

# **TAMARACK PROJECT**

## **HIGH-GRADE NICKEL-COPPER-COBALT**

*THE NEXT LOW-COST PRODUCER OF NICKEL IN THE USA*



**TALON METALS CORP. (TSX:TLO)**  
**RIO TINTO (KENNECOTT EXPLORATION COMPANY) JOINT VENTURE**

*June 2020*

# CONDITIONS OF PRESENTATION

This presentation has been prepared by Talon Metals Corp. (“**Talon**” or the “**Company**”) and is being delivered for informational purposes only. The information contained herein may be subject to updating, completion, revision, verification and further amendment. Except as may be required by applicable securities laws, Talon disclaims any intent or obligation to update any information herein, whether as a result of new information, future events or results or otherwise. Neither Talon nor any of its shareholders, directors, officers, agents, employees or advisers take any responsibility for, or will accept any liability whether direct or indirect, express or implied, contractual, tortious, statutory or otherwise, in respect of the accuracy or completeness of the information or for any errors, omissions or misstatements or for any loss, howsoever arising from the use of this presentation.

This presentation should not be considered as the giving of investment advice by Talon or any of its shareholders, directors, officers, agents, employees or advisers. Each person to whom this presentation is made available must make its own independent assessment of Talon after making such investigations and taking such advice as may be deemed necessary. In particular, any estimates or projections or opinions contained herein necessarily involve significant elements of subjective judgment, analysis and assumption and each recipient should satisfy itself in relation to such matters. Neither the issue of this presentation nor any part of its contents is to be taken as any form of commitment on the part of Talon to proceed with any transaction and Talon reserves the right to terminate any discussions or negotiations with prospective investors. In no circumstances will Talon be responsible for any costs, losses or expenses incurred in connection with any appraisal or investigation of Talon.

This presentation does not constitute, or form part of, any offer or invitation to sell or issue, or any solicitation of any offer to subscribe for or purchase any securities in Talon, nor shall it, or the fact of its distribution, form the basis of, or be relied upon in connection with, or act as any inducement to enter into, any contract or commitment whatsoever with respect to such securities.



# FORWARD-LOOKING INFORMATION

This presentation contains certain “forward-looking statements”. All statements, other than statements of historical fact that address activities, events or developments that Talon believes, expects or anticipates will or may occur in the future are forward-looking statements. These forward-looking statements reflect the current expectations or beliefs of Talon based on information currently available to Talon. Such forward-looking statements include, among other things, statements relating to future exploration potential at the Tamarack North Project, including the potential expansion thereof, whether through additional metallurgical recoveries and/or using geophysical techniques such as Borehole Electro-Magnetic (BHEM) surveys, Magno-Metric Resistivity (MMR) surveys, Surface Electromagnetic (Surface EM) surveys, Radio Imaging Methods (RIM) or otherwise; infill drilling the Massive Sulphide Unit to move resources from the inferred to indicated category; near-term growth potential to increase mine life from (i) resources in the 138 Zone, (ii) resources not included in mine plan in the Upper SMSU, (iii) “CGO bend” area north of the Upper SMSU, and (iv) recent drill results are potentially expanding the MSU; the Company’s ability to complete an earn-in up to a 60% ownership interest in the Tamarack Project (comprised of the Tamarack North Project and the Tamarack South Project); the Company’s planned future work programs for the Tamarack North Project, including potential drill results; the Company’s investigations into producing concentrates for smelters and/or producing sulphates for Electric Vehicle batteries; the results of a metallurgical study being completed to determine if disseminated mineralization can be incorporated into the mine plan; the Company’s expectations with respect to the electric vehicle and related battery market; the Company’s expectations relating to timing of future studies; the Company’s expectations of demand for Nickel; the Company’s expectations concerning ongoing and future metallurgical test work; the Company’s expectations concerning the economic viability of the Tamarack Project; the Company’s expectations with respect to its financial resources, royalties, and targets, opex, capex, goals, NPV, objectives and plans and the timing associated therewith.

Forward-looking statements are subject to significant risks and uncertainties and other factors that could cause the actual results to differ materially from those discussed in the forward-looking statements, and even if such actual results are realized or substantially realized, there can be no assurance that they will have the expected consequences to, or effects on Talon. Factors that could cause actual results or events to differ materially from current expectations include, but are not limited to: changes in commodity prices, including nickel; the Company’s inability to raise capital and/or pay Kennecott Exploration Company pursuant to the Option Agreement dated November 7, 2018 (and the amendments thereto); the lack of electric vehicle adoption or in the event of such adoption, such not resulting in an increased demand for nickel or there being a nickel deficit; negative metallurgical results; changes in interest rates; risks inherent in exploration results, timing and success, including the failure to identify mineral resources or mineral reserves; the uncertainties involved in interpreting geophysical surveys (including DHEM, MMR, Surface EM, RIM), drilling results and other geological data; inaccurate geological and metallurgical assumptions (including with respect to the size, grade and recoverability of mineral reserves and mineral resources); uncertainties relating to the financing needed to further explore and develop the Tamarack North Project or to put a mine into production; the costs of commencing production varying significantly from estimates; unexpected geological conditions; changes in power prices; unanticipated operational difficulties (including failure of plant, equipment or processes to operate in accordance with specifications, cost escalation, unavailability of materials, equipment and third-party contractors, inability to obtain or delays in receiving government or regulatory approvals, industrial disturbances or other job action, and unanticipated events related to health, safety and environmental matters); political risk, social unrest, and changes in general economic conditions or conditions in the financial markets.

Any forward-looking statement speaks only as of the date on which it is made and, except as may be required by applicable securities laws, Talon disclaims any intent or obligation to update any forward-looking statement, whether as a result of new information, future events or results or otherwise. Although Talon believes that the assumptions inherent in the forward-looking statements are reasonable, forward-looking statements are not guarantees of future performance and accordingly undue reliance should not be put on such statements due to the inherent uncertainty therein.

# TECHNICAL REFERENCE

The mineral resource figures disclosed in this presentation are estimates and no assurances can be given that the indicated levels of nickel, copper, cobalt, platinum, palladium and gold will be produced. Such estimates are expressions of judgment based on knowledge, mining experience, analysis of drilling results and industry practices. Valid estimates made at a given time may significantly change when new information becomes available. While the Company believes that the resource estimates disclosed in this presentation are well established, by their nature resource estimates are imprecise and depend, to a certain extent, upon statistical inferences which may ultimately prove unreliable. If such estimates are inaccurate or are reduced in the future, this could have a material adverse impact on the Company.

***Mineral resources are not mineral reserves and do not have demonstrated economic viability. Inferred mineral resources are estimated on limited information not sufficient to verify geological and grade continuity or to allow technical and economic parameters to be applied. Inferred mineral resources are too speculative geologically to have economic considerations applied to them to enable them to be categorized as mineral reserves. There is no certainty that mineral resources can be upgraded to mineral reserves through continued exploration.***

Please see the technical report entitled “NI 43-101 Technical Report Updated Preliminary Economic Assessment (PEA) of the Tamarack North Project – Tamarack, Minnesota” with an effective date of March 12, 2020 (the “**Updated PEA**”) prepared by independent “Qualified Persons” (as that term is defined in National Instrument 43-101 (“NI 43-101”)) Leslie Correia (Pr. Eng), Andre-Francois Gravel (P. Eng.), Tim Fletcher (P. Eng.), Daniel Gagnon (P. Eng.), David Ritchie (P. Eng.), Oliver Peters (P. Eng.), Christine Pint (P.G.) and Brian Thomas (P. Geo.) for information on the QA/QC, data verification, analytical and testing procedures at the Tamarack Project. Copies are available on the Company’s website ([www.talonmetals.com](http://www.talonmetals.com)) or on SEDAR at ([www.sedar.com](http://www.sedar.com)). The laboratory used is ALS Minerals who is independent of the Company.

The Updated PEA is preliminary in nature. The Updated PEA includes inferred mineral resources. Inferred mineral resources are considered too speculative geologically to have economic considerations applied to them that would enable them to be categorized as mineral reserves. There is no certainty that the Updated PEA will be realized.

The mineral resource estimate contained in this presentation was prepared by or under the supervision of Mr. Brian Thomas (P. Geo.), who is a geologist independent of Talon and an employee of Golder Associates Ltd. In addition, Mr. Thomas has reviewed the sampling, analytical and test data underlying such information and has visited the site and reviewed and verified the QA/QC procedures used at the Tamarack North Project and found them to be consistent with industry standards. For further detail please see the Technical Report entitled “Second Independent Technical Report on the Tamarack North Project – Tamarack, Minnesota”, dated March 26, 2018, which is available under the Company’s issuer profile on SEDAR ([www.sedar.com](http://www.sedar.com)) or on the Company’s website ([www.talonmetals.com](http://www.talonmetals.com)).

Dr. Etienne Diné, Vice President, Exploration of Talon, is a Qualified Person within the meaning of NI 43-101. Dr. Diné is satisfied that the analytical and testing procedures used are standard industry operating procedures and methodologies, and he has reviewed, approved and verified the technical information in this presentation, including sampling, analytical and test data underlying the technical information.

Lengths in this presentation are drill intersections and not necessarily true widths. True widths cannot be consistently calculated for comparison purposes between holes because of the irregular shapes of the mineralized zones.

# LOCATED IN THE USA ON INFRASTRUCTURE: RAIL, ROAD, GRID POWER, PORT OF DULUTH



# TAMARACK PROJECT: REASONS TO INVEST



## BATTERY GRADE CLASS 1 NICKEL PROJECT

High-grade nickel (sulphide), copper and cobalt project that can produce for either the stainless steel market or for batteries for electric vehicles



## INSTITUTIONAL PRESENCE

Predominantly funded by sophisticated resource funds with specific focus on mining or electric vehicles



## EXPANSION POTENTIAL

Resource sits on less than 1 km of the 18 km Tamarack Intrusive Complex (TIC), with numerous high-grade intercepts outside the resource area



## TIGHTLY HELD

Over 75% of the shares are held by management, board and institutions



## EXPERIENCED TEAM

“Not just another junior” with a combined Talon Metals and Rio Tinto team



## ANALYST COVERAGE

Paradigm Capital commenced coverage on Sept. 18, 2019, with a follow-up report on March 6, 2020. Company expects further coverage over the coming months



## FIVE YEARS OF DEVELOPMENT

Talon acquired control and operatorship in March 2019



## PROVEN HISTORY OF PERFORMANCE

Management and board have previously developed, built and sold numerous companies that realized significant returns to investors



## WELL FINANCED

As of May 31, 2020, Talon had cash of approximately C\$5.9m and has a history of raising capital in tough markets



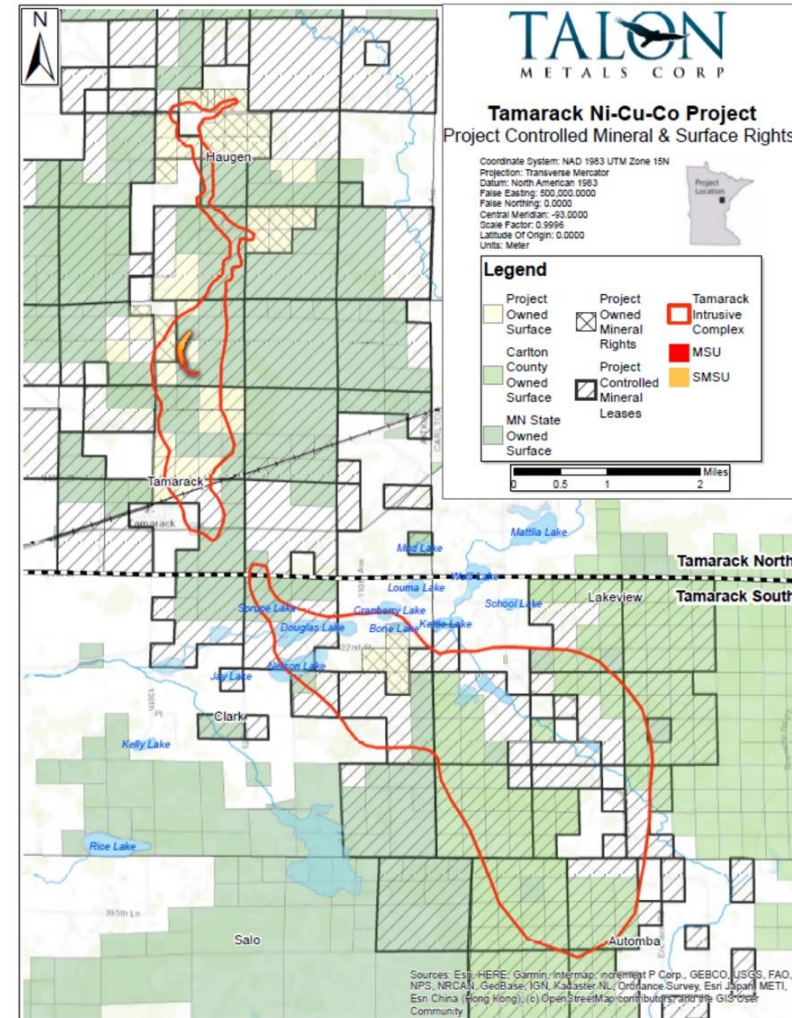
## STRONG BASE CASE

PEA (effective date of March 12, 2020) shows robust economics even under low nickel prices - Base case NPV US\$291m; high after-tax IRR 36%; C1 Cost US\$2.67/lb



# RIO TINTO IS OUR ACTIVE JOINT VENTURE PARTNER

- Tamarack Project comprised of the Tamarack North Project and the Tamarack South Project with 31,000 acres of Private Land and State Leases
- To earn a 51% interest in the Tamarack Project, Talon is required to (by March 2022):
  - ✓ Pay US\$6 million in cash and US\$1.5 million in shares to KEX (completed in March 2019);
  - ▶ Spend US\$10 million on exploration & development (approx. US\$6 million already spent to date) and pay US\$5 million to KEX
- To earn an additional 9% interest for a total of 60% (by March 2026):
  - Complete a feasibility study and pay US\$10 million to KEX
- Under the Option Agreement, Talon is appointed as the operator of the Tamarack Project, with total control over future exploration strategy



*Plan view of the Tamarack Intrusive Complex (TIC) showing the intrusions, the Semi-Massive Sulphide Unit (SMSU) and the Massive Sulphide Unit (MSU)*

# A COMBINED TALON AND RIO TINTO TEAM



## Henri van Rooyen CEO

B. Com (Hons), CA (SA)

Previously COO at Tau Capital. Secured and managed large exploration projects across 3 continents since 2007. Started working with Rio Tinto's KEX/Tamarack team in 2014. Responsible for strategy and project delivery

## Sean Werger

President, Head of Investor Relations

LL.B, MBA

Previously General Counsel and Director of Mergers & Acquisitions at Tau Capital, with project divestments of mining projects totalling in excess of C\$700M. Started working with Rio Tinto's KEX/Tamarack team in 2014. Responsible for corporate and legal matters and investor relations

## Brian Goldner

Head of Exploration

(Seconded from Rio Tinto together with the Tamarack team)  
Bachelors in Geology, Masters in Geology

Exploration Geologist with Rio Tinto since 2006. Completed a MSc degree on the Tamarack Intrusive Complex (TIC) in 2012. Seconded by Rio Tinto to lead exploration at the TIC

## Mark Groulx

VP Mine Engineering

B.Sc.E Mine Engineering, MBA

Mining engineer with more than 20 years of global experience that includes mine operations, consulting and project execution. Previously, held senior positions with Rio Tinto and PT Freeport Indonesia.

## Brian Bengert

Head of Geophysics

(B.Sc Geophysics, M.Sc)

Geophysicist 15 years- Inco (now Vale). Major responsibility was Voisey's Bay nickel project. Principal member of the team that discovered the underground deposit

## Vince Conte

CFO, Head of HR

B.Math, CPA, CFA

Previously Senior Manager with Deloitte LLP in the audit and financial advisory/valuations groups. Responsible for financial modelling of the Tamarack Project since 2014 as well as Talon's accounting, financial controls, auditing, reporting and HR

## Dr. Etienne Dinel

VP Geology

Bachelor of Geology, Physics (Honours), PH.D, Economic Geology

Twenty years of experience in structural geology, petrology and geochemistry. Since 2014, he has been instrumental in predicting massive sulphide extensions at the TIC

## Oliver Peters

Head of Metallurgy

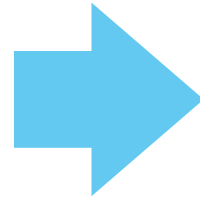
Masters in Engineering, MBA

Previously Falconbridge (now Glencore). Experience with over twenty Ni, Cu and PGM projects. Started part-time at the Tamarack Project since 2016, moving towards fulltime since March 2019

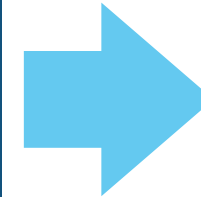


# HIGH-GRADE SULPHIDE DEPOSITS ARE THE PREFERRED, LOW-COST SOURCE OF NICKEL BUT ARE DIFFICULT TO FIND

NEW HIGH-GRADE NICKEL  
SULPHIDE DISCOVERIES  
ARE DIFFICULT TO FIND



AND EXISTING NICKEL  
SULPHIDE MINE GRADES  
CONTINUE TO DECLINE



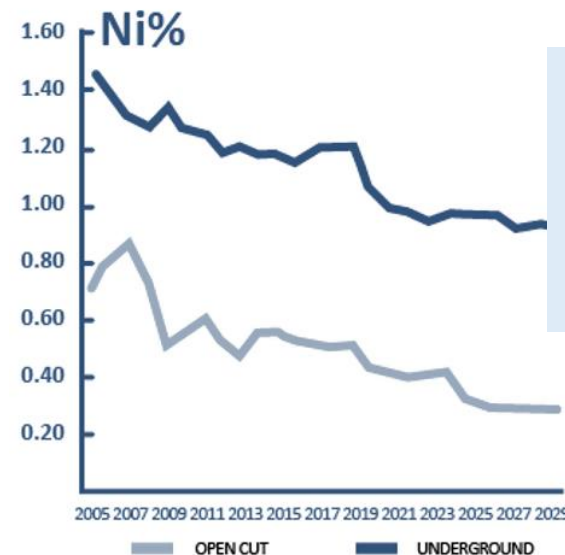
THEREFORE NICKEL  
SULPHIDE MINE PRODUCTION  
AS A % OF TOTAL NICKEL  
PRODUCTION WILL CONTINUE  
TO DECLINE

Two 21st century discoveries  
with resources on infrastructure  
are in the pre-development  
stage

2008 - Tamarack Intrusive  
Complex (TIC) – Minnesota  
Talon-Rio Tinto (through  
subsidiary KEX) Joint Venture

2009 – Sakatti (Anglo-  
American): PFS Completed;  
Environmental & Social Impact  
Assessment submitted in 2019

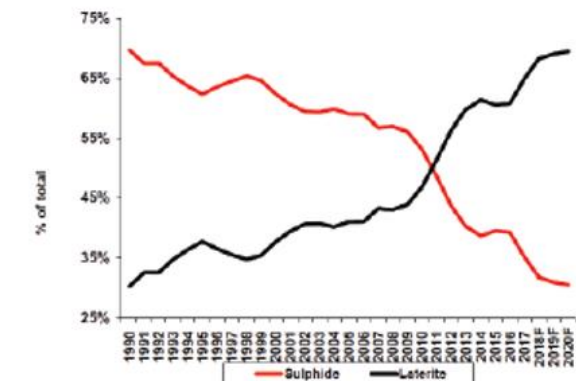
High-grade nickel sulphide projects benefit from comparatively low cost compared to laterite projects. Laterite projects with their higher operating and capital costs are the marginal or high cost producer and set industry prices over the long-term.



Source: AME, Nickel Mine Grade Decline, November 2015

1%  
Nickel  
Underground

SHARE OF FINISHED NICKEL PRODUCTION FROM  
SULPHIDE AND LATERITE ORES



Source: Company reports, INSG, Macquarie Research, March 2018

It is more expensive to produce nickel from laterites than from high-grade sulphides. As the industry moves to more laterite production, the industry or marginal cost of production increases and prices are expected to follow

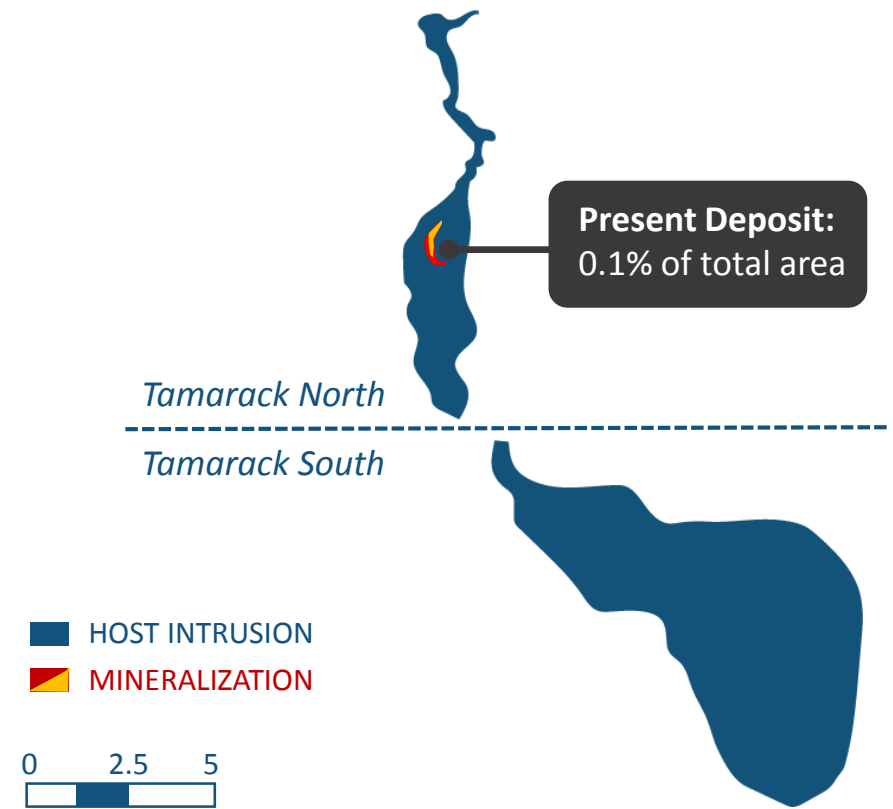
# ESTABLISHED RESOURCE IS ON LESS THAN 1 KM OF THE 18 KM TAMARACK INTRUSIVE COMPLEX (TIC)

## Tamarack North Project NI 43-101 Mineral Resource Estimate (February 15, 2018) - Tamarack and 138 Zones

Domain	Resource Classification	Tonnes (000)	Ni (%)	Cu (%)	Co (%)	Pt (g/t)	Pd (g/t)	Au (g/t)	Calc NiEq (%)
SMSU	Indicated	3,639	1.83	0.99	0.05	0.42	0.26	0.20	2.45
<b>TOTAL</b>	Indicated	3,639	1.83	0.99	0.05	0.42	0.26	0.20	2.45
SMSU	Inferred	1,107	0.90	0.55	0.03	0.22	0.14	0.12	1.25
<b>MSU</b>	<b>Inferred</b>	<b>570</b>	<b>5.86</b>	<b>2.46</b>	<b>0.12</b>	<b>0.68</b>	<b>0.51</b>	<b>0.25</b>	<b>7.24</b>
<b>138 Zone</b>	Inferred	2,705	0.95	0.74	0.03	0.23	0.13	0.16	1.38
<b>TOTAL</b>	Inferred	4,382	1.58	0.92	0.04	0.29	0.18	0.16	2.11

\*Effective date of resource estimate February 15th 2018. All resources reported at a 0.83% NiEq cut-off. No modifying factors have been applied to the estimates. Tonnage estimates are rounded to the nearest 1,000 tonnes. Metallurgical recovery factored in to the reporting cut-off. Where used in the Mineral Resource Estimate,  $NiEq\% = Ni\% + Cu\% \times \$3.00/\$8.00 + Co\% \times \$12.00/\$8.00 + Pt [g/t]/31.103 \times \$1,300/\$8.00/22.04 + Pd [g/t]/31.103 \times \$700/\$8.00/22.04 + Au [g/t]/31.103 \times \$1,200/\$8.00/22.04$ . See Technical Reference slide for further information regarding the Initial PEA, which is available under the Company's issuer profile on SEDAR ([www.sedar.com](http://www.sedar.com)).

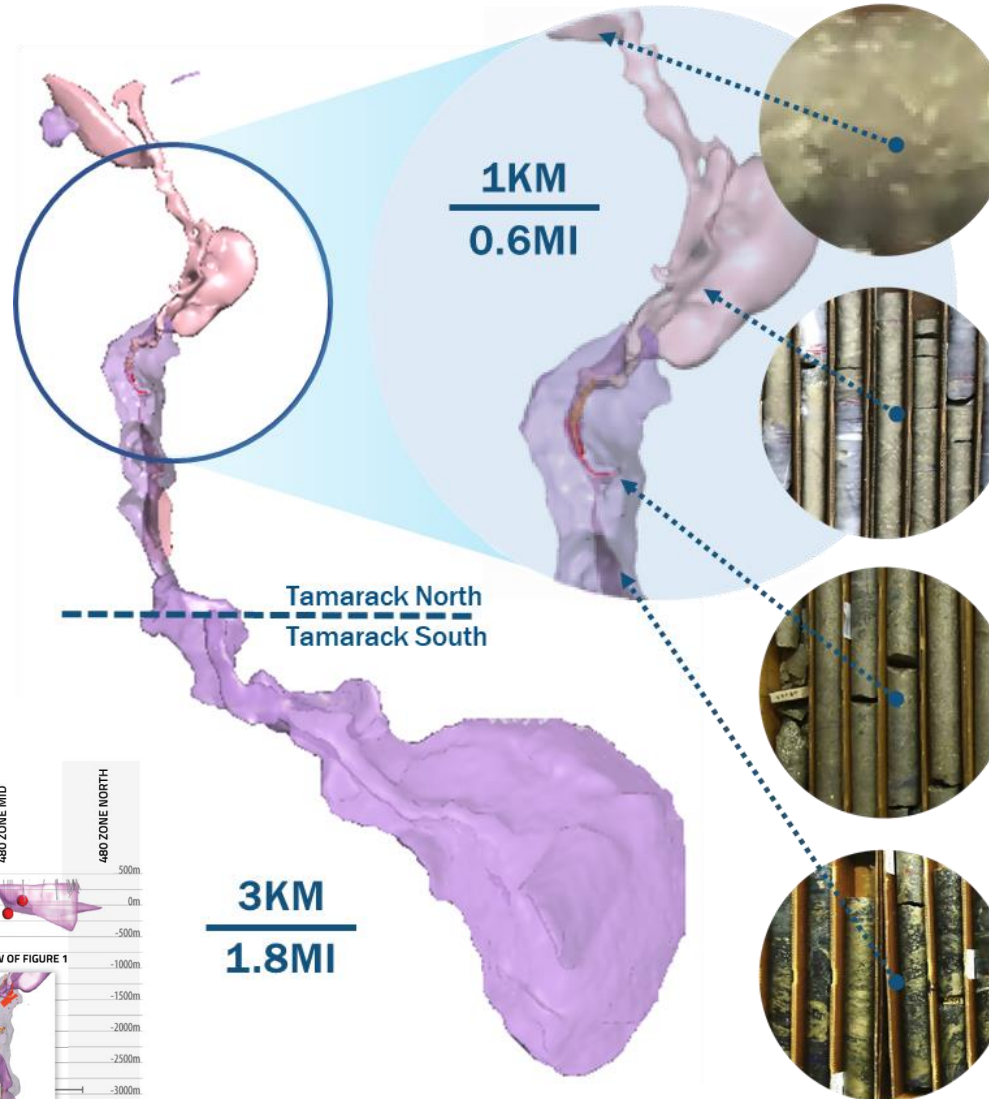
## The Tamarack Intrusive Complex (TIC) – First discovery drill hole: 2008



# EXPANSION OF HIGH-GRADE MASSIVE SULPHIDE UNIT: TYPICALLY GRADING HIGHER THAN 4% NICKEL AND 1.6% COPPER

## TWO WAYS TO EXPAND:

- 1 Expand present resource
- 2 Follow-up on distant high-grade intercepts



### 264 ZONE:

Hole 18TK0264 intersected 0.25m grading 9.95% Ni, 5.74% Cu, 0.16% Co, 2.46 g/t PGE's and 0.32 g/t Au starting at 539.04 meters (3km away from resource)

### 221 ZONE:

Hole 15TK0229 intersected 1.63m grading 9.33% Ni, 5.14% Cu, 0.18% Co, 3.64 g/t PGE's and 0.71 g/t Au starting at 702.04 meters (1.6km away from resource)

### TAMARACK ZONE:

13TK0171 intersected 7.34 meters of MMS grading 8.3% Ni, 2.95% Cu, 0.15% Co, 0.93 g/t PGE's and 0.19 g/t Au starting at 573.3 meters. Open to the east

### 164 ZONE:

Hole 12TK0164 intersected 2.89 m grading 3.67% Ni, 1.97 % Cu, 0.08% Co, 0.21 g/t PGE's and 0.09 g/t Au starting at 473.43 meters. (1100m away from resource)

PLAN VIEW OF FIGURE 1

INITIAL PEA 2010 MINE PLAN

TAMARACK & 138 ZONE

CGO

CGO BEND

221 ZONE

480 ZONE MID

480 ZONE NORTH

500m

0m

-500m

-1000m

-1500m

-2000m

-2500m

-3000m

View direction - West-Southwest

16.5 km

TAMARACK SOUTH

TAMARACK NORTH

FGO

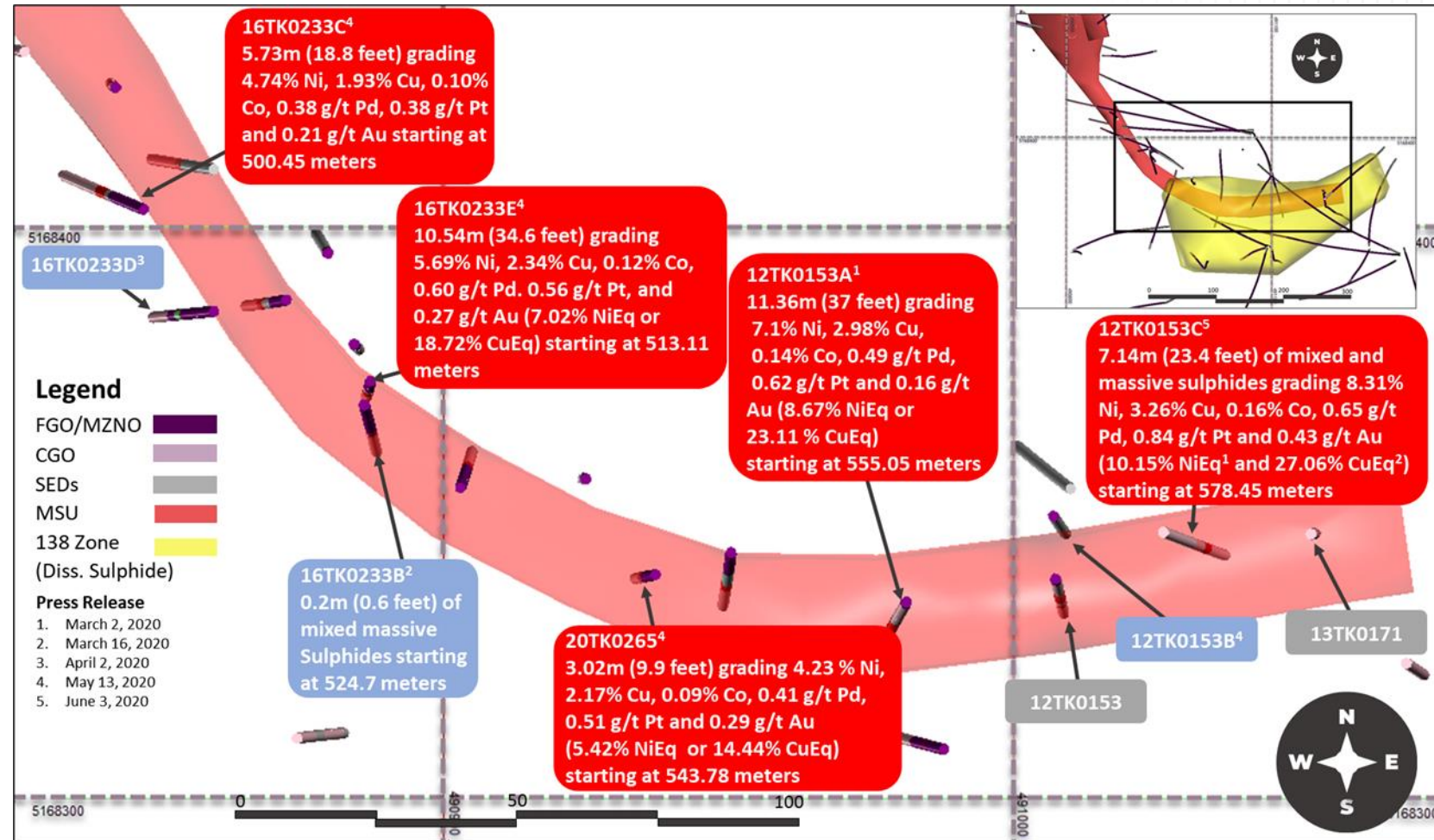
MASSIVE SULPHIDE (MSU), OR MIXED MASSIVE SULPHIDE (MMS) INTERCEPTS

TAMARACK INTRUSIVE COMPLEX (TIC)



# WINTER 2020 EXPLORATION PROGRAM: DRILLING RESULTS

- Drilled 8 holes of which 6 intersected massive and/or mixed massive sulphides
- Intersected a total of 38 meters (125 feet) of mixed and massive sulphides in 6 holes and additional 363 meters (1,190 feet) of disseminated sulphides in 3 holes

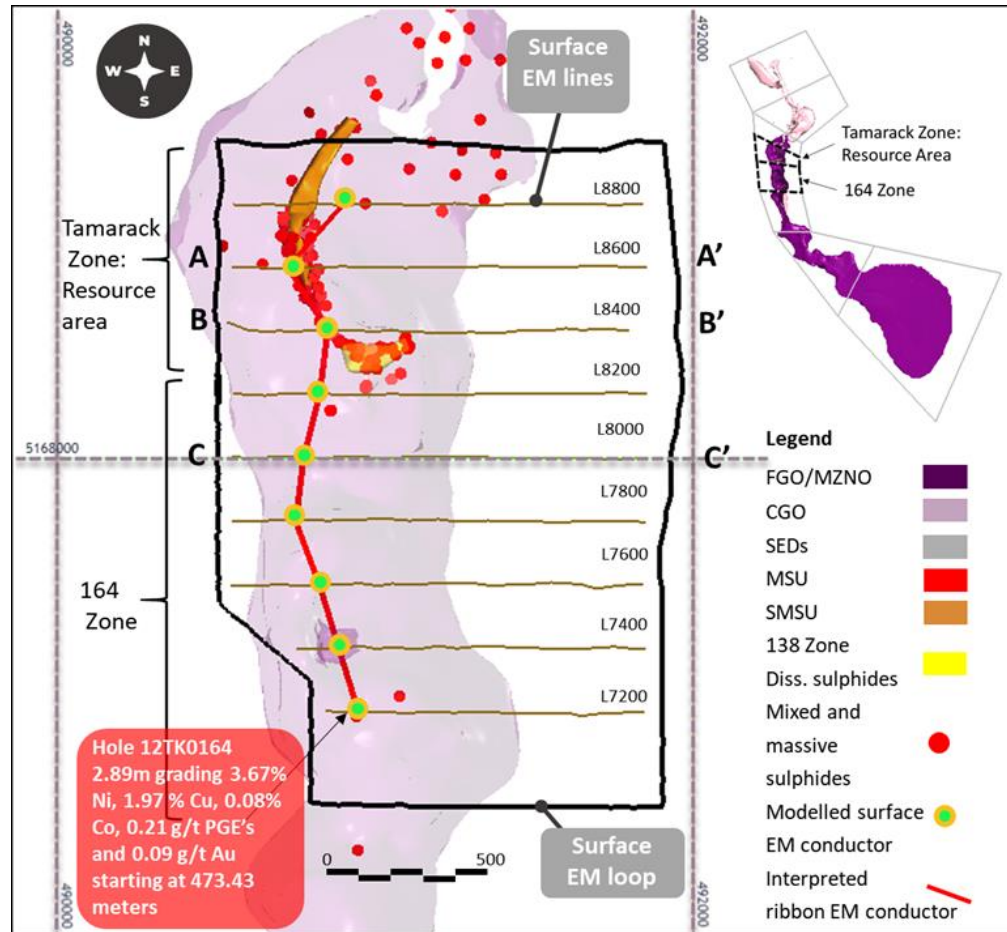


NiEq % = Ni% + Cu% x \$3.00/\$8.00 + Co% x \$12.00/\$8.00 + Pt [g/t]/31.103 x \$1,300/\$8.00/22.04 + Pd [g/t]/31.103 x \$700/\$8.00/22.04 + Au [g/t]/31.103 x \$1,200/\$8.00/22.04

CuEq% = Cu% + Ni% x \$8.00/\$3.00 + Co% x \$12.00/\$3.00 + Pt [g/t]/31.103 x \$1,300/\$3.00/22.04 + Pd [g/t]/31.103 x \$700/\$3.00/22.04 + Au [g/t]/31.103 x \$1,200/\$3.00/22.04

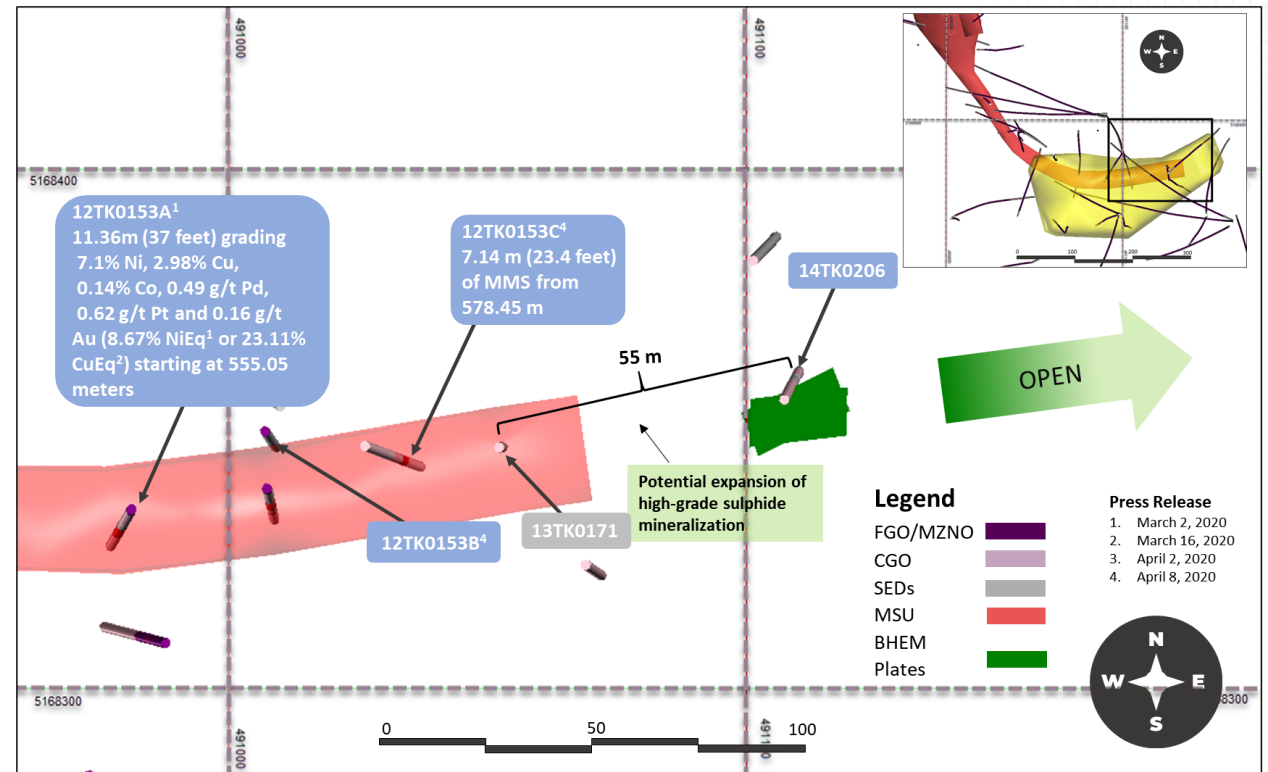
# WINTER 2020 EXPLORATION PROGRAM: GEOPHYSICS RESULTS

## NEW TARGETS TO THE SOUTH OF THE RESOURCE AREA



Long, linear conductor detected using surface electromagnetic surveys. Note the stations in the north (see (A-A') and (B-B') above) correspond to the present high-grade massive sulphide unit resource

## NEW TARGET TO THE EAST OF THE RESOURCE AREA



Borehole electromagnetic plates (in green) indicating that the high-grade massive sulphide unit may extend to the east of the present resource: The area to the east is completely open (i.e. has not been drilled before)

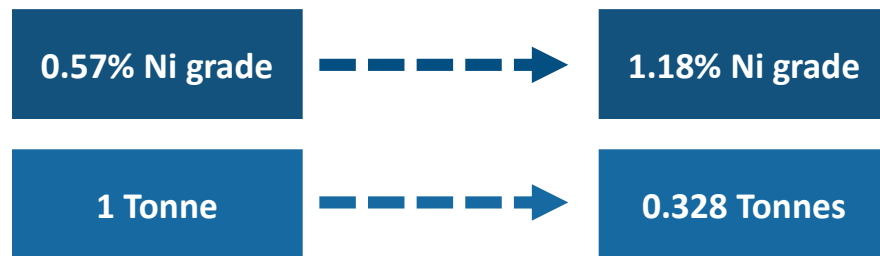
# WINTER 2020 EXPLORATION PROGRAM: METALLURGICAL (PRE-CONCENTRATION) RESULTS

## Coarse Grained Disseminated Sulphides Resources Area

- Potential for large-scale blast hole, open stoping mining methods
- Potential to reject gangue underground, thereby increasing grade before transportation up the shaft

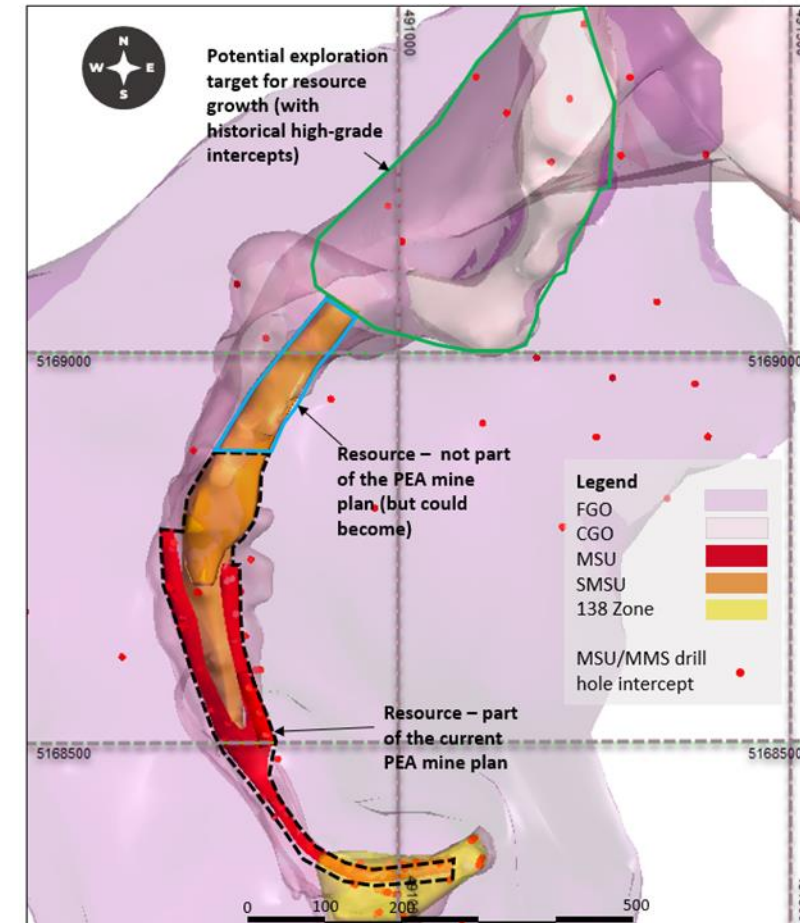
## Results of First Metallurgical Test

- Using 6.4mm crush (no grinding, low energy) and Heavy Liquid Separation (HLS) that mimics a Dense Media Separation (DMS) plant and flash flotation: Typical cost of DMS is in the \$1.50/tonne range
- Results show a significant increase in grade with good recoveries:



Overall 70.6% recovery, which translates to 82% of nickel in sulphides

**Implication:** Potential for decrease in per unit CAPEX and OPEX and/or reduces cut-off grade which positively impacts potential size of target resource



*Green area represents an easy target for resource expansion: shallow 300m depth in the south to 125m depth in the north. Coordinates are in NAD83 zone 15N. Potential to extend mine life.*



# RESULTS OF PRELIMINARY ECONOMIC ASSESSMENT (PEA)

Please see the technical report entitled “NI 43-101 Technical Report Updated Preliminary Economic Assessment (PEA) of the Tamarack North Project – Tamarack, Minnesota” with an effective date of March 12, 2020 for further information. Copies are available on the Company’s website ([www.talonmetals.com](http://www.talonmetals.com)) or on SEDAR at ([www.sedar.com](http://www.sedar.com))

# EXCELLENT METALLURGICAL RECOVERIES AND LOW DELETERIOUS ELEMENTS IN CONCENTRATES

## Ni 83.4%

**RECOVERY**

13.3% Grade

## Cu 94.4%

**TOTAL RECOVERY**

27.6% Grade

**EXCELLENT  
QUALITY**

- High quality nickel concentrates are in high demand. We expect this trend to continue
- We are therefore investigating two possibilities:
  1. Producing concentrates for smelters; or
  2. Producing nickel sulphates for the Electric Vehicle (EV) market

# TAMARACK IS EXPECTED TO BE A LOW COST PRODUCER

## THE PEA RESULTS SHOW STRONG ECONOMICS EVEN AT LOW METAL PRICES

	Unit	Low	Base case	Incentive pricing
Ni	US\$/lb	\$6.75	\$8.00	\$9.50
Cu	US\$/lb	\$2.75	\$3.00	\$3.25
Co	US\$/lb	\$15.00	\$25.00	\$35.00
Pt	US\$/oz	\$1,000	\$1,000	\$1,000
Pd	US\$/oz	\$1,000	\$1,000	\$1,000
Au	US\$/oz	\$1,300	\$1,300	\$1,300
C1 Costs	US\$/lb of Ni	\$2.56	\$2.67	\$2.85
Payback period	Years (Pre/After-tax)	2.7/2.9	2.3/2.5	2.0/2.1
After-tax NPV	US\$ millions	\$191M	\$291M	\$398M

AFTER-TAX IRR:

27%

36%

45%



# PEA: SUMMARY OF RESULTS

WORLD CLASS IRR DRIVEN BY HIGH-GRADE MSU AND LOW CAPITAL INTENSITY  
NPV INCREASED 39% RELATIVE TO INITIAL PEA AND FURTHER ROOM TO GROW



After tax NPV-7% <sup>1</sup>	US\$291M
After tax IRR <sup>1</sup>	36.0%
Tonnes processed	4.91 Mt
NiEq grade of tonnes processed	2.82%
Payback period	2.3 / 2.5 years pre-tax/after-tax
Mine life	8 years (7.5 years excl. partial years)
Production capacity	2,000 tpd
Total CAPEX over LOM	US\$258.73M
C1 costs <sup>2</sup>	\$2.67/lb of nickel in concentrate
C1 costs + royalties	\$3.35/lb of nickel in concentrate
C1 cost + royalties + sustaining CAPEX ("All-in sustaining cost")	\$3.57/lb of nickel in concentrate
C1 costs + royalties + total CAPEX	\$4.72/lb of nickel in concentrate
Ni recovery to Ni concentrate	83.4%
Cu recovery to Cu concentrate	80.2%
Overall Cu recovery	94.4%
Payable Ni production	21.2 million lbs/year 140M lbs over LOM
Payable Cu production	13.3 million lbs/year 88M lbs over LOM
Ni concentrate grades	13.3% Ni, 1.13% Cu, 0.36% Co
Cu concentrate grades	27.6% Cu, 2.91 g/t Au
Revenue split (% of NSR)	Ni 77%, Cu 19%, Co 3%, PGE-Au 1%

Only 4.91 Mt of ~8 Mt resource included in this iteration of mine plan

## CAPITAL COSTS (USD millions)

Initial mine	\$83.33
Initial process and surface facilities	\$122.32
Working capital	<u>\$12.95</u>
Total initial CAPEX	\$218.60
Sustaining CAPEX	<u>\$40.13</u>
<b>Total CAPEX</b>	<b>\$258.73</b>

## OPERATING COSTS (USD/tonne of ore milled)

Mining	\$50.34/tonne
Processing	\$14.69/tonne
Transportation and product handling	\$13.52/tonne
Co-mingled filtered tailings facility	\$1.67/tonne
G&A	<u>\$7.50/tonne</u>
<b>Total</b>	<b>\$87.73/tonne</b>

1. Base case pricing assumed to be US\$8.00/lb nickel; US\$3.00/lb copper; US\$25/lb cobalt; \$1300 Au; \$1000 Pt and \$1000 Pd
2. C1 cost includes on-site costs, value of metal claimed by smelter (metal units, treatment charges & refining charges), insurance, losses and transportation costs, less by-products metals.

# PEA: SENSITIVITY ANALYSIS

## LOW CAPITAL INTENSITY AND ROBUST ECONOMICS

The Updated PEA illustrates a high after-tax and pre-tax IRR, low C1 costs, low capital intensity and a quick payback. Capital intensity is \$21,000 per annual tonne of payable nickel equivalent and \$15,000 per annual tonne of nickel produced in concentrate (excluding the impact of ramp-up/partial years in the first and last two years of the mine plan).

The project economics are robust as illustrated by satisfactory IRR's at -30% metal prices and grade and +30% OPEX and CAPEX as illustrated in the graph on the bottom right. Low

		After-tax			Pre-tax		
		Metal price scenario			Metal price scenario		
		Low	Base	Incentive	Low	Base	Incentive
Discount Rate	NPV 7%	191	291	398	242	362	492
	NPV 8%	174	268	370	222	335	458
	NPV 10%	142	227	318	185	287	397
IRR		27.3%	36.0%	44.6%	31.4%	41.0%	50.5%
C1 Cost per lb of Ni in concentrate		\$2.56	\$2.67	\$2.85	\$2.56	\$2.67	\$2.85
Payback from start of production in years		2.9	2.5	2.1	2.7	2.3	2.0

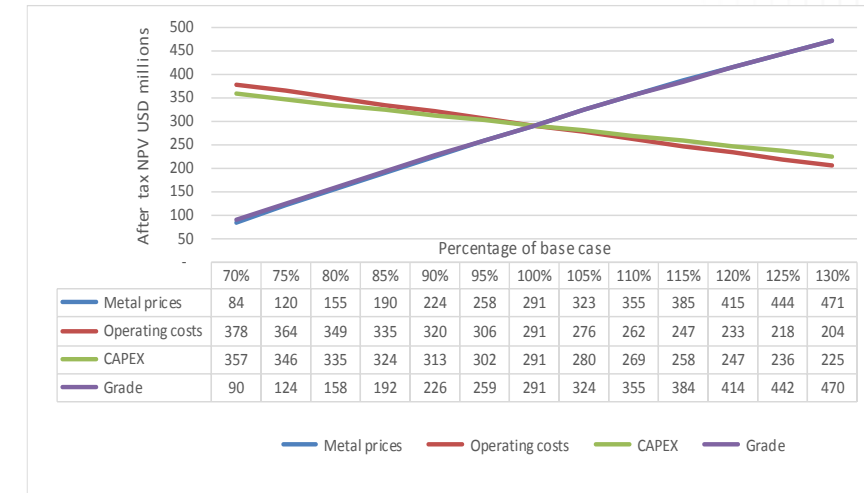
\* All amounts in U.S. dollars.

Metal prices assumptions are: Low: \$6.75 Ni, \$2.75 Cu, \$15.00 Co; Base: \$8.00 Ni, \$3.00 Cu,

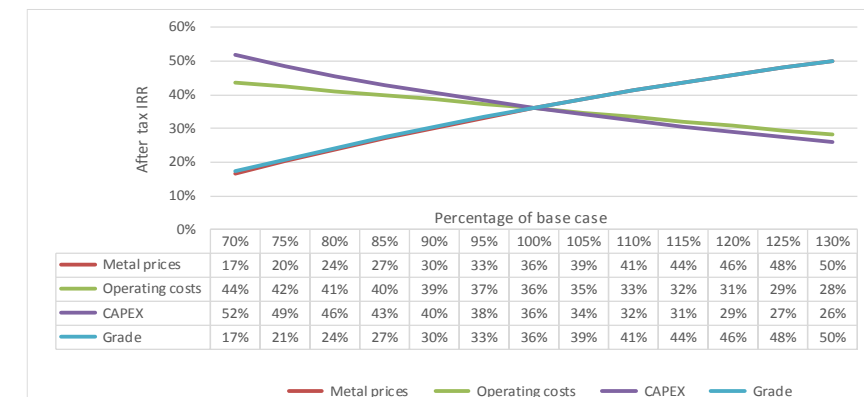
\*\* \$25.00 Co, Incentive: \$9.50 Ni, \$3.25 Cu, \$35.00 Co. All pricing scenarios use \$1,300 Au, \$1000 Pt, and \$1000 Pd.

\*\*\* C1 cost includes on-site costs, value of metal claimed by smelter (metal units, treatment charges & refining charges), insurance, losses and transportation costs, less by-products metals.

Sensitivity of Base Case after-tax NPV to changes in metal prices, grade, operating costs and capital costs



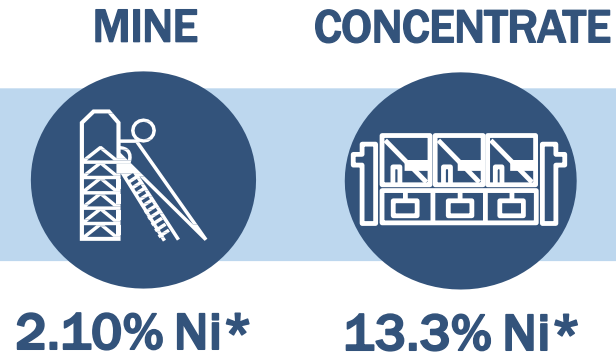
Sensitivity of Base Case After-tax IRR to changes in metal prices, grade, operating costs and capital costs



# PRODUCT OPTIONALITY: TRADE-OFF STUDY OF WHETHER TO PRODUCE FOR THE STAINLESS STEEL MARKET OR THE ELECTRIC VEHICLE MARKET

## OPTION 1:

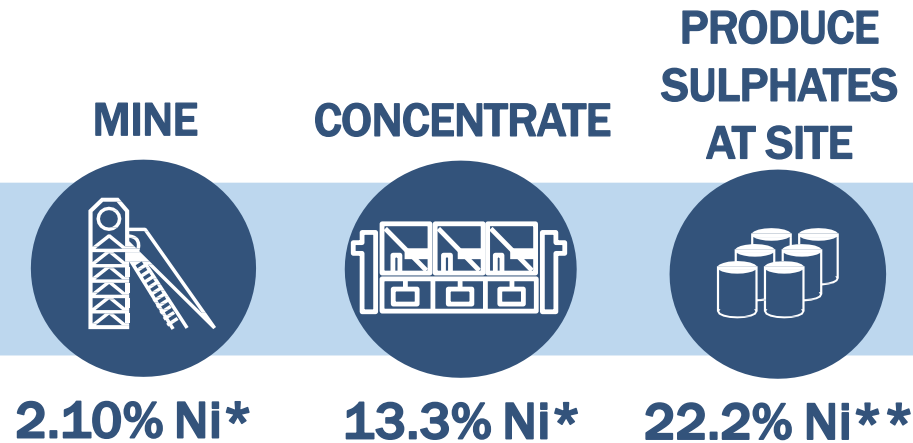
Produce Concentrates for Smelters (subject of PEA)



**67%** of the LME nickel price is what the smelter traditionally pays the mine

## OPTION 2:

Produce Sulphates for Electrical Vehicle Batteries (at site)



**120<sup>Δ</sup>%** of the LME nickel price is the estimated selling price of battery-grade nickel in sulphate form

\* PEA

\*\* Estimates – numbers may vary for different processes and facilities







Δ McKinsey & Company estimated this to be +30% premium - The Future of Nickel – A Class Act – November 2017

# RECENT ACHIEVEMENTS AND UPCOMING CATALYSTS

## RECENT ACHIEVEMENTS

-  Successful winter drill program—38 meters (125 feet) of mixed and massive sulphides drilled in 6 holes
-  Geophysics successfully used by the Company to identify new targets outside the Company's resource area, creating an opportunity to cost-effectively unlock the 18 km Tamarack Intrusive Complex (TIC) by making new discoveries
-  Updated PEA with after-tax NPV of US\$291M (an increase from US\$210M in prior PEA) based on a mine plan of just 4.9 mt
-  Pre-concentration (metallurgical) testing showed that mineralization currently below cut-off grade can be upgraded to above cut-off grade

## UPCOMING CATALYSTS

-  Additional geophysics to cost-effectively identify and drill targets to unlock the potential of the 18 km project
-  Summer 2020 exploration program
-  Test program to determine if battery-grade nickel sulphate can be produced from Tamarack nickel concentrate
-  Additional pre-concentration testing on a representative sample of disseminated Sulphide mineralization to increase the resource size
-  Conversion of a portion of the high-grade resource from the inferred category to the indicated category
-  Updated PEA based on ~8.0 Mt mine plan that may show economics of two scenarios: (1) Concentrate for smelters (2) Sulphates for electric vehicle batteries



# CAPITAL STRUCTURE

Shares issued	534.5M
Warrants outstanding	33.3M
Options outstanding	61.4M
Fully diluted	629.2M
Share price (May 31/20)	\$0.115
Exchange symbol	TLO.TSX
Market capitalization	C\$61M
Cash (May 31/20)	C\$5.9M

## Major shareholders

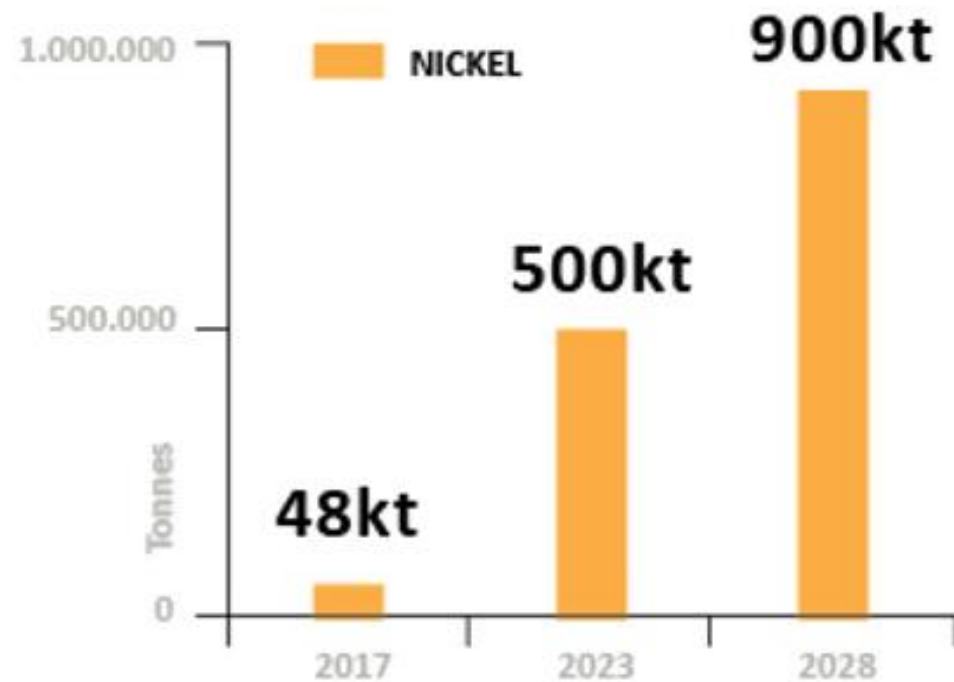
Resource Capital Funds	48.7%
Rio Tinto	5.7%
Management and directors	3.6%



# Nickel Industry Appendix

# A U.S. BASED HIGH-GRADE NICKEL-COPPER-COBALT PROJECT ON INFRASTRUCTURE IS EXPECTED BE A STRATEGIC SOURCE OF NICKEL SULPHATES FOR DOMESTIC CONSUMPTION\*

## Predicted Demand for Nickel in Nickel Sulphates



Benchmark World Tour 2019, May 2019,  
North America (Pg 20). Simon Moores, Managing Director,  
Benchmark Mineral Intelligence

\*See Talon press release May 7, 2019: Talon Metals Update: Strategic Importance of the Tamarack High Grade Nickel-Copper-Cobalt Project to the Future of Transportation in the U.S.A.

## Electric-Car Dreams Could Fall a Nickel Short

Demand for a form of nickel needed in electric-vehicle batteries is starting to outpace supply

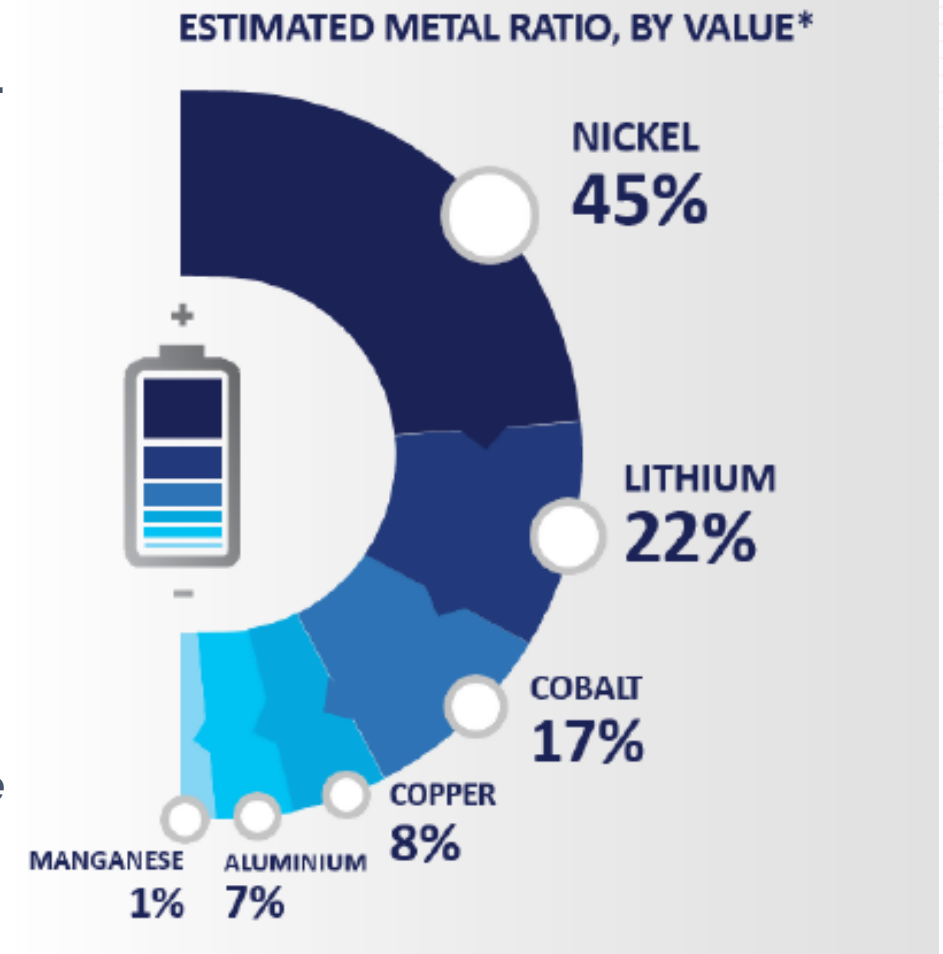


Nickel sulfate hexahydrate, some of the stuff electric-car batteries are made of. PHOTO: PHILIP GOSTELOW/BLOOMBERG NEWS

Wallstreet Journal September 29, 2019

# NICKEL INCREASES EV RANGE AND REDUCES BATTERY COST

- Nickel currently comprises approximately 45% of the metal value of the NMC 811 Lithium-ion battery cathode at present day metal prices.
- “Range anxiety” is an impediment to electric vehicle adoption. Nickel is the key ingredient to increasing range for electric vehicles (EVs).
- “Cobalt thrifting” is the process of reducing the amount of cobalt in batteries by replacing it with lower cost nickel, thus decreasing the cost per kwh of EV batteries. Tesla, for example, on many occasions has stated its desire to reduce the amount of cobalt in batteries. Lower battery cost per kwh is a driver towards widespread EV adoption.
- In 2016, Elon Musk said *“Our cells should be called Nickel-Graphite, because primarily the cathode is nickel and the anode side is graphite with silicon oxide... [there’s] a little bit of lithium in there, but it’s like the salt on the salad.”\*\**



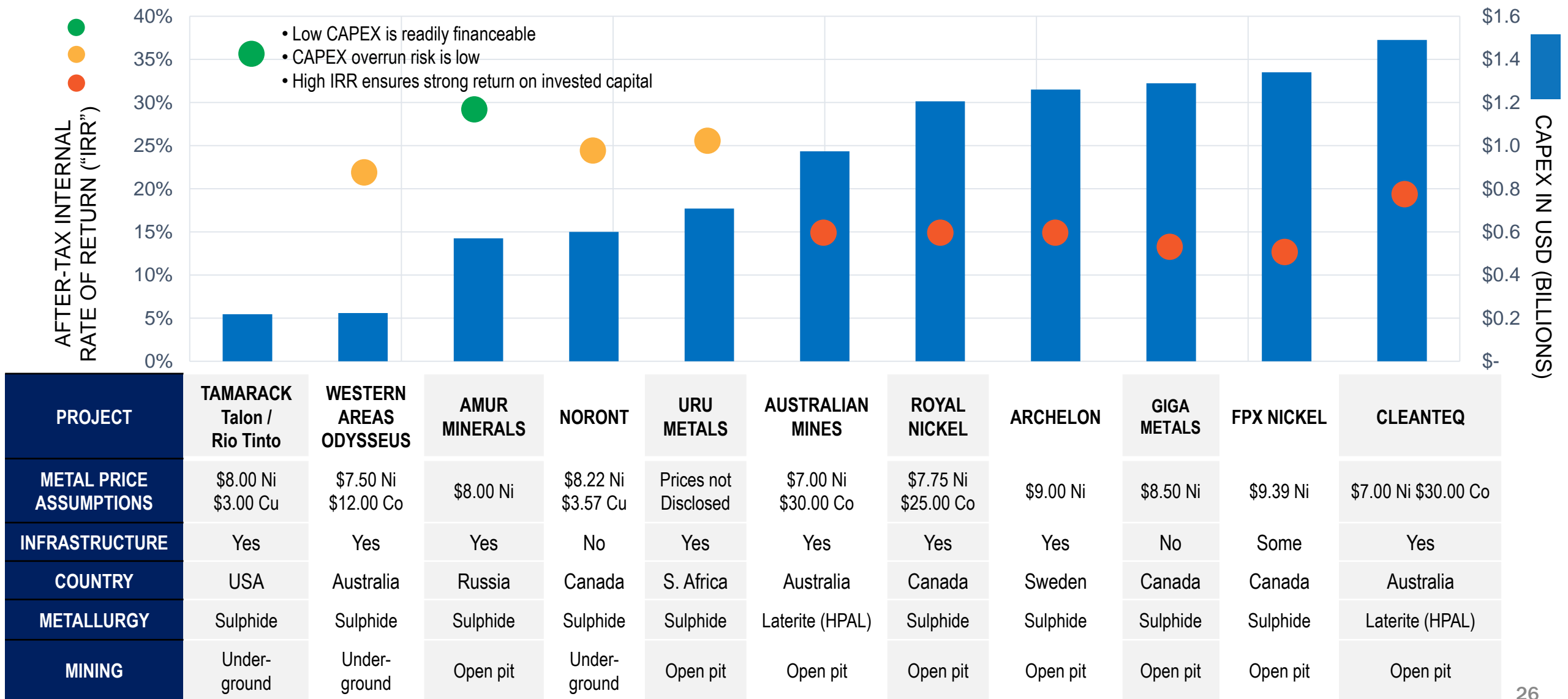
\*Talon estimate from publicly available data

\*\*<https://www.benchmarkminerals.com/elon-musk-our-lithium-ion-batteries-should-be-called-nickel-graphite/>



# Undeveloped Class 1 Nickel Projects (Publicly-traded)

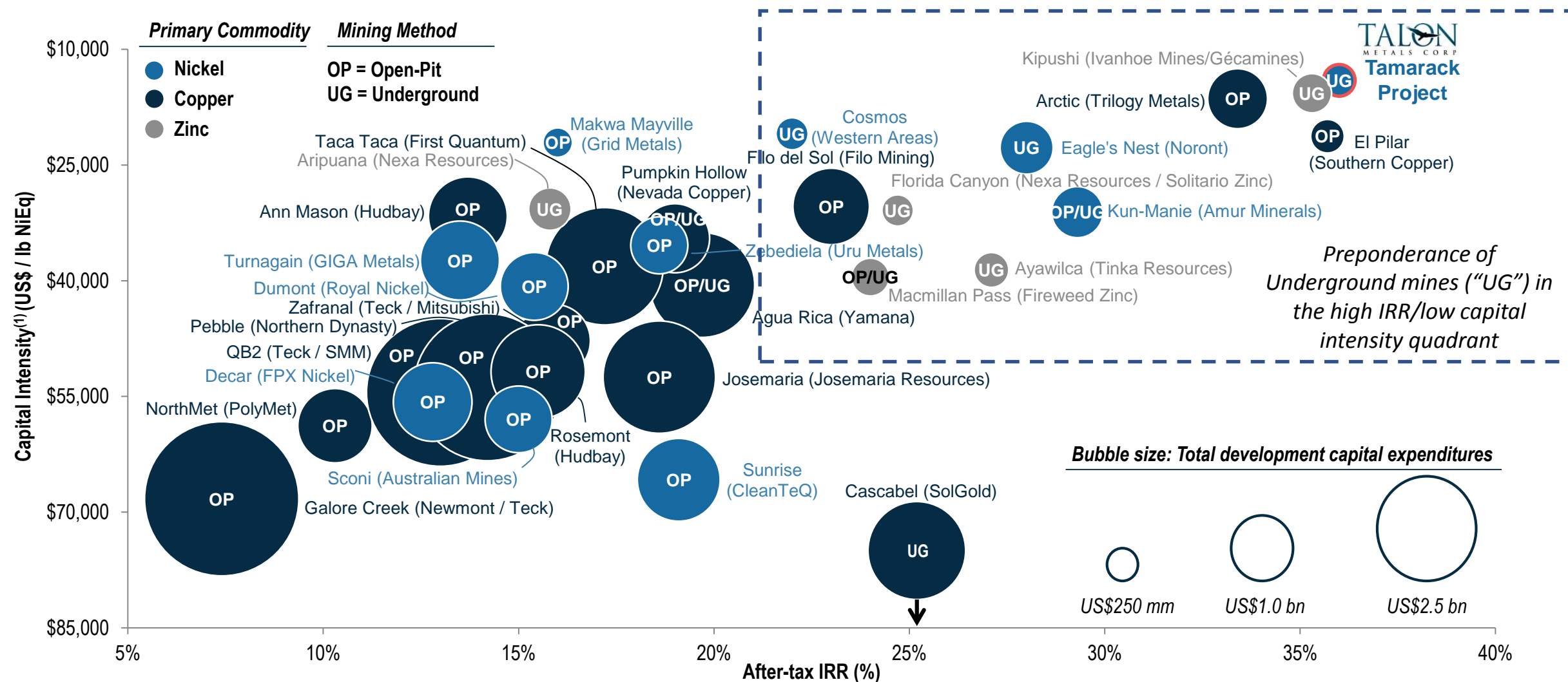
## After-tax IRR and CAPEX comparison



Source: Company reports and Talon research. Talon endeavours to update data when new reports are published, however, figures may not be completely up to date.

# Base Metal Asset Benchmarking

## After-tax IRR, Capital Intensity and CAPEX comparison



Source: BMO Capital Markets, company reports, SNL  
Note: Nickel equivalent calculated using long-term consensus commodity prices of US\$7.50/lb Ni, US\$3.00/lb Cu, US\$20.00/lb Co, US\$1,188/oz Pd, US\$1,090/oz Pt, US\$1.09/lb Zn, US\$9.00/lb Mo, US\$0.93/lb Pb, US\$1,500/oz Au and US\$18.00/oz Ag.  
1. Calculated as total development and sustaining capital expenditures (inclusive of closing costs) divided by annual NiEq production.

# Precedent Transactions

Majority of transactions are underground (“UG”) and high-grade

Acquiror	Target	Project	Location	Acquisition value (USD M)	Year	Mining method	Lbs of NiEq	Grade NiEq	US\$ per lb of NiEq			Comments
									Nominal	Inflation-adjusted	Adjusted to \$8 Ni price	
Vale-Inco	Diamond Fields	<b>Voisey's Bay</b>	Canada	3,150	1996	OP and UG	6,477	2.08%	\$0.49	<b>\$0.79</b>	n/a	Feasibility study stage
Glencore-Xstrata	<b>Jubilee Mines</b>	Cosmos and Sinclair	Australia	2,600	2007	UG	892	0.74% and 2.52%	\$2.91	\$3.56	<b>\$1.37</b>	Price and acquisition value reflects very high nickel price that averaged \$17/lb in 2007 and that Sinclair mine was in production
Nornickel	<b>Lionore</b>	Multiple mines	Australia, South Africa, Botswana	5,700	2007	OP and UG	5,192	0.3% to 3.5% (Avg. 0.42%)	\$1.10	\$1.34	<b>\$0.52</b>	Price and acquisition value reflects very high nickel price that averaged \$17/lb in 2007 and that mines were in production
IGO	<b>Sirius Resources</b>	Nova-Bollinger	Australia	1,060	2015	UG	964	3.06%	\$1.10	<b>\$1.20</b>	n/a	Feasibility study, early-earthworks stage
n/a (provided for comparison)	<b>Talon / Rio Tinto</b>	Tamarack	USA	74	n/a	UG	400	2.26%	\$0.19	n/a	n/a	PEA stage. Significant re-rating potential possible as project is 1) de-risked, 2) grows and 3) earn-in is completed.

## Notes:

1. All amounts in millions or USD millions, net of cash, where information available
2. OP = Open pit mine; UG = Underground mine
3. Inflation adjustment based on U.S. CPI
4. Jubilee and Lionore acquisition normalized for nickel price given very high nickel price of \$20/lb+ in 2007

5. Talon acquisition value based on Talon market cap converted to USD at 1.38 FX rate and grossed up to 100% relative to 60% earn-in percentage
6. Number of Ni lbs, not NiEq lbs in the case of Jubilee and Lionore since other metals minor or not disclosed in historical reports
7. Source: Talon research and company disclosures



## CONTACT INFORMATION

**Talon Metals Corp.**  
**Sean Werger, President**  
swerger@talonmetals.com  
B: (416) 361-9636 ext.102

www.talonmetals.com  
<https://www.linkedin.com/company/talon-metals-corp>

