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.

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

A

GEOLOGICAL REPORT

ON

GIRLY 38-44, (even), 55-62 (inclusive); Rox 42,54,55,56

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

List of Illustrations:

Introduction and Summary

The Girly 38-44 (even), 55-62 (inclusive); Rox 42, 54, 55, 56 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.

Cont/d.

Ownership

The Girly 38-44 (even), 55-62 (inclusive); Rox 42, 54, 55, 56 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.

Claim	Record Number	Date Recorded
Girly 38	Y82053	September 18/73
Girly 40	55	September 18/73
Girly 42	57	September 18/73
Girly 44	59	September 18/73
Girly 55	70	September 18/73
Girly 56	71	September 18/73
Girly 57	72	September 18/73
Girly 58	73	September 18/73
Girly 59	74	September 18/73
Girly 60	75	September 18/73
Girly 61	76	September 18/73
Girly 62	77	September 18/73
Rox 42	01	September 18/73
Rox 54	13	September 18/73
Rox 55	14	September 18/73
Rox 56	15	September 18/73

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.

Cont/d.

Location and Access

The Girly 38-44 (even), 55-62 (inclusive); Rox 42,54,55,56 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.

Cont/d.

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.

Cont/d.

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.

Cont/d.

Local Geology

The geology underlying the claims consists of a series of carbonates and dolomites that strike about N10°W and dip about 30°E. The strike and dip of the bedding varies only slightly over the length of the claims. Uppermost in the series (and lying farthest to the east) is a crinoidal limestone unit that has a minimum thickness of 650 feet. This unit is massive and resistant to weathering. Beneath the crinoidal limestones are beds of sandy and muddy limestones that have a shaley appearance on the weathered surface. These beds vary in thickness from one foot to several feet and occasionally contain ostracode fossils. These less-massive limestones are recessive and form saddles and depressions. The shaley limestone unit is approximately 400 feet thick. Underlying the shaley limestone unit is a massive light to dark gray aphanitic limestone which forms cliffs and ridges. This limestone is located on the western edge of the claim group and forms the prominant ridge to the southwest of the group.

About 200 feet to the west of Rox 42 lies the contact between the aphanitic limestone and the under-lying dolomites which are the host rocks for mineraliza-tion in the area. Although the limestone-dolomite contact lies off the claim block, the dolomites are conformable with the over-lying limestones and their easterly dip places them beneath the claims at depth. The dolomite-limestone contact is irregular and gradational and prob-ably is a chemical rather than a physical contact. Similar gastropods are found both within the aphanitic limestone and the upper-most dolomites and it is probable that the limestones have undergone a period of dolomiti-zation. Minimum thickness of the dolomites is about 800 feet.

Cont/d.

About 40 feet below the dolomite-limestone contact sphalerite-smithsonite-pyrite mineralization is found within the dolomites. Because the dolomite is a recessive unit, however, nowhere is mineralization located in outcrop. All the mineralized specimens were taken from talus. Attempts were made to reach bed-rock beneath mineralized float but were unsuccessful.

Cont/d.

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.

Cont/d.

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.

Cont/d.

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 caterpiller 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.

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:

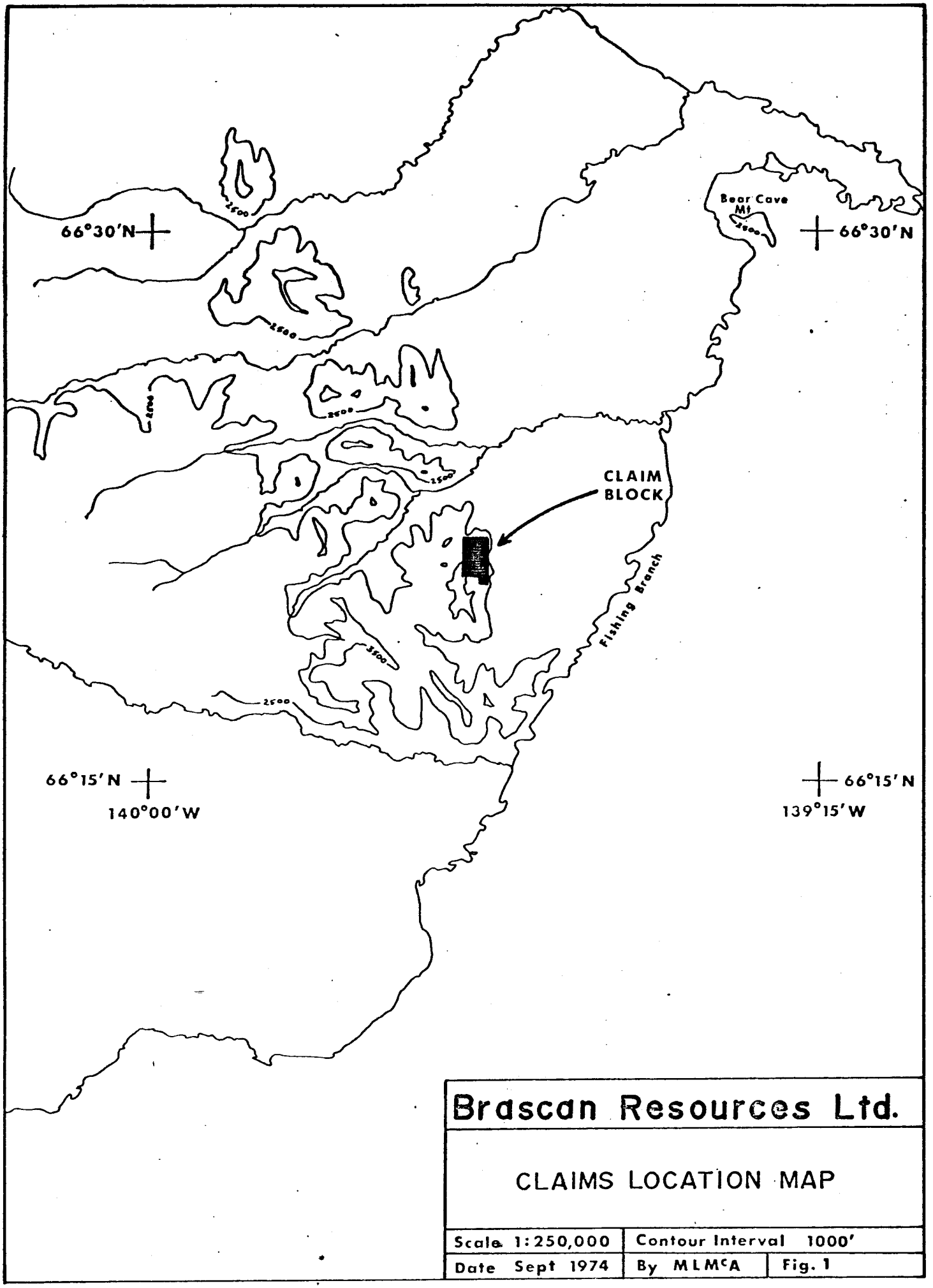
R. Bullis
G. McArthur
M. McArthur
A. Cook
T. Hubl

C/O Brascan Resources Limited
502 - 1155 West Pender Street
Vancouver, B.C. V6E 2P4

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:

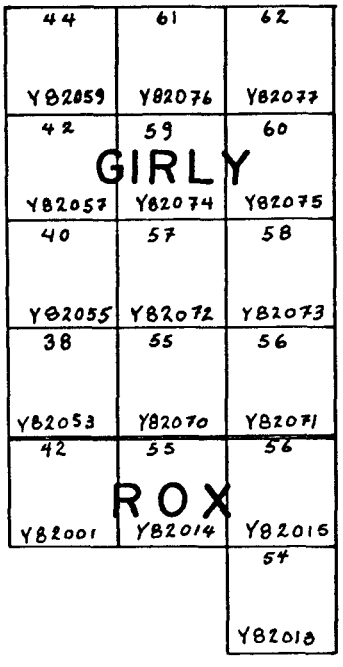
Consulting fees	$ 368.00
Charter flying	4,722.00
Salaries	1,824.00
Fuel	592.00
Truck rental and gasoline	160.00
Incidental expenses	320.00
Report and drafting	400.00
Total expended	$8,436.00



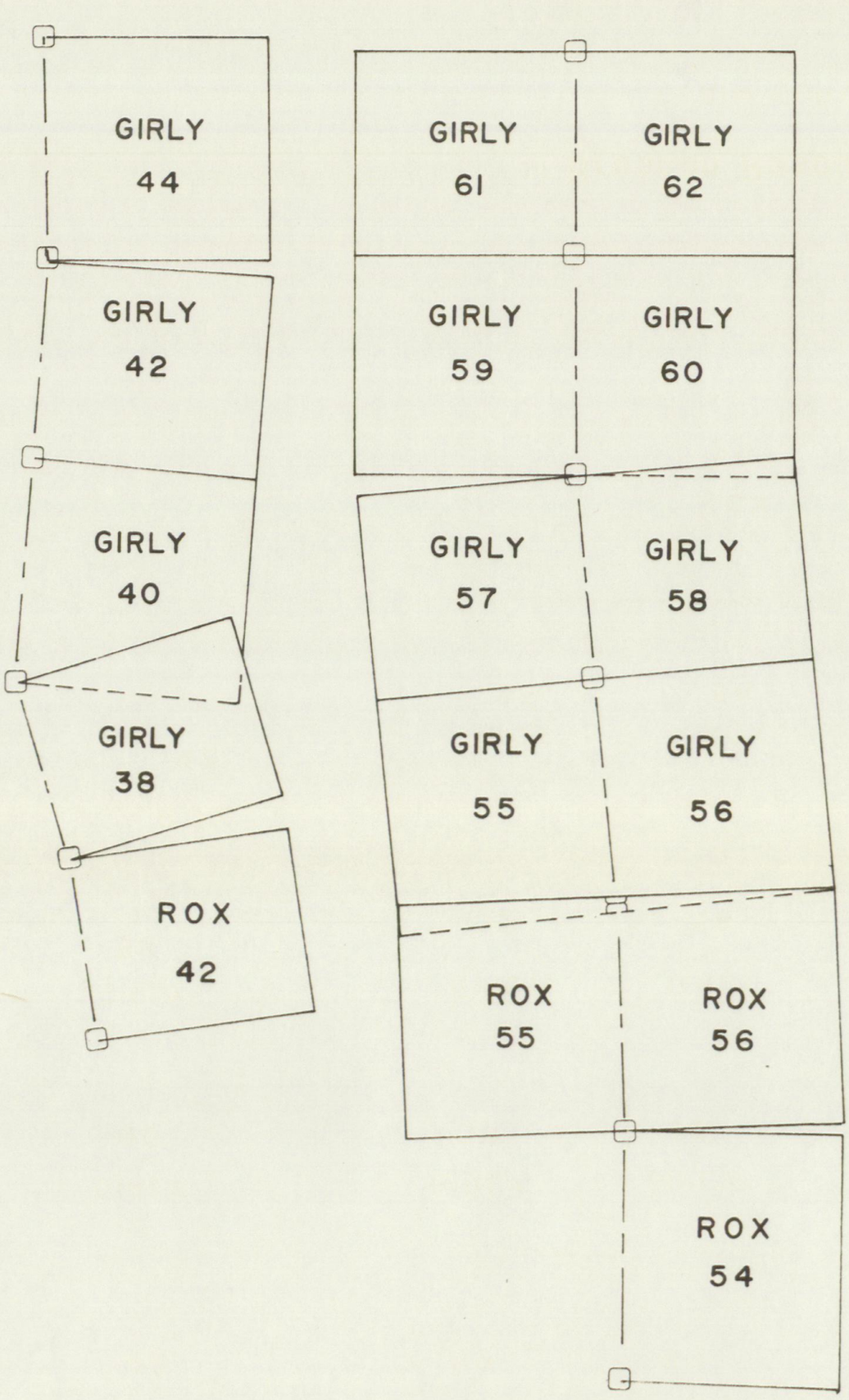
Brascan Resources Ltd.

CLAIMS LOCATION MAP

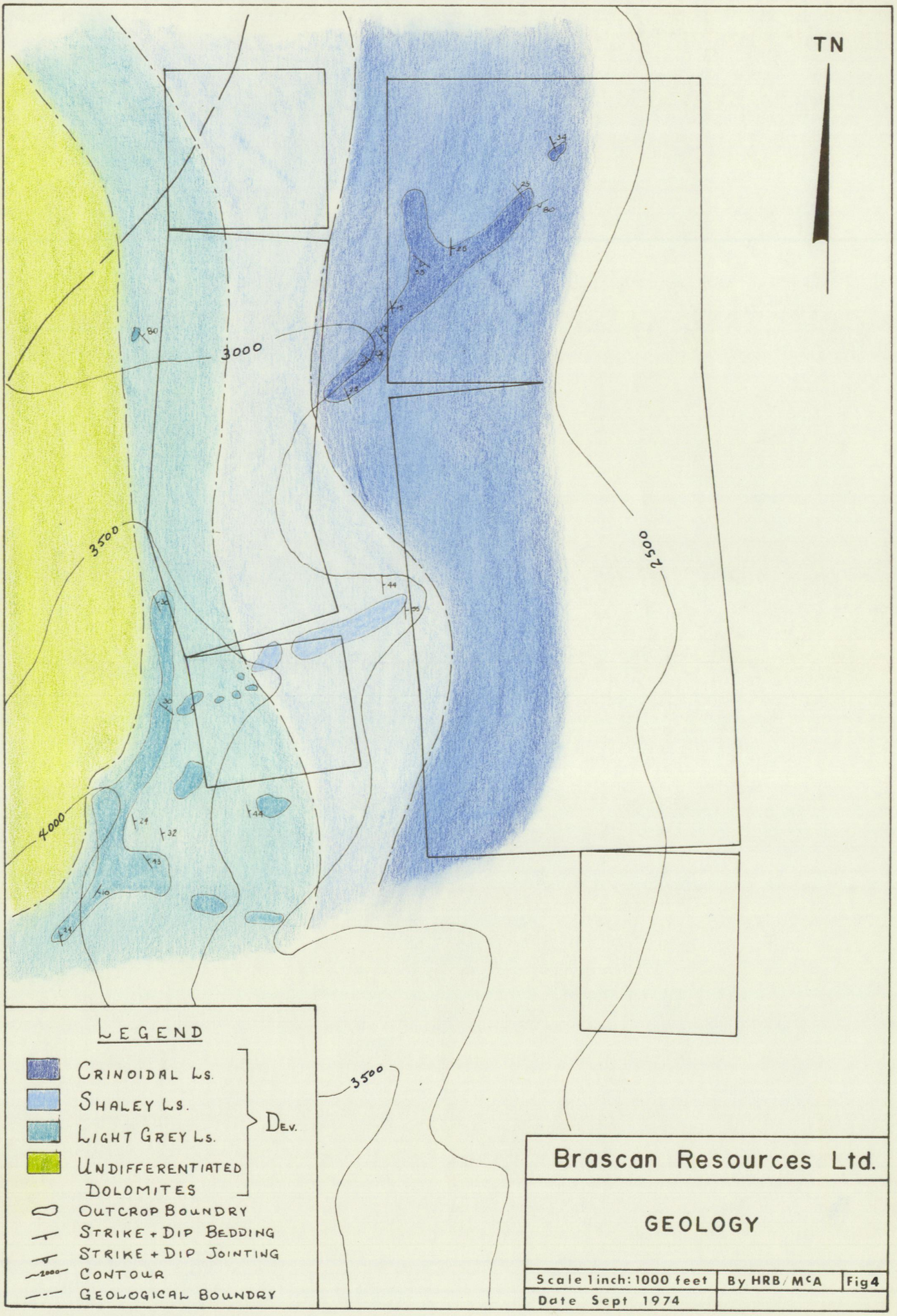
Scale 1:250,000	Contour Interval 1000'	
Date Sept 1974	By MLMcA	Fig. 1



Brascan Resources Ltd.	
CLAIM GROUP (from Dept. of Mines Sheet 116J-5)	
Scale 1 inch: ½ mile	By M^{c}A
Date Sept 1974	Fig. 2



Brascan Resources Ltd.		
CLAIM SURVEY		
Scale 1 inch: 1000 feet	By AGC	Fig 3
Date Sept 1974		



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GEOLOGY

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