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REPORT

on

GEOLOGY AND GEOPHYSICS

ITCHY and BELLS Mineral Claims
Palmer Bar Creek Area

Fort Steele Mining Division

NTS 82 G/5 W

Latitude 49° 29' N Longitude 115° 57' W

by

PETER KLEWCHUK Geologist

October 2, 1991

## GEOLOGICAL BRANCH ASSESSMENT REPORT

# 21,701

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#### 1.00 INTRODUCTION

#### 1.10 Location and Access

The Itchy and Bells claims are located 12 kilometers west of Cranbrook, B.C., in the drainage of Palmer Bar Creek, a south-flowing tributary of the Moyie River. The claims are in the Fort Steele Mining Division, centered at 49° 29' N latitude and 115° 57' W latitude on NTS map sheet 82 G/5 W (Fig. 1).

Good road access to the claims exists from south of Cranbrook off Highway 3/95 via the Lumberton logging road which crosses the claims between kilometer 18 and 19.

#### 1.20 Property

The property consists of two 2-post claims, the Itchy and Bells (Fig. 2), record numbers 4759 and 4750 respectively. The claims were staked on July 8, 1990 and their current expiry date is 1994. The claims are owned by Craig Kennedy of Cranbrook, B.C. and Peter Klewchuk of Kimberley, B.C.

#### 1.30 Program

The 1991 exploration program on the property consisted of geologic mapping and VLF-EM surveying to define the location of the Cranbrook Fault which is known to host gold mineralizatuon to both east and west of the property.

#### 2.00 GEOLOGY

The claims are underlain by the Helikian age Aldridge Formation, part of the Purcell Supergroup. Within the property, the easterly-oriented major Cranbrook Fault separates Upper Aldridge rocks on the north from Middle Aldridge rocks to the south (Fig. 3).

Immediately west of the claims, the Cranbrook Fault is deflected along the NNE-oriented Palmer Bar Fault; at the fault intersection a voluminous buildup of quartz flooding has occurred along with the intrusion of syenite dikes, probably associated with Cretaceous felsic intrusive activity. Extensive sulfide mineralization occurs within the fault zone and locally there is significant copper and gold mineralization. This part of the Cranbrook Fault system has recently been explored by Chapleau Resources Ltd.

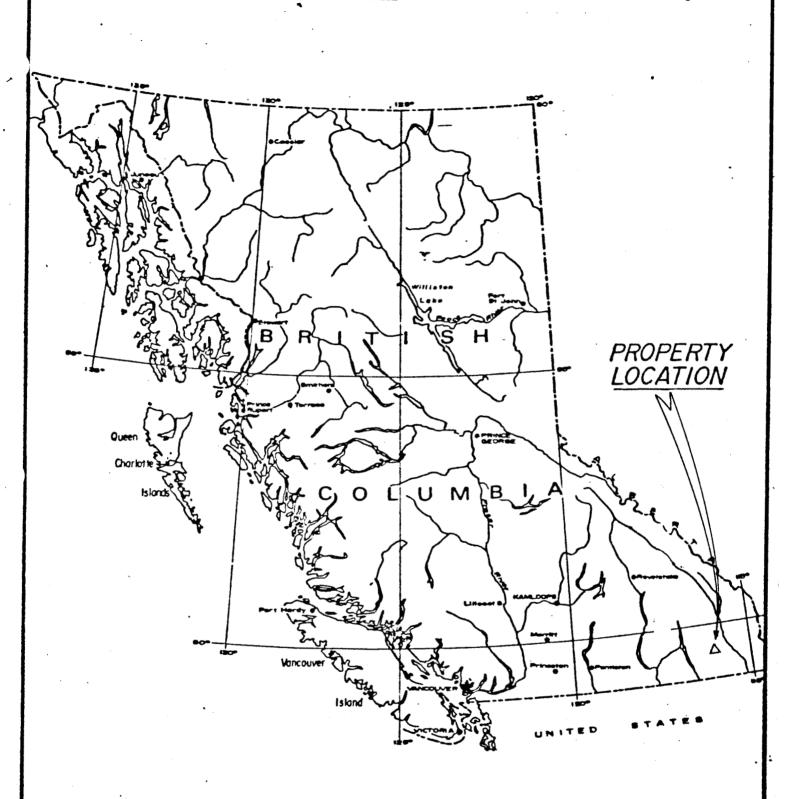


Figure 1
ITCHY, BELLS Claims

# LOCATION MAP

SCALE Km 100 50 0 100 200 300 400 Km

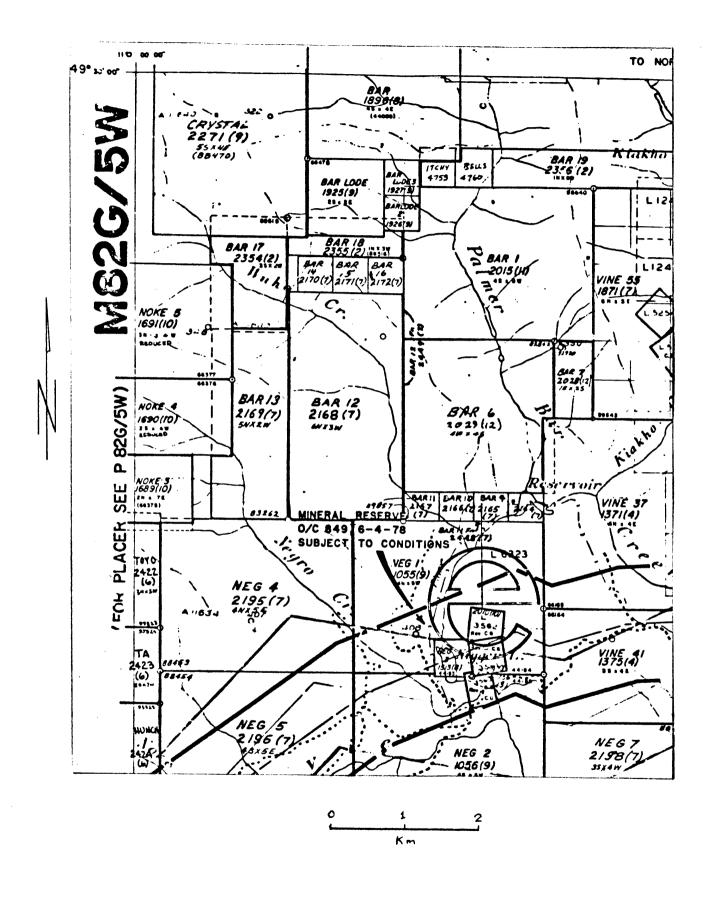
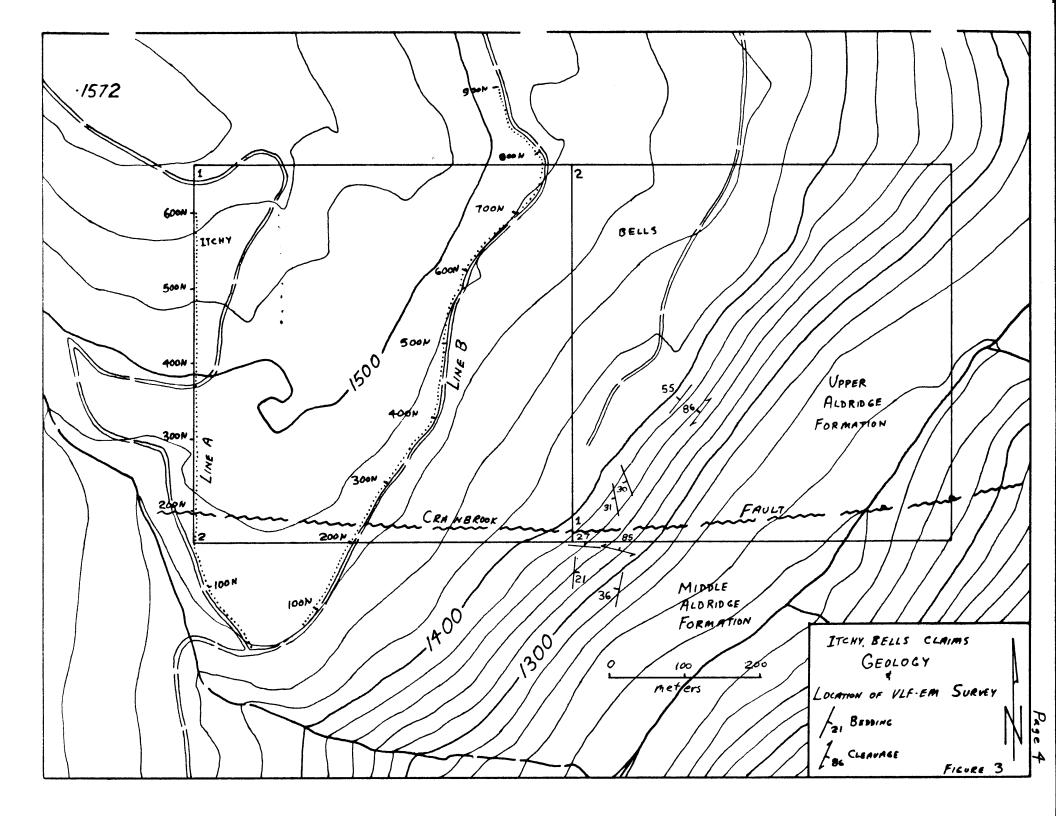


Figure 2. ITCHY, BELLS Claim Map. NTS 82 G/5 W Scale 1:50,000.



Immediately east of the property, recent work by Goldpac Investments Ltd. has discovered significant gold mineralization within altered syenite in the Cranbrook Fault zone.

Thus the Itchy and Bells claims are strategically situated between two known gold and gold/copper occurrences which are hosted by the Cranbrook Fault. Part of the 1991 exploration program thus entailed geologic mapping to define the location of the Fault zone.

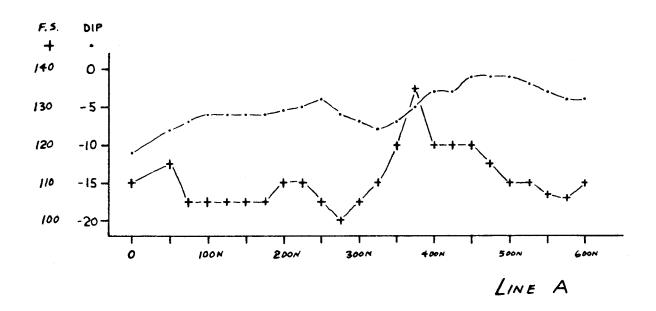
Bedrock exposures along the west side of the Palmer Bar canyon were traversed and mapped; this is the best exposed bedrock on the property. Subcropping altered syenitic material was located in a relative topographic depression immediately northeast of the No. 1 post of the Bells claim (Fig. 3). In the vicinity of this exposure, bedrock of the Middle Aldridge Formation to the south is moderately brecciated with limonitic fractures and locallized development of quartz pods and veins. Much of the siltstone is silicified. A further indication of the presence of the fault is a more easterlystriking bedding which probably represents drag folding on the fault. In contrast, bedding to both north and south is more northerly-striking. Associated cleavage near the fault zone is easterly-oriented while further north the cleavage is northeasterly-oriented: a more regional attitude. These structural details are shown on Figure 3; together they provide confidence that the Cranbrook Fault crosses the Itchy and Bells claims just north of the southern claim boundary. As the Cranbrook Fault is a steeply north-dipping structure, considerable down-dip extent of the fault zone exists on the claims.

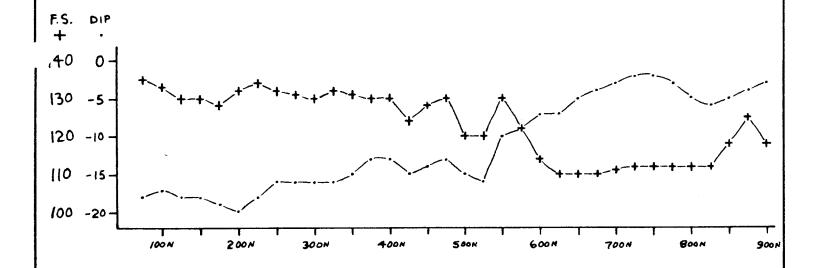
#### 4.00 GEOPHYSICS

A VLF-EM survey was planned for the claims to help define the trace of the Cranbrook Fault zone in areas of overburden. Tie lines were established along the north and south boundaries of the Itchy claim, in preparation for north-south oriented survey lines.

Two reconnaissance lines were initially run to determine whether the fault zone provided a VLF-EM response. Seattle, Washington at 24.8 KHz was used as the transmitting station. Line A was run along the western claim boundary and Line B was run along the Lumberton Logging Road which crosses the claims at an oblique angle (Fig. 3).

Profiles of the two reconnaissance lines are provided in Figure 4. The Cranbrook Fault zone was not detected by the two VLF-EM lines and subsequent surveying was not undertaken. A weak response was picked up on both survey lines some distance north of the Cranbrook Fault zone. These are at 375N on Line A and 550N on Line B. They may represent structures related to the Cranbrook Fault but more detailed surveying would be necessary to define their orientation and thus allow some interpretation.





TRANSMITTING STATION:
SEATTLE, WASHINGTON 21.8 KM2

LINE B

FIGURE 4. VLF-EM PROFILES

LINES A & B

FOR LOCATION SEE FIGURE 3

#### 5.00 CONCLUSIONS

- 1. Geologic mapping has defined the location of the Cranbrook Fault zone on the Bells claim, just northeast of the No. 1 Post. Altered syenite at this location suggests the fault zone is intruded by syenitic material similar to that seen to both east and west of the property. On both sides of the property this syenite is auriferous and significant gold mineralization may exist within the Cranbrook Fault zone on the Itchy and Bells claims.
- 2. The Cranbrook Fault zone occurs at surface just north of the southern boundary of the property. As the fault is a steeply north-dipping structure, considerable down-dip extent of the fault occurs on the claims.
- 3. VLF-EM was not effective at detecting the Cranbrook Fault zone along either of the two reconnaissance lines run. Weak responses north of the fault zone may be related to structures associated with the Cranbrook Fault.

#### 6.00 STATEMENT OF COSTS

3 MAN-DAYS, field work and report, @ \$200.00/day	\$600.00
DRAFTING AND SUPPLIES	75.00
4x4 TRUCK 1 day @ \$50.00/ day	50.00
VLF-EM RENTAL	25.00

TOTAL COST \$740.00

#### 6.00 AUTHOR'S QUALIFICATIONS

As author of this report I, Peter Klewchuk, certify that:

- 1. I am an independent consulting geologist with offices at 246 Moyie Street, Kimberley, British Columbia.
- 2. I am a graduate geologist with a BSc degree (1969) from the University of British Columbia and an MSc degree (1972) from the University of Calgary.
- 3. I am a Fellow in good standing of the Geological Association of Canada.
- 4. I have been actively involved in mining and exploration geology, primarily in the province of British Columbia, for the past 18 years.
- 5. I have been employed by major mining companies and provincial government geological departments.

Dated at Kimberley, British Columbia, this 2nd day of October, 1991.

Pete Blue

Peter Klewchuk Geologist