

ASSESSMENT REPORT
GEOLOGICAL AND GEOCHEMICAL SURVEY

EMU CLAIMS

ATLIN MINING DIVISION

N.T.S. 104K/10

132°34'W
58°36'N

OWNER: CHEVRON CANADA LIMITED

OPERATOR: CHEVRON STANDARD LIMITED

AUTHORS: MIKE THICKE
KEN SHANNON

September, 1982

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

11,108

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INTRODUCTION

LOCATION AND ACCESS

The EMU claim is situated at 58°36'N and 132°34'W, approximately 2 km south of One-Way Lake (Figure 1). Access to the area is by float plane from Atlin, B. C., about 100 km north. A helicopter provided transportation to the claim from a base camp at Trapper Lake, 17 km SW.

CLAIMS

The EMU claim was staked during July, 1981.

<u>Claim</u>	<u>Record No.</u>	<u>Record Date</u>	<u>No. of Units</u>
EMU	1350	July 20, 1981	20

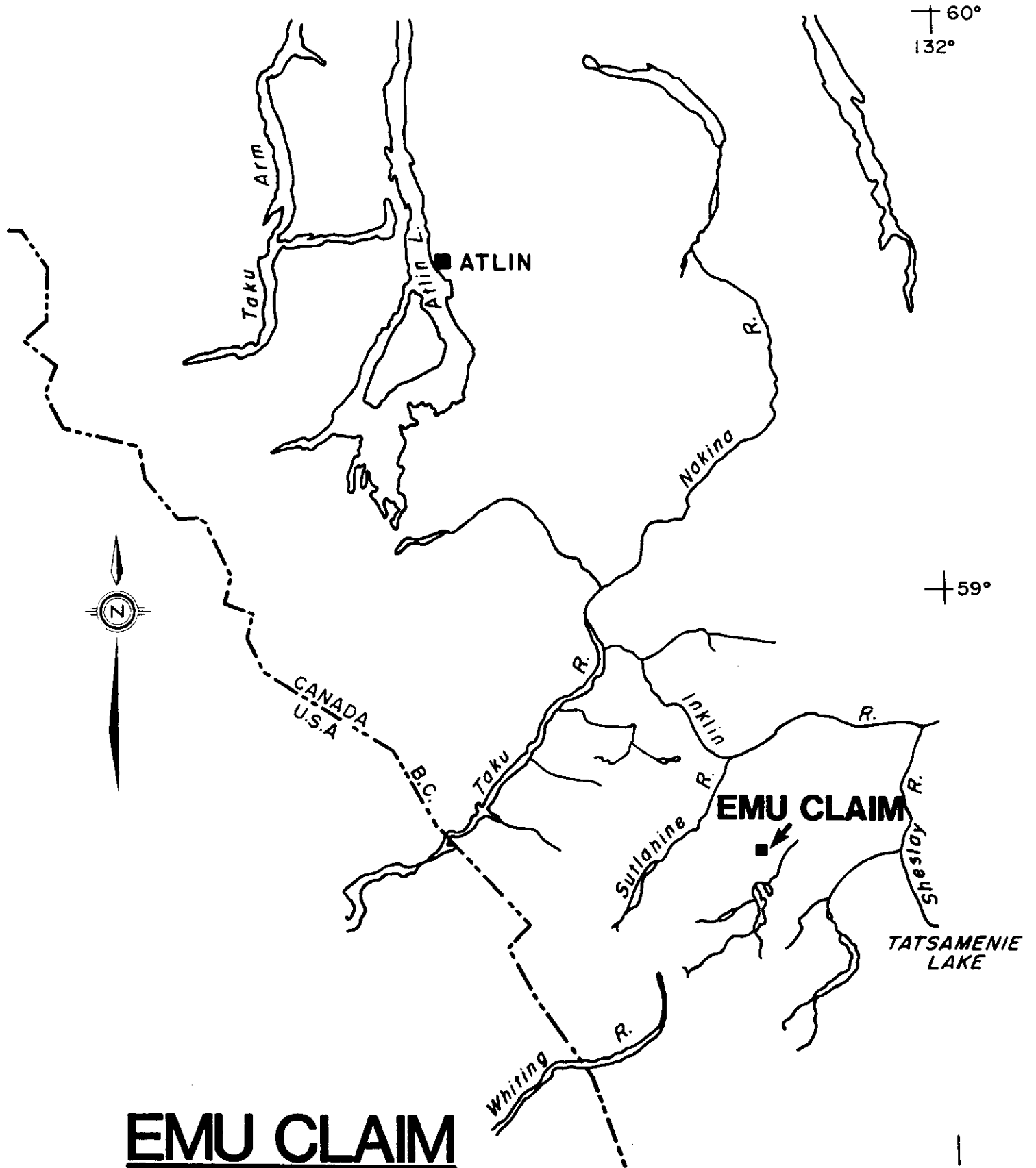
This claim covers previously unstaked ground.

REGIONAL GEOLOGY

The EMU claim is situated south of the King Salmon Thrust Fault in Tertiary felsic intrusions and Takwahoni Formation sediments as mapped by Souther, 1971. Jurassic Takwahoni sediments are situated to the north and south of the claim and a wedge of Tertiary felsic intrusive rock, possibly fault controlled, covers the central part of the claim.

GEOLOGICAL SURVEY OF CLAIM

Exposure is abundant in the western half of the claim. Vegetation is minimal and topography is such that most areas within the claim are accessible. Takwahoni Formation sediments are found in the northern part of the claim, while Tertiary intrusions outcrop in the south. Figure 2 illustrates the geology of the claim.



EMU CLAIM

LOCATION MAP

M504



FIGURE I

(1) Takwahoni Formation (Unit 1)

Jurassic Takwahoni Formation shales and siltstones are confined to the northern part of the claim. Shale and siltstone are thinly interbedded, fresh and brown in colour. Contacts between the intrusion and sediment are difficult to establish because of intense fracturing and alteration. Textures are often confusing between the sediment and intrusion in contact areas. Contacts between these two units may be transitional along faults.

(2) Sloko Group? (Unit 2)

A small outcrop of intrusive breccia, probably Cretaceous or Tertiary Sloko Group, was observed in the western central region of the claim. Fragments are both sedimentary and intrusive and rounded to angular. The matrix is fine grained, brownish and possibly andesitic in composition.

(3) Intrusive Units

Quartz Monzonite (Unit 3a):

Cret-Tertiary quartz monzonite (Souther, 1971) occurs throughout most of the claim area. It is generally fresh, often containing euhedral biotite and hornblende phenocrysts. Feldspar phenocrysts, often up to 0.5 cm long, can compose up to 20% of the quartz monzonite. Fracture density is low except around fault zones.

Quartz-feldspar Porphyry (Unit 3b):

A Cret-Tertiary quartz-feldspar porphyry (Souther, 1971) dyke was observed in the central region of the claim. It is a dense, heavy rock often quartz-carbonate altered with disseminated pyrite to 2%.

STRUCTURE

Photo linears are predominantly west-northwest and northwest with some trending northeast. Slickensides, high fracture density and strong Fe-carbonate alteration were observed during a field examination of the linears. These observations suggest that the linears are faults.

MINERALIZATION AND ALTERATION

The quartz monzonite is slightly clay-chlorite altered. The strongest alteration is confined mostly to fault zones. Fe-carbonate alteration is heaviest along fractures in these fault zones, usually recessively weathered. Quartz-chalcedony and carbonate veins are mostly confined to fault zones. These veins occur irregularly in various orientations and are up to 12 cm wide. Veins cut all rock types. Pyrite in blebs and disseminations up to 3%, with trace galena and sphalerite, is common in some quartz veins.

GEOCHEMICAL SURVEY OF CLAIMS

Twelve rocks were collected to include all rock types and veins throughout the claim. Samples were placed in plastic sample bags and shipped to Chemex Labs, North Vancouver, B. C. The entire sample was crushed then pulverized in a ring grinder to approximately -100 mesh. Au was done using fire assay and atomic absorption techniques with the fire assay bead dissolved in HCl and

HNO₃, then analysed by conventional atomic absorption techniques. For Ag, a mixture of HClO₄ and HNO₃ was used to digest the sample, followed by atomic absorption spectrophotometry. As was done by standard colorometric techniques following an HClO₄ and HNO₃ digestion. Sb was done by digesting the sample in HCl, then adding potassium iodide, extracting with TOPO-MIBK and then analysing by atomic absorption spectrophotometry. For Cu, Pb and Zn, the same technique as for Ag was used.

Anomalous values of Ag, As, Sb, Au, Cu, Pb, Zn are restricted to fault zones and specifically to quartz-chalcedony veins within the fault zones. Usually pyrite mineralization indicates a greater chance for anomalies. Table I lists geochemical results obtained. Location of samples and corresponding geochemical results can be seen on Figure 3.

	<u>Ag</u>	<u>As</u>	<u>Sb</u>	<u>Au</u>	<u>Cu</u>	<u>Pb</u>	<u>Zn</u>
MT2TI-128	0.3	12	10.0	5			
129	0.3	12	12.4	15			
130	0.2	14	5.4	<5			
131	0.1	3	2.0	5			
132	0.1	4	2.6	5			
133	0.2	7	4.0	15			
134	1.0	115	14.6	10			
135	4.6	85	17.6	10			
136	0.2	150	20.0	10	60	20	340
137	0.3	35	5.2	10	17	14	61
138	17.0	>10,000	68.0	675	67	2600	680
139	0.4	110	7.2	10	17	42	78

Table I: Results in ppm. Au in ppb.

CONCLUSIONS

Four man days were spent mapping and sampling the EMU claims. Cret-Tertiary intrusions, possibly related to northwest trending faults, are the most abundant unit. Jurassic Takwahoni Formation sediments occupy the northern most area of the claim. The sediments are unmineralized adjacent to the intrusions. Anomalous gold values are restricted to quartz-chalcedony, pyrite, galena, sphalerite veins found within fault zones.

RECOMMENDATIONS

No anomalous values of gold were obtained in the Takwahoni sediments or intrusive rocks on the claims. The only interesting sample was from a narrow quartz vein and the precious metal content was fairly low (17.0 ppm Ag, 675 ppb Au). Size and grade potential for this property appears to be low and no further work is recommended at this time.

REFERENCES

Souther, J.C. (1971). Geology and mineral deposits of Tulsequah map-area, British Columbia. Geological Survey of Canada, Memoir 362, 84 p.

1982 EXPLORATION PROGRAM

EMU CLAIM

COST STATEMENT

Period: July 16 and 17, 1982

1. LABOUR:

<u>Name</u>	<u>Position</u>	<u>Field Days</u>	<u>Office Days</u>
M. Thicke	Geologist	2	2
M. Gray	Sampler	<u>2</u>	<u>-</u>
	Total man days	4	2
Average Cost per field man day = \$100.00 x 4			\$ 400.00
Average Cost per office man day = \$175.00 x 2			350.00

2. ANALYSES:

Rock (Au, As, Ag, Sb)	12 samples @17.40	208.80
(Cu, Pb, Zn)	4 samples @ 2.25	9.00

3. CAMP COSTS:

Total man days 4 @79.50/man day	318.00
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4. HELICOPTER:

1.3 hrs. @510.00/hr including fuel	663.00
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5. DRAFTING:

2 man days @100.00/man day	<u>200.00</u>
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Total Assessment Work \$2,148.80

STATEMENT OF QUALIFICATIONS

I, Mike Thicke, graduated from the University of British Columbia in May, 1980 with a B.Sc. degree. Five seasons have been spent working in exploration geology in B.C., including three since graduation. I am presently employed as a geologist by Chevron Standard Limited of Vancouver, B. C.

A handwritten signature in cursive script that reads "Mike Thicke".

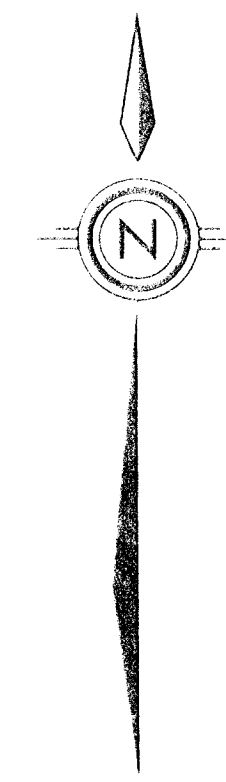
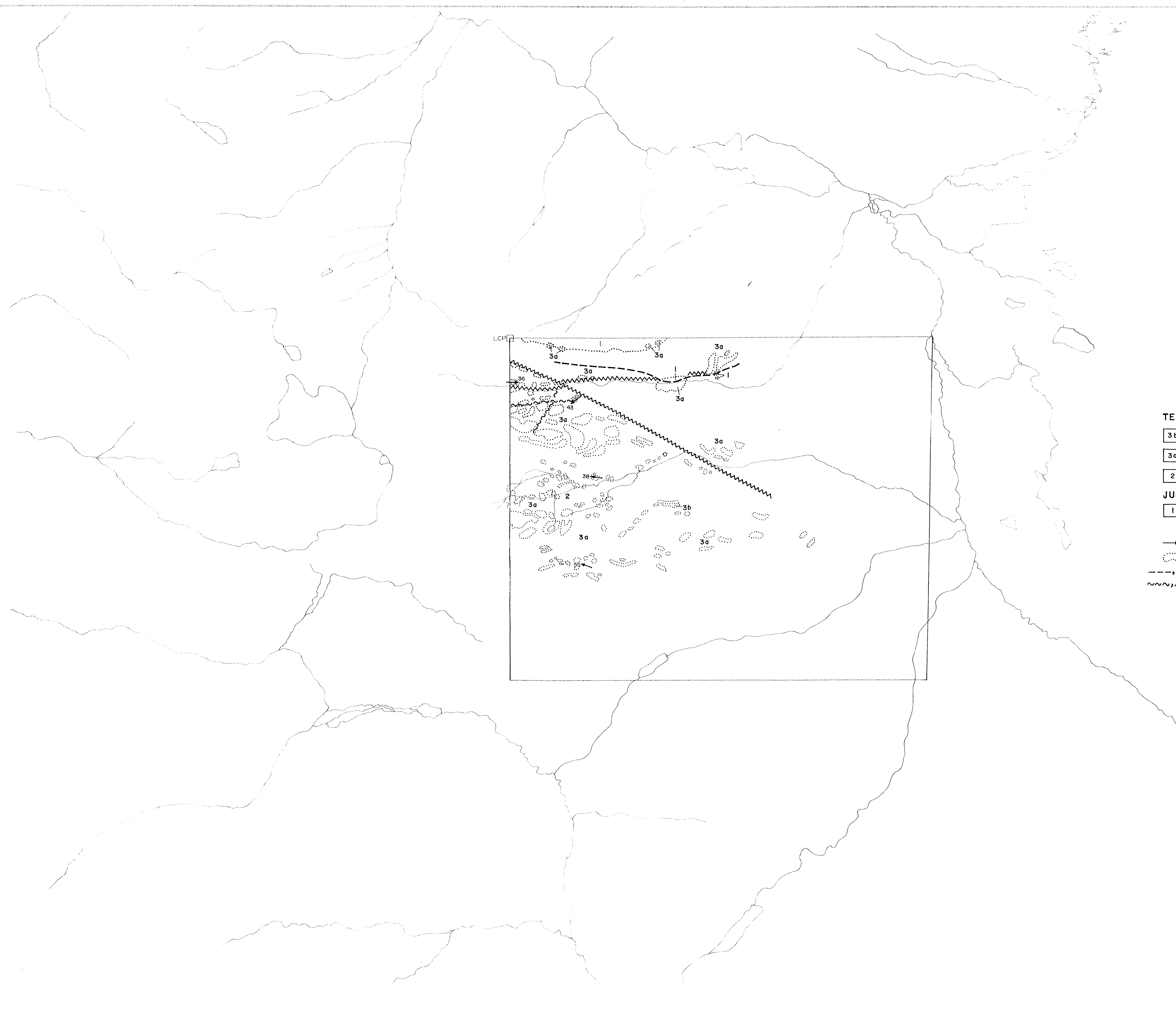
MIKE THICKE

STATEMENT OF QUALIFICATIONS

I, Ken Shannon, have worked as a geologist in B. C. on a seasonal basis since graduation from the University of British Columbia with a B.Sc. (Hons. Geology) in 1975. A M.Sc. degree was awarded from the Department of Geology at U.B.C. in May, 1982. I am employed as a geologist by Chevron Standard Limited of Vancouver, B. C. Work on the EMU Claims Group was done under my supervision.

A handwritten signature in cursive script that reads "Ken Shannon". The signature is written in black ink and is positioned to the right of the typed text.

KEN SHANNON

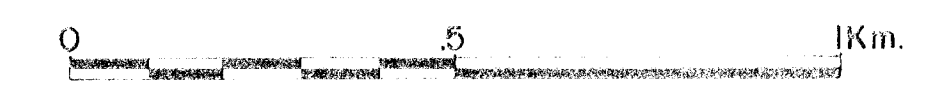


LEGEND

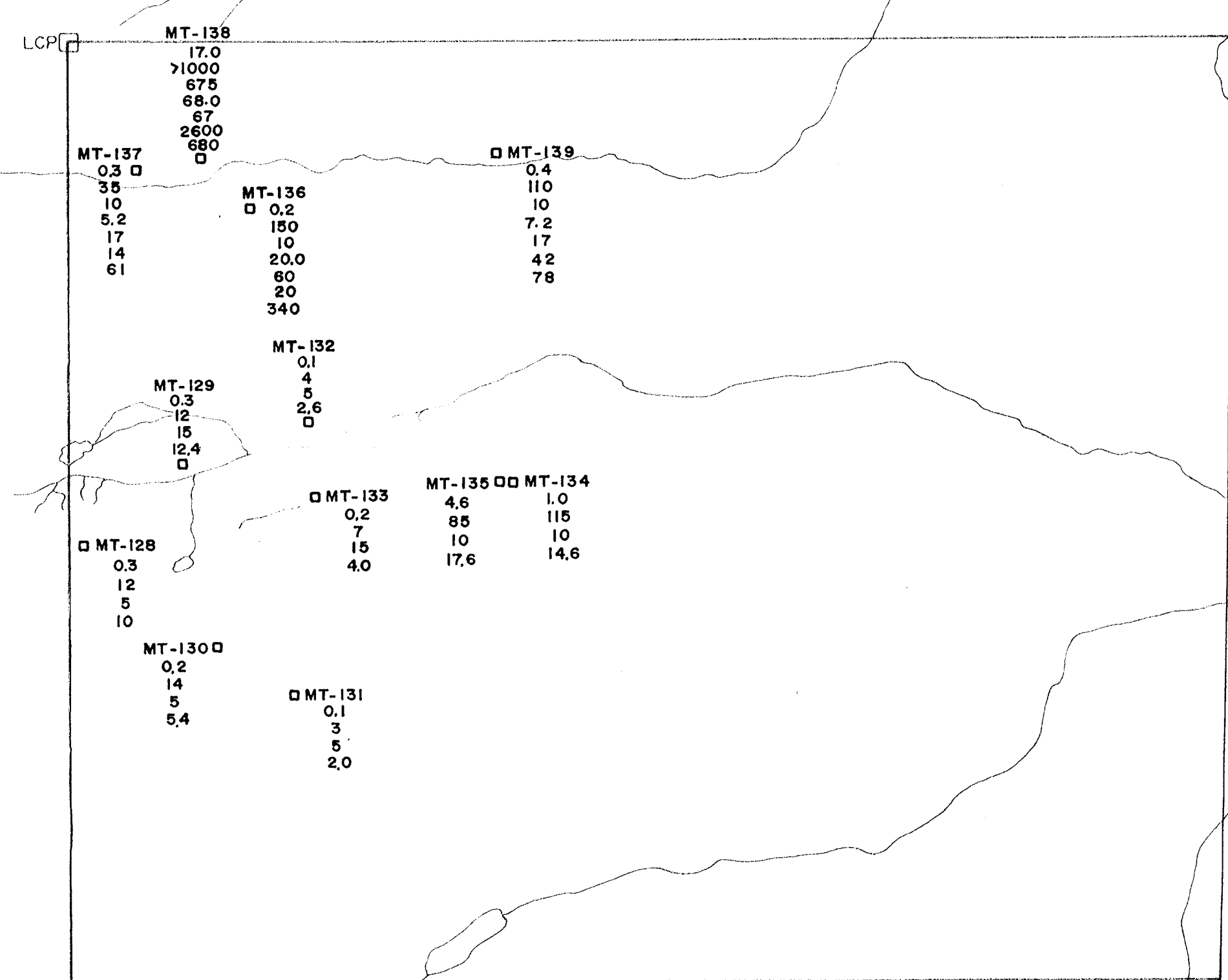
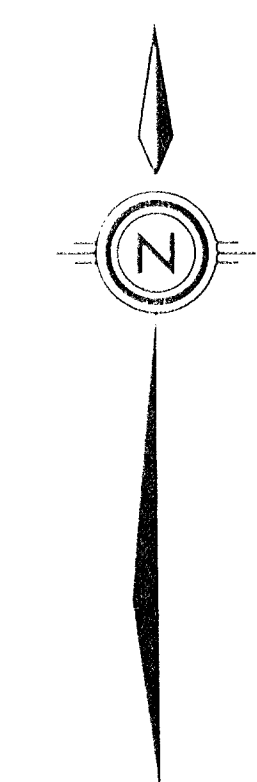
- TERTIARY OR CRETACEOUS**
- 3b** QUARTZ FELDSPAR PORPHYRY
 - 3a** BIOTITE - HORNBLende QUARTZ MONZONITE
 - 2** SLOKO GROUP INTRUSIVE BRECCIA
- JURASSIC**
- 1** TAKWAHONI FORMATION SHALE, SILTSTONE
- SYMBOLS**
- 25 SLICKENSIDES SHOWING TREND AND PLUNGE
 - OUTCROP BOUNDARY
 - - - CONTACT: ASSUMED, DEFINED
 - ~ ~ ~ FAULT: ASSUMED, DEFINED

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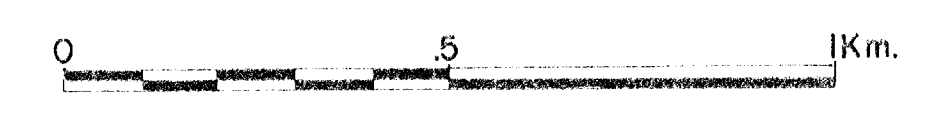


Chevron Standard Limited Minerals Staff	
EMU CLAIMS GEOLOGY	
FIGURE No. 2	PROJECT No. M504
DATE OCT/82	SCALE 1:10,000
BY M.T.	




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LEGEND

- ROCK SAMPLE
- 0.6 ppm Ag
- 120 ppm As
- 50 ppb Au
- 7.8 ppm Sb
- 70 ppm Cu
- 120 ppm Pb
- 85 ppm Zn

 Chevron Standard Limited Minerals Staff		
EMU CLAIMS GEOCHEMISTRY AND SAMPLE LOCATIONS		
FIGURE No 3	PROJECT No M504	
DATE OCT/82	REVISION	SCALE 1:10,000
BY		
COMPILED BY M.T.		