

GEOLOGICAL REPORT

BILL-PELLEY MINERAL CLAIM GROUP

PELLEY LAKES AREA

Watson Lake Mining Division

Yukon Territory

Long. 130 deg. 10' West

Lat. 62 deg. 04' North

by

Clyde L. Smith

Atlas Explorations Limited

Jujne 13 - August 29, 1967

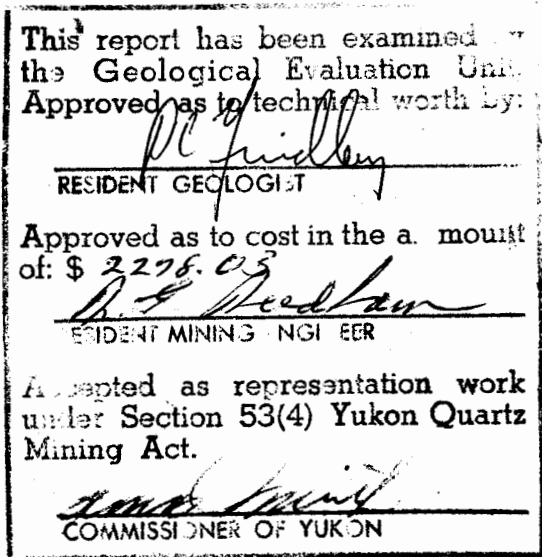
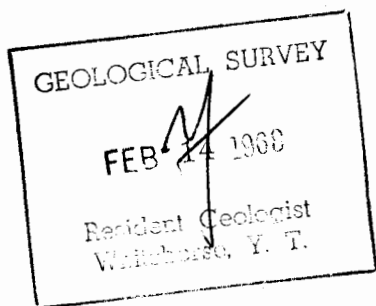


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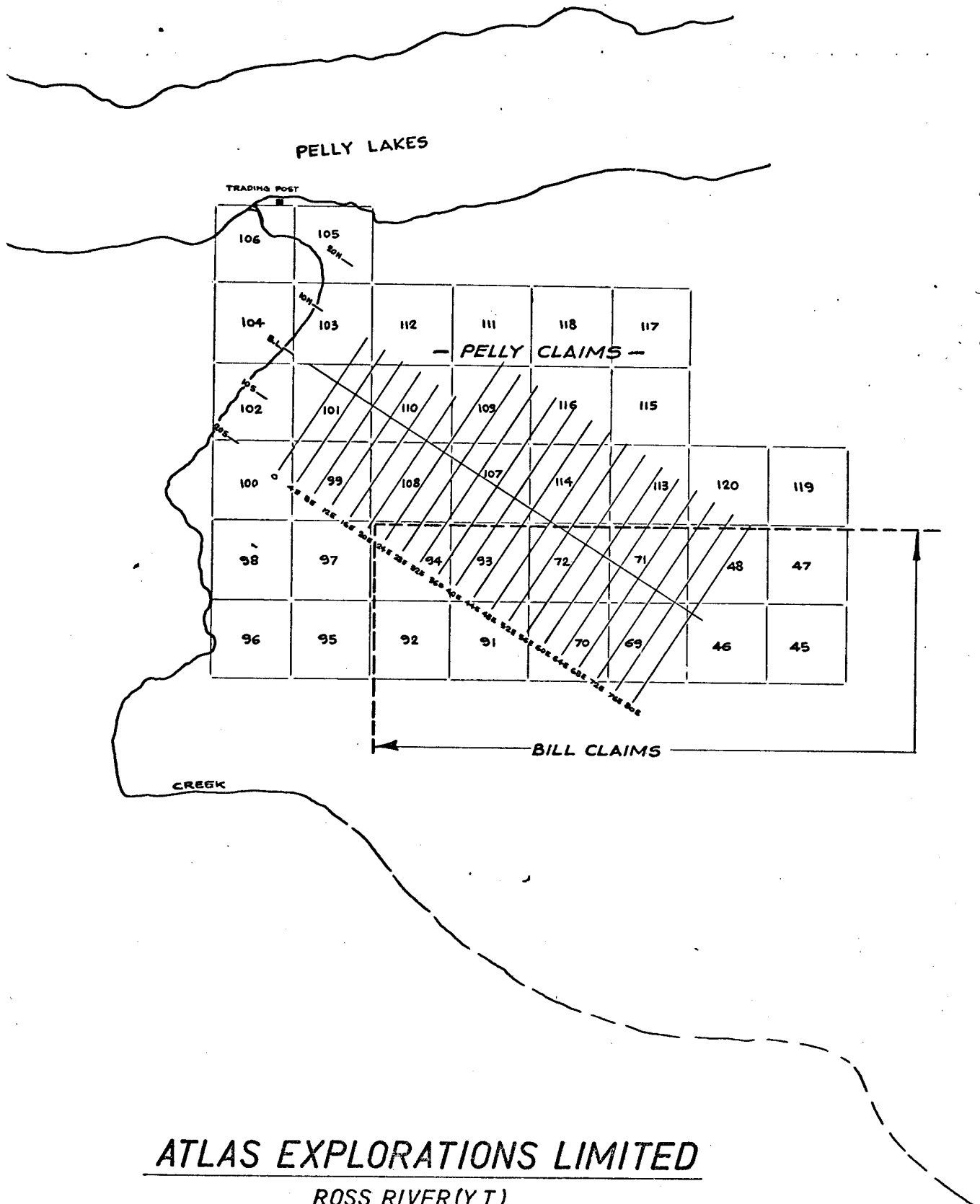
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REGION

# KEY MAP OF BILL CLAIMS + GRID

SCALE 1" = 1/2 MILE



**ATLAS EXPLORATIONS LIMITED**

ROSS RIVER (Y.T.)

LIST OF CLAIMS

<u>CLAIM NUMBER</u>	<u>GRANT NUMBER</u>	<u>DATE RECORDED</u>
Bill 45 - 48	Y 16676 - Y 16680	October 17, 1966
Bill 69 - 72	Y 16701 - Y 16704	October 17, 1966
Bill 91 - 94	Y 16723 - Y 16726	October 17, 1966
Pelly 95 - 120	Y 17990 - Y 19015	August 11, 1967

# ATLAS EXPLORATIONS LIMITED

(N. P. L.)

330 MARINE BUILDING  
355 BURRARD STREET  
VANCOUVER 1, B.C..

## INTRODUCTION

The Bill Group was staked in early October, 1966, to cover an area of high copper, lead, and zinc geochemical results discovered as a result of reconnaissance soil sampling in a region of favourable geology. The northwestern corner of the Bill group was covered by a detailed geochemical survey, was mapped, and geochemical surveys were conducted over geochemical anomalies. The Pelly 95 - 120 claims were staked to cover extensions of geochemical anomalies north of the margin of the Bill group.

## LOCATION AND ACCESS

The Bill-Pelly group is located at and to the southeast of an abandoned trading post on the south side of Pelly Lakes, about 75 air-line miles east of Ross River.

The group may be reached by float aircraft, landing on Pelly Lakes, or by tote trail. The Atlas Tote Trail leaves the Watson Lake - Ross River Road northwest of Finlayson Lake and reaches the claim group at about Mile 43. The road is accessible by bombardier in the summer or by 4-wheel drive truck in the winter.

REGIONAL GEOLOGIC SETTING

The Bill-Pelly group is underlain by a steeply-dipping, N. 70 deg. W. striking sequence of interbedded black cherts, black slates, dolomites, and quartzites, (of probable Devonian age). The sequence lies with apparent conformity on a thick unit of gray phyllite, of probable Proterozoic age. The Devonian (?) sequence occurs along the eastern limb of a tight, gently westerly-plunging anticline cored by the Proterozoic (?) phyllites. The east margin of the group is underlain by granodiorite which intrudes the Devonian (?) meta-sediments.

At least two strong directions of regional fracturing occur. A N. 70 deg. W. striking set of either reverse or normal faults has caused dip-slip displacements between large blocks. A northeasterly trending set parallels the Pelly Lakes lineament and has caused apparent strike-slip movements.

TABLE OF GEOLOGIC FORMATIONS

Cretaceous (?)	7	Granodiorite
Devonian (?)	6	Gray limestone, 6a - black limestone breccia and quartz-mica schist.
	5	Gray chert, 5a - gray limestone
	4	Black chert - black phyllite, 4a - black phyllite
	3	Gray dolomite, 3a - white quartzite; 3b - black phyllite
Proterozoic (?)	2	Black chert, 2a - gray dolomite, 2b - gray quartzite and black phyllite
	1	Gray phyllite, 1a - gray quartzite

GEOLOGY OF NORTHERN PORTION OF BILL-PELLEY GROUP

The northern portion of the Bill-Pelly group was mapped by C. L. Smith and R. Dunsmore on a scale of 1" = 1,000 feet, during the period July 1 - August 30, 1967. Mapping was done on an air photo blow-up.

The area mapped consists of five conformable major units of phyllite (oldest), black chert, dolomite, black chert-black phyllite, and gray chert (youngest). Minor interbeds of quartzite, limestone, limestone breccia, and quartz-mica schist occur throughout the sequence. The sediments strike about N. 70 deg. W. and dip steeply to the northeast, except in areas of local faulting.

The units are cut by a body of medium-grained granodiorite which underlies a steep ridge along the east margin of the claim group. Contact effects are not extensive, and consist mainly of pyritization of sediments within an aureole of a few hundred feet wide.

The rocks are cut by at least two northeasterly-trending faults of probable strike-slip displacement. Beds near the faults are disrupted and detailed structural relations complex.

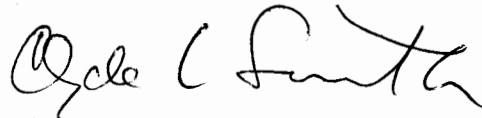
Small vein showings occur scattered along the two faults and to the south. Only two showings of significance were located. One is a Pb-Zn breccia filling in black limestone breccia-assays run to 3.65% combined Pb-Zn; another is a small replacement Pb-Zn zone in dolomite running 3.05% combined Pb-Zn. The important feature of the former is that the showing occurs on the south end of an elongate Zn geochemical anomaly within which values reach 1,000 p.p.m. Zn. Furthermore, the geochemical anomaly occurs on-strike with the dolomite unit which closely

the "host dolomite" unit on Atlas Pay claim group.

DISCUSSION AND CONCLUSIONS

Because of favourable similarities between geology, character of mineralization and geochemistry between the Bill-Pelly group and the Pay group, it is suggested that the Bill-Pelly group may be an important Pb-Zn prospect. It is recommended that diamond drilling be carried out on either the geochemical anomaly or neighbouring geophysical anomalies.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Clyde L. Smith".

Clyde L. Smith,  
Atlas Explorations Limited

SUMMARY OF COSTSB I L L Geological Survey:A. Geology and Prospecting:

1.	(a)	<u>Geologist:</u>	R. Dunsmore		
	(b)	<u>Prospectors:</u>	H. Brodell and J. Hundere		
	(c)	<u>Helper:</u>	W. Roberts		
2.	(a)	<u>Wages:</u>	15 man days x \$23.00, daily wage of R. Dunsmore	\$ 345.00	
			7 man days x \$20.00, daily wage of J. Hundere	140.00	
			7 man days x \$20.00, daily wage of H. Brodell	140.00	
			1 man day x \$16.50, daily wage of W. Roberts	<u>16.50</u>	\$ 641.50
	(b)	<u>Helicopter Support:</u>			
			5.4 hours x \$112.00 per hour		604.80
	(c)	<u>Fixed Wing Support:</u>			
			1 trip, one way, Ross River to Pelly Camp = 1( 76 miles x \$.85 per mile) = 1 x \$64.60		64.60
	(d)	<u>Subsistence Cost:</u>			
			30 man days x \$8.00, daily cost		240.00
	(e)	<u>Supplies and Miscellaneous Equipment:</u>			100.00
	(f)	<u>Travel from Vancouver and Watson Lake:</u>			
			\$15.00 per man x 4men		60.00
	(g)	<u>Supervision Cost:</u>			
			30 man days x \$1.20		36.00
	(h)	<u>Interpretation and Report Presentation:</u>			
		<u>Drafting:</u>	1 man day x \$21.00, daily wage of P. Vlasveld	\$21.00	
			4 man days x \$23.00, daily wage of R. Dunsmore	92.00	
			5 man days x \$8.00, daily subsistence cost	40.00	

(h) Interpretation and Report Presentation: Cont'd.

5 man days x \$1.20 daily  
supervision cost \$ 6.00

Interpretation:

C. Smith and J. Brock  
1 man day x \$75.00 75.00 \$ 234.00

(i) Overhead: 15% of Total - 152 x \$1,980.90

297.13  
\$2,278.03

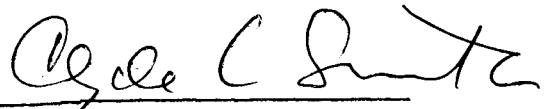
**ATLAS EXPLORATIONS LIMITED**  
(N. P. L.)


330 MARINE BUILDING  
355 BARRARD STREET  
VANCOUVER 1, B.C.

**AFFIDAVIT SUPPORTING SUMMARY OF COSTS**

I, Clyde L. Smith, Chief Geologist, Atlas Explorations Limited, of Vancouver, B. C., do hereby state that to the best of my knowledge and belief the statement of costs as presented in Appendix I of this report "Geological Report on Bill-Pelly Mineral Claim Group" is both true and correct.

DATED, at Vancouver, B.C. this 17th day of October, 1967.

  
Clyde L. Smith

  
A Commissioner for taking

Affidavits in the Yukon  
Territory

PERSONNEL

C. L. Smith	Geologist	Vancouver, B.C.
R. Dunsmore	Geologist	" "
H. Brodell	Prospector	Watson Lake, Y. T.
J. Hundere	Prospector	Vancouver, B.C.

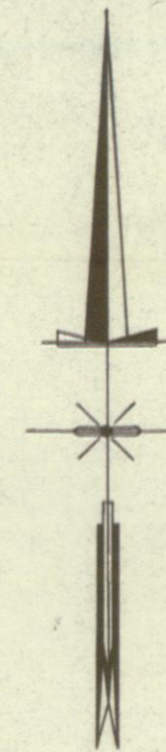
PELLEY LAKE

ATLAS EXPLORATIONS LIMITED  
ROSS RIVER (YT)

BILL GROUP GEOLOGY

(PHOTO OVERLAY OF # A-12189-357)  
1000' : 1"

GEOLOGY : C.L. SMITH & R. DUNSMORE  
DATE : JULY 1967  
SCALE 1" = 1000'



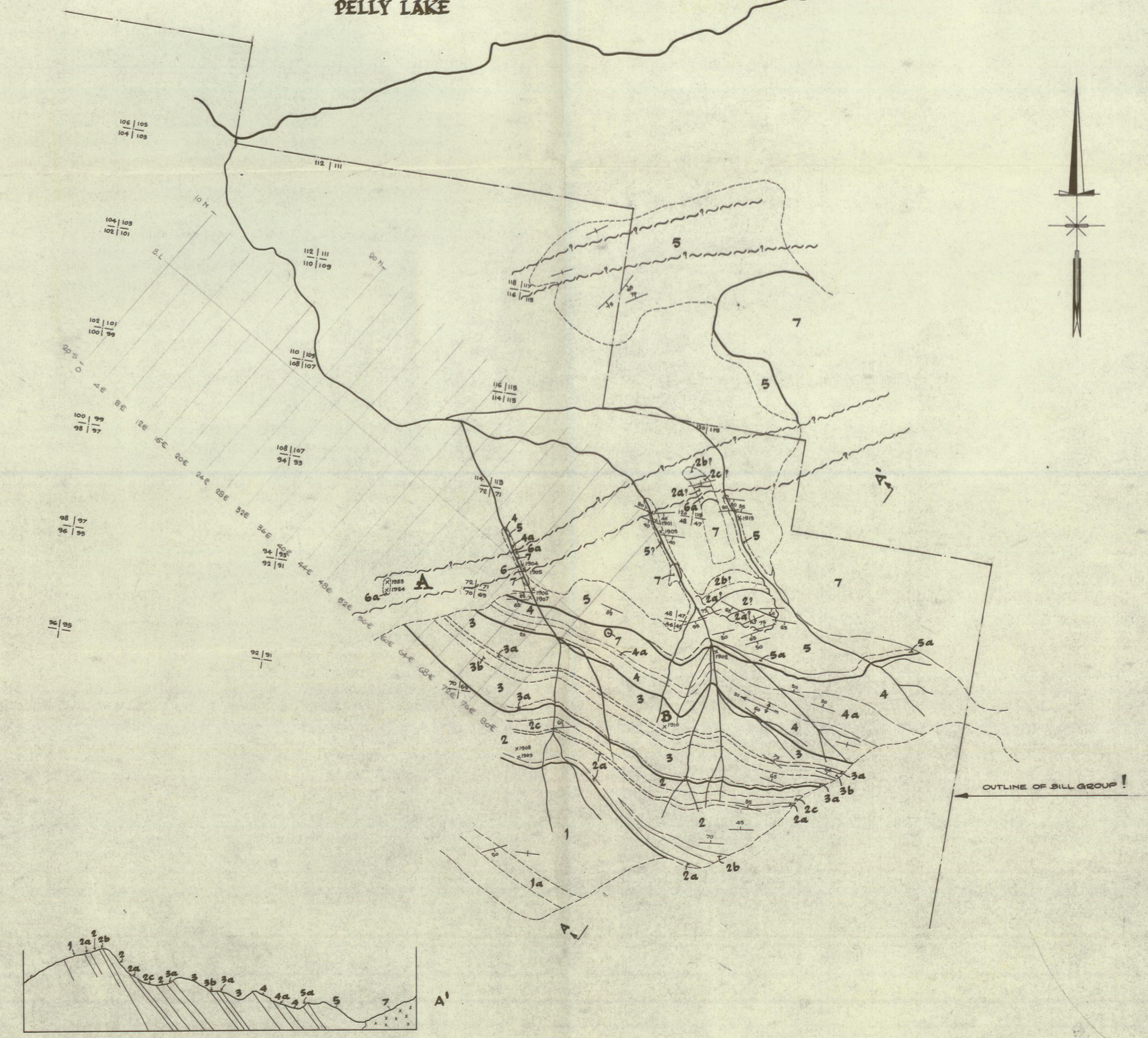
- SYMBOLS :**
- OUTCROP OUTLINE
  - UNIT CONTACTS
  - MEMBER CONTACT
  - - - - - APPROXIMATE MEMBER CONTACT
  - - - - - INFERRED MEMBER CONTACT
  - ~~~~~ FAULTS
  - BEDDING

- LEGEND :**
- 7 GRANODIORITE
  - 6 GRAY LIMESTONE ; 6a BLACK LIMESTONE BRECCIA AND QUARTZ-MICA SCHIST.
  - 5 GRAY CHERT ; 5a GRAY LIMESTONE
  - 4 BLACK CHERT-BLACK PHYLLITE ; 4a BLACK PHYLLITE
  - 3 GRAY DOLOMITE ; 3a WHITE QUARTZITE ; 3b BLACK PHYLLITE
  - 2 BLACK CHERT ; 2a GRAY DOLOMITE ; 2b GRAY QUARTZITE ; BLACK PHYLLITE
  - 1 GRAY PHYLLITE ; 1a GRAY QUARTZITE

- MAIN SHOWINGS**
- A SMALL Pb-Zn MATRIX FILLING IN LIMESTONE BRECCIA
  - B SMALL Pb-Zn REPLACEMENT ZONE IN DOLOMITE

ASSAYS :

#	RESULTS					#	RESULTS				
	AU	AG	CU	PB	ZN		AU	AG	CU	PB	ZN
Y 1901	.25	.01	.01	.01		Y 1908	.14	.07	.013	.006	
Y 1902	.25	.02	.05	.19		Y 1909	TR	.27	.009	.008	.002
Y 1903	ND	.03	.02	.10		Y 1910		.36	.095	1.05	2.00
Y 1904	TR	.11	.008	.02	.02	Y 1912		.12	.004	.13	.007
Y 1905	TR	.25	.004	WD	.004	Y 1913		ND	.004	.009	.012
Y 1906	WD	.008	.007	.01		Y 1923		.12	.016	1.15	1.20
Y 1907	TR	ND	.006	.012	.02	Y 1924	TR	.13	.013	1.60	2.05



OUTLINE OF BILL GROUP !