

## **Cobalt for the Electric Vehicle Market**

**Putting North America in the Driver's Seat** 

TSX-V: FCC OTCQX: FTSSF

JANUARY 2020

### **FORWARD** LOOKING **STATEMENTS**

All statements in this presentation other than statements of historical fact constitute "forward-looking statements" within the meaning of the United States Private Securities Litigation Reform Act of 1995, and "forward-looking information" under similar Canadian legislation and are based on the reasonable expectations, estimates and projections of First Cobalt Corp. as of the date of this presentation. Forward-looking statements and forward-looking information include, without limitation, possible events, trends and opportunities and statements, including with respect to the state of the cobalt market, global market conditions, results of exploration activities, potential

acquisitions, capital expenditures, successful development of assets, currency fluctuations, government policy and regulation and environmental regulation. In particular, forward-looking information included in this presentation includes, without limitation, the opportunity to restart the First Cobalt refinery and targeted metrics. Generally, forward-looking statements and forward-looking information can be identified by the use of forward-looking terminology such as "plans", "expects" or "does not expect", "is expected", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates", "believes", or variations of such words or state that certain actions, events or results "may", "could", "would", "might" or "will be taken", "occur" or "be achieved". Forward-looking statements and forward-looking information are necessarily based upon a number of estimates and assumptions that, while considered reasonable by the Company as of the date of such statements, are inherently subject to significant business, economic and competitive uncertainties and contingencies. Known and unknown factors could cause actual results to differ materially from those projected in the forward-looking statements and forward-looking information. Such factors include changes in supply and demand for cobalt, the results of metallurgical and engineering studies, changes in competitive pressures, timing and amount of capital expenditures, changes in capital markets, changes in exchange rates, unexpected geological or environmental conditions, changes in and the effects of, government legislation, taxation and regulations and political or economic developments, success in attracting officers for the future success of the Company's business, success in obtaining any required additional financing to advance strategic priorities, and risks associated with obtaining necessary licenses or permits.

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Timelines used in this presentation are for the purpose of aiding management in the planning and implementation of the projects and are not based on a detailed assessment of project requirements. Consequently, the timelines are subject to material revision as subsequent technical reports and assessments are completed. Future phases of the project are contingent upon completion of preceding phases. Nothing in this presentation should be construed as either an offer to sell or a solicitation of an offer to buy or sell shares in any jurisdiction.

Peter Campbell, P.Eng. and Dr. Frank Santaguida, P.Geo. are Qualified Persons as defined by National Instrument 43-101 - Standards of Disclosure for Mineral Project ("NI 43-101") and have reviewed and approved the technical content in this presentation. Both are employed on a full-time basis as officers of First Cobalt. See website for additional Notes To Mineral Resource Estimate.



### **NORTH AMERICA'S VULNERABILITY**

100% Reliant on Imports of Cobalt Sulfate for Lithium-ion Batteries

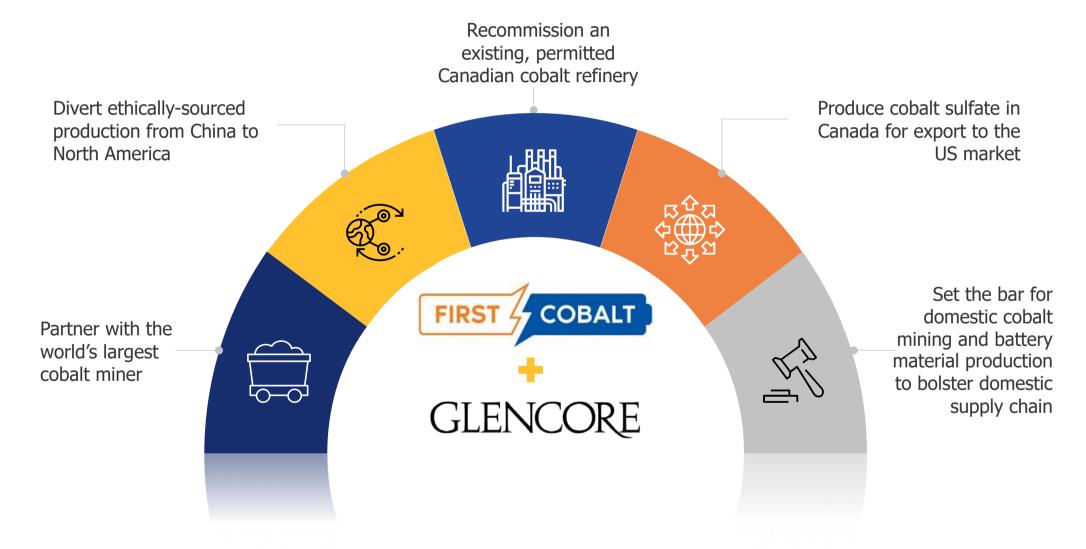


1. Source: Benchmark Mineral Intelligence



### FIRST COBALT HAS THE SOLUTION

### An Emerging Canadian Champion, Competing on the Global Stage







### **SHARE STRUCTURE**

**Covering Analysts** 

**Eric Zaunscherb** 

**David Talbot** 



SHARE PRICE	C+0.41		372.2M
(TSX-V 11/01/19)	C\$0.1	- -	Basic
52 WEEK HIGH/LOW	C\$0.245 C\$0.115		22.3M
AVE. VOL/DAY (20-DAY)	600,000		Warrants
MARKET CAP	C\$58M		15.3M
VORKING CAPITAL 09/30/19)	C\$7M		Options

### **LEADERSHIP TEAM**



TRENT MELL President, CEO & Director



RYAN SNYDER CPA Chief Financial Officer



**GOV. BUTCH OTTER** 

**Director** Retired, Governor of Idaho ('07-'19)



PETER CAMPBELL P.ENG Vice President, Business Development



**JOHN POLLESEL** 

Chairman CEO, Boreal Agrominerals Inc.



**SUSAN UTHAYAKUMAR** 

**Director** President, Schneider Electric Canada



DR. FRANK SANTAGUIDA P.GEO

Vice President, Exploration



**GARETT MACDONALD P.ENG** 

**Director** President & CEO, Maritime Resources

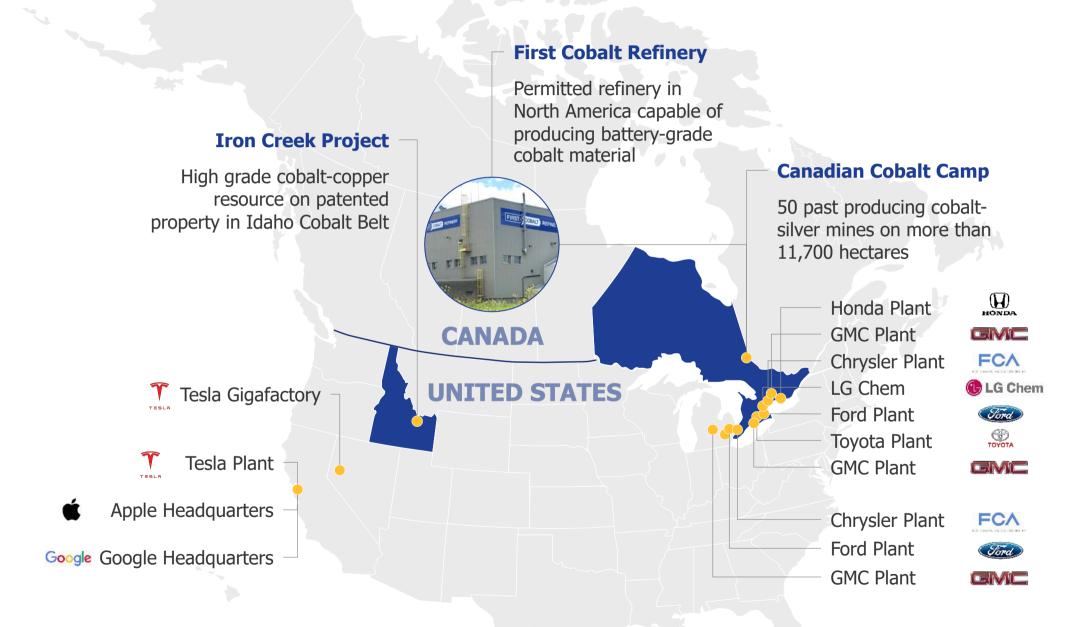


**HENRIK FISKER** 

**Special Advisor** Chairman & CEO Fisker Inc.



### **FIRST COBALT ASSETS**





### NORTH AMERICA'S ONLY PRIMARY COBALT REFINERY

- Hydrometallurgical cobalt refinery located in Ontario, Canada
- Uniquely positioned to supply North American auto markets







Commissioned in 1996 and on care and maintenance since 2015



2020

**Potential Restart of the Refinery** 



5,000 tpa cobalt

**Production Scenario**<sup>1</sup>



\$100M

Replacement Value (Hatch Report, 2012)

1. See Ausenco scoping study, available on our website

### **PROVEN FLOWSHEET FOR BATTERY-GRADE COBALT**

Successful test work using First Cobalt Flowsheet and Third-Party Cobalt Hydroxide

99.96%1

**Purity** 

**Battery-grade cobalt sulfate** 

Conventional process of

leaching, solvent extraction

& sulfate crystallization

20.8%<sup>1</sup>

2018 test was a single process, batch test that offers ample opportunity to further enhance product specs



2019 advanced metallurgical testing of Glencore feed material is a key deliverable for the Q1 2020 feasibility study

1. Preliminary Lab Results



### SCOPING STUDY RESULTS

Can produce cobalt sulfate or metallic cobalt for North America using Cobalt Hydroxide feed

Existing autoclave circuit not required to process cobalt hydroxide, eliminating a bottleneck

Ausenco study outlines potential to produce over 5,000 tpa of cobalt in sulfate at a capital cost of US\$37.5 million to expand the flow sheet and optimize the existing building footprint

<sup>1.</sup> Based on Ausenco scoping study. A feasibility level study is in progress to confirm the economic viability of operating the refinery.



### **Refinery (top left) and Empty Warehouse (lower right)**



### **Projected Metrics<sup>1</sup>**

Throughput	TPD	55	
Capital Cost (incl. 30% Contingency)	US\$M	37.5	
Operating Cost per lb.	US\$	2.29	
<b>Head Grades</b>	%	30	
Availability	%	91	
Recoveries	%	95	
<b>Cobalt in Product</b>	Tonnes	5,020	

### **GLENCORE PARTNERSHIP**

Fully-Funded Opportunity to Restart Refinery







**US\$5M** from Glencore to study a long-term supply agreement to treat Glencore material

Feasibility study underway for 55 tpd expansion, to produce 5,000 tonnes/yr of cobalt in content  $(\sim 7.5\% \text{ of cobalt}$ sulfate market)

Established framework to fund full expansion<sup>1</sup>

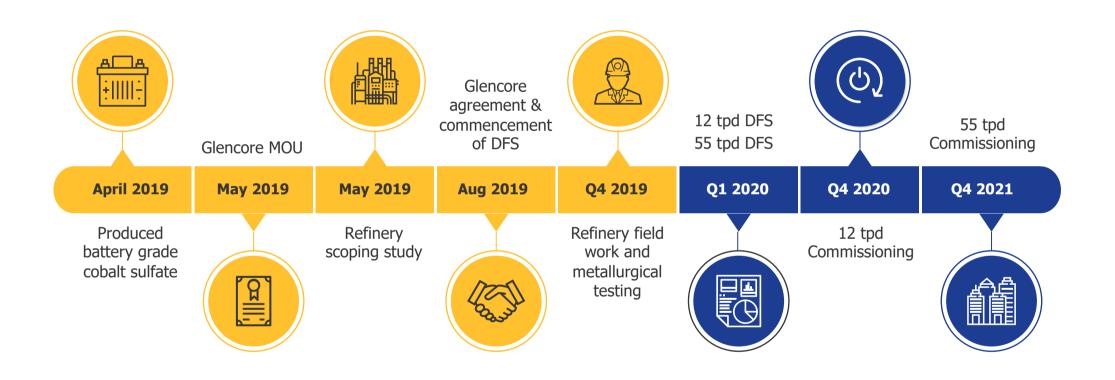
• Up to **US\$40M**, repaid from refinery cash flow Would be the only North American cobalt sulfate supply

- Targeting 12 tpd in late 2020 for early cash generation and product qualification process
- Targeting 55 tpd in 2021

1. Subject to a positive feasibility study and negotiation of definitive commercial terms.



### **MILESTONES & UPCOMING CATALYSTS**











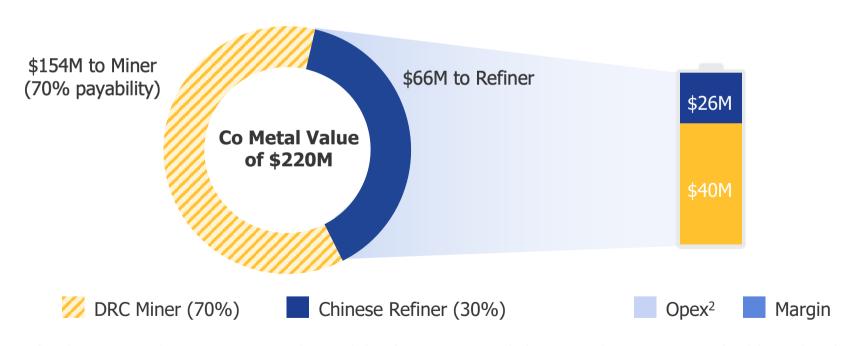


### **REFINERY MARGIN POTENTIAL**

Chinese refiner payment for DRC cobalt hydroxide varies with the cobalt price

- +/- 65% of cobalt content in lower price environments
- +/- 75% of cobalt content in higher price environments

Illustrative Example of Refinery Economics<sup>1</sup>
Assumes \$20/lb cobalt sulfate and 11 Mlbs Co (~5,000 tonnes)



1. Illustration of market margins and not a representation of First Cobalt Refinery economics, which remains subject to an ongoing feasibility study and commercial discussions; 2. Assumes the operating cost estimate contained in First Cobalt's Ausenco scoping study
Source: Benchmark Minerals

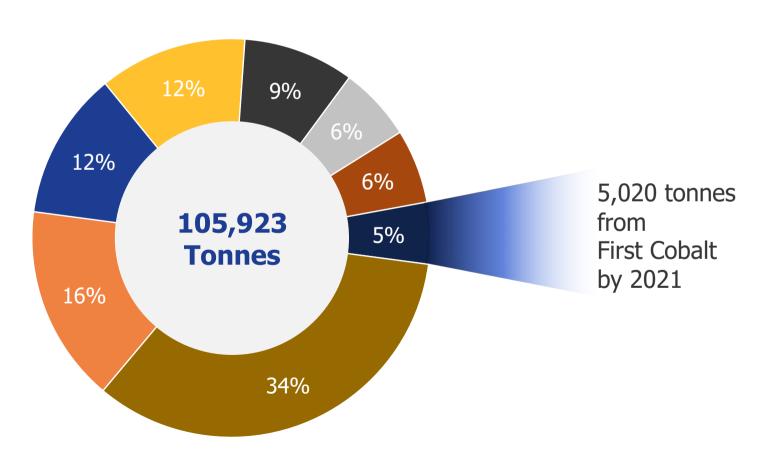


### POTENTIAL MARKET SHARE

First Cobalt could become the fourth largest cobalt refiner outside China



- Jinchuan Group
- Freeport Cobalt
- Shenzhen GFM
- Chambishi (ERG)
- Glencore
- First Cobalt
- Other







### COBALT MINING CONCENTRATED IN DRC

2019 Produc est. (t)	tion Market Share	Company	Project	Location	Primary Metal
25,000	22%	Glencore	Mutanda	DRC	Copper
17,200	15%	CMOC	Tenke Fungurume	DRC	Copper
14,000	8%	Glencore	Katanga	DRC	Copper
6,500	5%	Chemaf	Etoile & Usoke	DRC	Copper
5,550	4%	Zhejiang Huayou Cobalt	CDM	DRC	Copper
5,550	4%	Hanrui	Metal Mines	DRC	Copper

- In 2019, the top 6 cobalt producers accounted for almost 60% of global mine production
- Surge in DRC artisanal mining in 2017 resulted in a surplus of cobalt hydroxide production, depressing prices
- Price outlook more constructive after recent actions by Glencore, ERG, CTT and Huayou to limit supply, with some analysts predicting a looming deficit<sup>1</sup>

Source: Benchmark Mineral Intelligence 1. Citi Velocity Market Update, August 8, 2019



# REFINING CAPACITY PRIMARILY IN CHINA

US almost 100% reliant on cobalt imports for industrial and military needs

### **2019 Global Cobalt Mine Production**



### **2019 Refined Supply All Cobalt Products**



### **Projected Refined Supply Battery-grade Cobalt**



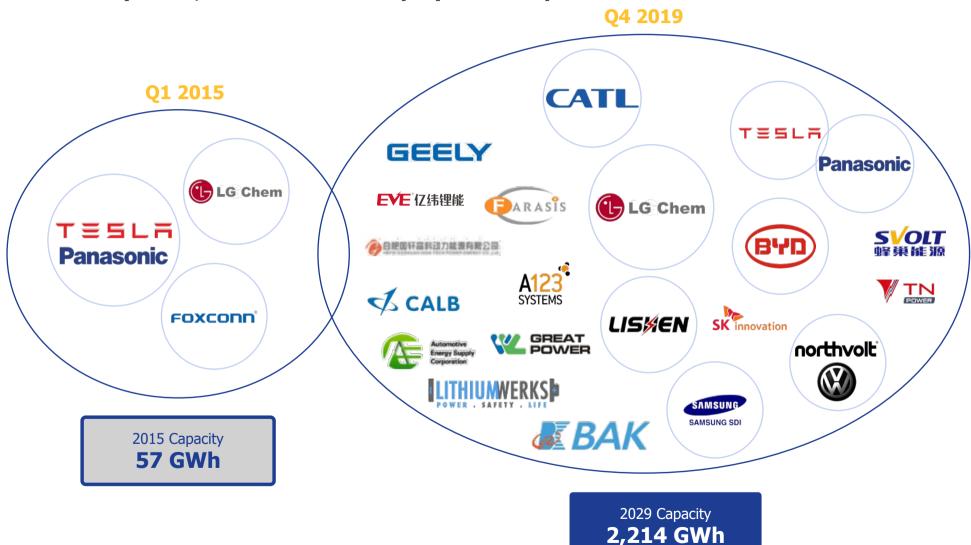
Commanding control over cobalt used in lithium-ion batteries market



Source: Benchmark Mineral Intelligence

### **BILLIONS TO BE INVESTED IN BATTERY MARKET**

Benchmark Minerals is tracking 115 plants globally with a combined capacity of 2213.5 GWh by 2029, as North America plays catch-up

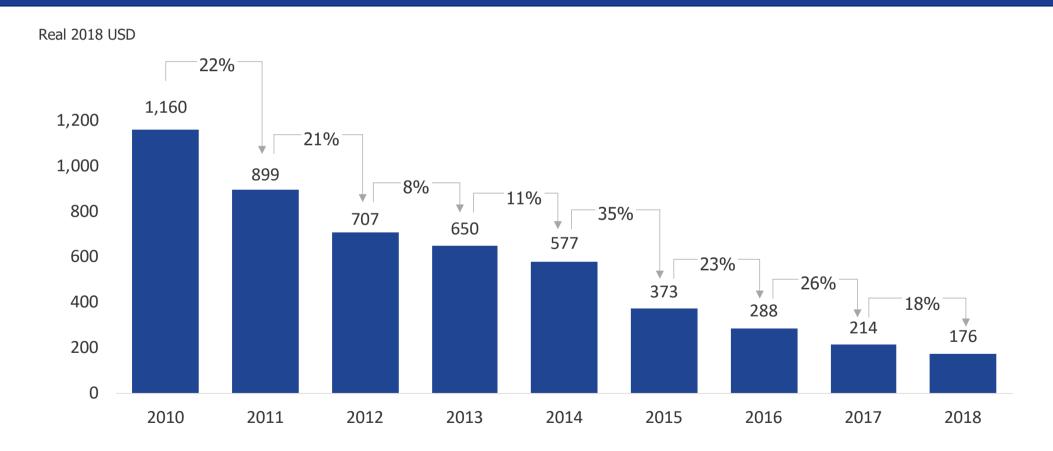


Source: Benchmark Mineral Intelligence



### **ELECTRIC VEHICLES INCRESINGLY AFFORDABLE**

- Average battery pack price projected to be \$94/kWh by 2024 and \$62/kWh by 2030
- Cost parity with combustion engines expected to occur near the \$100/kWh



Source: Bloomberg NEF



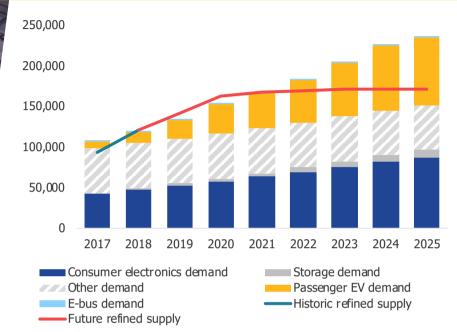
# BATTERY MANUFACTURING CAPACITY TO EXPAND IN NORTH AMERICA

Demand from EV batteries projected to grow by 34% in 2019 (Citigroup)

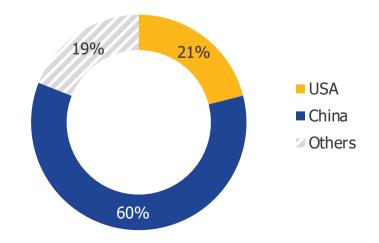
US will become the second largest EV battery maker worldwide

Refined cobalt supply may not meet demand in 2021

### **Projected Supply Shortfall**



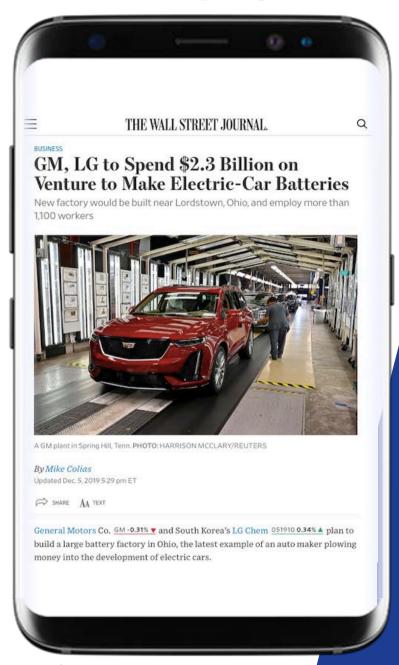
### **2021 Global Battery Manufacturers**



Source: Bloomberg NEF

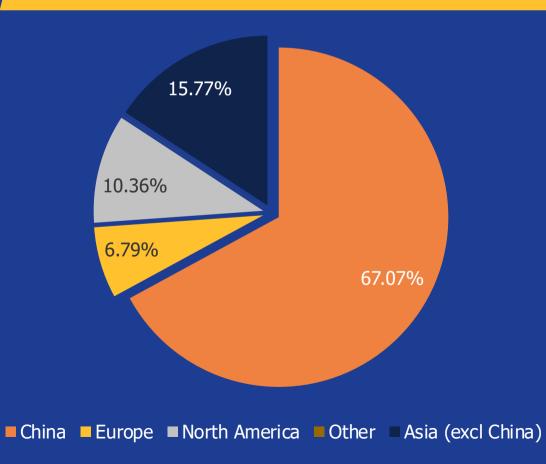


### THE TIME IS NOW



- Billions of dollars of EV supply chain investments to be announced over the next 12-18 months
- Stronger supply chain makes Canada's auto sector more competitive

### **Battery cell manufacturing 2018**







### **IDAHO COBALT BELT**

### Idaho: Largest unmined cobalt resource in U.S.

- District hosts primary cobalt deposits
- Includes former producing Blackbird Mine (1902-1968)
- Idaho has a long mining history, including silver and phosphate

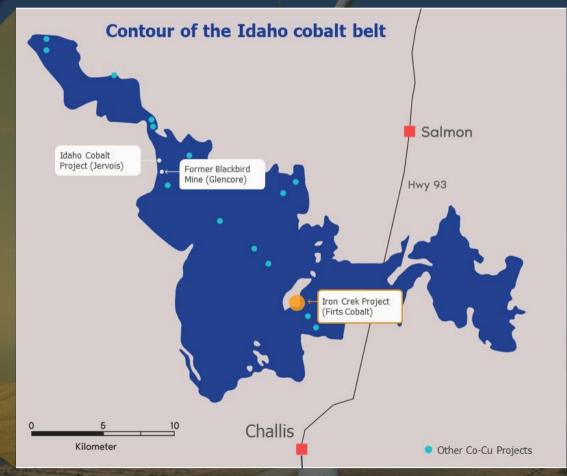
IDAHO

42km

from town of Salmon in central Idaho

1,700 acres

7 mining patents surrounded by 83 claims





### GROWING LONG-TERM COBALT SUPPLY FROM IRON CREEK



Higher-grade Co and Cu zones to the east and west respectively **remain open along strike and down-dip** 



Mineralization is stratabound with true widths up to 30 metres thick



High property potential with other known surface mineralized zones

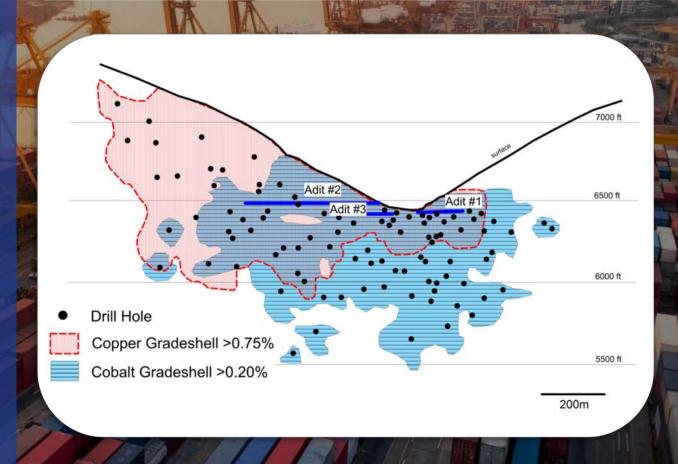


Metallurgical tests show conventional extraction methods applicable



Category	Tonnes	CoEq (%)	Cobalt (%)	Cobalt (Mlbs)	Copper (%)	Copper (Mlbs)
Indicated	2,154,000	0.32	0.26	12.3	0.61	29.1
Inferred	2,676,000	0.28	0.22	12.7	0.68	39.9

Resource calculation at 0.18% CoEq cutoff. 43-101 report available on FCC website.



HISTORIC CANADIAN COBALT CAMP

Canada's oldest mining district was once a large producer of Ag and Co

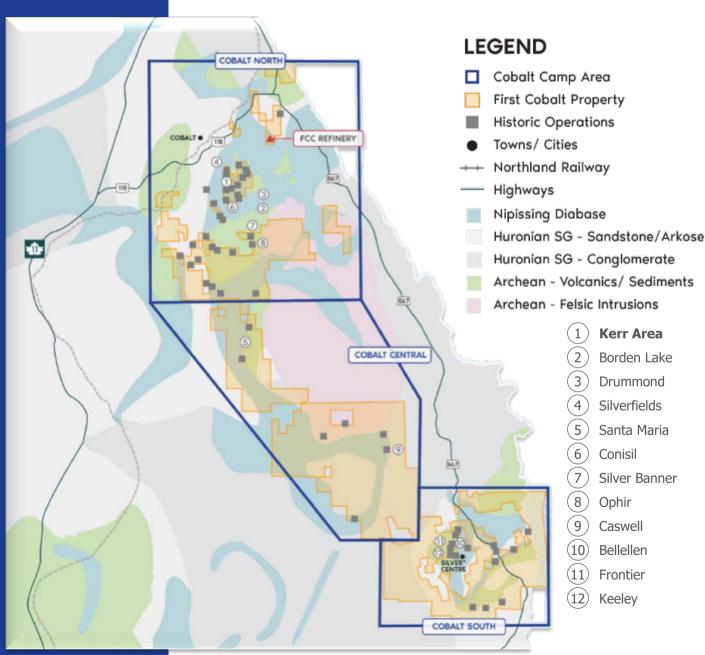
45% controlled by FCC

**50** past producing mines

### **High Grade**

mineralization close to Refinery, including drill intercepts:

- 6.5m at 0.33% Co and 133 g/t Ag
- 4.3m at 0.37% Co and 686 g/t Ag







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