PROJECT DATA SUMMARY

Project: Blackwater - Mt. Davidson **Deposit Type:** Epigenetic Shear hosted Date: March 1992

Au/Ag and bulk Ag/Au

Location: 170 km SW of Prince George 53° 11'N, 124° 48'W

Access:

From Highway 16 at Vanderhoof, 147 km of all

weather logging road and 17 km 4WD mining road.

NTS 93F/2W

Granges Interest: 75%

Other Participants: Cominco Ltd. 25%.

Deal:

Cominco has become successor Royalties, NPI: Non contributing participant can be diluted to

a minimum 5%, thereafter interest forfeited. to org. J.V. Partners,

Bethlehem Copper

Land:

22 claims, 7,600 ha, (304 units)

Expiry Dates:

Ken 31/10/98, Noodle 23/10/98, PEM 18/03/98,

Mike, Mo, George, 31/08/92; Deb 19/06/94.

FAW 1-15 November 1992.

Commitments:

Approved J.V. program C\$127,000 (\$95,000 Granges share)

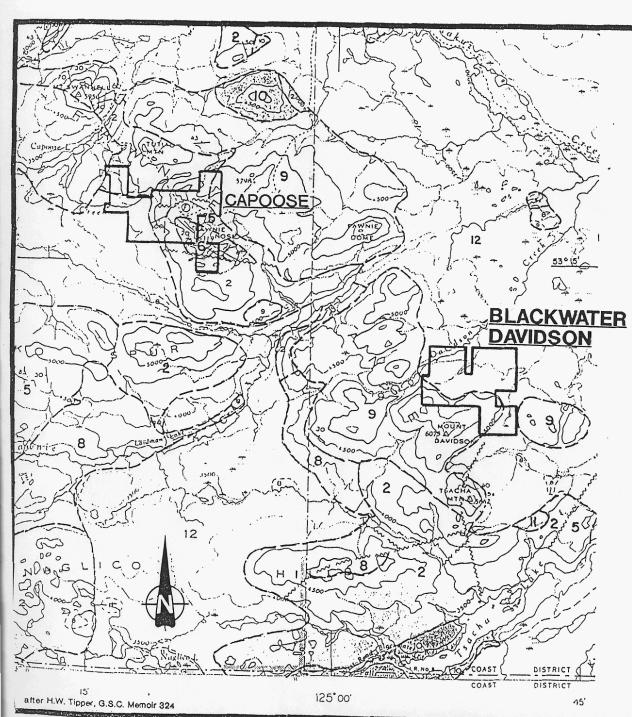
Assessment work: \$25,400 due by November 1992.

Geological Concept:

Operator: Granges

The original concept of exploring for porphyry copper deposits by regional stream sediment surveys resulted in the identification of a target based on Zn, Pb, Aq anomalies. Subsequent work directed the focus on fracture controlled bulk - silver and fault controlled high-grade gold mineralization. The geological setting, alteration, aeromagnetic data and lineament patterns suggest the possibility of a (Cu, Mo?) porphyry system underlying the target zones of depth.

lackwater



QUATERNARY

12 Till, gravel, sand, clay and silt

TERTIARY 1

ENDAKO GROUP Vesicular and amygdaloidal andesite and basalt

CRETACEOUS AND (?) TERTIARY

- O OOTSA LAKE GROUP Rhyolite, dacite and associated tuffs and breccias. Minor andesite, basalt and conglomerate
- 9 OOTSA LAKE GROUP Basalt, andesite and related tuffs and breccias

JURASSIC AND/OR CRETACEOUS

8 Granite, quartz diorite, granodiorite and diorite

JURASS1C

- MAZELTON GROUP
 Greywacke, argillite, conglomerate, tuff,
 breccia, andesite and arkose, minor
 rhyolite
- 5 HAZELTON GROUP Andesite, related tuffs and breccia, chert pebble conglomerate, shale and sandstone

TRIASSIC AND JURASSIC

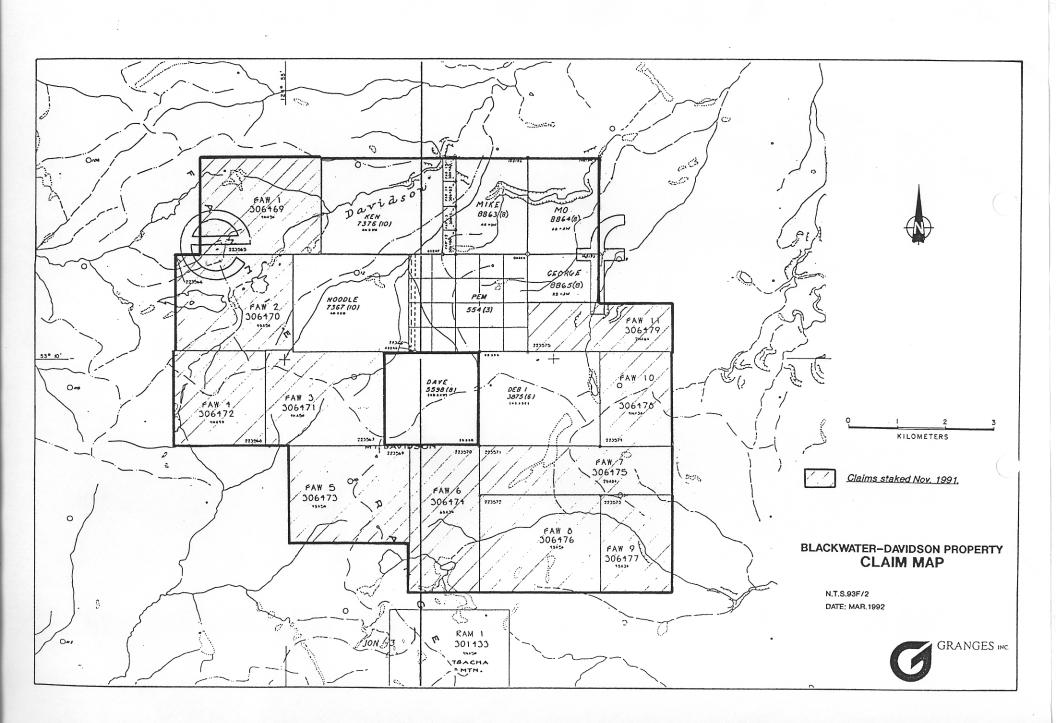
.2 TAKLA GROUP Andesitic and basaltic flows, tuffs and breccias; interbedded argillite and minor limestone

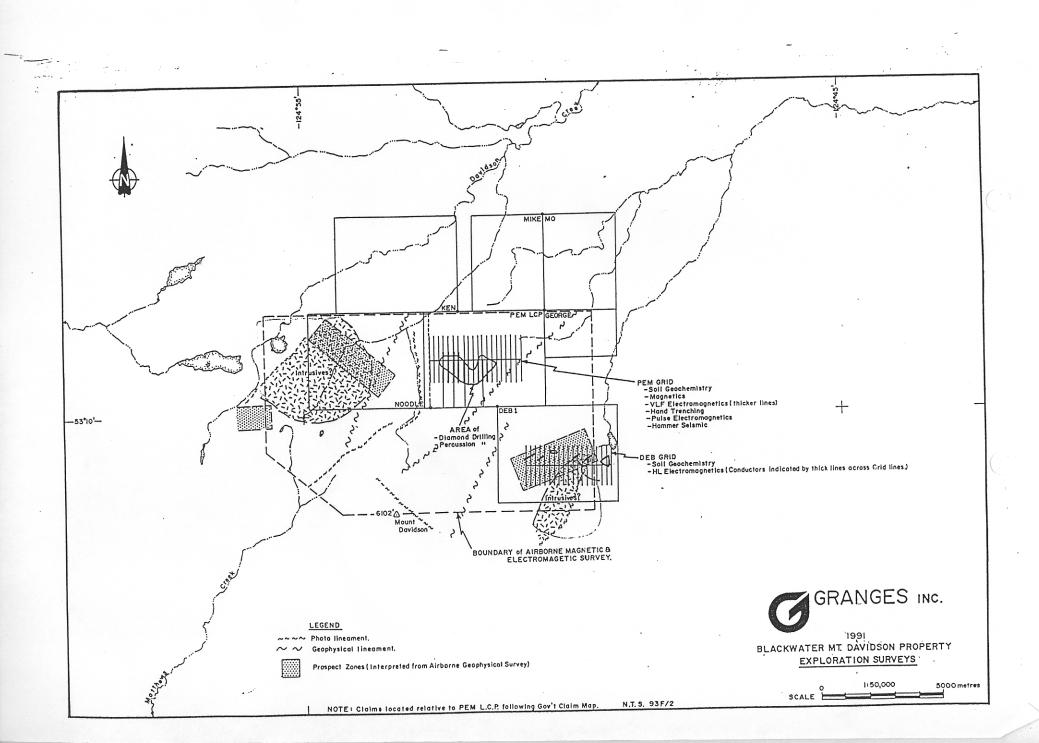
BLACWATER-DAVIDSON PROPERTY REGIONAL GEOLOGY

N.T.S.93 F/2

SCALE: 1:250,000

DATE: NOV. 1990





PROJECT DATA SUMMARY - 2

Accomplishments

to Date:

Regional geochemical surveys, staking, EM and magnetometers surveys, both airborne and on the ground, soil geochemistry, diamond and RC-drilling resulted in the discovery of two zones of mineralization and of a multi-element geochemical anomaly yet to be drill tested.

The "Silver Zone" has been estimated to contain a mineral inventory of 6 million tonnes at 37 g/t Ag, 0.05 g/t Au at shallow depth, yet considered subeconomic at this time.

The "Gold Zone" contains several drillhole intersections of potentially economic grade but with limited (or untested) continuity.

DAV-11: 8.2m at 11.2 g/t Au, 21 g/t Ag; 2.2. m at 28.8 g/t Au, 12 g/t Ag, plus 3 intersections in the 3-6 g/t Au over 3-28m range.

Granges Expenditure

to Date:

Can \$1,245,300 by February 28, 1992. (\$934,000 Granges' share).

Recommended

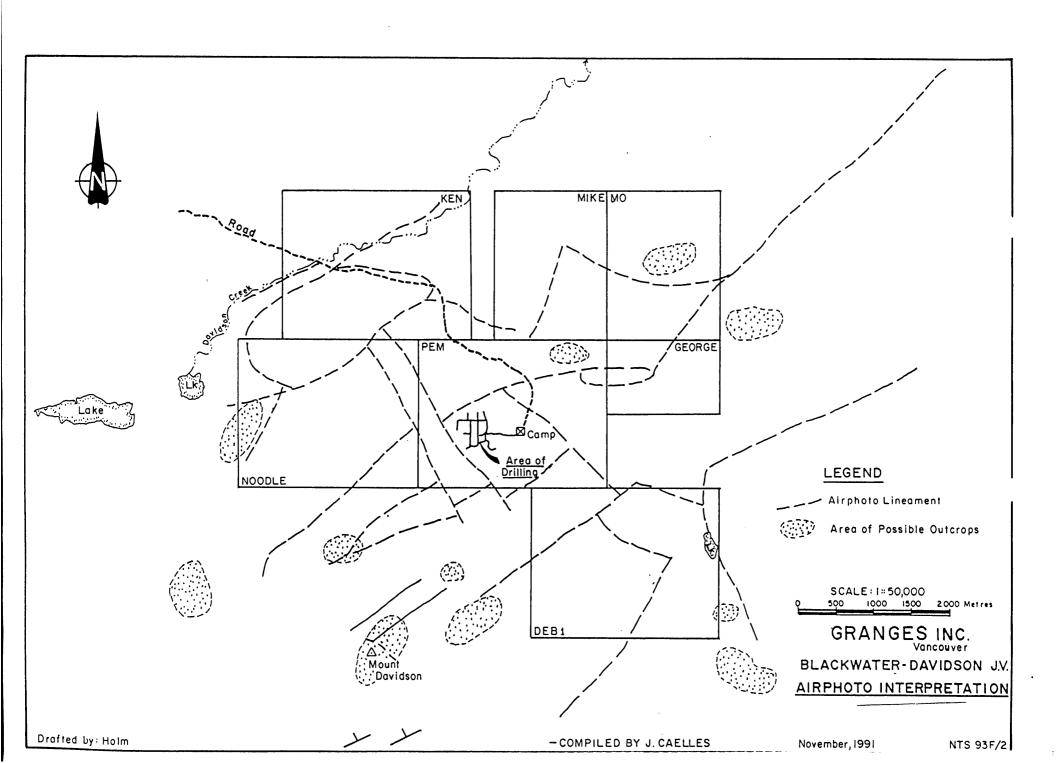
Program:

By the JV: 1992 geol. mapping, geochem; I.P. linecutting.

By H. Wober: Lithogeochemistry, airborne magnetometer survey, linecutting, I.P., soil geochemistry, geological mapping, diamond drilling.

Program Objectives: By the JV: drill target identification for known types of mineralization.

By H. Wober: to test the potential presence of a buried or deep porphyry copper - (molybdenum) system with precious metal enhancement.



PROJECT DATA SUMMARY - 3.1

Discussion, Comments:

Host to the mineralization is the Upper Cretaceous Ootsa Lake Group. (rhyolite, dacites and assoc. tuffs, minor congl. lower andesites, basalts and breccias).

Relationship to granites, quartz diorites and diorites of Jur./Cret. age uncertain.

Lack of complete aeromagnetic coverage, public or private. Nevertheless there is a suggestion that the mineralized area and zones occupy an area of lower magnetic susceptibility in the center of a surrounding array of magnetic highs representing intrusive bodies.

Interpretation of air photos and magnetic lineaments suggest a pattern of NE, NW and NS striking structures framing the area of mineralization.

Sericite clay alteration, brecciation associated with mineralization in more felsic rhyolites of possibly intrusive nature suggest the possibility of a porphyry system at depth.

Equity Silver type bulk mineable Ag-sulphosalt or high grade fault controlled gold mineralization may still occur at shallower depth.

Recommendations:

- 1. Lithogeochemistry of alteration zone (Cu, Mo, W, F), sulphur and oxygen isotope, fluid inclusion studies
- 2. Expanded, high sensitivity aeromag survey
- 3. Ground geophysics (I.P.: high power, pole-dipole)
- 4. Soil geochemistry
- 5. Deep drilling