LUC SYNDICATE

EXPLORATION REPORT

1972

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by

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INTRODUCTION

Figure I is an index map showing the locations of areas that received attention during 1971. The greater part of the exploration effort was directed to the Babine Lake area in search of copper deposits similar to Granisle and Bell Copper. Three claim groups covering favourable indications warrant further exploration.

A G3B-1 helicopter was used on contract from May 27th till August 28th. Northern Mountain Helicopters extended the favourable contract rate to LUC through September, without a guarantee of minimum hours to be flown. Some seventy-eight helicopter hours were sold to other exploration firms in the area.

Results of work in all areas are summarized below.

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INDEX MAP

1972 PROSPECTING AREAS

Scale 1" - 20 miles   Nov. 1972

FIGURE I

MOUNT BULLMAN AREA

A two-man party prospected areas of intrusive rock in the vicinity of Mt. Bullman, approximately 20 to 25 miles southeast of Kamloops.

Staking of the MEL group was on an aeromagnetic anomaly. There was widespread staking by other exploration crews.

Silt and soil sampling, as well as general prospecting, failed to indicate any significant evidence of mineralization.

Figure II shows results obtained on the MEL claims. No further work is planned.

N

ANOMALY

CUT LINES

MAG

MARGIN OF AIR

MUNRO CREEK

MOIR RES.

Mel 31 | Mel 32 | Mel 29 | Mel 30 | Mel 34 | Mel 33 | Mel 36 | Mel 35 | Mel 102 | Mel 101 | Mel 104 | Mel 103 | Mel 106 | Mel 105 | Mel 107 | Mel 108 | Mel 109 | Mel 110 | Mel 111 | Mel 112 | Mel 20 | Mel 22 | Mel 19 | Mel 21 | Mel 15 | Mel 16 | Mel 13 | Mel 14 | Mel 11 | Mel 12 | Mel 9 | Mel 10 | Mel 7 | Mel 8 | Mel 24 | Mel 5 | Mel 26 | Mel 25 | Mel 3 | Mel 4 | Mel 27 | Mel 28

suspected

LEGEND

- G — Feldspar. Hornblende Porphyry Dykes
- F — Micro Diorite
- E — "Crowded" Feldspar Porphyry
- D — Grey Syenite
- Green "spotted" Diorite
- B — Hornblende Diorite, Pyroxenite
- A — Tuff, Argillite, Greywacke

26 Silt Sample Cu. PPM.

inches 0 1 0 1 2 centimetres

This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

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MEL CLAIM GROUP

GEOLOGY & SILT SAMPLES

92I/8

1" - 1/4 MILE NOV. 1972

FIGURE 11

QUESNEL RIVER AREA
Maps 93B/16E & W
(Figure IV)

During the latter part of September and most of October, prospecting crews mapped and silt-sampled in the region south of Quesnel toward the location of Gibralter Mines. (Figure IV)

Figure III outlines the geology on the F.P. Mooney copper showing. Minor copper mineralization occurs in bands of rhyolite and feldspar porphyry. Copper values were too low and widths too narrow to indicate an economic deposit.

Prospecting failed to locate showings of importance but silt sampling returned several moderately anomalous values in both copper and molybdenum and these should be checked out early in 1973.

Since the intrusives at Gibralter have no significant magnetic susceptibility, prospecting targets in the Gibralter area may be extremely subtle in areas of overburden.

D.D.H "3"
-50° Az 225°
CASING IN HOLE

DDH "2"
SAID TO BE DRILLED FROM
SAME SETUP AS "3

D.D.H "1"
LOCATION NOT KNOWN

DRILL HOLE SECTIONS PLOTTED AT 1"-20'

CABIN

RICH "4

0.03 0.003
0.32 0.003
0.41 0.003
0.14 0.003
0.33 0.008

IP. M+S "2 RIGHT 300'
LEFT 200'
IP RICH 3+4 NORTHWESTERLY
IP RICH 1+2 EASTERLY
IP M+S "1 NW
1200'R 300'L
DDH "2"
DDH "3"

RICH "3

CABIN

RICH "2

RICH "1

IP DAPHNE FR.
J SHEFFIELD MARCH 27/72 EASTERLY
F.P M+S "2 F.P MOONEY MAY 12/70
F.P. RICH 1+2 J SHEFFIELD MARCH 27/72

60°

QUESNEL RIVER

LEGEND

4 FELDSPAR PORPHYRY
3 RHYOLITE
2 ANDESITE
1 ARGILLITE

0.14 0.003 Cu Au ASSAY

N

inches
0 1 2
0 1 2 3 4 5
centimetres

BRITISH COLUMBIA GEOLOGICAL SURVEY

This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

F.P. MOONEY SHOWING
QUESNEL RIVER

Scale 1"-100' Oct. 1972

FIGURE III

MOONEY CLAIMS

DRAGON LAKE

QUESNEL RIVER

FRASER RIVER

QUESNEL

Sardine Creek

RIVER

Towler Creek

inches
0 1
0 1 2
centimetres

This reference scale bar has been added to the original image. It will scale at the same ratio as the image, therefore it can be used as a reference for the original size.

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QUESNEL RIVER AREA
1"-1 MILE 1972

93 B/16 E
Scale 1"-1/2 Mile

FIGURE IV

VANDERHOOF-QUESNEL REGION
Map 93G/12W (1971)

Limited check work was done in this area to follow up 1971 silt sample results. No mineralization of significance was found. The anomalous silt samples have not been satisfactorily explained but the area is small with relatively good rock exposure and it is very unlikely that a sizeable deposit is present.

TALTAPIN LAKE AREA
Maps 93K/5E, 6W, 6E
(Figure V)

A two-man crew spent several weeks in the area between Burns Lake and the south end of Babine Lake.

Several small vein-type prospects were examined during this work.

Silt sampling and general prospecting failed to indicate anything of interest.


LUC SYNDICATE
TALTAPIN LAKE AREA
1"- 1 MILE 1972
FIGURE V
INTERIM MAP 93 K/6 W
TALTAPIN LAKE
INTERIM MAP 93 K/6 E
TALTAPIN LAKE
MAP 93K/5E
DATE OF PHOTOGRAPHY: 1954
DATE OF COMPILATION: 1957
DATE OF PHOTOGRAPHY: 1948, '53 & '54
DATE OF COMPILATION: 1957
TO WEST SEE MAP 93 K/5 W
TO EAST SEE MAP 93 K/7 E
BABINE L.
Babine Lake
Babine L.
Donald Ldg.
Boling Pt.
Silver I.
Silver Island
Gullwing I.
Gullwing Cr.
FOUR MILE MTN.
TETZALTO MTN.
TALTAPIN MTN.
MT. OTT
Sutherland R.
Shass Cr.
Henrietta L.
Henrietta Cr.
Coldwater Cr.
Hannay L.
Leech L.
Tadpole L.
Helene L.
Helene Cr.
Taltapin Lake
Taltapin L.
Pinkut Cr.
Pinkut Lake
Augoier Lake
Ling Cr.
Ling L.
Division L.
Decker Cr.
Nellian L.
Stearns Cr.
BOER MTN.
Shovel Cr.
ETHEL F. WILSON MEMORIAL PARK
RESERVE
L. 5011
L. 5012
L. 5013
L. 5014
L. 5015
L. 5016
L. 5017
L. 5018
L. 5019
L. 5020
L. 5021
L. 5022
L. 5023
L. 5024
L. 5156
L. 667
L. 668
L. 669
L. 670
L. 671
L. 1873
L. 675
L. 6708
L. 6753
L. 6755
L. 6756
L. 6757
L. 6758
L. 6759
BC 1941
BC 1942
BC 1800
BC 1589
BC 1799
BC 602
inches
centimetres
This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.
BRITISH COLUMBIA GEOLOGICAL SURVEY

BABINE LAKE AREA

Plate I - 93K/13W, 93L/9 + 16
Plate II - 93M/1Q2, 7E, 8

Prospecting was conducted in this area in a search for deposits similar to Granisle and Bell Copper. These are porphyry copper deposits in a particular type of biotite feldspar porphyry of Tertiary age. It was thought initially that intrusives of this age might be found intruding any of the older formations in the region, including the Topley intrusives, but this is apparently not so.

From the apparent southeasterly alignment of mineral deposits, it was assumed possible zones of weakness should extend southeast into the Topley intrusives.

The Takla fault, a major south striking fault was postulated to extend south to intersect the supposed southeast trending zone of weakness in the general Wright Bay-Tochcha Lake area.

Results of prospecting indicate that the favourable biotite feldspar porphyry intrusives are confined to the wedge shaped area between the Takla fault to the east, the Chapman Lake fault to the west and the Skeena Arch to the south.

The geology maps (Plates I & II) show the air photo linears plotted during a general review of 1" = ½ mile photos.

In the vicinity of known mineral occurrences, very little evidence was found of the mapped northwesterly trending structures. On the contrary, the most prominent feature in the vicinity of known deposits is a relatively large number of sharp north-south linears. In effect, a broad zone marked by sharp north-south air photo linears

embraces practically all important copper prospects. By including the much more widely spaced, north-south linears appearing to the northwest, it is possible to include the exceptions such as Mt. Horetsky and perhaps French Peak.

The region exhibits perhaps 10% outcrop and much reliance has been placed initially on aeromagnetic information and on stream geochemistry during prospecting. The diversity of soils, topography and drainage patterns, however, is reflected in an erratic geochemical response.

In spite of this fact, our information indicates that, of the sixteen more important mineral showings, twelve were found by geochemistry and/or prospecting of rock outcrops; two were found by a combination of old reports, geophysics and diamond drilling; one through follow-up of favourable but barren outcrop with geophysics and drilling; and one was uncovered by tractor work. Of these sixteen properties, thirteen are in biotite feldspar porphyry, one in quartz biotite feldspar porphyry and two in monzonitic rocks. All these properties occur in association with positive aeromagnetic anomalies but in no case is there a distinctive magnetic structure which would logically lead to discovery of the property.

BFP AREA

Within the region favourable for biotite feldspar porphyry, exploration consisted of silt sampling, some mapping of float, geological mapping and prospecting. In areas of even minor interest, claims were staked for protection. Soil sampling and geological mapping were normally done in these situations and in one case tractor trenching was done to find the source of a geochemical anomaly.

Those volcanics in the area south of Old Fort to Fulton Lake contain a fairly high copper content and geochemical anomalies are often derived from this source. This same area, however, encompasses several outcrops of various phases of feldspar porphyry. As a result, all significant geochemical indications were followed up and led to staking of the following three claim groups.

MINE CLAIM GROUP

Examination of files in Victoria had indicated positive geochemical results in this area. Check prospecting indicated considerable pyrite in sediments in the north portion of the claim area and a relatively strong but small geochemical anomaly to the south.

An outcrop of volcanics occurred some 400 feet east of the anomaly and appeared to be well fractured. As a result, the anomaly was trenched and revealed fractured volcanics and calcite stringers with minor chalcopyrite as well as minor malachite on slip planes. The geochemical anomaly appears to be a concentration of copper in soil lodged in a north-south depression in the volcanics.

No further work is planned.

HAL CLAIM GROUP (Plate III)

El Paso crews had previously found a geochemical anomaly here and had conducted IP surveys and limited diamond drilling. LUC crews located fragments of volcanics with chalcopyrite mineralization. Soil sampling confirmed the earlier anomalies. Mercury determinations on a separate series of soil samples tended to confirm the same area as anomalous although it had been thought the source of the anomaly might be some little distance to the northwest.

Since the mineralized float is very similar to the material found in trenching the MINE group, it is assumed the source of the anomaly is the same and no further work is planned.

ROJO CLAIM GROUP

Stream silts south of Saturday Lake indicated a small area anomalous for molybdenum and a separate small area anomalous for copper. These results were on the margins of a positive aeromagnetic anomaly. The ROJO group of 24 claims covers this anomalous area. A soil sample grid has been run indicating the copper results near the southeast corner may be due to copper content in volcanics which outcrop in the southern portion of the claim group.

No adequate explanation has been found for anomalous molybdenum results in the northwest portion of the group. During October-November, Amoco was engaged in drilling IP anomalies north of the ROJO group and in the first five holes had encountered fractured and altered volcanics with up to 10% pyrite. The volcanics commonly run 0.05% copper with the highest assay reported to be 0.14%. Only narrow biotite feldspar porphyry dykes were encountered.

The favourable alteration encountered by Amoco to the north, the air mag high and the molybdenum geochemistry indicate the ROJO group should be carefully investigated during 1973.

A series of relatively small, isolated aeromagnetic highs trending north near longitude 126°45' were investigated and led to staking three claim groups:

DEV CLAIM GROUP

These claims were staked in competition with contract crews working for Amoco. The area was prospected and silt sampled. No indications of mineralization were found and the aeromagnetic anomaly appears to be due to a phase of the volcanics.

Amoco conducted linecutting, soil sampling, mapping and an IP survey and report no favourable indications.

HOL CLAIM GROUP (Plate IV)

The aeromagnetic anomaly here was known to be underlain by intrusive rocks. It was assumed other exploration companies had investigated this intrusive mainly by prospecting the outcrop ridges.

Silt sampling around the base of the hill resulted in one significantly anomalous sample. Further prospecting and soil sampling indicated zones of higher than normal copper content. Outcrops of biotite feldspar porphyry show some pyrite and the area is considered sufficiently important to warrant much more detailed work. Mapping and tractor work planned during 1972 was prevented by heavy snowfall about mid-September.

TOR CLAIM GROUP

Detailed prospecting, silt and soil sampling was done in the area of a coincident magnetic anomaly and topographic feature which was thought might be caused by an intrusive plug. A few float fragments of feldspar porphyry were found but the anomaly appears to be due to relatively unaltered volcanics. A very small geochemical anomaly was outlined but results are not sufficiently encouraging to warrant further work.

The area between the northwest arm of Babine Lake and Morrison Lake contains many small intrusive bodies. In general, the aeromagnetic map indicated the area of Old Fort Mountain and a local area on the west side of Morrison Lake to be of most interest.

FORT CLAIM GROUP

LUC geologist T. Janes located mineralized biotite feldspar porphyry while prospecting the northwest portion of Old Fort Mountain. A total of 44 claims was staked and the area partially prospected and silt-sampled. Heavy snow in mid-September prevented completion of a program of mapping.

Several small intrusive bodies cut volcanics and sediments. Locally, some of the biotite feldspar porphyry is altered in appearance and mineralized with pyrite, pyrrhotite and, in places, chalcopyrite. Alteration extends some distance into sediments and volcanics to the south where outcrop can be traced on the ridge. To the north the ground falls away fairly sharply and no outcrop has been found.

This prospect appears to be better than some others in the region which have received considerable exploration work - such as the Falconbridge OFF RAID DDT showing on the east side of the Old Fort Mountain and the Tro Buttle WOLF property west of Morrison Lake.

MOR CLAIM GROUP

A coincident topographic feature, granitic intrusive and slight aeromagnetic anomaly on the east side of the north end of Babine Lake was prospected. The anomalous area was found to be underlain by monzonite but to the east and north, several biotite feldspar porphyry dykes were found. Prospecting failed to find copper mineralization. Later staking was done by Cities Service Minerals in the area and a joint program of reconnaissance IP is being considered.

This area overlaps in part and lies to the north of intensive work done earlier by Noranda which included air EM and mag, IP, mapping and diamond drilling. Apparently, nothing of significance was found.

Northwest of Old Fort Mountain, a featureless air mag low about three miles wide is bounded on the north by a series of rhyolite bodies. This region has received a fair amount of exploration and is presently held in part by Quintana. Prospecting has revealed diorite intrusives, some alteration and four widely separated anomalous silt samples lying along a northwest trend. Further prospecting of this area seems to be warranted.

The rhyolites show both intrusive and extrusive features. Two areas are mineralized with pyrite. No economic mineralization has been found but the singular geology merits attention.

East and northeast of Morrison Lake, prospecting served mainly to outline some of the geology.

SINTA CLAIM GROUP

These claims were staked to follow up on an anomalous silt sample taken during 1971 and an outcrop area of fragmental volcanics mineralized with pyrite and pyrrhotite found in 1972. Although scattered geochemical results maintained interest for a time and float fragments of biotite feldspar porphyry contain pyrite, there has been insufficient encouragment to do further work.

REGION NORTH OF PLATE II - NORTH BABINE AREA

North of Babine Lake, red bed sedimentary formations were observed in the Nilkitkwa River. These are possibly part of the sequence of red beds found northeast of Takla Lake where some copper and silver indications have been found. Insufficient work has been done to give any indications here.

Between Nilkitkwa River and Mt. Horetzky, an area of altered sediments with rather diverse intrusives shows pyrite mineralization. This area was earlier staked by Canadian Superior. Our information indicates no program is being considered by them. The zone appears to warrant very careful investigation. Topography and glacial overburden make geochemistry a relatively inefficient method, If, however, the area comes open, a magnetometer and IP program should be carried out.

At Mt. Horetzky, previous operators had carried out mapping and a geochemical survey. The startling geochemical results were investigated and attributed to "rock geochemistry" rather than "soil geochemistry". The property is not considered as particularly favourable.

SKEENA ARCH AREA
Plate I - 93K13W, 93L16E, 9E+W

South of the BFP area, the Skeena Arch is a rather nebulous structure involving older formations. The intrusives in this area are considered to vary from about Omineca age (200 m y) to Topley age (144 m y) and perhaps to Tertiary age (50 m y).

Prospecting seems to indicate that no significant Tertiary age intrusives are present in the Skeena Arch area, although a few feldspar porphyry dykes, generally massive and unmineralized, were found. These dykes are similar in appearance to feldspar porphyries in the region to the north but are considered to be much older.

The PIT, BLOW and TAC claim groups were staked on geochemical results in this general area. Work on these claims consisted of mapping and limited soil sampling. No significant results were obtained and no further work is planned.

After considerable investigation, it appears there is a particular volcanic sequence which is anomalous for molybdenum over wide areas. No significant copper results were obtain. Further trace element analyses done on silt samples to test for possible precious metal indications has revealed an area anomalous for zinc and cadmium. These results are sufficient to warrant a detailed program in search of vein type mineralization.

MT. BATES AREA

Checking of 1971 silt samples indicated some silver content in stream silts from the area about 8 miles east of the north end of Takla Lake. A very brief investigation of the anomalous area was made. (Map 93M/9E - 1971 LUC Report)

Scattered pyrrhotite, pyrite and chalcopyrite mineralization occurs in fragmental volcanics. Malachite and chalcopyrite are visible in thin bedded sediments above a thick horizon of "red beds" including conglomerates. These sediments indicate geochemically anomalous amounts of silver in rock specimens.

The area is of considerable interest and could possibly contain deposits similar to the Sam Goosly property of Kennco.

KWANIKA CREEK AREA

The region north of the BURN group was carefully prospected. The LIN and RODE claim groups were staked to cover the apparently favourable structure; streams were silt-sampled and the claim groups were soil-sampled. A magnetometer survey was conducted but on the LIN group results were very much affected by magnetic storms and are useful only to show the general location of the diorite contact.

On the LIN group north of Kwanika Creek, an isolated molybdenum anomaly was outlined. (Plate V)

On the RODE group, several linear anomalies were outlined, mainly for molybdenum but with some copper content. To the southwest of these anomalies, a group of copper anomalies is outlined. (Plate VI)

A ground magnetometer survey of the claim group served to outline the general geological structure. (Plate VII)

These geochemical anomalies are not particularly strong. There is no outcrop and the depth of overburden may be considerable. The anomalies are considered significant and assessment work has been filed to hold the key claims.

OMINECA RIVER AREA

An area of anomalous silt samples south of the Omineca River was investigated thoroughly. Fractures and small shears, generally on strike northwest of the TWIN group held by N.B.C. Syndicate, showed copper mineralization.

It is possible the geochemical anomalies are due to remnants of a roof pendant structure substantially eroded from this area. Mineralization and structures observed indicate no further work is justified.

DUCKLING CREEK AREA

A survey was made of the conflicting claim lines where the COL claim group overlapped claims being explored by Granby. (Plate VIII). Fractions of open ground apparently existed at time of staking which extended into the mineralized area of the Lorraine showing. Portions of these fractions are now held in the COL group but end some 1800 feet north of the main showings.

Further mapping was done on the COL group which indicates no significant mineralization extends from any of the known showings onto these claims. (Plate IX)

No further work is planned but an approach will be made to Granby concerning their possible interest in the COL group.

J.C. Stephen
Exploration Superintendent