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SNC	✓
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REPORT ON BAMFIELD PROJECT  
N.T.S. 92-C-10, 11, 14 & 15  
P.N. 103

Vanc. B.C.  
Jan./70

D.H. Helgesen

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## C O N T E N T S

	<u>PAGE</u>
SUMMARY AND CONCLUSIONS .....	1
LOCATION AND ACCESS .....	2
GEOLOGY .....	2
MINERAL OCCURRENCES .....	3
1968 FIELD WORK .....	4
1969 FIELD WORK .....	5
 <u>ILLUSTRATIONS:</u>	
<u>Banfield Project Maps:</u>	
Fig. 1 - LOCATION MAP .....	Follows Page 1
Fig. 2 - GEOCHEMICAL AND GENERAL GEOLOGY .....	In Pocket

REPORT ON

BAMFIELD PROJECT

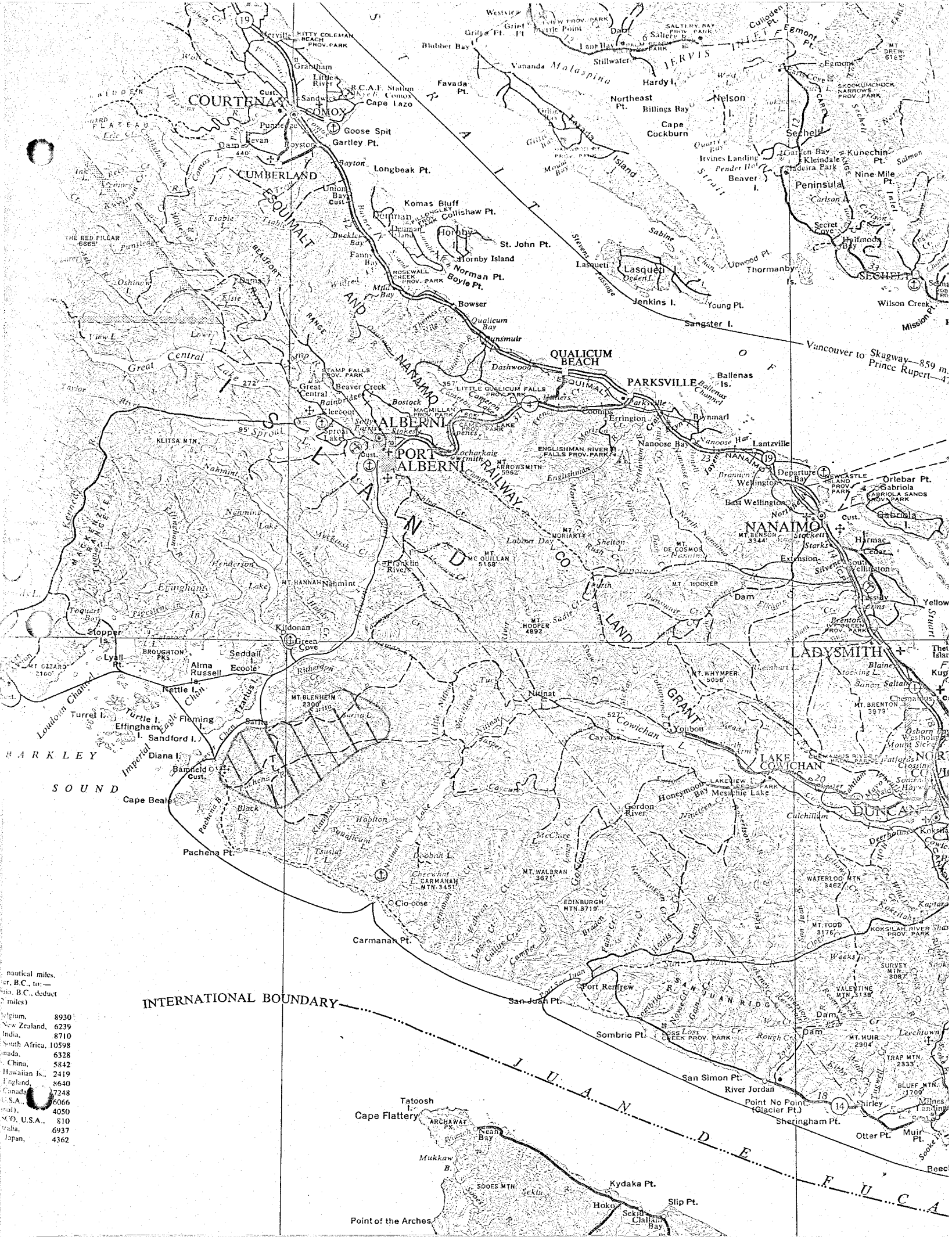
N.T.S. 92-C-10, 11, 14 & 15

P.N. 103

SUMMARY AND CONCLUSIONS

The area bounded by Albernie Inlet, Coleman Creek and Nitinat Lake is recommended for further reconnaissance prospecting and sampling. In particular the coastal fringe surrounding the area already covered should be sampled.

In addition the five anomalous areas already delineated should be prospected in detail.



nautical miles.  
 er, B.C., for  
 1000 B.C., deduct  
 2 miles)

Belgium	8930
New Zealand	6239
India	8710
South Africa	10598
Canada	6328
China	5842
Hawaiian Is.	2419
England	8640
Canada	7248
U.S.A.	6066
France	4050
U.S.A.	810
Alaska	6937
Japan	4362

INTERNATIONAL BOUNDARY

Point of the Arches

Beed

REPORT ON  
BAMFIELD PROJECT

LOCATION AND ACCESS

Bamfield, a small fishing village and ex-terminus of the trans Pacific telegraph cable is located on the west coast of Vancouver Island at the southern entrance to Albernie Inlet.

Access is via McMillan Bloedel logging roads from either Albernie or Cowichan Lake. Travel on the roads is restricted during week days and a permit should be obtained from the M.B. office at Franklin Camp located halfway between Albernie and Bamfield.

The well developed network of roads allowed fairly easy access to all streams sampled to date. Hondas were used to advantage in areas of active logging and a few roads impassable by trucks.

GEOLOGY

The only existing references on the general geology of the area are:

- (a) C.H. Clapp, G.S.C. Memoir 13, Southern Vancouver Island, 1912.
- (b) J.E. Muller, Sketch Map of the Geology of Vancouver Island, 1967.
- (c) J.E. Muller, Geology of the Albernie Map area, G.S.C. Paper 17 - 1968.

This map area covers only the area north of Franklin Camp. However, the general geology shown on Figure 2 is based on Muller's classification.

The most extensive formation between Franklin Camp and

Bamfield is the Vancouver Group basic volcanics. Both Karmutsen and Bonanza Groups occur in the area with minor bands of Quatsino Limestone, (i.e. at the J.J. Doyle Magnetite showing).

Island intrusives are fairly extensive, particularly south-east of Sarita Lake. Aplite dykes or sills occur in quartz diorite (?) near the molybdenum anomaly north of Sam Lake.

The coastal band of Tertiary clastic sediments and the 'West Coast crystalline complex' are copied on Figure 2 from Muller's sketch map. No samples were collected over these formations.

#### MINERAL OCCURRENCES

There are five deposits in the area on which development work has been done.

- 1&2. Sarita River and Tzartus Island Magnetite Deposits. See report by J.J. McDougall, 1957.
3. Marshall Creek Molybdenite Showing, see report by S. N. Charteris, 1966.
4. J.J. Doyle Magnetite Showing.

The property is located on the hillside immediately south of Franklin Camp. The property was examined by our prospectors in 1965 and streams were sampled as part of the 1968 program. A new spur road in the area has exposed limestone boulders carrying massive magnetite 1/2 mile north east of the old showing.

No copper minerals were observed but the stream sediments carry anomalous copper values. (See Figure 2 - Inset).

5. Kahr Magnetite Showing

Little is known about this occurrence except that it is probably related to the Sarita River deposit one mile to

the northwest. Several packsack holes were drilled by Mr. Kahr in 1968, presumably with little success. Our crews located magnetite float in the stream draining the property but no mineralization was seen in situ. Two sediment samples contain greater than 200 ppm zinc but only normal amounts of copper and molybdenum.

In addition chalcopyrite and magnetite were observed in a road cut one mile north east of the Sarita River deposit. The ground was staked and abandoned by Marshall Creek Mines in 1967.

Near the head of Pachena Bay, basic volcanic float was found containing chalcopyrite.

To date no copper or molybdenum mineralization has been found in intrusive rock in this area.

#### 1968 FIELD WORK

During the period 7 - 26 May 1968 a crew of from 5 - 7 men sampled the ground shown on Figure 1 from a base camp on Sarita Lake. A total of 853 sediment samples were collected at 500' intervals on most streams within an area of 110 square miles a sample density of  $\pm 80$  square miles.

Sampling conditions are generally poor. All streams excluding Pachena, Sarita and Klanawa Rivers, are seasonal and steep in gradient. Much of the sediment which does accumulate is flushed away during the heavy winter rains characteristic of the area. Consequently many of the samples collected consist mainly of medium to coarse pebbles. These were lightly ground prior to analysis. It is believed that this procedure did not appreciably distort the results



(See Geochemical Laboratory Annual Report, 1968, I.L. Elliott).

## RESULTS

Five areas anomalous in copper and/or molybdenum were indicated. Of this, the one immediately northeast of Rousseau Lake is on ground held by Marshall Creek Mines Ltd.,

## 1969 FIELD WORK

Three of the five anomalous areas were sampled in detail by a crew of three men during the period 21 - 30 June 1969. Combined 1968 and 1969 results are shown on Figure 2.

## RESULTS

The three anomalies are Pachena Cone, one mile west of Frederick Lake, Mt. Blenheim, 2 miles northwest of Sarita Lake and Sam Lake 5 miles southeast of Sarita Lake.

### Pachena Cone

The copper and molybdenum values were enhanced by resampling. The underlying rock type is unknown. The area should be checked by experienced prospectors in 1970.

### Mt. Blenheim

The anomaly was extended by resampling. The area is probably underlain by basic volcanics but this should be checked by detailed prospecting.

### Sam Lake

A few additional high copper values were obtained by resampling. Although this anomaly is less intense than the two above, the area is underlain by medium to acid intrusive cut by strong north-south lineations. The area should be prospected and possibly reconnaissance soil sampled.

There are two other streams with anomalous concentrations of both copper and molybdenum.

Immediately north of Rousseau Lake a small stream carries values of  $>70$  ppm Cu. and  $>20$  ppm Mo. Recent claim maps show that the ground is very near the edge of the Marshall Creek Claims and may in fact be open.

Three miles south of Rousseau Lake the north flowing tributaries of a major stream contain significant amounts of both metals. (Cu.  $>100$ , Mo.  $>10$ ).

A zone of rusty weathering within the Vancouver Volcanics extending from Sarita River south through the Marshall Creek showing intersects the anomalous zone. Further prospecting and sampling is recommended particularly to the southeast.

Vancouver, B. C.

January 1970

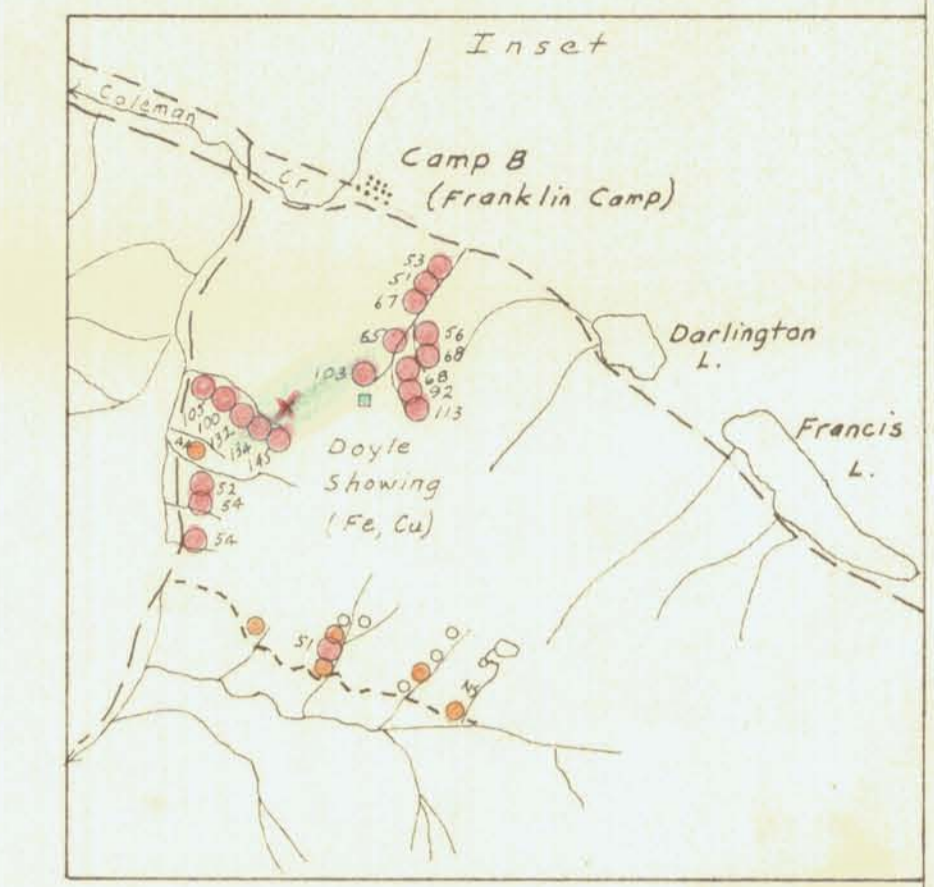
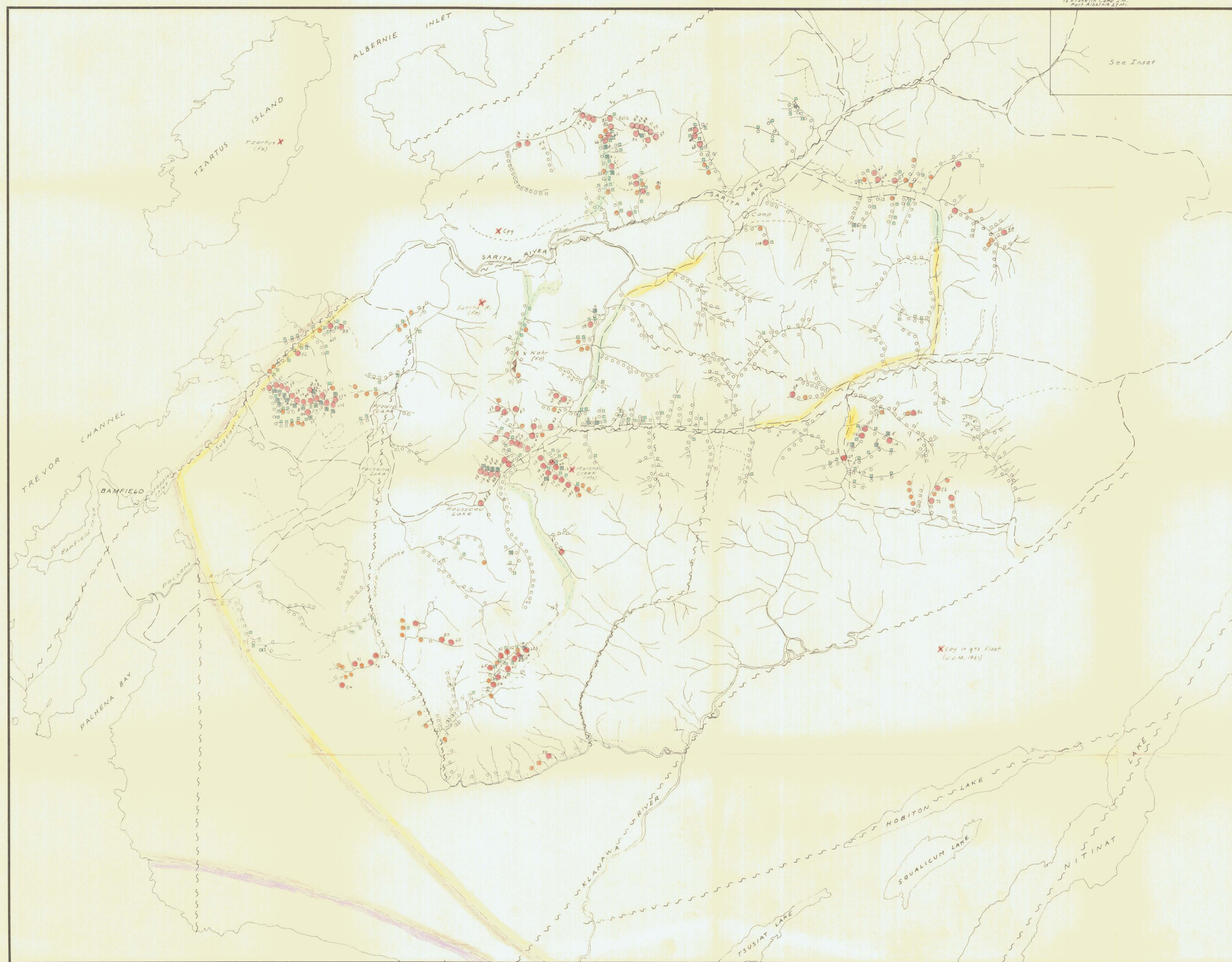
D. H. Helgesen.



To Franklin Camp 2 MI.  
Part Albernie 29MI.

MAP REF. NO.:  
NTS 92-C-10, 11, 14/15

See Inset



GEOCHEMISTRY

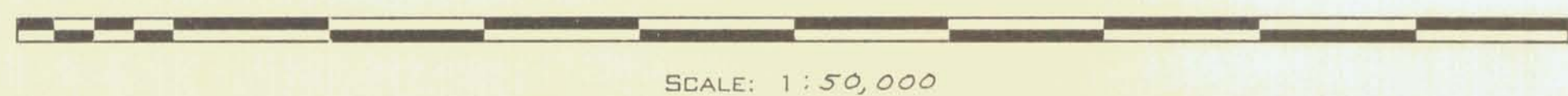
- Zn  
 ▲ 100-200 ppm  
 ▲ >200  
 Cu  
 ○ 0-40 ppm  
 ● 40-50 "  
 ● 50+ "  
 Mo  
 ■ 2-5 "  
 ■ >5 "

GEOLOGY

- Tertiary - volcanics/ clastic sediments
  - Jurassic - Island intrusions - biotite, hornblende granodiorite, quartz diorite
  - " - Aplitic
  - Triassic/Jurassic - Vancouver Group - basic volcanics
  - Gneiss, migmatite, metadiorite.
- Contact - approximate, assumed  
 Geology by J.E. Muller, 1967 / field observation by D.H.H., 1968-9

ROADS

- Main
- - - Spur
- ... Abandoned



SCALE: 1:50,000

COMPANY . . . FALCONBRIDGE NICKEL MINES LTD.  
 PROPERTY . . . BAMFIELD, V.I.  
 LOCATION . . .

WORKING PLACE . . .  
 TYPE OF MAP . . . GEOCHEMICAL - GENERAL GEOLOGY  
 BASED ON . . . SILT SAMPLING

DATE . . . 13 JAN 70  
 DRAWN BY . . . D.H.H.  
 DATE OF WORK . . . MAY-JUNE 68/69