# **NORTHERNSHIELD** RESOURCES

### **Sinter to Center:** Why Root & Cellar's Gold **Findings Are Just the Beginning**

**CORPORATE PRESENTATION – October 2024** 



# **FORWARD LOOKING STATEMENT**

- This document contains statements concerning the potential for gold, silver, copper, tellurium and other mineralization at Root & Cellar and, geological, geophysical, geochemical and geometrical analyses of Root & Cellar and comparisons of the properties to known epithermal gold deposits, and other expectations, plans, goals, objectives, assumptions, information or statements about future events, conditions, results of operations or performance that may constitute forward-looking statements or information under applicable securities legislation. Such forwardlooking statements or information are based on a number of assumptions which may prove to be incorrect, and such possible comparisons are provided for illustrative or analogical purposes only.
- Although Northern Shield believes that the expectations reflected in such forward-looking statements or information are reasonable, undue reliance should not be placed on forward-looking statements because Northern Shield can give no assurance that such expectations will prove to be correct. Forward-looking statements or information are based on current expectations, estimates and projections that involve a number of risks and uncertainties which could cause actual results to differ materially from those anticipated by Northern Shield and described in the forward-looking statements or information. These risks and uncertainties include but are not limited to geological, geophysical, geochemical and geometrical interpretation, the ability of Northern Shield to obtain equipment, supplies and qualified personnel necessary to carry on its exploration and operations, the general risks and uncertainties involved in mineral exploration and those other risks and uncertainties set forth in Northern Shield's management's discussion and analysis filed on SEDAR at www.sedar.com under its profile.
- The forward-looking statements or information contained in this document are made as of the date hereof and Northern Shield undertakes no obligation to update publicly or revise any forward-looking statements or information, whether as a result of new information, future events or otherwise, unless so required by applicable securities laws

### **NORTHERN SHIELD INTRODUCTION**

#### 1. Our Space

Northern Shield's strength is exploring new or very early-stage projects. 2. Our Approach

We view greenfield exploration as an opportunity and not just a risk. We implement a model driven approach in our exploration to reduce any risk for ourselves, our shareholders and the environment. This has approached has led to partnerships with majors: 2005–2008 Implats Option on Highbank Lake Layered Intrusion – PGE Hudbay Strategic Investment regarding Wabassi VMS Camp Discovery, • 2007-2012

- northern Ontario
- 2012-2013 Implats Option on Idefix Ni-Cu-PGE project northern Quebec
- 2013 Teck Strategic Investment regarding Igertog Ni-Cu discovery Greenland
- South32 Option on Huckleberry Ni-Cu-PGE project northern Quebec 2016-2017

#### 3. Our Asset

Root & Cellar hosts recently discovered, high grade epithermal gold associated with significant tellurium, silver and copper mineralization.

# NEWFOUNDLAND

#### **Root & Cellar**

- The Avalon Terrane in Newfoundland hosts a growing number of epithermal gold, and related copper porphyry occurrences over a 200 km long belt
- All relatively new discoveries (mid 1980s to 2015)
- Similar to the Carolina and Nevada gold/copper belts that have been explored for a better part of a century
- In comparison, the Burin is vastly under explored

Low Sulphidation – Gold
Intermediate Sulphidation - Gold
High Sulphidation – Gold
Copper Porphyry

Peninsula

St. John's

### THE BURIN PENINSULA AND MARYSTOWN

- The Burin is sparsely populated, easily accessible and under explored
- The Conquest Zone is 15-minute drive from Marystown followed by a 15-minute walk
- Marystown provides a ready work workforce, existing infrastructure including deep water port and a welcoming population.

### Is this Elephant Country?



### **ROOT & CELLAR - EXECUTIVE SUMMARY** GOLD-SILVER-TELLURIUM-COPPER

- Gold was discovered at the Conquest Zone, Root & Cellar by a local prospector in a hand dug trench in 2012
- Northern Shield is the first company to conduct methodical exploration on the property
- Hosts 5 gold-silver +/- tellurium, occurrences over a large area that overprint a copper porphyry-type system
- Mineralization is hosted in a distinct volcanic complex
- The Conquest Zone has been the focus of exploration and has the largest foot-print
  - Conquest has all the ingredients to form a giant and high-grade epithermal gold systems



### **ROOT & CELLAR - EXECUTIVE SUMMARY** A GIANT AND HIGH-GRADE SYSTEM?

### The notion of a large mineralized system must be supported by the geology

- 1. Tellurium is indicative of alkaline (or sub-alkaline) systems. Such system are known to produce very large AND high-grade deposits
- 2. Presence of **copper porphyry-type mineralization**. Many large epithermal gold deposits are in the shadows of copper porphyry mineralization (e.g Brucejack, Fruta del Norte)
- 3. Large areal extent of pathfinder elements (As, Sb, Hg, K,) typically associated with epithermal deposits
- 4. Alteration: large deposits have large, intensive and complex alteration halos
- 5. Large foot-print of gold-tellurium-silver and copper mineralization
- 6. Level of erosion: Top of the system has been identified, hence the system is intact
- 7. Geophysics; large system typically disrupt the physical nature of rocks

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Hessite (silver telluride) Drop Zone, Root & Cellar

> Chalcopyrite (copper sulphide) Creston, Root & Cellar

> > Strongly altered rhyolite

# **REGIONAL INDICATION OF SOMETHING BIG**



**DEM of Burin Peninsula.** 

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Both the digital elevation model of the Burin Peninsula, as well as the magnetic signature, show a distinct break in the vicinity of the Root & Cellar Property

The cause of this is uncertain, but may be due to an (oblique) extensional tectonic regime which could enhance magmatic and hydrothermal activity



### **PATHFINDERS AND ALTERATION**

#### PATHFINDERS

- Excellent correlation with Hg, As, Sb, Te • & K
- Classic epithermal pathfinder assemblages



#### ALTERATION

- Intense, widespread and complex
- Even the original textures and alteration ٠ of the least altered rocks are unrecognizable due to overprinting by alteration





# **CONQUEST ZONE**

- Gold mineralization and anomalism over an area measuring approximately 2 sq km.
- Gold overlie deep-seated IP chargeability anomalies.
- Gold mineralization is dominantly hosted in a variety of hydrothermal breccias, silica-marcasite/ or pyrite +/- illite alteration.
- Gold mineralization and geophysics controlled by two principal structural sets.
- Visible gold is also found in quartz veins





			1
Surf	ace R	ocl	k Samples Assays
Au g	/t)		
	F	to	200
	5	ιο	200
	1	to	5
			-
	0.1	to	1
	0.025	to	0.1
•	all oth	ers	

3 boulders

with visible gold

111, 31 and 8 g/t Au





### CONQUEST ZONE QUESTIONS AND ANSWERS

- Much of the mineralization in the eastern portion of Conquest is found in an unusual, dark grey, almost black breccias yet are very siliceous and contain up to 7% K20. Similar rocks are described at Fruta del Norte.
- Despite wide intersections in drill-core it was also puzzling that they had limited depth extent
- It is now believed these formed from lateral, eastward flow of hydrothermal fluids and then overprinted by "leakage" from depth, up through the Conquest Fault Zone and contacts
- It was this understanding that provided a vector to the up-flow zone where the main vein system would be expected





# **CONQUEST FEEDER TARGETS**



- Near surface gold is largely hosted in east-west trending structures and contacts
- The 2021 drill-holes targeted these structures assuming they continued to depth
- However, re-modelling of the geophysics showed the east-west anomalies had limited depth extent but were underlain by a series of north trending anomalies



### **NORTH TRENDING FEEDER STRUCTURES**

- The expansion of the original Discovery Trench in 2023 revealed the very tops of the north trending feeding structures
- Visible gold as well as crustiform-colloform banded quartz vein were observed in this outcrop
- This area became the focus of the second drill program completed in 2023





### VISIBLE GOLD, QUARTZ VEINS & BRECCIAS



### **DISCOVERY TRENCH AREA SUMMARY UP-FLOW ZONE/SINTER MOUND**

- Near continuous gold mineralization in area measuring approximately 100 x 35 metres
- 7 of 8 drill holes completed in 2023 intersected mineralized quartz/silica-pyriteillite breccias and veins consistent with the tops of a low-sulphidation epithermal gold system.
- Of the 200 samples collected in the drilling program, 135 samples assayed greater than 0.1 g/t Au.
- Identification of sinter material in drill core and outcrop





Summary of gold results from surface and drill samples in the central Conquest area



### **INTACT EPITHERMAL GOLD SYSTEM**



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# We are here! Entire system is intact!

- Interpretation of data suggests the Discovery Trench area and 2023 drilling marks the top of one of the epithermal veins in the Conquest Zone. Evidence includes:
  - presence of the pathfinder elements Sb, As, +/- Hg
  - abundance of mineralized breccia
  - fragments of sinter material
  - short intervals of what appears to be hot-spring sediment (drill-hole 23RC-21)
  - alteration mineralogy including illite crystallinity numbers >1
  - Colliform-crustiform veins •
- Higher grades are expected at depth often near where the vein system bifurcates
- The presence of so much gold at these high levels is not typical and suggestive of a very fertile system.

![](_page_15_Picture_13.jpeg)

#### Hydrothermal breccia

![](_page_15_Picture_23.jpeg)

Hot-spring sediment (?) (Muddy, siliceous sediment with elevated Hg)

![](_page_15_Picture_25.jpeg)

#### Sinter Fragments (?)

![](_page_15_Picture_27.jpeg)

### **SINTER OUTCROP**

Late to post mineralization basalt caps the system; shows weak stockwork epidote alteration

![](_page_16_Picture_2.jpeg)

chlorite veins with visible gold. Veins run N-S and E-W

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![](_page_16_Picture_5.jpeg)

Gold at these high levels is not typical and suggestive of a very fertile system

### **SINTERS – PATHFINDERS TO DEPOSITS**

![](_page_17_Figure_1.jpeg)

Simplified diagram showing relationship between sinter mound, lateral outflow, breccias and main vein

- The Fruta del Norte epithermal gold deposit in Equador was a blind system found by recognizing that weakly gold anomalous silica horizons represented leakage (**B in diagram**) from an underlying epithermal system
- This led to a drill program which intersected the periphery of a sinter horizon (F)
- The next hole intersected 237m @ 4.1 g/t Au

CP-06-50 CP-06-517 CP-06-56 CP-06-61

S. Leary et al, 2016 Disc Southeastern Ecuador

![](_page_17_Figure_9.jpeg)

S. Leary et al, 2016 Discovery, Geology, and Origin of the Fruta del Norte Epithermal Gold-Silver Deposit,

### **CONQUEST ZONE: GOLD-MAGNETICS-IP**

- Excellent spatial correlation between mineralization, IP and magnetic lows at depth
- Suggest all three components are related
- Degree of magnetic destruction is significant
- Magnetics can "see" much deeper than IP; shows the epithermal system gong to considerable depth.

**Gold mineralization** directly overlies distinct mag low and conforms to its boundary 43+00 N P anomalies correlate to magnetic lows Magnetic Inversion -300 m depth slice.

![](_page_18_Picture_6.jpeg)

![](_page_18_Picture_7.jpeg)

### **CONQUEST ZONE – CROSS SECTION COMPILATION**

![](_page_19_Figure_1.jpeg)

### **PLANNED DRILLING**

- 8 to 15 drill-holes
- 2,500 3000m
- Focused on Conquest Zone

![](_page_20_Picture_4.jpeg)

![](_page_20_Picture_5.jpeg)

![](_page_20_Picture_6.jpeg)

### THE INVESTMENT OPPORTUNITY

#### "I skate to where the puck is going, not where it has been." Wayne Gretzky

Low sulphidation epithermal gold systems are renown for their bonanza grades of gold and silver but typically associated with relatively small tonnages. With grab samples up to 111 g/t gold, 1,395 g/t silver and 700 ppm tellurium, and 10.5% copper the high grades are apparent.

However, a select few of low sulphidation gold deposits are also associated with very large tonnages. A comprehensive exploration model and multiple datasets suggests that Root & Cellar has all the ingredients to form one of those few giant and high-grade epithermal gold systems. Northern Shield owns a 100% interest in Root & Cellar and we believe the puck is going here.

![](_page_21_Picture_5.jpeg)

![](_page_21_Picture_6.jpeg)

![](_page_21_Picture_7.jpeg)

![](_page_21_Picture_8.jpeg)

### CORPORATE

#### MANAGEMENT

![](_page_22_Picture_2.jpeg)

President, CEO

![](_page_22_Picture_4.jpeg)

CFO

#### Christine Vaillancourt

![](_page_22_Picture_7.jpeg)

Chief Geologist

#### CAPITAL STRUCTURE

Common Shares O/S
Fully Diluted
Stock Price
Market Capitalization
Treasury
Debt

#### DIRECTORS

lan Bliss	<b>Russ Richards</b>	Peter Dimmell
Northern Shield	Private wealth manager	Past President of PDAC
Founder	in Atlanta, Georgia	Fellow of Geoscientists Canada

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	83.3M		
	107.4M		
	C\$0.045		
	C\$7M		
	C\$200,00		
	Nil		

![](_page_22_Picture_16.jpeg)

#### Dr. Scott Jobin-Bevans

Past President of PDAC; founder and director of CCIC.

### CONTACT NORTHERN SHIELD

![](_page_23_Picture_1.jpeg)

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![](_page_23_Picture_9.jpeg)

🥑 @NorthernShield

# Appendix

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### TELLURIUM

• High grade tellurium has been found at Drop Zone and Creston with extensive moderate grade in surface samples and drill core from Windfall and the Conquest Zone

![](_page_25_Picture_2.jpeg)

Quartz veins from Drop Zone hosting hessite (silver telluride). Sample assays up to 45 g/t Au, 1,365 g/t Ag and 700 ppm Te.

![](_page_25_Picture_4.jpeg)

Molybdenite vein from Creston Copper assaying ▲ 1.1% Mo and associated with high grade tellurium (330 ppm) and weakly elevated copper and silver.

![](_page_25_Picture_7.jpeg)

### **ROOT & CELLAR COPPER**

![](_page_26_Picture_1.jpeg)

"Although much of the exploration at Root & Cellar has focused on the gold, the copper porphyry potential is very real."

- 72 samples collected from surface sampling at Root & Cellar assay > 0.1% Cu with 13 > 1% and, a high of 10.5% Cu
- The best copper mineralization has been found at Creston, 2 km southwest of Conquest
- Hosted in a vast phreatomagmatic/vent breccia complex with associated hydrothermal alteration
- Mineralogy and setting is indicative of the upper levels of a copper porphyry system

Gold anomalous soil sample
Copper anomalous soil sample
Gold anomalous rock sample
Copper anomalous rock sample

CRESTON

COPPER

![](_page_26_Picture_9.jpeg)

### **ROOT & CELLAR COPPER DEPOSIT MODEL**

**Outcrops of vent breccias and magmatic hydrothermal breccias** exposed in a series of quarries

![](_page_27_Picture_4.jpeg)

It is at the top of such an intrusion where the primary copper mineralization would be expected

# **IP ANOMALIES AND GOLD MINERALIZATION**

• Good spatial correlation between near surface IP anomalies and gold intersections

![](_page_28_Figure_2.jpeg)

Line 5200E IP Chargeability (Drill intersections projected back onto Line 5200E from 5240E)