



# GIGAMETALS

CORPORATION

**Battery Metals for a Clean Energy Future**

January 2021

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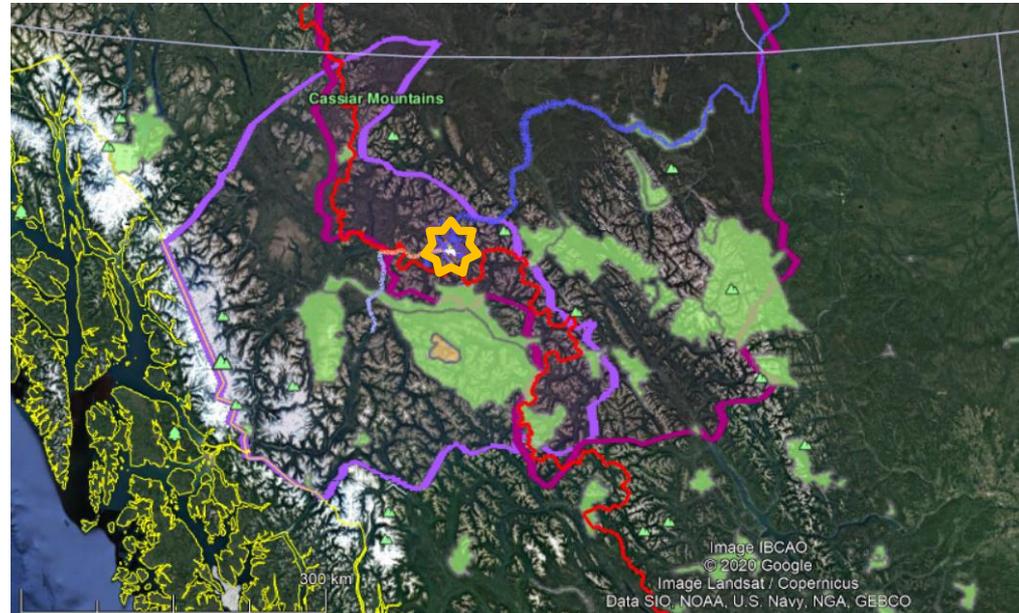
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*Scientific and technical information disclosed in this document has been reviewed and approved by Lyle Trytten, M.Sc., P.Eng., a Qualified Persons as defined by NI 43-101.*

# Giga Metals - Turnagain Project History

- Giga Metals Corporation owns the Turnagain nickel project
  - Tahltan and Kaska Dena traditional territory, Treaty 8
- Goal: **low-carbon supplier of battery metals** required for the global energy transition
- Focused on **nickel**, a key metal for Li-ion batteries
  - Project includes **cobalt**
- Project very active in 2004-2011
- **Re-activated in 2018**
  - Drilling, metallurgy, engineering
- **Completed new PEA in 2020**

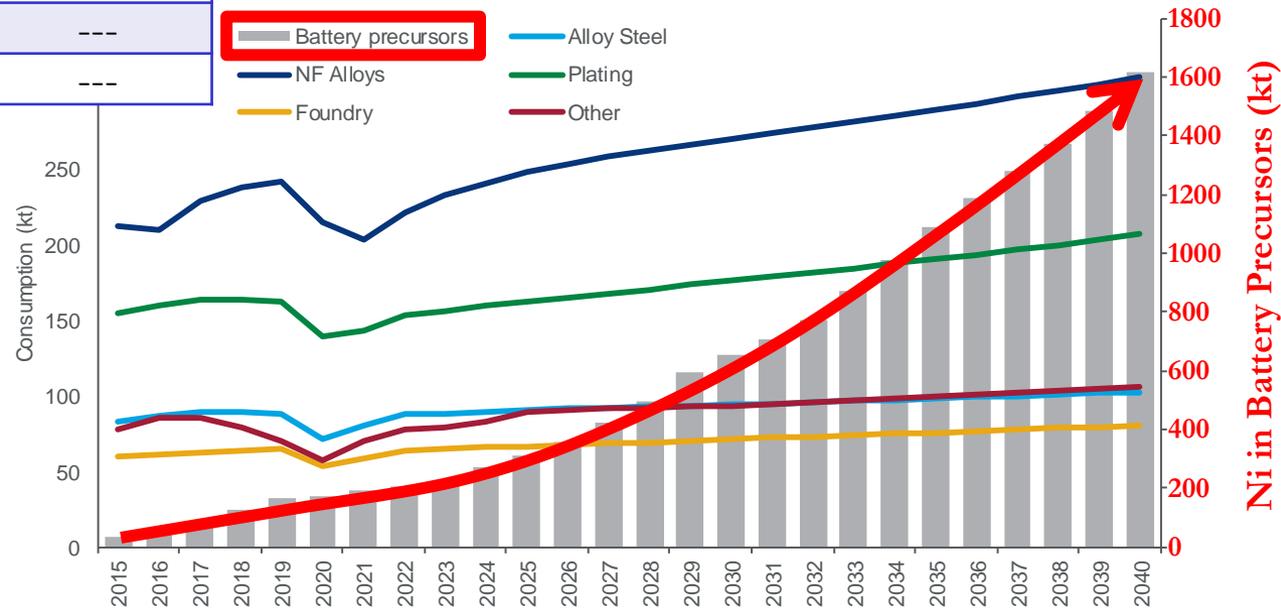


**Project Location with Traditional Territories, Parks, Continental Divide (red)**

# Increasing Battery Demand Needs New Nickel

Q4 2020 Forecasts			
Nickel Demand for Batteries (kt/y)			
	Wood Mackenzie	Macquarie	Benchmark Minerals
2025	300	500	434
2030	650	1,000	---
2040	1,610	---	---

*Li-ion batteries are the fastest growing source of demand for nickel.*



Source: Wood Mackenzie

*Up to 15 new Turnagain-scale mines are required by 2030 plus a further 25 mines by 2040 to supply the battery market.*

# Ethical sourcing is important to EV buyers

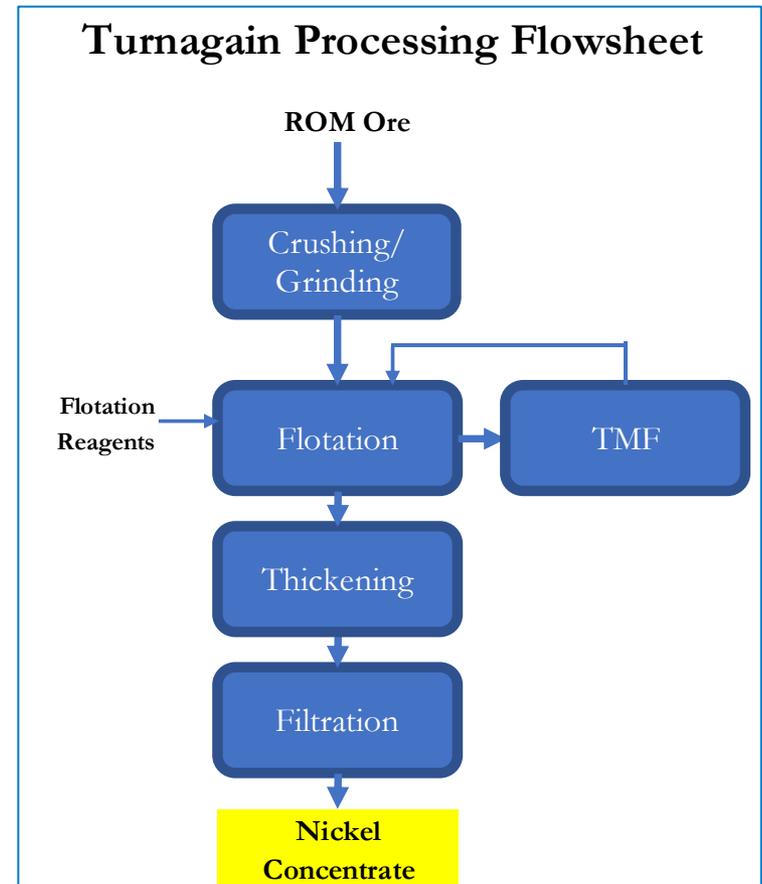
- Turnagain could provide important **ethically-sourced metals**
  - **BC is a positive:** thorough permitting, good environmental-social practices
  - **Supportive local communities** are important
  - Relatively **inert basic tailings** stored in a world-class tailings facility
  - **Near-neutral water balance**
- Turnagain mine could be **carbon-neutral**
  - Low emissions with hydroelectric power
  - Looking to future electric mine equipment
  - Silicate residue like Turnagain tailings **absorbs CO<sub>2</sub>**
  - Locks the CO<sub>2</sub> up as mineral carbonates
  - Giga **supporting research** to quantify rate of CO<sub>2</sub> sequestration (UBC)
- EV and battery supply chains are starting to look at these issues

# Giga Metals – 2020 Activity

- **Slow field season** due to pandemic and funding concerns
- Completed metallurgy variability program
- **Completed PEA**
- **Maintained environmental programs**
- Continued to support **CO<sub>2</sub> sequestration research** at UBC
- Led the Boulder Trail User Association to obtain Supplemental Use Permit
- Continue to work with quality consultants for all project aspects
  - Golder, ERM/RTEC, EDI, KP, Swiftwater for environment/archaeology

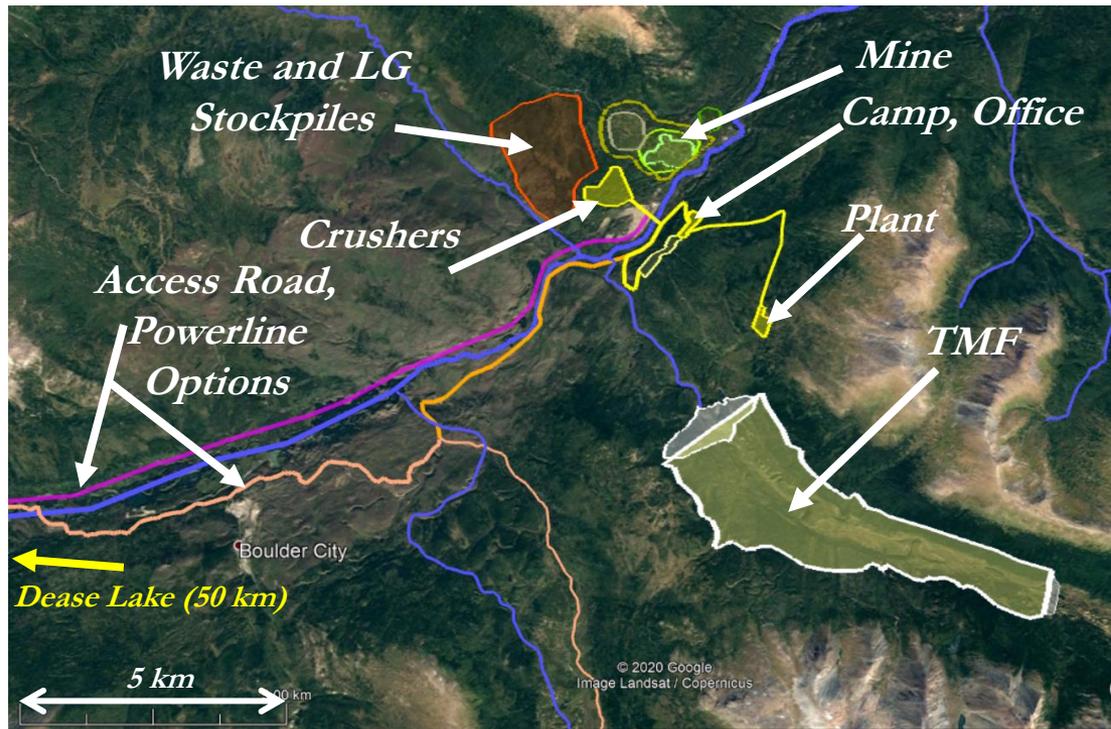
# Turnagain PEA Results

- Revised mine plan, **confirmed 35+ year** large-scale project
  - 90,000 t/d operation at full rates
- Confirmed **simple flowsheet** to make high-grade nickel concentrate
  - Improved flowsheet → lower power consumption
- Previous study was optimistic on nickel recoveries
- Nickel concentrate suitable for sale to smelters or direct refining



# Giga Metals – PEA Results

- **Improved site layout** to reduce risks and power consumption
  - Crushed ore conveying eliminates uphill tailings pumping (400 m rise)
  - Process plant above TMF for gravity flow
- **Refined TMF design** to reduce risks – maintain 2011 Flat Creek location
  - Sub-aerial tailings with small process water pond
  - Center-line construction with quarried material
- **Confirmed BC Hydro** vs fossil fuel power plant
- Overall footprint ~1,850 ha
  - ≈ Terrace (main part)
  - ≈ 7x Dease Lake (incl airport)



# Giga Metals – PEA Results

- Updated production profile, costs
  - Include **C\$415M in offsite infrastructure** – power line, access road

Costs (US\$M)	Phase 1 (Y1-5)	Phase 2 (Y6-20)	Life of Mine
Nickel Production (t/y in concentrate)	22,750	37,150	33,200
Offsite Infrastructure Capital	\$320		\$320
Site Construction Capital	\$1,060	\$530	\$1,590
Sustaining Capital	\$240	\$1,000	\$1,760
NTL Contributions, Closure	\$128	\$97	\$240

- Updated economics

	Base Case	“ESG” Case
Nickel Price (US\$/lb)	\$7.50	\$8.50
IRR	6.3%	9.4%
NPV (8%, US\$M)	(\$269)	\$244

# Giga Metals – PEA Outcomes, Interpretation

- Poor economics at base case prices
- **Significant infrastructure expenses**
  - C\$415M for power line, access road
- **Important source of ethical metals** to an industry which wants them
- **Massive 37 yr project life** without more resource exploration
- **Significant economic benefits** to region, province, country
  - Direct, indirect, induced jobs
  - Payroll taxes (income tax, CPP, EI)
  - BC Mining Tax
  - Corporate Tax

# Giga Metals – Economic Benefits

Work Phase	Expenditure	Direct Jobs (FTE)	Indirect + Induced (FTE)	Total Jobs Impact (FTE)
Construction (2 phases)	C\$2.5 Billion (over 5 yrs)	10,100	15,100	25,200
Operation (incl Sustaining Capital)	C\$375M (annual average)	840	2,160	3,000
<b>Total Project</b>	<b>C\$16.3 Billion (over 37 yrs)</b>	<b>41,200</b>	<b>95,100</b>	<b>136,300</b>

- Other Economic Indicators (Life of Mine)

- C\$0.2 Billion NTL Access Payment (BC Hydro)
- C\$0.5 Billion Direct Payroll Taxes
- C\$0.5 Billion BC Mining Tax base case (ESG Case = C\$0.85B)
- C\$1.0 Billion Corporate Taxes base case (ESG Case = C\$1.6B)
- C\$2.6 Billion Owners Cash Flow base case (ESG Case = C\$4.3B)

## Cash Flow Balance

46%

54%

# 2021/22 Focus – Prefeasibility, Start of EA

- Advance environmental programs
  - Continue existing work – trail cameras, hydrology, meteorology
  - Metal leaching/acid rock drainage on samples
  - Groundwater sampling, ecosystem mapping, aquatic studies, etc
- Advance engineering studies and in-field programs
  - Tailings alternatives study (location and technology)
  - Field geotechnical studies (+archaeology)
  - Pre-feasibility study (PFS)
- Continue metallurgical studies
  - Geometallurgy – how parts of the deposit behave → improved project plans
  - Hydrometallurgy – direct nickel refining from concentrate → no smelting
- Continue CO<sub>2</sub> Sequestration research
  - Demonstrate that we can be a carbon-neutral mine

# Contact Information



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