

KNUT PROPERTY

- Porphyry style copper-gold deposit (Agay, Afton)
- Located in southern portion of Iron Mark Batholith
  - multi-phase alkaline batholith in the Nicola Belt portion of the Quersul Trough in the Intermontane tectonic Belt

Nicola Belt Group: Late Triassic volcanic & red. rocks of Nicola Group

→ intruded by coeval & comagmatic alkaline plutons (Iron Mark)

Kamloops Group: Early Tertiary red. & volc. rocks

Miocene-age: Basaltic flows & volcanic clastics

- Structure: Graben, NW-N-NE trending recurring fractures & or faults

Iron-Mark Batholith: Upper Triassic-Jurassic intrusive complex NW-SE direction

→ 4 units: Iron Mark Hybrid  
 Pot Hook  
 Sugarloaf  
 Cherry Creek } fine-gr. porphyritic "diorite" gabbro → pyroxite

- Mineralization: Cu-Au fault controlled emplacement of Iron Mark

## - Geophysical Results:

(IP) 3 main chargeability anomalies

- 1) Zone I: covers area of known Cu mineralization (700 m x 900 m) & open to N  
+ also 250 m x 400 m contained within Zone I  
highest resist. → this may indicate increased silicification
- 2) Zone II: detected on L 2000 N & 2100 N open to S
- 3) Zone III: (weaker) above zone I & II & open to E

- Zone I & III → Iron Mark Hybrid

## MAGNETICS

- Iron Mark Hybrid → most magnetic

## VLF-EM

- outlined numerous conductor axes trending N-S; N-NE; N-NW
- conductor coincide w. a mag low → expression of inferred fault

# GEOCHEMISTRY

- 1471 soils from Main Grid
  - collected from BC-horizon
  - BC horizon developed over variety of substrate or parent materials:
    - bedrock  $\rightarrow$  residual material (in place)
    - colluvium } locally transported overburden
    - glacial till } (100m to 1000m up ice)
    - glaciofluvial sands & gravels } complex history
    - recent fluvial deposits } not readily traced to source
- downslope movement.  $\leftarrow$

- Regional Ice movement from the W-NW  $\approx 300^\circ$  Azm

- glaciofluvial & fluvial deposits are restricted to Petermann Creek between L. 2000N & 2600N

Results:

- High concentrations of Cu - Zn - As
- elevated or anomalous levels of Pb - Ag
- high Hg results occur in suspicious regularity  $\rightarrow$  analytical problem?

Zone I : north end of Main Grid ( <sup>N-S</sup> 600 x <sup>E-W</sup> 800m )  
elongated to parallel to ice movement  
 $\Rightarrow$  3900N & 2600E  $\rightarrow$  strong signature assoc. w. I.P. chargeability  
(still open to north)

Zone II : NE side of grid near 3300N / 1700E  
Cu - Ag - Au ; 700m long x 200m wide

Zone III : <sup>parallel to ice movement</sup> Cu anomaly assoc. w. I.P. chargeability south portion 1400N / 2100E 300m SE 75m wide

## Conclusions & Recommendations:

- 2 or 3 fences of drilling carried out on the coincident I.P. & geochem. anomalies located between L. 3100N & 4000N
- possibly limited trenching before drilling & careful geol. mapping.
- Zones II & III should be drill-tested if positive results are obtained from drilling of Zone I

## Estimated Cost of Proposed Work Program:

PHASE I: (AD 1100 m @ \$53/m) \$100,000

PHASE II: additional 825 m of AD  
@ \$91/m \$75,000

\$175,000