

# 4664

GEOLOGICAL REPORT ON THE RYAN CREEK CLAIMS

Lillooet M.D.  
N.T.S. 92 J/6  
123° 7' W., 50° 26' N.

---

A.L.J. MacDonald, P.Eng.

R. Wares

Orequest Exploration

Department of Mines and Technical Resources ASSESSMENT REPORT NO. <b>4664</b> M.P. ....
--

Vancouver, B.C.

August, 1973.

TABLE OF CONTENTS

	<u>P a g e</u>
1. General	1
1.1 Location	1
1.2 Access	1
1.3 Topography	1
1.4 Claim Status	1
1.5 Previous Work	2
2. Geology	2
2.1 General Geology	2
2.2 Central Alteration Zone	2
2.3 Partially Altered Monzonite	3
2.4 Unaltered Marginal Rocks	4
2.5 Dykes and Small Intrusions	4
3. Distribution of Mineralisation	5
3.1 Distribution	5
3.2 Structure	6
4. Summary and Conclusions	7
<u>Appendix</u>	
A.1 Claim Records	
A.2 Statement of Costs	
A.3 Personnel Involved	
<u>Maps</u> #1 fig. 1 Location	#3 fig. 3 Geology
#2 fig. 2 Claim Status	#4 fig. 4 Synoptic Stereonet

1. General Information

1.1 Location

18  
The Ryan Creek property is located about 40 miles west of Pemberton B.C. (fig. 1) and about 120 miles north of Vancouver.

1.2 Access

Access to the property is from Alta Lake by helicopter, a distance of 40 miles.

1.3 Topography

The Ryan Creek property is located on a north flowing tributary of Ryan Creek which flows into the Lillooet River. The property lies at an altitude from 3700' to 7100', covering the ridge from the creek to a glacier which lies to the east of the ridge. Outcrops are principally restricted to the ridge tops and creeks. The valley wall is covered by strongly shattered debris in which few outcrops are apparent. Strong down slope movement of material under periglacial conditions is evidenced by oriented fragments. The valley floor is covered by a thick sequence of till and esker material.

Showfall in the area is heavy with few outcrops visible before mid June.

1.4 Claim Status

The property comprises a total of 40 claims staked and recorded in August 1972. Claim records are itemized in the appendix.

### 1.5 Previous Work

There is no record of any previous work in the area.

## 2. Geology

### 2.1 General Geology

The Ryan Creek property (fig. 3) consists essentially of a central core of metasomatic alteration developed along a northerly trending fault zone.

The metasomatic core comprises a zone of quartz - sericite alteration developed along the fault zone and which is gradational into less altered monzonitic and granodioritic rocks. The alteration pattern is in part, an interdigitation of alteration phases developed along shears. Post alteration intrusions are present.

### 2.2 Central Alteration Zone

The central alteration unit (unit 3a) is developed over a strike length of at least 10,000' and has a width up to at least 800' though generally less.

The zone consists essentially of "leucogranite". The unit is a quartz-sericite unit with a color index of 10 or less. The leucogranite is a pervasively silicified and sericitised rock unit, developed by metasomatic alteration of the surrounding monzonitic and dioritic rocks. The rock unit is medium grained, equigranular with minor schistose zones developed.

The unit is not uniformly developed. It is best exposed on the ridge to the east of Creeks "C" and "D" where it comprises a zone up to 800' wide. The unit appears to have developed by metasomatic alteration along a fault zone or shatter zone. The interfingering nature of the alteration is well developed in Creeks "A" and "B" where zones of the metasomatic unit exhibit an erratic development along small shear zones. The largest development of the unit appears to have occurred in a dilatant zone or large shatter zone which generally trends  $320^{\circ}$ .

Where the metasomatic unit is well developed, the central portion appears to be devoid of sulphides and it is only in the marginal portions of the unit where disseminated pyrite is present. The latter forms up to 3% of the marginal units.

### 2.3 Partially Altered Monzonite

The partially altered monzonitic or granodioritic rocks (units 3b and 3c) are developed marginal to the central metasomatic zone. The units form a crude envelope to the metasomatic zone.

The units are medium grained equigranular rocks with variable amounts of sericite present. They are locally strongly fractured and foliated in post alteration mineral zones. The contacts of both units 3b and 3c are generally gradational though obscured somewhat by post alteration movement zones. Likewise, contacts with unit 3a are frequently faulted though clearly gradational where not obscured by movement.

A rapid alternation of units 3a, 3b and 3c is present in creeks "A" and "B" where the northern margin of the metasomatic zone is exposed. The rapid alternation is caused by the sporadic metasomatism along fracture zones.

#### 2.4 Unaltered Marginal Rocks

The unaltered marginal rocks in the Ryan Creek property comprise medium grained, sparsely porphyritic hornblende granodiorite/diorite carrying rare biotite rich autoliths.

Pyrite is generally an accessory mineral rarely forming more than a trace constituent. Small shear zones in the essentially unaltered rock unit exhibit a sporadic and localised retrogression to sericitic and chloritized units peripheral to the shears. These rock types are identical to the larger rock units described above.

#### 2.5 Dykes and Small Intrusions

A large unit of hornblende microdiorite (unit 3e) is present in the south west portion of the map area.

The unit is fine to medium grained, porphyritic and carries up to 1% disseminated pyrite. It forms small dykes and an elongate intrusion which appears, in part, to bisect the central metasomatic zone. The cirque above creek "E" appears on the basis of outcrop and float distribution to be underlain by a small stock of this microdiorite. The microdiorite appears to have been emplaced after the metasomatic alteration but essentially along the same broad fault zone.

Small basaltic dykes are present in the property. These are fine grained, devoid of sulphides and essentially unrelated to the alteration and mineralisation.

### 3. Distribution of Mineralisation

#### 3.1 Distribution

Sulphides are widespread in the Ryan Creek property. Pyrite is predominant with minor amounts of chalcopyrite, pyrrhotite and molybdenite.

Pyrite exhibits a preferential distribution related closely to the central metasomatic core. The core of the metasomatic zone is low in pyrite content while the margins of the quartz-sericite alteration and the partially sericitised envelope exhibit concentrations of pyrite up to 3% in volume. The pyrite is characteristically disseminated and only rarely is present in fractures.

Chalcopyrite and less commonly molybdenite seem to be preferentially distributed in small fracture zones in the peripheral, partially altered monzonite but generally distinct from and in less altered material than the pyritic zone. Minor pyrrhotite is occasionally present.

The fracture zones are widely separated and are rarely more than 4" wide. The main zones carry blebs of chalcopyrite and molybdenite in quartz stringers. Isolated blebs of chalcopyrite are present in the margins of the shatter zones but this is generally uncommon.

The chalcopyrite bearing fractures are too widely spaced to be of economic interest. No evidence was seen to suggest the presence of dilatant zones of economic interest.

### 3.2 Structure

The Ryan Creek property is dominated by a north-westerly trending fault zone. The area mapped appears to be a wedge between two movement zones. Splay faults associated with the movement displace all rock units in the property.

The field evidence clearly indicates that the central metasomatic zone is developed along a central shear zone along which repeated movement has occurred and displaced the unit after alteration.

The copper mineralisation appears to occur in small shears that are splays from the most northerly main fault zone.

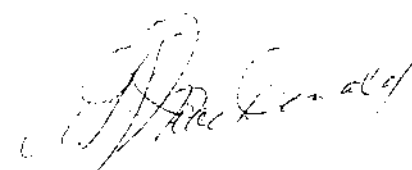
Mapping of fracture concentrations reveals that the partially altered monzonitic rocks are the most strongly fractured units in the map area.

A synoptic stereonet of minor fractures (fig. 4) reveals a monoclinic symmetry to the fracture concentrations. The fracture systems suggest a conjugate system trending N. 15° E, vertical and N. 70° E, 70° N.

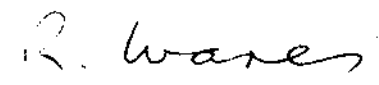


4. Summary and Conclusions

1. The Ryan Creek property comprises a central zone of metasomatic alteration in a granodiorite host.
2. The metasomatic zone is broadly fault controlled but is not a discreet unit. It forms a central unit with interdigitated zones of less altered material and quartz - sericite alteration in the margins.
3. Pyrite is ubiquitous in the margins of the metasomatic zone but is not clearly related to the fracture controlled copper mineralisation.
4. The copper mineralisation is controlled along minor fractures related to movement along the controlling fault zone but probably post dating the hydrothermal alteration.



A.L.J. MacDonald



R. Wares

APPENDIX

A.1 Claim Records

Ski 3 - 12      36042 - 36051      Recorded 4th September, 1973

A.2 Statement of Costs

Geological Mapping

R. Wares: 20, 21, 22, 23, 24, 25 July  
6 days at \$70 per day . . . . \$ 420

J. Tickner: 20, 21, 22, 23, 24, 25 July  
6 days at \$50 per day . . . . \$ 300

Report Preparation

R. Wares: 30th, 31st, August    1½ days @ \$70    \$ 105

Supervision

A.L.J. MacDonald 25th July, 1 day @ \$100    \$ 100

Helicopter Transportation

Transportation Alta Lake — Ryan Creek  
½ hour at \$262 per hour    \$ 131

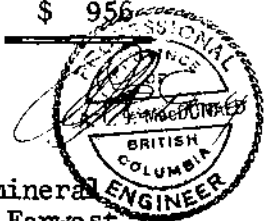
Total:    \$ 956

A.3 Personnel Involved

MacDonald, A.L.J. - Geologist, P.Eng. Engaged in mineral exploration since 1955 while employed by Farwest Mining, United Keno Hill, Peso Silver, Kerr Addison, New Jersey Zinc, Manager of Meridian Syndicate and Orequest Syndicate.

Wares, R., M.Sc., Geologist, engaged in mineral exploration while employed by the Ontario Department of Mines, Falconbridge and since 1971 as a geologist for Orequest Syndicate.

Tickner, J. Geological Technician. Has been employed in various phases of mineral exploration for 13 years while employed by Silver Standard, Noranda, International Nickel and by Orequest Syndicate in 1968-1969 and in 1973.

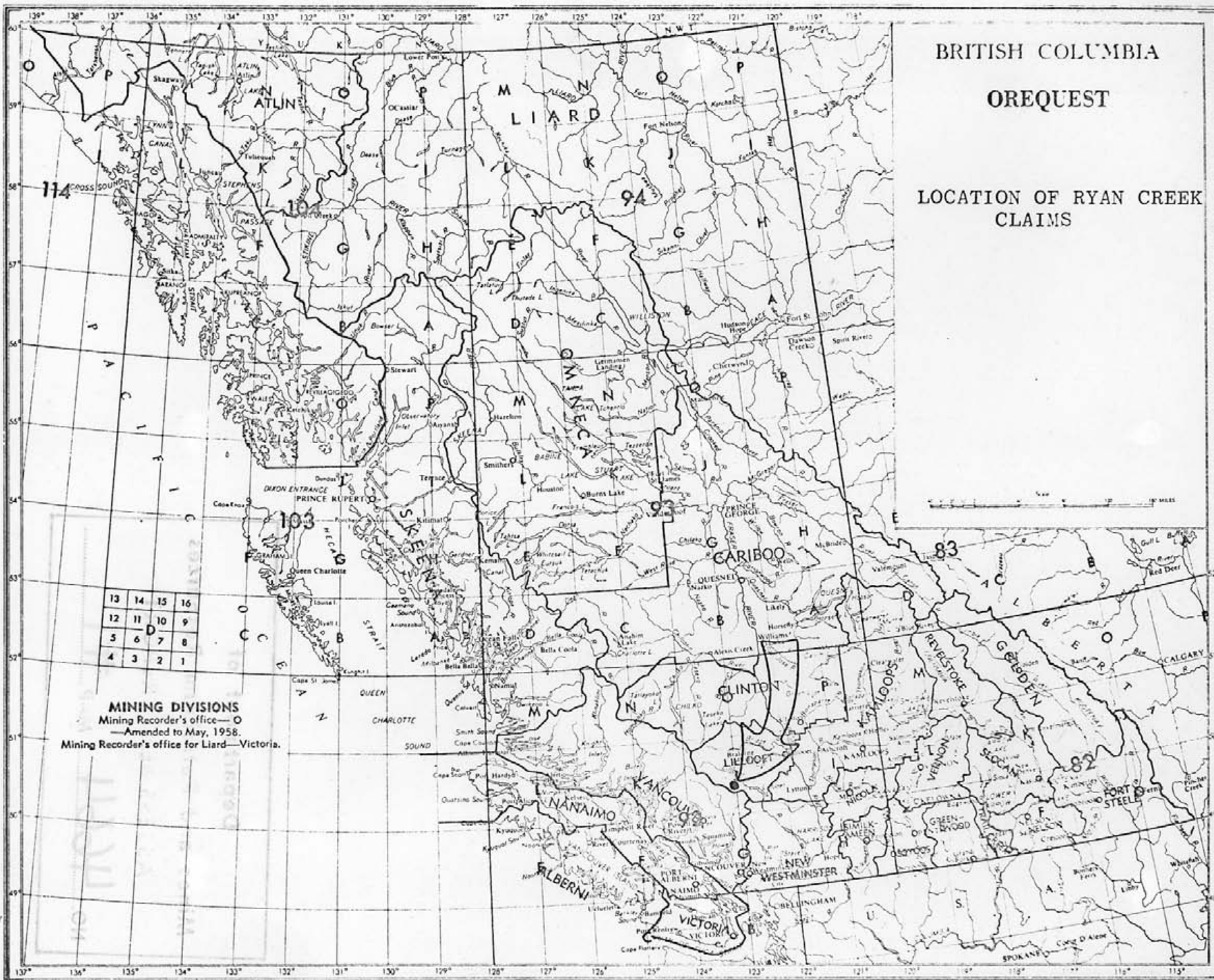


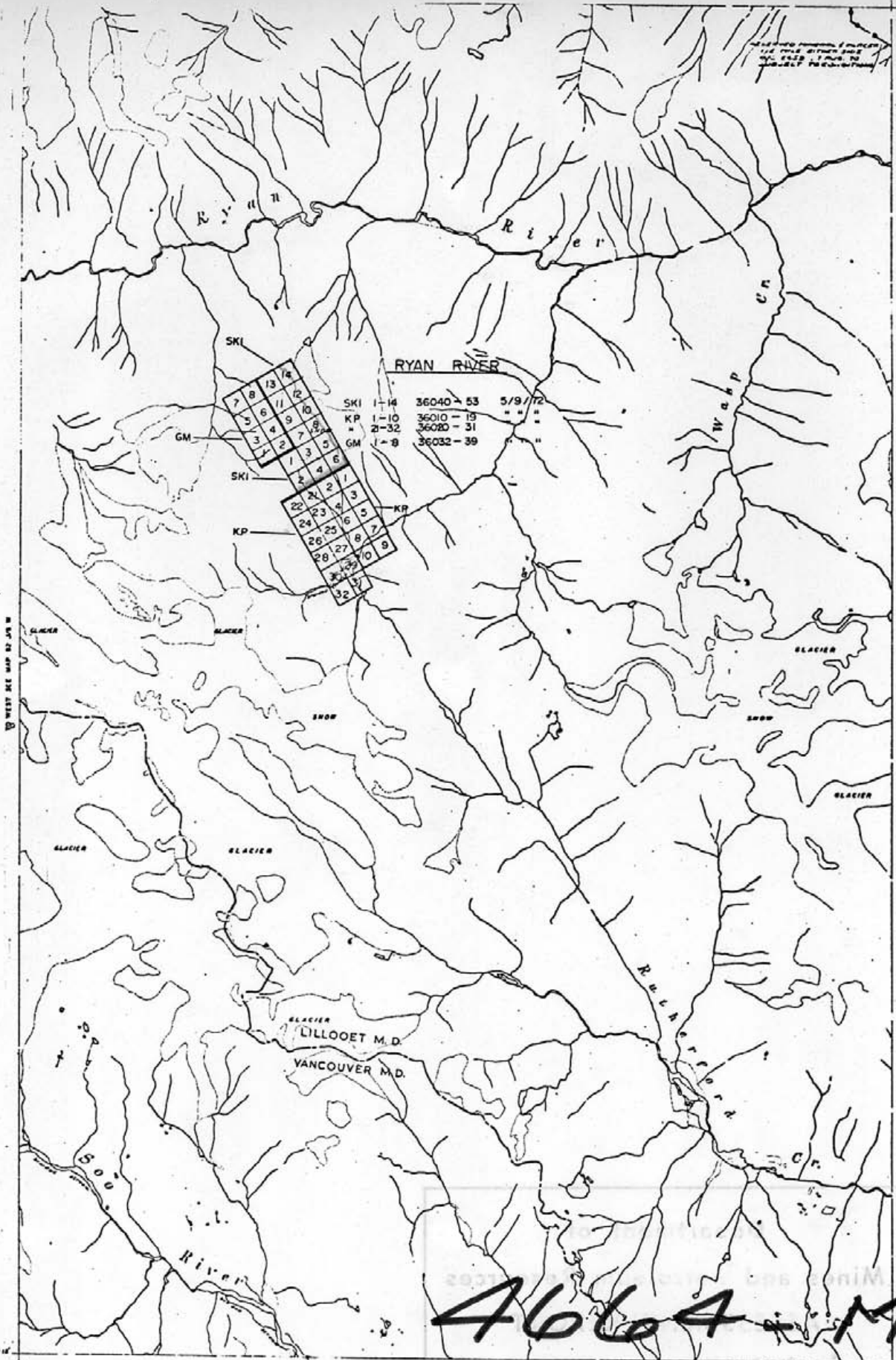
7664-N1

# BRITISH COLUMBIA

## OREQUEST

### LOCATION OF RYAN CREEK CLAIMS





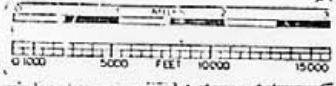
TO WEST SEE MAP 92/J/3E

TO EAST SEE MAP 92/J/4E

4664-M2

For up-to-date information on claims in any area you should apply to the Mining Recorder for the Mining Division concerned.

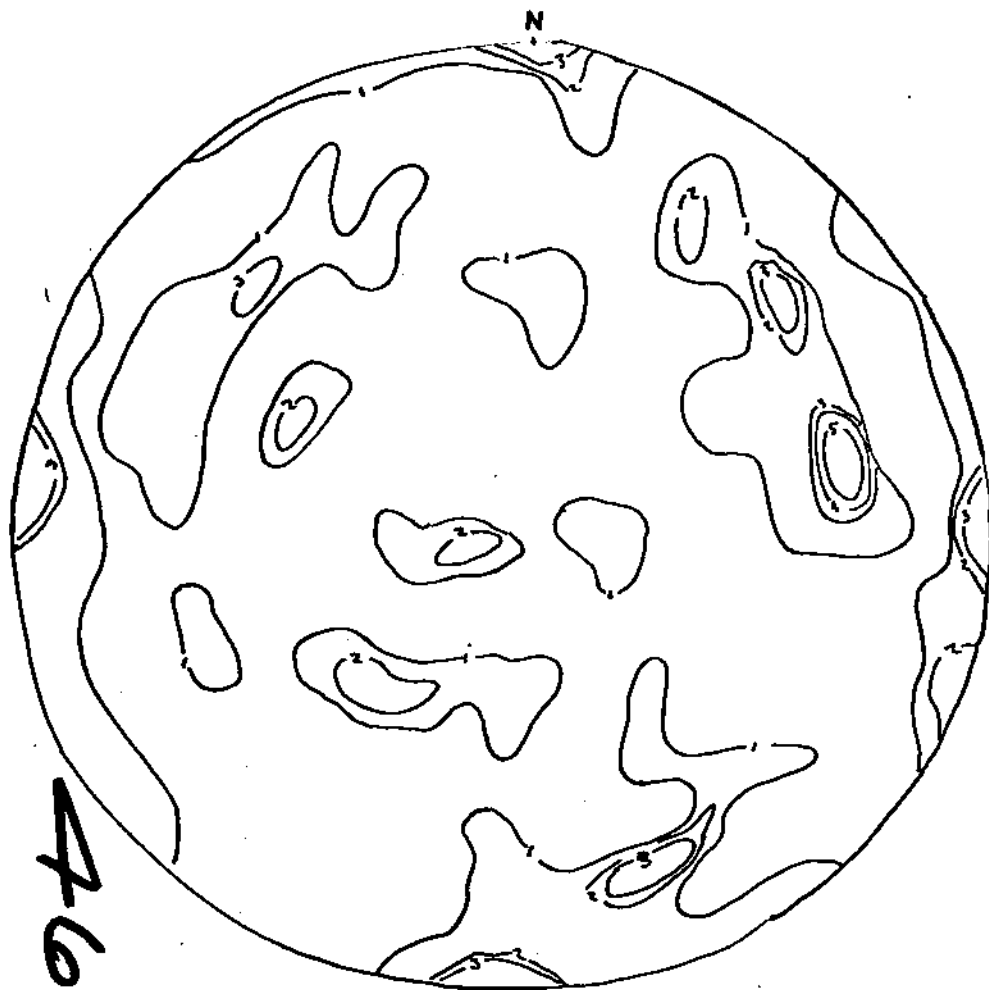
TO SOUTH SEE MAP 92/J/3E  
 DEPARTMENT OF MINES AND PETROLEUM RESOURCES  
 VICTORIA, B.C.  
 MINERAL CLAIM MAP 92/J/6E (M)



This map is prepared to serve as a guide to the positions of located mineral claims and mining leases only. Boundaries, claims and leases are shown from existing surveys and are not guaranteed. Letters 'C' indicate claim is Crown-Granted. Symbol 'C' indicates claim has fulfilled.

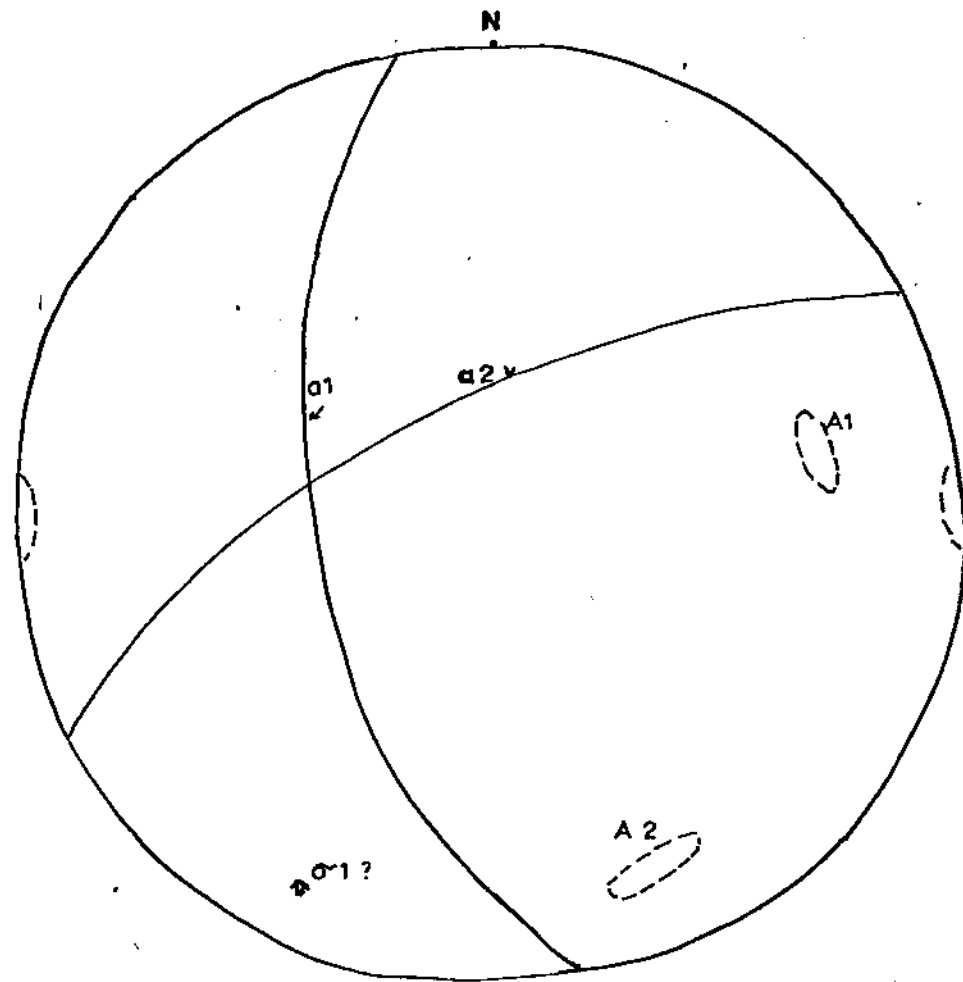
FIG 2

92/J/6E (M)



synoptic stereonet  
(fractures)

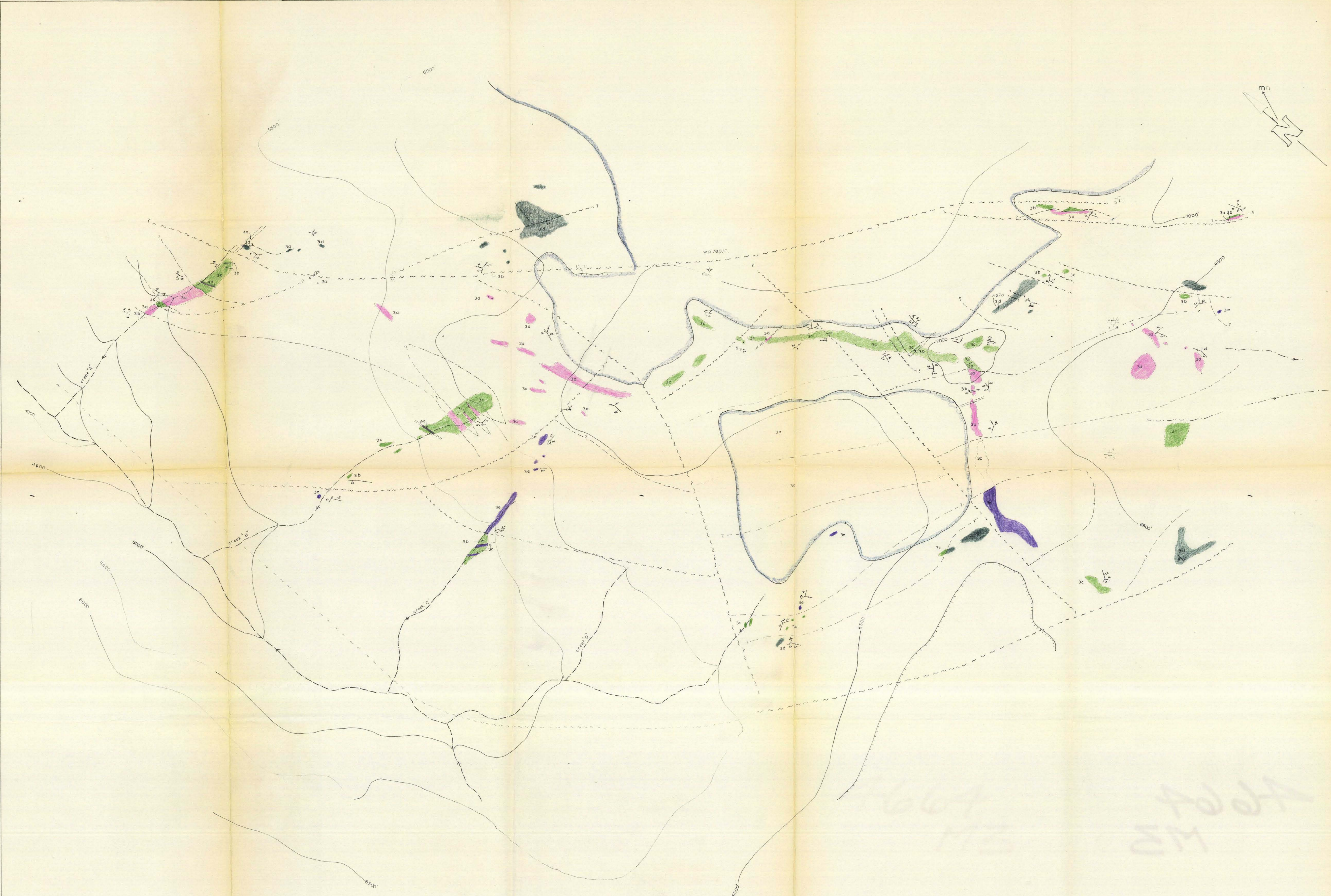
% per 1% area  
(lower hemisphere)



Suggested conjugate stress system

FIG 4

4664  
M4



- LEGEND**
- CREEK
  - CONTACT DEFINED, ASSUMED
  - FAULT DEFINED, ASSUMED
  - OUTCROP BOUNDARY
  - ICE FIELD
  - ⊕ CLAIM POST
  - CONTOUR
- 4a Basalt
  - 3a Zone of quartz sericite alteration
  - 3b Partially sericitised monzonite
  - 3c Chloritised granodiorite
  - 3d Unaltered granodiorite
  - 3e Hornblende microdiorite
- fracture orientation
  - 2 fractures per foot
  - 4
  - 6
  - foliation

4664  
M3

**4664**  
**M3**  
Department of  
Mines and Geology Resources  
ASSESSMENT REPORT  
NO. 4664, MAP #3