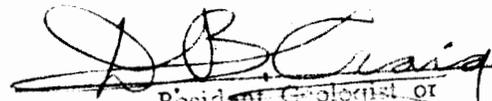


This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of \$ 8436.00


Resident Geologist or
Resident Mining Engineer

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


Commissioner of Yukon Territory
ADMINISTRATOR OF THE YUKON TERRITORY

A

GEOLOGICAL REPORT

ON

GIRLY 63-72 (inclusive), 46-54 (even), 53

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

May 15-August 31, 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, 9
Conclusions and Recommendations	10
Certification of Report	11

Appendix I: Statement of costs and personnel involved

List of Illustrations:

Fig. 1	Claims Location Map	1: 250,000
Fig. 2	Claim Group	1" = 1/2 mile
Fig. 3	Claim Survey	1" = 1,000'
Fig. 4	Geology	1" = 1,000'

Introduction and Summary

The Girly 63-72 (inclusive), 46-54 (even), 53 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 September with the Mining Recorder in Dawson City, Y.T.

Ownership

The Girly 63-72 (inclusive), 46-54 (even), 53 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, Yukon Territory on September 18, 1973.

<u>Claim</u>	<u>Record Number</u>	<u>Date Recorded</u>
Girly 63	Y82078	September 18, 1973
Girly 64	79	September 18, 1973
Girly 65	80	September 18, 1973
Girly 66	81	September 18, 1973
Girly 67	82	September 18, 1973
Girly 68	83	September 18, 1973
Girly 69	84	September 18, 1973
Girly 70	85	September 18, 1973
Girly 71	86	September 18, 1973
Girly 72	87	September 18, 1973
Girly 46	61	September 18, 1973
Girly 48	63	September 18, 1973
Girly 50	65	September 18, 1973
Girly 52	67	September 18, 1973
Girly 53	68	September 18, 1973
Girly 54	69	September 18, 1973

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

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

Location and Access

The Girly 63-72 (inclusive), 46-54 (even), 53 mineral claims lie approximately sixteen miles southwest of Bear Cave Mountain and are located on the N.T.S. 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

The underlying geology consists of a sequence of crinoidal limestones, shaley limestones, aphanitic gray limestones and dolomites. The units have a common strike and dip; N10°W and 20° to 30° E respectively. Although outcrop is minimal (less than 5 percent) the contacts between the units are easily recognizable because of their different weathering characteristics. Both the crinoidal limestone and the aphanitic limestone are resistant to weathering and form ridges while the shaley limestones and dolomites are recessive forming saddles and depressions.

The contact between the crinoidal limestone and the shaley limestone can be seen in the southwest and northwest corners of the claim group. The shaley limestones - aphanitic gray limestone and aphanitic gray limestone - dolomite contacts can be seen to the west of the group. The dolomite is the host for sulphide mineralization in the area and this rock unit dips beneath the claim group below the three limestone units.

The contact between the dolomites and the aphanitic limestones is gradational and both rock types contain common fossils. From this evidence, it is probable that the aphanitic gray limestone has undergone a period of dolomitization.

Mineralization

The sphalerite-smithsonite-pyrite showings occur along the strike length of the limestone-dolomite contact for over two miles but appear to be "poddy" and discontinuous.

Four distinct modes of mineralization are found in the area: breccia, fracture-filling, vug-filling and replacement. The description of each mode is as follows:

1. Breccia - sulphide mineralization is found along shear planes and within the matrix of fault (?) breccias containing angular fragments of various sizes. In most cases these breccias have within them coarse crystals of remobilized calcite.

Generally the mineralization associated with breccias is very low grade (0.5%) and has about a 1:1 ratio of sphalerite:pyrite.

2. Fracture-filling - in dolomites that are not intensely sheared (as in faults) but rather are "crackled" the sulphides occur along the fracture planes. As in the breccia-type fracture-filling produces mineralization of a low grade.
3. Vug-filling - sulphides have filled interstitial cavities in the dolomites. Mineralization is intimately associated with the development of sparry white dolomite.

4. Replacement - sulphides, as well as filling interstitial cavities, have replaced the host dolomite. Where this type of mineralization has taken place the host rock may be replaced by up to 50% sulphides.

It should be noted that although iron pyrite is present in the rock no gossans form. Iron oxides are not mobile in basic environments and, as a result, limonite and goethite form from the pyrite in situ. As an example, specimens were found of goethite in crystals pseudomorphous after pyrite cubes and pyritohedrons.

Conclusions and Recommendations

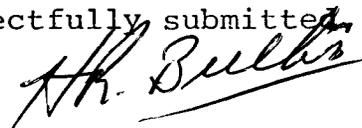
Although no mineralization was found on the claims, the mineralized dolomites lie beneath the claims at a depth of 100 feet to 1,000 feet. Discontinuous sphalerite-smithsonite-pyrite mineralization has been found in talus and traced out over two miles (strike-length). Grab samples assaying from 0.5 percent zinc to 18 percent zinc have been taken from dolomite talus material.

It is recommended that assessment applications be filed in Dawson City and that the claim group be retained by Brascan Resources Limited until the economic potential of the mineralization is more accurately defined.

To this end it is also recommended that the mineralized horizon (s) be further explored by either of the following methods:

1. Trenching using a D6 or D7 caterpillar tractor equipped with an earth-moving blade. It will be necessary to move the tractor in and out of the property during the winter months.
2. Limited diamond-drilling using an X-ray type unit. Drilling in the soft carbonates should be relatively easy and maximum depths would be 300 to 400 feet. Drilling would have to be done during high water (June-July) to ensure water supplies to the drill.

Respectfully submitted,



H.R. BULLIS

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', with a long horizontal stroke extending to the right.

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.

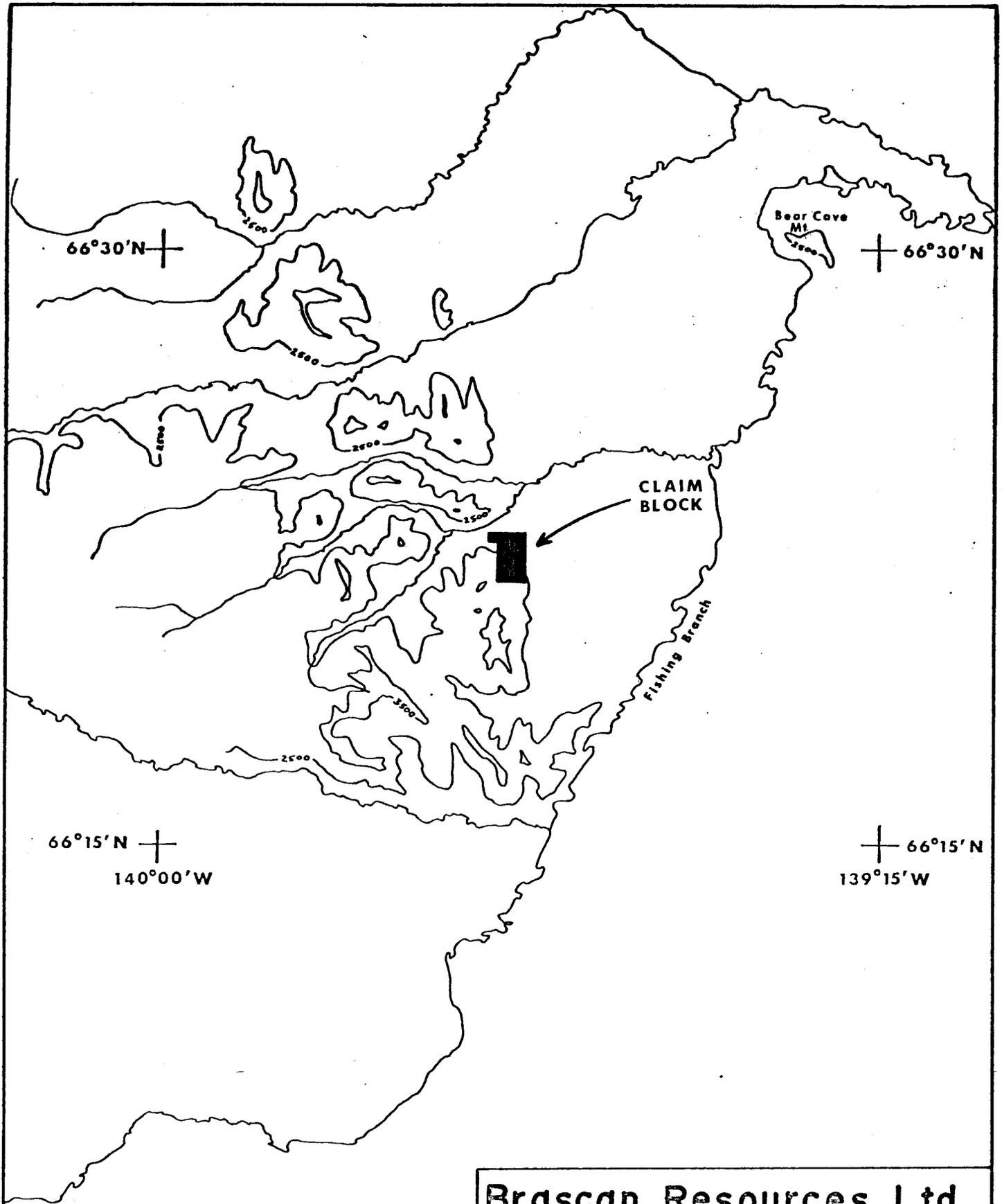
Personnel involved in work on the claim group are as follows:

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



Brascan Resources Ltd.

CLAIMS LOCATION MAP

Scale 1:250,000

Contour Interval 1000'

Date Sept 1974

By MLM^{CA}

Fig. 1



53	54	71	72
Y82068	Y82069 52	Y82086 69	Y82087 70
	Y82067 50	Y82084 67	Y82085 68
GIRLY			
	Y82065 48	Y82082 65	Y82083 66
	Y82063 46	Y82080 63	Y82081 64
	Y82061	Y82078	Y82079

Brascan Resources Ltd.

CLAIM GROUP

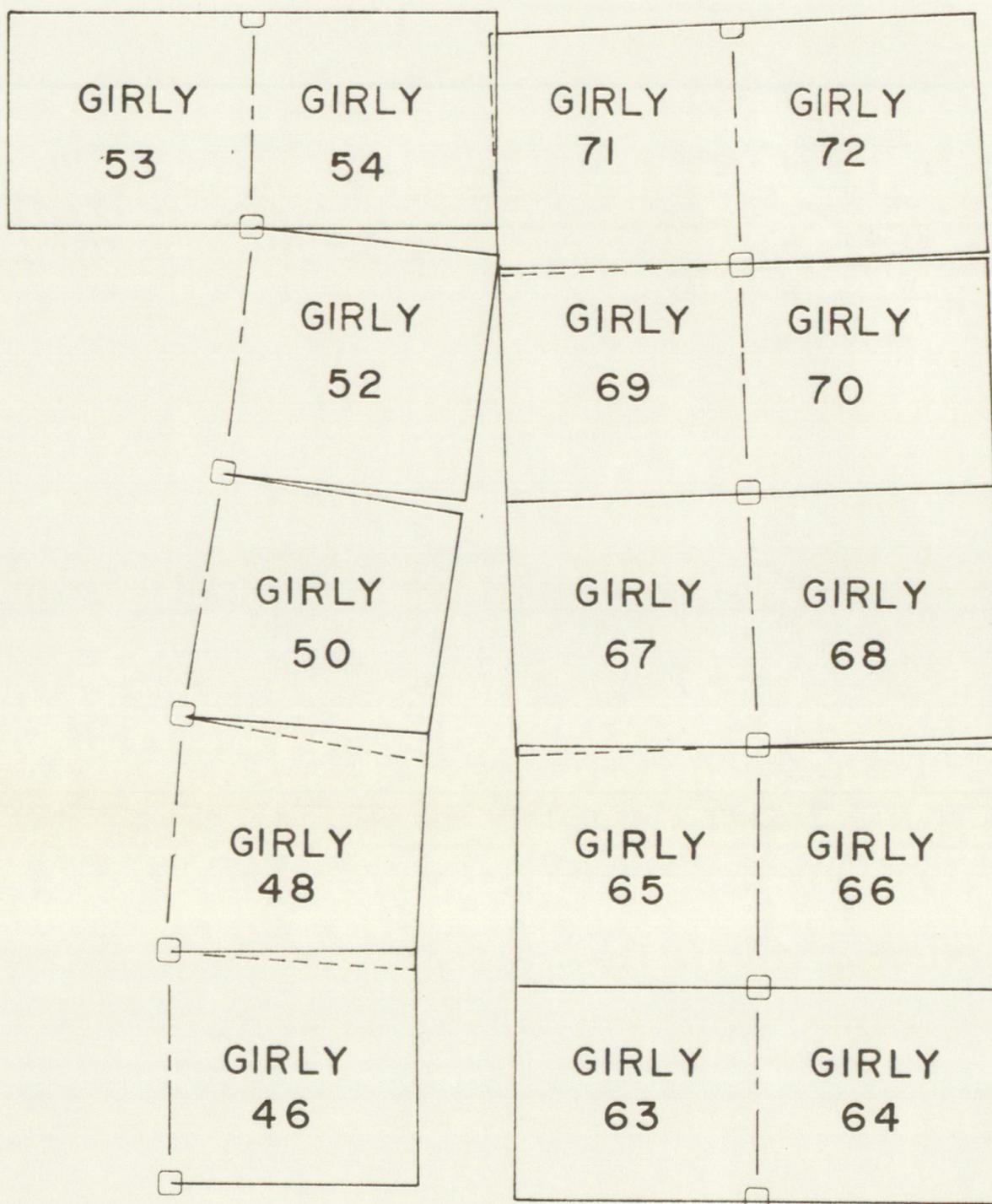
(from Dept. of Mines Sheet 116J-5)

Scale 1 inch: 1/2 mile

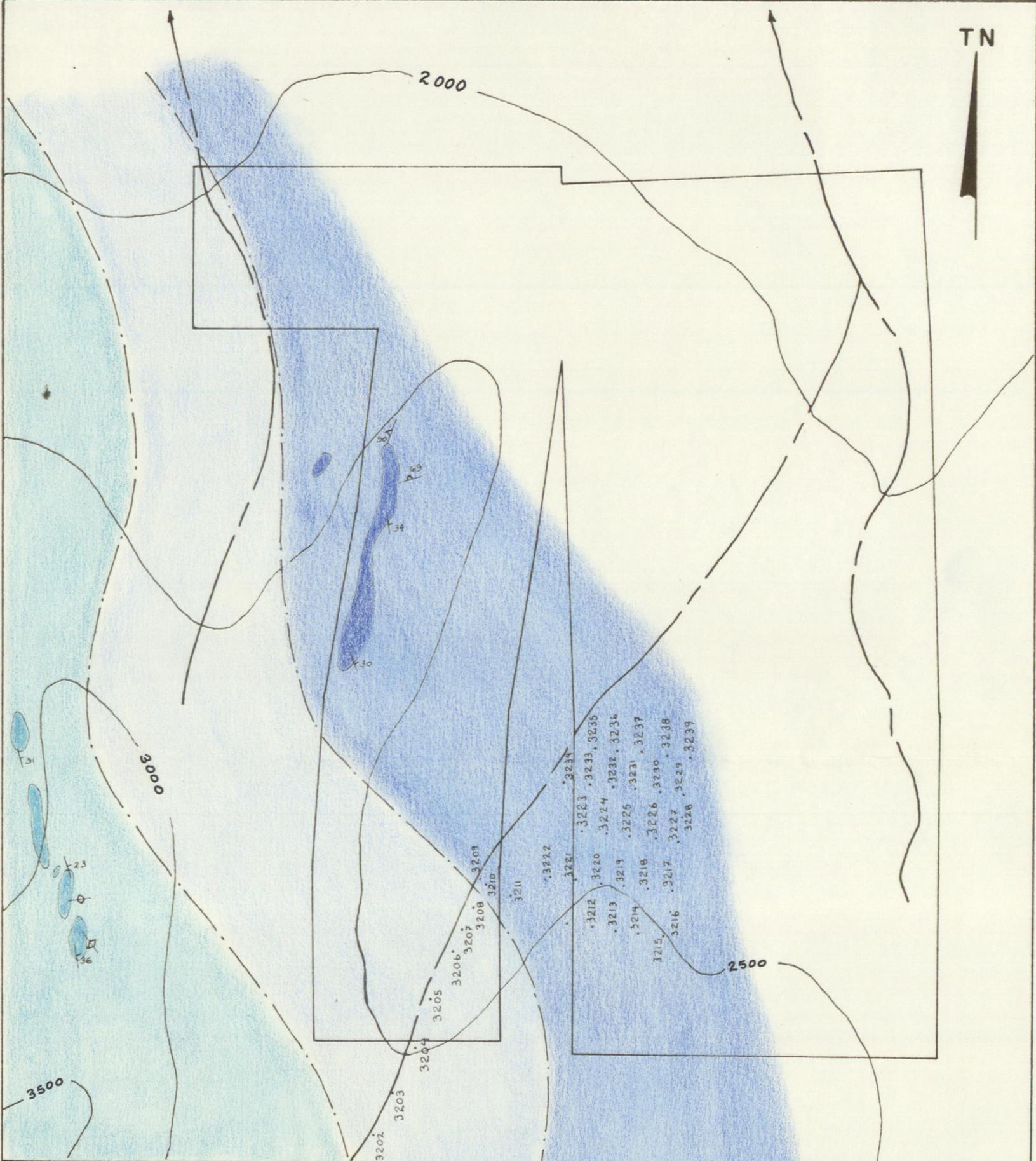
By MCA

Date Sept 1974

Fig. 2



Brascan Resources Ltd.		
CLAIM SURVEY		
Scale 1 inch: 1000 feet	By AGC	Fig3
Date Sept 1974		



LEGEND

- CRINOIDAL Ls.
- SHALEY Ls.
- LIGHT GREY Ls.
- OUTCROP BOUNDARY
- STRIKE+DIP BEDDING
- STRIKE+DIP JOINTING
- GEOLOGICAL CONTACT
- STREAM
- INTERMITTANT STREAM
- CONTOUR

Brascan Resources Ltd.

Geology and
Geochemical Sample Grid

Scale 1 inch: 1000 feet	By HRB/MCA	Fig 4
Date Sept 1974		