



Transition Metals

Pike Warden

Emerging Epithermal Au-Ag/Porphyry Copper System

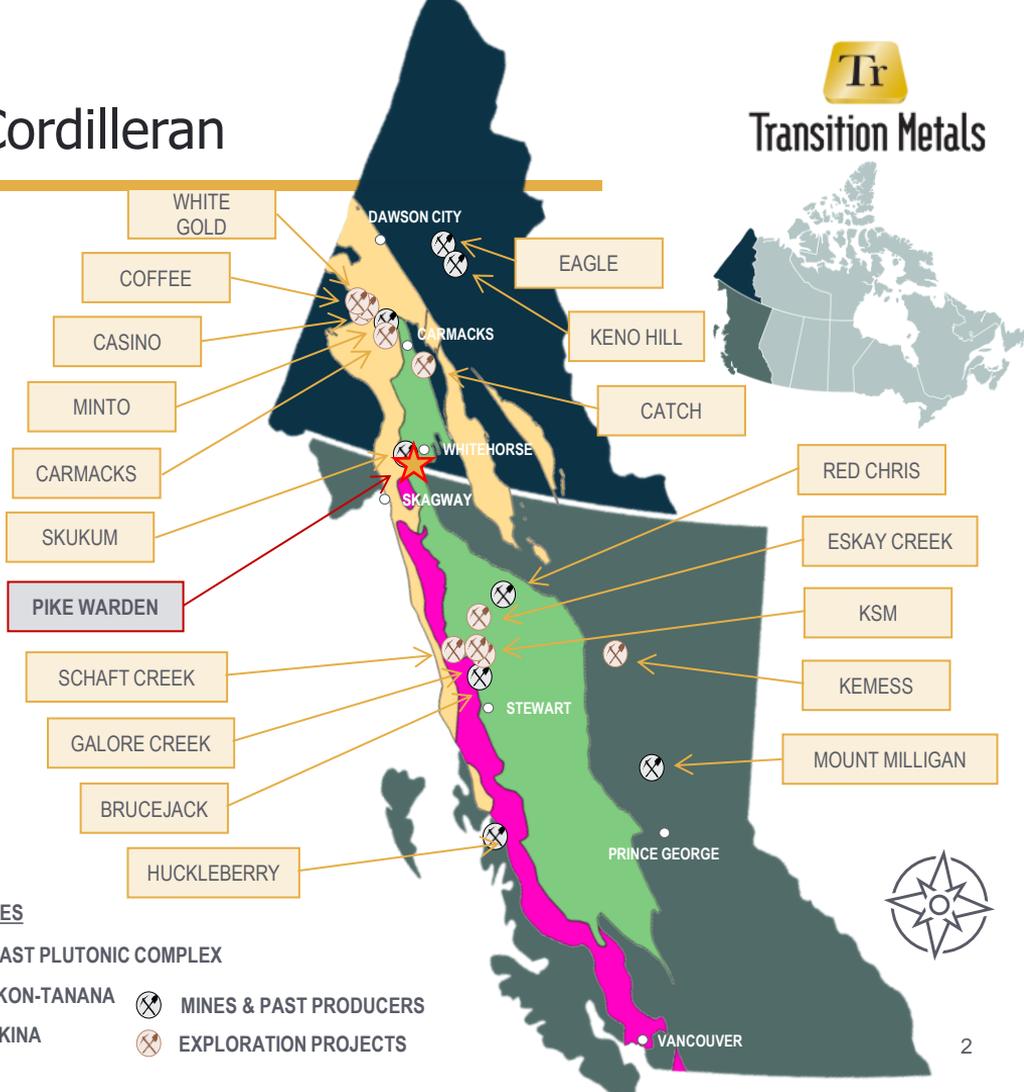
▶ XTM – TSXV | Project Presentation

Pike Warden Location

Underexplored Section of BC-Yukon Cordilleran



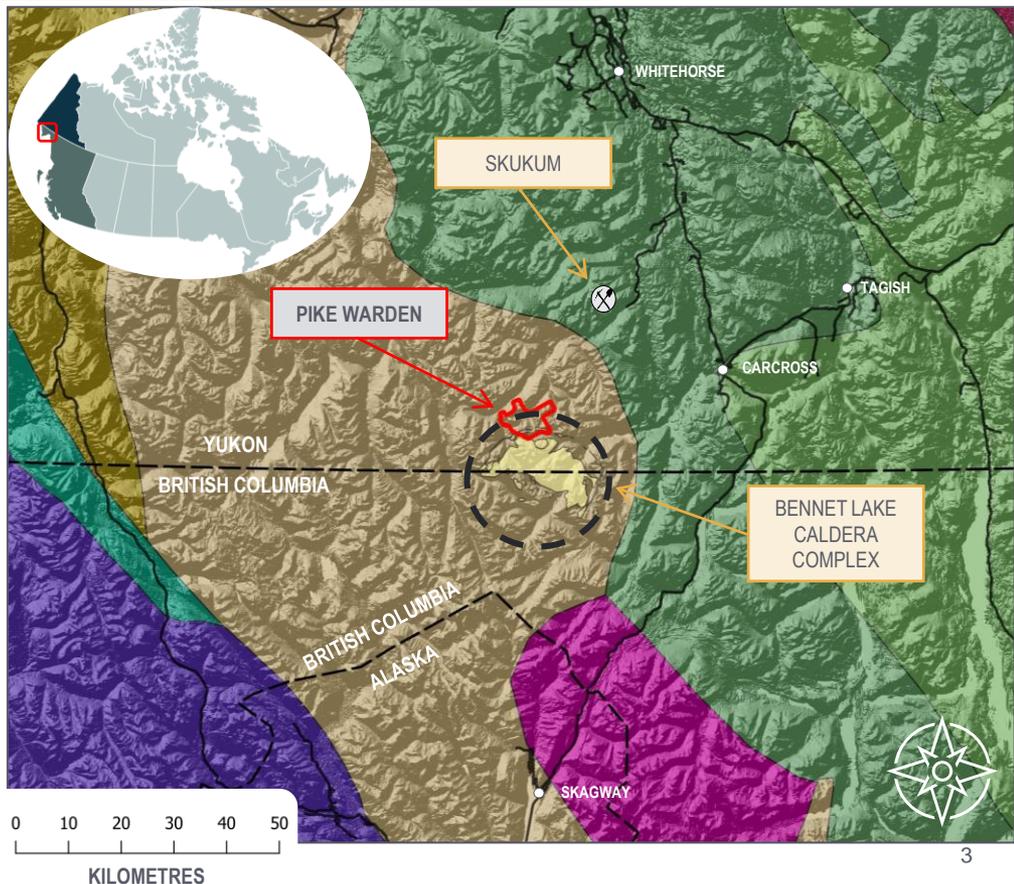
- New polymetallic **epithermal** precious metal and **porphyry** copper discovery in Yukon, **Pike Warden** is located near the Yukon-BC border
- **Northwest** of BC's **Golden Triangle**, in an **under-explored gap** on the margin of the Cordilleran Intermontane Belt, which hosts numerous deposits including:
 - Galore Creek, Shaft Creek, Red Chris – **Porphyry** Cu, Au, Mo
 - Eskay Creek, KSM, Brucejack – **Epithermal** Au, Ag
- **Southeast** of the Dawson Range, **along trend** in similar geology, which hosts numerous deposits including:
 - Casino, Minto, Carmacks, Catch – **Porphyry** Cu, Au
 - Coffee, White Gold, Skukum – **Epithermal** Au, Ag



Pike Warden Story

New Polymetallic System - Giant Collapsed Caldera

- On the northern margin of the Eocene **Bennett Lake Caldera**, one of the **largest collapsed caldera** structures in Canada
- Favourable **geodynamic environment** for hosting large scale polymetallic **epithermal Au-Ag** and **porphyry Cu-Mo** systems
- Close to **Whitehorse**, with road **infrastructure** to deep-sea port in Skagway, Alaska,
- Within the traditional territory of Carcross/Tagish First Nation
- Transition Metals recently confirmed the presence of both high sulphidation **epithermal Ag-Au** and **porphyry Cu-Mo** systems



TERRANES

-  ALEXANDER
-  WRANGELLIA
-  KLUANE SCHIST
-  COAST PLUTONIC COMPLEX
-  YUKON-TANANA
-  CACHE CREEK
-  STIKINA

Multiple New Zones

High Grade Gold, Silver, Copper and Moly Mineralization



Transition Metals



5.23% Cu



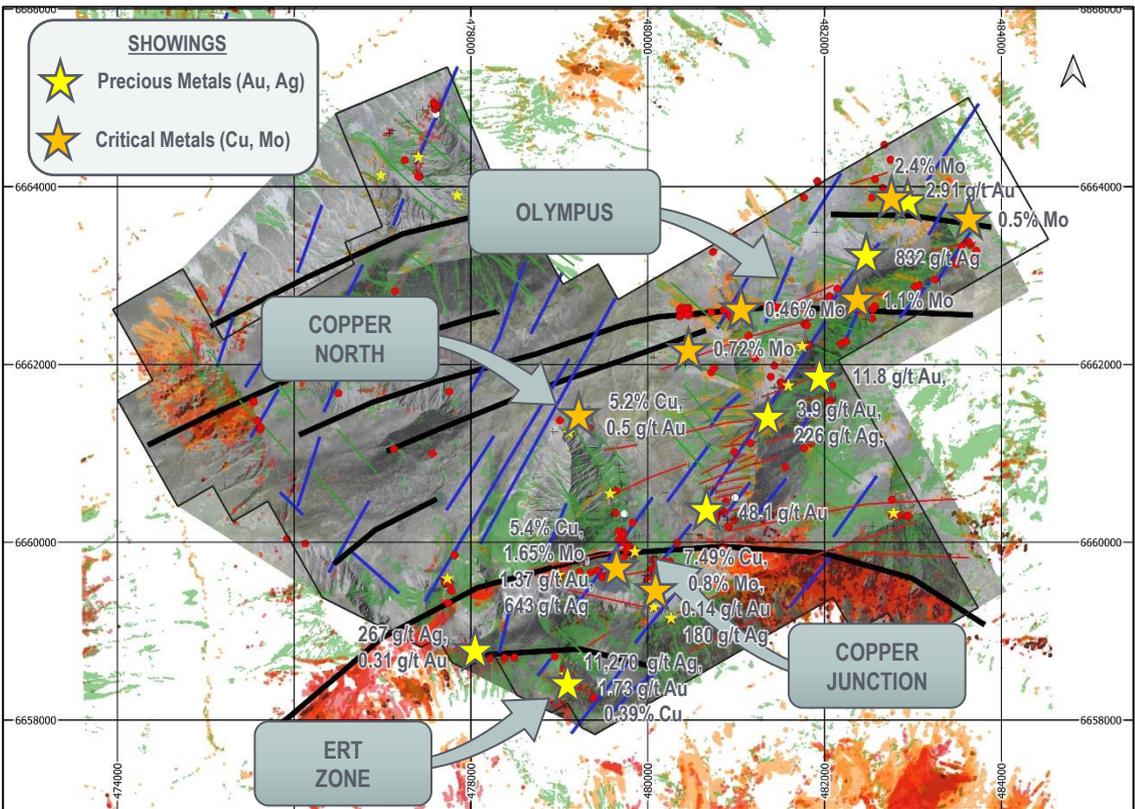
48.1 g/t Au



2.37% Mo



1,215 g/t Ag



Robust Data Sets

Now Helping to Highlight Patterns at System Scale

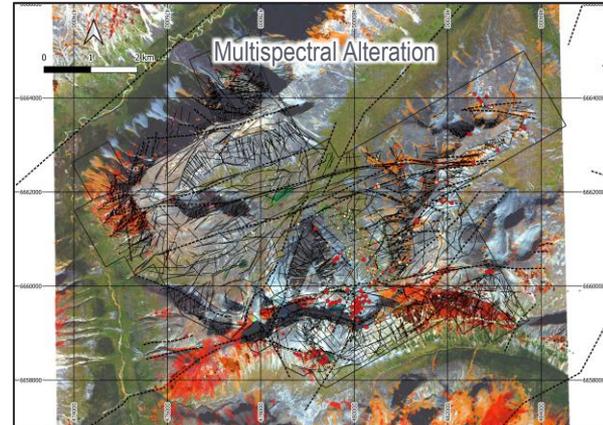
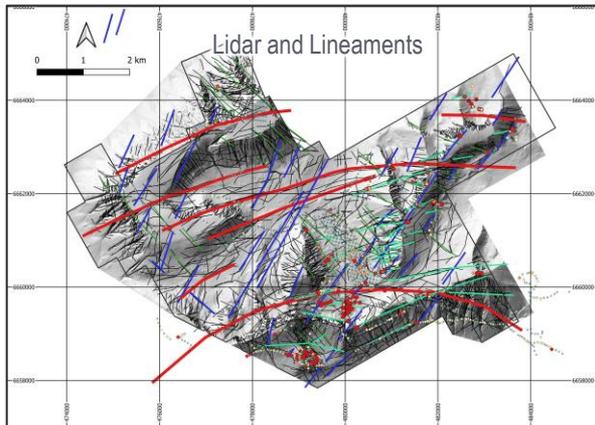
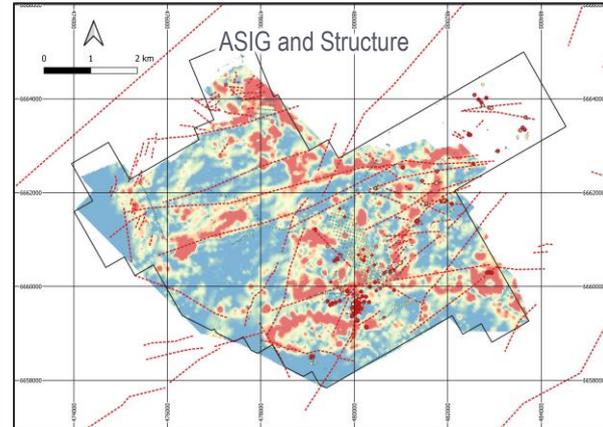
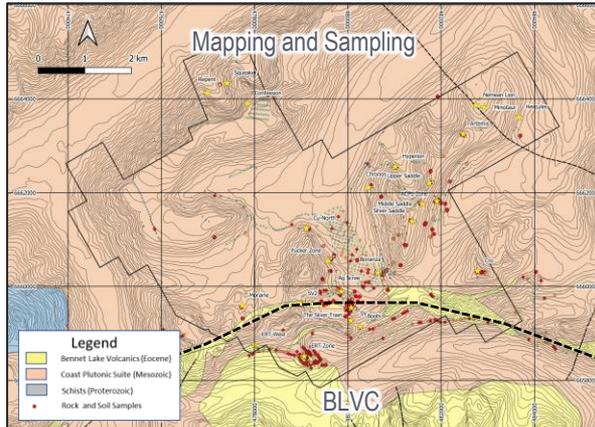
- Rocks & soils highlight elevated trends in Au, Ag, Cu and Mo through over 1,800 data points

- >25 polymetallic showings, returning values up to:

48.1 g/t Au,
11,270 g/t Ag,
7.49% Cu,
2.37% Mo

- High density LiDAR = high quality DEM

- Lineaments from LiDAR, orthophotos, and geophysics

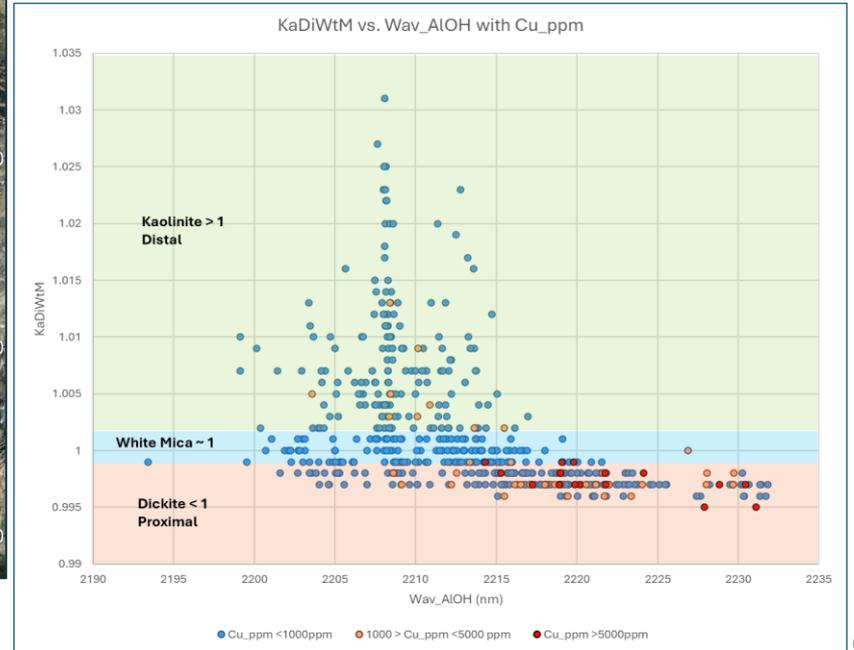
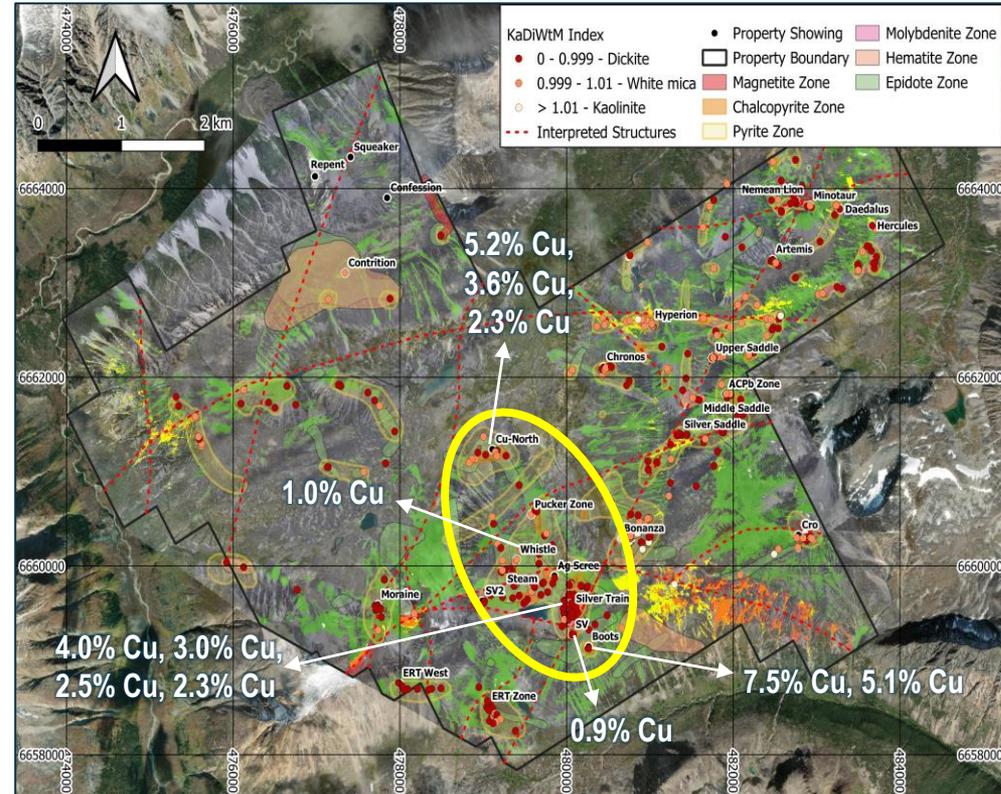


- High resolution magnetics, VLF and radiometric data plus >600 line-km of ZTEM
- Alteration mapping utilizing AI-deep learning of Worldview 3 multispectral band data
- Highlights geology, structural relationships, and alteration patterns
- Trends of argillic alteration associated with higher Au-Ag
- Petrography highlights phyllic and potassic alteration associated with Cu-Mo

Spectral Mineralogy Results

Geochem, Petrography and SWIR Highlight Exciting Porphyry Potential

- 810 pulps were analyzed using spectroscopy and aiSIRIS™.
- Histogram shows how strong Cu mineralization (>0.5% Cu) falls into the dickite field of the Kaolinite-Dickite-White Mica index, indicating hotter temperatures for mineralization and a proximal setting to possible porphyry centre(s) at Cu North/Copper Junction.



Detailed Petrography Results

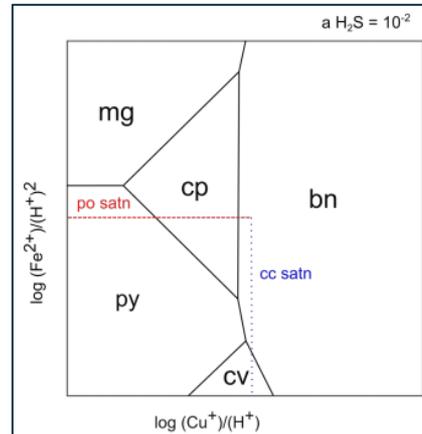
More Evidence of Prospective Alteration and Mineralization



5.23% Cu in this pyrite-chalcopyrite-epidote-sericite-altered quartz diorite from Cu North.

Key takeaways:

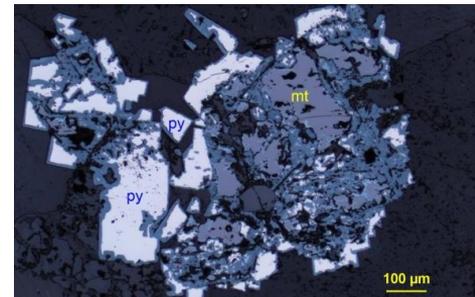
- Evidence for high temperature, prospective alteration within this (grano)dioritic system.
- Also have evidence for lower temperature, epithermal style mineralization.
- Chlorite±epidote±titanite strongly altered the magmatic biotite and hornblende, and sericite/clays altered the plagioclase.
- Chalcopyrite and epidote were coeval in the mineralized samples.
- Destabilization of magnetite through hydrothermal alteration generated favourable conditions for the precipitation of chalcopyrite.



This stability relations diagram from Beane (1994) points to an ideal condition for the precipitation of chalcopyrite along the stability fields of magnetite and pyrite.



Sample of Fe-chlorite-epidote-sericite-altered granodiorite with magnetite (mt), where some mt crystals are being replaced by pyrite (py); from northeast of Boots.



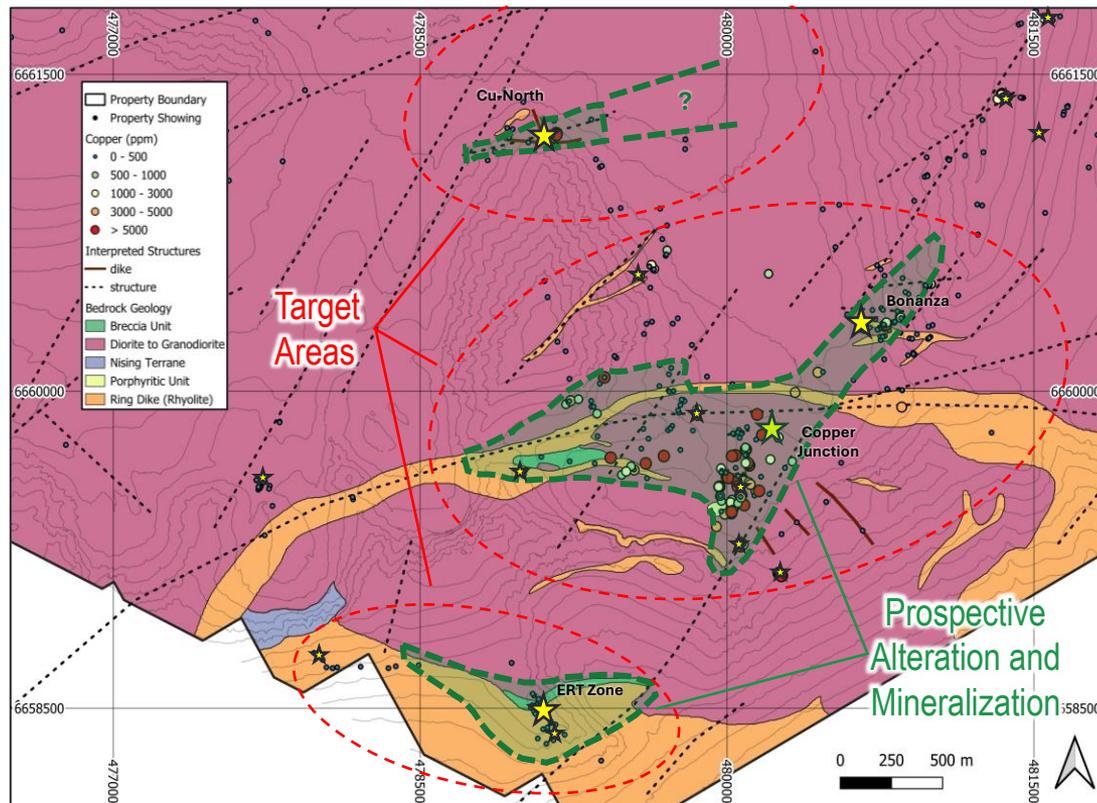
Improved Geological Mapping

Provides Insight Into Timing and Controls of Mineralization



Transition Metals

- Fault structures, dykes and breccia bodies associated with Paleocene to late Eocene magmatic activity
- Cut through mid-late Cretaceous rocks of the Whitehorse and Ruby Range suite
- High temperature potassic alteration typically focused near fault intersection areas associated with Cu-Mo Mineralization
- Epithermal alteration outboard and at higher elevation associated with Au/Ag/Pb/Zn
- Altered and mineralized dacitic porphyry dikes identified at Copper Junction



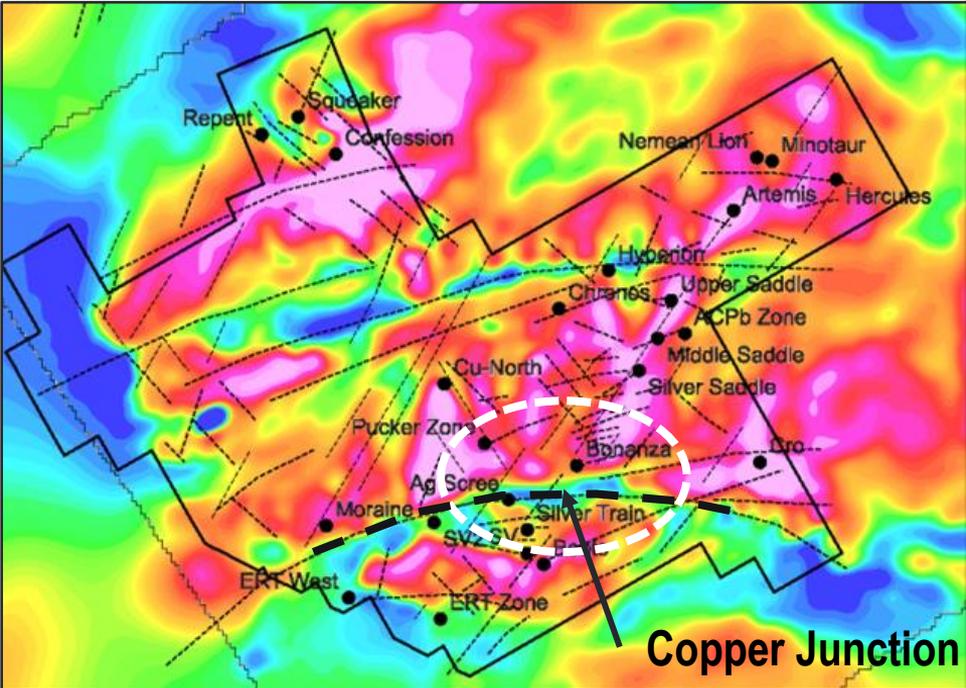
2024 ZTEM Survey Results

Highlight Large System Trends & Refined Targets

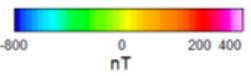


Transition Metals

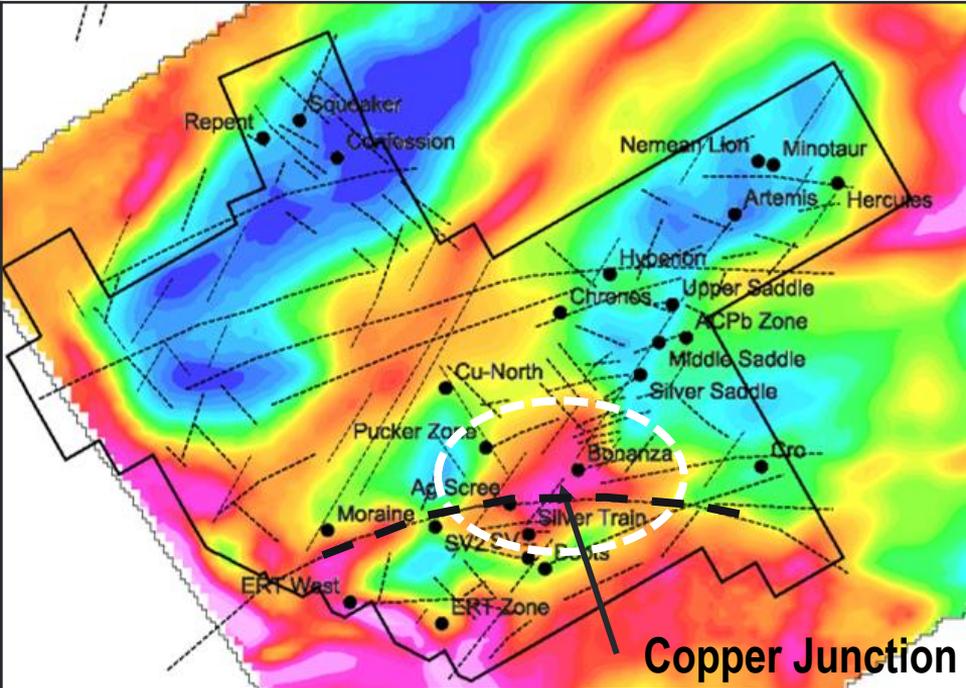
Total Magnetic Intensity Model



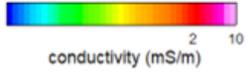
Copper Junction



3D Conductivity Model



Copper Junction



1 New type of porphyry dike



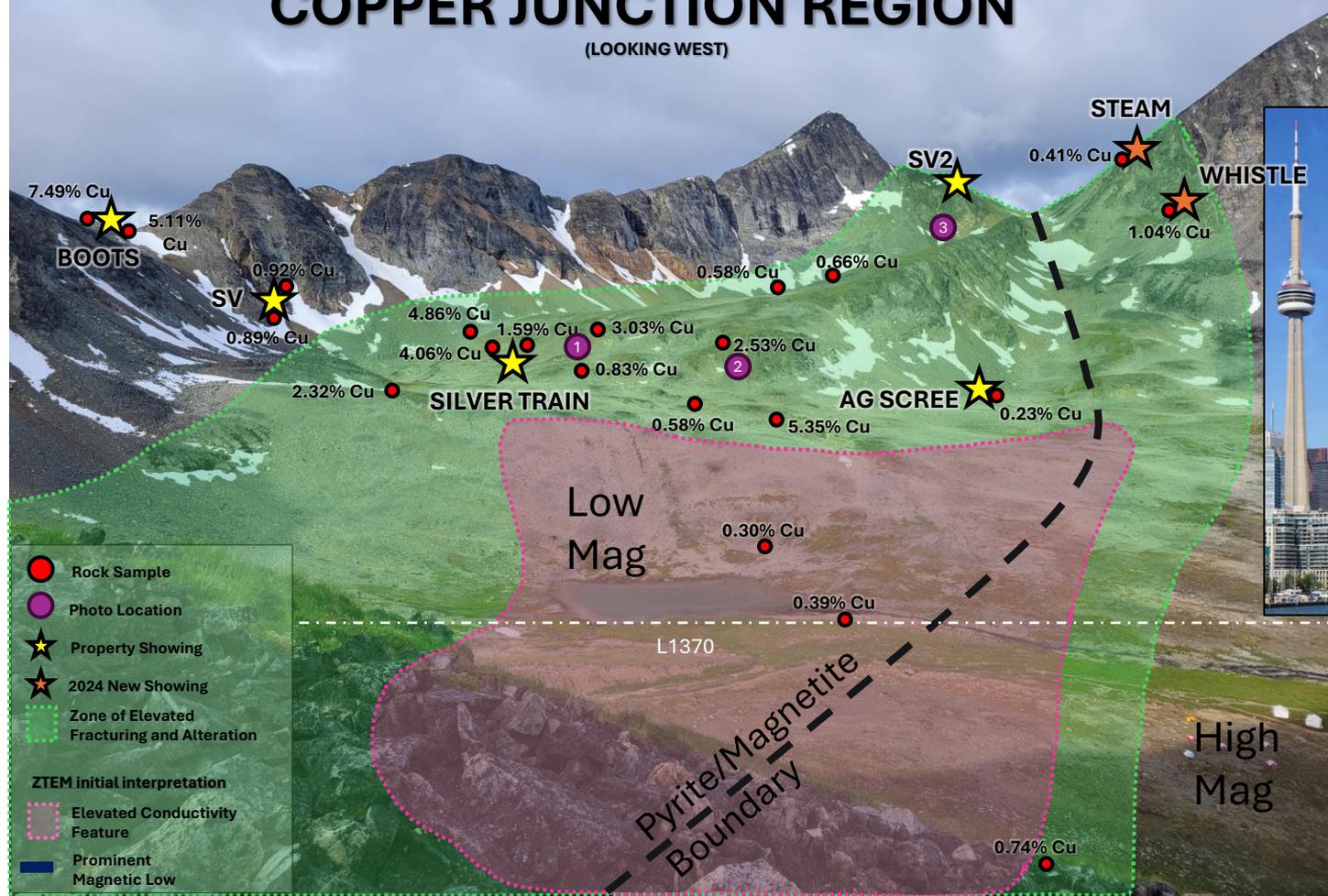
2 Open space epithermal style vein breccia



3 Volcanoclastic polymictic milled breccia



PIKE WARDEN COPPER JUNCTION REGION (LOOKING WEST)



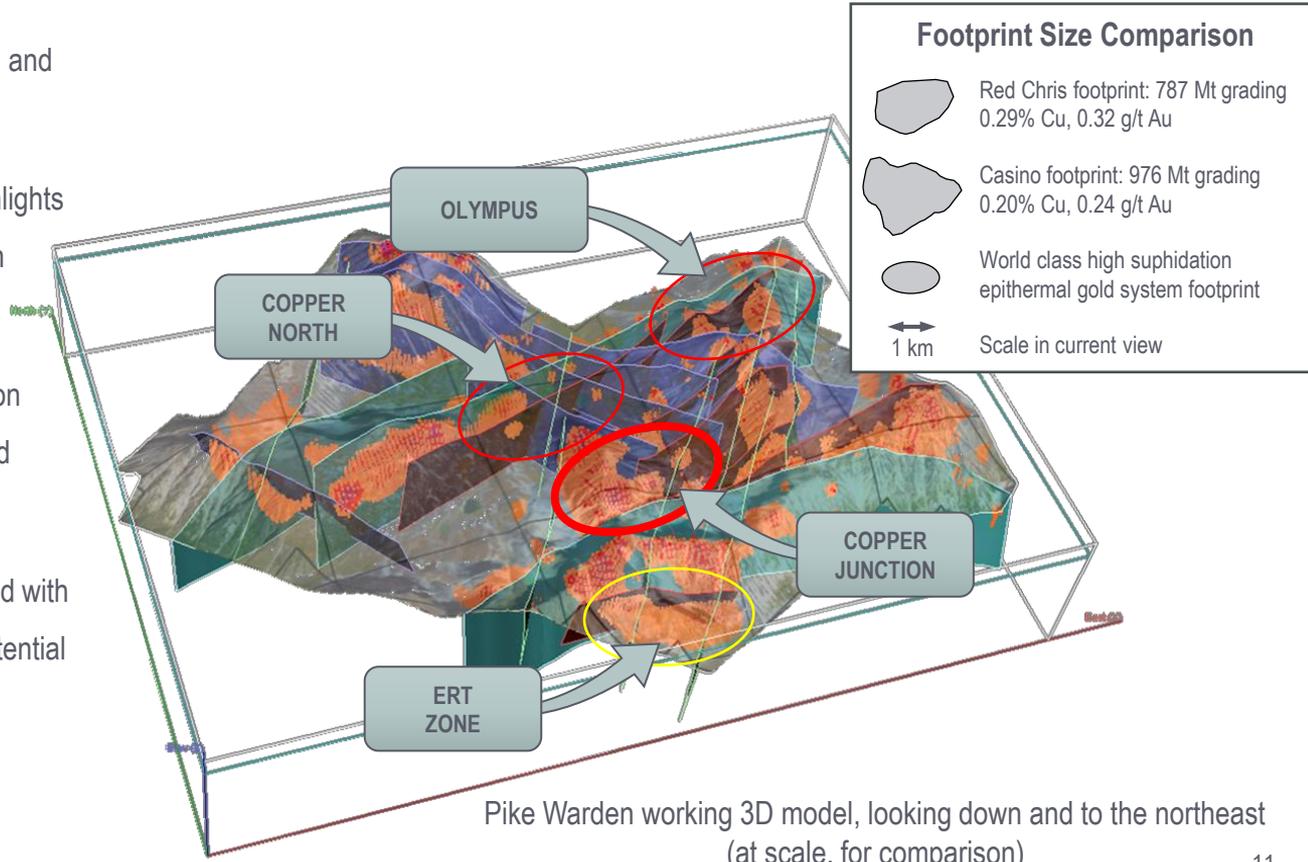
Compelling Evidence

For Multiple/Stacked Systems



Transition Metals

- **Widespread** occurrence of **high-grade Au-Ag** and Cu-Mo mineralization
- Rock sample trace element geochemistry highlights both **epithermal** and **porphyry** style alteration signatures
- Petrography supports late **epithermal** alteration **overprint** of an earlier (hotter) Cu-Mo enriched **porphyry** style alteration
- Confirmation of **potassic alteration** associated with high grade Cu-Mo mineralization, supports potential **subcropping/near surface** porphyry system



Next Steps

Summer 2025 Field Season

Geophysics

- Ground IP Surveys at Copper Junction and Copper North

Mapping and Sampling

- Follow up trends of prospective alteration highlighted by multi-spectral, geophysical, geochemical work
- Acquire additional samples within highlight target areas to further characterize fracture and vein density, petrography and to compliment/expand our SWIR data sets
- Work towards developing drillable targets at Copper North and Olympus
- Apply new understanding to look for other prospective mineralized centers peripheral to the Bennett Lake Caldera complex

Drilling

- 2,000 metres to drill test targets defined at Copper Junction, Copper North and ERT

XTM:TSXV



Photo: Subterra Drilling setting up for RAB drilling at ERT Zone, October 2022

Mitigating Risk. Multiplying Opportunities.

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