

LOG NO: 08-31	RD.
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ASSESSMENT REPORT ON THE  
BORDER CLAIM GROUP  
ROSSLAND, BRITISH COLUMBIA  
GEOLOGICAL MAPPING SURVEY

Trail Creek Mining Division  
NTS: 82 F/4 W  
Longitude: 117° 47' 30"  
Latitude: 49° 00' 30"

Owner: Michael Delich  
1806 Cook Avenue  
Rossland, B.C.  
VOG 1Y0

Operator: Michael Delich

Author: Dan Wehrle, Geologist

August 28, 1990

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

20,214

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## INTRODUCTION

The geological mapping survey described in this report is being presented as assessment work for the Border claim group. Individual claims contained within the Border group are listed in Table 1.

Geological mapping at a scale of 1:10,000 and grid establishment totalling 2.6 kilometers was conducted periodically from May 1st to June 1st, 1990. During this time, geological mapping covering approximately 6 square kilometers was conducted on the eastern two thirds of the Border claim group ( Fer, Kay #1 to #8, and Helen #2 claims). The focus of this work was to establish the geological framework associated with known gold showings on the claim group.

## LOCATION AND ACCESS

The Border claim group is located 8 kilometers due south of the City of Rossland, B.C. and adjacent to the American border (Figure 1 and 2). Rossland is located approximately 6 kilometers south-westerly from the City of Trail.

Geographic coordinates of the approximate center of the Border claim group are: longitude 117° 47' 30" W and latitude 49° 00' 30" N on N.T.S. Map Sheet 82 F/4 W.

Rossland and vicinity is served by major provincial highways and by the Castlegar commercial airport located about 26 kilometers north of Trail, B.C. Access to the property is good along the many 4-wheel drive logging, power-line and hunting roads.

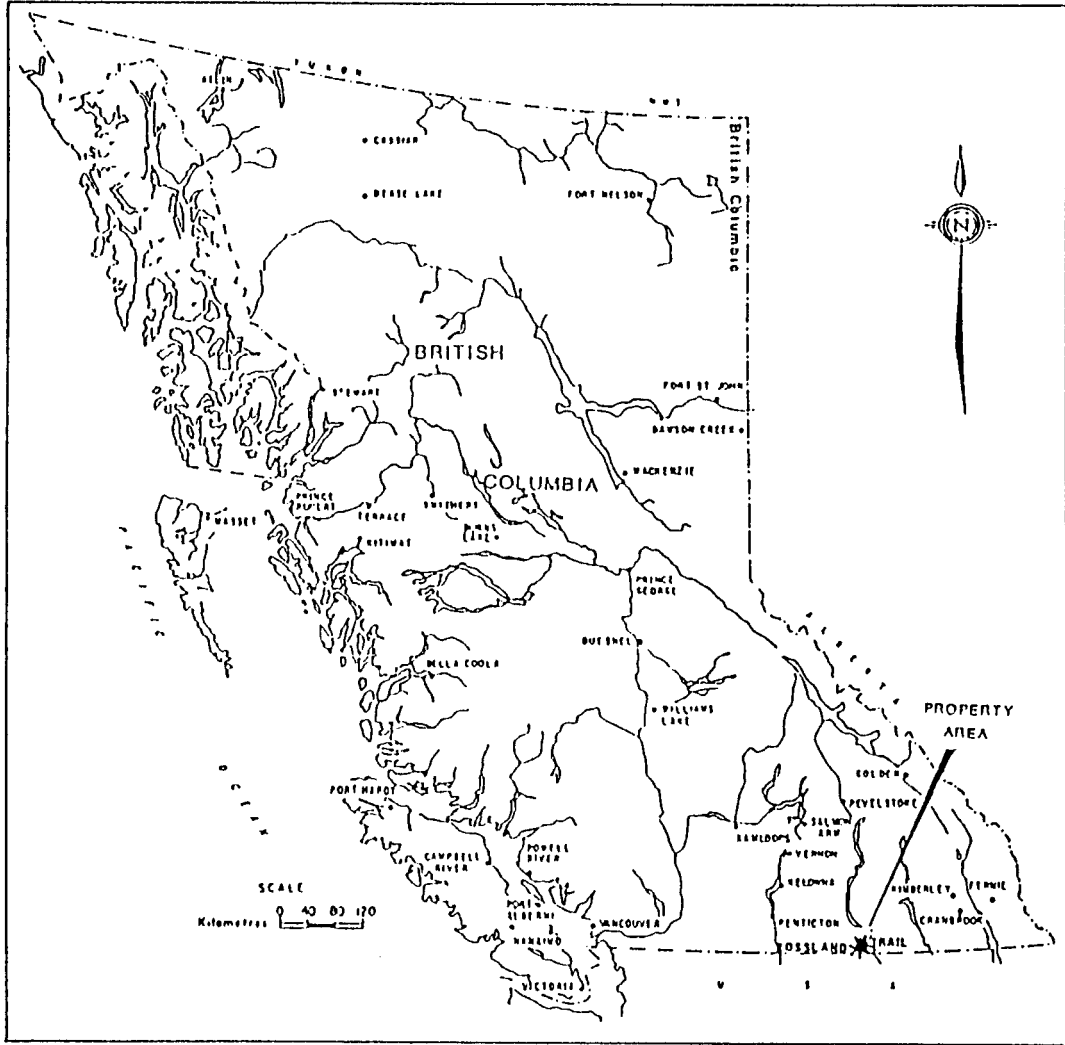


Figure 1: General Location Plan

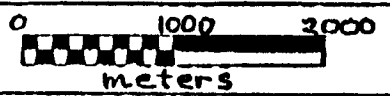


36 37 38 40 42

Kettle Falls 58 km



INDEX MAP



DATE: AUG. 1990	FIGURE: 2
SCALE: 1:50,000	NTS: 82 F/4

TABLE 1.  
BORDER CLAIM GROUP

<u>Claim Name</u>	<u>Record Number</u>
Aaron #1	1280
Aaron #2	1281
Aaron #3	1282
Aaron #4	1283
Aaron #5	1284
Aaron #6	1285
Aaron #7	1286
Aaron #8	1287
AB #1	988
AB #2	989
AB #3	990
AB #4	991
AC #3	1010
AC #5	1012
AC #6	1013
FER	1089
Helen #2	1417
Kay #1	840
Kay #2	841
Kay #3	842
Kay #4	843
Kay #5	844
Kay #6	845
Kay #7	846
Kay #8	847

## PHYSIOGRAPHY AND VEGETATION

The well-treed and brush covered Border claim group incorporates the steep slope of Malde Ridge to the west, the broad central valley of Malde Creek and the prominent relief of Grouse Ridge to the east. Although some areas have been selectively logged in the past, thick stands of Douglas Fir, Western Hemlock, Red Cedar, Grand Fir, Lodgepole Pine and White Pine still cover most of the surface, with lower areas showing a predominance of alder, thimbleberry and scrub brush.

Outcrop exposure is fair along ridge tops, averaging approximately 10%, but is generally poor to absent over slopes and lowlands where thick scrub and glacial till predominate. Relief within the claim group is on the order of 500 meters.

Summers in the region are temperate and dry, while winters are cool with heavy snowfall. This heavy snowfall prevents road access to the claims and consequently work is best suited to the summer months.

## PROPERTY DESCRIPTION AND EXPLORATION HISTORY

The Border claim group, comprising approximately 925 hectares (2287 acres) is owned by Michael Delich of Rossland, B.C.

Exploration in the Rossland area began in 1887 with the discovery of gold and silver on the Lily May claim. This was followed by the discovery and development of the Le Roi, Center Star, War Eagle and other famous mines of the Rossland camp, which produced over 3,000,000 ounces of gold and an equal amount of silver until their closure in 1928.

The ground contained within the Border claim group has undergone two main periods of exploration activity. The discovery of auriferous quartz veins on Grouse Ridge in the 1890's resulted in a limited number of shallow workings to be undertaken. The majority of these workings were concentrated on the Helen Group and Knight-Templar claims where silicified structures carrying traces of pyrite and galena assayed from \$12 to \$26 gold (0.6 to 1.3 oz/ton), with some samples reportedly running as high as \$1,200 gold (60 oz/ton) (Hodges; 1897).

A second period of significant exploration occurred in the late 1970's and early 1980's when auriferous quartz veins of the Grouse Ridge area were again the focus of activity. Limited trenching, prospecting and sampling programs in and around the known showings reaffirmed the presence of quartz veins carrying anomalous gold-lead values. Significant assays up to 5.6 oz/ton Au and some showing .01% Nickel, .02% Chromium, .015% Niobium and 3 ppm Uranium were reported from the southwest corner of the Helen #2 claim (Mayes, 1979). As well, the presence of minute fluorite crystals in the felsic intrusive host rocks nearby has been noted (Andrew, personal communication, 1990).

#### OBJECTIVE OF PRESENT WORK

Research of the known literature pertaining to the Border claim group revealed two important items. Firstly, that gold mineralization of significant value occurs on the claims. Secondly, that detailed mapping of these gold occurrences was lacking. Previous reports on this and adjacent claims made specific recommendations for further work including geological mapping at a scale of 1:10,000 (Mayes 1979; Ridley and Troup, 1983).



Therefore, geological mapping at 1:10,000 scale was undertaken to establish the geological framework associated with the known gold showings.

#### DISCUSSION OF RESULTS

Four main rock types are present on the eastern two thirds of the Border claim group (Figure 3).

The eastern third of the map area shows numerous exposures of white to tan, fine to medium-grained syenite (Map Unit 1). This Early Tertiary Sheppard intrusion displays ragged north, north-east trending offshoots, some of which take the form of rhyolite dikes. Locally the contact area is intensely silicified and shattered.

Northeast of the intrusive contact there are outcroppings of the Upper Cretaceous Sophie Mountain Formation. This conglomerate contains a dark grey, fine-grained matrix which supports 1-5 cm rounded pebbles (Map Unit 2).

The western two thirds of the map area displays outcroppings of the Lower Jurassic Rosslund Formation (Map Unit 3). Although local variations occur, most of the rocks are dark, fine-grained, plagioclase porphyry, lapilli tuffs and coarse, wacke turbidites (Andrew, personal communication, 1990).

Limestone and calcareous argillites of possible Late Palaeozoic age are shown on the central, eastern portion of the map area (Map Unit 4). These rocks are generally dark grey, fine-grained and often silicified.

Quartz veins are found on the margins (Knight-Templar veins) and contained within (Helen veins) the syenite intrusion and are therefore Early Tertiary or later in age. Generally these quartz veins are milky-white in color, are less than one meter wide and occasionally contain traces of pyrite and galena.

Dark, fine-grained mafic dikes cut through the syenite and are also Early Tertiary or later in age.

Areas where rock outcroppings do not occur are generally covered by Quaternary tills, gravel and sands. It is interesting to note that the general area around the Helen and Knight-Templar workings contains abundant quartz float.

#### CONCLUSIONS AND RECOMMENDATIONS

Gold bearing quartz veins of the Grouse Ridge area are found within and on the margins of the Early Tertiary Sheppard syenite intrusion. Very little quartz veining or quartz float was discovered away from this intrusive. It would seem that there is an intimate relationship between emplacement of the syenite intrusion and formation of the gold-bearing quartz veins. Future gold exploration in this area should concentrate on evaluation and delineation of quartz veins intimately associated with the syenite intrusion or its margins.

ITEMIZED COST STATEMENT

Personal work schedule:

Dan Wehrle - Geologist: May 8, 9, 13, 14, 16, 22, 23, 30, 31  
(9 days)

Frank Fowler - Geologist: May 8, 9, 13, 14, 16, 22, 23, 30  
(8 days)

Consolidated Cost Statement:

Labour:

Dan Wehrle - Geologist

- 9 days mapping @ \$250.00/day	\$2,250.00
- 3 days report writing @ \$250.00/day	750.00

Frank Fowler - Geologist

- 8 days mapping @ \$250.00/day	2,000.00
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Expenses:

- 9 days 4 x 4 Truck rental @ \$50.00/day	450.00
	<hr/>
	\$5,450.00

REFERENCES

- Drysdale, C.W., 1915, Geology and Ore Deposits of Rossland, B.C.; G.S.C. Memoir 77.
- Fyles, J.T., 1984, Geological Setting of the Rossland Mining Camp; B.C. Ministry of Energy, Mines and Pet. Res., Bull. 74.
- Hodges, L.K., 1897, Mining in the Pacific Northwest; The Post-Intelligencer, Seattle, Wash.
- Mayes, R.H., 1979, Assessment Credit Report for Malde Mineral Claim; B.C. Ministry of Energy, Mines and Pet. Res., Minfile #7796.
- Mayes, R.H., 1979, Assessment Credit Report for Goodeve Mineral Claim; B.C. Ministry of Energy, Mines and Pet. Res., Minfile #7799.
- Ridley, J.C. and Troupe, A., 1983  
Arbour Resources Inc. Geology, Geophysics and Geochemistry Surveys Report on the Goodeve Creek Property; B.C. Ministry of Energy, Mines and Pet. Res., Minfile #1178.

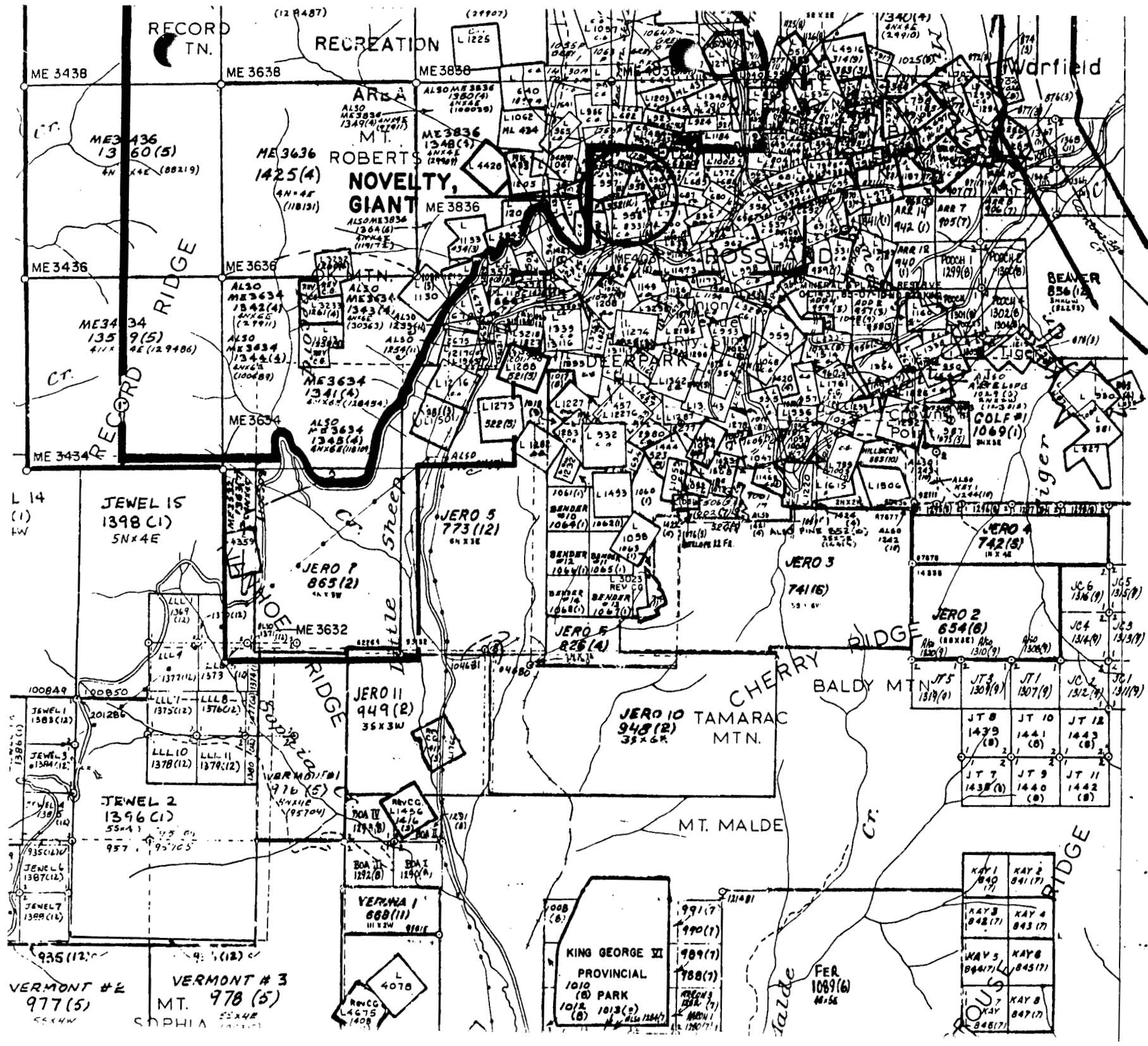
CERTIFICATE OF QUALIFICATIONS

I, Dan M. Wehrle, of the City of Rossland, in the Province of British Columbia, do hereby certify that:

1. I am a geologist residing at 2414 Thompson Avenue, Rossland, B.C., VOG 1Y0.
2. I am a graduate of the University of Saskatchewan (1985) in Geology, BSc. Honors.
3. I have been employed with various companies as an exploration assistant/geologist for the past 11 years.
4. This report is based on an analysis of work supervised by myself.
5. I have not received, nor expect to receive, any interest direct or indirect, in the properties mentioned in this report.

Dan M. Wehrle, Geologist

August 28, 1990  
Rossland, British Columbia



0 1000 2000 3000 Feet  
 3 Kilometers  
 2 Miles

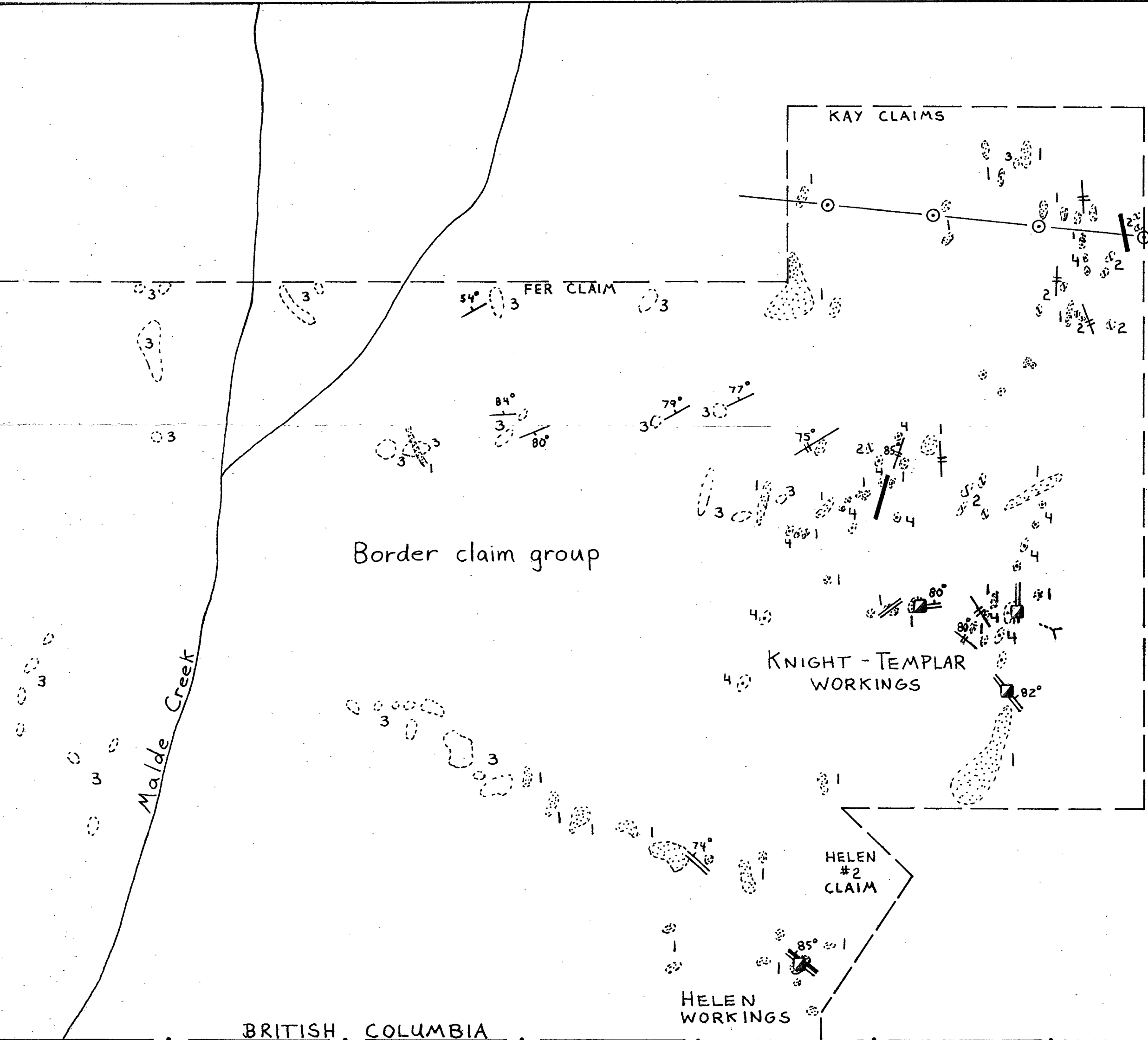
UNLESS OTHERWISE INDICATED, THE MAP PORTION OF A  
 LEGAL CORNER POST IS BASED ON THE LOCATOR'S SKETCH FOR THE  
 TOWN INFORMATION, APPLY TO THE OFFICE OF THE SURVEYOR  
 FOR MORE INFORMATION.  
 DATE OF MICROFILM: 90.09.27

*[Handwritten signature]*

VERMONT #2 977(5)  
 VERMONT #3 978(5)  
 SOPHIA

KING GEORGE II  
 PROVINCIAL  
 1010 (B) PARK  
 1012, 1013 (B)

KAY 1 849 (17)	KAY 2 841 (17)
KAY 3 848 (17)	KAY 4 843 (17)
KAY 5 847 (17)	KAY 6 845 (17)
KAY 7 846 (17)	KAY 8 847 (17)



Border claim group

KAY CLAIMS

FER CLAIM

KNIGHT-TEMPLAR WORKINGS

HELEN #2 CLAIM

HELEN WORKINGS

Malde Creek

BRITISH COLUMBIA  
WASHINGTON

### BORDER CLAIM GROUP GEOLOGY MAP



- SYENITE
- CONGLOMERATE
- ROSSLAND VOLCANICS
- LIMESTONE, CALCAREOUS ARGILLITE
- QUARTZ VEIN WITH DIP
- DIKE
- BEDDING
- FRACTURING
- OUTCROP
- SHAFT
- ADIT
- POWER LINES
- INTERNATIONAL BOUNDARY
- CLAIM BOUNDARY (as determined by most recent government claim map.)

DATE: AUG. 1990    FIGURE: 3  
SCALE: 1:10,000    NTS: 82 F/4