

GEOCHEMICAL SOIL SAMPLING SURVEYS

on

PAL (NORTH) MINERAL CLAIMS

FORTIN LAKE AREA

Watson Lake Mining Division  
Yukon Territory

Longitude 130° 32'W

Latitude 62° 02'N

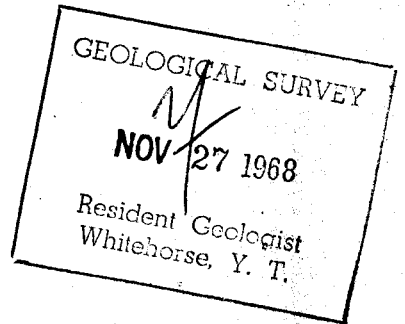
Map Sheet 105-J-1 & 2

by

Clyde L. Smith,  
Exploration Manager

Spartan Explorations Ltd. (N.P.L.)

September 3 - September 23, 1968



This report has been examined  
the Geological Evaluation &  
Approved as to technical worth

*D. C. Yidley*  
RESIDENT GEOLOGIST

Approved as to cost in the a. mo  
of: \$ 2560.

*A. S. Radwan*  
RESIDENT MINING ENGINEER

as representation we  
Section 35(4) Yukon Quar  
Mining Act.

*[Signature]*

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ACCOMPANYING MAP

Figure 1 - Geochemical Soil Values of Pb-Zn in PPM.

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LIST OF CLAIMS

Claim Numbers

Grant Numbers

Date Recorded

PAL (NORTH) 1-32

Y19483-Y19514

September 18, 1967

## INTRODUCTION

The Pal(North) 1-32 claims were staked in early September, 1967, to the northwest of the Pay group of Atlas Explorations Ltd. The staking was conducted by Spartan personnel who recorded and transferred the claims to the company.

The Pal(North) claims lie along the northwest strike extension of a known mineralized unit which is exposed to the southeast on the Pay claims. At the time of the staking, Atlas Explorations was conducting detailed work on the Pay group in anticipation of a drilling programme, and the Pal claims were staked to take advantage of any northwesterly strike extension of known mineralization.

## LOCATION AND ACCESS

The Pal(North) group is centred roughly at longitude  $130^{\circ} 32'$  W., and latitude  $62^{\circ} 02'$  N. The claims lie south of a small lake located about two miles northeast of the north end of Fortin Lake. This small lake is accessible to float or ski-equipped aircraft.

## GEOLOGY

Reconnaissance geologic mapping indicates that the favourable dolomitic argillites and quartzites which contain low grade mineralization on the Pay claims to the southeast extend to the northwest into the area of the Pal(North) claims. It is further believed that one of the major controls upon mineralization in the Fortin Lake area is an intersection of regional faults which occurs near the north end of Fortin Lake and immediately northwest of the Pal(North) claims.

contd....

Geology (continued)....

This intersection occurs between regional faults which trend south and north-east and it is notable that similar intersections in the eastern Yukon appear to be related to lead-zinc mineralization. No rock exposures are known on the Pal(North) claims and the real nature of the geology is not known.

SURVEY TECHNIQUESSoil Sampling

Soil samples were obtained by the use of a prospector's grub hoe which was found to be an adequate tool for cutting thin layers of organic material overlying the soil. Samples were taken at 300 foot stations over the entire reconnaissance grid. The grid was laid out in conjunction with the Pal 17-32 claims. Seven soil lines spaced 500 feet apart were run over these claims in a northeasterly direction.

Typical "B" horizon soils were seldom encountered and a high proportion of organic material occurs in the samples. For this reason many of the samples were not analyzed due to the fact that only erroneous results would have been obtained. Approximately 100 grams of soil were taken from each sample site and placed in Kraft bags which were then periodically shipped to Barringer Research geochemical laboratory in Ross River.

Method of Analysis

All samples were analyzed in a complete testing laboratory in Ross River. When the samples were received each was dried while in its Kraft bag, screened to 80-mesh, weighed out to 0.5 grams and then digested in hot aqua regia or hydrochloric acid. Samples were then diluted, clarified for a number

contd....

### Survey Techniques - Method of Analysis(continued)....

of hours and tested for copper, lead and zinc by atomic absorption spectrophotometer. The "AA" unit used was a Perkins-Elmer model, and accuracy of the unit is believed to be about 1% of the amount of metal present. Individual cathode lamps were used for each element determination, and the direct read-out is given for the element being tested.

### Treatment of Data

Results as reported from the laboratory were recorded on maps of the claim group on a scale of 1,500 feet to the inch. Values of lead and zinc in parts per million were plotted on the maps.

### GEOCHEMICAL ENVIRONMENT, SOIL TYPES, NATURE OF DISPERSION

Topography in the area of the Pal(North) claims is gently sloping and run-off is believed to be extremely sluggish. The water level is high due to the abundance of swamps in the area. Permafrost occurs erratically. Vegetation consists of dwarf birch, spruce and some poplar. Soil profiles typically consist of a thick layer of organic humus and muck above an also thick black coloured "A" horizon, below which occurs a grey to brown coloured "B" horizon. Due to the sluggish nature of drainage, it is not believed that physical dispersion is responsible for transport of geochemical material.

### DESCRIPTION OF ANOMALIES

Reference to Figure 1 indicates that although samples were taken at 300 foot intervals on all lines shown, only 10% of the samples taken were suitable for analysis. Excessive organic material in other samples prohibited

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Description of Anomalies (continued)....

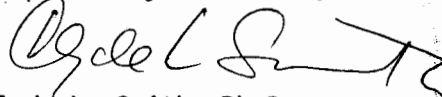
a geochemical treatment. Average background for lead in the sampled area appears to be about 25 ppm, and average background for zinc about 175 ppm. No anomalous lead values occur and, taking a threshold of 400 ppm for zinc, only one anomalous value occurs. Accordingly, due to the lack of analyses on the grid area, as well as to the lack in anomalous values, it is not possible to contour or describe the areas which may be designated as anomalous.

INTERPRETATION

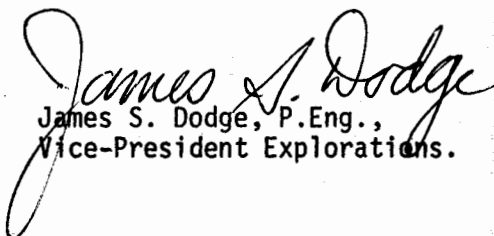
Although results appear negative from the amount of geochemical data available, it is not possible to say that the zone of mineralization exposed to the southeast does not extend through the Pal claims. Difficulties in obtaining adequate sample material and extreme depth of overburden make geochemical results inconclusive.

It is recommended that should further assessment of the ground be required, that geophysical methods be employed.

Respectfully submitted,



Clyde L. Smith, Ph.D.  
Exploration Manager.



James S. Dodge, P.Eng.,  
Vice-President Explorations.

September 27th, 1968.  
Vancouver, B.C.



APPENDIX I

SUMMARY OF COSTS

	<u>Costs - \$</u>	<u>Sub Total</u>
<b>1. <u>Reconnaissance Grid Layout</u></b>		
Wages, Salaries, Bonuses	150.00	
Ross River Base Camp	200.00	
Camp Support	<u>50.00</u>	400.00
<b>2. <u>Geochemical Surveys</u></b>		
Wages, Salaries, Bonuses	800.00	
Supplies and Miscellaneous Equipment	20.00	
Travel and Accomodation	130.00	
Assaying	140.00	
Ross River Base Camp	50.00	
Super Cub Support	20.00	
Camp Support	<u>200.00</u>	1,760.00
<b>3. <u>General Supervision</u></b>		
Wages, Salaries, Bonuses	<u>200.00</u>	200.00
<b>4. <u>Geological Mapping</u></b>		
Wages, Salaries, Bonuses	150.00	
Camp Support	<u>50.00</u>	<u>200.00</u>
	<b>GRAND TOTAL</b>	<b><u>\$2,560.00</u></b>

APPENDIX II


AFFIDAVIT

Supporting Summary of Costs

I James S. Dodge, Vice-President, Explorations, Spartan Explorations Ltd. (N.P.L.), of Vancouver, British Columbia, do hereby state that to the best of my knowledge and belief the STATEMENTS OF COST, as presented in Appendix I of this report, "Geochemical Report on Pal(North) Mineral Claims" is both true and correct.

DATED AT Vancouver, British Columbia, this 27th day of September, A.D., 1968.

SWORN BEFORE ME at  
Watson Lake, Yukon  
Territory, this 30th  
day of September, A.D.  
1968.

  
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A commissioner for taking Affidavits  
in the Yukon Territory.

)  
  
\_\_\_\_\_  
James S. Dodge P.Eng.

APPENDIX III

PERSONNEL

Name

Position

Address

F. Hasselburg  
G. Etzel  
C. L. Smith

Prospector  
Prospector and Soil Sampler  
Project Manager

Ross River, Yukon Territory  
Ross River, Yukon Territory  
Vancouver, British Columbia

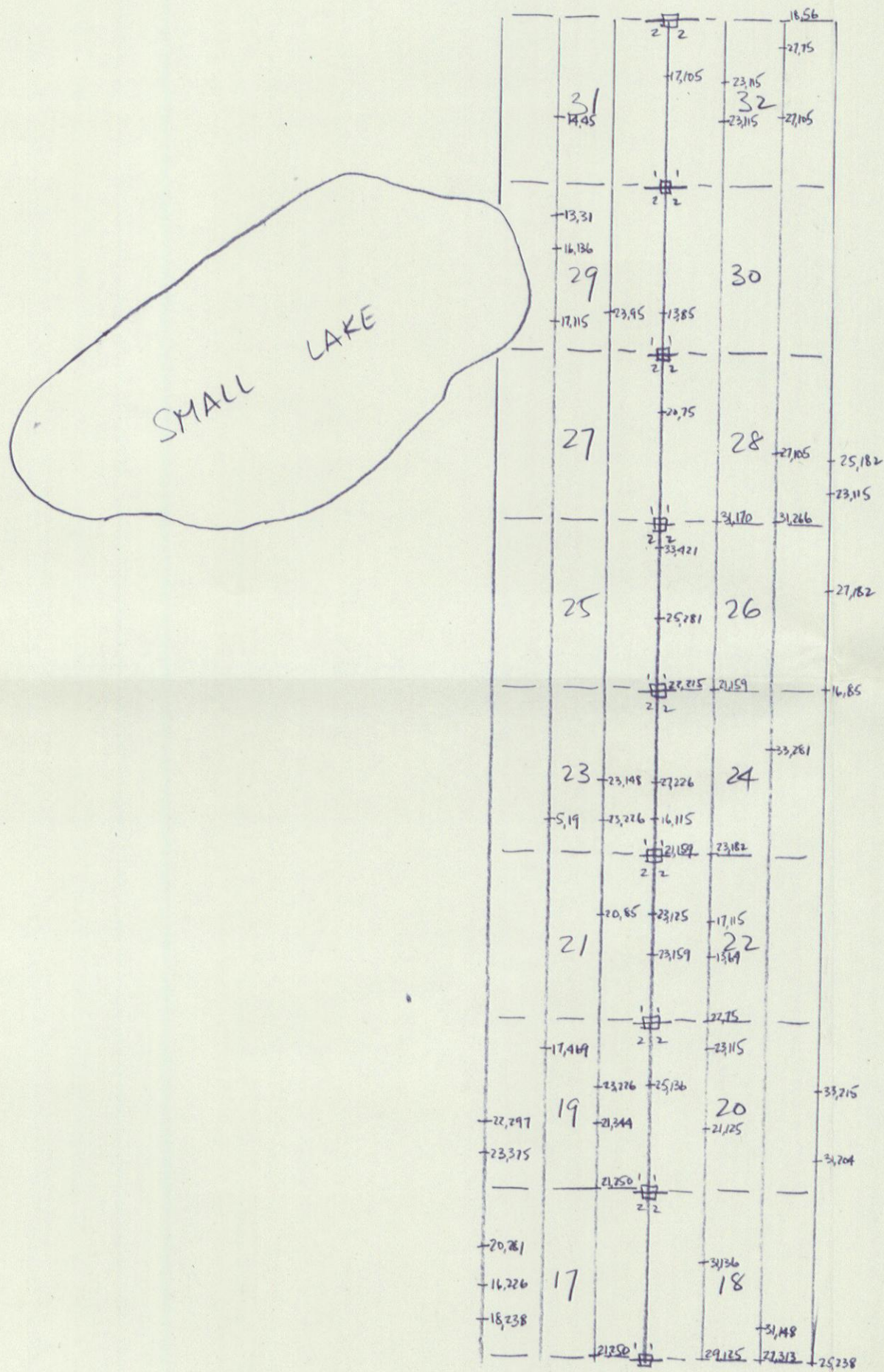
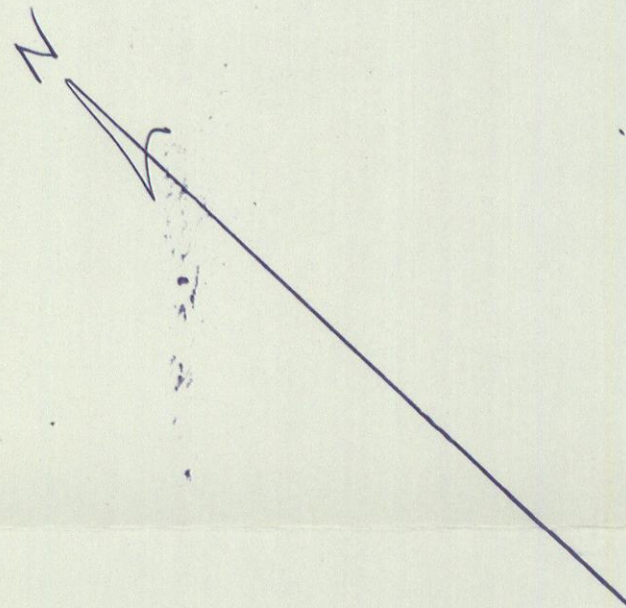


FIG. 1



SPARTAN EXPLORATIONS LTD  
 ROSS RIVER, YUKON  
 FORTIN PROJECT  
 PAL (NORTH) MINERAL CLAIMS  
 GEOCHEMICAL SOIL SURVEY MAP  
 VALUES OF Pb-Zn IN PPM

SAMPLERS: F. HASSELBERG, G. ETZEL  
 DRAWN BY: G.L. SMITH  
 DATE: SEPTEMBER 27, 1968

