2102

GEOCHEMICAL SOIL SAMPLING SURVEYS

GOD MINERAL CLAIM GROUP

GRASS LAKES AREA

WATSON LAKE MINING DIVISION

YUKON TERRITORY

Long. 131° 15' West
Lat. 61° 34' North

by

John S. Brock

Atlas Explorations Limited

August 7 - August 22, 1966

GEOCHEMICAL SOIL SAMPLING SURVEY

GOD MINERAL CLAIM GROUPS

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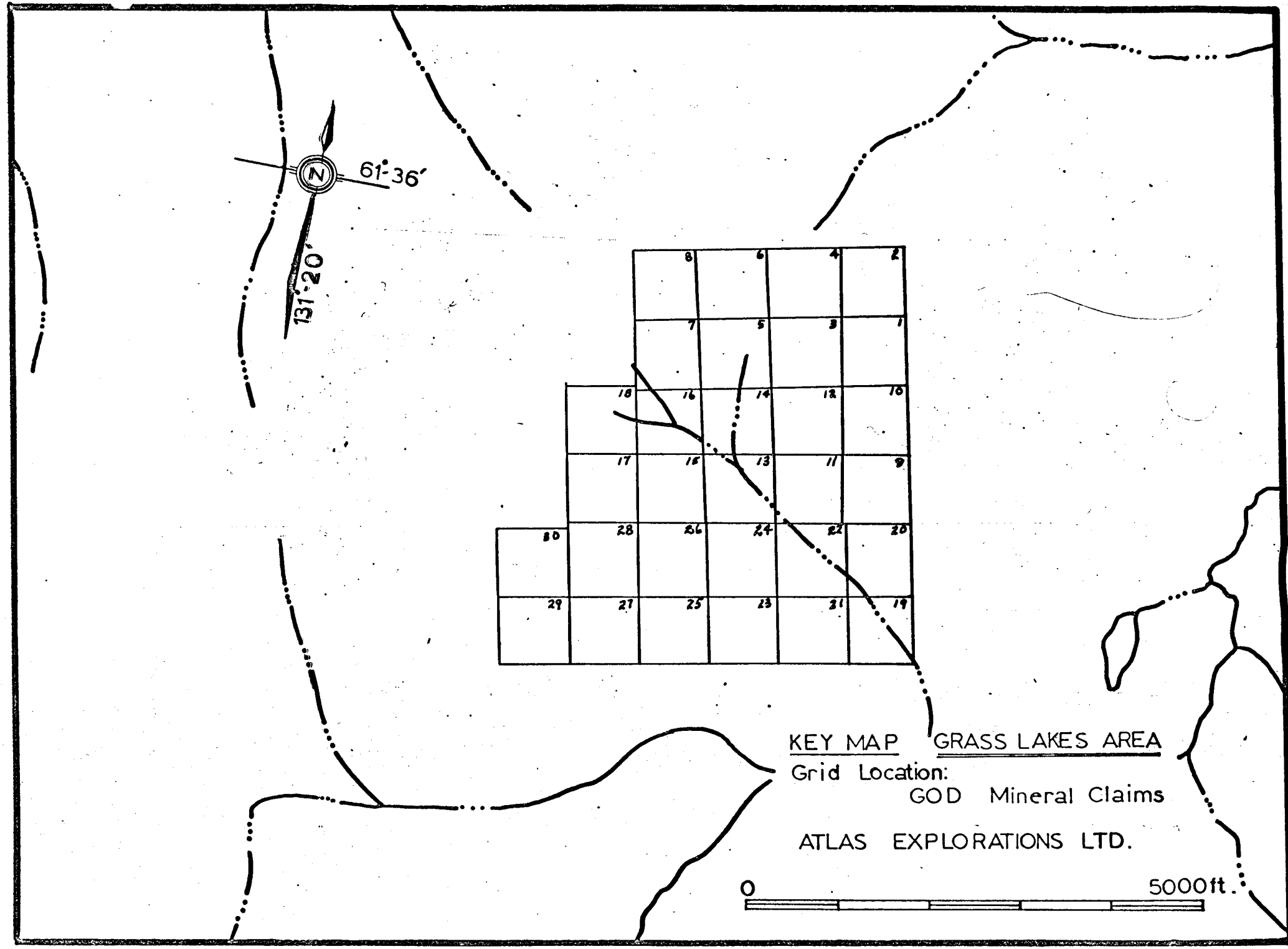
N
61-36'
131-20'
8
6
4
2
7
5
3
1
18
16
14
12
10
17
15
13
11
9
30
28
26
24
22
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29
27
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23
21
19
KEY MAP GRASS LAKES AREA
Grid Location:
GOD Mineral Claims
ATLAS EXPLORATIONS LTD.
0
5000ft.

LIST OF CLAIMS

Claim No.	Grant Nos.	Date Recorded
GOD 1 - 30	Y7894 - Y7323	May 11, 1966

TELEPHONE 685-4331

ATLAS EXPLORATIONS LIMITED
(N.P.L.)
330 MARINE BUILDING
355 BURRARD STREET
VANCOUVER 1, B.C.

INTRODUCTION

After the DUB mineral claims were acquired by Atlas Explorations in the Fyre Lake area, the Grass Lakes region was flown with airborne electromagnetic and magnetic surveys. As a result of the geophysical surveys outlining anomalies in proximity to the GUN group, an area of known favorable geologic conditions, the GOD group of 30 mineral claims was staked and recorded May 11, 1966.

The claims were staked by Atlas Explorations as part of an intensive follow-up program after completion of the airborne surveys. Ground was obtained in preparation of ground geochemical, geophysical and geologic surveys that were to be employed to delineate airborne anomalies. Commencing August 7, 1966, a crew consisting of geologic, geophysical, geochemical, linecutting and camp support personnel were placed on the property to investigate the anomalous electromagnetic and magnetic airborne responses.

LOCATION AND ACCESS

The God mineral claims are located at latitude

61° 34' north and longitude 131° 15' west, about 3 miles west of Mink Lake at the northwest end on the Finlayson Lake map sheet. Mink Lake is situated at the headwaters of Mink Creek. The Gun group lies at an elevation of 4000 feet above sea level.

The lower elevations of the claim group are over ground that consists mainly of water covered muskeg due to the tributary drainage system at the headwaters of Mink Creek. Higher elevations are mainly covered with dwarf birch (buckbrush) and some sparse spruce stands, much of the area is comprised of "burn" from recent forest fires.

Access to the properties was made with the aid of aircraft only. Mink Lake is suitable for all aircraft equipped with floats and skis. A base camp was established on the Gun claim group for examination of the claims. Due to the distance from Mink Lake, the camp was serviced mainly by helicopter from Ross River. Work on the property was administered from Field Offices at Ross River, 46 miles north of Mink Lake: constant communication was kept with the camp by means of single sideband radio. All expediting of supplies was done from Ross River.

PREVIOUS WORK

To the knowledge of Atlas Explorations, no work

was done in the Grass Lakes area prior to an airborne geophysical survey and staking by Atlas in April of 1966.

GEOLOGY

The God mineral claims lie in an area of metamorphosed volcanic and sedimentary rocks which flank a cyrstalline core of granodiorite and gneisses. The intrusive is coarse grained and porphyritic with phenocrysts ranging to several inches. To the southwest, the intrusive is bordered by coarse grained quartz, feldspar, muscovite augen gneisses and fine grained quartz feldspar biotite gneisses. A series of graphitic quartz biotite schists and phyllites with minor limestone unconformably overlie the metamorphic rocks.

SURVEY TECHNIQUES

Linecutting

The soil sampling survey was conducted over the same grids as used for the geophysical surveys, no extra linecutting was required other than that done for the magnetic and electromagnetic work.[1]

Soil Sampling

The soil sampling survey was carried out in conjunction with the electromagnetic and magnetic survey. One soil sampler was employed for the entire survey.

1: See report "Magnetic and Electromagnetic Geophysical Surveys, God Mineral Claim Groups."

The samples were obtained by use of a prospector's grub hoe which was found adequate as a tool for cutting through heavy layers of organic material overlying the soil. Samples were taken at 100 foot stations over the same grid area as geophysical data was obtained from.

Due to the inconsistency of specific soil horizons as well as variable depths to favorable horizons, samples were taken from an average depth of approximately one and one-half feet. Soils of the upper B horizon were usually encountered except in areas of much glacial till and over-burden. Soils of large organic content were not sampled. In areas of immature soils, the C. horizon was sampled. Approximately 100 grams of soil from each sample site were placed in Kraft bags which were then periodically shipped to the soil testing laboratory at Ross River.

Method of Analysis

All samples were analyzed at a complete testing laboratory at Ross River. When the samples were received, each was dried while in its Kraft bag, then screened to 80 mesh, weighed out to 0.5 grams and digested in hot aqua regia. Samples were then diluted, clarified for 20 hours and then tested for copper, lead and zinc content on an atomic absorption spectrophotometer. The "AA" unit used was a Perkins Elmer Model 290 and accuracy of the instrument ideally

is 1% of the amount of metal present. Individual cathode lamps were used for each element determination, a direct readout is given of the element being tested and two determinations per minute can be made with ease.

Treatment of Data

All results of geochemical tests were returned to the field as soon as possible. Results in parts per million (ppm) were plotted on field data sheets kept by the field soil sampler. The field data sheets were kept as a record of each sample taken, noting particulars concerning drainage, topography, physiography, soil type and depth of sample. This information was compiled for use in further detailed geochemical studies.

Separate maps were prepared using a scale of 1" = 400', as was used for geophysical data, showing values obtained for copper, lead and zinc, profiles of values and contoured values. Contour intervals varied according to results obtained in parts per million. Maps for each element were compiled separately in order to aid in comparative study of geophysical, geologic and geochemical results. A development map for each area has also been prepared showing general compilation of geochemical-geophysical data.

TOPOGRAPHY AND GROUND CONDITIONS

The Gun mineral claims lie in a broad intermontain valley at the junction of the Tintina Trench and Finlayson

Lake valley. Slopes are generally to the east off the eastern side of the north end of the Simpson Range. Local slopes over the claims are to the southeast at a maximum of 10 degrees. Drainage is well defined and comprises the western tributary of the headwaters of Mink Creek. Glaciation is from north to south and in local depressions accumulations of till are evident. Much of the soil appears to be remnant but soil horizons are only partially developed. The "B" horizon was sampled where possible, however in some places a heavy organic layer and/or permafrost prevented consistent sampling of soil types.

GEOCHEMICAL RESULTS

Frequency distribution surveys drawn for copper indicate a threshold of 60 ppm, a background of 40 ppm and anomalous values over 60 ppm. Studies of the contoured copper geochemical results indicate that values ranging from 60 to 80 ppm are due to geochemically high rock types. Higher copper values range along the flanks of the conductor (electromagnetic) and only isolated single values of significance occur within the conductive zone.

Frequency distribution curves for zinc indicate a background ranging from 50 to 100 ppm and a threshold of 120 ppm. The contoured zinc results show no areas of geochemical significance, zinc values appear to be associated

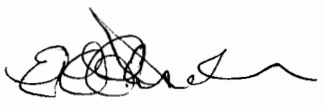
with the sedimentary horizons as outlined by electromagnetic surveys.

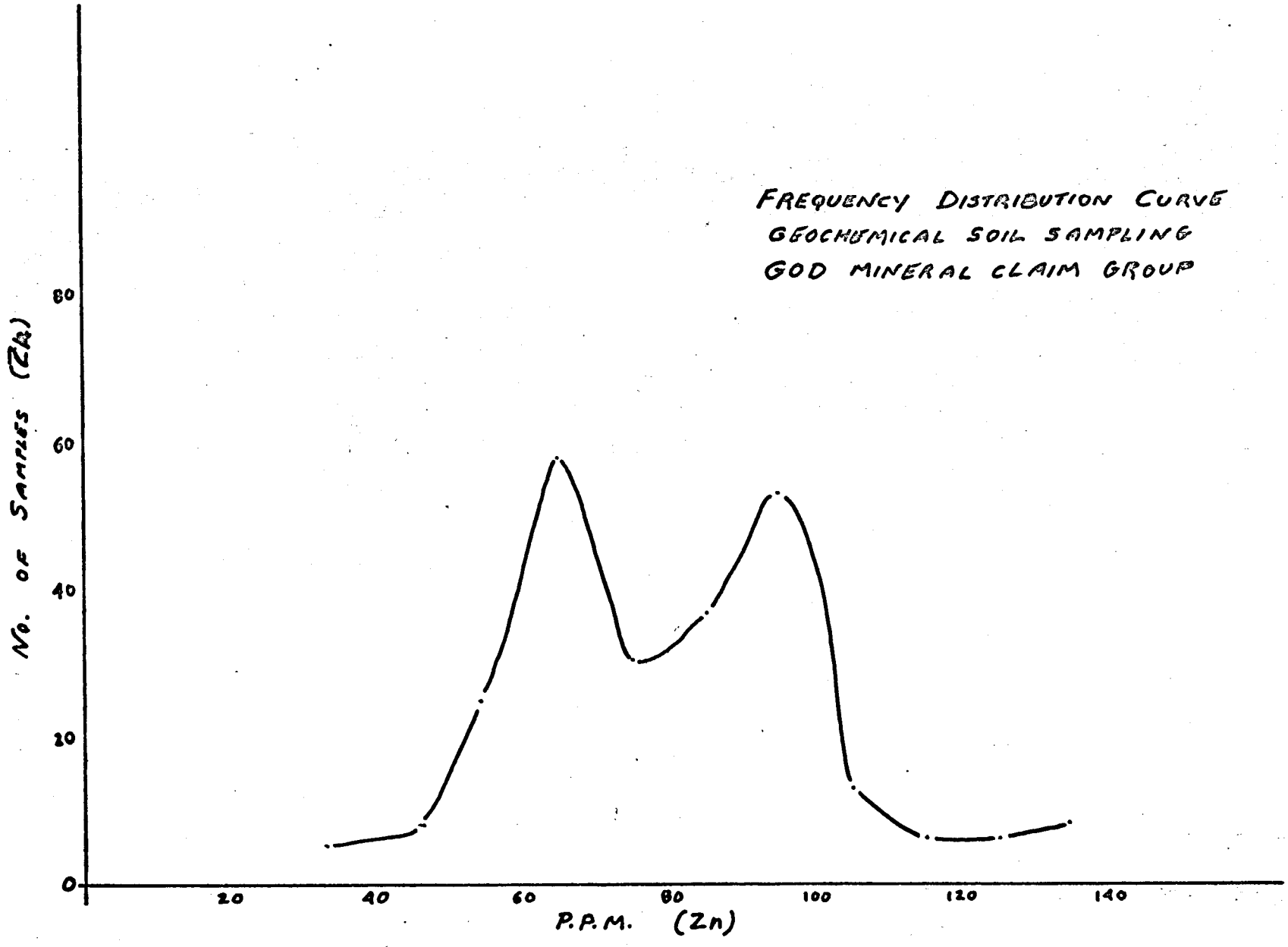
CONCLUSIONS AND RECOMMENDATIONS

There is no correspondence with geophysical results when correlation of the geochemical results is attempted. The results as examined on contour maps and frequency distribution curves indicate a relation to rock types but not to areas of possible base metal sulphides. It is recommended that no further work be conducted in the area already examined but that geochemical surveys be carried out over airborne geophysical anomalies further to the south of the present grid.

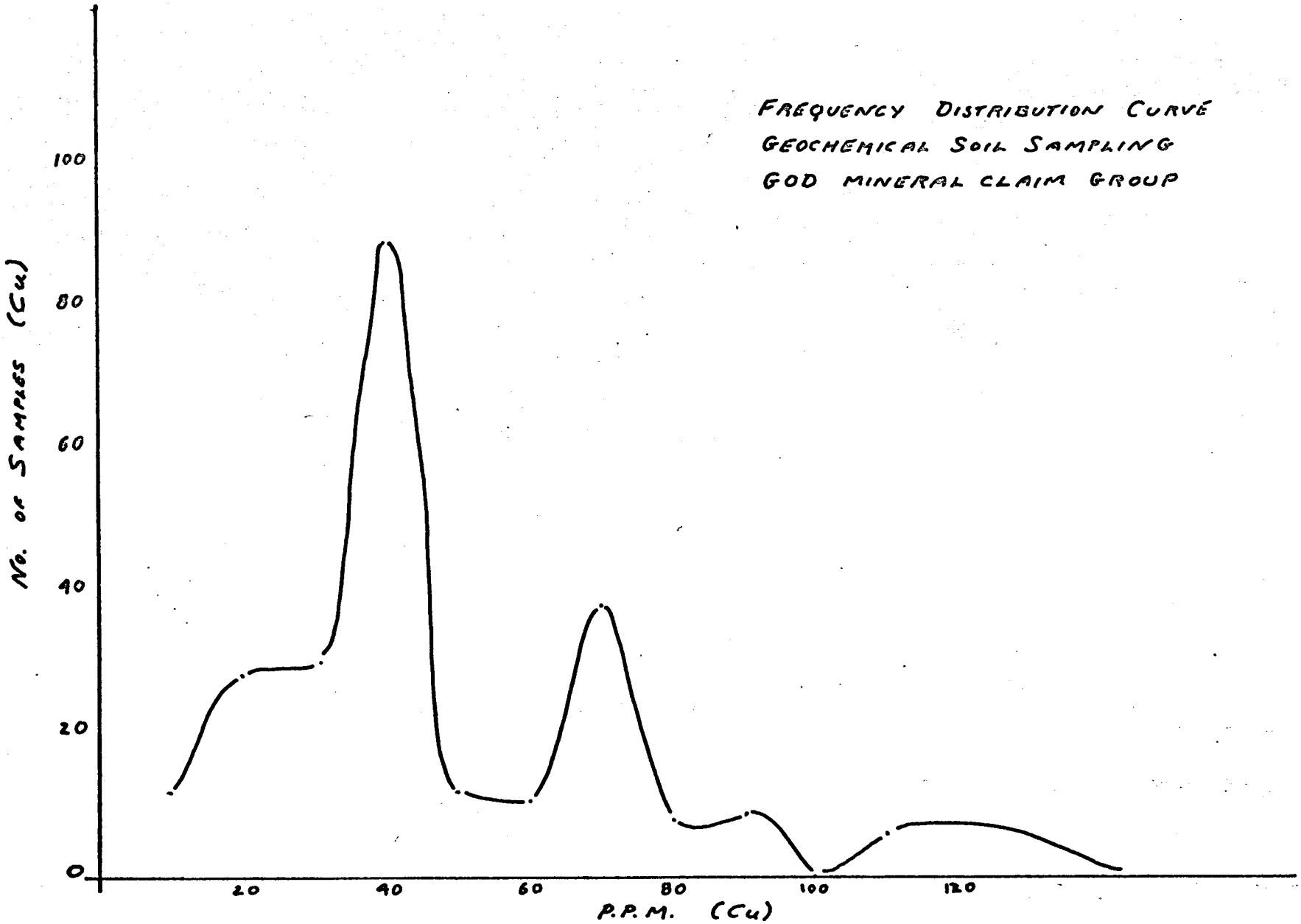
Respectfully submitted,

John S. Brock,
Atlas Explorations Limited.




FREQUENCY DISTRIBUTION CURVE
GEOCHEMICAL SOIL SAMPLING
GOD MINERAL CLAIM GROUP
No. OF SAMPLES (Zn)
0
20
40
60
80
20
40
60
80
100
120
140
P.P.M. (Zn)

Appendix 1


FREQUENCY DISTRIBUTION CURVE
GEOCHEMICAL SOIL SAMPLING
GOD MINERAL CLAIM GROUP
No. of Samples (Cu)
0
20
40
60
80
100
20
40
60
80
100
120
P.P.M. (Cu)

Appendix II

APPENDIX III

GRASS LAKES AREA PROJECT
GOD MINERAL CLAIM GROUPS
GEOCHEMICAL SOIL SAMPLING SURVEY

SUMMARY OF COSTS

1.	Wages and salary, August 7 to August 22, 1966, 16 days at $20.00/day	$ 320.00
2.	Subsistence, room and board in the field at $12.00/man/day for 16 days	192.00
3.	Overall supervision of sampling survey at pro-rated cost of $10.00/man/day	120.00
4.	Total cost analysis of samples for trace element content by atomic absorption photospectrometer method 404 samples at $2.50 each	1,010.00
5.	Preparation of report and presentation of data	500.00
		$ 2,142.00

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APPENDIX III

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AFFIDAVIT SUPPORTING SUMMARY OF COSTS

I, E. O. CHISHOLM, Exploration Manager of Atlas Explorations Limited, of Vancouver, British Columbia, do hereby state that to the best of my knowledge and belief, the statement of costs as presented in this report "Geochemical Soil Sampling Survey - GOD Mineral Claim Groups" (Appendix III)is both correct and true.

E. O. Chisholm

May 16, 1967

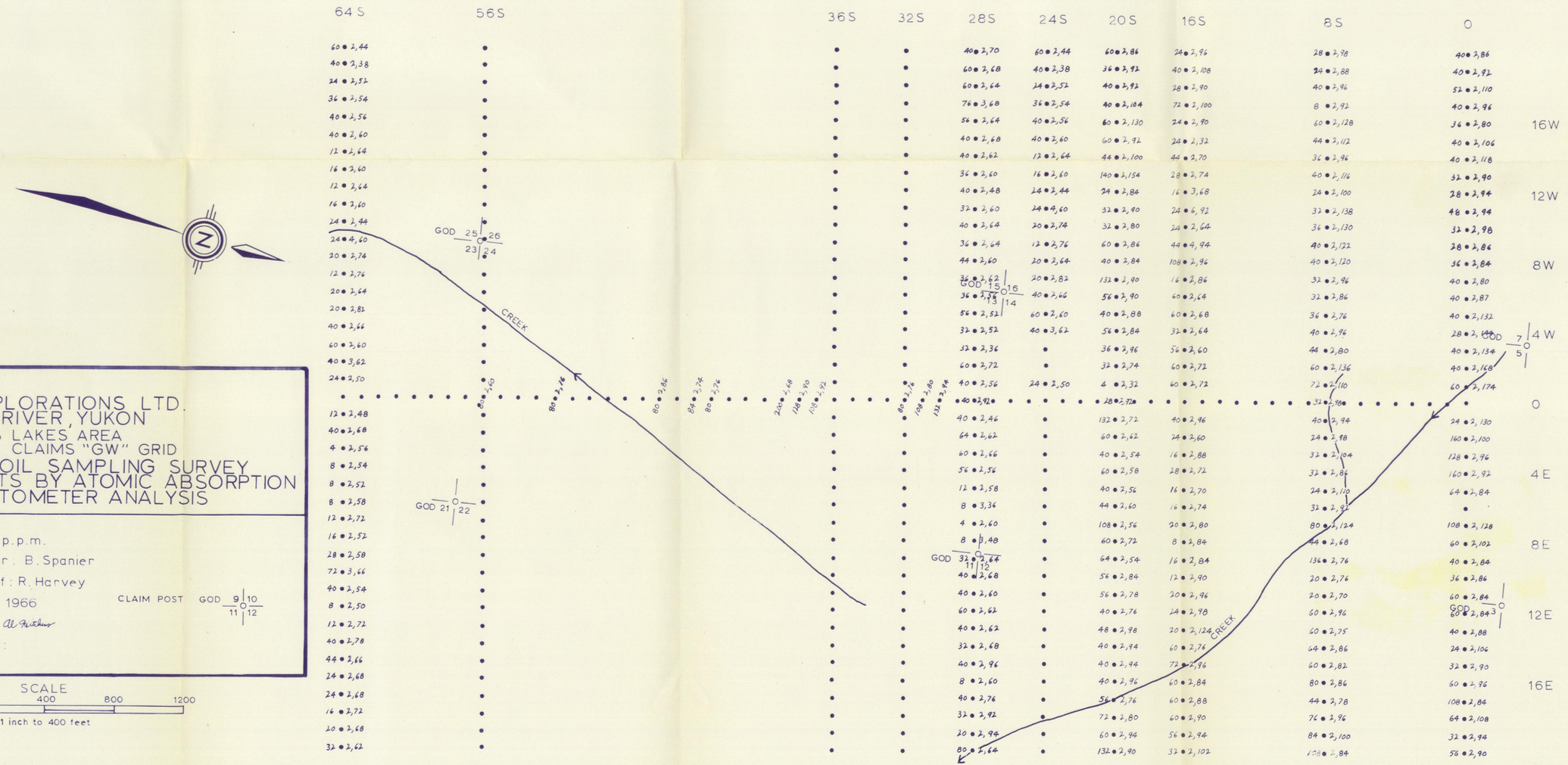
Date

A Commissioner of Oaths in
and for the Yukon Territory

PERSONNEL

B. Spanier	Soil Sampler	Vancouver, B. C.
R. W. Harvey	Party Chief	Vancouver, B. C.
J. S. Brock	Assistant Exploration Manager	Ross River, Y. T.
E. Clegg	Chief Soils Analyst	Ottawa, Ontario.

All above-mentioned employees were under the employ of Atlas Explorations Limited as field exploration personnel for the year of 1966.



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ROSS RIVER, YUKON
GRASS LAKES AREA
GOD MINERAL CLAIMS "GW" GRID
GEOCHEMICAL SOIL SAMPLING SURVEY
CU, PB & ZN RESULTS BY ATOMIC ABSORPTION SPECTROPHOTOMETER ANALYSIS

Results in p.p.m.

Soil sampler: B. Spanier

Party chief: R. Harvey

Date: Aug., 1966

Drawn by: Al Fitchner

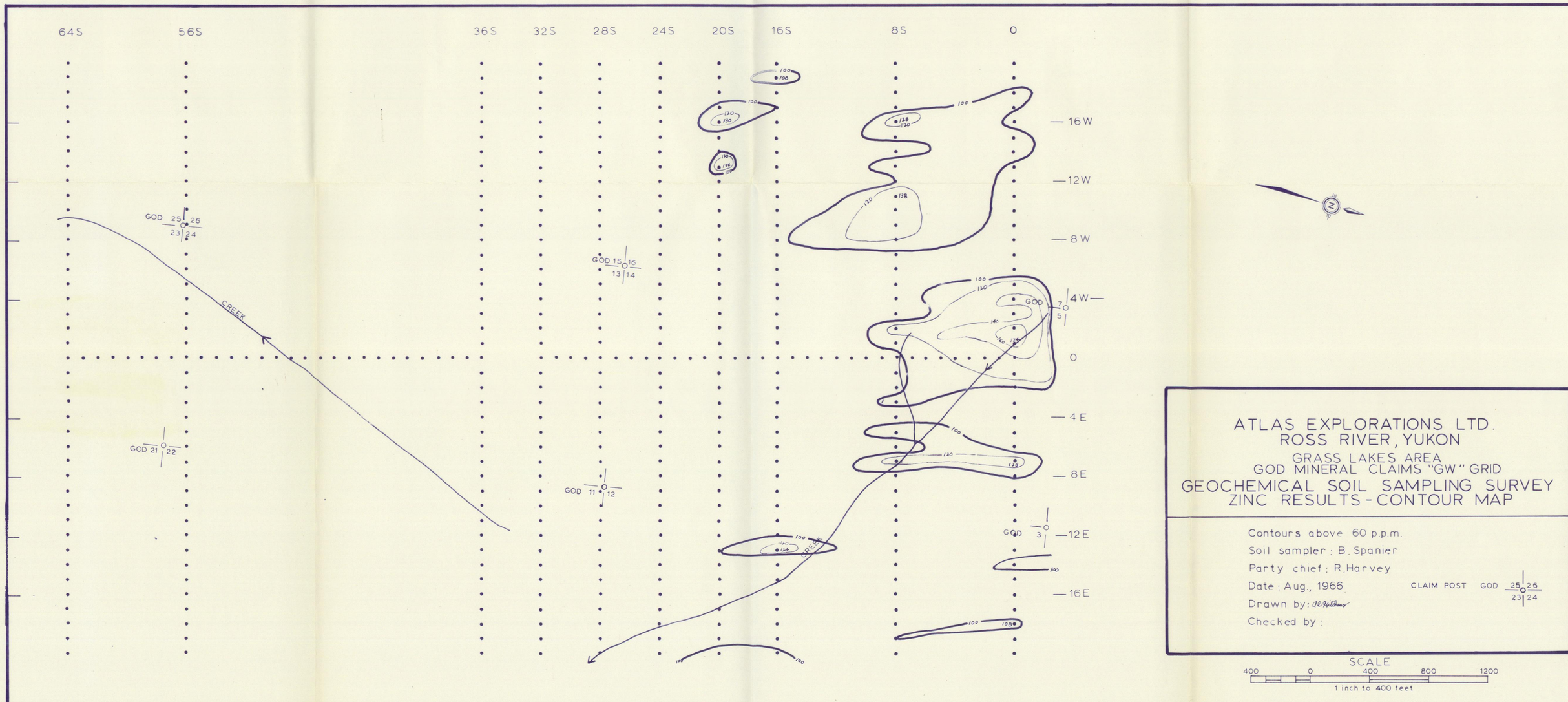
Checked by:

CLAIM POST GOD 9 | 10 / 11 | 12

SCALE

400 0 400 800 1200

1 inch to 400 feet



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GRASS LAKES AREA
GOD MINERAL CLAIMS "GW" GRID

GEOCHEMICAL SOIL SAMPLING SURVEY
ZINC RESULTS - CONTOUR MAP

Contours above 60 p.p.m.

Soil sampler: B. Spanier

Party chief: R. Harvey

Date: Aug., 1966

Drawn by: [illegible]

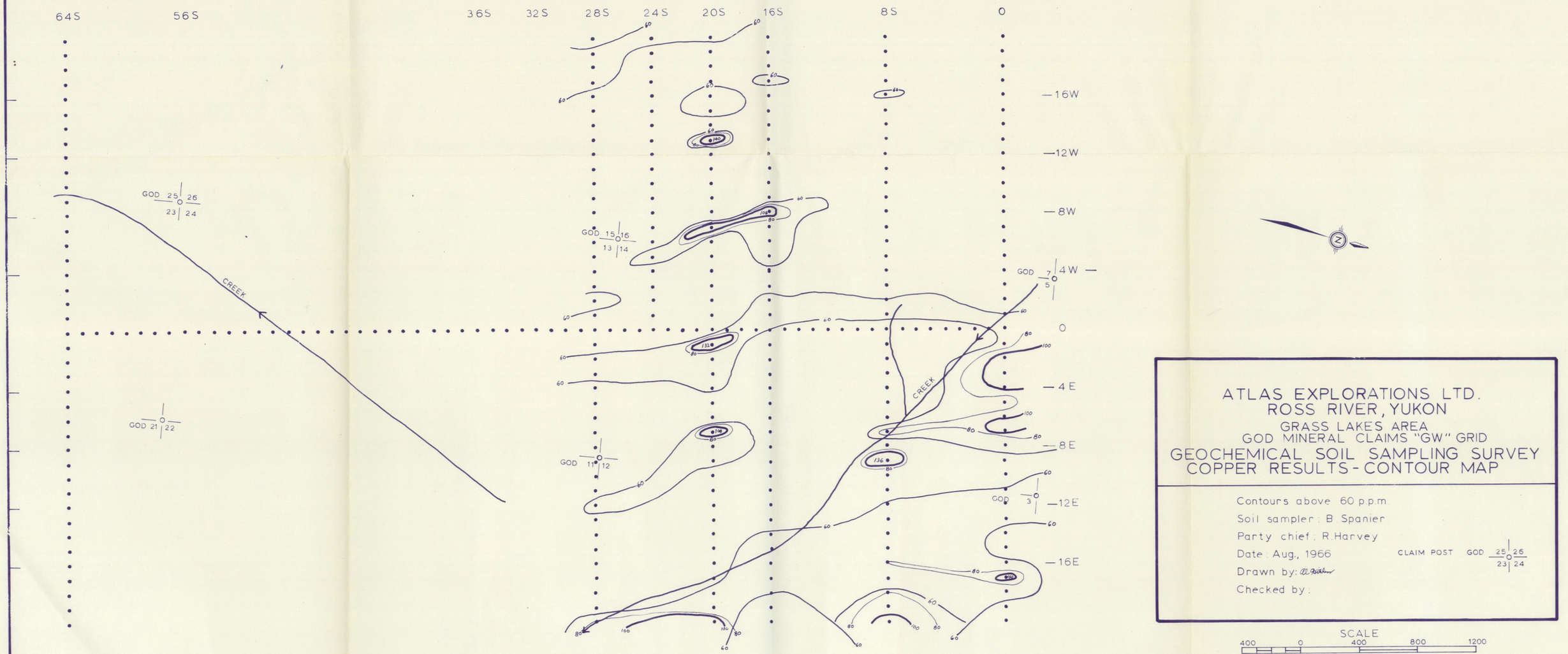
Checked by:

CLAIM POST GOD 25 26 / 23 24

SCALE

400 0 400 800 1200

1 inch to 400 feet



ATLAS EXPLORATIONS LTD.
ROSS RIVER, YUKON

GRASS LAKES AREA
GOD MINERAL CLAIMS "GW" GRID

GEOCHEMICAL SOIL SAMPLING SURVEY
COPPER RESULTS - CONTOUR MAP

Contours above 60 p.p.m.
Soil sampler: B. Spanier
Party chief: R. Harvey
Date: Aug., 1966
Drawn by:
Checked by:

CLAIM POST GOD 25 | 26 / 23 | 24

SCALE
400 0 400 800 1200
1 inch to 400 feet