

### BONAVISTA PENINSULA COPPER-SILVER PROJECT

#### Sediment hosted copper-silver project Newfoundland and Labrador, Atlantic Canada **Cu, Ag**

January 2022



#### NEWFOUNDLAND AND LABRADOR EASTERN CANADA MINING DISTRICT



- Atlantic seaboard neighbors;
- Long-standing business, political and cultural ties.
- History of trade and investment natural resource investment sectors.



#### GEODIVERSITY AND COMMODITY DIVERSITY



# GEOLOGIC TECTONIC ZONES OF NEWFOUNDLAND

#### MAJOR GEOLOGIC ZONES OF NEWFOUNDLAND

- The rocks of Newfoundland are divided into major geologic zones.
- The zones, from west to east, are Humber, Dunnage, Gander and Avalon.
- While the Humber zone has been a part of North America for at least the last billion years (1000 million), the other three zones are relative newcomers.



### NEWFOUNDLAND AND LABRADOR

- The Port Rexton sediment hosted copper-silver prospects are located on the Bonavista Peninsula in the province of Newfoundland and Labrador, Canada.
- This area can be accessed from the Discovery Trail, Bonavista Highway, Route 230.
- Mineral prospects are accessible by foot via gravel roads and foot paths.
- Mining friendly; 150 year mining tradition;
- Politically stable with a transparent permitting process;
- Established mining and taxation laws and regulations;
- Online mineral rights acquisition and management;
- Modern geoscience database;
- Modern infrastructure;
- Robust service and supply chain;
- World class mines and processing facilities;
- Commodity diversity (The Avalon Terrane of eastern Newfoundland is host to worldclass mineral deposits, including active mining projects such as the Trinity Resources Pyrophyllite Mine, Manuels, Conception Bay South as well as Canada Fluorspar's St. Lawrence Mine (fluorite) on the Burin Peninsula.

#### SUMMARY FIFIELD'S PIT (PORT REXTON) COPPER-SILVER PROSPECT

This area is prospective for sediment-hosted stratiform copper deposits.

- Underexplored prospect with 3 modest shallow drill holes.
- Fifield's Pit Cu-Ag Prospect Drill Hole # 2:
  - Considered to be the 4<sup>th</sup> best drill hole for Cu-Ag on the Bonavista Peninsula;
  - Assayed drill core yields between 15 to 20 m of 1000 ppm Cu with anomalous Ag.
- Area has numerous anomalous copper in till and lake sediment samples that have not been systematically explored in all directions.
- South of the Fifield's Pit Prospect is a broad 500 m by 1000 m copper in soil anomaly that has not been adequately explained. Values in soils include 700, 2300 and almost 4000 ppm Cu.



#### SUMMARY CONTINUED ... FIFIELD'S PIT (PORT REXTON) COPPER-SILVER PROSPECT

- A potential residual magnetic anomaly has been noted near the western part of the property. This anomaly is located back up ice from anomalous copper in till and lake sediment samples.
- Dr. Jon Thorson, a recognized expert in sediment hosted copper-silver deposits, considers the mineralized grey bed at the Fifield's Pit Prospect to be similar to the mineralized "grey bed" at Tickle Cove – Blue Point on the north side of the Bonavista Peninsula. At this locality, several economic grade copper-silver intersections were previously drilled by Cornerstone Resources and Noranda Exploration Company Ltd.



### PREVIOUS EXPLORATION

- The Bonavista Peninsula has an intermittent history of mineral exploration.
- In the early 2000s, copper showings and prospects garnered exploration.
- Assessment reports prepared by Cornerstone Resources, Noranda and Vale Exploration Ltd provide more information about mineral exploration programs conducted in the 1990's and early 2000s.
- Mineral exploration was focused on the search for sediment-hosted stratiform copper (SSC) deposits. Surveys included mapping, lake sediment and soil sampling along with further tills, prospecting, as well as limited drilling near Port Rexton.
- Drilling mostly focused on the Red Cliff-Blue Point Copper-Silver prospects to the north.
  Many soil, till and lake sediment anomalies for copper have not been fully evaluated.

The late Neoproterozoic age rocks along with the Cambrian cover rock sequences are postulated to hold good potential for sediment hosted "red bed" Copper-Silver deposits.

### GEOLOGY OF THE BONAVISTA PENINSULA

#### REGIONAL AND PROPERTY GEOLOGY

- Claims are located in the Avalon Tectonostratigraphic Zone of Newfoundland.
- The Avalon Terrane is dominated by a complex assemblage of Neoproterozoic sedimentary, volcanic and plutonic rocks developed between 760 and 540Ma.
- The Neoproterozoic assemblage is overlain by Cambrian and locally Ordovician sedimentary rocks of shallow water setting.



#### GEOLOGY OF THE BONAVISTA PENINSULA





#### GEOLOGY OF THE BONAVISTA PENINSULA



Figure 2. Geology of the Trinity map sheet (NTS 2C/06).



#### **RESIDUAL MAGNETICS - BONAVISTA PENINSULA**





#### **RESIDUAL MAGNETICS - BONAVISTA PENINSULA**



### **RESIDUAL MAGNETICS**

#### **RESIDUAL MAGNETICS GRIDDED MAP**

- Localized magnetic anomaly.
- Magnetic anomaly appears to sit on the east limb of a major fold that noses out near the localized copper showings.
- The localized area is indicative of red hematitic alteration.







### MAP OF COPPER ANOMALIES IN TILL AND LAKE SEDIMENT SAMPLES





### FIFIELD'S PIT (PORT REXTON) COPPER-SILVER PROSPECT

**GRAB SAMPLE ASSAY** 

**FIFIELD'S PIT** 

2162 ppm Cu, 1.5 grams/tonne Ag

TRINITY POND 1.06 % Cu, 5.4 grams/tonne Ag

TRINITY SOUTH 0.66 % Cu, 3.5 grams/tonne Ag





### ANALOGUE DEPOSIT

#### SIMILARITIES BETWEEN FIFIELD'S PIT (PORT REXTON) CU-AG PROSPECTS, NL AND

#### TIZERT SEDIMENT HOSTED CU-AG DEPOSIT IN THE ANTI – ATLAS BELT, NW MOROCCO

AGE	Both are found in Late Proterozoic – Ediacaran age marine siliciclastic sedimentary rocks. No continental sedimentary red bed rocks are noted in the immediate property areas.
STRUCTURAL FEATURES	Marginal graben growth faults and radiating faults are developed in major sedimentary basins in both areas.
ROCK TYPE	Both are found in Green Basal Series consisting of fine grained laminated and pyrite bearing siltstones, sandstones and minor conglomerates. Diamictite and mixtite rocks are noted in both areas.
MINERALIZATION	Chalcocite is the dominant copper mineral with minor bornite and chalcopyrite. Chalcocite replaces pyrite as finely banded laminae mostly in grey – green fine grained laminated siltstones. Also, with calcite in fractures and veinlets closer to faults. Broad areas of low-grade copper (chalcocite) are developed on both properties, ranging from 500 to 1000 ppm over 15 to 20+ metres.



### TIZERT COPPER-SILVER ANALOGUE DEPOSIT

#### **ESTABLISHED MINERAL RESOURCES**



The Tizert Copper–Silver Deposit mineral resources are listed at **56.8 million tonnes @ 1.03% Cu, 23 grams Ag** (grams/tonne).



Government and private industry estimates indicate that the total resource could be 100 million tonnes of similar grade, as the ore deposit is still open along strike.



#### DRILL CORE ANALOGUE PHOTOS

#### **Tizert Cu-Ag Deposit** Morocco



(a)

**Blue Point Horizon Tickle Cove, NL** 



#### **Fifield's Pit** Port Rexton, NL



Drill core photos showing:

- Bedding parallel disseminated mineralization and fracture-(a) hosted copper mineralization and
- Copper sulphides (chalcopyrite and bornite) along (b) carbonaceous styolites. S<sub>o</sub>, bedding. (Ourmouch, et al., 2017)

Port Rexton figure 3. Comparison of the lamination style in the dark gray facies from the Blue Point horizon and the unnamed Siliceous facies of the Rocky Harbour Formation (O'Brien and King, 2004) that is host to copper mineralizatrion at Port Rexton. Core on the left is RC01-04 (124 m. 300 ppm Cu): the core on the right is PR02-03 (28.7 m. 1012 ppm Cu) .

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