

# Cobalt-Co



## Investment Opportunities NORTHWEST TERRITORIES

Government of  
Northwest Territories  
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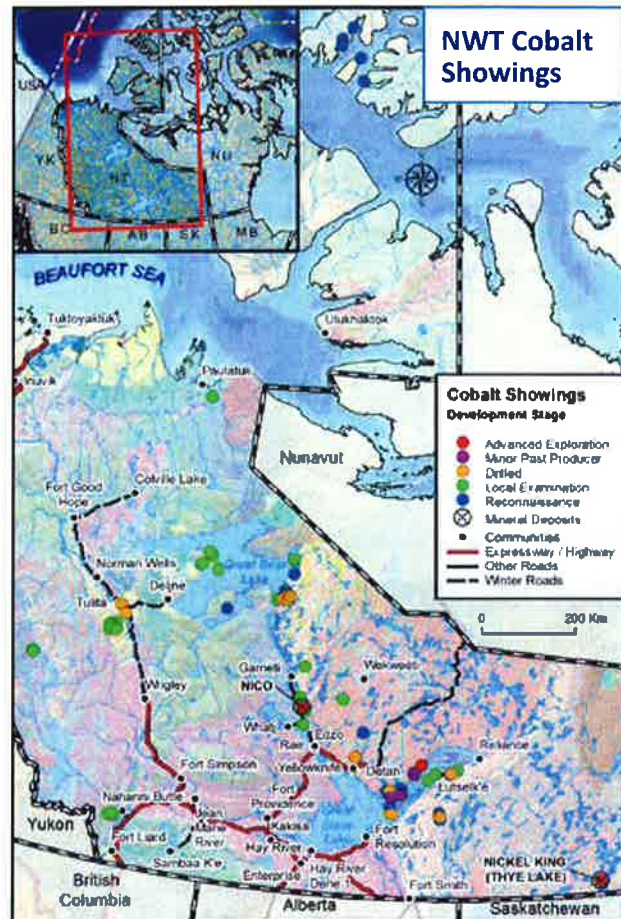
Cobalt is recognized as a strategically important metal by both the US and European Union. This is because cobalt has become an essential metal in the rechargeable battery manufacturing and electric car industries. Metal forecasts predict that by 2019 over half of the cobalt that is produced will be used to make rechargeable batteries<sup>1</sup>.

### Northwest Territories Activity

Fortune Minerals' NICO project is an advanced cobalt-gold-bismuth-copper project that has been approved for mine development following an environmental assessment and a positive feasibility study completed in 2014. The mine as proposed is expected to support a 21-year mine life with a mill feed rate of 4,650 tonnes of ore per day. Life-of-mine production estimates project 1,615 tonnes of battery-grade cobalt, 41,300 ounces of gold, 1,750 tonnes of bismuth and 265 tonnes of copper. This project requires financing to build and operate the mine.

Strongbow Exploration's Nickel King deposit in the NWT is close to the border with Saskatchewan, and approximately 145 km northeast of the town of Stony Rapids, Saskatchewan. A resource estimate was calculated in 2009 at various nickel cut-off grades. (Nickel is the primary resource, whereas cobalt is a secondary product.) Several satellite deposits and geophysical targets that remain to be tested in the area may be found to contain additional resources.

The Northwest Territories has seen cobalt production in the past from various operations located at the eastern edge of Great Bear Lake and in the vicinity of the East Arm of Great Slave Lake. Cobalt was commonly produced as a by-product of polymetallic veins.



<sup>1</sup> <https://electrek.co/2016/11/01/breakdown-raw-materials-tesla-batteries-possible-bottleneck/>



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## Uses

- A positive electrode in lithium-ion batteries in electric vehicles and portable electronics.
- Forms a superalloy that is used in the aerospace industry to make power and jet engine turbines.
- A component of a hard-wearing alloy used in wind turbines.
- Electromechanical devices such as magnets, electric motors, generators and transformers.
- Potential as a catalyst in hydrogen fuel cells.

## Growth of Cobalt Demand

Cobalt demand is currently driven by consumer demand for portable electronic devices and for electric vehicles. China is the world's largest consumer (and refiner) of cobalt and the Democratic Republic of Congo is the world's leading producer with over one-half of the world's total production.

In a typical Lithium Cobalt Oxide (LCO) battery, used in cell phones, laptops and cameras, cobalt is used as the positive electrode with approximately 60 per cent cobalt by weight. In electric vehicle batteries and power tools there is between 10-20 per cent cobalt by weight.



Cobalt is used in electric vehicle batteries.

## Prospects

Name	Status	Project Owner / Manager	Resource Category	Total Resource: million tonnes (Mt)	Grade: grams per tonne (g/t)
NICO	drilled; advanced project	Fortune Minerals Ltd.	Proven and Probable Reserve	33 Mt	0.11% Co + 1.03 g/t Au + 0.14% Bi + 0.04% Cu
THYE LAKE (NICKEL KING)	drilled	Strongbow Exploration Inc.	Indicated (Main Zone)	11.1 Mt	0.4% Ni, 0.1% Cu, 0.018% Co

This publication is produced by the Department of Industry Tourism and Investment (ITI). The Northwest Territories has one of the most diverse geological environments of any jurisdiction in Canada, one that includes the oldest rocks in the world and geological features that have resulted from modern and ongoing processes. The Northwest Territories Geological Survey (NTGS) surveys, collects, analyzes and makes available public geoscience information gathered from a variety of sources, including information on mineral deposits and geology. NTGS, ITI and the NWT and Nunavut Chamber of Mines host the Yellowknife Geoscience Forum each year in November: [www.geoscienceforum.com](http://www.geoscienceforum.com)

For more information about these deposits, please refer to Guide to Selected Mineral Deposits of the Northwest Territories

[www.iti.gov.nt.ca/en/files/guide-mineral-deposits-northwest-territories](http://www.iti.gov.nt.ca/en/files/guide-mineral-deposits-northwest-territories)

Please visit company websites for latest information.

[www.nwtgeoscience.ca](http://www.nwtgeoscience.ca)

[www.iti.gov.nt.ca](http://www.iti.gov.nt.ca)

Note: Discrepancies in the numbers may differ from published reports due to rounding.