GEOCHEMICAL SOIL SAMPLING SURVEYS

on

LEE MINERAL CLAIMS

TILLEI LAKE AREA

Watson Lake Mining Division
Yukon Territory

Map Sheet 105-H-14

Longitude 129° 25'W

Latitude 61° 56'N

by

Clyde L. Smith,
Exploration Manager

Spartan Exploration Ltd.

June 5 - August 1, 1968

TABLE OF CONTENTS

LIST OF CLAIMS

Claim Numbers	Grant Numbers	Date Received
LEE 1-192	Y19118 - Y19309	September 6, 1967
193-232	Y22187 - Y22226	October 6, 1967

INTRODUCTION

The LEE 1-192 claim group was staked in early September of 1967, to cover an area of showings discovered by primary prospecting in a broad area east and south of McPherson Lake in the eastern Yukon. The most important showing discovered is located in the area of the LEE 77-79 claims and consists of a small exposure of copper, zinc, and lead bearing skarn in a limestone bed folded into a small, northerly-plunging anticline. This showing occurs in an area of quartzite near a major east-west trending fault south of an area of granitic intrusives. Several other small skarn bodies were located east of the main showing and the staking was done to cover these showings as well as a broad area of apparently favourable geology.

Claims LEE 193-232 were staked in early October on the western margin of the 1-192 block, to cover an area of anomolous zinc geochemical results discovered after the original staking.

LOCATION AND ACCESS

The LEE group is centered roughly at longitude 129° 25'W and latitude 61° 56'N. The main showing is located about 4 miles east of the northeastern end of McPherson Lake in the northwestern corner of claim sheet 105-H. Access to the property is by float or ski aircraft landing on McPherson Lake. The claims may be reached from the eastern end of McPherson Lake by traversing up a westerly flowing creek which flows from the centre of the claim group into the northern end of the lake. Also, two helicopter pads are located on the claims.

GEOLOGY

The LEE claim group area is underlain by the northern limb of a westerly-trending major anticline within which Proterozoic phyllites, quartzites and minor limestones are exposed. The stratigraphic section is locally cut by granodiorite intrusives of probable Cretaceous age as well as fine-grained greenstone dikes. The beds are disturbed by north-easterly-trending fractures and minor northerly-trending fractures. The LEE grid area is underlain by quartzites along the eastern side of the grid area and minor limestone bands locally converted to skarn have been noted in small outcrops and float. The grid was laid out to cover possible on-strike extensions of a copper, lead, zinc mineralized skarn zone located in a creek exposure near the point where the base line crosses line 0.

SURVEY TECHNIQUES

Line Cutting - Soil sampling surveys were conducted on a grid consisting of a total of 25,300 feet of cut line. The grid is made up of a base line of 2,400 feet trending northeasterly. Cross lines are at right angles to the base line and are of variable lengths, averaging about 1,800 feet, and are spaced at 200 foot intervals along the base line.

Soil Sampling - The soil sampling survey was carried out in conjunction with a magnetic survey. The samples are obtained by the use of a prospector's grub hoe which was found to be an adequate tool for cutting through layers of organic material overlying the soil. Samples were taken at 100 foot stations over the entire grid. Typical B-horizon soils were seldom encountered and a grey clay of probable glacial origin was normally sampled. Approximately 100 grams of soil were taken from each sample site and placed in Kraft bags which were then periodically shipped to the Barringer Research geochemical laboratory in Ross River.

Method of Analysis - All samples were analyzed at a complete testing laboratory in Ross River. When the samples were received, each was dried while in its Kraft bag, then screened to 80-mesh, weighed out to .5 grams and digested in hot aqua regia or hydrochloric acid. Samples were then diluted, clarified for a number 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 instrument is believed to be about 1% of the amount of metal present. Individual cathode lamps were used for each element determination and a direct read-out is given for the element being tested.

Treatment of Data - Results as reported from the laboratory were plotted on maps of the grid in parts per million in the sequence copper, lead, zinc. The scale of the map was 200 feet to the inch and contour maps were made of both lead and zinc. Values only above 250 ppm in zinc were plotted and a contour interval of 50 was used on the zinc contour map. On the lead contour map, values only above 60 ppm were plotted and the contour interval used was 10 ppm.

GEOCHEMICAL ENVIROMENT, SOIL TYPES, NATURE OF DISPERSION

Topography in the area of the LEE geochemical grid is moderately to steeply sloping and run-off enters the main westerly flowing creek from the north and the south. Drainage appears to be intense and ground water level is believed high. Permafrost was encountered in numerous soil pits. Vegetation consists mainly of dwarf birch, spruce, and poplar. Soil profiles typically consist of a thin layer of organic A-horizon below which occurs homogeneous appearing grey glacial clay; a slight evidence of B-horizon was found locally in the grid area. Nature of dispersion is not well understood, but due to a lack of soil development, it is believed that chemical dispersion is limited. It is notable from the anomaly map that the main anomalous zones trend parallel to and within the main creek of the grid area.

DESCRIPTION OF ANOMALIES

Only one sizeable anomaly is noted on the zinc contour map. This anomaly parallels the main creek of the grid area and trends east-west. A length of about 800 feet and a width of about 200 feet as outlined by the 250 ppm contour line; peak zinc value in the anomaly is 450 ppm. All other anomalies in the grid area in zinc are of small size and show apparently erratic distribution.

Anomalies on the lead contour map are also small and generally erratically distributed. However, there is a general correspondence between the two elongate anomalies, of over 60 ppm with peak values in excess of 90 ppm, and the above described large zinc anomaly, Again, these two zones roughly parallel the east-west trending creek and may well reflect mechanically dispersed lead mineralization.

INTERPRETATION

There appears to be a general relationship between the main showings in the creek in the centre of the grid and the zinc and lead geochemical anomalies. Both anomalies are elongate and trend east-west following the general course of a westerly flowing creek. It is notable however, that the showing occurs on the down creek end of the anomaly and it is believed that the extent of the anomalies to the east indicate as yet not exposed mineralization. The general down creek trend of the anomalies is believed to be a function of physical dispersion of clastic particles from as yet not discovered mineralization up creek from the #1 showing; possibly they reflect chemical dispersion into the creek valley from buried mineralized zones. Should further work be considered in the grid area, it is recommended that areas east of the #1 showing be more carefully

prospected, and possibly trenching could be done near geochemical peaks.

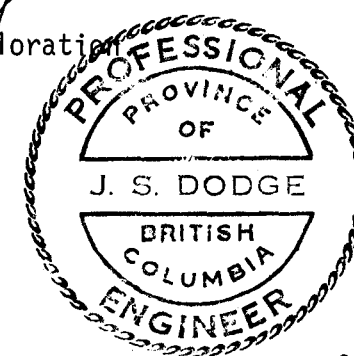
It is notable, however, that the intensity of the anomalies upstream to the east are not greater than the geochemistry over the main showing, and it is reasonable to assume that similar types and grades of mineralization will probably be found as explanations for the anomalies to the east. Because the #1 showing is not believed to be of economic significance, it is doubtful that the geochemistry to the east is indicating anything of more importance that material similar to that known in the #1 showing.

Respectfully submitted,

Clyde L. Smith,
Exploration Manager.

CLS:ngn
cc: JSD,AK,RLD

James S. Dodge,
Vice-President - Exploration.



Expiry Date: August 4, 1969

APPENDIX I

SUMMARY OF COSTS

	Costs - $	Sub Total
1. Line Cutting		
Wages, Salaries, Bonuses	100.00	
Ross River Base Camp	60.00	
Super Cub Support	20.00	
Camp Support	120.00	300.00
2. Geochemical Surveys		
Wages, Salaries, Bonuses	263.00	
Supplies and Miscellaneous Equipment	19.00	
Travel and Accomodation	42.00	
Assaying	1,428.00	
Helicopter Support	410.00	
Fuel	124.00	
Ross River Base Camp	155.00	
Super Cub Support	39.00	
Camp Support	277.00	2,755.00
3. General Supervision		
Wages, Salaries, Bonuses	140.00	
Consultants Fees and Management	18.00	
Ross River Base Camp	112.00	
Super Cub Support	5.00	
Camp Support	78.00	373.00
4. Exploration Planning		
Wages, Salaries, Bonuses	300.00	
Consultants Fees and Management	250.00	
Travel and Accomodation	25.00	
Ross River Base Camp	350.00	
Super Cub Support	20.00	
Camp Support	30.00	975.00
	GRAND TOTAL	$4,403.00

APPENDIX II

AFFIDAVIT

Supporting Summary of Costs

I, Clyde L. Smith, Exploration Manager, Spartan 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 "Geological Report on Lee Mineral Claim Group" is both true and correct.

DATED AT Vancouver, British Columbia, this thirtieth day of August, A.D. 1968.

SWORN BEFORE ME at Vancouver, British Columbia, this 30th day of August, A.D. 1968

A Commissioner for taking Affidavits in the Yukon Territory

Clyde L. Smith

A P P E N D I X III

PERSONNEL

Name	Position	Address
I. Hill	Soil Sampler	Vancouver, B. C.
G. James	Geologist	Hedley, B. C.
J. Scott	Soil Sampler	Vancouver, B. C.

SPARTAN EXPLORATIONS LTD. (N.P.L.)

LEE CLAIM GROUP

KEY MAP

62°00' LAT.

129°30' LONG.

RIVER

YUSEZYU

McPHERSON LAKE

ASTRO

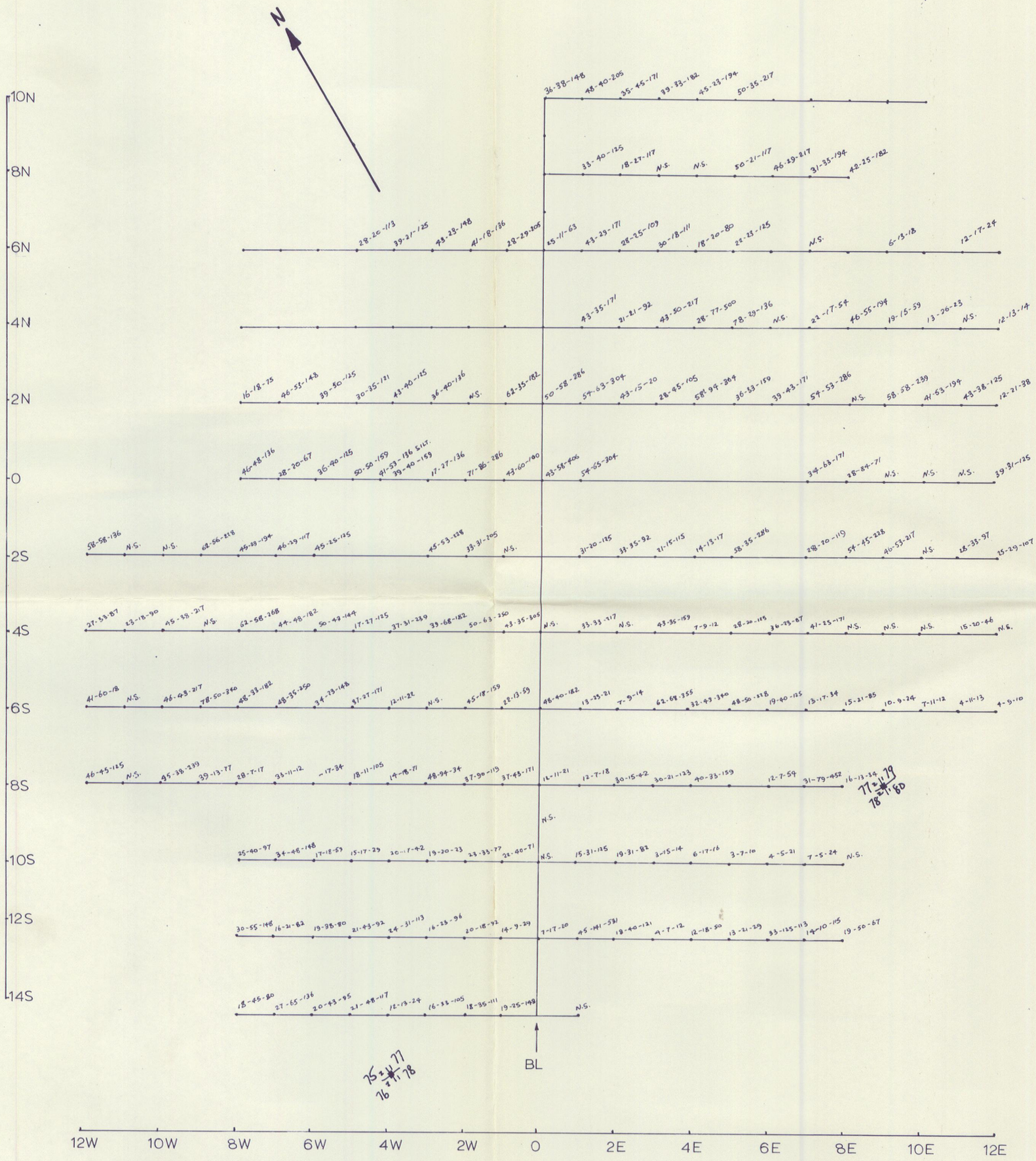
LEE 1 - LEE 192 INCLUSIVE

LOCATION LINES —: EAST 90° ASTRONOMIC

LEE 193 - LEE 232 INCLUSIVE —: LOCATION LINES NORTH ASTRONOMIC

SCALE 0 ½ 1 1½ MILES

FIG. #1



SPARTAN EXPLORATIONS LTD.

ROSS RIVER YUKON

LOGAN PROJECT

LEE MINERAL CLAIMS

GEOCHEMICAL SOIL SURVEY MAP

Values of (Cn-Pb-Zn) in p.p.m.

SOIL SAMPLERS : I.HILL , J. SCOTT.

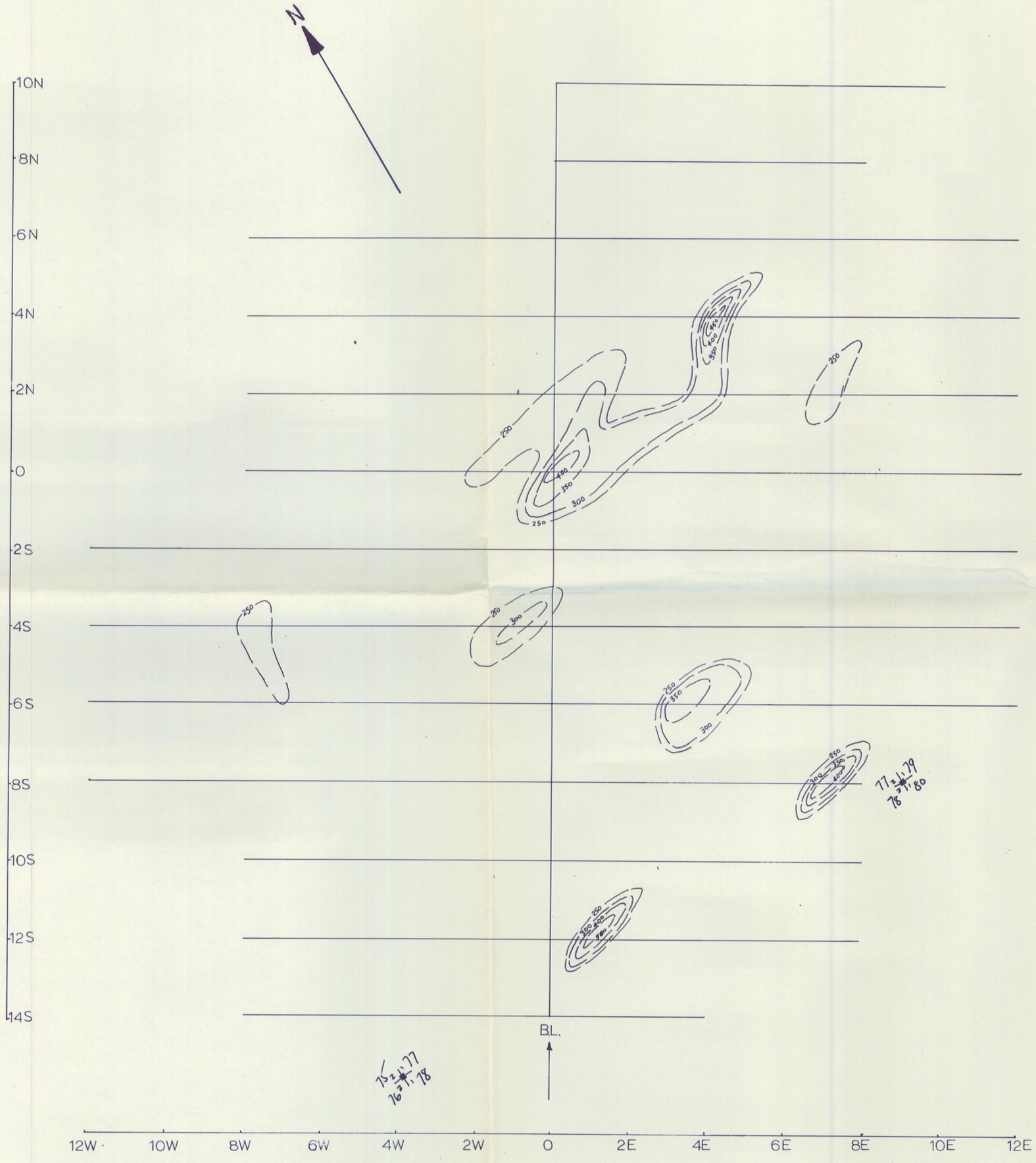
DRAWN BY : N H SIMMONS

DATE : JUNE 22, 1968.

200 100 0 200 400

Scale in feet

FIG. 2



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ROSS RIVER YUKON

LOGAN PROJECT

LEE MINERAL CLAIMS

GEOCHEMICAL ZINC CONTOUR MAP

SOIL SAMPLERS : I HILL , J SCOTT.

CONTOUR INTERVAL : 50ppm , Zn.

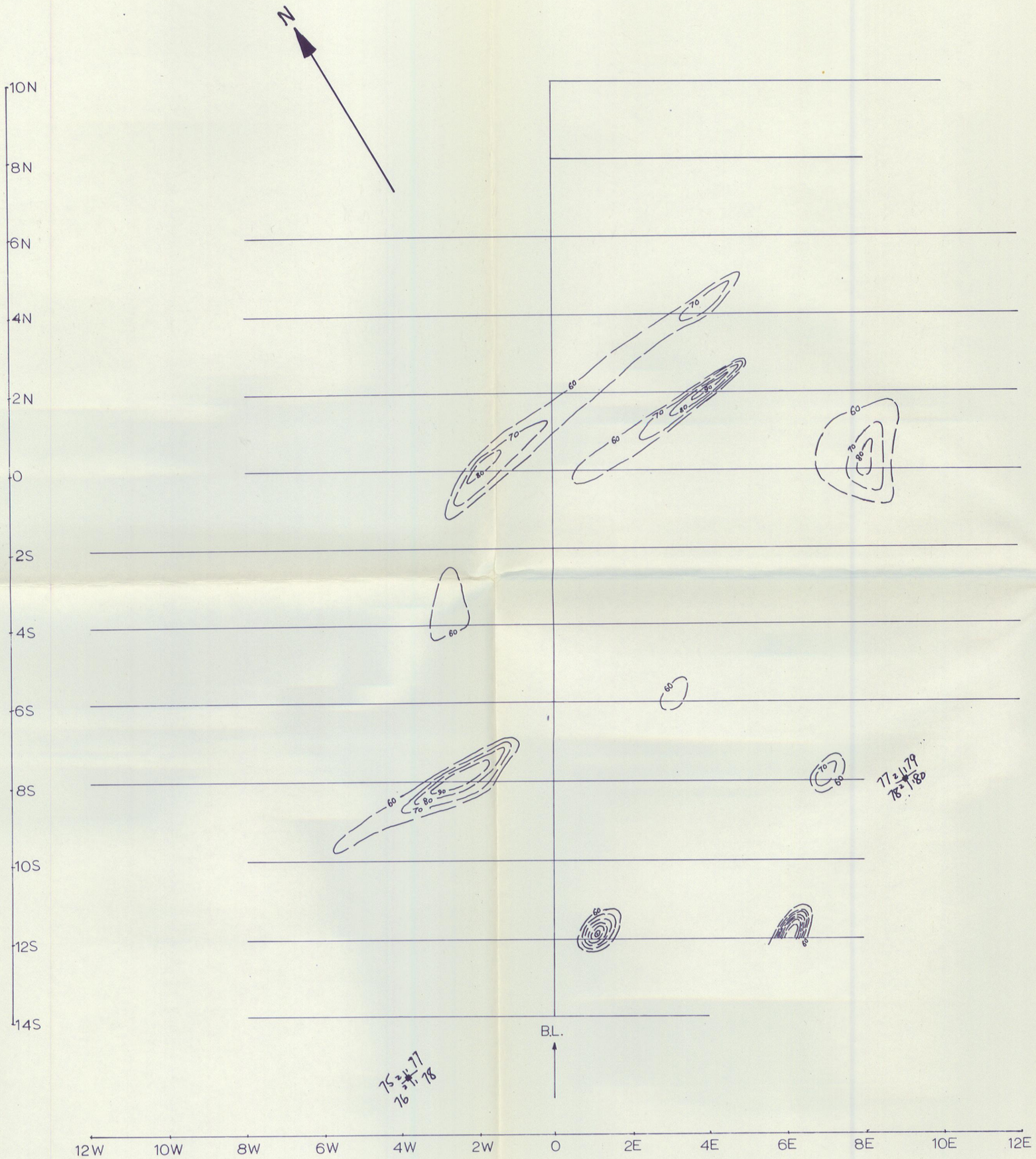
DRAWN BY : N.H.SIMMONS.

DATE : JUNE 24, 1968.

200 100 0 200 400

Scale in feet

FIG. 3



SPARTAN EXPLORATIONS LTD.

ROSS RIVER YUKON

LOGAN PROJECT

LEE MINERAL CLAIMS

GEOCHEMICAL LEAD CONTOUR MAP

SOIL SAMPLERS : I.HILL , J.SCOTT

CONTOUR INTERVAL : 10ppm Pb.

DRAWN BY : N.H.SIMMONS.

DATE : JUNE 24, 1968.

200 100 0 300 400

Scale in feet.