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ASSESSMENT REPORTS

MAP No. 106-D-3 TYPE OF WORK: SUMMARY REPORT, GEOCHEM, GEOPHY & GEOLOGY.

REPORT FILED UNDER	Silver Spring Mines Ltd.
DATE PERFORMED	May-Nov/1968 DATE FILED: Nov/1968
LOCATION – LAT.	64°02' McQuesten Lake
LONG.	135°20'
CLAIM Nos.	Silver 1-8 83758-65 Spring Fractions No. 1-2 Y26614-5
	9-16 Y 14950-7 Spring 13-14 Y 26616-17
	17-24 Y 14990-7
	Spring 1-4 Y 6575-8
	5-12 Y 14942-9
WORK DONE BY	P.H. Sevensma Consultants Ltd
WORK DONE FOR	Silver Spring Mines Ltd.
REMARKS	A separate report, attached as Appendix B summarizes the results of an electromagnetic survey. Several strong conductors were located. Appendix B is a report which covers geochemical. survey such as soil sampling. This work suggested a strong lateral
$5,000.	(over)

zoning, lead, zinc and copper values were found to be coincident. An anomalous trends outlined a zone adjacent to a small porphyry dyke.

The extensive gossan zone has not been fully explained as yet and more work is recommended.

SILVER SPRING MINES LTD.
Silver and Spring Claim Groups
Lat. 64° 02'N., Long. 135° 20'W.
Mayo M.D., Yukon Territory

SUMMARY REPORT

Geological
Geophysical
and
Geochemical

work programs conducted
during the period May 1,
1968 to November 14, 1968.

P.H. Sevensma, Ph.D., P. Eng.

November 14, 1968.

5006

This report has been examined by
the Geological Evaluation Unit.
Approved as to technical worth by:

RESIDENT GEOLOGIST

Approved as to cost in the amount
of $ 5000.00

MINING ENGINEER

Accepted as representation work
under Section 53(4) Yukon Quartz
Mining Act.

COMMISSIONER OF YUKON

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FIGURES

APPENDICIES

* Revised Geological and Claim Maps included

LIST of PERSONNEL EMPLOYED in
GEOCHEMICAL and GEOPHYSICAL
WORK PROGRAMS on the SILVER -
SPRING CLAIM GROUP, MAYO M.D.

May 1 to November 14, 1968.

Consulting Services, Field Supervision and Studies:

P.H. Sevensma Consultants Ltd. 715-850 West Hastings Street, Vancouver, B.C.	-	P.H. Sevensma Ph.D., P.Eng. D. Goodbrand, Geologist H.S. Aikins, Technician B.C. Fulcher, Student Assistant K. Landry, Student Assistant

Evaluation of Geophysical Data:

John S. Brock Limited 328-355 Burrard Street, Vancouver, B.C.	-	John S. Brock, Geophysicist

Linecutting, Soil Sampling, Project Management:

Silver Spring Mines Ltd., P.O. Box 62, Mayo, Yukon.	-	J. Strebchuk, Project Manager P. Westman, Technician W. Strebchuk, Linecutter

SCALE – (Miles)

0 5 10

LEGEND

Sc	Slate, chert, quartzite, limestone
Osl	Quartzite, slate, limestone
US	Upper Schist: schist, quartzite, grit; USl, lower part includes limestone
CQ	Central Quartzite: thick – bedded quartzite.
LS	Lower Schist: schist, phyllite
G	Grit unit: quartzite, slate, grit, limestone
	Granodiorite
	Dominant foliation
X	Operating mines of United Keno Hill Mines Ltd

G.S.C. Paper 65–1

FIG. 1

SILVER SPRING MINES LTD.	
LOCATION MAP	
Mayo M.D. – Y.T.	
P. H Sevensmo Consultants Ltd.	March 1968

SILVER SPRING MINES LTD.
Silver and Spring Claim Groups
Lat. 64° 02'N., Long. 135° 20'W.
Mayo M.D., Yukon Territory

1. INTRODUCTION

During the period between June and Sep.ember of 1968, Silver Spring Mines Ltd. conducted a program of exploration work on the Silver-Spring claim group.

Field operations were managed by Mr. J. Strebchuk, a director of the company well versed in the operating problems unique to this area of the Yukon. A well equipped trailer camp provided a convenient base for work on this and other mineral claim holdings of the company. Work was staged to take maximum advantage of the relatively short field season.

2. PROPERTY

The twelve original claims on this group were increased to 38 full size claims and two fractional claims. Claims covering the area in which work was performed were surveyed by chain and compass and are plotted on the various maps prepared. It is understood that all claims were staked or acquired by or for the company and have now been transferred to the company. All claims appear on claim map 106-D-3, McQuesten Lake, and are recorded as follows:

Claim Name	Grant No's.	Renewal Date
Silver No. 1 - 8	83758 to 83765 incl.	November 9, 1969
Silver No. 9 - 16	Y14950 to Y14957 incl.	June 12, 1969
Silver No. 17 - 24	Y14990 to Y14997 incl.	June 13, 1969
Spring No. 1 - 4	Y6575 to Y6578 incl.	November 9, 1969
Spring No. 5 - 12	Y14942 to Y 14949 incl.	June 12, 1969
Spring Fraction No. 1	Y26614	July 23, 1969
Spring Fraction No. 2	Y26615	July 23, 1969
Spring No. 13 - 14	Y26616 to Y26617 incl.	July 23, 1969

3. PHYSICAL WORK (line cutting and bulldozer operations)

24,200 feet of survey line were hand cut and picketted at 100 foot intervals to provide control for subsequent work.

A substantial amount of two wheel drive road was constructed on the property by other interests developing a mining property to the north of this claim group. This road proved of value in providing improved accessibility and in the exposures of mineral soil and bedrock occurring in all the cuts. No.costs to Silver Spring Mines Ltd. were incurred by this work.

A D8H bulldozer was employed in the later part of June and early July to strip and trench areas where initial geochemical results has suggested significant metal concentrations in the soil. It should be noted that the presence of perma frost under an insulating layer of muskeg and organic "muck" precluded the practical trenching of any area unless sufficient time for thawing was allowed. A number of areas, as shown on the attached geochemical maps, were stripped and several trenches were completed to bedrock. One deep trench on an area previously stripped required the excavation of about 2,000 cubic yds. of partially frozen soil and glacial gravel to expose approximately 100 feet of the underlying rock.

Several old trenches and a well constructed cabin located just off the grid to the east of line 12+00N were located during the course of the current work, but no mineralization of interest was found in the old workings.

Sub-angular float fragments carrying minor amounts of pyrite, siderite, arsenopyrite and chalcopyrite were located at several points in the general vicinity of the base-line and line 4+00 north.

4. GEOPHYSICAL SURVEYS

A separate report, attached as Appendix B, by John S. Brock, dated October 31, 1968, summarizes the results of an EM 16 survey conducted over part of the claim group. It will be noted that low frequency, horizontal loop, EM surveys would be required to further evaluate the conductive zones detected by this method.

Plots of the in-phase and quadrature response at all stations and for both frequencies are enclosed together with an interpretive plot of strong and weak conductors.

5. GEOCHEMICAL SURVEYS

(a) Method and anaylytical procedures

Prior to the commencement of the field program, a review of pertainent data was incorporated in a report dated May 22, 1968, prepared under my supervision. This report is attached as Appendix A. Maps accompanying this report were revised to incorporate changes resulting from the season's activity and will be found with the present text in revised form.

The geochemical program was initiated by selecting soil samples from various depths and soil types up slope from the gossan zone. This work suggested a strong lateral zoning influenced only to a limited extent by the other variables. Based on these results a more extensive grid controlled survey was conducted. Some difficulty with perma frost was encountered which resulted in mixing of organic and mineral soils in many of the samples. Estimates on the organic content, which varied from 15 to 50%, showed no direct relationship to heavy metal content. It was however, noted that where samples high in organic matter were ignited to 600° C and digested in chlorate mix, a higher copper value was obtained. Results used in the distribution maps were based on analytical results from the Whitehorse Assay Office which employed percloric acid digestion and Atomic Absorbtion analysis. Arsenic analyses was performed by Coast Eldridge Professional Services Division of Vancouver, B.C. after preparation by the Whitehorse Assay Office. A total extraction method was used for arsenic.

(b) Results

Results were recorded on maps drawn to a scale of 1" = 200'. Examination of these results revealed a degree of coincidence between the highest lead, zinc and copper values. In general, the peak values for these metals were below levels expected in close proximity to vein deposits. The high threshold values do suggest that a major source could be located somewhere in the general area. No definite pattern could be drawn from silver results and analyses for this element were discontinued. Arsenic was employed as a "pathfinder element" for silver-gold veins. The anomalous trend revealed by this element outlined a zone adjacent to a small porphyry dyke. Arsenopyrtie was observed in an irregular quartz vein within the porphyry mass at a point near station 7+00E on line 4+00N. Assays from this vein and the adjacent host rock were reported as follows on Whitehorse Assay Office Certificate #4525-3:-

Sample No.	Au	oz/t. Ag	% Pb	% Cu	Description
14152	Tr.	1.44	Tr.	-	mineralized vein.
14153	Tr.	.14	Tr.	Tr.	wall rock.
14155	Tr.	.10	-	-	unmineralized vein.

During an examination of this property on July 16, 1968, the writer took three soil samples from selected areas. The results of this test were as follows:

Number and Description	oz/t. Au.	oz/t. Ag.	P.P.M. Cu.	P.P.M. Pb.	P.P.M. Zn.	Location
60 Soil - 8' deep	Tr.	.32	488	88	600	3+60W, 4+00N
61 Stream silt	Tr.	.32	40	24	168	- 21+50N
62 Clay-gossan	Tr.	.62	28	288	1,000	Gossan N. of road

6. SUMMARY

The extensive gossan zone carrying heavy metal values which first attracted interest to this area has not as yet been satisfactorily explained. That the source lies up slope and to the north is clearly evident. Glacial agencies are however, indicated as having played a role in transporting the source material. Information gained to date does not provide sufficient data for ascribing a positive potential to this area. The favourable geology and positive geochemical results do however, warrant follow-up work on a reconnaissance basis in the area up slope and to the north of the present grid. Stripped areas should be examined and sampled to confirm and extend present trends. Geological mapping should be employed to establish lithologic boundaries.

Encouragement in any of this work would warrant the implementation of a detailed program utilizing horizontal loop EM and ground magnetic surveys.

7. RECOMMENDATIONS

The ease of access and close proximity to other holdings of the company suggest that work be continued on a low priority basis. The following cost estimate is provided as a guide to work conducted in this manner:

Geological Mapping and Prospecting	
5 man days @ $75.00 per day	$375.00

Soil and Silt Sampling 100 samples @ $5.00 per sample	$500.00
Geophysical Surveys (see summary) 5 line miles @ $150.00 per mile	750.00
Transportation and Accommodation Expense 15 man days plus truck rental, air-fare, etc.	625.00
Consulting Fees, Expenses (Review of data)	250.00
Contingencies at 20%	500.00
Recommended Budget	$3,000.00

It is suggested that the expenditures of this sum should provide sufficient data on which to reach a decision on the merit of retaining this property.

Respectfully submitted,

P.H. Sevensma

P.H. Sevensma, Ph.D., P. Eng.

APPENDIX "A"

SILVER SPRING MINES LTD.

SILVER & SPRING CLAIM GROUPS

Lat. 64° 02' N., Long. 135° 20'W.

Mayo M.D., Yukon Territory

Prepared by H. S. Aikins

Under the Direction of P.H. Sevensma, Ph.D., P.Eng.

P. H. SEVENSMA CONSULTANTS LTD.

May 22, 1968

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LIST OF FIGURES*

*Revised and up-dated to November 1968.

LOCATION

The twelve claims comprising this group are located north-east of Hanson Lake and extend up the west flank of Forbes Hill in the Davidson range. The property lies some nine miles in a northerly direction from the presently developed properties in the Elsa-Keno Hill camp. A tote road connects the property with the government maintained highways in the area. The Community of Mayo, some 35 miles to the south, serves as the local centre for supplies, communication and transportation.

PROPERTY

Refer to previous report by P.H. Sevensma, April 4, 1968.

CLIMATE AND TOPOGRAPHY

While the year round climate is best described as rigorous the nearly continuous daylight during the short, warm summer provides an excellent environment for mineral exploration activities. Rainfall is moderate.

The irregular presence of permafrost, the prevalence of glacial till and debris, and the immature soil development and presence of "black muck" of largely organic origin are factors which greatly influence the effectiveness of exploration methods employed.

SURFICIAL GEOLOGY

Fig. 1, derived from Map 1172A accompanying G.S.C. Bulletin 136, shows the principal features which should receive consideration in the further study of this area. It is noted that the valley floor is heavily drift covered and that partially reworked

Glacial deposits extend up slope to almost 3000 ft. elevation in the vicinity of the claim group. Layers of till, sand and gravel of variabl thickness, deposited by the retreating valley glacier extend to the lateral moraine shown near the 4000 foot contour.

GEOLOGY

Regional mapping by the Geological survey indicates the area to be underlain by schists, thin-bedded quartzites, and phyllites of the "lower schist formation". Three occurences of "greenstone" occur on, or adjacent to, the claim group. The present owners report a limonitic gossan zone 200 feet wide by 1,500 feet long presumably near the spring indicated as location 2 on figure 2. Assays from this material by the ownners returned values of .5 oz. Au./T, and .5 oz. Ag./T. Attention is also drawn to the presence of old claim posts and cabins suggesting prospecting activities and possibly old workings as yet unlocated.

GEOCHEMISTRY

The geochemistry, and the significance of stream silt sampling results, in the vicinity of the lead-zinc-silver deposits of the Keno hill area has received much attention from members of the Geological Survey of Canada. Frequent reference has been made to data obtained in field and labratory studies and to conclusions and recommendations by the authors of these studies.

With reference to iron springs, Boyle states on page 186 of Bulletin III:-

"If the geochemical prospector finds iron springs in an area he should carefully consider the topographic location of the springs and the possible sources of the contained metals. In some places iron springs are closely related to lodes and are, therefore, good indicators; in other places the springs may lie some distance, generally downhill, from the lodes. In the latter, the water carrying the metal has entered mineralized zones and lodes at higher elevations and has migrated downhill along underground fractures and faults. Furthermore, the fractures and faults from which the springs issue may not be the ones containing the lodes but may be subsidiary faults or fractures or post-ore faults. There may be two sources for the zinc and other metals in the springs. The metal is derived either from oxidation of lodes or from the oxidation of sulphides scattered in the country rock or along sparsely mineralized faults and fractures. There is no way of determining which source is the main contributor. From the research carried out on the iron springs in the Keno Hill-Galena Hill area it would appear that those carrying a high manganese content and a concentration of zinc in excess of 0.05 ppm derive their zinc and manganese mainly from siderite-galena-sphalerite lodes or mineralized zones. This may not always be so, and areas around all iron springs or conglomerates should be carefully prospected, especiall if the water or the material precipitated contains detectable amounts of zinc, copper, or other metals."

General observations on the behavior of the heavy metals may be summarized as follows:-

A. Soil Type

Both residual soils, overlying the rocks from which they we derived, or transported downslope by soil creep, and transported soils glacial till and fluvial sands and gravel - may occur over the area of interest. Low-lying, poorly drained ground and north slopes carry a cover of black organic muck. The soils exhibit a poor profile development, particularly when underlain by permafrost. In many areas the profile has been disturbed by frost boiling and solifluction. The mucks are shown to have a high absorption capacity for zinc & copper, and silver when overlying glacial till.

B. Major Constituent Elements as Indicators.

(1) Copper: Not generally suitable due to its low average content in the lode deposits and low mobility in the ground water system where conditions of neutral or alkaline Ph. prevail. Copper values may however be significant adjacent to gossan zones where more acid conditions would prevail.

(2) Zinc: Much zinc derived from vein zones has been dispersed into the ground water system and due to its high relative mobility may be located at some distance from the source. Careful examination of the dispersion pattern of this element is essential.

(3) Lead: Very little lead is dispersed into the ground water system, whereas soils adjacent to oxidized sulphide zones show a marked enrichment in lead. The upward migration of lead ions is impeded by glacial till and samples should be taken from the greatest possible depth in soil of this type. Lead is an excellent indicator for the location of vein deposits.

(4) Silver: From a prospecting viewpoint silver behaves in a manner similar to lead and should be employed in the same manner as lead.

C. Minor Elements as Indicators

Both arsenic and antimony content may be used to indicate the presence of veins and well defined anomalies slightly offset, downslope, are clearly shown by test traverses. Manganese provides a less definite indicator with anomalous values generally about 200% of background. Cadmium content is too low to be of practical use in a soil survey of this type.

SUMMARY

Results of stream sediment sampling by the G.S.C. as shown in Fig. 2 are of interest when viewed in terms of the possible significance of an extensive gossan zone developing from the oxidation of an underlying vein zone. The depthand nature of the surficial deposits is clearly a significant factor in attempting to define the source of metals occuring in the ground water system.

The underlying schists are not regarded as a favourable host for deposits of commercial size in the Galena Hill-Keno Hill belt but as a somewhat different tectonic pattern may prevail in this area the possibility of workable deposit occuring in this area cannot be eliminated.

The reported gold values are of considerable interest and tend to suggest the possibility of Quartz-Arsenopyrite-Gold vein structures related to the granodiorites as found in Dublin Gulch and on Keno and Galena Hills. Arsenic values in the stream sediment samples tend to confirm this hypothesis.

RECOMMENDATIONS

It is suggested that a base line parallel to the surface contours be cut at a point above the gossan zone and extending over the length of the existing claim block. Grid lines at 400' intervals should be turned off at right angles and extended down and across the melt water channel. The lines could be extended up slope for a distance of at least 2000 feet. Pickets should be located at 100' intervals.

Careful prospecting within this area should be conducted to establish areas of outcrop and to locate angular float brought up by frost action.

An orientation soil sampling program on the periphery of the gossan zone and from selected locations up slope should be conducted to evaluate the effectiveness of this tool in further work and to confirm the earlier results.

Favourable results in the above work would necessitate a comprehensive soil sampling program to detail anomalies. Geophysical methods should be considered if a lead-zinc-silver occurence is inferred.

Bulldozer trenching may be warranted at any stage after general target areas have been defined.

The program should be reviewed after an initial expenditure of the $3,000;00 specified in the previous report.

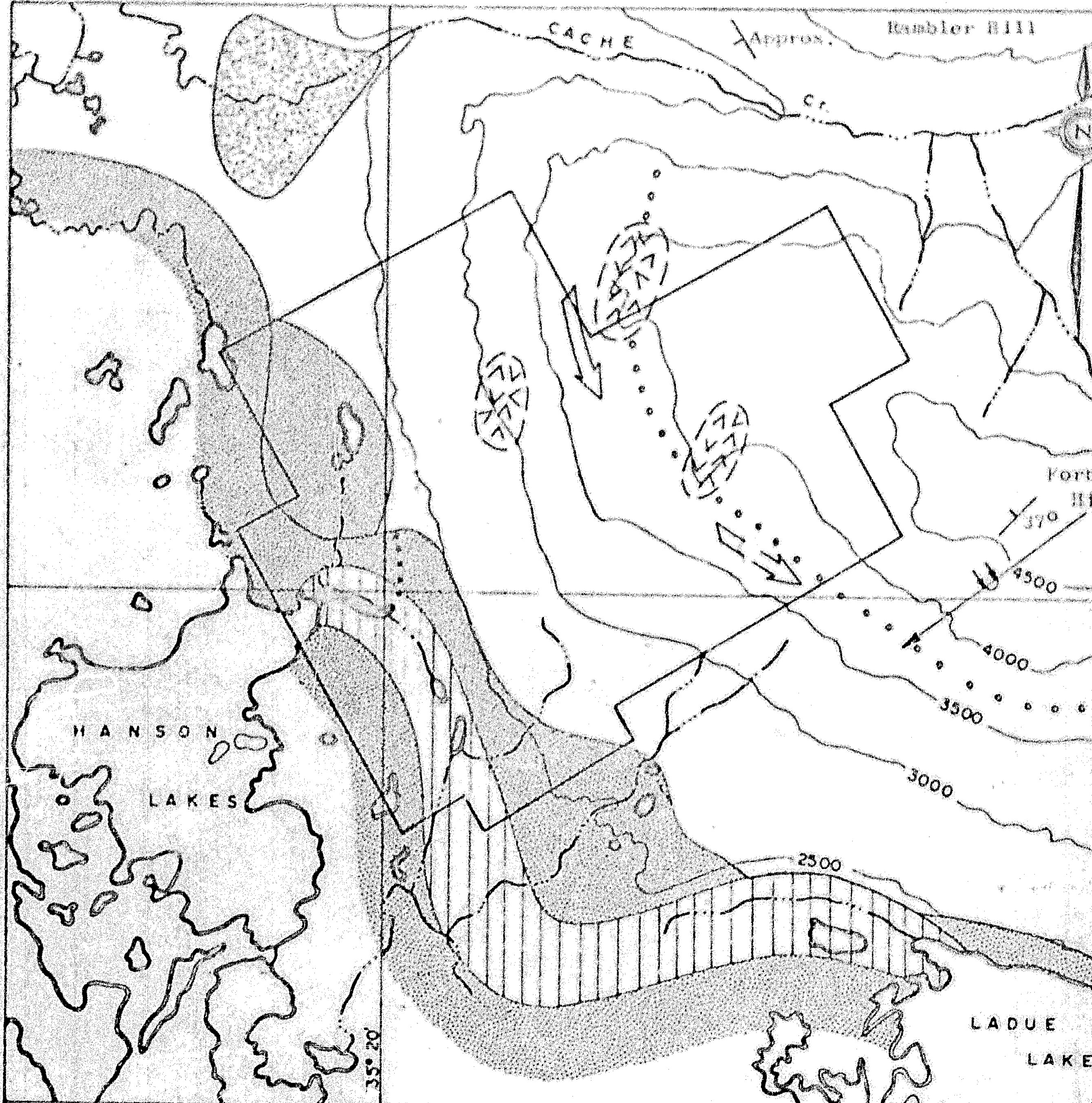
Respectfully submitted,

H. S. Aik

H. S. Aikins

P. H. Sevensma

P. H. Sevensma, Ph.D., P.Eng.



Bed Rock Geology

Meta-Diorite, meta-gabbro(Greenstone)

Graphitic schist, tb.qtzite,qtz-mica schist
Phyllite, calc-schist and qtzite
(lower schist formation)

Surficial Geology

Direction of Ice Flow

Meltwater Channel

Glacio-fluvial dep.

Alluvial fan

Lateral Moraines

Transported Copper Zone

P.H. Sevensma

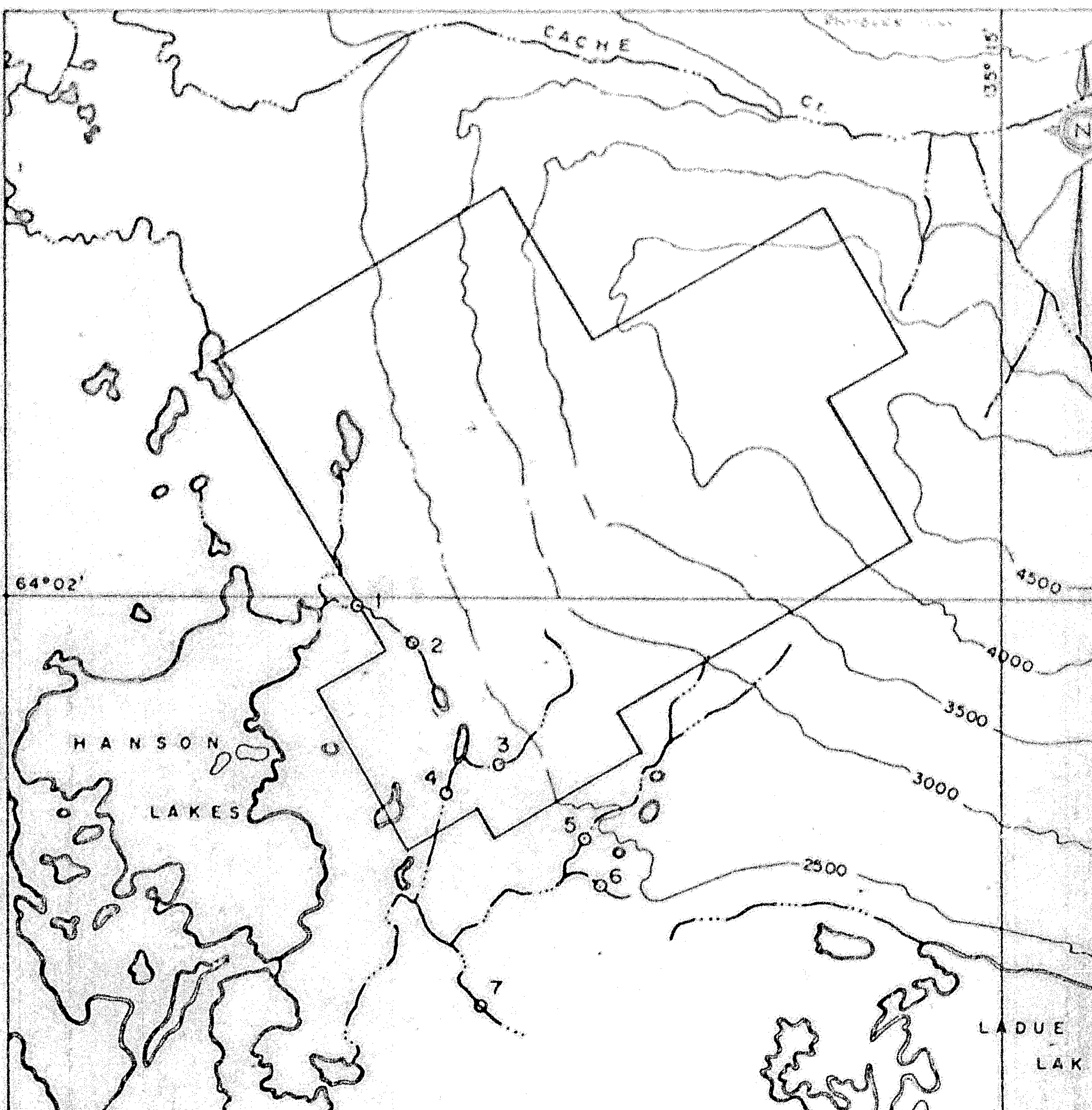
Ref. Geology G.S.C. Bulletin III
Surficial Geol.: G.S.C. Bulletin 136

Revised November, 1968.

Scale — (Miles)
0 1/2 1

FIG. 1

SILVER SPRING MINES LTD	
Geological Plan	
Mayo M.D — Y.T.	106 - D - 3
P. H. Sevensma Consultants Ltd.	March 1968



Values in p.p.m. in
Stream and Spring Sediments

		As	Ag	Cu	Pb	Zn	Sb	Mo
O	1	24	*	—	5	310	2.5	~
O	2	2	*	—	x	1000	+	~
O	3	16	*	—	5	130	2.5	~
O	4	24	*	—	5	110	2.5	~
O	5	2	*	—	*	70	2.5	~
O	6	2	*	—	5	100	2.5	~
O	7	32	*	—	10	120	2.5	~

~ Concentration less than 1.0 p.p.m.
* " " " 0.5 p.p.m.
x " " " 5.0 p.p.m.
+ " " " 2.5 p.p.m.

Ref: Spring & Stream Sediment Study
Keno Hill Area, C.F. Gleason.

Scale — (miles)
0 1/2 1

FIG. 2

P.H. Sevensma

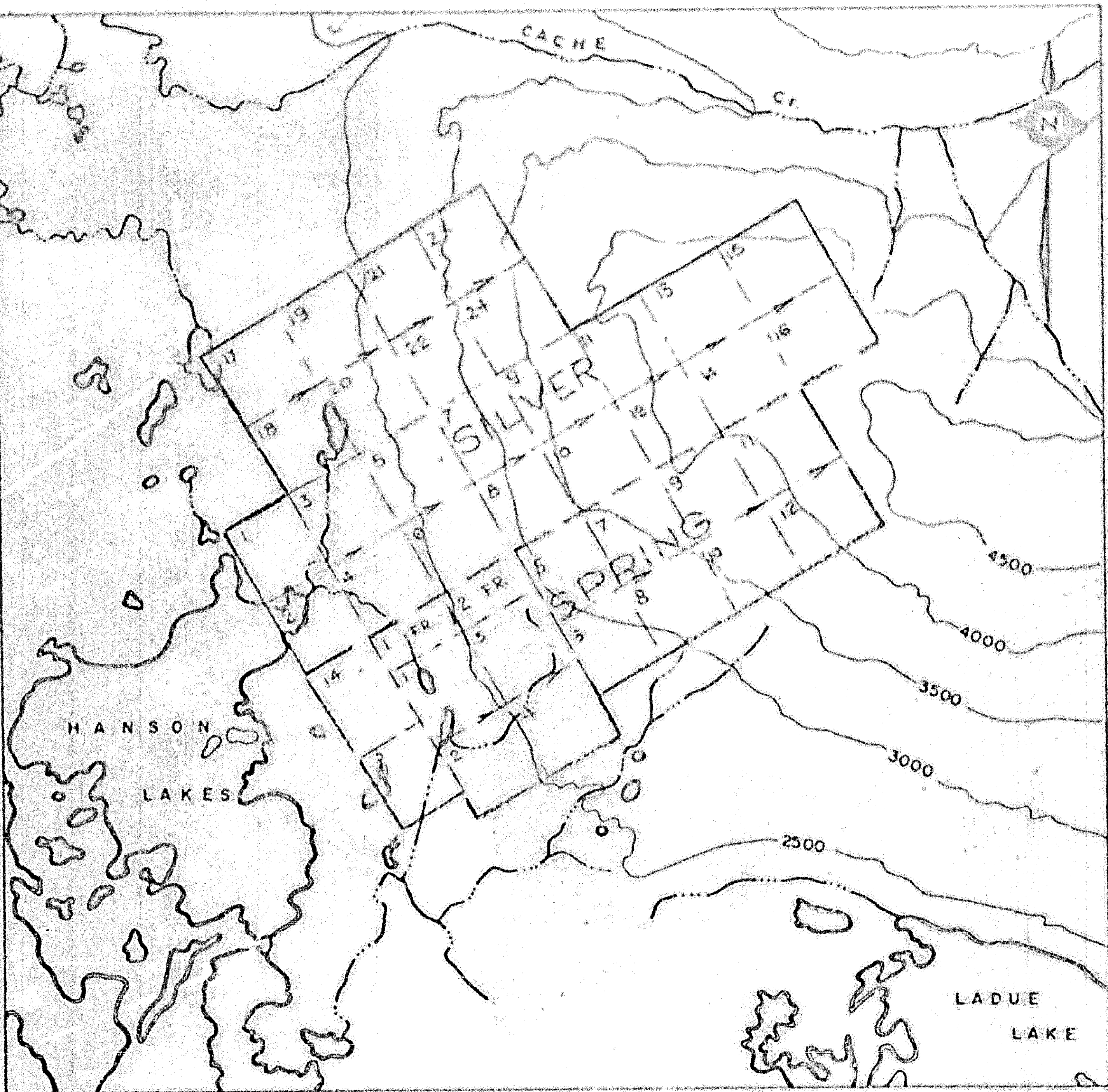
Claim boundaries revised November, 1968.

SILVER SPRING MINES LTD

STREAM SEDIMENT SAMPLING

Mayo M.D — Y.T. 105-D-3

P.H. Sevensma Consultants Ltd. March 196



Scale — (Miles)

0 1/2 1

FIG. 3

SILVER SPRING MINES LTD	
CLAIM MAP — SILVER & SPRING	
Mayo M.D — Y.T.	106 - D - 3
P. H. Sevensma Consultants Ltd.	Oct. 1968,

APPENDIX "B"

GEOPHYSICAL REPORT

EM 16 (VLF-EM) ELECTROMAGNETIC SURVEY

SILVER AND SPRING
MINERAL CLAIMS

N.T.S. 105-M

Yukon Territory

By

JOHN S. BROCK
October 31,1968

INTRODUCTION

A Ronka EM 16 electromagnetic survey was conducted over the Silver and Spring Mineral Claims of Silver Spring Mines Ltd. during June 1968. In conjunction with an exploration and development program consisting of geologic mapping, geochemical surveys and bulldozer trenching; 14,300 ft. of electromagnetic survey was conducted to aid in interpretation of the properties economic potential.

LOCATION AND ACCESS

The Silver and Spring Groups are located in the Yukon Territory, between Elsa and Hansen Lake (N.T.S. 105-M-14). Access to the property may be gained by way of the Hansen Lake Road, an all weather transportation route currently providing access to Foley Silver Mines near Rambler Hills.

SURVEY METHOD

Control Grid

The elctromagnetic survey was carried out over a cut line grid controlled by chain and picket methods. The survey grid consisted of a centrally located 2800 ft. baseline bearing N20W. Crosslines of 400 ft. spacing and 100 ft. station intervals were established with crosslines of 200 ft. spacing over areas of prime interest.

Instrumentation

The Ronka EM 16 is a basic electromagnetic tool using homegenous horizontal primary fields in the 15 to 25 kc. range. The high frequency ranges have been adopted for purposes of tracing weak conductors. In the instance of this survey readings were taken on both 18.6 kc. and 23.4 kc. frequencies.

The equipment is operated on the principal that VLF radio stations transmit vertical antenna currents creating a concentric horizontal magnetic field. When the magnetic field crosses conductive subsurface bodies, secondary fields are radiated. The EM 16 measures the vertical components of these secondary fields.

Electromagnetic Survey Method

Two frequencies, 18.6 kc. as transmitted from NPG-Seattle and 23.4 kc. as transmitted from NPM-Hawaii were used for each station read over the survey area. Transmitting stations were selected which gave the field approximately at right angles to the regional strike of geologic structur signals received from the 18.6 kc. transmitter should be considered as the most reliable for secondary field emissio over this area.

All readings were taken facing northwest for 23.4 kc. and southwest for 18.6 kc. Percentage readings of the in-phase and quadrative response were taken for each frequency at each 100 ft. station.

Separate maps on scale 1:200 were prepared of profiles obtained on each of the two frequencies.

RESULTS

It has been assumed from the survey data presented that all lines were run with the instrument oriented in a westerly direction, all polarities are then relative and no correction for orientation have been carried out.

Topography slopes approximately -15 degrees to the west and results have been adjusted accordingly by placing of the 0% reference at -14 degrees for all in-phase profiles. Apparent variations in overburden thickness and conductivity render quadrative response inadequate for precise interpretation. It is for this reason that in-phase response only has been examined.

Results have been presented for profile stvdy in the appendix (Figures 1 to 10). An attempt has been made to correlate profiles obtained on frequencies 18.6 kc. and 23.4kc. in order that conductor response to both frequencies could be clarified. Usually reading of two frequencies, such as those transmitted from stations NPM and NPG, with orthogonal strike directions, will provide additional information that clarifies the causative structure. In this case only strong conductors have been noted that have response on both frequencies.

Profiles are generally of 'smooth' response and a minimum of 'noise' from conductive overburden and such other sources as graphitic shears has been encountered. To eliminate any interference from such sources, a profile scale of 1 inch vertical to 40% was used.

INTERPRETATION

As all profiles were mapped with the instrument oriented in a westerly direction, it can be assumed that all conductors will be located to the west of any positive in-phase response. general 'rule of thumb' is that in-phase response will reach positive levels when the conductor is approached. Cross-overs and inflection points west of positive in-phase responses and common to both frequencies have been noted as 'strong' conductors. Cross-overs and inflection points recorded only on 18.6 kc. have been noted as 'weak' conductors. Locations of such may be seen in the appendix. For location reference, axial traces of conductor locations are presented on a grid plan.

Depths of conductors (to upper edge) as determined by 'half widths', are less than 100 ft. from surface.

Inferred traces of conductor axis are north to northwest trending and do not conform with the regional strike of limited geology known. Dips cannot be accurately interpreted from VLF-EM profiles but it is suggested that the conductors are dipping from 45 to 80 degrees in a westerly direction.

On lines 2+00N to 12+00S, positive in-phase response at the western extremities of each line, probably represents conductive overburden; flat profiles east of this point and towards the base line, are characteristic of competent non-conductive rock types such as quartzite. The few conductive traces within this area could be due to graphitic shears or interfaces. The strong conductor shown on lines 0 to 16N (west of baseline) and more specifically from 8 to 16N, is more typical of a conductive shear or mineralized vein zone. It is interesting to note that weak lead geochemical results have been obtained near this zone of conductivity.

CONCLUSIONS

The VLF-EM system is limited by its high frequency and the inability to interpret from the results the conductivity and shape of the conductor. Similar results have been obtained from structures that could either be shear and fault zones as well as mineralized vein-type formations. In order to interpret numerous conductors thus outlined, results from two transmitting stations have been correlated. VLF-EM results may also have been influenced by changes in overburden depth, related fault or shear zones and regional effects from nearby conductive structures.

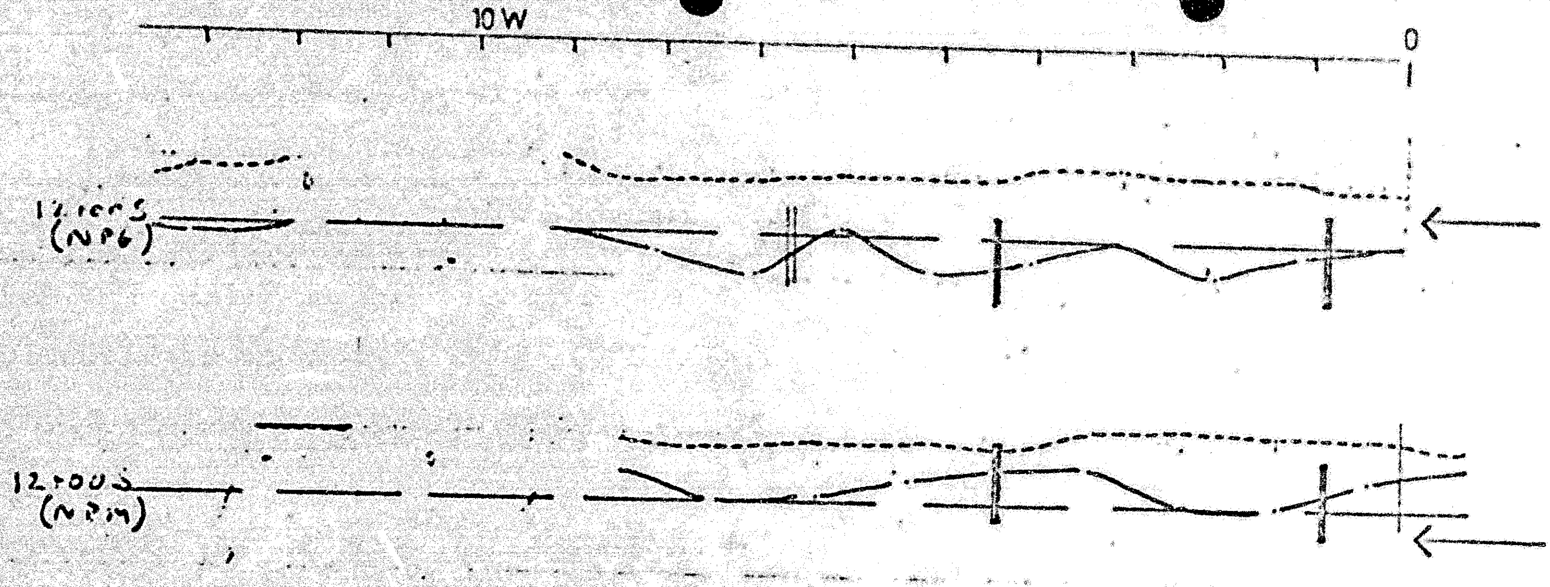
All conductive traces noted as 'strong' conductors are recommended for further follow-up in view of the possibility that they may represent sulphide bearing vein-type structures, in most cases lead geochemistry appears to be associated with these conductors.

Geologic interpretations cannot be accurately inferred from the data present without knowledge of 'type' results over known geology in this area. Some general statements as to possible rock types have been suggested in the interpretation.

Checks over the conductive zones are recommended with conventional EM methods such as Crone or Ronka horizontal loop in order that attitudes of possible vein structures may be determined.

Respectfully submitted,

John S. Brock



In phase response

Quadrature response

Strong conductor

Weak conductor

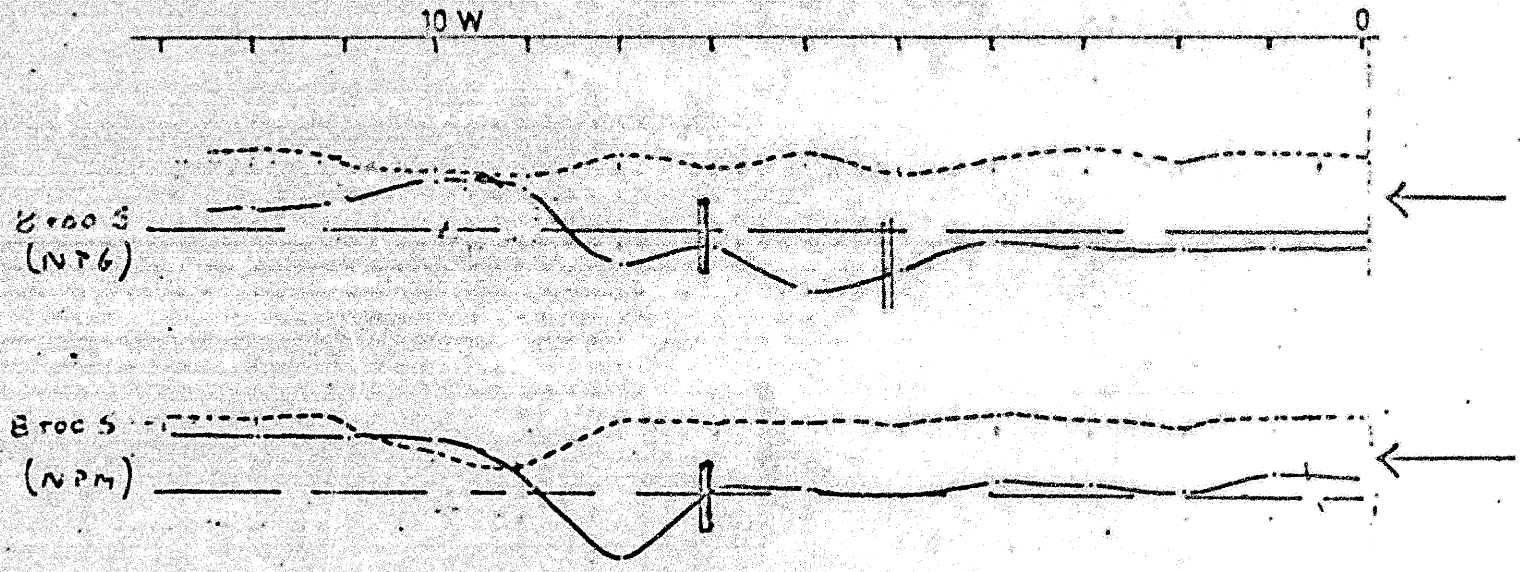
Lead geochemical response Pb

Direction of EM 16 orientation

Profile scale 1:40%

Horizontal scale 1:200

Electromagnetic Profiles
Figure 1



In phase response
Quadrature response

Strong conductor

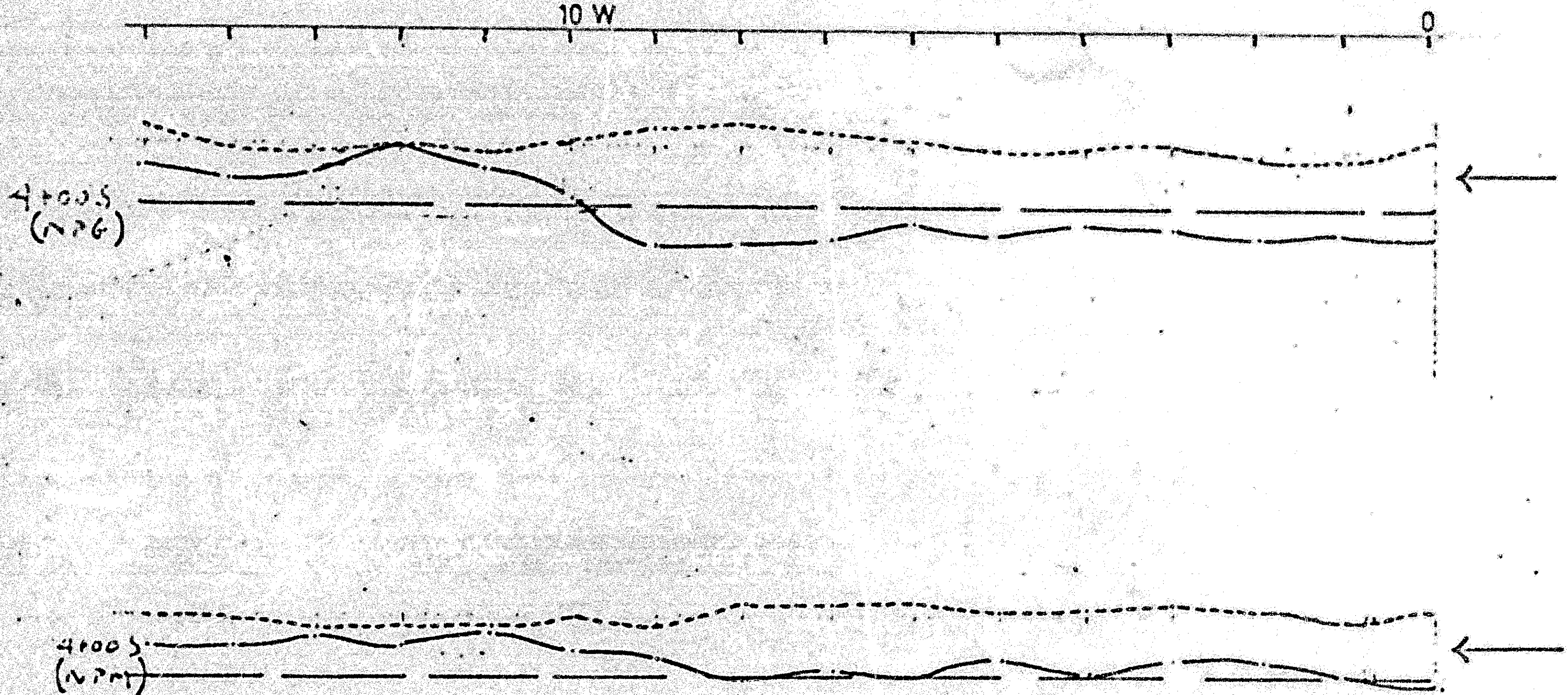
Weak conductor

Lead geochemical response Pb

Direction of EM 16 orientation

Profile scale 1:40%
Horizontal scale 1:200

Electromagnetic Profiles



Lead geochemical response Pb

Direction of EM 16 orientation

Profile scale 1:40%

Horizontal scale 1:200

In phase response

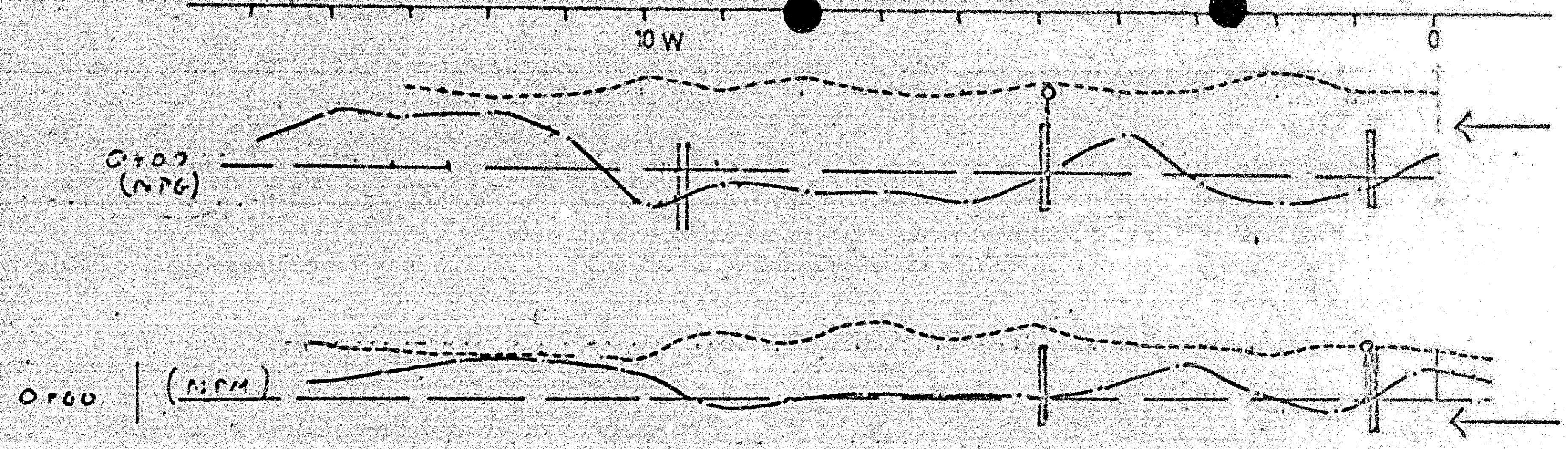
Quadrature response

Strong conductor

Weak conductor

Electromagnetic Profiles

Figure 3



In phase response

Quadrature response

Strong conductor

Weak conductor

Lead geochemical response Pb

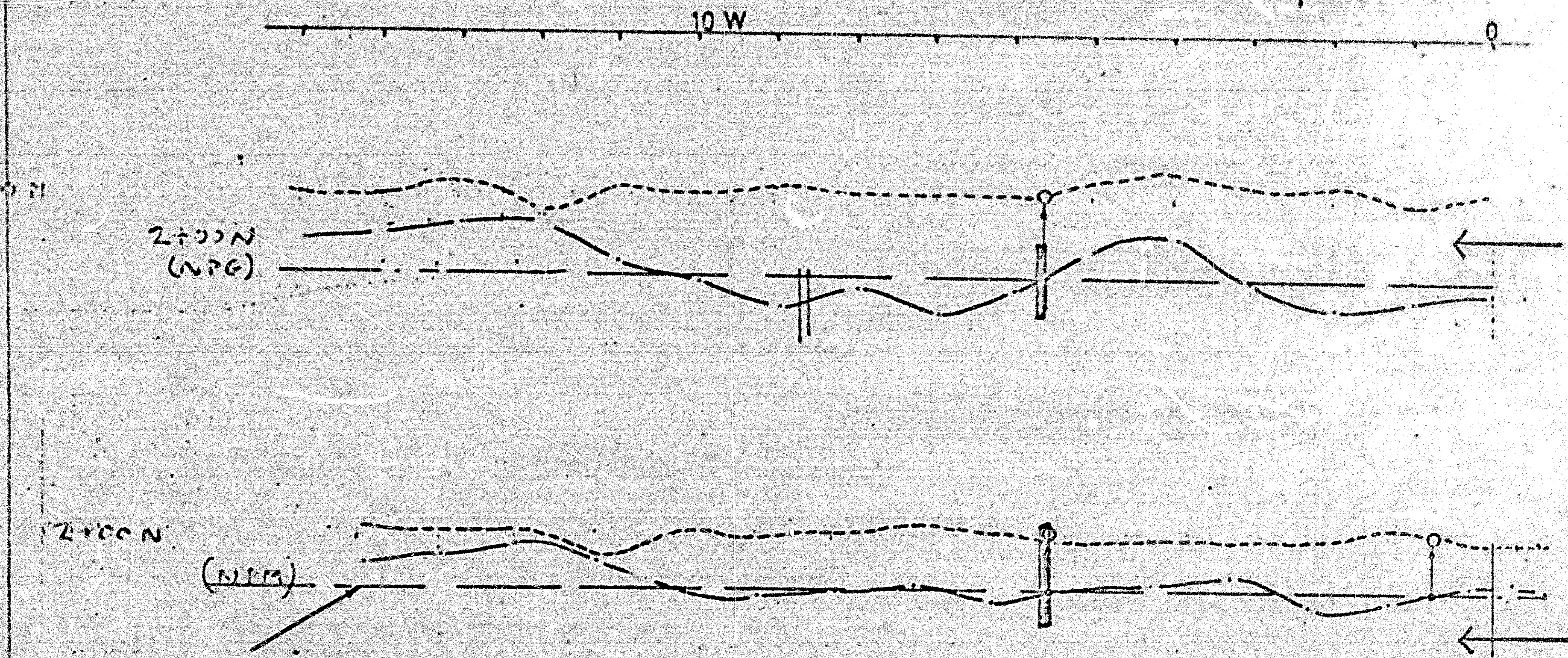
Direction of EM 16 orientation

Profile scale 1:40%

Horizontal scale 1:200

Electromagnetic Profiles

Figure 4



In phase response
Quadrature response

Strong conductor

Weak conductor

Pb

Pb

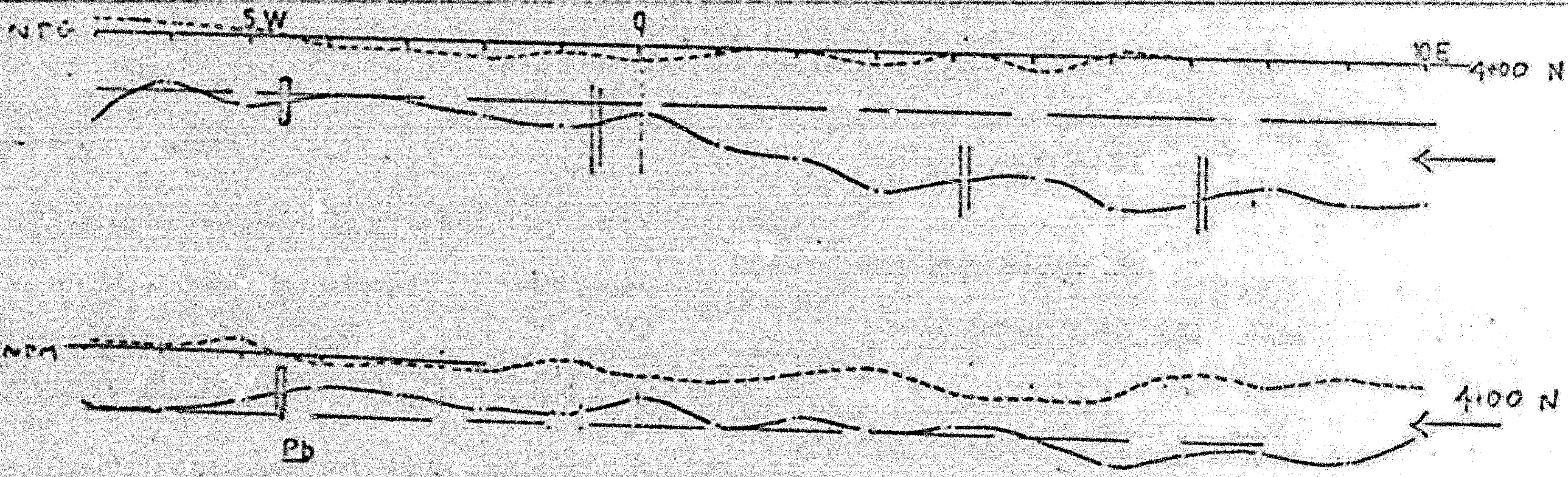
Lead geochemical response Pb

Direction of EM 16 orientation

Profile scale 1:40%
Horizontal scale 1:200

Electromagnetic Profiles

Figure 5



In phase response
Quadrature response

Strong conductor

Weak conductor

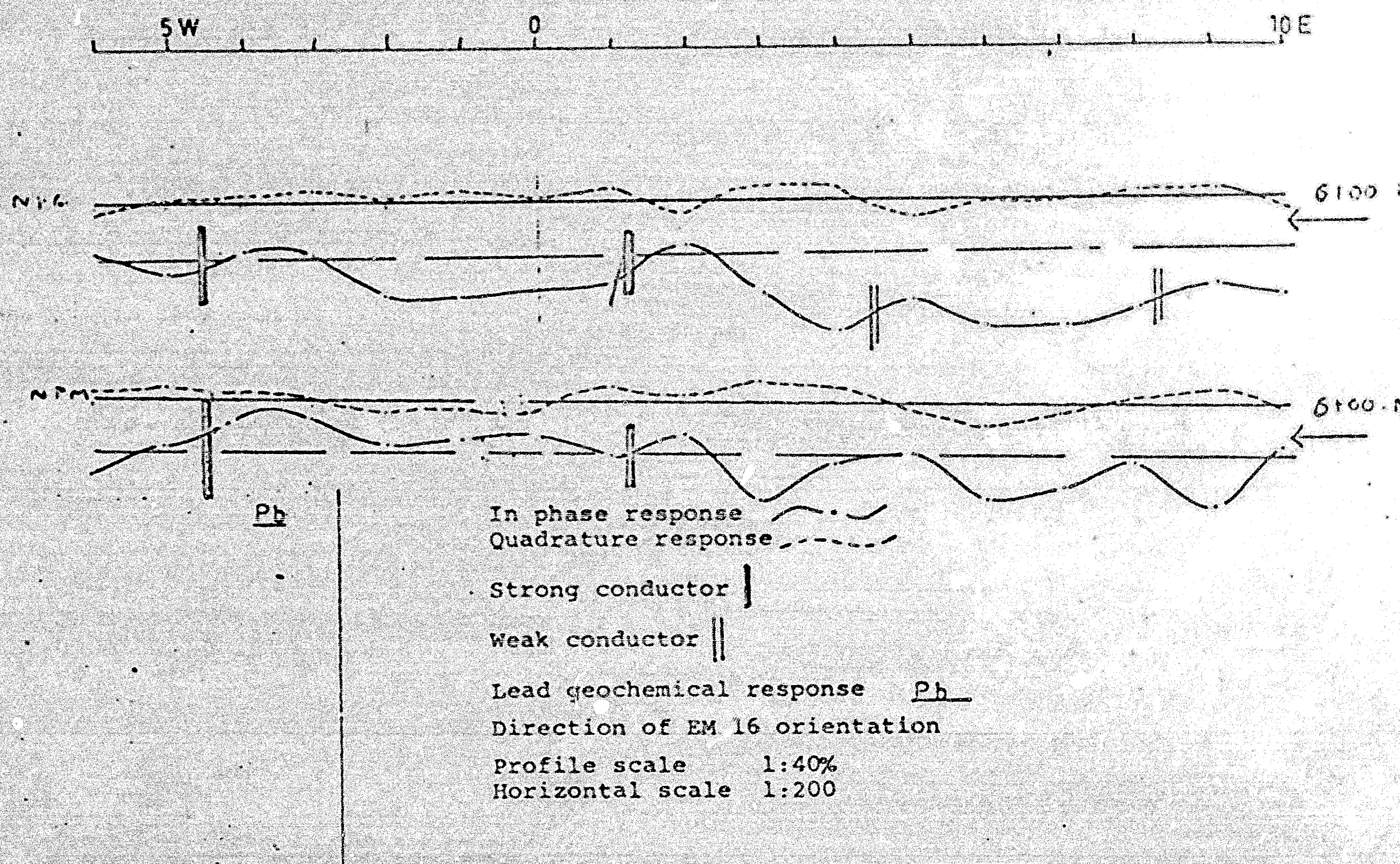
Lead geochemical response Pb

Direction of EM 16 orientation

Profile scale 1:40%
Horizontal scale 1:200

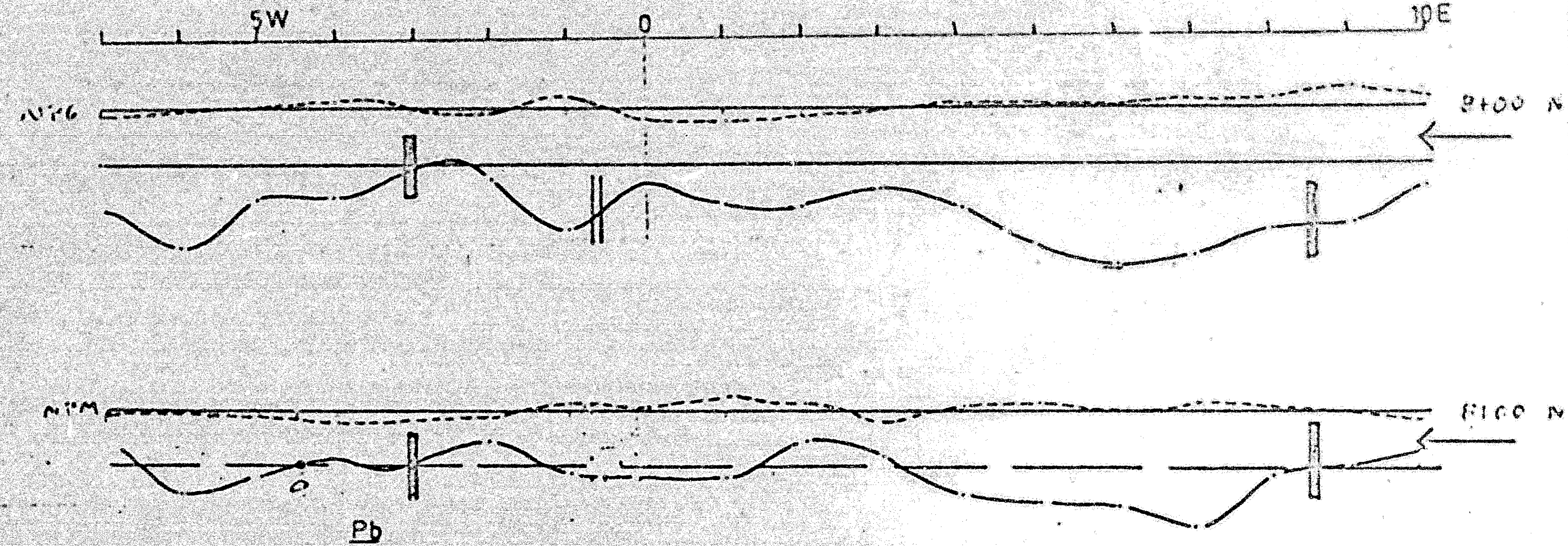
Electromagnetic Profiles

Figure 6



Electromagnetic Profiles

Figure 7



In phase response

Quadrature response

Strong conductor

Weak conductor

Lead geochemical response Pb

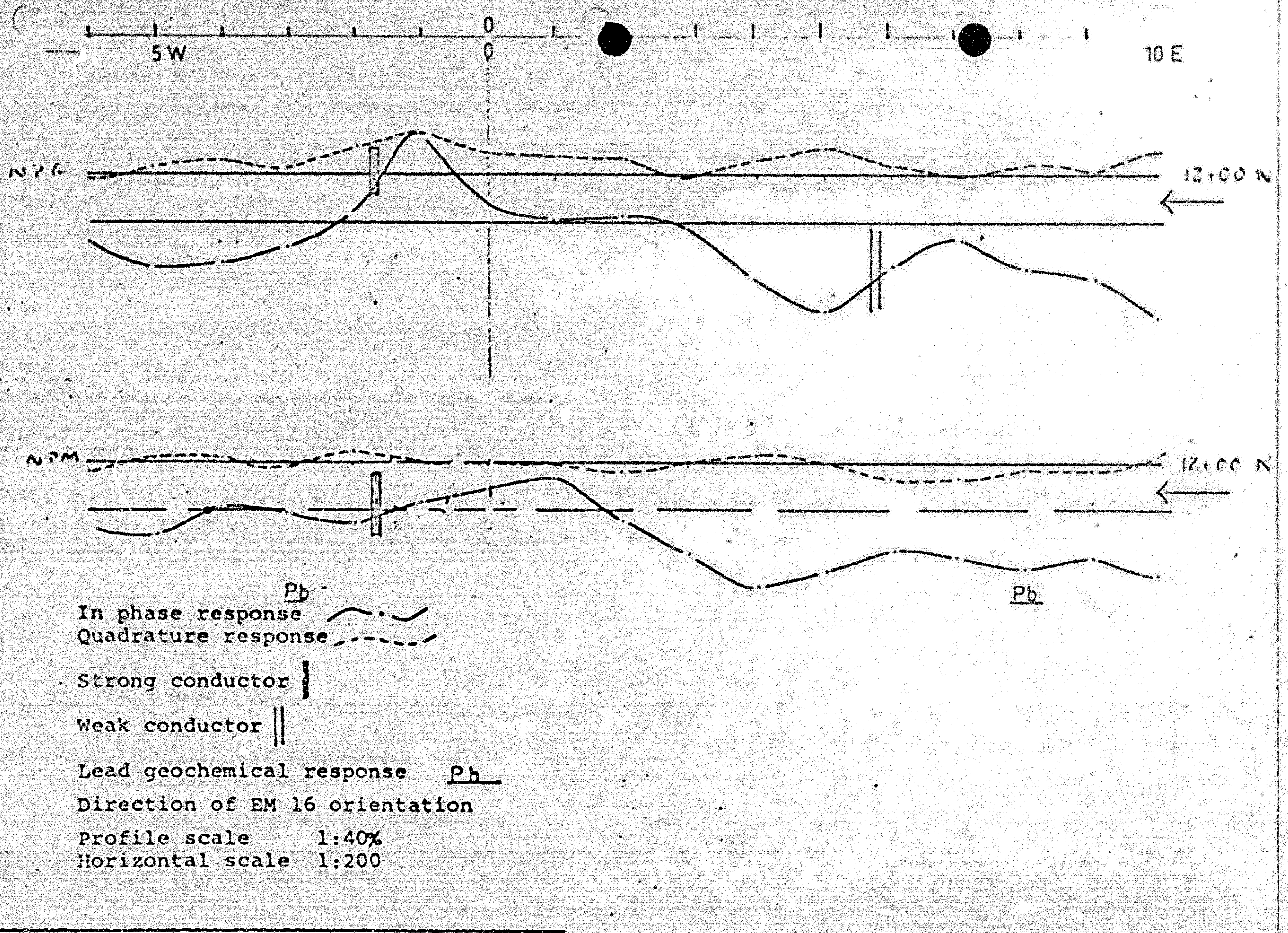
Direction of EM 16 orientation

Profile scale 1:40%

Horizontal scale 1:200

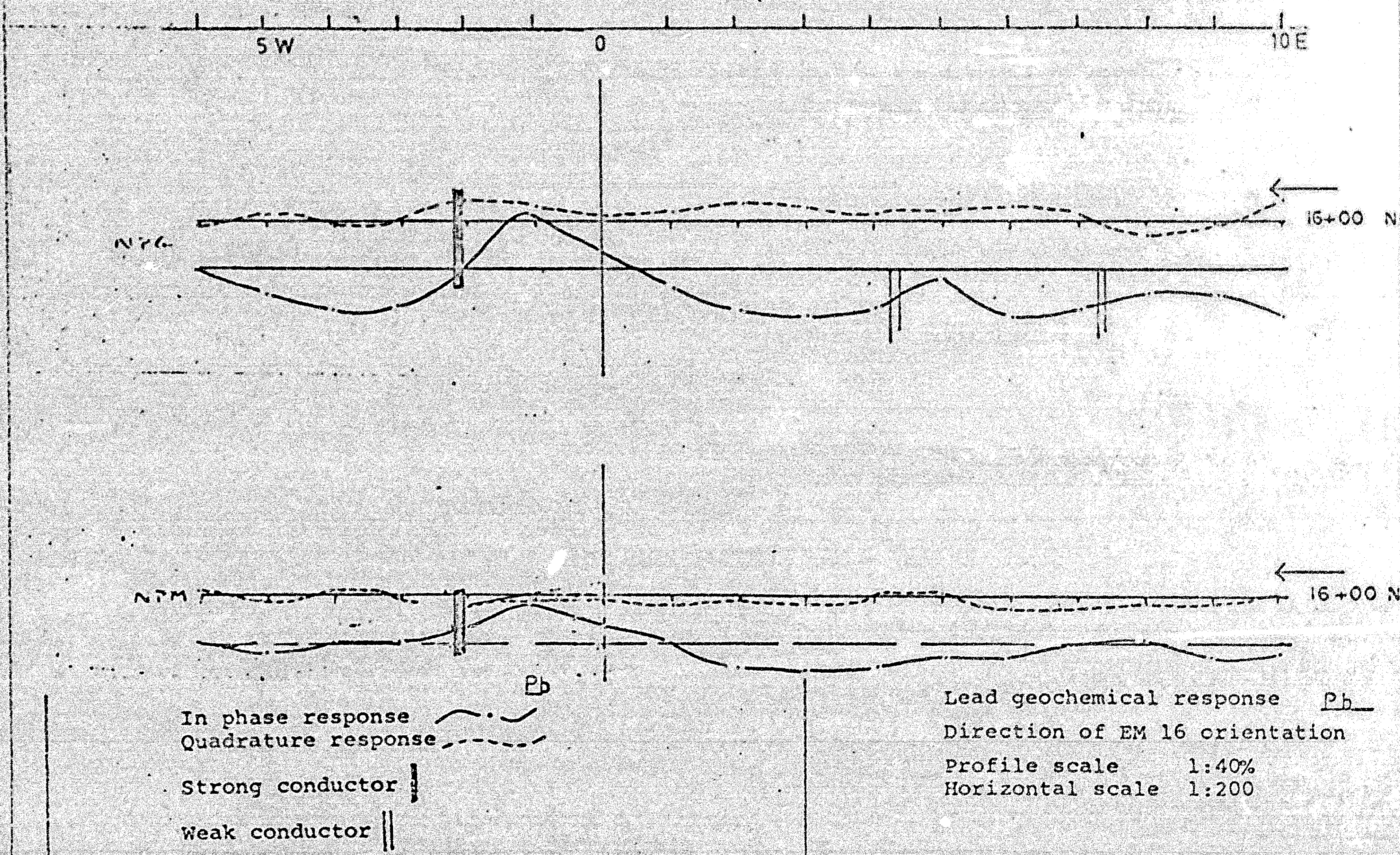
Electromagnetic Profiles

Figure 8



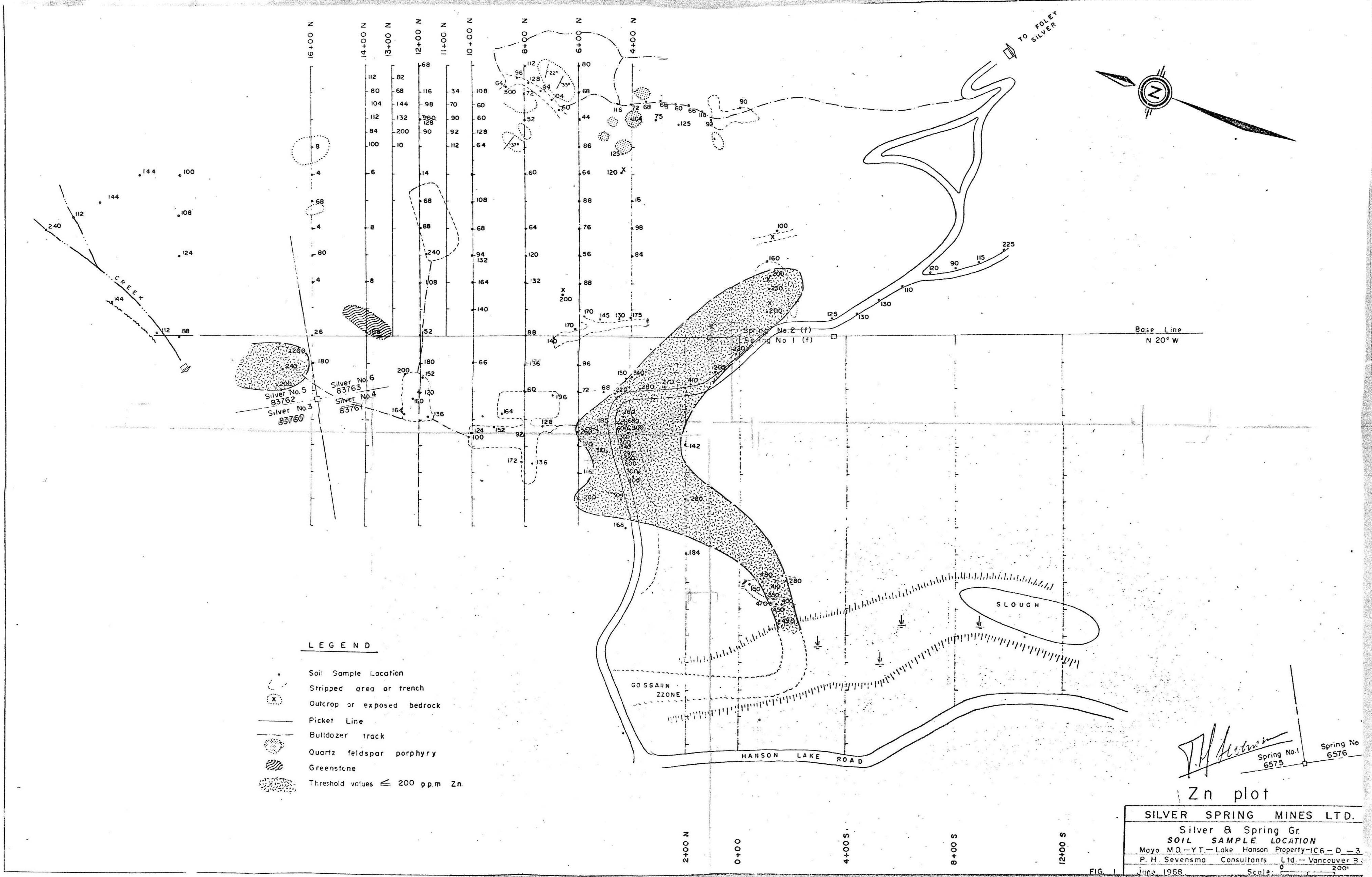
Electromagnetic Profiles

Figure 9

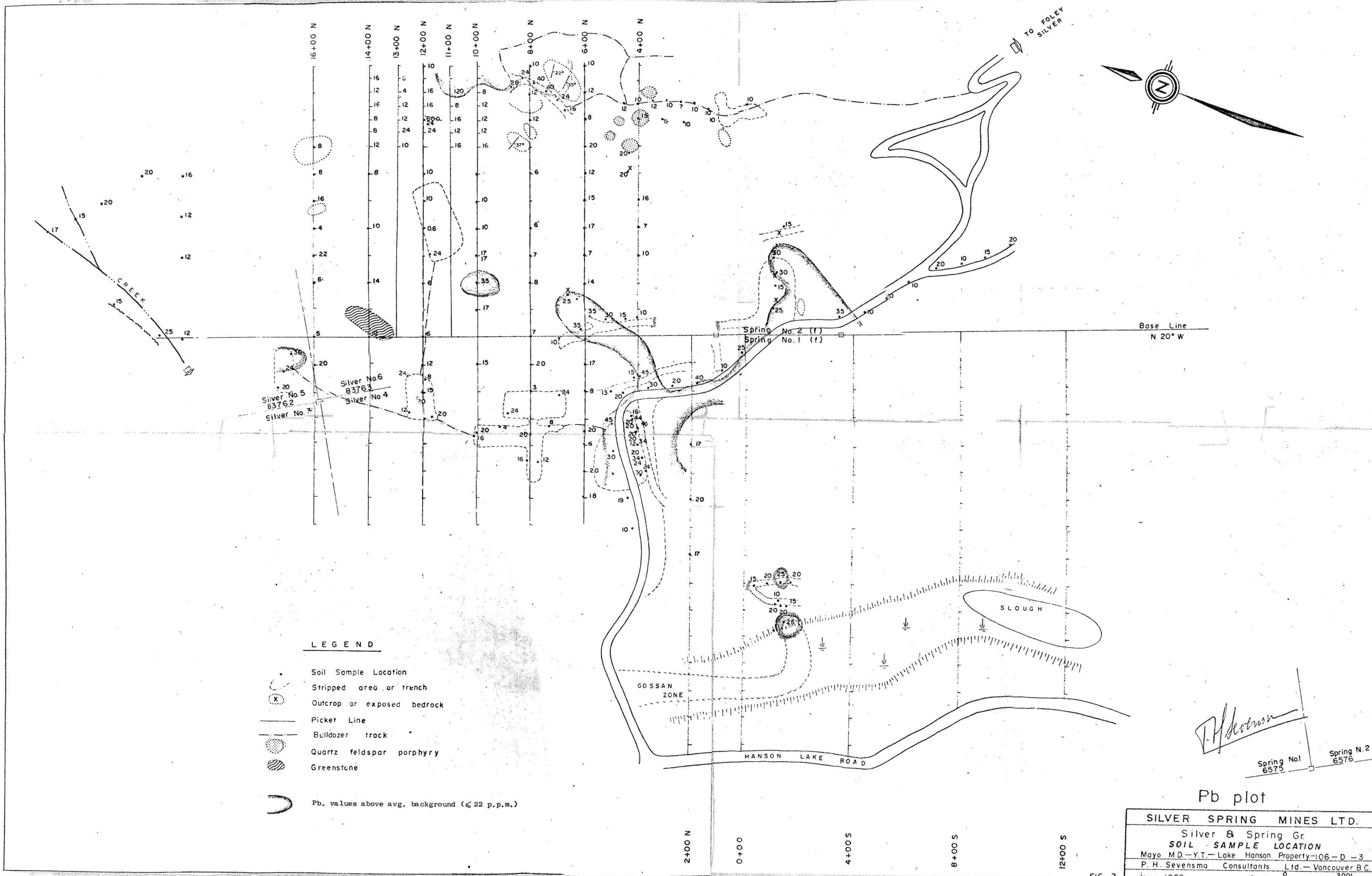


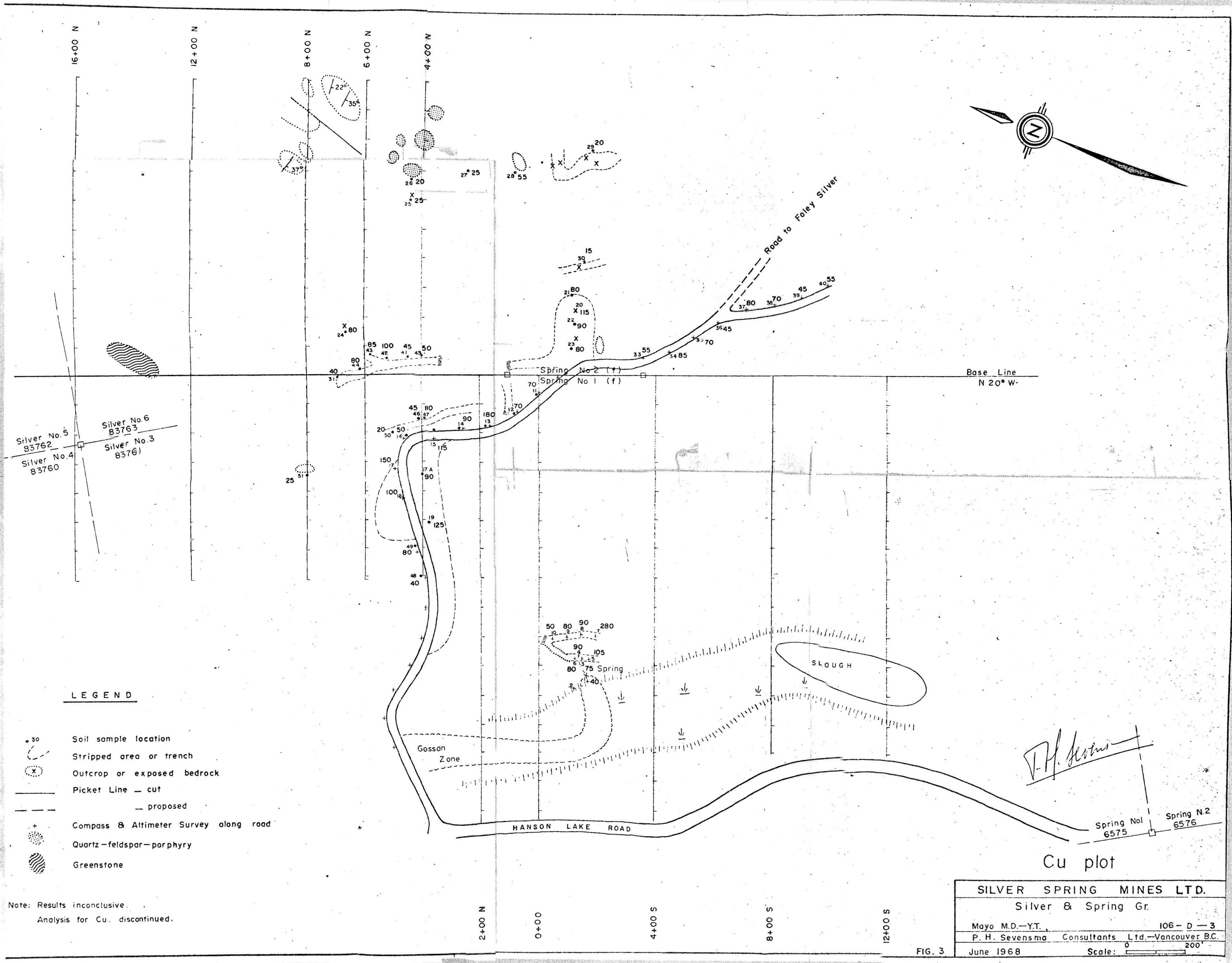
Electromagnetic Profiles

Figure 10

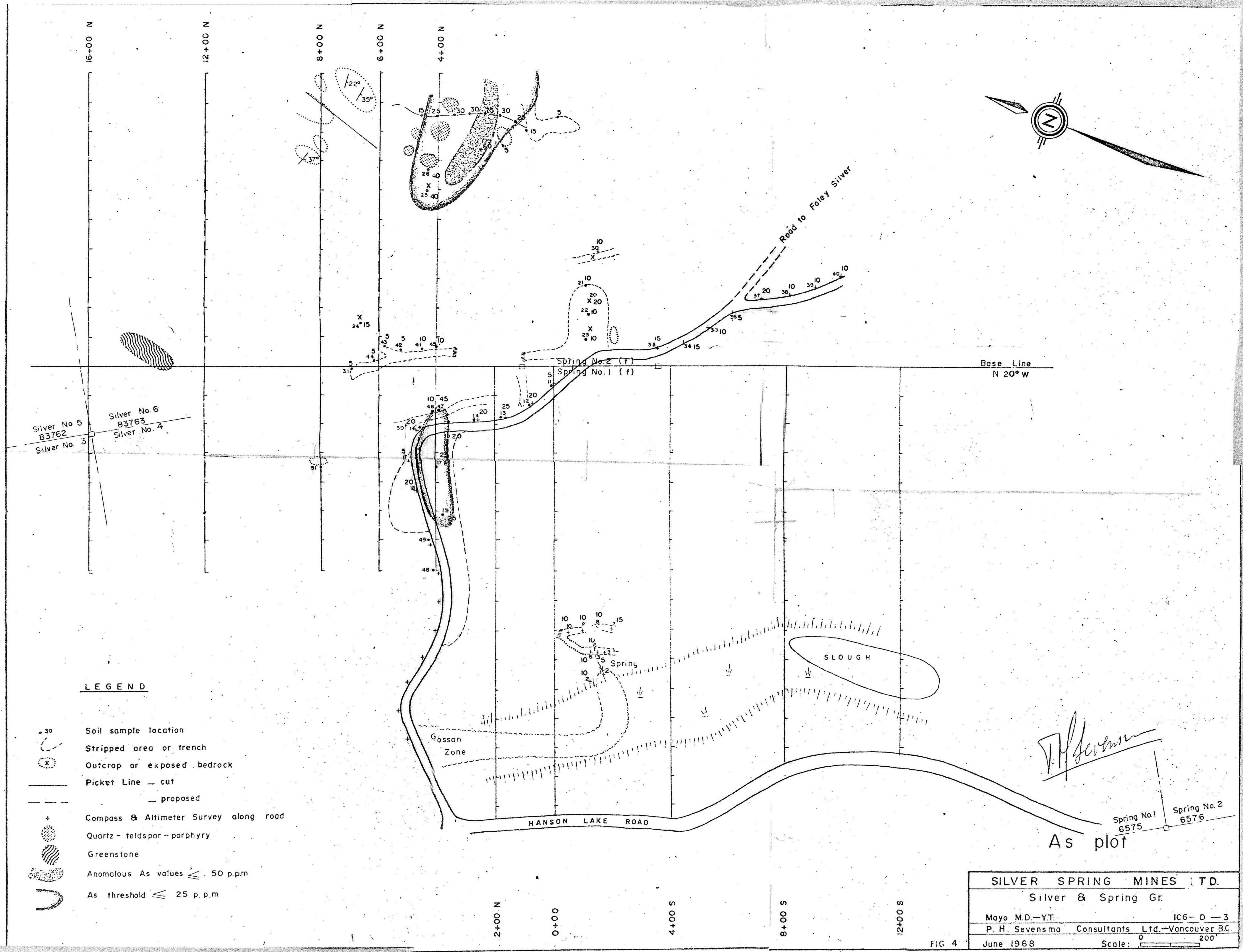


TO FOLEY SILVER
Base Line
N 20° W
Spring No. 2 (f)
Spring No. 1 (f)
CREEK
Silver No. 6
83763
Silver No. 5
83762
Silver No. 4
83761
Silver No. 3
83760
SLOUGH
GOSSAN ZONE
HANSON LAKE ROAD
Spring No. 1
6575
Spring No
6576
16+00 N
14+00 N
13+00 N
12+00 N
11+00 N
10+00 N
8+00 N
6+00 N
4+00 N
2+00 N
0+00
4+00 S
8+00 S
12+00 S
LEGEND
Soil Sample Location
Stripped area or trench
Outcrop or exposed bedrock
Picket Line
Bulldozer track
Quartz feldspar porphyry
Greenstone
Threshold values ≤ 200 p.p.m. Zn.
Zn plot
SILVER SPRING MINES LTD.
Silver & Spring Gr.
SOIL SAMPLE LOCATION
Mayo M.D. - Y.T. - Lake Hanson Property - 106 - D - 3
P. H. Sevensma Consultants Ltd. - Vancouver B.C.
June 1968
Scale: 0 200'
FIG. 1

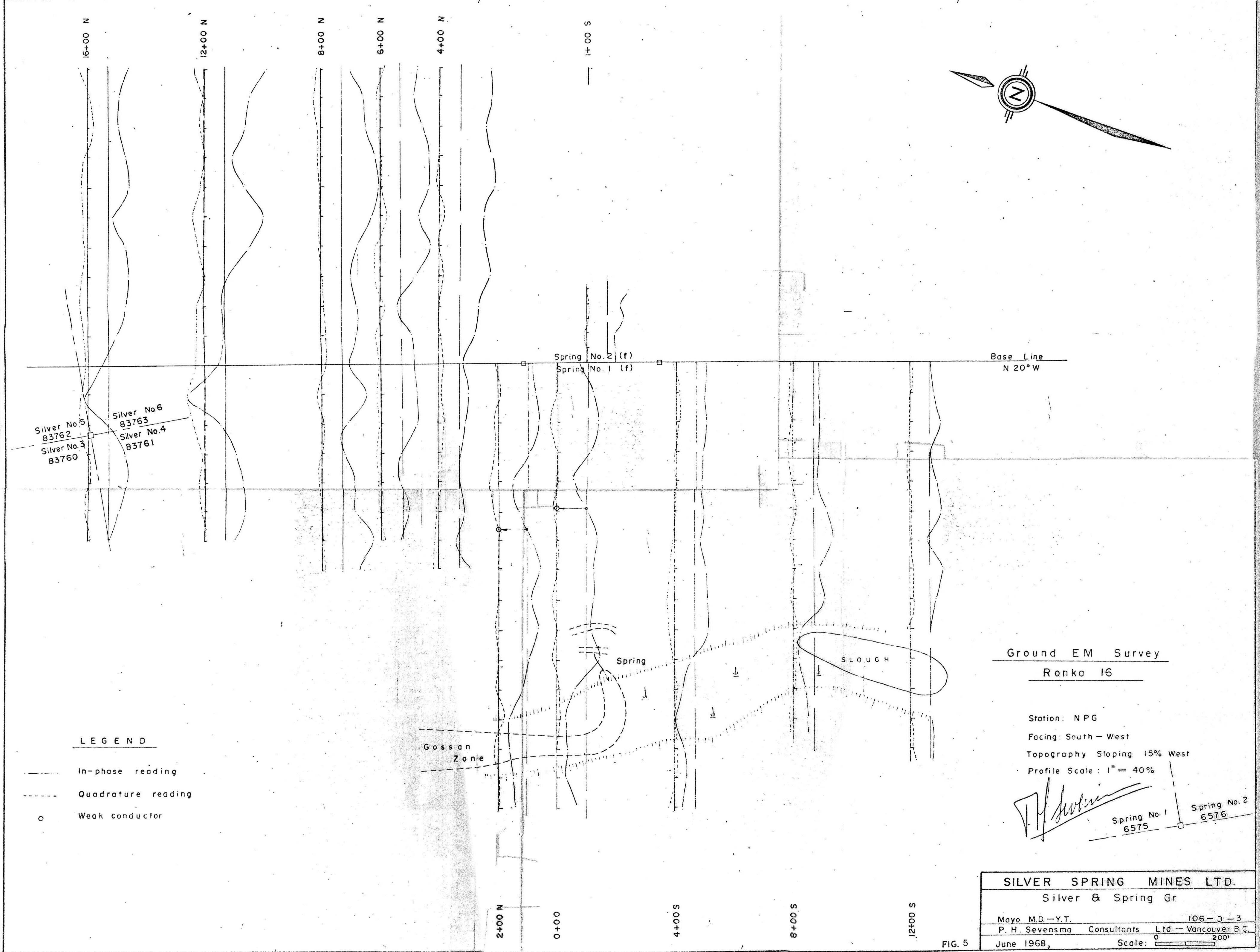

TO FOLEY SILVER
N
Base Line
N 20° W
CREEK
Spring No. 2 (f)
Spring No. 1 (f)
Silver No. 6
83763
Silver No. 4
Silver No. 5
83762
Silver No. 3
GOSSAN
ZONE
SLOUGH
HANSON LAKE ROAD
16+00 N
14+00 N
13+00 N
12+00 N
11+00 N
10+00 N
8+00 N
6+00 N
4+00 N
2+00 N
0+00
4+00 S
8+00 S
12+00 S
LEGEND
Soil Sample Location
Stripped area or trench
Outcrop or exposed bedrock
Picket Line
Bulldozer track
Quartz feldspar porphyry
Greenstone
Pb. values above avg. background (≤ 22 p.p.m.)
Spring No. 1
6575
Spring N. 2
6576
Pb plot
SILVER SPRING MINES LTD.
Silver & Spring Gr.
SOIL SAMPLE LOCATION
Mayo M.D.-Y.T.- Lake Hanson Property-106-D-3
P. H. Sevensma Consultants Ltd.- Vancouver B.C.
June 1968.
Scale: 0 200'
FIG. 2



16+00 N
12+00 N
8+00 N
6+00 N
4+00 N
Road to Foley Silver
Base Line
N 20° W
Spring No 2 (f)
Spring No 1 (f)
Srlver No. 5
83762
Silver No. 6
83763
Silver No. 4
83760
Silver No. 3
83761
Spring
SLOUGH
Gossan
Zone
HANSON LAKE ROAD
Spring No1
6575
Spring N.2
6576
LEGEND
Soil sample location
Stripped area or trench
Outcrop or exposed bedrock
Picket Line — cut
— proposed
Compass & Altimeter Survey along road
Quartz-feldspar-porphyry
Greenstone
Note: Results inconclusive.
Analysis for Cu. discontinued.
2+00 N
0+00
4+00 S
8+00 S
12+00 S
Cu plot
SILVER SPRING MINES LTD.
Silver & Spring Gr.
Mayo M.D.—Y.T.
106-D-3
P. H. Sevensma Consultants Ltd.—Vancouver B.C.
June 1968
Scale: 0 200'
FIG. 3

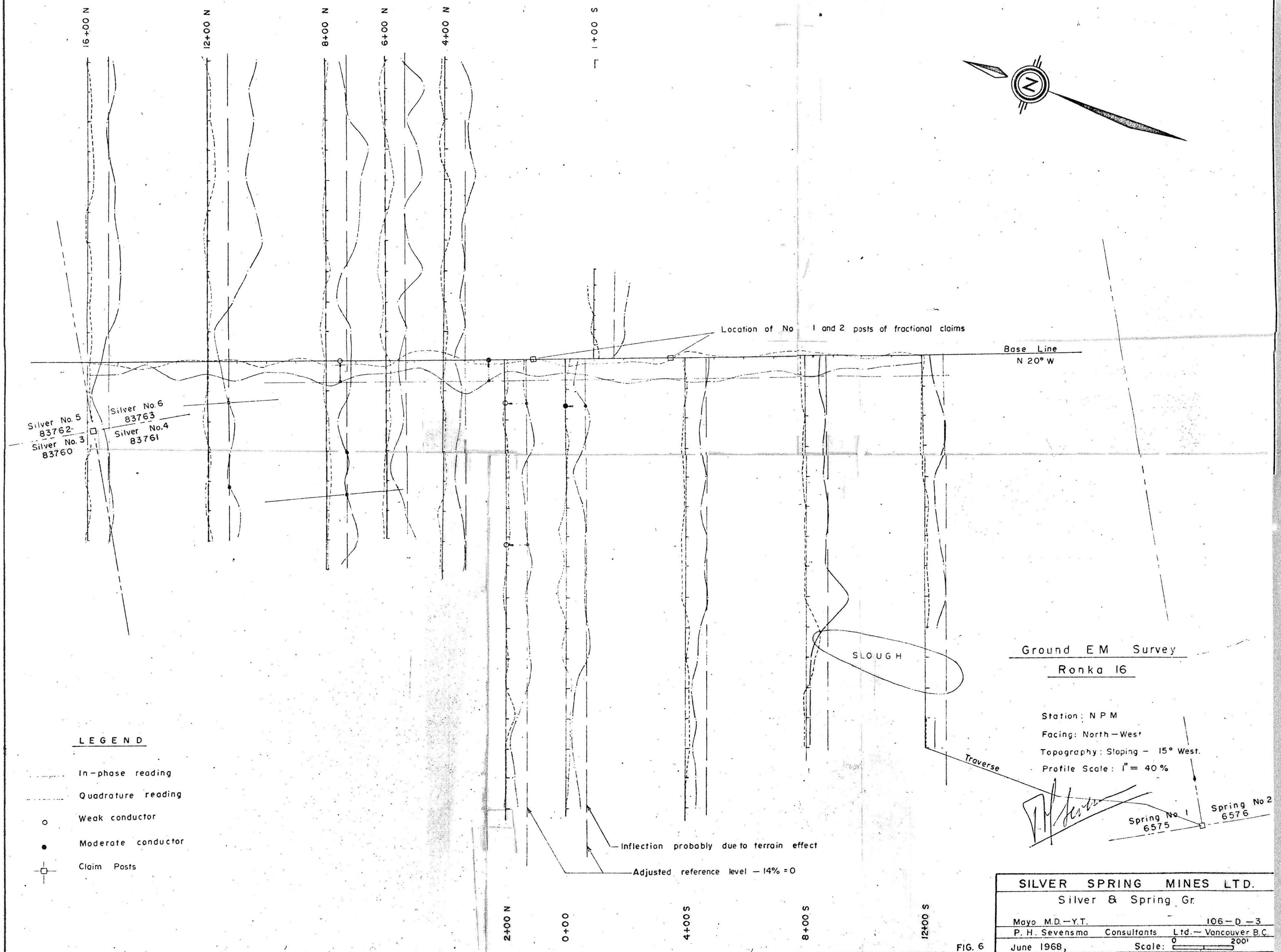


16+00 N
12+00 N
8+00 N
6+00 N
4+00 N
Road to Foley Silver
Base Line
N 20° W
Spring No.2 (f)
Spring No.1 (f)
Silver No 5
83762
Silver No. 3
Silver No. 6
83763
Silver No. 4
SLOUGH
Spring
Gossan
Zone
HANSON LAKE ROAD
Spring No.1
6575
Spring No. 2
6576
As plot
LEGEND
Soil sample location
Stripped area or trench
Outcrop or exposed bedrock
Picket Line _ cut
_ proposed
Compass & Altimeter Survey along road
Quartz - feldspar - porphyry
Greenstone
Anomalous As values ≤ . 50 p.p.m
As threshold ≤ 25 p. p.m
2+00 N
0+00
4+00 S
8+00 S
12+00 S
SILVER SPRING MINES LTD.
Silver & Spring Gr.
Mayo M.D.—Y.T.
IC6— D — 3
P. H. Sevensma Consultants Ltd.—Vancouver B.C.
June 1968
Scale: 0 200'
FIG. 4



16+00 N
12+00 N
8+00 N
6+00 N
4+00 N
1+00 S
2+00 N
0+00
4+00 S
8+00 S
12+00 S
N
Spring No. 2 (f)
Spring No. 1 (f)
Base Line
N 20° W
Silver No. 5
83762
Silver No. 3
83760
Silver No. 6
83763
Silver No. 4
83761
Spring
SLOUGH
Gossan
Zone
LEGEND
In-phase reading
Quadrature reading
Weak conductor
Ground EM Survey
Ronka 16
Station: NPG
Facing: South – West
Topography Sloping 15% West
Profile Scale: 1" = 40%
Spring No. 1
6575
Spring No. 2
6576
SILVER SPRING MINES LTD.
Silver & Spring Gr.
Mayo M.D. – Y.T.
106 – D – 3
P. H. Sevensma Consultants Ltd. – Vancouver B.C.
June 1968,
Scale: 0 200'

FIG. 5



LEGEND

In-phase reading

Quadrature reading

Weak conductor

Moderate conductor

Claim Posts

Ground EM Survey

Ronka 16

Station: NPM

Facing: North-West

Topography: Sloping - 15° West.

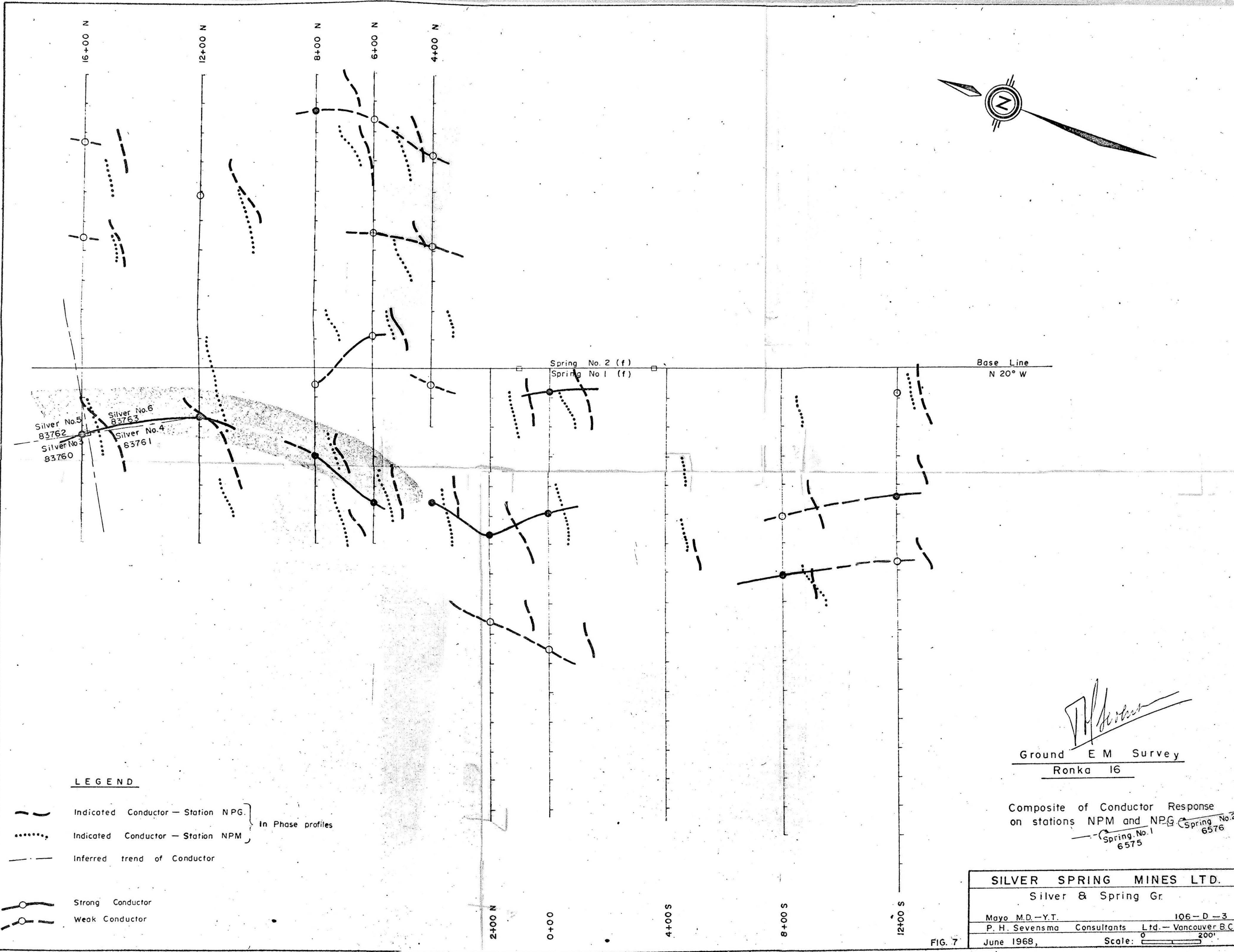
Profile Scale: 1" = 40 %

SILVER SPRING MINES LTD.

Silver & Spring Gr.

Mayo M.D. - Y.T.	106 - D - 3
P. H. Sevensma Consultants	Ltd. - Vancouver B.C.
June 1968,	Scale: 0 200'

FIG. 6



16+00 N
12+00 N
8+00 N
6+00 N
4+00 N
Spring No. 2 (f)
Spring No 1 (f)
Base Line
N 20° W
Silver No.5
83762
Silver No.6
83763
Silver No.4
83761
Silver No3
83760
2+00 N
0+00
4+00 S
8+00 S
12+00 S
LEGEND
Indicated Conductor — Station NPG.
Indicated Conductor — Station NPM
In Phase profiles
Inferred trend of Conductor
Strong Conductor
Weak Conductor
Ground E M Survey
Ronka 16
Composite of Conductor Response
on stations NPM and NPG
Spring No. 1
6575
Spring No.2
6576
SILVER SPRING MINES LTD.
Silver & Spring Gr.
Mayo M.D.—Y.T.
106—D—3
P. H. Sevensma Consultants Ltd.— Vancouver B.C.
June 1968,
Scale:
0
200'

FIG. 7