

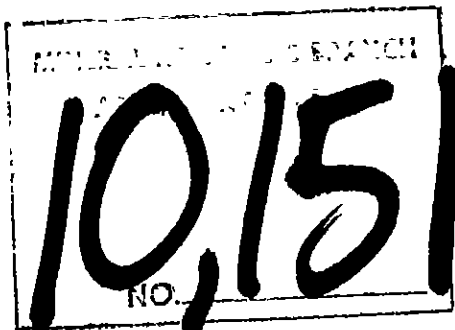
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GEOLOGICAL REPORT  
ON  
THE CHARLOTTE CLAIM

NICOLA MINING DIVISION  
N.T.S. SHEET 92-I/2W  
LAT. 50°13'N LONG. 121°00'W

OWNER/OPERATOR: CLIBETRE EXPLORATION LTD.

C. C. RENNIE, P. Eng.  
February 13, 1982



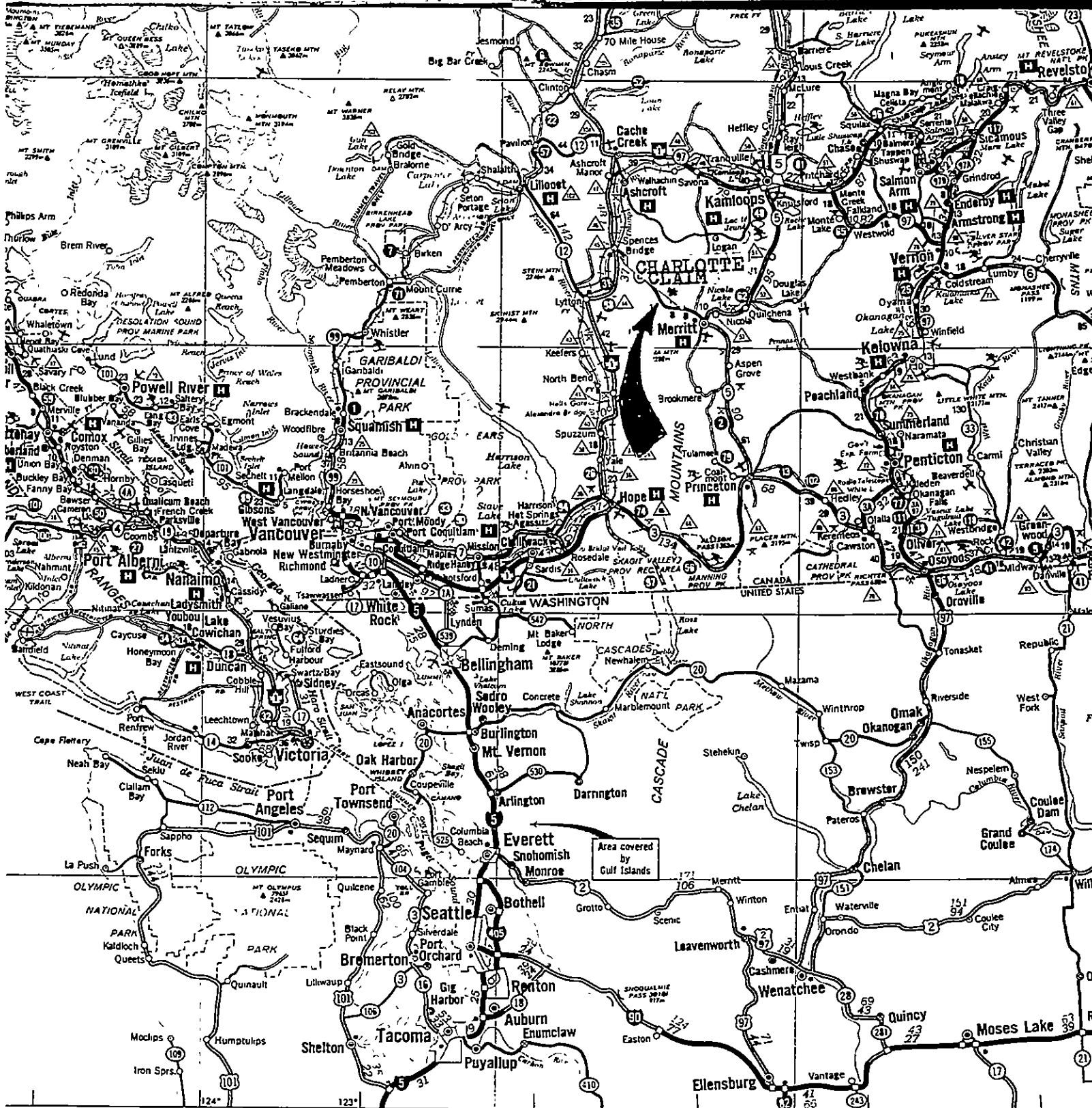
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General View of the Charlotte Claim  
from Boundary Post 1S4W

Photo 1



CLIBETRE EXPLORATION LIMITED  
 CHARLOTTE CLAIM  
 INDEX MAP  
 Scale 1:2,400,000 Approx.

GEOLOGICAL REPORT  
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SUMMARY AND CONCLUSION

The Charlotte claim is an eight unit claim (2Sx4W) in the Nicola Mining Division. The legal post is 500 meters south of the top of Promontory Hill. The claim covers an area on the south-facing slope of Promontory Hill between the power line on the east to Indian Reserve No. 9 on the west.

Bedrock is moderately well exposed in outcrop, in road cuts and in bulldozer trenches dug to expose weakly mineralized areas. Rocks observed are 1mm to 1cm dacitic fragmental conglomerates and grits, minor fine grained sediments and cherts, and green and purple volcanics and volcanic breccias, - all of the Upper Triassic Nicola Group. These are intruded in the western part by quartz feldspar porphyry. The Nicola rocks are unconformably overlain along the west side of the claim by Spence<sup>1</sup> Bridge volcanics and fragmentals.

The only mineralization observed was small quantities of hematite and very rare grains of chalcopyrite in a bulldozer trench in purple volcanic breccia near the east side of the claim.

Low grade alteration- propylitization- occurs in the vicinity of the quartz feldspar porphyry. The possibility that this porphyry could have produced breccias in surrounding rocks, plus the possibility that it might be Tertiary in age suggests the advisability of prospecting around the porphyry for any possible late-stage gold mineralization.

The claim is well situated geologically and strategically within the contact aureole of the Guichon batholith where satellite intrusives could provide mineralization.

RECCOMENDATION

Both the volcanic breccia on unit 2S2W near the Poromontory Hill road and the quartz feldspar porphyry deserve further prospecting and exploration for any evidence of copper or gold mineralization that could warrant drilling.

Detailed geological mapping and prospecting should be carried out over a 30 meter grid, supported by a detailed magnetometer survey over the same grid. Any continuing exploration would be planned on the results of these surveys.

50°15' 21" 00'

TO NORTH SHEET MAP

M 92 1 1/2 W

5

KAMLOOPS  
NICOLA M.D.

GUS  
1019 (2)

KERMIT  
59 (11)

SSP 1  
40 (10)

BETTY  
181 (10)

CHARLOTTE  
1018 (2)

GRANT  
921 (7)

TY  
911 (7)

PRIT  
922 (7)

355 (12)

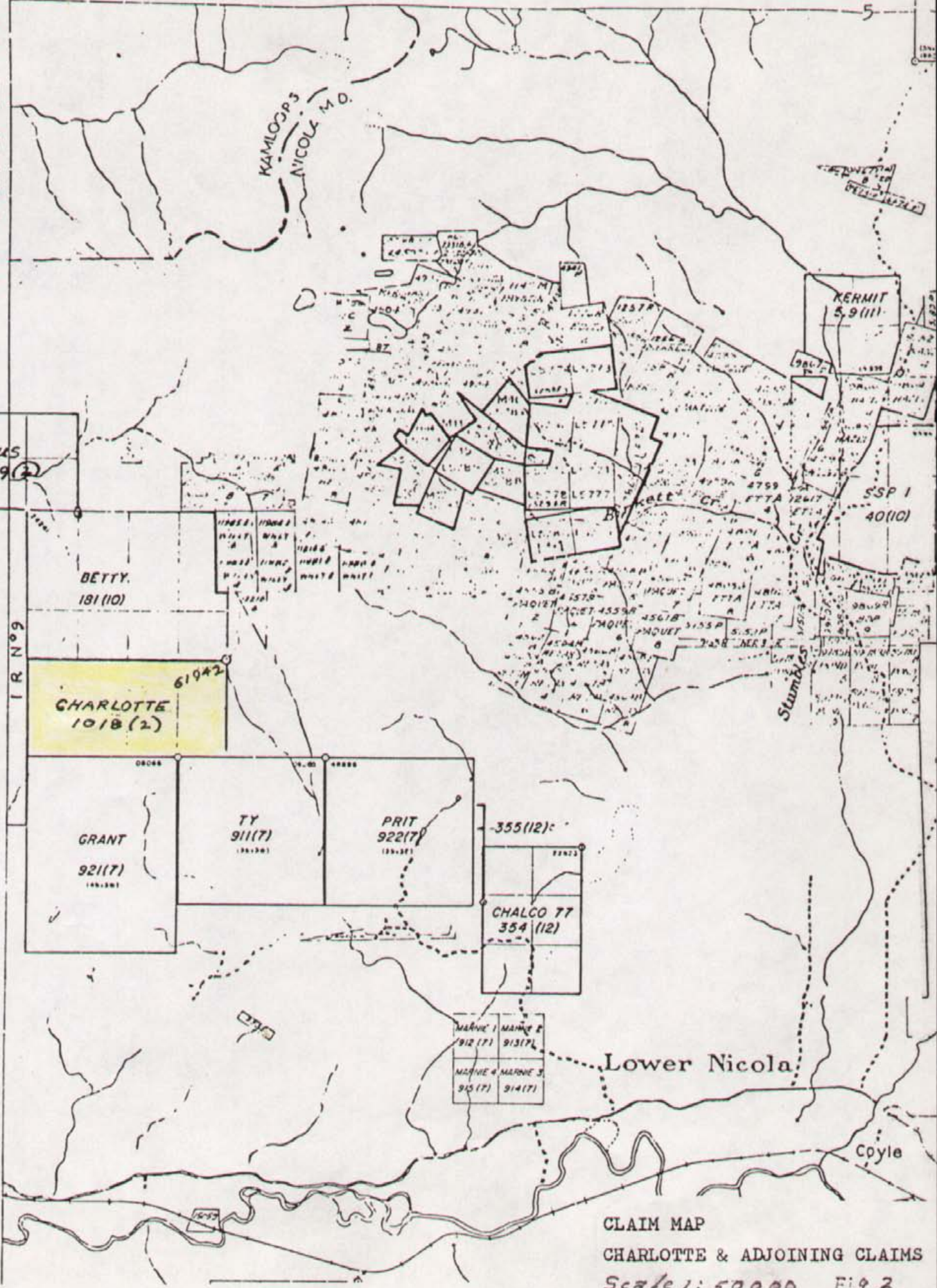
CHALCO 77  
354 (12)

MARNE 1 912 (7)	MARNE 2 913 (7)
MARNE 4 915 (7)	MARNE 3 914 (7)

Lower Nicola

Coyle

CLAIM MAP  
 CHARLOTTE & ADJOINING CLAIMS  
 Scale 1:50,000 Fig 2

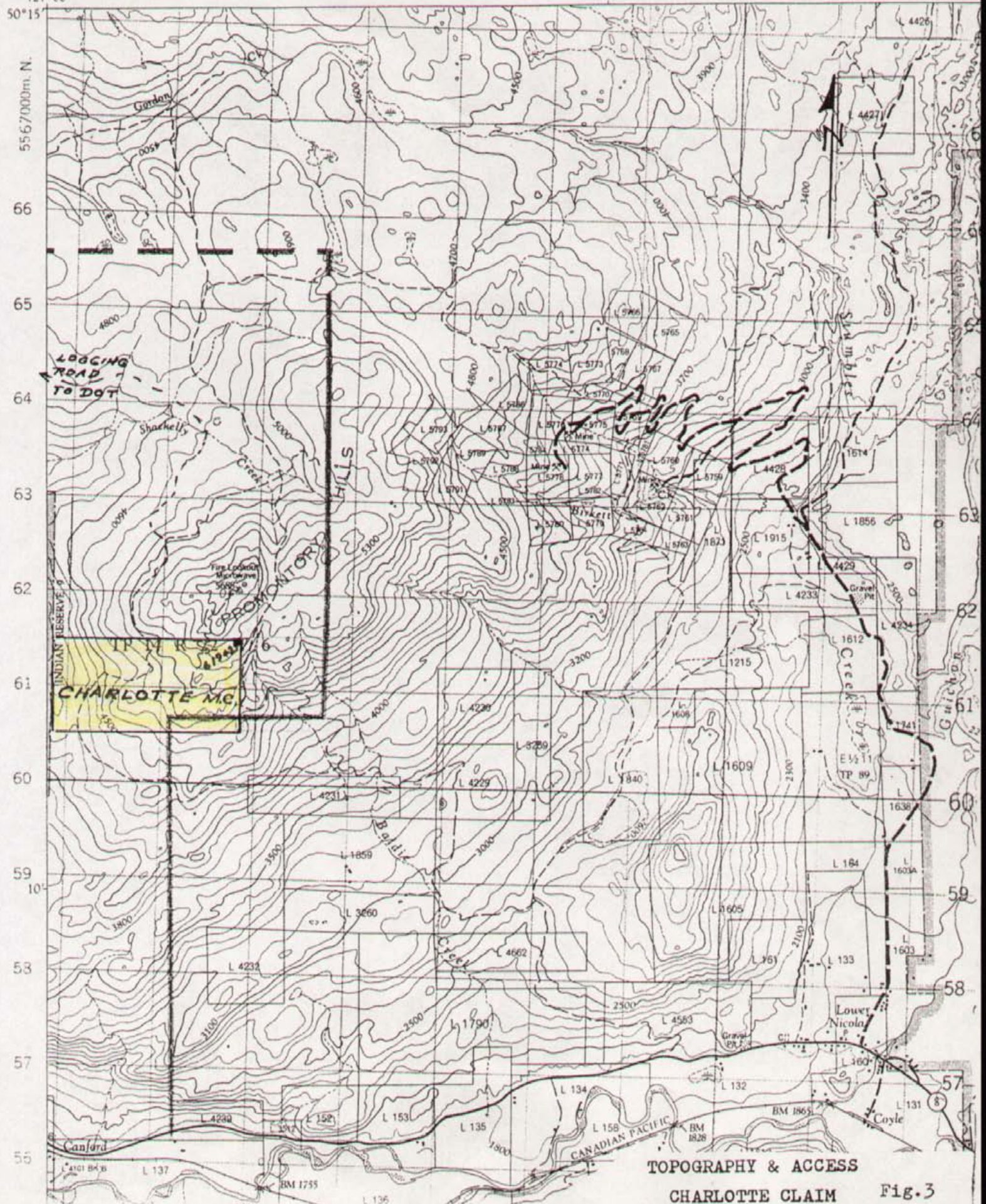


# PROVISIONAL MAP

92-1/2

1:50,000

121°00' 43 544000m. E. 45 46 47 48 55' 49 50 51 6 52



TOPOGRAPHY & ACCESS

CHARLOTTE CLAIM

Fig. 3

Scale 1:50,000 Contours - 100 ft.



GEOLOGICAL REPORT  
ON  
THE CHARLOTTE CLAIM

INTRODUCTION

The Charlotte claim was staked in February, 1981 to cover the eight unit claim previously staked by Cragmont Mines Ltd in 1978 and allowed to lapse in 1979. Clibetre Exploration Ltd staked the Charlotte claim with the expectation that renewed interest in copper during any economic revival would revitalize exploration in the vicinity of Cragmont.

The reconnaissance geological survey described in this report was undertaken to evaluate the exploration possibilities on this claim and to serve as a basis for recommending renewed exploration.

PROPERTY

The Charlotte claim, record no. 1018 in the Nicola Mining Division is an eight unit claim, 2 units south by 4 units west from the legal post. Anniversary date is 27 Feb., 1982. The Charlotte claim is wholly owned by Clibetre Exploration Limited, 1943 Boulevard Crescent, North Vancouver, B.C.

LOCATION AND ACCESS

The claim is on the south facing and west facing slopes of Promontory Hill, 12 km west of Merritt, B.C. The legal post is 500 meters south of the top of Promontory Hill on the west side of the power line right of way. The claim adjoins the Betty claim owned by Better Resources Ltd on the south and the Grant and TY claims owned by Grant Resources Ltd on the north.

Access to the property is provided by the Promontory

Hill road along the eastern boundary and by a contour road around the western side of the hill that joins with the logging road to Dot.

#### TOPOGRAPHY AND PHYSIOGRAPHY

Relief on the property is moderate, with elevations ranging from 1615m (5300') at the northeast corner of the claim to 1280m (4200') at the western side of the claim. Some of the steeper slopes show abundant outcrop whereas the flatter slopes, particularly on the western portion of the claim, are largely covered by glacial debris.

Most of the larger fir and pine trees have been logged but small fir, pine and poplar trees are scattered over the area. The Crown owned surface rights are administered by the Department of Forests for summer grazing for local ranches.

Water is available in small quantities sufficient for drilling from two streams that flow southward and westward on the claim.

#### HISTORY

Claims have been staked and restaked to cover this area since the discovery of Craigmont in 1957 but little recorded information is available on this specific block. A large bulldozer trench south from the Promontory Hill road on unit 2S2W is probably at least 15 years old. Occasional old pickets indicate that some geophysical work was done on portions of the property in the past but was not recorded in the assessment reports on file with the Department of Mines.

Trenching and drilling were done on the old Hank magnetic anomaly to the south of 2S2W unit in 1958. The anomaly was a response to magnetic andesite. There is no indication of any drilling having been done on the Charlotte claim.

### GENERAL GEOLOGY

Nicola Group rocks of Upper Triassic age occur in the area from the Nicola River to approximately six kilometers north where they contact the Guichon batholith. The Nicola Group rocks here are a mixture of volcanic flows and breccias and sediments, including sandstone, greywacke, chert, volcanic fragmental conglomerates and limestone. General attitude of the Nicola rocks is an eastward to east-northeastward strike and  $45^{\circ}$  to steep dips both to the north and south. A probable anticlinal axis extends east-northeast through the top of Promontory Hill.

An area of "Kingsvale" volcanics covers a portion of the Nicola rocks between the Charlotte claim and the Craigmont mine. These rocks could be Tertiary in age although previously correlated with Cretaceous Kingsvale rocks to the south.

Spence Bridge volcanics cover the Nicola rocks from the eastern side of IR No 9 to the west. Age dates suggest the Spence Bridge volcanics could also be Tertiary age, leading to the question of whether the quartz feldspar porphyry intrusive on the Charlotte claim could also be Tertiary age.

### LOCAL GEOLOGY

Nicola rocks on the Charlotte claim are generally sediments in the northwest portion and volcanics in the southeast portion of the claim. (fig.4). The sediments are mostly poorly stratified volcanic fragmental conglomerates (photo 2). A narrow band of cherty fine grained sediments (photo 3) may be semi-continuous within these fragmentals. The volcanics are generally purple to dark green basaltic andesites and coarse breccias (photo 4). Attitudes, where seen in the sediments were generally east-northeast striking and steep southerly dipping. No limestone was seen on the claim.

In the western portion of the claim a quartz feldspar porphyry stock (photo 5) has a roughly circular expression but the contact is generally not well exposed. The feldspar phenos in this porphyry are more apparent on the weathered surface of the rock than in the freshly broken rock (Photo 6). Some epidote was seen in the porphyry near the contact with Nicola sediments but no major alteration was observed in the porphyry.

Approximately 200 meters north of the center of the northern boundary of the Charlotte claim a small outcrop of fresh equi-granular quartz diorite occurs (photo 7). Ground magnetics indicate this quartz diorite to be part of a northeast trending stock that could be an apophysis of the Guichon batholith. Since any of these apophyses could have mineralization associated with them the existence of this one stock suggests that others could occur further to the south and be responsible for the alteration in the volcanics in the trench on unit 2S2W.

#### MINERALIZATION

The only mineralization seen on the claim, apart from minor disseminated pyrite, was small patches of specular hematite in the volcanic breccia in the trench adjacent to the Promontory Hill road on unit 2S2W (photo 8). This hematite appears to be fracture fillings associated with epidote. It is of interest because the Craigmont mine contains abundant specular hematite associated with magnetite and chalcopyrite that comprise the Craigmont orebody. Rare small grains of chalcopyrite and minor malachite were also seen in this trench.

#### POTENTIAL FOR DISCOVERY OF MINERALIZATION

Naturally, since the claim is within the aureole of the Guichon batholith and only 4km from Craigmont the most likely type of mineralization to search for is Craigmont-type hematite-magnetite-chalcopyrite mineralization. However since no limy sediments like those that form the host rock at

Craigmont were observed on the Charlotte claim the alteration and mineralization would have to take another form, such as an alteration envelope in the volcanic over a buried intrusive. The epidote (propylitic) alteration and patches of hematite in the trench could be an upward expression of this condition. Some geophysics and possibly drilling are warranted in this area to test this possibility.

A more speculative possible mineralization worth checking for is gold-silver mineralization associated with the quartz feldspar porphyry intrusive, particularly on the possibility that the intrusive could be Tertiary in age.



C. C. Rennie, P. Eng.

February 13, 1982

STATEMENT OF EXPENDITURE

Field examination and reconnaissance mapping

C. C. Rennie, P. Eng.

1/2 day Oct. 18 & 21, full day Oct. 19 & 20

3 days at \$250.00/day

\$750.00

Vehicle mileage , Vancouver to property and return

480 miles at \$0.20/mile

96.00

Report preparation

200.00

Total expenses

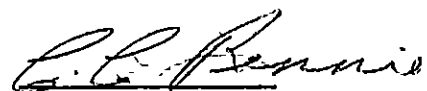
\$1046.00

*C. C. Rennie*

QUALIFICATION AND CERTIFICATION

I, Clifford C. Rennie, of the City of North Vancouver, B.C. hereby certify that:

- (1) I am a geological engineer residing at 1943 Boulevard Crescent, North Vancouver, B.C.
- (2) I am a registered Professional Engineer of the province of British Columbia.
- (3) I am a graduate in geological engineering from the University of British Columbia.
- (4) I have practised my profession for 32 years.
- (5) The information in this report is the result of the field work in October, 1981 and my previous experience in the Merritt area as senior geologist at Craigmont mine from 1957 to 1966.
- (6) I am a director and major shareholder of Clibetre Exploration Limited.



C. C. Rennie, P.Eng.

February 13, 1982



Photo 2 Volcanic Fragmental, Promontory Hill road



Photo 3 Cherty Fine Grained Sediment





Photo 4a Dark Green Basaltic Andesite, Main Trench



Photo 4b Green Andesite Breccia with Epidote



Photo 4c Purple Andesite Breccia, Main Trench



Photo 5 Weathered Quartz Feldspar Porphyry



Photo 6 Freshly Broken Quartz Feldspar Porphyry



Photo 7 Quartz Diorite Outcrop north of post OS2W

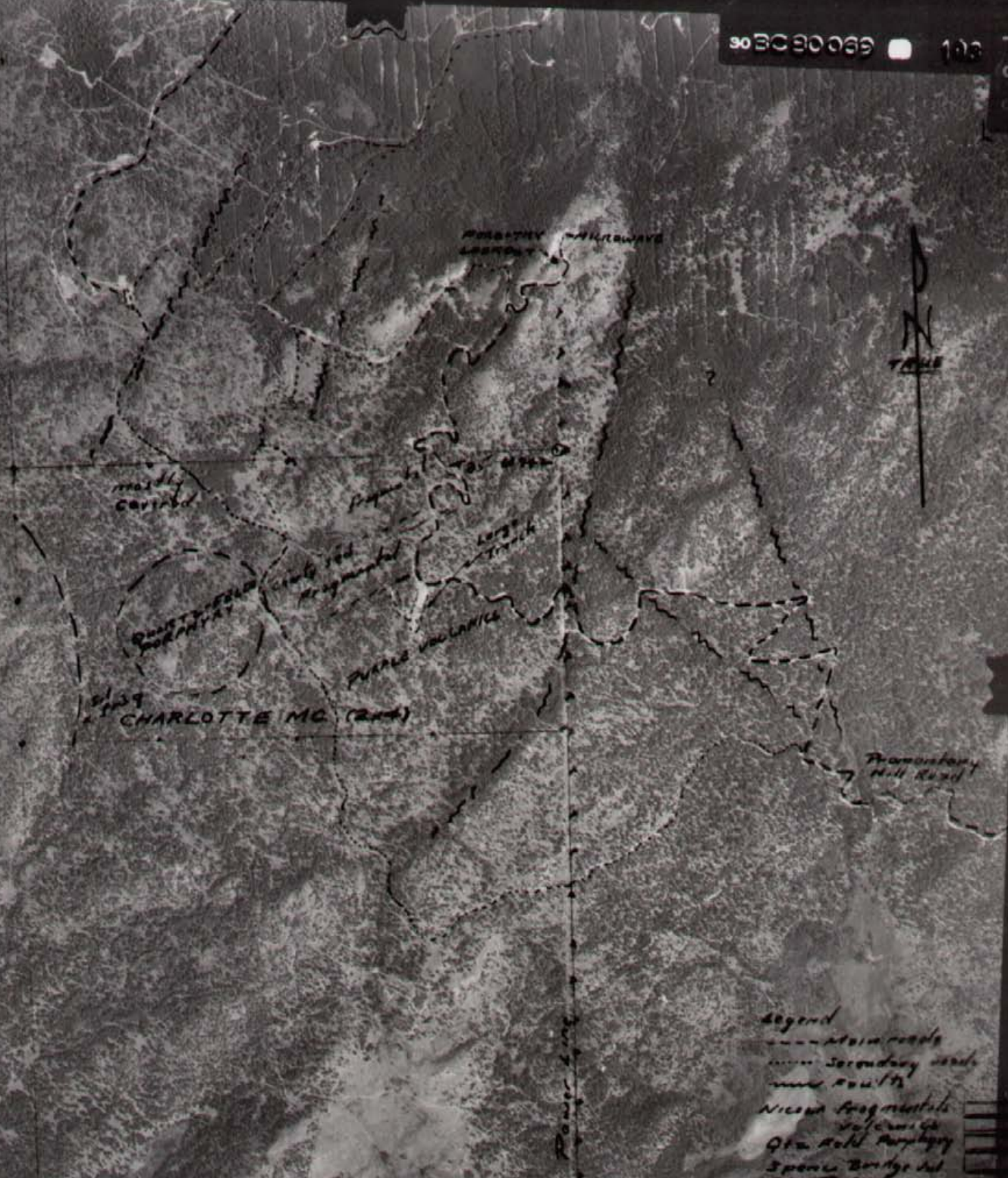


Photo 8 Specular Hematite in Volcanic Breccia



Photo 9 Spence Bridge Basaltic Agglomerate near 1S4W

IR. 9



- Legend
- main roads
  - ..... secondary roads
  - fault
  - Nelson Fragmentals
  - Qtz - Feld Porphyry
  - Spence Bridge Rd
  - Qtz Diorite

1980 AIR PHOTO MAP  
 SCALE 1:20,000  
 DRAWN DECSI CAROLINE PENG