

This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of

\$ 8436.00

*D.B. Craig*

~~Resident Geologist or  
Resident Mining Engineer~~

Considered as representation work under Section 53 (4) Yukon Quartz Mining Act

*Phillips*

~~Commissioner of Yukon Territory  
ADMINISTRATOR OF THE YUKON TERRITORY~~

A

GEOLOGICAL REPORT

ON

LUCKY 1-8 (inclusive), 21-28 (inclusive)

MINERAL CLAIMS

SHEET 116-J-5

16 MILES SOUTHWEST OF BEAR CAVE MOUNTAIN

N66°20', W139°45'

DAWSON MINING DIVISION, Y.T.



by

H.R. BULLIS  
G. McARTHUR

May 15 - August 21, 1974



## TABLE OF CONTENTS

	<u>Page</u>
Introduction and Summary	1
Ownership	2
Location and Access	3
Geography	4
Geology - regional	5,6
- local	7
Mineralization	8
Conclusions and Recommendations	9
Certification of Report	10

### Appendix:

- I Work done on the claim group

### List of Illustrations:

- Fig. 1 Claims Location Map
- Fig. 2 Claim Group (Dept. of Mines Sheet 116-J-5)
- Fig. 3 Claim Survey
- Fig. 4 Geology

Introduction and Summary

The Lucky 1-8 (inclusive), 21-28 (inclusive) mineral claims were staked in September, 1973 under the supervision of L.W. Saleken of Brascan Resources Limited. The decision to stake was made after the discovery by Mr. Saleken and others of strata-bound zinc mineralization in the area.

During the following winter plans were made to further explore the claims and the setting up of a geological reconnaissance programme was begun. Brascan personnel carried out prospecting, geological mapping and a claim survey of the above claims during May, June, July and August of 1974.

Through prospecting and geological mapping it was discovered that the rock formations hosting zinc mineralization dip beneath the claim group. Therefore, it is recommended that Brascan retain title to the mineral claims and that application for assessment credits be made accordingly.

An application to group the above claim block will be filed in October with the Mining Recorder in Dawson City, Y.T.

Ownership

The Lucky 1-8 (inclusive), 21-28 (inclusive) mineral claims were staked in September, 1973 as full sized mineral claims as described by the Yukon Quartz Mining Act and were recorded in Dawson City, Y.T. on October 2, 1973 with the following record numbers:

<u>Claim</u>	<u>Record Number</u>	<u>Date Recorded</u>
Lucky 1	Y82126	October 2/73
2	27	October 2/73
3	28	October 2/73
4	29	October 2/73
5	30	October 2/73
6	31	October 2/73
7	32	October 2/73
8	33	October 2/73
Lucky 21	Y82146	October 2/73
22	47	October 2/73
23	48	October 2/73
24	49	October 2/73
25	50	October 2/73
26	51	October 2/73
27	52	October 2/73
28	53	October 2/73

Brascan Resources Limited has one hundred per cent ownership of the above mineral claims.

Application to group the above mineral claims will be filed in October with the Mining Recorder in Dawson City, Y.T.

Cont/d.

Location and Access

The Lucky 1-8, (inclusive), 21-28 (inclusive) mineral claims lie approximately sixteen miles southwest of Bear Cave Mountain and are located on the NTS sheet 116-J-5.

Approximately 170 air-miles north of Dawson, the claims are accessible during the summer months only by helicopter. Winter roads provide access when rivers are frozen and the ground becomes solid enough to support wheeled or tracked vehicles. The Dempster Highway, an all-weather gravel road, provides year-round access for vehicles to within seventy miles of the claims. A number of airstrips are located along the Dempster and provide staging points for material being air-lifted into the property.

An all-weather airstrip, the Mallard, lies about 50 miles to the south of the claims and provides access for light aircraft. From there it is necessary to use a helicopter to reach the claim group.

Geography

Relief in the claims area is moderate. Valley floors are generally 1,500 feet A.S.L. and the mountain ridges seldom are higher than 4,000 feet A.S.L. The mountains have low, gentle profiles and are seldom peaked. Absence of glaciation and severe frost-heaving resulting from active perma-frost have combined to produce mountains resembling piles of rubble.

The claims lie within ten miles of the Arctic Circle and the vegetation varies from sub-Arctic to cold-temperate. The ridges above 3,000 feet have very little growth other than moss, lichen and alpine flowers. The valleys, on the other hand, are filled with spruce, tamarack, alder and a wide variety of small broad-leaf plants. The growing season is short - from the first of June through to mid-August - and the growth-rate is very slow.

## Geology

### Regional

A series of sedimentary rocks ranging in age from Silurian to Devonian are exposed in sections on three over-thrust plates the major and western-most of which is the North Dewdney Thrust. The thrust-faults strike approximately north-west. The strike of the bedding planes of the sediments corresponds to that of the thrusts and the dip of the beds is generally to the east.

The local thrust-faults appear to terminate in a broad anticline to the south of the claim block. Further to the east the sediments form a shallow syncline the eastern edge of which is terminated by the Fishing Branch River Valley. This valley seems to be controlled by older faulting and thrusting striking toward the south-east.

The rocks from the Silurian to Devonian are a series of limestones, cherty limestones, shaley limestones and dolomites. The boundary between the Silurian and Devonian is difficult to determine because dolomitization has taken place in most rocks and has destroyed minor distinguishing characteristics. However, it is felt that a series of dolomites containing masses of black, nodular chert belong in the Silurian age and, for the purposes of this report, shall be considered the boundary between Silurian and Devonian.

The upper-most rocks that are seen in the Devonian are massive limestones composed of up to sixty per cent crinoidal debris. These rocks are resistant, dark-gray cliff-formers. Below the crinoidal limestones

are a recessive series of bedded shaley to sandy limestones with the occasional bed containing reefal debris and ostracode fossils. Next in the sequence come massive light-to dark-gray aphanitic limestones containing gastropod and coral fossils. These limestones are also cliff-formers. Below these cliffs are a series of undifferentiated light-to dark-gray, fine-to coarsely-crystalline dolomites that carry on down-section to the Silurian cherty dolomites.

Local Geology

A northerly trending thrust fault is located across the central portion of the claim block. The thrust separates two fault blocks both of which show relative movement from east to west. The eastern block has been tectonically emplaced over the western block although the bedding in both blocks have similar strikes and dips. The thrust fault forms a topographical low that can be traced for several miles.

Outcrop on the claim group is minimal and restricted to ridges and deep gulleys.

The carbonate section exposed on the claim block is a sequence of crinoidal limestone, shaley limestone, light gray limestone, undifferentiated dolomite, older dolomites and cherts, a thrust fault and the sequence is repeated in the next block. The undifferentiated dolomites which, in places, contain sulphide mineralization, are recessive and outcrop is rarely found. Zinc and iron sulphides are found in talus. While not significant in itself, this mineralization is on-strike with more important showings further south.

Mineralization

The sphalerite-smithsonite-pyrite showings occur along the strike length of the light gray limestone-undifferentiated dolomite contact but appear to be "poddy" and discontinuous.

The development of zinc mineralization appears to be intimately associated and directly related to secondary dolomitization. Mineralization occurs as fracture fillings, vug fillings and replacement in breccia.

Conclusions and Recommendations

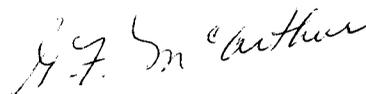
Although the mineralization in this claim group appears to be uneconomic, the showings constitute an extension of the more promising mineralization to the south. Until the commercial viability of the mineralization on Brascan's claims to the south has been proven or disproven, the group should be retained by Brascan Resources Limited.

It is therefore recommended that assessment work on the Lucky 1-8, 21-28 (inclusive) mineral claims be filed with the Mining Recorder in Dawson City and that Brascan Resources hold these claims.

Respectfully submitted,



H.R. BULLIS



G. McARTHUR

CERTIFICATION OF REPORT

I hereby certify that the work described in  
this report was carried out under my supervision.

A handwritten signature in black ink, appearing to read 'F.B. Whiting', written in a cursive style.

F.B. WHITING

Member: Assoc. of Prof. Engineers  
(Yukon)

Member: Assoc. of Prof. Engineers  
(B.C.)

## Appendix I

### Work done on the claim group

A survey of the claims using the chain and compass method was carried out and the map produced from this survey was used as a base map for the geological mapping.

During the time work was being done on the claim group a camp established on a seismic road near Fishing Branch Creek served as a work base. From this camp, a Bell 47GB2 helicopter was used to place personnel on traverse.

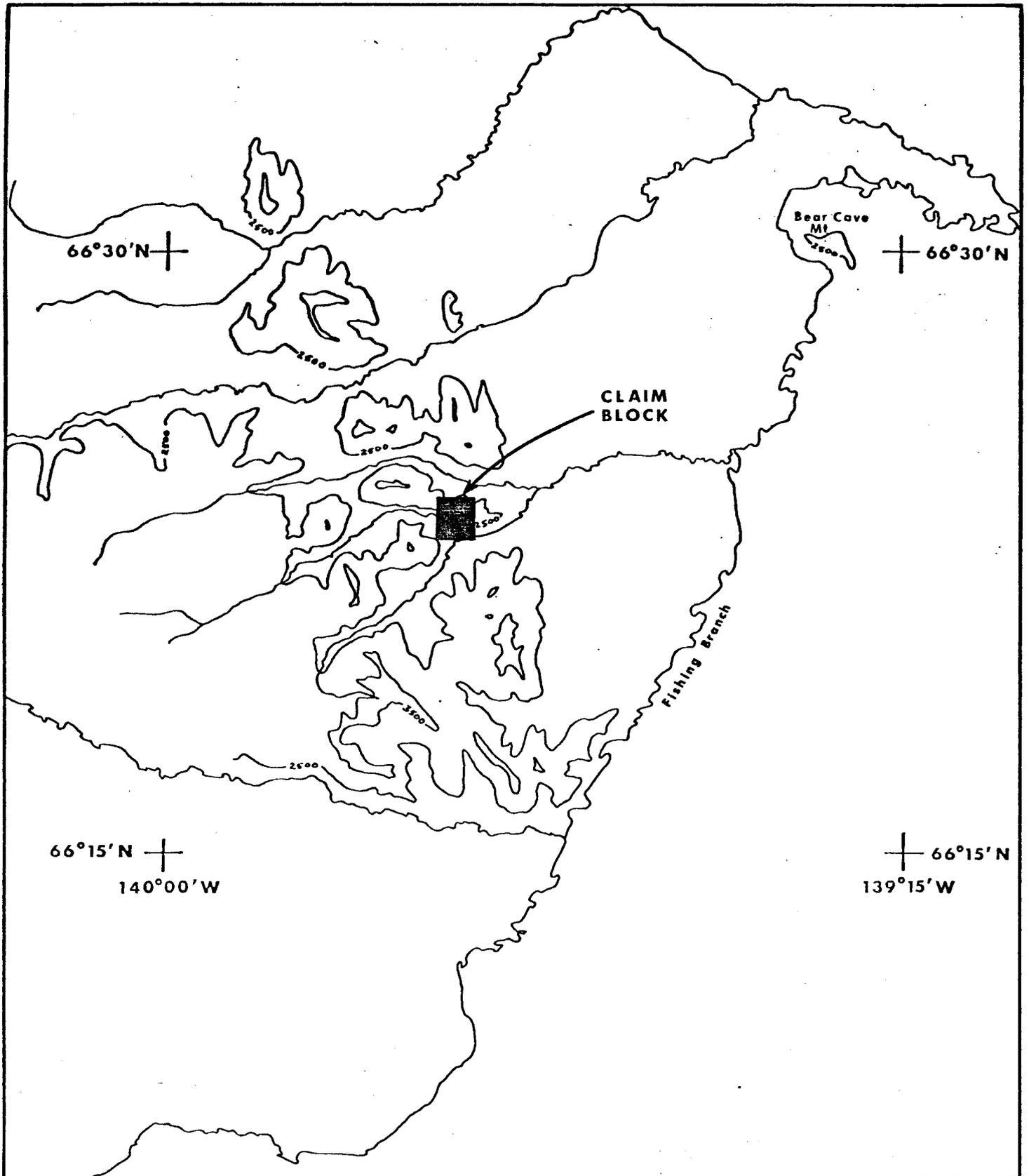
Personnel involved in work on the claim group are as follows:

R. Bullis	)	
G. McArthur	)	C/O Brascan Resources Limited
M. McArthur	)	502 - 1155 West Pender Street
A. Cook	)	Vancouver, B.C. V6E 2P4
T. Hubl	)	

The helicopter was chartered from Trans North Turbo Air out of Whitehorse, Y.T.

The expenses on assessment of the claim group are as follows:

Consulting fees	\$ 368.00
Charter flying	4,722.00
Salaries	1,824.00
Fuel	592.00
Truck rental and gasoline	160.00
Incidental expenses	320.00
Report and drafting	<u>400.00</u>
Total expended	\$8,436.00



<b>Brascan Resources Ltd.</b>		
CLAIMS LOCATION MAP		
Scale 1:250,000	Contour Interval 1000'	
Date Sept 1974	By MLMCA	Fig. 1



21	23	25	27
Y82146	Y82148	Y82150	Y82152
22	24	26	28
Y82147	LUCKY	Y82151	Y82153
1	3	5	7
Y82126	Y82128	Y82130	Y82132
2	4	6	8
Y82127	Y82129	Y82131	Y82133

**Brascan Resources Ltd.**

**CLAIM GROUP**

**(from Dept. of Mines Sheet 116J)**

Scale 1 inch: 1/2 mile

By MCA

Date Sept 1974

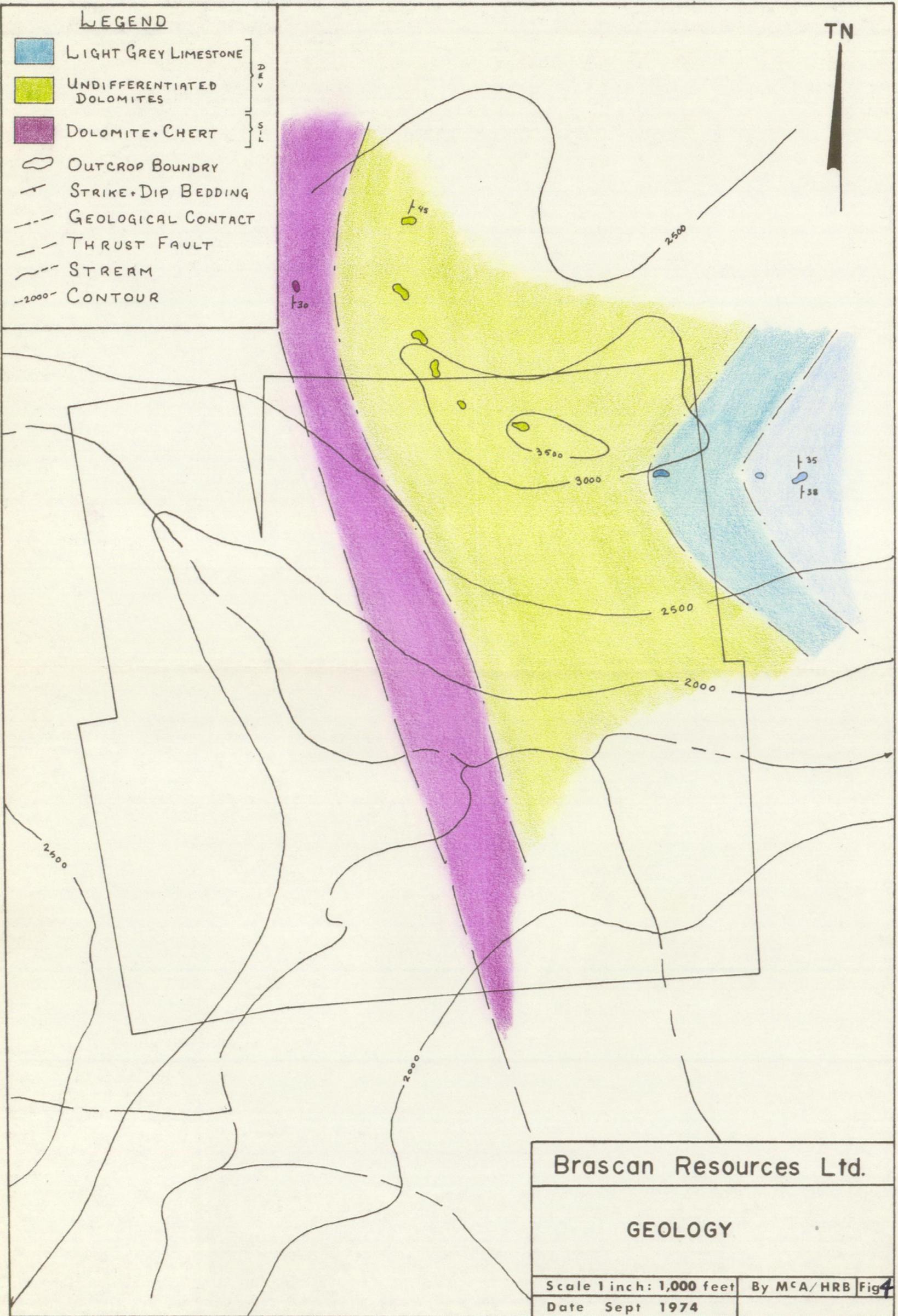
Fig. 2



Brascan Resources Ltd.		
CLAIM SURVEY		
Scale 1 inch: 1,000 feet	By AGC	Fig 3
Date Sept 1974		

**LEGEND**

- LIGHT GREY LIMESTONE
- UNDIFFERENTIATED DOLOMITES
- DOLOMITE + CHERT
- OUTCROP BOUNDRY
- STRIKE-DIP BEDDING
- GEOLOGICAL CONTACT
- THRUST FAULT
- STREAM
- CONTOUR



<b>Brascan Resources Ltd.</b>	
<b>GEOLOGY</b>	
Scale 1 inch: 1,000 feet	By M <sup>c</sup> A/HRB Fig 4
Date Sept 1974	