

# INVESTOR PRESENTATION

December 2019



# CORPORATE SNAPSHOT

## Len Dean *Chairman*

Non-Executive; Metallurgist, experienced ASX Chairman, BHP Marketing Director Iron Ore and Group General Manager Minerals Marketing. MD of India's largest listed Iron Ore Company. Over 45 years industry experience.



## Duncan Chessell *Managing Director*

Full time; Co-founder, geologist, with 20+ years experience in business and oil, gas and mineral exploration (gold and base metals). Expert in remote & cold weather logistics.

BSc, MAusIMM, GAICD.



## Andrew Shearer *Director*

Non-Executive; Resource Analyst with PAC Partners (Lead Manager on IPO), Corporate Advisor, Geophysicist with a technical and corporate background. Currently also Non-Executive Director of Andromeda Metals (ASX:ADN).

## Technical Team

### Dr Justin Gum - Contract Principal Geologist

- Credited with the discovery of the world class Callie gold deposit (NT),
- Worked throughout Australia in gold and base metals systems, 30-years experience

### Christine Lawley - Exploration Manager

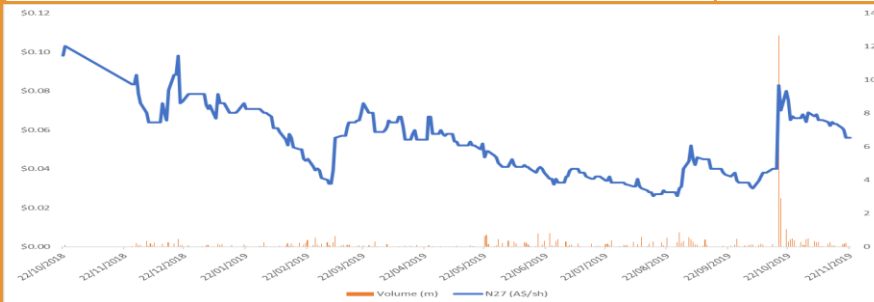
- 15 years' experience in gold, base metals and mineral sands exploration throughout Australia.

### Kelvin Blundell - Consulting geophysicist

- Was Sandfire's consulting geophysicist for the significant DeGrussa Cu-Au massive-sulphide discovery.
- 20 years experience in Australia, Canada and Africa

## Capital Structure 3<sup>rd</sup> of December 2019

Ordinary Shares (m)	108.9
Market Capitalisation (A\$m) – 6 cents	\$6.5
Cash (A\$m) (Q3 2019 + \$1.1M Dec19 placement)	\$1.4
Enterprise Value (A\$m)	\$4.1
Options (\$0.10/sh, 30/6/22) (m)	6.1
Options (\$0.25/sh, 6/9/21) (m)	5.8
Options (\$0.25/sh, 21/3/21) (m)	6.5
Options (\$0.06/\$0.08/\$0.10/sh, 30/11/22) (m)	15.0
Unlisted rights (m)	6.0
Performance Shares - Class A (m) (milestones on Wollogorang project)	9.6
Performance Shares - Class B (m) (milestones on Wollogorang project)	3.6



# COMPANY TRANSFORMATION (17 October 2019)

## AGREEMENT TO EARN UP TO 80% OF THE 64NORTH PROJECT, ALASKA

- **Highly leveraged gold exploration investment opportunity, adjacent to the operating world class Pogo Gold Mine, owned by Northern Star (ASX:NST)**
- The Company has executed a binding term sheet with Millrock Resources Inc (TSXV: MRO) to earn up to an 80% interest in the 64North Project in Alaska
- The 64North Project surrounds Northern Star's (ASX:NST) Pogo Mine, which has:
  - Produced 4 Moz gold @ 13.6g/t @ 300koz pa;
  - Current Reserve/Resource of over 6 Moz Au (ASX:NST Announcement 19/9/2019)
- Drilling preparation completed for diamond drilling, to commence Q1, 2020.
- High priority targets immediately adjacent to the recent NST announced Goodpaster Discovery
- Goodpaster Discovery reported as "2.3km strike open in all directions" and within 450m of the claim boundary. (NST ASX release 16/9/2019)
- Placement of \$1.5m secured 17<sup>th</sup> October 2019
- Company Name changed 26/11/19 from Northern Cobalt Ltd (N27)

**RESOLUTIONMINERALS**



# FIRST 45 DAYS SINCE COMPANY TRANSFORMATION

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## Completed

- ✓ Construction of a spur road from the Pogo Gold Mine Road to the priority Aurora drill targets
- ✓ Field recovery of historic drill core for multi-element geochemistry from the E1 and ER Prospects
- ✓ Reprocessing and combining historic geophysics datasets
- ✓ Interpretation of Millrock's CSAMT geophysics to define drill collars for the Aurora & Echo Targets
- ✓ Drilling permissions granted for West Pogo Block on the Aurora Targets
- ✓ Successful drilling of a water well for the
- ✓ Drill targeting for West Pogo Block – Aurora Targets and Echo Targets

## Currently underway

- Re-logging and assaying of historic drill core for multi-element geochemistry – *due February'20*
- Further desktop studies on regional targets and compilation of historic datasets – *due February'20*
- Due Diligence under an exclusive 100 day option to commence earn-in – *near completion*

## 2020 Drilling program, Q1 start

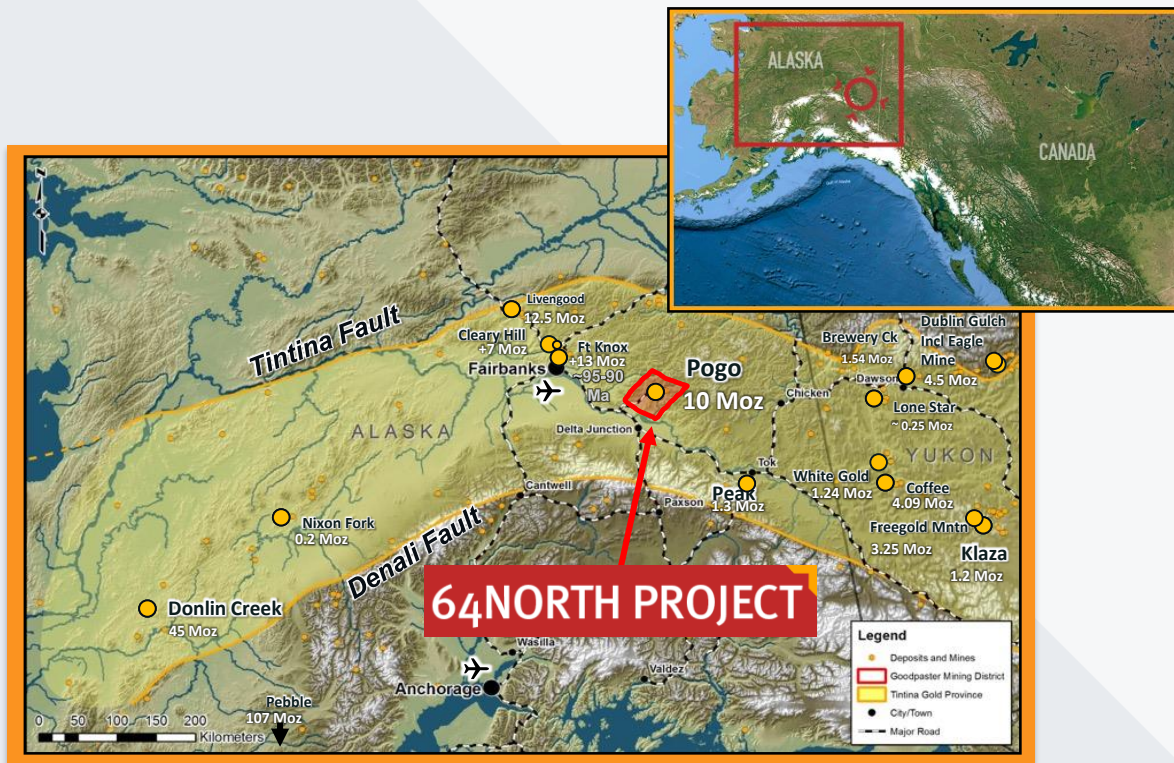
- Diamond core drilling scheduled for Q1, 2020 Aurora Targets: first program five (5) holes for 2,050m
- Follow up drilling programs at Aurora Targets (1,800m) and Echo Targets (1,900m) Q2, Q3, Q4



# 64 NORTH PROJECT



# TINTINA GOLD PROVINCE –GOODPASTER GOLD DISTRICT



## Province Gold System

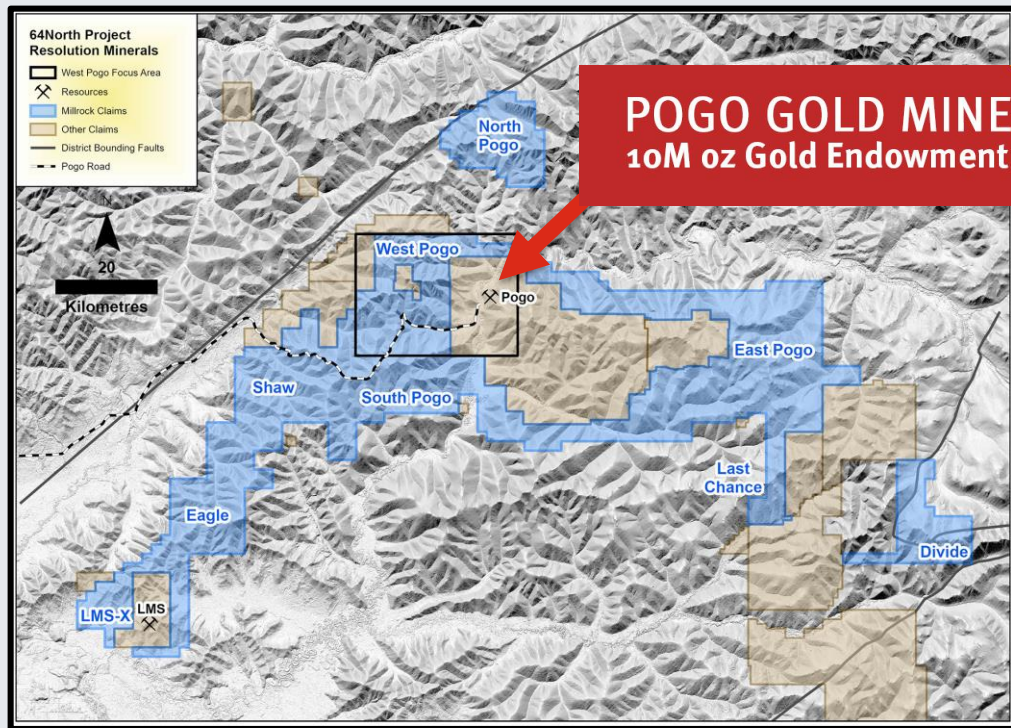
- 100m oz Au Endowment
- 80-102 Ma Age main mineralizing event

## Goodpaster District

- Pogo Gold Mine has produced 4m oz Au @ 13.6g/t Au; with 6m oz in resource with 4 new discoveries announced
- 120km from Fairbanks second largest city in Alaska
- All year mine road to ASX:NST Pogo Gold Mine



# 64NORTH – TENEMENTS & PROSPECTS/BLOCKS




## Large land position surrounding Pogo Gold Mine

- 1,174 State mining claims
- 660 km<sup>2</sup>

## Pogo Gold Mine Northern Star ASX:NST

- 10 M oz gold endowment with exploration upside at the Pogo Gold Mine, with 4 new discoveries announced by ASX:NST
- Production 300,000 oz Au /yr
- Total mine life production  
4m oz Au @ 13.6g/t Au

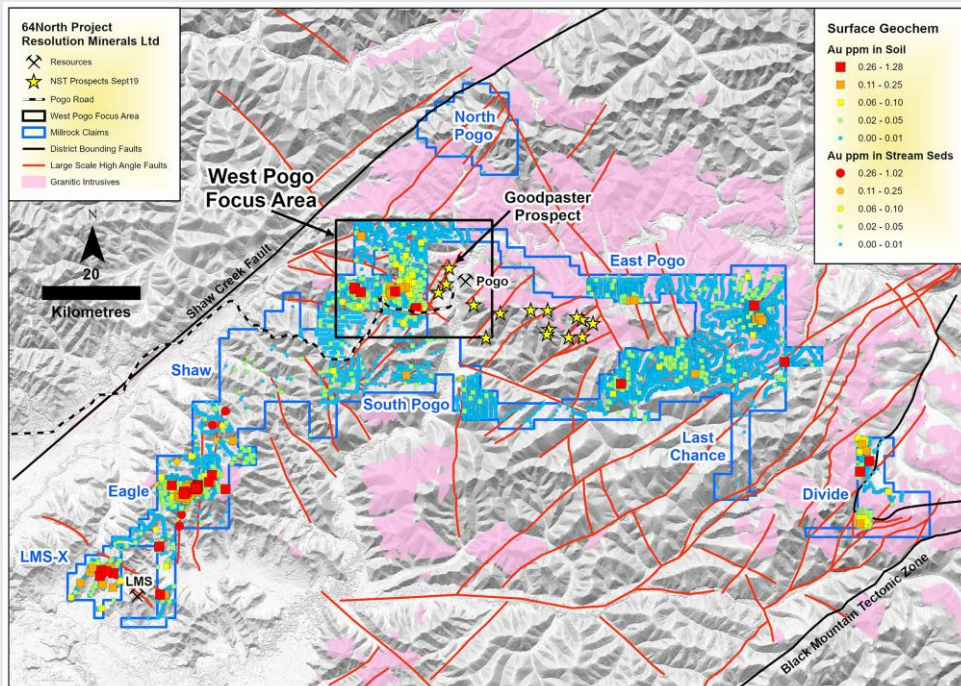
An aerial photograph of a winding dirt road through a mountainous landscape. The road curves from the bottom right towards the center of the image. The surrounding terrain is covered in snow, with patches of dark, evergreen trees visible. In the background, more snow-covered mountains rise under a hazy sky. A red rectangular box with a yellow corner is overlaid on the left side of the image, containing white text. The box is held in place by two white paper clips.

ALL YEAR ROUND 24/7 MINE ROAD  
ACCESS AVAILABLE TO THIS PROJECT,  
IS A HUGE LOGISTICAL AND COST  
SAVING ADVANTAGE OVER TYPICAL  
SUMMER ONLY - HELICOPTER  
SUPPORTED PROJECTS IN ALASKA.

- Duncan Chessell MD



# 64NORTH – CAMP SCALE POTENTIAL



## Camp Scale Potential:

- Granitic Intrusions, age 80-102 Ma, main mineralising engine room present throughout District
- 10 M oz gold endowment with exploration upside at the Pogo Gold Mine, with 4 new discoveries announced by ASX:NST
- Strong geochemical signatures of mineralisation throughout the district
- Evidence in historic drilling of vertical feeder zones
- New understanding of Pogo-style mineralisation and how to target it

## Exploration Database represents

US\$15 million in expenditure 1998-2012

- ~40,000 Surface Samples
- 11,434 m of NQ core drilling
- Airborne Magnetics & EM

# POGO STYLE – MINE MINERALISATION MODEL

## Low Angle Veins (Liese 1-3, East Deep)

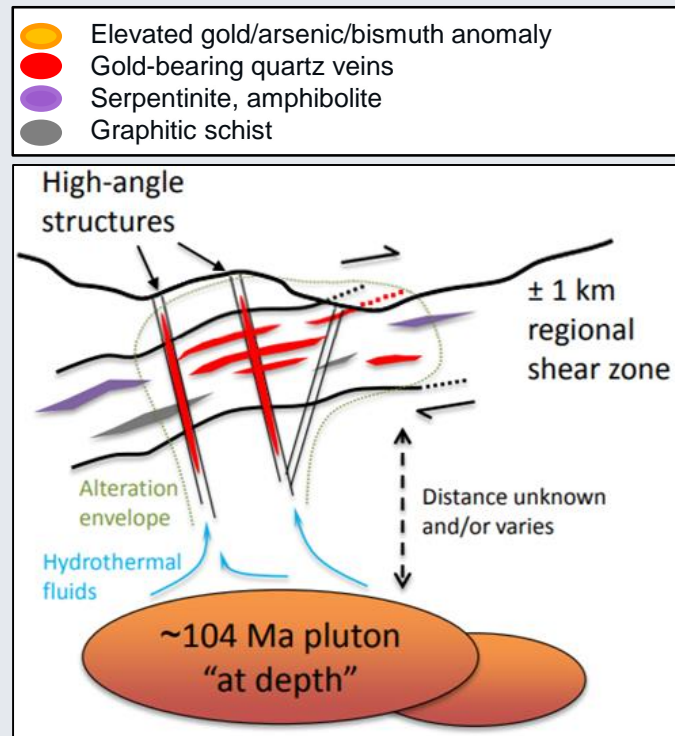
- These veins contain the bulk of the ore at Pogo
- 5-20 m thick
- Hosted in regional shear zone – compression with later extension for more dilation
- Shear exploits mafic and graphitic rocks within gneiss

## High Angle Veins (North Zone, X-Vein)

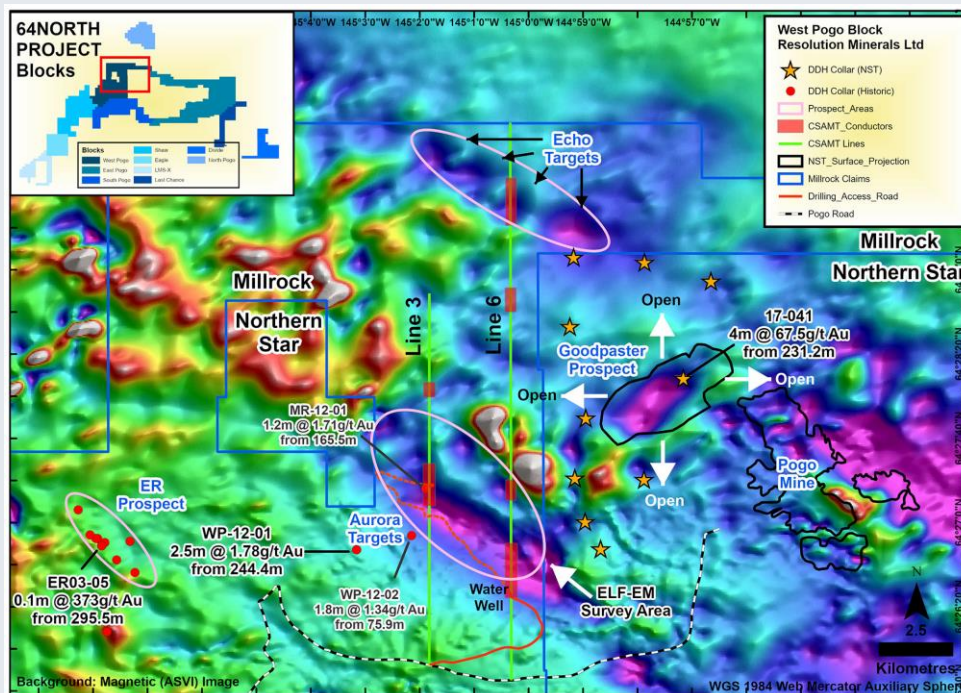
- Previously not important sources of ore
- 1-5 m thick N-S/NE-SW oriented escape structures for plutonic fluids
- Thought to be feeder structures

## Other characteristics of Pogo

- Free milling gold
- Low sulfide quartz veins  
~ 3% pyrite, arsenopyrite, pyrrhotite, Bi-Te-S
- Dolomite-sericite alteration halo
- Magmatic fluid source



# WEST POGO BLOCK – AURORA & ECHO DRILL TARGETS



## Aurora Targets – highly prospective

- ✓ Right Geology – paragneiss & orthogneiss in historic drilling
- ✓ Evidence of vertical feeder systems typical of Pogo-style mineralisation in historic drilling (western end of valley)
- ✓ Highly anomalous surface geochemistry – soils and rock chips
- ✓ Large structures – potential fluid pathways
- ✓ Geophysics – strongly demagnetised zone
- ✓ Geophysics – CSAMT conductors
- ✓ Road constructed, water well drilled
- ✓ Drilling permits issued

## Echo Targets – highly prospective

- ✓ Right position – along strike from NST Goodpaster Prospect and Pogo Mine
- ✓ NST Goodpaster Prospect “open in all directions”
- ✓ Right Geology – paragneiss & orthogneiss mapped in target area
- ✓ Large structures – potential fluid pathways
- ✓ Geophysics – demagnetised zone
- ✓ Geophysics – CSAMT conductor
- Heli support required May – Sept season
- Surface geochemistry, sparsely tested soils and rock chips – inconclusive, as Pogo-style mineralisation can have no surface expression
- Valid drill target as currently stands
- Further geophysics planned



Northern Star's  
Goodpaster Prospect

Pogo Gold Mine  
Northern Star (ASX:NST)

## AURORA TARGET 64NORTH PROJECT

Approximate claim boundary

CSAMT Line 6 conductor – Aurora Creek

New Road pushed to Water Well location 11/11/19





*WATER WELL DRILLING  
AURORA CREEK PROSPECT*

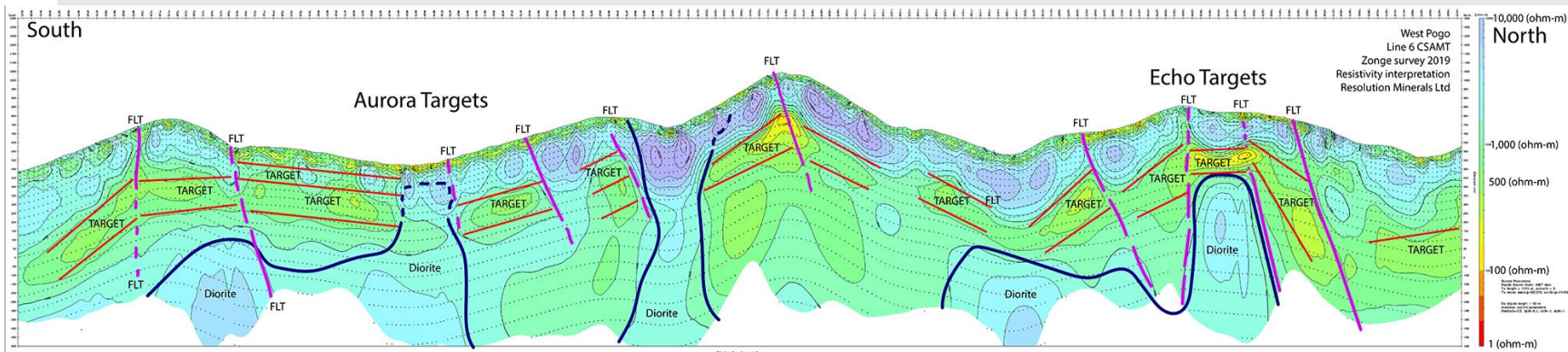
*November 2019*



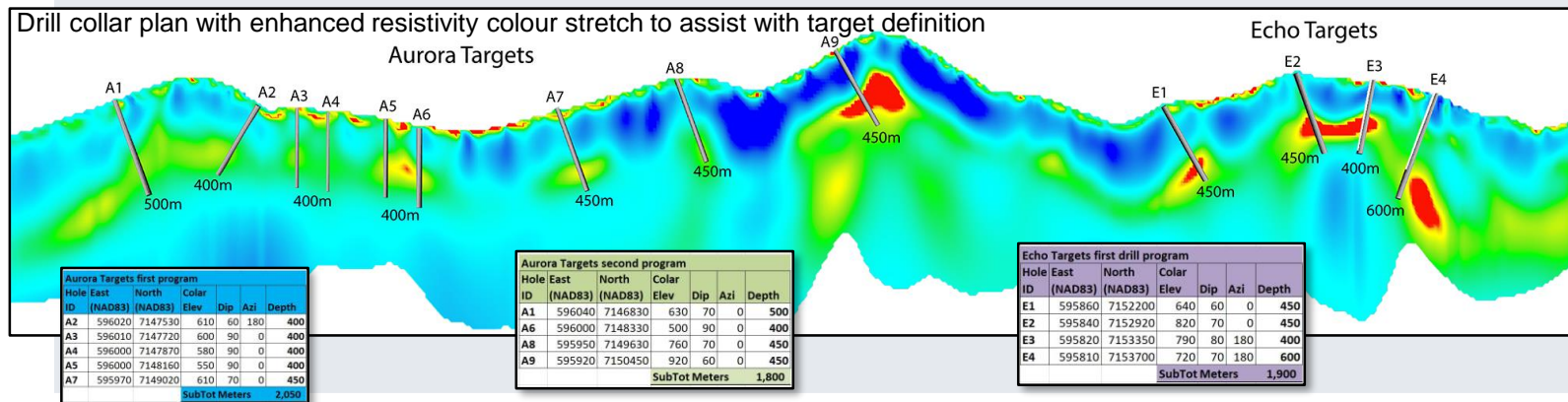


# LINE 6 CSAMT - DRILL TARGETING, AURORA & ECHO TARGETS

Target geological unit interpretation using CSAMT and reference to Pogo Mine site use of same system and published data.

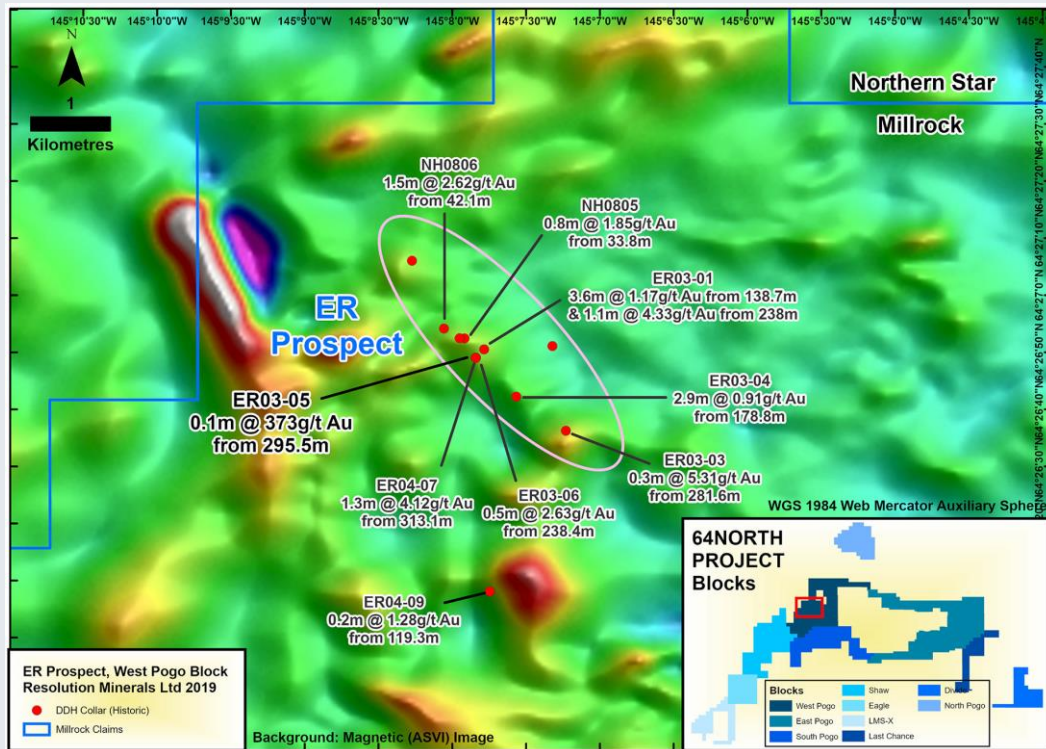


Drill collar plan with enhanced resistivity colour stretch to assist with target definition





# WEST POGO BLOCK – ER PROSPECT



The ER Prospect is **not associated with a demagnetised zone**, however **mineralisation of up to 373 g/t Au over 0.1m** in historic drilling (Hole ID: ER03-05) is certainly worthy of further investigation.

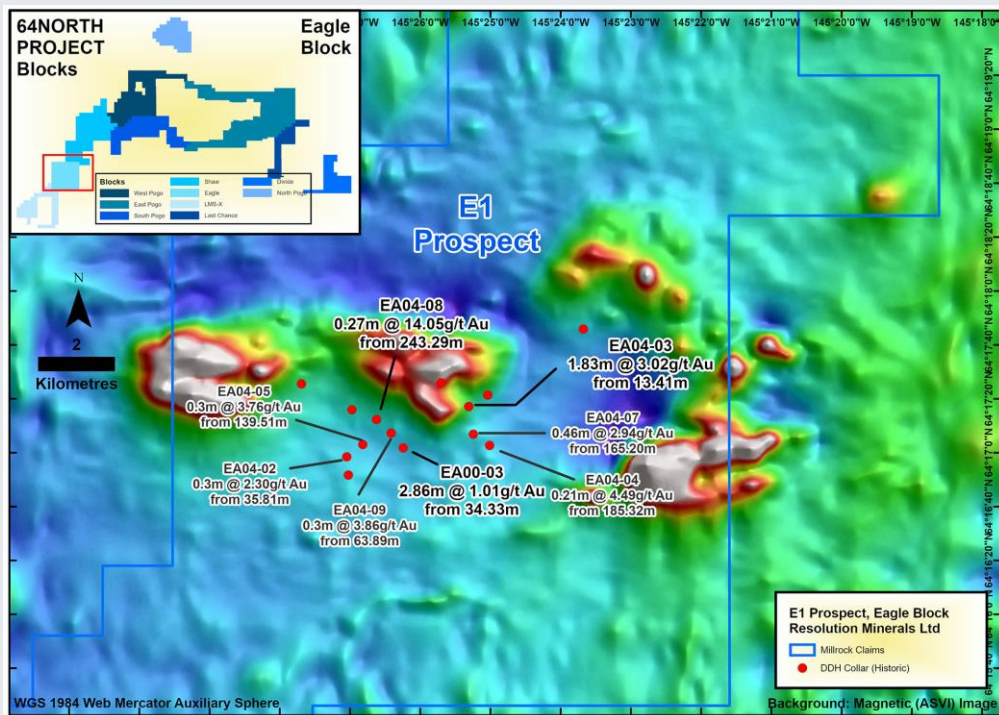
Our continued work to ascertain alternative controls on mineralisation and identify the different mineral systems by methodical geochemical fingerprinting and other methods, is ongoing throughout the district.

It is typical to find variations of mineralisation styles of IRGS (intrusion related gold systems) and Pogo-style mineralisation is a unique subset of IRGS and **it is important to not be fixated on one model.**

## Demonstrates

- Variability in geophysical signatures
- Variability in mineralisation style
- Multiple prospects in region
- District scale system
- Camp scale potential

# EAGLE BLOCK – E1 PROSPECT



The E1 Prospect is not a Pogo-style mineralisation. It is interpreted to be intrusion hosted IRGS system.

Previous work identified significant intervals of

- **0.27m @ 14g/t Au from 243m EA04-08**
- **0.21m @ 4.5g/t Au from 185m EA04-04**
- **1.8m @ 3g/t Au from 13m EA04-03**

Historic sampling undertaken in the field was very selective and only narrow intervals were assayed. The current re-logging and assaying program seeks to address these information gaps.

Our continued work to ascertain alternative controls on mineralisation and identify the different mineral systems by methodical geochemical fingerprinting and other methods, is ongoing throughout the district.

## Demonstrates

- **Variability in geophysical signatures**
- **Variability in mineralisation style**
- **Multiple prospects in region**
- **District scale system**
- **Camp scale potential**

# 64 NORTH PROJECT- OPERATIONS PLAN YEAR ONE

2019-2020	Q4	Q1	Q2	Q3	Q4
Activity	2019	2020			
Historic data merge					
Desktop review					
ELF-EM / Geophysics	Aurora		Echo		
Historic core recovery					
Geochem soils, stream seds					
Geological mapping					
Build road					
Water well					
Drilling phase one		Aurora	Aurora	Echo	
Follow up drilling			Aurora	Aurora	Echo
Drilling assays					
<i>*all drilling programs continuation subject to results and logistics</i>					
<b>Legend</b>					
Desktop review	Infrastructure		Geophysics/Mapping		
Assays	Drilling		Geochem, other		

## Drilling programs commencing from Q1, 2020

- Aurora Targets first program: five (5) holes for 2,050m
- Aurora Targets second program: four (4) holes for 1,800m
- Echo Targets first program: four (4) holes for 1,900m



# 64 NORTH PROJECT AGREEMENT

## SUMMARY OF EARN-IN AGREEMENT WITH MILLROCK RESOURCES (TSXV: MRO)

Stage	N27 Expenditure US\$ (million)	% Earn in N27	Cash US\$ '000 to MRO	N27 Shares to MRO (million)
Commence	-	-	-	5
Drilling Target	7,500m Drilling (Diamond Core)			5
Year 1	\$5	30%	\$50	10
Year 2	\$5	42%	\$50	10
Year 3	\$5	51%	\$50	4
Year 4	\$5	60%	\$50	4
<b>Totals</b>	<b>\$20</b>	<b>60%</b>	<b>\$200</b>	<b>38</b>

Right to earn up to 80% on one block

N27 can earn up to 80% on one block

Stage	N27 \$commitment	% Earn	Details
BFS	Fully Fund	70% earn-in	US\$3 million on decision to mine
First Production	Loan Carry	80% earn-in	Profit share 80/20





# SUMMARY OF OTHER PROJECTS

# THE WOLLOGORANG COPPER-COBALT PROJECT (AUSTRALIA)

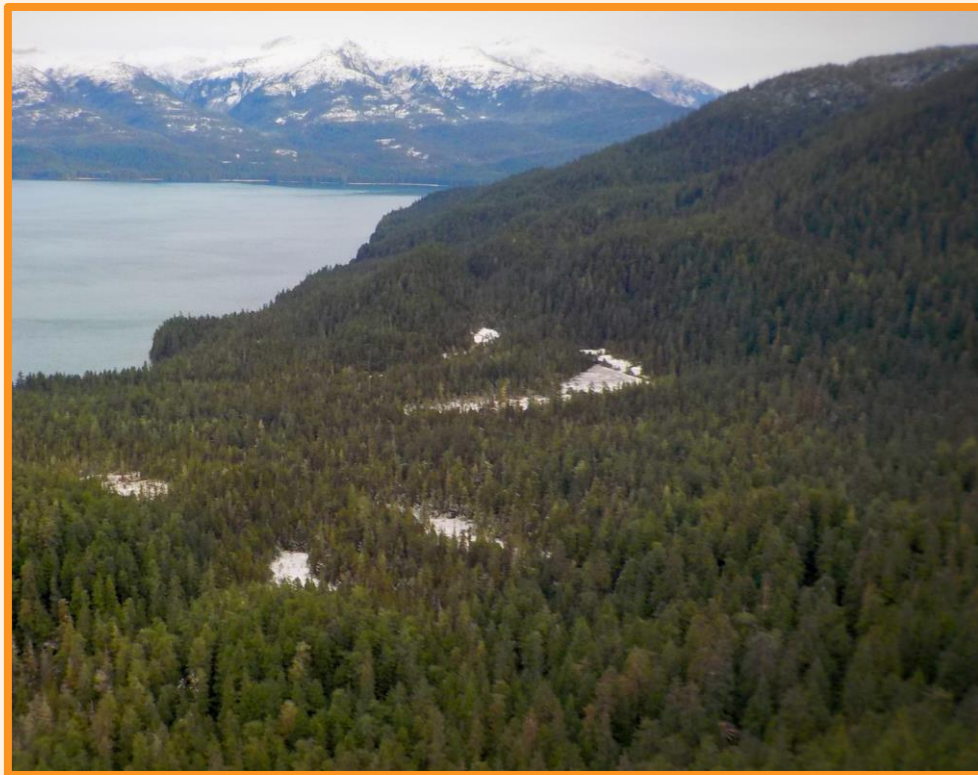


- **Stanton Cobalt Deposit** Total Mineral Resource Estimate
  - 942,000t @ 0.13% Co, 0.06% Ni and 0.12% Cu
- Significant IP anomalies defined under both Running Creek and Gregjo Prospects potential for Cu-Co with copper and cobalt mineralisation in shallow drilling above the IP anomalies
- Drilling approvals in place (Dry season is May-Dec)



# THE SNETTISHAM VANADIUM PROJECT (ALASKA)

- Three historic gold mines on the property
- Drilling approvals in place for - proof of concept drilling of vanadium – magnetite target
- Reviewing project for gold potential



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## JORC Information

Additional details including JORC 2012 reporting tables, where applicable can be found in the following relevant announcements lodged with the ASX and the Company is not aware of any new data or information that affects the information included in the announcements listed below.

- Stanton Resource Upgrade Increases Contained Cobalt – 9 April 2018
- Southern Alaskan Vanadium Project Acquired – 19 December 2018
- Binding Agreement earning 80% of Gold Project in Alaska – 17 October 2019
- Goodpaster Winter Drilling Preparations Underway – 5 November 2019
- Drilling Preparations Underway in Alaska – 22 November 2019
- AGM presentation – 26 November 2019

## Competent Persons Statement

The information in this report that relates to Exploration Targets, Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr Duncan Chessell who is a member of the Australasian Institute of Mining and Metallurgy. Mr Duncan Chessell is a full-time employee of the company and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Duncan Chessell consents to the inclusion in the report of the matters based on his information in the form in which it is appears and confirms that the data reported as foreign estimates are an accurate representation of the available data and studies of the material mining project. The Company is not aware of any new information or data that materially affects the information included in this announcement and all material assumptions and technical parameters underpinning the Mineral Resource continue to apply and have not materially changed.

# CONTACT

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**Managing Director**  
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**+61 414 804 055**

**ASX:RML**

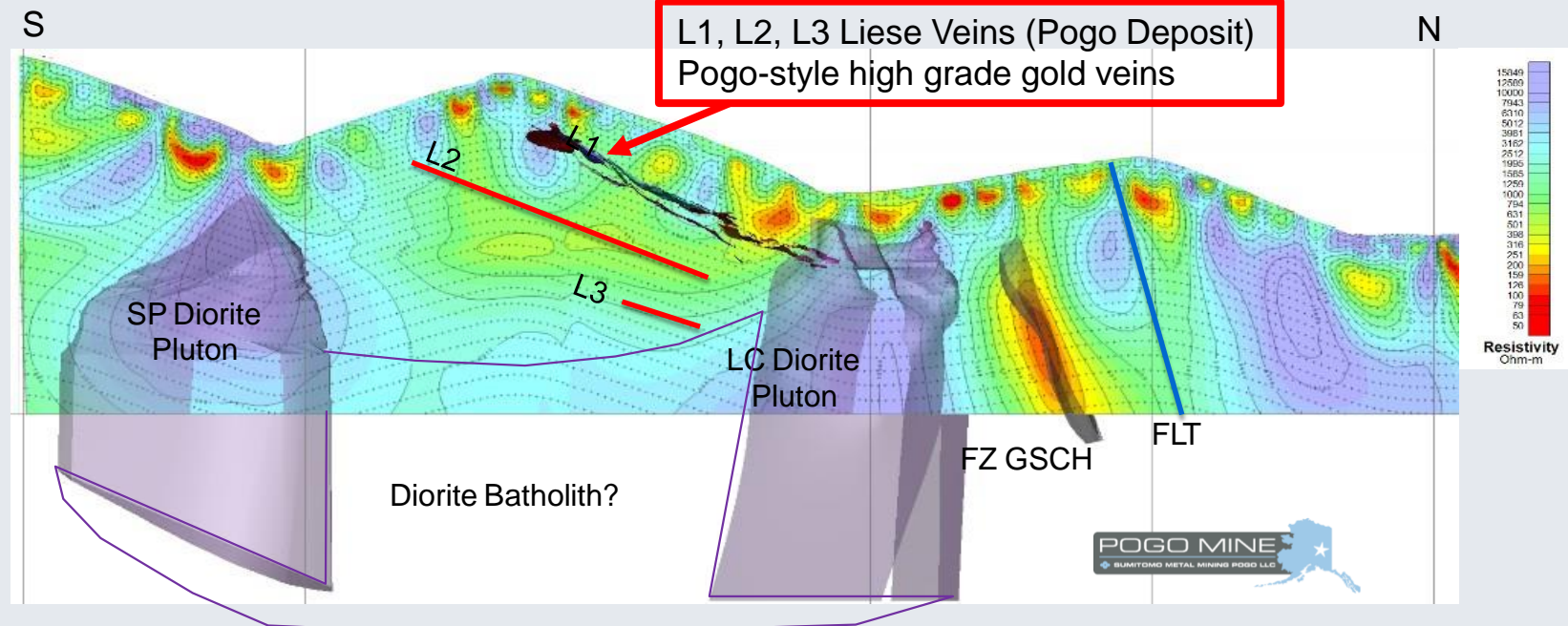
**duncan@resolutionminerals.com**  
**Ground Floor 28 Greenhill Road**  
**Wayville SA 5034, AUSTRALIA**  
**www.resolutionminerals.com**





# APPENDIX: CSAMT GEOPHYSICAL SIGNATURES OVER THE POGO MINE

Pogo Mine CSAMT Line 512E – Sumitomo interpretation, AMA conference 2018 prior to sale to NST



Section view of CSAMT and geological interpretation. Author: Gabe Graf, Exploration Superintendent – SMM Pogo LLC March 30, 2018 AMA Conference.  
Note: this is not on Millrock/Resolutions Minerals claims.

# APPENDIX: NORTHERN STAR'S GOODPASTER DISCOVERY

## Extract from ASX: NST “Pogo Plant Expansion and Goodpaster Exploration” [Link to ASX: NST 16/9/2019](#)

The **Goodpaster Prospect** is considered the continuation of the main Pogo mineralised trend across a major NE trending fault system broadly coincident with the Goodpaster River valley. The initial drilling is focussed approximately 1km west of the recently announced Central Veins discovery area adjacent to the existing Pogo production areas (see diagram below).

Since acquisition, Northern Star has rapidly advanced exploration drilling in the initial Goodpaster area with mineralised intersections now known to extend over a **strike distance of 2.3km**, to a depth of 500m and **remains open in every direction**. Mineralisation occurs in a series of stacked flat-dipping (Liese-type) and steeply dipping (North Zone-type) vein structures across the prospect area. The new discovery at Goodpaster, immediately along strike from the Pogo mining area demonstrates the camp scale potential of the district.

### Significant Goodpaster exploration drilling results include:

- 4.0m at 67.5gpt (discovery hole 2017)
- 5.2m at 15.7gpt
- 0.6m at 100.1gpt
- 5.2m at 9.5gpt incl. 2.4m at 18.1gpt
- 0.3m at 129.0gpt
- 1.8m at 13.2gpt
- 2.1m at 44.5gpt
- 2.2m at 28.1gpt
- 0.3m at 170.2gpt
- 8.1m at 5.0gpt
- 1.3m at 27.5gpt

