

### ROADMAP TO CREATING VALUE IN NICKEL MINERAL EXPLORATION



BENCHMARK MINERAL INTELLIGENCE - BATTERY DAY September 23, 2020

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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; there not being a deficit in nickel prices or the availability of nickel sulphates; certain HPAL projects not going into production in the timeframe currently expected; the Company's expectation that it will not have a tailings dam at the Tamarack Project; the Company's belief that there can be changes to the current supply chain for batteries; the Company's general expectation that it can produce nickel in an environmentally friendly way (Green-Nickel); the Company's expectation that there will be a need for additional nickel concentrates in the coming years; the Company's expectation that payabilities will be higher in the stainless steel market and/or the electric vehicle market; the Company's expectation that nickel in lithium-ion battery chemistry may one day change, with nickel no longer being in the cathode portion of the battery; 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; 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 Project or to put a mine into production; the costs of commencing

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## **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) or on SEDAR at (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) or on the Company's website (www.talonmetals.com).

Dr. Etienne Dinel, Vice President, Exploration of Talon, is a Qualified Person within the meaning of NI 43-101. Dr. Dinel 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.



THE TAMARACK INTRUSIVE COMPLEX (TIC) STRIKES OVER APPROXIMATELY 18 KM. FOLLOW-UP DRILLING TO THE FIRST DISCOVERY HOLE CULMINATED IN A RESOURCE\*

#### \* 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
TOTAL	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
MSU	Inferred	570	5.86	2.46	0.12	0.68	0.51	0.25	7.24
138 Zone	Inferred	2,705	0.95	0.74	0.03	0.23	0.13	0.16	1.38
TOTAL	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% 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 . 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)

One of the most prolific nickel producers (Talnakh - Russia) was discovered over a century ago. It has several mines along strike





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## WHERE WILL BATTERY NICKEL COME FROM? BEFORE 2026

- Primary sources will be:
  - Briquettes/powders
  - Integrated ore to nickel sulphates
  - Intermediates
- Includes 3 new
  Indonesian HPAL projects

Battery nickel deficit unlikely before 2026

coute to market options for nickel raw n	nateriais	s to mak	e NISO4	ŧ				
•	<u>2019</u>	2020F	<u>2021F</u>	2022F	2023F	2024F	2025F	Change
ellers of briquettes/powders/Chem grade powder								2019-25F
lencore (Murrin Murrin)	41	41	41	41	41	41	41	0
HP Nickel West (ex NiSO4)	66	75	71	65	60	60	60	-6
herritt (Fort Saskatchewan)	33	33	33	33	33	33	33	0
nplats (Impala)	16	14	14	14	14	14	14	-2
ornickel (Harjavalta)	37	37	38	38	38	38	38	2
mbatovy joint venture (Madagasgar)	34	21	42	45	45	45	50	<u>16</u>
ale/Nornickel powders (carbonyl - UK/Canada/Russia)	<u>15</u>	<u>15</u>	<u>15</u>	<u>15</u>	<u>15</u>	<u>15</u>	<u>15</u>	
ub-total: theoretical maximum available	241	235	254	251	246	246	251	10
ctual use for NiSO4 - briquettes	48	15	20	40	38	74	80	32
ctual use for NiSO4 - powders	35	25	20	20	30	40	40	5
ntegrated ore to NiSO4								
MM (Niihama/Harima)	16	18	18	18	18	20	20	4
ICC (Ramu to China)	16	18	18	18	18	18	18	2
lornickel (Harajavalta)	8	8	8	8	15	20	20	12
errafame	0	0	10	20	35	35	35	35
T Halmahera Persada Lygend	0	0	0	10	25	35	36	36
HP Nickel West	<u>0</u>	<u>0</u>	<u>5</u>	<u>15</u>	<u>20</u>	<u>20</u>	<u>20</u>	<u>20</u>
ub-total	40	44	59	89	131	148	149	109
ellers of intermediates (MHP/NHC//NiS)								
NC (Goro)	6	20	28	35	35	38	38	32
errafame	27	33	25	0	0	0	0	-27
irst Quantum (Ravensthorpe)	0	14	28	30	30	30	30	30
ICC (Ramu)	17	15	17	17	17	17	17	0
leta Nikel (Gordes)	3	5	5	5	5	5	5	3
T Halmahera Persada Lygend	0	0	15	20	10	0	0	0
T QMB New Energy	0	0	0	15	30	45	50	50
lorowali Huayue Nickel & Cobalt 1	0	0	0	10	20	25	30	30
ub-total: theoretical maximum avaiability	53	88	118	132	147	160	170	117
ctual use for NiSO4)	50	75	90	110	130	140	150	100
rude Ni sulphate/scrap	35	35	40	50	55	60	65	30
OTAL ABOVE THEORETICAL MAXIMUM AVAILABLE	370	402	471	523	580	615	636	266
ctual use	208	194	229	309	384	462	484	276

Source: Company reports, Macquarie Commodities Strategy, August 2020



## WHERE WILL BATTERY NICKEL COME FROM? 2026 +

- Other Indonesian HPAL projects could start production after 2025
- This could still leave a deficit of 470,000\* tpa of nickel in sulphates by 2030
- More mineral exploration projects therefore need to go into production 2026+
- Mineral exploration projects don't turn into mines overnight, so...
- WHO QUALIFIES?

Base case to 2025			<u>'000t metal</u>			
<u>Country</u>	<u>Company</u>	<u>Plant</u>	Ni	<u>Co</u> <u>Status</u>	Timing	<u>Product</u>
Australia	First Quantum	Ravensthorpe	30	0.7 Restart	Q2 2020	MHP
N.Caledonia	VNC	Goro	30	2.0 Switch from oxide	Q2 2020	NHC (MHP)
Indonesia	PT Halmahera Persada Lygend 1	Obi Island	37	4.4 Greenfield	2021	MHP/NiSO4
Indonesia	PT Halmahera Persada Lygend 2	Obi Island	18	2.2 Expansion	2022/3	MHP/NiSO4
Indonesia	PT QMB New Energy	Morowali	50	4.0 Greenfield	2022	MHP
Indonesia	Morowali Huayue Nickel & Cobalt 1	Morowali	30	3.0 Greenfield	2022	MHP
Indonesia	Morowali Huayue Nickel & Cobalt 2	Morowali	30	3.0 Greenfield	2023	MHP
Indonesia	Youshan Nickel (Huayou/Shentung)	Weda Bay	35	0.4 Greenfield	2021	Matte
Indonesia	Huayou Cobalt	Weda Bay	<u>45</u>	0.5 Greenfield	2023	Matte/precursors
	Sub-total		305	20.0		

#### Other potential projects - assumed post 2025 (could be earlier)

	Sub-total		188	21.9		
China	Jinchuan	Fangchengang	<u>30</u>	3.0 Greenfield	2025+	MHP
Australia	Australian Mines	Sconi	16	2.2 Greenfield	2025+	MHP
Australia	Sunrise (Clean Teq)	Sunrise	20	4.6 Greenfield	2025+	MHP
PNG	MCC	Ramu	32	3.1 Expansion	2025+	MHP
Indonesia	Tsingshan and partners	Weda Bay	50	5.0 Greenfield	2025+	MHP
Indonesia	Vale/SMM	Pomalaa	40	4.0 Greenfield	2024+	MSP

Source: Company reports, Macquarie Commodities Strategy, August 2020

## FIVE THINGS TO CONSIDER WHEN INVESTING IN A Ni MINERAL EXPLORATION PROJECT



\*Talon calculation from publicly available information

## (1) CATCH THE RIDE UP THE MINE LIFE CYCLE

- Pick the inflection point between decreasing risk while the majority of the upside still remains
  - Exploration drilling means expansion
  - Design basis for PFS
- The Tamarack Project is at this point
  - ✓ Significant resource expansion in progress
  - ✓ Flowsheet development for battery metals at source in the US in progress



Source: Introduction to Mineral Exploration, stages of an exploration project (Modified from Eimon, 1988)



## (2) BE AT THE RIGHT TIME AND PLACE

# Technology Adoption Life Cycle \*



- As the cost of EV is heading towards equalization with the internal combustion engine, EV is expected to head towards early adoption and beyond
- This will be the main driver of the nickel deficit 2026+
- At the Tamarack Project we are taking all the right steps TODAY to produce nickel for batteries in 2026+

Source: Crossing the Chasm (1991, revised 1999 and 2014) by Geoffrey A. Moore



## (2) BE AT THE RIGHT TIME AND PLACE (Continued)

- Talon's market cap went from C\$7.5m in early 2019 to C\$180m last week
- The best however is yet to come:
  - As the project moves towards Prefeasibility Study and through to Feasibility Study
  - While EV is heading towards mainstream adoption



Source: Introduction to Mineral Exploration, stages of an exploration project (Modified by Talon)



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## "Wherever you are in the world, please mine more nickel and **don't wait** for nickel to go back to some high point that you experienced some five years ago, **go for efficiency**."

Elon Musk, July 23, 2020



## (3) BE EFFICIENT (Continued)

- Elon nailed it: If you are efficient you don't have to wait. But what drives efficiency?
- Efficiency is a function of high grade, high recovery of metal from the rock and low capex:
  - Consider three high grade, underground nickel sulphide projects:



In production



In production



*Tamarack Project In resource development* 

- Both Nova and Eagle were highly profitable at an average nickel price of \$11,785 (\$5.3/lb Ni) from 2015 to 2019
- Our goal is for the Tamarack Project to be the "Next Nova" due to the similarities of the two projects



## (4) GO GREEN-NICKEL<sup>™</sup>: DON'T BUILD TAILINGS DAMS

# "Tesla will give you a giant contract for a long period of time if you mine nickel efficiently and in an environmentally sensitive way"

Elon Musk, July 23, 2020



### (4) GO GREEN-NICKEL<sup>TM</sup>: DON'T BUILD TAILINGS DAMS (Continued)



The Brumadinho dam disaster in Brazil occurred on January 25, 2019: 270 people died as a result of the collapse, of whom 259 were officially confirmed dead, in January 2019, and 11 others reported as missing, whose bodies had not been found



Toxic slurry into a bay in Papua New Guinea's Madang province, turning the water bright red and staining the shore, August 24, 2019



#### (4) GO GREEN-NICKEL<sup>™</sup>: DON'T BUILD TAILINGS DAMS (Continued)



Filtered tailings facility, Greens Creek Alaska

Independent Expert Engineering Investigation and Review Panel, Report on Mount Polley Tailings Storage Facility Breach, *"Where do we go from here: Best Available Technologies (BAT) for closure"*, Figure 9.1.1, January 30, 2015



CROSS SECTION OF A CONCEPTUAL CO-DISPOSED FILTERED TAILINGS FACILITY (CFTF)

#### At the high grade Tamarack Project:

- Tailings will be cemented underground
- No tailings dam required: Remainder (low grade sulphur) tailings are stored in an Encapsulated Co-Disposed Filtered Tailings Facility



## (5) GO GREEN-NICKEL<sup>™</sup> FROM MINE TO BATTERY

The nickel industry for stainless steel has extended the nickel supply chain for batteries, requiring more energy and increasing the emissions footprint to achieve high purities for batteries





## SUMMARY - FIVE THINGS TO CONSIDER WHEN INVESTING IN A NI MINERAL EXPLORATION PROJECT

- ✓ Catch the ride up: Mine life cycle value creation curve:
  - ✓ Goldilocks zone: Resource expansion
- ✓ Be at the right time and place:
  - Do the right things now to start nickel production when EV is heading towards mainstream adoption

#### ✓ Be efficient:

- Stay with high grade, low capex, low cost and fast payback projects on infrastructure
- ✓ Go Green-Nickel<sup>™</sup> No tailings dams
- ✓ Go Green-Nickel<sup>™</sup> Integrate the supply chain









## Please visit www.talonmetals.com







## Further food for thought



#### STAINLESS STEEL NEEDS CLEAN SULPHIDE CONCENTRATES MAYBE EVEN MORE THAN EV

- EV or no EV, the demand for nickel concentrates is expected to rapidly exceed
- More so for clean nickel concentrates with low deleterious elements

supply

 "Payabilites" of Ni from the stainless steel supply chain are therefore expected to increase...without EV



Wood Mackenzie, The future of nickel production – Page 19, February 2015

