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A Report on a Geochemical Survey

of the Friday Claims

Omineca Mining Division, B.C.

Covering: Red Group: Friday 1-12, 19-30, 33
Friday 3Fr-8Fr

Green Group: Friday 13-18, 31-32, 34-46
Friday 1Fr-2Fr, 9Fr-17Fr

Located: 54 miles northeast of Smithers

Lat. $55^{\circ}20'N$

Long. $126^{\circ}12'W$

From: 28 September 1972 to 11 October 1972

For

Caliente Mining Corporation

By

G. Jilson, B.S. and

J.G. Simpson, Ph.D., P. Eng.

15 October 1972

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INTRODUCTION

A geochemical survey was carried out on the Friday claims in the Omineca Mining Division, British Columbia, between 28 September 1972 and 11 October 1972. The entire property was covered on a 800'x200' grid with samples analysed for copper.

LOCATION AND ACCESS

The Friday claims are located 54 miles northeast of Smithers in the Omineca Mining Division, British Columbia. The claim group is approximately half way between Friday Lake and the north end of the Northwest Arm of Takla Lake; Sinta Creek flows easterly through the centre of the claim group.

Access is by helicopter from Smithers or by a tote road from Hatchery Arm, Babine Lake.

PHYSIOGRAPHY, VEGETATION AND DRAINAGE

There is approximately 1000' of relief on the property. The area consists of two levels of rolling hills separated by a 500' escarpment running northerly through the centre of the claims. Sinta Creek is incised on both levels and forms a steep-walled canyon.

Most of the area has been burned off leaving great numbers of deadfall. Scattered small jack pine have grown back in the burned area. The remainder of the tree-covered ground consists of thick balsam forest. There is a large swamp at the east end of the property.

Drainage is fairly good with the exception of local swampy accumulations on the upper topographic level and the large swamp noted above on the lower level. All drainage is into Sinta Creek and hence into the Northwest Arm of Takla Lake.

CLAIMS

The property consists of 46 full sized and 17 fractional mineral claims in two groups, the Red and Green.

Red Group

Claim Name	Record Number
Friday 1-12 incl.	96387R-96398R incl.
Friday 19-30 incl.	97966D-97977D incl.
Friday 33	99504G
Friday 3Fr-8Fr incl.	97982D-97987D incl.

Green Group

Claim Name	Record Number
Friday 13-18 incl.	97960D-97965D incl.
Friday 31 & 32	97978D & 97979D
Friday 34-46 incl.	99505G-99517G incl.
Friday 1Fr & 2Fr	97980D & 97981D
Friday 9Fr & 10Fr	97988D & 97989D
Friday 11Fr-17Fr incl.	99518G-99524G incl.

GEOLOGICAL SETTING

The claims are underlain by sedimentary and volcanic rocks of the Hazelton Group. The western portion of the claim block is underlain by gently-dipping mudstones and the eastern portion by gently-dipping green volcanic flows, tuffs, tuft breccia and minor interbedded mudstones. A green fine dioritic rock occurs locally; this may be a sill or coarse flow centre. An amygdaloidal unit of the volcanic rocks contains very minor amounts of chalcopyrite as blebs in the matrix. All the volcanic rocks contain less than 1% of finely disseminated pyrite. The volcanic and sedimentary units are in fault contact along a north-westerly-trending fault zone locally marked by bleaching silicification and minor pyritization. The nature of the fault is unknown.

Both units are intruded by a variety of porphyritic dikes mostly very small and all unaltered. A narrow dike of biotite-feldspar porphyry contains a trace of chalcopyrite and the mudstones around this dike are hornfelsed and locally contain minor fracture-bound pyrite. A larger dike of very magnetic feldspar porphyry occurs in the volcanics in the northeastern portion of the claim block. This dike is barren and not visibly altered. The dike is of unknown size and from magnetic data may be part of a more extensive dike swarm further east.

GEOCHEMICAL SURVEY

Methods and Procedure

Soil samples were collected every 200' on lines spaced at 800' intervals. Samples were collected with hand augers and placed into wet strength kraft paper bags.

The top of the "B" horizon was sampled just below a rusty leached portion of the "A".

The samples were transported to the Vancouver Laboratory of Barringer Research where they were oven dried at 100°C and sieved to minus 80 mesh on nylon screens. A 0.2 gram portion of the -80 mesh fraction was digested in perchloric acid (HClO₄) and diluted to 10 ml. The copper content of the resultant solution was determined using atomic adsorption.

CALIENTE MINING CORPORATION

FRIDAY PROSPECT

HISTOGRAM OF RESULTS

COPPER

TOTAL NUMBER OF SAMPLES = 1014

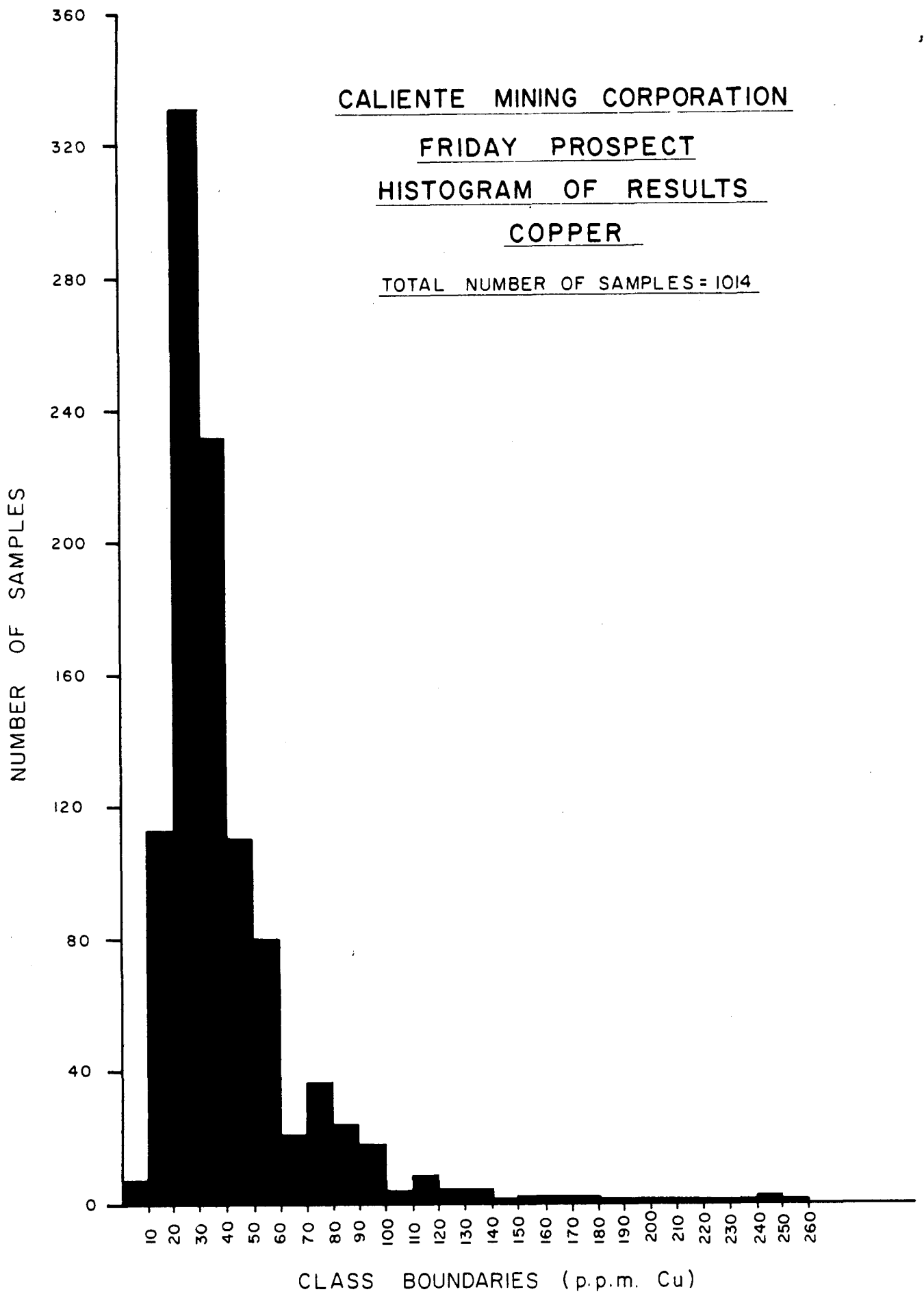


FIG. 2

All analyses were performed by Mr. Doug Reid of Barringer Research in their Vancouver Laboratory.

The samples were collected by Donegal Developments Ltd. on a contract basis at \$80 per line mile.

Results

A histogram of results is provided in Figure 2. The background value of copper in soils is quite low, the modal class being 21-30 p.p.m. Cu. Samples over 70 p.p.m. are considered anomalous and those over 100 p.p.m. definitely anomalous. The plotted results show that the samples in excess of 70 p.p.m. are erratically distributed in a belt extending northerly through the centre of the grid and in an area in the southwest corner of the grid. The northerly-trending belt of sporadic highs coincides with the areas of better outcrop in the volcanic sequence particularly with the amygdaloidal unit noted to carry sparse chalcopryrite. The scattered highs in the southwestern portion of the grid coincide with an area of moderate relief on the magnetometer survey and further correspond to areas of better outcrop in the sedimentary sequence where small dikes of feldspar porphyry were noted during trenching in 1971. The anomalous copper probably originates in the dikes rather than the sediments, since areas of equally good outcrop where there is no evidence of dikes do not yield anomalous values.

CONCLUSIONS AND RECOMMENDATIONS

Neither of the areas of patchy high values is likely to reflect mineralization of economic importance.

The area underlain by volcanic rocks is considered poor because:

1. Considering soil conditions, economic mineralization should yield a large intense anomaly.
2. The geologic environment appears poor.

The southwestern area is considered poor for the following reasons:

1. Soil conditions would suggest a larger, more intense and more regular anomaly should be present if underlain by mineralization.
2. Trenching nearby disclosed no alteration in the sediments or dikes, little fracture-bound pyrite and no copper mineralization.
3. Magnetic data suggests that although there is probably more than one dike present, they are all small.

It is therefore recommended that no further work be done on the claim group.

APPENDIX (i)
TIME AND COST DISTRIBUTION

TIME AND COST DISTRIBUTION

Staff (Caliente Mining Corporation)

	<u>Dates</u>	<u>Days</u>		<u>Rate</u>	<u>Total</u>
J. G. Simpson	5 Oct.	1 day	@	\$100/day	\$ 100
G. Jilson	7-11 Oct.	5 days	@	\$50/day	250

Contractor (Soil Sampling)

Donegal Developments Ltd. - 39 miles @ \$80/mile	3,120
Barringer Research Ltd. - 1014 samples @ \$1.20 each	1,220

Drafting and Duplication

Versatile Industries Ltd.	<u>100</u>
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Total	<u>\$4,790</u>
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APPENDIX (ii)
CERTIFICATION

CERTIFICATION

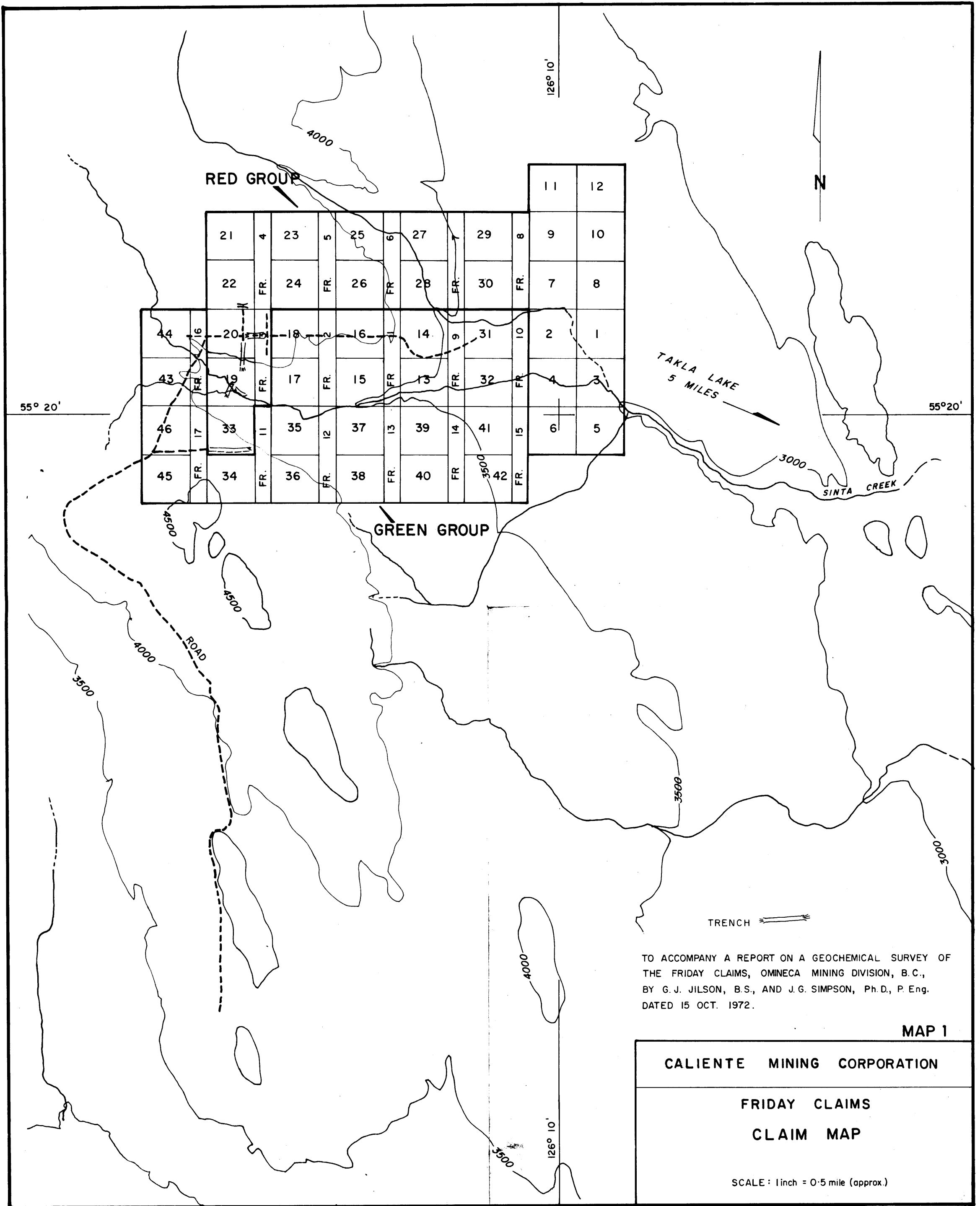
I, John Glenn Simpson, of 720 Anderson Crescent, West Vancouver, British Columbia, do certify that

- 1) I graduated from King's College, London University with a B.Sc. (Hons.) Geology in 1958, and was awarded a Ph.D. (External) from London University in 1969.
- 2) I am a Fellow of the Geological Association of Canada and a registered Professional Engineer in the Province of British Columbia and have practiced my profession in Africa, Europe and Canada for the past 14 years.
- 3) The work described in this report was carried out under my direction and supervision between the dates shown.

Dated at Vancouver, British Columbia,

this 15th day of October, 1972.

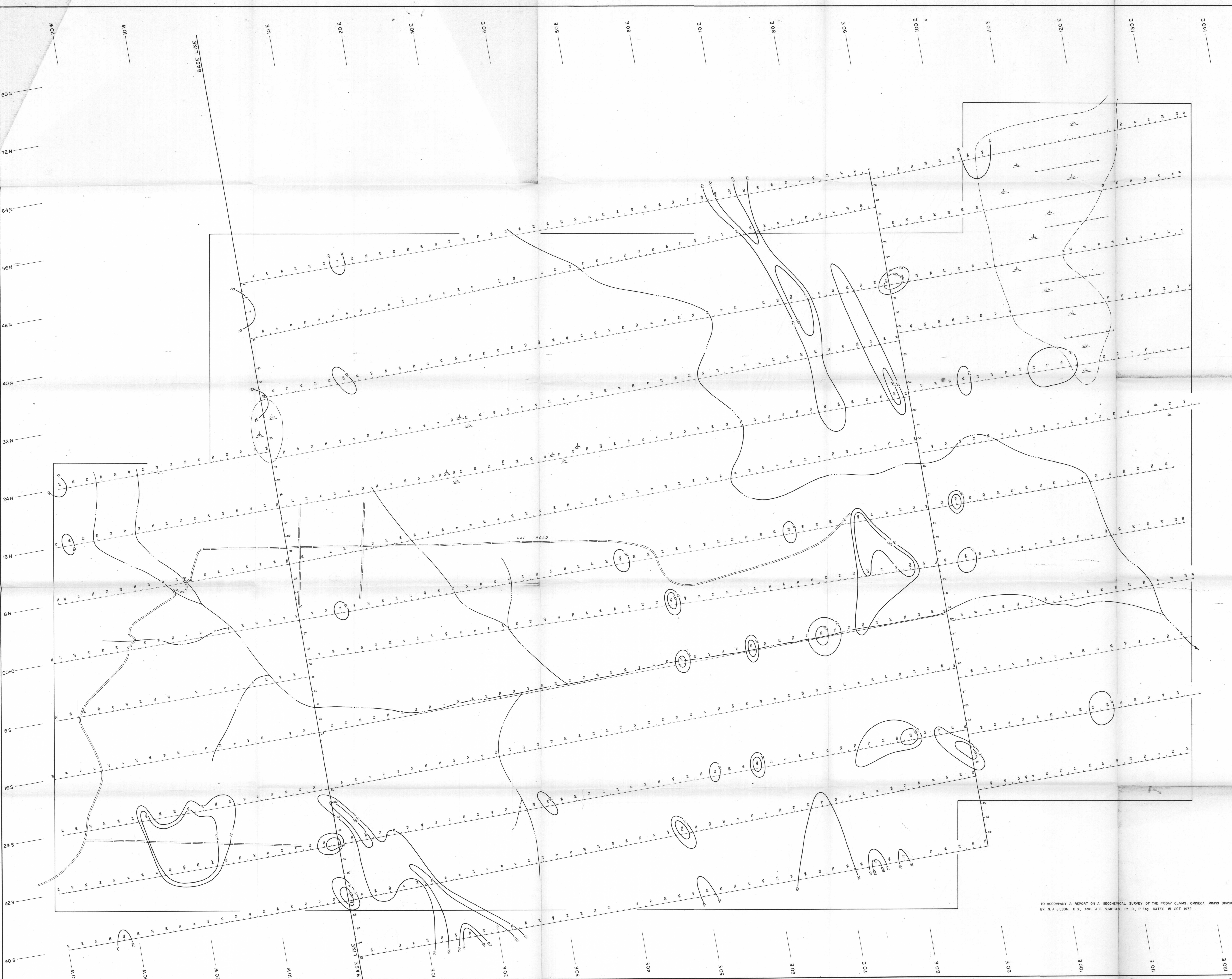
J. G. Simpson, B.Sc., Ph.D., P.Eng.



TO ACCOMPANY A REPORT ON A GEOCHEMICAL SURVEY OF THE FRIDAY CLAIMS, OMECA MINING DIVISION, B.C., BY G. J. JILSON, B.S., AND J.G. SIMPSON, Ph.D., P. Eng. DATED 15 OCT. 1972.

MAP 1

CALIENTE MINING CORPORATION
FRIDAY CLAIMS CLAIM MAP
SCALE: 1 inch = 0.5 mile (approx.)



LEGEND

- PROPERTY LINE
- CUT LINE
- - - FLAGGED LINE
- ~ STREAM
- p.p.m. COPPER
- CONTOUR p.p.m. COPPER

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MAP 2

CALIENTE MINING CORPORATION

FRIDAY CLAIMS
GEOCHEMICAL SURVEY
COPPER

Scale	Work By	Date
1" = 400'	DONEGAL DEVELOPMENTS LTD.	OCTOBER, 1972