

# THOR-MARMOT PROPERTY OVERVIEW

January 2023



**ELECTRUM  
RESOURCE  
CORPORATION**

BY: TRIPPOINT GEOLOGICAL SERVICES (WADE BARNES, ALICIA CARPENTER, MICHAEL BRINTON AND HAYLEY MCINTYRE)



# CAUTIONARY STATEMENT

This presentation contains “forward-looking information” within the meaning of applicable Canadian securities regulations and “forward-looking statements” within the meaning of the United States Private Securities Litigation Reform Act of 1995 (collectively, “forward-looking information”). The forward-looking information contained in this presentation is made as of the date of this presentation. Except as required under applicable securities legislation, Electrum Resource Corporation. (“ERC”) does not intend, and does not assume any obligation, to update this forward-looking information.

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This forward-looking information is based on certain assumptions that ERC believes are reasonable, including that the current price of and demand for minerals being targeted by ERC will be sustained or will improve, the supply of minerals targeted by ERC will remain stable, that ERC’s current exploration programs and objectives can be achieved, that general business and economic conditions will not change in a material adverse manner, that financing will be available if and when needed on reasonable terms and that ERC will not experience any material accident, labour dispute, or failure of plant or equipment.

While ERC considers these assumptions to be reasonable based on information currently available to it, they may prove to be incorrect. Forward-looking information involves known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of ERC to be materially different from any future results, performance or achievements expressed or implied by the forward-looking information. Such factors include, among others, the risk that actual results of exploration activities will be different than anticipated, the cost of labour, equipment or materials increase more than expected, that the future price of minerals targeted by ERC will decline, that changes in project parameters as plans continue to be refined may result in increased costs, that plant, equipment or processes will fail to operate as anticipated, that accidents, labour disputes and other risks generally associated with mining may occur and that unanticipated delays in obtaining governmental approvals or financing or in the completion of development or construction activities may occur. Although ERC has attempted to identify important factors that could cause actual actions, events or results to differ materially from those described in forward-looking information, there may be other factors that cause actions, events or results not to be as anticipated, estimated or intended. There can be no assurance that forward-looking information will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Readers are cautioned not to place undue reliance on forward-looking information due to the inherent uncertainty thereof.

*The scientific and technical information about the Thor Marmot Project (the “Property”) has been mostly been pulled from assessment reports and Wade Barnes, P. Geo., a Qualified Person as defined by National Instrument 43-101 Standards of Disclosure for Mining Projects, has reviewed and approved of the technical disclosure in this presentation. .*



# LOCATION HIGHLIGHTS

20km south of Centerra Gold's Kemess Project:

**KUG MINE** Probable Reserve of **107 Mt at 0.54g/t Au & 0.27% Cu**

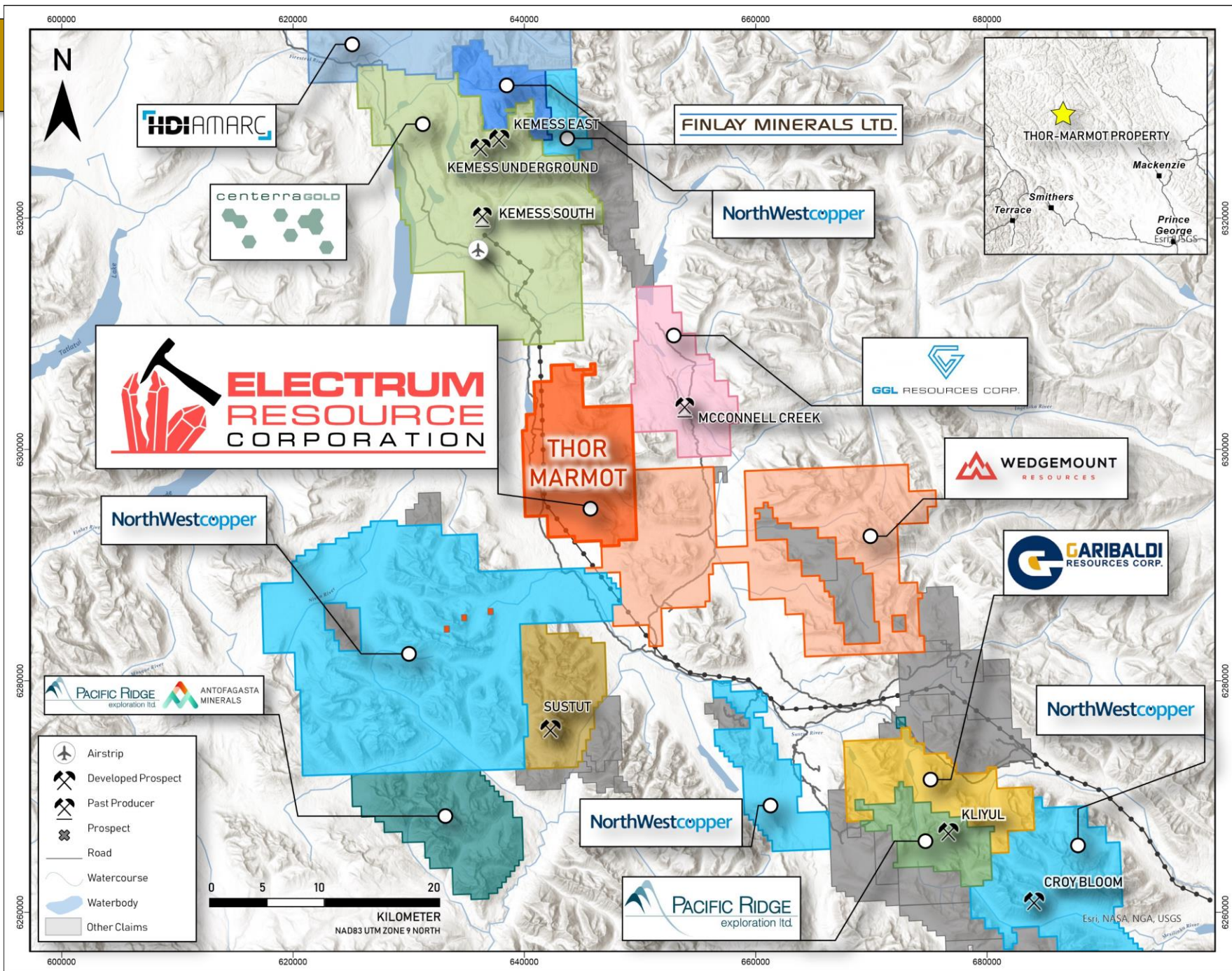
**KEMESS EAST** **177 Mt** in a similar geological environment to Kemess Project, Joy Property and Kliyul Property.

Other major projects within the area include Benchmark's **Lawyers** and Centerra's **Mt. Milligan Mine**.

**All weather access road** through property

**Transmission line** extends from Mackenzie to Kemess through the property.

**Local communities are proactive** to exploration and engagement.





# EXPLORATION HISTORY

## REGIONAL

**EARLY EXPLORATION:** Centered on small placer gold operations, particularly in the Germansen Landing-Manson Creek area with smaller operations at Toodoggone Creek.

1960 – 1970s Regional exploration focussed on **porphyry-type copper & molybdenum** mineralization. Discover of:

Chappelle Creek (**Baker Mine**) precious metal vein.

**Lawyers** (Cheni Mine) amethystine epithermal gold.

**Kemess North** porphyry copper-gold deposits In the 1980s.

1980s Exploration focused around **gold discoveries** (Baker and Lawyers)

1996: Development of **Kemess South deposit** begins 16 kilometers north of the Thor-Marmot property.





# EXPLORATION HISTORY: PROPERTY

Geological Survey of Canada first reports mineralization at **4.4 g/t Au, 5.1% Cu and 123 g/t Ag.**

1940 - 1950

**W.D. Savage** stakes Marmot claims and options to New Wellington Resources

**New Wellington** completes geological mapping, IP surveys, and trenching

**Texada Mines Ltd** options and completes soil sampling, geologic mapping and **238 m of diamond drilling.**

1960

**BP Minerals** stakes claims in central Thor area after regional stream sediment survey

**Westfob Mines** completes **5 diamond drill holes** and airborne magnetic EM survey.

1970

**Falconbridge** carries out paleoplacer gold exploration in Moose Valley.

**BP Resources Canada** conducts silt, soil, and rock sampling along with geological mapping campaign.

**Asamera Minerals** conducts rock and soil sampling campaign.

1980

**MINGOLD** conducts rock and soil sampling extending Cu/Au Marmot prospect to the N and S. **Grab sample of 28.8 g/t Au.**

**San Telmo** options claims from Electrum and drills **6 diamond drill holes.**

**Electrum Resource** conducts soil sampling, geological mapping, IP surveys, airborne EM and magnetics surveys.

1990

**2014:** Copper North Mining Corp. signs an agreement to acquire 100% interest in Thor Property and conducts soil sampling, geological mapping, IP surveys, and airborne surveys.

**2016:** Copper North Mining Corp drills 3 diamond drill holes, **intersecting 157.5 m of 0.11% Cu, 0.037 g/t Au, including 23.85m of 0.28% Cu and 0.087 g/t Au.**

**2020-21:** Electrum Resource carries out regional field programs of soil sampling, mapping, and hyperspectral analysis.

**2022:** Electrum Resource carries out 4 km of IP geophysical surveys.

2000 - PRESENT



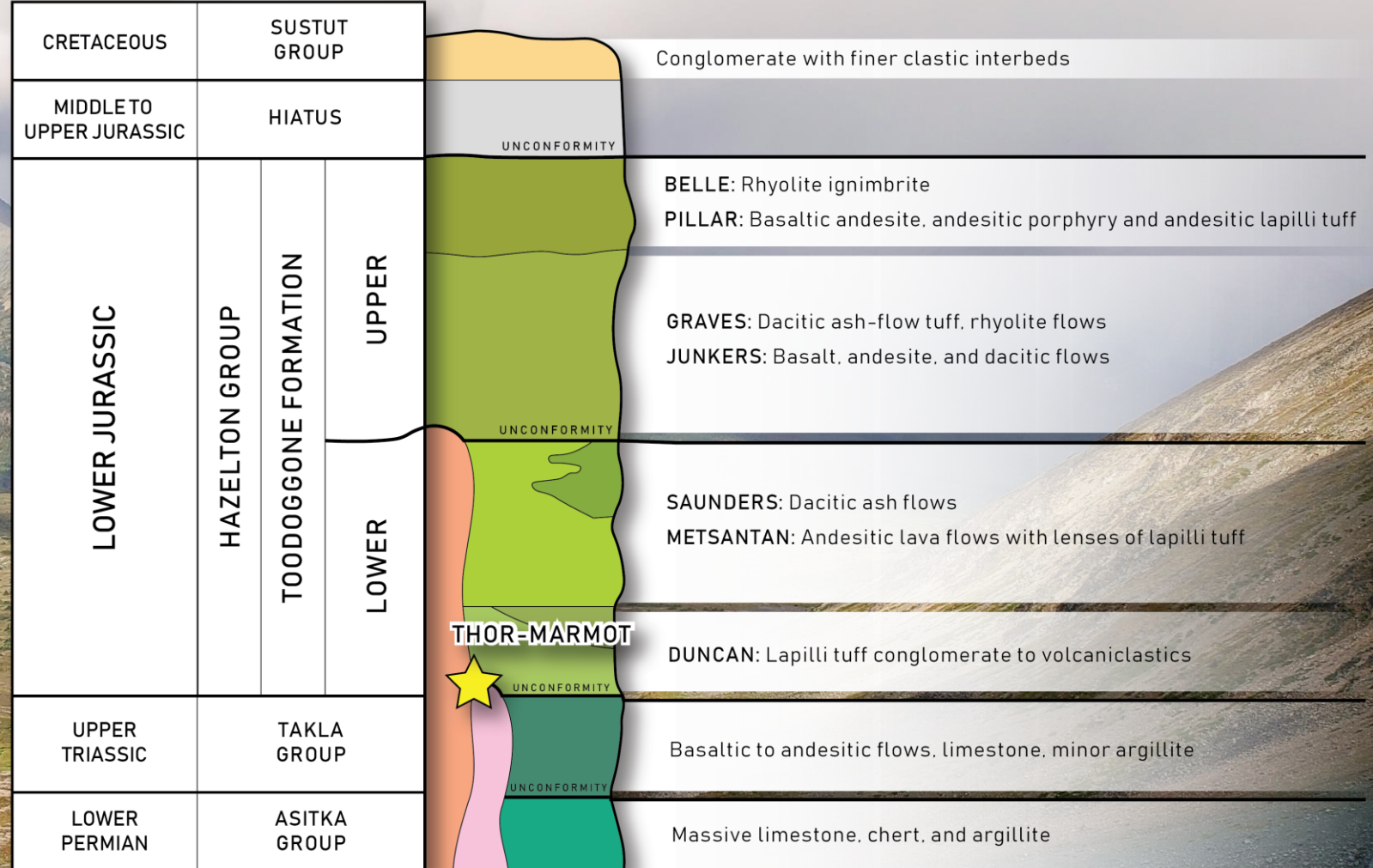
# REGIONAL GEOLOGY

Located in the **Toodoggone District**, a 100 x 30 km belt of **calc-alkalic Cu-Au-Mo porphyry**, **alkalic Cu-Au porphyry** and **epithermal Au-Ag** deposits in north-central British Columbia.

The Toodoggone is located within the **Stikine Terrane**, part of the Intermontane Belt.

The region has been affected by valley glaciers and valley bottoms are scoured and covered in glaciogenic sediments.

Deep oxidation has caused the formation of leached cap and brightly coloured gossans in areas of sulphide mineralization.



AMENDED FROM DIAKOW ET. AL., 1993

EARLY JURASSIC BLACK LAKE INTRUSIVE SUITE: quartz monzonite to diorites



# GEOLOGY

## PROPERTY-SCALE

**STRATIGRAPHY** Volcanic rocks of the **Upper Triassic Takla Group** volcanics underlie eastern portion of Thor-Marmot property.

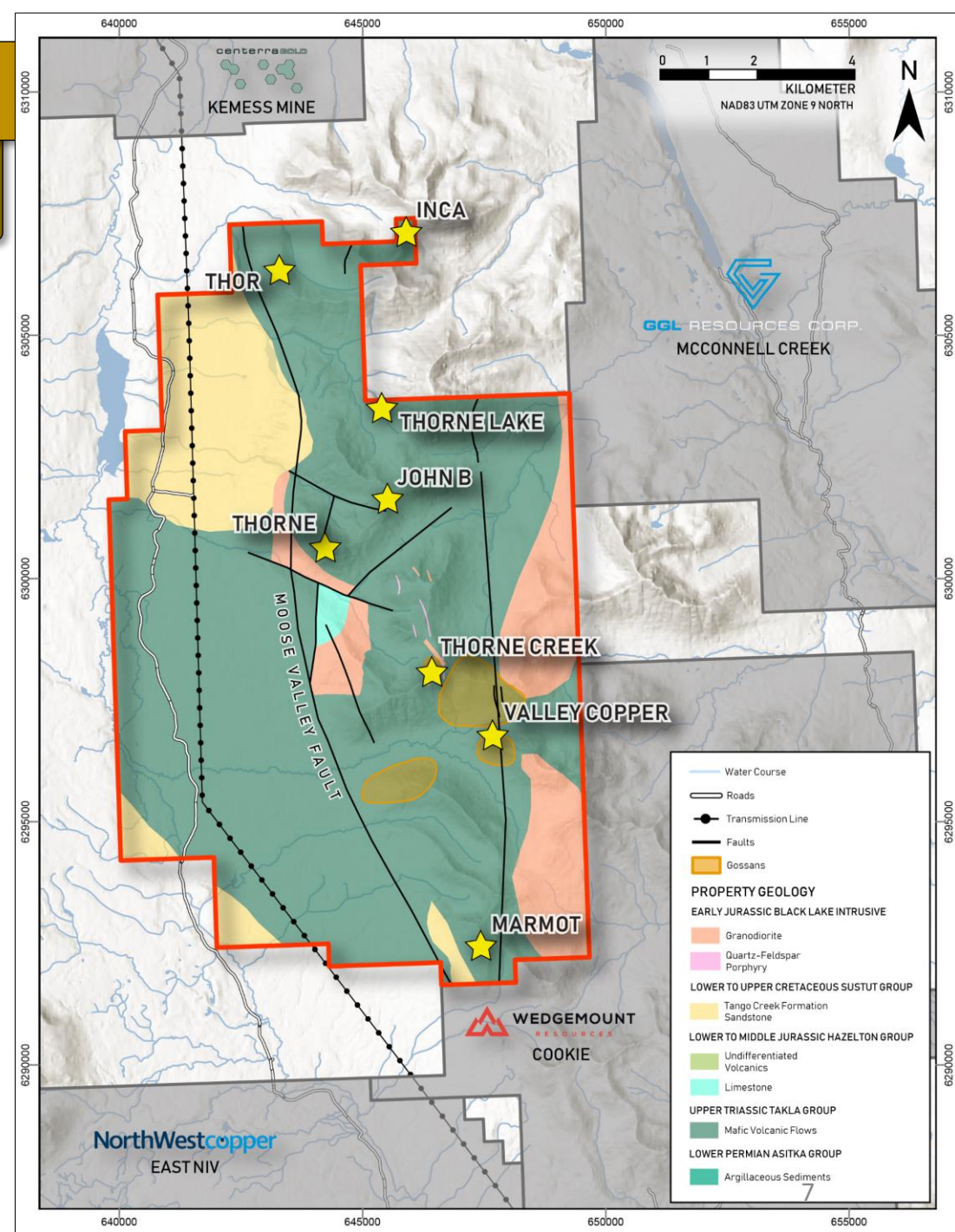
Takla Group Volcanics include coarse grained plagioclase-augite-phyric basalt or andesite flows and minor amounts of intercalated volcanoclastic rocks, probably of the Savage Mountain Formation.

**Lower to Upper Cretaceous Sustut Group** clastic sedimentary rocks underlie the western part of the property, although exposure is poor and contacts are not well defined.

**STRUCTURE** The **Moose Valley Fault** is a significant NNW trending structure that dissects the property.

**INTRUSIVES** **Early Jurassic Black Lake Intrusive Suite** intrude Takla Group volcanics across the property.

Equigranular granodiorite plutons and smaller porphyritic bodies and dykes of quartz-eye porphyry; quartz-plagioclase-biotite porphyry; and plagioclase porphyry.





# SHOWINGS

**THORNE** **Porphyry Cu-Au prospect** with a 1000 m x 1000 m footprint. Cu-Au-Mo soil anomaly correlates with a magnetic high with varying potassic, chloritic and propylitic alteration.

**JOHN B** **Structurally-controlled epithermal gold** system with a 1000 m x 700 m footprint. Au soil anomaly correlates with a NW-trending structure.

**THORNE CREEK** **Porphyry Cu-Au** and **polymetallic vein hosted Ag-Pb-Zn-Au** prospect. Intense epidote-dominant alteration with lesser potassic alteration.

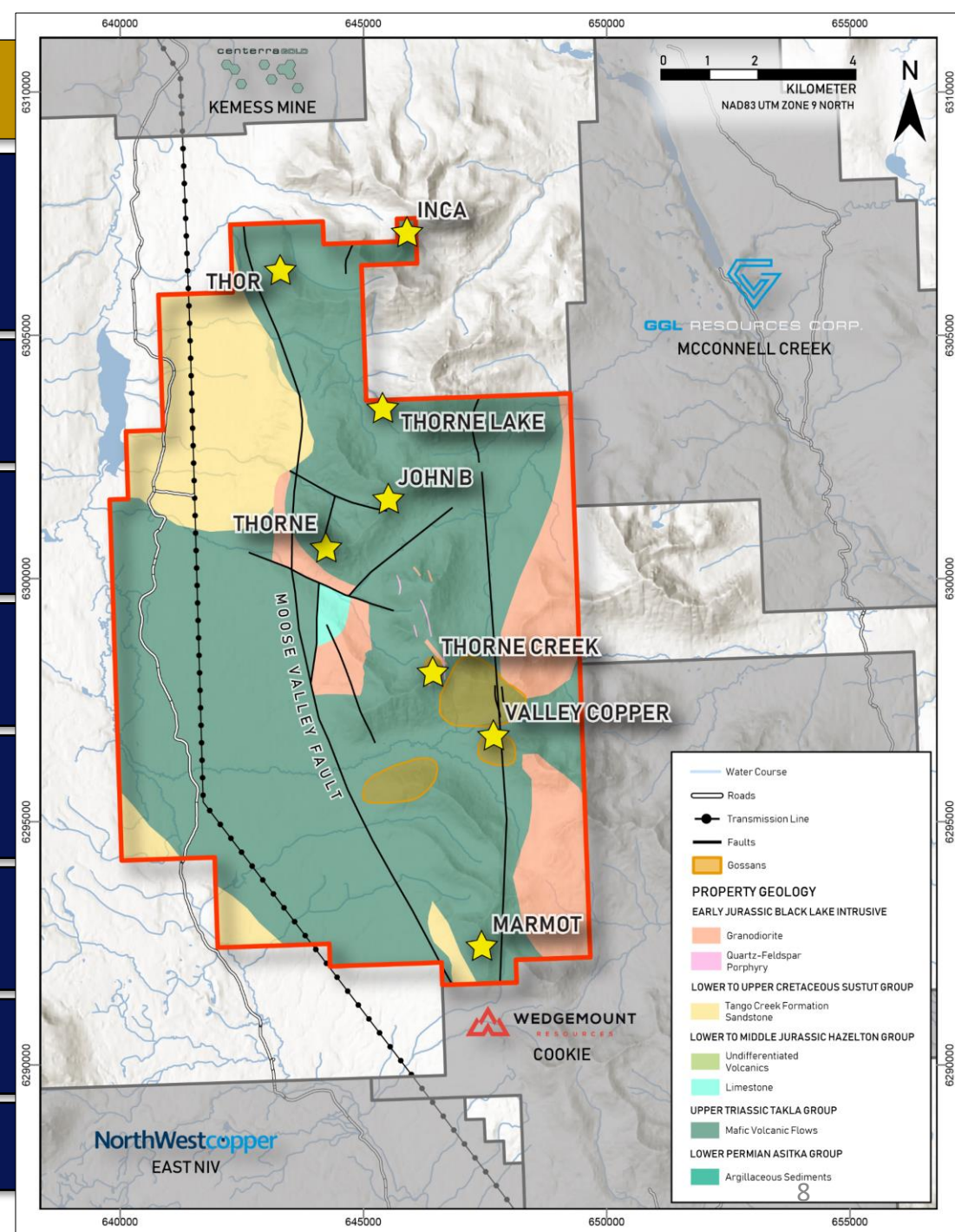
**VALLEY COPPER** **Porphyry Cu-Mo prospect** with a 700 m x 1300 m footprint. Cu-Mo soil anomaly centered on a magnetic low.

**MARMOT** **Shear vein hosted Cu-Pb-Zn** and **porphyry Cu-Au prospect** along the **Moose Valley Fault**.

**THORNE LAKE** **Shear/vein hosted hydrothermal Cu-Pb-Zn-Au** prospect associated with a NW-trending structure.

**THOR** **Porphyry Cu±Mo±Au** fracture- and vein-controlled prospect.

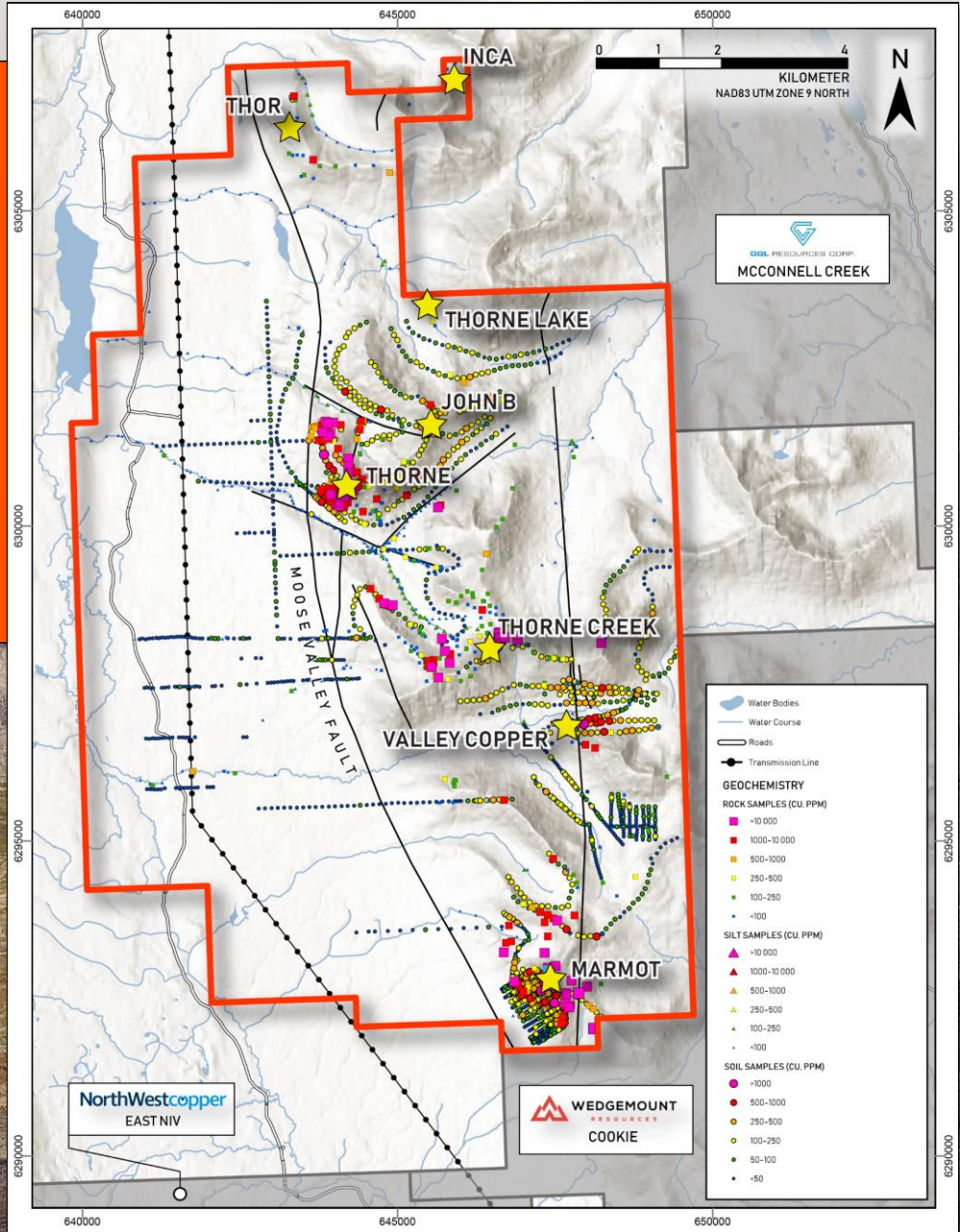
**INCA** **Porphyry Cu±Mo±Au prospect** with malachite and azurite fracture coatings.



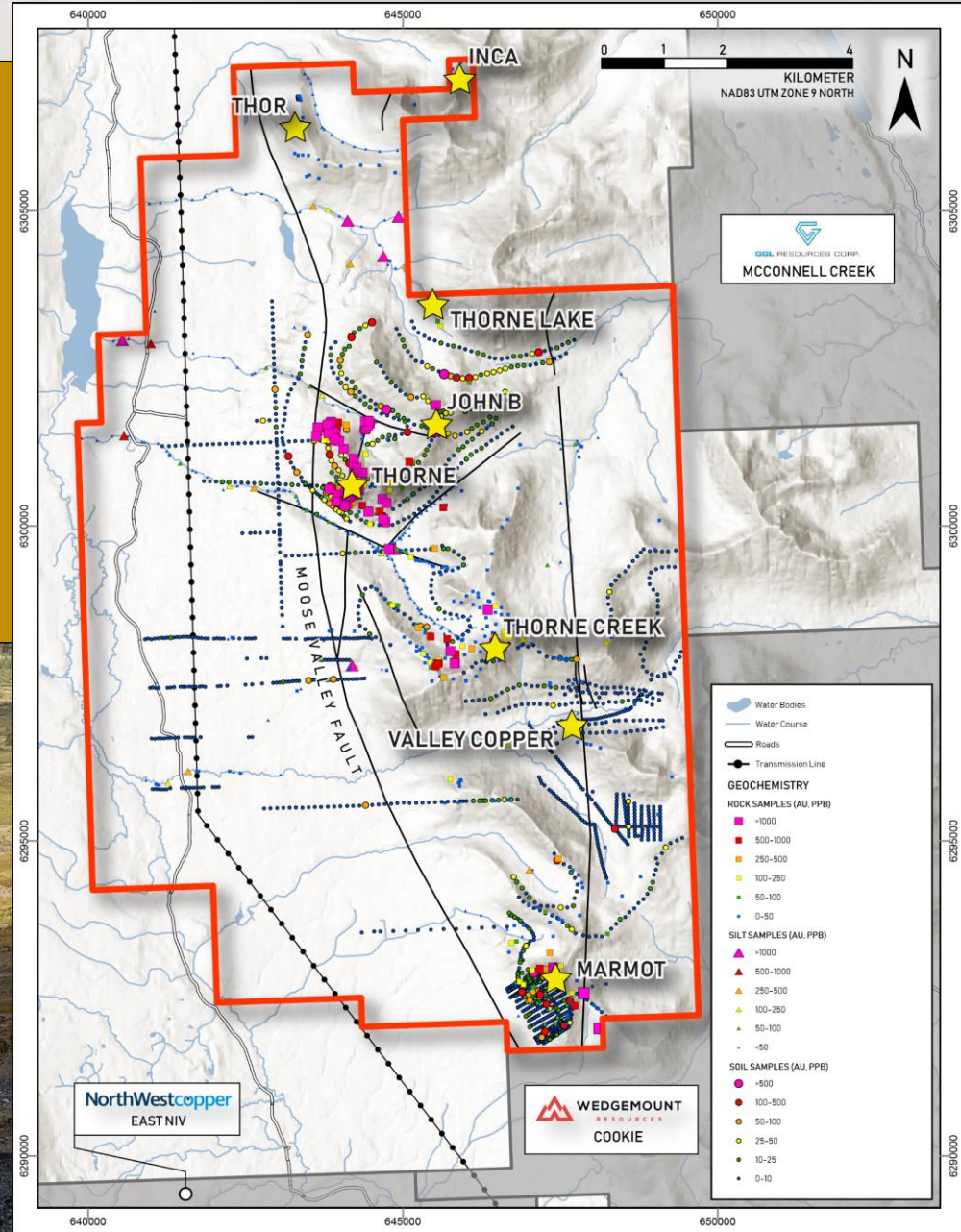


# SURFACE GEOCHEMISTRY

## COPPER



## GOLD

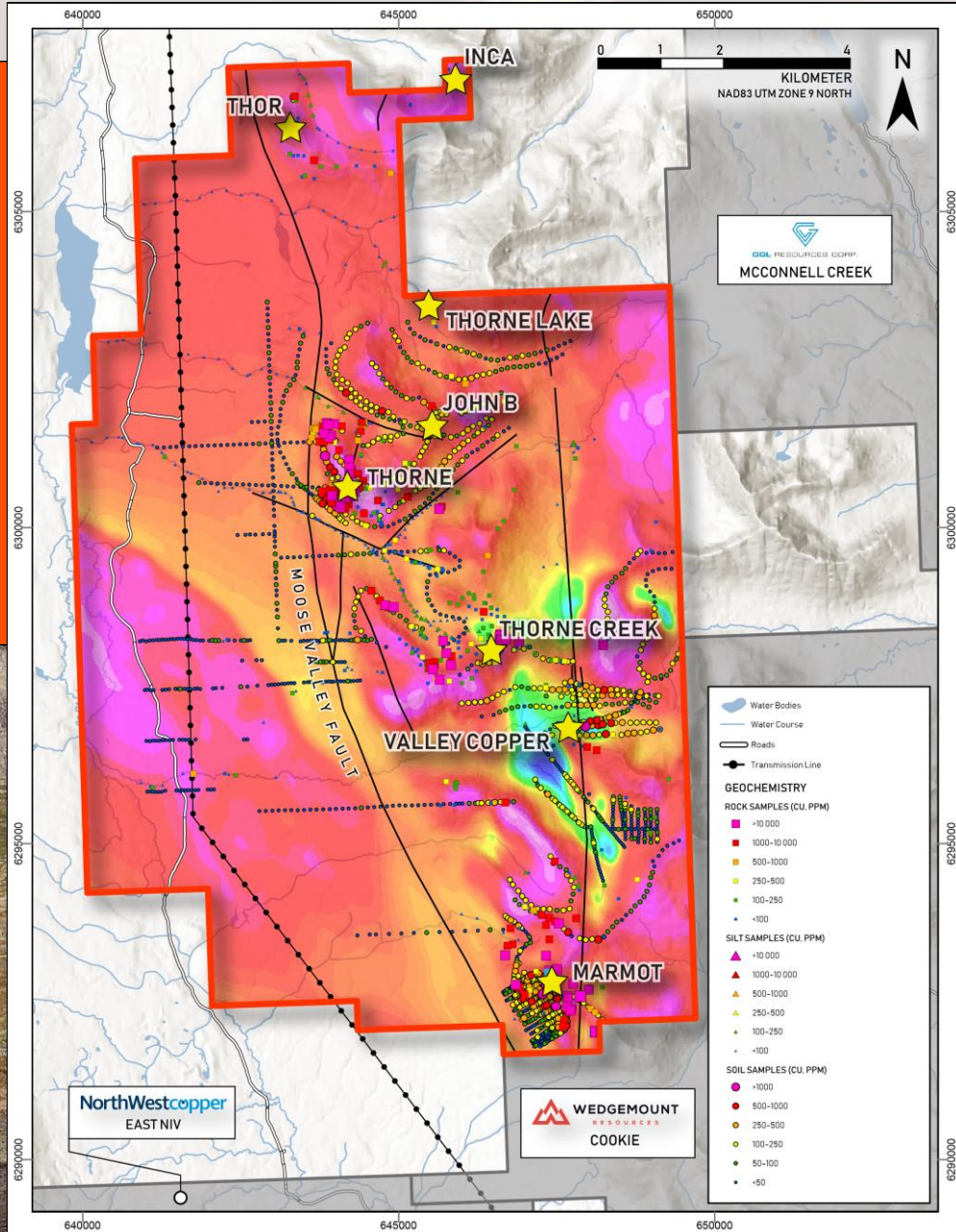




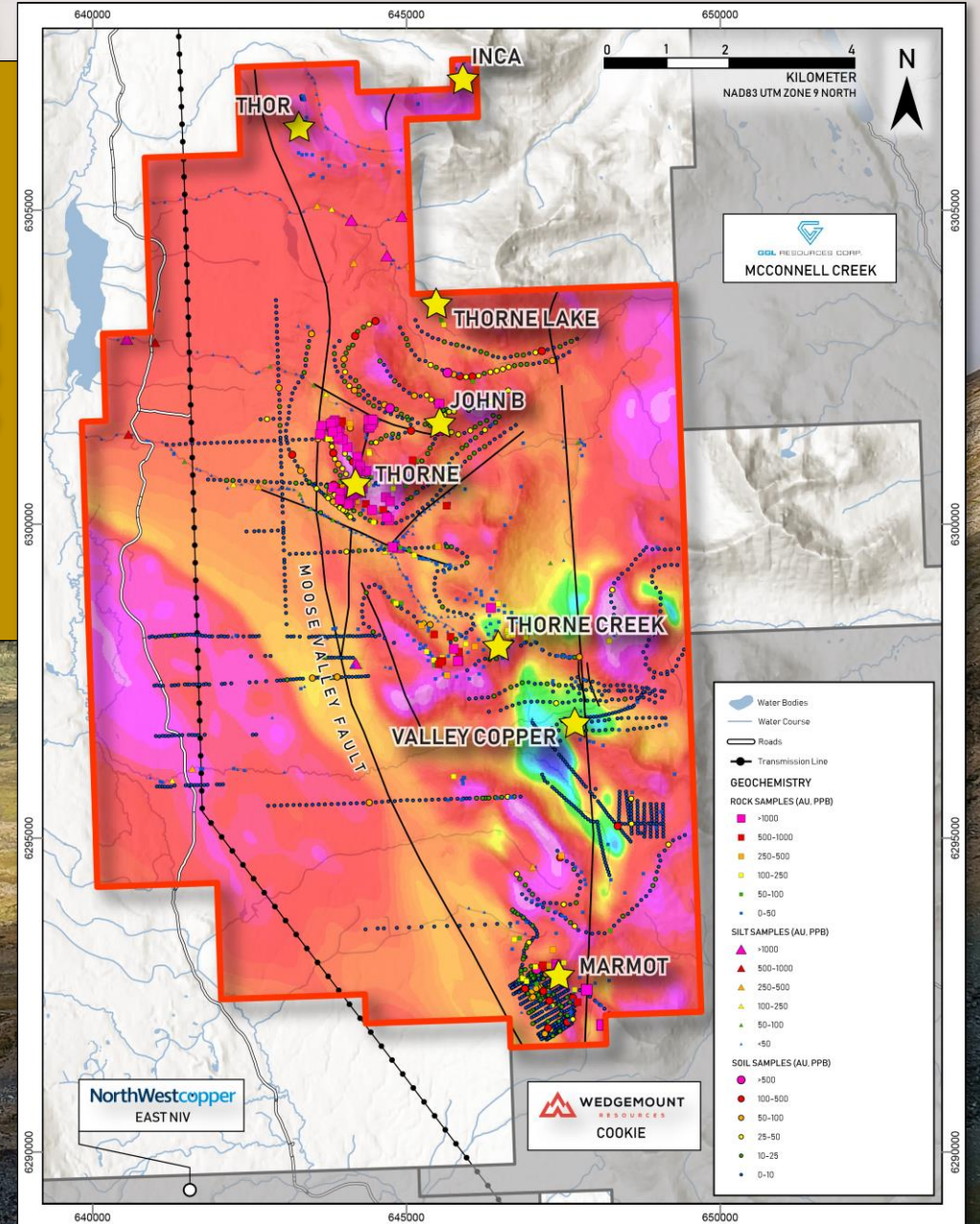
# TOTAL MAGNETIC INDEX

SOURCE: GEOSCIENCE BC AIRBORNE GEOPHYSICS

COPPER



GOLD





# THORNE

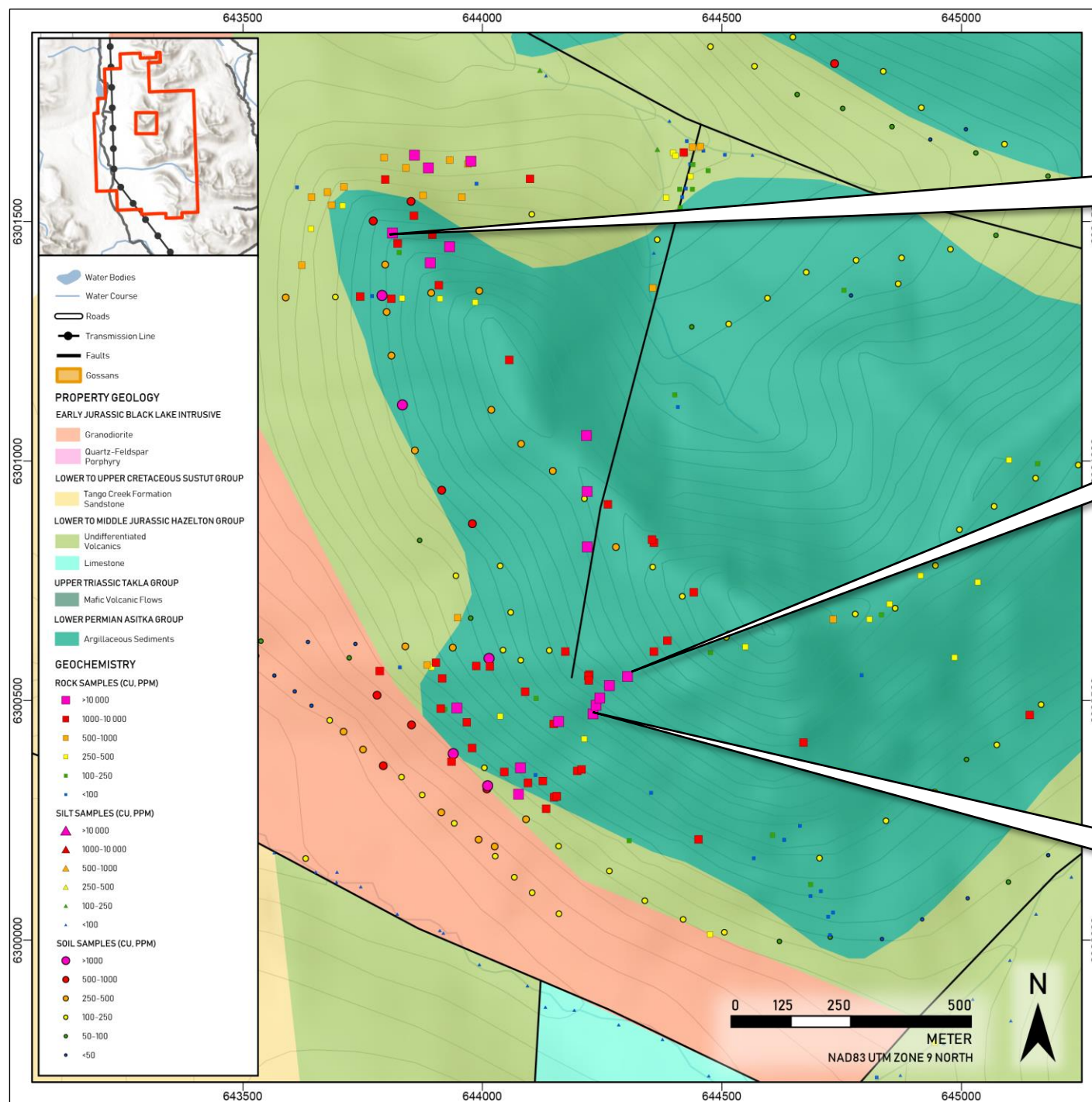
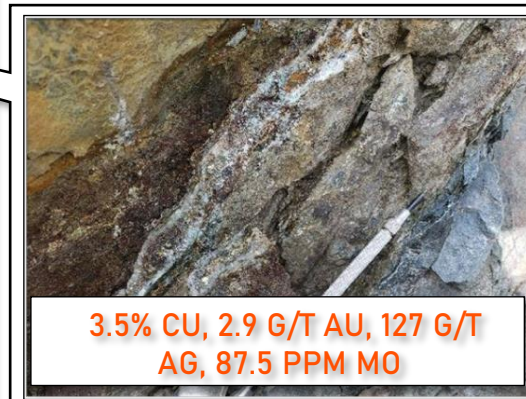
## GEOLOGY

### LITHOLOGY:

**Late Upper Triassic Takla Group** basalts, andesites, feldspar porphyry, basalts/andesites and augite porphyry basalts with localised volcanic breccia textures.

### INTRUDED BY :

monzonites, diorites and granodiorites of the **Early Jurassic Black Lake Intrusive Suite**.





# THORNE

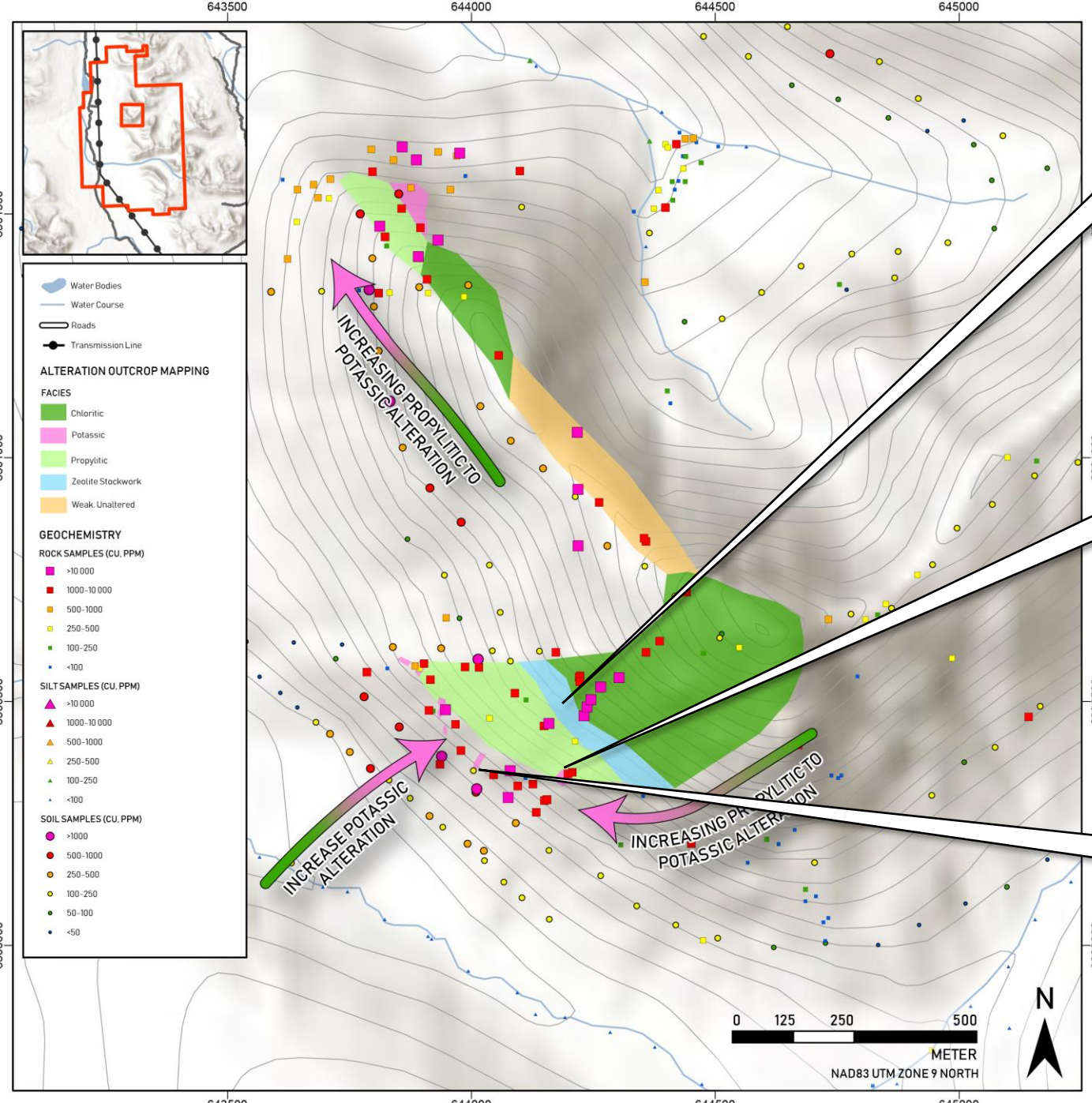
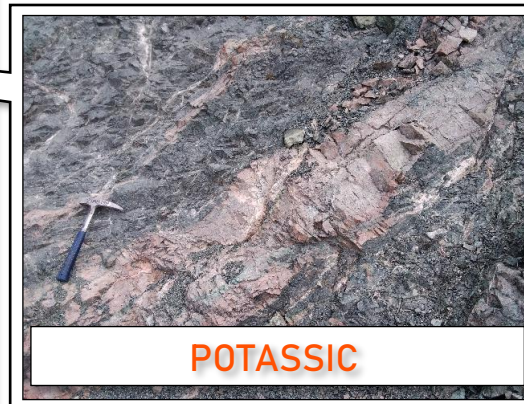
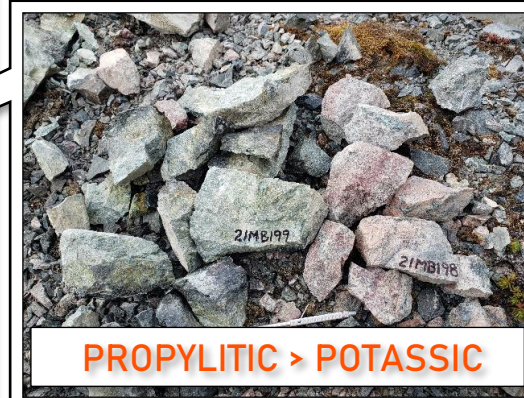
## ALTERATION

Typical alkalic porphyry alteration pattern:

**Chlorite-dominant** alteration in **volcanics**, transition to strong **propylitic** alteration with **patchy potassic** alteration at depth.

**Potassic** alteration is locally strong within **Black Lake Suite** dikes and quartz mineralized veins.

**Copper** surface geochemistry values **increases towards potassic** alteration





# THORNE

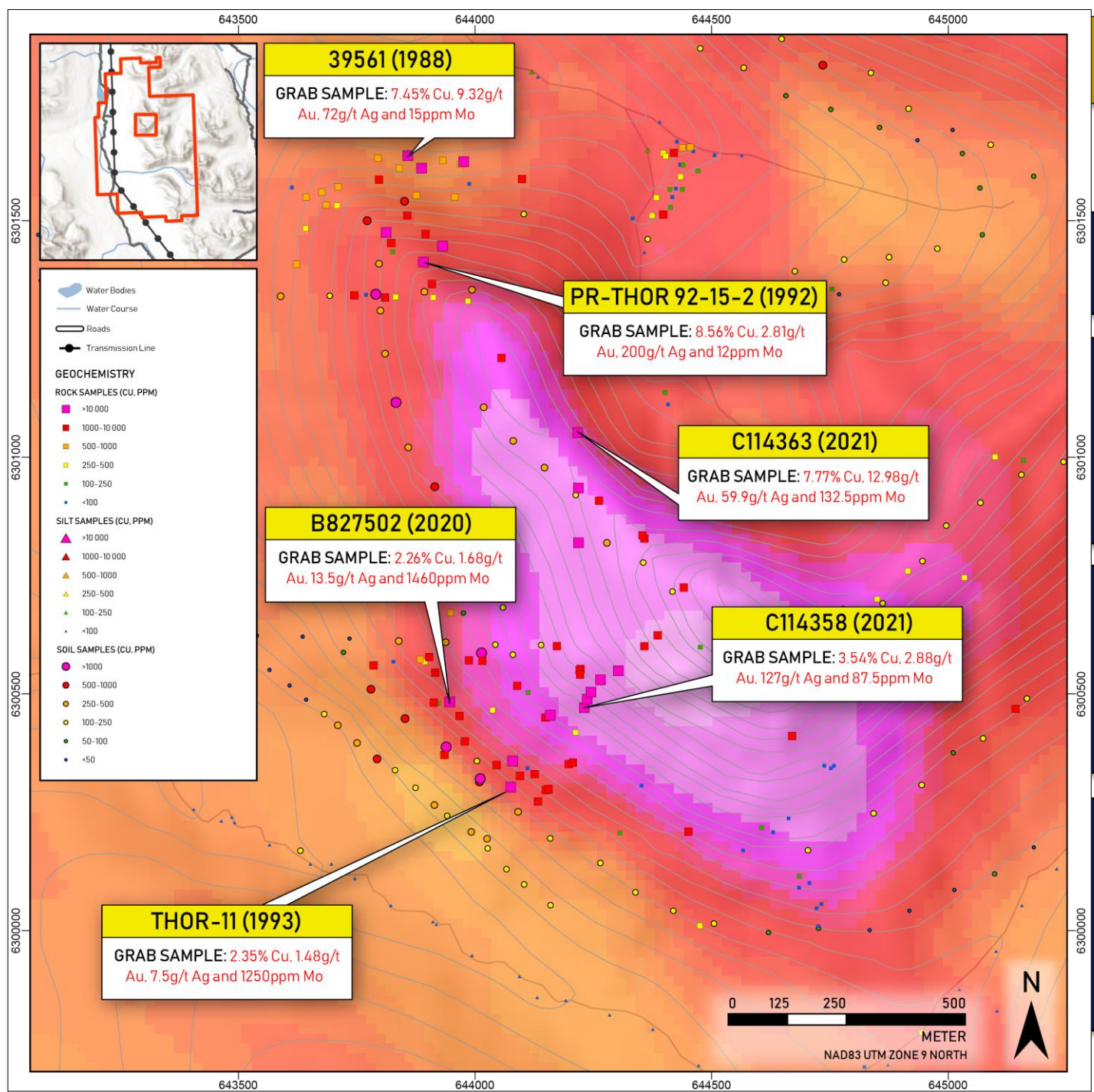
## TOTAL MAGNETIC INDEX

SOURCE 2018 BC Geophysics Survey Total Magnetic Index (TMI).

TMI VS. SOIL GEOCHEMISTRY: **Magnetic high** centered around a **large Cu-Au-Mo soil geochemical anomaly** around the entire prospect

TMI VS. MAGNETIC SUSCPETIBILITY: A 3D magnetic susceptibility displays a **large magnetic plug-like feature** below the airborne magnetic high

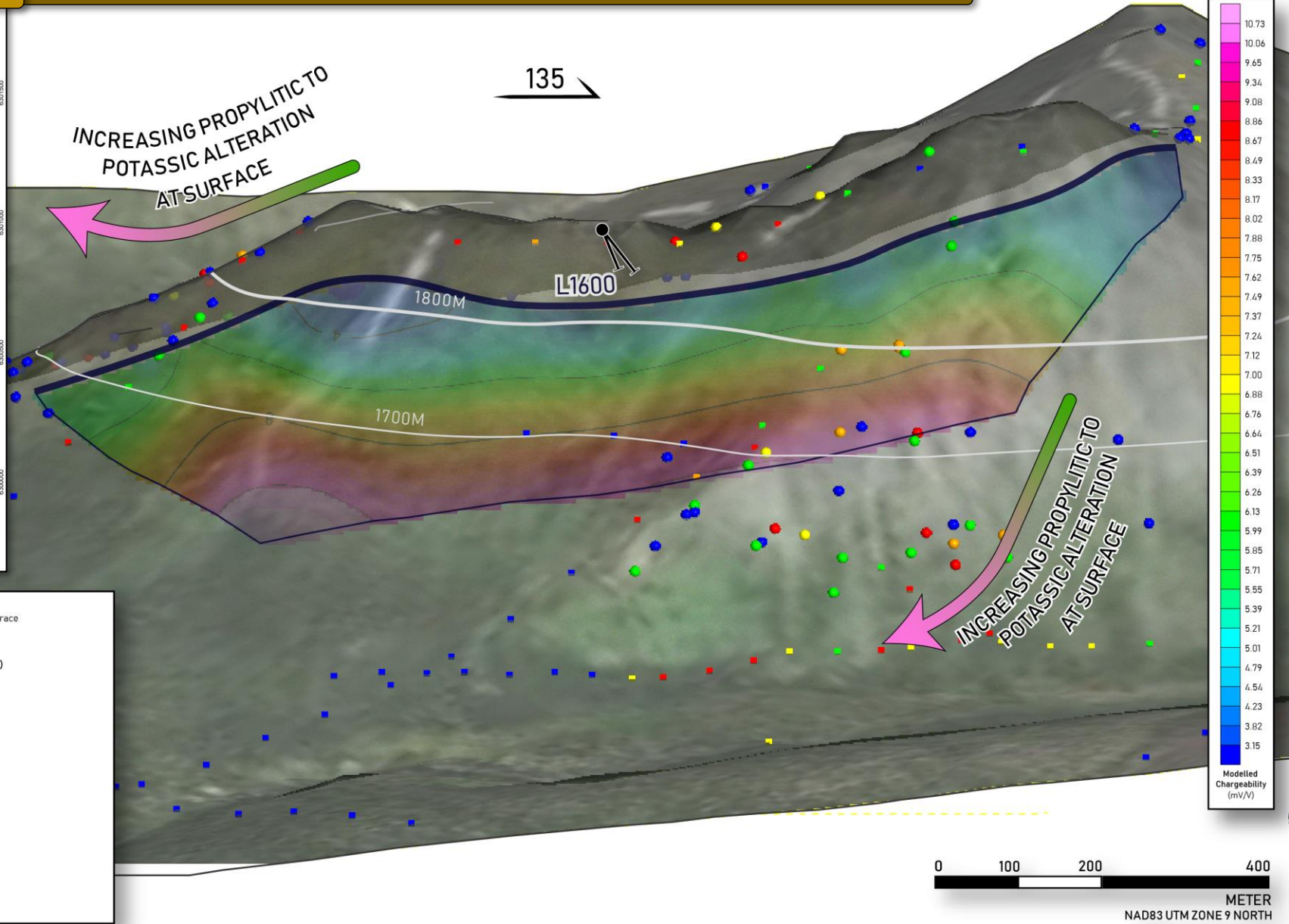
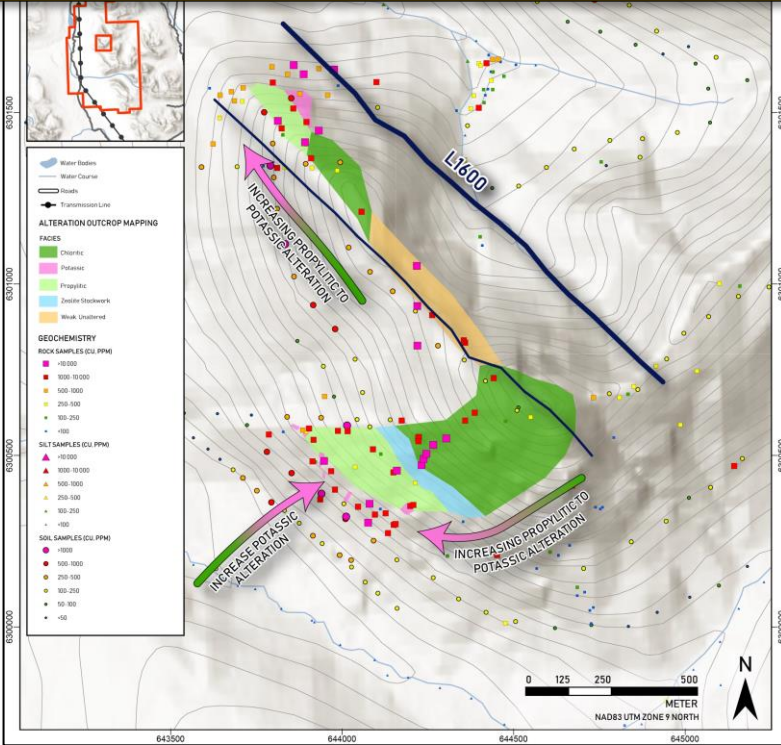
TMI VS. MINERALIZATION STYLE: Mineralization associated with the magnetic high is hosted in massive sulphide to quartz veins as **massive chalcopyrite-bornite-pyrite-magnetite**





# THORNE

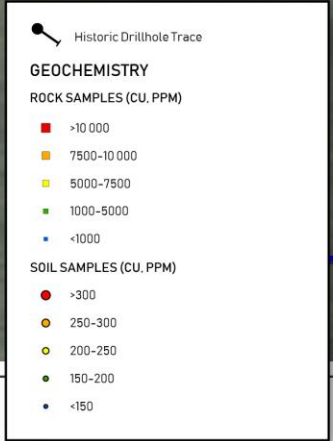
## 2022 IP(CHARGEABILITY): L1600



4 km of IP completed in 2022 at Thorne showing.

Chargeability highs at depth correlate with elevation of outcropping potassic alteration and high surface Cu values along ridge to south.

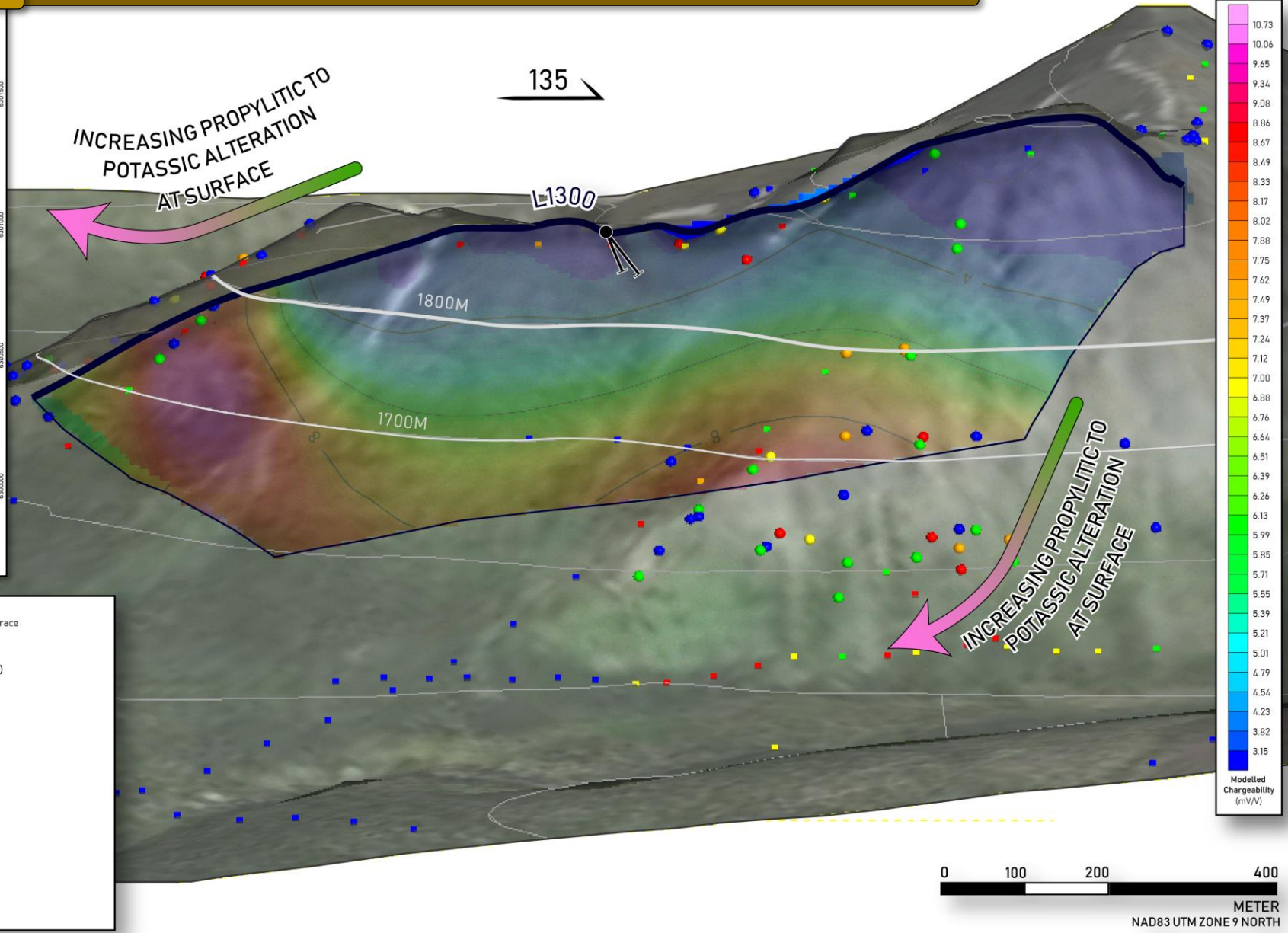
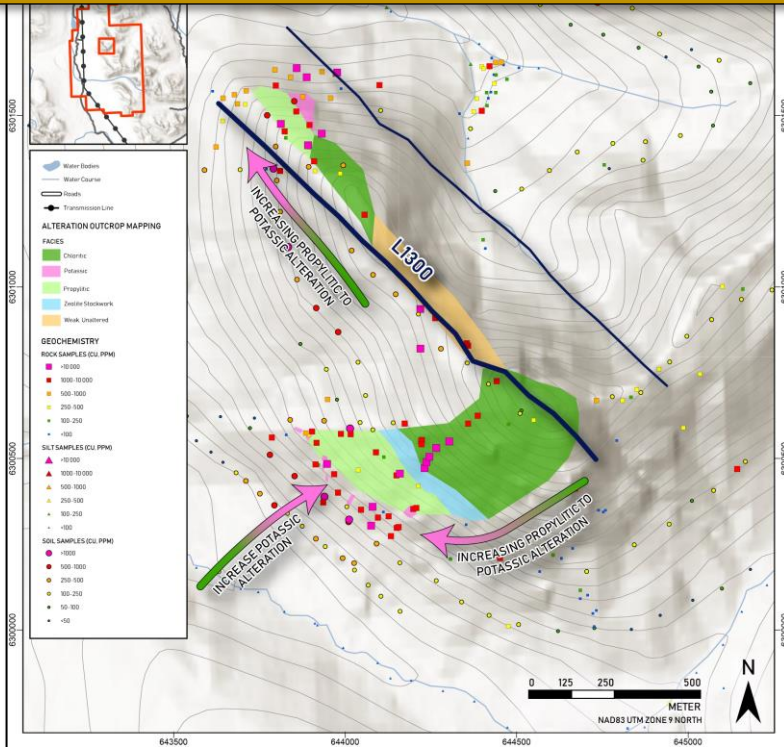
Increasing chargeability at depth could correlate with a potassic altered zone





# THORNE

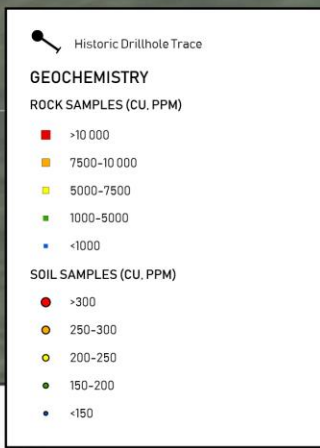
## 2022 IP(CHARGEABILITY): L1300



4 km of IP completed in 2022 at Thorne showing.

Chargeability highs at depth correlate with elevation of outcropping potassic alteration and high surface Cu values along ridge to south.

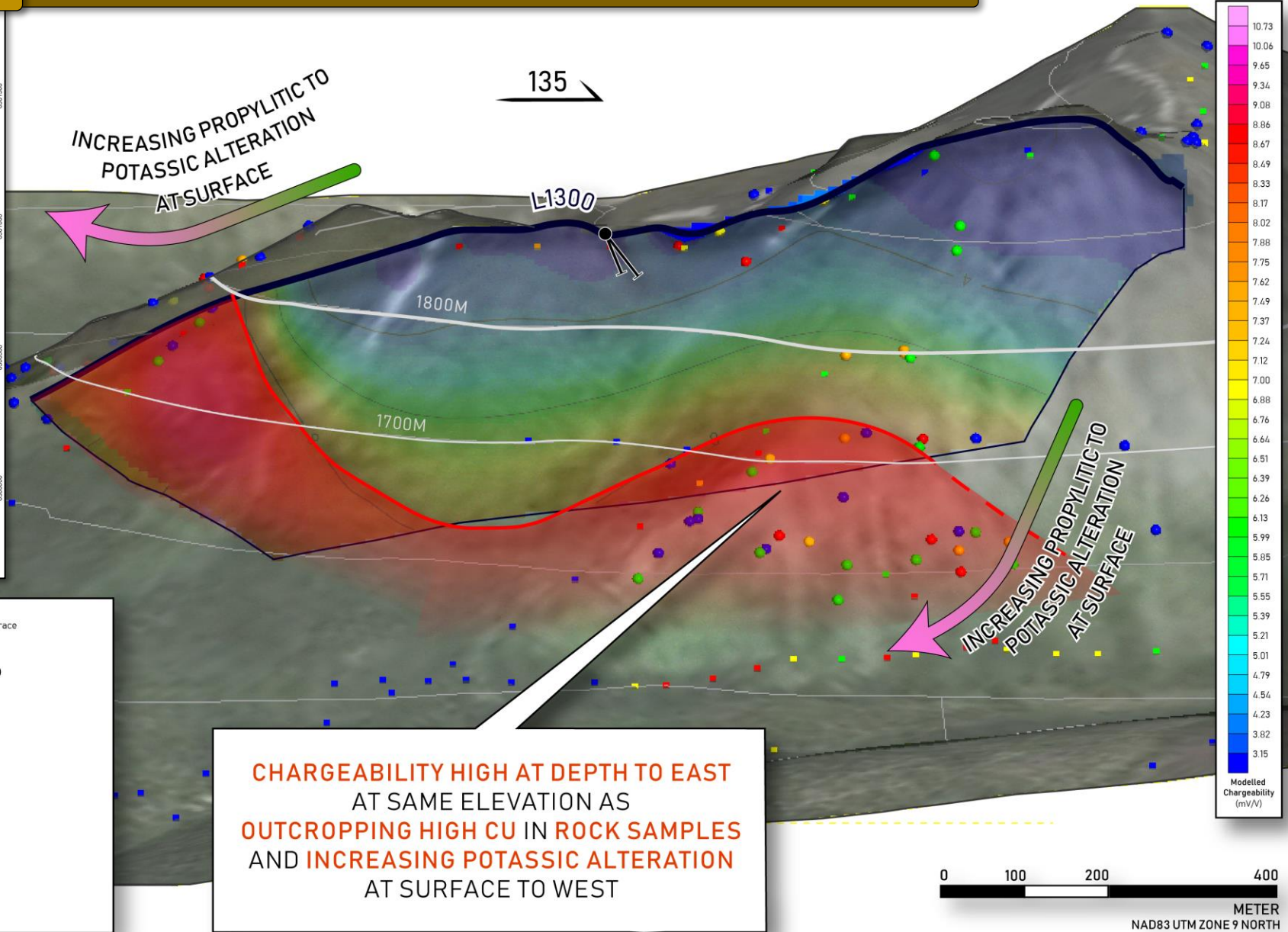
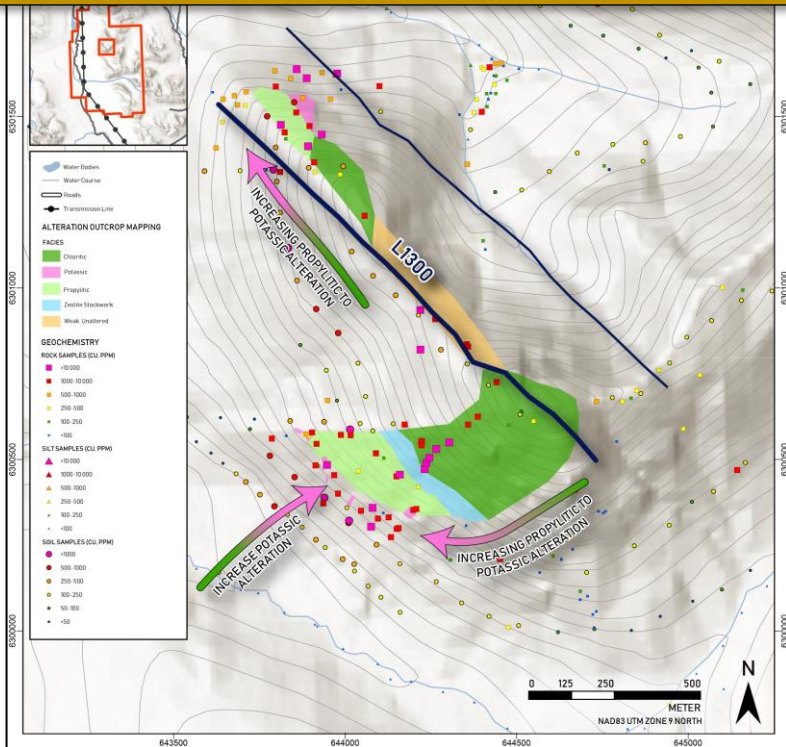
Increasing chargeability at depth could correlate with a potassic altered zone





# THORNE

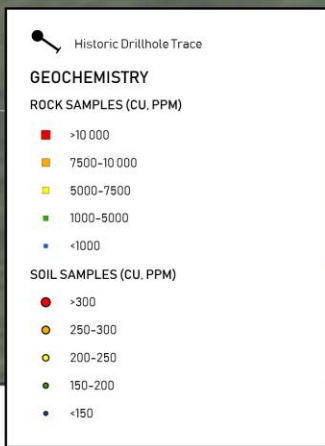
## 2022 IP(CHARGEABILITY): L1300



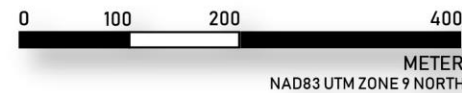
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Chargeability highs at depth correlate with elevation of outcropping potassic alteration and high surface Cu values along ridge to south.

Increasing chargeability at depth could correlate with a potassic altered zone



**CHARGEABILITY HIGH AT DEPTH TO EAST AT SAME ELEVATION AS OUTCROPPING HIGH CU IN ROCK SAMPLES AND INCREASING POTASSIC ALTERATION AT SURFACE TO WEST**





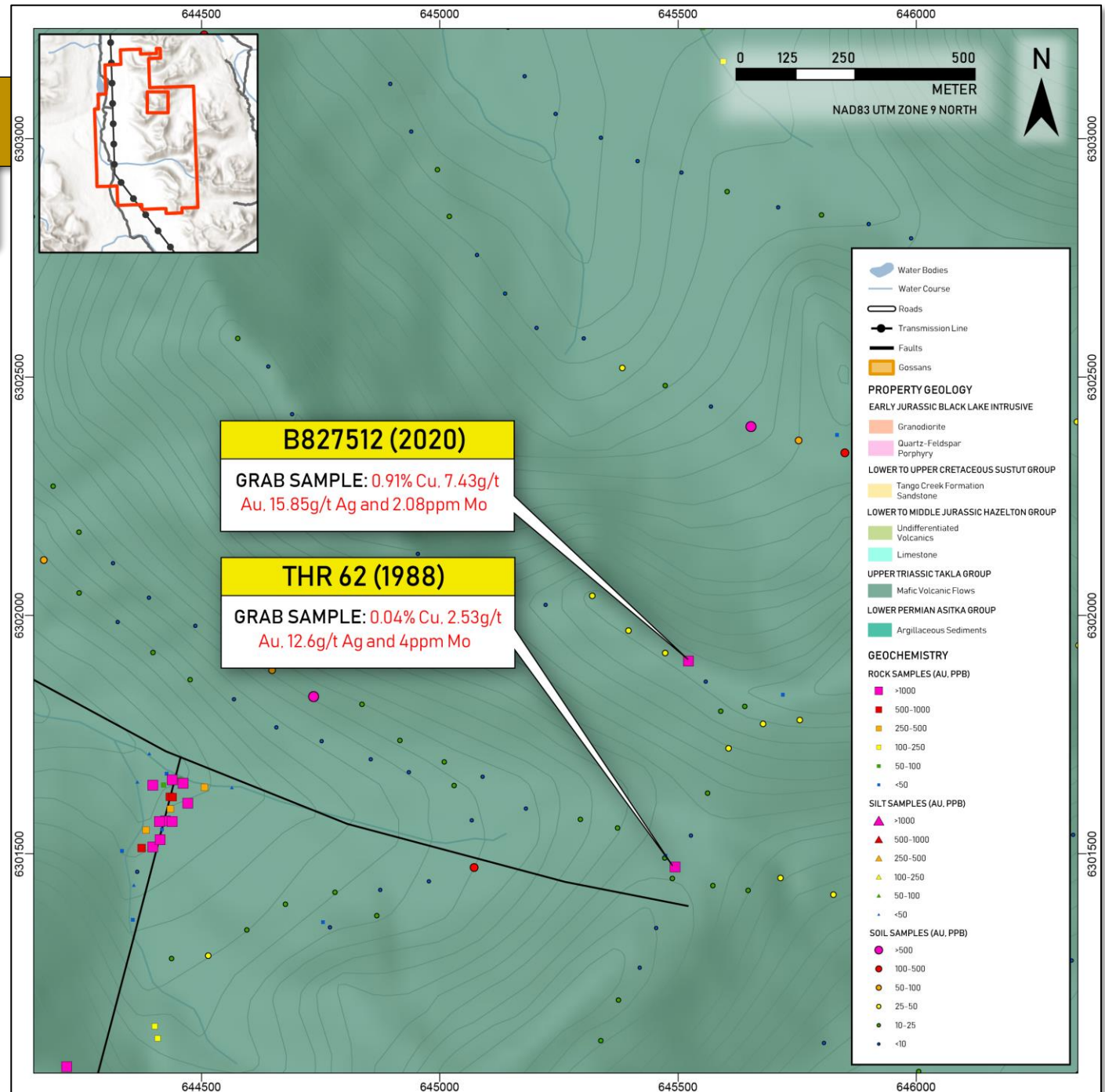
# JOHN B HIGHLIGHTS

Elevated Au values with moderate Cu in soil geochemistry present along a northwest trending structure.

Elevated Au covers an area of 1000 m x 700 m and occurs within the **Takla Group volcanics**.

Structure cross-cuts the Thorne porphyry showing and could represent a **later epithermal/structural-hosted Au target**.

Individual grab samples up to **7.43 g/t Au**.





# THORNE CREEK & COPPER VALLEY

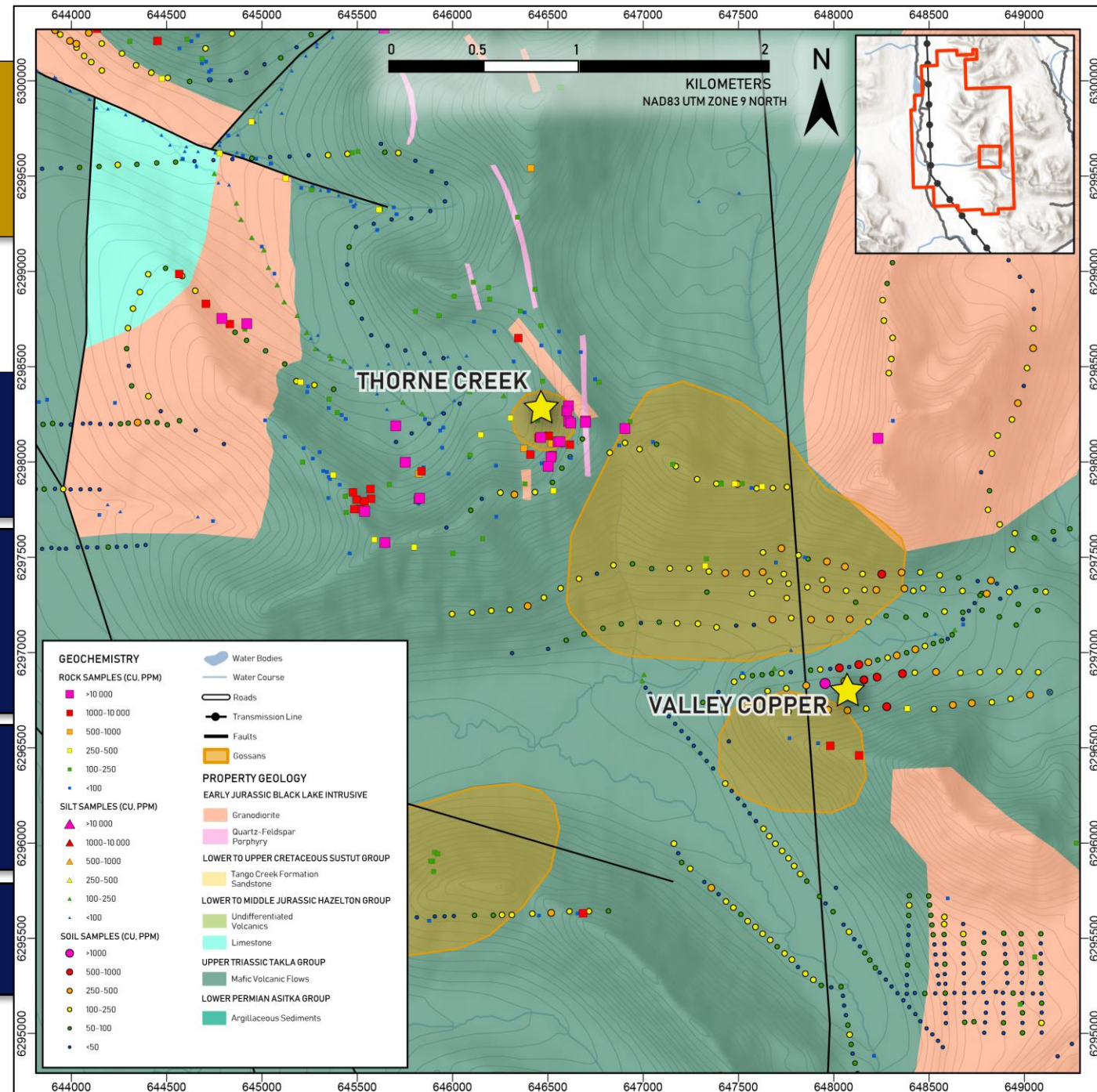
## GEOLOGY & HIGHLIGHTS

**GEOLOGY:** dominated the **Takla Group Volcanics** intruded by **Black Lake Intrusive Suite**.

**ALTERATION:** variable, with strong epidotization, potassic altered vein selvages and chlorite to quartz-sericite-pyrite increasing with increasing pyrite

**MINERALIZATION:** **quartz-chalcopyrite+pyrite±bornite veining** associated with strong surface gossan

**HIGHLIGHTS:** individual grab samples up to **25.13% Cu**



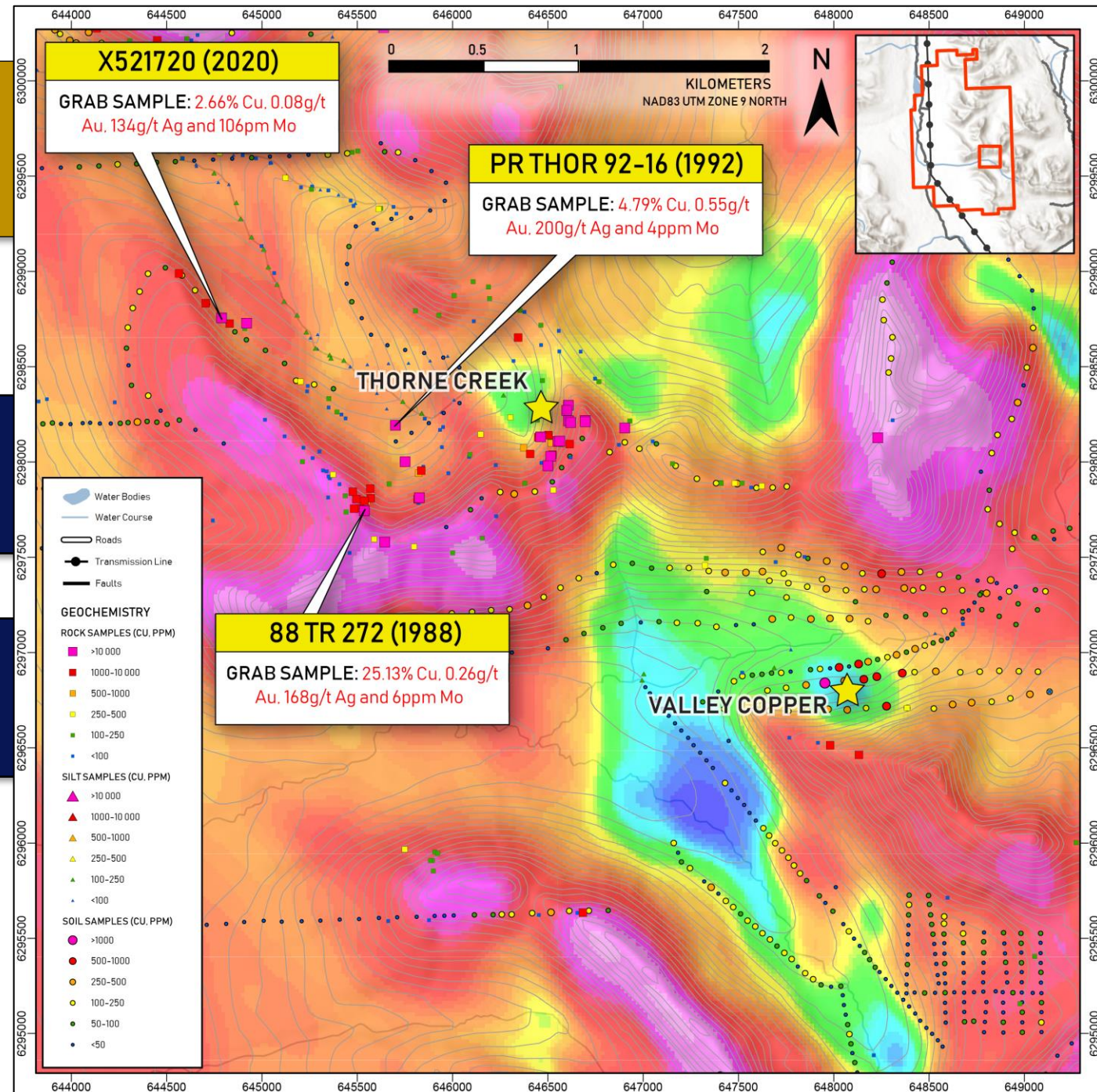


# THORNE CREEK & COPPER VALLEY

## TOTAL MAGNETIC INDEX

THORNE CREEK: **strong magnetic high** associated with elevated Cu, Au, and Mo in surface geochemistry.

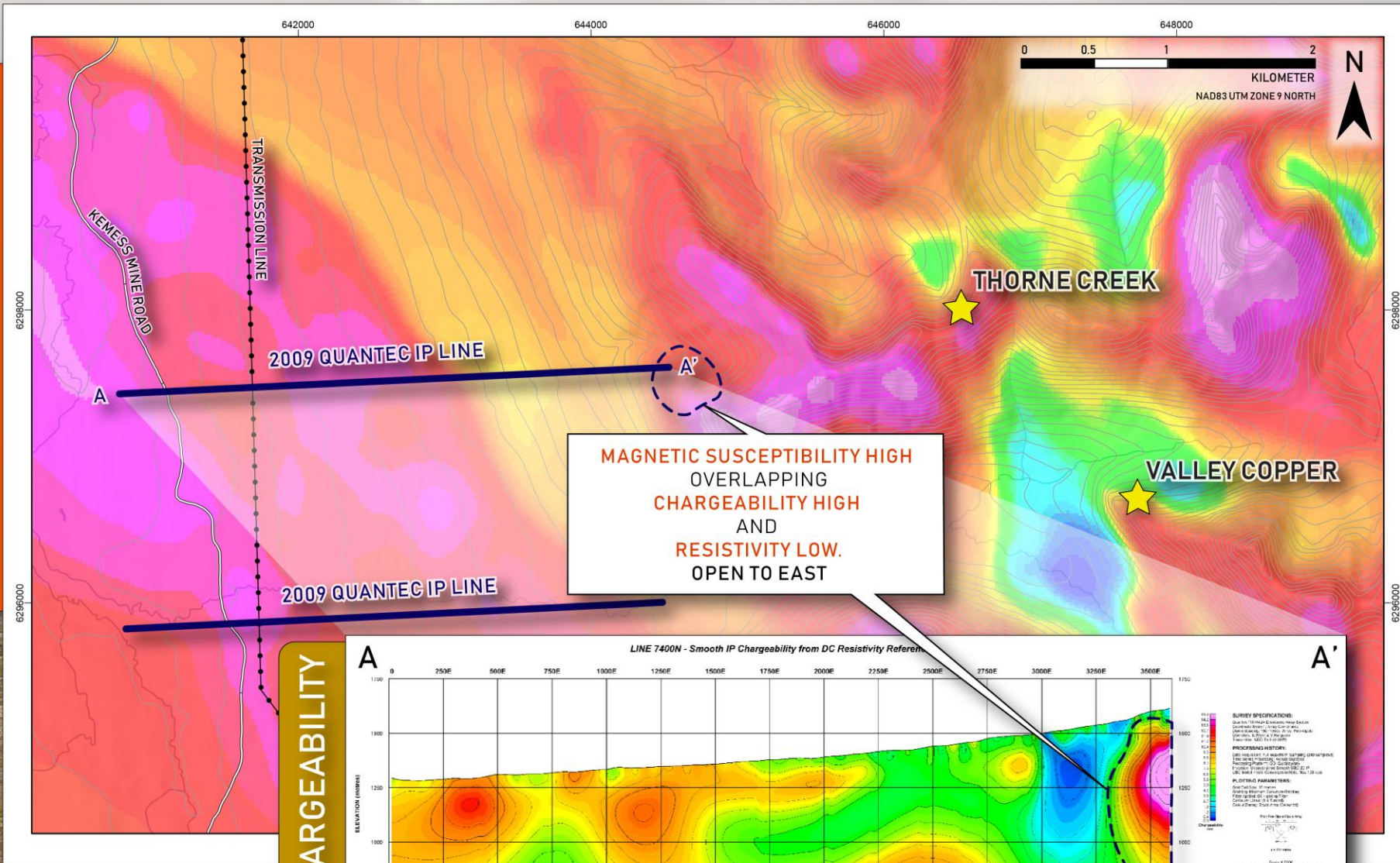
COPPER VALLEY: **strong magnetic low** associated with elevated Cu and Mo in surface geochemistry.





# THORNE CREEK & COPPER VALLEY: INDUCED POLARIZATION

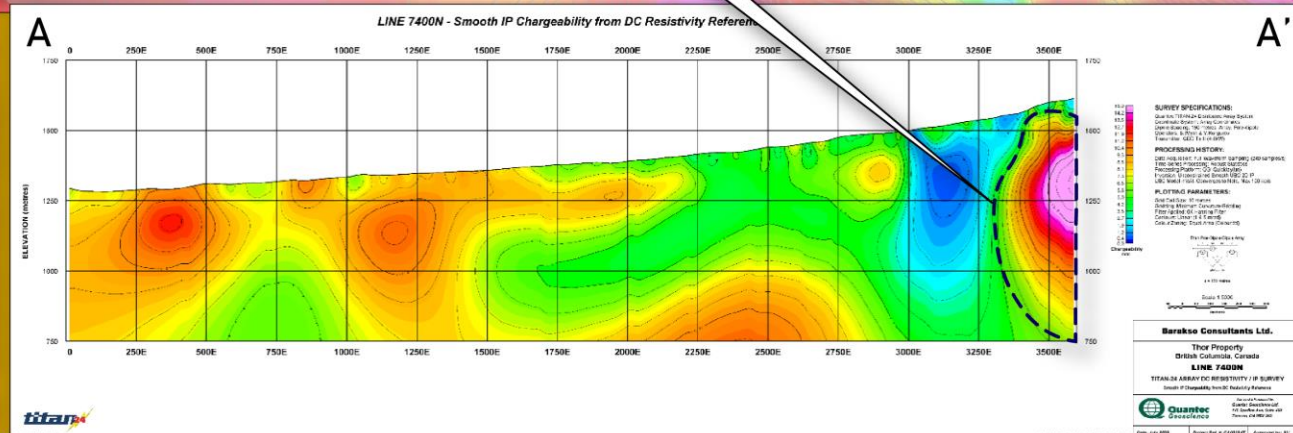
TOTAL MAGNETIC INDEX



Rough **East-West trend** to **magnetic high** is typical of most Toodogone porphyry systems.

2009 IP LINE 7400N: **Chargeability high** and **resistivity low** overlap 2018 airborne geophysics **magnetic high**.

IP CHARGEABILITY



**Barakso Consultants Ltd.**  
Their Property  
British Columbia, Canada  
**LINE 7400N**  
TITAN 24 AIRRAY DC RESISTIVITY / IP SURVEY  
Workshop of Chargeability from DC Resistivity Reference  
**Quantec**  
Geophysical Services  
2008-2009  
Project No: 080804P  
Authority: 01



# MARMOT

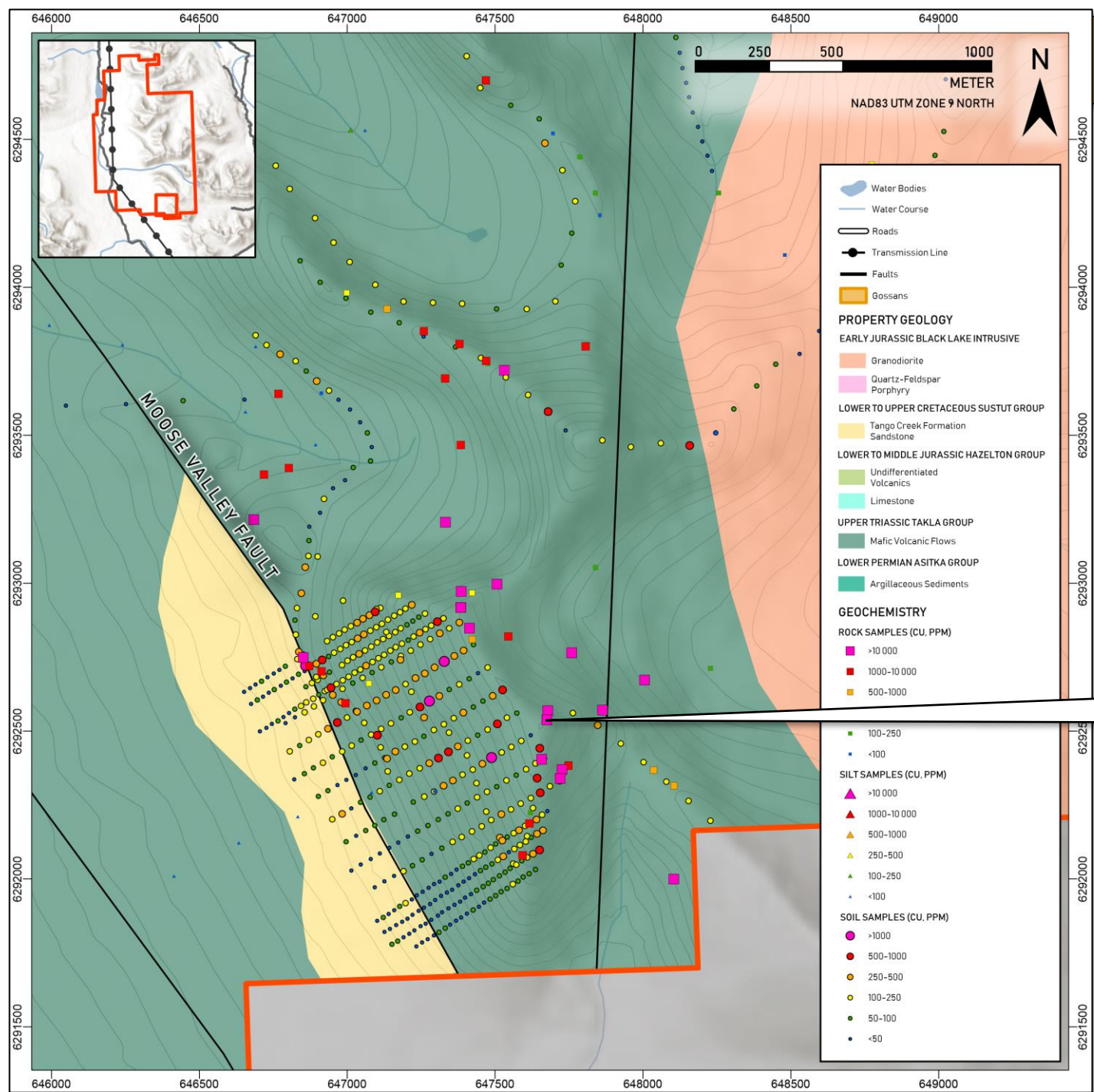
## GEOLOGY & HIGHLIGHTS

**LITHOLOGY** Late Upper Triassic Takla Group intruded by Early Jurassic Black Lake Intrusive Suite porphyry.

**STRUCTURAL SETTING:** Located proximal to the eastern flank of the regional-scale NNW-trending Moose Valley Fault.

**MINERALIZATION:** Shear-vein hosted Cu-Pb-Zn in quartz-sulphide veins and Black Lake Intrusive-hosted Cu-Au porphyry targets.

**HIGHLIGHTS:** Rock samples from quartz veins and Black Lake Intrusive porphyry units graded as high as **46.5 g/t Au, 6.02% Cu and 101.1 g/t Ag.**

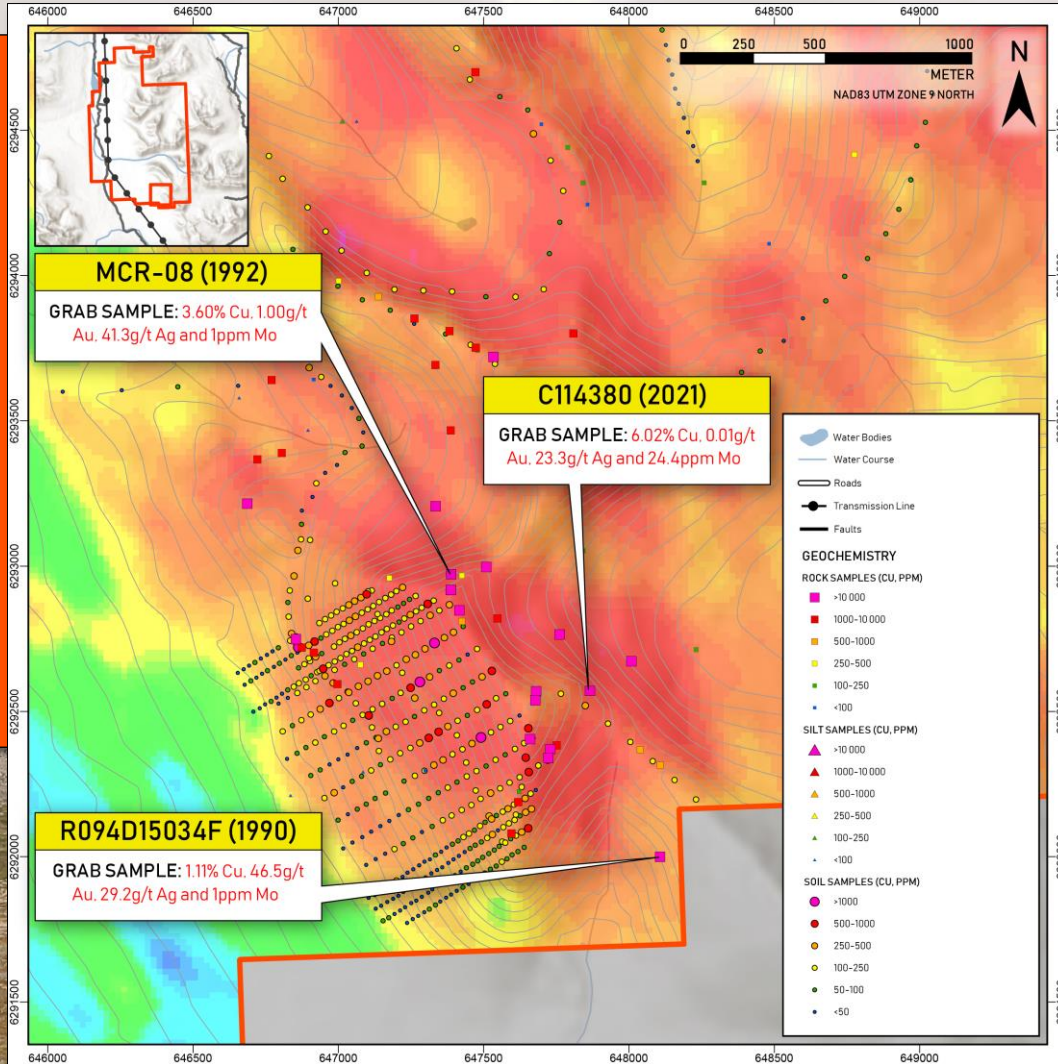




# AIRBORNE GEOPHYSICS SURVEY

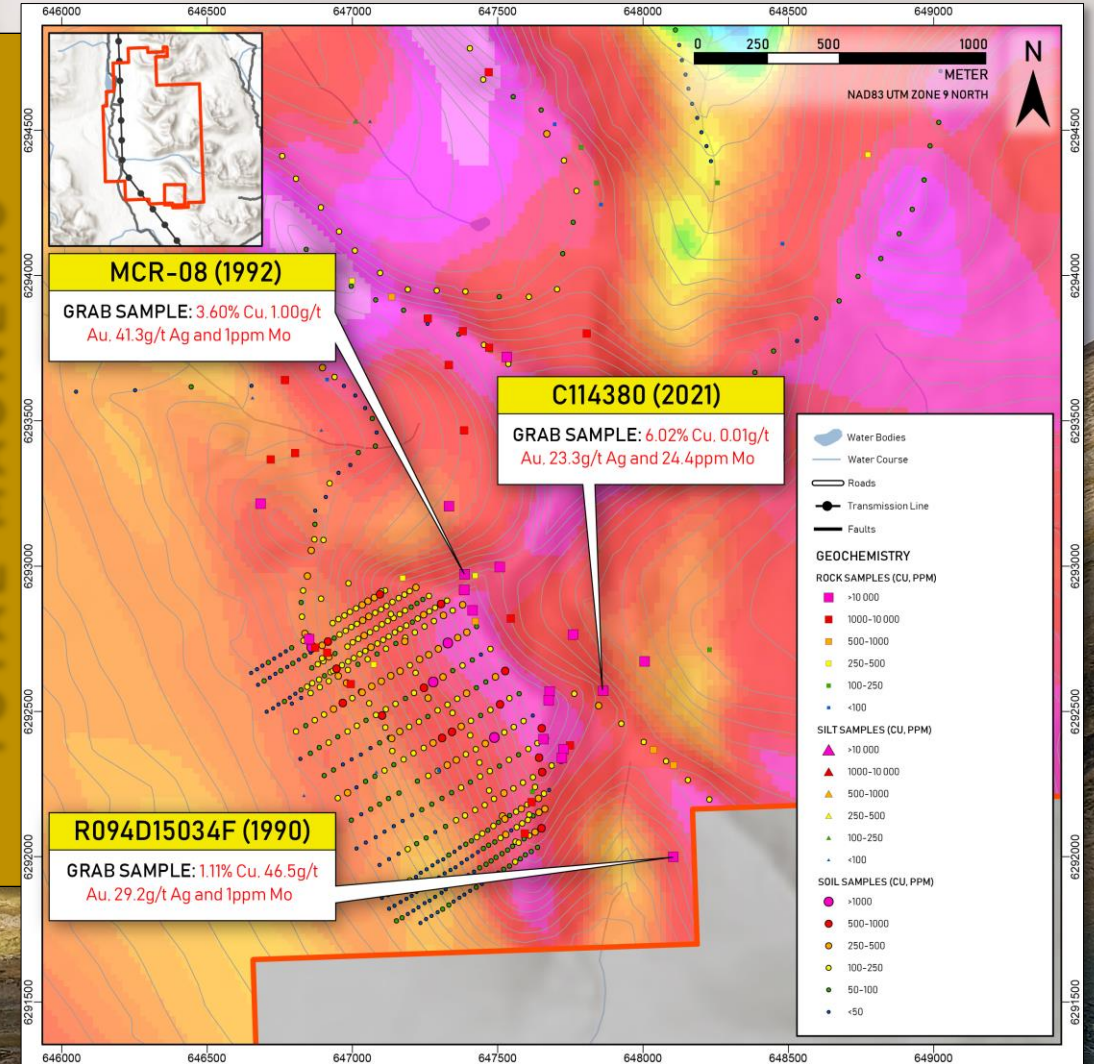
SOURCE: 2018 GEOSCIENCE BC AIRBORNE GEOPHYSICS

K CONCENTRATION



Magnetic high plug over Marmot Target Area correlates with high K concentration.

TOTAL MAGNETIC



Magnetic high to east of Marmot suggests potential for eastern porphyry system



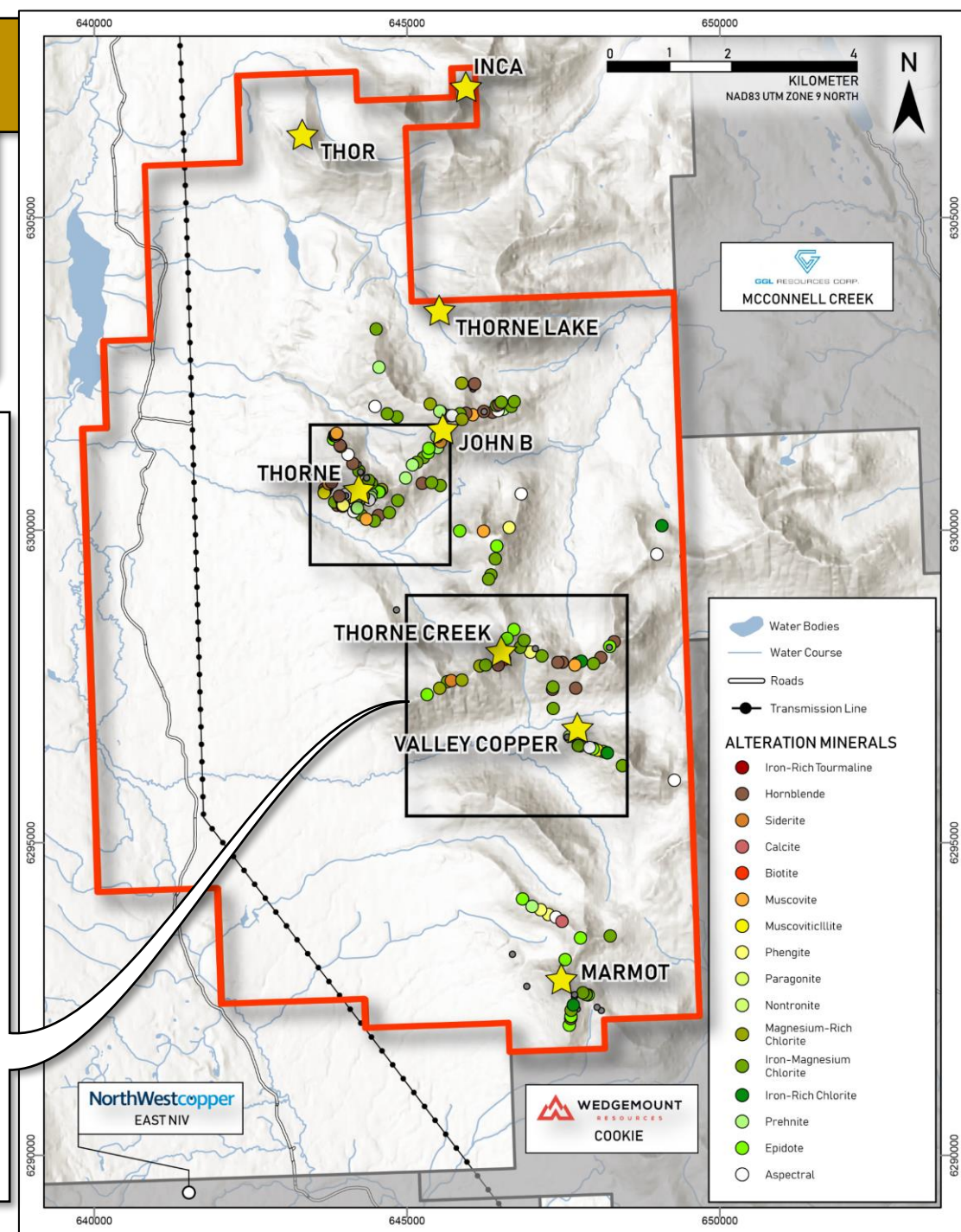
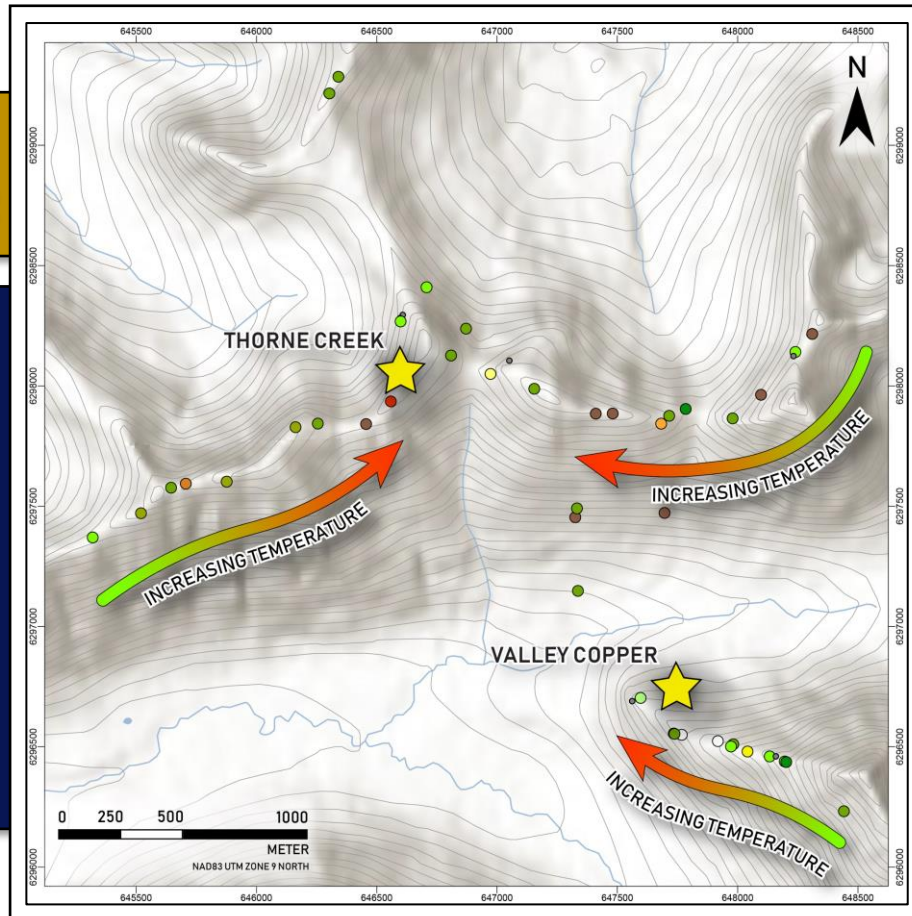
# HYPERSENSPECTRAL ANALYSIS

SUMMARY: 255 rock samples (2020-2021) analyzed by Terraspec hyperspectral analysis and compared to known mineral assemblages.

GRADATIONAL MINERAL ASSEMBLAGES : Chlorite > Chlorite-Epidote > Epidote > Smectite > Sericite > Phengite > Muscovite > Biotite

## THORNE CREEK VALLEY COPPER

Increasing temperature alteration assemblages towards target from chlorite-dominant to illite-dominant (phengite, muscovite) to biotite-muscovite dominant higher temperature assemblages.





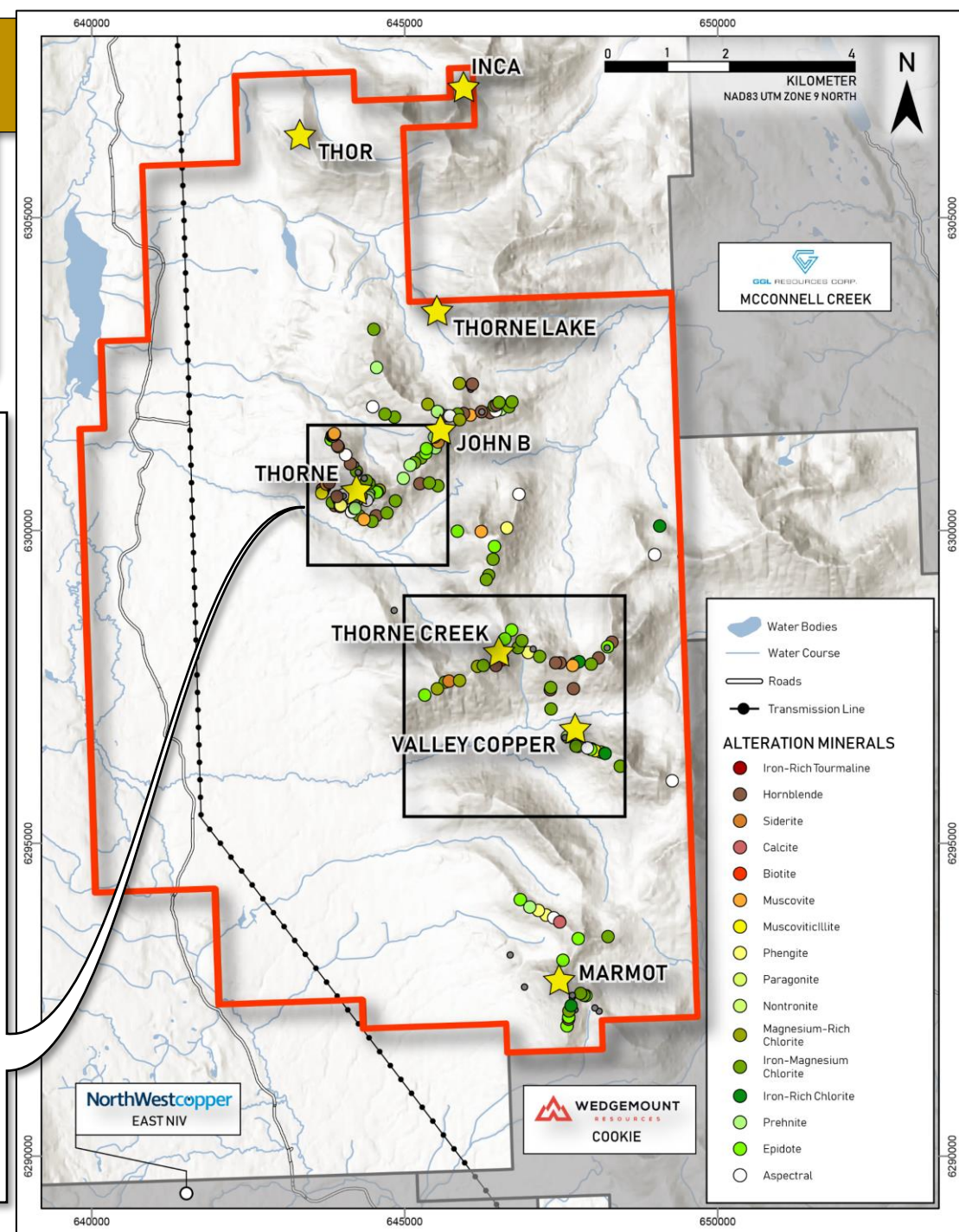
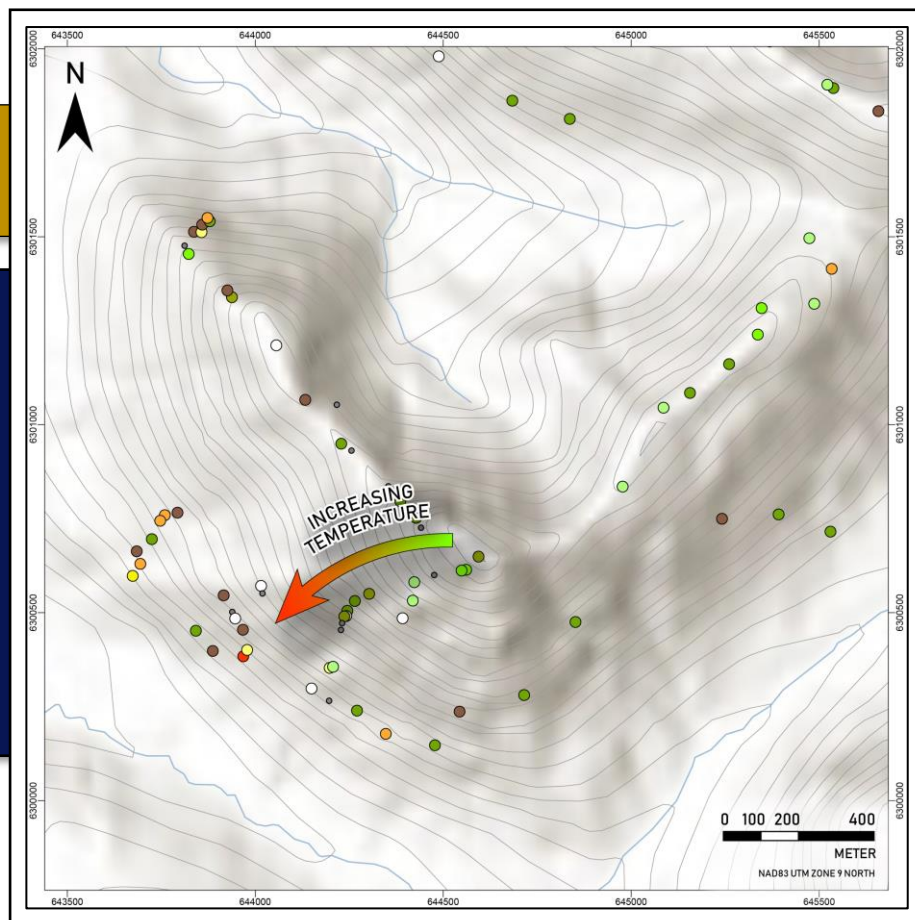
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## THORNE

Higher-temperature biotite and muscovite mineral assemblages with assemblages grading from lower- to higher-temperature from the northeast to southwest





# 2021 PETROGRAPHY STUDY

SUMMARY: Petrographic analysis was completed on 14 thin section samples by Ultra Petrography

## THORNE CREEK VALLEY COPPER

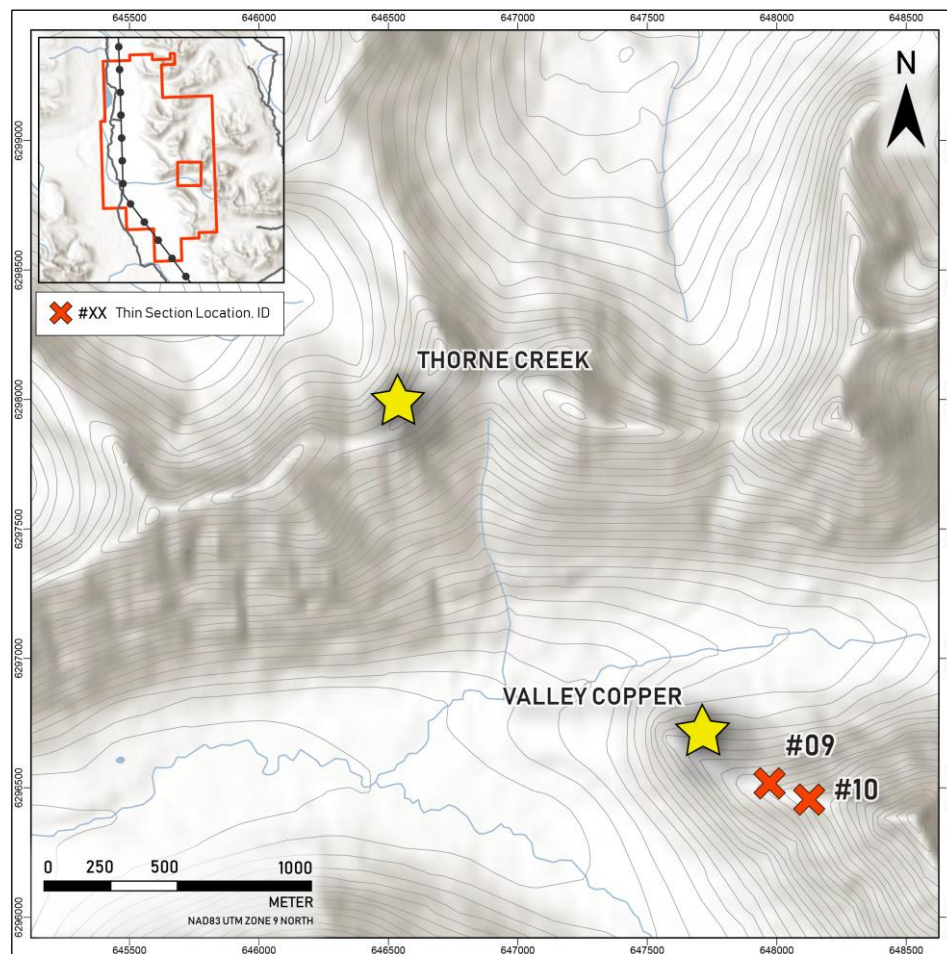
### SAMPLE #09

**Albite - K-feldspar (KF) -actinolite (AM) -chalcopyrite (CP)** alteration zone.

Anhedral K-feldspar heterogeneously altering albite.

**Epidote-rich veins** cross-cut earlier alteration.

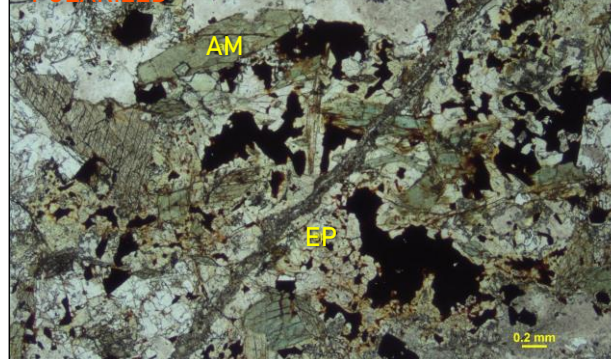
**Actinolite-epidote** heterogeneous alteration clusters are **associated with** fine- to medium-grained **chalcopyrite**.



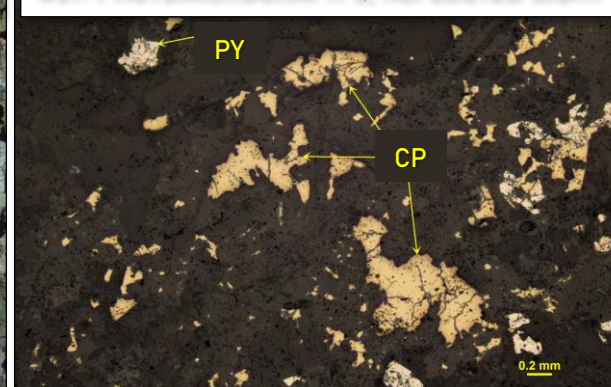
#09: PHOTOMICROGRAPH A, PLANE-POLARIZED



#09: PHOTOMICROGRAPH B, PLANE-POLARIZED



#09: PHOTOMICROGRAPH C, REFLECTED LIGHT





# 2021 PETROGRAPHY STUDY

SUMMARY: Petrographic analysis was completed on 14 thin section samples by Ultra Petrography

## THORNE

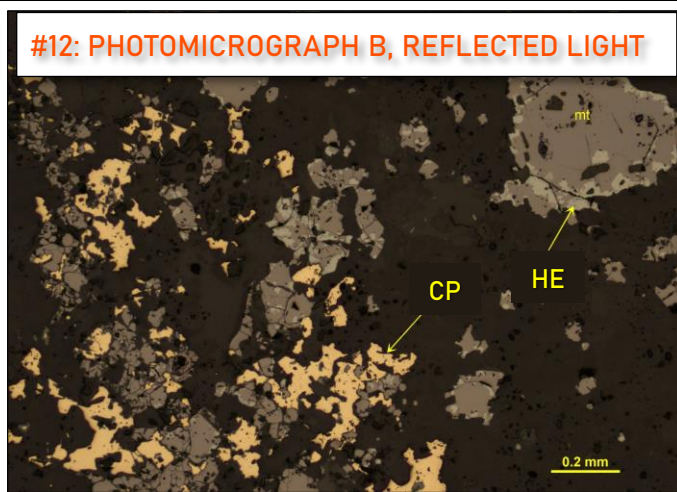
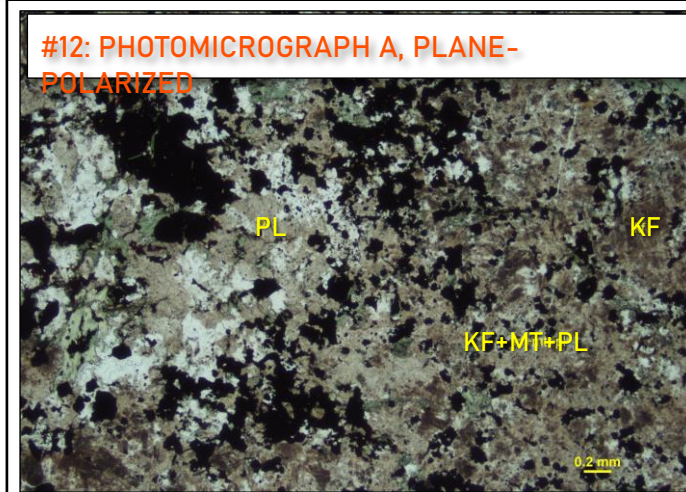
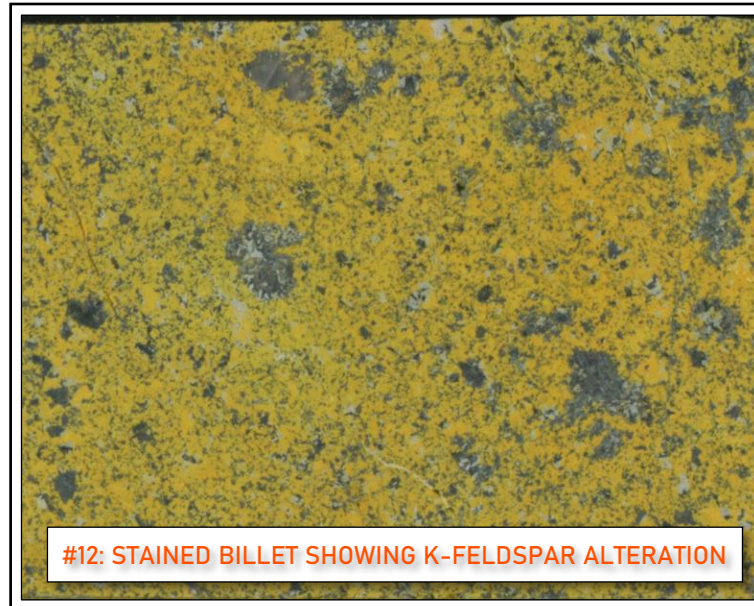
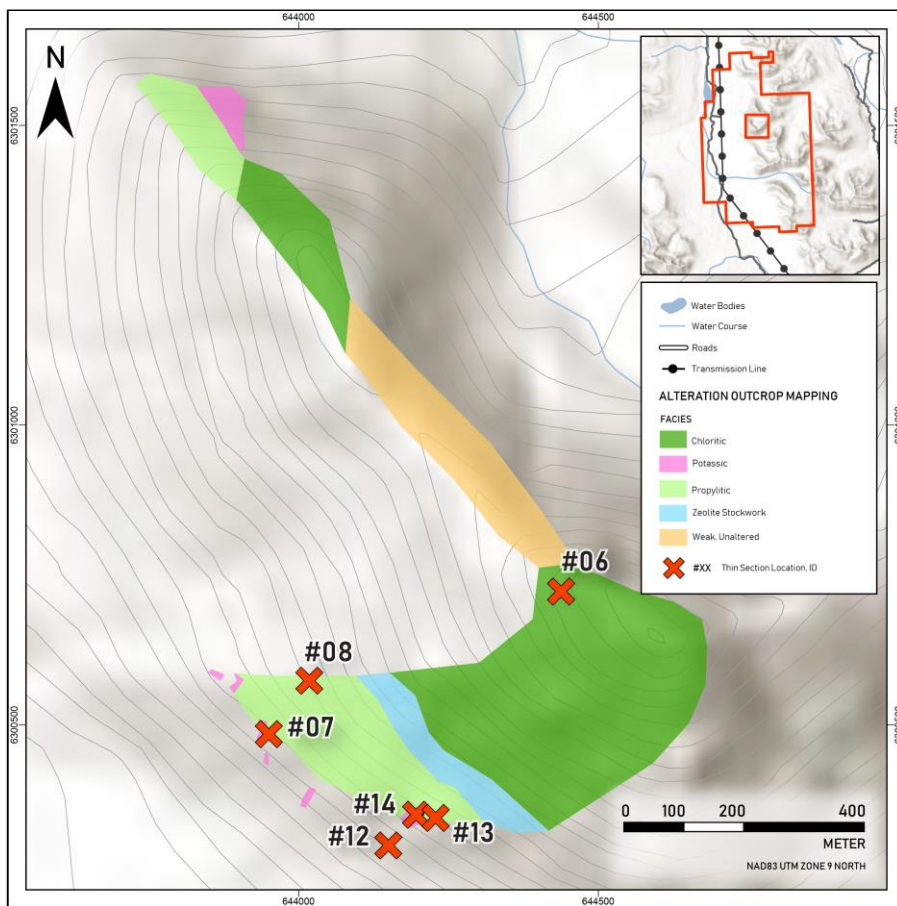
### SAMPLE #12

**K-feldspar (KF) – magnetite (MT) – quartz – chlorite – chalcopyrite (CP) alteration zone.**

**K-feldspar dominates** composition at 65% modal abundance, forming fine-grained **aggregate with magnetite.**

Fine-grained **chlorite** lamellae **overprinting K-feldspar-magnetite** phase during waning stage of alteration

Fine-grained heterogeneous 1% **chalcopyrite is spatially associated with magnetite.**





## OTHER SHOWINGS

### INCA

**MINERALIZATION:** disseminated **chalcopyrite and lesser bornite** associated with pyrite in Takla Group Volcanics. Malachite and azurite commonly staining fracture planes. Disseminated fracture-filling pyrite.

**HIGHLIGHTS:** 1989 grab sample of malachite-azurite fracture-coated volcanics assayed at **0.81% Cu and 14.5 g/t Ag**

### THOR

**MINERALIZATION:** sparse **chalcopyrite and molybdenite** in fractures and quartz veins cutting the country rock.

### THORNE LAKE

**LITHOLOGY:** **Takla Group Volcanics** intruded locally by **Black Lake Intrusive suite hornblende porphyry** and lamprophyre dikes

**MINERALIZATION:** **chalcopyrite, galena, and sphalerite associated with pyrite** in gossanous semi-massive sulphide zone associated with small quartz veins and rusty fracture zones

**HIGHLIGHTS:** A 1984 grab sample of gossanous sulphide zone assayed at **0.18% Cu**. A grab sample of mafic volcanics 600m north assayed at **0.35g/t Au**.



# CONCLUSIONS

The Thor-Marmot property has **at least 8 prospects** with **significant Au, Cu and Mo anomalies**

Surface geochemical anomalies coincide with geophysical features of interest

Historical work including: geochemistry, geophysics, alteration mapping, and Terraspec analysis indicates the **potential for porphyry style mineralization**

**Current area of interest** along **eastern side of property** along the Thorne-Thorne-Creek-Valley Copper-Marmot trend with encouraging geophysical anomalies at undeveloped prospects along the southeast property boundary

The Western side of property has significant overburden and is low priority

Historical exploration was focused on high grade structures – **plenty of exploration** potential for development of **larger porphyry-type targets**



# CONTACT

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