ELECTROMAGNETIC AND MAGNETIC

GEOPHYSICAL SURVEYS

MUR CLAIM GROUP

MOUNT MYE AREA

Whitehorse Mining Division
Yukon Territory

Longitude 133°03' W
Latitude 62°19' N
Map Sheet 105K

by

John S. Vincent, P.Eng.
Mining Geologist

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

This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of

$2,232

D.R. Craig

Resident Geologist or
Resident Mining Engineer

Considered as representation work under Section 53 (4), Yukon Quartz Mining Act

Commissioner of Yukon Territory

TABLE OF CONTENTS

LIST OF CLAIMS

The property defined by the following list of mineral claims has been designated as the MUR Group. The claims are located on Claim Sheet 105K-6 and are situated at 133°03'W by 62°19'N. The claim names, record numbers, and expiry dates are as follows:

CLAIMS	RECORD NUMBERS	EXPIRY DATE
MUR #1	Y 25456	July 22, 1970
#2	Y 25457	"
#3	Y 25458	"
#4	Y 25459	"
#5	Y 25460	"
#6	Y 25461	July 22, 1970
#7	Y 51763	April 3, 1971
#8	Y 51764	"
#9	Y 51765	"
#10	Y 51766	April 3, 1971
#11	Y 51767	"
#12	Y 51768	"
#13	Y 51769	"
#14	Y 51770	"
#15	Y 51771	"
#16	Y 51772	"
#17	Y 51773	"
#18	Y 51774	"
#19	Y 51775	"
#20	Y 51776	"
#21	Y 51777	"
#22	Y 51778	"
#23	Y 51779	"
#24	Y 51780	"
#25	Y 51781	"
#26	Y 51782	April 3, 1971

(fwd.)

INTRODUCTION

The MUR 1-6 claims were staked in July of 1968 to cover an area underlain by mineralized float and large transported gossans. Soil samples returned high values in zinc to several thousand parts per million. The MUR 7-26 claims were staked in March of 1970 to cover the suspected source of the mineralized float and anomalous zinc values.

Earlier work by Kerr Addison in 1962 outlined a self-potential anomaly of 100 MV in an area up-slope to the northwest of the gossans and general area of float. An electromagnetic survey using a vertical loop system indicated a conductor coincident with the S.P. anomaly.

The purpose of the survey presented in this report was to confirm and locate the indicated conductor and attempt to determine its extent. The survey was carried out by Messrs. A. Kulan and J. Vincent between April 16 and April 19, 1970. Prior to this Messrs. A. MacKillop and A. Racicot laid out the line grid system.

LOCATION AND ACCESS

The MUR Group is located on the northwest slopes of Mount Mye, Yukon Territory, at approximately 133°03'W by 62°19'N, in the valley of Angus Pup Creek. The claims may be reached by helicopter from Faro, approximately 8 miles to the Southwest, or by a trail along Blind Creek and up from the lower extremity of Angus Pup Creek, a distance of approximately 30 miles.

(fwd.)

The property is above tree-line in the valley, at an elevation of 5500 feet.

METHOD OF SURVEY

Instruments Used.

The electromagnetic survey was carried out with a Sharpe SE-600 Horizontal Loop System, the specifications of which are included in the appendiz. The instrument is of the inductive type and may be used as either a horizontal or vertical loop apparatus. Measurements are made as "In-Phase" and "Out-of-Phase" parameters and the resulting readings plotted in profile reflect the relative response. The instrument is designed to be operated with a maximum coil separation of 300 feet on a frequency of 1600 cycles per second with an inter-connecting reference cable. The effective depth penetration is a function of coil spacing

The magnetometer used was a Sharpe MF-1, a hand held instrument measuring the vertical magnetic component by use of a fluxgate which automatically levels itself in the direction of the vertical field. The range of this instrument is 200,000 gammas on a plus and minus scale, and the sensitivity is plus or minus 5 gammas.

Line Grid System.

A base line 3200 feet long was laid out in a direction generally parallel with the strike of the underlying strata. Cross lines were turned off at right angles at 400 foot intervals. A total of 5 line miles has been picketed.

(fwd.)

Electromagnetic Survey.

The survey was run with the horizontal loop configuration using the in-line method. The 206 foot reference cable was used to maintain the 200 foot coil separation. Readings of the In-Phase and Out-of-Phase values are obtained by means of the "null" method, and it is imperative that the two coils be in a coplanar orientation when the readings are taken. As the transmitter and receiver move down the line readings are taken at 100 foot intervals.

Magnetometer Survey.

A portion of several lines were run with the magnetometer to provide magnetic profiles over an immediate area of interest. Station 8S on line 4E was used as a base station for the purpose of detecting and recording diurnal and drift variations. The profiles run were conducted by the writer between 8:30 A.M. and 10:20 A.M. on April 19, 1970.

TREATMENT OF DATA.

Electromagnetic Results.

Electromagnetic results were plotted by the writer on a 200 foot to 1 inch scale map, and as profiles showing the In-Phase and Out-of-Phase variations measured in percent. In the absence of a conductor the latter should be 0% and the former 100%.

Magnetic Results.

Magnetic results were corrected for diurnal variations and final gamma values were plotted as profiles on a vertical scale of 100 gammas to the inch.

(fwd.)

GEOLOGY

The MUR claim group is underlain by a series of Mississipian (?) meta-sediments ranging in composition from quartz-sericite schists to hornfels and phyllites (Geological Map 13-1961). The series strikes northwesterly and dips 10^{o} to the southwest. A medium to coarse-grained quartz monzonite intrusive is in contact to the northeast and southwest. The stratigraphic section is intersected by a prominent fault zone which strikes southwesterly down Vangorda Creek. The grid was laid out to cover possible contact areas between the meta-sediments and intrusive, a possible source of the well mineralized float.

GEOPHYSICAL RESULTS

Figure 2 illustrates the line grid system with the In-Phase and Out-of-Phase values plotted directly, while Figure 3 illustrates the same information presented in profile form. In general, the profiles are flat and no conductors are apparent. The only line with any "life" to it is 8W and it is difficult to interpret anything meaningful from it. A possible conductor is suggested in the intervals 6S and 2S where the In-Phase reading drops by 20%. Corresponding readings were not recorded on line 4W and, due to typographic condition, it was not possible to step-out to the west or carry on up line 8W. There was no response further east over the area underlain by the S. P. anomaly or suggested E.M. anomaly.

The magnetometer work done was not sufficient to be conclusive, and a complete survey should be done on the next examination. The profile

(fwd.)

on line 8E suggests a geological contact, or structural feature, at the base line. However, a similar response was not detected on adjacent lines. There was no particularly anomalous response recorded over the S.P. anomaly.

CONCLUSIONS AND RECOMMENDATIONS

It is reasonable to conclude that there is no electromagnetic conductor in the area of the self potential anomaly, and the present survey failed to confirm the presence of the conductor indicated by the earlier Kerr Addison work.

The absence of an electromagnetic conductor does not eliminate the possibility of significant zinc, or disseminated lead and copper, mineralization. The mineralized float and reconnaissance geochemical results indicate that the target may be composed predominantly of sphalerite. Disseminated lead and copper sulphides will be more readily detected with induced polarization methods.

As snow conditions allow, a detailed geological evaluation of the north slope and ridge should be carried out. All information must be accurately located and plotted with a "source determination" in mind.

Respectfully submitted,

John S. Vincent

John S. Vincent, P.Eng.
Mining Geologist.

A P P E N D I X I.

SUMMARY OF COSTS

	Cost $	Sub-Total
1. Preliminary Studies		
Wages, Salaries, Bonuses	$155.00	
Watson Lake Base Camp	40.00	$ 195.00
2. Geophysical Surveys		
Wages, Salaries, Bonuses	$296.00	
Management & Consulting Fees	632.00	
Repairs & Maintenance	9.00	
Freight	43.00	
Supplies & Misc. Equipment	80.00	
Travel & Accommodations	436.00	
Telephone & Telegraph	18.00	
Contract Charges	190.00	
Rental of Equipment	10.00	
Camp Support	130.00	
Watson Lake Base Support	74.00	1,918.00
3. Exploration Planning		
Wages, Salaries, Bonuses	$ 95.00	
Watson Lake Base Camp	24.00	119.00
TOTAL:		$2,232.00

APPENDIX II

AFFIDAVIT

(Supporting Summary of Costs)

I, Alan R. Patrick, Accountant with Spartan Explorations Ltd. (N.P.L.) 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 covering "Geophysical Surveys on the MUR Group of Mineral Claims", is both true and correct.

Dated at Vancouver, British Columbia, this 23rd day of June, 1970.

SWORN BEFORE ME at Vancouver, British Columbia, this 23rd Day of June, 1970

A Commissioner for taking Affidavits in British Columbia

A. R. Patrick

Alan R. Patrick, Accountant.

APPENDIX III

PERSONNEL

Name	Position	Address
A. Racicot	Prospector	Richmond, B.C.
A. MacKillop	Prospector	North Vancouver, B.C.
A. Kulan	Prospector & Geophysical Operator	West Vancouver, B.C.
J.S.Vincent	Geologist & Geophysical Operator	Delta, B.C.

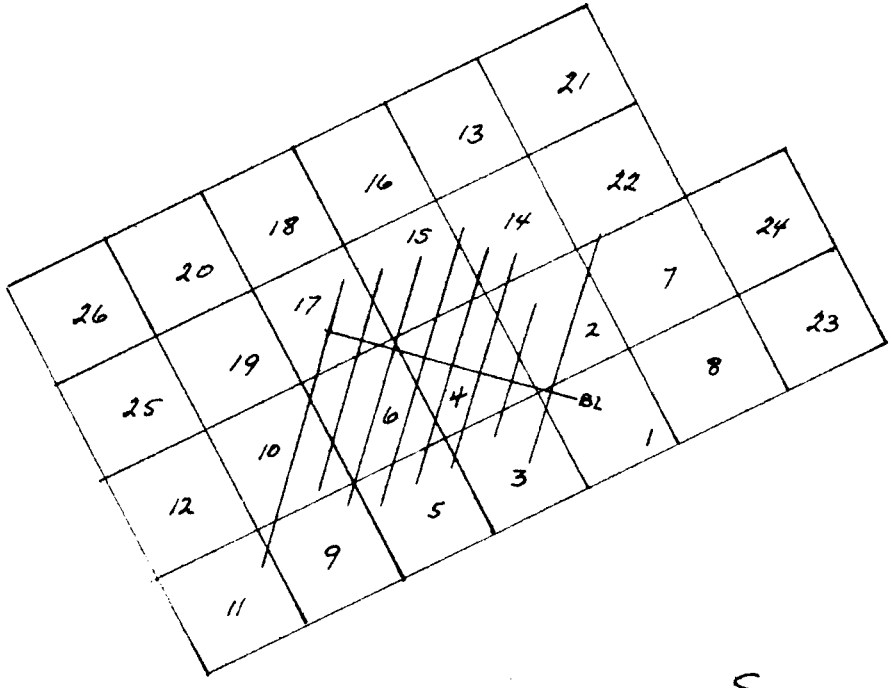
APPENDIX IV

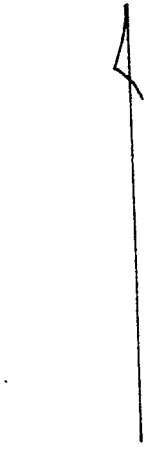
SE-600 ELECTROMAGNETIC HORIZONTAL LOOP SYSTEM

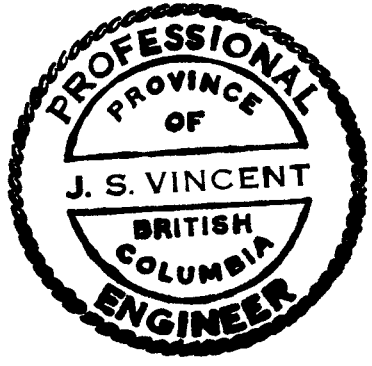
SPECIFICATIONS

Frequency	1600 c.p.s.
Coil Spacing	200' and 300'
Cable Lengths	206' and 306'
Reading Range	
- In-Phase	0 - 200% in 1% graduations
- Out-of-Phase	-50% to +50% in 1% graduations
Coil Diameters	20" O.D.; 17.5" I.D.
Transmitter Output	150 ampere turns
Receiver Unit	Q approximately 1000, for good noise rejection
Field Weight	
- Transmitter Unit	17 1/2 pounds
- Receiver Unit	12 pounds
- 206' Cable	9 1/2 pounds
- 306' Cable	14 pounds
Shipping Weight	Approximately 65 pounds
Batteries	
- Transmitter	2 X #731 - 6 volt Eveready batteries
- Receiver	1 X #239 - 13.5 volt Eveready battery (or equivalent)

ILLUSTRATIONS







MT
△ MYE

SPARTAN EXPLORATIONS LTD.

MUR CLAIM GROUP

CLAIM SHEET 105K-6

SC 1 IN = ½ MI

JUNE 18, 1970.

FIG 1 KEY MAP

MUR 15

MUR 14

MUR 16

MUR 18

MUR 17

MUR 7

MUR 2

MUR 8

MUR 1

MUR 4

MUR 6

MUR 5

MUR 3

MUR 10

MUR 9

15 N

10 N

5 N

0+00

5 S

10 S

15 S

20 S

25 S

30 S

35 S

Base Line

8W

4W

0

4E

8E

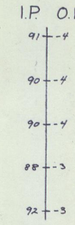
12E

16E

20E

24E

I.P. O.P.



PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
J. S. VINCENT

SPARTAN EXPLORATIONS LTD.

MUR CLAIM GROUP

MOUNT MYE AREA

GROUND E.M. SURVEY.

FIG. 2 GROUND E.M. VALUES MAP

INSTRUMENT : SHARPE SE 600

OPERATORS : A KULAN , J VINCENT

DRAWN BY : J.S. VINCENT

DATE : APRIL 18, 1970.

SCALE 1 IN = 200 FT

MUR 15

MUR 14

MUR 16

MUR 18

MUR 17

MUR 7

MUR 2

MUR 8

MUR 1

15 N

10 N

5 N

0+00

Base-Line

5 S

10 S

15 S

20 S

25 S

30 S

35 S

MUR 4

MUR 6

MUR 3

MUR 5

MUR 9

MUR 10

8 W

4 W

0

4 E

8 E

12 E

16 E

20 E

24 E

35°

O.P. I.P.

+20% 120%

0 100%

-20% 80%

OUT-OF-PHASE

IN-PHASE

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
J. S. VINCENT

SPARTAN EXPLORATIONS LTD.

MUR CLAIM GROUP

MOUNT MYE AREA

GROUND E.M. SURVEY.

FIG 3 GROUND E.M. PROFILE MAP

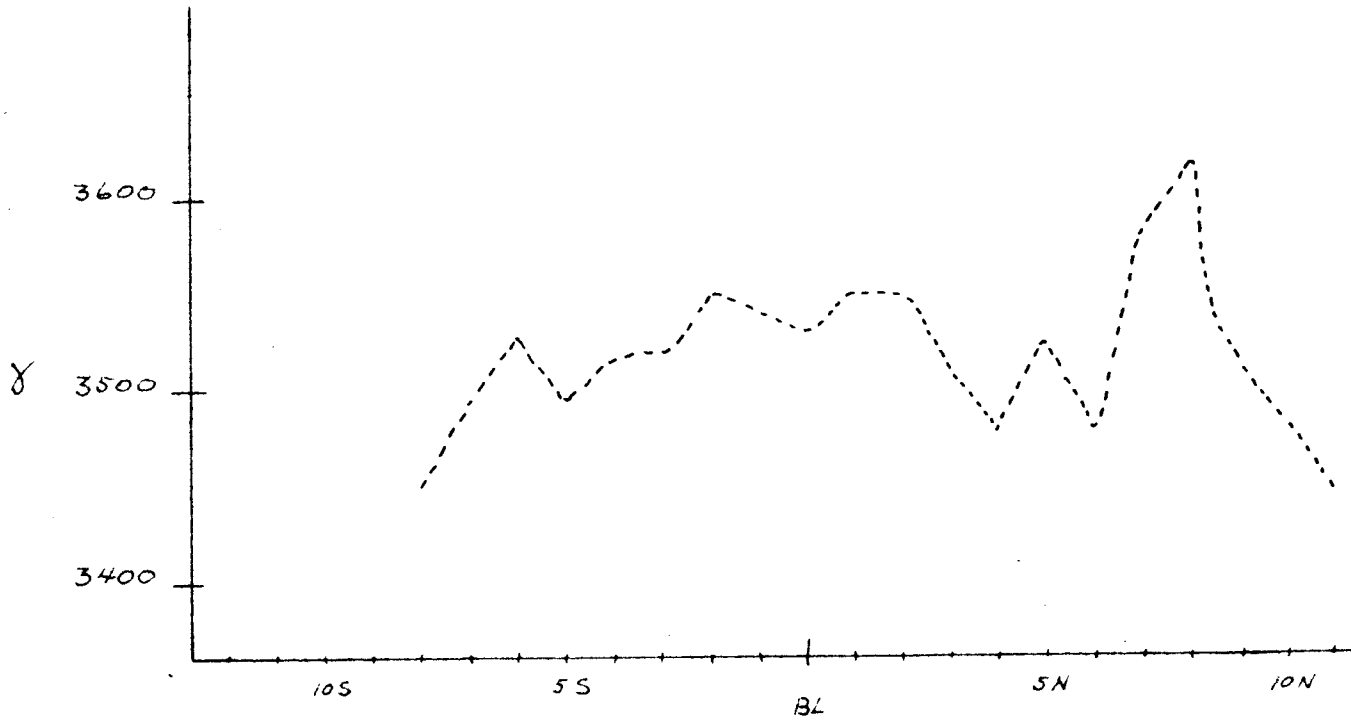
INSTRUMENT : SHARPE SE 600

OPERATORS : A KULAN , J VINCENT

DRAWN BY : J.S. VINCENT

DATE : APRIL 18, 1970.

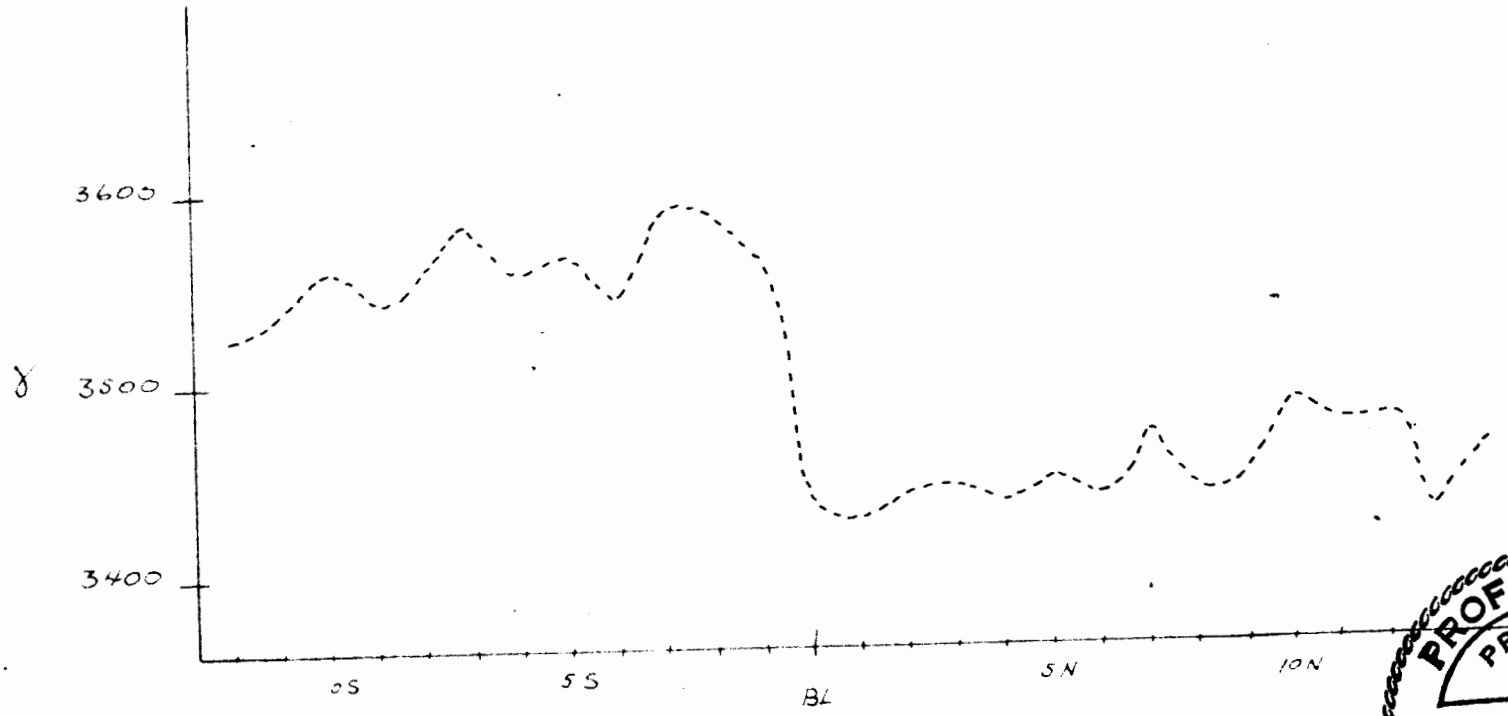
SCALE : 1 IN = 200 FT



PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
J. S. VINCENT
15N

FIG. 4

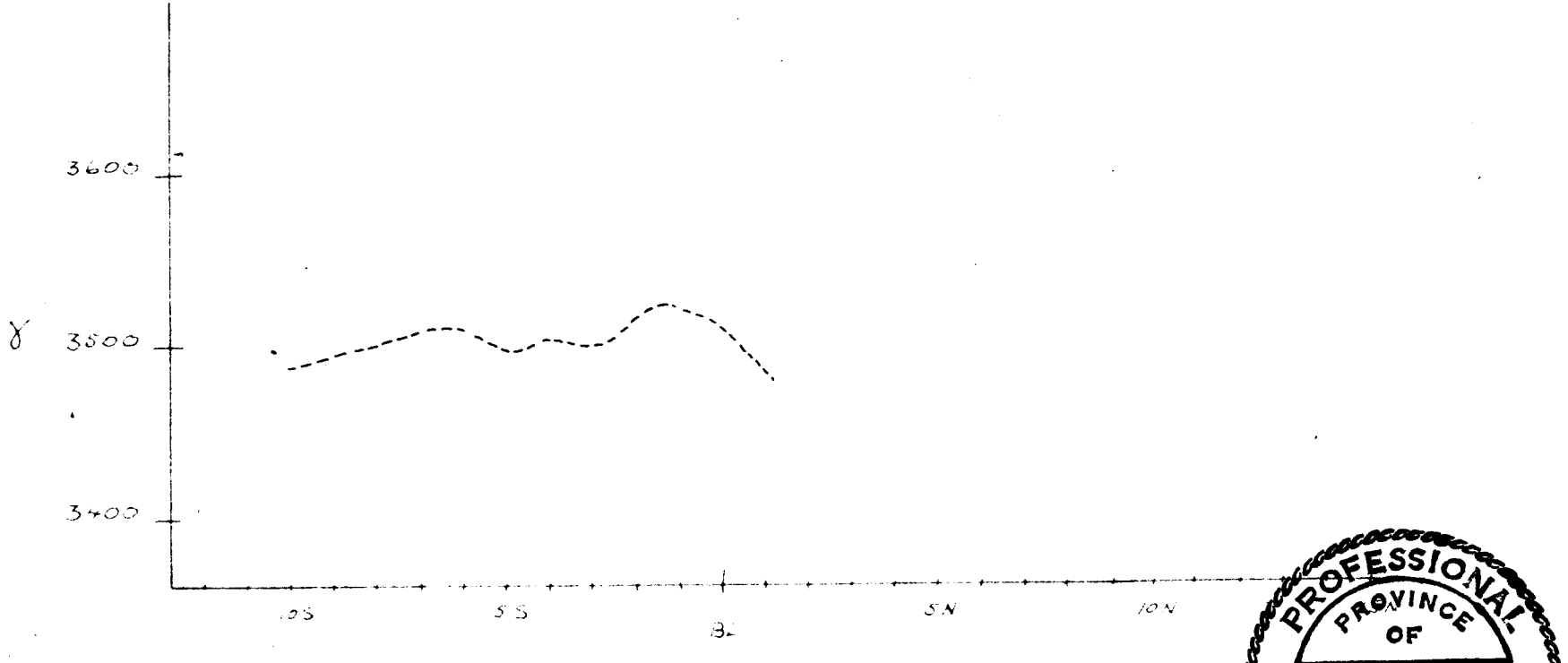
SPARTAN EXPL. LTD.
MUR CLAIM GP.
GROUND MAG. PROFILE
LINE 4E



PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
J. S. VINCENT

FIG 5

SPARTAN EXPL LTD
MUR CLAIM GP
GROUND MAG PROFILE
LINE 8E



PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
J. S. VINCENT

FIG 6

SPARTAN EXPL. LTD.
MUR CLAIM GP.
GROUND MAG PROFILE
LINE 12E