








## LIBERTY PROJECT

### PROJECT HIGHLIGHTS

-  **LOCATION** - *Central British Columbia*
-  **ACCESS** - *60 km WNW of Quesnel*
-  **INFRASTRUCTURE** - *Year-round access via network of Forest Service Roads*
-  **CU-MO PORPHYRY POTENTIAL** - *Analogous mineralization to Taseko's Gibraltar Mine*
-  **FIRST MOVER ADVANTAGE** – *Claims encapsulate majority of known prospective geology*

### OVERVIEW

The road accessible 6,895-hectare Liberty Property is located ~60 km northwest of Quesnel, BC , within the Fraser Plateau.

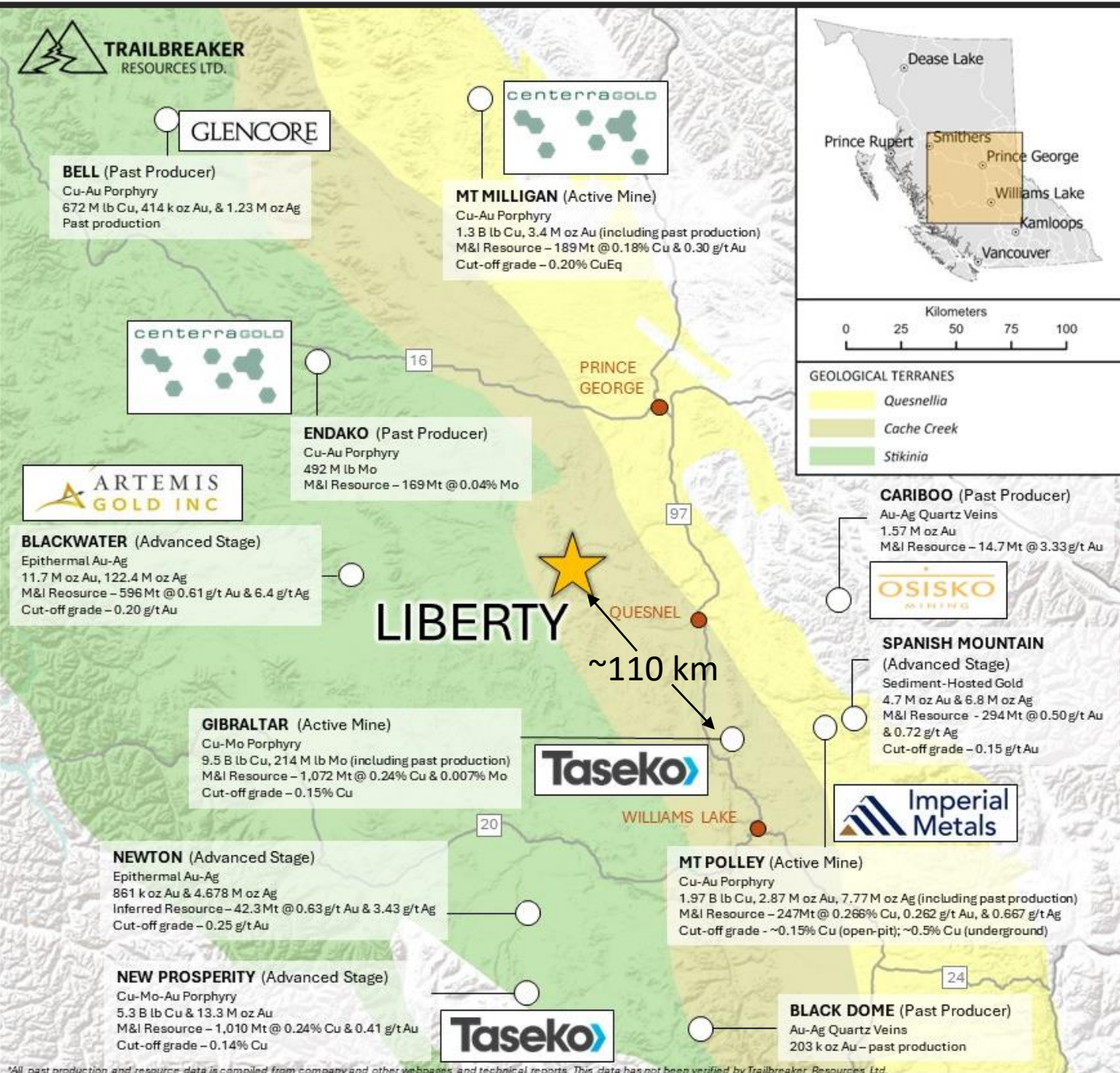
Property geochemical and geophysical surveys define a central 1,600 m x 800 m area of strong chargeability (>20 mV/V) that extends to >700 m, coincident with a resistive intrusive complex that transects the property from north to south. This chargeability anomaly is 'up-ice' of a significant multi-element till soil anomaly. In addition, the chargeability is within a larger 4.0 km x 3.5 km moderate chargeability anomaly (>7 mV/V), which has returned numerous ~200 m+ intervals of low-grade Cu-Mo mineralization indicative of porphyry mineralization.

ZTEM and resistivity data define two additional porphyry targets, which are 'up-ice' of other glacially transported multi-element geochemical anomalies, indicating the potential for multiple porphyry centers on the property.



# LOCATION AND INFRASTRUCTURE

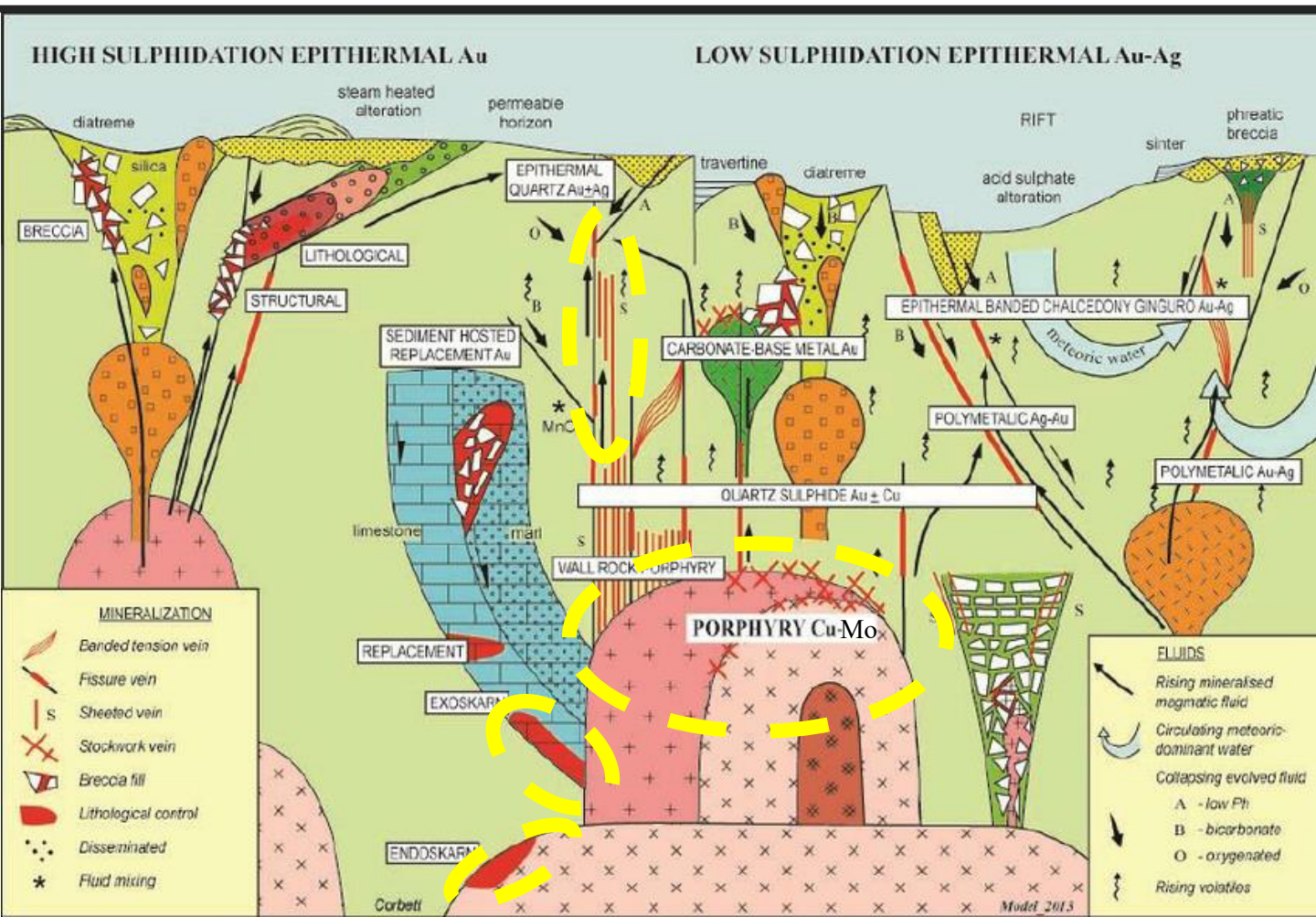
- 6,895 hectare claim package, covering prospective Mesozoic intrusions
- Located ~60 northwest of Quesnel, BC
- High-density network of forest service roads throughout the property
- Low annual precipitation means access to the property can be achieved year-round
- Gentle rolling hill topography typical of the Chilcotin Plateau
- Within traditional territory of first nations with a history of collaboration with industry



# REGIONAL GEOLOGY AND DEPOSIT MODEL

## Cu-Mo Porphyry Potential

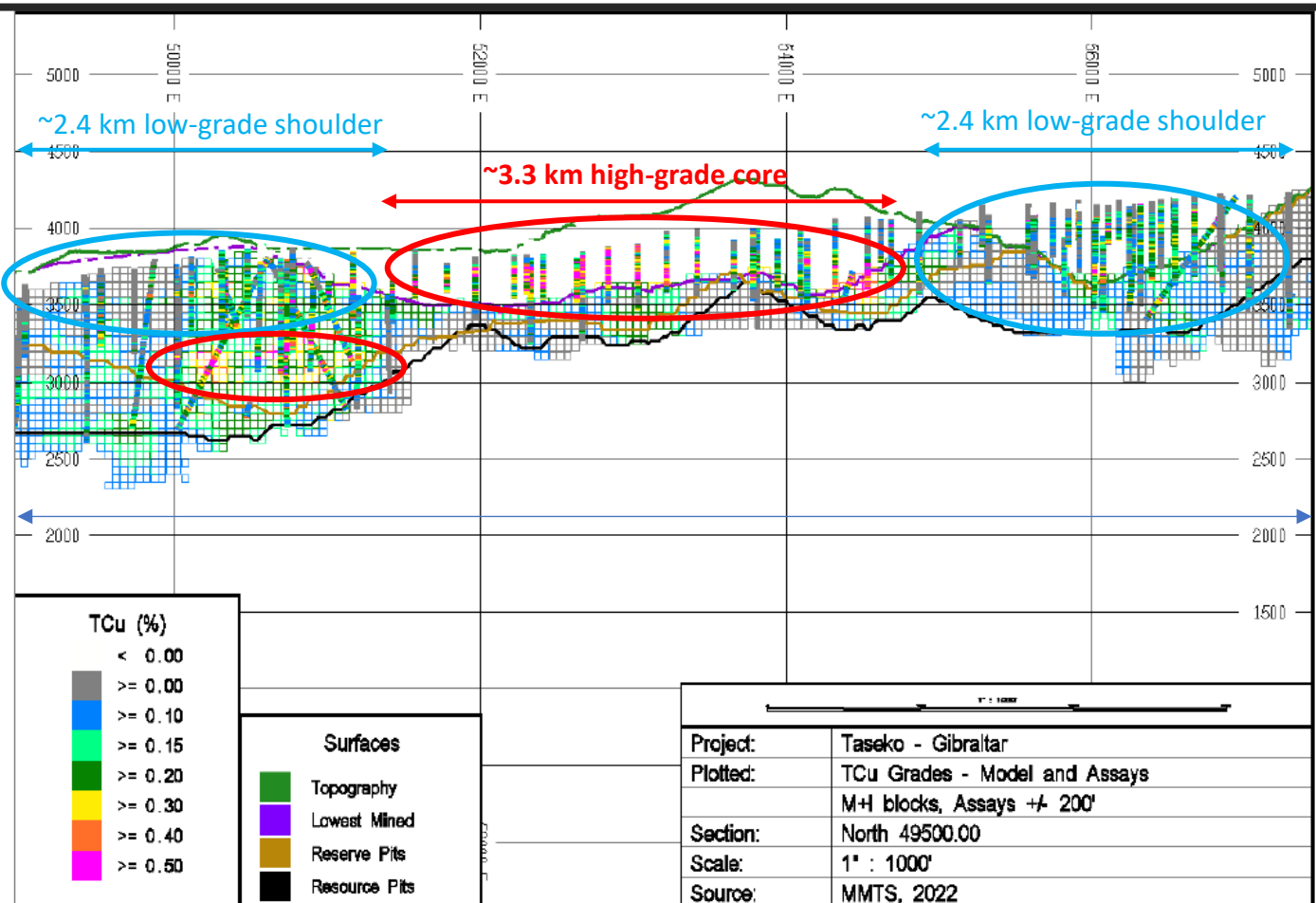
- The Liberty project sits along the western edge of the Cache Creek terrane, which is host to Cu-Mo porphyry deposits including Taseko's Gibraltar Mine, north of Williams Lake, BC, which is the second largest open-pit copper mine in Canada.
- The Gibraltar Mine is a calc-alkalic Cu-Mo porphyry deposit, hosted in the Late Triassic Granite Mountain batholith. The mine contains 9.5 billion pounds of copper from past production and in current measured and indicated resources. The current resources have an average copper grade of 0.24% and a cut-off grade of 0.15% Cu.
- Cu-Mo porphyry deposits are associated with felsic to intermediate plutons, which have intruded to a level of 2-5 km in the crust. Mineralization is often associated with Cu-bearing vein stockworks and disseminations hosted within or on the margin of the intrusion.
- Numerous other mineralization styles are associated with Cu-Mo porphyry deposits, such as skarn deposits, and epithermal Au-Ag quartz vein deposits.
- In BC, these deposits range in ages from Triassic-Jurassic (210-180 Ma) and Cretaceous/Tertiary (85-45 Ma).





# GIBRALTAR ANALOG

- Gibraltar Mine, located ~110 km southeast of Liberty, is mineralized for >8 km strike length
  - The main areas that were historically mined define a ~3.3 km high-grade core to the system
  - The lower-grade shoulders of the deposit are now proposed to be mined
- The low-grade shoulders of Gibraltar make up a significant portion of the deposit footprint
- Due to the scale of the deposit, wide step outs are required to vector in from the low-grade shoulders to the high-grade core



Annotated Figure 14-10 from 2022 NI43-101 report for Gibraltar Mine. Cross-section showing Cu grades on section 44600N. Note scale and geometry of high-grade and low-grade mineralization. Large areas of low-grade Cu mineralization occur on the margins of the high-grade mineralization.

Property Geology from 2013 Assessment Report

*Historic claim boundaries*

847461 847462 847463 847464

836010 836008 836011 836012

**Epithermal zone** **Skarn zone**

granodiorite to diorite

847460 847459 845258 845253

**MMJ and IP grid, showing anomalies**

ultramafic intrusion

847458 845259

**Porphyry zone**

581299 58130 581301

560897

**Shear zone**

847457 560898 560899 847467

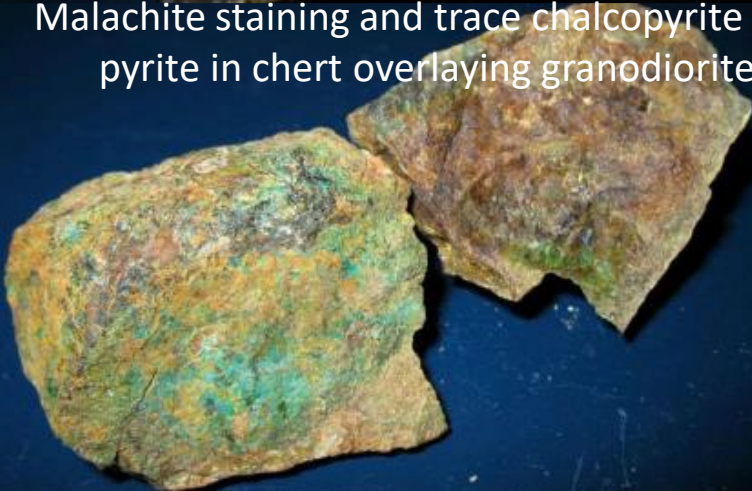
515065 515067

A B

- Fracture fillings of chalcopyrite, bornite and trace molybdenite



Malachite staining and trace chalcopyrite and pyrite in chert overlaying granodiorite



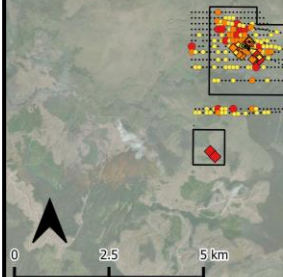


## EXPLORATION COVERAGE

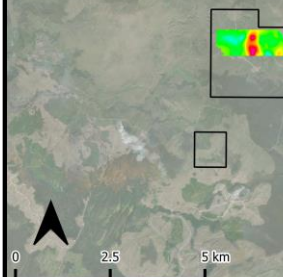
- Historic exploration efforts were primarily focussed on a narrow area around a soil geochemical anomaly and mineralized outcrops
- These past exploration surveys did not account for glacial transportation of till
- Past drilling permit was restricted to the small area over the IP survey and on existing disturbance
- Trailbreaker has taken a 'zoomed out' approach to assess the property-scale exploration potential including:
  - Property-wide soil sampling that led to additional claim staking
  - Property-wide ZTEM survey
  - IP survey covering the up-ice direction of the strongest multi-element soil anomaly

## HISTORIC DATA

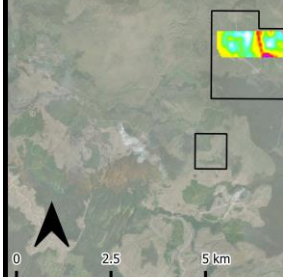
### *Geochemistry*



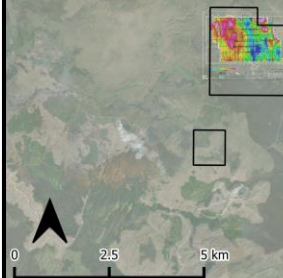
### *IP - Chargeability*



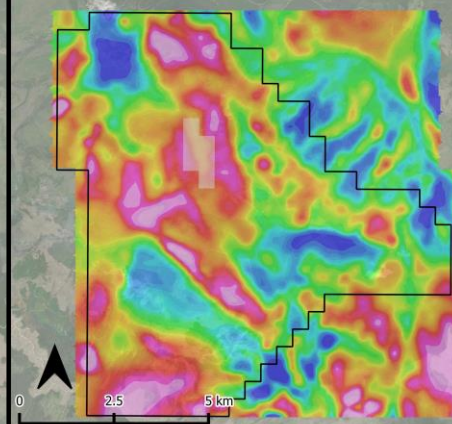
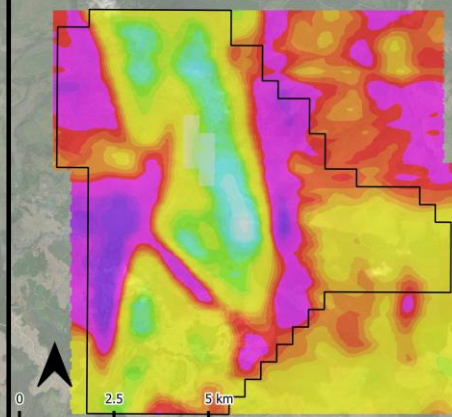
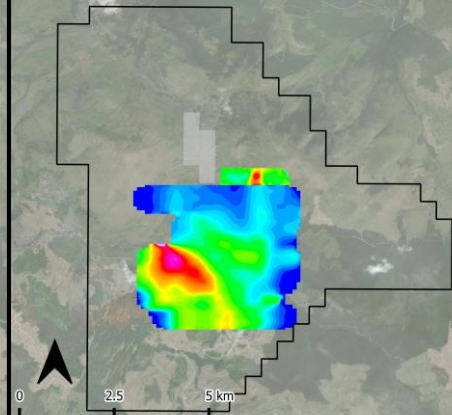
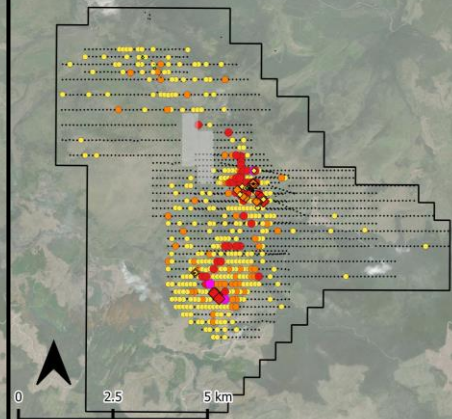
### *Resistivity*



### *Magnetic Intensity*

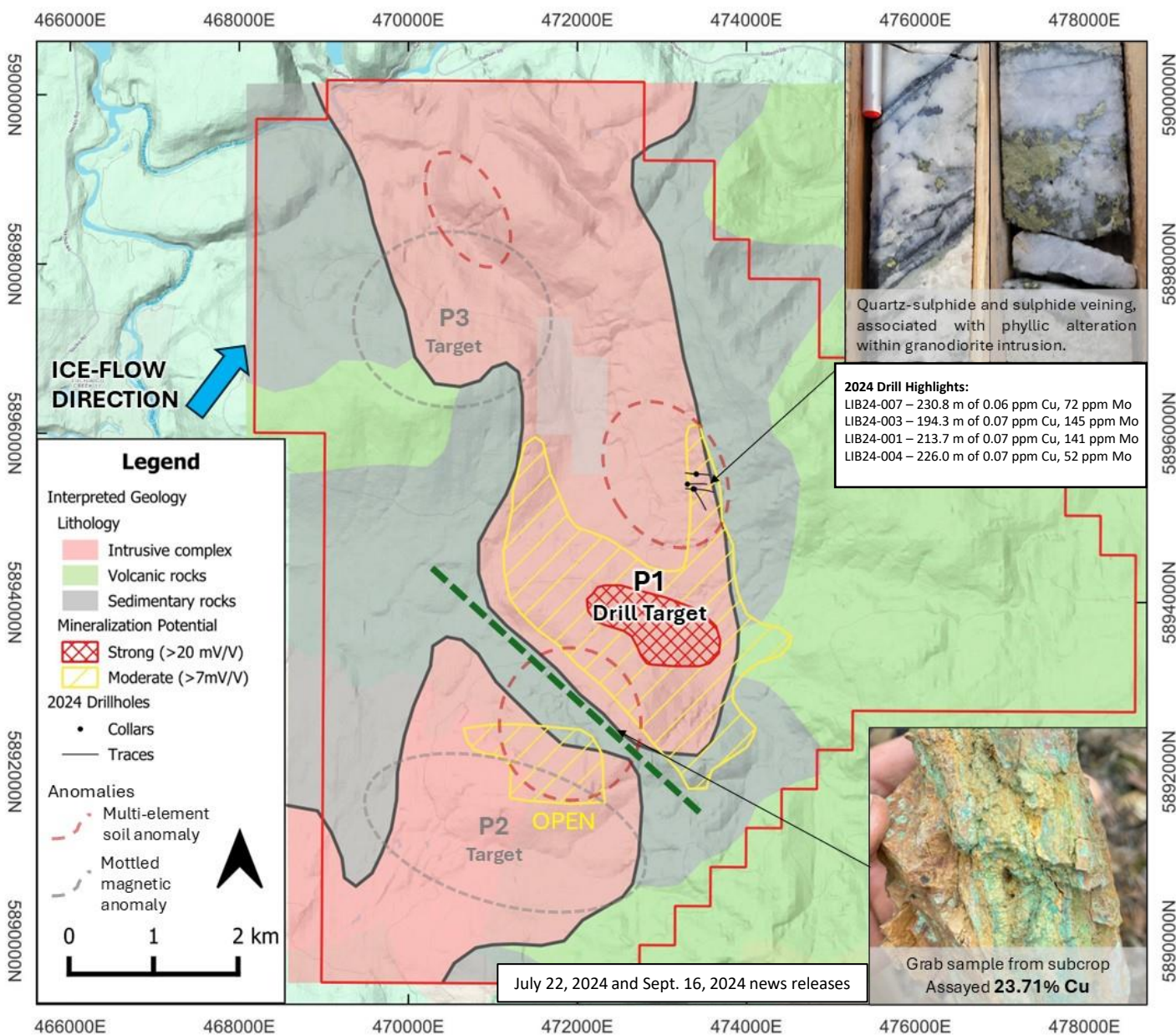


## TRAILBREAKER



# PROPERTY GEOLOGY

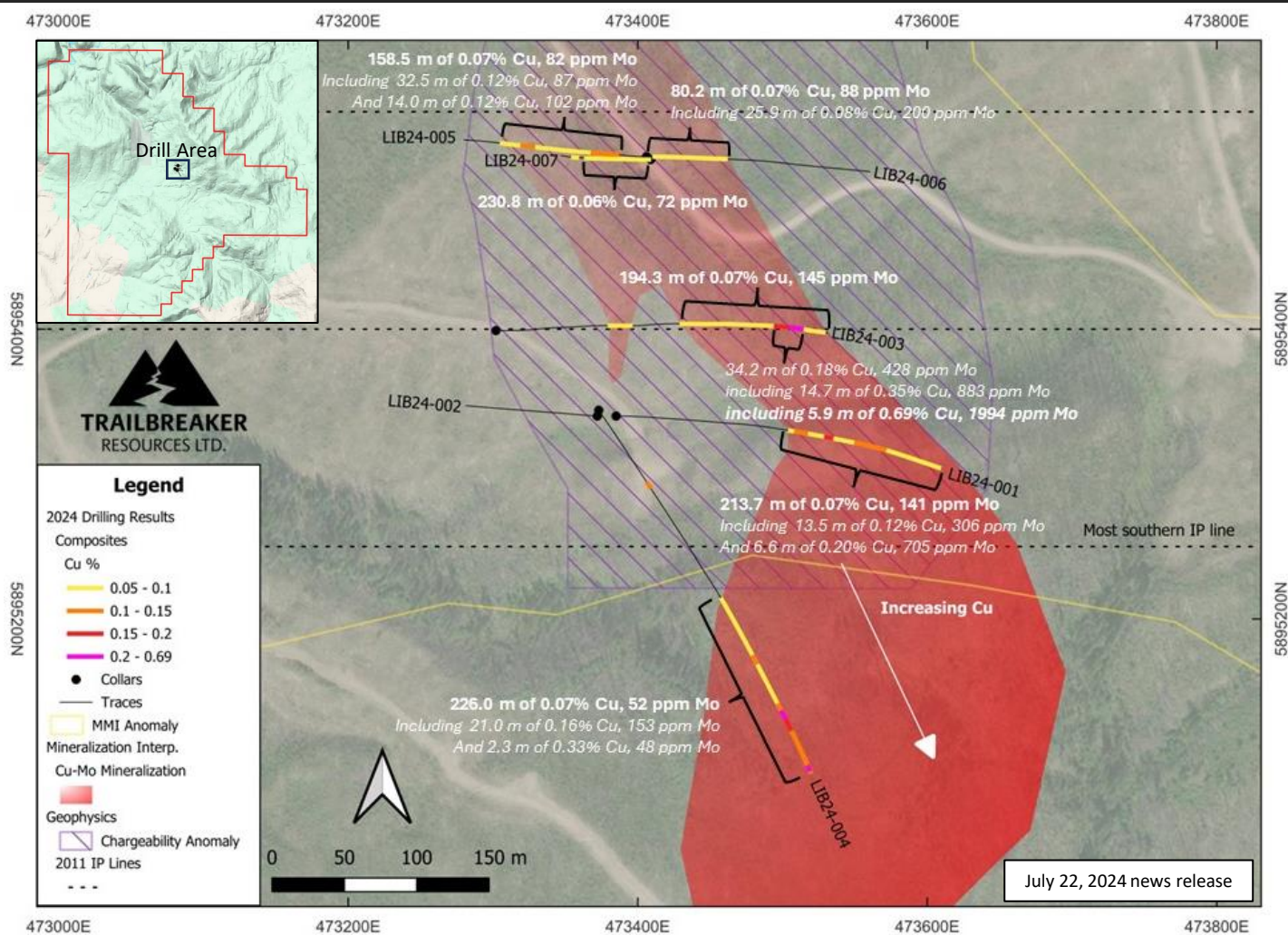
- The property covers a Mesozoic, N-S trending polyphase granodiorite to diorite intrusive complex, which has intruded into the volcanic and sedimentary rocks of the Cache Creek Group
- Endako Group and Chilcotin Group basalts overly the Cache Creek Group rocks locally
- ~90% of the property is covered by unconsolidated glacial tills from Pliestocene glaciation
- Widespread Cu-Mo porphyry and skarn mineralization occurs associated with the intrusive complex
  - Mineralization occurs as chalcopyrite  $\pm$  molybdenite-pyrite-pyrrhotite in sulphide stringers and quartz veins associated with chlorite-altered (propylitic) granodiorite
  - Intermittent quartz-sericite  $\pm$  clay (phyllic) alteration overprints propylitic alteration and is associated with increased quartz-vein content
  - Locally ultramafic wallrock display fine grained light green and pink mottled alteration (skarn-style) with heavily disseminated to semi-massive chalcopyrite-molybdenite-pyrite
  - Late-stage molybdenite veinlets with sericite selvages overprint other alteration and veining





# DRILLING

- 2,442 m drilled in 7 holes during 2024
- Widespread Cu-Mo porphyry and skarn mineralization, with multiple holes ending in mineralization
- Cu grades increase toward the southeast, with increased phyllic alteration, where mineralization is open
- Mineralization is associated with chargeability high features
- Cu-Mo mineralization occurs with elevated Au, Ag, and Re



Hole ID	From (m)	To (m)	Length (m)	Cu (%)	Mo (ppm)
LIB24-001	248.3	462.0 (EOH)	213.7	0.07	141
LIB24-003	256.0	449.3	194.3	0.07	145
<b>Including</b>	<b>385.0</b>	<b>419.2</b>	<b>34.2</b>	<b>0.18</b>	<b>428</b>
<b>Including</b>	<b>410.2</b>	<b>416.1</b>	<b>5.9</b>	<b>0.69</b>	<b>1994</b>
LIB24-004	279.0	505.0 (EOH)	226.0	0.07	52
LIB24-007	7.7	238.5	230.8	0.06	72

\* Reported widths are drill width. Not enough geological information exists at this point to define true width. However, vein bearing copper and molybdenum mineralization was commonly encountered at high angles to core axis.



# COPPER-MOLYBDENUM PORPHYRY MINERALIZATION

Quartz-sulphide and sulphide veining, associated with phyllic alteration within granodiorite intrusion.

**LIB24-001** between ~301 m and 304 m. Sample 5232009 (302 m to 303.5 m) assayed **0.41% Cu, 6.5 g/t Ag, 278 ppm Mo**.



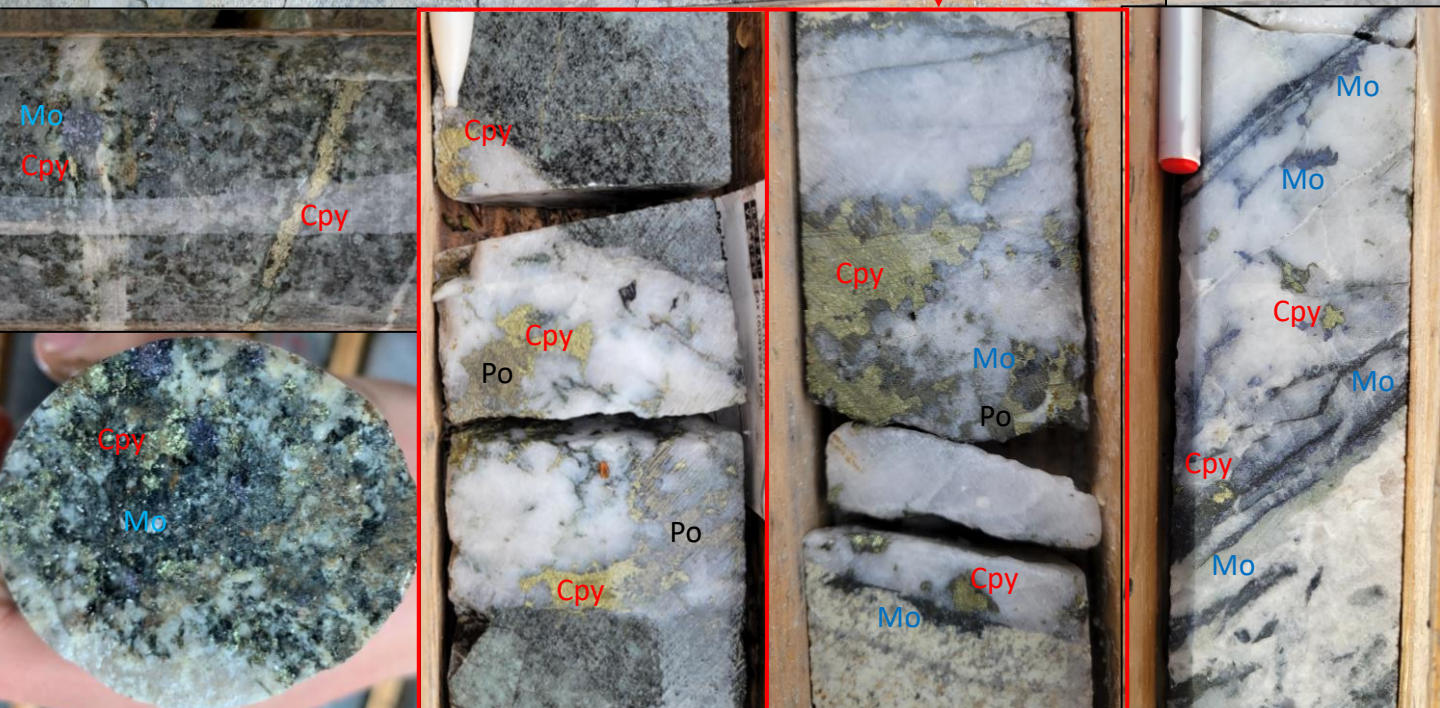
## Mineral Legend

**Cpy** = chalcopyrite

**Mo** = molybdenite

**Po** = pyrrhotite

**Py** = pyrite

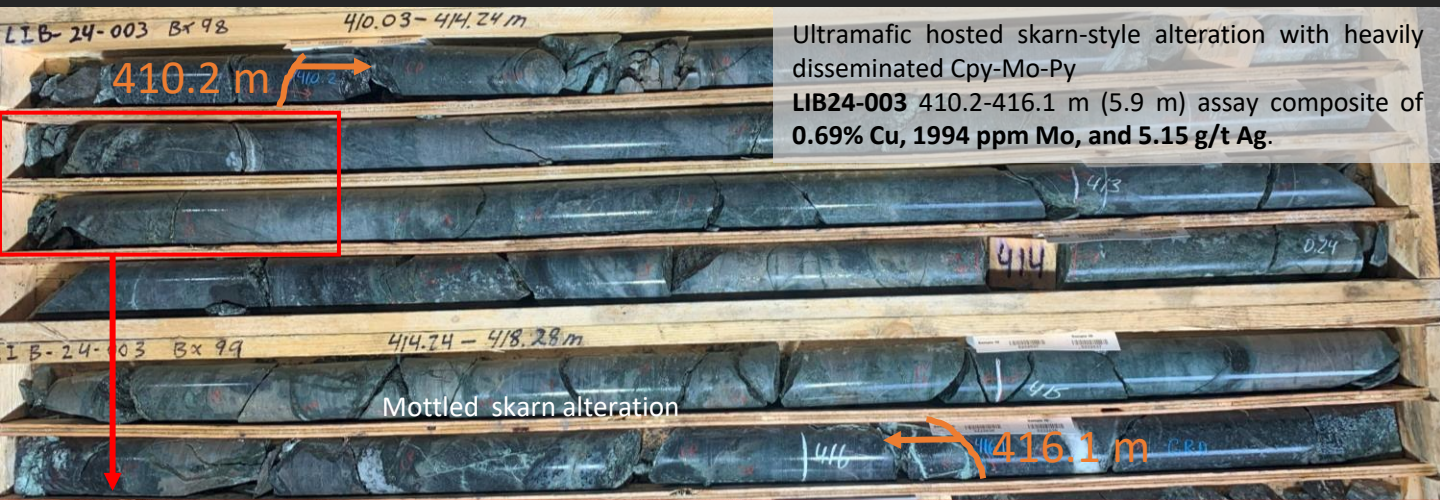


Quartz-sulphide and sulphide veining, associated with weak phyllic alteration within granodiorite intrusion.

**LIB24-004** between ~497.5 m and 501.3 m. Sample 5232928 (500 m to 501.5 m) assayed **0.35% Cu, 5 g/t Ag, 54 ppm Mo**.



# HIGH-GRADE COPPER



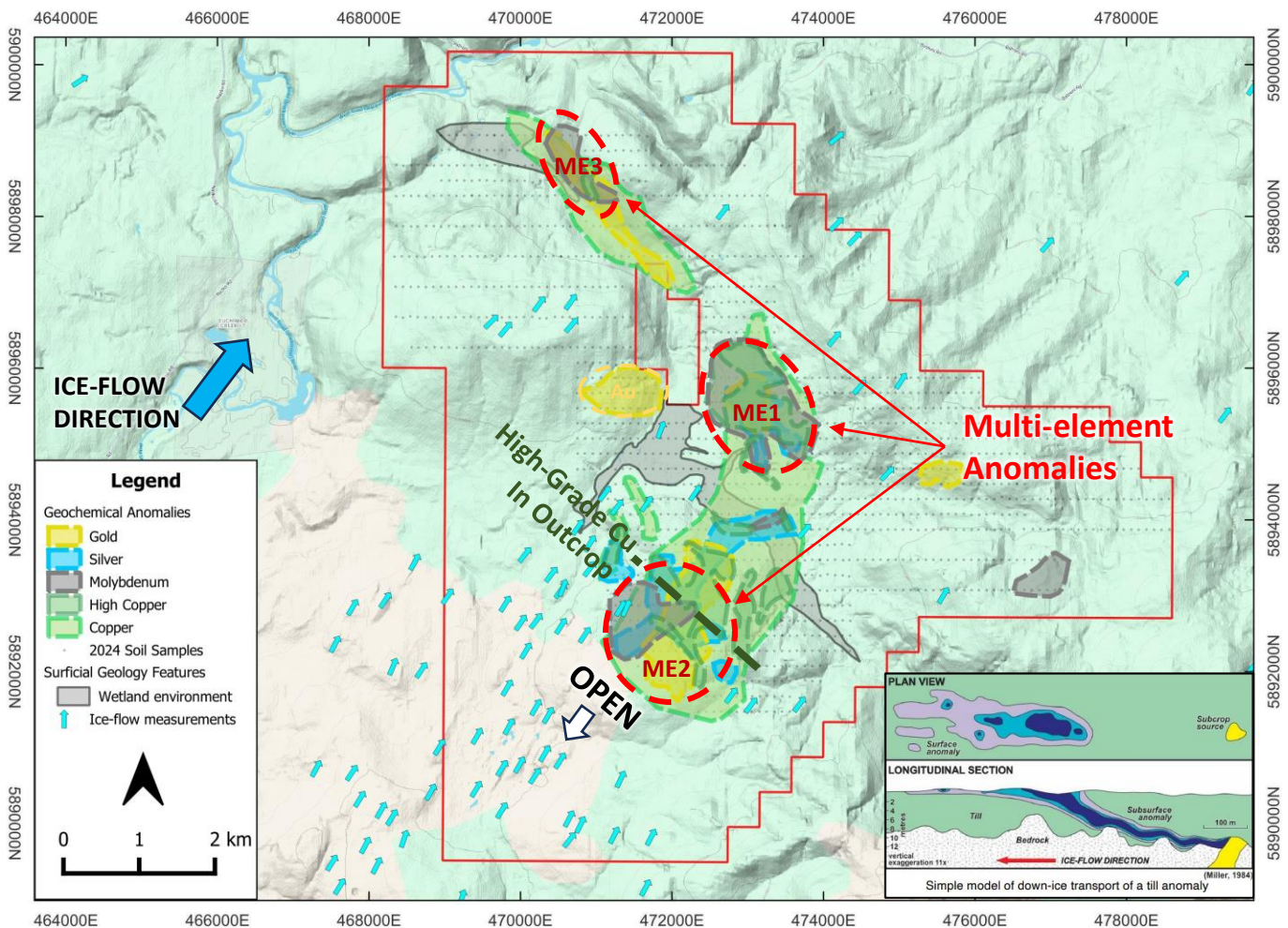
## Shear-hosted malachite mineralization in the southwest of the property





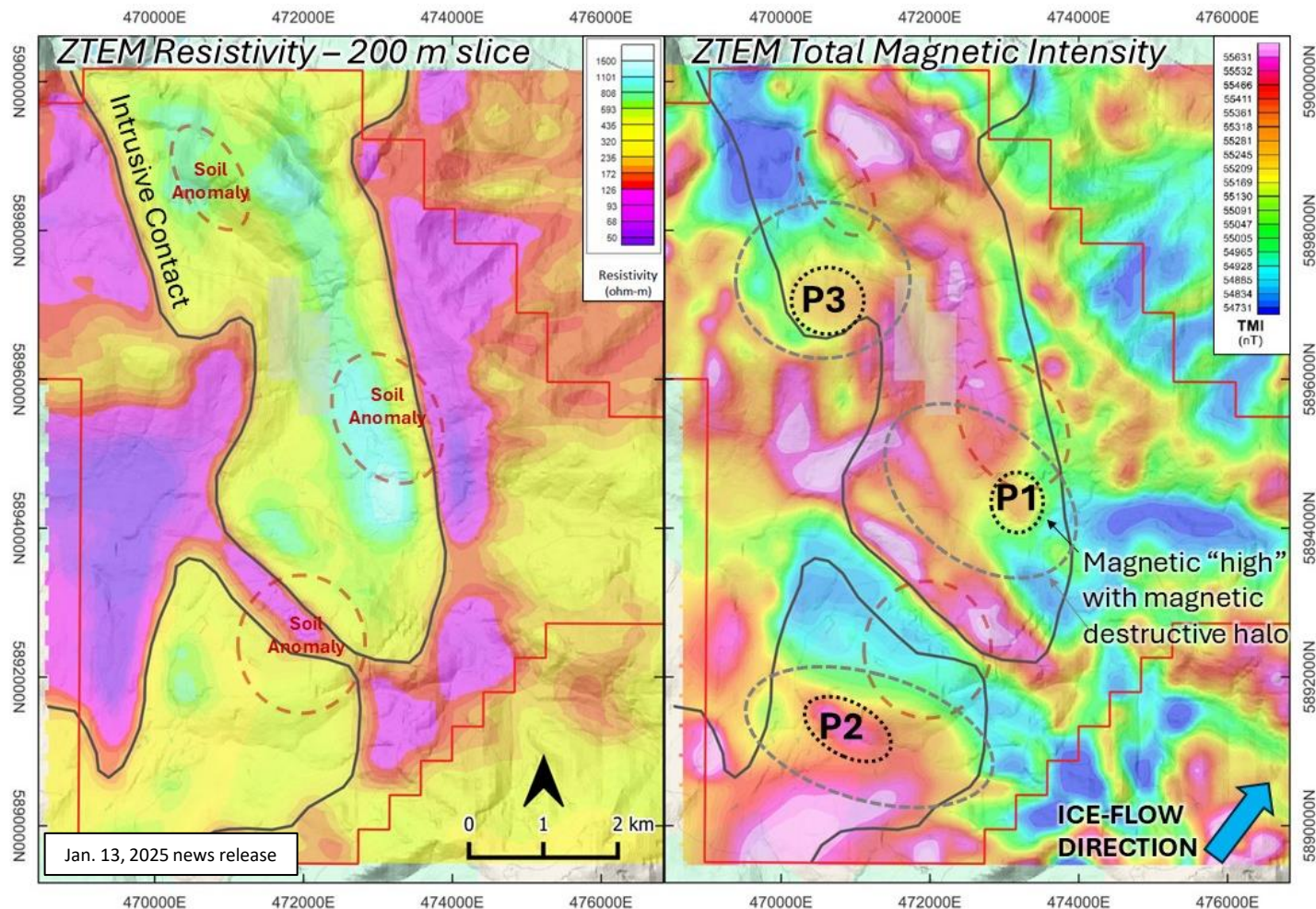
# GEOCHEMISTRY

- A **10 km+ arcuate Cu-in-soil** anomaly is defined across the property
  - Locally anomalous Cu is coincident with Au, Ag, and Mo anomalies
- The large scale of the elevated copper is indicative of a large hydrothermal system, as well as glacial transportation
- Ice-flow measurements on the property consistently display **southwest toward the northeast glacier travel**
- Variable till thickness, likely corresponds with the overall transportation distance of the geochemical anomalies, which may be **up to 1.5 km**
- **Three zones of overlapping Cu-Mo-Au-Ag** soil anomalies occur directly **down ice** of **ZTEM resistivity** features and **coincident mottled magnetic** feature (see next slides)
- Exploration to focus in the up-ice direction of these soil anomalies



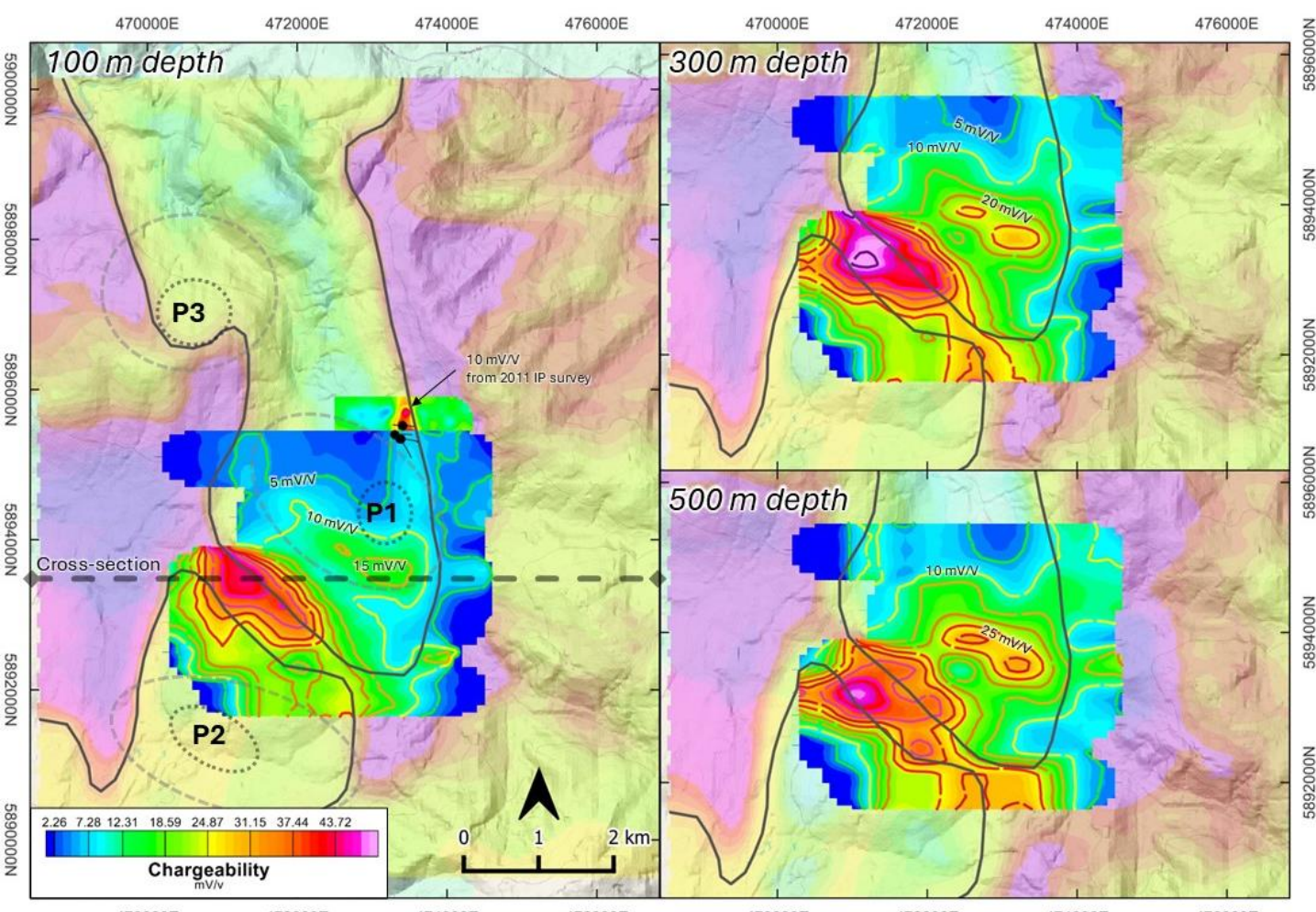
# GEOPHYSICS - ZTEM

- ZTEM surveying defines a property-scale resistive feature interpreted to be an intrusive complex.
  - 2-3 km wide
  - Trending N-S to NE-SW
  - Extends to **>2000 m depth**
- This 'intrusive complex' is variably magnetic, which may be caused by:
  - Different intrusive phases containing variable amounts of magnetic minerals
  - Alteration phases, for example:
    - **Potassic alteration**, which may introduce magnetite into the system, creating a **central magnetic "high"**
    - **Phyllic alteration**, which may alter primary magnetite to sulphide minerals, such as pyrite and chalcopyrite, potentially forming a semi-circular **magnetic destructive halo around central potassic highs**
- These magnetic features within the resistivity high intrusive complex can be seen in **P1, P2, and P3**, all three of which are 'up-ice' of coincident multi-element geochemical anomalies



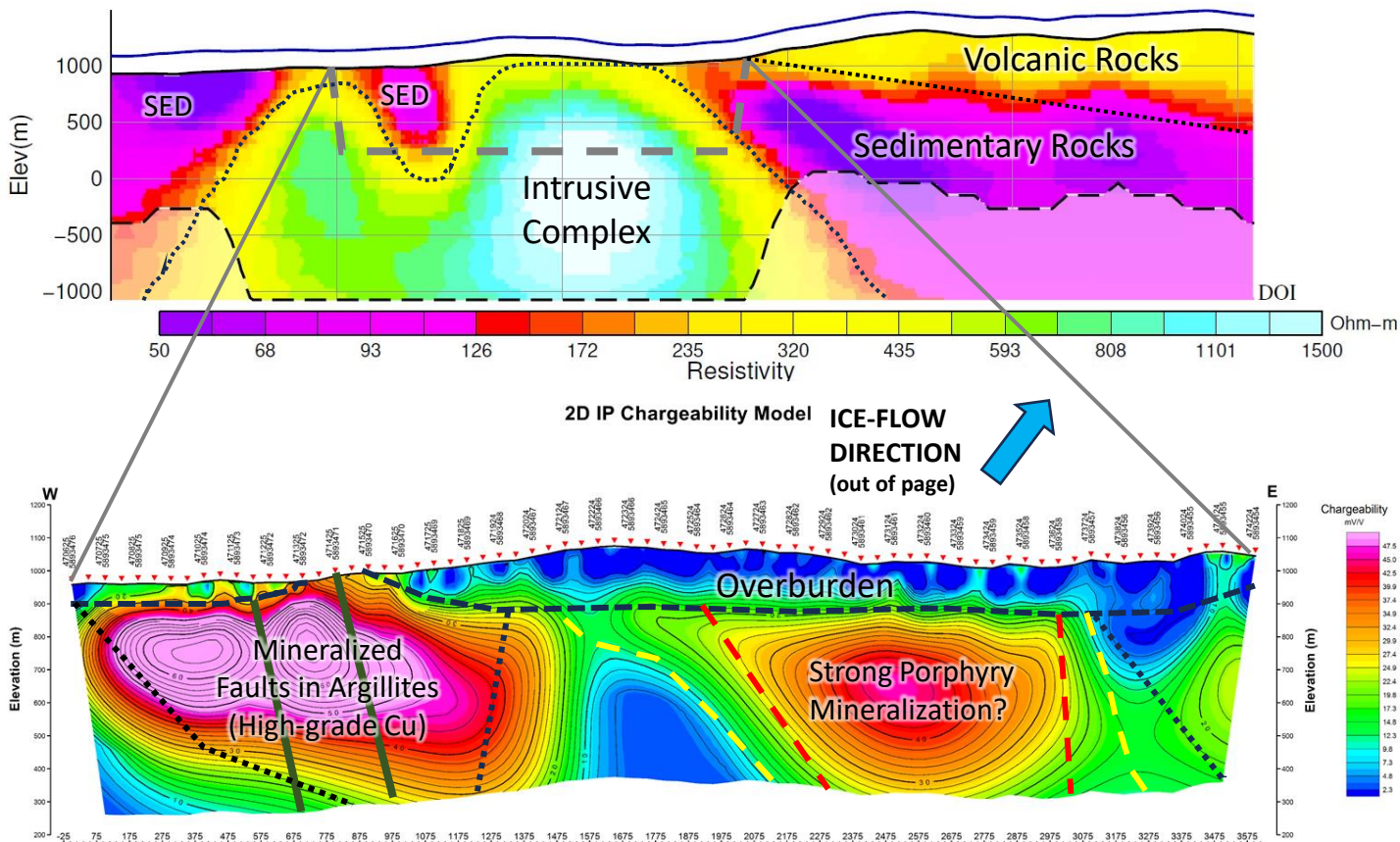


- IP surveying defines a large arcuate IP anomaly along the southern extent of the resistive 'intrusive complex'
- This IP chargeability response is **strongly coincident with the 'magnetic destructive' halo** observed in the ZTEM magnetic data
- The area of **>7 mV/V chargeability response is >3.5 km x 4.0 km** at the 200 m depth
  - Drilling in the area defined as 7 mV/V (from 2024 surveying) showed long intervals of continuous Cu-Mo mineralization
- The area of **>20 mV/V chargeability response is ~1.6 km x 0.8 km**
- Chargeability response **strengthens at depth**, extending to **at least 700 m** below surface, which is the depth of penetration of the 2024 IP survey
- The strongest chargeability responses correspond with highly conductive argillite unit (low resistivity)
  - This unit locally hosts high-grade Cu mineralization as veins, but is not itself believed to be a prospective geological unit
- Additional chargeability responses can be seen on the margin of the 'magnetic destructive halo' of the P2 target
  - Future IP surveying would be designed to test the features around P2 and P3



# TARGET SUMMARY

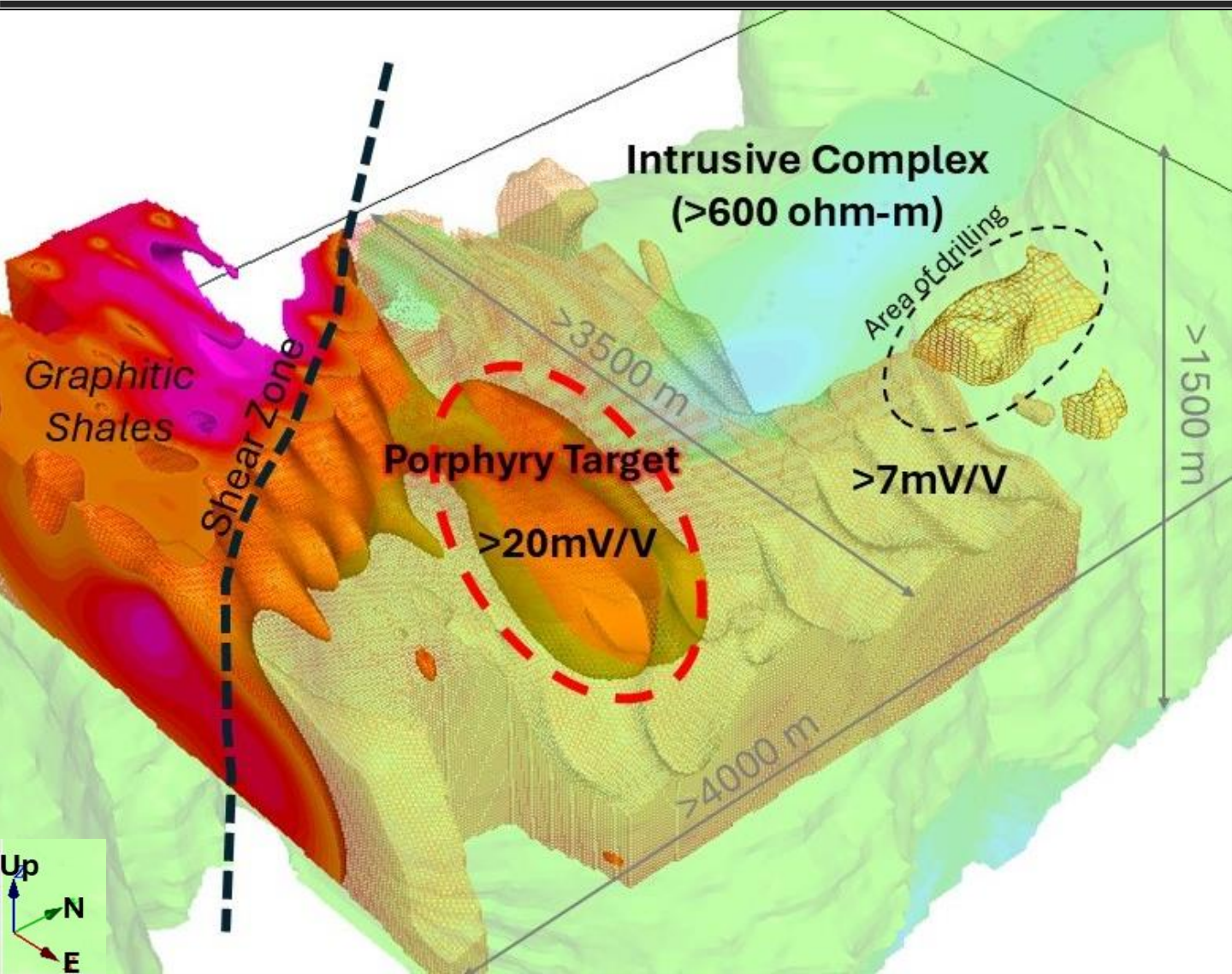
- Based on the ZTEM modelling, the Intrusive Complex appears to extend to **at least 2.0 km vertical depth**
- The IP survey reads to **~700 m vertical depth**, but shows that the coincident chargeability feature extends beyond the survey window
- Strong chargeability near the 'High-grade Cu' zone is likely due to graphitic material in the conductive argillite unit
- The high-grade fault hosted Cu is likely associated with the mineralized porphyry system, as a distal vein and may be a useful feature to vector toward the porphyry core
- The IP survey is effective in imaging the depths of overburden, which clearly shows that the coincident chargeability and resistivity occur **beneath overburden coverage**
  - This supports the hypothesis of the transportation of the multi-element soil anomalies
  - Note that a second fault is potentially parallel to the outcropping high-grade Cu zone, also below overburden cover





# TARGET SUMMARY

- The strongest coincident high-resistivity (e.g. intrusive complex) and IP-chargeability (e.g. sulphides) is directly **1.0-1.5 km up ice** of the strongest coincident multi-element geochemical anomaly
- In addition, rock sampling to the north and south of this feature indicate a large mineralized system with a **gap in outcrop data over the anomaly**
- The strong chargeability anomaly is **1600 m strike x 800 m width x >700 m depth**, with a potential **mineralized system being greater than 4.0 km x 3.5 km x >1.5 km**
- The chargeability anomaly is strongly coincident with the southern portion of the intrusive complex pluton
- At least two other areas on the property (P2 and P3) display similar ZTEM, magnetic, and geochemical responses and are strong candidates for future IP surveying



## ✓ Underexplored

- *The surface geochemical signature suggests 2024 drilling may have encountered the margin of a large Cu-Mo porphyry system*
- *Cu-Mo ± Au-Ag-Re porphyry and skarn style mineralization was encountered in all drillholes*
- *The strongest coincident targets are under overburden cover*
- *Previous exploration focussed around a small area, where a multi-element geochemical anomaly occurs, without accounting for potential glacial transportation*

## ✓ Strong Exploration Potential

- *Regional geological setting known to host significant Cu-Mo porphyries, such as Gibraltar Mine*
- *Mineralization intersected in 2024 drilling remains open, with subsequent exploration suggesting it may be the margin of the larger system*
- *Multiple porphyry centers may be present on the property*
- *Geophysical surveys suggest that each porphyry center has the potential to have a km-scale footprint and to extend to >1.5 km depth*
- *Opportunity for low-cost exploration with large upside potential*

## RECOMMENDED EXPLORATION

- **Drilling** – Drill test coincident chargeability, resistivity, and mottled magnetic zone ‘up-ice’ from strongest multi-element soil geochemical anomaly in order to determine the Cu-Mo grades associated with these features
- **IP** – Survey atop ZTEM resistivity/magnetic anomalies ‘up-ice’ from geochemical anomalies, which may be porphyry centers – i.e. P2 & P3
- **Soil Surveying** – Conduct additional soil sampling over the resistive core of the property with at least 1.5 km ‘down-ice’ margin for sampling



Please contact us for more information:

Daithi Mac Gearailt, *President and CEO*

Tel: (604) 681-1820

[info@trailbreakerresources.com](mailto:info@trailbreakerresources.com)



[www.trailbreakerresources.com](http://www.trailbreakerresources.com)



**TRAILBREAKER**  
RESOURCES LTD.

TSX.V: TBK

A Canadian mineral exploration company focused on precious metals and copper in British Columbia and Yukon Territory.