

MAP No.

105-M-13, 14

ASSESSMENT REPORT  
N. M. E. A. P.  
CONFIDENTIAL  
OPEN FILE

X
X

TYPE OF  
WORK:

Mayo MD

Mayo M.D.  
Geol, DDH,  
Geophy

REPORT FILED UNDER

Silver Spring Mines Ltd.

DOCUMENT NO. 061165

DATE PERFORMED

April 1971 - April, 1972

DATE FILED: Aug. 22, 1973

LOCATION - LAT.  
LONG.

63°57' to 64°02'N

AREA: Elsa, Yukon

135°20' to 135°24'W

CLAIM NO.

PADDY - CAROL Gp 63°57'N, 135°24'W

NORTH &amp; STAR Gp 64°02'N, 135°20'W

VALUE \$ 126,094.23

WORK DONE BY

A.W. Coring, G.A. Wilson

WORK DONE FOR

Silver Spring Ms L and Canadian Reserve Oil &amp; Gas L

REMARKS

A summary of the work conducted in 2 areas - drifting and 7DDH (1701 ft.) on the Paddy-Carol Gp and ground mag and EM and geological mapping on the North and Star Gps.

*Indexed  
06/16/5*

SILVER SPRING MINES LTD. (N.P.L.)  
SUMMARY OF EXPLORATION PROGRAM  
April 1, 1971 to April 1, 1972  
PADDY-CAROL CLAIM GROUP, MAYO M.D.  
NORTH AND STAR CLAIM GROUPS, MAYO M.D.

PADDY CAROL GP. 105 M 14  
(63°57'N, 135°24'W)  
NORTH & STAR GP. 105 M 13  
(64°02'N, 135°20'W)

PADDY-CAROL \$ 78,691.18  
NORTH & STAR 47,403.05  
Total \$ 126,094.23

*NMEAP Ret.*

This report has been examined: declared acceptable as Representation Work under Section 32 and Schedule B of the Canada Mining Regulations and valued in the amount of \$ 126,094

Chief,

Date: *August 22, 1972*

SILVER SPRING MINES, LTD. (N.P.L.)

Paddy-Carol Claim Group, Mayo M.D., 105-M-14  
Lat.  $63^{\circ}57'$  N., Long.  $135^{\circ}24'$  W.

And

Mount Haldane (North and Star Claim Groups) Mayo M.D., 105-M-13  
Lat.  $63^{\circ}59'$  N., Long.  $135^{\circ}49'$  W.

SUMMARY OF EXPLORATION PROGRAM

April 1, 1971 to April 1, 1972

by

Arthur W. Goring, P. Eng.

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SILVER SPRING MINES, LTD. (N.P.L.)

1. Paddy-Carol Claim Group  
Mayo M.D., Yukon Territory, Map 105-M-14  
Lat. 63°54' N., Long. 135°24' W.

Summary of Underground Work  
April 1, 1971 to April 1, 1972

A. Location

The Paddy-Carol Group is approximately 3.5 miles from Elsa, Yukon Territory. The Paddy-Carol Group is located on the North Slope of Galena Hill, just south of Cristal Creek. The Galena Hill area is in the central Yukon, 35 miles northeast of Mayo and some 220 miles due north of Whitehorse. Mayo is served by an all-weather road from Whitehorse and by an International Jet Air Ltd. DC-3 three times a week. Whitehorse is serviced by CP Air daily from Edmonton, Alberta and Vancouver, B.C.

B. Introduction

This report summarizes the work done for the period from April 1, 1971 to August 21, 1971. A report dated November 8, 1971 previously submitted for the previous year's work covered the period from February 25, 1971 to April 1, 1971.

The development program was supervised by the undersigned, and the underground drifting was done by M. Boyles Mining Contractors, Vancouver, B.C. The underground diamond drilling was done by F & V Diamond Drilling Ltd., Edmonton, Alberta and Elsa, Y.T. Camp construction, road repair work including bridge replacements, and management of the camp was under the direction of Mr. Fred Tokar, Camp Manager.

C. Work Completed

The work prior to April 1, 1971 consisted of 194 feet of drifting in the southeast drift, and an additional 70 feet of drifting was done after April 1, 1971. This drift is labeled "B" in Figure No. 1 (in pocket). In addition, 151 feet had been driven in the southwest drift prior to April 1, 1971. An additional 87 feet was driven after April 1, 1971. This drift is labeled "A" in Figure No. 1 (in pocket). See Figure No. 2 for Raise.

The period from April 28 to June 2, 1971 was used to clean up the mine, put in a ditch along the track, putting in additional drift sets, rebuilding the bridges, and repairing the road from the camp to the mine.

1. Paddy-Carol Claim Group (Continued)

C. Work Completed (Cont'd.)

Underground diamond drilling was commenced on April 2, 1971 and continued until August 21, 1971. Seven (7) underground diamond drill holes were drilled for a total of 1701 feet. The location of the underground diamond drill holes, their inclination and length are shown in Figure No. 3 (in pocket). Only one foot of low grade mineralization was encountered in all of the diamond drill core taken and this was from 255 - 256 feet in DDH No. 1. The Assay Sheet of the two formations encountered in the Paddy-Carol underground workings were Map Unit No. 7 - Lower Schists - of probable Jurassic age, plus some sills or lens-shaped bodies of Map Unit No. 9, locally termed "greenstone".

i) Lower Schist Division (Map Unit No. 7)

The name "Lower Schist Division" has been applied to graphite phyllite and thinly bedded, fine grained phyllitic quartzite that appear to underlie the Keno Hill Quartzite (Map Unit No. 8) (1) This sedimentary unit has been intruded by a series of sills and lens-shaped bodies of greenstone.

ii) Greenstone (Map Unit No. 9)

The term "Greenstone" is used locally to refer to sills and lens-shaped bodies of diorite, gabbro, and peridotite and their altered equivalents. The original composition of most of the greenstone is believed to have ranged between diorite and gabbro. Very few greenstones still retain their original minerals and texture. (1) It is known that ore shoots are localized in some vein faults where greenstone forms ore or both walls, and that they terminate when the vein faults pass into schist. (2)

As the "vein faults" contain the major concentrations of economic minerals, careful attention is directed to the study of fault and fracture patterns. The following general structural relationships prevail:-

	<u>Strike</u>	<u>Dip</u>
Bedding	N 80° E	± 25° S
Vein faults	± N 30°-65° E	55°-80° SE
Post-ore faults	± N 45° W	40°-50° SW

1. Paddy-Carol Claim Group (Continued)

C. Work Completed ( Cont'd.)

This one foot of split core is attached as Exhibit A. Most of the mineralization in this core appeared to be pyrite. Also attached to this report as Exhibit B are copies of the underground diamond drill logs.

In addition, Figure 3 (in pocket) shows the mineralized showings encountered, the surface contours, the dump, and the powder and fuse magazine locations.

D. Geology

The following is a table of geologic formations that occur in the Mayo Mining District. This table is taken from a report by L.H. Green (1971), see Bibliography (1).

Table of Formations

<u>Era</u>	<u>Period Or Epoch</u>	<u>Name or Map-Unit</u>	<u>Lithology</u>
Cenozoic	Recent		Stream deposits, talus, rock fragments transported by solifluction
	Pleistocene		Till, gravel, sand, and silt
	Unconformity		
	Tertiary	11	Quartz porphyry, granite porphyry
Not in contact			
Mesozoic	Cretaceous	10	Granodiorite, quartz monzonite
	Intrusive contact		
	Cretaceous	9	Diorite, Gabbro and altered equivalents
	Intrusive contact		
	Lower Cretaceous(?)	8 Keno Hill Quartzite	Massive quartzite, minor phyllite and graphitic phyllite
	Conformable contact		
	Jurassic	7 Lower Schists	

Unconformity

Table continued on page 4

1. Paddy-Carol Claim Group (Continued)

D. Geology (Cont'd.)

Table of Formations

<u>Era</u>	<u>Period Or Epoch</u>	<u>Name or Map-Unit</u>	<u>Lithology</u>
Paleozoic	Ordovician to Silurian	6	Massive Dolomite
		Unconformity	
		5	Phyllite, slate, chert and quartzite
Probable unconformity			
Precambrian and later(?)		3 and 4; Grit	3; gritty quartzite, varicoloured phyllite and argillite, graphitic phyllite 4; limestone
		Not in contact, relationship unknown	
		2	Thin bedded, phyllitic quartzite phyllite
		Conformable contact (?)	
		1 Upper Schists	Phyllitic and thin-bedded quartzites, phyllite and graphitic phyllite

The major structural feature of the area, a faulted dome-like anticline referred to as the McQuesten Anticline, had its axis north of the Keno Silver belt along the McQuesten River valley. The sedimentary strata therefore exhibit a near east-west strike and dip 30° to the south, in the area covered by this report. In detail however, the structure may be quite complex, and the northern half of the claims lie close to or on the anticlinal axis, as evidenced by flat dips.

## 1. Paddy-Carol Claim Group (Continued)

### E. Summary

The map showing surface contours, roads, the underground development and the location of the underground diamond drill holes is attached to this report as Figure 3. The drift to the southeast, labeled "B" in Figure No. 1, consisted of altered greenstone and was barren of any mineralization. The southwest drift labeled "A" in Figure No. 1, had two mineralized zones in the last 70 feet of the drift. One zone was located approximately 80 feet southwest from survey point 15, and was relatively low grade, however, the second zone of mineralization was 2 feet wide and had excellent values. This latter zone was located about 115 feet from survey point 15, near the end of the drift. Two pictures attached to this report show this zone of mineralization and the assay results and approximate values. All of the ground where mineralization was encountered is extremely competent, and is not fractured enough to anticipate that the mineralized showings will open up to good mineable widths.

### F. Recommendations

It is recommended that drifting and/or raising on the mineralized zones be done to some extent during the 1972 season. These zones may open up into mineable widths by doing this work, and any ore mined in the process can be stockpiled at the portal.

In addition, as all of the previous work has been done on the Paddy No. 2 claim, the other claims should be examined by geologic work, geochemical soil sampling and geophysical methods. The claim map showing the Paddy-Carol Group is attached to this report as Exhibit C. Exhibit F is a geologic map showing the location of Paddy-Carol mine.

- ## 2. Mount Haldane (North and Star Claim Groups)
- Mayo M.D., Yukon Territory, Map 105-M-13  
Lat. 63°59' N., Long. 135°49' W.

### A. Location

The location of Mount Haldane is shown on the geologic map attached to this report as Exhibit D. In addition, the North and Star claim groups are shown on Map 105-M-13 attached to this report as Exhibit E. The road to Mount Haldane is located halfway between Mayo and Elsa at Halfway Lakes. The summit of Mount Haldane falls approximately in the center of the North No. 1 Claim at an elevation of 6032 feet.

## 2. Mount Haldane (North and Star Claim Groups) (Continued)

### B. Introduction

According to the report by W.E. Cockfield, 1918, for the Geological Survey of Canada, two adits were driven on the Lookout property, a group of five claims at an elevation of 3500 feet. This must now be on what is called the Horn No. 6 claim. The four samples taken by Cockfield in 1918 ranged from 11 to 34 ounces of silver and 7 to 20 percent lead. No further work was found in the literature, however it was reported that Paramount Mining Ltd., who have 52 claims west of the North and Star Groups have a blocked out orebody of 500,000 tons, that apparently is lower grade material.

Previous recent work in 1969 on the prior Silver Spring work consisted of reconnaissance geochemical sampling by P.H. Sevensma Consultants Ltd., Vancouver, B.C. followed by stripping and trenching using a bulldozer. This work did not reveal any significant mineralization.

### C. Work Completed

Between August 3 and September 14, 1971, 28 line miles of magnetic and EM 16 survey was carried out over an area of approximately 30 claims on the southeastern slopes of Mount Haldane. In addition to the geophysical work, stripping, trenching and road building was done by bulldozer. The geophysical work was conducted by Spartan Aero Ltd. and was done by E.R. Rockel and E.J. Wilson, Geophysicists under the direction of R.W. Stemp, Chief Geophysicist for Spartan Aero Ltd. A geophysical report covering this work is attached hereto as Exhibit F.

### D. Geology

The North and Star Claim Groups on Mount Haldane have Map Unit No. 8 - Keno Hill Quartzite on the surface. This formation consists of thick, grey to blue-grey quartzite with beds from a few inches to 6 feet thick and separated by thin partings of graphitic phyllite, phyllitic quartzite and phyllite. This formation is the host formation in which most of the ore bodies in the district are located.

The breccia and sheeted zones, which constitute the vein faults in the greenstones and thick-bedded quartzites, range from 5 to 50 feet in width and can be traced with ease along strike and dip (2). Where the vein faults pass through schist they tend to become narrow, rarely being more than a foot wide in the schist zone.

2. Mount Haldane (North and Star Claim Groups) (Continued)

E. Summary

Most of the showings on Mount Haldane have tended to be small and discontinuous. However, there has been only a small amount of work conducted in this area as compared to the adjoining areas. The geophysical work conducted in 1971 revealed some interesting areas (see attached report - Exhibit G). Further geophysical work in 1972 should outline additional areas of interest.

F. Recommendations

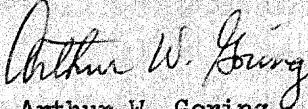
Drilling of some of the areas suggested in the geophysical report by Spartan Aero Ltd. should be done during the 1972 season. This work will have to be done after August 1, due to late run-off at the higher elevations. The geophysical work on Mount Haldane this year may also outline more favourable areas than those already suggested in last year's report. Some trenching by bulldozer may be indicated in certain areas and it is hereby recommended.

ORIGINALLY  
DATED

MAY 30, 1972

ORIGINALLY  
SIGNED BY

ARTHUR W. GORING  
P. ENG.

  
Arthur W. Goring  
P. Eng.

## BIBLIOGRAPHY

1. Memoir 357 - Geological Survey of Canada, 1971  
"Geology of Mayo Lake, Scougale Creek and McQuesten Lake  
Map-Areas, Yukon Territory" by L.H. Green
2. Bulletin 111 - Geological Survey of Canada, 1965  
"Geology, Geochemistry, and Origin of the Keno Hill-  
Galena Hill Area, Yukon Territory" by R.W. Boyle
3. Bulletin 58 - Geological Survey of Canada, 1960  
"The Geology of Keno and Galena Hills, Yukon Territory"  
by K.C. McTaggart

See Pictures  
11 & 12 →

MAR. 71 M.E.




"A"



LEGEND

- Drift outline
- 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

2501 Raise  
See Figure 2

"B"

MAR. 71 M.E.

FIGURE No. 1

PADBY GROUP  
ADIT

SILVER SPRING MINES LTD

	BY	DATE	SCALE
DRAWN	A. B. H.	27-3-71	1" = 40'
CHECKED	J. O. V.	27-3-71	DWG No

50,400W

50,200W

50,000W

50,200N

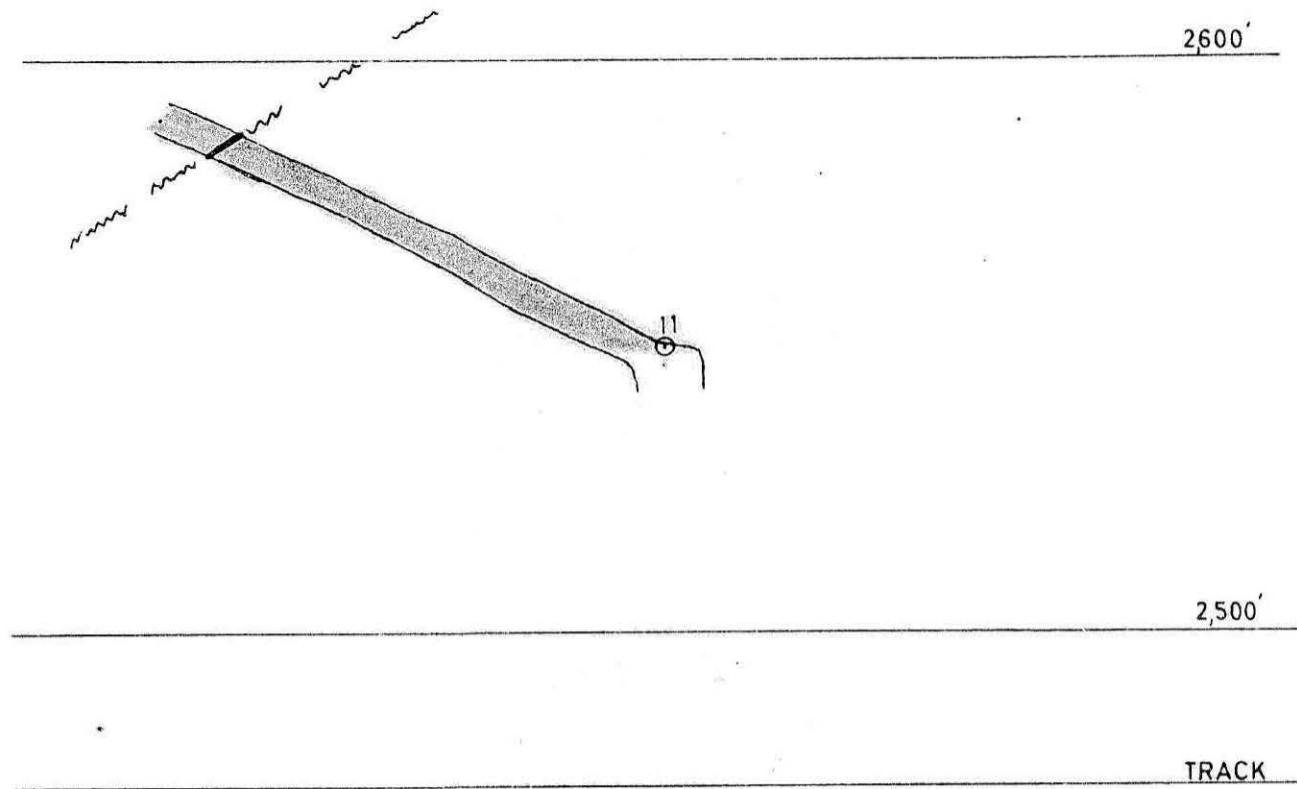
49,800W

49,600N

49,800N

50,000N

N 007 65



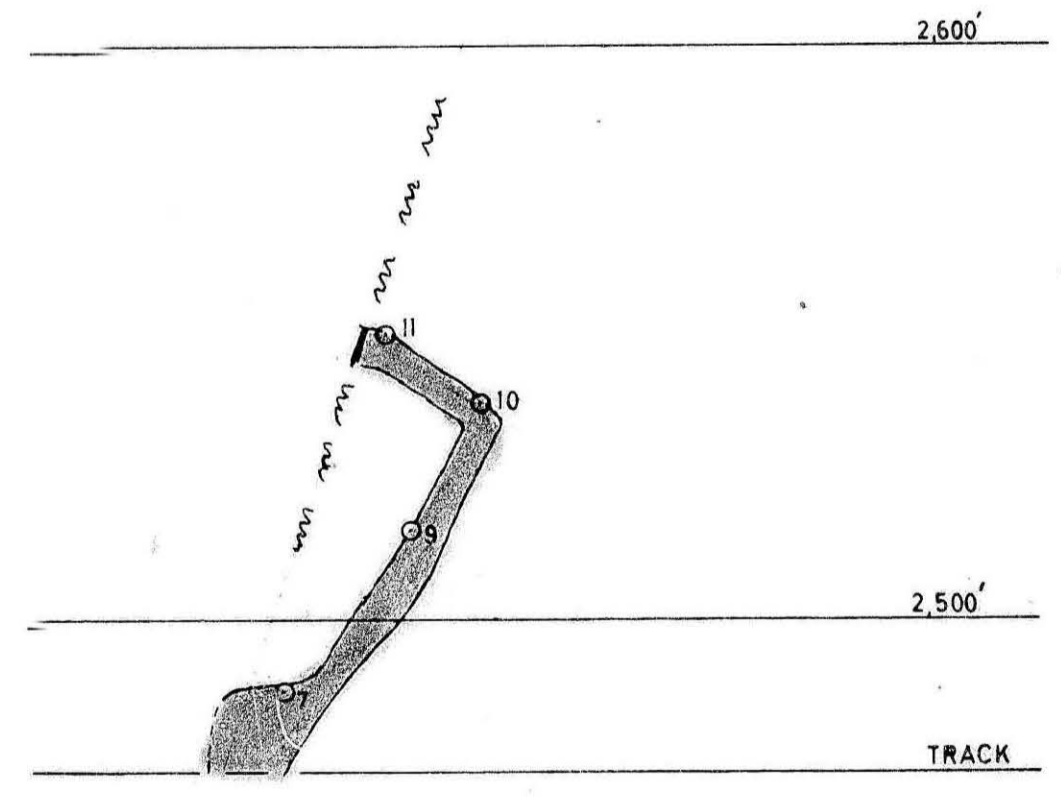
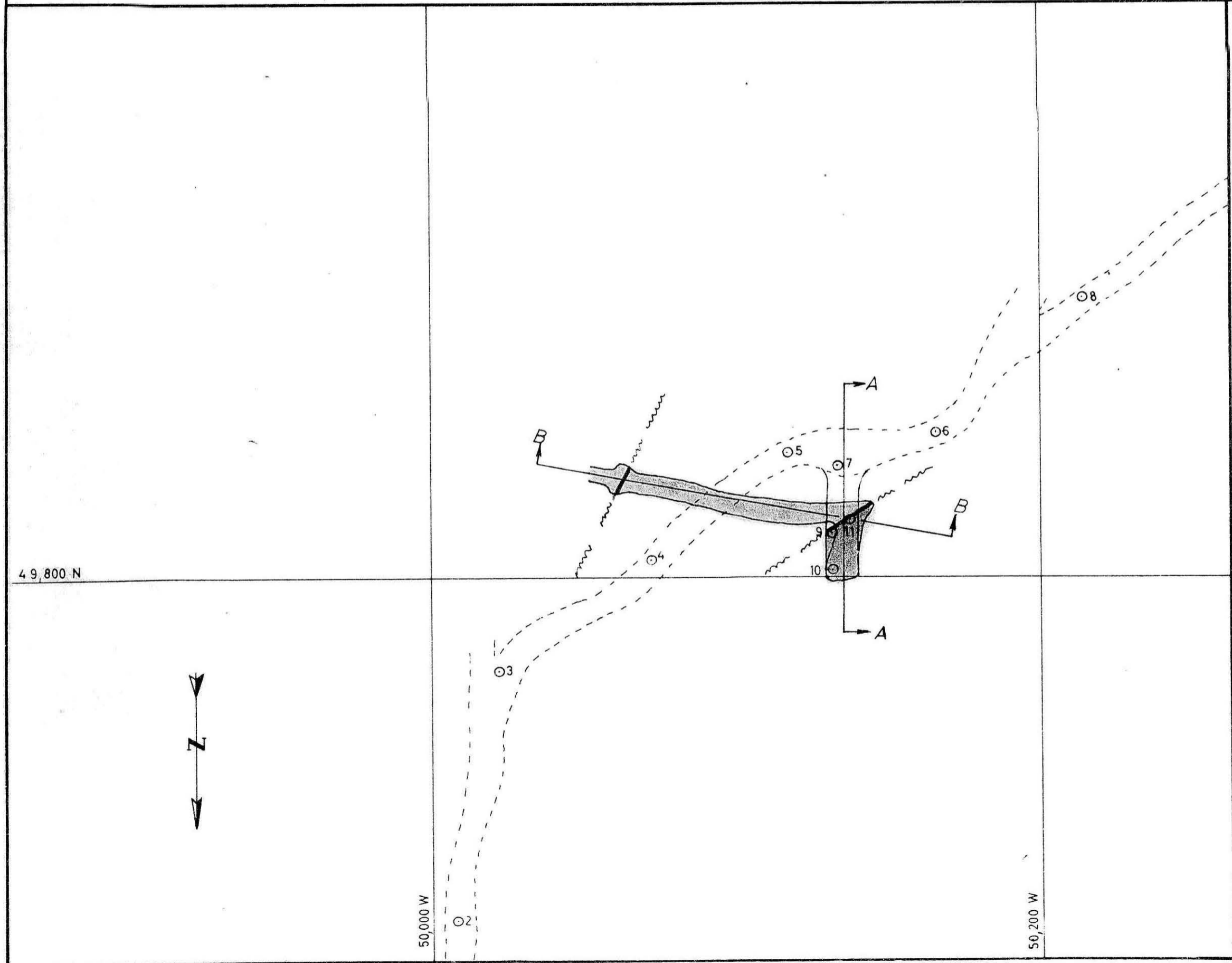
SECTION B-B

LEGEND

- Drift outline
- 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



SECTION A-A

FIGURE No. 2

2501 RAISE			
SILVER SPRING MINES LTD			
	BY	DATE	SCALE: 1" = 40'
DRAWN	A. B. H.	27-3-71	
CHECKED	O. V.	27-3-71	DWG No

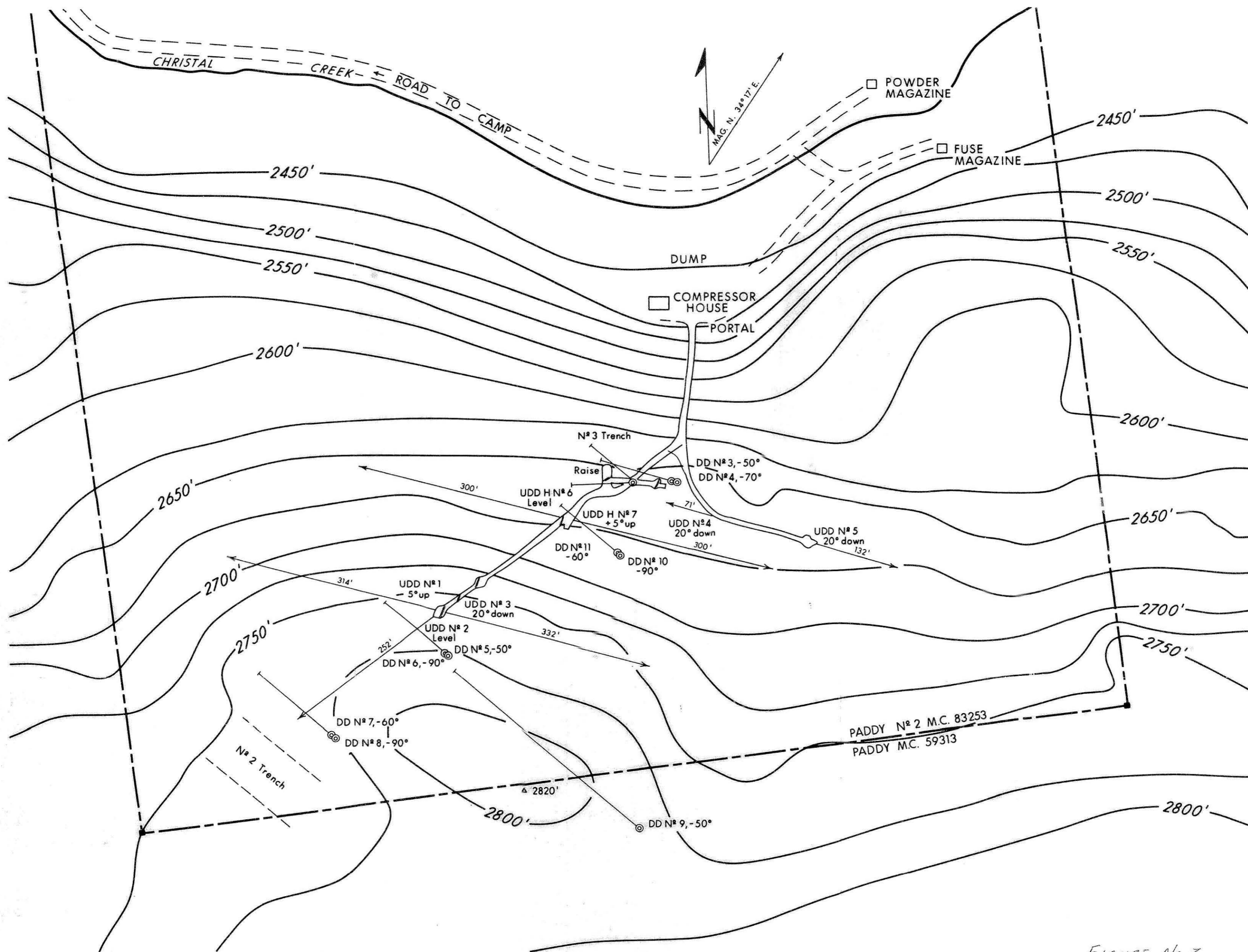


FIGURE No. 3

CANADIAN RESERVE OIL & GAS Ltd.	
PADDY - CAROL MINE	
/ MINERAL SHOWINGS	
INTERPRETED BY:	DATE December 1971
SCALE: 1 in. = 100 ft.	CONTOUR INTERVAL: 25 ft.
REVISION DATE:	FILE No.

DATE August 14, 1971.

# ASSAY CERTIFICATE

FILE NO. ~~XXX~~ 6872-1

WHITEHORSE ASSAY OFFICE  
P.O. BOX 348. WHITEHORSE. YUKON

RECEIVED FROM Silver Spring Mines

SAMPLE NO.	GOLD OZ. PER TON	SILVER OZ. PER TON	Lead	Zinc	Copper			
33776	.08	TR	TR	.02	.06			

*Assay of Split  
BQ Core from  
UDDH No. 1  
255'-256'*

ASSAYER *Geo. Spalding*

DATE August 14, 1971.

# ASSAY CERTIFICATE

FILE NO. ~~XXX~~ 6872-1

WHITEHORSE ASSAY OFFICE  
P.O. BOX 348. WHITEHORSE. YUKON

RECEIVED FROM Silver Spring Mines

SAMPLE NO.	GOLD OZ. PER TON	SILVER OZ. PER TON	Lead	Zinc	Copper			
33776	.08	TR	TR	.02	.06			

ASSAYER *Geo. Spalding*















PETROGRAPHIC REPORT

2 SPECIMENS

UDDH #2, 221.0', UDDH #5, 73.0'

Prepared for

CANADIAN RESERVE OIL AND GAS LTD.

Calgary

By

GEORGE A. WILSON GEOLOGICAL CONSULTANTS LTD.

Calgary

## INTRODUCTION

This investigation was conducted at the request of Canadian Reserve Oil and Gas Ltd. who submitted two specimens from drill cores.

Colours are described according to the Rock Colour Chart published by the Geological Society of America.

## CONCLUSIONS

Both specimens are members of the muscovite-chlorite sub-facies of the Greenschist Facies (Turner, F. J., 1948). As such they represent approach to equilibrium at low pressure and temperature.

The vague preferred orientation in carbonate in UDDH #5 at 73.0' and in chlorite in both specimens is probably inherited.

Although the two specimens are from the same rock series they are unlikely to be from the same part of the series. Specimen UDDH #2, 221.0', contains abundant quartz. Specimen UDDH #5, 73', has only traces of quartz.

## SPECIMEN DESCRIPTIONS

Program: Canadian Reserve Oil and Gas Ltd. 72-1  
Specimen: U.D.D.H. #2, 221.0'  
Rock Name: Chlorite Schist

### MACROSCOPIC EXAMINATION:

Weathered Surface: none on specimen.

### Fresh Surface:

Colour: Greenish black (5GY 2/1), flecked with white rhombs to 2 mm, yellow blebs of chalcopyrite(?) .5 mm across and grains of pyrite and pyrrhotite.

Structure: Indistinct foliation at 30° to core axis.

Minerals: Chlorite, dolomite, chalcopyrite(?), pyrite, pyrrhotite, quartz. Pyrrhotite is in very thin veinlets.

#### MICROSCOPIC EXAMINATION:

Quartz: 25%, very small irregular grains less than .010 mm. Most occur in clusters to 2 mm but some occur as intergrowths with carbonate and chlorite.

Chlorite: 40%, minute flakes with poorly developed preferred orientation, pale green, pleochroic, some has purple interference colour (peninite), some has brown interference colour. Occur in irregular patches intergrown with all the other minerals.

Carbonate: 20%, coarse euhedral grains to 2 mm with highly irregular margins. Have growth shape. Most include small grains of quartz, clusters of epidote and some are intergrown with chlorite.

Epidote: 10%, anhedral grains to 0.1 mm, inclined extinction.

Sericite: traces flakes less than 0.1 mm across.

Opaque Minerals: less than 5%. Subhedral to euhedral grains to 1 mm. Includes pyrite and other sulphides. Some opaque minerals are enveloped in a zone of dusky grey material resembling leucoxene. Others are entirely converted to leucoxene.

Texture: This is essentially a growth texture. The absence of clear age relations indicates a simultaneous growth. The extremely weak preferred orientation could have been inherited or it could be due to a weak stress system.

The sulphides appear to be primary, or if introduced it was prior to the development of the present facies.

The chlorite dolomite quartz-epidote assemblage is a member of the muscovite-chlorite subfacies of Greenschist Facies, characteristic of low grade regional metamorphism.

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Specimen: U.D.D.H. #5, 73'

Rock Name:

#### MACROSCOPIC EXAMINATION:

Weathered Surface: None on specimen.

Fresh Surface: Colour - dark greenish grey (5G 6/1). Flecked with white and light brown (5YR 6/4).

Structure: fine grained with fairly clear preferred orientation defined by tabular white flecks.

Minerals: chlorite, calcite, iron oxide(?), pyrite. Strong odour of kaolinite.

#### MICROSCOPIC EXAMINATION:

Quartz: trace, anhedral grains 0.1 mm.

Chlorite: 45%, microscopic flakes less than 0.05 mm, faintly pleochroic. Randomly oriented in layers and streaks which are sub-parallel. In places chlorite is intimately intergrown with carbonate and epidote.

Carbonate: 25%, probably dolomite with minor calcite. Occurs as clusters of 0.1 mm grains intimately intergrown with chlorite and epidote. Also occurs as coarse grains as large as 3 mm x 1 mm.

All are euhedral with very irregular borders.

Epidote: 10%, anhedral grains to 0.1 mm, inclined extinction. Intergrown with chlorite and carbonate, age relation indistinct.

Epidote: 5%, anhedral grains to 0.15 mm, inclined extinction.

Kaolinite: 10%, clusters of flakes less than 0.01 mm, in chlorite and epidote.

Opaque minerals: 5%, streaks and blebs 0.05 to 0.5 mm across. Most are pyrite but some have the appearance of leucoxene after titaniferous hematite.

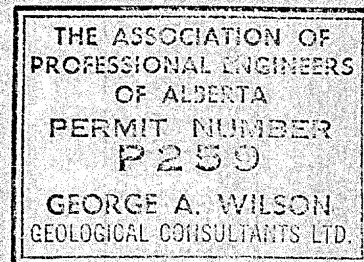
Texture: This is a growth texture without clear evidence of relative age. The weak preferred orientation may have been inherited.

Sulphides and oxides appear to be primary.

This chlorite dolomite epidote assemblage is a member of the muscovite-chlorite subfacies of the Greenschist Facies. Characteristic of low grade regional metamorphism.

#### Reference

Turner, F. J. (1948), Evolution of Metamorphic Rocks; Mem. 9; G.S.A.



*George A. Wilson*

George A. Wilson, P.Geol., Eng.  
 GEORGE A. WILSON GEOLOGICAL  
 CONSULTANTS LTD.

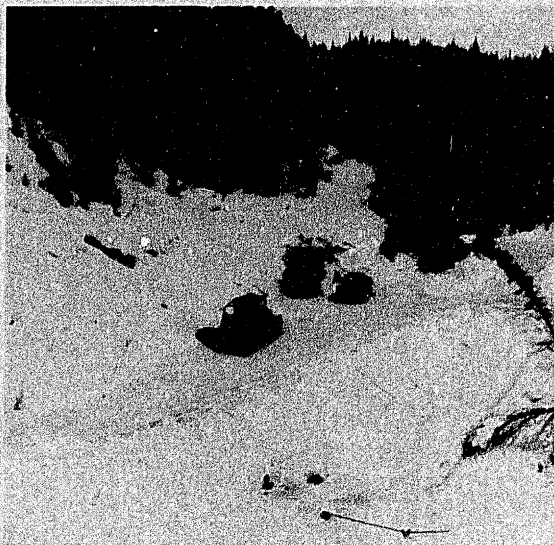
PADDY-CAROL MINE  
SILVER SPRING MINES LTD.  
NEAR ELSA, YUKON TERRITORY



PICTURE #1 - End of track on dump  
Looking West



PICTURE #2 - Mine dump & compressor  
house from road below mine portal  
Looking Southeast

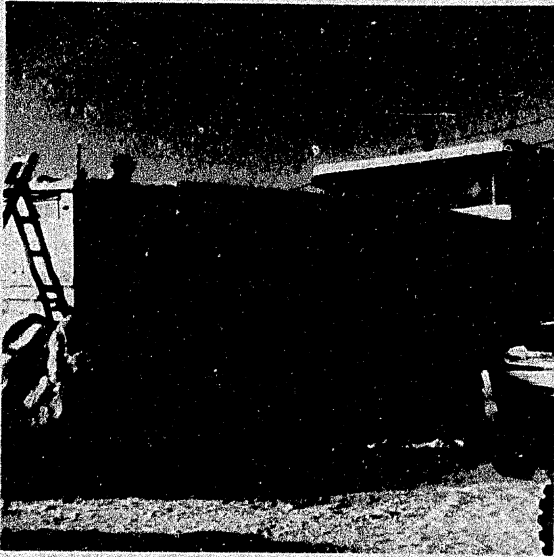


PICTURE #3 - Looking southeast from  
near mine portal at bulldozer, trucks  
and lumber



PICTURE #4 - Storage & generator  
houses. Looking north

MINING CAMP NEAR PADDY-CAROL MINE  
SILVER SPRING MINES LTD.  
NEAR ELSA, YUKON TERRITORY



PICTURE #5 - Wash-house & Dry -  
Looking Northwest



PICTURE #6 - Looking south from  
Camp toward Highway

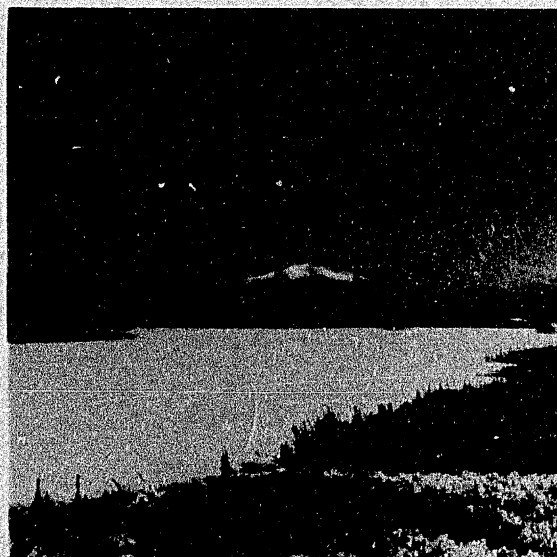


PICTURE #7 - Looking Northeast -  
Showing large house trailer



PICTURE #8 - Looking West - Showing  
wash house (with ladder), green trailer,  
generator house & storage shed in dist.L

MT. HALDANE PROPERTY & MAYO AIRPORT  
SILVER SPRING MINES LTD.

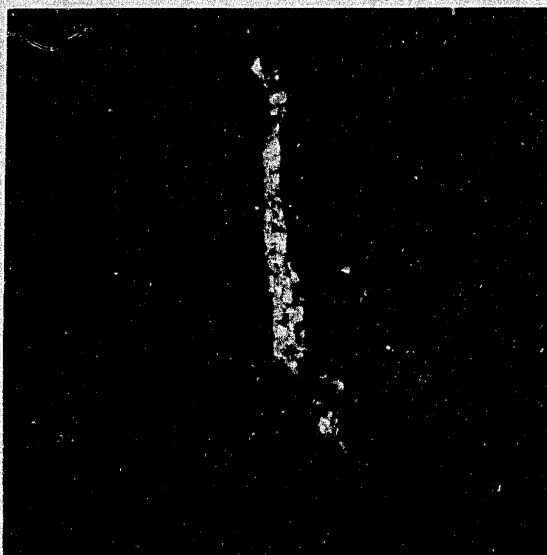


PICTURE #9 - Mt. Haldane - Taken from  
hwy. between Elsa & Mayo. Looking east.  
Mayo Lake (snow covered) in lower half  
of photo.



PICTURE #10 - Looking down runway at  
the Airport in Mayo, Y.T. - Looking  
South

PADDY-CAROL MINE  
 SILVER SPRING MINES LTD.  
 NEAR ELSA, YUKON TERRITORY  
 UNDERGROUND PHOTOS



PICTURES #11 & #12 - Mineralized Zone -  
 At end of south drift - Looking Southwest  
 Assay across 26 inches as follows:

GROSS VALUE

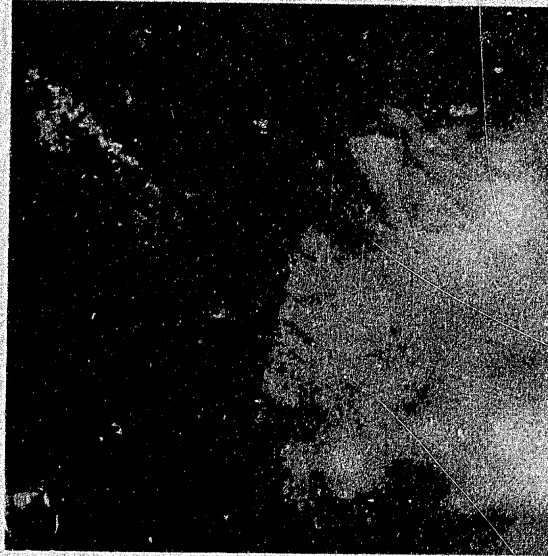
0.02	@ \$35.00/oz.	=	0.70	Gold (oz. per ton)	-	0.02
33.68	@ \$ 1.675/oz.	=	56.45	Silver (oz. per ton)	-	33.68
258 lbs.	@ \$ 0.135/lb.	=	34.83	Lead (%)	-	12.90
727.2 lbs.	@ \$ 0.15/lb.	=	109.08	Zinc (%)	-	36.36
10.2 lbs.	@ \$ 2.35/lb.	=	<u>23.97</u>	Cadium (%)	-	0.51

Total \$225.03/ton

In the left photo the approximate limits of the mineralized zone are shown. The sample was cut across this width of 26 inches. The Galena (PbS) shows quite well on the right side, the Sphalerite (ZnS) is less apparent but is on the left side and right side of the Galena. The white colored showing in the center is calcite (CaCO<sub>3</sub>).

Note - Prices quoted in March 11, 1971 issue of Western Miner

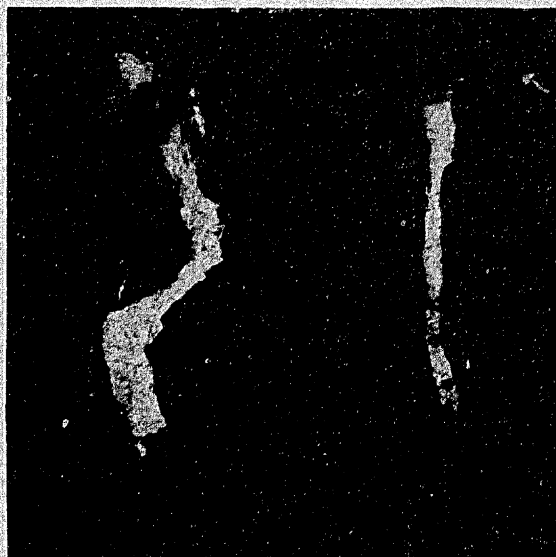
PADDY-CAROL MINE  
UNDERGROUND PHOTOS



PICTURES #13 & #14

These pictures show the mineralized Fracture, left and right sides respectively, at the beginning of the southwest drift, labeled "A" in Figure No. 1. The lighter colored rock is Argillite and the darker rock is greenstone.

PADDY-CAROL MINE  
UNDERGROUND PHOTOS



PICTURES #15 & #16

These photographs show the left and right sides respectively of the southwest drift labeled "A" in Figure No. 1. This altered zone lies about 60 feet from the end of the drift. No mineralization was apparent but the alteration present shows mainly calcite with some secondary quartz.

PADDY-CAROL MINE  
AERIAL PHOTOS



PICTURE #17 - Looking South  
Mine portal in center of photo.  
Compressor house is right center.

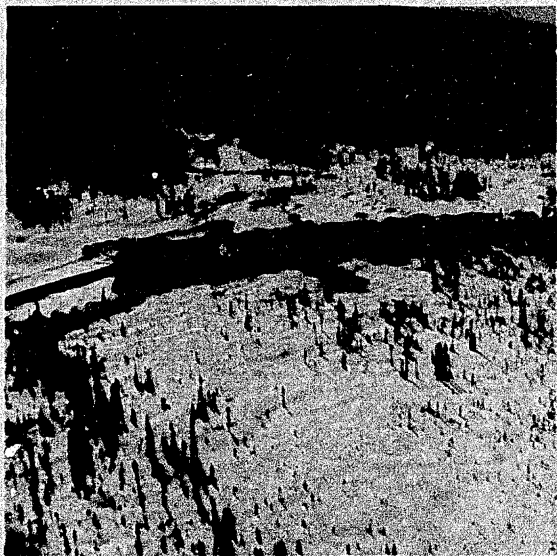


PICTURE #18 - Looking Southwest  
The lunchroom can be seen in  
the right center of the photo.

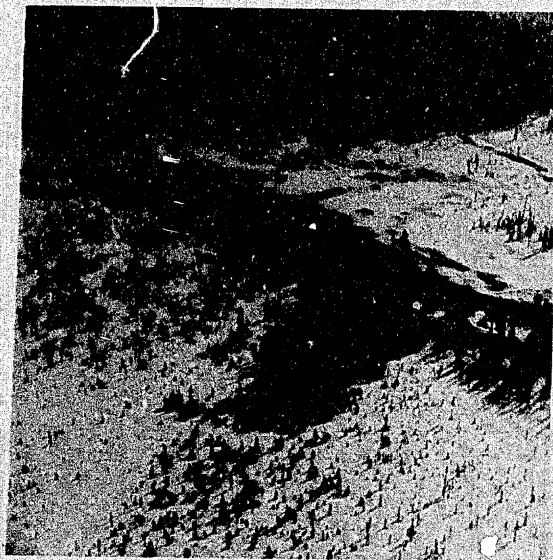


PICTURE #19 - Looking Southwest  
Cristol Creek is in right lower  
portion of the picture.

AERIAL PHOTOS OF SILVER SPRING MINES CAMP  
LOCATED 3 MILES N.E. OF ELSA, Y.T.



PICTURE #20 - Looking South



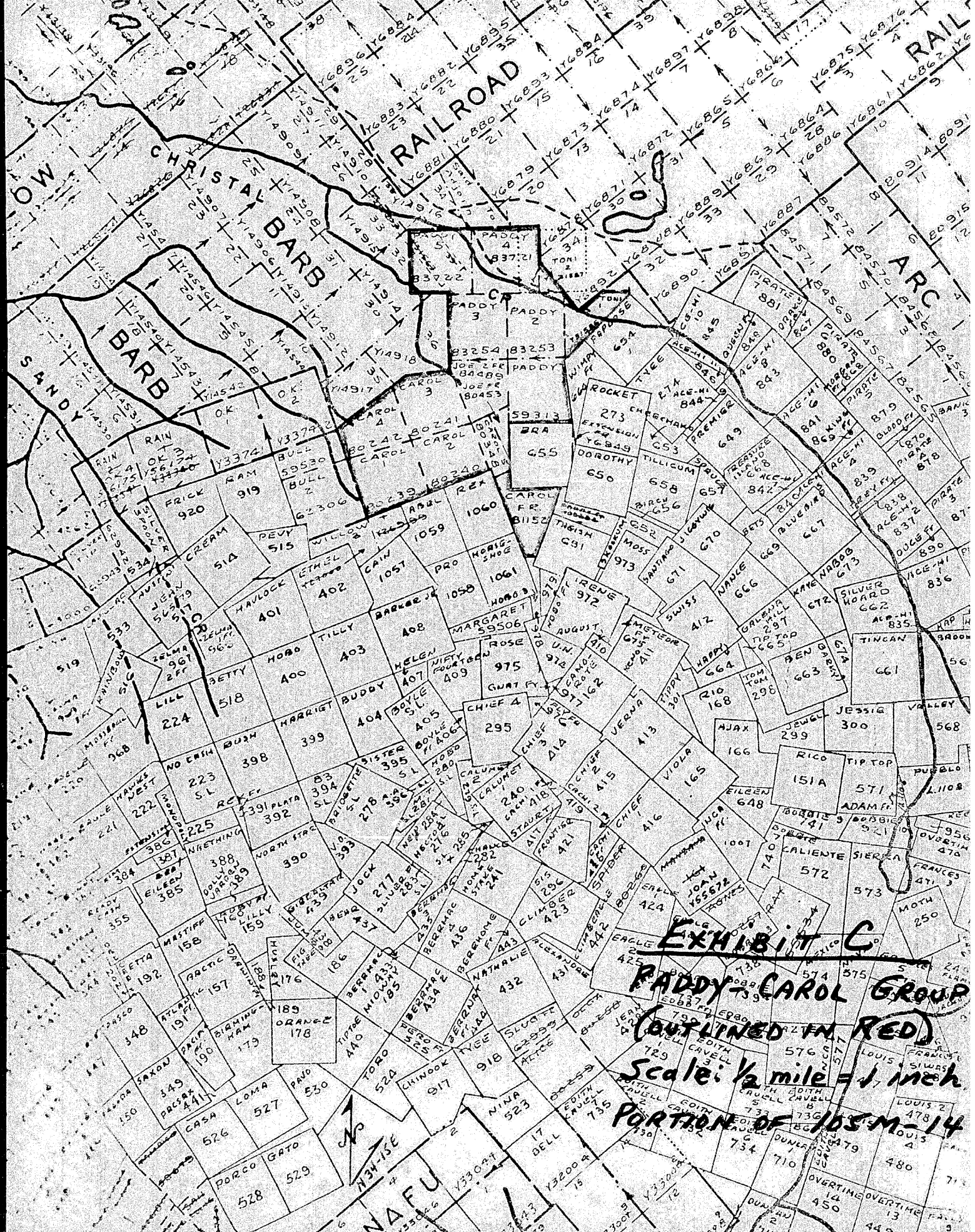
PICTURE #21 - Looking Southeast



PICTURE #22 - Looking West  
Mt. Haldane in upper center.  
Road to Paddy-Carol Mine in  
lower part of the picture.



PICTURE #23 - Looking East  
Road from Elsa in lower foreground  
Road to Paddy-Carol Mine in upper  
right.



**EXHIBIT C**

**PADDY-CAROL GROUP**  
(OUTLINED IN RED)

Scale: 1/2 mile = 1 inch

PORTION OF 105-M-14



LEGEND

Numbers used in legend are those used in accompanying maps

- CENOZOIC**
  - 12 Drift
  - T Rhyolite, trachyte
- MESOZOIC**
  - 10 Quartz monzonite, granodiorite, minor granite and quartz diorite
  - 8 KENO HILL QUARTZITE: massive quartzite, minor graphitic phyllite, phyllitic quartzite, and phyllite, greenstone
  - 7 LOWER SCHIST division: graphitic phyllite, phyllitic quartzite, phyllite, greenstone
  - Tr Limestone
- PALEOZOIC**
  - P Limestone
  - 6 Dolomite, minor limestone
  - 5 Black shale and chert, dark grey quartzite
- PROTEROZOIC**
  - 3 GRIT division: gritty quartzite, argillite, phyllite, minor limestone and chert
- PRECAMBRIAN**
  - Pcy Gritty quartzite, slate, and phyllite; Pcy, unit 7 of Map 890A; Pcyb, greenstone of Map 890A
  - 2 Phyllitic quartzite, schist, minor limestone
  - 1 UPPER SCHIST division: thin-bedded quartzite, phyllite, graphitic phyllite, minor limestone, greenstone
  - Pcd Orange-weathering platy dolomite
  - Pcc Dark grey argillite and phyllite

- Geological boundary
- Limit of drift
- Fault
- Thrust fault

Geology compiled by L. H. Green from published Geological Survey of Canada maps and field work by L. H. Green in 1962 and 1965.

To accompany GSC Memoir 357, by L. H. Green

Geological cartography by the Geological Survey of Canada

- Road, all weather
- Other roads
- Trail
- Intermittent stream
- Marsh
- Contours (interval 500 feet)
- Height in feet above mean sea-level

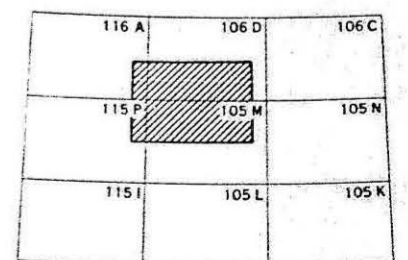
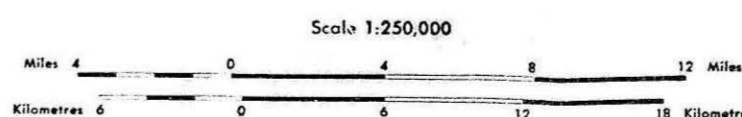
Base-map cartography by the Geological Survey of Canada, 1970, from maps published at the same scale by the Surveys and Mapping Branch 1949, 1950, 1955 and 1963

Magnetic declination 1970 varies from 33°38' easterly at centre of west edge to 34°34' easterly at centre of east edge. Mean annual change decreasing 4.4'

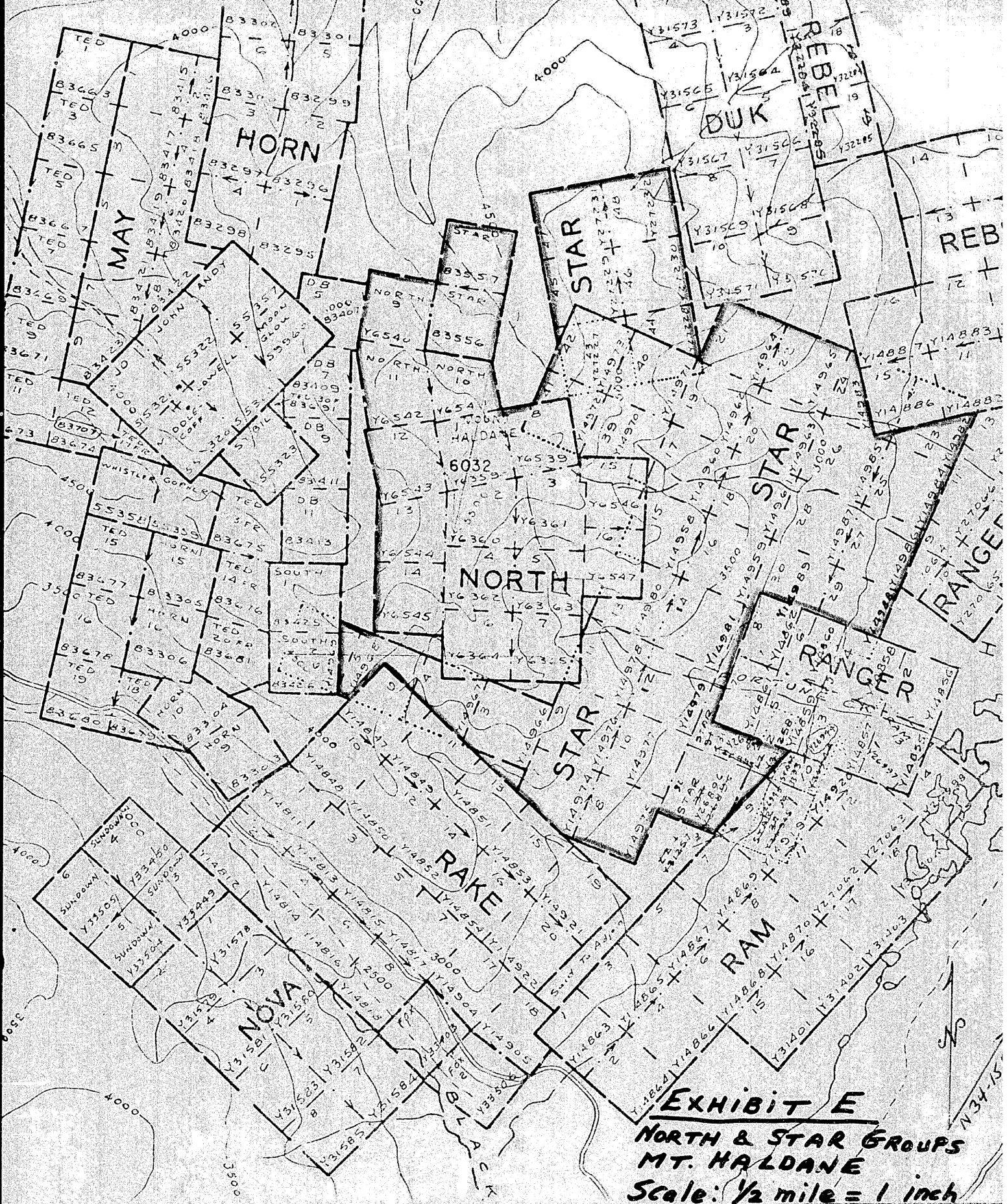


INDEX MAP

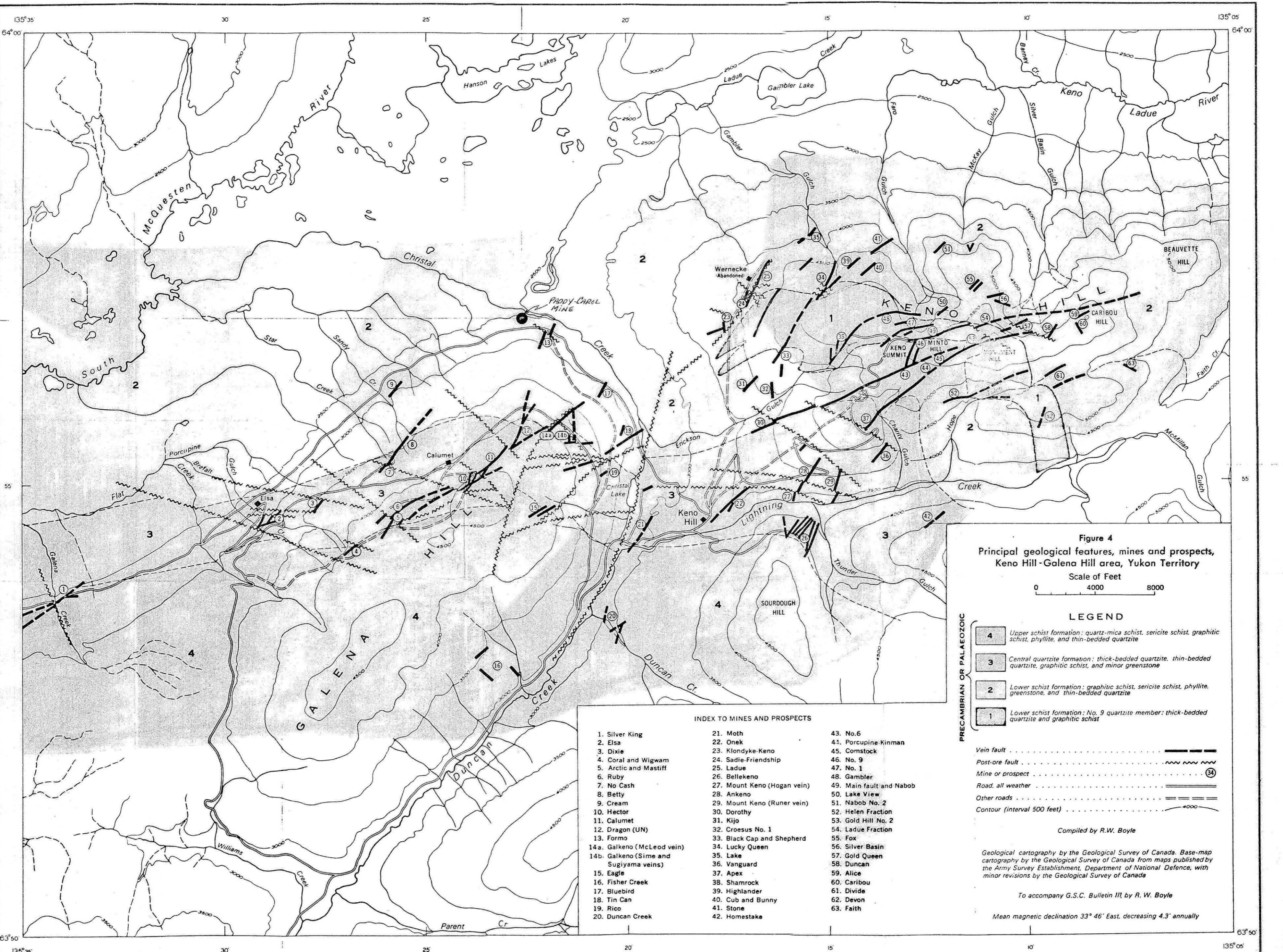
Figure 5  
Generalized geology of Keno and Galena Hills area, Yukon Territory.



N.T.S. REFERENCE



**EXHIBIT E**  
**NORTH & STAR GROUPS**  
**MT. HALDANE**  
 Scale: 1/2 mile = 1 inch  
 PORTION OF 105M-13



**Figure 4**  
 Principal geological features, mines and prospects,  
 Keno Hill-Galena Hill area, Yukon Territory

Scale of Feet  
 0 4000 8000

**LEGEND**

**PRECAMBRIAN OR PALAEOZOIC**

- 4** Upper schist formation: quartz-mica schist, sericite schist, graphitic schist, phyllite, and thin-bedded quartzite
- 3** Central quartzite formation: thick-bedded quartzite, thin-bedded quartzite, graphitic schist, and minor greenstone
- 2** Lower schist formation: graphitic schist, sericite schist, phyllite, greenstone, and thin-bedded quartzite
- 1** Lower schist formation: No. 9 quartzite member: thick-bedded quartzite and graphitic schist

Vein fault .....  
 Post-ore fault .....  
 Mine or prospect ..... (34)  
 Road, all weather .....  
 Other roads .....  
 Contour (interval 500 feet) .....

- INDEX TO MINES AND PROSPECTS**
- |  |                             |                          |
|--|-----------------------------|--------------------------|
| 1. Silver King                         | 21. Moth                    | 43. No. 6                |
| 2. Elsa                                | 22. Onek                    | 44. Porcupine-Kinman     |
| 3. Dixie                               | 23. Klondyke-Keno           | 45. Comstock             |
| 4. Coral and Wigwam                    | 24. Sadie-Friendship        | 46. No. 9                |
| 5. Arctic and Mastiff                  | 25. Ladue                   | 47. No. 1                |
| 6. Ruby                                | 26. Bellekeno               | 48. Gambler              |
| 7. No Cash                             | 27. Mount Keno (Hogan vein) | 49. Main fault and Nabob |
| 8. Betty                               | 28. Ankeno                  | 50. Lake View            |
| 9. Cream                               | 29. Mount Keno (Runer vein) | 51. Nabob No. 2          |
| 10. Hector                             | 30. Dorothy                 | 52. Helen Fraction       |
| 11. Calumet                            | 31. Kijo                    | 53. Gold Hill No. 2      |
| 12. Dragon (UN)                        | 32. Croesus No. 1           | 54. Ladue Fraction       |
| 13. Formo                              | 33. Black Cap and Shepherd  | 55. Fox                  |
| 14a. Galkeno (McLeod vein)             | 34. Lucky Queen             | 56. Silver Basin         |
| 14b. Galkeno (Sime and Sugiyama veins) | 35. Lake                    | 57. Gold Queen           |
| 15. Eagle                              | 36. Vanguard                | 58. Duncan               |
| 16. Fisher Creek                       | 37. Apex                    | 59. Alice                |
| 17. Bluebird                           | 38. Shamrock                | 60. Caribou              |
| 18. Tin Can                            | 39. Highlander              | 61. Divide               |
| 19. Rico                               | 40. Cub and Bunny           | 62. Devon                |
| 20. Duncan Creek                       | 41. Stone                   | 63. Faith                |
|  | 42. Homestake               |                          |

Compiled by R.W. Boyle

Geological cartography by the Geological Survey of Canada. Base-map cartography by the Geological Survey of Canada from maps published by the Army Survey Establishment, Department of National Defence, with minor revisions by the Geological Survey of Canada

To accompany G.S.C. Bulletin III, by R. W. Boyle

Mean magnetic declination 33° 46' East, decreasing 4.3' annually