

GEOLOGICAL REPORT ON THE

BJ, NY and TEE Claim Groups

UPPER KETZA RIVER

YUKON TERRITORY

By:

H. Squair B.A.

July 27, 1962

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**MAP IN POCKET:** Geological map of BJ, NY and TEE Claim Groups

Scale 1 inch = 500 feet.

## REPORT ON THE BJ, NY AND TEE CLAIMS

## UPPER KETZA RIVER

By: H. Squair

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## PROPERTY:

The BJ, NY and TEE Groups consist of a total of 64 mineral claims which cover some 300 acres on the Upper Ketza River.

## LOCATION AND ACCESS:

The claims are situated at an average elevation of 5,000 ft. on the north side of Cache Creek, a tributary of the Ketza River. (Lat.  $61^{\circ} 34'$  N. Long.  $132^{\circ} 15'$  W.)

The BJ and NY groups cover a prominent east-west trending ridge and its adjoining valley to the north. The TEE group trends north-south across the strike of the strata. The groups are accessible by 34 miles of road from the Canal Road to the Conwest Camp on the Ketza River and hence by bush trail to the claims. The access road can be travelled by jeep.

## OWNERSHIP AND PREVIOUS HISTORY:

The BJ group is a restaking of all but five claims of the original NY group, staked in 1961 to cover an area of apparently favorable geology as reported by the Geological Survey. The present NY and BJ claims are owned jointly and equally by W. R. Sheeky of New York and Giant Yellowknife Mines Limited.

The TEE group was owned by G. Dickson of Whitehorse but has probably lapsed. No trenching, stripping or drilling has been done on any of the groups.

## WORK PERFORMED:

The geological mapping for this report was done by J. A. Apps and H. Squair between July 18th and 24th, 1962. All outcrops on the claims were visited and tied in with respect to claim lines and topographic contours, by the pace and compass method. Twenty samples taken from quartz veins were sent to the Giant Assay Office for analysis. The assay results are given in the Appendix to this report.

## GENERAL GEOLOGY:

Lithology and Structure:

The claims are underlain by limestone, phyllite, ashrock and tuff of Cambrian age. The rocks have been folded to a series of anticlines and synclines whose axial planes trend N50W. Subsequent

faulting and erosion has complicated the structural picture so that the accompanying map looks incomplete out of its regional setting.

Argillaceous and rhyolitic ash and tuff appear to be the lowest rocks in the structural sequence. The ashrocks weather grey to brown and are generally fine-grained. Quartz, 15% white feldspar, clay minerals and minor pyrite are visible in most hand specimens. The rocks have a sigmoidal foliation pattern, which allows them to break along sinuous rather than relatively straight surfaces. The foliation helps to distinguish the ashrocks from dark phyllites.

The ashrock contains bands of rhyolite tuff which weather light grey to white. The tuffs are aphanitic to fine-grained and outcrops in bands up to 15 ft. thick.

The tuffs have been replaced by up to 2% pyrite on the BJ group. The replaced bands are 5 - 6 ft. thick and are exposed for 200 - 300 ft. in strike. No economic sulphides were noted in the bands.

Black shale and limestones underlie most of BJ 21 and TEE 14. The shale weathers dark grey to black and is aphanitic in hand specimen. A grey impure limestone is interbedded and makes up 10% of the exposure. The carbonates have been folded to S and Z drag folds at the margins of faults, but no alteration to skarn is evident.

Red and grey phyllites are exposed in the central and southern part of the claims. The rocks have a marked foliation which has almost obliterated the bedding. No secondary alteration such as feldspathization or chloritization has occurred in the phyllites but they are the host of quartz and quartz carbonate veins.

Grey and buff limestones form a capping for the phyllites and ashrock. The carbonates weather grey to buff and appear relatively pure compared to those within the phyllites. Several minor quartz veins occur in the limestone but no skarn has formed.

The anticlines and synclines on the sheet are of the flexure type with low dips on the limbs. The anticlines on the NY group have been truncated by faulting and could not be traced onto the TEE group. The minor folds on the limbs of this anticline are due to slump and not to the initial deformation.

The anticline at the south end of the TEE group is part of a major structure that cuts across the PENGUIN group to the east. The structure plunges 25° NW. Both limbs have been bent through an angle of 35° to form a rather tight fold. The anticline is disharmonic for it dies out on the TEE claims to the northwest.

The major fault that trends northwest across the claims is a rather high angle thrust. The volcanics and sediments on the northeast have moved upward relative to those on the southwest. The relative movement has not been large but enough to produce a discordance of strike and dip of sediments across the break. The phyllites and limestones in the fault zone have been folded to very tight drag folds.

On TEE 16 a small vertical normal fault trends N50E. The beds on the northwest side of the fault have moved down relative to those on the southeast side. This structure probably formed after the thrust due to release of pressure.

#### MINERALIZATION:

Chalcopyrite occurs as fracture filling and replacement of quartz veins on the TEE group. The veins average 20 ft. in length and are generally less than 2 ft. wide. Samples 3807 taken from a vein on TEE 3 shows that .02% copper and a trace of gold are present. Samples 3809 and 3810 from similar veins show only a trace of copper.

Numerous other small veins of quartz and quartz carbonate on BJ 27 and NY 26 and 28 contain no sulphides. Assays indicate that only traces of gold and silver are present in the veins. The tuff bands on BJ 26 contain the only iron sulphide mineralization. No economic sulphides were noted in the gossans, and no samples were taken for assay.

Massive sulphide veins and replacement bodies do not outcrop on the claims but several pieces of pyrrhotite float were noted on BJ 9. The float probably came from up the slope on the NY claims.

#### CONCLUSIONS:

Economic mineralization is confined to minor quartz veins on the claims. Assays show that the amounts of copper, gold and silver present are almost negligible. It is therefore concluded that the properties are of little economic value at present.

#### RECOMMENDATIONS:

The claims were staked to cover a thick band of quartzite shown on the Geological Survey of Canada map number 7-1960. It was thought that such a competent quartzite may be the host of lead, silver veins. Since no quartzite is exposed on the groups and existing mineralization is insignificant it is difficult to outline the course of further exploration work. However, a detailed structural map of the Ketz River area may indicate new targets on which to base more exploration work.

Respectfully submitted by:

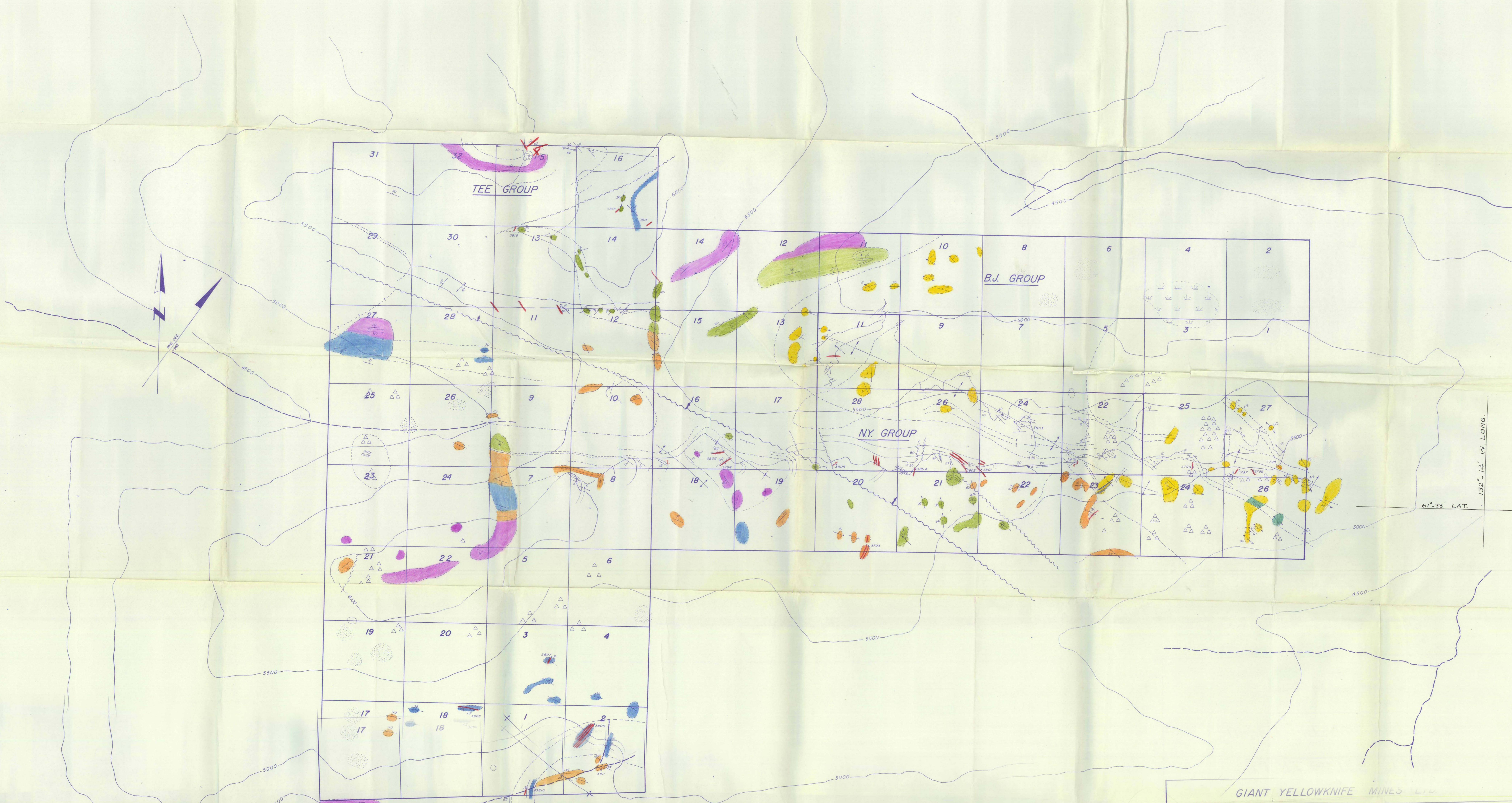
*Hugh Squair*

H. Squair, B.A.  
1962

## APPENDIX:

## Assay Results Ketza River Sheet

Trench or Show.	No.	Assays					Mineralization	Width	Host Rock
		Cu	Au	Ag	Pb	Zn			
NY CLAIM GROUP									
NY 26	3792	Tr	Nil	-	-	-	Qtz. Carb.	50x1'	Phyllite
NY 28	3805	-	Tr	-	-	-	New Qtz.		
NY 26	3804	-	Tr	-	-	-	Vein Qtz.		
NY 26	3802	-	Tr	-	-	-	Vein Qtz.	5'6"	
NY 24	3803	-	Tr	-	-	-	Vein Qtz.		
NY 24	3801	-	Tr	-	-	-	Vein Qtz.		
BJ CLAIM GROUP									
BJ 16	3794	-	Nil	-	-	-	Vein Qtz.	10 x 1'	Limestone
	3806	-	Tr	-	-	-	Vein Qtz.		Limestone
BJ 25	3795	-	Nil	-	-	-	Vein Qtz.		Vol. Ash
BJ 27	3796	-	Nil	-	-	-	Vein Qtz.		Vol. Ash
BJ 27	3797	-	Nil	-	-	-	Vein Qtz.	6 x 1'	Vol. Ash
BJ 27	3798	-	Tr	-	-	-	Vein Qtz.		Vol. Ash
BJ 20	3793	-	Nil	-	-	-	Vein Qtz.		Limestone
TEE CLAIM GROUP									
TEE 13	3807	.02	Tr	-	-	-	Vein Qtz.	1 x 20'	Limestone
TEE 18	3808	Tr	Tr	-	-	-	Vein Qtz.		Limestone
TEE 2	3809	Tr	Tr	-	-	-	Vein Qtz.	15 x 50'	Limestone
TEE 2	3811	Tr	Tr	-	-	-	Vein Qtz.	2 x 50'	Phyllite
TEE 13	3816	-	Tr	-	-	-	Vein Qtz.	12 x 6"	
TEE 16	3815	-	Tr	-	-	-	Vein Qtz.		Phyllite
	3817	-	Tr	-	-	-	Vein Qtz. Carb.	50 x 2'	



61° 33' LAT.  
132° 14' W. LONG.

GIANT YELLOWKNIFE MINES LTD.

**LEGEND**

- |  |                      |  |                           |  |                       |
|--|----------------------|--|---------------------------|--|-----------------------|
|  | OUTCROP              |  | BUFF LIMESTONE            |  | THRUST FAULT          |
|  | FROST HEAVED OUTCROP |  | GREY "                    |  | NORMAL FAULT          |
|  | CONTACT (INFERRED)   |  | GREY & RED PHYLLITE       |  | BEDDING               |
|  | CONTACT (OBSERVED)   |  | BLACK SHALE & LIMESTONE   |  | FOLIATION             |
|  | 5500 CONTOUR         |  | ARGILLACEOUS ASH          |  | LINEATION             |
|  | ANTICLINE            |  | RHYOLITIC ASH & TUFF      |  | CLEAVAGE & JOINTING   |
|  | SYNCLINE             |  | QUARTZ & QTZ. CARB. VEINS |  | MUSKEG                |
|  | STREAM OR CREEK      |  | APLITE DIKES & SILLS      |  | BOULDERS & OVERBURDEN |

**GEOLOGICAL MAP**  
**B.J., N.Y., AND TEE CLAIMS**  
**UPPER KETZA RIVER -Y.T.**

