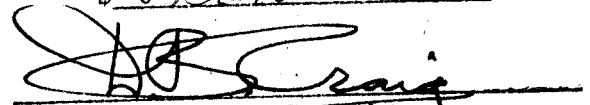


This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of

\$ 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

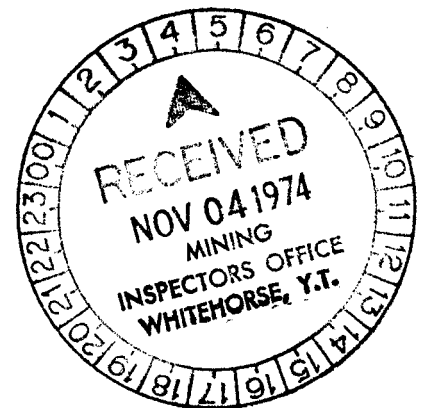
ROX 43-53 (inclusive), 32-40 (even) Mineral Claims

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

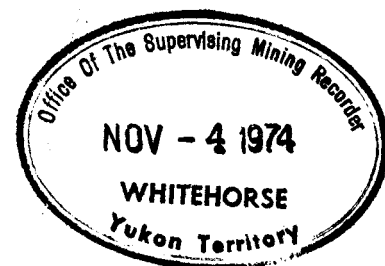


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- Fig. 1 Claims Location Map
- Fig. 2 Claim Group (Dept. of Mines Sheet 116-J-5)
- Fig. 3 Claim Survey
- Fig. 4 Geology

Introduction and Summary

The Rox 43-53 (inclusive), 32-40 (even) 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 Rox 43-53 (inclusive), 32-40 (even) 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 with the following record numbers:

<u>Claim</u>	<u>Record Number</u>	<u>Date Recorded</u>
Rox 43	Y82002	September 18/73
Rox 44	03	September 18/73
Rox 45	04	September 18/73
Rox 46	05	September 18/73
Rox 47	06	September 18/73
Rox 48	07	September 18/73
Rox 49	08	September 18/73
Rox 50	09	September 18/73
Rox 51	10	September 18/73
Rox 52	11	September 18/73
Rox 53	12	September 18/73
Rox 32	Y81991	September 18/73
Rox 34	93	September 18/73
Rox 36	95	September 18/73
Rox 38	97	September 18/73
Rox 40	99	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 Rox 43-53 (inclusive), 32-40 (even) 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

There is very little outcrop on the claims and most of the geological information was gathered by traversing talus slopes.

The predominant rock type is crinoidal limestone and accounts for about 90 percent of the claims area. A southwest striking reverse thrust is located on the northwestern portion of the claims. An almost horizontal feature in places, the thrust carries the crinoidal limestones beneath dolomites (a reversal of the normal sequence).

Apart from the reverse thrusting the formations seem to be undisturbed and are in the following sequence: the crinoidal limestone at the top of the section underlain by "shaley" limestones which are in turn underlain by aphanitic gray limestones. At the bottom of the section are the undifferentiated beds of dolomites which host the sulphide mineralization.

Bedding on the claim group strikes about N10°W and dips between 20° and 30° east. The attitude of the bedding is controlled by block thrusting in which the eastern plate (underlying the claims) is being forced over a second plate lying to the west. The zone of movement is characterised by a topographic low about 3,000' to the west of the western edge of the claims.

To the east of the claims the dip of the bedding appears to become more shallow. The valley lying between the Fishing Branch River and the claims is a topographical feature probably controlled by a shallow syncline in the underlying Devonian-Cretaceous rocks.

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

Several sphalerite-pyrite-smithsonite showings occur within 1,000 feet of the western borders of the claims and the mineralized dolomite host rock dips beneath the claim block. Until the commercial viability of the mineralization on Brascan's claims to the west of the group has been proven or disproven the group should be retained by Brascan Resources.

It is recommended that assessment work on the Rox 32-40 (even); 43-53 inclusive claims be filed with the Mining Recorder in Dawson City and that Brascan Resources Limited hold these claims.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "H.R. Bullis", with a horizontal line underneath the name.

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', 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.

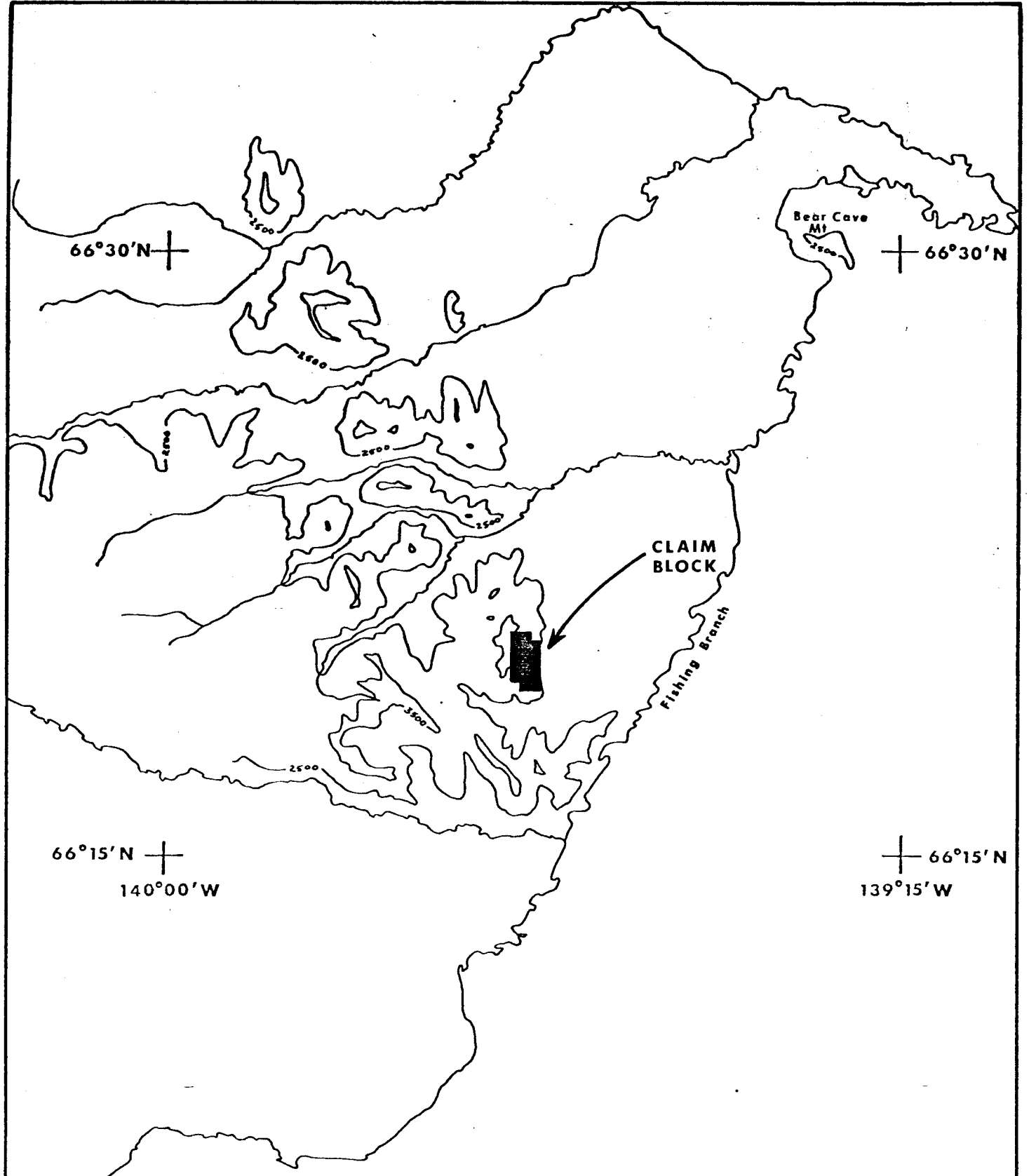
Personnel involved in work on the claim group are as follows:

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



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



40	53	
Y81999	Y82012	
38	51	52
Y81997	Y82010	Y82011
36	49	50
ROX		
Y81995	Y82008	Y82009
34	47	48
Y81993	Y82006	Y82007
32	45	46
Y81991	Y82004	Y82005
	43	44
	Y82002	Y82003

Brascan Resources Ltd.

CLAIM GROUP

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

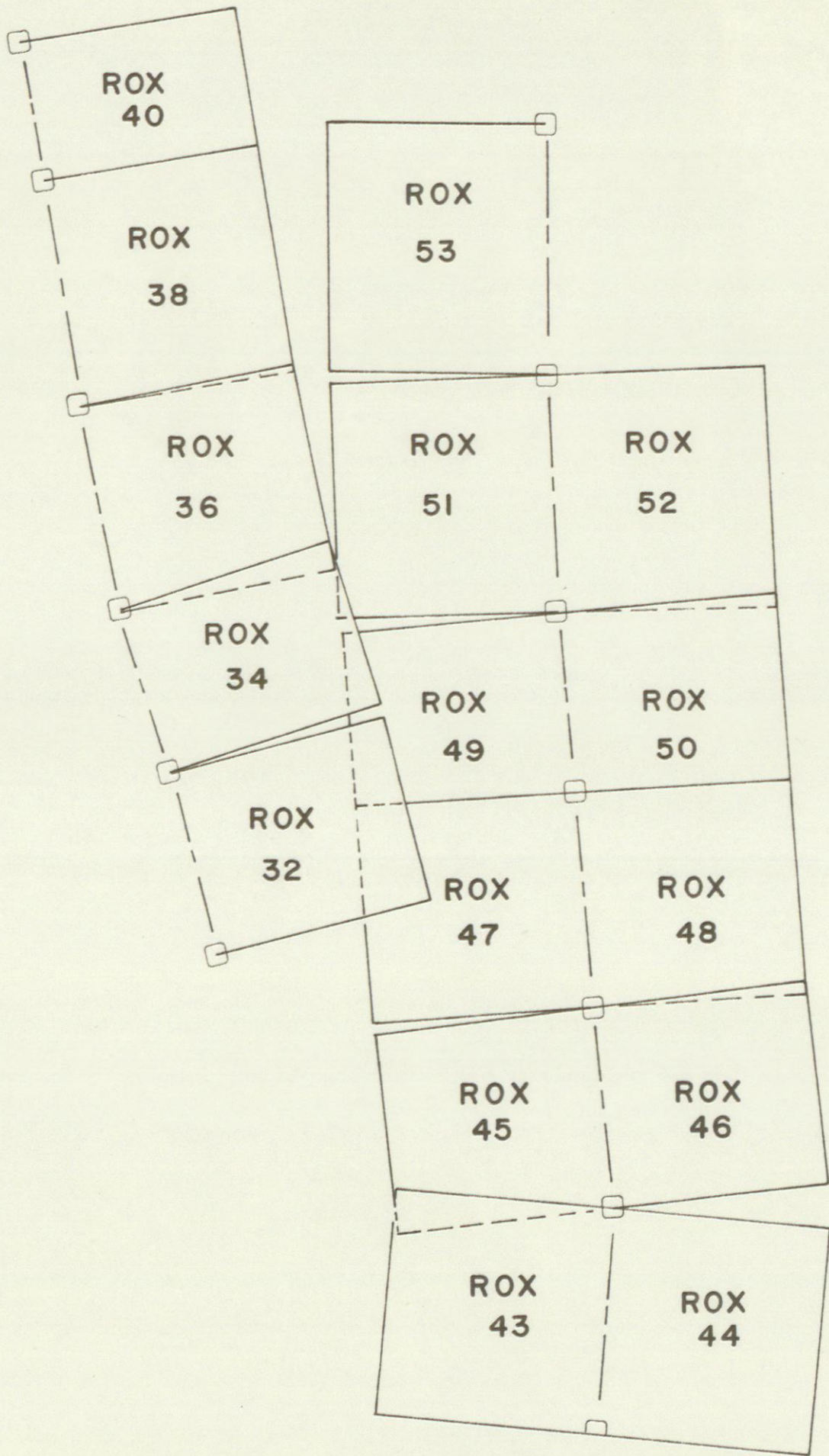
Scale 1 inch: 1/2 mile

By M^CA

Date Sept 1974

Fig. 2

TN



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

