#4601

860234

PRELIMINARY REPORT

on

TRAIN PROJECT

93 A 12/E&W

by

M. R. Wolfhard Feb. 1977

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SUMMARY:

The Train claim include a covered area 2400 m by 10,000 m, adjoining a known alkaline porphyry deposit. There is porphyry type mineralization at both ends of the covered area, and available geology suggests that the volcanic center associated with the adjoining Cariboo - Bell deposit continues under glaciofluvial cover on Train claims.

These facts, together with the presence of mineralized float carrying up to 1.1% copper, and placer gold in Morehead Creek suggest the possibility of significant mineralization on the Train claims. A program of percussion drilling on a 600 m grid is recommended at a cost of $35,000.

INTRODUCTION:

PROPERTY: 12 claims, including 172 units, in Cariboo M.D., owned by C. J. Robertson (Quintana) as follows:

| CLAIM | # OF UNITS | REC # | ANNIVERSARY DATE |
|---|---|---|---|
| TRAIN 1 | 8 | 232 | Aug. 16 |
| " 2 | 14 | 233 | " |
| " 3 | 16 | 234 | " |
| " 4 | 8 | 235 | " |
| " 5 | 8 | 236 | " |
| " 6 | 20 | 244 | Sept. 1 |
| " 7 | 20 | 245 | " |
| " 8 | 20 | 246 | " |
| " 9 | 8 | 247 | " |
| " 10 | 18 | 248 | " |
| " 11 | 12 | 249 | " |
| " 12 | 20 | 250 | " |

LOCATION: 65 km north east of Williams Lake, B. C., in N T S 93 A 12 E and W. The property covers a large flat area approximately bounded on the south east by Polley Mountain, on the northeast by Little Lake, on the northwest by Morehead Creek and on the southwest by Morehead Lake. Elevation is about 1000 m. Vegetation is open to dense pine or fir forest. Exploration season is about 7 months.

ACCESS: Exploration access is by auto from Williams Lake which is about 8 hours drive or 1 hour by scheduled Jetliner from Vancouver.

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Production access would be by road to the B. C. Railroad somewhere north or south of Williams Lake.

HISTORY: Placer gold mining has been carried on just east and north of the claim area for over one hundred years. In 1964, the Karl Springer interests discovered Cariboo-Bell alkalic porphyry deposit on Polley Mountain. Through 1970, about 30,000 m of diamond and percussion drilling outlined a cluster of six breccia related zones in an Upper Triassic volcanic center environment. Reserves are reported to be more than 25 x $10^6$ tonnes grading 0.5% Cu, 0.02 oz/T Au. In 1976, Quintana prospected the area, discovered numerous copper mineralized float boulders and staked 172 units. Further work includeed a test I P profile, and six percussion holes.

GEOLOGY:

REGIONAL: The Train claims lie in the Quesnel Trough, a 35 km wide, northwesterly trending fault bounded belt of Upper Triassic to Lower Jurassic volcanics and co-eval and comagmatic alkalic intrusives, together with volcanic epiclastics and marine sediments. (Fig. 1). A feature of the Polley Mountain-Morehead Lake area is the presence of red volcanic clastics and flows, suggesting the presence of a volcanic island. Copper, either native or as sulphide occurs locally as amygdale fillings, and disseminate (Fig. 1), and Hodgson et al.,(1976). A large area of glaciofluvial cover extends north-

(cont'd)

west from the foot of Polley Mountain, covering an area 2400 m to 3000 m wide and 10,000 m long.

LOCAL: The covered area, which contains the target on the Train claims, is bounded on the southeast by outcrops of volcanic clastics. These rocks are variably mineralized by fracture controlled and disseminated pyrite, and 200 to 400 ppm Cu as chalcopyrite. Available mapping makes clear that these mineralized outcrops could be either the edge of an unknown porphyry sulphide zone or a part of the Cariboo Bell system. Published I P data (Hodgson et al, 1976) indicates that a separate system is present.

Along the southwest side of the covered area, apparently unmineralized volcanic breccia is exposed (Bailey, 1976). These outcrops were not examined by Quintana geologists. Outcrops on the west end of Morehead - Hydraulic road are fresh except for some carbonate veinlets. However, volcanics? penetrated in Quintana's percussion hole # 6 contain more than 1% pyrite and possibly anomalous gold values.

North west of the Train claim, on the adjoining Tom property, a small alkalic body and the nearby volcanics are mineralized with copper (Bailey, 1976).

North east of the covered area, Bailey (1976) maps volcanics, and reports only a little copper on Sister Mountain.

Quintana geologists and prospectors did not see any significant mineralization in this area, and the results of a few soil geochemical lines were mostly negative (Fig. 3). Bailey (1976) indicates that monolithologic syenite and trachyte pyroclastics are present north and south of the covered area, suggesting the presence of an intrusive under cover.

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Evidence of possible mineralization under cover on the Train claims includes the presence of mineralization peripheral to the covered area, the presence of placer gold workings in Morehead Creek, and the widespread occurrence of mineralized float boulders. These boulders include both volcanic? breccia, propylitically or phyllically altered, and mineralized with pyrite, chalcopyrite, malacite; and fragments of syenodiorite similarly altered and mineralized. Many rocks exhibit a strong brick red alteration which may be albite. Source interpretations based on the distribution of mineralized float shown on Figure 3 will be tenuous at best, as sampling sites in till and glaciofluvial units are restricted to a few stream and road exposures. A mantle of low brush and moss over almost the entire covered area makes recognition of mineralized float essentially impossible. In addition, glacial and glaciofluvial history is unknown, except for the direction of last ice movement which can be inferred from drumlinoid features and from obvious known ice smearing of the copper soil anomaly at Cariboo Bell. To attempt to define the source of material such as that exposed in a gravel pit at P Q - 6, perched as it is upon 30 m of alluvium by study of glacial drift and contained float, is an impossible task in this area. In the end, a decision must be made as to whether all the mineralized float probably comes from Cariboo - Bell, or whether there is a reasonable chance that some comes from an unknown source under cover northwest of Cariboo - Bell.

In my opinion the float found in the south corner of the covered area, near the old percussion holes, is

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probably derived from Cariboo - Bell. The fact that float found near the Morehead - Hydraulic road contains good grade (up to 1.1% Cu) without potassic alteration, and without magnetite, suggests that there may well be another source for this material. (cf. Hodgson et al, description of Cariboo - Bell mineralization and alteration).

POTENTIAL: A twin of Cariboo - Bell, even without oxide copper metallurgical problems, would not be an attractive target. However, the known habit of alkaline porphyry deposits to occur in clusters of various sized deposits, some of which have grades to 1% or more Cu, (eg. Copper Mountain - Ingerbelle, Iron Mask, Stikine) make the Cariboo - Bell area an attractive locality for intensive prospecting.

PROGRAM: A fair and thorough test of the Morehead - Cariboo Bell covered area will require drilling. The only significant question is whether such drilling should be preceeded by geophysical surveys. Magnetic surveys are of value in outlining the general area of plus 0.05% Cu at Cariboo - Bell (Hodgson 1976). However, some of the best mineralized float on the Train claims carries no significant magnetite. In addition, some basic intrusives in the area have a high magnetic susceptibility, and overburden noise might be considerable. A magnetic survey is not worth the cost, which is estimated to be $10,000 to $12,000 for the area between the foot of Polley Mountain and the Morehead - Hydraulic Road.
Induced polarization surveys indicate the area of interest at Cariboo - Bell, and a multiple spread survey done with equipment of suitable power and

(cont'd)

resolution could probably be relied upon to indicate any significate zone of interest, covered by less than 60 m of overburden. A test line, run along the Morehead - Hydraulic road by Quintana in 1976 (see Appendix I), probably could be interpreted to show the deep overburden between P Q 1 and P Q. 5 and a rock type change about 1E. The sulphides encountered in P Q - 6 are not indicated on the survey. In any event, the cost of a survey covering the Polley Mountain Morehead area would be about $30,000. $30,000 will pay for about 20 to 25 percussion holes, each 60 m deep.

CONCLUSIONS AND RECOMMENDATIONS:

The Train claims are adjacent to a known alkalic porphyry copper deposit, and include a covered area 2400 m to 3000 m wide and 10,000 m long, bounded on both ends by altered and copper, iron, sulphur mineralized rocks. Geology along the sides suggests that the Cariboo - Bell volcanic center continues or is repeated under cover on the Train claims.
Mineralized float containing up to 1.1% copper and placer gold in Morehead Creek both suggest that there maybe a mineralized zone or zones in addition to those exposed on Polley Mountain.
Geophysical surveys might be of some value in defining targets for drilling, but, as drilling would be necessary in any case, as bedrock samples are less equivocal data than geophysical measurements, and as the geophysical surveys would be expensive, I recommend that

(cont'd)

the next stage in the exploration of the Train claims be a program of percussion drilling on about 600 m centers, with some closer spaced holes in the s w corner.

BUDGET:

| | |
|---|---|
| 25 holes @ 60 m or 1500 m @ $20/m | $30,000 |
| Contingency | 5,000 |
| | 35,000. |

REFERENCES:

Bailey, David G., 1976, Geology of the Morehead Lake Area, Preliminary Map No. 20, B. C. Dept. of Min. and Pet. Res.

Hodgson, C. J., R. J. Bailes and R. S. Verzosa, 1976, Cariboo - Bell, in Porphyry Deposits of the Canadian Cordillera, Special Volume 15, C.I.M.M., pp 388 - 396.

Field notes and maps of J. S. Christie.

$2.00
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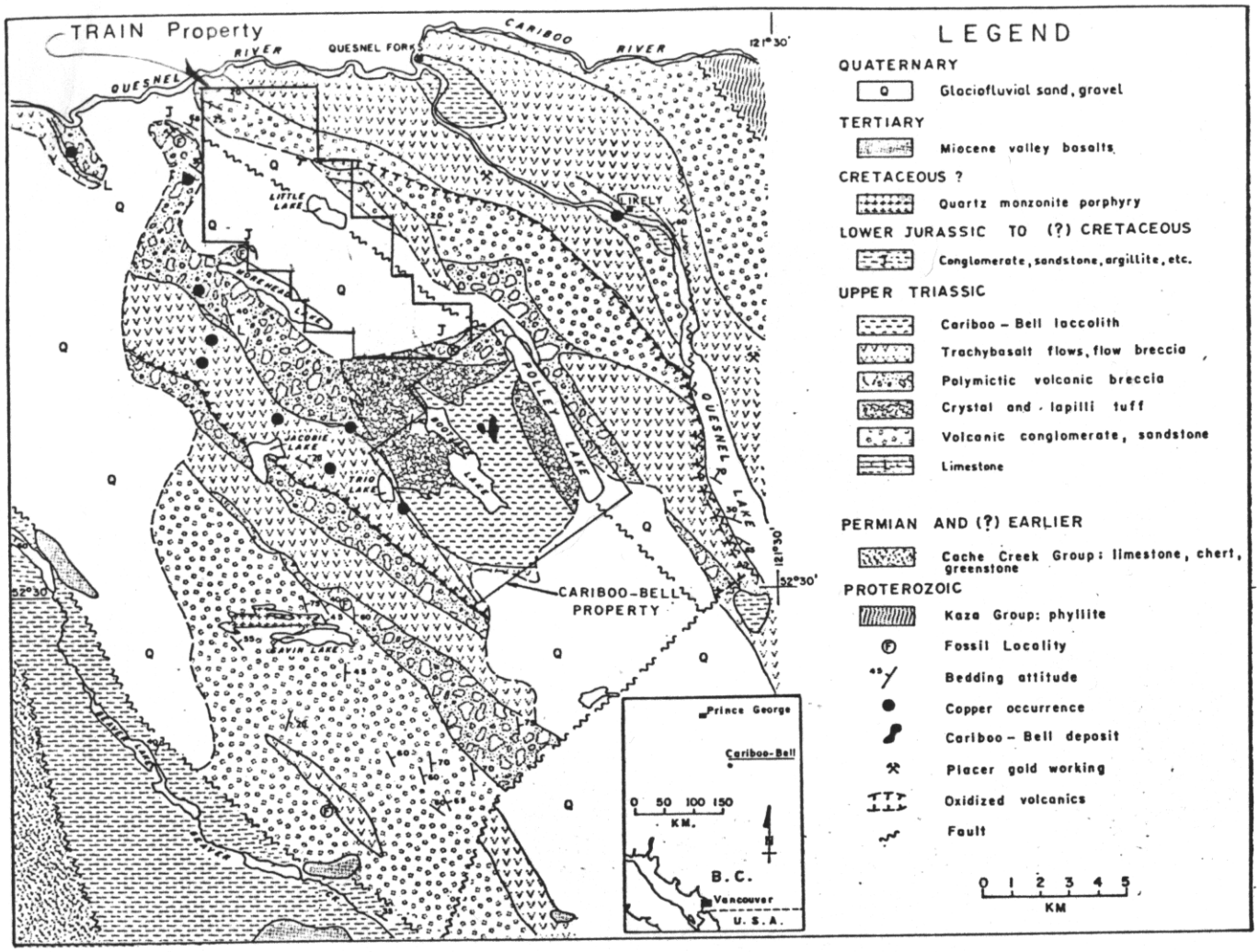


FIGURE 1 — Location map and regional geology, Cariboo-Bell – Train area



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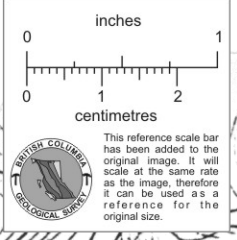


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# AEROMAGNETIC SERIES

## SHEET 93 A/12

Scale: One Inch to One Mile = 1/63,360

Miles

1 1/2 0 1 2 3

QUESNEL FORKS

QUESNEL

HYDRAULIC

TRAIN

MOREHEAD LAKE

JACOBIE LAKE

BOOTJACK LAKE

Littleleke Creek

Little Lake

Prior Lake

Trio Creek

Trio L

CoB

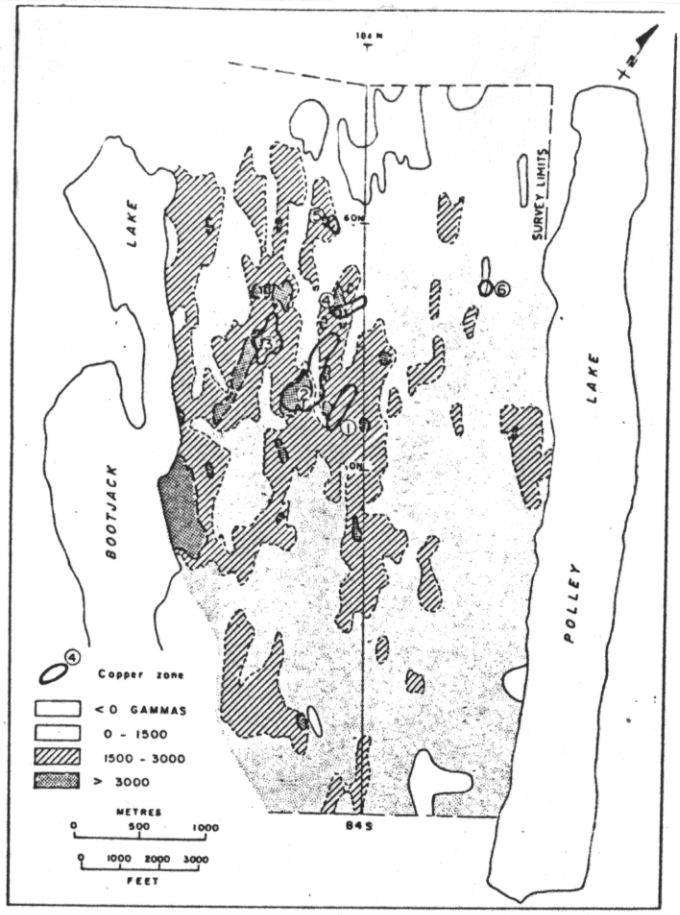



FIGURE 5 — Total field ground magnetic map of the Cariboo-Bell property. Magnetic datum is 59,000γ.

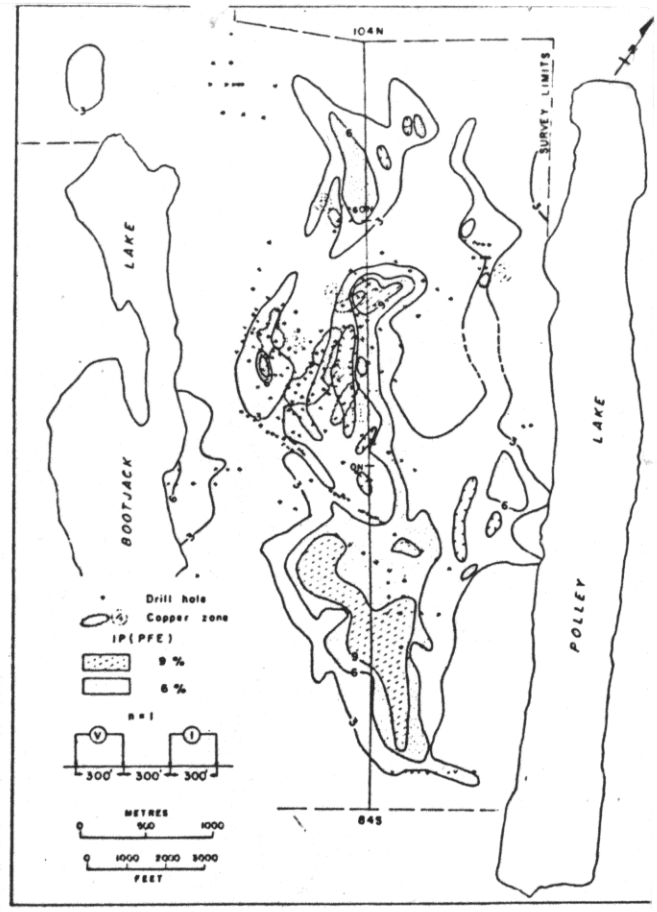



FIGURE 6 — Per cent frequency effect contour map of th Cariboo-Bell property.

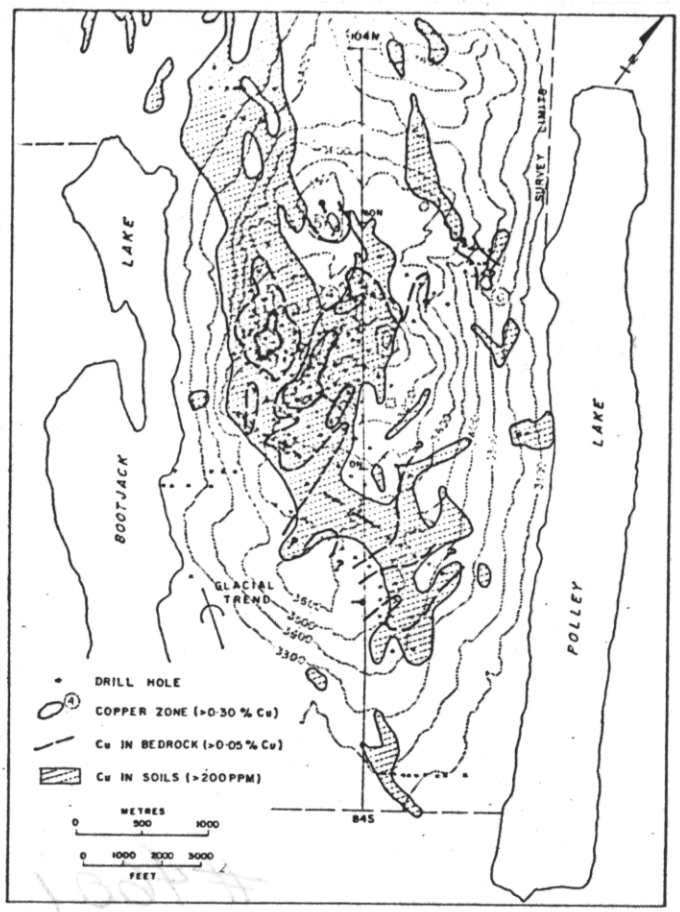



FIGURE 7 — Distribution of copper in soils and bedrock at Cariboo-Bell.

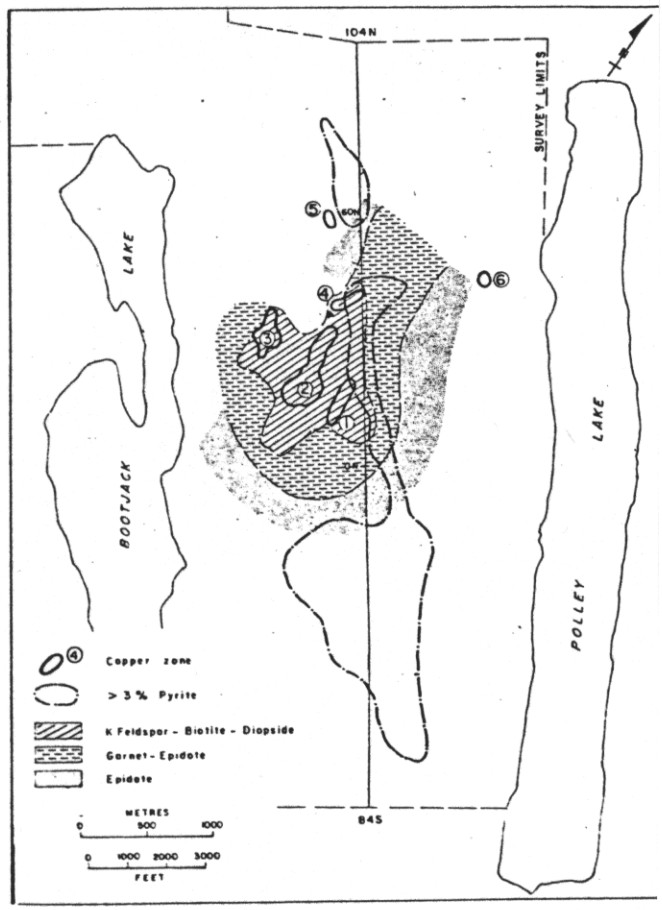
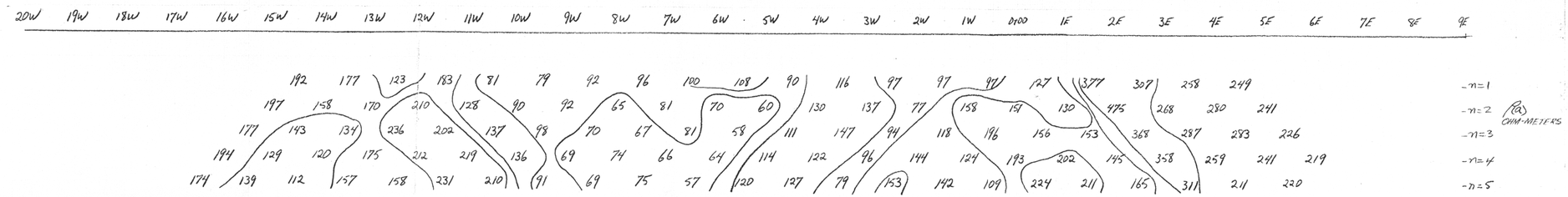
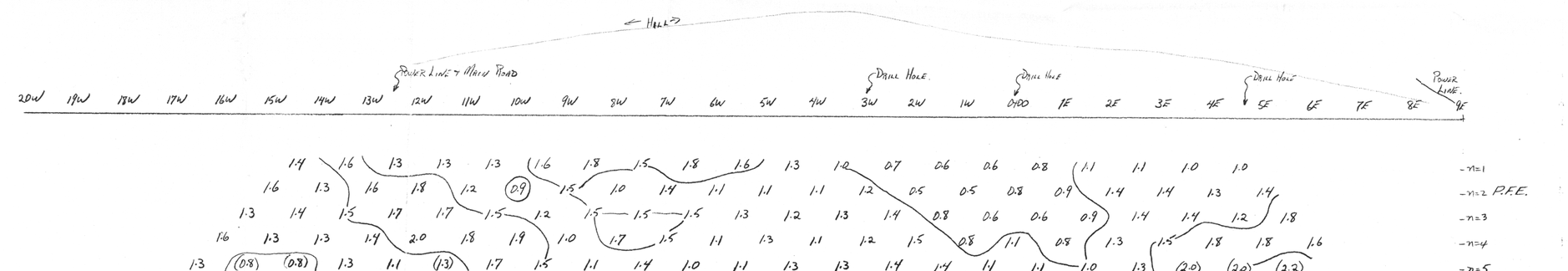



FIGURE 8 — Distribution of alteration assemblages at Cariboo Bell.

LINE #1. HYDRAULIC.




QUINTANA MINERALS CORP.
HYDRAULIC PROPERTY
LIKELY AREA, B.C.

INDUCED POLARIZATION SURVEY
FREQUENCY DOMAIN 5.0 & 0.3 htz.
DIPOLE-DIPOLE ARRAY

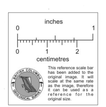
SCALE: 1:5000

OPERATORS: MORRISON & TAYLOR

DATE: OCT. 2ND, 1976

#4601

LINE: #1



| QUINTANA PERCUSSION DRILLING 1976 | | | | |
|---|---|---|---|---|
| HOLE No. | DEPTH | ovb DEPTH | ROCK TYPE | ASSAY |
| PQ1 | 160' | 160' | — | — |
| PQ2 | 60' | 20' | graphitic shale | — |
| PQ3 | 70' | 23' | sandstone siltstone | — |
| PQ4 | 70' | 20' | shale or siltstone | — |
| PQ5 | 110' | 110' | — | — |
| PQ6 | 110' | 95' | p.p.y. volc. or inf., >1% py. | 60 ppm. Cu. 25 ppb. Au. |

4 Alkalic intrusives, syenodiorite, syenite, etc.

3 Sandstone

2 Shale

1 Fragmental volcanics

1a Syenitic frags.

Sulphide mineralized float

1976 Percussion drill hole

Old Percussion drill hole

Ice movement from Drumlinoid features on air photos.

Geochem sample, soil, float, bedrock, Cu. in ppm.

Approximate limit of cover, Bailey, 1976 and Quintana

Geological contact

Copper deposit, 0.3 % Cu.

Limit of Cu. greater than 0.05 %

# QUINTANA MINERALS CORPORATION

#4601

## TRAIN

# GEOLOGY, GEOCHEMISTRY & CLAIMS

SCALE

FEET 0 2000 4000 6000 8000 10 000 FEET

METRES 0 600 1200 1800 2400 3000 METRES

inches 0 1

centimetres 0 1 2

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

| | | | |
|---|---|---|---|
| Prepared by: J.S.C., M.R.W.<br>Drawn by: ATK | Date: Dec 23, 76<br>Revised: Feb., 1977 | NTS MAP AREA<br>93 - A - 12 | DRAWING No. P10-3 |