

82F-10 Prop. Sub.

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PROSPECT.

82-F-10

REPORT

ON

SANDY, MICHELLE AND DIANNE

PROSPECTS

EAST KOOTENAY AREA, B.C.

December, 1976

by H. Davies, P. Geol.  
Alberta

## SANDY, MICHELLE AND DIANNE MINERAL PROSPECTS

### EAST KOOTENAY AREA, B.C.

The above prospects are located on a five claim block, which is registered to Mr. Dave Wiklund of Boswell, B.C. The claims consist of a total of 20 units plus one single claim, retained under the old staking laws of B.C. The claims are contiguous and trend in a North-South direction. They encompass an area 3 miles long by about 3200 feet in width. Refer to claims map.

#### Location and Accessibility

The North end of the claims can be reached via a logging road from Highway #3A. The road takes off where the LaFrance Creek crosses the highway on the east side of Kootenay Lake. Travelling a distance of about 8 miles up LaFrance Creek would bring one into the claims area of the Sandy prospect. By continuing up the road for another three miles, access to the lower portion of the Michelle prospect is possible by walking a short distance. Access to the Dianne prospect is made either by walking over a 7300 foot ridge into the Lockhart watershed, or by utilizing a helicopter pad built on the prospect.

#### Topography

The claims are located in a forested mountain area on Crown lands. A small portion, about 10 percent, had been logged recently in the Sandy and Michelle prospect areas.

The surface elevation rises from 5000 feet at the North end of the Sandy claim to a maximum of 7300 feet on the ridge separating the LaFrance and Lockhart watersheds. The slope dips 35 to 45 degrees, south to 6000 feet at the helicopter pad and to 5000 feet at the south boundary of the claim.

## 2.

A number of small streams, some intermittent, are located on the claim blocks. A number of large flat areas exists on the North facing slopes.

Little undergrowth exists, especially on the south facing slopes. Walking apart from climbing is not a hardship. Road access for the future should present no problems.

### Regional Geology

On a regional setting the claims are located along the erosional edge of the Dutch Creek, Late Pre Cambrian Formation, where it is in contact with the younger Toby Conglomerate. The strike of the sediments are North 10 to 20 degrees East and are steeply dipping towards the West. The local sedimentary sequence from older to youngest beds are: argillite, quartzite dolomite or limestone carbonate, quartzite, argillite, erosional contact, Toby conglomerate. The individual beds have not been traced continually throughout, and there may be facies changes in local areas, especially between the Sandy and Michelle prospects. A number of basic sills, younger than the Toby Conglomerate, ranging in width from 6 inches to over 100 feet have been located within the claim boundaries. The closest granite intrusion on the surface is located about 5 miles from the South boundary of the claim block. The limestone-dolomite bed ranges in thickness from 25 feet on the Dave #2 claim to over 300 feet below the helicopter pad. The argillite bordering on the truncated edge varies in thickness from hundreds of feet on the Michelle prospect to zero thickness South of the helicopter pad at which place the Toby Conglomerate is in direct contact with the dolomite.

A number of veins, some of which are mineralized, have been located. These consist of quartz, carbonates, barite and fluorite. Both to the North and South of this claim block vein deposits of lead and zinc were developed as early as the 1890's. In two of the prospects, namely "Wall" located to the North and the "Hope" located to the South, considerable tunnelling and trenching was carried out.

The structural features have not been mapped. A number of tension type fractures trending N 70 degrees West are evident from below the helicopter pad for a distance of about 1000 feet. These fractures contain quartz which in many cases exhibit galena mineralization. There is evidence of a shear zone at nearly right angles to the tension fractures, but as it is located in the argillite zone it has been difficult to recognize and follow.

#### Geochemistry-Geological Evaluation

##### (1) Sandy Prospect:

A limited geochemical survey was done on this prospect. This survey was carried out to investigate an area where mineralized float was fairly abundant. The mineralization is contained in a quartzite and appears to be of a replacement type. There were no outcrops found in this area, with the exception of a quartz dike, which contained no mineralization. The geochemical anomaly appears to be rather small in extent, but could be expanded on in the future.

##### (2) Michelle Prospect:

This prospect has been fairly well outlined by three separate geochemical projects. The original project was undertaken as an investigation of the area underlain by a crystalline dolomite which yielded some high geochemical lead and zinc values on a number of random samples. The three projects outlined an anomaly about 2500 feet in length. Both the lead and zinc anomalies are similar in outline and often appear as two parallel anomalies. There are a fair number of rock outcrops in this prospect, mostly being argillite or dolomite. Two small areas of calcareous quartzites have been recorded located on the western edge of the dolomite at D65 and F9. In both cases, lead and zinc mineralization was evident. Apart from these two locations very little mineralized rock was found. The dolomite is described as being light brown in color, fine crystalline, sucrose. Over an area roughly corresponding to the geochemical anomaly

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the dolomite is to some extent brecciated and also in part replaced by a white finely crystalline quartz, probably of hydrothermal origin.

(3) Dianne Prospect:

The Dianne prospect is located about 1000 feet south of the south end of the Michelle prospect. A geochemical project has not been done over this area, although some random samples were collected and assayed which yielded some high geochemical values in both lead and zinc.

A large open cut and a 50 foot trench together with a number of smaller sample pits have been dug in this area. A four foot mineralized fluorite vein occurs in the open cut. Replacement type mineralization is evident in the trench and pits, along the quartzite-argillite contact.

A number of tension cracks trending N 70 degrees W and which are filled with mineralized quartz are located on this prospect. The argillite bordering the mineralized quartzite exhibits strong alterations in this area.

Conclusions

The geological and geochemical evidence supports the premise that one or more deep seated mineral deposits of hydrothermal origin exists in this area.

1) Geochemical evidence:

From the evidence to date it appears that the geochemical anomaly is the result of metallic ions reaching the surface through fractures or along the bedding planes from a deeper source. The highest geochemical readings are obtained in the calcareous quartzite areas, or along the contact between the quartzites and the argillites. This may explain the presence of the two parallel anomalies over most of the area. Another area of high values appears to correlate with the brecciated dolomite in which hydrothermal quartz is evident. As most of the area sampled is fairly steeply dipping, and drainage is excellent, it is assumed that the high PH

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of the soil overlying the carbonates and calcareous quartzites limit the chemical transportation of the metallic ions. There must be a certain amount of gravity displacement, but this has been recognized in only one area around the B2 and B3 locations. Replacement type mineralization has been located in a number of areas, shown on the overlay map. There appears to be no correlation between the known mineralization and the Geochemical anomaly. This may change when a thorough bed rock examination is carried out. The ratio of lead to zinc in the soil samples average about 1:8 while the ratio from assayed rock samples averaged 3:1. In other words, there is about 24 times more zinc in the soil that one could expect from in situ weathering.

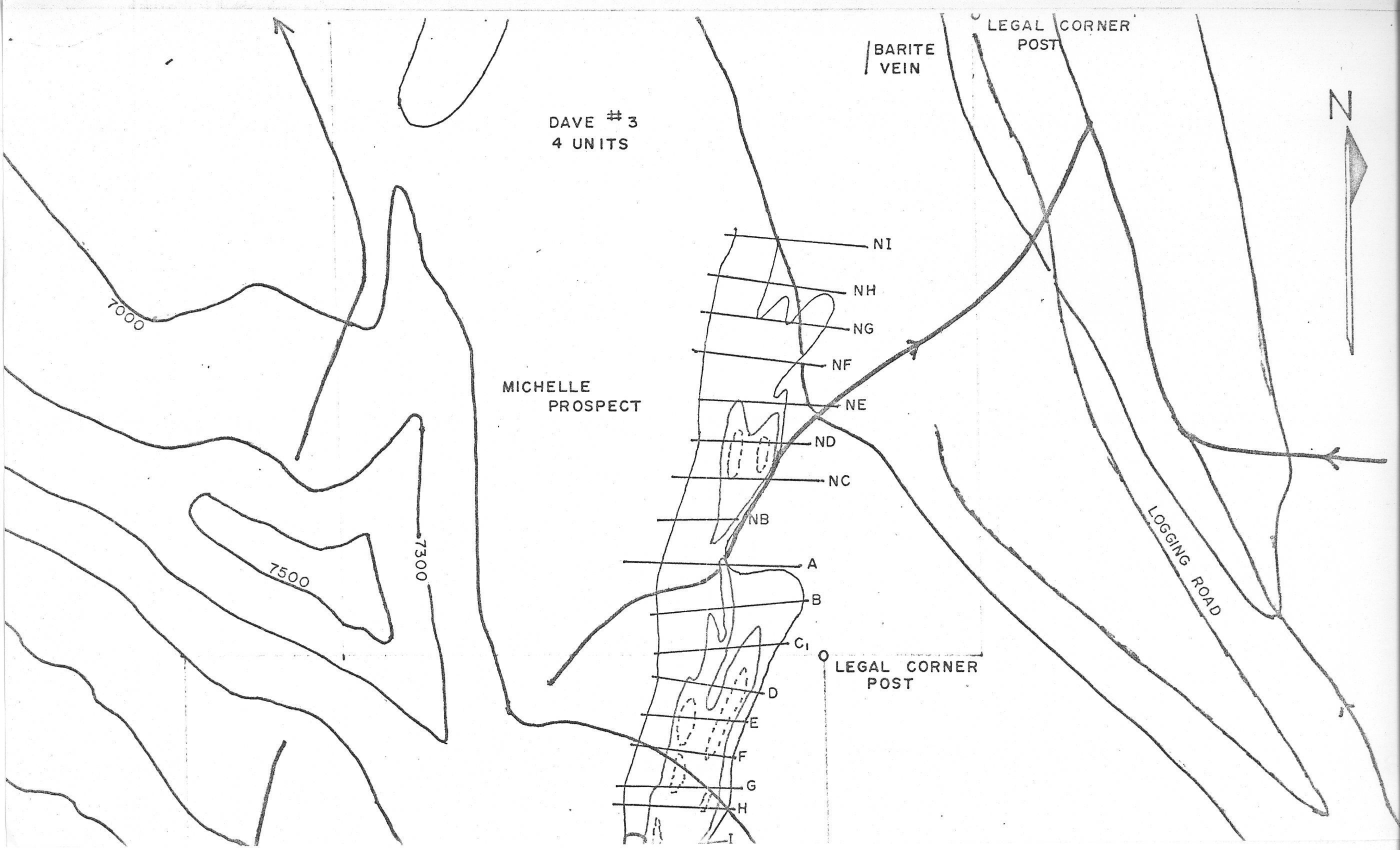
2) Evidence of hydrothermal activity:

- a) Replacement of the brown sucrosa dolomite by a white finely crystalline quartz. This replacement occurs in an area roughly corresponding to the geochemical anomaly on the Michelle prospect. It also occurs south of the Sandy prospect in an area not yet tested by geochemistry. In some places the dolomite is badly fractured as to resemble a breccia. This replacement has not as yet been found on the Dianne prospect, although a large portion of this prospect has yet to be prospected.
- b) Alteration of the argillite along the margin of the calcareous quartzite, to sericite etc. The boundary between the two rock types appear to have facilitated the ascending fluids.
- c) The occurrence of replacement type lead zinc mineralization in the calcareous quartzites, bordering the argillites. (see map).
- d) The presence of fluorite and abundant pyrite also indicate a hydrothermal origin.

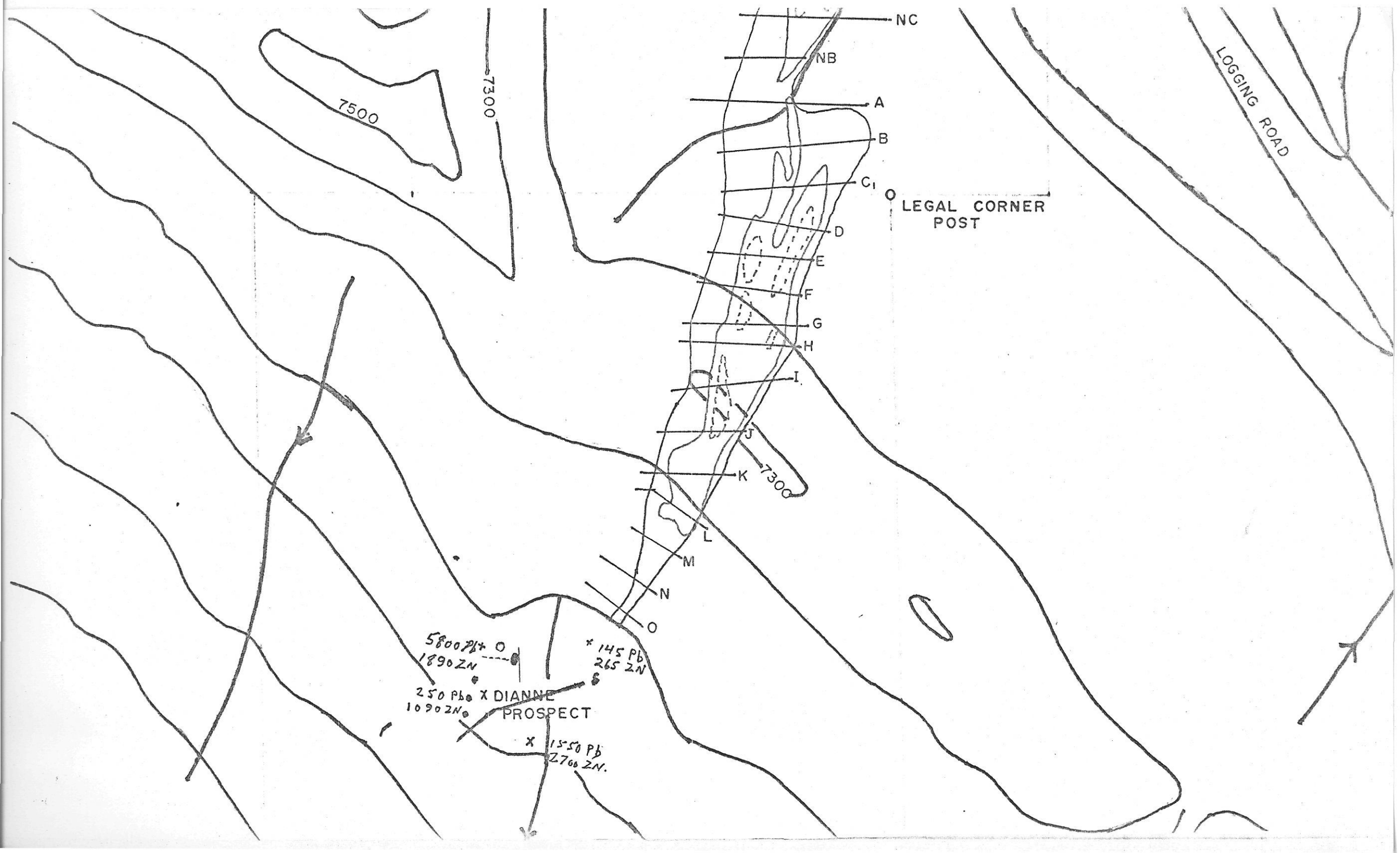
Recommendations

At this time it is logical to postulate a buried mineral source in view of the excellent geochemical anomaly, together with the known mineral occurrences and the inferred hydrothermal activity.

A program of short core hole sampling of the bed rock, assayed geochemically, would enhance this prospect considerably, by correlating the primary and secondary dispersion modes. This investigation may also reveal fluid channels, and further mineralization.







NC

NB

A

B

C<sub>1</sub>

O

LEGAL CORNER POST

D

E

F

G

H

I

J

K

L

M

N

O

7500

7300

7300

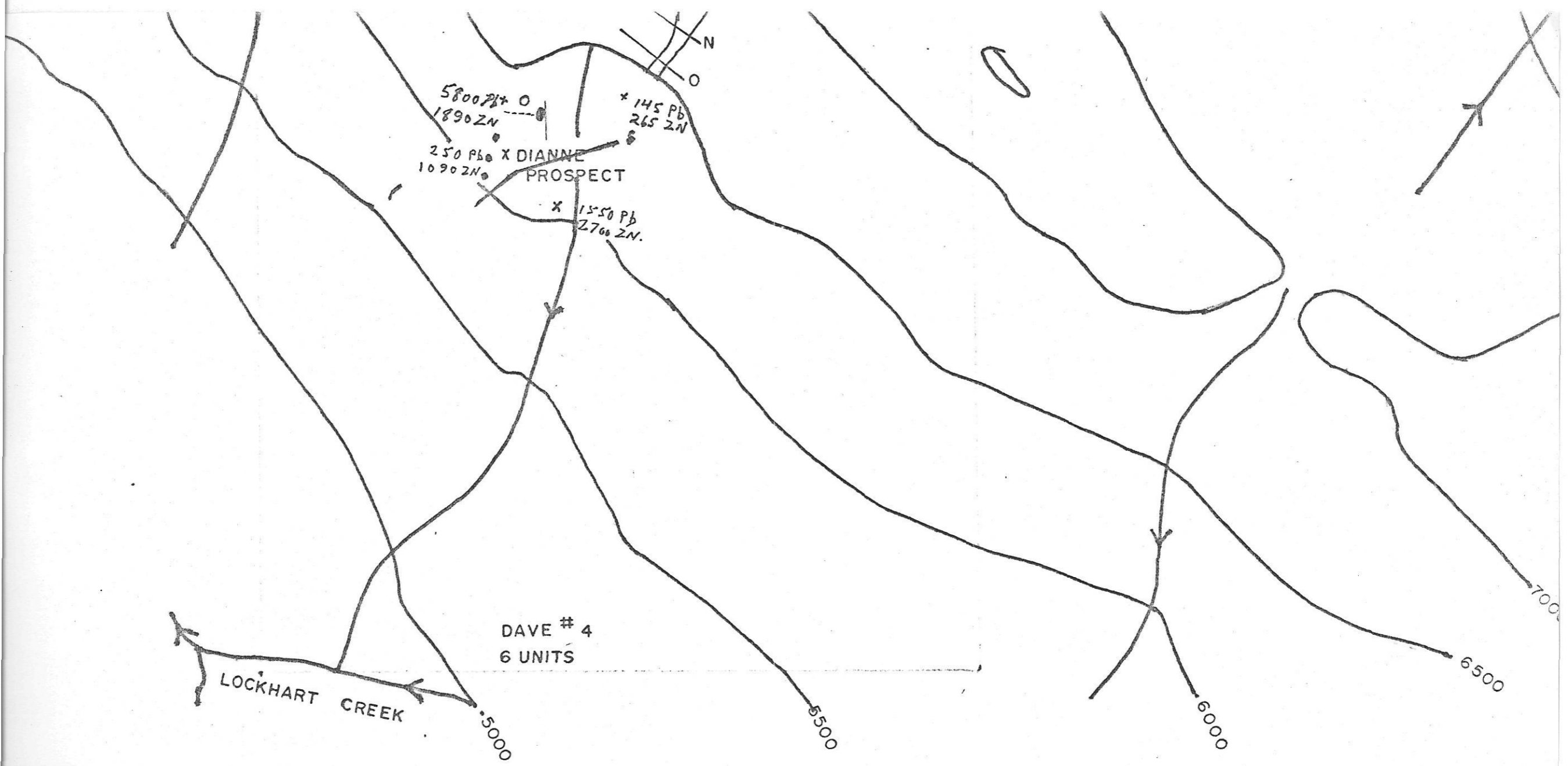
LOGGING ROAD

5800 Pb + O  
1890 Zn

\* 145 Pb  
265 Zn

250 Pb X DIANNE  
1090 Zn PROSPECT

X 1550 Pb  
2700 Zn



\_\_\_\_\_ ZN 500 PPM.  
 \_\_\_\_\_ Pb. 500 PPM  
 - - - - - Pb 2000 PPM  
 x Geochemical Sample locations.

MICHELLE & DIANNE PROSPECTS  
 EAST KOOTENNY AREA B.C.  
 \_\_\_\_\_ A GEOCHEMICAL LINES  
 SCALE 1" = 320'  
 JAN. 1977

HORSETHIEF FM.

PURCELL  
SILL

TOBY CONGLOMERATE

ALTERATION

OPEN CUT

FLOURITE

VEIN

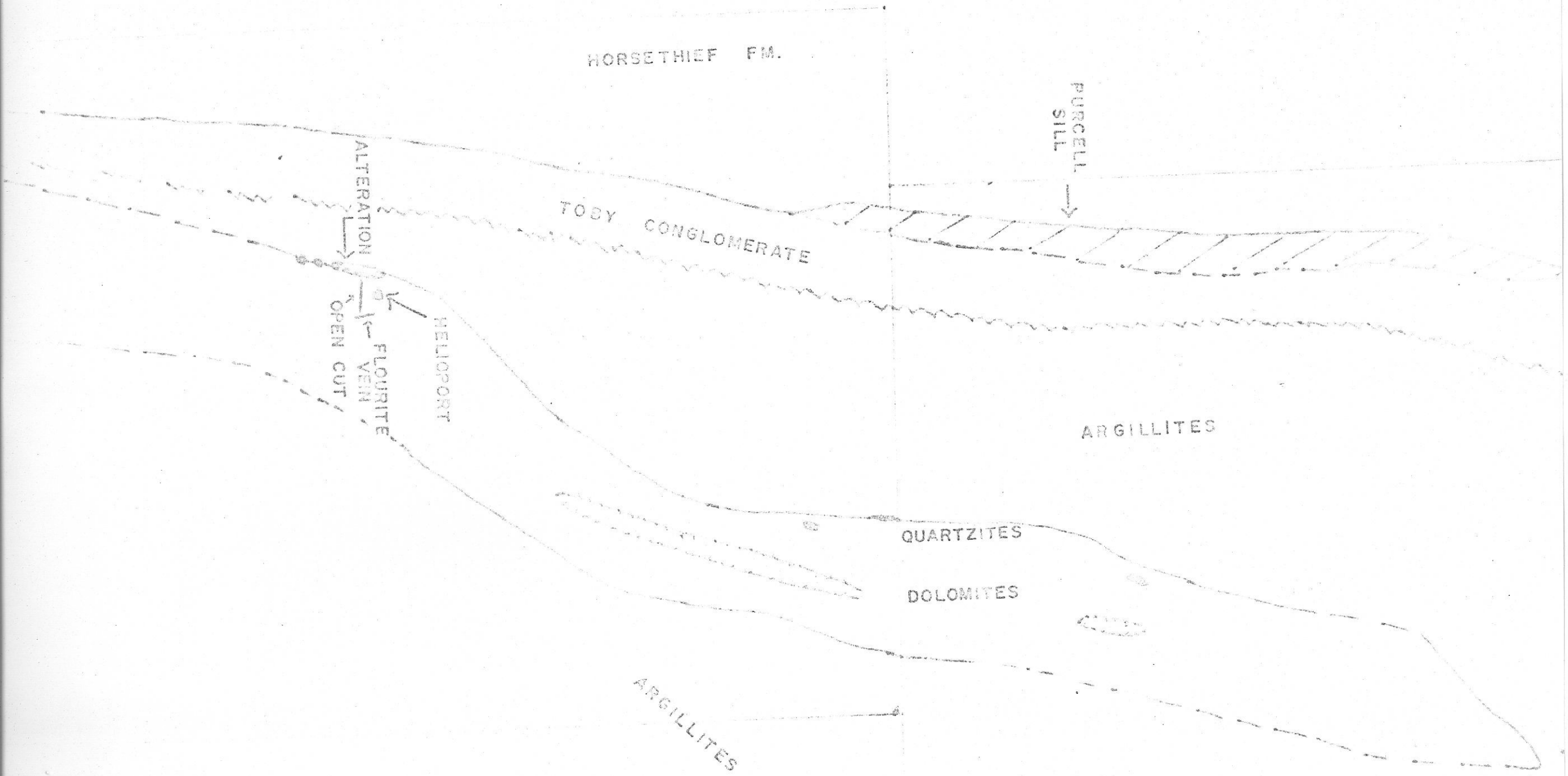
HELIPORT

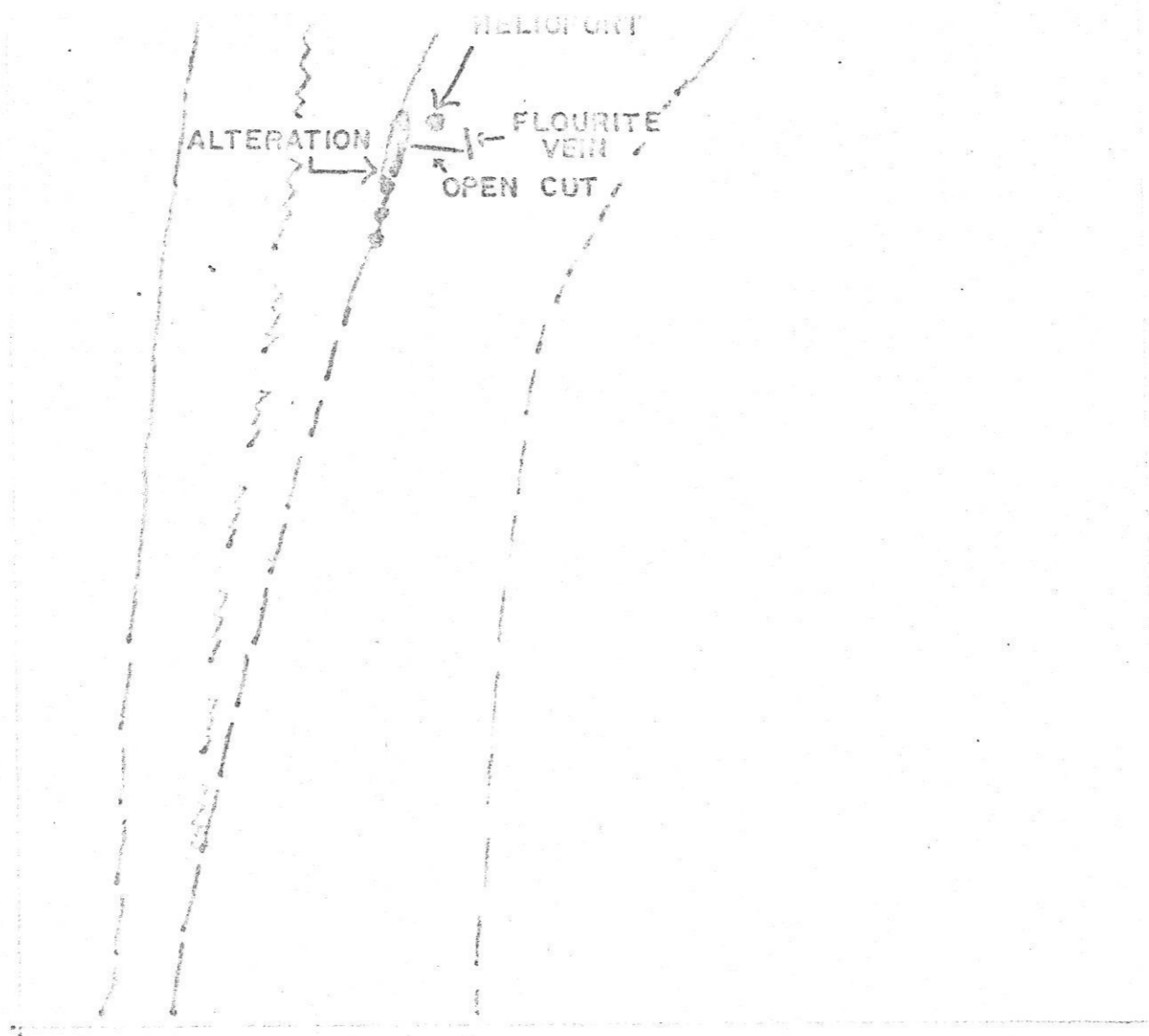
ARGILLITES

QUARTZITES

DOLOMITES

ARGILLITES





MICHELLE & DIANNE PROSPECTS

EAST KOOTENAY AREA B.C.

○ — MINERALIZATION

XXX — BRECCIATED DOLOMITE

JAN. 1977

SCALE 1" = 320'

THIEF FM.

PURCELL  
SILL



CONGLOMERATE

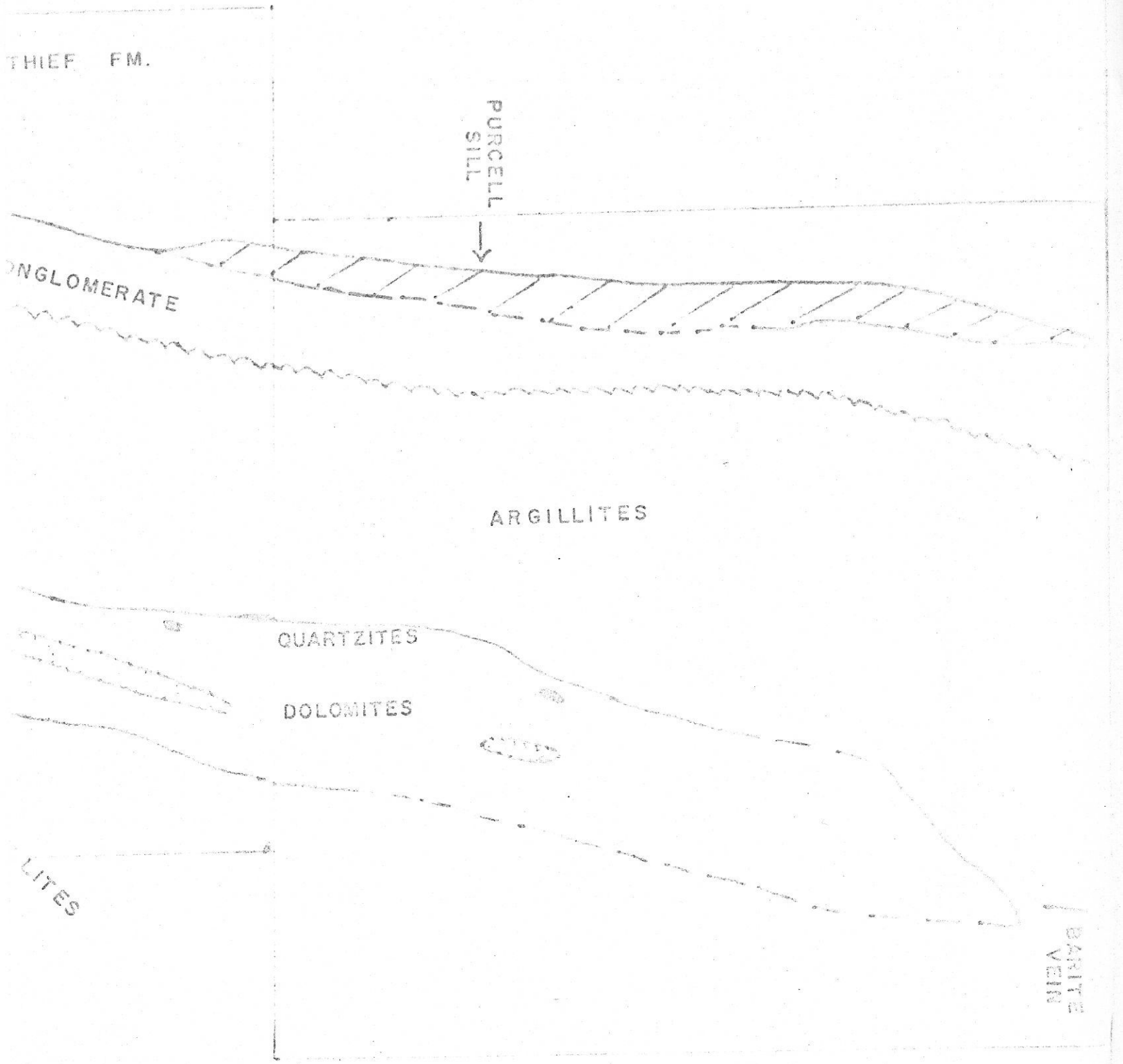
ARGILLITES

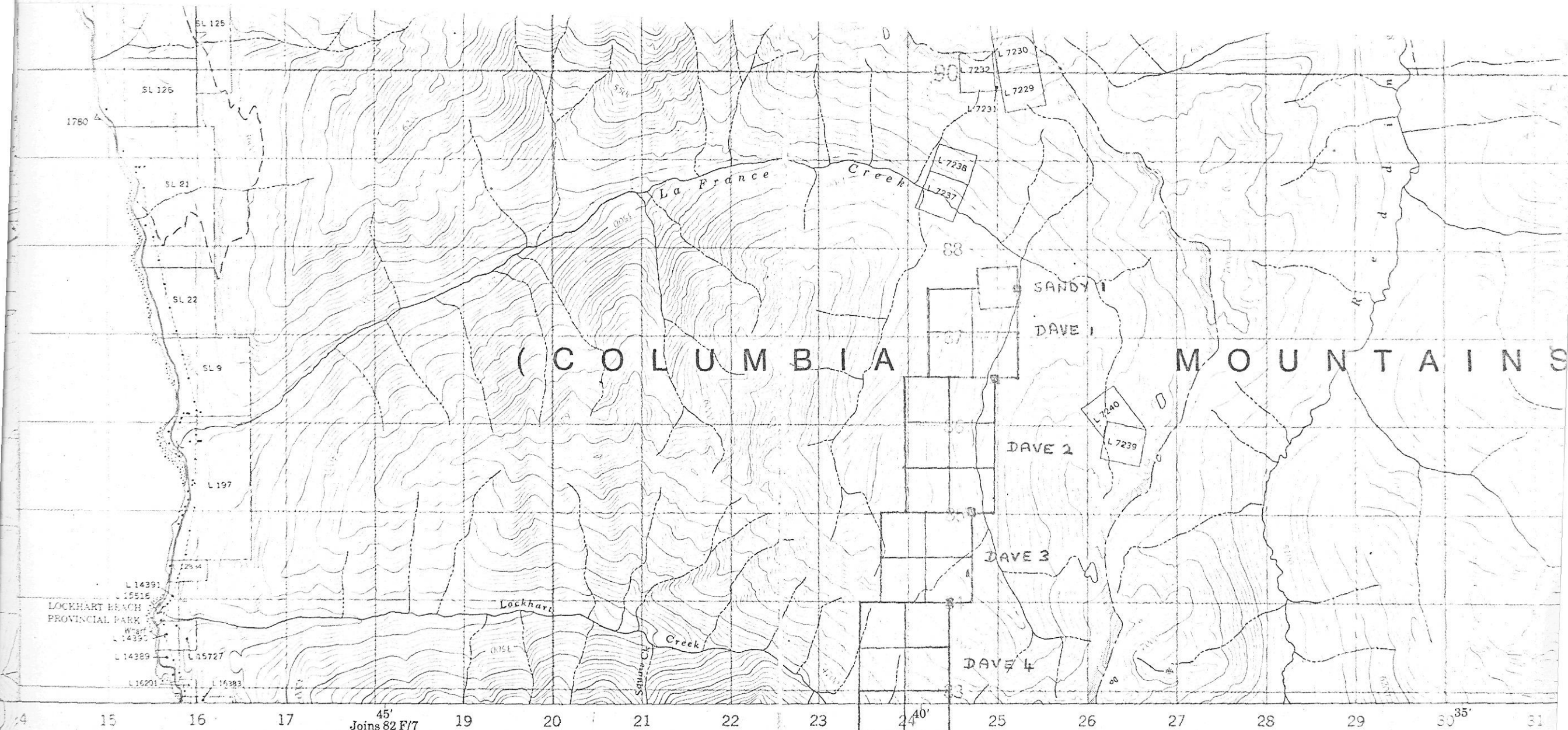
QUARTZITES

DOLOMITES

LITES

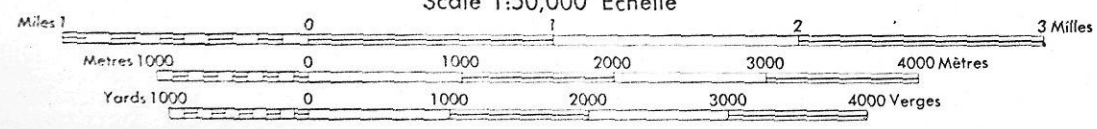
BARITE  
VEIN





**CRAWFORD BAY**  
 KOOTENAY LAND DISTRICT  
 BRITISH COLUMBIA

Scale 1:50,000 Échelle



This Provisional Map is equivalent to a standard map in accuracy of content.

Some names on this map are not yet official. Corrections or additions are invited by the Surveys and Mapping Branch.

CONTOUR INTERVAL 100 FEET  
 Elevations in Feet above Mean Sea Level  
 North American Datum 1927  
 Transverse Mercator Projection

Cette carte provisoire équivaut une carte régulière au point de vue précision de l'information

Certains noms inscrits sur cette carte ne sont pas encore officiels. La Direction des levés et de la cartographie saurait gré au public de lui signaler corrections et additions.

ÉQUIDISTANCE DES COURBES 100 PIEDS  
 Élévations en pieds au-dessus du niveau moyen de la mer  
 Système de référence géodésique nord-américain, 1927  
 Projection transverse de Mercator