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GEOCHEMICAL REPORT  
RUPERT CLAIMS  
ATLIN MINING DIVISION  
BRITISH COLUMBIA

NTS: 104M/8W  
59°28'N, 134°20'W

OWNER: John R. Harvey

AUTHOR: N.C. Carter, Ph.D. P.Eng.

DATE: October 5, 1982

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

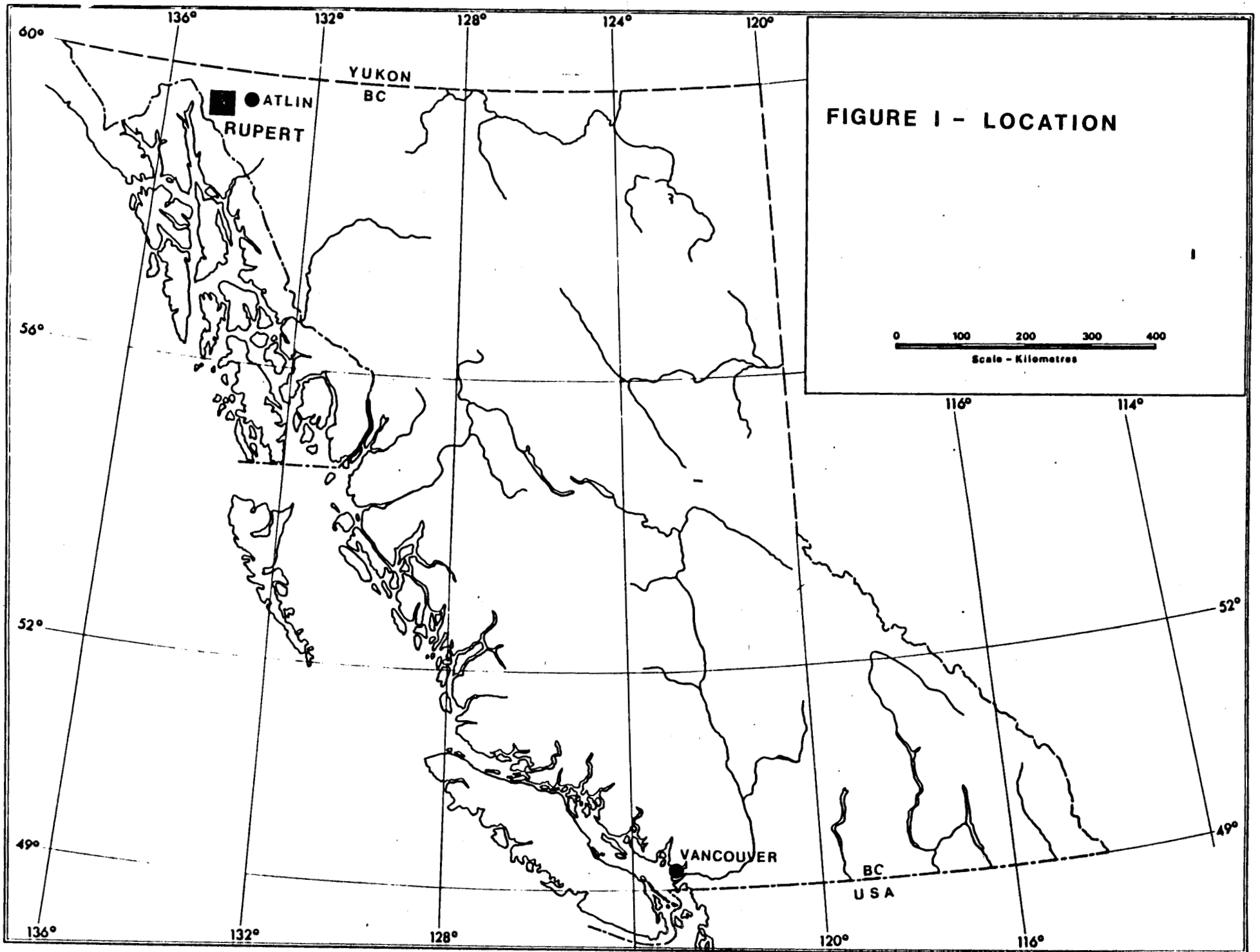
**10,945**

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## INTRODUCTION

### LOCATION and ACCESS

The Rupert group of mineral claims is situated on the east flank of White Moose Mountain west of Taku Arm on Tagish Lake in northwestern British Columbia. (Figures 1 and 2). Access is by helicopter from Atlin, 37 km. northeast of the claims or by boat and trail from the west shore of Taku Arm opposite Engineer mine (Figure 2).

### MINERAL CLAIMS

The Rupert group consisting of 10 reverted Crown-granted mineral claims, is owned by John R. Harvey of Atlin, B.C. Details of claims are as follows (Figure 3):

<u>Claim Name</u>	<u>Reverted Crown Grant No.</u>	<u>Record No.</u>
Annex	L. 1274	535
Silver King #3	L. 1270	536
Silver King #2	L. 1269	537
Silver King #1	L. 1268	538
Tyee	L. 1272	539
Gold Bottom	L. 1273	540
Silver Tip	L. 1271	541
Ensign	L. 1267	542
Index	L. 1266	543
Blue Jacket	L. 1265	544

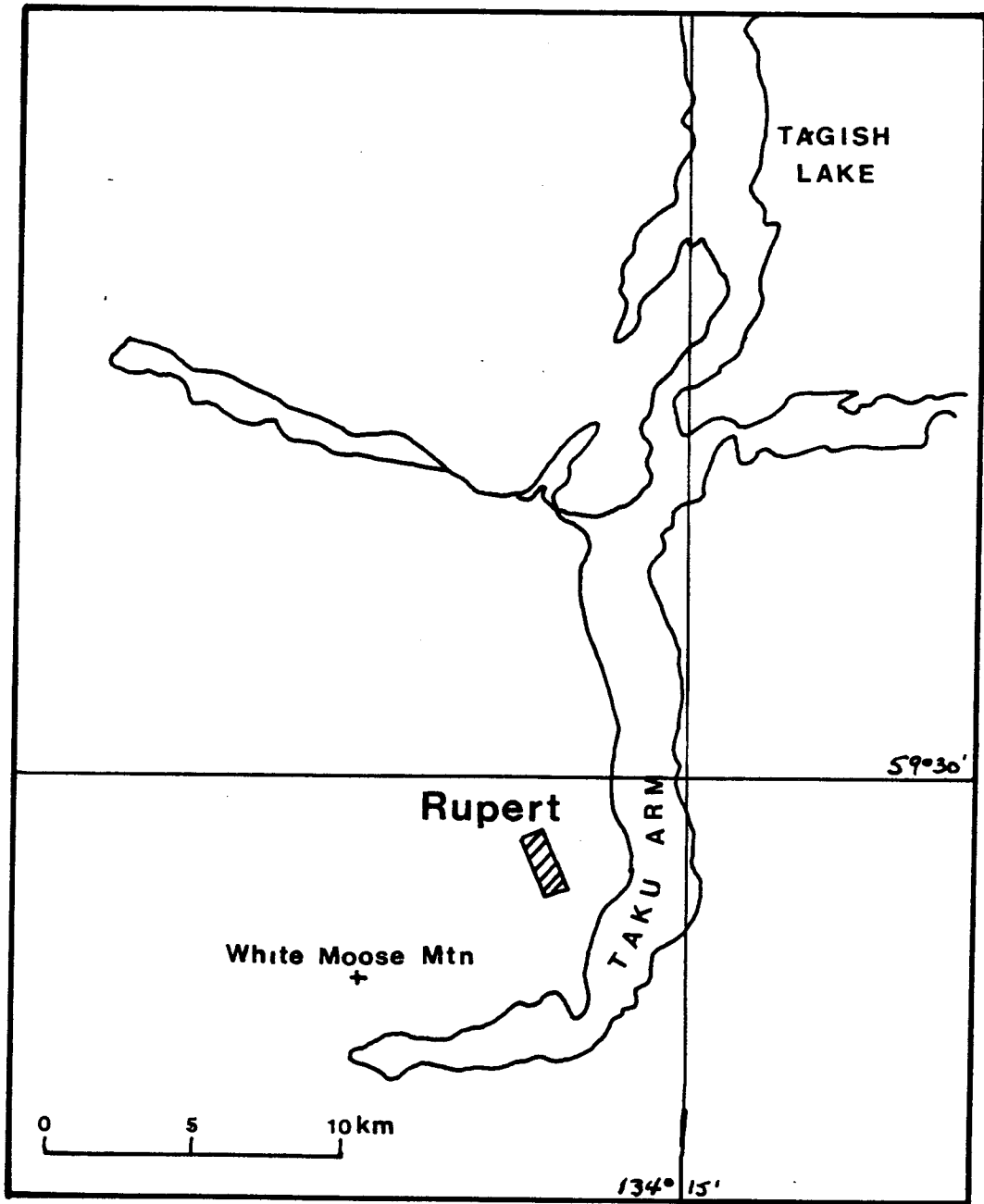


FIG. 2 TAKU ARM

## HISTORY

Precious and base metal mineralization on White Moose Mountain was investigated soon after the discovery of Engineer mine in 1899. Tunnel driving and pitting was carried out on mineralized structures near the shore of Taku Arm and on the east flank of the mountain between 1905 and 1920. The present claims were Crown granted in 1915 but had reverted to the Crown prior to being acquired by the present owner.

United Keno Hill Mines Limited staked six claims comprising 110 units covering all of White Moose Mountain and including the present Rupert claims in 1979. A major geochemical and geological survey was undertaken the following year (Assessment Report 8384) which inadvertently included the Rupert claims. Follow-up work in 1981 consisted of sampling and blasting of trenches on several mineralized zones including those on the Rupert claims.

## PRESENT STATUS

The Rupert group was acquired by the present owner October 16, 1978. Work since that time has consisted of limited investigation of known mineral showings.

This report describes work done on the claims in September of 1982 which included a detailed soil geochemical grid over part of two southwesternmost claims in an attempt to further define an

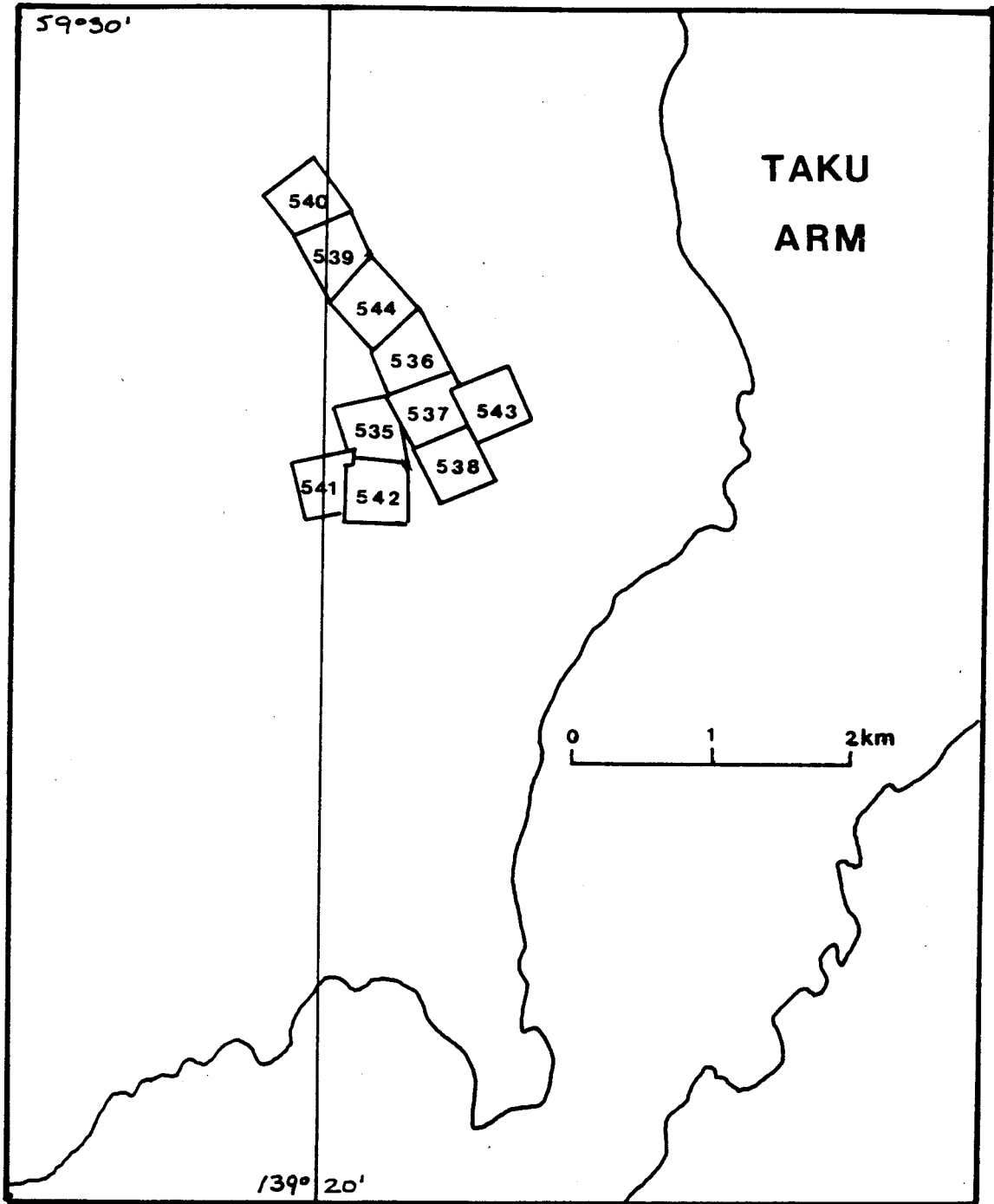


FIG. 3 RUPERT GROUP

anomalous area detected by the United Keno Hill Mines Limited survey. Area of work is shown on Figure 3.

### GEOLOGY and MINERALIZATION

The Rupert group of claims is situated immediately east of a small glacier on White Moose Mountain. Elevations range from 1,200 to 1,750 metres in alpine terrain typical of northwestern British Columbia. True outcrop is sparse, with felsenmeer, poorly developed soils and glacial debris covering most of the claims.

The claims area is underlain by a sequence of quartz-mica schists of possible Lower Paleozoic age. Compositional layering within the schists and the presence of impure limestones suggests the metamorphic rocks were derived from an original sedimentary sequence. Foliated granitic intrusive rocks, part of the Coast Plutonic Complex, outcrop south and east of the Rupert group. Later dykes include rhyolitic quartz porphyries, commonly associated with mineralized structures, and basic dykes a few metres wide which post date mineralization.

Schistosity of the southern claims trend northeasterly with moderate dips to the southeast.

Several areas of quartz vein related mineralization are known on the Rupert group in addition to numerous rusty areas containing pyrite. On the southern and easternmost claims, narrow quartz veins exposed on the steep east-facing slope contain visible



lead and zinc mineralization with silver values. The principal showing on the northern claims consists of a 1 to 1.5 metre wide quartz vein trending northwesterly over an exposed strike length of 30 metres, and terminated on the south by a basic dyke. Extensive moraine obscures bedrock beyond this. The vein contains galena, locally in seams up to several centimetre widths and some tetrahedrite. Sampling by United Keno Hill yielded values in gold ranging from 0.002 to 0.78 ounces per ton and silver values ranging from 0.05 to 5.69 ounces per ton.

A multi-element anomaly with silver, lead, zinc, copper and arsenic values southeast of the small glacier and detected by United Keno Hill Mines Limited was further investigated by this study.

#### GEOCHEMISTRY

Thirty soil and three rock samples were collected from a detailed grid southeast of the small glacier. Soil samples were collected at 20 metre intervals along four lines oriented northeasterly and spaced 20 to 40 metres apart. Sample locations are shown on Figure 4 and results on Figures 5 and 6.

Soil samples were collected from pits 25 to 30 cm. deep and placed in wet-strength kraft gusseted envelopes. Because of the nature of the alpine terrain and the general lack of a conventional B-horizon, many of the samples consisted of talus

fine material. Abundant organic material was included in some samples on line 8SE.

Three rock samples were collected from quart veins and rusty areas encountered on the grid.

All samples were sent to Min-En Laboratories Ltd. in North Vancouver and analyzed for copper, lead, silver and gold. For details of sample preparation and analysis, see Appendix A.

### INTERPRETATION

For purposes of discussion, results obtained were compared with soil values from the 5,300 samples collected by United Keno Hill Mines Limited in 1980 (Assessment Report 8384).

Threshold values were calculated for lead (50 ppm) and silver (0.5 ppm). Using these values, a moderate to strongly anomalous zone is evident along line 8SE with coincident high values in lead, copper and silver (Figures 5 and 6). Isolated anomalous areas with coincident copper, lead and silver are also present on other lines. Gold values below 50 ppb are considered low with only four anomalous values detected including one sample (R-82-21) which yielded 720 ppb with coincident high values in copper, lead and silver.

Higher values along line 8SE were collected from rusty soil below evidence of previous trenching.

Three rock samples yielded low gold values, but two,

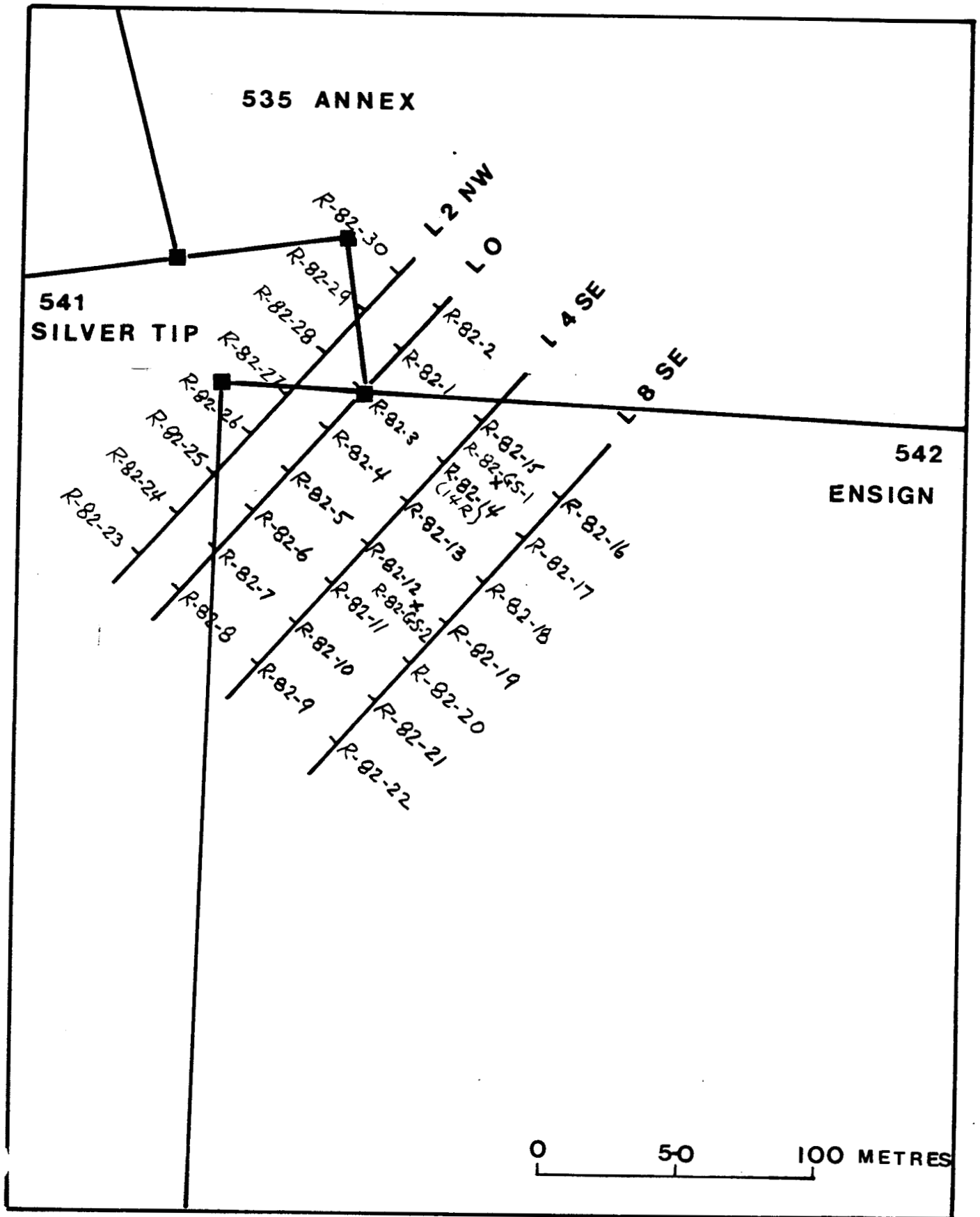


FIG.4 GEOCHEMISTRY SAMPLE LOCATIONS

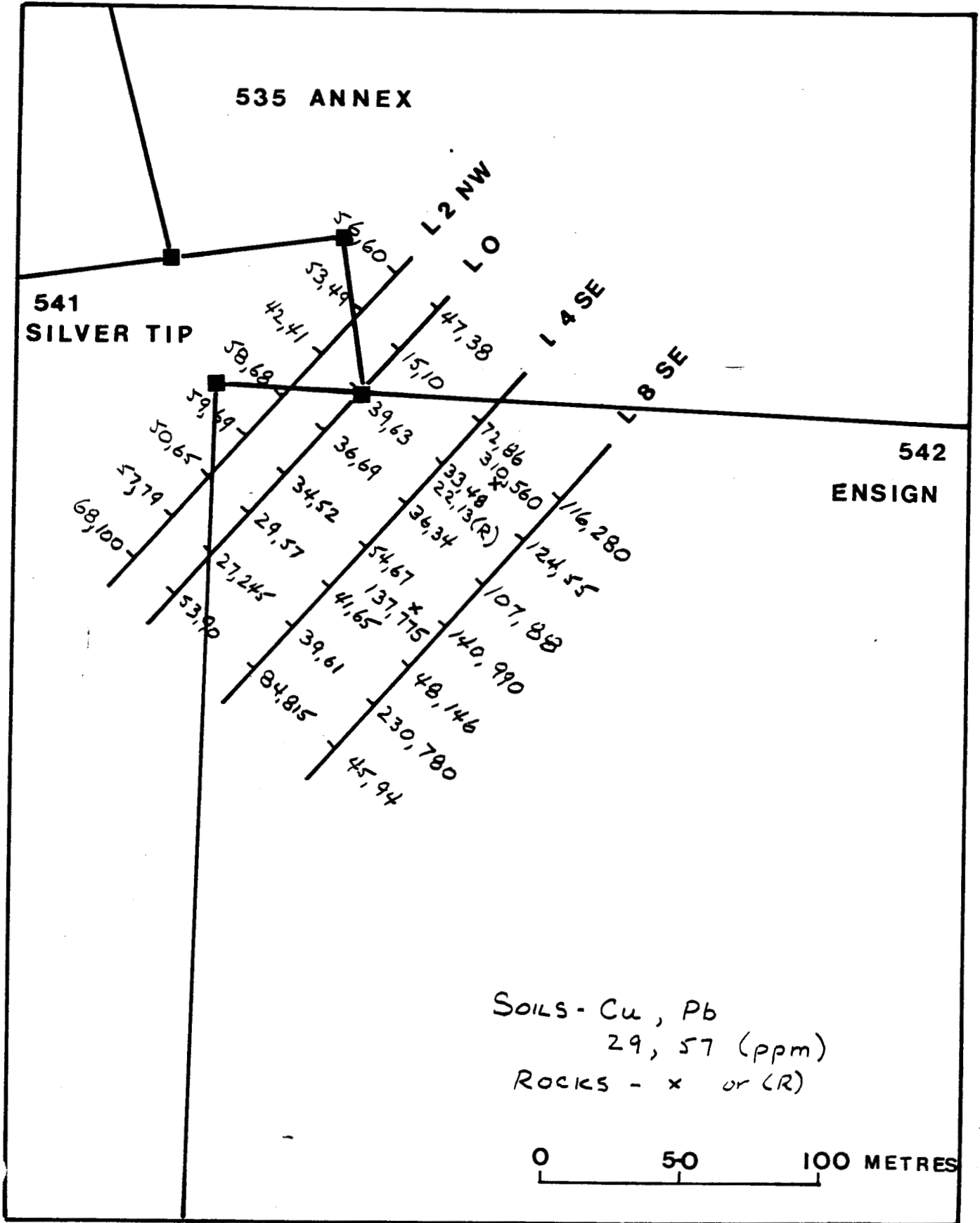


FIG.5 GEOCHEMISTRY Cu, Pb



collected from rusty quartz zones, are considered to have anomalous copper, lead and silver values.

CONCLUSIONS and RECOMMENDATIONS

The Rupert group of mineral claims covers mineral showings and geochemically anomalous zones with precious and base metal values.

The results of this survey confirm the presence of a zone anomalous in copper, lead and silver southeast of the small glacier on White Moose Mountain. Several isolated samples with anomalous gold values were also detected.

A program of additional detailed soil and rock geochemistry is recommended for this area, followed by trenching to bedrock.

Further definition of the quartz vein structure on the northern claims is also recommended by utilizing detailed geochemistry and VLF geophysics.

SELECTED REFERENCES

- British Columbia Department of Mines, Minister of Mines Annual Reports: 1918 - page 33  
1933 - page 81
- Cairnes, D.D.; 1913: Portions of the Atlin District, British Columbia - Geological Survey of Canada Memoir 37 - pages 93 - 96
- Christie, R.L.; 1957: Bennett, Cassiar District, British Columbia - Geological Survey of Canada Map 19 - 1957
- Watson, P.W. and Joy, R.T.; 1980: 1980 Geological and Geochemical Report on the Fee Claim Group, Atlin Mining Division, British Columbia, B.C. Ministry of Energy, Mines and Petroleum Resources Assessment Report 8384

COST STATEMENT - RUPERT GROUP

Wages

N.C. Carter	\$250/day	September 18, 19	- 2 days	\$ 500.00
J.R. Harvey	\$175/day	September 10, 18		
		19	- 3 days	<u>525.00</u>
				<u>1,025.00</u>

Transportation

Keystone Helicopters				<u>430.60</u>
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Geochemical Analysis

Sample Preparation - 30 soils @ \$0.85				25.50
- 3 rocks @ \$2.50				7.50
Trace Analysis - Cu, Pb, Ag, Au				
- 33 samples @ \$8.80				<u>290.40</u>
				<u>323.40</u>

Report Preparation

N.C. Carter - 2 days @ \$250				500.00
Typing, draughting and reproduction				<u>138.40</u>
				<u>638.40</u>

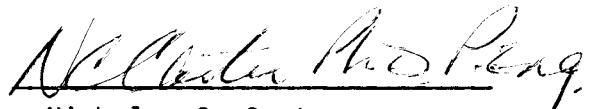
TOTAL EXPENDITURE				<u><u>\$2,417.40</u></u>
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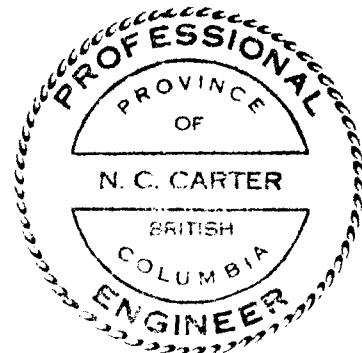
AUTHOR'S QUALIFICATIONS

I, NICHOLAS C. CARTER of Victoria, British Columbia, do hereby certify that:

1. I am a practising geologist, registered with the Association of Professional Engineers of British Columbia since 1966;
2. I am a graduate of the University of New Brunswick with B.Sc. (1960); Michigan Technological University with M.S. (1962) and the University of British Columbia with Ph.D. (1974);
3. I have practised my profession in British Columbia and Eastern Canada and the Western United States for the past 22 years;
4. Geochemical work on the Rupert Group, described in this report, was carried out under my supervision in September of 1982.



Nicholas C. Carter,  
Ph.D., P.Eng.



APPENDIX 'A'

ANALYTICAL PROCEDURES

Samples were processed by Min-En Laboratories Ltd. in North Vancouver employing the following procedures:

After drying the samples at 95<sup>0</sup>C soil samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed by a jaw crusher and pulverized by ceramic plated pulverizer.

1.0 gram of the samples are digested for six hours with HNO<sub>3</sub> and HC10<sub>4</sub> mixture.

After cooling samples are diluted to standard volume. The solutions are analyzed by Atomic Absorption Spectrophotometers.

Copper, Lead and Silver are analyzed using the CH<sub>2</sub>H<sub>2</sub> - Air flame combination on these sample solutions.

For gold geochemical samples, a suitable weight 5.0 or 10.0 grams are pretreated with HNO<sub>3</sub> and HC10<sub>4</sub> mixture. After pretreatments the samples are digested with Aqua Regia solution, and after digestion the samples are taken up with 25% HCl to suitable volume.

At this stage of the procedure copper, silver and lead can be analyzed from suitable aliquot, by Atomic Absorption Spectrophotometric procedure.

Further oxidation and treatment of a least 75% of the original sample solutions are made suitable for extraction of gold with Methyl Iso-Butyl Ketone.

With a set of suitable standard solutions, gold is analyzed by Atomic Absorption instruments. The obtained detection limit is 5 ppb.