GEOCHEMICAL SOIL SAMPLING SURVEY

on

PAY 1-16 MINERAL CLAIM GROUP

FORTIN LAKE AREA

Watson Lake Mining Division

Yukon Territory

Long. 130° 25' West

Lat. 62° 00' North

by

Clyde L. Smith

Atlas Explorations Limited

June 16 - July 4, 1967

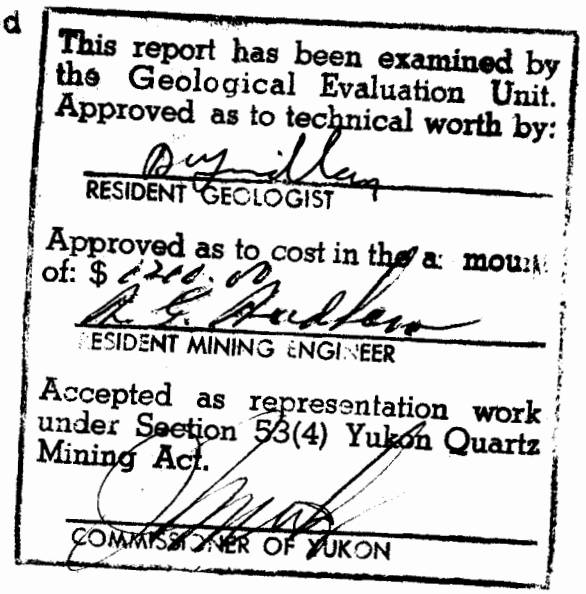


TABLE OF CONTENTS

LIST OF CLAIMS

Claim Number	Grant Number	Date Recorded
PAY 1-16	Y13133-Y13148	July 4, 1966

INTRODUCTION

The Pay 1-16 group was optioned from R. McBean on August 13, 1966, following an examination by Al Kulan and discussions with P. Risby, who made the initial discovery. Payments are due at yearly intervals on September 1 beginning in 1967. C. J. Brown made a brief examination of the property in July 1966.

The Pay 1-16 group consists of 14 contiguous claims, elongate in a northwesterly direction, and two separate claims northwest of the main group, located east of Fortin Lake and about 60 miles east of Ross River.

LOCATION AND ACCESS

The Pay 1-16 group is located about 6 miles east of Fortin Lake and is accessible by Beaver aircraft (Pay Lake and Barry Lake being suitable for landings on floats or skis) or by tote trail. The Atlas tote trail leaves the Watson Lake-Ross River road northwest of Finlayson Lake and after a distance of about 32 miles passes just west of the claim group and east of Pay Lake. The road may be travelled by bombardier in the summer or by 4-wheel drive truck in the winter.

GEOLOGY

The Pay group area is underlain by a steeply-dipping, N50-80°W-striking succession of metasediments. Stratigraphic relations are not known but what appears to be the oldest unit is a light gray to dark gray massively bedded chert locally interbedded with brownish gray dolomite. Apparently overlying to the southwest are narrow members of gray quartzite and light gray phyllite. Black carbonaceous slates crop out on the southwest side of the succession and dip less steeply to the south than the cherts.

Only one fault wasnnoted cutting the beds. The fault trends north-south and dips steeply displacing the easterly block at least 1200 feet to the south.

The cherts are extensively mineralized in the eastern portion of the grid area. Mineralization occurs in chert breccia as replacement in matrix material. Percentages of minerals vary and grades are generally low. Pyrrhotite and arsenopyrite are abundant with lesser amounts of sphalerite, galena, chalcopyrite, and pyrite.

TOPOGRAPHY AND GROUND CONDITIONS

The Pay 1-16 group lies along a northwesterly trending ridge within which outcrop and suboutcrop is abundant. Drainage is to the northeast down an abrupt slope and to the southwest down a gentle slope. Elevations average 4000 feet and vegetation

is typical Yukon sub-alpine. Glaciation is from east to west and till is very thin. Soils are generally of the "B" horizon.

SURVEY TECHNIQUES

Grid Lines

The grid consists of a 6400-foot base line trending N45°W with 9 cross lines of 2000 feet in length spaced 800 feet apart turned off to the southwest and 4 cross lines 1500 feet long to the northeast. Total cut line is 27,400 feet.

Reconnaissance Lines

Prior to line cutting of the North Fay grid five reconnaissance geochemical sampling lines spaced 1000 feet apart were run. The lines were 4000 feet long for a total aggregate length of 20,000 feet.

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.

The samples were obtained by use of a prospector's grub hoe which was found adequate as a tool for cutting through 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. 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' units used were a Perkins Elmer Model 290 (1966) and a Model 320 (1967) 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' and 1" - 1000' 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 compilationn of geochemical-geophysical data.

GEOCHEMICAL RESULTS AND CONCLUSIONS

Because the number of samples taken in the area was small, a statistical treatment to determine background and threshold values was not attempted. However, approximate threshold values appear to be as follows: Cu, 60 ppm; Pb, 40 ppm; Zn, 200 ppm.

Because of the presence of outcropping mineralization in the area it was decided to treat only relatively high values as significant.

Copper

Between lines 32 and 40E three anomalous copper values occur. Peak value is 470 ppm. The area has not yet been investigated for mineralization.

Lead

Only one distinctly anomalous result occurs. It is a high of 500 ppm on the base line and 43E. The area has not yet been investigated for mineralization.

Zinc

Zinc is the only metal giving contourable results. Two elongate east-west trending anomalies of over 3200 feet and 2000 feet occur. Anomalies enclose values of over 200 ppm and peak values reach 1000 ppm. Anomalies are on-strike with attitude of rock units and appear to overlie black slates.

Because mineralization known in the area is sphalerite-bearing it is logical to assume that the anomalous Zn geochemical results are indicating narrow, but extensive zones of Zn mineralization.

It is recommended that outcrop in the area of anomalies be thoroughly investigated and where required trenching to be done.

APPENDIX I

SUMMARY OF COSTS

		Costs $
1.	Salaries - 2 samplers for 6 man/days	120
	- 1 party chief for 2 man/days	50
2.	Camp Support - total of 10 man/days	120
3.	Helicopter - 2 hours at $110/hour	220
4.	Fixed Wing - ½ of round trip, Ross River to Pay	170
5.	Bombardier - 2 days at $35/day	70
6.	Equipment	25
7.	Cost of analysis of 160 samples; at $2.65/ sample	425
	TOTAL	$1,190

APPENDIX II

A F F I D A V I T

Supporting Summary of Costs

I, Clyde L. Smith, Chief Geologist, Atlas Explorations Limited, of Vancouver, B.C., do hereby state that to the best of my knowledge and belief the statement of costs as presented in Appendix I of this report "Geochemical Soil Sampling Survey on Pay 1-16 Mineral Claim Group" is both true and correct.

DATED AT Pelly Lakes, Yukon Territory, this 6th day of July, A.D. 1967.

SWORN BEFORE ME at
Pelly Lakes, Yukon
Territory, this 6th
day of ~~July~~, A.D. 1967

A Commissioner for taking
Affidavits in the Yukon
Territory

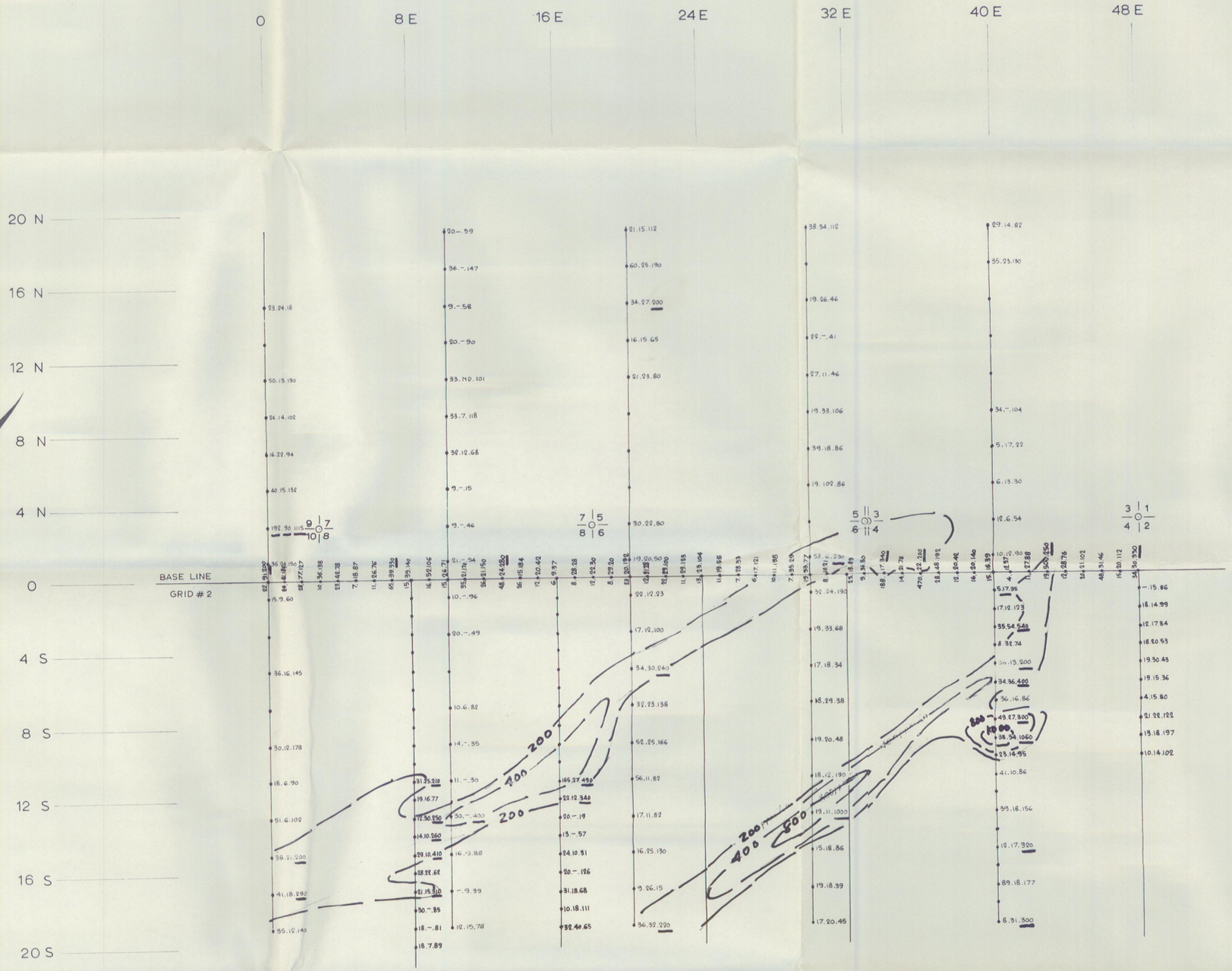
Clyde L. Smith

Clyde L. Smith

APPENDIX III

PERSONNEL

Phil Neilsen	Party Chief	1600 Beach Ave. Vancouver, B.C.
William Etzel	Soil Sampler	Ross River, Y.T.
Chris Scott	Soil Sampler	1895 - 26th St. West Vancouver, B.C.
Pat Lund	Bombardier Operator	Watson Lake, Y.T.



ATLAS EXPLORATIONS LIMITED

ROSS RIVER (Y.T.)

SHELDON REGION

PAY MINERAL CLAIMS

GEOCHEM. SOIL SAMPLING SURVEY, COPPER LEAD & ZINC RESULTS, BY ATOMIC ABSORPTION SPECTROPHOTOMETER ANALYSIS

SOIL SAMPLER: B.ETZEL
PARTY CHIEF: P.NIELSEN

DATE: JUNE 1967
DRAWN BY: P.J.F.VLASVELD

400 0 400 800
scale in feet

ATLAS EXPLORATIONS LIMITED

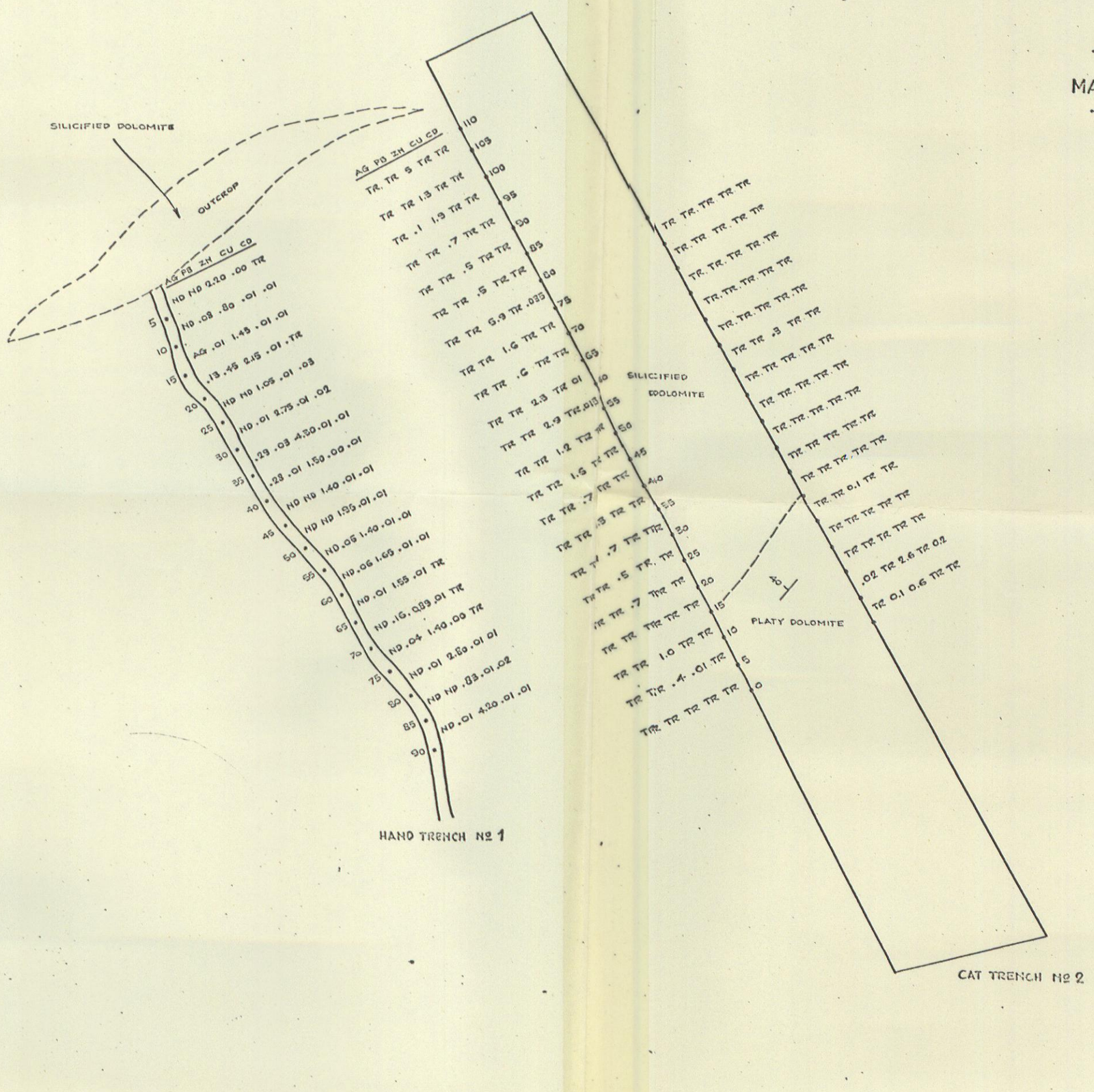
ROSS RIVER (Y.T.)

PAY MINERAL CLAIMS

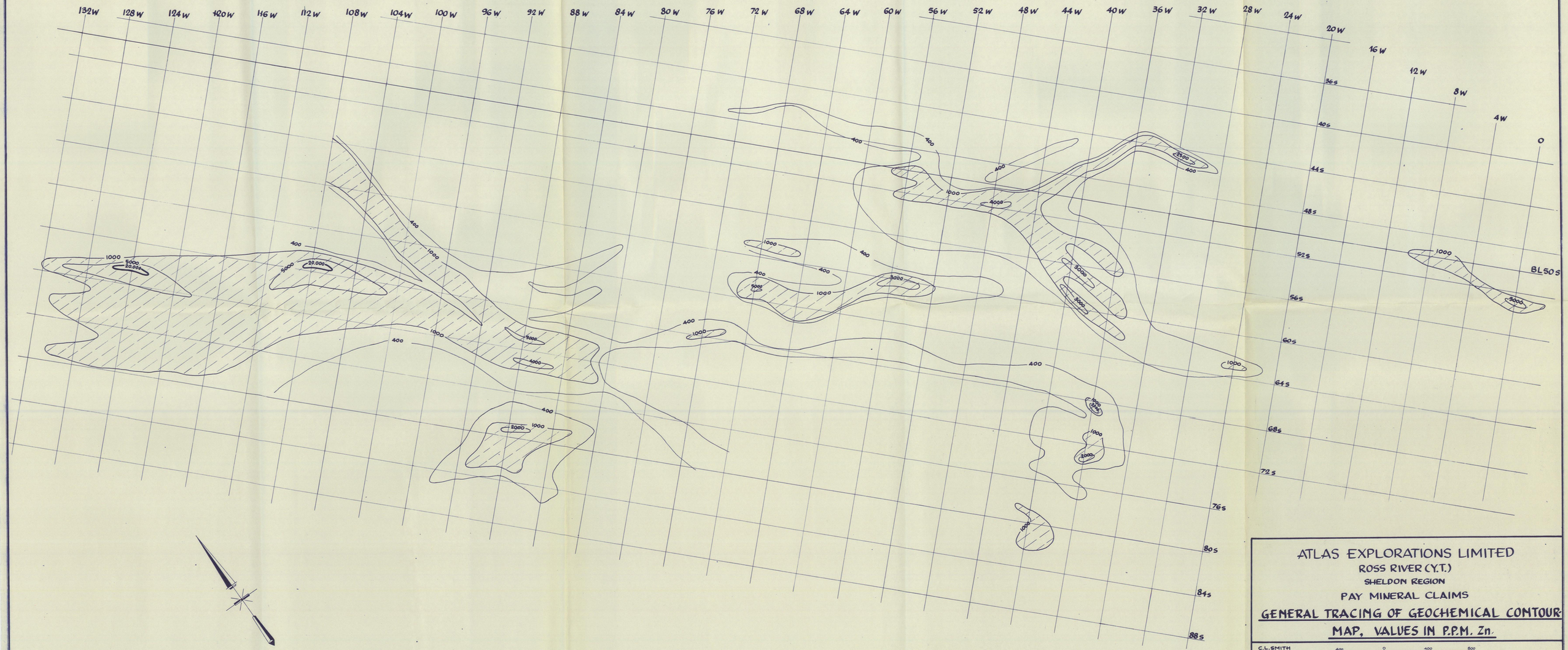
MAP OF CAT TRENCH № 2
" - HAND TRENCH № 1
scole 1" = 20'

L48W

51S



53S



ATLAS EXPLORATIONS LIMITED

ROSS RIVER (Y.T.)

SHELDON REGION

PAY MINERAL CLAIMS

GENERAL TRACING OF GEOCHEMICAL CONTOUR MAP, VALUES IN P.P.M. Zn.

C.L. SMITH

400 0 400 800

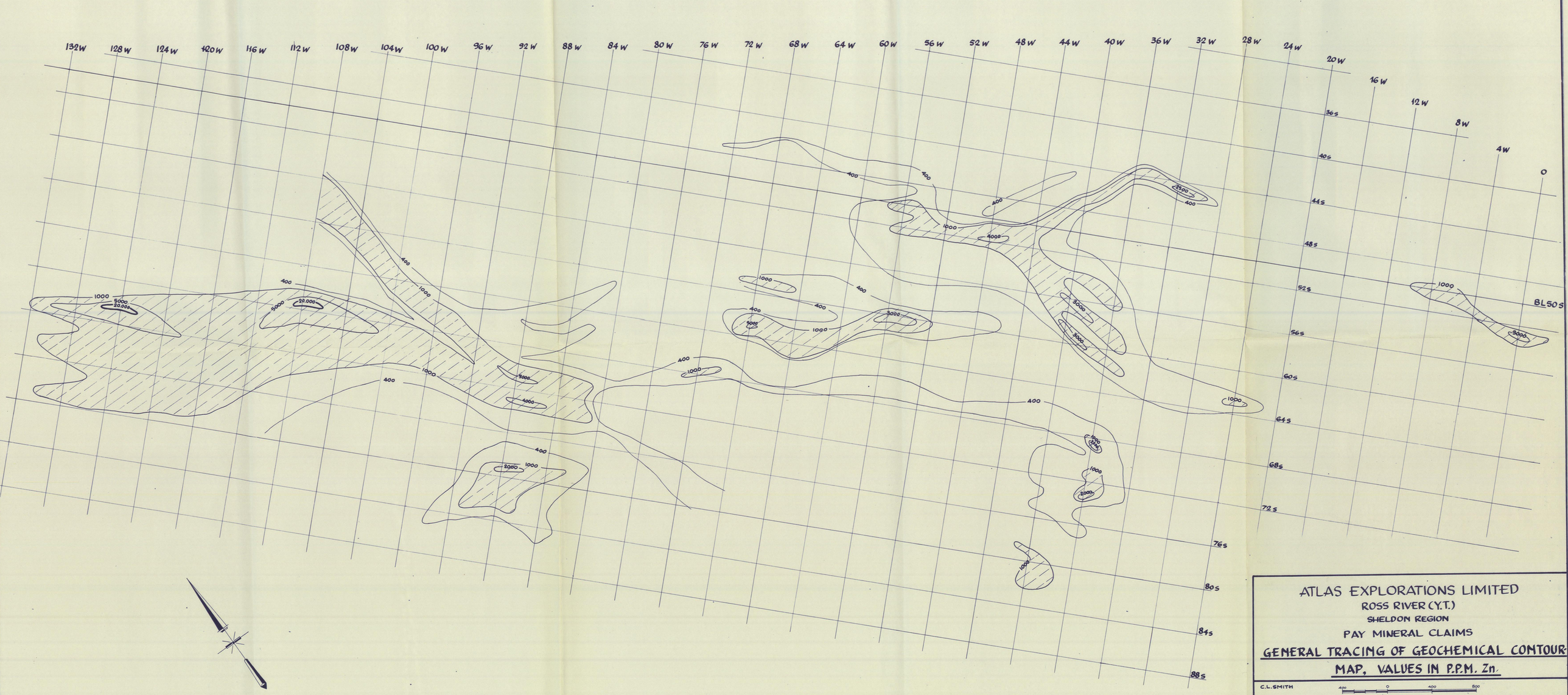
SCALE IN FEET

DRAWN BY: P.J.F. VLASVELD

ATLAS EXPLORATIONS LTD
ROSS RIVER, YUKON
SHELDON PROJECT
PAY MINERAL CLAIMS
GEOCHEMICAL SOIL SAMPLING SURVEY
Pb. CONTOUR MAP

SOIL SAMPLER: C.WICKS
20 p.p.m. (60, 100 etc.)
40 p.p.m. (80, 120 etc.)
DRAWN BY: J.N. BOATENG
DATE: AUGUST 1967

400 0 400 800
scale in feet



ATLAS EXPLORATIONS LIMITED

ROSS RIVER (Y.T.)

SHELDON REGION

PAY MINERAL CLAIMS

GENERAL TRACING OF GEOCHEMICAL CONTOUR MAP, VALUES IN P.P.M. Zn.

C.L. SMITH

400 0 400 800

SCALE IN FEET

DRAWN BY: P.J.F. VLASVELD

ATLAS EXPLORATIONS LTD

ROSS RIVER, YUKON

SHELDON PROJECT

PAY MINERAL CLAIMS

GEOCHEMICAL SOIL SAMPLING SURVEY

Zn. CONTOUR MAP

SOIL SAMPLER: C. WICKS

200, 600, contour

1000 p.p.m.

DRAWN BY: J.N. BOATENG

DATE: AUGUST 1967

400 0 400 800

scale in feet