

# Unlocking our Potential

## **Mineral Commodity Fact Sheets**

Cobalt Copper Diamonds Gold Lead-Zinc Lithium Rare Earth Elements Tungsten Vanadium



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: <a href="https://www.geoscienceforum.com">www.geoscienceforum.com</a>

.....

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

Please visit company websites for latest information.

www.nwtgeoscience.ca

www.iti.gov.nt.ca

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



# Cobalt-Co

## **Investment Opportunities**

NORTHWEST TERRITORIES

December 2021

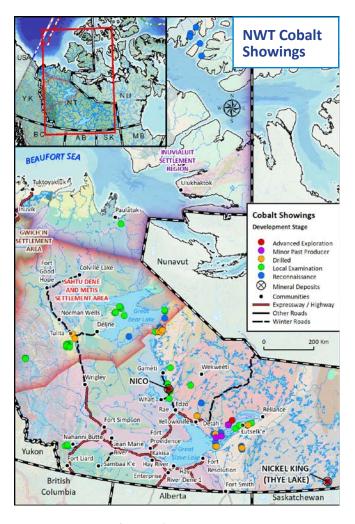
Cobalt is recognized as a strategically important metal by Canada, the EU and US. This is because cobalt has become an essential metal in the rechargeable battery manufacturing and electric vehicle (EV) industries. As the markets for EVs and rechargeable batteries grow, the global demand for cobalt is expected to surge to 229,000 tonnes by 2025 (up 74% from 2020¹.

## **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, was expected to support a 21-year mine life. Fortune is working on an updated feasibility study that will incorporate changes in the production rate amongst other variables. The NICO deposit contains proven and probable reserves of 33 million tonnes, including 1.1 million ounces of gold, 82 million pounds of cobalt, 102 million pounds of bismuth and 27 million pounds of copper. Negotiations into project financing are ongoing.

Fortune Minerals has received environmental assessment approval to build a 49-kilometre spur road from Whatì to the proposed mine. The Tlicho Highway from the existing Highway 3 to the community of Whatì opened November 30, 2021. The all-season highway was partially funded by the government and will benefit Fortune Minerals and other Mineral Resource development projects in the area. Fortune completed a socio-economic agreement with the Government of the Northwest Territories in early 2019. Geophysical surveys were completed on new targets at the Nico property during 2020. Fortune continues to explore around the deposit to expand on the Mineral Resource with drilling planned into 2022.

Cornish Metals Inc.'s Nickel King deposit in the NWT is close to the border with Saskatchewan, and approximately 145 kilometres 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 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.

 $<sup>^1 \,</sup> https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/global-cobalt-supply-deficit-not-as-dire-analysts-say-66734094$ 

# **Cobalt-Co**



- 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 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	Development Stage	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 Reserves	33 Mt	<b>0.11% Co +</b> 1.03 g/t Au + 0.14% Bi + 0.04% Cu
THYE LAKE (NICKEL KING)	drilled; advanced exploration	Cornish Metals Inc.	Indicated Resources	11.1 Mt	0.4% Ni, 0.1% Cu, <b>0.018% Co</b>





## **Investment Opportunities**

NORTHWEST TERRITORIES

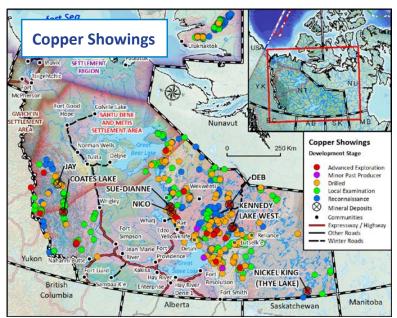
December 2021

Cooper is recognized as a critical mineral by Canada, the EU and the US. Copper is second only to silver in its ability to conduct electricity. Native copper was initially discovered by Inuit in the Coppermine River and Coronation Gulf areas. Since then, copper has been found in sedimentary rocks in the Mackenzie Mountains, in polymetallic veins associated with silver, tungsten and gold, in iron oxide copper gold (IOCG) type deposits, in volcanogenic massive sulphide deposits and in magmatic sulphide deposits.

Copper has three other key properties that make it ideal for the clean energy transition: ductility can easily be shaped into pipes, wires or sheets; efficiency - thermal efficiency is ~ 60% greater than aluminum, so it can remove heat far more rapidly; and recyclability - is 100% recyclable and can be used repeatedly without any loss in performance. These properties make copper essential for energy storage, electrical propulsion (e.g., EVs), and renewable energy. Copper is the most needed mineral for clean energy technologies.

## **Past Production and Current Activity**

Copper has been produced as a significant by-product in several mines that have operated in the Northwest Territories. Examples of this include the Echo Bay Mine, which was primarily a silver mine. However, from 1964 to 1976, the mine produced 4,935 tonnes of copper. Echo Bay Mines Ltd.'s Eldorado Mine produced 2,114 tonnes of copper between 1975 and 1982 as a by-product of silver production; and Terra Mine produced silver and byproduct copper beginning in 1969 through until 1985. In total, 1,633 tonnes of copper were produced (in addition to 14.5 million ounces of silver). The Cantung Mine area was initially staked in the 1950s because of its copper showings. Cantung produced 1,202 tonnes of copper in addition to over 5.3 million tonnes of tungsten between 1962 and 1986.



Fortune Minerals Ltd.'s NICO project is a proposed bismuth, gold, cobalt and copper producer. The company has construction permits, is negotiating financing and will benefit from Tlicho all-season road construction by the Government of the Northwest Territories (GNWT) which opened to the public on November 30, 2021. Fortune Mineral's Sue-Dianne deposit 25 kilometres north of NICO hosts an indicated 8.4 million tonnes of ore with an average grade of 0.8% Cu.

**Redbed Resources Corp.** owns a property that covers the Coates Lake/Redstone deposit. A historic NI 43-101 noncompliant inferred resource was estimated using widely spaced holes over a strike length of 6.5 kilometres. A possible 33.6 million tonnes at a grade of 3.92% Cu was calculated.

Seabridge Gold Inc. holds the Deb deposit within its Courageous Lake project. Since 2003, Seabridge has focused its work on other areas, so the historic NI 43-101 non-compliant inferred resource of one million tonnes with an average grade of 0.83% copper, 2.96% zinc and 21.9 g/t silver has not changed.

# Copper-Cu

Panarc Resources Ltd.'s Indian Mountain Lake project hosts several volcanogenic massive sulphide deposits, one of which, Kennedy Lake West, is copper enriched. A historic NI 43-101 non-compliant resource estimated the deposit contained 550,000 tonnes at an average grade of 1.12% copper.

Several other known polymetallic deposits in NWT contain copper and, if they were to be brought into production, copper would likely be produced as a by-product.

## **Other Prospects**

The Jay deposit lies within sedimentary rock within the Sahtú Dene and Métis Settlement Area Conservation Zone. The showing was first discovered in 1969. A non-compliant historic inferred resource estimated the stratiform deposit contained 1.2 million tonnes with an average grade of 2.7% copper.

#### **Uses**

- Widely used in the automotive industry, copper is a component in wiring, motors, radiators, connectors, brakes, and bearings.
- Electrical wiring, power distribution cables, appliance wiring, and communications cables all contain copper.
- Copper is in integrated circuits and printed circuit boards, electromagnets, magnetrons in microwave ovens and in some cooking utensils.
- Buildings contain copper wiring, plumbing, water pipes, thermostats and paint pigments and may be used in roofs and flashing, heat sinks and heat exchangers.
- Copper has anti-microbial applications that kill bacteria, so it is a component within bedrails, handrails, doorknobs, computer keyboards and health club equipment.

## **Prospects**

Name	Development Stage	Project Owner / Manager	Resource Category	Total Resource: million tonnes (Mt)	Grade: grams per tonne (g/t)
COATES LAKE (REDSTONE)	drilled; advanced exploration	Redbed Resources Corp.	Historic (non-NI-43-101 compliant) Reserve	33.6 Mt	<b>3.92% Cu</b> + 9 g/t Ag
DEB (COURAGEOUS LAKE)	drilled; advanced exploration	Seabridge Gold Inc.	Historic (non-NI-43-101 compliant) Resource	1.0 Mt	0.4% Ni, 0.1%
KENNEDY LAKE WEST (INDIAN MOUNTAIN LAKE)	drilled; advanced exploration	Panarc Resources Ltd.	Historic (non-NI-43-101 compliant) Resource	3.0 Mt	<b>10% combined Zn-</b> <b>Pb-Cu</b> + 0.6 g/t Au + 125 g/t Ag
NICO	drilled; advanced exploration	Fortune Minerals Ltd.	Proven and Probable Reserve	33 Mt	0.11% Co + 1.03 g/t Au + 0.14% Bi + <b>0.04% Cu</b>
SUE-DIANNE	drilled; advanced exploration	Fortune Minerals Ltd.	Indicated (and Inferred) Resource	8.44 (1.62) Mt	<b>0.80 (0.79)% Cu</b> + 0.07 (0.07) g/t Au + 3.2 (2.4) g/t Ag
THYE LAKE (NICKEL KING)	drilled; advanced exploration	Cornish Metals Inc.	Indicated Resource	11.1 Mt	0.4% Ni + <b>0.1% Cu</b> + 0.018% Co





## **Investment Opportunities**

#### **NORTHWEST TERRITORIES**

December 2021

The mineral-rich Slave Geological Province is host to three operating mines (Diavik Diamond Mine, Ekati Mine, and Gahcho Kué Mine), one past producer (Snap Lake Mine) and numerous exploration and advanced development diamond projects. The NWT has been among the top global producers of diamonds since the early 2000s. In 2020, the NWT accounted for 11% of the world's diamond production by carat and was fifth in global diamond production by value (whereby Canada accounted for 12% of global production by carats and 10% of global production by value).

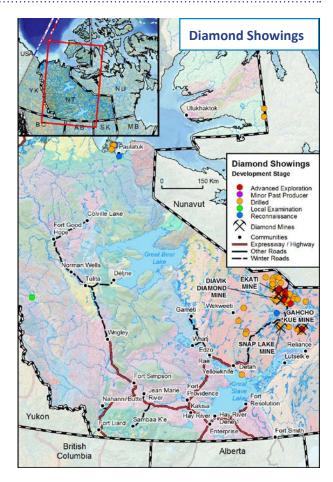
The Slave Geological Province in the NWT remains a world-class setting for high-grade diamond deposits with large areas of relatively unexplored land covering a thick, cold lithospheric mantle – a typical ingredient for diamond deposits.

#### **Diamond Production**

The Diavik Diamond Mine began production in 2003, and is operated by **Diavik Diamond Mines Inc.**, a subsidiary of **Rio Tinto Group**. Although previously a joint venture (before November 2021), Rio Tinto became the sole owner of the mine after buying the 40% share held by Dominion Diamond Mines. Rio Tinto's share of Q3 2021 diamonds at Diavik amounted to 834,000 carats, which was down 17% from Q3 a year earlier and a 2% decrease from Q2 2021. The mine yielded 6.2 million carats of rough diamonds in 2020, compared to 6.7 million carats in 2019. The current life of mine is 2025.

The Ekati Mine officially began production in 1998 and it became Canada's first diamond mine following extensive exploration and development work dating back to 1981. Ekati is divided into the Core Zone, containing most of the current operating mine and other permitted kimberlite pipes, and the Buffer Zone, which is an adjacent area hosting kimberlites, including previously mined pipes. Ekati is currently owned by **Arctic Canadian Diamond Company Ltd.** (88.9% Core/65.3% Buffer), and Stewart Blusson (11.1% Core/34.7% Buffer). Both the Core and Buffer Zones are the focus of new development. The mine was placed on care and maintenance status for most of 2020 due to Covid-19. Dominion Diamond Mines, the former owner of Ekati, subsequently sought creditor protection in 2020. A sale of the company's assets to Arctic Canadian Diamond Company, as well as resumption of mining operations followed in January 2021. The mine is expected to produce 4 million carats by the end of 2021.

Gahcho Kué Mine began full commercial production in March 2017. The mine is a joint venture between **De Beers Canada Inc.** (51%; operator) and **Mountain Province Diamonds Inc.** (49%). Mineral Resource estimates include 1.9 million tonnes at 1.27 carats per tonne (2.4 million carats) indicated and 13.7 million tonnes at 1.42 carat per tonne (19.4 million carats) inferred for the mine, while total Probable Mineral Reserves are 29.7 million tonnes at 1.55 (46.2 million carats), both as of December 31, 2020. The mine's average annual production is ~4.5 million carats with a current life of mine scheduled till 2029.



## **NWT Investment Opportunities**

In July 2016, De Beers announced that it was placing the Snap Lake diamond mine up for sale. In addition to the reserves at year-end 2015 (see table), Snap Lake Mine had an indicated resource of 4.1 million tonnes with an average grade of 1.78 carats of diamonds per tonne. The mine is currently in care and maintenance and **De Beers Canada Inc.** continues clean-up and restoration at the site.

## **Diamond Exploration**

Mountain Province Diamonds Inc. acquired Kennady Diamonds Inc. in 2018 whose Kennady North project is adjacent to the Gahcho Kué Mine. Three diamondiferous (kimberlite) deposits on the property have seen extensive work. Most notably, the Kelvin pipe contains an indicated resource of 8.5 million tonnes at an average grade of 1.6 carats per tonne of diamonds, while an inferred resource estimate for the Faraday 2 kimberlite stands at 2.07 million tonnes with a grade of 2.63 carats per tonne

# Diamonds

(March 2019). Following staking in early 2020 that increased the project area by 35%, three additional claims were recently staked in 2021. These new claims are important to Mountain Province Diamonds as they are to the east of significant clusters of kimberlite indicator

ed MZ Kimberlite, both of , the three claims connect contiguous area that totals b Kué Mine. Exploration in ppling program across the ation and development 0 m of exploration drilling lies, as well as geophysical

orp. increased their interest as project (joint venture ntersecting five kimberlites t lies within the Lac de kati diamond mines. Of the ferous, with the Sequoia arctic Star. The company e EM and Magnetic survey. 22 concurrent with ground om Phase 1 before drilling

targets in April and May 2022, in addition to infill drilling the diamondiferous Sequoia kimberlite.

North Arrow Minerals Inc. completed an exploration program in 2021 on their Loki Project, located in the Lac de Gras region. The project consists of two claim blocks, Loki South and Loki East, which host a number of prospective exploration targets, as well as six known kimberlites. The 2021 drill program focused on several gravity anomalies located near what was thought to be a potential source area for a prominent, and historically documented, indicator train (unfortunately no kimberlite was intersected during the program). Overburden samples were also collected during this program and are being processed for indicator minerals to help with ongoing interpretation and determining next steps for the project.

No work was completed in 2021 on two large diamond exploration projects owned by **Arctic Canadian Diamond Company Ltd.** (formerly Dominion Diamond Mines ULC) – the Glowworm project and the Lac de Gras Joint Venture (LDGJV) project with **North Arrow Minerals Inc.** (21% joint venture partner). This was due to the recent (2020) creditor protection and sale of the former company. Both projects host diamondiferous kimberlites and are in the Lac de Gras kimberlite field, close to two of the world's richest diamond mines: Diavik and Ekati.

	Owner / Manager	Sample Result <sup>1</sup>	Sample Size <sup>2</sup>	Diamonds Recovered
(,	Beers Canada Inc.; 17.6% Archon Limited; 10.3% DHK Diamonds Inc.	DO 27 Ind (Aug. 7 2008)	19.5 Mt	0.94 ct/t
Yamba Lake/Torrie/Triceratops	GGL Resources Corp.	Prelim	83.6 kg	68 diamonds; 6 macros
CL 25 (Camsell Lake)	Mike Magrum	Prelim	350.4 kg	221 diamonds; 9 macros
Afridi Lake	Crown Land	Prelim	511.3 kg	46 diamonds; 4 macros
Blue Ice/Victoria Island	Crown Land	Prelim	934 kg	172 diamonds
Nicholas Bay	Crown Land	Prelim	127.7 kg	1,174 diamonds
Drybones Bay/Mud Lake	David Smith	Prelim	10 t (Drybones); 100 t (Mud Lake)	97 macros; 11 macros
Snap Lake Mine	De Beers Canada Inc.	Prb (Dec. 31, 2015)	5.7 Mt	1.26 ct/t
Kennady North	Mountain Province Diamonds Inc.	Kelvin (Ind); Faraday 2 (Inf)	8.5 Mt; 2.07 Mt	1.6 ct/t; 2.63 ct/t
Ranch Lake	Mike Magrum	Prelim	855 kg	266 diamonds; 46 macros
Hoam	Olivut Resources Ltd.	Prelim	TBD	6 diamonds from 3 kimberlites
Darnley Bay Gravity Anomaly	Generation Mining Ltd.	Prelim	533.1 kg	65 diamonds; 2 macros
Roundrock	Stornoway Diamond Corp.	Prelim	134.2 kg	19 diamonds; 6 macros
Cross Property	Stornoway Diamond Corp.	Prelim	2.4 t	7 diamonds
Munn Lake/Mackay Lake	Zimtu Capital Corp. / DG Resource Management	Prelim	42 kg	14 diamonds; 2 macros

1Indicated Resource (Ind); Inferred Resource (Inf); Probable Reserve (Prb); Preliminary Sample Result (Prelim) 2Tonnes (t); Million tonnes (Mt); Kilograms (kg); TBD (to be determined)

.....



## **Investment Opportunities**

NORTHWEST TERRITORIES

December 2021

Gold is among the most useful of metals. It conducts electricity, does not tarnish, is very easy to work, and alloys with other metals. The Northwest Territories is renowned for its deposits of gold, often hosted in quartz veins in Archean volcanic rocks such as the Yellowknife Greenstone Belt and associated with shear zones in the Slave Geological Province.

The former Con and Giant mines in Yellowknife are examples of this type of host. Together, they produced over 12 million ounces of gold over mine lives of a combined nearly 70 years. The Discovery Mine, north of Yellowknife, produced another one million ounces (from one million tonnes of ore) on the northern extent of the same Yellowknife Greenstone Belt.

Other known gold deposits are found in folded Archean banded iron formations, and quartz-sulphide veins within granodiorite throughout the territory.

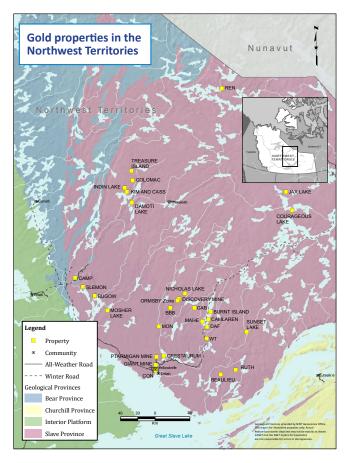
## **Current Activity**

Extensive gold exploration activity is underway across the NWT. Several past producing mine properties and their surrounding environments are being explored:

Sixty North Gold Mining Ltd. (New Discovery Mines Ltd.) expanded its Mon project in 2021 as it continues to focus on bringing its Mon Mine back into production. The company has all necessary permits/ licenses in place and received shareholder and board approval to bring the mine back into production in 2022. First mill production (at 100 tonnes per day) expected in Q3 2022, after mill and ancillary equipment is mobilized to site via an ice road.

Seabridge Gold Inc. has proven and probable Mineral Reserves at their Courageous Lake project of 91.1 Mt at 2.20 g/t Au. No exploration has been conducted on the property since 2018, as the company focuses on other assets, namely their two British Columbia Golden triangle projects - KSM and Iskut. The project would benefit from the Slave Geological Province Corridor Project being completed.

Nighthawk Gold Corp. is actively exploring on their Indin Lake/ Colomac project and, apart from expanding the Colomac and Indin Lake resources, has identified near-surface gold in several other zones (24/27, Albatross, Damoti Lake, Grizzly Bear, Kim and Cass, Treasure Island). The updated 2020 Mineral Resource estimates on the Colomac project (Colomac, Goldcrest, Grizzly Bear, 24 and 27 deposits) includes 25.89 Mt at 2.01 g/t Au indicated and 6.49 Mt at 2.37 g/t Au inferred. In 2020, Nighthawk commenced a 25,000 m drill program to advance the Indin Lake/Colomac project, with an additional 72,325 m of drilling completed in 2021. They tested a variety of targets within their 930 km<sup>2</sup> land position, in order to substantially increase their Mineral Resource base, and carried



out exploration at a number of greenfield targets across the entire property. An aggressive exploration drill program is expected to continue in 2022 (totalling up to 200,000 m between 2021-2022), as the company continues to increase the in-pit resources on known deposits.

Gold Terra Resource Corp. is exploring its Yellowknife City Gold Project (which hosts past producers Burwash, Con, and Crestaurum Mines) and covers a 70-kilometre stretch of the Yellowknife Greenstone Belt. In March 2021, Gold Terra updated their Mineral Resource estimates for the Sam Otto/Dave's Pond, Mispickel, Crestaurum, and Barney deposits, which include 24.31 Mt at 1.54 g/t Au inferred. During 2021, drilling was conducted at the Sam Otto, Crestaurum, Mispickel and Yellorex (south of Con mine) deposits. Additionally, Gold Terra optioned claims surrounding the historic Con mine from Newmont gaining additional prospective land containing the past producing Campbell Shear between its highlighted northern and southern deposits.

Rover Metals Corp. completed their Phase 2 Exploration Drill Program on the Cabin Gold (formerly Bugow) property in the Tlicho

## Gold-Au

Region in 2021. Rover Metals drilled 31 NQ diamond drill holes across multiple near-surface targets along the Bugow Iron Formation (Cabin Gold property). This property, as well as the Slemon (Gold) and Camp (Gold) properties, make up the company's Cabin Gold Group of Projects. Phase 3 Winter Exploration activities include drilling on the Beaver and Arrow zones from the Cabin property, as well as IP geophysical surveys. Rover Metals continues to modernize historic Mineral Resources for its project.

**GoldMining Inc.** released a Mineral Resource estimate in March 2019, on its Yellowknife Gold project which is comprised of several deposits (Nicholas Lake, Ormsby, Goodwin Lake, Clan Lake and Big Sky). A portion of the property lies on the Yellowknife Greenstone Belt, containing the past-producing Discovery Mine which historically produced ~1 million ounces of gold with an average grade of 28 g/t. The Mineral Resource Estimate was appended (in 2021) to include 14.11 million tonnes at 2.33 g/t Au measured and 9.30 million tonnes at 2.47 g/t Au inferred (open pit and underground). The company announced in September 2021, that it is progressing with a Preliminary Economic Assessment at their Yellowknife Gold project to update and modernize their Mineral Resource estimates.

#### **Golden Pursuit Resources**

Ltd. staked a large area of ground in the Gordon Lake area and purchased several other mineral claims, acquiring several small past producing mines in the area. The company completed a 3-week geological mapping and sampling program in 2021 at their South Gordon Lake project and expect to continue exploration from geophysical surveys in the area in 2022.

#### Uses

- Gold is used in clean and green technology.
- Gold is usually alloyed with other metals, commonly copper.
- Gold is a coating on aircraft windows and thin gold films protect spacecraft and office towers from infrared rays.
- Gold is used in connectors, switch contacts and connection wires.
- Computer cable fittings contain gold and small amounts of nickel or cobalt to increase durability.
- A small amount of gold is used in cell phones, GPS units and television sets.
- Gold is used in medicine to seal wounds, to treat arthritis and in laser surgery tools.
- Gold is used in auto airbag deployment systems.

### **Prospects**

Name	Owner	Resource Category <sup>1</sup>	Total Resource tonnes (t); million tonnes (Mt)	Grade grams per tonne (g/t)	
Bugow	Rover Metals Corp.	~	70,000t	10.29g/t	
Gab	Silver Range Resources Ltd.	~	27,215 t	10.63 g/t	
Camp Lake	Rover Metals Corp.	~	46,400/N Zone; 11,840t S Zone	13.70/ 12.00 g/t	
Slemon	Rover Metals Corp.	~	31,751 t	6.80 g/t	
Discovery Mine	GoldMining Inc.	~	206,897 t	22.62 g/t	
Nicholas Lake	GoldMining Inc.	Meas + ind	1.550 Mt; 2.72 g/t	2.72 g/t	
Ormsby Zone	GoldMining Inc.	Meas; ind	1.176; 1; 0.568 Mt	2.12; 2.25 g/t	
Mosher Lake	Lane Dewar/M.Magrum/T.Teed	~	500,765 t	2.81 g/t	
Ren	Lane Dewar/Mike Magrum	~	1.8 Mt	10.00 g/t	
Mon	60 North Gold Mining Ltd.	PP	10,070 t	10.00 g/t (recov)	
Damoti	Nighthawk Gold Corp.	Meas + ind	40,600 t	26.17 g/t	
Colomac	Nighthawk Gold Corp.	inf	44.8 Mt	1.64 g/t	
Treasure Island	Nighthawk Gold Corp.	~	105,400 t	14.09 g/t	
Indin Lake	Nighthawk Gold Corp.	~	214,000 t	16.46 g/t	
Jax Lake	Crown Land	~	36,287 t	14.10 g/t	
Kim and Cass	Pine Cliff Energy Ltd.	~	448,950 t	7.37 g/t	
Courageous Lake	Seabridge Gold Inc.	Prv; Prb	12.3 Mt/Prv; 78.8 Mt/Prb	2.41 / 2.17 g/t	
Mahe	Silver Pursuit Resources Ltd.	~	156,840 t	17.28 g/t	
Crestaurum	TerraX Minerals Inc.	~ind + inf	145,150 t	7.54 g/t	

1 indicated (ind); inferred (inf); Measured (Meas); Proven Reserve (Prv); Probable Reserve (Prb); Historic (NI 43-101 non-compliant)(~); Past Production mined (PP);

.....



# ad-Zinc — Pb-Zr

## **Investment Opportunities**

NORTHWEST TERRITORIES

December 2021

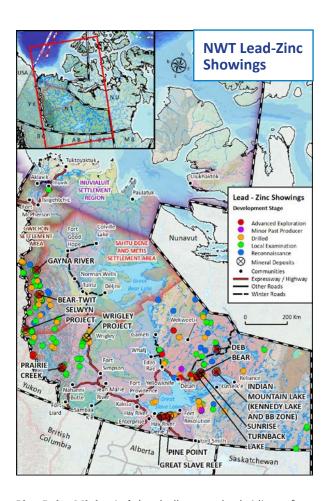
Zinc and lead are commonly found together in deposits and mined as co-products. Zinc is recognized as a critical mineral by Canada, the EU and the US. Zinc is the fourth most consumed metal after iron, aluminum and copper. It bonds well with other metals and resists corrosion. Three-quarters of global zinc production is used in the manufacturing of galvanized metal.

Lead's high density and corrosion-resistant properties makes it ideal for use in highly acidic environments. Its primary use is in lead-acid storage batteries.

## **Current NWT Activity**

The Northwest Territories (NWT) is home to three advancedstage lead-zinc exploration projects, namely Pine Point, Prairie Creek, and the Selwyn Project. Many other projects have identified resources that could lead to economic discoveries (e.g., MVT and SEDEX deposits).

NorZinc Ltd.'s (previously Canadian Zinc Corp.) Prairie Creek project has obtained permits necessary to commence mining and milling, as well as building and using an all-season access road, considered essential for production to occur. Prairie Creek already has extensive infrastructure (e.g., 5 km of underground workings, 1,000-metre airstrip, 180-km winter road, and a 1,000 ton per day mill). NorZinc recently completed an updated Preliminary Economic Assessment which incorporates an updated Mineral Resource Estimate of 9.8 million tonnes at 139 ppm silver, 8.8% lead and 9.7% zinc (22.7% zinc-equivalent) measured and indicated and 6.4 million tonnes grading 150 ppm silver, 6.7% lead and 12.9% zinc (24.1% zinc-equivalent) inferred. The assessment was for a 2,400 tonnes per day mine plan with a life of mine of 20.3 years for an NPV8% of \$299M and an after-tax IRR of 17.7%. An updated definitive Feasibility Study is currently underway and expected in 2022. The study will incorporate the investigation of numerous identified opportunities to add value by optimizing CAPEX and OPEX input costs.% Exploration drilling continued on the project in 2021, with a focus on evaluating Ag potential; a high-grade Ag (391g/t) and Cu (1.6%) intercept over 1m was drilled during its 736m Surface Exploration Drill Program. In October 2021, NorZinc sold its Newfoundland mineral properties for \$2.6M with Canterra Minerals Corp. in order to focus solely on their flagship asset, Prairie Creek. The company expects to begin winter construction of the all-season access road in 2023 with initial concentrate production occurring by the end of 2025.



Pine Point Mining Ltd. (a wholly owned subsidiary of Osisko Metals Inc.) is actively drilling targets in several zones within their Pine Point Project. Historically, the property hosted the Pine Point Mine, which produced lead and zinc from 51 deposits beginning in 1964 through 1987. In July 2020, the company released a positive Preliminary Economic Assessment which updated the pit-constrained Mineral Resource to 12.9 million tonnes of 1.73% Pb and 4.56% Zn indicated and 37.6 million tonnes of 1.91% Pb and 4.89% Zn inferred. Osisko started the first (of five-years) of Advanced Exploration and Development activity in 2021. This includes geotechnical drilling up to 20,000m, test pitting, bulk sampling, potentially sourcing local materials for grouting tests, dewatering tests, water re-injection tests, and construction of a larger advanced exploration camp

## Lead-Zinc - Pb-Zn

to support the advanced exploration activities. Positive results from its ongoing hydrogeological modelling and its application to dewatering costs, including a new 3D hydrogeological model which yielded significant reductions in the estimated water inflow rates into the proposed open pit and shallow underground mines, are relative to the estimates in the 2020 PEA. Osisko continues in-fill exploration drilling on the property, with recent 2021 results from the L65 Tabular deposit highlighted by: 6m of 7.11% Zn and 1.73% Pb and 6m of 20.06% Zn and 0.72% Pb, both in well-developed tabular mineralization. The L65 deposit is part of the C1 cluster (1.17 Mt at 6.00% Zn and 1.8% Pb underground - Inferred) and is open to the west where it may connect with the nearby M67 deposit (0.67 Mt at 4.41% Zn, 1.45% Pb open pit - Inferred), located 300 m away. The project is currently in an Environmental Assessment with the MVLWB which is expected to be completed in 2023 before mine construction can begin.

**Selwyn Chihong Mining Ltd.'s** (SCML) Selwyn Project is one of the largest undeveloped zinc-lead deposits in the world. The project area hosts 14 drill-defined deposits within a 40-km-long belt along the NWT/Yukon border. Approximately 10% of the project is located within the NWT. The project is in the advanced exploration phase, although it has been quiet

for the last two years, after SCML announced they were going to accelerate activity in January 2018. SCML was in the process of getting approval for the upgrade of the access road to the project when a decision was made to wait for a more opportune time. It has been a challenge for SCML to make the project a high priority within the global project portfolio of its parent company, Yunnan Chihong Zinc & Germanium Co. Ltd. The parent company has invested over \$300 million into the project over the last ten years. The project, as planned, has a capital cost of approximately US\$2.12 billion and a life of mine of more than 11 years at a mining rate of 35,000 tonnes of ore per day.

Numerous companies hold the rights to other significant NWT lead-zinc rich VMS deposits including Panarc Resources Ltd. (Indian Mountain Lake Project), Silver Bear Mines Inc. (Bear Property) and SSR Mining Inc. (Sunrise Project, adjacent to the Sunrise deposit). These deposits are polymetallic and may also contain, Cu, Au and Ag. Additionally, there are other carbonate hosted Pb-Zn resources which are currently on Crown land and available for staking such as the Bear-Twit and Gayna River deposits.

### Uses

- Zinc provides corrosion protection on immersed steel structures such as ships, pipelines, and drill rigs.
- Building and construction industries use zinc in the coated steel strips (e.g., for rebar, roofing and cladding).
- Zinc oxide is used in the production of rubber (tire industry) and in ceramics, paints and agriculture. It also has medicinal uses.
- Lead is widely used in manufacturing various alloys.
- Brass is an alloy containing 95% copper and 5% zinc.
  Bronze is primarily an alloy of copper with tin, but it may contain zinc. Other zinc alloys are used in automobiles and electrical components.
- Lead is a significant component in batteries, particularly in lead-acid ignition (vehicle) batteries.
- Lead is used as ballast in the keel of sailboats.
- Lead is able to shield radiation, so it is commonly used in the medical field to shield x-rays.

## **Prospects**

Project Name	Commodity	Owner	Resource Category Indicated (Ind); Measured	Total Resource tonnes (t); million tonnes (Mt)	Grade grams per tonne (g/t)
Prairie Creek	zinc, lead, silver	NorZinc Corp.	Prv+Prb	8.1 Mt	8.6% Zn, 8.1% Pb, 124 g/t Ag
Pine Point	zinc, lead	Pine Point Mining Ltd.	Ind/Inf	OP-12.9 Mt (ind); 27.2 Mt (inf); UG -10.5 Mt (inf)	OP-1.73% Pb (ind); 4.56% Zn (ind); 1.37% Pb (inf); 4.11% Zn (inf); UG-3.3% Pb (inf); 6.93% Zn (inf)
Selwyn Project	zinc, lead, silver	Selwyn Chihong Mining Ltd.	Inf	185.6 Mt	5.20% Zn, 1.79% Pb



# Lithium-Li

## **Investment Opportunities**

**NORTHWEST TERRITORIES** 

December 2021

Lithium is recognized as a critical mineral by Canada, the EU and the US. Demand is growing fast for lithium, the wonder metal powering electric vehicles, smart phones, and space exploration (among other things).

The Yellowknife area has high potential to become a hub for lithium-bearing pegmatites that were discovered by extensive exploration in the mid to late 1950s. In the mid to late 1970s, numerous pegmatites were evaluated within a 100-km radius east, northeast and southeast of Yellowknife. Historic (pre-NI 43-101) inferred tonnage for eight of those deposits varied from 2.3 million tonnes (grading 1.5% Li2O) to 13.9 million tonnes (grading 1.2% Li2O).

## Past production and Current Activity

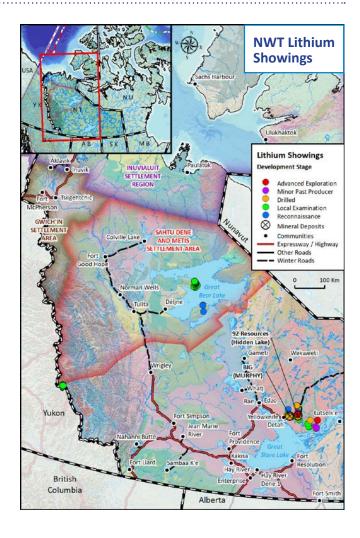
**Destaffany Mine**, southeast of Yellowknife, produced some 25,108 lb of lithium in the late 1940s and early 1950s, before the mine closed due to lack of demand. The mine was originally a tantalum mine, although it produced lithium as a co-product during its operation.

**Erex International Ltd.**, a private company, holds mineral leases on the majority of the large known lithium deposits in the NWT, including the Big/Murphy deposit, 21 km east of Yellowknife, which was first staked in the 1950s.

Far Resources Ltd. and Patriot Battery Metals Inc. (formerly Gaia Metals Corp.) holds claims in the vicinity of Hidden Lake. A 10-hole drill program in 2018 followed up on extensive surface sampling that identified significant lithium values on four main dikes. Drilling resulted in assays from 1-2% Li2O intersected over widths of 2-9 m.

**Dixie Gold Inc.** (formerly Clean Commodities Corp.) holds the Phoenix lithium project, about 300 km north of Yellowknife. Drilling results from 2009 are highlighted by a hole that cut 34.3 m at 1.24% Li2O.

**Lake Winn Resources Corp.** (formerly Equitorial Exploration Corp.) owns the Little Nahanni Pegmatite (LNPG) project in the Mackenzie Mountains. The combined strike length of the pegmatite is 13 km with dyke swarms up to 500 m and peak



assay values from drill core returning up to 3.1% Li2O (from March 2017 NI 43-101 Technical Report).

The Nechalacho property at Thor Lake, approximately 100 km southeast of Yellowknife is a rich polymetallic rare earth elements resource that also contains lithium. Co-owner Cheetah Resources Ltd. (a Canadian subsidiary of Vital Metals Ltd.) is mining a bulk sample program expected to last three years.

## Lithium-Li

### **Prospects**

Name	Commodity	Owner	Total Resource (Historic - Inferred)	Grade Li₂O
Big/Murphy	Li	Erex International Ltd.	7.2 Mt	1.47%
FI Main Dyke	Li	Erex International Ltd.	6.5 Mt	1.49%
Echo-Thor	Li	Erex International Ltd.	1.7 Mt	1.50%

#### Uses

- Lithium, the lightest metal, is extremely soft, highly reactive and flammable.
- Automakers around the world are now competing to develop electric cars that are expected to use large, rechargeable lithium-ion batteries.
- Highly efficient, rechargeable, lithium-ion batteries are used extensively in portable electronic devices such as cell phones, cameras, music players, and GPS units, and as batteries for electric equipment.
- Lithium is an ingredient in high temperature lubricating greases.
- Alloys are used to create high performance aircraft parts.
- Lithium is used to remove carbon dioxide in space vehicles and submarines.
- Lithium also has a medical use, as it appears to lighten moods. Glazes containing lithium are used for ovenware.

## Lithium is in world demand

In 2020, almost three-fifths of the world's processed lithium exports came from South America, with the majority recovered in Chile. Rapidly increasing production of electric vehicles (EV) and technology for computers, smartphones and the Internet of Things means the global demand for lithium is expected to more than double over the next four years, and triple by 2025 to 2030. The EV sector is expected to account for about 80% of total lithium demand by 2030, compared with the current 40-45% levels. Lithium can also be used to store electricity generated by wind or solar power. Power utilities, including one in Alaska, are testing the viability of giant lithium-ion back-up battery packs to store power for use at peak demand times.



Little Nahanni pegmatites in the Mackenzie Mountains



## Rare Earth Elements-REE

## **Investment Opportunities**

**NORTHWEST TERRITORIES** 

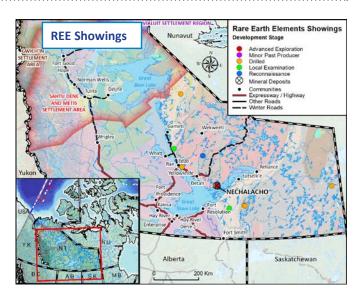
December 2021

Rare earth elements (REE) are recognized as a critical mineral by Canada, the EU and the US. REE is the term used to describe 17 elements that include lanthanum and the lanthanide elements (atomic numbers 57 through 71 on the periodic table), as well as scandium and yttrium. These elements tend to occur together but are rarely found concentrated in deposits that can be mined. REE are all metals and are also known as rare earth metals (REM). Rare earth elements are commonly valued as oxides and categorized as heavy rare earth oxides (HREO) and light rare earth oxides (LREO). The two can be combined and reported as total rare earth oxides (TREO).

## **Current Activity**

The Nechalacho project, located at Thor Lake about 100 km southeast of Yellowknife, is a rich polymetallic rare earth element Mineral Resource, with additional potential for economic recovery of beryllium, lithium, zirconium, niobium, and tantalum. Presence of high-grade, near-surface neodymium-praseodymium (Nd-Pr) and dysprosium resources is indicated at the T-Zone, Tardiff Zone and Lake Zone areas. Nechalacho hosts a world-class Mineral Resource of 94.7 million tonnes at 1.46% REO (measured, indicated and inferred).

Avalon Advanced Materials Inc. calculated a proven and probable Mineral Reserves in April 2013, which formed part of a Feasibility Study for the Nechalacho project. In August 2013, an updated Mineral Resource estimate was released taking into account zircon, niobium and tantalum oxides. The project has undergone an environmental assessment and in 2014 was approved for pre-construction work that included the development of an underground decline. Avalon has not begun this work as the company continues to explore options to improve the economics of the project. The life of mine was forecasted to be 20 years using a mining production rate of 2,000 tonnes per day. Avalon is working to optimize value by making changes to the metallurgical process flowsheets. Avalon retains ownership of the Mineral Resources below a depth of 150 metres above sea level (including the Basal Zone heavy REE deposit that was the focus of the Feasibility Study) and will continue to have access to the property for exploration, development and mining purposes. The Basal Zone deposit is flat lying, and lies approximately 200m below surface, amenable to low-cost underground bulk mining methods.



Cheetah Resources Ltd. (a Canadian subsidiary of Vital Metals Ltd.) entered into a collaborative agreement with Avalon in 2019, enabling it to participate in small-scale, minimal environmental impact, near-surface development at the Nechalacho project. Vital Metals Ltd. is an (Australian) ASX traded public company. The objective is to mine the near surface deposits between surface and 150m depth at the T-Zone and Tardiff zones, and supply a high purity mixed rare earth feedstock to established third party Rare-Earth Oxide (REO) separation and refining facilities. The plan shortens lead time to production to capture an increased demand for REOs. Vital released a JORC 2012 compliant resource in late 2019 for the North T-Zone deposit. The Measured, Indicated, and Inferred Mineral Resource of 101,000 tonnes at 9.01% LREO (2.2% NdPr) makes it one of the highest-grade rare earths deposits in the world. Vital began small-scale production using an x-ray ore sorter in 2021 from a starter pit at the North T-Zone and is currently constructing a Rare Earth Extraction Plant in Saskatoon, SK. Vital expects to feed the first REE concentrate into the plant by the end of 2022. The current North T-Zone demonstration project at Nechalacho is expected to continue until 2023, when the pit is exhausted. Following this, subject to receiving a bankable surface lease for the Tardiff Zone and any additional regulatory authorizations, Vital plans to increase production five-fold at Nechalacho starting in 2024 by beginning production at the larger Tardiff Zone. Vital is planning an infill exploration drill program for the Upper North T-Zone in 2022 to update Mineral Resource estimates for this deposit.

## Rare Earth Elements-REE

#### **Uses**

- High strength permanent magnets used in electric vehicles, industrial motors, air-conditioners, wind and tidal turbine generators.
- Rare Earths are used in catalysts for air pollution control.

## Global production and market price

China is currently the world's largest producer of REE, accounting for over 60% of global annual production, estimated at 132,000 tonnes in 2019. Most of the remaining 40% is shared between the United States, Myanmar (Burma), Australia and India. China remains the dominant producer of the valued HREE with Bayan Obo (Inner Mongolia) being China's and the world's primary source of REE.

As a whole, Canada has some of the largest known reserves and resources of (measured and indicated) REE in the world, estimated at over 15 million tonnes of REO. Currently, LREE are produced in global abundance and are in surplus supply. Meanwhile, HREE are produced mainly in China and are in limited supply. Global efforts to bring new resources to

- LED Lighting in consumer goods such as televisions, computers, mobile phones, cameras and tablets, and in fluorescent lighting.
- Military technologies such as satellite communication, radar, night-vision goggles, mine detectors, jet engines and sonar.

the marketplace continue. Many of Canada's (including NWT's) most advanced REE exploration projects contain high concentrations of the globally valued HREE.

## Other known REE showings

Several showings south of Great Slave Lake have been drilled and tested for their uranium, thorium and rare earth potential. Some of the uranium showings in the Churchill Geological Province were found to contain highly anomalous REE values. Other IOCG (Iron Oxide Copper Gold) targets northwest of Yellowknife in the Bear Geological Province have been found to contain anomalous REE values and REE have also been found within carbonatite in the Slave Geological Province.

## **Prospects**

NECHALACHO PROJECT									
Owner	Resource Category	Zone	Total Resource	LREO (%)	HREO (%)	TREO (%)	ZrO2 (%)	Nb2O5 (%)	Ta2O5 (%)
Vital Metals Ltd.	Measured	Upper Zone	1.094 Mt	1.817	0.185	2.004	-	-	-
Vital Metals Ltd.	Indicated	Upper Zone	6.246 Mt	1.762	0.166	1.928	-	-	-
Vital Metals Ltd.	Inferred	Upper Zone	30.95 Mt	1.637	0.161	1.797	-	-	-
Avalon Advanced Materials Inc.	Measured	Basal Zone	12.56 Mt	1.33	0.38	1.71	3.20	0.40	0.04
Avalon Advanced Materials Inc.	Measured	Basal Zone	49.33 Mt	1.27	0.35	1.62	3.07	0.40	0.04

Note: HREO comprises Y2O3, Eu2O3, Gd2O3, Tb4O7, Dy2O3, Ho2O3, Er2O3, Tm2O3, Yb2O3 and Lu2O3, while LREO comprises La2O3, CeO2, Pr6O11, Nd2O3 and Sm2O3. TREO comprises LREO and HREO. Upper = above 150m below surface, Basal = below 150m below surface.



# Tungsten-W

## **Investment Opportunities**

NORTHWEST TERRITORIES

December 2021

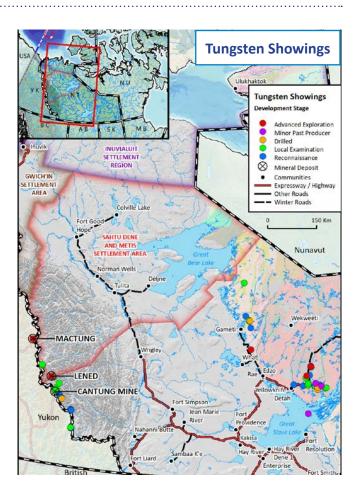
Tungsten is recognized as a critical mineral by Canada, the EU and the US. Tungsten is a metal with a unique set of chemical properties that contributes significantly to products manufactured and used globally. With qualities that include a high melting point (3,422±15°C), high density, high tensile strength, exceptional hardness and corrosion-resistance, tungsten has many uses.

## **Known world-class NWT Tungsten Resources**

The Northwest Territories (NWT) hosts globally significant tungsten resources and is home to one of the world's largest tungsten deposits outside of China. Two substantial tungsten deposits overlap the NWT/ Yukon border - the past-producing Cantung Mine and the Mactung deposit.

The once-producing Cantung Mine (and the Mactung deposit) both straddle the NWT-Yukon border, with the road accessible Cantung Mine, which lies about 300 kilometres northeast of Watson Lake, YT. Discovered in 1954 and mined since 1962, the Cantung Mine produced tungsten, off and on, until October 2015. The price of tungsten has been cyclical. Between 2011 and 2014, the mine profited from prices that were sporadically almost double of what they had been (and later would become). Tungsten spot prices have been more stable in recent years, averaging around 300 US dollars per metric tonne between 2019-2021.

The undeveloped Mactung is one of the world's highest-grade deposits. It lies 160 kilometres northwest of Cantung and is currently accessible via road from Ross River, Yukon. Mactung has an indicated Mineral Resource that totals 33 million tonnes with an average grade of 0.88% WO3 and an additional inferred resource of 11.9 million tonnes at 0.78% WO3 (as of April 2009). In 2009, a feasibility study was completed for Mactung; an underground mine was envisioned with a mining rate of 2,000 tonnes/day. Mine life for the underground development was predicted to be 11 years, while an open pit had the potential to expand the mine life by 17 years.



The Government of the Northwest Territories and Government of Canada are working together to find a buyer for the Cantung mine and Mactung deposit, which went up for sale to a short-list of prospective buyers in 2020 through a request for proposal.

## **Other Prospects**

Historically, other NWT tungsten production has included small deposits produced as a by-product of other minerals, for example gold production from the Outpost Island Mine on Great Slave Lake in the 1940's and early 1950's. Similar by- and co-production of tungsten may happen in the future (e.g., Fortune Minerals' NICO deposit hosts some tungsten).

# **Tungsten-W**

#### **Uses**

- Cemented carbides used by the metalworking, mining, and construction industries.
- Hardened steel manufacturing.
- Wires and electrodes in modern lamp systems.
- X-Ray tubes (as both filament and target).
- Windings and heating elements for electrical furnaces.
- Electrodes in TIG welding, superalloys and radiation shielding.
- Military applications.
- · Vehicle window heating.
- Industrial catalysts.

## **Future Role of NWT Tungsten**

The NWT was once the largest producer of tungsten in the western world and has the potential to become a future producer. The 2009 Mactung Feasibility Study concluded the mine would result in a recovery of invested capital in less than three years (i.e., payback period). Other small mines in the NWT have historically produced tungsten, and with more exploration there is potential for future discoveries.



Tungsten is used in the development of wires and electrodes.

## **Prospects**

Name	Project Owner / Manager	Resource Category	Total Resource:	Grade:	Resource Calculated
Cantung Mine	North American Tungsten Corp. / Government of Canada	Indicated	3.45 Mt	0.97% WO3	April 2009
Mactung	Government of the NWT	Indicated	33 Mt	0.88% WO3	Sept. 2014



# Vanadium-V

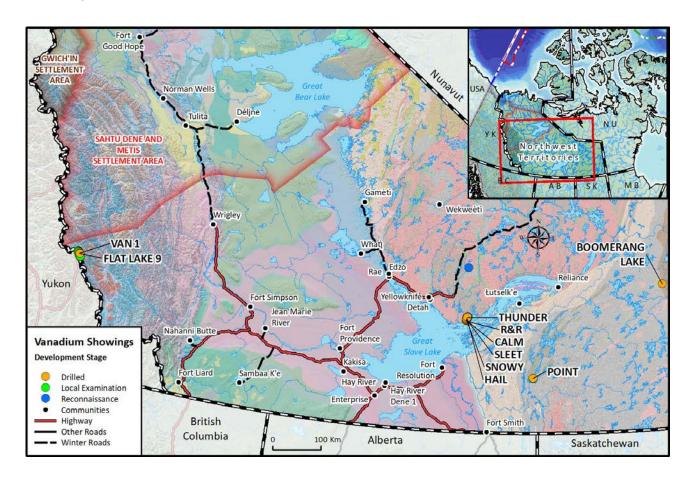
## **Investment Opportunities**

**NORTHWEST TERRITORIES** 

December 2021

Vanadium is recognized as a critical mineral by Canada, the EU and the US. Vanadium is a metal that has been used for many years in small amounts to strengthen steel used in automobile and air transport parts. Currently 90% of V2O5 consumption is steel-related. Vanadium's use in new technology - vanadium redox flow batteries - is set to considerably expand the market.

Canada is currently not a primary vanadium producer. However, vanadium has been previously mined and extracted from titaniferous magnetite deposits, vanadium-rich sandstone and carbon-rich shales. The principal sources of vanadium commonly contain from 1.0 to 0.1 % vanadium pentoxide.



## Vanadium-V



In 2018, Vanadium North Resources Inc. optioned the Van project located about 10 kilometres northwest of the past producing Cantung tungsten mine and host to a vanadiumrich carbonaceous mudstone. In early 2019, Regency Gold Corp. offered to acquire Vanadium North in order to explore and profit from the vanadium potential of the expanded Valley of Vanadium property. The acquisition was cancelled later in 2019. Previous work on the Van project focused on a unit that was about 50 metres thick. In 1970, one drillhole returned 0.49% V2O5 over a true width of 30 metres (calculated using 0.4% V2O5 as a cutoff grade). In 1998, chip sampling in two areas returned assays that averaged 0.6% V2O5 over 56-60 metres. The Valley of Vanadium (or Van) project is close to the historic Cantung mine and is close to infrastructure including a road access and an airport that were established to support that mine site.

#### Uses

- About 90% of consumption is in the manufacturing of steel.
- Adds strength and heat resistance to iron alloys (in automobile and machinery parts).
- Used in alloys that are non-ferrous such as titanium (in jet engines and high-speed airframes).
- Used in catalysts, dyes and phosphors.
- Vanadium-redox flow batteries and other vanadium redox batteries have potential to expand the market these batteries have large capacities with limited self-discharge and have potential to replace lead-acid batteries and possibly diesel generators.

### **Prospects**

Apart from the VAN and adjacent Flat Lake showings, a few other vanadium occurrences have seen limited work in the past. Vanadium has been found in uranium-bearing sandstones east of Great Slave Lake and in Iron Oxide Copper Gold (IOCG) deposits by Great Bear Lake. Elevated vanadium assays have been recorded from core samples of the Caribou Lake Gabbro near the East Arm of Great Slave Lake, drilled for its magmatic sulphide copper, nickel, and platinum group metals potential.

Other potential vanadium prospects in the territory include various layered igneous complexes.

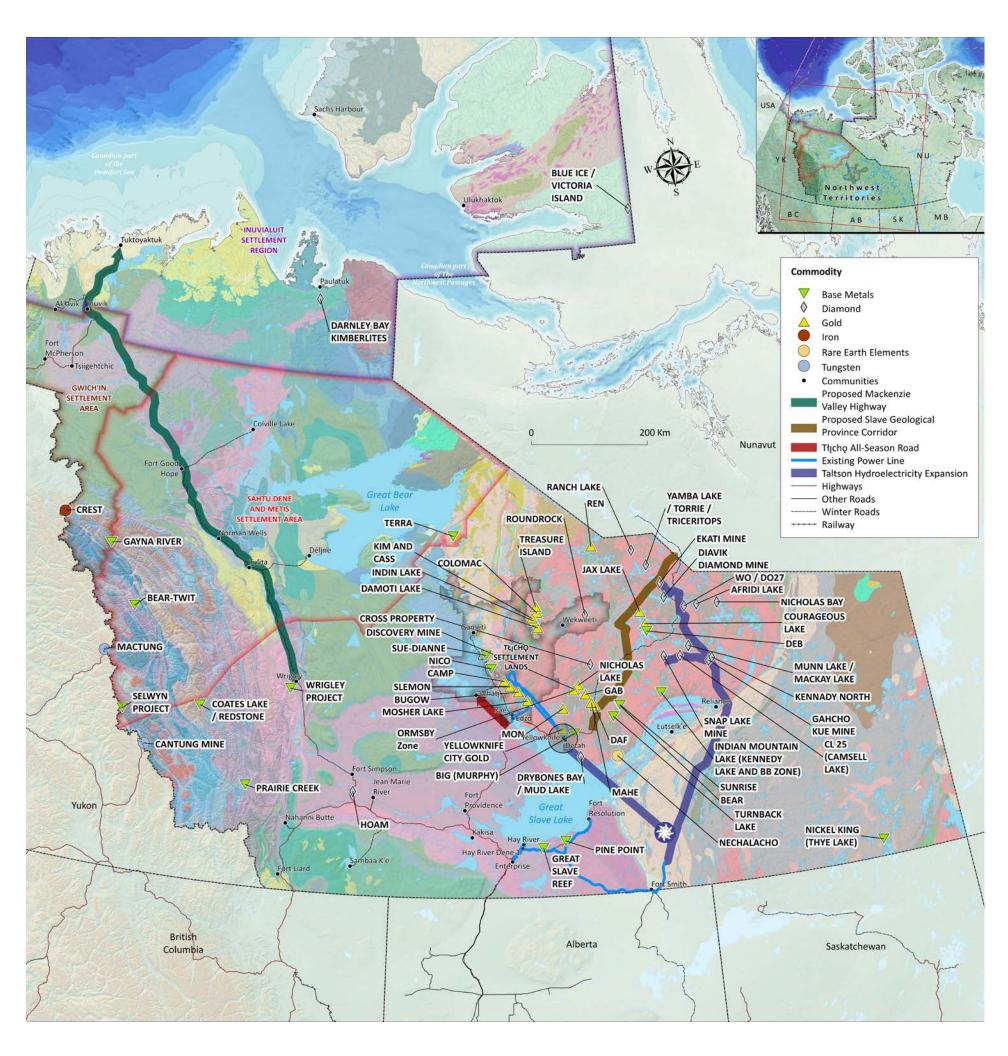
#### **Business Case**

Currently, China produces over one-half of the world's V2O5. South Africa and Russia account for another 25%, while the United States produces around 4%. The majority of the world's vanadium production is a co-product of iron ore mining and only about one-quarter is sourced from primary vanadium mining.

There are other vanadium showings in the Selwyn Mountains of the Cordillera but they have seen limited exploration in the past. Vanadium is recyclable. However, an expanding market will lead to new opportunities to source the metal.

The vanadium price is similar to other commodities in that it is cyclical. The average price in 2018 was almost double that of 2017. The price was at a high that had not been realized in 10 years. In late 2018, the price began to fall back and in May 2019 it was similar to what it was in the first few months of 2018.





# **NOTES** ......



