

# EQUATOR

RESOURCES LIMITED

ACN: 127 411 796

**18 May 2017**

## **INVESTOR PRESENTATION AND CHANGE OF COMPANY NAME**

An application to change the name of the Company to Cobalt One Limited has been submitted to ASIC for approval and it is expected to come into effect in the coming days.

The attached investor presentation reflects the name change.

**Jason Bontempo**

**Executive Director**

# Ontario Cobalt Project

Investor Presentation  
May 2017

**CobaltOne**  
Limited\*



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# Investment Highlights

- **High grade**, cobalt projects located in Cobalt Mining Camp, Ontario, Canada
- Purchase of cobalt processing **refinery** located 5.3km from Cobalt Mining Camp
- Opportunity to **explore and develop** significant historic cobalt producing assets and greenfields sites
- 600Moz Ag and **45Mlbs Co** previously produced from Cobalt Mining Camp
- **Tier One** mining jurisdiction
- 2017 exploration programme underway
- Experienced board and management team



*Cobalt EXPLORER and DEVELOPER with  
HIGH grade PROJECTS IN a tier 1 location*

# Corporate snapshot

*Premier pure play cobalt exposure with assets located in Tier 1 mining districts*

## Financial Information

Share price (15 May 2017)	<b>A\$0.10</b>
52 week low / high	A\$0.018 / A\$0.19
Number of shares (undiluted) <sup>1</sup>	545.4m
Number of options <sup>2</sup>	89.8m
<b>Market Capitalisation</b>	<b>A\$54.5m</b>
Cash	A\$6.0m
Debt	Nil
<b>Enterprise Value</b>	<b>A\$48.5m</b>

Notes:

- 1 Excludes 100m consideration shares to be issued to purchase the refinery. 50m shares are restricted for 12 months and 50m shares for 24 months.
- 2 74.75m unlisted options with an exercise price range of A\$0.02 to A\$0.06 and expiry dates between 30 June 2019 and 5 April 2020

## Substantial Share Holders

RZJ Capital Management	12.9%
<b>Tribeca Investment Partners</b>	<b>6.9%</b>
Terra Capital Natural Resources Fund	6.6%

## Board of Directors

Paul Matysek	Non-Executive Chairman
Jason Bontempo	Executive Director
Nicholas Rowley	Non-Executive Director
Alex Passmore	Non-Executive Director

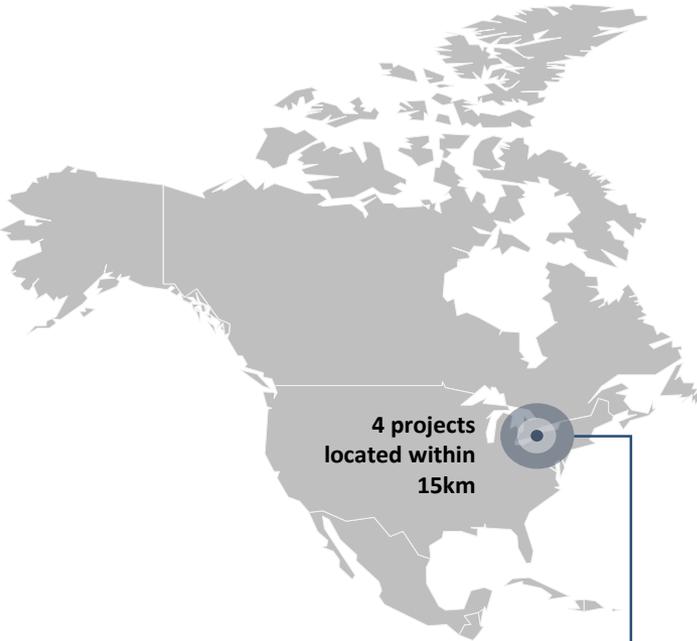


# Cobalt Camp Projects - Ontario, Canada

*Significant portfolio of high grade cobalt and silver projects in a Tier 1 location*

## Overview

- ✓ Large claim area in the region of approximately 80km<sup>2</sup> (19,000 acres) of historically proven and highly prospective ground
- ✓ Purchase of primary cobalt processing refinery located 5.3km from Cobalt Camp
- ✓ Over 600Moz Ag and 45Mlbs of Co from previous production from the region. Historical production grades estimated at 620-780 g/t Ag and 0.5% Co
- ✓ High grade cobalt is present in cobaltite, erythrite (“Cobalt Bloom”), nickel-cobalt arsenides and silver-cobalt arsenides
- ✓ First significant activity since Agnico-Eagle closed its mines in 1991 due to low silver prices



Cobalt Town project

Lorrain Valley project

Cooper Lake project

Silver Centre project

# Cobalt Camp Projects | Location

## Cobalt Town project

- 80%-owned (+20% option)
- 5,437 acres held
- High grade cobalt exploration project
- Including the past producing Silverfields mine, previously owned by Teck Corporation

## Lorrain Valley project

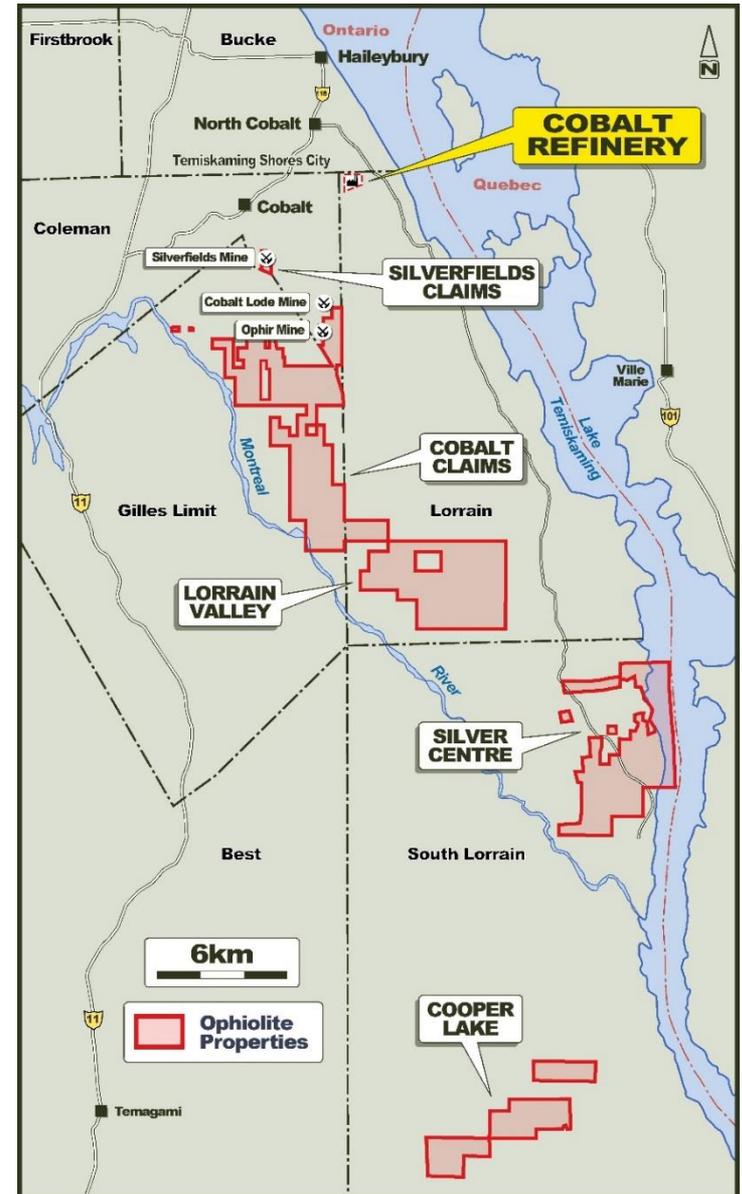
- 80%-owned (+20% option)
- 3,776 acres held
- Very high grade cobalt exploration project
- Samples of 12.3% Co and 3.8% Ni taken from historic mine workings (refer endnote 1)
- New claims staked Gillies Limit and Lorrain Two, Oxbow Lake and Oslund Hermiston

## Silver Centre project

- 80%-owned (+20% option)
- 4,257 acres held
- Cobalt and silver project
- Along strike of Keeley Frontier mine (19Moz Ag and 3Mlbs Co)

## Cooper Lake project

- Historic Co-Ag mineralised Ogistoh with small past production of 5% Co (refer endnote 3)
- Ogistoh shaft approximately 80ft deep and 40ft drifting completed NW side
- Contain Cunningham and Pubelow Co-Ag occurrences



# Historical exploration in cobalt region

*Despite the historic presence of global large-cap miners, the Cobalt Camp Project remains severely underexplored using modern day exploration techniques*

## Overview

- Silver-bearing veins at Cobalt Central were discovered in 1905
  - Located near town named Cobalt in Ontario, Canada
- Agnico Eagle (TSX: AEM, C\$12.6bn market capitalisation) was the most prominent previous owner of the Cobalt Camp
  - Holds c. 70% of the current Cobalt Camp Projects with multiples mines, mills and the refinery
  - Held control of the camp for over 30 years
  - Ultimately closed the operations due to low silver prices
- Outside of the Cobalt Camp, Teck Corp (TSX: TCK, C\$16.2bn market capitalisation) was the largest silver producer in the region from the 1960's to 1980's from its Silverfields operation
- No detailed attempt has been made to exact the ultimate source of the silver and cobalt mineralisation or investigate the possibility of a large-scale open pit operation
- Lack of modern day exploration techniques provides a significant opportunity for an accelerated exploration program
  - No historical IP geophysical surveying has historically been used
  - No gravity geophysical methods used
  - No comprehensive geotechnical compilation
  - Very little grassroots exploration conducted

## Cobalt Central mine (1908)



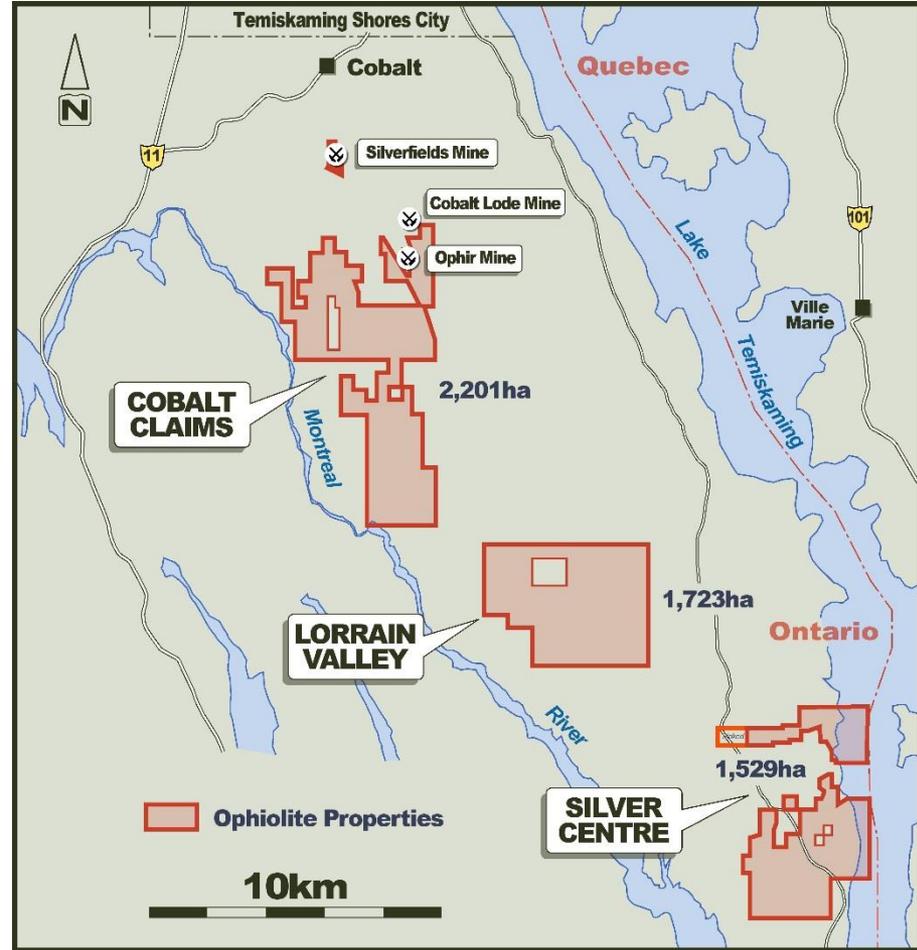
Source: Geological Survey of Canada report

**Application of modern exploration technologies the key immediate focus to define targets for an accelerated 2017 drilling program**

# Cobalt Town Project

## Overview

- Project is located south of a historic Teck Corp (TSX: TCK) Silverfields mine with similar geology
  - Additional former operations at the Gillies Limit and Coleman townships
  - Tenements also include the Ophir mine
- Cobalt mineralisation in the area occurs as silver-cobalt arsenides plus other cobalt arsenides
- District has access to extensive road, rail and port infrastructure
- Minimal modern exploration especially if covered with shallow overburden as historic miners were typically targeting visibly outcropping veins
  - Historic mining in the 20th century was focused on silver rather than cobalt
  - Most historic mines were shallow (ie. within 100m of surface)
- Targeting greater than 12km of contact points of Nipissing diabase, Keewatin volcanics and Huronian sediments



*Highly prospective cobalt exploration project with significant exploration upside around historic workings*

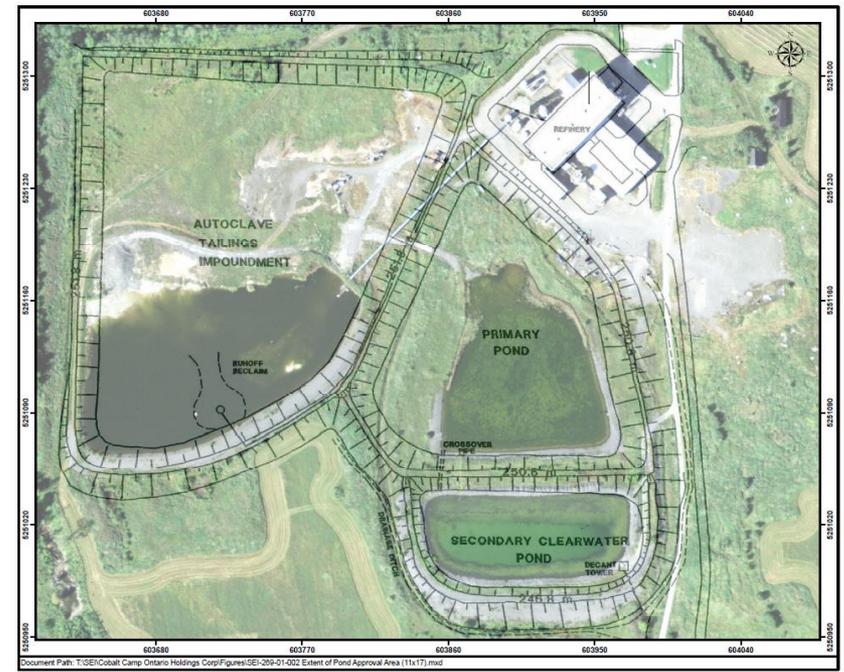
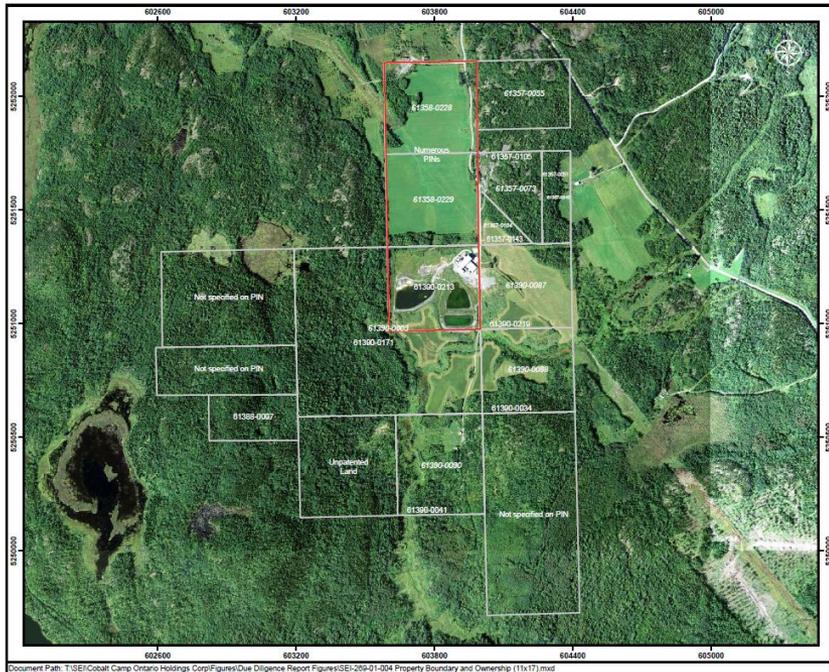
# Yukon Refinery

- Binding Agreement to purchase Yukon Refinery, located North Cobalt, Ontario, including permits and land for \$6m cash and 100m shares (restricted for 12/24 months)
- Refinery purchase creates long term synergies with existing tenure and projects in Cobalt Mining Camp
- 5.3km from the Cobalt Mining Camp; strategic acquisition
- Establishes immediate fast-track to Cobalt production for the Company and meet potential demand of third parties actively exploring and developing
- Operating Permits:
  - Cobalt is typically found in rock that is heavily laden with arsenic, the Refinery is permitted to separate the arsenic and combine it with ferric sulphate to produce a stable ferric arsenate
  - One of only four facilities in Canada
  - Only refinery in North America with no sets limits on processing or storing arsenic from feeds
- Land Location:
  - Located on 40.2 acres and includes Tailings Management Facility, two water management ponds with environmental permits to expand the ponds 2-3 times



# Yukon Refinery

- Designed for primary Cobalt and Nickel extraction to produce high purity Cobalt chemical compounds
- Connected for gas and electricity with capacity for expansion if required and a remote water pumping station at Lake Temiskaming
- Currently not operating, will require upgrades to meet future processing demands
- Detailed engineering assessments are planned to upgrade the refinery to a significant throughput production level
- Will require the construction or acquisition of a gravity/flotation processing facility to mill an assumed feed head grade of 0.3-0.5% Co to produce a bulk sulphide concentrate (6-8% Co)
- A 2012 report prepared by HATCH estimated the overall replacement cost at USD\$78M

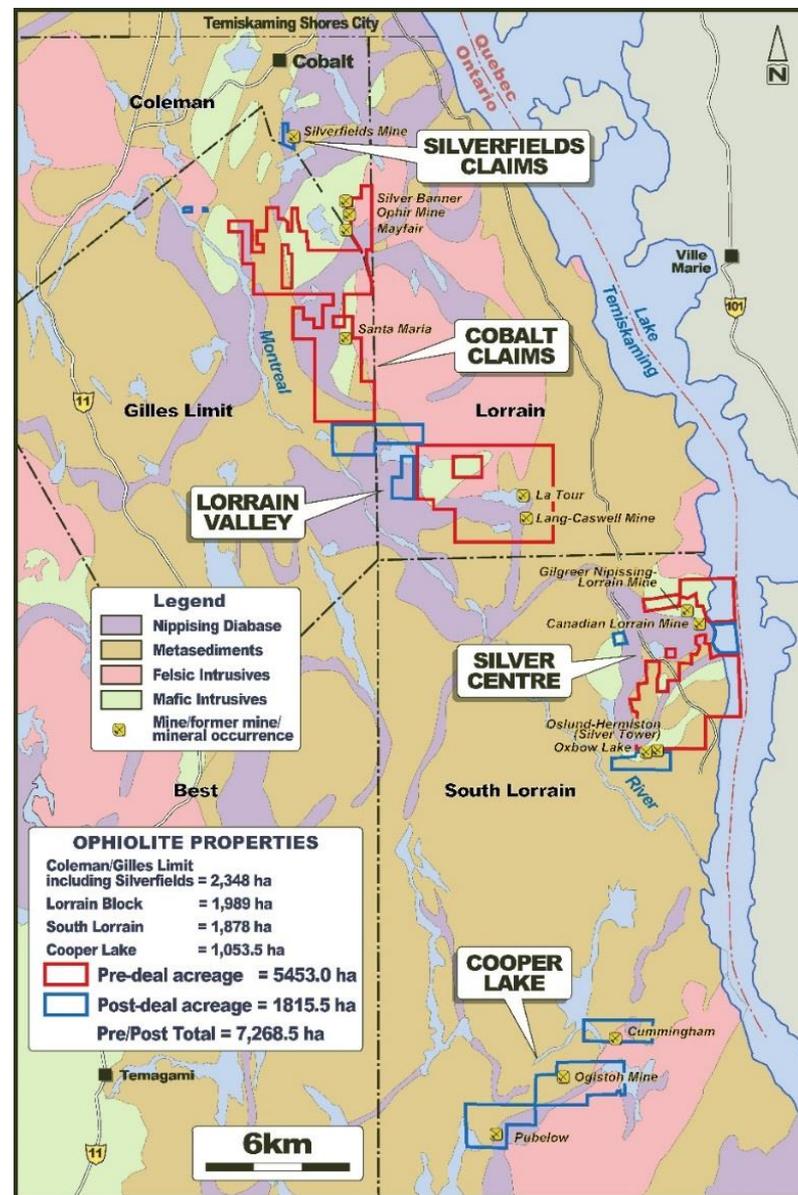


# Silverfields Mine Project

## Overview

- Operated by Teck Corporation from 1964 to 1983 and was one of its key operations in Canada at the time
  - Historically mined for silver mineralisation with cobalt being an unpaid by – product
  - Produced 18Moz of Ag at 12.8oz/ton (362 g/t Ag)
- Mineralisation at the mine included silver – cobalt arsenides typical of the cobalt camp
- Cobalt production was not tracked separately as the mills which received the ore at the time did not pay for the cobalt content so there was no economic incentive to target Co-rich or high in Co-low Ag areas
- The resident geologist from the Kirkland Lake Northern Ontario Mines Department reported in the early 1980s that cobalt was grading 1.0% Co in the ore and historic maps and other notes indicate the presence of cobalt throughout the mine operations

*Addition of the Silverfields mining property complements the company's portfolio of assets in the Cobalt Region*

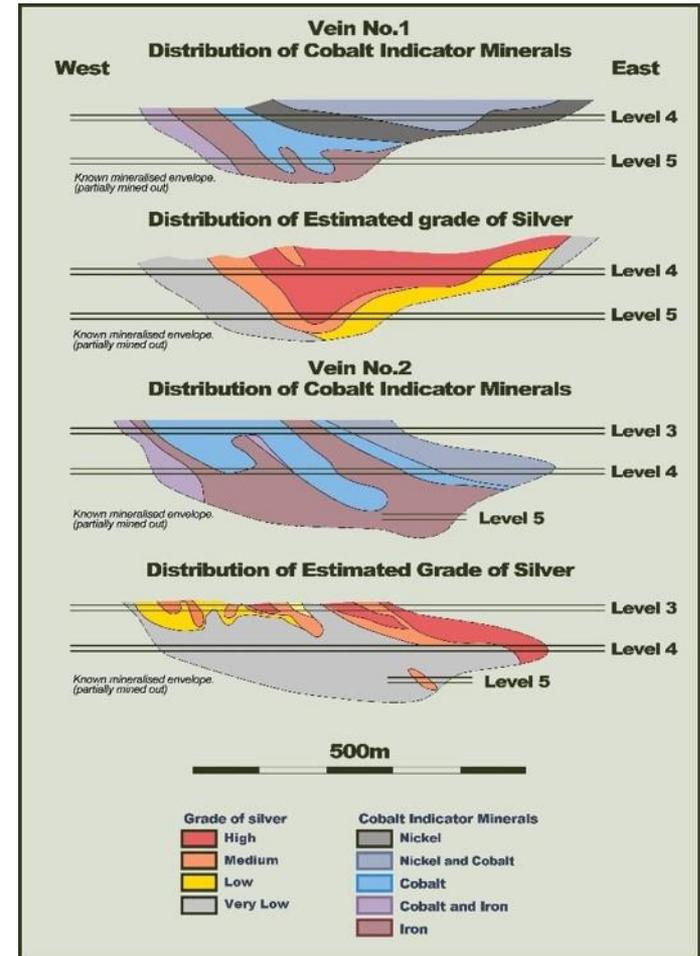


# Silverfields - Geology and Exploration

- The Silverfields deposit is composed of principal ore veins, cross-veins, masses of mineralized Keewatin interflow rocks, and disseminated minerals in the Gowganda Formation, Coleman Member.
- Veins contain cobalt indicator minerals such as arsenides and native silver. The arsenides, including nickel, cobalt, and iron varieties, occur as massive lenses and disseminated grains in the carbonate veins
- Silver grades exhibit a very different zonation implying that previous production has excluded multiple areas of cobalt mineralisation

## Implications for Co Targets

- Cobalt and silver mineralisation occurs in calcite veins in close association
- Cobalt indicator minerals are not correlated to silver grades - high grade zones cross cut indicator mineral zones
- Historical production targeting silver didn't focus on cobalt mineralisation - low grade silver zones likely to have Co-mineralisation in-situ
- Re-entry of the mine workings considered possible with establishment of drill platforms to follow rehabilitation



Idealised Long Section of Veins 1 & 2 showing separate zonation of silver and cobalt mineralisation (after Petruk 1968)

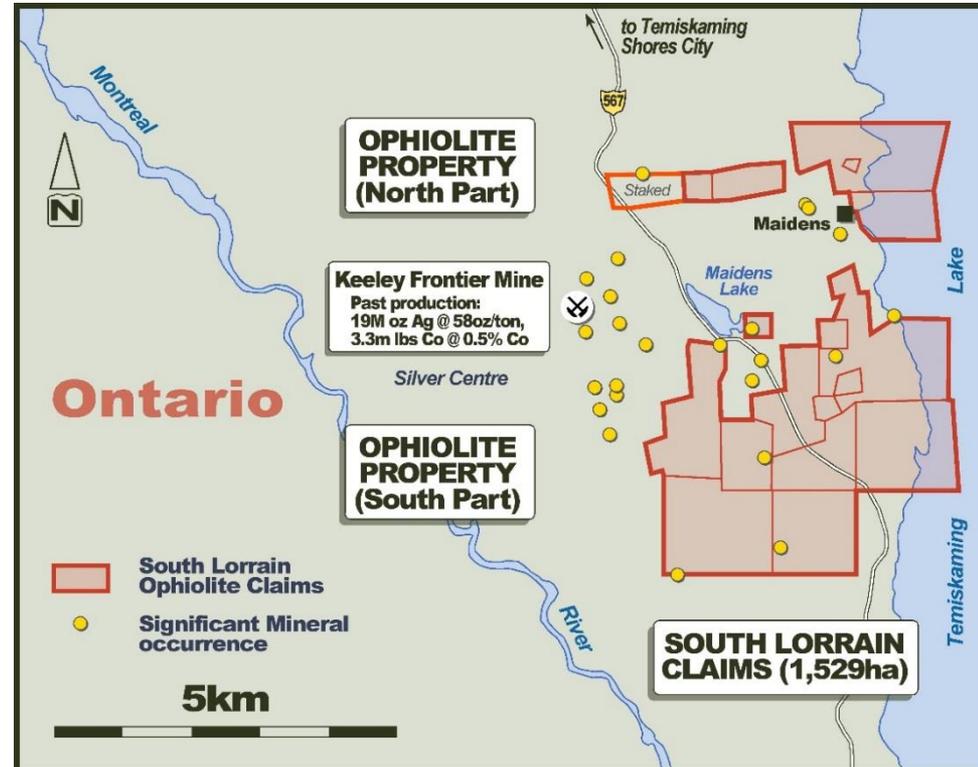
***Previous production likely excluded multiple areas of cobalt mineralisation***

# Silver Centre Project & Cooper Lake

*The Silver Centre project was a key satellite region of the cobalt camp and contains a number of former high grade cobalt and silver mines*

## Overview

- Project is located near the Keeley Frontier mine which produced 19Moz of Ag (at 58 g/ton) and 3.3Mlbs of Co (at 0.5% Co) refer endnote 2
  - Little modern exploration has been undertaken due to native title permitting
- The current tenement packages sit along the contact of the Nipissing diabase and Keewatin volcanics
- Targeting contact points of Nipissing diabase (light purple on the tenement location chart), Keewatin volcanics (green) and Huronian sediments (brown)
- Cooper Lake is the most advanced project in tenement portfolio
  - Cooper Lake has a strong IP anomaly over a 500m strike
  - Historic shaft indicates a 0.5m wide cobalt bearing vein



# 2017 exploration programme

- Advanced projects including the historic Silverfields mine, Ophir mine and the Cooper Lake property are to undergo underground workings surveying and subsequent geomodelling of known high grade Co-Ag orebodies
- Modern IP surveying to be run over both properties to pick up lateral extent and continuations of known structures
- Underground drilling to follow once underground workings have been rehabilitated
- Earlier stage “grass roots” exploration targets will be flown with aeromag/VLAIM/LIDAR combined geophysics
- Targets generated from airborne geophysics will be further delineated with ground IP



Meteor Adit - Silverfields Mine

*Targeted exploration programme in 2017 for its portfolio of advanced and “grass roots” properties across its four claims areas*

# Appendix

# Board of Directors

*Highly credentialed Board of Directors with significant industry and directorship experience*

## **Paul Matysek**

*Non-Executive Chairman*

- Previous Senior Executive & Director positions with several natural resource exploration and development companies
- Proven company builder including Energy Metals Corporation, Potash One, Goldrock Mines, Lithium X and Lithium One (now Galaxy Resources)
- Founder, President & CEO of Energy Metals Corporation (“EMC”), a premier uranium company that traded in the New York and Toronto Stock Exchanges

## **Jason Bontempo**

*Executive Director*

- +21 years’ experience in company management, corporate advisory, investment banking & public company accounting (CA with Ernst & Young)
- Director of Red Emperor Resources (ASX/AIM: RMP), Orca Energy (ASX: OGY) and Red Mountain Mining (ASX: RMX)
- Formerly on the Board of Glory Resources (ASX: GLY) and Caeneus Minerals (ASX: CAD, formerly Matrix Metals)
- Significant international experience providing corporate advice & financing resource companies on ASX and AIM exchanges

## **Nicholas Rowley**

*Non-Executive Director*

- Director of Minera Gold Limited (ASX: MIZ) and Director of Corporate Development for Galaxy Resources (ASX: GXY)
- Experience in corporate advisory, M&A and equities markets at Bell Potter Securities (domestic and international institutional sales)
- Extensive equity financing experience with ASX and TSX listed companies in mining and resources sector

## **Alex Passmore**

*Non-Executive Director*

- Experienced corporate executive with strong financial and technical background
- Managed WA Natural Resources Business of the Commonwealth Bank of Australia
- Previous Director of Corporate Finance and Head of Research, Patersons Securities
- BSc (Hons) in Geology from UWA and a Graduate Diploma of Applied Finance and Investment from the Securities Institute of Australia

## **Michael Naylor**

*CFO/Company Secretary*

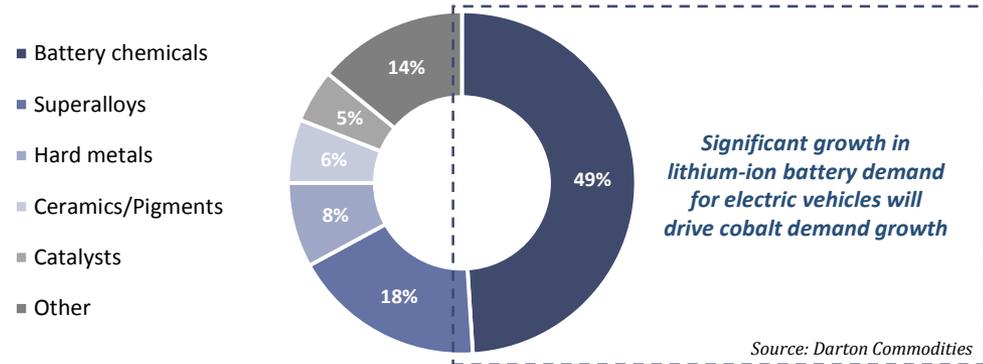
- 20 years’ experience in corporate advisory and public company management (CA with Ernst & Young)
- Current director of Tawana Resources NL (ASX: TAW) and Helix Resources Limited (ASX: HLX)
- Formerly on the board of Coventry Resources Inc (ASX: CYY) and Dragon Mining Limited (ASX: DRA)

# Cobalt demand overview

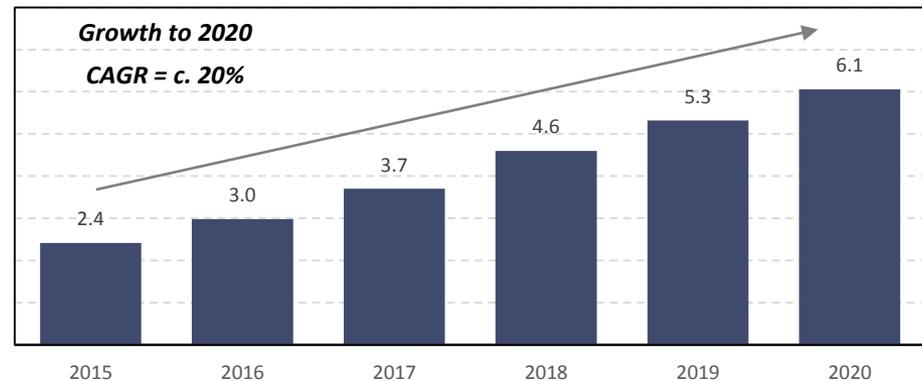
## Cobalt demand overview

- Lithium-ion batteries are used in electric vehicles, consumer electronics and energy storage
  - There is more cobalt by \$ value contained in modern lithium-ion battery chemistries than lithium
- Cobalt is a shiny, brittle metal, the 27th element in the periodic table, with a variety of traditional industrial applications:
  - Metallurgical super alloying (18% of 2015 demand)
  - Hardening agent for steel (8%)
  - Ceramics (6%)
- Battery chemicals (49%) is the largest and fastest growing cobalt application
- The surge in battery chemicals demand is driven by the rapidly growing lithium-ion battery market

## Cobalt demand by applications (2015)



## Forecast global EV unit sales per annum (millions)



*Source: Broker consensus*

*Market demand for cobalt underpinned by rapid growth in lithium-ion batteries*

# Cobalt supply overview - security of supply

## Cobalt supply overview

### Global supply of cobalt is heavily concentrated from the Democratic Republic of Congo

- c. 60% of supply derives from the politically and economically unstable Democratic Republic of Congo (“DRC”)
- Anticipated c. 15% decrease in 2016 supply as a consequence of mines being shut down and stricter ethical controls (e.g. Glencore’s Katanga)
- Historically, 93% of DRC cobalt exported to China for conversion

### Cobalt is traditionally mined as a by-product of copper and nickel

- Only c. 2-6% of cobalt is sourced from primary sources; low concentrations make large scale primary mining hard to justify
- Supply dictated by the economics of these other metals; falling commodity prices and low growth in demand for these metals set to put downward pressure on existing cobalt production

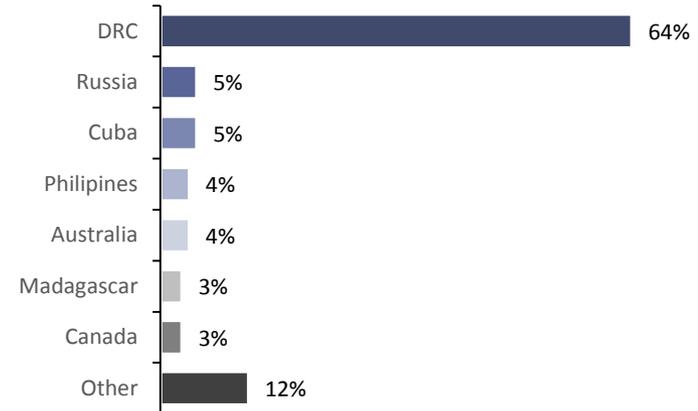
### Increased focus on ethical mining and eliminating child labour

- There is an increasing awareness of human rights abuses through artisanal cobalt mining in the DRC
- Artisanal mining accounts for c. 22% of mined production in DRC

### Cobalt is a critical metal that has no substitute in multiple applications

- Jet engines and wind turbines are examples where cobalt cannot be substituted as a super alloy

## Cobalt production by geography



Source: Darton Commodities

## Cobalt price history



Source: LME

# Silver overview

## The Silver price trading upwards in CY2016

- The silver price is up 20% and has been as high as up 49% in CY2016
- As has historically been the case, the silver price lagged the large increases in the gold price that occurred late CY2015 and early CY2016
- Average historical ratio to the gold price is 66x, burgeoning industrial applications could be responsible for current premium to the long term average (currently 71x)

## Supply pressures continue to build

- Global mine production is projected to fall in CY2016 by as much as 5%
- Largely due to the reduction in base metals output (around 60% of silver supply is from by-product production)

## Demand is strengthening, particularly for silver's industrial applications

- Silver is a primary ingredient in photovoltaic cells for solar panel installations
- Its photovoltaic cell application is responsible for more than 7% of total silver industrial demand in CY2015
- Silver is used in the production of ethylene oxide (EO); EO is critical in the production of plastics, solvents and detergents

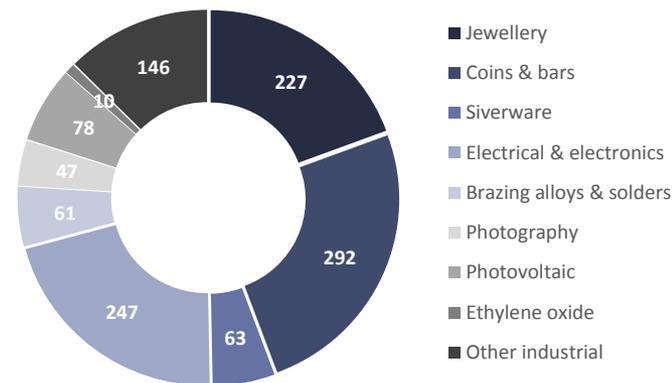
## Spot silver price performance (US\$)



Source: IRESS

## Silver applications (2015)

*Demand growth potential in photovoltaic cells for solar panel installations and expanding EO use*



Source: The Silver Institute

# Types of lithium ion batteries

*Cobalt is an integral metal used in lithium-ion batteries with c.75% of all lithium-ion batteries using a cobalt based cathode*

## Different types of lithium-ion batteries

- Cobalt is an integral metal used in the cathode (positive terminal) of a lithium-ion battery
- There are a number of different types of cathode compositions, each of which are preferable to different applications
- NMC and NCA are the 2 leading technologies favoured for electric vehicles, due to their exceptional energy density

	Lithium cobalt oxide	Lithium nickel manganese cobalt oxide	Lithium nickel aluminium cobalt oxide	Lithium manganese oxide	Lithium iron Phosphate	Lithium-titanate
<b>Symbol</b>	LCO	NMC	NCA	LMO	LFP	LTO
<b>Cobalt composition</b>	60%	10% - 20%	9%	-	-	-
<b>End uses</b>	High capacity storage: cell phones, iPad, cameras and wearables	Lower capacity but higher specific power and long life: Laptops and EVs	EVs, electric grid storage: Tesla's EVs and Smart Grid/Home Storage, and laptops	Lower capacity but higher specific power and long life: EVs and smart grid storage	Lower capacity but higher specific power and long life: Tools, EVs and smart grid storage	Electric grid storage
<b>Cobalt requirement for battery</b>	1.44kg / kWh	0.36kg / kWh	0.22kg / kWh	-	-	-
<b>Market share</b>	41%	24%	8%	19%	8%	-

*Source: Company reports, Avicenne, CRU*

# Competent Persons Statement

The information in this report that relates to Exploration Results is based on information compiled by Mr Gary Grabowski, who is a member of the Association of Professional Geoscientists of Ontario. Mr Grabowski is a geological consultant for the Company. Mr Grabowski has forty years relevant exploration experience, which is relevant to the style of mineralisation and type of deposits under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the JORC 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Grabowski consents to their inclusion in the report of the matters based on his information in the form and context in which it appears.

## Endnotes

1. Source: Prospecting Report 1998 2.19051 "MNDM". Refer to ASX announcement dated 28 November 2016 for more details.
2. Source: Harron GA 2008 Technical Report on Keeley Frontier Project, South Lorraine Township, Larder Lake M.D. Ontario. Refer to ASX announcement dated 28 November 2016 for more details.
3. Source: Ontario Ministry of Northern Development and Mines ("MNDM") report ref: MDI31M03NW00020