

ASSESSMENT REPORT

on

#5988

GEOLOGY and SAMPLING

of portions of the

**BIG MISSOURI MINE**

(Province and Jain Claims)

situated

27 kilometers north  
of

Stewart, B. C.

Skeena Mining Division

104B/1E

104B/1E

PROVINCE,  
JAIN

on behalf of

*Tapin Copper Mines*  
LIMITED

of

Vancouver, B.C.

5988

by:

Department of G. Giroux, P.Eng., Mines and Petroleum Resources Sept. 1, 1970, Stewart, B.C. <b>ASSESSMENT REPORT</b>	
NO. <b>5988</b>	MAP



**Cochrane Consultants Limited**  
4882 Delta St., Delta, B.C. V4K 2T8 946-9221  
Geotechnical Consulting / Exploration Services

geology  
geophysics  
geochemistry

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Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT

NO. 5988 MAP



## INTRODUCTION

Underground mapping and sampling was conducted on the Big Missouri Property from July 24 to August 10, 1976. The mapping was of a preliminary nature to determine the use of geology in locating ore elsewhere on the property. The sampling consisted of grab samples and chip samples across areas of interest.

## LOCATION AND ACCESS

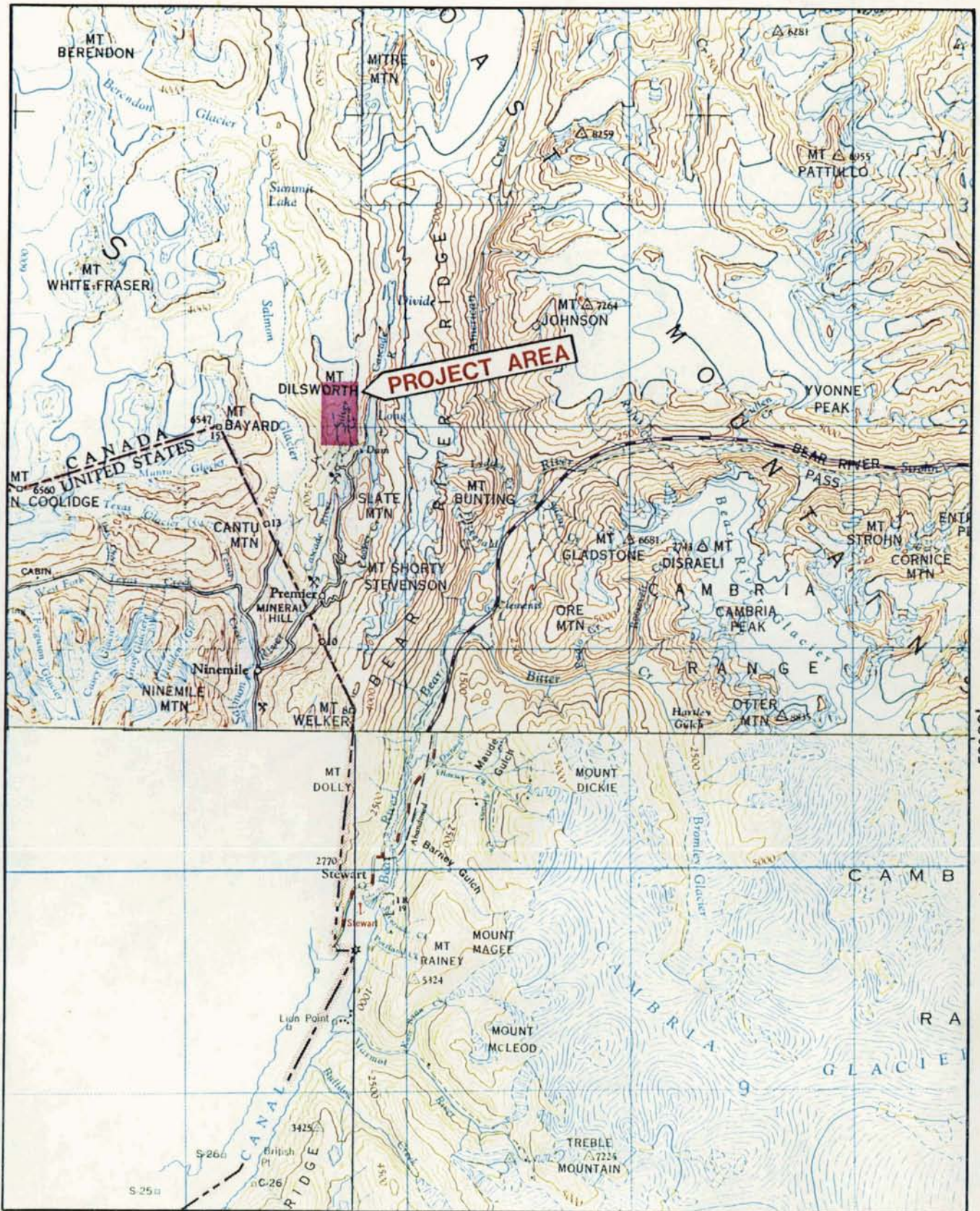
The Big Missouri property is located 25 kilometers due north of the town of Stewart, B.C. and lies immediately east of the Salmon River in the Portland Canal mining camp of the Skeena Mining Division. Access to Stewart is available, in the summer months, from the south via a fair gravel road from Hazelton, Kitwanga, or Terrace. Alternate access is via regular scheduled aircraft northerly from Prince Rupert with Trans Provincial Airlines. Road access from Stewart to the property is via the Granduc road along the east bank of the Salmon River. A 4 x 4 road leaves the Granduc road at the old Silbak-Premier mill and camp and continues past the Silbak Premier mine north and east to the Big Missouri Ridge.

## CLAIMS INFORMATION

The following listed mineral claims form part of the Big Missouri Supplemental Group, Skeena Mining Division and are







130° 00'

- FROM N.T.S. 104 A & B, & 103 P.

#5988

# BIG MISSOURI PROJECT

**Tapin Copper Mines**  
LIMITED

## LOCATION MAP

Cochrane Consultants Limited

SCALE; 1:250,000 - 1" = 4 mi.

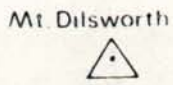
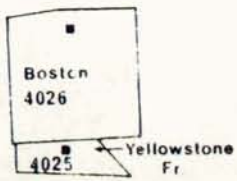
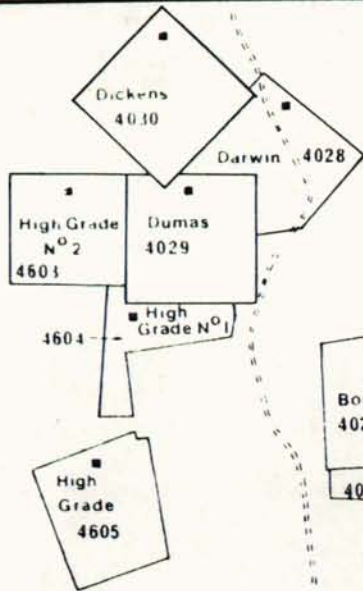
SEPT, 1976.	<b>FIG. 1</b>	B.A.C.
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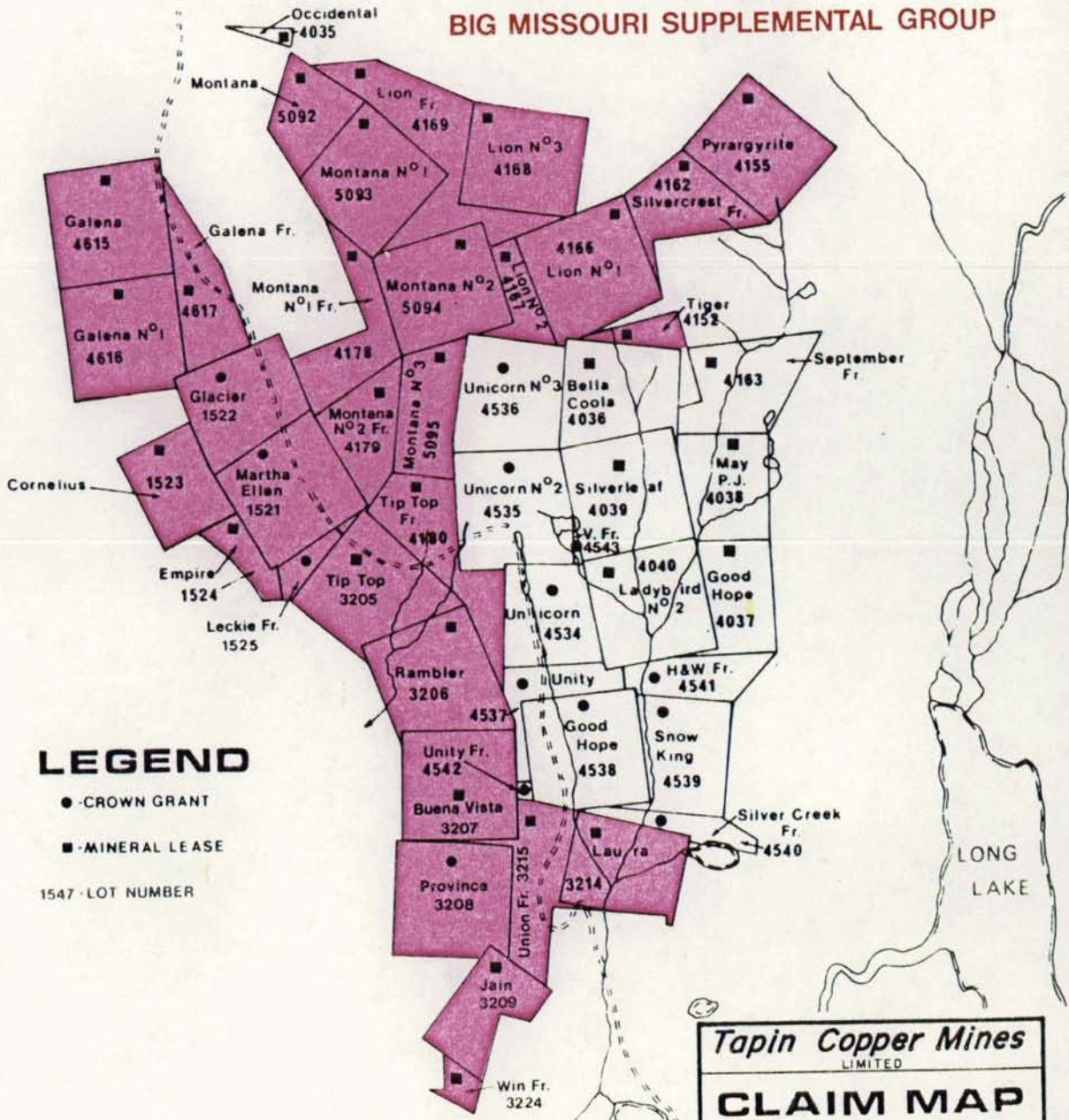
shown as Mineral Claims Map No. 104 B/1E<sup>1</sup>.

<u>Name of Claim</u>	<u>Record No.</u>	<u>Lot No.</u>	<u>Expiry Date</u>
Galena	141	4615	Sept. 10, 1976
Galena No. 1	142	4616	Sept. 10, 1976
Galena FR	143	4617	Sept. 10, 1976
Glacier	C.G.	1522	Crown Granted
Cornelius	118	1523	Aug. 11, 1976
Empire	119	1524	Aug. 11, 1976
Martha Ellen	C.G.	1521	Crown Granted
Leckie FR	C.G.	1525	Crown Granted
Montana No. 1 FR	125	4178	Aug. 11, 1976
Montana No. 2 FR	126	4179	Aug. 11, 1976
Montana No. 3	127	5095	Aug. 11, 1976
Montana No. 2	146	5094	Sept. 10, 1976
Montana No. 1	145	5093	Sept. 10, 1976
Montana	144	5092	Sept. 10, 1976
Lion FR	137	4169	Sept. 10, 1976
Lion No. 1	123	4166	Aug. 11, 1976
Lion No. 2	124	4167	Aug. 11, 1976
Lion No. 3	136	4168	Sept. 10, 1976
Silvercrest FR	122	4162	Aug. 11, 1976
Pyrargyrite	121	4155	Aug. 11, 1976
Tiger	120	4152	Aug. 11, 1976
Tip Top	52	3205	June 2, 1977
Rambler	38923	3206	Aug. 28, 1984
Buena Vista	38909	3207	Aug. 26, 1977
Province	C.G.	3208	Crown Granted
Jain	38924	3209	Crown Granted
Union FR	39013	3215	Aug. 28, 1984
Win FR		3224	Aug. 28, 1977
Laura	147	3214	Sept. 22, 1976
Tip Top FR	38922	4180	Aug. 28, 1983
Big Missouri	37993	3217	August
Winer	38908	3212	August
Packers FR	14	3540	August





**BIG MISSOURI SUPPLEMENTAL GROUP**



**LEGEND**

- - CROWN GRANT
- - MINERAL LEASE
- 1547 - LOT NUMBER

**BIG MISSOURI PROJECT**  
SKEENA M. D.

45988

<i>Tapin Copper Mines</i> LIMITED		
<b>CLAIM MAP</b>		
Cochrane Consultants Limited		
SEPT. 1976	<b>FIG. 2</b>	DFS / BAC

### SAMPLING

A preliminary sampling program was carried out underground on the Big Missouri mine and from two small adits on surface. Five grab samples were taken from 2 adits, along the foot of stopes, and from an old raise. Seventeen chip samples were taken across areas of interest underground. (see Figure 3 for locations) A representative sample of rock chips was taken every 5 meters across zones considered important. The chips were assayed for Au, Ag, Pb, & Zn. The results are shown in Appendix I.

### GEOLOGY

The Big Missouri Ridge lies between the Coast Crystalline Belt to the west and the Bowser Basin to the east. The rocks along the ridge are green cataclastics, mylonites, and schists described as Hazelton Series equivalents (Grove, 1970.) The main structures and rock types trend north-northwest.

The underground mapping was limited to east-west cross cuts in an attempt to determine the usefulness of geologic mapping in locating ore.

Big Missouri Ridge can best be described as an underwater alluvial fan of volcanic debris with no stratigraphic order. Rocks change character across short distances for no apparent reasons. The results of preliminary mapping showed four mappable units.

Green cataclastics are the best way to describe the main rock type underground. In places they appear andesitic & massive,



while in other places they are foliated and approach schists. Mineralization consists, for the most part, of disseminated pyrite, although in some locations heavy pyritization with sphalerite and galena was found.

A lighter colour more acid phase of a cataclastite occurs on the outer edges of the map area. Disseminated pyrite is the main mineralization in this rock unit.

Heavily silicified zones occur mainly in the stope areas. These zones include areas with intense quartz veining and areas brecciated and silicified. Heavy sulphide mineralization was common in both these areas with pyrite, sphalerite and galena recognized.

Dark green lamprophyre dykes were found in several locations. These seem to be post mineralization and contain no sulphides.

Most faults were striking from northeast to northwest.

Alteration minerals are chiefly quartz, calcite, chlorite and epidote.

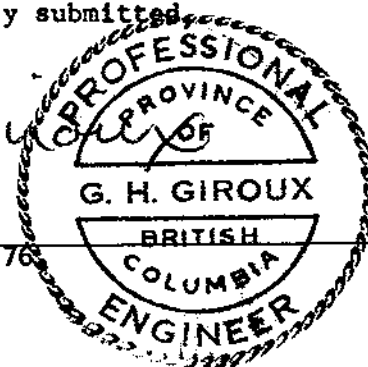
#### SUMMARY AND CONCLUSIONS

This brief attempt at underground mapping showed the hopelessness of using geology and stratigraphy in specific to determine drill targets and locate ore bodies. The nature of the cataclastic rocks and the fact they have no continuity makes tracing mapping units from one location to the next virtually impossible.

Respectfully submitted

*G. H. Giroux*

G. Giroux,  
Sept. 1, 1976





APPENDIX I

Personnel and Dates Worked

July 24, 25: D. R. Cochrane, P.Eng. and G. Giroux, P. Eng.  
mobilize to Stewart

July 26, 27, 28: Cochrane and Giroux  
Underground and surface work

August 1 to August 9: G. Giroux and M. Mathieu  
Sampling and Geology

D. R. Cochrane, P.Eng. (Geological Consultant) Registered member  
of the Association of Professional Engineers, B.C. Experience  
in mining and exploration since 1958. Graduate from Toronto,  
1962 (B.A.Sc.) and Queen's, 1964 (M.Sc. Eng.)

G. Giroux, P.Eng. (Geological Engineer) Registered member  
A.P.Eng., B.C. Graduate 1970, University of B.C. (B.A.Sc.)

M. Mathieu, President, Scope Exploration Services, extensive  
experience in mining and exploration since the 1950s.



APPENDIX II  
Expenditures

WAGES ONLY

1. D. R. Cochrane, P.Eng. Total 3 days @ \$165.00/day	\$ 495.00
2. G. Giroux Total 12 days @ \$100.00/day	1,200.00
3. M. Mathieu Total 9 days @ \$80.00/day	<u>720.00</u>
	\$ 2,415.00



APPENDIX III

Assessment Work Details

PROJECT: Big Missouri M.D.: Skeena  
LOCATION: 25 km. north of Stewart, B.C. N.T.S. 104 B/I  
SPONSOR: Tapin Copper Mines Ltd.,  
307 - 475 Howe Street, Vancouver  
WORK: Recon Geological Mapping, Sampling underground  
WORK PERIOD: July 26 to August 9, 1976  
FIELD PERSONNEL:  
D. R. Cochrane, P.Eng., )  
G. Giroux, P.Eng. ) 4882 Delta Street, Delta, B.C.  
M. Mathieu ) Merritt, B.C.  
OFFICE:  
B. A. Cochrane, A.O.C.A. - Drafting  
W. E. Cochrane, Typing  
ANALYSIS BY: Min En Labs, North Vancouver, B.C.  
COST: in excess of \$2000.00



G. Giroux, P.Eng.,  
September 1, 1976.  
Stewart, B.C.















**LEGEND:**

- STOPPED AREAS
- ADITS
- OUTLINE OF BIG MISSOURI PROJECT
- CORNER POST & CLAIM BOUNDARIES
- RAISES
- X.C. CROSS CUT
- ZONES OF HEAVY SILICIFICATION (SILICA VEINING, CALCITE VEINING, CHLORITE & SULPHIDES)
- LIGHT GREY TO GREY GREEN ACIDIC PHASE OF VOLCANIC CATACLASTIC PILE.
- DARK GREEN ANDESITIC PHASE OF VOLCANIC CATACLASTIC PILE (POLYLATED SLIGHTLY IN PLACES)
- DYKE
- FAULT OF SLIP
- GRAB SAMPLES
- CHIP SAMPLES

**Tapin Copper Mines Ltd.**  
 Big Missouri Project Skeena Mining Division  
 near Stewart, British Columbia 104B/1

0 10 20 30 40 50 100 metres  
 1:1000 1" = 83.3'

ENLARGED FROM B.C. DEPT. OF MINES BULL. 56, 1970-FIG. 26 (ADAPTED FROM BUENA VISTA MINING CO. LTD. WIRE DRAWINGS) 1984/85  
 TO ACCURACY REPORT BY S. BURTON, P. ENG., DATED SEPTEMBER 1, 1984. © STEWART & C. TITLED "GEOLOGY & SAMPLING IN PORTIONS OF THE BIG MISSOURI MINE"

FIGURE 3  
**PLAN - BIG MISSOURI MINE**

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 4000 West Street, Vancouver, B.C.

5988 M-1