

GEOLOGY OF THE "BLUE L." CLAIMS

Kluane Lake area, Yukon Territory

Whitehorse Mining Division

N.T.S. 115 G19

Lat. $61^{\circ} 41' 30''$ Long. $138^{\circ} 21' 00''$

by

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Little St. Lawrence, Newfoundland

July 6, 1971

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Figure 1: Key Map showing location of BLUE L.
Claims
Scale 1" = 1/2 mile

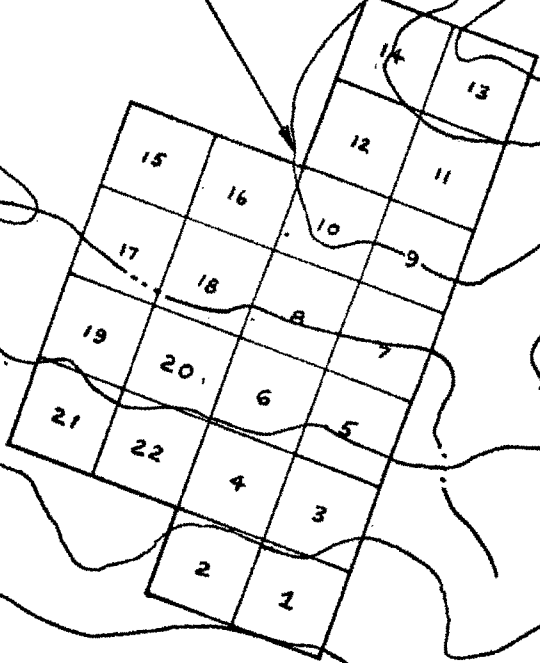
Figure 2: Geological Map of BLUE L. Claims Area
Scale 1:50,000

LIST OF CLAIMS

Claim Number	Grant Number	Date Recorded
Blue L. (1-16)	Y-60676-60691	May 27, 1971
Blue L. (17-22)	Y-60717-60722	June 4, 1971

BLUE L.
CLAIM GROUP

DWARF BIRCH
CREEK



138° 20'

61° 40'

KEY MAP

BLUE L. CLAIMS 115 G/9
SCALE 1" = 1/2 MILE

CLAIMS
BLUE L. 1-8
BLUE L. 9-16
BLUE L. 17-22

STAKED BY
D. M. FRANCIS
D. V. NORBERG
D. PLASTER

I N T R O D U C T I O N

The mineralization and anomalous, geological and geochemical conditions were detected by a field party supervised by the writer in the course of a broad scale regional geochemical survey in the spring of 1970. The writer strongly recommended the property area to the company sponsoring the regional program but they did not feel the situation was of interest to them and, consequently, did not stake it.

In 1971 the writer and several associates, having the opinion that the area merited further work, caused the ground to be staked.

The area is one of much current interest. The Casino deposit, a Cu-Mo porphyry deposit with associated breccia pipes lies 75 miles to the north. Fifteen miles northwest of the Blue L. claims on the same fault system the MAX Group of Atlas Explorations Ltd. contains Cu-Mo mineralization in a similar geological setting. Phelps Dodge Corporation of Canada Ltd. and others have been actively engaged in exploration of several Cu-Mo properties 12 miles to the southeast near the headwaters of Alaskite Creek.

LOCATION AND ACCESS

The Blue L. Claims are situated in the northwest quadrant of the Talbot Creek Sheet (N.T.S. Area 115-G-9) at $61^{\circ} 41' 30''$ N. & $138^{\circ} 21'$ W. The claims are 12 miles east of the head of Talbot Arm, Kluane Lake and are 20 miles east of the winter road to Casino Silver Mines in the Dawson Range.

Access to the claims is by helicopter from Burwash Landing on Kluane Lake, a distance of 32 miles, or directly from Whitehorse a distance of 120 miles. Burwash Landing is situated on the Alaska Highway at Mile 1094.

TOPOGRAPHY AND VEGETATION

The Blue L. Claims lie within a belt of country known as the "Yukon Plateau" (Bostock, 1948). Topography is generally subdued although, in the vicinity of the claims, local relief is approximately 1,700 ft. The maximum elevation on the property is 5,800 ft.

Most of the claim group lies above tree-line. In the valley of Dwarf Birch Creek some scrub alders and willows are found. The area is entirely underlain by permafrost which forces trees to develop shallow root systems.

GENERAL GEOLOGY

The Blue L. Claim Group area is underlain by rocks ranging in age from Precambrian (?) to Recent. The oldest rocks in the area are quartzites, schists, schistose amphibolites, mica schists and minor limestones of the "Yukon Complex" (Muller, 1967). The actual age of the rocks is uncertain; the "complex" designation is meant to draw attention to existing parallels between these rocks and those of Wolverine Complex and Shuswap Complex of British Columbia.

Rocks of the Yukon Complex have been invaded in the Triassic (?) by batholithic masses of medium-ground biotite-hornblende granodiorite and quartz-monzonite. A diagnostic feature of this rock-type is a tendency toward clustering of the mafic constituents into dark "clots".

Alaskite occurs in large stock-like bodies elongated in an east-west direction. It weathers to a rusty crumbly surface. Talus slopes are gravelly. The only mafic mineral, biotite, occurs in minor amounts. Colorless to pale green fluorite is present as small veinlets. As a diagnostic feature, dark smoky quartz grains are present in most specimens.

Rhyolite or "quartz-porphyry" occurs as dikes or small stock-like bodies intruding all of the previously mentioned rock-types. This rock-type is grey to light rusty brown, very fine grained and contains corroded phenocrysts of quartz and subhedral potash feldspar. Breccia-pipes present in the claim group area may be associated with intrusion of these porphyry masses.

All rock-types have been disrupted by northwesterly faults.

The following is a Table of Formations for the district:

TABLE OF FORMATIONS

CENOZOIC

Recent: Gravel, silt and volcanic ash

Pleistocene: Ruby ice-advance; glacial drift and subdued topography, Mairn Valley bottoms

Nisling glaciation; no drift, large granitic remanent boulders and castellated highlands

Unconformity - - -

MESOZOIC

Cretaceous/Tertiary (?)
Nisling Range Alaskite; Alaskite, granite, rhyolite

Jurassic/Cretaceous (?)
Nisling Range Granodiorite; granodiorite and quartz-monzonite

intrusive contact -

Triassic and (?) later
Nisling Range Volcanic Rocks; Porphyritic andesite rhyolite, latite, tuff and breccia

Unconformity - - -

PRECAMBRIAN AND LATER

Yukon Complex: Quartz-chlorite-sericite schist, quartzite, amphibolite and minor limestone

PROPERTY GEOLOGY

The claims cover the western nose of a small stock of Alaskite bordered by quartz-porphyry on the southwest side and a probable fault contact with Yukon Complex schists to the north (see Fig. 2).

Two breccia pipes were noted:

1. The first occurs within a quartz-porphyry body and consists of fragments of felsite and porphyry rimmed and cemented by vuggy quartz.
2. The second occurs within the Yukon Complex and contains predominantly quartzose schists fragments and other highly bleached remnants. This pipe, though more compact than pipe No. 1 has some vuggy quartz in the matrix.







Molybdenite occurs on dry fractures within the quartz-porphyry near the southern breccia pipe. Chalcopyrite and pyrrhotite were found in several outcrops of schist near the quartz-porphyry contact.

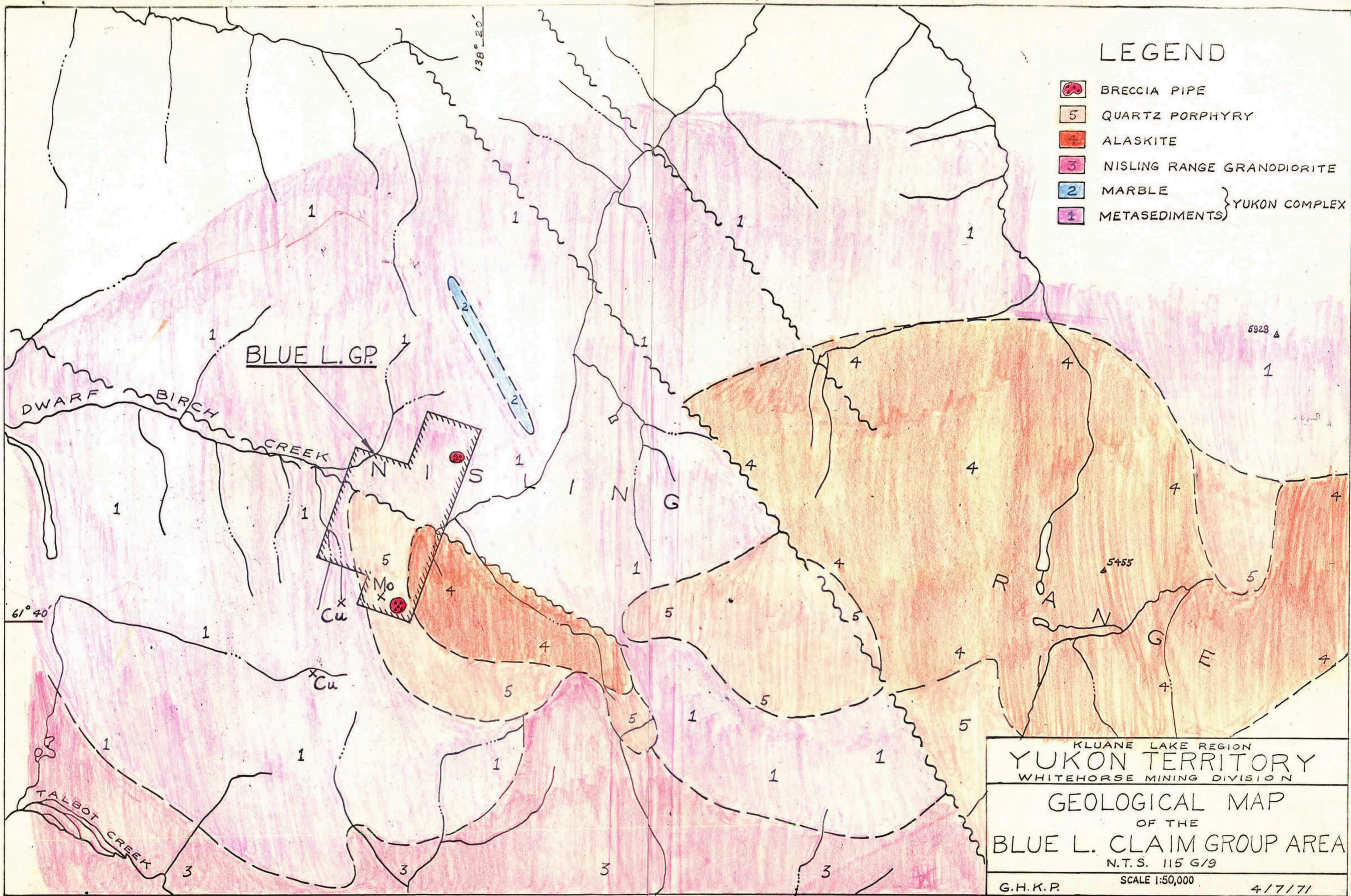
GEOCHEMISTRY

Tributaries of the headwaters of Dwarf Birch Creek, overlain by the claims are anomalous in Cu and Mo with values over 100 ppm and 35 ppm, respectively. Regional background values for the elements are 15 ppm and 2 ppm respectively.

Drainages to the west and north of the claims are anomalous in Pb for distances in excess of one mile from the claims.

LEGEND

-  BRECCIA PIPE
 -  5 QUARTZ PORPHYRY
 -  4 ALASKITE
 -  3 NISLING RANGE GRANODIORITE
 -  2 MARBLE
 -  1 METASEDIMENTS
- } YUKON COMPLEX



KLUANE LAKE REGION
YUKON TERRITORY
 WHITEHORSE MINING DIVISION

GEOLOGICAL MAP
 OF THE
BLUE L. CLAIM GROUP AREA
 N.T.S. 115 G/9

G.H.K.P. SCALE 1:50,000 4/7/71

Figure 2

GEOPHYSICS

The area of the claims is covered by Geophysics Paper No. 4328 of the Geological Survey of Canada (Map-sheet No. 115 G/9, Talbot Creek).

The area is one of low magnetic response with, at most, 100 gammas magnetic relief.

CONCLUSIONS

The Blue L. Claims possess a number of the geological attributes present in major porphyry copper type-areas:

1. Presence of porphyry intrusives of Cretaceous to Tertiary age.
2. Presence of associated Cu-Mo mineralization.
3. Breccia-pipes with vuggy-quartz indicative of volatile-rich late-stage hydrothermal solutions.
4. Anomalous Cu, Mo, Pb silt and soil geochemistry.
5. Close association with regional faulting.

In view of the foregoing encouraging features the property merits further study. The area with greatest potential for porphyry Cu type mineralization is thought to be the overburden covered valley of Dwarf Birch Creek between the two known breccia pipes.

Prospecting, Geological and Geochemical Soil Surveys at a scale of 1" = 400 ft., would be a logical next step in exploring the property.

RECOMMENDATIONS

I recommend that the following work be carried out as a first stage of exploration of the Blue L. Claim Group:

1. A grid with 9,000 ft. baseline parallel to Dwarf Birch Creek should be surveyed in (line-cutting not necessary as area is above tree-line) Cross-lines 6,000 ft. long at 800 ft. intervals.
2. A minimum of one claim length in all directions from the existing claims should be staked to guard the perimeter. Ground on the east and west flanks is of paramount importance (26 claims approximately).
3. Geological mapping and Geochemical Soil Sampling Surveys of the grid area and Prospecting of the surrounding area.

If results of Stage I are encouraging an I.P. survey of anomalous areas should be done with follow-up diamond drilling of selected targets.

The following is an estimate of costs for the program employing a four man party for 15 days.

STAGE I

CLAIM STAKING

Materials, posts, etc.	\$ 50.00	
Wages (2 men @ \$30.00/day)	60.00	
Helicopter support (4 hrs.)	<u>600.00</u>	\$ 710.00

LINE SURVEYING (75,000 ft.)

Wages (2 men @ \$30.00/day/7 days)	\$ 420.00	
Supplies	<u>50.00</u>	470.00

GEOLOGICAL MAPPING

Wages (1 geologist 15 days)	\$ 800.00	
Equipment	<u>150.00</u>	950.00

GEOCHEMICAL SURVEYS

Wages (2 men/7 days @ \$30.00/day)	\$ 420.00	
Assays (325 soils @ \$2.50/sample)	912.50	
Supplies	<u>100.00</u>	1,432.50

PROSPECTING

Wages (1 man/15 days)	\$ 400.00	
Supplies (powder, etc.)	50.00	
Assays	<u>200.00</u>	650.00

CAMP SUPPORT

4 men @ \$10.00/day for 15 days	\$ 600.00	
Helicopter support (16 hrs.)	<u>2,400.00</u>	<u>3,000.00</u>

TOTAL STAGE I \$ 7,212.50

STAGE II (Contingent)

I.P. Surveys 10 miles at \$425.00/mile	\$ 4,250.00	
+ Mobilization and demobilization	<u>2,000.00</u>	\$ 6,250.00

DIAMOND DRILLING

20,000.00

TOTAL STAGE II \$26,250.00

Respectfully submitted,

A handwritten signature in black ink, consisting of a large, stylized initial 'G' followed by a series of connected loops and a long horizontal stroke extending to the right.

G. H. K. Pearse,
Professional Engineer,
Province of British Columbia

SELECTED REFERENCES

Bostock, H. S.

- 1948: Physiography of the Canadian Cordillera with special reference to the area north of the 55th parallel; Geol. Surv. Can. Mem. 247

Muller, J.E.

- 1967: Kluane Lake Map-Area, Yukon Territory (1156, 115 F E/2) Geol. Surv. Can. Mem. 340