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CARIBOO SYNDICATE

GEOLOGICAL AND GEOPHYSICAL REPORT

DEER LAKE AREA

DEER 1 - 35 INCL. MINERAL CLAIMS

UNITED 1 - 8 INCL. MINERAL CLAIMS

Kamloops Mining Division
British Columbia

Hugh Naylor, B Sc.

L. G. White, P. Eng.

Location: 14 miles northwest of Little Fort, B. C
Kamloops Mining Division
51° 120° NE

Dates: June 7 - August 13, 1972

August 28, 1972

Vancouver, B. C.

3415

3945

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INTRODUCTION

The latest phase of exploration of the Deer claims was carried out during the latter half of July, 1972. This phase involved geological mapping and a magnetometer survey. The results are plotted on a scale of 1 inch to 400 feet in accompanying maps.

A review of the history of exploration in the area is contained in the preliminary report dated June 19, 1972.

Grid control was supplied by flagged, chained lines established during the 1971 reconnaissance soil sampling program and remarked for the current program. Where it was impractical to use these lines new lines were chained and marked. The grid covering the United 2 - 5 claims was traversed and mapped and the results of the magnetometer survey carried out by United Copper in 1971 were plotted along with the adjacent Cariboo Syndicate results.

Mapping was done by Hugh Naylor and William Raymond. Gary Wittal operated the magnetometer. All work done since the last progress report was carried out between July 10 and July 28, 1972.

The surveys were supervised by the co-author, L. G. White, P. Eng.

CLAIMS

Claims included in the survey are as follows:

Claim	Record Number	Anniversary Date
Deer 1 - 22 incl.	100033 to 100054	September 24, 1972
Deer 23 - 27 incl.	100444 to 100448	October 26, 1972
Deer 28 - 35 incl.	120393 to 120400	June 16, 1973
United 1 - 8 incl.	91854 to 91861	September 28, 1972

GEOLOGY

Regional Geology

The regional geological setting is one of a mosaic of fault blocks of sedimentary and volcanic rocks that range in age from Permian to lower Jurassic. The bounds of the blocks are fault traces that strike north-easterly and north-westerly. South of

Deer Lake the northern limit of the main mass of the Thuya Batholith contacts a fault bounded block of Upper Triassic Nicola rocks which contain the Deer group of claims. Small intrusions of syenite, leucogranite and diorite crop out in this area. They are probably satellites of the Thuya Batholith and are, along with the regional faults, a controlling factor in the distribution of copper, base metal and gold occurrences in the region.

The favourable geology is limited east of Deer Lake by a prominent north-westerly striking fault trace east of which relatively unaltered volcanic rocks of the Cache Creek formation occur.

Several other copper and base metal prospects have been the targets of recent and current exploration. The most important of these are two copper prospects in the Friendly Lake area currently under option to Imperial Oil Ltd., who are re-assessing the area following several years of exploration by Anaconda.

Property Geology

The distribution of outcrops and their classification according to rock type is shown on Figure 1. A description of the rock types follows below.

Intrusive rocks

Unaltered medium-grained hornblende biotite granodiorite outcrops in the southern claim area. These rocks represent the northerly extension of the Thuya Batholith.

The most widespread intrusive rocks are the diorites, all of which are altered to some degree. The composition is locally variable and very fine to coarse-grained phases occur on the claims. Gabbroic rocks occasionally found within the diorite are typically altered to greenstone.

Mixing of the granodiorite and diorite takes place along their common boundaries and fragments of granodiorite within the diorite indicates a younger relative age for the diorite.

Hybrid rocks, hornfels, skarns

Along the margin of the diorite and within the diorite mass, metasomatically altered rocks are designated for convenience "hybrid" when their origin is masked by the high degree of silicification and pyritization. Where the rocks are very fine-grained they appear to be the chilled margin of the intrusive but they may also be altered andesitic rocks.

Hornfelsic rock consisting of secondary hornblende in an epidotized siliceous groundmass is common in the north-west claim area. It is considered an altered diorite.

Where the diorite intrudes carbonaceous sediments, typical garnetiferous skarns are seen with pods of massive sulphides, chiefly pyrrhotite, with lesser magnetite and chalcopyrite.

Sedimentary, volcanic rocks

The Nicola rocks consist mainly of volcanic breccias in the claim area. The fragmental outlines are barely discernable due to silicification in the vicinity of the intrusive rocks. The groundmass is andesitic and usually porphyritic with small augite phenocrysts. Pale green tuffs were observed on the Deer 32-33 claims and south-west of the limits of Figure 1.

On the fringe of the Deer claims in the northern corner relatively fresh banded, pyritized argillites crop out. Grey bedded limestone is found near Deer Lake and about 1-1/2 miles to the south-west. It is locally altered to skarn and

contains euhedral pyrite crystals in the trenches south of Deer Lake.

Bedding in the limestone strikes consistently 110° and is nearly vertical while the argillites to the west dip steeply to the south-west. Bedding attitudes in the volcanic breccias were difficult to determine.

East of Deer Lake a sequence of fresh vesicular olivine basalts with minor interbedded felsites are probably Nicola rocks.

Faulting

Several regional fault traces can be recognized on air photographs of the area. These are shown on Figure 1. The most prominent of these strike north-westerly and east-north-easterly. Serpentinized shears and fractures representing parallel or complementary structures exhibit slickensides indicating series of movements plunging partly south-easterly and westerly respectively.

MINERALIZATION

Chalcopyrite is the only economic mineral found in the claims although high gold values in the skarns at Deer Lake were reported in the 1930's. Mineralization occurs in the following forms:

1) massive metasomatic sulfide lenses in limestone;
2) as lenses or pods in shear or fracture zones in diorite associated with massive magnetite and pyrrhotite;
3) disseminated on fractures amongst grains of pyrrhotite in hybrid bleached andesitic rocks;
4) occasionally interstitially with mafic minerals in hornfelsic rock;

5) rarely in quartz and carbonate veinlets in sheared greenstone within the diorite mass

The juxtapositioning of the carbonaceous Nicola unit and the diorite is obviously a favourable environment for a metasomatic deposit while faulting probably supplies the avenues for hydrothermal solutions to penetrate the fractured rock.

MAGNETOMETER SURVEY

Method

A Sharpe MF-1 fluxgate magnetometer was used to measure the vertical components of the earth's magnetic field at 100' intervals along lines averaging 500 feet separation.

The reconnaissance soil sampling lines established in 1971 by the Cariboo Syndicate were used. They were tied in to the Deer 1-12 claim location line which had been chained and was assumed to be straight. This grid was tied in to the United Copper transit base line and in turn to the north-eastern grid area which had been flagged and chained in June, 1972 using the Deer 17-22 claim line as control.

A base station was established at the number one post of the Deer 17-18 claims which served as control for the north-east grid. For the south-west grid area base stations were established along a logging road at the point of intersection of the cross lines. These base stations were corrected so as to be relative to the north-east grid base station. The United grid was tied in to the Cariboo grid by relating readings at points common to both grids.

The survey was conducted in a series of loops starting and finishing at a base station. The diurnal variations were

assumed to progress linearly with time thus facilitating appropriate corrections.

A total of 22.4 miles of line was surveyed on the Deer claims and 2.8 miles on the United 6 and 7 claims. This was in addition to the 7.7 line miles established by United Copper on their grid in 1971.

Results

Four principal anomalous areas were defined by the survey. These are shown on Figure 2. Their general characteristics are as follows:

Anomaly "A"

- a zone of erratic, generally elongated highs up to 50,000 gammas set within or alongside broad areas showing anomalously low (to -22,000 gammas) magnetic response, south of Deer Lake.

Anomaly "B"

- a similar but less extreme distribution of intensities ranging from +2540 to -260 gammas north-west of Wittal Lake.

Anomaly "C"

- an elongated anomalous high averaging 500 to 1,000 feet wide trending about 120° azimuth through the full extent of the south-western Deer claims area.

Anomaly 'D"

- a narrow sinuous north-west trending anomalous high north of Laurel Lake

The remainder of the area surveyed showed a relatively flat background response (300 to 600 gammas in this survey) or

only minor local variations.

Interpretation of Results

Anomaly "A"

Skarn mineralization was noted in the mine workings 500 feet south-west of Deer Lake and in two short adits on the United 5 claim. These zones are both represented by local erratic anomalous areas within Anomaly "A" and probably reflect the small extent of the observable mineralization.

West of the southernmost of these two showings a linear high extends for approximately 1600 feet over a 300 foot average width within which magnetic intensities were greater than 1000 gammas or twice background. Readings greater than 2000 gammas formed three en echelon anomalies, the most extensive of these being about 800 by 150 feet in area. There is no outcrop here so that a definite cause cannot be ascertained; however, the possibilities of massive sulphides similar to the known occurrences only much greater in extent cannot be ruled out. Soil geochemistry did not indicate such a likelihood but experience in the area negates the wisdom of a literal interpretation of soil sampling results.

Anomaly "B"

A west-north-west trending shear zone containing massive pods of magnetite, pyrrhotite, pyrite and minor chalcopyrite is the cause of the linear high in the south-west sector of Anomaly "B".

Disseminated magnetite was visible in much of the greenstone in angular talus float throughout much of the remainder of

the anomalous area and is likely the cause of that broad high.

Anomaly "C"

No plausible explanation is offered for this anomaly. No known regional structure is indicated by mapping although parallel ones are prominent in the area. The anomaly transgresses geological boundaries and seems unrelated to any particular rock type or alteration. A diamond drill hole (Anaconda) was collared at the south end of the anomaly.

The anomaly may in fact be the south-easterly continuation of the extensive high with similar characteristics on the Silver claims north-west of Deer Lake. If this is the case then the anomaly has been offset about one mile in a right-hand lateral sense. An east-west lineation may represent the offsetting fault in the vicinity of Deer Lake. It may be significant that the hypothetical location of this fault also corresponds to the vicinity of the most important of the mineral occurrences known to date on the property.

Anomaly "D"

This anomaly which measures 1500 by 100 feet is probably caused by magnetite associated with a serpentinized shear zone in the diorite.

CONCLUSIONS

No target for further exploration was outlined on the Deer claims.

The only remaining area of sufficient potential is located on the United 3 and United 5 claims in the area of Anomaly "A". A limited program of trenching or short diamond drill holes is warranted in this area.

The Deer claims have some value in view of the current activity in the area and it is therefore recommended that documented 1972 surveys be filed as assessment covering the Deer 1 to 35 claims. Work should also be filed on the United 2 to 7 claims.

Drill hole data from Anaconda relating to holes numbered LV 1 - 6 could revise the interpretations and conclusions contained in this report.

Respectfully submitted

Hugh Naylor, B. Sc.

August 28, 1972

L. G. White, P. Eng.

PERSONNEL AND DATES

Name	Position	Dates
L. G. White 202-850 W. Hastings Vancouver, B. C.	Consultant	August 1, 1972
H. Naylor Pemberton, B. C.	Geologist, Supervisor	June 8-16, July 10-29 August 10-13, 1972
W. Raymond 202-850 W. Hastings Vancouver, B. C.	Assistant Geologist Magnetometer Op.	June 7-15, 1972
Gary Wittal 675 #1 Rd. Richmond, B. C.	Magnetometer Op.	July 18-28, 1972

COSTS

The following costs are applicable as assessment credits:

Salaries & Wages:		
L. G. White	1 day @ $150/day	$ 150.00
H. Naylor	33 days @ $40/day	1,320.00
W. Raymond	9 days @ $30/day	270.00
G. Wittal	11 days @ $20/day	220.00
Room & board	52 mandays @ $15/day	780.00
Jeep Rental	1 month	375.00
Magnetometer rental	1 month	298.75
Drafting expenses		264.53
Helicopter expense		160.00
	TOTAL	$ 3,838.28

The above costs are property related costs and do not include preliminary compilation of previous data, administration costs, transportation to and from Vancouver and other costs not normally applicable for assessment credit.

Declared before me at the

of VANCOUVER, B. C., in the

Province of British Columbia, this

day of SEP 15 1972, A.D.

Sub - Mining Recorder

A Commissioner for taking Affidavits within British Columbia or
A Notary Public in and for the Province of British Columbia.

CERTIFICATE

I, Hugh Naylor, do hereby certify that :

1. I am a geologist with residence at Pemberton, B. C.

2. I am a graduate of the University of British Columbia (B. Sc. 1962).

3. I have worked as an exploration geologist from 1962 primarily in British Columbia with various exploration companies.

4. At intervals between June 1 and July 27, 1972, I carried out the geological survey and supervised the magnetometer survey outlined in this report.

Hugh Naylor

CERTIFICATE

I, Leonard George White, of the City of West Vancouver, in the Province of British Columbia, hereby certify as follows:

1. That I am a Registered Professional Engineer of the Provinces of British Columbia and Ontario and reside at 704 Parkside Road, West Vancouver, B. C.

2. That I am a graduate of Washington State University with a Bachelor of Science in Mining Engineering, having practised my profession for twenty-nine years.

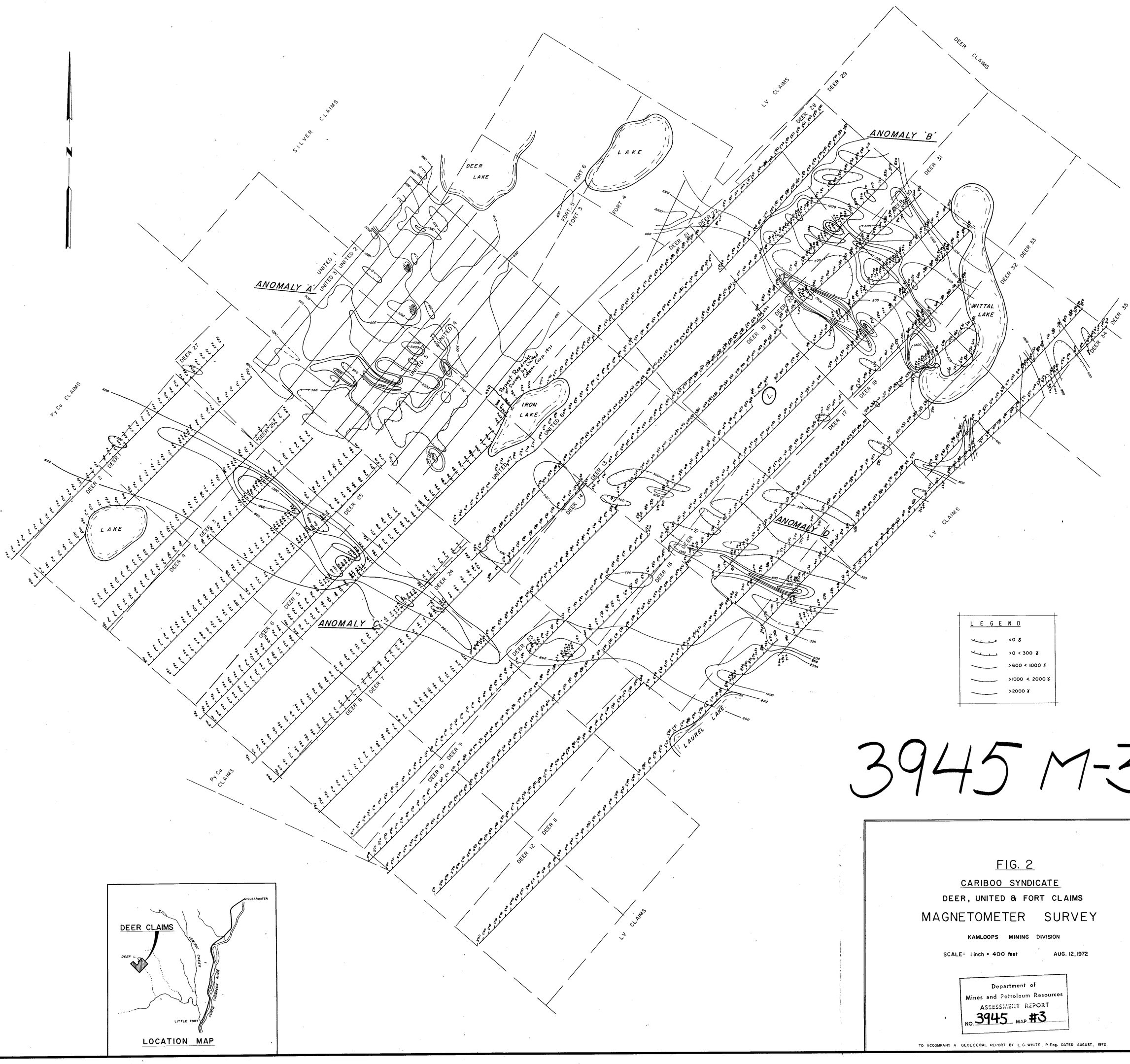
3. I have no interest direct or indirect in the properties described in this report.

4. That I completed field examinations and investigation of the exploration work conducted on the Deer 1-35 Mineral Claims and the United 1-8 Mineral Claims located at Little Fort, Kamloops Mining Division, British Columbia.

5. That the field supervision was provided by H. Naylor, Geologist, employed by the Cariboo Syndicate of which I am General Manager and Consultant.

DATED at Vancouver, B. C., this 14th day of September, A. D. 1972.

L. G. White, P. Eng.



LEGEND

- <0 ɣ
- >0 < 300 ɣ
- >600 < 1000 ɣ
- >1000 < 2000 ɣ
- >2000 ɣ

3945 M-3

FIG. 2

CARIBOO SYNDICATE

DEER, UNITED & FORT CLAIMS

MAGNETOMETER SURVEY

KAMLOOPS MINING DIVISION

SCALE: 1 inch = 400 feet AUG. 12, 1972

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3945 MAP #3

TO ACCOMPANY A GEOLOGICAL REPORT BY L.G. WHITE, P.Eng. DATED AUGUST, 1972

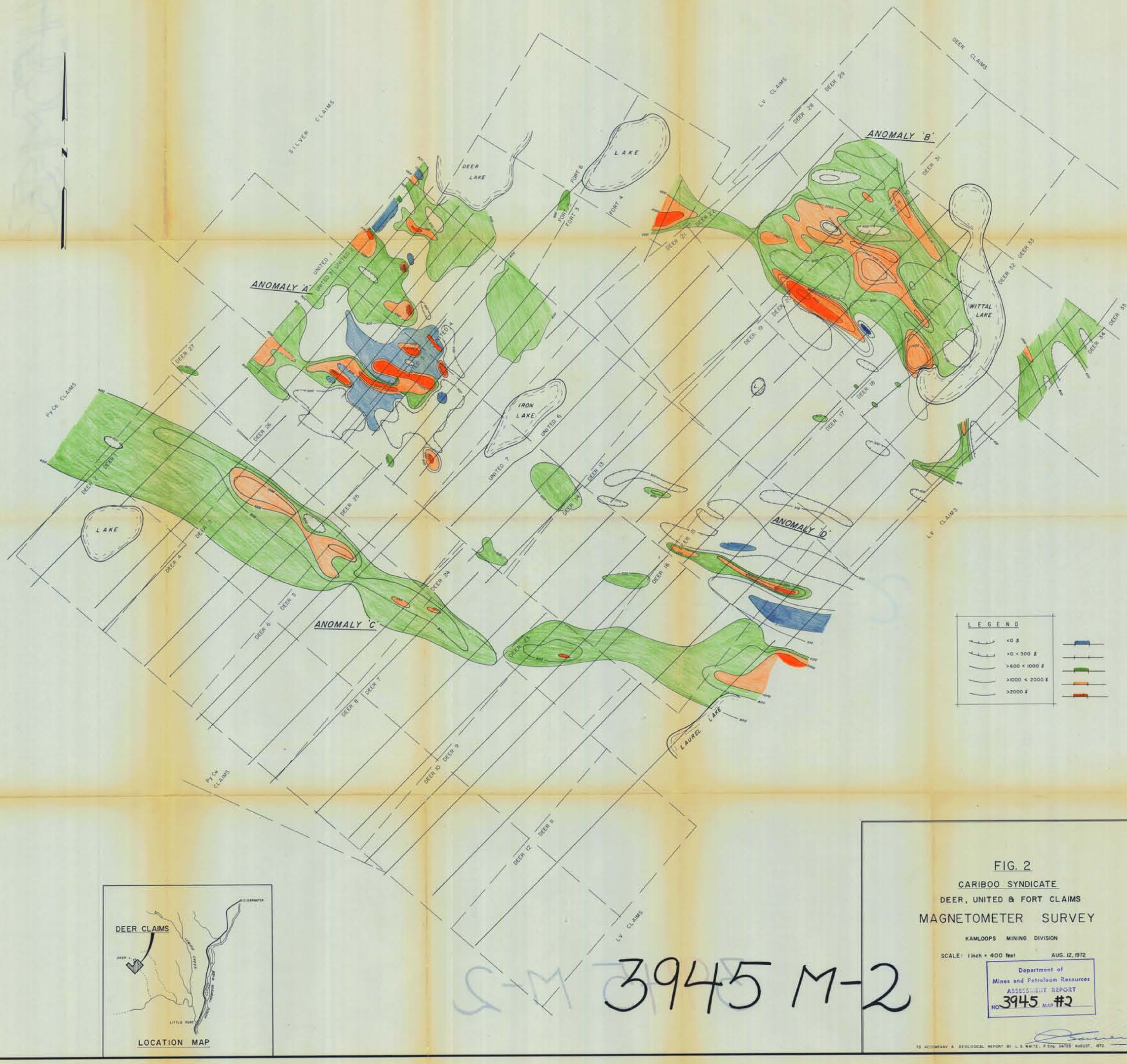


FIG. 2

CARIBOO SYNDICATE

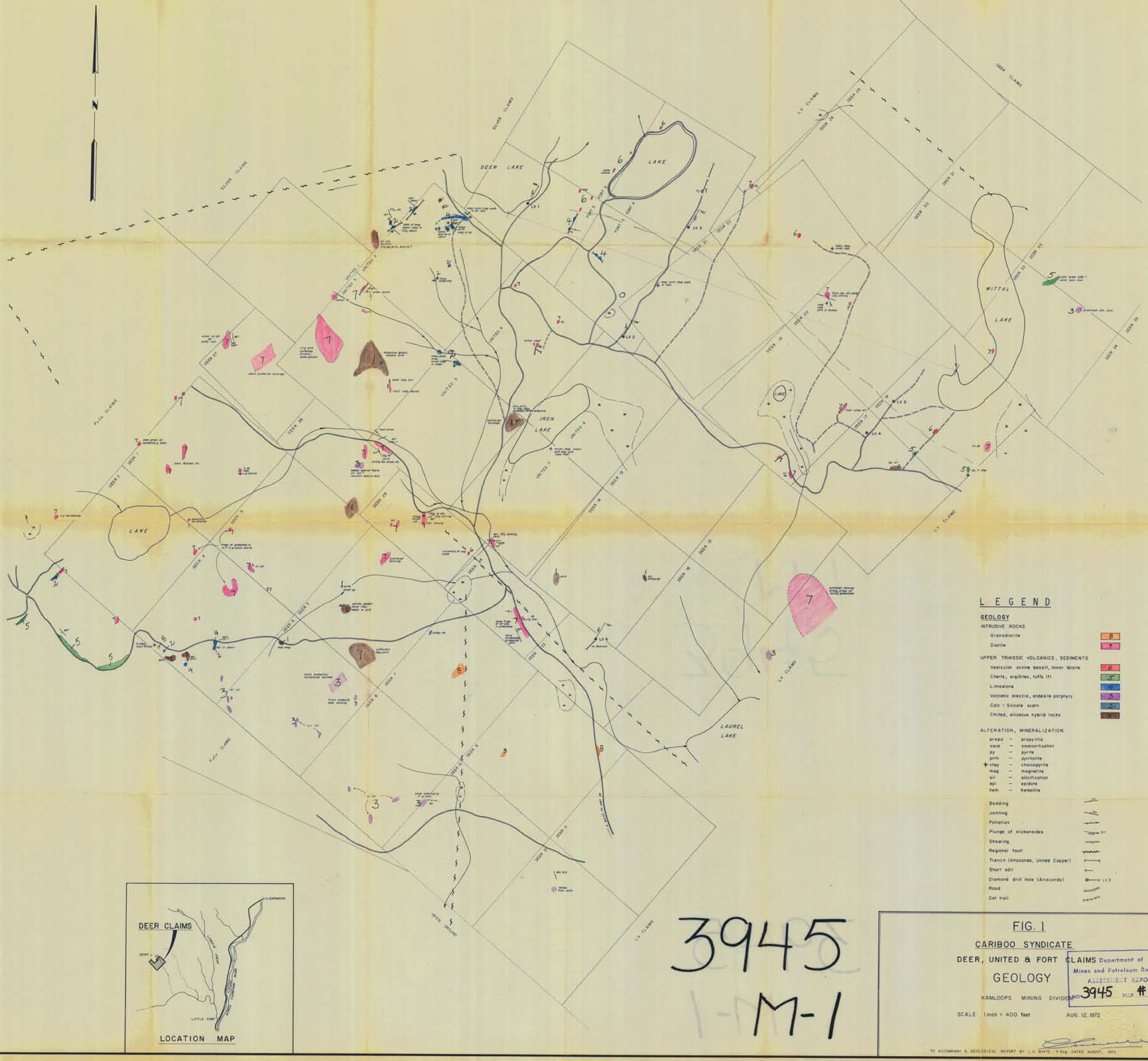
DEER, UNITED & FORT CLAIMS

MAGNETOMETER SURVEY

KAMLOOPS MINING DIVISION

SCALE: 1 inch = 400 feet AUG. 12, 1972

TO ACCOMPANY A GEOLOGICAL REPORT BY L.D. WHITE, P.Eng. DATED AUGUST, 1972.



LEGEND

GEOLOGY

INTRUSIVE ROCKS

- Granodiorite — 8
- Diorite — 7

UPPER TRIASSIC VOLCANICS, SEDIMENTS

- Vesicular olivine basalt, minor felsite — 6
- Cherts, argillites, tuffs (?) — 5
- Limestone — 4
- Volcanic breccia, andesite porphyry — 3
- Calc - Silicate scarn — 2
- Chilled, siliceous hybrid rocks — 1

ALTERATION, MINERALIZATION

- propy — propylitic
- sauss — saussuritization
- py — pyrite
- prrh — pyrrhotite
- + chpy — chalcopyrite
- mag — magnetite
- sil — silicification
- epi — epidote
- hem — hematite

- Bedding
- Jointing
- Foliation
- Plunge of slickensides
- Shearing
- Regional fault
- Trench (Anaconda, United Copper)
- Short adit
- Diamond drill hole (Anaconda) — LV 2
- Road
- Cat trail

3945

1-M-1

FIG. 1

CARIBOO SYNDICATE

DEER, UNITED & FORT CLAIMS

GEOLOGY

KAMLOOPS MINING DIVISION

SCALE 1 inch = 400 feet

AUG. 12, 1972

TO ACCOMPANY A GEOLOGICAL REPORT BY: L.G. WHITE, P.Eng. DATED: AUGUST, 1972