

86-261-14925

PROSPECTING REPORT

EAGLE 4

VICTORIA MINING DIVISION

NTS Map ⁹² ~~88~~C/16W

Latitude $48^{\circ} 49.2' \text{E}$ Longitude $124^{\circ} 18.6' \text{W}$

Author - V. ALLAN

April 1986

OWNER - V. ALLAN

OPERATOR - WESTERN FOREST IND.

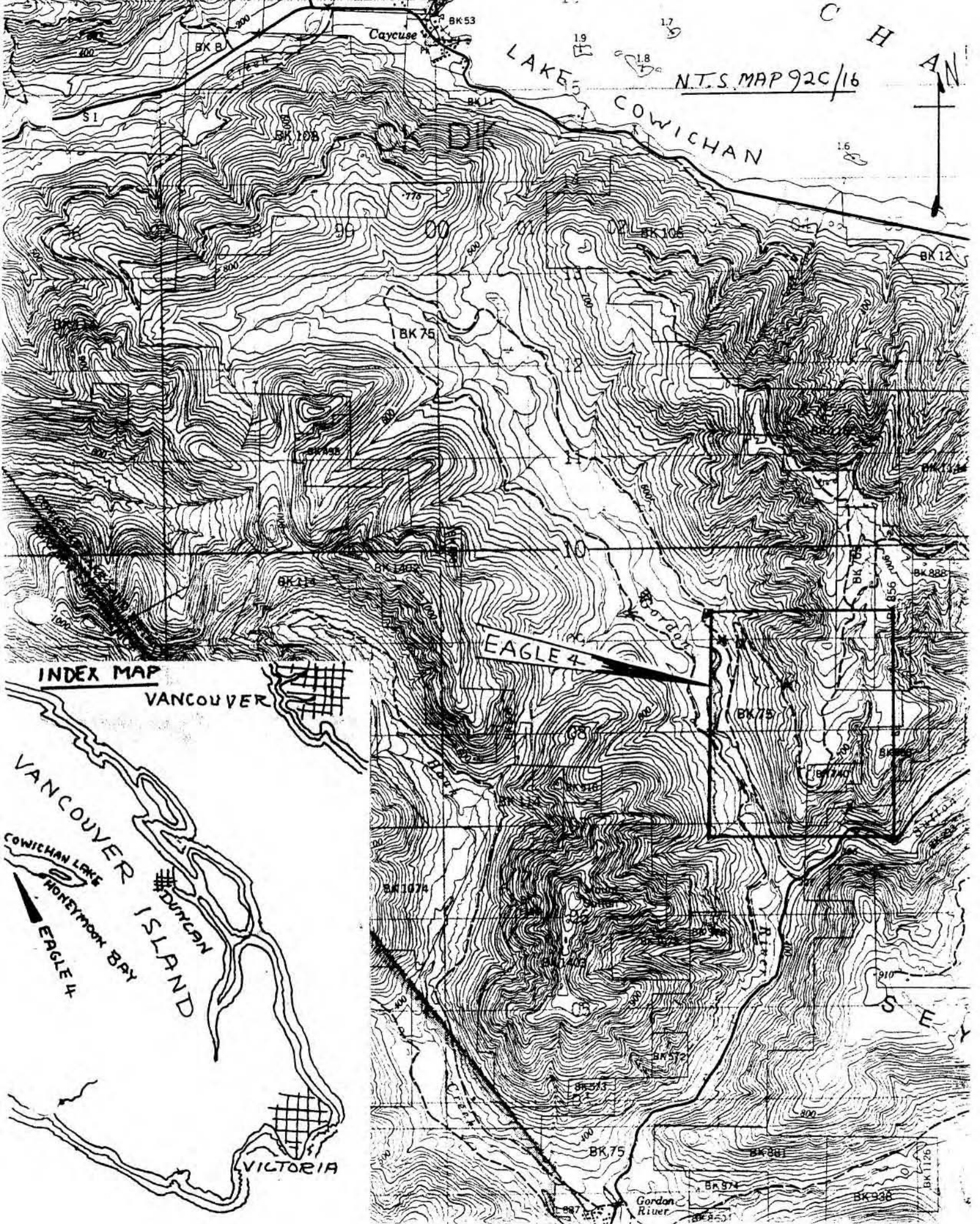
FILMED

GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,925

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BK 53

N.T.S. MAP 92C/16

LAKE COWICHAN

BK 75

EAGLE 4

INDEX MAP

VANCOUVER

VANCOUVER
COWICHAN LAKE
HONEYBROOK BAY
DUNCAN ISLAND
EAGLE 4

VICTORIA

Gordon River

BK 938

BK 974

BK 75

BK 1074

BK 75

BK 888

BK 12

BK B

BK 108

BK 53

BK 11

BK 206

1.6

1.9

1.7

1.8

C H AN

INTRODUCTION

The EAGLE 4 claim is 14 km south of Caycuse on Cowichan Lake on Vancouver Island, B.C. It is reached by B.C. highways to Honeymoon Bay, then west by British Columbia Forest Products main haul road to Gordon river.

An access road, Truck road #3 has been repaired giving good access to the property.

The land is owned by Western Forest Industries Ltd. They own the base metal rights. The claim is mostly on their land.

In 1885 three prospectors, W. Robertson, James Shields and John McDuval staked three gold claims along the north side of the Gordon river watershed 1 1/2 miles due south of Caycuse.¹

In 1886 an Englishman named Paget mined the same area for two or three years. No information on any yield.²

In 1893 a survey was done along the western E & N line. At mile 35 where the line crosses the Gordon river, placer silver was found. From mile 35 to mile 39, massive magnetite dykes were found in abundance. This would be the Mt. Tow-n-cut area. I have found a large magnetic anomaly running to the south-west parallel to a fault zone centred on mile 38.³

In 1912, Clapp found gold and opal at the headwaters of Gordon river.⁴

In 1955, the Connie, Vashica and Seven-up claims were

staked one km west of our L.C.P., mainly for the iron ore.

In 1962, O. MacDonald staked ten claims over magnetite that is almost lodestone one km north-west of our L.C.P.

Wally Dean has a nine unit claim over the old Paget property, in good standing at this time.

The Blue Grouse copper mine is four miles to the north-east. The geology is similiar to our area. It produced over 15 million pounds of copper, 80.5 thousand ounces of silver and seven ounces of gold in the early fifties.

In 1971 D.C. Malcolm did a geological survey over the northern part of BLOCK 75 (including our area) showing a possible porphyry copper deposit. The alteration zone is approx. three km in length and 1,000 metres in width. EAGLE 4 is in the southern part of this alteration zone.

The work of this report consists of more detailed geology and prospecting, supplemented by research of all current data available from the Ministry of Mines.

I have four geology maps of the property, E and N, 1964; E and N, 1965; Malcolm 1971; and Muller 1982. Of them all, Jan Muller's map comes closest to my survey, showing a tongue of the Quatsino arcing from the L.C.P. area curving along the 2nd leg of Truck road 3 down the ridge, south to Sutton creek at the main haul road, Gordon river to Honeymoon Bay.

1. Provincial Archives.-- mining records 1885.
2. Ministry of Mines report 1906.

3. Ministry of Mines report 1893.
4. Clapp - 1912.

GEOLOGY

The EAGLE 4 is underlain by the following formations; Karmutsen, Quatsino, Parsons Bay and Bonanza, The regional trend is north-west with a north-east dip. A stock of Island intrusions approx. two miles in diameter lies almost two km west. From this, smaller intrusives, numerous dykes, sills and plugs intrude all formations.

Of special interest are the breccias running south-west from the L.C.P. These seem to be breccia pipes ranging from brecciated intrusive at 1450 feet. to intrusive breccia at 1700 feet, to brecciated intrusive breccia at 1825 feet, culminating in brecciated felspar intruding the limestone at 2000 feet. These breccias can be found along the Caycuse road, south of the L.C.P. and along the second leg of Truck road #3 as shown on figure I.

To the west of the L.C.P. in the Gordon river is a very complex zone, shown in illustration #1. The majority of porphyry felspar dykes are strongly silicified, becoming chert-like. A dark fine-grained intrusive partly auto-brecciated is silicious and carbonaceous. This dyke is fifteen metres in width, trends 065 and dips south. In the river, cutting it, is a drag fold running north-west, consisting of the felsic cherty rock.

Approx. one hundred metres north, in the river is an unaltered quartz diorite stock. In contact with this is a K-spar rich intrusive dyke.

All the porphyries and diorites intrude the Quatsino and Parson's Bay formations, and to a lesser degree, mafic dykes and sills and plugs intrude all formations.

On the north side of the diorite stock lies an iron-rich Bonanza tuff called Hemititic tuff by Malcolm (1971). Underwater they look like a gossan.

In a road cut on the road opposite the L.C.P. are two or three of these gossan like tuffs. These tuffs are prolific from here north in a wide area to Cowichan Lake.

Going south from the L.C.P. on the road, at 500 metres we find the brecciated intrusives, at 900 metres we turn left onto the first leg of Truck road #3, a quartz-diorite dyke at 300 metres. This whole area is underlain by a massive gossan containing pyrite and copper (Malcolm '71). At 700 metres we turn right onto the second leg of Truck road #3, overburden for 150 metres where unaltered Bonanza volcanic flows and tuffs are found for 200 metres. These contain pyrite. For the next 100 metres, unaltered felspar porphyries to where they are altered in an area of intense shearing and the intrusive breccia and brecciated intrusive breccia is seen.

This area from the 1600 foot level to the 1900 foot level has been an area of extreme deformation and shearing which ends 900 metres from the start of the second leg.

From here, overburden until you come upon the massive Quatsino limestone 450 metres farther on. This is approx. 100 metres in width and runs as a limb to the east. This brings us to the 2100 foot level. Overburden to the 2250 foot level where outcrops are volcanic flows and volcanic porphories of an unidentified formation. These contain pyrite.

Continuing on, the road runs around the southern crest of the ridge, passing Parsons Bay limestone on the left 50 metres before the Karmutsen formation begins.

The road turns left, running north over the Karmutsen formation 500 metres to the Quatsino coming from the west. After 10 metres the Bonanza formation begins. In the Bonanza can be found fine quartz-sericite veining, typical of a phorphory deposit. This is the eastern boundary of the alteration zone according to Malcolm '71.

Sixty metres further on, north of the limestone is a trail on the right leading to a broken bridge at 550 metres at Sutton creek. The rocks under the bridge are tightly folded Bonanza cherts and tuffs intruded by felspar porphyries.

The area from the broken bridge south to the 2000 foot level on Sutton creek is unexplored. At 2000 feet on down are several parallel faults running north-west. These cross Sutton creek down to the falls at 450 metres. This area is hard to describe as all rocks are cut by offsets, fractures and shearing cutting diagonally through the area.

One hundred metres below the falls is a contact of Quatsino limestone and Karmutsen striking north, dipping 80 east.

Overburden and talus covers the formation below 450 metres. The bluffs on the left between 500 to 600 metres contain a high copper anomaly. A sliced rock specimen in this area contains pyrite and hematite inclusions. Ribbon silver has been found at 1900 feet in the creek and the odd grain of silver in volcanic vugs in rocks to the left.

Chalcopyrite and bornite are found just north of the falls at the 1600 foot level in felspar porphyry.

This concludes the report on exploration done from the fall of 1984 to the fall of 1985.

A detailed ground magnetometer survey is planned to cover the area described along with detailed assays of all mineralized rocks.



V. Allan

Prospector

ITEMIZED COST STATEMENT

Labour - 1984

September	20 man days @ \$50.00 per day	1,000.00
October	10 man days @ \$50.00 per day	500.00

Transportation

260 km/day @ .25 / km for 30 days	1,950.00
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Office

Three dimensional map to scale (1in.-1,000ft.)	860.00
Management	3,000.00
Miscellaneous - supplies, photos, phone etc.	<u>425.00</u>
Total for 1984	\$7,735.00

Labour - 1985/86

September	10 man days @ \$50.00 per day	500.00
October	5 man days @ \$50.00 per day	250.00
May 1986	Geologist - 1 field day	300.00
	4 man days @ \$150.00 per day	600.00

Transportation

260 km/day @ .25/km for 15 days	975.00
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Office

Cut and polish samples for report photos & wall map	
104 samples @ \$10.50 per sample	1,092.00
Management	3,000.00
Miscellaneous - supplies, maps, phone, copies etc. geologist	<u>438.00</u>
Total for 1985/86	\$7,155.00

TOTAL \$14,890.00



K.E. NORTHCOTE AND ASSOCIATES LTD.

- Geological, Mineral Exploration and Mineral Land Use Consultants -

2346 ASHTON ROAD, R.R. 1, AGASSIZ, B.C. V0M 1A0 TELEPHONE (604) 796-2068

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K.E. NORTHCOTE, Ph.D., P.ENG.

May 13, 1986

Mr T.Kalnins, P.Eng.
Geological Division
Ministry of Energy, Mines and Petroleum Resources
Parliament Buildings
Victoria B.C.
V8V 1X4

Dear Mr. Kalnins: Re: prospecting report, EAGLE 4 Claim, April 1986.
 NTS Map 92C / 16W Victoria Mining Division.

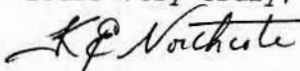
A full day, Saturday May 10, 1986, was spent in company of Vince Allan, author of the subject report, examining outcrops in the Eagle 4 claim area. Lithology and structural interpretation of most of the map - area was checked utilizing outcrops along the logging road on the east side of Gordon River at at the junction of Gordon River and Sheila Creek, at common claim post for EAGLE 4 and EAGLE 5 on Sheila Creek and by walking the mapped portion of Truck Road 3 on the ridge between Gordon River and Sutton Creek. I have previously carried out geological mapping programs in the same geologic environment in the Nitnat - Caycuse area while employed by MEMPR in the the period 1971 to 1973. I am, therefore, well aware of the problems to be encountered and the difficulties in interpretation of this geologically complex area.

My examination and discussion of the map-area with Mr. Allan resulted in minor changes in designation of geologic units and placement of Formation boundaries. Although the Bonanza rocks, because of degree of metamorphism and intrusion by feeder dykes for flows higher in the sequence, are particularly difficult to map and interpet, I found Mr. Allan's designation of rock units to be quite accurate. I question that the intrusive breccias, as interpreted by Mr. Allan, are in fact all intrusive breccias although there has been some addition of K-spar by hydrothermal processes. These hydrothermally altered areas and other pyritic areas should be sampled and analysed geochemically for gold and silver prior to allowing the claims to lapse.

In assessing the geological value of Mr. Allan's mapping it is noted that there are differences in geological interpretation of this same area among other geologists, ie. Muller and Malcolm. Allan's mapping and interpretation follows but provides more detail than Muller's regional mapping and will serve as a very useful mapping basis for other workers in this area. I would, therefore, recommend that Mr. Allan's April 1986 report be accepted as a geological report for assessment purposes.

This letter should be attached to Mr. Allan's report.

Yours very truly,



K.E.Northcote Ph.D., P.Eng.



SELKIRK



COLLEGE

CASTLEGAR, B. C., CANADA

COMMUNITY EDUCATION SERVICES

THIS IS TO CERTIFY THAT

VINCENT ALLAN

HAS PARTICIPATED IN

"MINERAL EXPLORATION FOR PROSPECTORS"

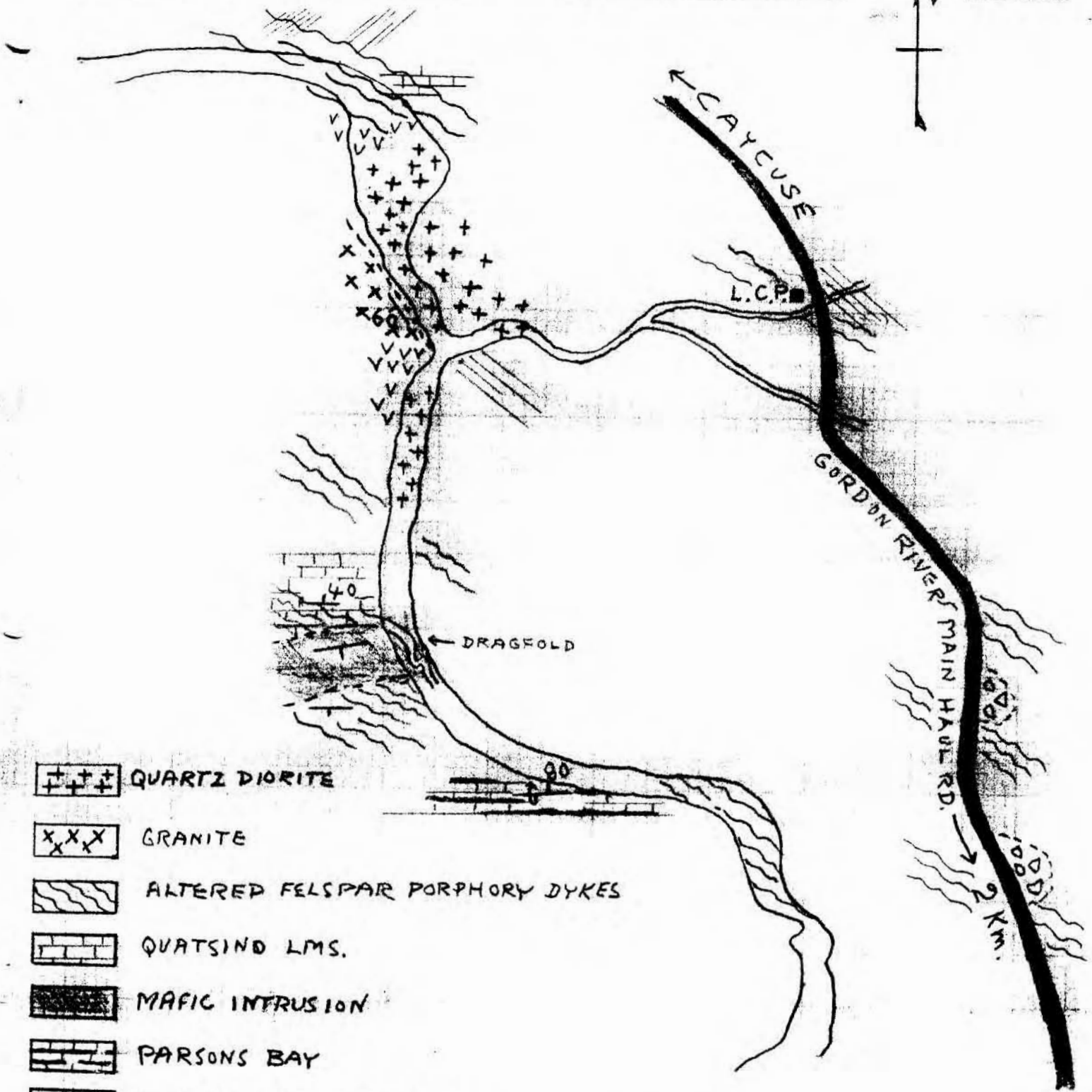
156 Hour Course - May, 1981

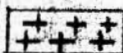
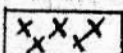

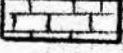
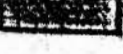
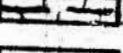
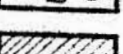

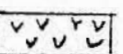

Co-sponsored by the Ministry of Energy, Mines and Petroleum Resources;
the Ministry of Education; and Continuing Education, Selkirk College

A. J. Mac Shepherd
INSTRUCTOR/PROGRAM COORDINATOR

C. Helms
COMMUNITY EDUCATION

SHOWING AREA OF GORDON RIVER-PORPHYRY SWARM



-  QUARTZ DIORITE
-  GRANITE
-  ALTERED FELSPAR PORPHORY DYKES
-  QUARTSIND LMS.
-  MAFIC INTRUSION
-  PARSONS BAY
-  BRECCIATED INTRUSIVE
-  BONANZA TUFFS
-  UNALTERED PORPHORY DYKES
-  VOLCANIC FLOWS



EAGLE 4

PUBLISHED 1979

This map was compiled from digitally-recorded aeromagnetic survey data obtained using an inboard rubidium vapour magnetometer which measured the total field with a resolution of 0.02 gamma. Flight line spacing average was 1200 m. Double control lines were flown at an average spacing of 12 kilometers.

The data was edited, compiled, levelled and gamma values for contouring interpolated on a square grid (0.25 cm grid spacing at published map scale) by computer processes.

The levelling process employed the two components of the double control line and the short segments of traverse which connected them where they were not exactly coincident. This data was used to minimize and distribute non-geological contributions from the total magnetic field profile along the control line. The corrected control lines were used to level the traverse lines by a method of minimal sum-total adjustment.

The final data grid was contoured and plotted using the automatic contouring program and digital plotting facilities of Dataplotting Services Ltd., Toronto.

Airborne survey and digital compilation was carried out by Resource Geophysics and Geochemistry Division, Geological Survey of Canada. The survey operations took place in June, July and August of 1978 using Beechcraft Queenair 85-B80 aircraft C-FWZG.

No correction has been made for the regional gradient of the earth's magnetic field.

The topography for this map was reproduced from 1:50,000 topographical map sheets, published by the Department of Energy, Mines and Resources, Ottawa.

The survey data used to compile this map is available in digital form from the Geological Survey of Canada at the cost of retrieval and copying.

Copies of this map may be obtained from the Mineral Resources Branch, British Columbia Ministry of Mines and Petroleum Resources, Victoria, or from the Geological Survey of Canada, Ottawa.

ISOMAGNETIC FIELD (absolute total field)

250 gammas

50 gammas

10-20 gammas

2 gammas

(1 gamma = 1 nanotesla in SI units)

Magnetic depression

Flight lines

Flight altitudes: Metres above sea level

Strait of Juan de Fuca 300m

San Juan Islands 300m

Nanaimo Gulf Islands 750m

Vancouver Island 1370m

Cowichan Lake 1675m

GEOPHYSICAL SERIES
(HIGH RESOLUTION AEROMAGNETIC
TOTAL FIELD)

G.S.C.

1979

MAP 8278 G

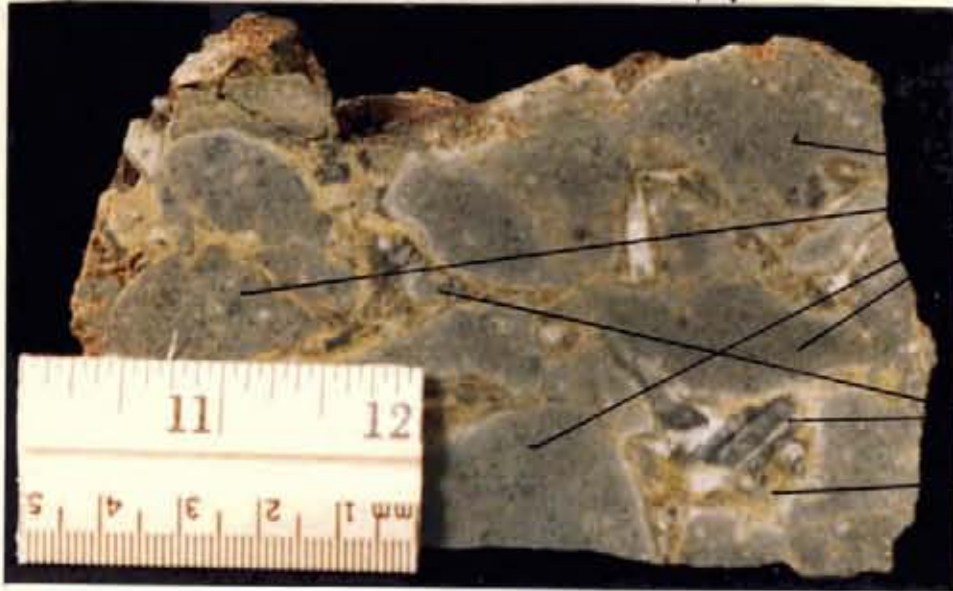
COWICHAN LAKE

BRITISH COLUMBIA

SHEET 82 C/18 W

INTRUSIVE BRECCIAS

BRECCIATED INTRUS. BRECCIA



(52)

DISSEMINATED
PYRITE

LIMESTONE

EPIDOTE

NOT NATURAL COLOUR - COLOUR GREENISH GREY

UNALTERED PORPHYRY



(49)

BRECCIATED INTRUSIVE



(50)

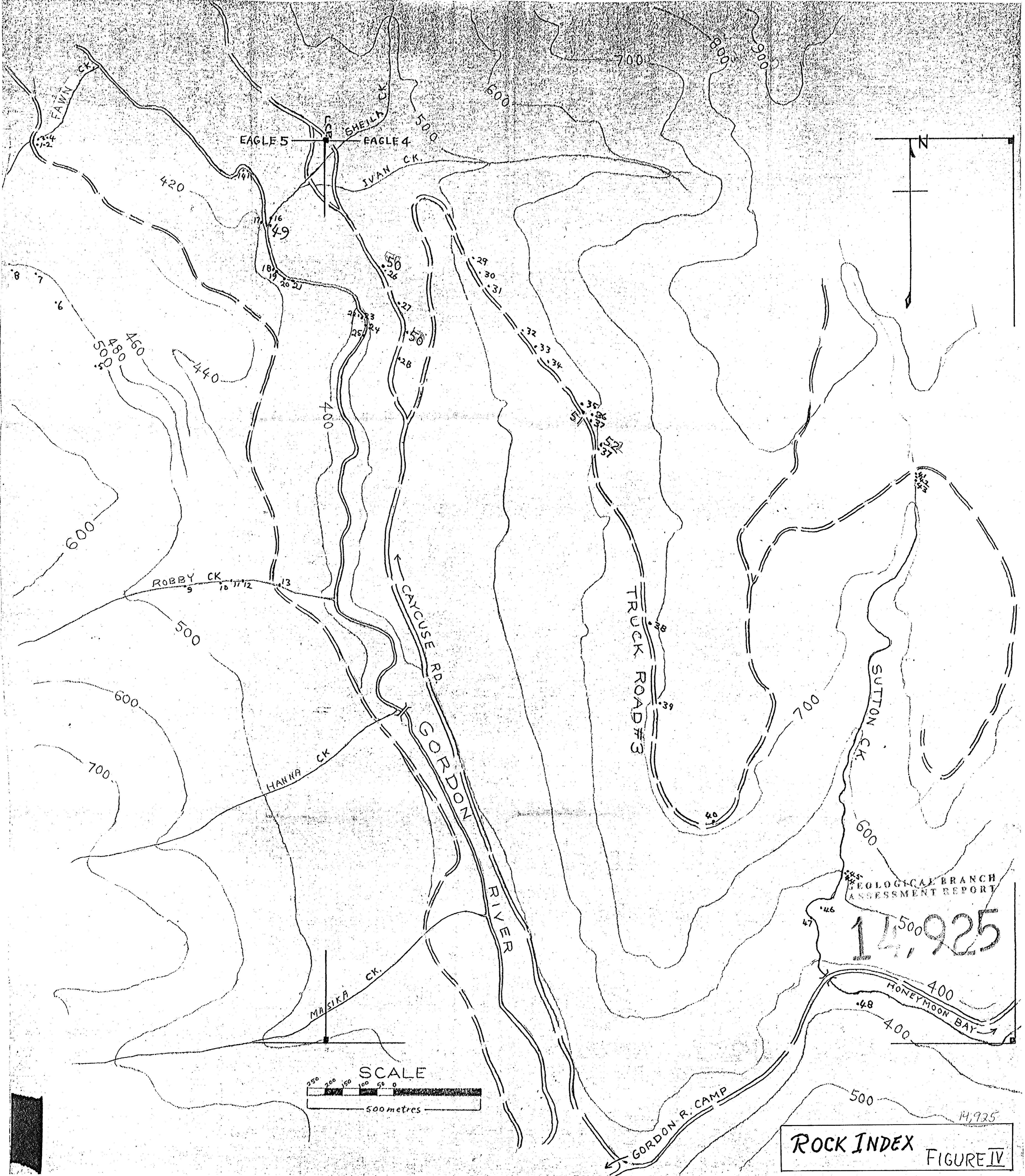
SULPHIDES

INTRUSIVE BRECCIA



(51)

SULPHIDES



EAGLE 5 EAGLE 4

ROBBY CK
5 10 11 12 13

TRUCK ROAD #3

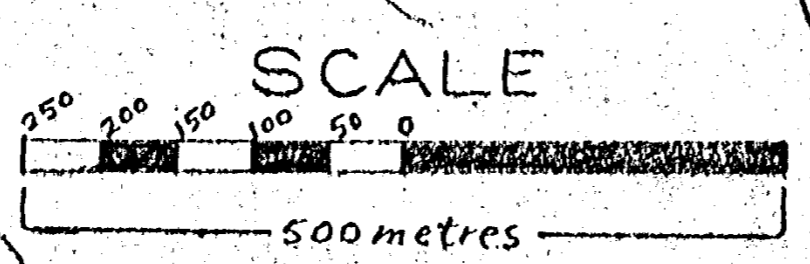
MASIKA CK.

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ASSESSMENT REPORT

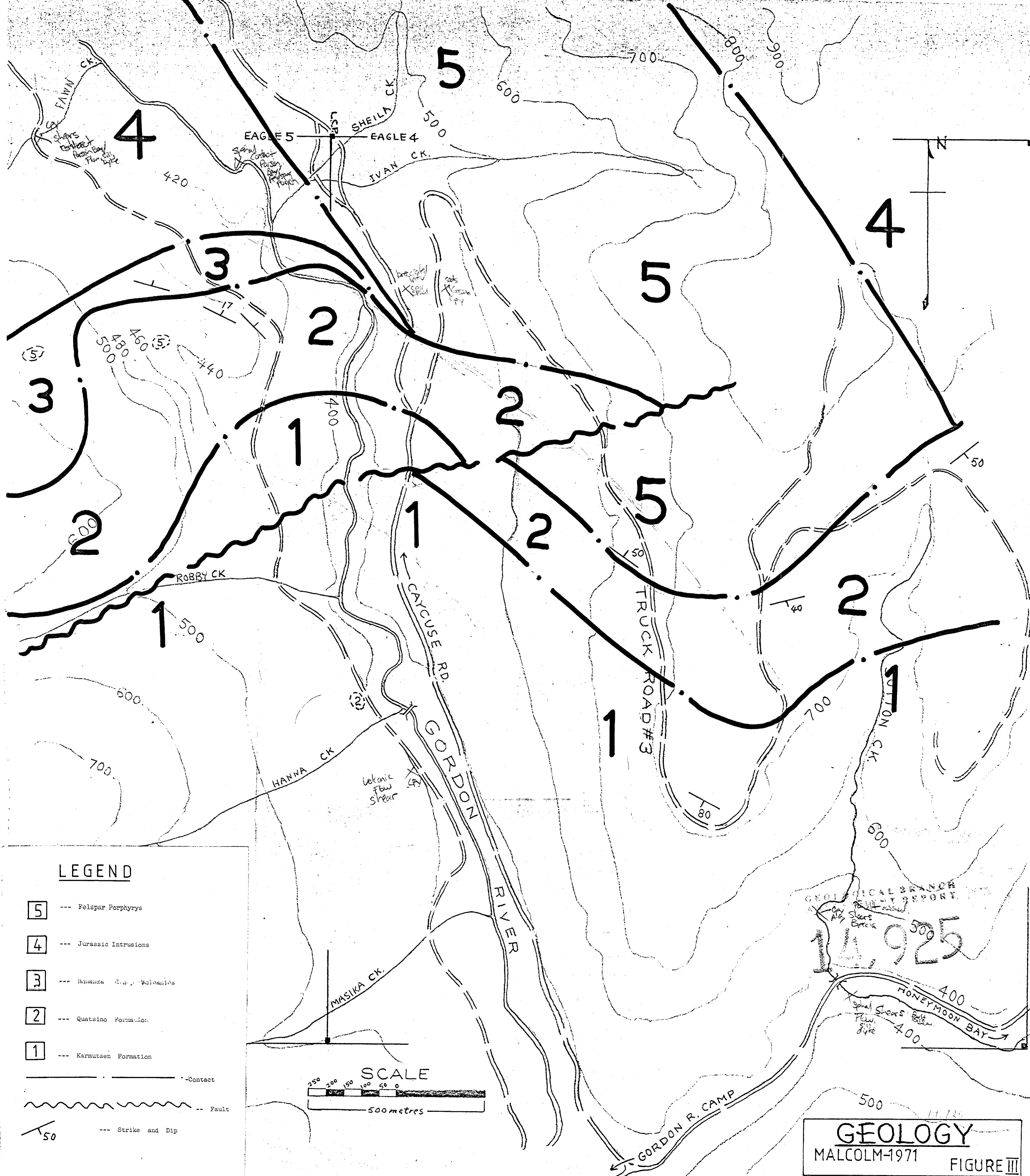
14,500
14,925

HONEYMOON BAY

GORDON R. CAMP



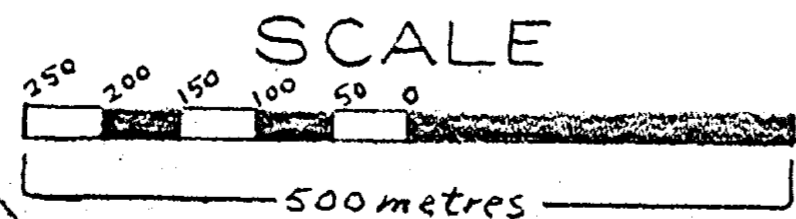
ROCK INDEX FIGURE IV



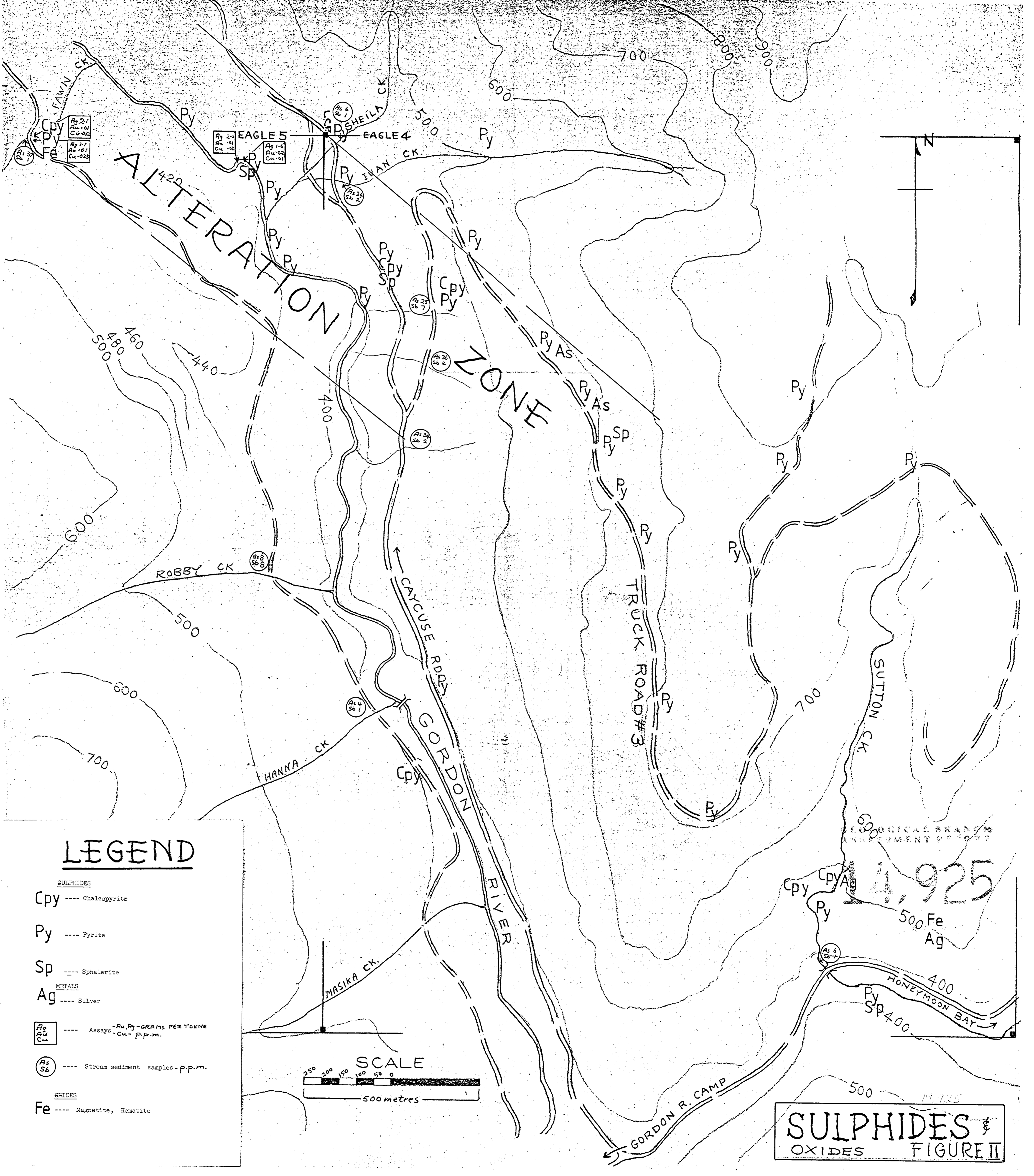
LEGEND

- 5 --- Felspar Porphyrys
- 4 --- Jurassic Intrusions
- 3 --- Bonanza G. & Volcanics
- 2 --- Quatsino Formation
- 1 --- Karmutsen Formation

- Contact
- Fault
- Strike and Dip



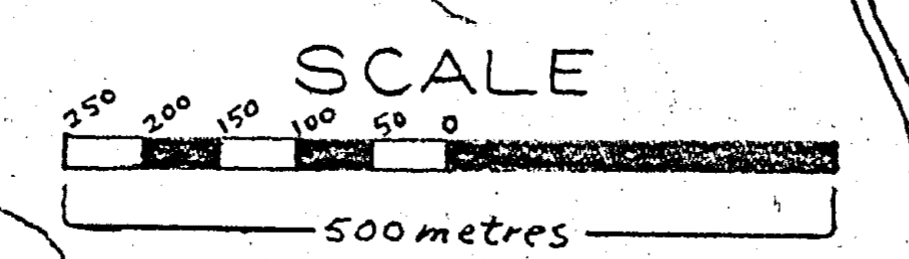
GEOLOGICAL BRANCH
FIELD REPORT
14,925
11.73
GEOLOGY
MALCOLM-1971
FIGURE III



ALTERATION ZONE

LEGEND

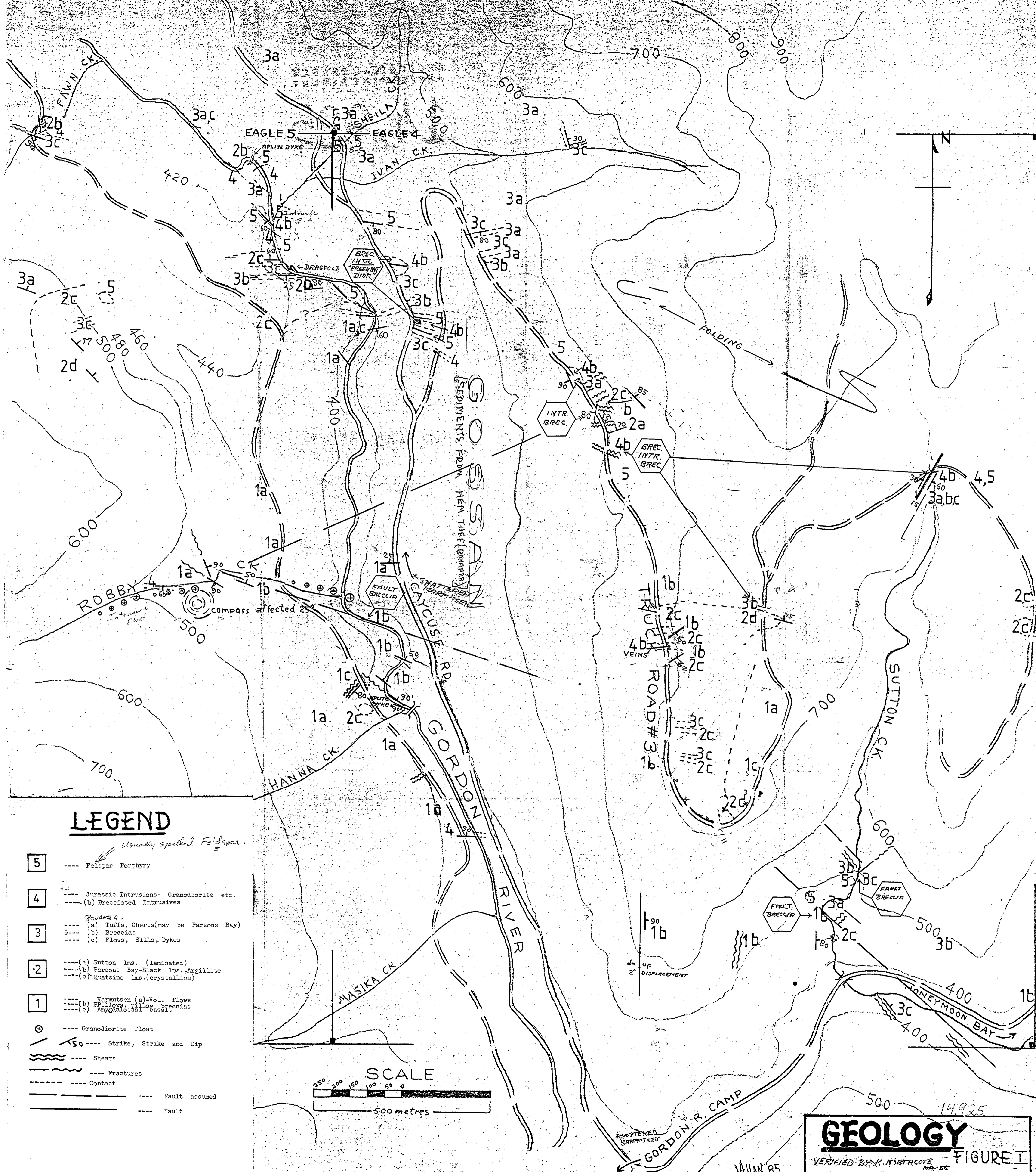
- SULPHIDES**
- Cpy --- Chalcopyrite
 - Py --- Pyrite
 - Sp --- Sphalerite
- METALS**
- Ag --- Silver
- ASSAYS**
- $\frac{As}{Cu}$ --- Assays - Cu - p.p.m.
 - $\frac{As}{Sb}$ --- Stream sediment samples - p.p.m.
- OXIDES**
- Fe --- Magnetite, Hematite



SULPHIDES & OXIDES
FIGURE II

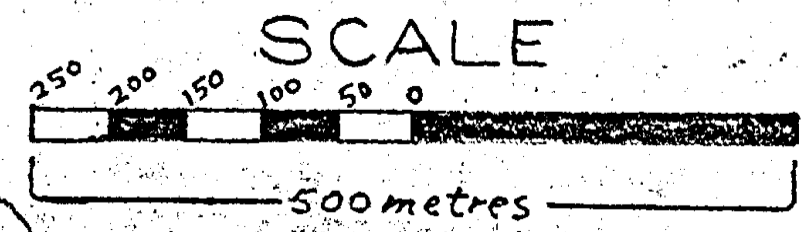
1925

M.725



LEGEND

- 5 --- Usually spelled Feldspar
Felspar Porphyry
- 4 --- Jurassic Intrusions- Granodiorite etc.
(b) Brecciated Intrusives
- 3 --- *BONINIA*
(a) Tuffs, Cherts (may be Parsons Bay)
(b) Breccias
(c) Flows, Sills, Dykes
- 2 --- (a) Sutton lms. (laminated)
(b) Parsons Bay-Black lms., Argillite
(c) Quatsino lms. (crystalline)
- 1 --- Karmutsen (a) Vol. flows
(b) Pillows, pillow breccias
(c) Andesitic basalt
- ⊕ --- Granodiorite float
- Strike, Strike and Dip
- Shears
- Fractures
- Contact
- Fault assumed
- Fault



GEOLOGY
 VERIFIED BY K. NORTHCOTE
 MAY 85
 FIGURE I

VAHAN 85



FLOW

①



FLOW

②

MAG.



INT.

③



LMS.

④

LMS-LIMESTONE
MAG.-MAGNETITE



14/10/81



FLOW

⑤



LMS.

⑥



TUFF

⑦



TUFF

⑧

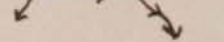
6/8/81



F.G.
INT.

⑨

28/7/81



FLOW

⑩



⑪



AMYG.
BASALT

⑫

30/7/81



VOL.
POR.

⑬



14



15

BONANZA



16



17

INTRUSIONS



18

CARB. & SILIC.
ALTERED BRECCIA

PYRITE



19

F. G. INTRUSION



20



21

PARSONS BAY



22

BRISALT



23

AMYG. BASALTS



24



25

KARMUTSEN



FEL. POR

26



FLOW

27



FEL. POR.

28



SILICEOUS TUFF

29



TUFF

30



31



32



33



34



INT. BRECCIA

35

SUT. LMS.



36



PYRITE

BREC. INT. BRECCIA

37



QUAT. LMS (MARBLE)

38



39



P. B. LMS.

40



41



42



PYRITE

43



44



45

PYRITE

HEMATITE



46



PYRITE

47



48