

ASSESSMENT REPORT  
GEOLOGICAL AND GEOCHEMICAL SURVEY  
TUT CLAIMS 1, 2, 3, 4  
ATLIN MINING DIVISION  
TATSAMENIE LAKE AREA, B.C.

N.T.S. 104 K/1, 8

132° 26' W

58° 16' N

OWNER: CHEVRON CANADA LTD.  
OPERATOR: CHEVRON STANDARD LTD.

AUTHOR:  
KEN SHANNON

10,159

FEBRUARY, 1982

## INTRODUCTION

### Location and Access

The TUT claims are situated at  $132^{\circ} 26'$  W and  $58^{\circ} 16'$  N, approximately 3 km south of the south end of Tatsamenie Lake (Fig. 1). Access to the property was provided by helicopter from a base camp at Trapper Lake, 26 km to the northwest. Float-plane access to Tatsamenie Lake is available from Dease Lake, 140 km to the east and Atlin, 160 km to the northwest. Work on the claim for summer 1981 involved preliminary geochemical sampling and mapping.

### HISTORY

The property was staked on the basis of anomalous soil and silt samples taken during July 1980, in the cirque on the southeast side of the claims. No known workings are in the vicinity and the claims are on previously unstaked ground. The property is owned by Chevron Canada Ltd., with Chevron Standard Ltd. acting as the operator.

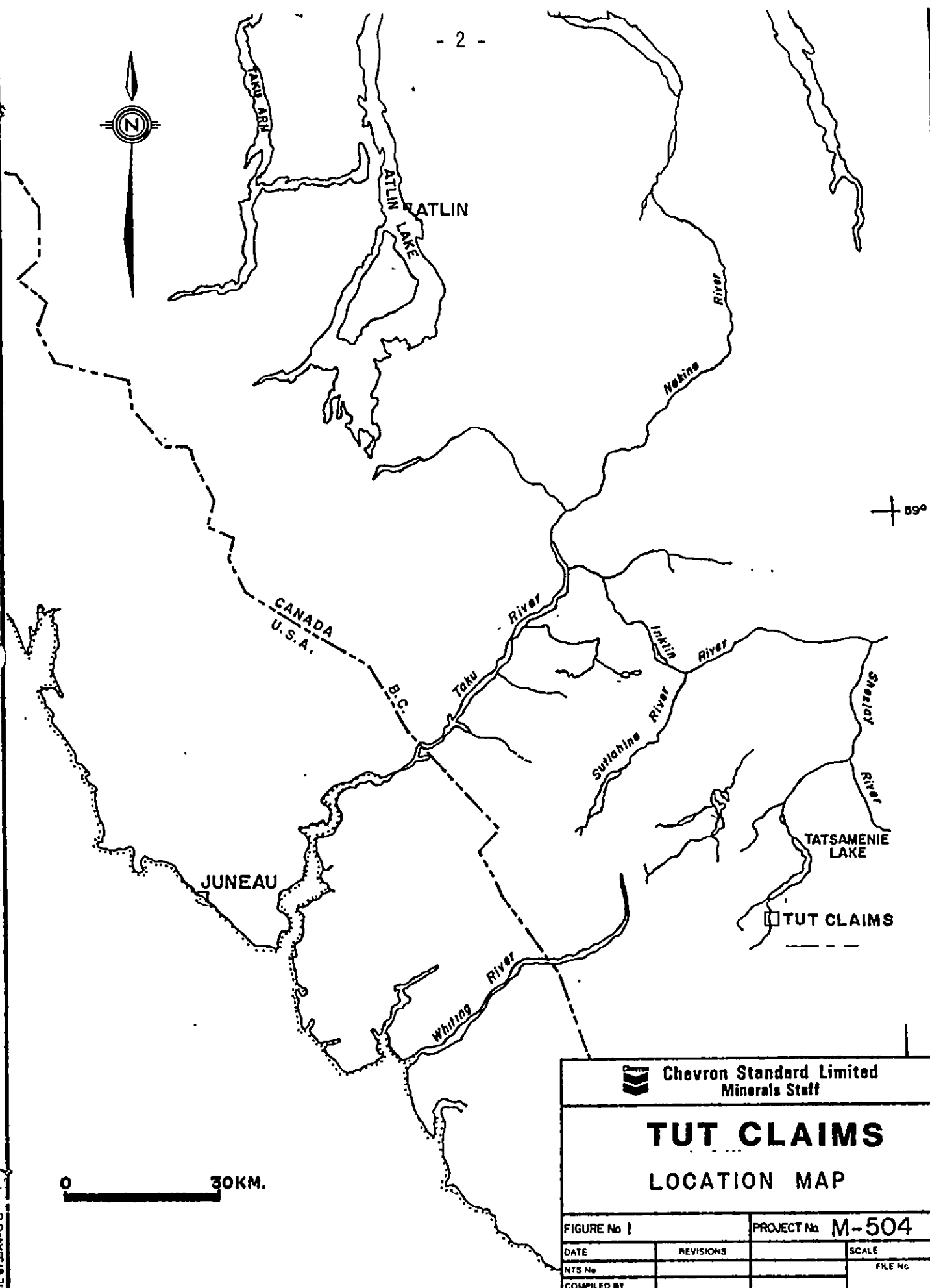
### CLAIMS

The property comprises the following claims (Fig. 2):

<u>Claim</u>	<u>Record No.</u>	<u>No. of Units</u>
TUT 1	1292	20
TUT 2	1293	20
TUT 3	1294	20
TUT 4	1295	20



+ 89°



0 30KM.



**Chevron Standard Limited  
Minerals Staff**

# TUT CLAIMS

## LOCATION MAP

FIGURE No 1		PROJECT No M-504	
DATE	REVISIONS	SCALE	
NTS No		FILE No	
COMPILED BY			

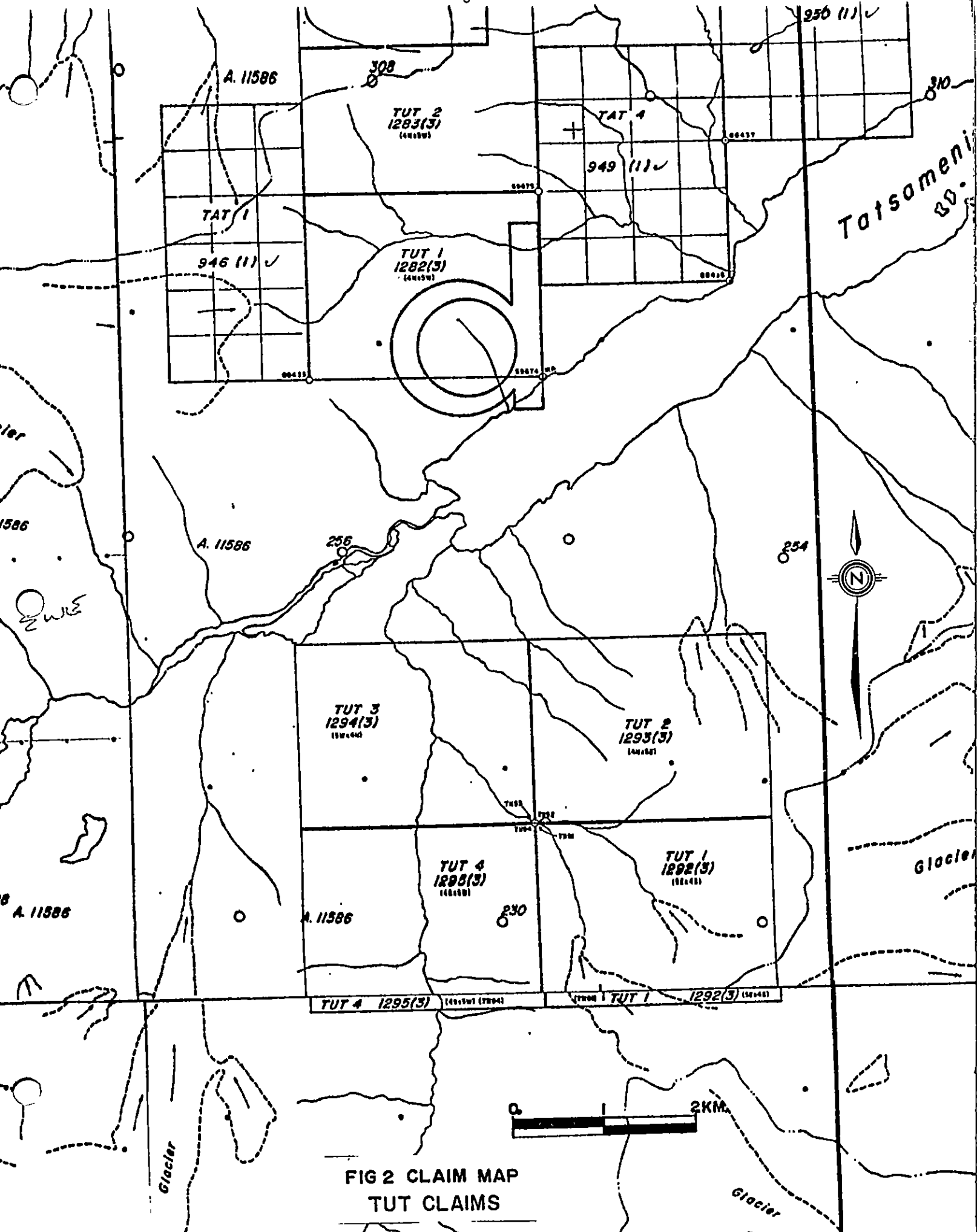


FIG 2 CLAIM MAP  
TUT CLAIMS

The TUT claims were staked on the 25th day of February, 1981 and recorded March 5th, 1981.

### REGIONAL GEOLOGY

The TUT claims are situated on the east margin of the Coast Plutonic Complex as mapped by Souther (1971). The claims are underlain by Triassic and older oceanic rocks, mainly limestone and fine-grained sediments (now phyllites). Dykes, sills and intrusive bodies related to the Coast Plutonic Complex have intruded the limestones and phyllites on the claims.

### GEOLOGICAL SURVEY OF CLAIMS

#### A. Triassic and Older Units

1. Limestone - Sometimes forms massive light gray outcrops with no visible bedding, elsewhere, banded gray and white limestone is common. Limestone is easily eroded in this damp climate and is often found outcropping along stream valleys or on low rounded ridges. Textures vary from dense micritic limestone, to coarse calcite marble, to highly altered silicified, pyritized and locally dolomitic carbonate with abundant vuggy cavities. Silicified areas are limited in extent; the alteration appears associated with small north-trending vertical felsic dykes. No fossils were observed in the limestones on the claim block, but fusulinids of Permian age are reported by Monger and Ross (1971) from nearby limestones.

2. Phyllites - Mapping indicated that the phyllites could possibly be divided into a dark mafic package and a lighter felsic package. However, with the limited work carried out, it was not possible to define the extent of each division and consequently the phyllites were grouped as one unit. Locally, textures such as cross-beds indicated the sedimentary nature of much of the phyllites; some tuff units were also noted. Minor thin limestone beds are present in the phyllite stratigraphy.

Conformable to cross-cutting quartz "sweats" and veins of quartz, K-spar and specularite are common throughout the phyllite unit.

#### B. Diorite Unit (Post Mid-Jurassic)

Dykes and sills of medium-grained augite-bearing diorite are common on the claims. Hornfels alteration adjacent to the diorites is usually developed over a few metres. The diorites themselves appear mainly unaltered except for some chloritization and sericitization of feldspars.

#### C. Quartz-Albite Unit (Age Unknown, Probably Tertiary)

A large sill locally in excess of 200m thick outcrops in the northeast part of the claims. This sill and smaller associated sills and dykes is chiefly composed of quartz and albite with minor amounts of light green sericite. Mafic minerals were not observed. The quartz-albite lithology is similar to felsite rocks of Tertiary age described by Souther (1971). Silicification and pyritization in the phyllites adjacent to the quartz-albite dykes is common, but usually restricted to a narrow zone of 1-2 metres.

## MINERALIZATION

Other than pyrite, few sulphides were noted on the claims. Minor chalcopyrite occurs with thin quartz veins about 800m southeast of the legal cornerpost. North of the legal cornerpost along the north edge of the claim block are areas of silicified limestone with disseminations of a gray metallic mineral (H= 4) which has a brown streak. This gray mineral is probably tetrahedrite and is associated with abundant malachite and azurite stained fracture surfaces in the limestone. Hematite is common in the quartz, K-spar veins and usually occurs as a very hard variety (H $\approx$ 6) with a gray metallic lustre and red streak (specularite).

## GEOCHEMICAL SURVEY OF CLAIMS

Geochemical sampling was mainly of a reconnaissance nature and included 68 rock and 237 soil and silt samples. Soil samples were usually taken at approximately 100m intervals. Where possible, the B-horizon was used for soil samples, but the C-horizon was used if the B-horizon was not developed. Samples were taken with a rock pick and sample depths ranged from 5-25cm.

Soil and silt samples were placed in kraft wet strength soil bags, air dried and shipped to Chemex Labs, North Vancouver, B.C. The samples were further dried and then sieved, with the -80 mesh portion being retained for analysis. Rock samples were crushed, then ground to -80 mesh also. For Au determination, a fire assay - atomic absorption technique is used with the fire assay bead being dissolved in HCl and HNO<sub>3</sub> then analyzed by conventional atomic absorption techniques. For Ag, a mixture of HClO<sub>4</sub> and HNO<sub>3</sub> is used to digest

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the sample, which is followed by atomic absorption spectrophotometry. The As analyses are done by standard colorometric techniques following an  $\text{HClO}_4$  plus  $\text{HNO}_3$  digestion. Antimony analyses were done by digesting the sample in  $\text{HCl}$ , then adding potassium iodide, extracting with TOPO - MIBK and then analyzing by atomic absorption spectrophotometry.

Location of samples and corresponding geochemical results can be seen on Figures 3 to 7.

Au + Ag - gold and silver occur as erratic anomalies usually associated with quartz veins or silicified zones. The high values on the central part of the northern boundary of the claims are associated with disseminated tetrahedrite in silicified limestone.

As + Sb - these two elements are more mobile than gold and silver, and the zone with higher values is much larger than the Au-Ag zone. Arsenic and antimony anomalies appear related to rusty weathering quartz-carbonate altered zones in the Pre-Triassic host rocks which contain disseminated arsenopyrite and stibnite.

#### CONCLUSIONS

Both gold and silver are present on the TUT claims in amounts up to 100ppm Ag and 2250 ppb Au. High gold and silver values are associated with small quartz veins or zones of silicification.

RECOMMENDATIONS

Follow-up work which should be carried out includes establishment of a grid for detailed sampling of areas with anomalous geochemistry. Detailed geological mapping should also be carried out at this time to relate mineralization to structure, lithology and alteration.

BIBLIOGRAPHY

Monger, J.W.H. and Ross, C.A. (1971), Distribution of Fusulinaceans in the Western Canadian Cordillera. Canadian Journal of Earth Sciences, Vol. 8, 259-278.

Souther, J.G. (1971), Geology and Mineral Deposits of Tulsequah Map-Area, British Columbia, Geological Survey of Canada, Memoir 362, 84p.

1981 PROGRAM

TUT CLAIMS

TATSAMENIE LAKE AREA, B.C.

PERIOD: June 3, 28, July 12, 13, 14, 15, 16, 18, 19, 21, 30  
(25 man days - 675 total camp man days = 3.7% camp costs)

COST STATEMENT:

II. Labour

<u>Name</u>	<u>Position</u>	<u>Field Days</u>	<u>Office Days</u>
K. Shannon	Geologist	9	5
M. Thicke	Geologist	2	2
D. Abercrombie	Sampler	1	
P. Angly	Sampler	3	
S. Goertz	Sampler	1	
J. Hawthorne	Sampler	1	
R. Lazênby	Sampler	7	
T. Zanger	Sampler	<u>1</u>	<u>      </u>
		25 (3.7%)	7

TOTAL: 32 days

Average Cost per Man Day = \$100.00

Total Labour Cost = \$100.00 x 32 days	1	\$ 3,200.00
2. Analyses - Rocks (Au, As, Ag) 68 @ \$12.50		\$ 850.00
- Soils and Silts (Au, As, Ag, Sb) 237 @ \$11.10		\$ 2,630.00
3. Airfare - prorated, 3.7% x \$369.50 x 8		\$ 109.37
4. Food - 25 man days x \$20.00 per man day		\$ 500.00

(cont'd)

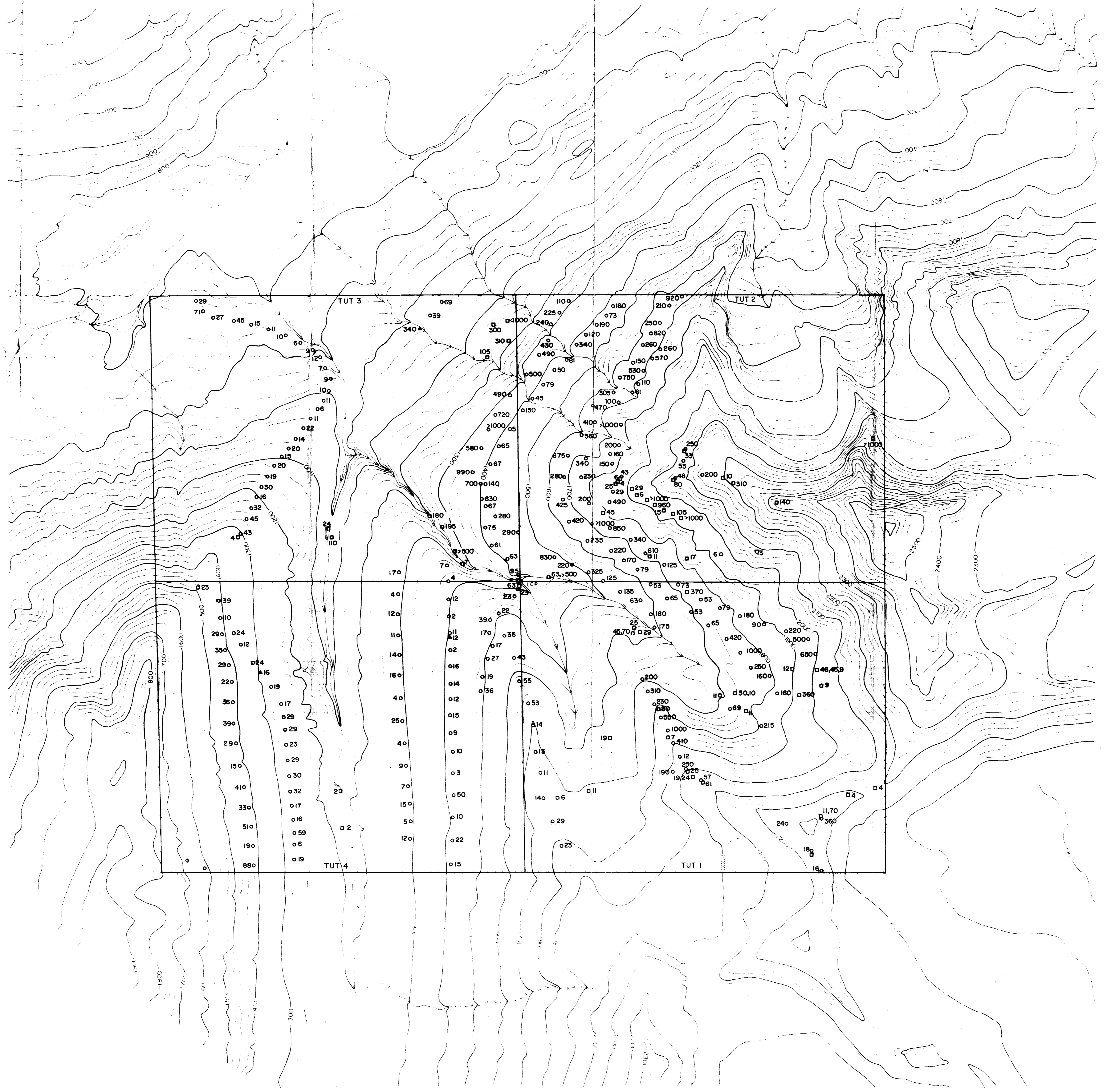
5. Camp Costs - prorated, 3.7% x \$21,000.00	\$ 777.00
6. Helicopter - 21.25 hours @ \$360.00/hr.	\$ 7,650.00
7. Fuel - 545 gal. @ \$3.80/gal.	\$ 2,071.00
8. Drafting - 4 days @ \$100.00/day	\$ 400.00
9. Photogrammetry - McElhanney Base map	<u>\$ 1,500.00</u>
Program Cost	\$ 19,687.37
Chevron Standard Ltd. PAC account transferral (22% of \$19,687.37)	<u>\$ 4,331.22</u>
Total Value of Assessment Work	\$ 24,019.45

STATEMENT OF QUALIFICATIONS

I, Ken Shannon, have worked as a geologist in B.C. on a seasonal basis since graduation from University of British Columbia with a B.Sc. (Hons) in 1975. Currently finishing work on a M.Sc. thesis at University of British Columbia, I am employed as a project geologist by Chevron Standard Limited of Vancouver, B.C.

A handwritten signature in cursive script that reads "Ken Shannon". The signature is written in black ink and is centered on the page.

KEN SHANNON



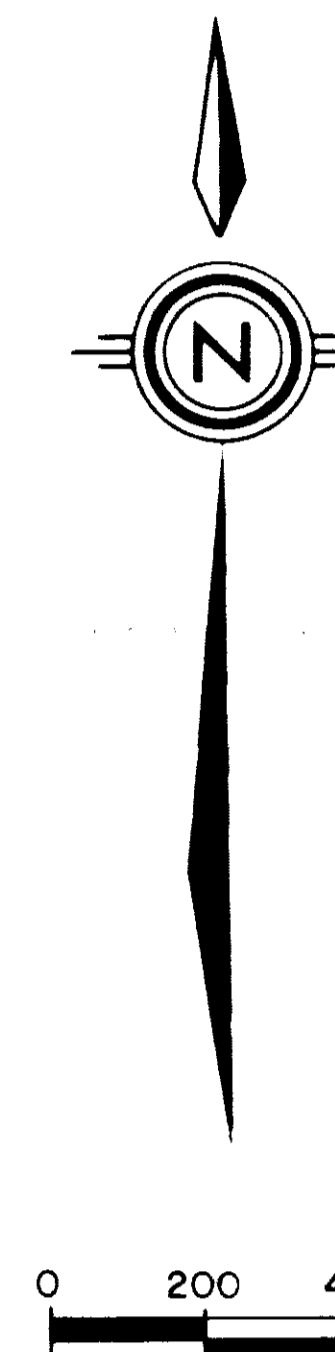
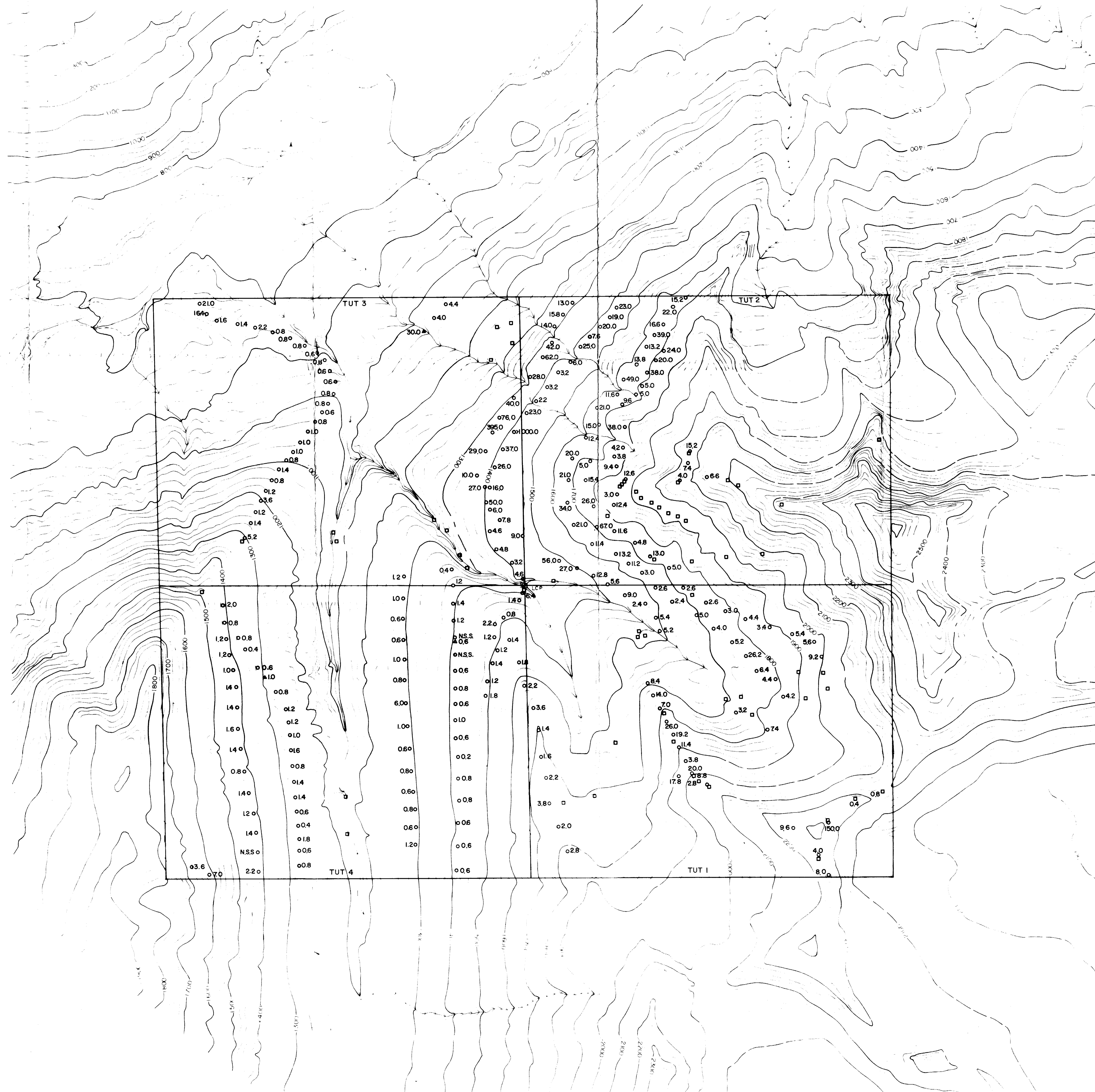
- LEGEND:**
- ROCK
  - SOIL
  - △ SILT

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<b>TUT CLAIMS</b> <b>GEOCHEMISTRY</b> As - ppm	
FIGURE No. <b>3</b>	PROJECT No. <b>M 504</b>
DATE	
BY	
REV.	

BASE MAP PREPARED BY  
 McELHANNEY SURVEYING (NOV, 1981)



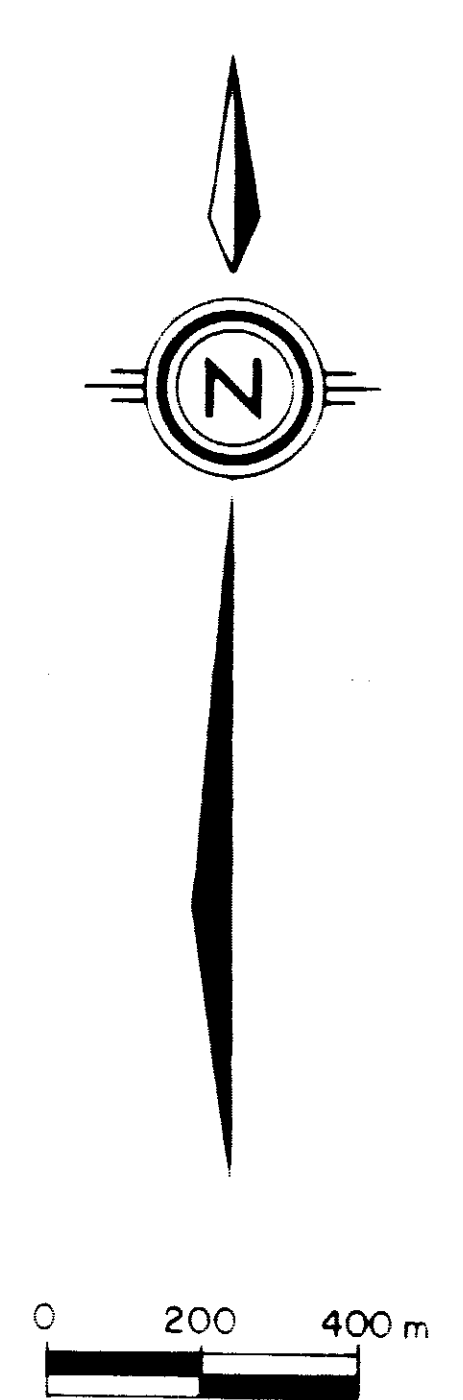
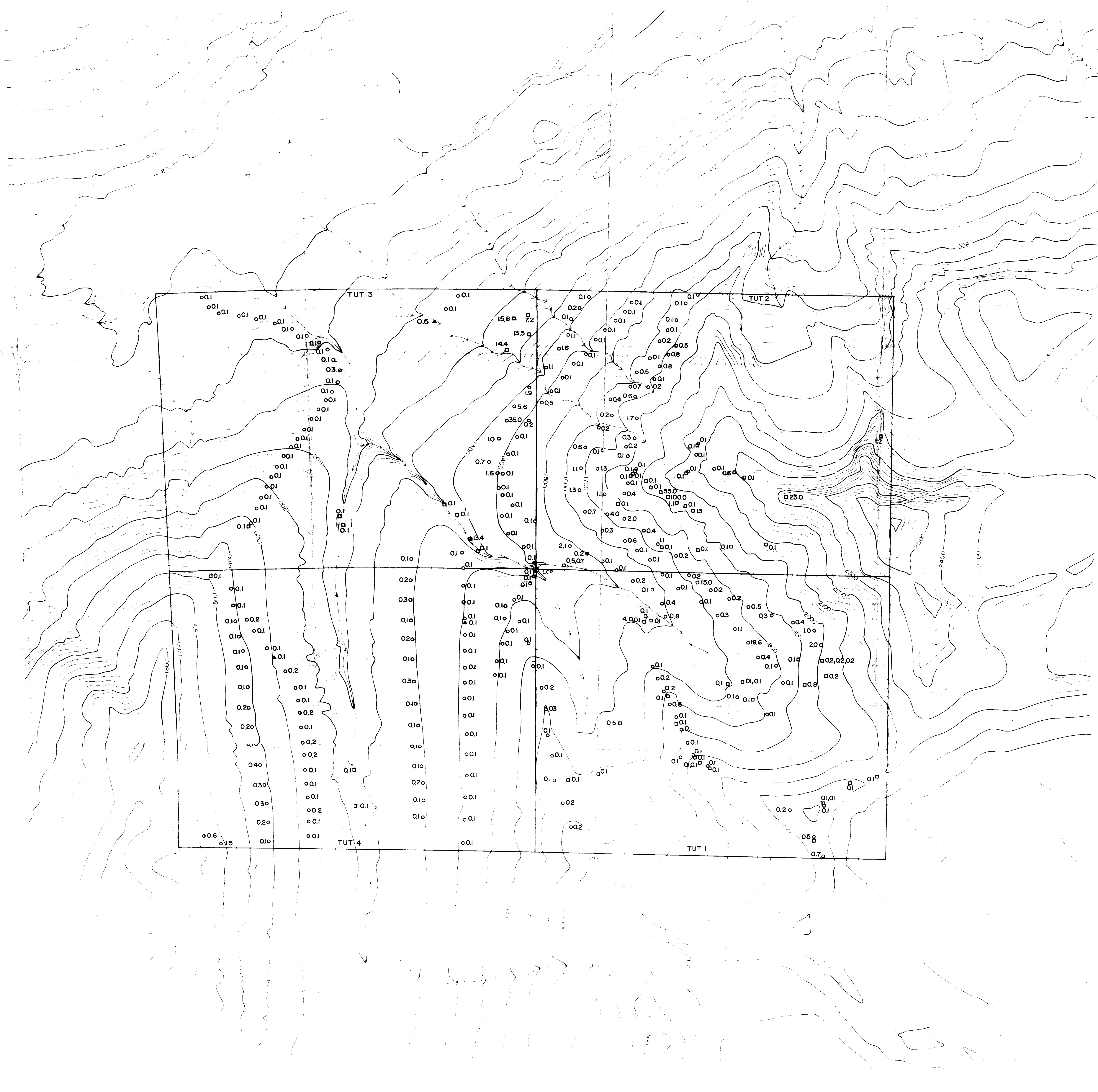


LEGEND:  
 □ ROCK  
 ○ SOIL  
 △ SILT

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<b>TUT CLAIMS GEOCHEMISTRY</b>	
Sb - ppm	
Sheet No. 4	PROJECT No. M 504
BASE MAP PREPARED BY McELHANNY SURVEYING (NOV, 1981)	



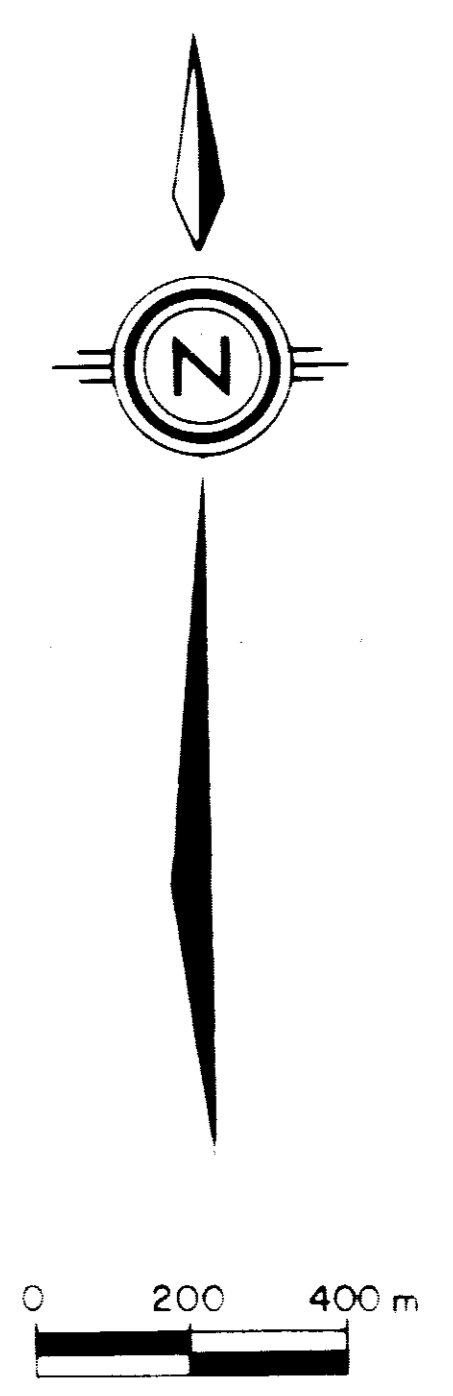
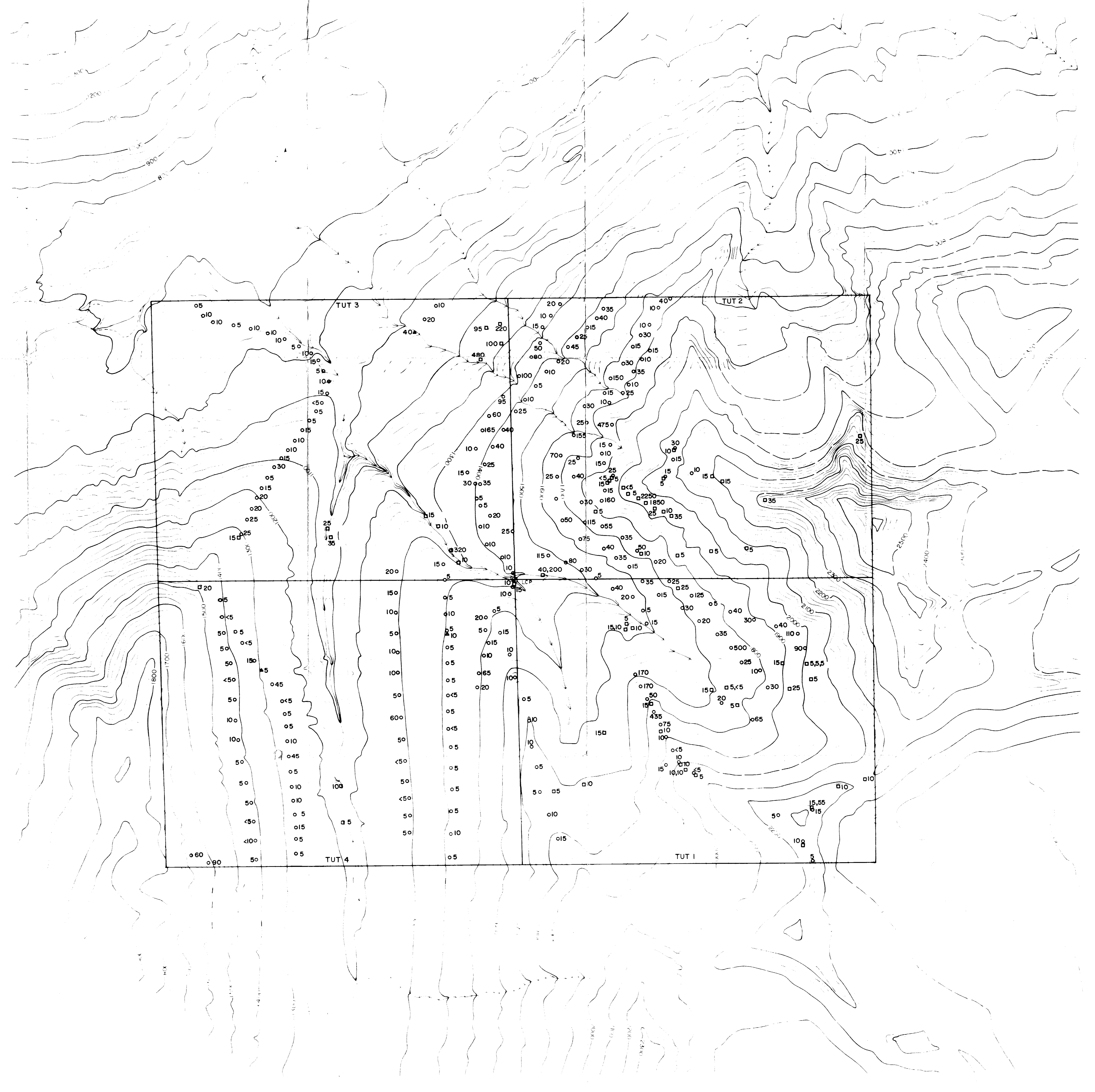


LEGEND  
 □ ROCK  
 ○ SOIL  
 △ VEGETATION

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TUT CLAIMS GEOCHEMISTRY Ag - ppm	
5	M 10,000
SCALE 1 : 10,000	

BASE MAP PREPARED BY  
 McELHANNAY SURVEYING (NOV, 1981)

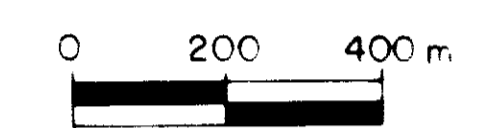
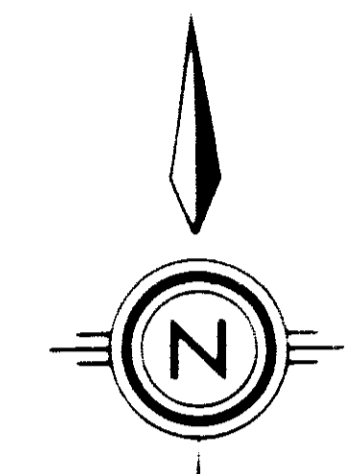
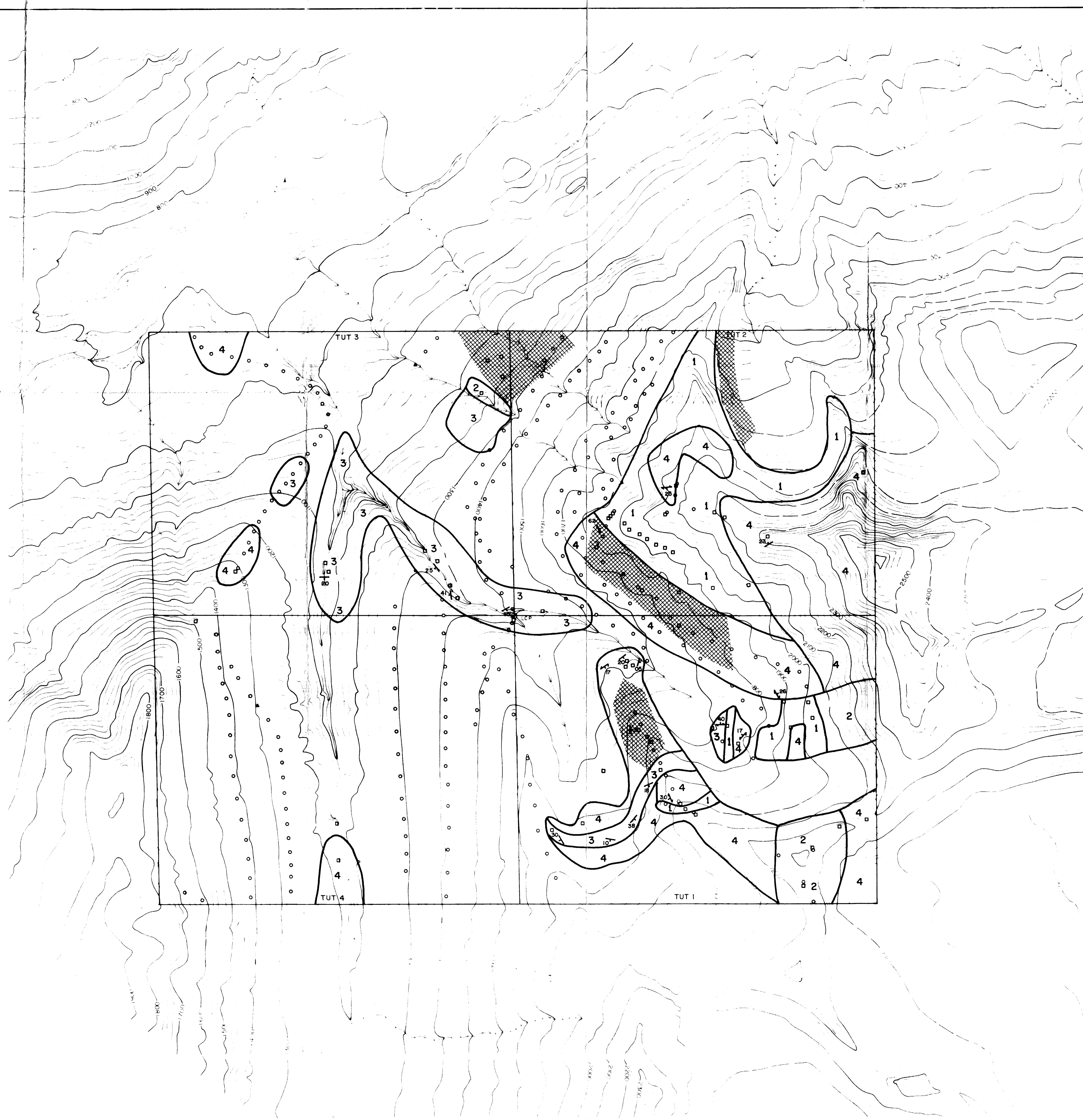


LEGEND  
 □ 500  
 ○ 50  
 △ 10

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TUT CLAIMS GEOCHEMISTRY Au - ppb	
6	M 504
BASE MAP PREPARED BY McELHANNAY SURVEYING (NOV, 1981)	





**LEGEND**

- ROCK
- SWL
- △ SUT
- ▣ GOSSAN
- ▤ QTZ-ALBITE UNIT
- ▥ DIORITE UNIT
- ▧ LIMESTONE UNIT
- ▨ PHYLLITE UNIT-WITH MINOR LMST.
- ⋈ BEDDING SYMBOL WITH DIP
- ⋊ FOLIATION SYMBOL WITH DIP

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**TUT CLAIMS  
GEOLOGY**

7	M 504

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