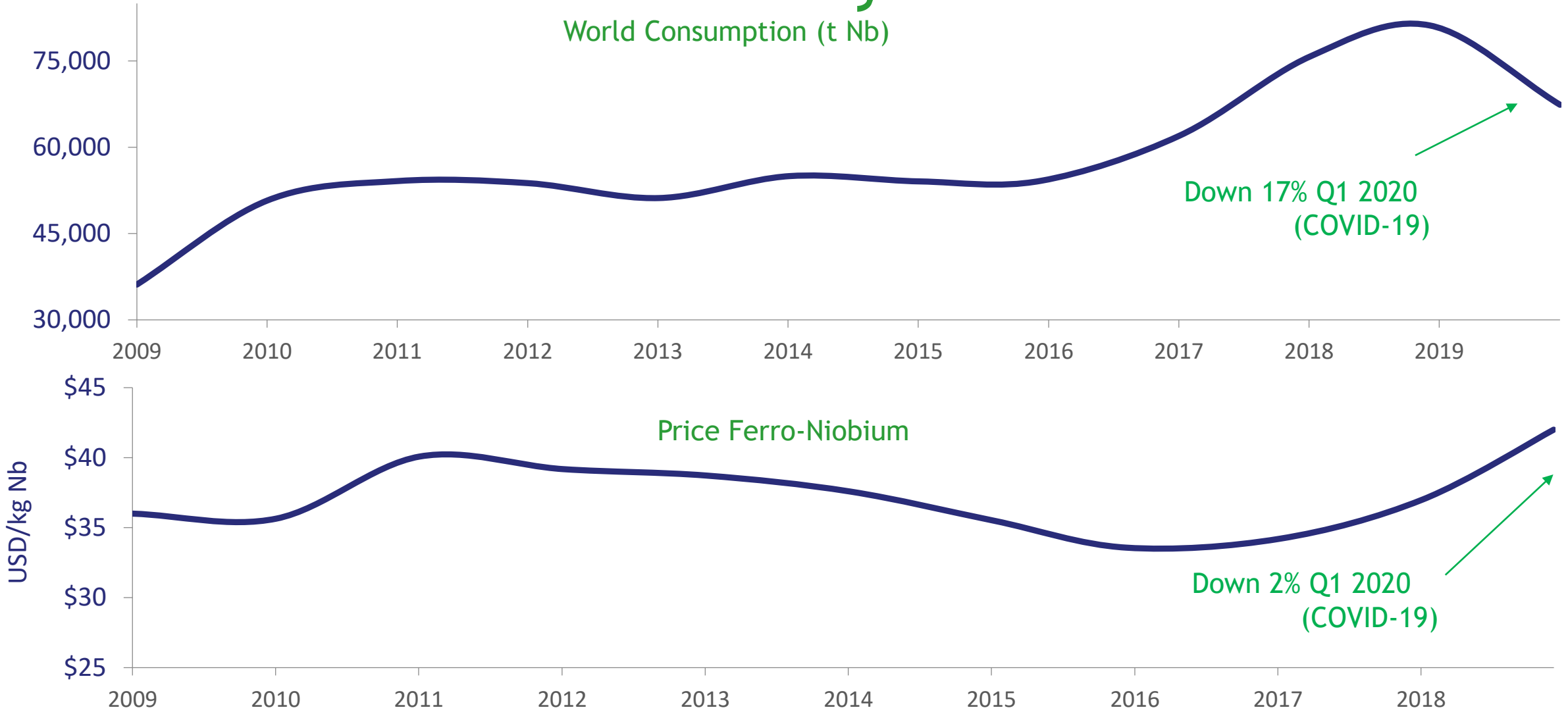
What is Niobium?

41 $4d^4 5s^1$
Nb
Niobium
92.906

Additive in steelmaking process. Niobium improves steel properties.

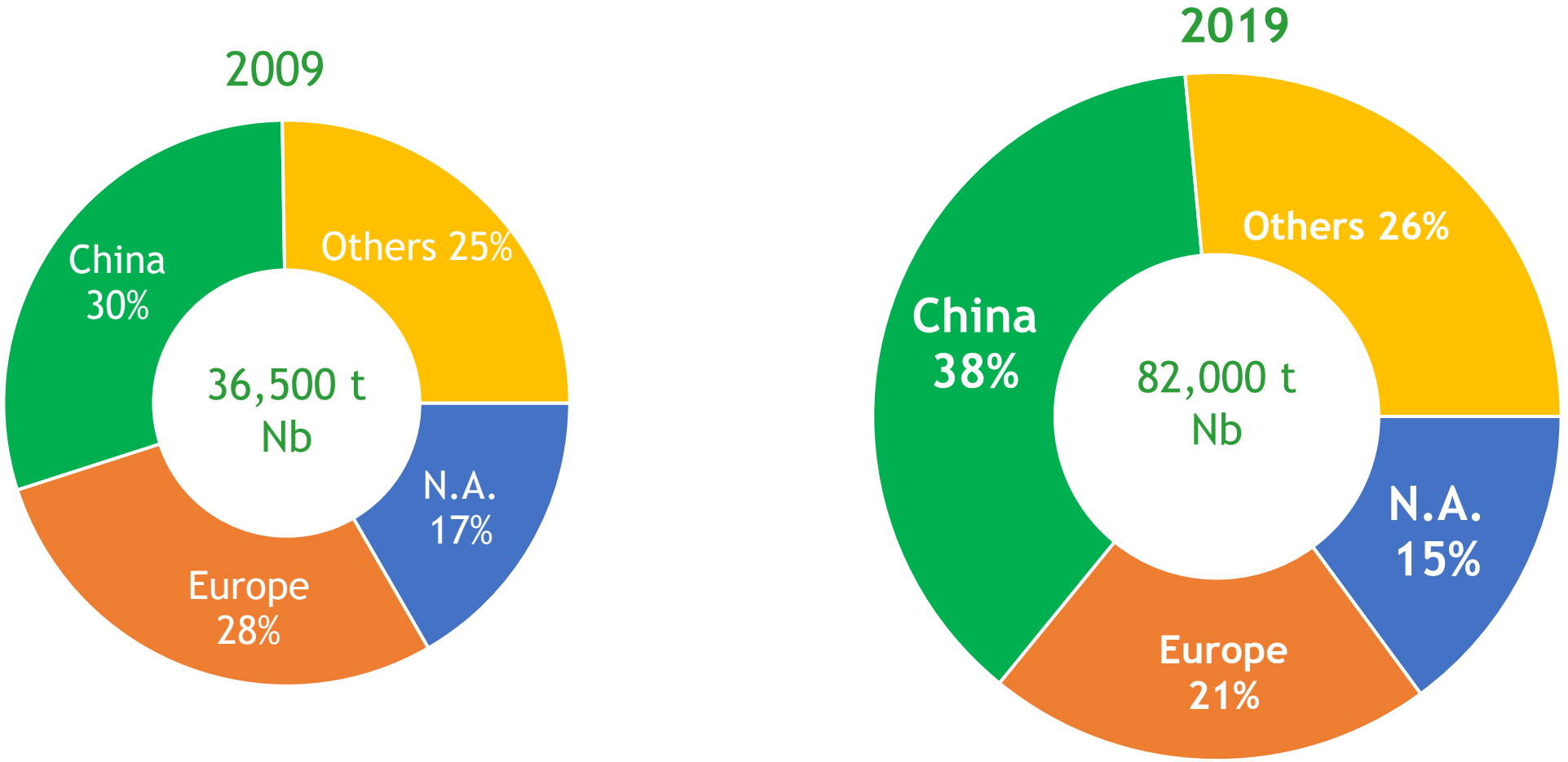
Production of High Strength Low Alloy Steel

Niobium Demand Globally



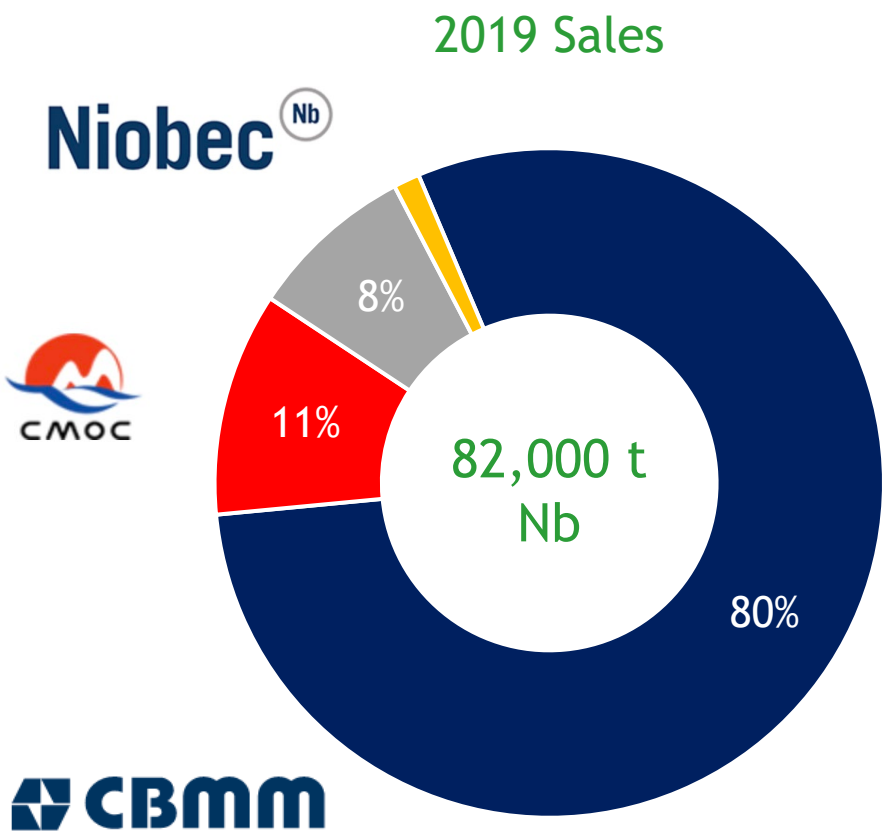
Source: HIS Markit for ferro-niobium market

Niobium Demand by Region



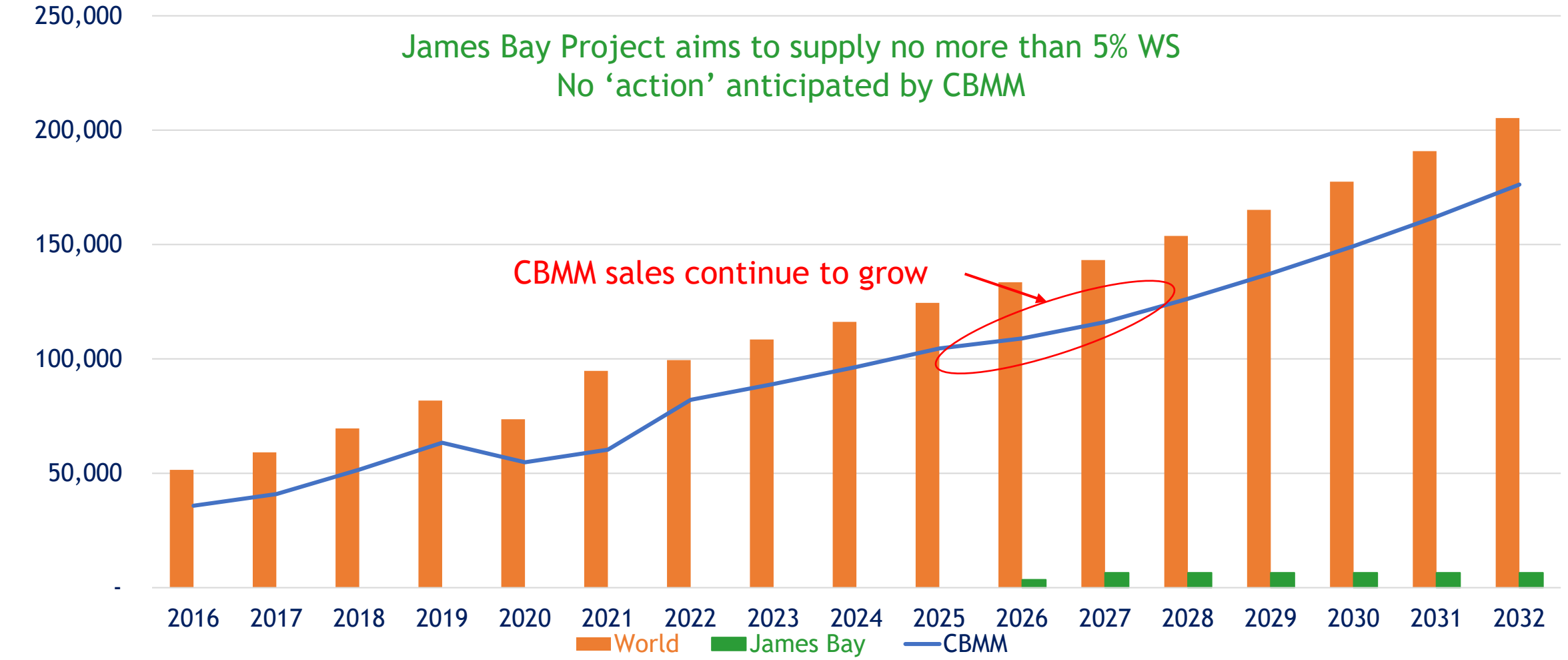
Source: HIS Markit for ferro-niobium market

Niobium Supply



CBMM	Capacity 100,000 tpy Nb +500M t @ 2.5% Nb_2O_5 Price setter – cost: <10$/kg Nb Araxa, Brazil
CMOC	Capacity 8,500 tpy Nb 50M t @ 1% Nb_2O_5 Poor recovery, Chinese owned Cost: +12$/kg Nb, Catalao, Brazil
Niobec	Capacity 7,000 tpy Nb +75M t @ 0.56% Nb_2O_5 Only U/G Nb operation, Cost: 19$/kg Nb, owned by Magris Res. Quebec, Canada
Others	Capacity estimated 1,500 tpy Nb. # Chinese suppliers' poorer quality, raw material from coltan

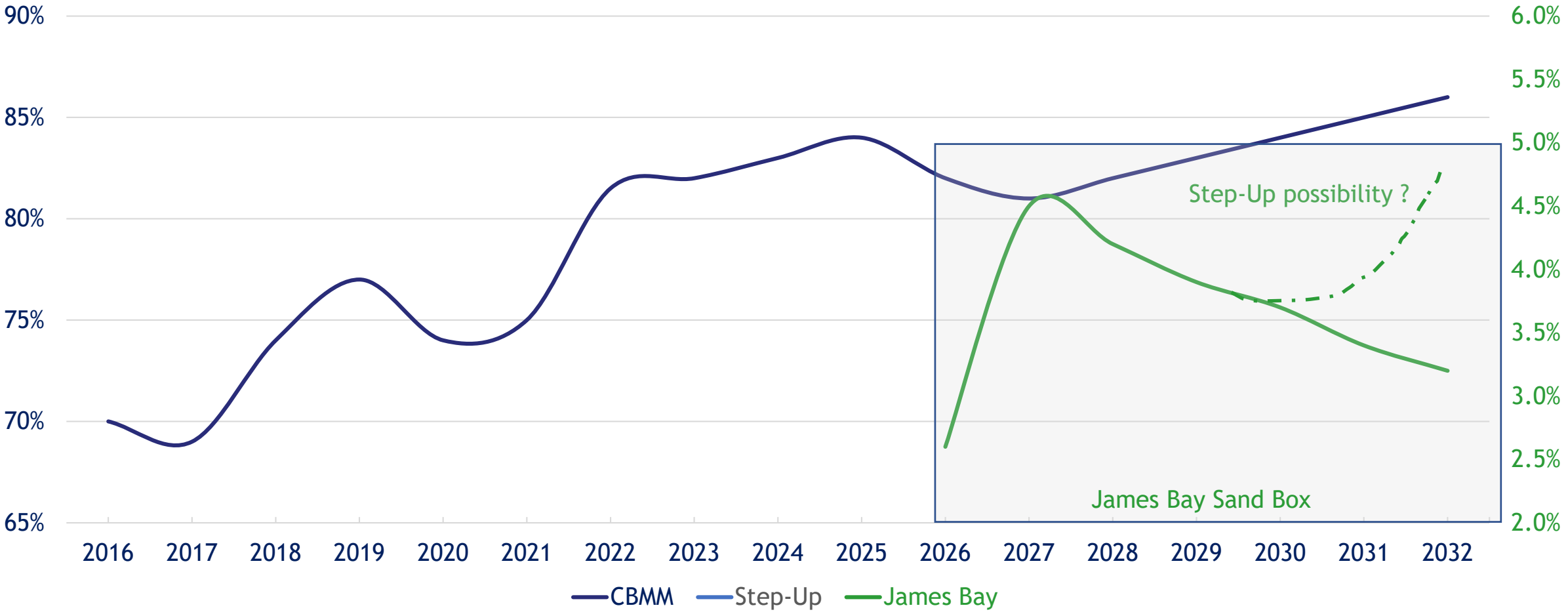
Marketing Strategy



Source: Camet Metallurgy Inc

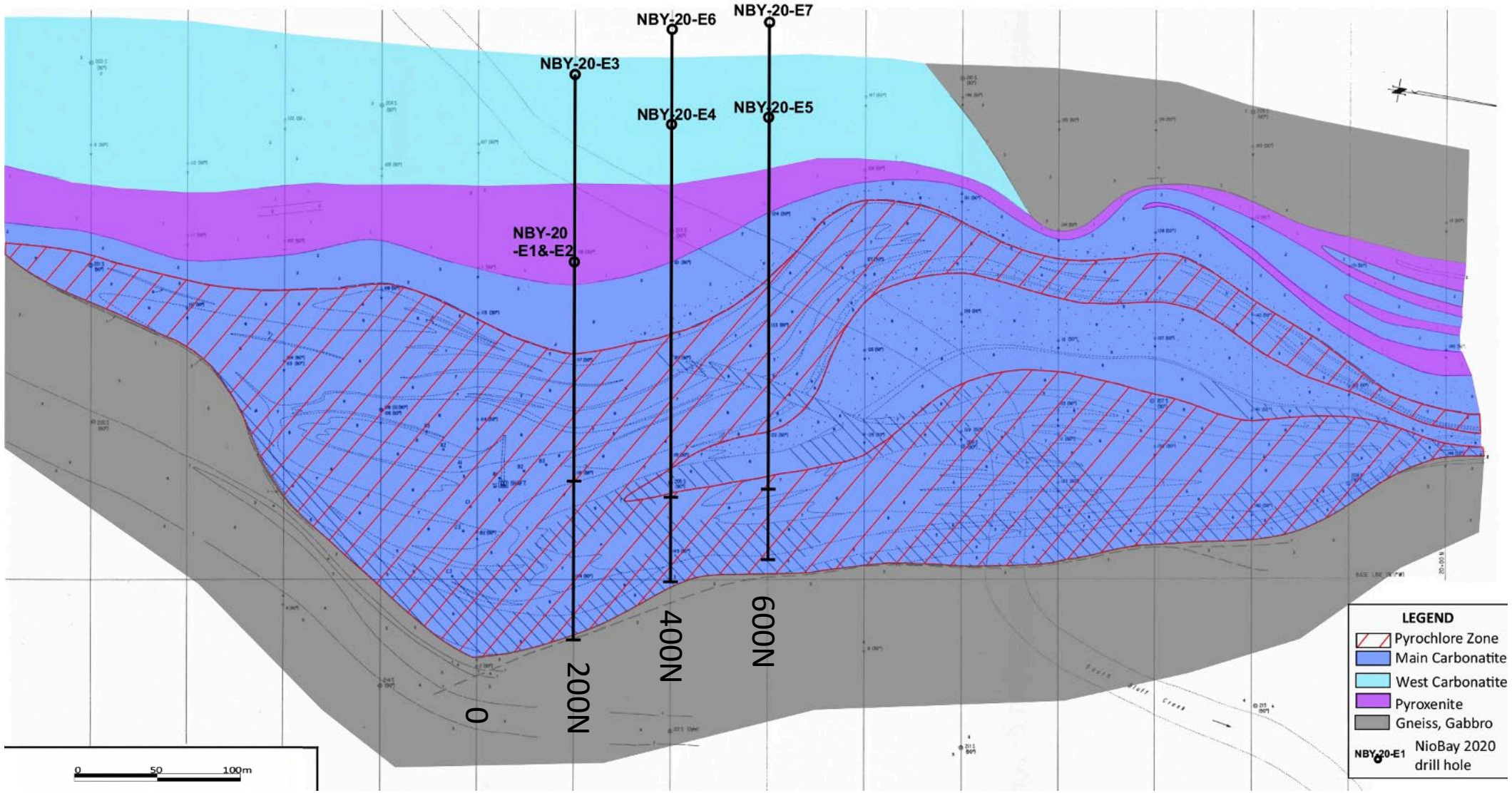
Marketing Strategy

Looking to become the smallest producer with 5% market share



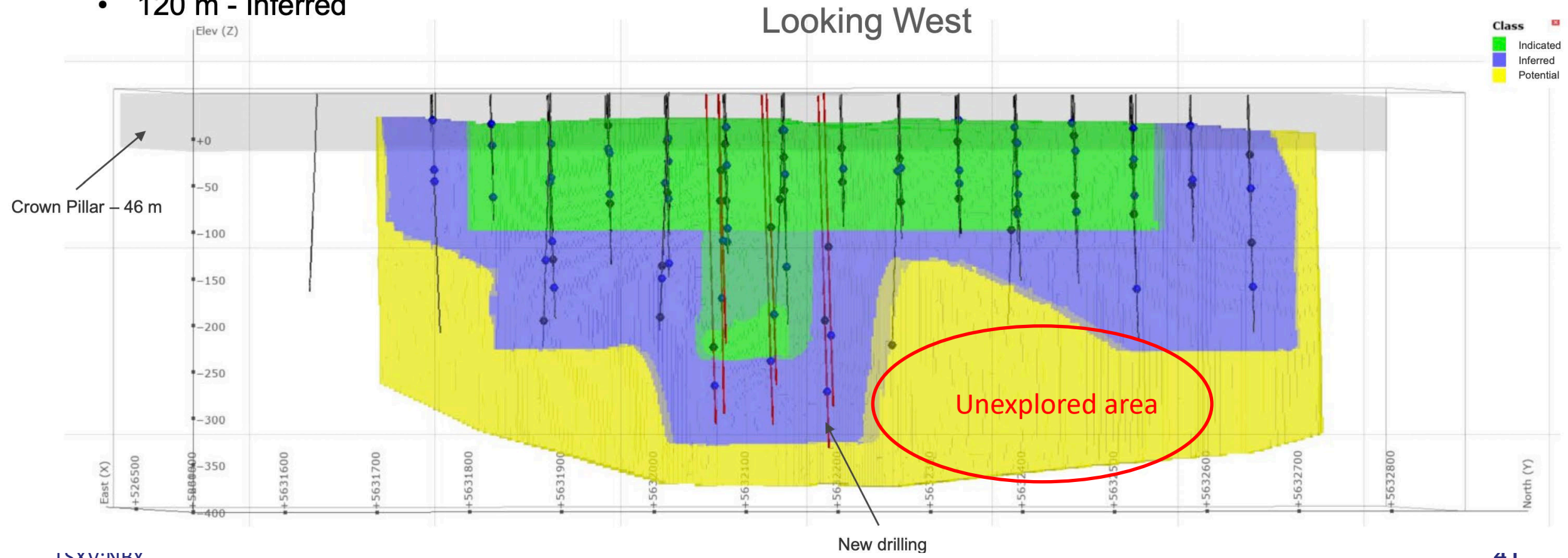
Source: Camet Metallurgy Inc

2020 Winter Drill Program

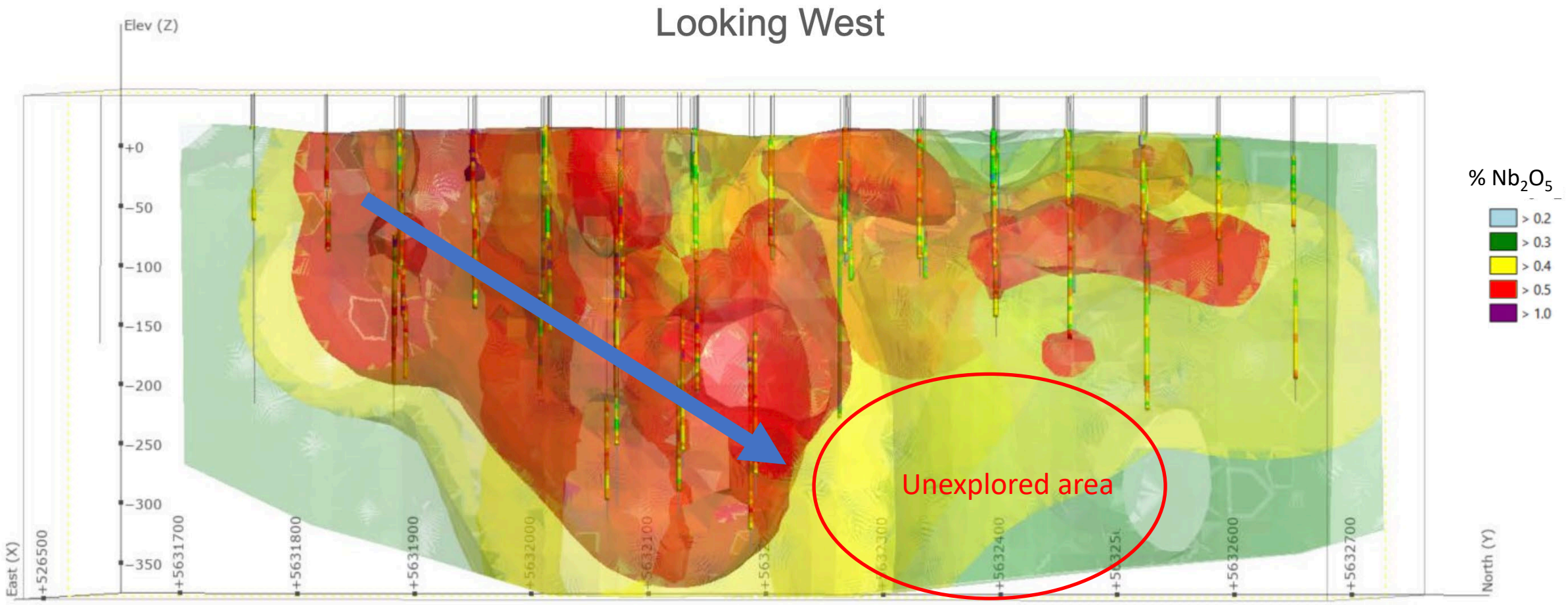


Resources Classification

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



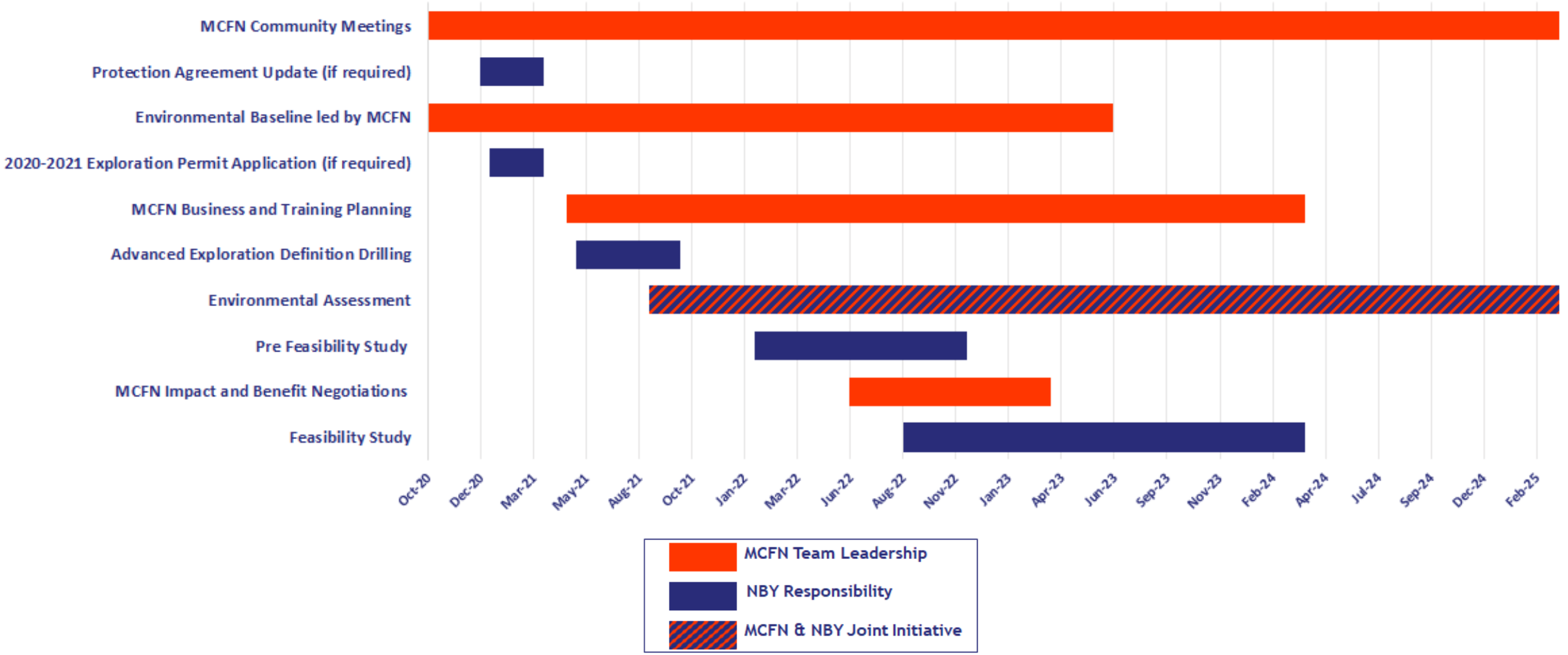
Trend Analysis



Moose Cree First Nation

- Chief & Council elected July 2019 (4 years term)
  - Favorable to engage with resource developers
  - Seeking opportunities for local community
- Signed a "Protection Agreement'' for early exploration programs (December 2019)
- 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/next drill program
- MCFN signed IBA w/ Detour Gold, Victor Mine
- MCFN have a 25% equity in the Lower Mattagami w/ OPG
  - $140mm investment by MCFN

Regulatory Roadmap



Assumptions: Federal Impact Assessment with coordinated Ontario review

Next Steps for 2020 & H1 2021 (JBN)

- Mineral Resource Update NI43-101
  - RPA – July 2020 ***COMPLETED***
- Metallurgical test works
  - SGS Lakefield – Q3 2020
  - First set results support historical (+78%)
  - Preliminary Flowsheet ***COMPLETED***
- Preliminary Economic Assessment
  - G Mining Services Ltd. - Q4 2020 ***COMPLETED***
  - 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)
  - James Bay Niobium
  - Valentine property
- 2nd Drill Program
  - From Inferred to Indicated
  - Test section +800N at depth
  - Winter 2021 (TBC)