

ASSESSMENT REPORT ON THE TOM GROUP  
OF MINERAL CLAIMS, KETZA RIVER Y.T.

LOCATION AND ACCESSABILITY: The Tom group of mineral claims, 1 to 16, are located on the west side of the Ketza River valley some 12 miles upstream from where the Ketza River flows into the Pelly valley on the Quiet Lake sheet of the National Topographic Series. The actual group partially covers one of the highest mountain peaks (7400' E1) in the area with an estimated location of latitude  $61^{\circ} 34'$  and longitude  $132^{\circ} 17'$ .

The property may be reached by charter service from Whitehorse to Bruce Lake in the Pelly River valley 4 miles south west of the Hoole Canyon and following the Con West trail to the second west fork of the Ketza. The second route is by charter service from Whitehorse to a small lake lying between the McConnel River and Seagull Creek some 10 miles above the junction of these two streams. A poorly marked trail some 4 miles north of this lake turns east from the McConnel and follows over a divide into the second west fork of the Ketza River. Both trails are about 25 miles long with the latter being 30 air miles shorter in distance from Whitehorse.

PHYSICAL FEATURES: The claim group is almost completely above timber line and flanks the south slope and covers the north peak and west slope of the mountain on which the major discovery lies. The slopes are quite steep particularly on the west side of the mountain. Relief difference on the group amounts to about 1500 feet.

STATUS OF THE CLAIM GROUP: The claim group was optioned by Northern Mountains Prospecting Syndicate following the discovery of showing T-1 on the saddle of the highest mountain which the claims partially or completely cover. At the time of discovery M.C.'s Neil 1 to 5 were staked, followed later by M.C.'s Neil 6 and 7 to the west. A detailed survey of the exact locations of the claims at that time was impossible due to lack of necessary equipment, however a transit survey will be conducted during the 1956 field season. For this reason all assessment work is being applied on the Tom group.

DESCRIPTION OF WORK DONE:

Trail Cutting - (refer sketch 3) a total of 2 miles taking 2 man days.

Trenching - (refer sketch 2) showing T-1 a total of 27 cubic yards of in place rock, using pick and shovel.

Showing T-3 (refer sketch 3) a total of 9 cubic yards of in place rock using pick and shovel.

Showing T-4 (refer sketch 3) a total of 12 cubic yards of in place rock using pick and shovel.

GENERAL GEOLOGY: The group is underlain by a sedimentary rock sequence of unknown age. By correlation with the geology of the Canol road, the writer assumes the sequence to be of the Palaeozoic age.

The formations are all flat dipping except near supposed fault zones in which case the formation is crenulated and dragged. All contacts of the difference sequences appear to be conformable although few good exposures of these contacts exist. Attitudes of the upper Dolomite and of the Quartzite could not be taken.

The sequence is as follows:

Rustic Dolomite 60 feet plus (eroded surface)

Quartzite 80 feet

Buff Argillite 1400 feet

White Dolomite 80 feet

Grey Argillite, bottom member and of unknown thickness

Rustic Dolomite: Fine grained and grey on fresh fractures, weathering to a rust colour on exposed surfaces. Highly silicified in many localities with what appears to be numerous small quartz veinlets.

Quartzite: Extremely fine grained to the point of being almost chalcedenous. As in the case of dolomite, in certain localities the quartzite is further silicified by small quartz veinlets. Pyrite occurs in minor amounts throughout the quartzite with concentrations sufficiently heavy in places to stain the usually grey weathered surface a bright orange.

Argillite: By far the most abundant rock type, in area as well as thickness. Varies considerably in texture and colour over the whole group but generally is buff coloured with slaty cleavage. Near areas of known mineralization, the argillite has a dark purple colour probably due to hydrothermal alteration. In the general prospecting work the term manganese stain has been applied to this coloration, although colorations may be due to some entirely different element.

In the Argillite, near the upper contact of the white dolomite, small blebs of sulphide mineralization are found. These comprise of usually pyrite and pyrrhotite, although occasionally small amounts of chalcopryite have been noticed.

White Dolomite: Generally fine grained and massive light grey in colour. In the upper horizons some silicification has

been noticed as well as some scattered sulphides.

Grey Argillite: Uniform texture and colour throughout in the few exposures on the north side of Strike Creek. Large pieces of pyrrhotite float were found in one locality in Strike Creek and are thought to be contained in this formation.

STRUCTURAL FEATURES: The most obvious structural feature of the group is a parallel fault system striking north and slightly west throughout the property. The main showing T-1 lies on the hanging wall of what is thought to be the largest fault in this system. Parallel systems were assumed in other localities on the property due to presence of scarp lines and drag folding of the Argillite float about these scarps. Mineralized argillite is always present to a certain extent around these scarps with showing T-1 being the most obvious.

The fault along T-1 passes between the twin peaks of the highest prominence on the property. A vertical displacement of 60 feet was measured, and the fault line could be traced for some  $\frac{1}{2}$  mile to the north with considerable crenulation and drag folding of the argillite along this line.

MINERAL OCCURRENCES: Three distinct types of mineralization were encountered and are in the order of importance as follows:

- (1) Argentiferous Galena
- (2) Argentiferous and Auriferous Tetrahedrite
- (3) Chalcopyrite carrying low silver values

Note - Location of showings T-1 to T-7 are found on sketch #1. Geology and trenching plan of showing T-1 is found on sketch #2.

T-1 - The zone of mineralization extended over a width of 30 feet and was visible on the surface for a length of 90 feet before disappearing beneath deep talus and unconsolidated material at either end where the saddle steepens off to a steep slope. Striping and trenching uncovered massive galena lenses up to 6 inches in width over  $1\frac{1}{2}$  feet (60.5% lead, 36.6 oz. silver) within a zone of disseminated galena mineralizations over 13 feet, assaying over 13 feet 18% lead and 9 oz. silver. Vein material was composed of galena, siderite, manganese oxide and pyrite. Galena content varied considerably and narrowed to an inch width in trench #4. To the north, the vein material struck off into deep talus and no idea of the dimensions could be made.

Mineralization occurs in the shattered zone of dolomite along the hanging wall of normal fault striking N 20° W and dipping to the east at 75°. Vertical displacement is in the order of 60'. The zone is bordered on the east by a highly silicified dolomite and on the west by a grey quartzite. The dolomite overlies the quartzite and the quartzite is in turn underlain by the buff argillite. The discovery is about 60' above contact separating the quartzite from the gently dipping argillite.

T-2 - Disseminated galena was found in argillite highly stained with manganese oxide. This occurrence may be of importance since it occurs just where the argillite becomes buried by talus in the assumed fault zone. Further investigation was not possible due to heavy talus.

The north slope of the assumed fault zone was covered by ice and snow near the top and deep talus further down. In the argillite horizons there was considerable evidence of drag folding with no definite orientation.

T-3 - Quartz vein material containing tetrahedrite. Test pitting turned up considerable vein material up to a maximum width of 6", but no vein could be found in place. A select sample assayed 7.8% copper, .44 oz. gold 45.45 oz silver.

T-4 - Quartz vein 18" wide 30' long carrying chalcopryite along an Argillite dolomite contact. Select sample assayed 17% copper and 5 oz. silver.

T-5 - Similar to T-4 except lying completely in shale, not assayed.

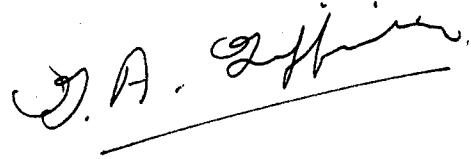
T-6 - Quartz vein material containing tetrahedrite and chalcopryite, not assayed.

T-7 - Quartz vein 4.5' wide by 300' long carrying chalcopryite. Chip sample across best grade and width of 4.5' assayed 3.2% copper and 0.3 oz of silver.

CONCLUSIONS AND RECOMMENDATIONS: With the evidence of considerable mineralization and a strong fault zone at a showing T-1 there is a possibility of considerable deposition, at least in quartzite and possibly in the argillite. Since the argillite would comprise most of the country rock for deposition, further work is recommended in the form of an exploration adit 100' below the saddle from the south hanging wall in order to intersect the fault zone. Further trenching would be expensive and by no means conclusive. Diamond drilling would be difficult, if not impossible, due to location and blocky nature of the country rock. The two hundred feet of necessary development work could be done at the cost of \$120.00 per foot.

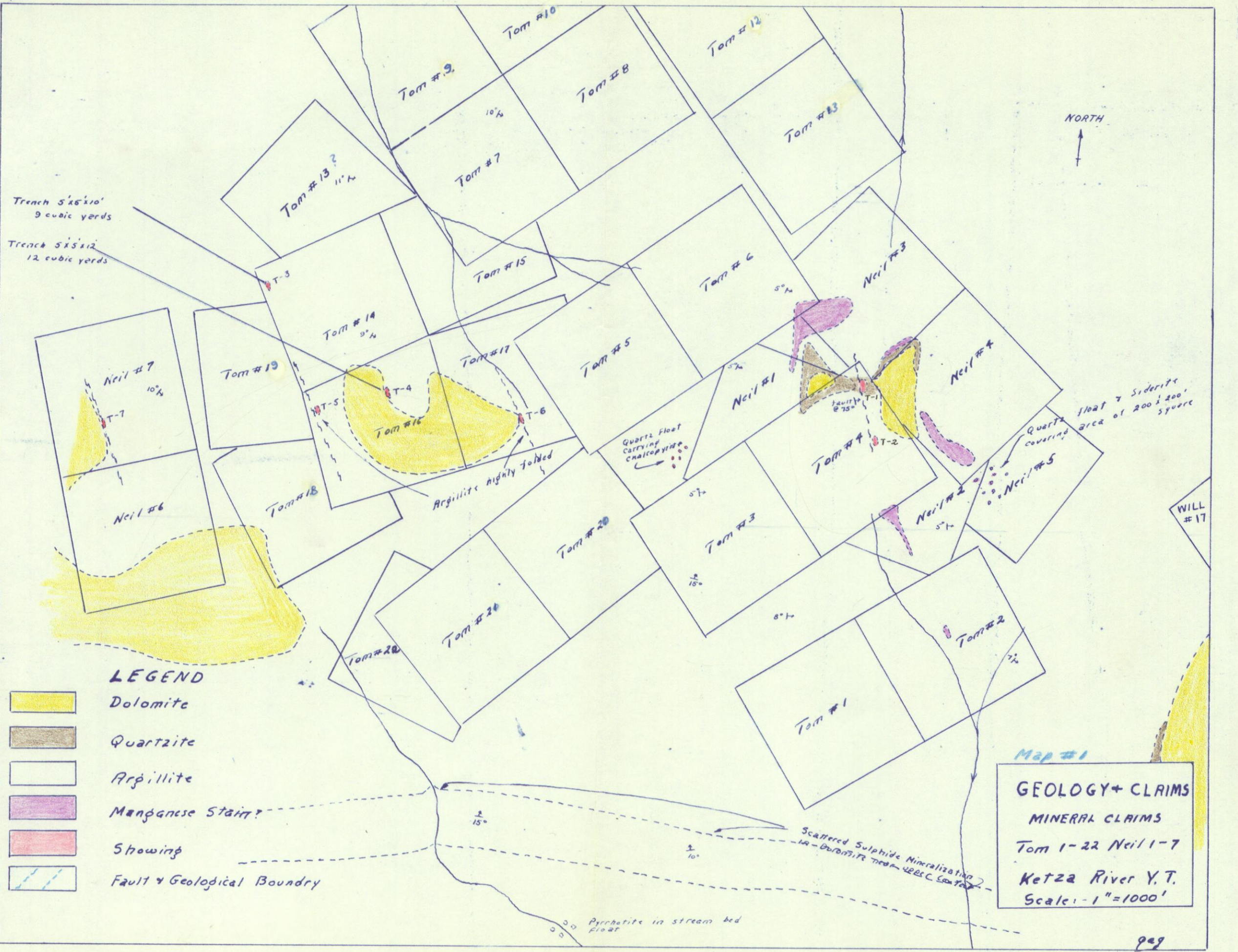
In the case of showings T-3 to T-7 the showings are all too small and sporadic to be of economic significance. The only showing of interest is T-1.

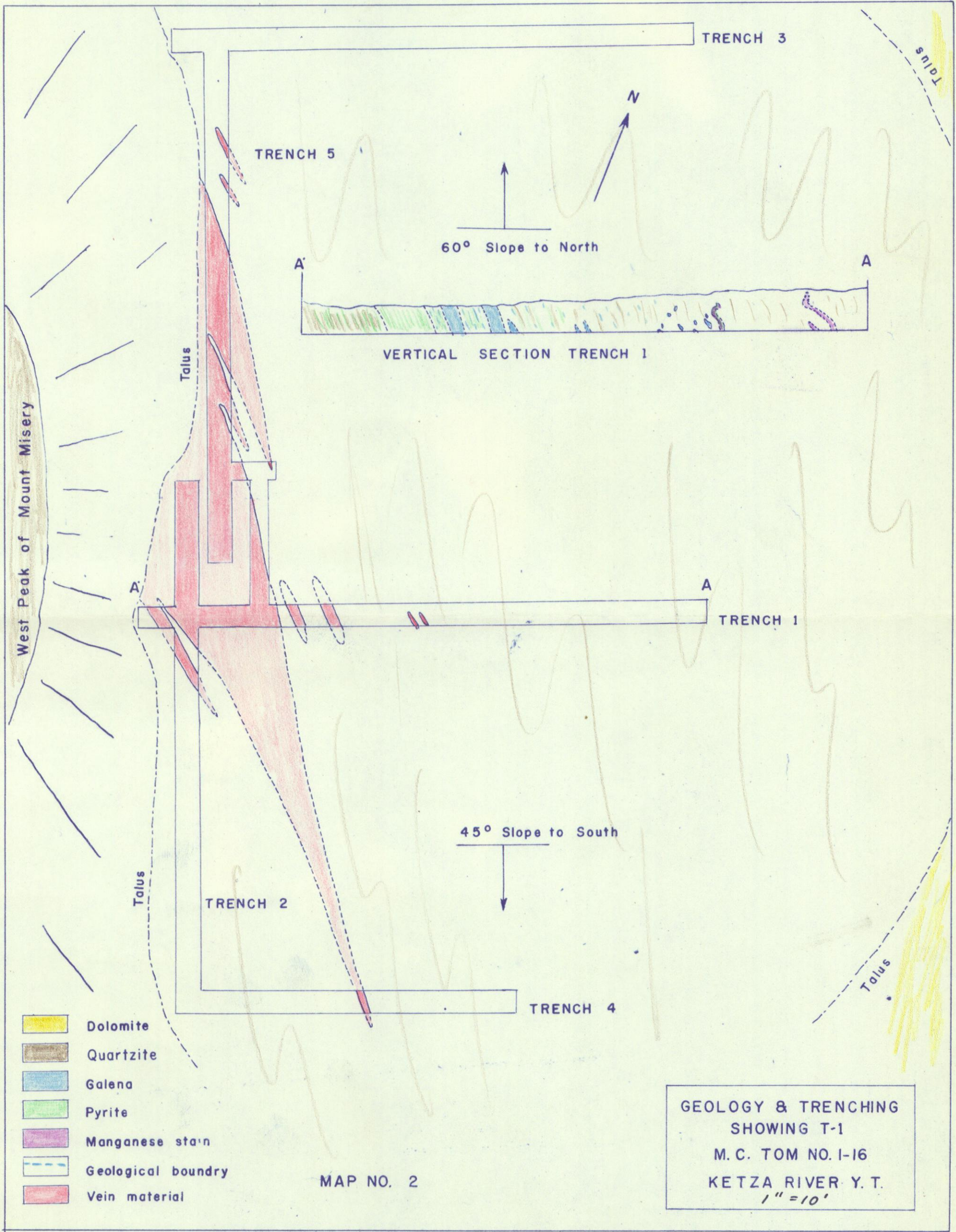
Signed



G. A. Griffiths, P.Eng.







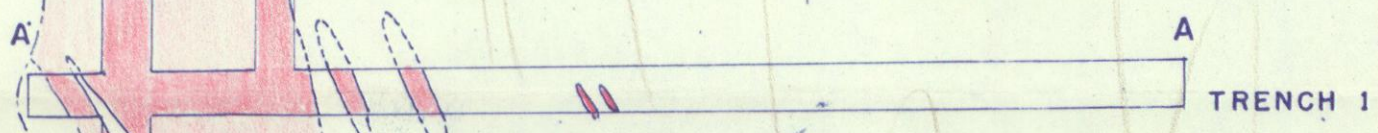
TRENCH 3

TRENCH 5

60° Slope to North

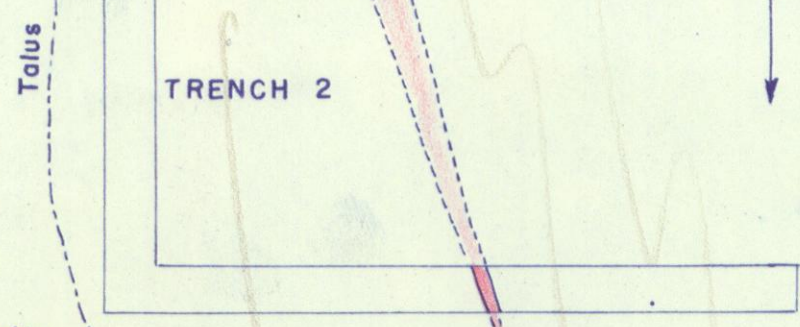


VERTICAL SECTION TRENCH 1



TRENCH 1

45° Slope to South



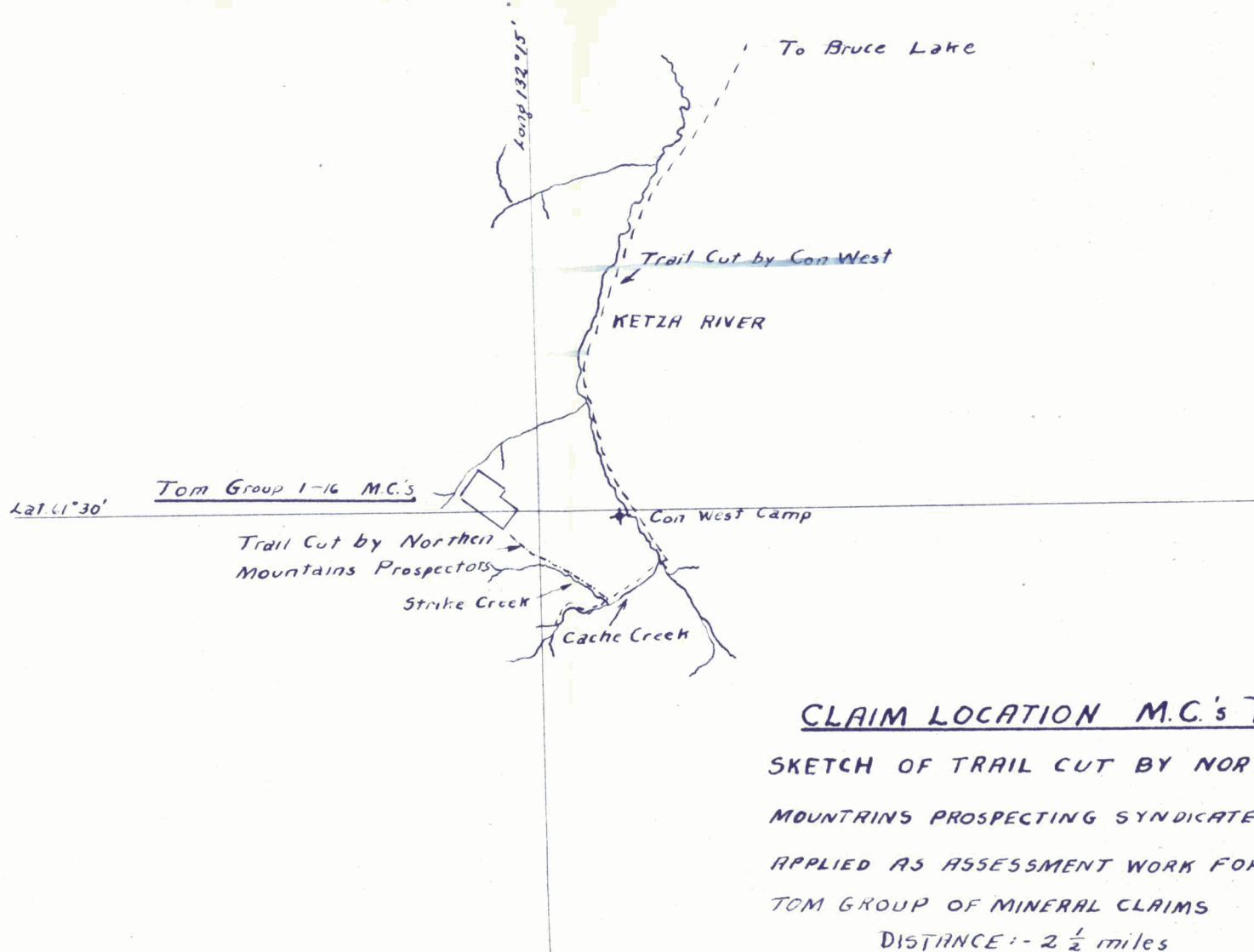
TRENCH 2

TRENCH 4

- Dolomite
- Quartzite
- Galena
- Pyrite
- Manganese stain
- Geological boundary
- Vein material

MAP NO. 2

GEOLOGY & TRENCHING  
 SHOWING T-1  
 M. C. TOM NO. 1-16  
 KETZA RIVER Y. T.  
 1" = 10'



CLAIM LOCATION M.C.'s TOM 1-16

SKETCH OF TRAIL CUT BY NORTHERN  
MOUNTAINS PROSPECTING SYNDICATE TO BE  
APPLIED AS ASSESSMENT WORK FOR THE  
TOM GROUP OF MINERAL CLAIMS

DISTANCE: - 2  $\frac{1}{2}$  miles

Scale: - 1" = 4 miles

KETZIA RIVER Y.T.

SKETCH #3