

ASSESSMENT REPORTS

MAP No. 105-17 TYPE OF WORK: Regional Geology (105-17-1000)

REPORT FILED UNDER	Silver Spring Mines Ltd.
DATE PERFORMED	Sept. - Dec. 1959
DATE FILED	December 8, 1959
LOCATION - LAT.	36° 47' N
LONG.	135° 24' W
CLAIM Nos.	Paddy - Carol - oil and gas permits Nos. 5709-5712
WORK DONE BY	P.H. Severson Consultants L. d. (H.S. Atkins)
WORK DONE FOR	Silver Spring Mines Ltd.
REMARKS	Regional Geology. Small quartz veins contain sphalerite, pyrite, and arsenopyrite but are of no importance. Sphalerite, galena, pyrite, and limonite in North vein and galena, sphalerite, tetrahedrite and pyrite in South vein. Displacement along veins is evident and this sediment is strongly over

SILVER SPRING MINES LTD.
PADDY - CAROL CLAIM GROUP
MAYO M.D., 105-M-14
Lat. 63° 57' N., Long. 135° 24' W.

SUMMARY of UNDERGROUND DEVELOPMENT PROGRAM

by

H.S. Aikins
P.H. SEVENSMA CONSULTANTS LTD.
December 8, 1969.

TABLE OF CONTENTS

	<u>Page No.</u>
1. INTRODUCTION	1
2. WORK COMPLETED	1 & 2
3. GEOLOGY	2 - 4
4. SUMMARY	4 & 5
5. RECOMMENDED PROGRAM	5 - 7

ILLUSTRATIONS

Fig. 1 - Paddy - Carol Group, Topography	1" = 100'
Fig. 2 - Geology Level Plan	1" = 40'
Fig. 3 - Geological Section	1" = 40'

SILVER SPRING MINES LTD.
PADDY - CAROL CLAIM GROUP
MAYO M.D., 105-M-14
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SUMMARY of UNDERGROUND DEVELOPMENT PROGRAM

1. INTRODUCTION

This report summarizes the underground exploration program conducted by Silver Spring Mines Ltd. during the fall of 1969. This phase of the work commenced on September 30th and was completed on November 30th, 1969.

The development program was supervised by P.H. Sevensma Consultants Ltd. (reference Summary Report of Drilling the #3 Vein by H.S. Aikins, August 22, 1969).

The underground work was performed by Northern Mining Contractors Ltd. of Whitehorse.

Camp construction, and operation was directed by Mr. Strebchuk, Resident Manager for the Company.

2. WORK COMPLETED

Approximately one mile of road building, entailing the construction of two small bridges and several culverts, was required to give access to the portal site.

A 14' x 28' building was erected near the portal to house the compressor and provide a covered work area. A small lunch room was also provided. A powder magazine was erected some 500 feet from the portal.

As the portal was collared in perma frost, full timber sets were installed for a distance of thirty feet. Ground condition beyond this point required two additional $3/4$ sets before reaching solid ground. No other support timber was required.

447 feet of drifting and 200 feet of raising was completed. The headings were mapped and samples were taken in the mineralized zones.

Assaying was performed by the Whitehorse Assay Office (File numbers 58419-1, 5855-5, 5857-1 and 5876-2).

The drift was collared at an elevation of 2,470 feet and herein is called the 2,500' level.

A raise system was started at a point about 300 feet from the portal and extended to intersect both veins. A permanent chute and timbered manway were installed to facilitate further work in this heading.

All mucking and haulage employed trackless diesel equipment fitted with catalytic scrubbers.

No downtime was incurred and there were no injuries to the workmen employed on the job.

3. GEOLOGY

The rocks present in the underground workings are of essentially three different types. The predominant country rocks are schists which vary from the grey micaceous to the black graphitic type. In the face of the wing raise and in the drift, black well jointed argillaceous sediments were found at the contact with greenstones. Possibly the most important rock type is the altered basic intrusive

locally termed greenstones.

The greenstones intruded the metamorphosed sediments, as plunging sill-like masses with an indicated thickness in the area of interest of about 80 feet.

Where mineralization occurs away from the contact the receptive host appears to be greenstone.

Small, subsidiary mineralized quartz veins containing pyrite, sphalerite and arsenopyrite were noticed within the metasediments but these do not contain sufficient values over widths to be of any importance.

The two major veins intersected in the workings may differ slightly, mineralogically. The North vein is more abundant in sphalerite than galena. The width of the structure observed underground appears to be about 18" to 3' for the North vein, with an additional foot or two of mineralization extending into the wall rock along subsidiary fractures. The trend of this vein is approximately N 45° - 55° E, dipping 70° to 74° South. Minerals observed in the North vein are sphalerite, galena, pyrite and limonite.

The South vein consists of from 10" to 13" of heavily mineralized breccia, massive sulphides, quartz and calcite. The breccia contains particles of massive galena and greenstone loosely cemented with white, pulpy carbonate. This zone has a local strike of N 25° E and dips 35° S. The minerals observed here were galena, sphalerite, tetrahedrite and pyrite.

The variable nature of the grades obtained from the samples listed in the attached summary indicate a need for further data before

any estimate of the grade potential of either vein is attempted. A reasonable expectation however, based on drilling and surface and underground workings would be for mineable widths containing 25 ounces of silver and 20% to 30% combined lead and zinc.

Displacement along both veins is evident and vein matter is strongly brecciated. Dilatent zones within such a structure frequently host massive ore shoots.

4. SUMMARY

Underground access to the vein structures first exposed in the #3 trench system has provided confirmation of the presence of two well mineralized vein-faults. Results of the underground sampling program, while limited, have revealed potentially commercial sections within both veins.

The "North vein" was intersected some 90 feet below the surface outcrop. Four samples were taken from the massive sulphide portion of this vein, results were as follows:-

<u>Sample No.</u>	<u>True Width</u>	<u>Loc.</u>	<u>Oz. Au./T.</u>	<u>Oz. Ag./T.</u>	<u>% Pb.</u>	<u>% Zn.</u>
33924	6" - 8"	L.W.2501 AR	tr.	4.98	0.40	31.90
8856	3" (part)	Face 2501 AR	0.16	36.10	20.4	4.80
8860	3'	R.W.2501 AR	0.01	19.30	4.3	30.00
* 4052	18"	R.W. slash	-	25.60	4.0	44.60

The "South vein" was intersected near the face of the Raise at a point just above its intersection in Diamond Drill hole P.S. 4.

Two samples of sulphide ore from this vein returned the following results:-

<u>Sample No.</u>	<u>True Width</u>	<u>Oz. Au./T.</u>	<u>Oz. Ag./T.</u>	<u>% Pb.</u>	<u>% Zn.</u>
8855	5"	-	47.80	29.80	15.60
8857	4½"	0.20	81.20	70.50	8.04

Samples across the full width, averaging slightly over one foot, returned the following assays:-

<u>Sample No.</u>	<u>Oz. Au./T.</u>	<u>Oz. Ag./T.</u>	<u>% Pb.</u>	<u>% Zn.</u>
8858	-	212.50	53.60	0.52
4051	-	29.80	31.20	16.60

Both veins, if persistent over any appreciable strike length, hold a potential for profitable development and will require detailed exploration.

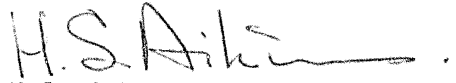
A fault plane forms the greenstone contact at drift level and has offset the "North vein" which is not exposed. Galena and sphalerite are however present as fracture filling and dissemination in the "greenstone" and it is expected that the vein at this point may carry excellent values.

Results of the program to date have been satisfactory and further work on this property is clearly warranted.

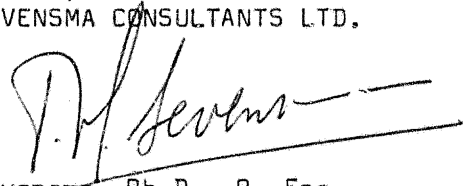
5. RECOMMENDED PROGRAM

As the vein-fault structures have been located by underground development the objective of subsequent programs will be the detailed exploration of these structures. Development headings should be driven

Respectfully submitted,

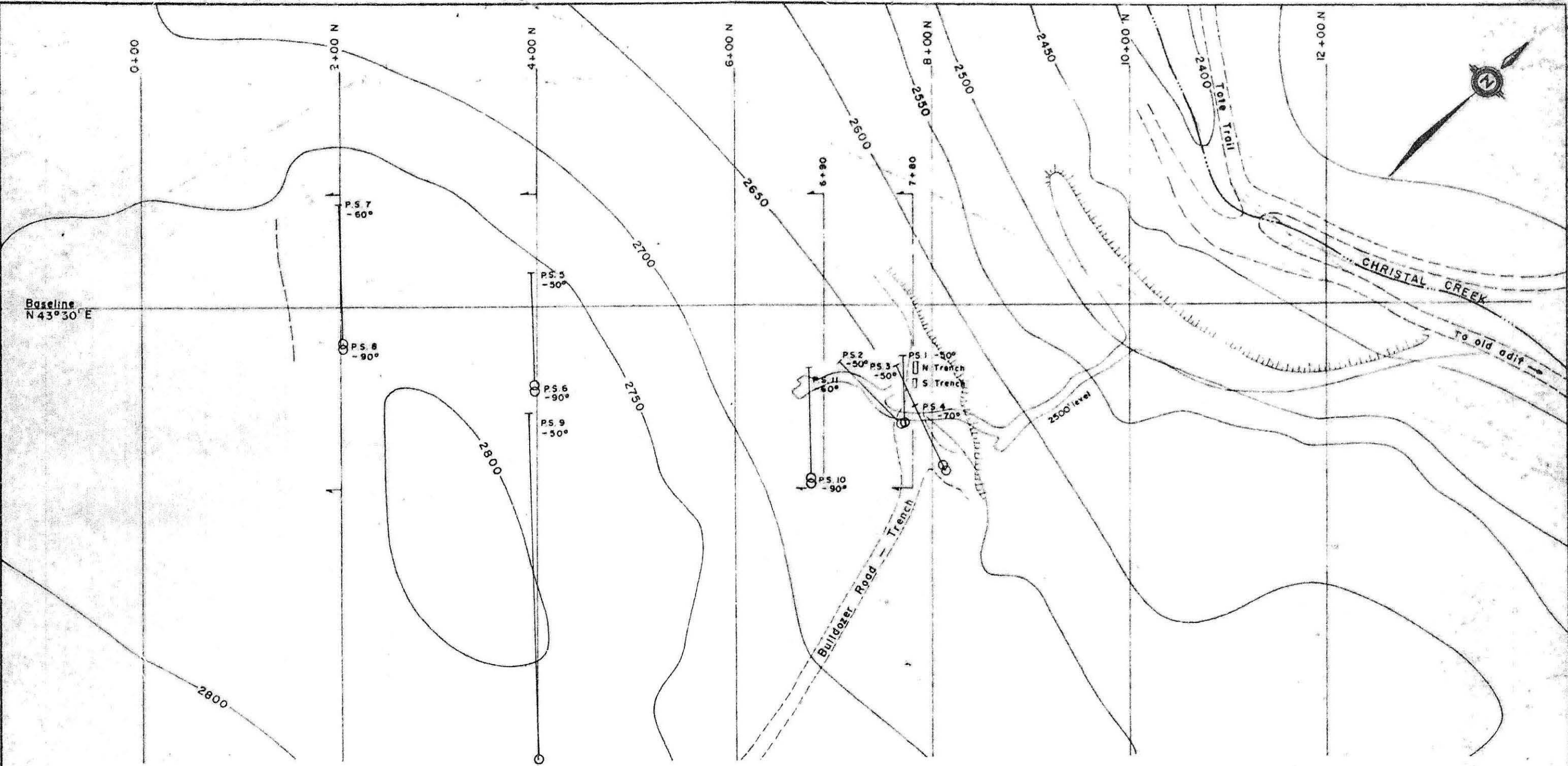


H.S. Aikins,
P.H. SEVENSMA CONSULTANTS LTD.



Endorsed:

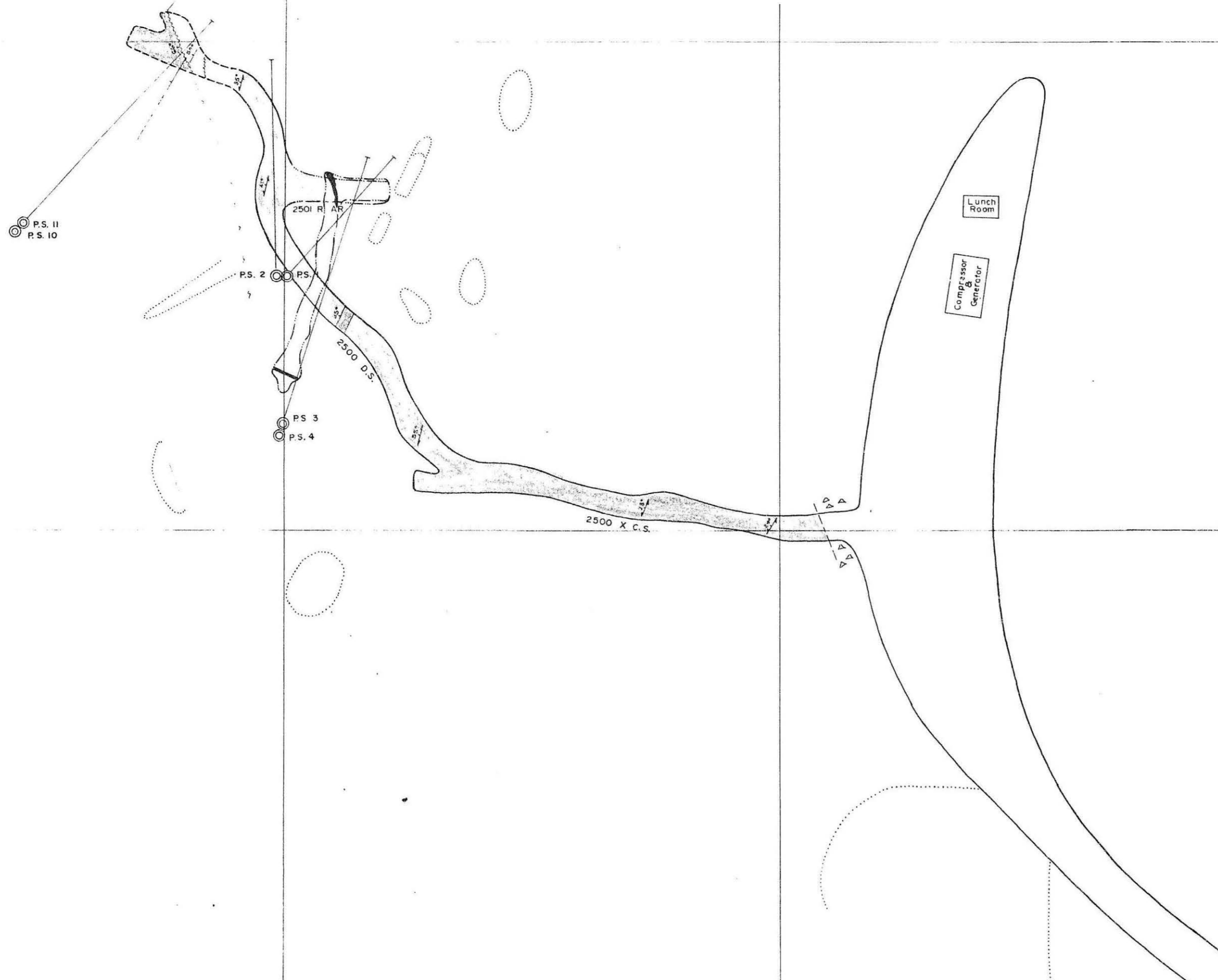
P.H. Sevensma, Ph.D., P. Eng.



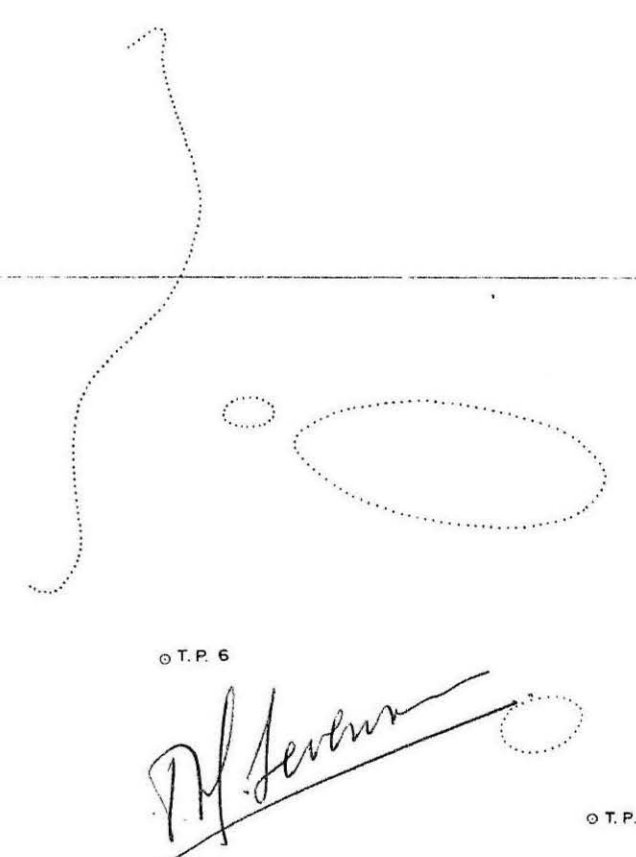
P. H. Sevensma

TOPOGRAPHY and SURFACE DRILLING
 Revised: Dec. 5/69—UNDERGROUND AND SURFACE DEVELOPMENT

SILVER SPRING MINES LTD.	
PADDY—CAROL GROUP	
Mayo M.D.—Y.T.	105 - M - 14
P. H. Sevensma Consultants Ltd. Vancouver, B.C.	
Dwg. No.	Fig: 1
Aug. 1969	Scale 0 100'

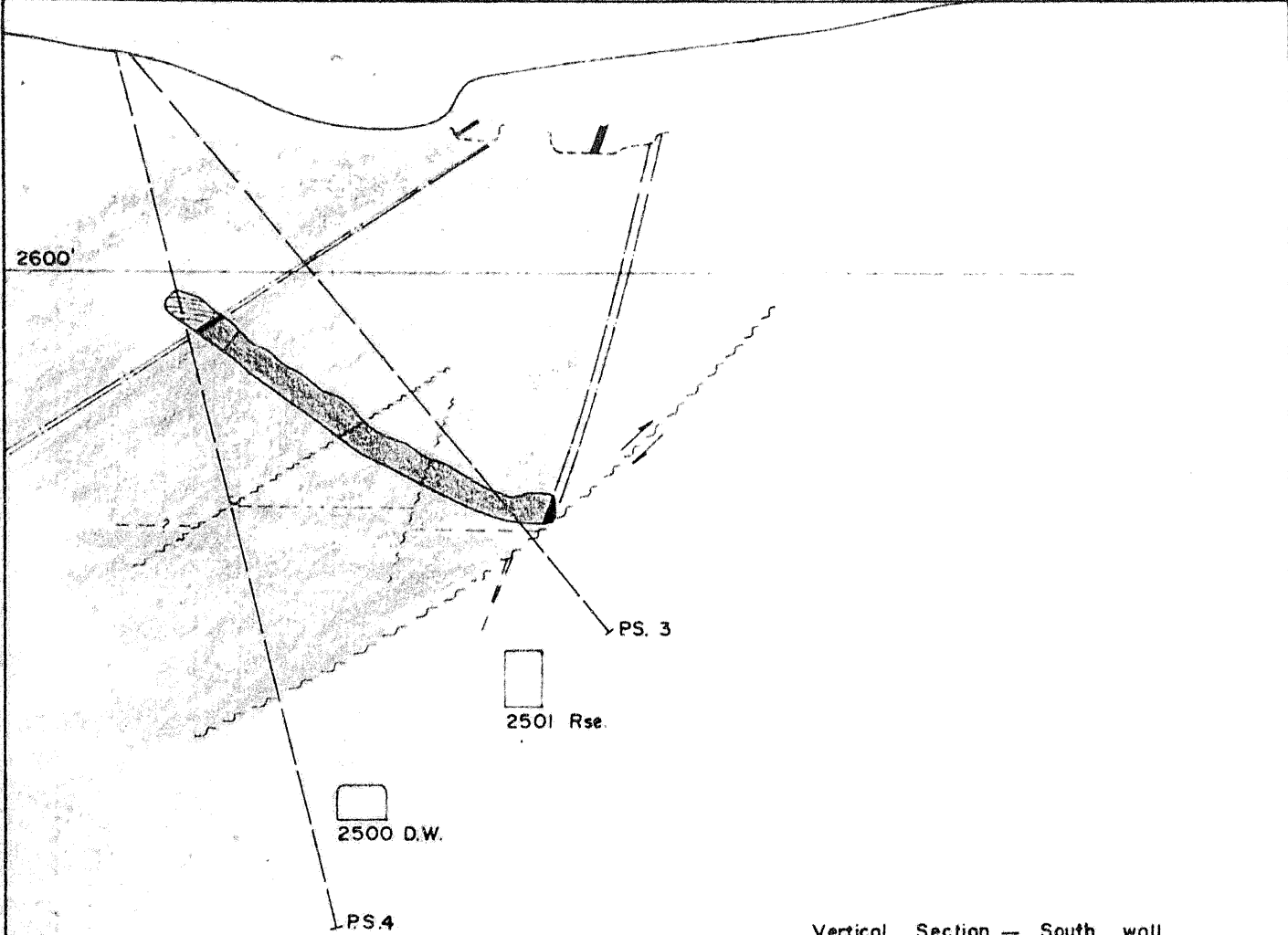


- Bedding
 - Schistosity
 - Fault, projected
 - Vein Fault, Mineralized fracture
- ROCK TYPES, Keno Hill "lower schist" unit
- Schist, Carbonaceous, Micaceous part limey
 - Argillite, thin bedded, some foliation development
 - Greenstone, Massive to foliated mg. diorite

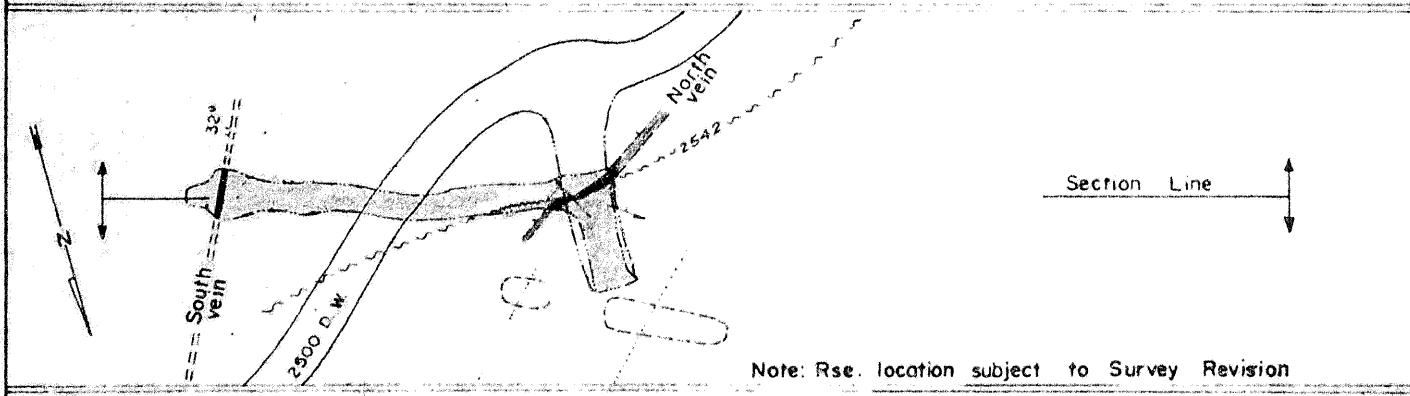


SILVER SPRING MINES LTD.	
GEOLOGY LEVEL PLAN	
Mayo M.D.—Y.T.	105—M—14
P. H. Sevensma Consultants Ltd.	Vancouver 1, B.C.
September 1969,	Scale: 0 40'

FIG. 2






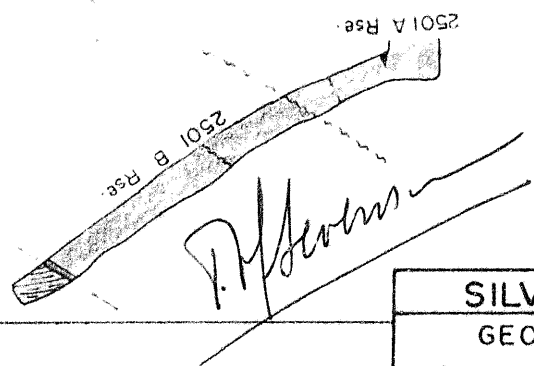
Vertical Section — South wall



Note: Rse. location subject to Survey Revision

LEGEND

-  "Greenstone" massive to foliated
-  Schist and minor argillites.
-  Sulphides, galena & sphalerite predominate.



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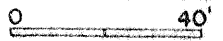
GEOLOGICAL SECTION 2501 B Rse.

Mayo M.D.-Y.T.

105 -M-14

P. H. Sevensma Consultants Ltd. Vancouver, B.C.

Dec. 1969,

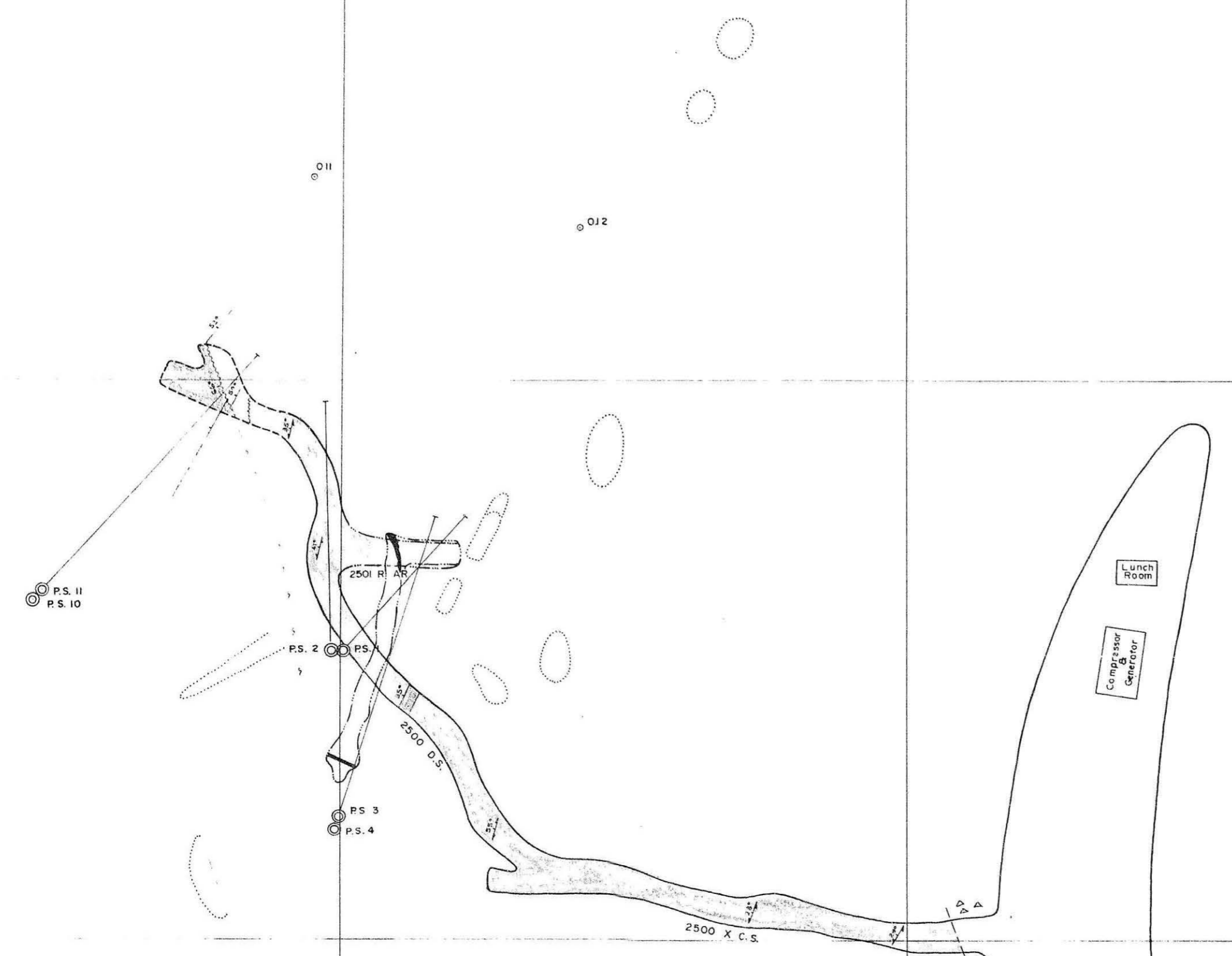
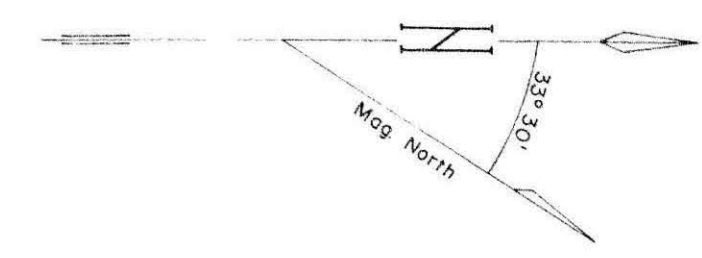
Scale: 

NOTE: See text for Assays.

Dwg. No.:

Fig: 3

2600'



L E G E N D

- Surface Outcrop area
- Drift Outline
- Raise Outline
- Geological Contact, Dip
- Bedding
- Schistosity
- Fault, projected
- Vein Fault, Mineralized fracture

ROCK TYPES, Keno Hill "lower schist" unit

- Schist, Carbonaceous, Micaceous part limey
- Argillite, thin bedded, some foliation development
- Greenstone, Massive to foliated mg. diorite