



# Todd Creek: One of the Largest Underexplored Copper-Gold Systems in British Columbia's Golden Triangle

***ArcWest's 100% owned Todd Creek project is being advanced by Freeport-McMoRan***

February 2024





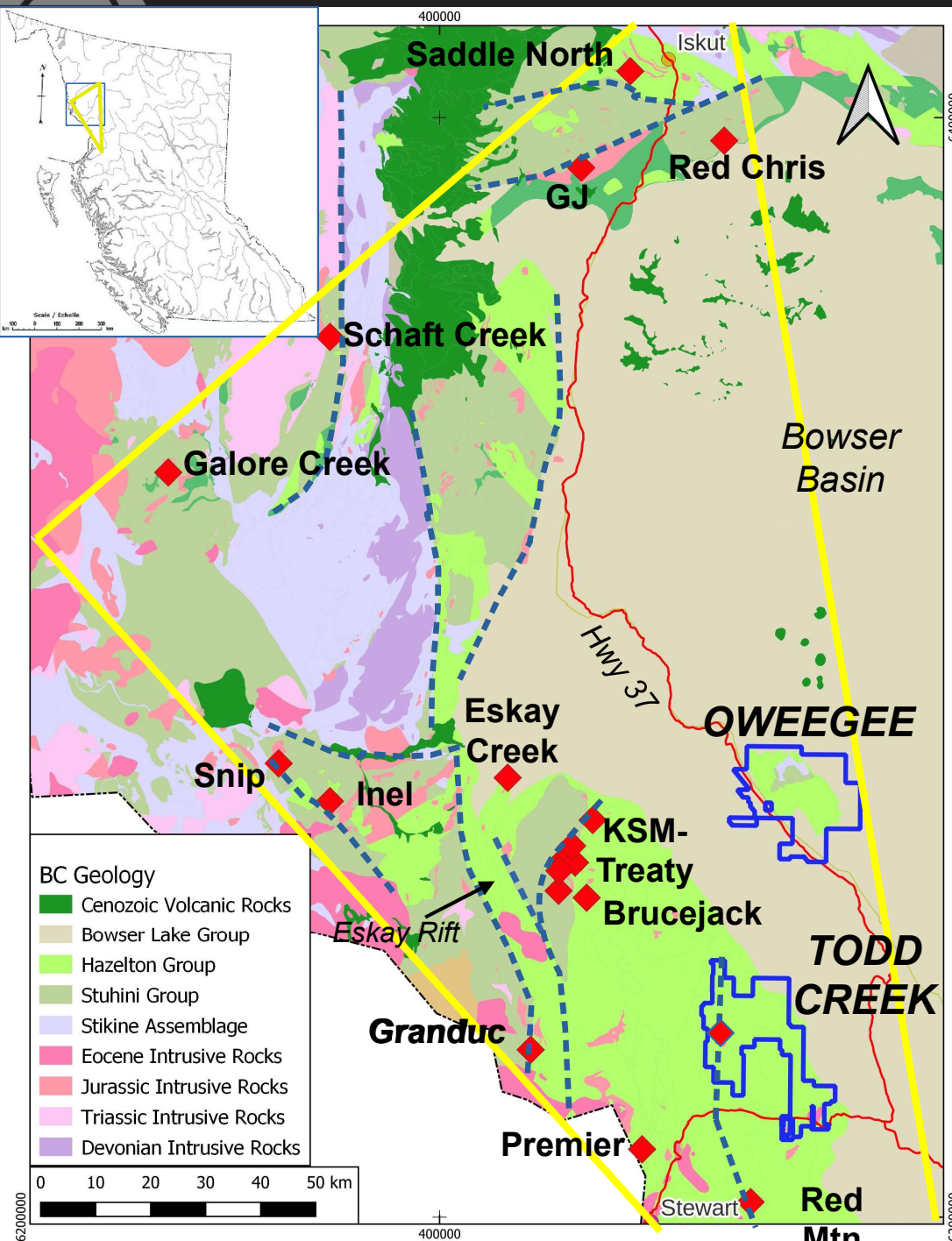
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Technical information contained in this presentation has been reviewed and approved by Tony Barresi, P.Geo., a Qualified Person who is not independent of ArcWest.



# ArcWest's Golden Triangle Assets: Todd Creek and Oweegee



ArcWest's two large land packages in B.C.'s Golden Triangle are close to one of the world's largest clusters of unmined gold-copper deposits (Seabridge's KSM project) and several producing and past-producing gold-silver mines (Brucejack, Premier, Scottie Gold).

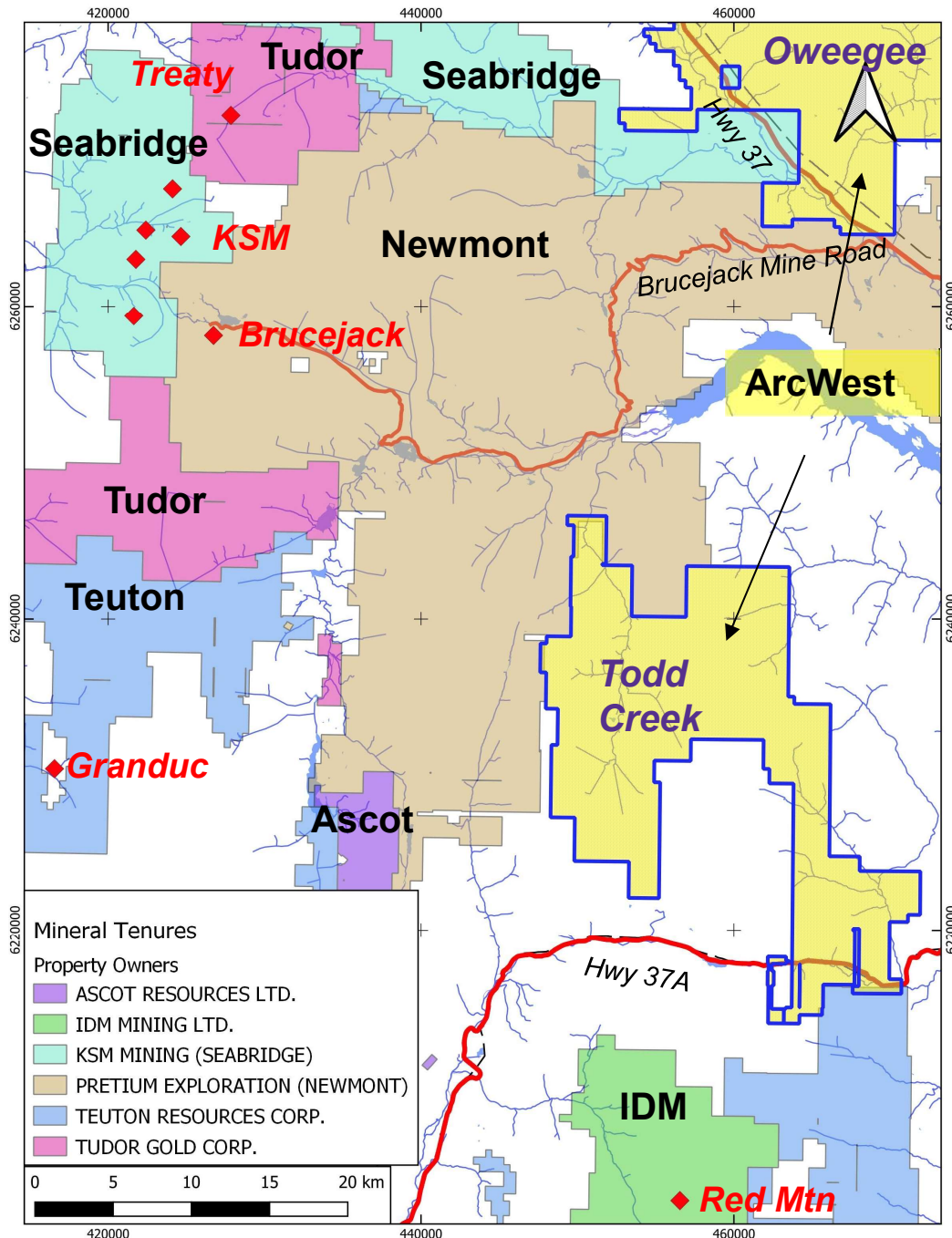
Both projects are crossed by paved highways and contain large underexplored copper-gold systems.

In 2023 ArcWest signed an earn-in agreement with Freeport-McMoRan to explore Todd Creek. Freeport may earn a 51% interest in the project by spending \$20M over a five-year period and making staged cash payments to AWW.

In 2023, Freeport funded a program with an approved budget of \$2.8M at Todd Creek. This included a game-changing 3D IP program as well as extensive geological mapping, rock and soil sampling, and hyperspectral alteration mapping.



# ArcWest Exploration: An Undervalued Copper-Gold Explorer



ArcWest's Oweegee Dome and Todd Creek projects have one of the most sought after addresses in mineral exploration next to Newmont's Brucejack mine property, one of the highest grade gold producers in the world, and close to the KSM-Treaty copper-gold district, one of the world's largest unmined gold and copper resources

Collectively, the KSM-Iron Cap (Seabridge), Treaty Creek (Tudor Gold-Teuton Resources-American Creek Resources) and Brucejack (Newmont) projects contain an estimated 199 million oz gold, 790 million oz silver and 51 billion lbs copper (Roulston, 2021).

As of February 23, 2024 ArcWest remains in a strong financial position with just over \$2M hard dollars in the treasury, zero warrants, significant insider ownership, and a market capitalization under \$5M.

*Selected mineral tenure  
land packages of the  
Brucejack/KSM district*



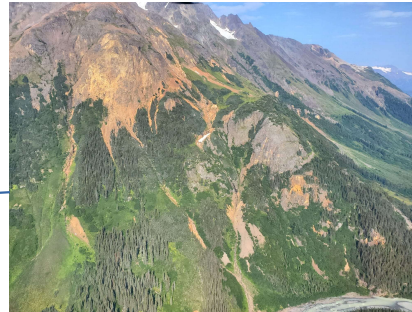
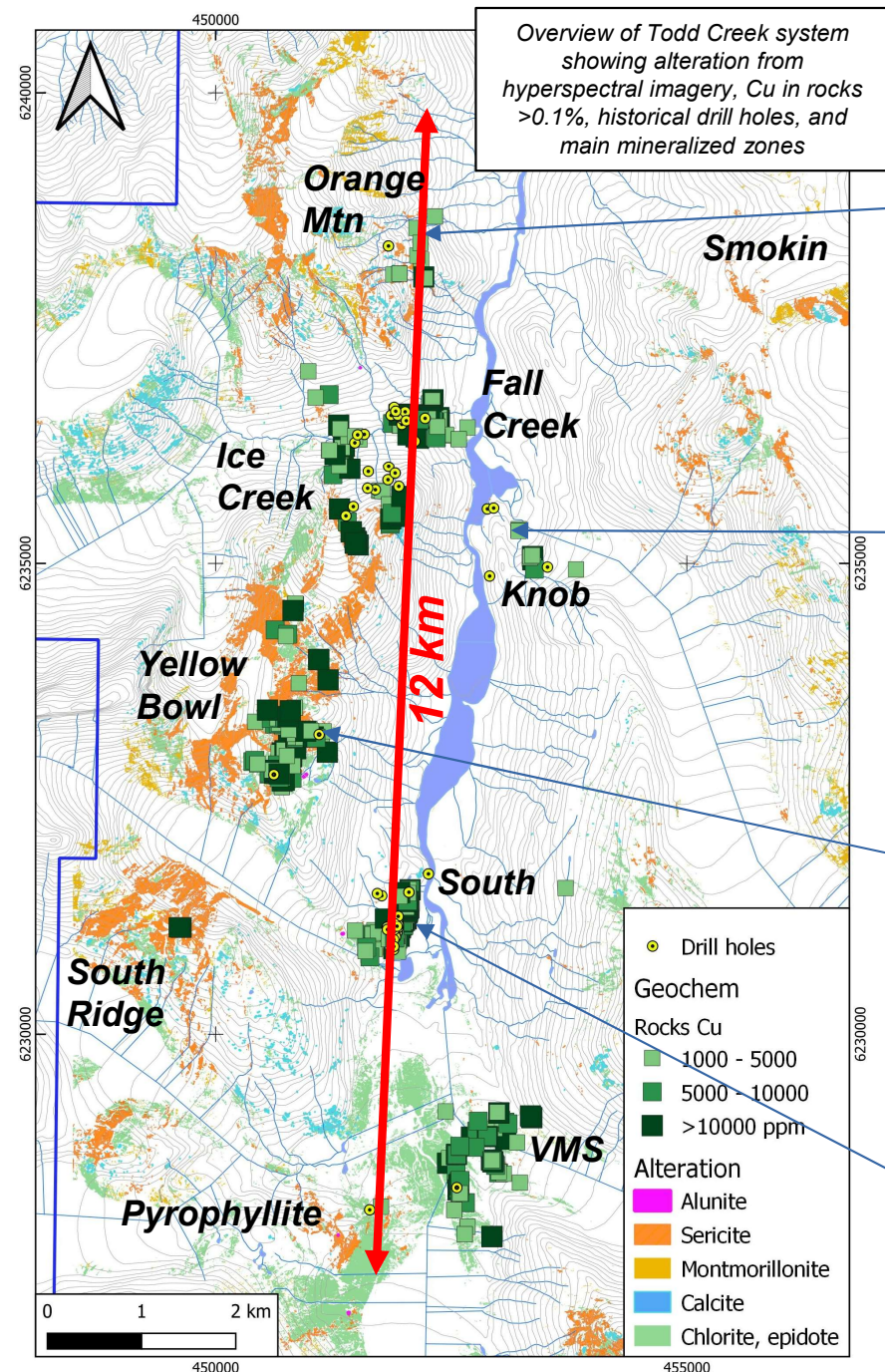


# Todd Creek Alteration Corridor





# Todd Creek's 12 Km Long Alteration Corridor



Extensive phyllic (sericite) alteration and multiple mineralized zones occur within a complex N-S structural corridor parallel to Todd Creek in Jurassic Hazelton Group volcanics.



The underexplored nature of the Todd Creek system is underlined by the fact that large new zones were discovered in 2019 (Smokin) and 2023 (South Ridge).



Most zones have received limited (Orange Mtn, Yellow Bowl, VMS, Pyrophyllite) or mainly shallow (Fall Creek, Ice Creek, South) drilling to date.

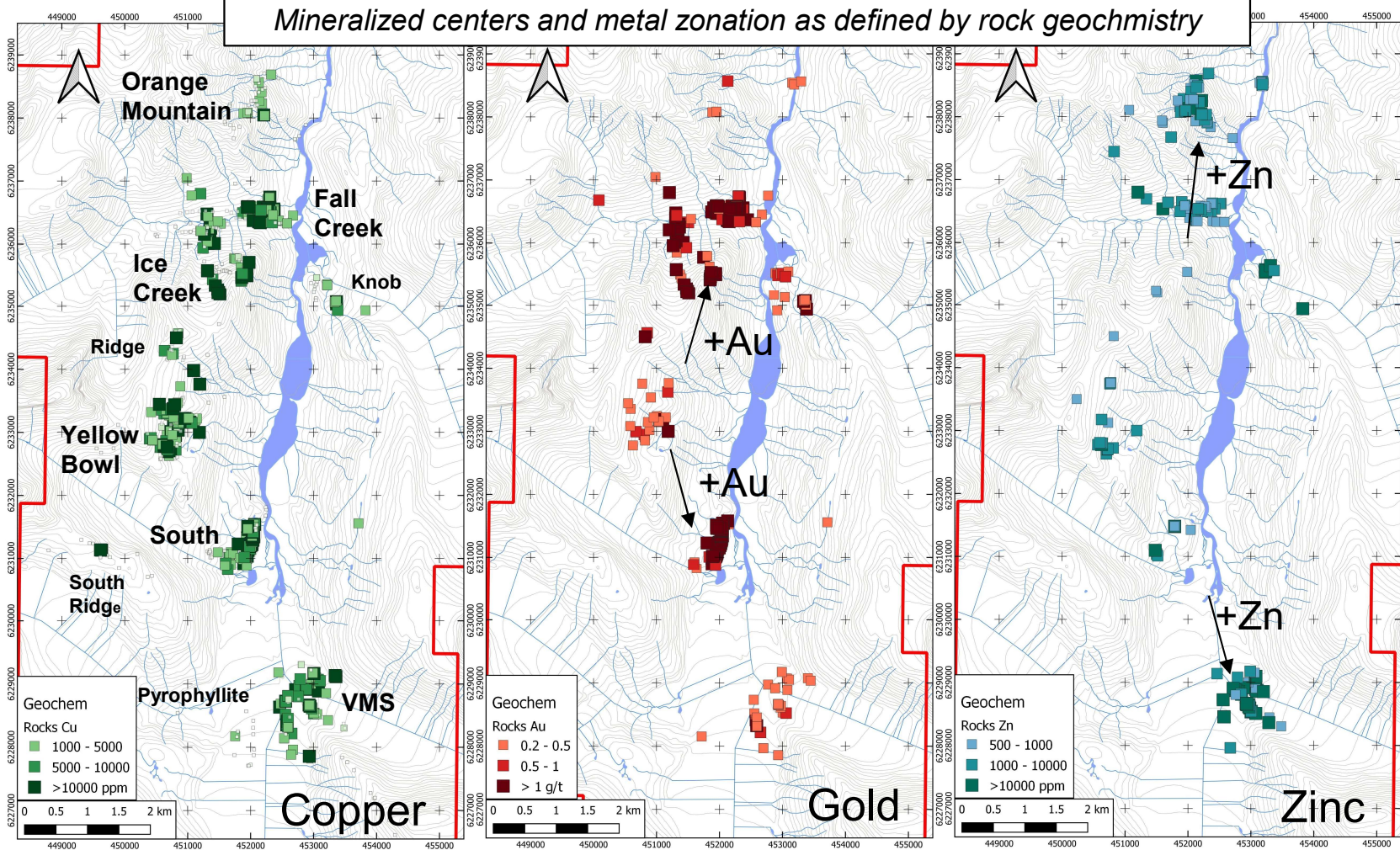


Given that the system covers 14 km strike length of a metallogenically-rich island arc, it's not surprising that Todd Creek contains diverse styles of mineralization, including epithermal, porphyry and VMS.



# Todd Creek: A Huge Zoned Cu-Au-(Zn-Pb-Ag) System

Mineralized centers and metal zonation as defined by rock geochemistry



A central zone of Cu>Au (Yellow Bowl) is flanked north and south by zones of Au>Cu (Fall Creek, Ice Creek, South) and by more distal zones of zinc enrichment (Orange Mountain, VMS)

This metal zonation and the associated phyllic alteration define a single huge Cu-Au system, with multiple mineralized centers.



Intense QSP alteration, Yellow Bowl

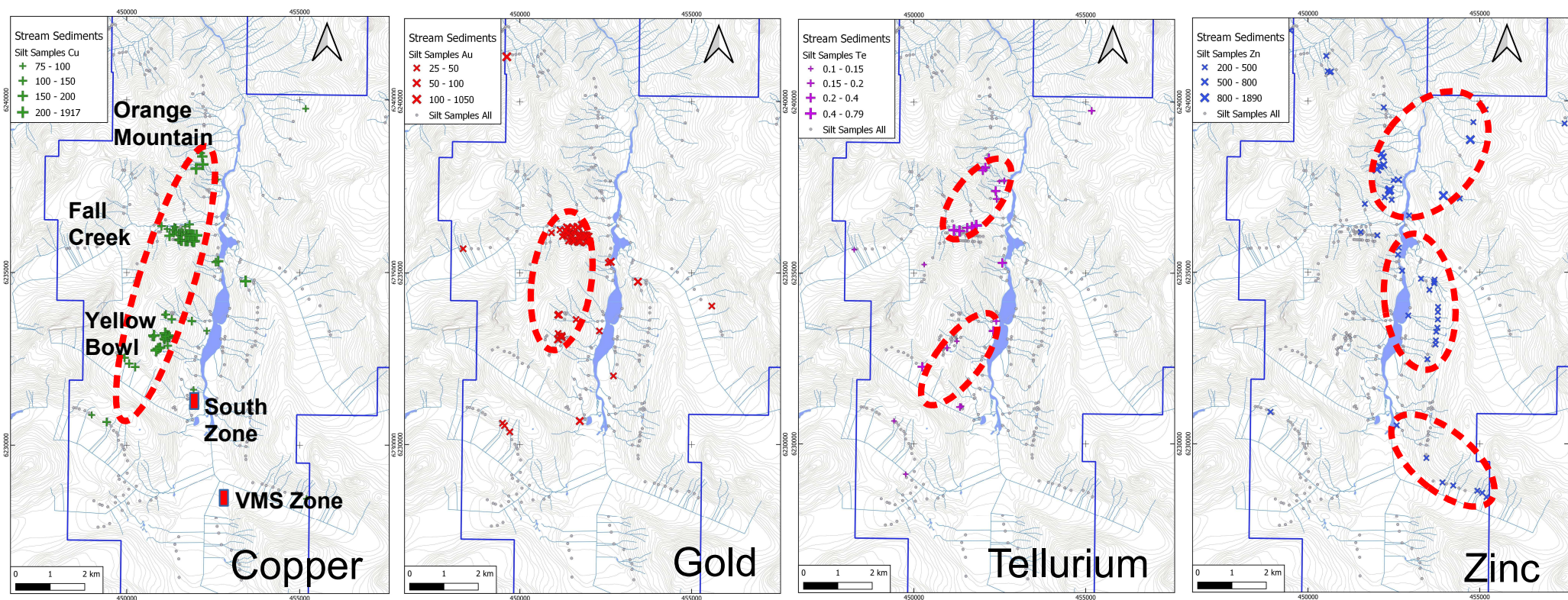
Quartz-barite-sulfide epithermal vein, Orange Mountain



VMS Zone massive sulfide  
3.73% Cu, 6.46% Zn,  
0.447 g/t Au, 58.2 g/t Ag



# Todd Creek Metal Zonation: Stream Sediment Data



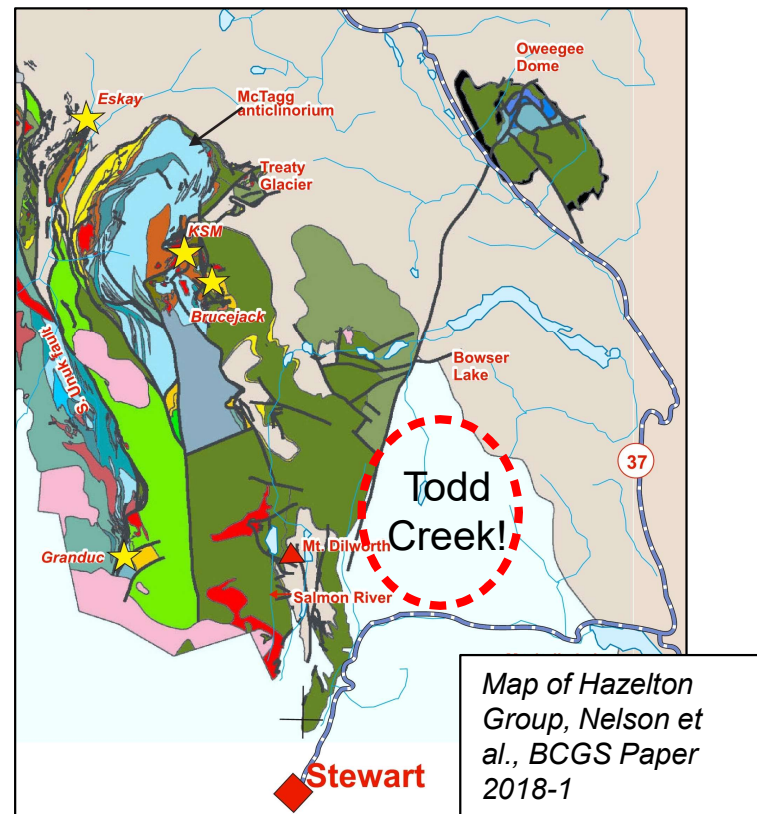
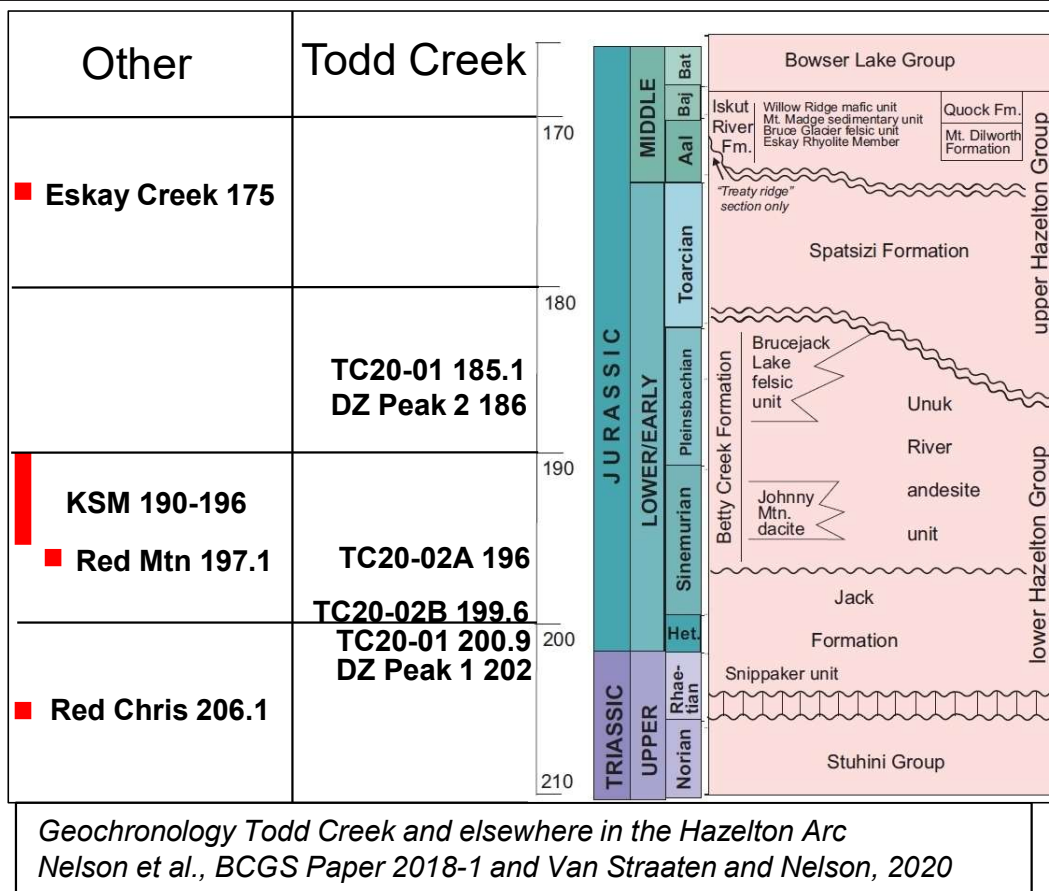
*Cu, Te, Zn in ppm; Au in ppb*

Stream sediments also support the idea that Todd Creek is a single zoned system, with a central copper zone including Yellow Bowl, FallCreek/Ice Creek and Orange Mountain, a smaller central gold zone including Fall Creek/Ice Creek and Yellow Bowl, flanked by zones of high tellurium (a key epithermal/porphyry indicator) and further out, zinc. Elevated zinc is largely confined to the east side of Todd Creek valley with the exception of Orange Mountain.

The stream sediment data fails to adequately capture the South and VMS Zones, due to their low elevations and lack of samples



# Todd Creek: The Unknown Arc



Despite its proximity to infrastructure and major gold and copper deposits, little is known about Todd Creek's place in the Hazelton Arc. For example, in Nelson et al.'s definitive 2018 Hazelton Arc map, Todd Creek is literally terra incognita!

Limited U/Pb geochronology at Todd Creek has indicated two separate ages for volcanic rock units, at 200-196 Ma and 185-186 Ma. The earlier age range overlaps the interpreted ages of the Jack and Betty Creek Formations (Nelson et al., 2018, as well as the Texas Creek intrusive suite, and the Au-Cu systems at nearby Red Mountain and KSM. Mineralization has not been directly dated at Todd yet. The younger ages fall within the interpreted age range of the Brucejack Lake felsic unit.

Further geochron is anticipated from 2023 fieldwork and should help to tie Todd Creek into the larger story of the prolific Early Jurassic Hazelton Arc



# Todd Creek 2023 Exploration Program



In 2023, ArcWest completed the largest exploration program since the project was acquired. The CAD \$2.8M program was 100% funded by Freeport-McMoRan and lead by industry veterans **C.J. Greig, Tony Barresi and Scott McBride**.

**Geophysics** – completed a 6 by 2-3 kilometer 3D induced polarization (“IP”) survey, using Dias Geophysical’s distributed array deep IP (“DCIP”) survey system.

**Geology** – Geological mapping completed over a 12 by 4 kilometer area on the west side of Todd Creek, with 2,021 geological stations.

**Geochemistry** – 256 rock samples, 458 soil/talus fine samples.

**Hyperspectral** – 676 rock samples and 458 soil sample pulps analyzed using a TerraSpec 3 hyperspectral analyzer to determine alteration mineralogy.

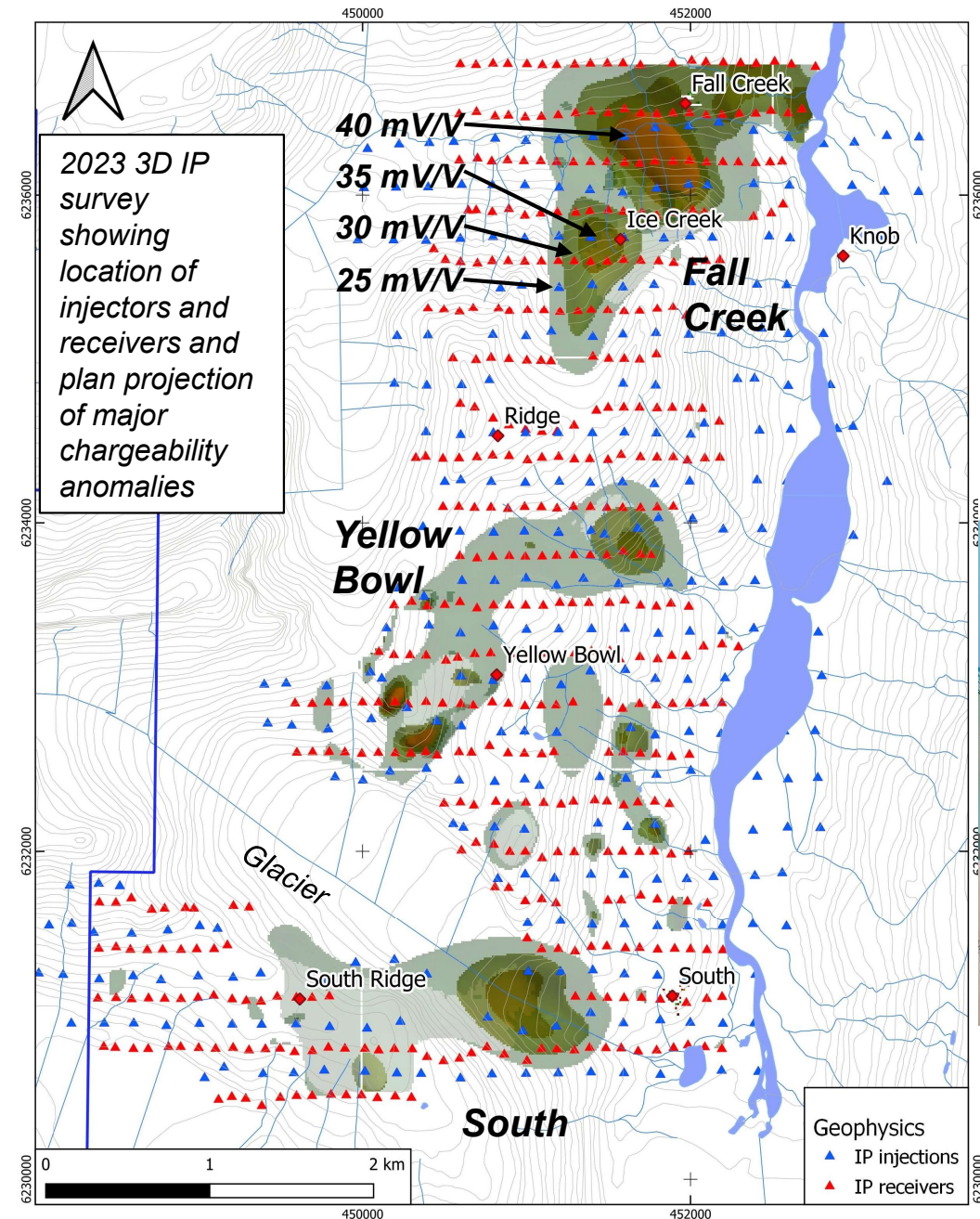
**Petrography** – 16 drill core samples from the South, Fall Creek and Orange Mountain zones analyzed by independent expert petrographer Craig Leitch.



*2023 Todd Creek Exploration Team*



# Todd Creek 2023 3D IP Survey

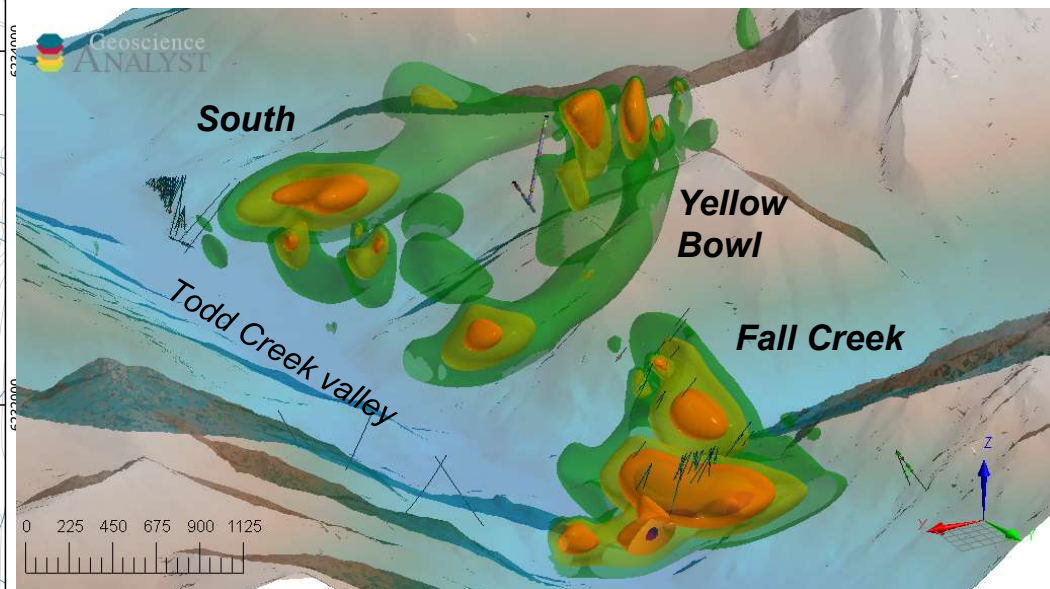


The 2023 exploration season saw the completion of the first 3D IP survey of the Todd Creek system, from Fall Creek to South Ridge.

At 6 x 2-3 km, this is one of the largest 3D IP surveys ever carried out in the Golden Triangle (contractor Dias Geophysical).

The survey outlined **three large chargeability anomalies: Fall Creek, Yellow Bowl and South.**

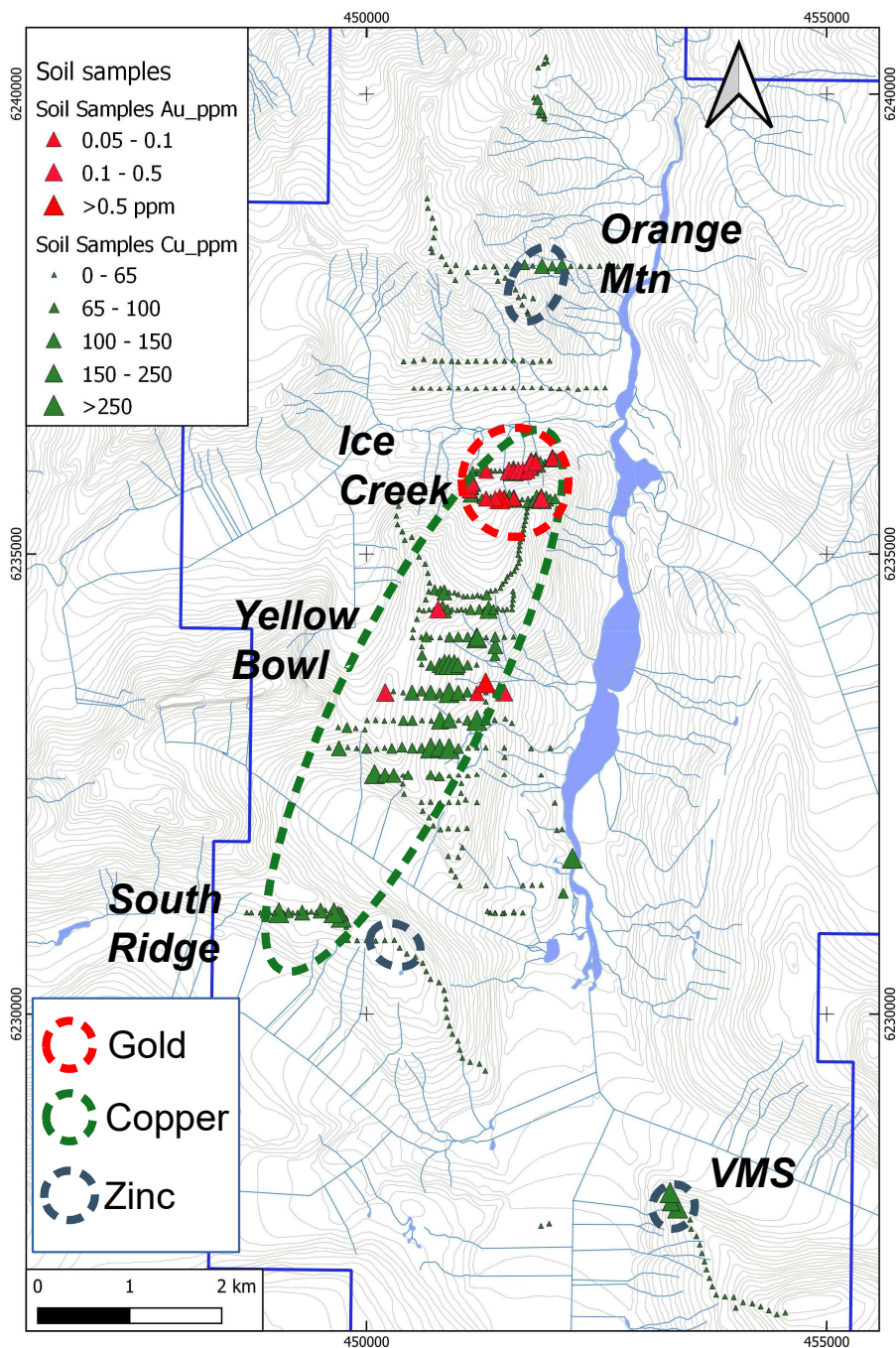
All three anomalies are virtually untested by drilling.



3D view of 25, 30, 35 and 40 mV/V chargeability isosurfaces and drill holes, looking down Todd Creek Valley from the NE



# Todd Creek 2023 Soil Sampling



A program of systematic soil/talus fines sampling in 2023 clearly delineated a **5 x 1 km Cu anomaly** encompassing the alteration and mineralization at Yellow Bowl and Ice Creek.

The anomaly extends south of Yellow Bowl to a newly discovered altered and mineralized zone (South Ridge)

Smaller Cu (+ Zn) anomalies were defined at Orange Mountain and VMS Zone

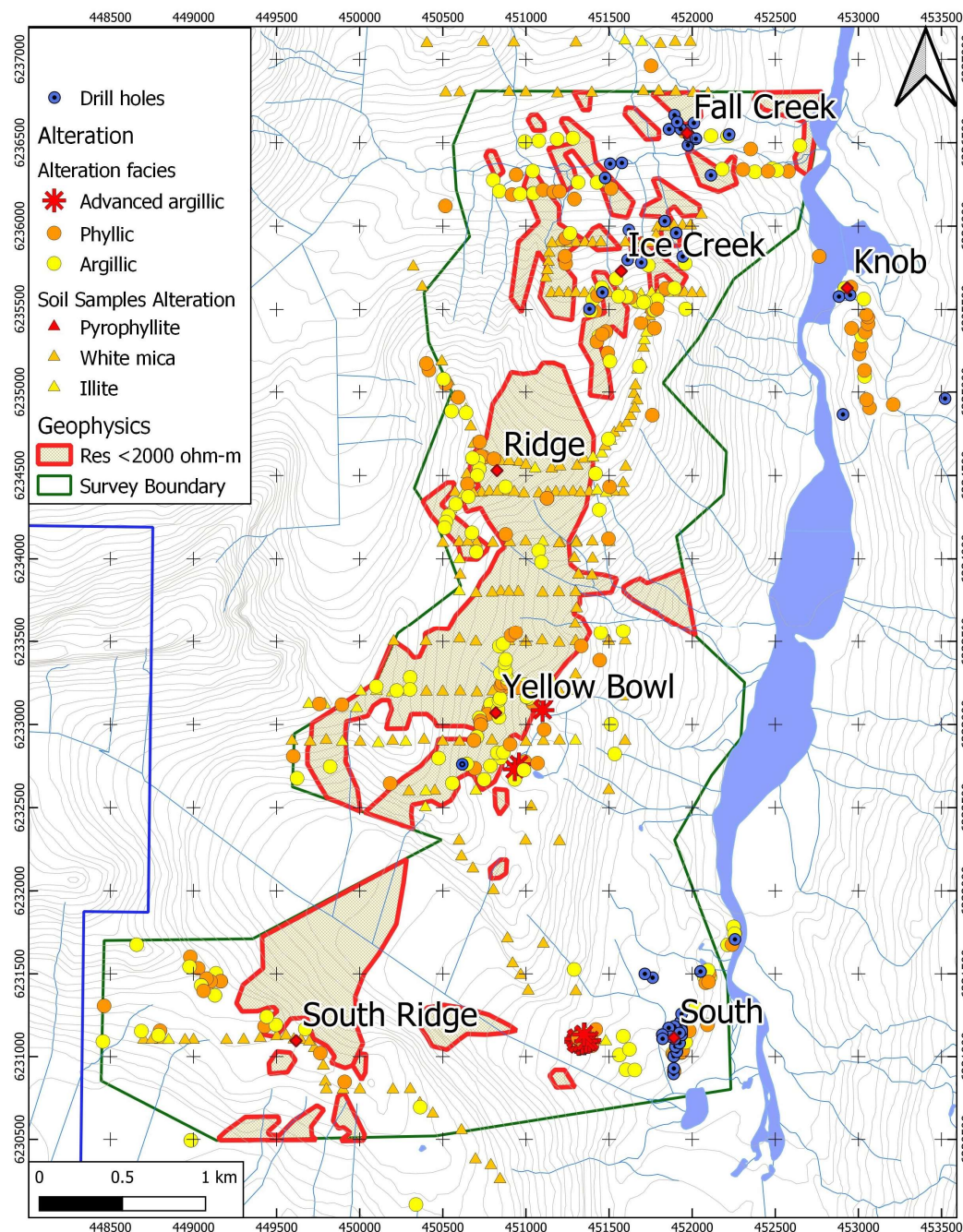
High Au samples were concentrated in the Ice Creek area at the north end of the main Cu anomaly



*Yellow Bowl alteration*



# Todd Creek 2023 Alteration Survey

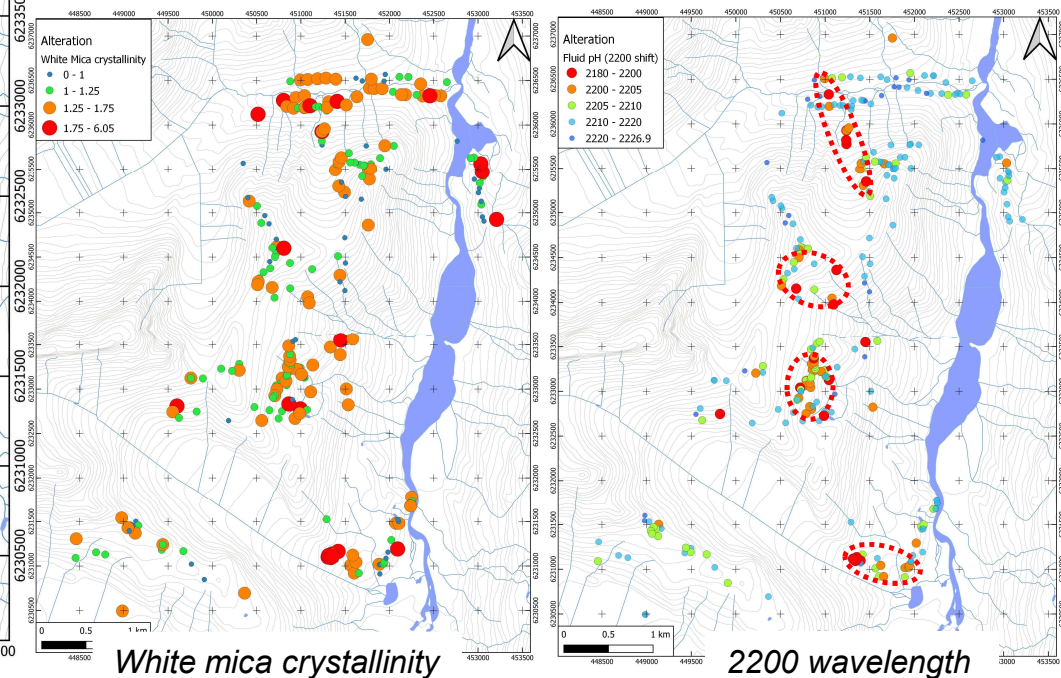


TerraSpec analysis of rocks and soils (dried pulps) confirm that phyllic (white mica) and argillic (illite) alteration extends the length of the Todd Creek corridor, with local zones of advanced argillic (alunite, pyrophyllite).

The extensive phyllic/argillic alteration correlates with the central low resistivity corridor running the length of the IP survey area.

Widespread high crystallinity values for white micas are consistent with high temperature alteration, while in Yellow Bowl, Ice Creek and South Zone, wavelength data shows smaller zones typically generated by low pH (acidic) fluids.

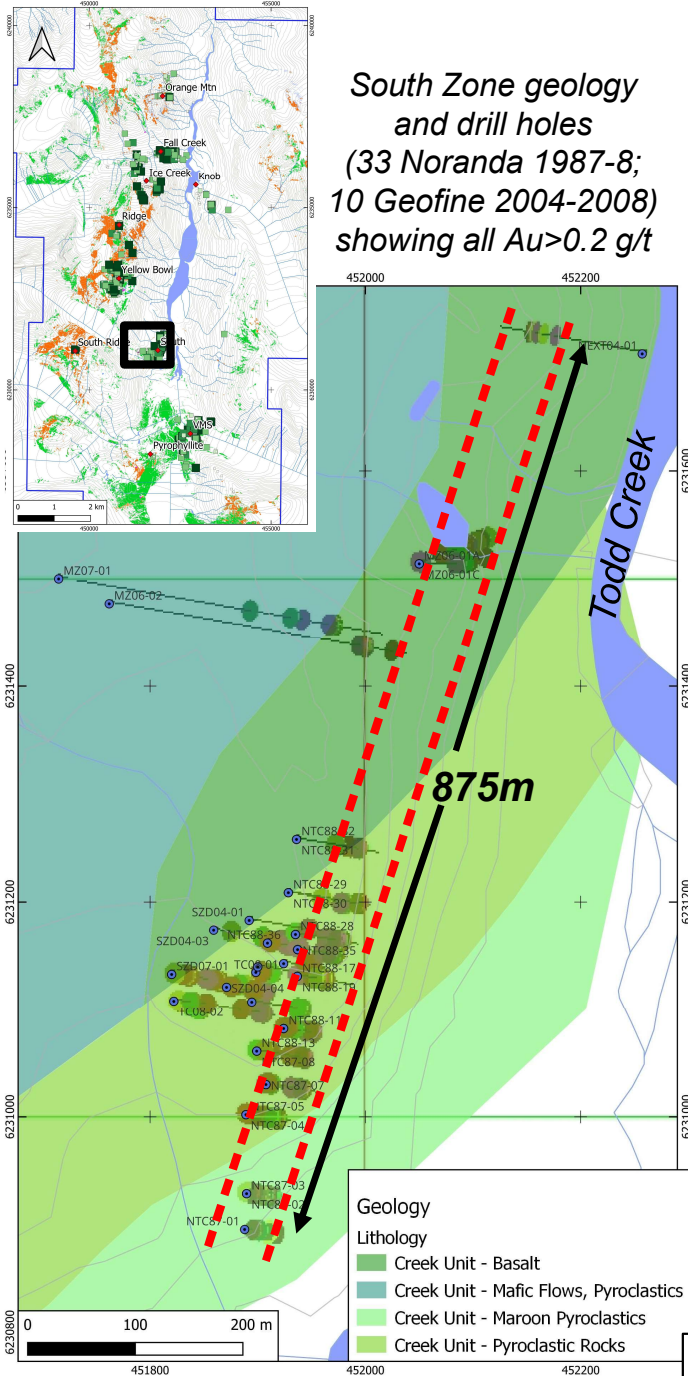
Both features are useful vectors in porphyry systems.





# South Zone: High Grade Au-Cu Lodes

*South Zone geology  
and drill holes  
(33 Noranda 1987-8;  
10 Geofine 2004-2008)  
showing all Au>0.2 g/t*



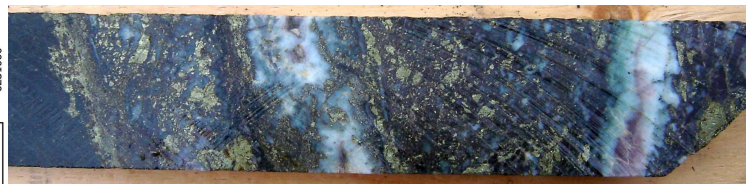
Historical drilling at South Zone has consistently intersected epithermal Au-Cu mineralization over a strike length of 875m and up to 250m down dip, with intercepts up to 3.6 g/t Au and 0.37% Cu / 27.75m in NTC88-19 (not true width).

Au and Cu occurs in banded to coxcomb multistage quartz-sulfide veins and breccias with abundant chalcopyrite, hematite and jasper. Mineralization has similarities to high grade Au-Cu epithermal systems such as Kora (PNG) and Hod Maden (Turkey).

Noranda calculated a historical resource of 207,000 t @ 5.48 g/t Au.



TC08-01 1.83% Cu, 7.06 g/t Au / 0.86m (60.2-61.06m)



MZ06-01D 5.35% Cu, 7.67 g/t Au / 0.35m (67-67.35m)

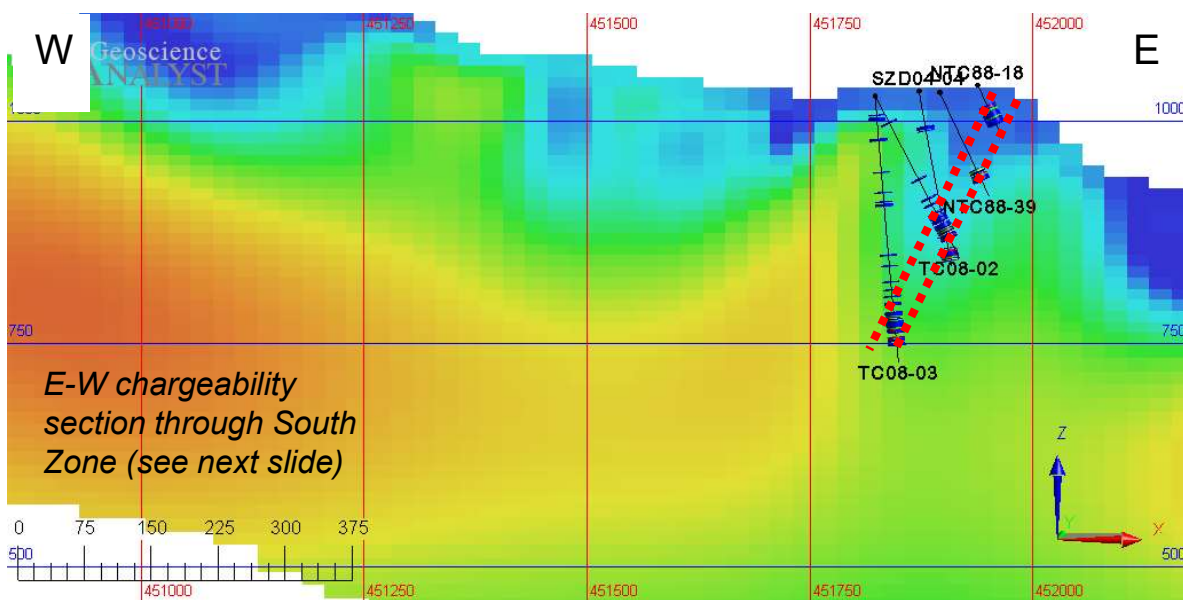
*Drill hole photos of NQ core, diameter 47.6 mm*



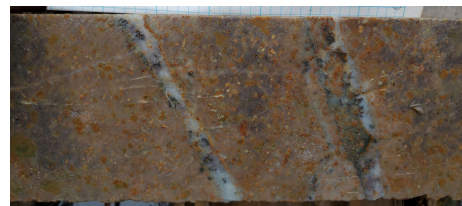
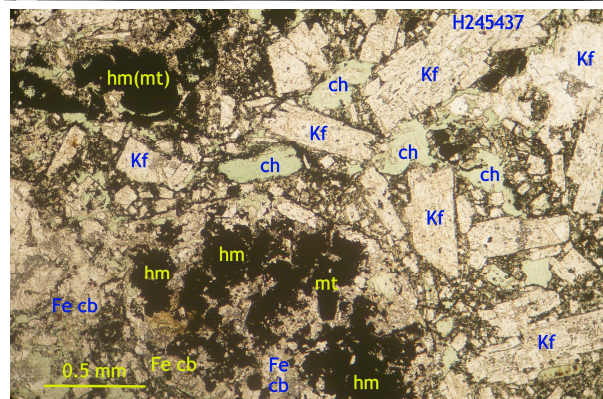
*South Zone outcrop*



# South Zone: Porphyry Links



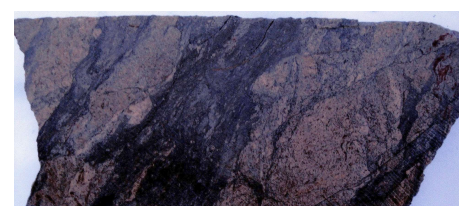
88-18: 0.10% Cu 0.81 g/t Au / 16.85m; 88-39: 0.14% Cu 0.85 g/t Au / 11.5m  
 04-04: 0.26% Cu 2.6 g/t Au / 12m; 08-02: 0.26% Cu 1.7 g/t Au / 11m  
**08-03: 0.11% Cu 0.23 g/t Au / 27m (246-273m)**



253m, TC08-03  
 0.14% Cu 0.14 g/t Au



261m, TC08-03  
 0.13% Cu 0.21 g/t Au



263m, TC08-03  
 0.69% Cu 2.82 g/t Au

Offcuts and thin section  
 showing potassic alteration  
 at 278m, TC08-03

Drilling in 2008 successfully intercepted the South Zone 250m down dip in TC08-03

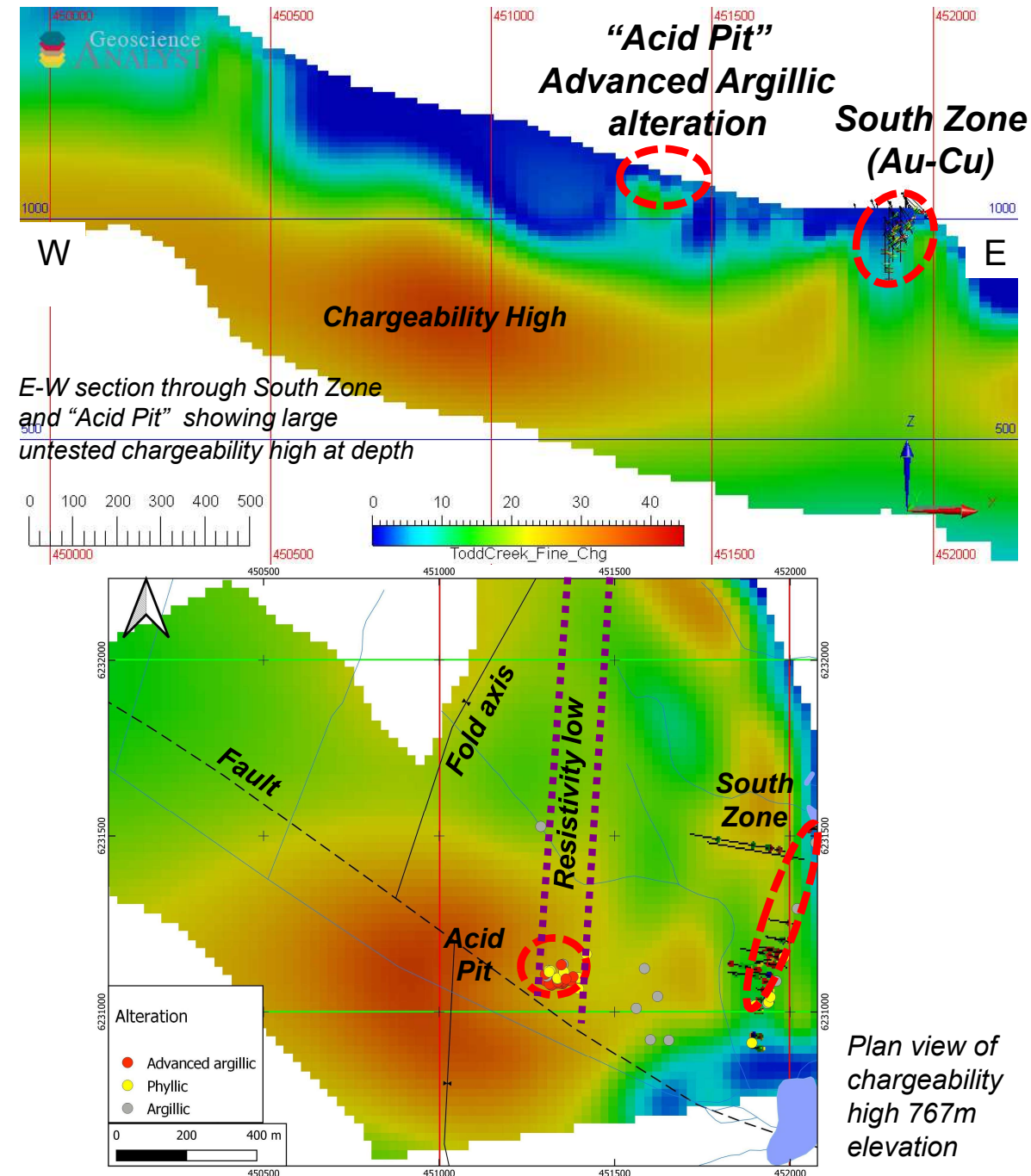
A 2023 petrographic study of **TC08-03** showed at 278m **well-developed, partly preserved potassic alteration** around quartz-carbonate-chalcopyrite-pyrite veins with central partings of similarly altered rock (Leitch, 2023).

The potassic alteration: K-feldspar-chlorite (after biotite?)-quartz-hematite (after magnetite)-pyrite-rutile (after ilmenite) contains relict magnetite which is mostly replaced by hematite, a typical “retrograde” alteration in a highly oxidized porphyry system.

The presence of a relict potassic assemblage at depth in this hole suggests a strong link between the epithermal Au-Cu lodes at South Zone and a deeper porphyry system.



# South Zone: Porphyry Links



A zone of intense advanced argillic alteration (alunite - pyrophyllite - diaspore - dickite - kaolinite), the “Acid Pit”, was discovered in 2023, just 500 meters west of the epithermal Au-Cu lodes of the South Zone

The 2023 IP survey revealed a 700m wide zone of high chargeability (30-40 mV/V) about 300m below surface below and west of the Acid Pit

Both the South Zone and Acid Pit may represent high level / lateral expressions of a much larger porphyry system at depth

*Acid Pit advanced argillic alteration*



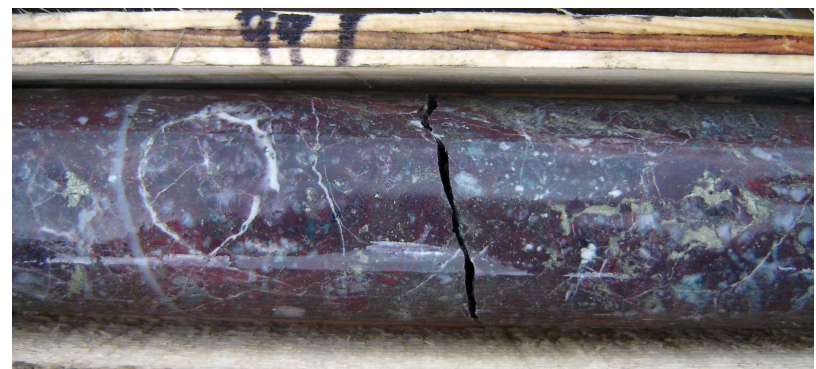
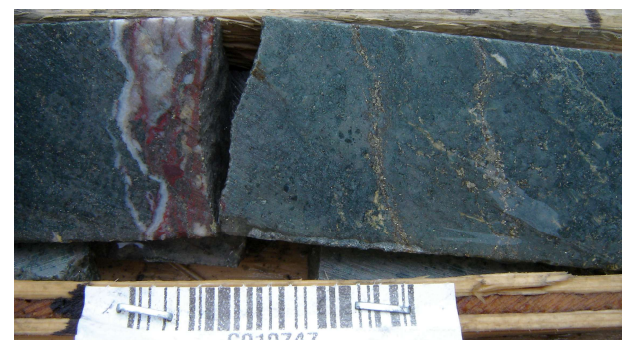
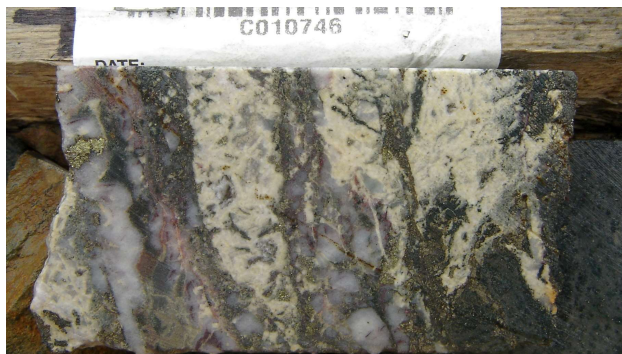


# South Zone: A Hod Maden Analogue?

## Hod Maden



## South Zone

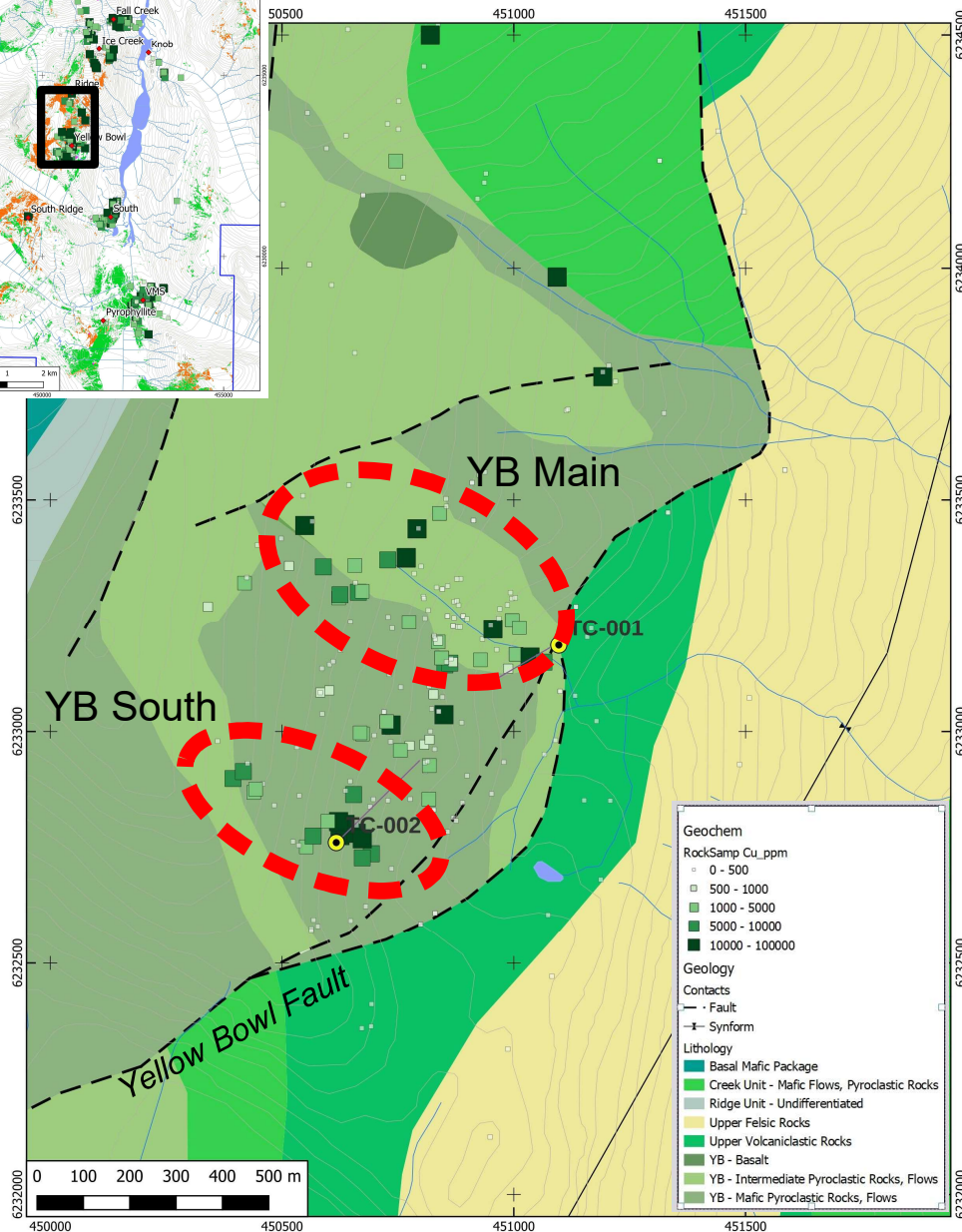


Abundant jasperoidal silica/hematite is associated with gold-enriched epithermal quartz-chalcopryite veining and associated breccias at both Hod Maden and Todd Creek's South and Fall Creek zones. Core from South Zone DH MZ06-01C and D



# Yellow Bowl Zone

*Rock units from 2023 mapping, main faults and Cu in rocks*



The largest gossanous area on the property hosts strong Cu-Au values in rocks over a 1 by 2 km area and has been tested by just two drill holes to date.

Pyrite and chalcopyrite are associated with strong QSP alteration with up to 10% or more disseminated sulfides.

Larger gossans are associated within “blow-outs” along intersecting structures.

Poly lithic hydrothermal breccias are significant in the southern part of Yellow Bowl.



*Yellow Bowl main gossan looking west*



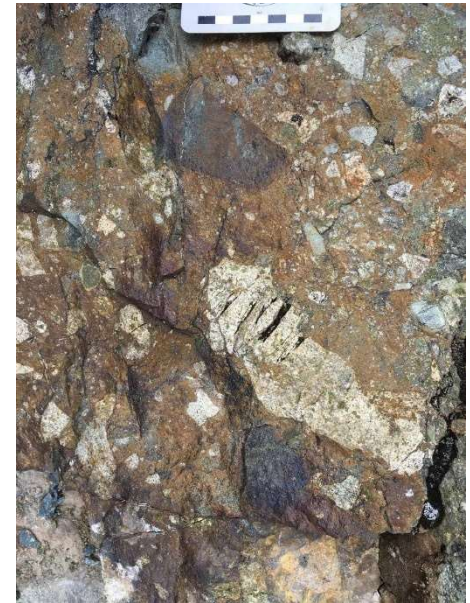


# Yellow Bowl Alteration and Breccias



Bedding Parallel  
Alteration Domain  
Lithology Controlled?

Steep NE Oriented Bedding in Less  
Altered Rock



Polymictic breccia with intrusive,  
volcanic, quartz vein clasts



*Sulfide replaced fault breccia*



*Quartz-chalcopyrite vein clasts*



*Intrusive clasts*

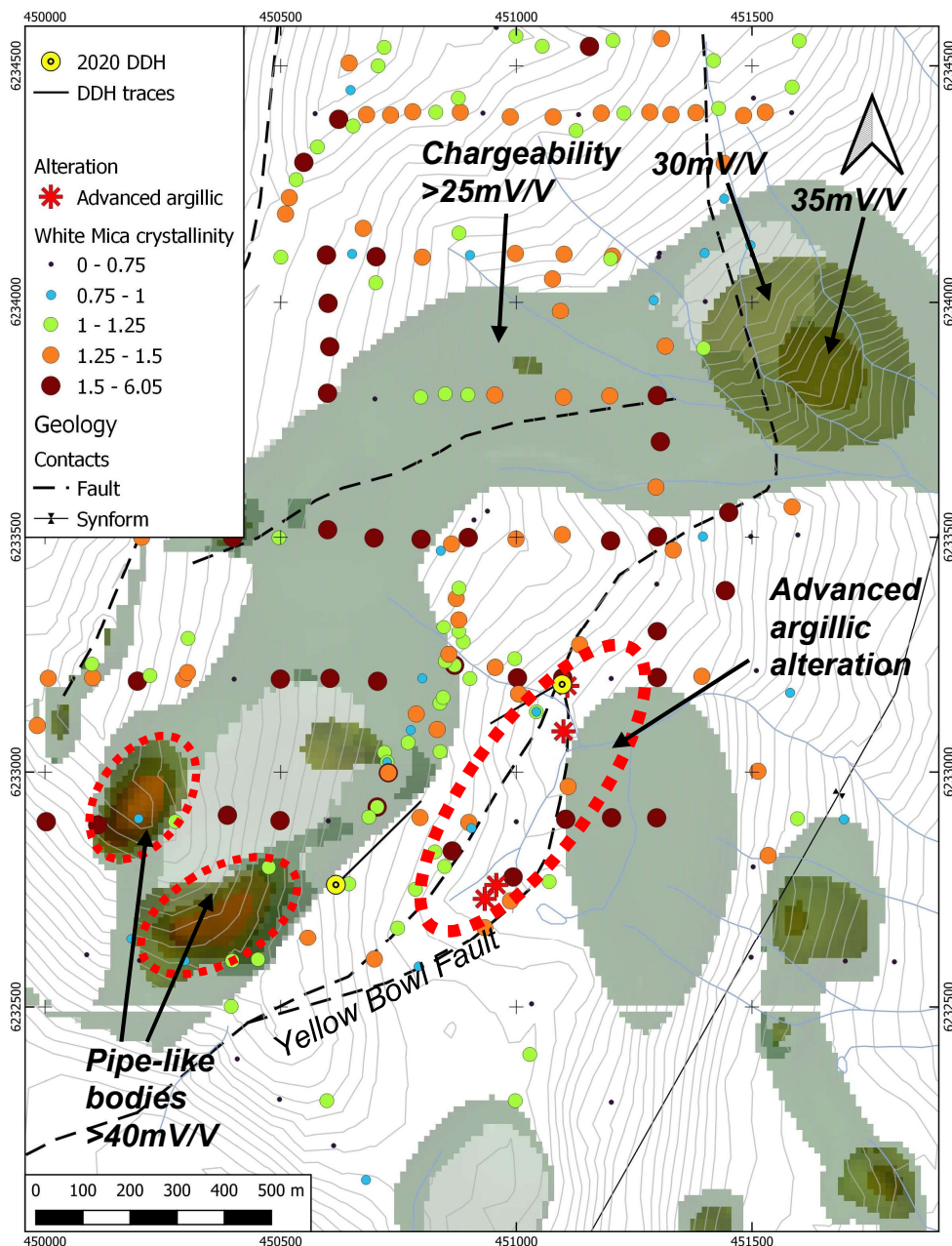


*Quartz-sulfide matrix hydrothermal  
breccias*

**The presence of magmatic-hydrothermal breccias with intrusive, quartz-sulfide vein and porphyry clasts strongly suggests the potential for a buried porphyry at Yellow Bowl**



# Yellow Bowl Alteration and Untested Chargeability Highs



Advanced argillic and sericite alteration showing white mica crystallinity values with chargeability highs in green

TerraSpec based alteration studies in 2023 showed that extensive sericite alteration has high white mica crystallinity values (>1.25) signifying higher temperatures and/or a long lasting system which extends over a broad area west and north of the two 2020 drill holes

Advanced argillic alteration is also present but largely confined to the Yellow Bowl Fault

The 2023 IP survey showed that 2020 drill holes also missed the main chargeability highs, which are completely untested, and underlie much of the most consistent highly crystalline white mica (sericite).

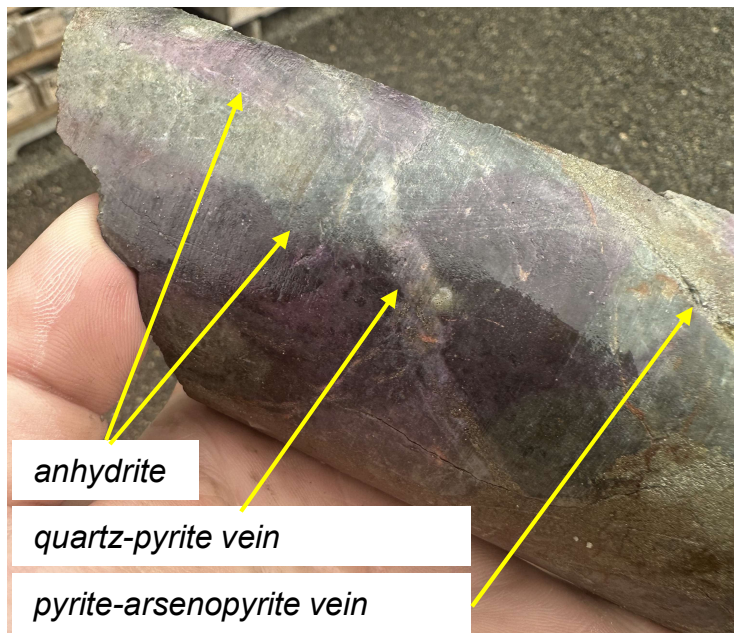
Yellow Bowl Main sample 656607:  
1.26% Cu, 0.407 g/t Au

Yellow Bowl South sample 429531:  
1.46% Cu, 0.559 g/t Au





# Yellow Bowl Drilling 2020



**TC20-01 (156m)** py-aspy and quartz veins in tuff with disseminated py and purple anhydrite



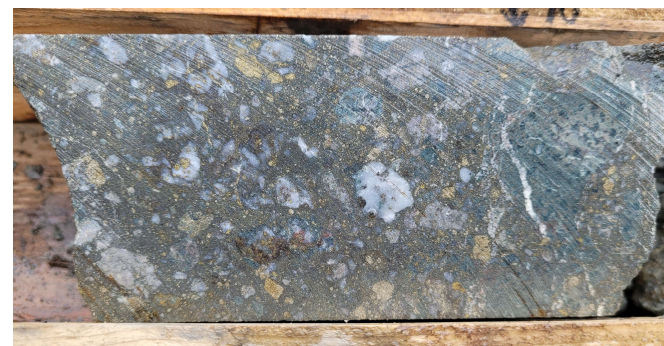
**TC20-01 (176 and 219m)** quartz calcite and sulfide veins with sericite-pyrite envelopes

Two 2020 drill holes (-50 dip) tested a small part of the Yellow Bowl zone just east of the chargeability high.

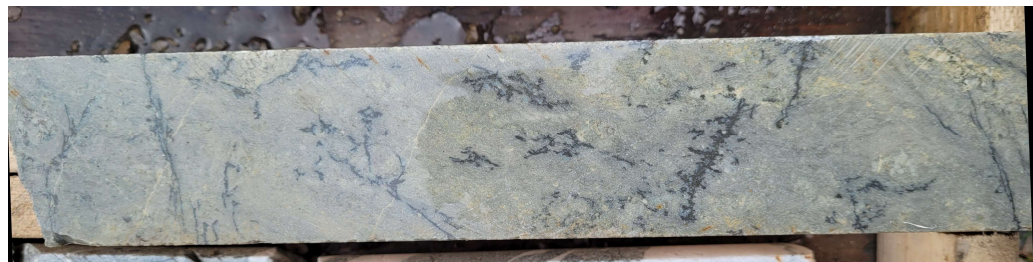
Both drill holes intersected broad zones of intense sericite alteration and multiple sulfide-quartz+/-carbonate vein and breccias with copper values up to 4.2%/1.78m and anomalous Au, Ag, Pb, Zn, As Sb, Bi, Te and Mo.



**TC20-02 (18.6m)** quartz-carbonate-sulfide epithermal vein (0.798% Cu, 23.6 g/t Ag, 0.96% Zn)



**TC20-02 (69.8m)** Polymictic breccia (0.85% Cu, 0.11 g/t Au, 20.2 g/t Ag)

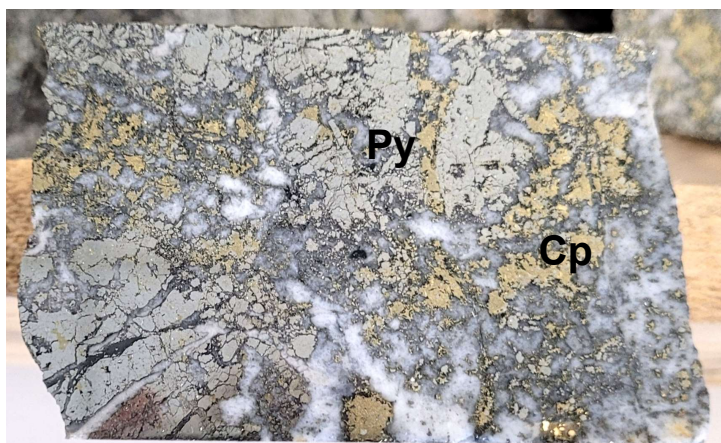
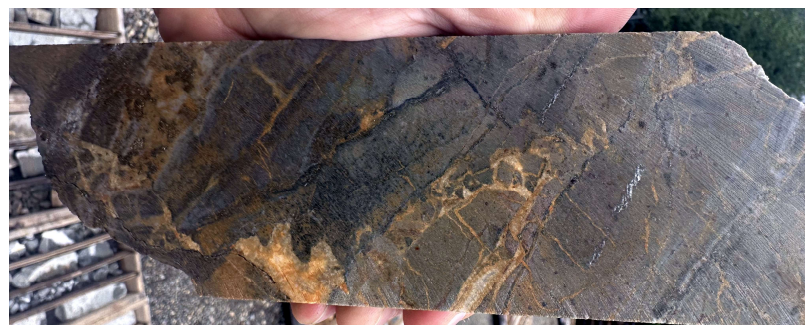


**TC20-02 (479m)** QSP altered dacite with sooty pyrite seams

Drill hole photos of HQ core, diameter 63.5 mm



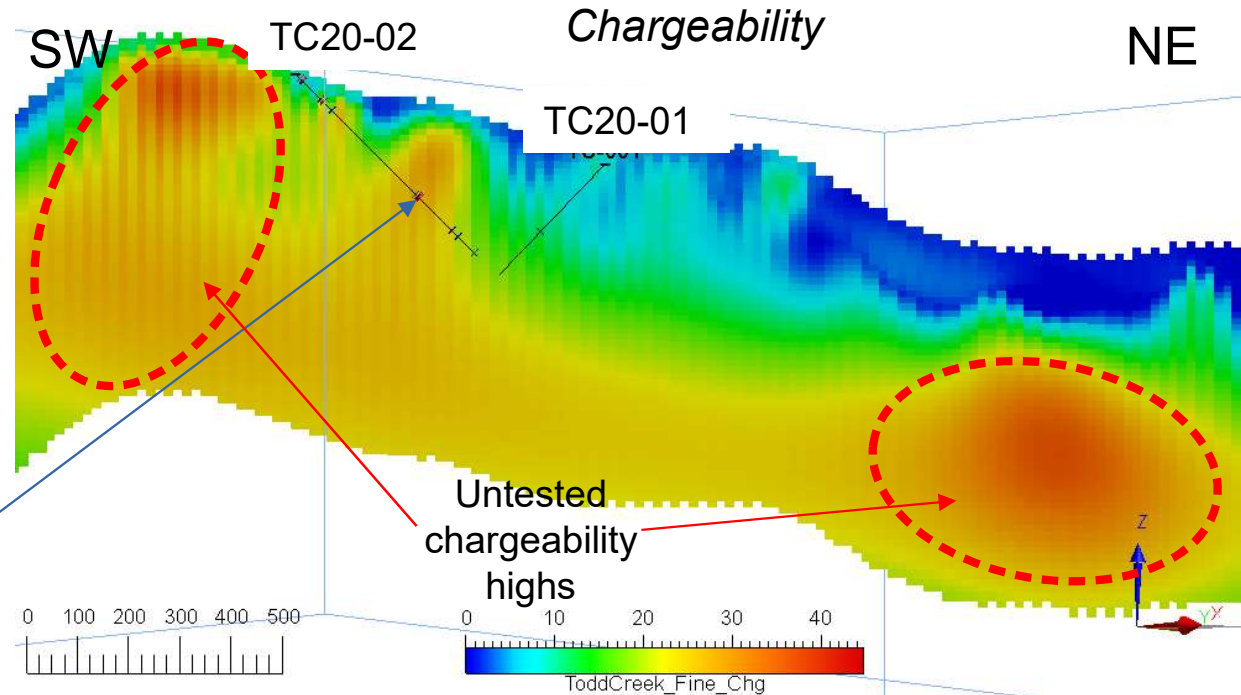
# Yellow Bowl Untested Chargeability Highs



**Top C20-02 (329-338)** QSP alteration with dense polyphase veining (up to 0.17% Cu.)

**Middle TC20-02 (340.7-342.5m)** quartz-sulfide breccia vein (2.3% Cu, 0.16 g/t Au, 5.5 g/t Ag/4.58m, 339.47-344.05m)

**Bottom TC20-02 (344.4m)** multiple vein sets with sericite haloes



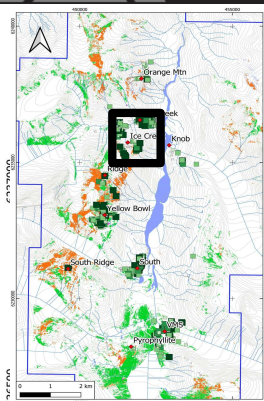
The best mineralized interval in TC20-02 (0.78% Cu 84 ppb Au / 14.05m from 330m) was a zone with a quartz-sulfide breccia vein flanked on both sides by intense polyphase veining.

A chargeability section through the 2020 drill holes shows that this interval is in the center of a fingerlike projection from a larger chargeable body below.

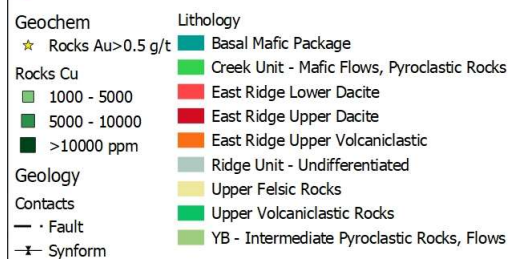
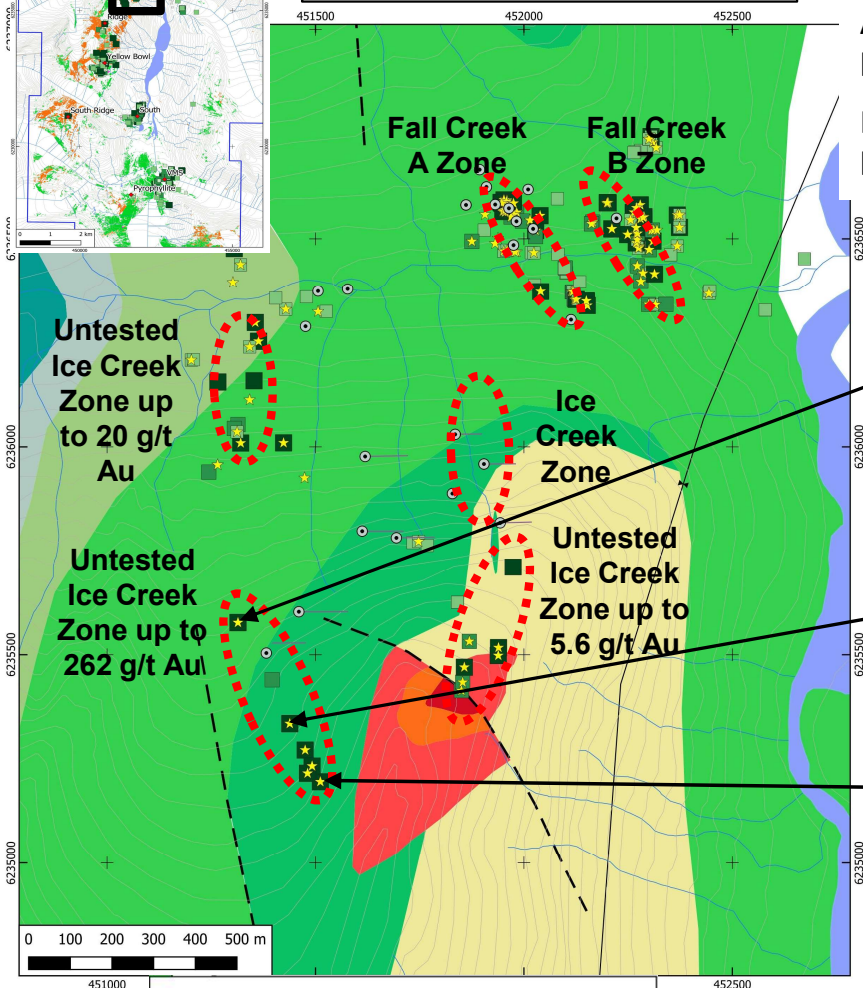
Untested domains with stronger chargeabilities lie to the NE and SW.



# Ice Creek and Fall Creek Zones – Recent Prospecting Discoveries



*Geology, historical drilling, rock samples with Cu>0.1% or Au>0.5 g/t*



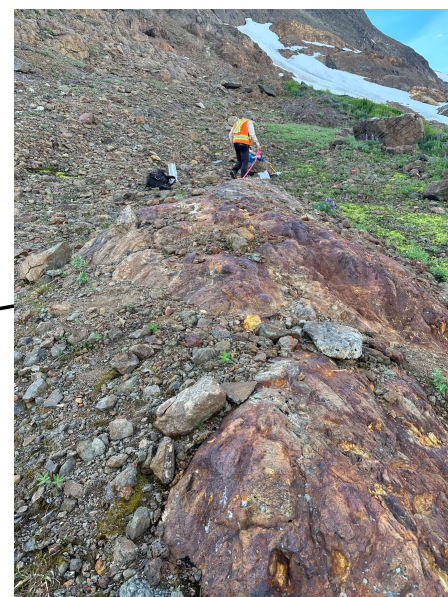
Geological mapping in 2023 defined a diverse volcanic package ranging from mafic to felsic in composition, folded into a regional syncline.

Higher Cu and Au grades follow linear NNW trends with grades often in excess of 1 g/t Au and 1% Cu. Mineralization occurs as epithermal quartz-sulfide veins, breccias and breccia dykes

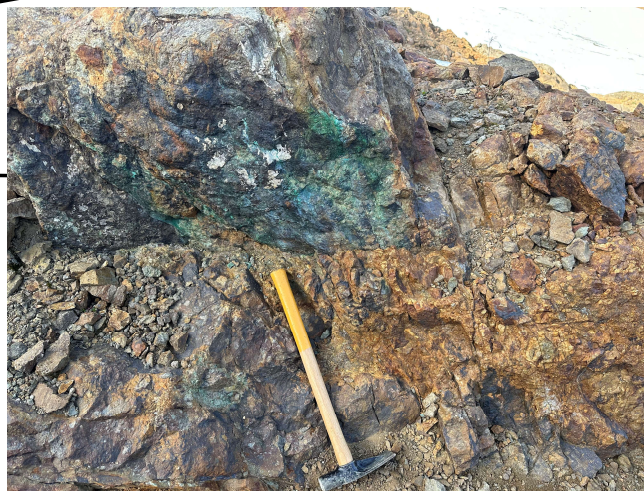
Recent prospecting has defined high grade Cu-Au mineralization well outside the area historically tested by shallow drilling.



*L615119 – hydrothermal breccia with chalcopyrite-pyrite rich matrix  
262 g/t Au, 2.46% Cu*



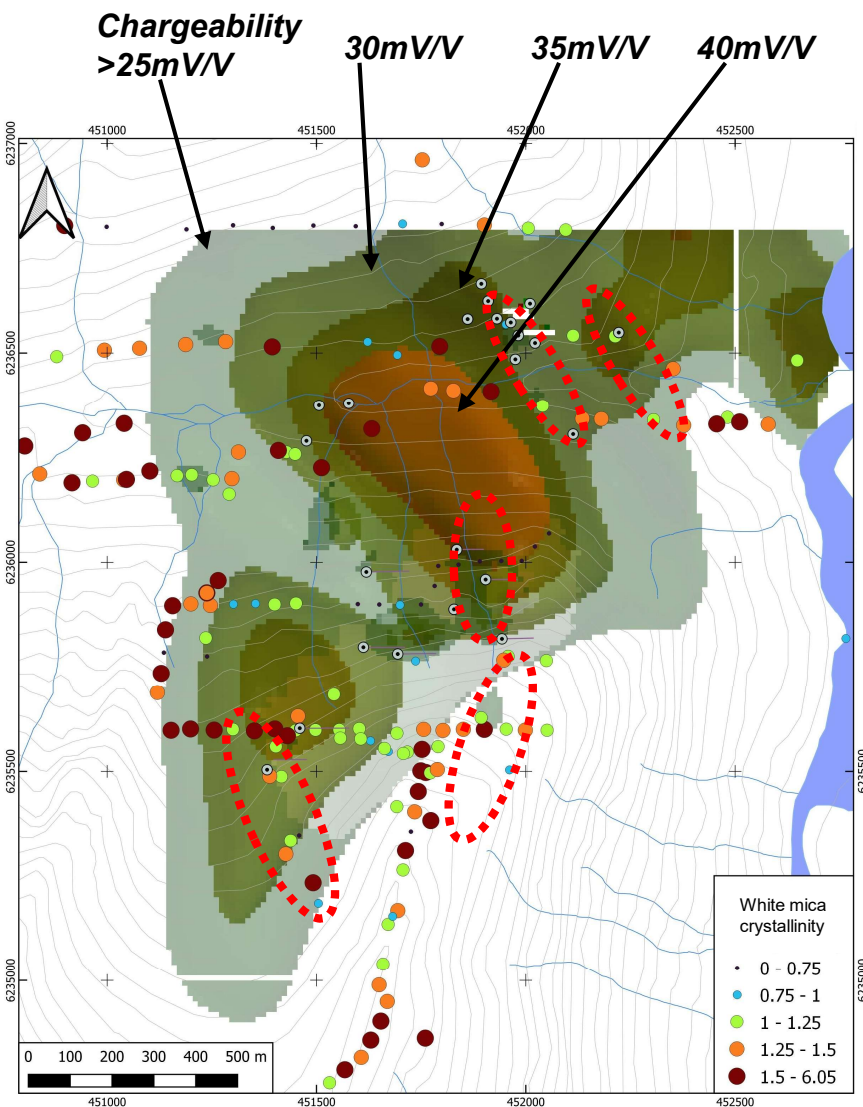
*L615115 – QSP altered conglomerate  
1.03 g/t Au, 1.28% Cu*



*L615116 – QSP altered conglomerate cut by NNW trending shear  
5.8 g/t Au, 3.31% Cu,*



# Ice Creek and Fall Creek Zones – New IP Targets



Plan view of chargeability highs, white mica crystallinity  
Zone outlines as on previous page

The 2023 IP survey outlined a strong chargeability anomaly underlying the Ice Creek and Fall Creek Zones.

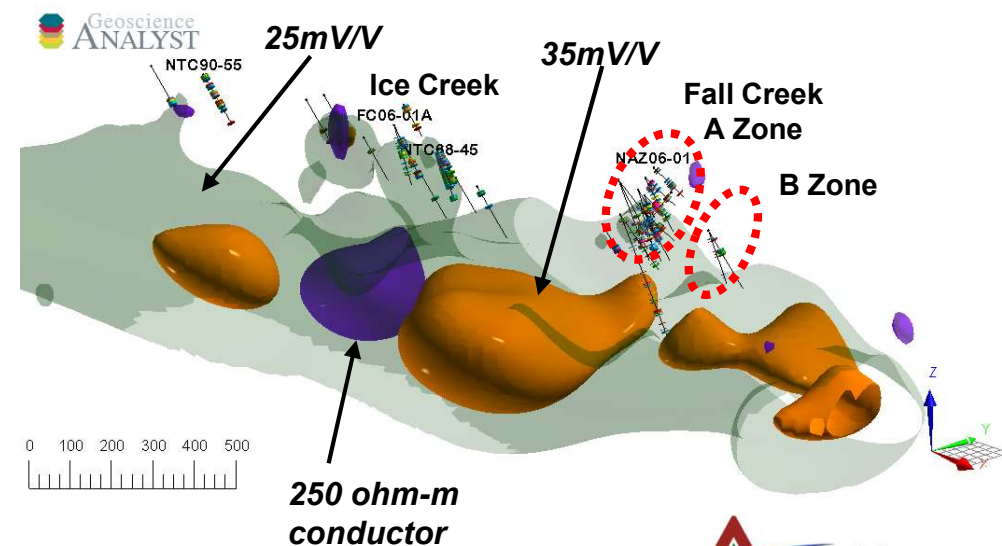
The anomaly is over 2 km long and up to 1.5 km wide and open to the north. The 35 mV/V anomalies flank a strong conductor (resistivities <250 ohm-m).

TerraSpec (alteration) data shows high white mica crystallinities marking Ice Creek in particular as a high temperature hydrothermal center.

Almost all of the historical drilling has been too shallow to test this large anomaly.

Historical intercepts (not true widths) include:

- **3.47 g/t Au 0.73% Cu / 31.85m (88-22, A Zone)**
- **1.78 g/t Au 0.55% Cu / 20.95m (88-47, Ice Creek)**
- **0.60 g/t Au 0.25% Cu / 15.48m (NEZ07-01, B Zone)**



Looking down to NW  
Chargeability and resistivity isosurfaces



# Fall Creek: Epithermal Au-Cu Veins and a Buried Porphyry?

E

**Fall Creek B Zone** **Fall Creek A Zone**

NTC88-022

NAZ07-01A

NEZ07-01

NTC90-51-53

Untested  
chargeability  
high

Breccia dyke

Chargeability

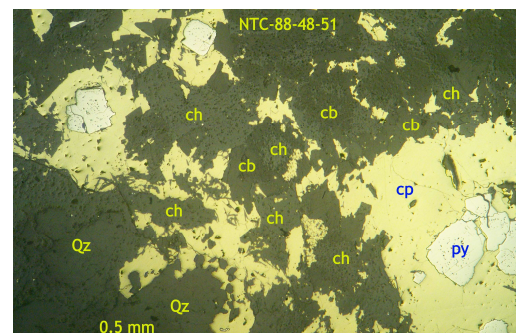
ToddCreek\_Fine\_Chg

View looking south at Fall Creek A and B Zones and location of breccia dyke

W

Historical drilling in the Fall Creek Zone tested shallow high grade epithermal Cu-Au lodes similar to South Zone

Prospecting in 2023 between the Fall Creek A and B Zones discovered a well mineralized polymictic breccia dyke with clasts that may have been derived from a buried porphyry.



NTC88-48 (51m) Breccia with quartz vein clasts in chalcopyrite-pyrite-chlorite-carbonate matrix

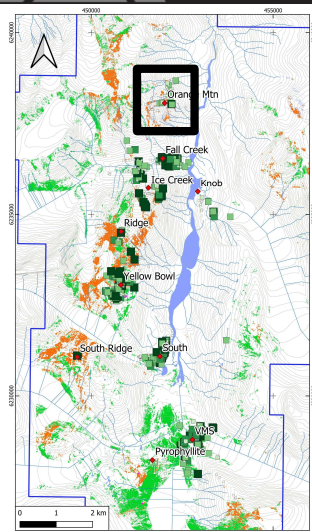
Breccia dyke between Fall Creek A and B zones. Contains quartz, felsic volcanic, shallow intrusive and altered porphyry volcanic clasts. L615143 **1.15 Au 0.76% Cu, 80 ppm Mo**



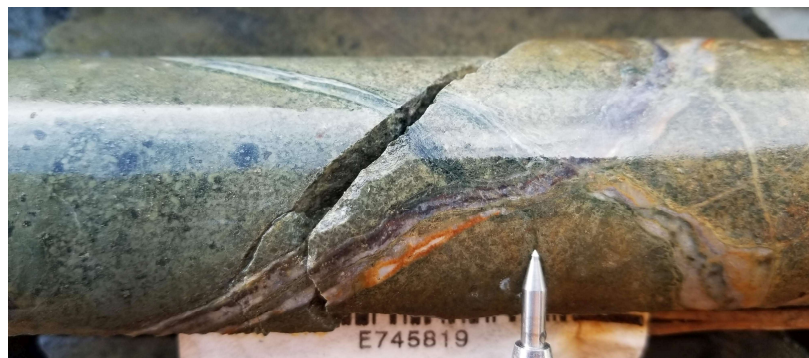
Fall Creek quartz-hematite-chalcopyrite breccia



# Orange Mountain: Porphyry-Style Veins?



*Banded qtz-mt/ht-cb-chl+/-cp veins*



*Sulfide stockwork, QSP alteration 0.14% Cu 0.23% Zn*



*Sulfide veins with sericite haloes*

*Drill hole photos of NQ core, diameter 47.6 mm*



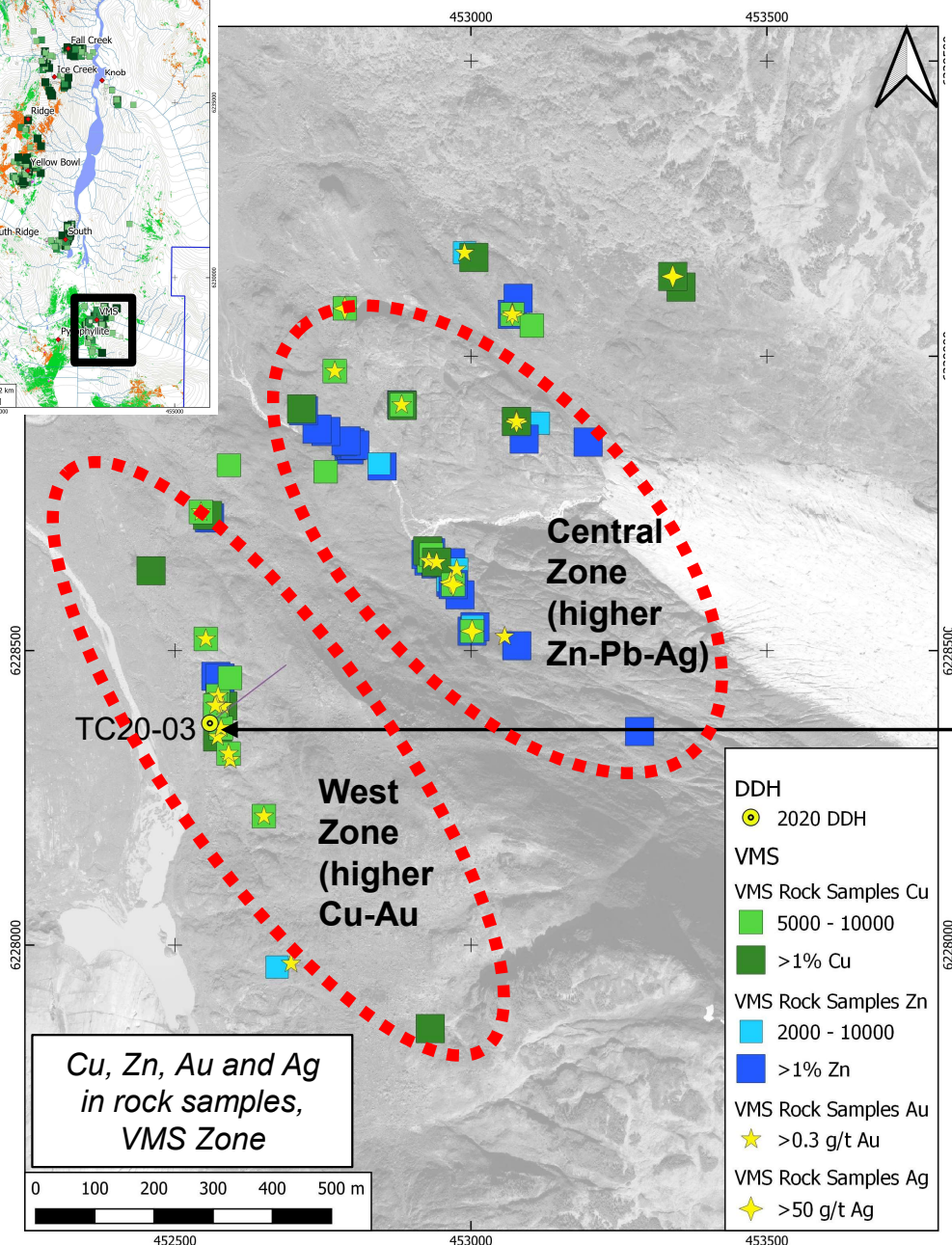
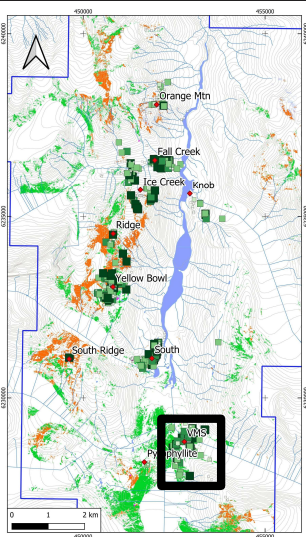
**Orange Mountain** is the northernmost gossanous zone in the Todd Creek corridor which has been tested by drilling (just two holes from one setup)

**AM07-01 and 01A** intersected variably altered and mineralized volcanics with up to 0.59 g/t Au, 30.3 g/t Ag, 0.47% Cu, 92 ppm Mo, 593 ppm Pb, 3410 ppm Zn, 1060 ppm As and 82 ppm Sb over assay intervals of 1-1.5m

Intervals with banded quartz-magnetite/hematite-chalcopyrite veins, and sulfide stockworks with QSP alteration resemble typical porphyry vein styles.



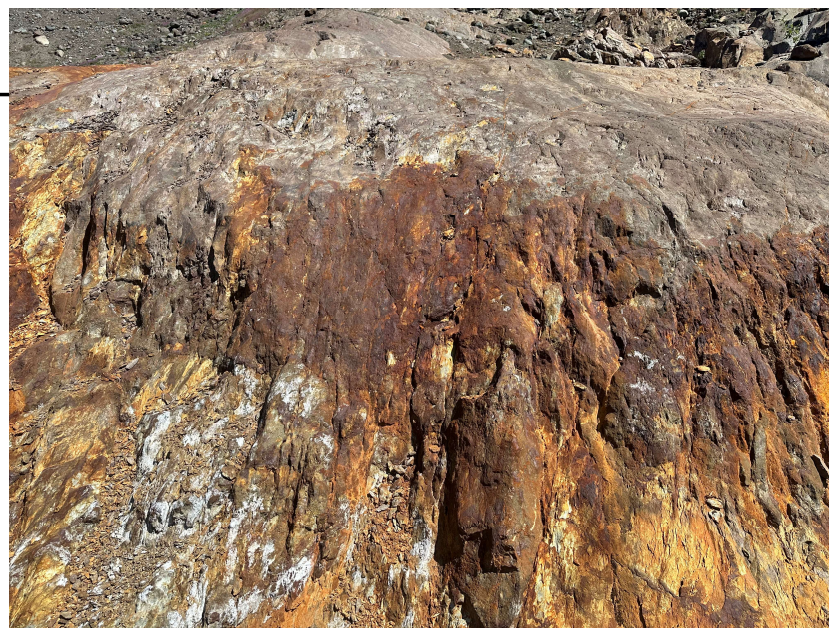
# VMS Zone: An Unexplored Cu-Zn-Pb-Au-Ag VMS System



Volcanogenic Massive Sulfide (VMS) mineralization was discovered in 2008 at the toe of a receding glacier 2.5 km SE of the South Zone.

Additional massive sulfide exposures discovered in 2019 extended the zone further to the west; to date mineralization including sulfide veins and replacements as well as bedded massive sulfide boulders has been documented over a 1 x 1.2 km area.

Mineralization sampled to date includes 100 samples from the Central Zone averaging **0.07 g/t Au, 10.2 g/t Ag, 0.21% Cu, 1.41% Zn and 0.15% Pb**; and 38 samples from the West Zone averaging **0.23 g/t Au, 5.4 g/t Ag, 0.47% Cu, 0.53% Zn and 0.11% Pb**. This significant metal zonation could be useful in future targeting. The Central Zone has yet to be drill tested.







# VMS Zone Mineralization



Sample 427004: **3.73% Cu, 6.46% Zn, 0.447 g/t Au, 58.2 g/t Ag**



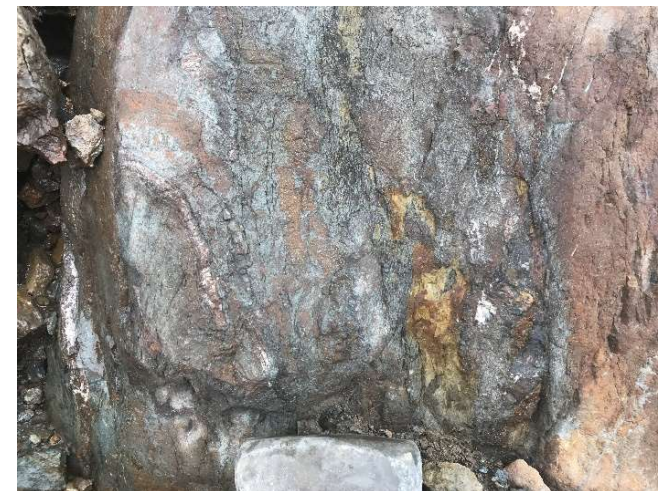
Sample 850915: **0.824% Cu, 0.513 g/t Au**



Laminated sulfide boulders



Sample 851083: **1.98% Cu, 3.14% Zn, 0.38 g/t Au, 36.6 g/t Ag**



Sample 850920: **0.564% Cu, 2.05 g/t Au, 5.1 g/t Ag**

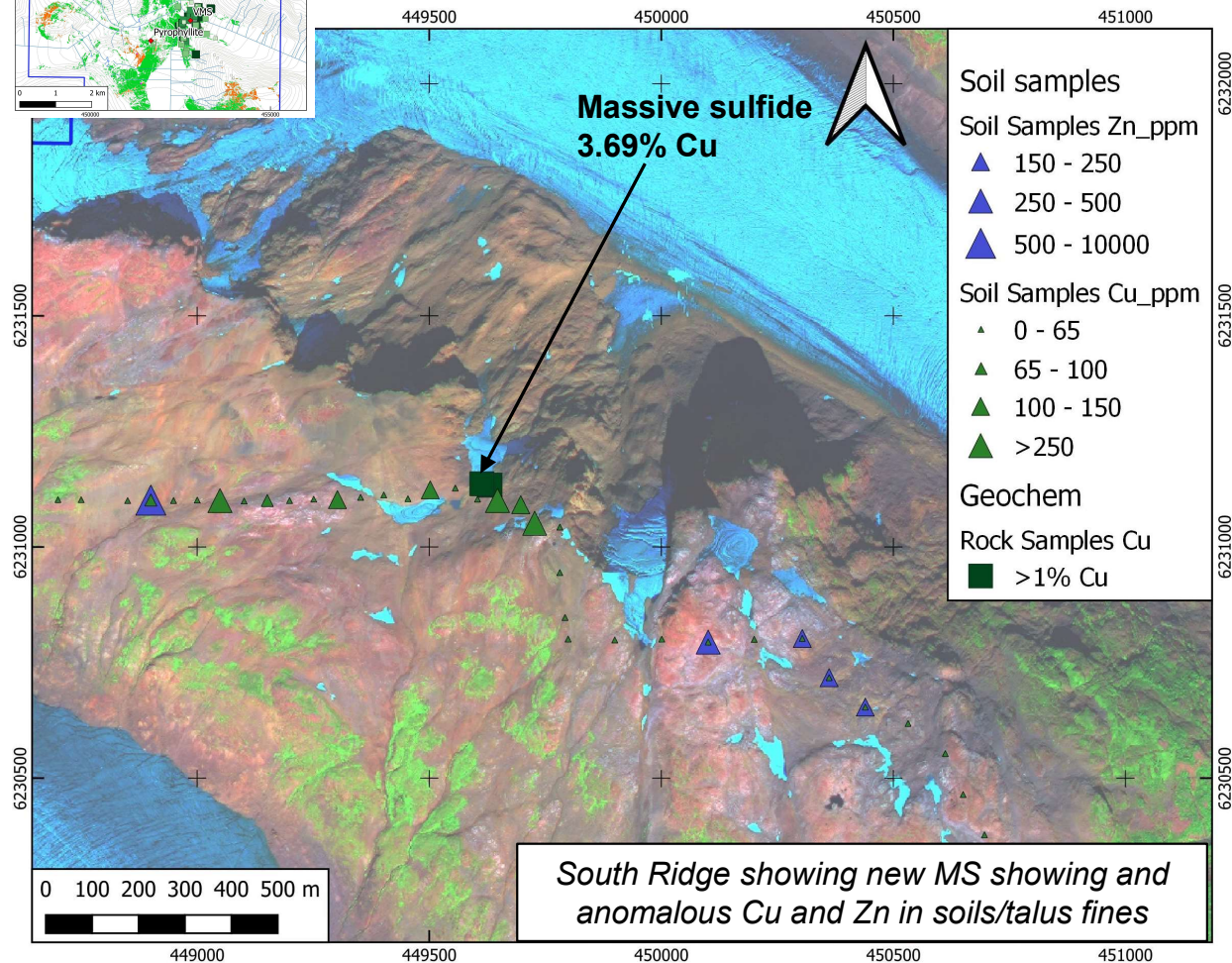
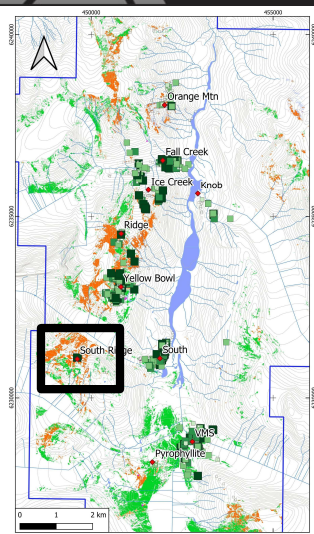


# South Ridge Zone – New Massive Sulfide Target

The South Ridge Zone is a newly discovered (in 2023) massive sulfide target area, with outcropping massive sulfides in a highly prospective sedimentary and volcanic unit with widespread QSP alteration

A single line of soils along the ridge returned anomalous Cu (to 287 ppm), Zn (to 834 ppm), Au (to 42 ppb), As (to 324 ppm) and Sb (to 20 ppm) over 1.5 km

The new zone is virtually unexplored and completely untested.



*Well bedded siliceous mudstones with pyrite laminae*



*Massive sulfide lens in siliceous sedimentary rock*





# Todd Creek: One of the Largest Underexplored Copper-Gold Systems in British Columbia's Golden Triangle

## Summary

- ✓ ArcWest's 100% owned Todd Creek Cu-Au project is being advanced by Freeport-McMoRan
- ✓ 12x3-5 km corridor of underexplored mineral showings with an extensive alteration footprint
- ✓ New 3D IP survey has delineated untested anomalies associated with known mineralization
- ✓ Underlain by similar geology and large scale structural elements as other major mineral systems in the area
- ✓ Strong copper – gold grades in rocks at surface
- ✓ Widespread evidence for buried porphyry system driving higher level epithermal mineralization at surface
- ✓ 30 km from shipping port (Stewart), 5 km from Brucejack mine road
- ✓ Permitted for drilling, camp and geophysics