This report has been examined by the Geological Evaluation Staff and is recommended to the Commissioner to be considered as representation work to the value of
$ 4048.00

D.B. Craig
Resident Geologist or
~~Resident Mining Engineer~~

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

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

A

GEOLOGICAL REPORT

ON

ROX 29, 30 MINERAL CLAIMS

JULIE 12-17 (INCLUSIVE) FRACTIONAL MINERAL CLAIMS

SHEET 116 - J-5

16 MILES SOUTH-WEST OF BEAR CAVE MOUNTAIN

N 66°20', W 139°45'

DAWSON MINING DIVISION, Y.T.

RECEIVED
NOV 04 1974
MINING
INSPECTORS OFFICE
WHITEHORSE, Y.T.

BY

H.R. BULLIS

May 15 - August 31, 1974

Office Of The Supervising Mining Recorder
NOV - 4 1974
WHITEHORSE
Yukon Territory

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Introduction and Summary

The Rox 29 and 30 mineral claims were staked in September, 1973 under the supervision of L. W. Saleken of Brascan Resources Limited. The decision to stake was made 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. The Julie 12-17 fractional claims were subsequently staked to cover geologically important ground that had been left open during prior staking.

Through prospecting and mapping it was discovered that important mineral showings and mineralized horizons. occur on and under the claims. 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, Yukon Territory.

Cont/d.

Ownership

The Rox 29 and 30 mineral claims were staked in September, 1973 as full-size mineral claims as described by the Yukon Quartz Mining Act and were recorded in Dawson City, Yukon Territory on September 18, 1973. The Julie 12-17 claims were staked as fractional mineral claims in August of 1974 and were recorded in Dawson City on August 27, 1974.

Claim	Record Number	Date Recorded
Rox 29	Y81988	September 18, 1973
Rox 30	Y81989	September 18, 1973
Julie 12	Y90007	August 27, 1974
Julie 13	Y90008	August 27, 1974
Julie 14	Y90009	August 27, 1974
Julie 15	Y90010	August 27, 1974
Julie 16	Y90011	August 27, 1974
Julie 17	Y90012	August 27, 1974

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 September with the Mining Recorder in Dawson City, Yukon Territory.

Cont/d.

Location and Access

The Rox 29, 30 and Julie 12-17 (inclusive) 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.

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 claim block is underlain by light-gray aphanitic limestones, crinoidal limestones and dolomites. Although the crinoidal limestones normally appear at the top of the section a reverse thrust carries them under the dolomites at the south end of the claim block. Further to the north the normal sequence of crinoidal limestone: shaley limestone: light-gray limestone: dolomites can be seen.

The strike and dip of the bedding varies over the claims area. There appears to be an antiform structure in the carbonates with beds on the east dipping to the east and the occasional westerly-dipping bed to the west. The antiform may also be the result of disoriented bedding caused by local tectonics.

In places the gradational alteration of the light-gray aphanitic limestone can be seen. Generally, however, the dolomites are very recessive and are rarely found as outcrop.

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.

Recommendations and Conclusions

The showings on the Julie 12-17 claims are the most important in the area and further work on the mineralized zones is recommended. Because of the difficulty experienced trenching in the unconsolidated talus and because the mineralized dolomite host formation is recessive, it is recommended that limited diamond drilling be carried out to find the down-dip extensions (if any) of the mineralization.

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.

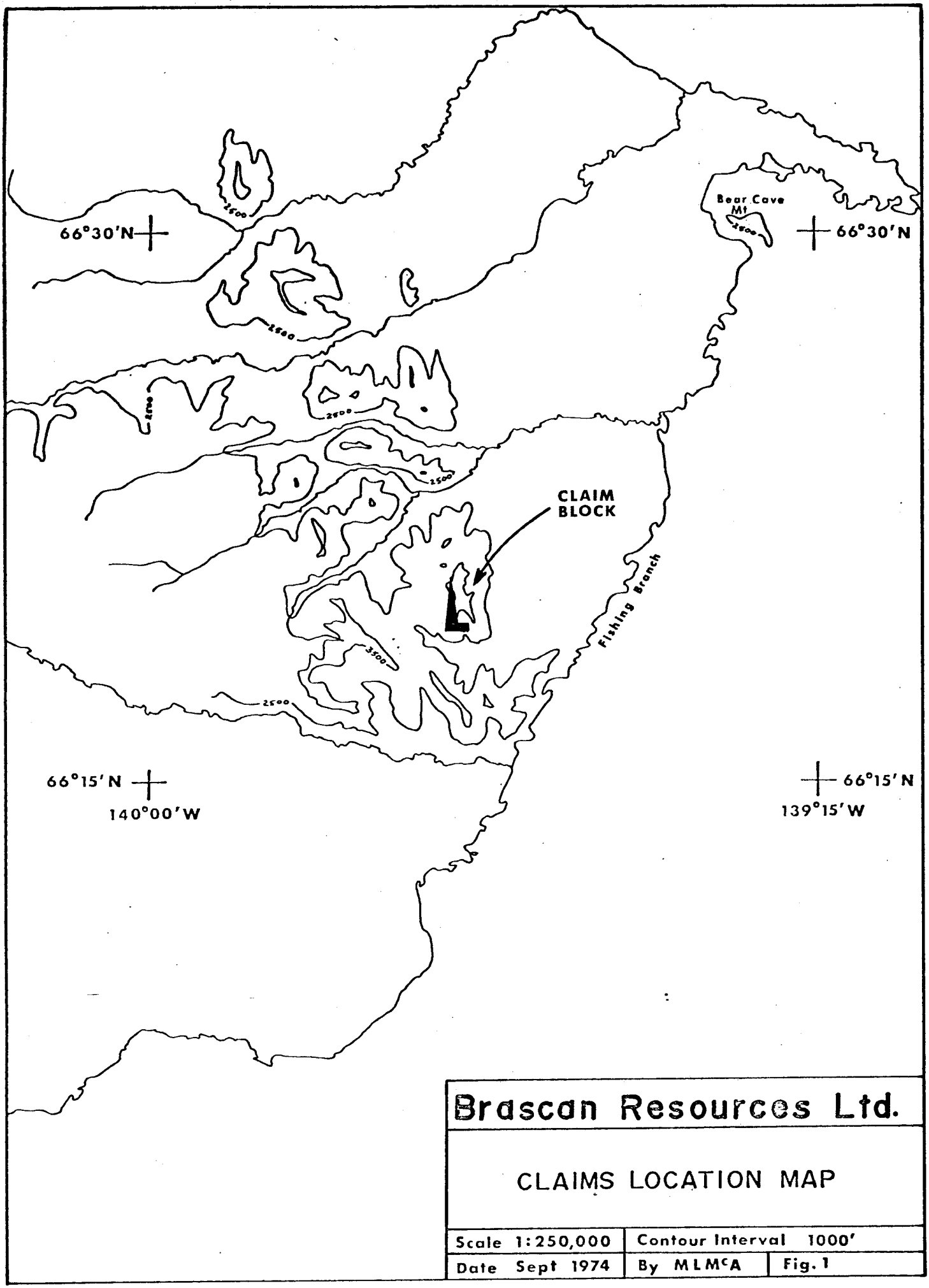
Personnel involved in work on the claim group are as follows:

R. Bullis)
G. McArthur) 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:

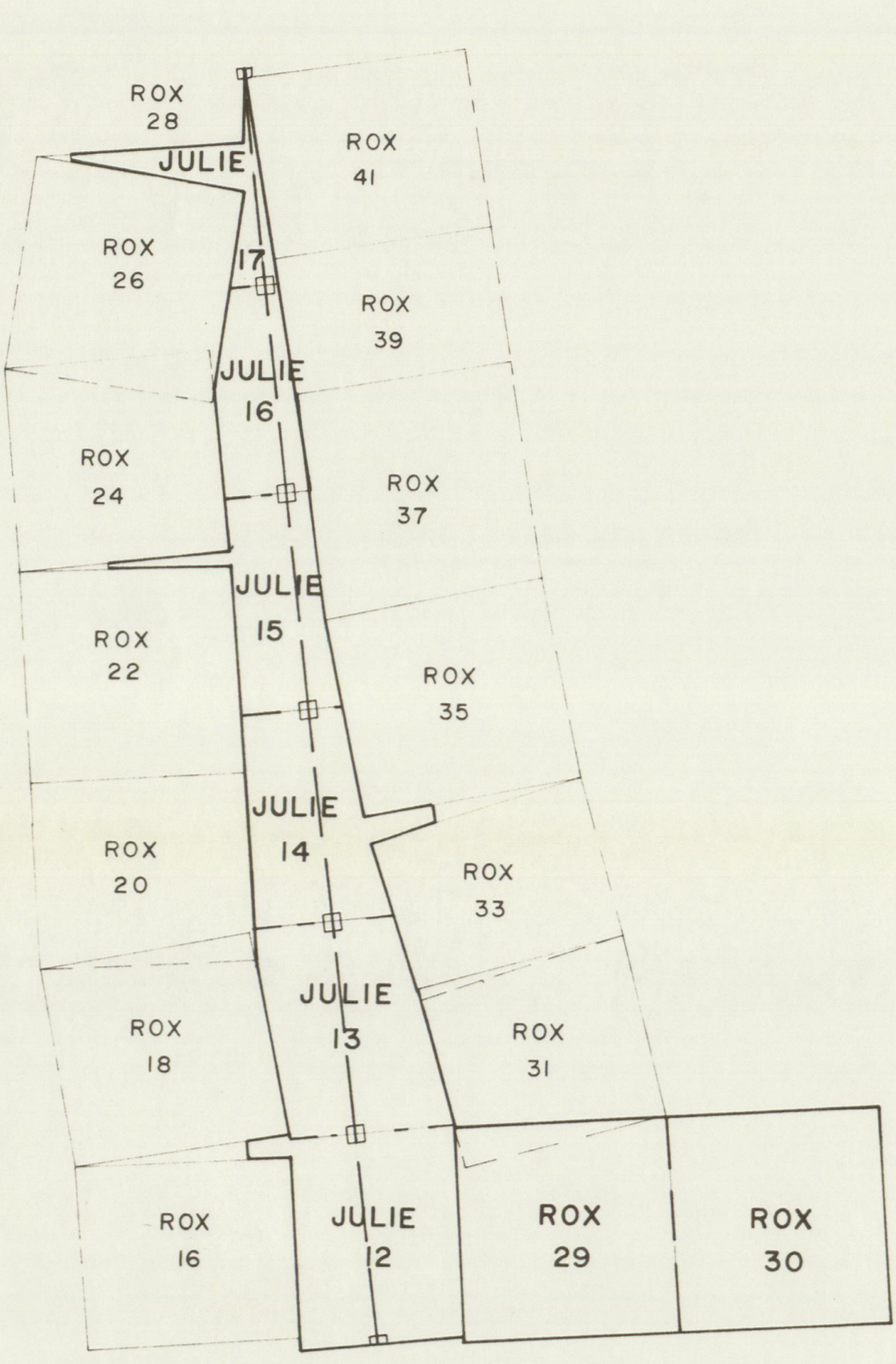
Consulting fees	$ 184.00
Charter flying	2,376.00
Salaries	912.00
Fuel	296.00
Truck rental and gasoline	80.00
Incidental expenses	160.00
Report and drafting	400.00
Total expended:	$4,408.00



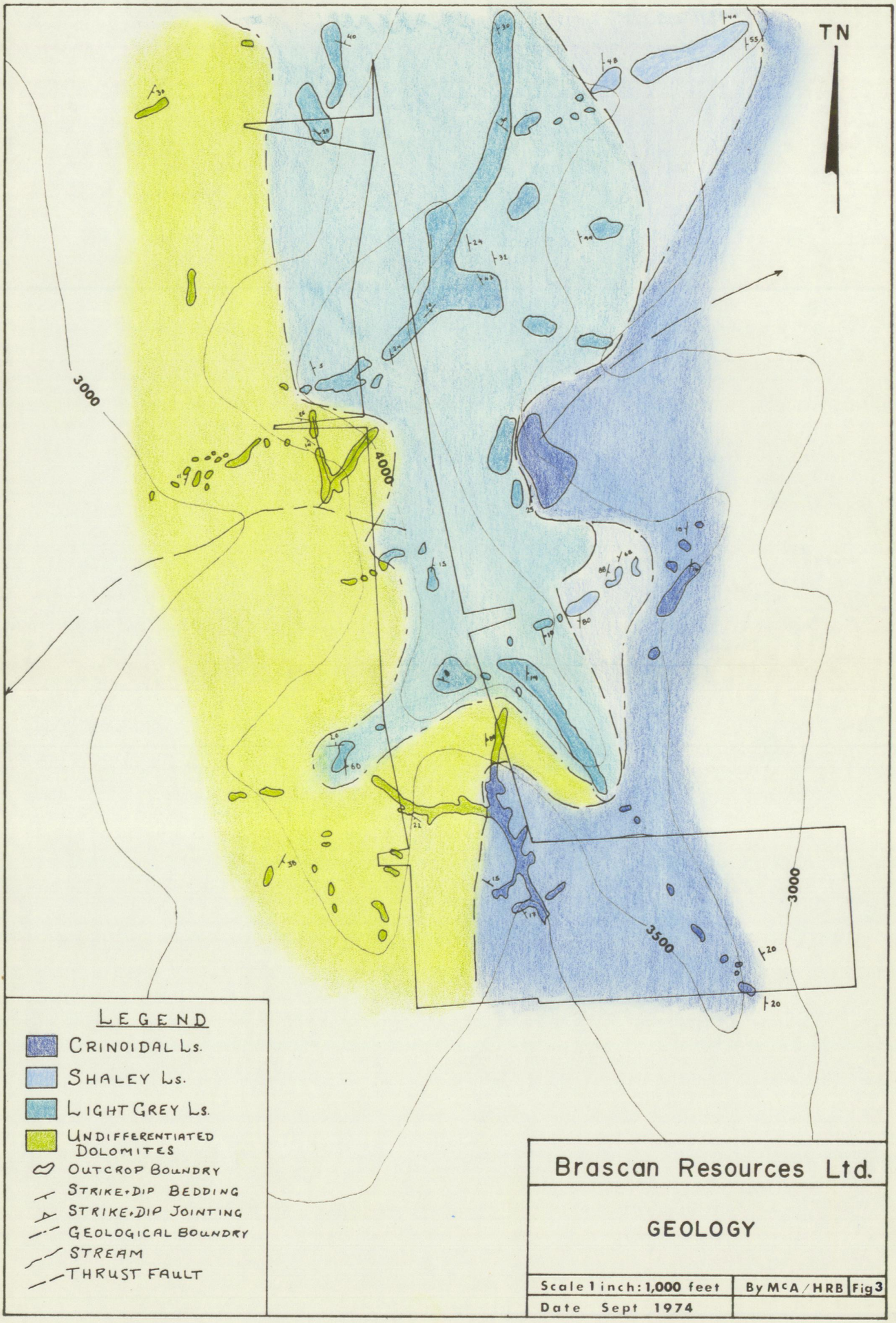
Brascan Resources Ltd.

CLAIMS LOCATION MAP

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



Brascan Resources Ltd.		
CLAIM SURVEY		
Scale 1 inch: 1,000 feet	By HRB	Fig 2
Date Sept 1974		


TN
3000
4000
3500
3000
LEGEND
CRINOIDAL Ls.
SHALEY Ls.
LIGHT GREY Ls.
UNDIFFERENTIATED DOLOMITES
OUTCROP BOUNDRY
STRIKE+DIP BEDDING
STRIKE+DIP JOINTING
GEOLOGICAL BOUNDRY
STREAM
THRUST FAULT
Brascan Resources Ltd.
GEOLOGY
Scale 1 inch: 1,000 feet
By McA/HRB
Fig 3
Date Sept 1974