

GEOLOGICAL REPORT

BILL-PELLY MINERAL CLAIM GROUP

PELLY 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



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

*D. C. Gillan*  
RESIDENT GEOLOGIST

Approved as to cost in the amount  
of: \$ 22 08. 03

*R. F. Decker*  
RESIDENT MINING ENGINEER

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

*[Signature]*  
COMMISSIONER OF YUKON

TABLE OF CONTENTS

Page

KEY MAP

LIST OF CLAIMS

INTRODUCTION ..... 1

LOCATION AND ACCESS ..... 1

REGIONAL GEOLOGIC SETTING ..... 2

TABLE OF GEOLOGIC FORMATIONS ..... 2

GEOLOGY OF CLAIM GROUP AREA ..... 3

DISCUSSION & CONCLUSIONS ..... 4

APPENDIX I - Summary of Costs

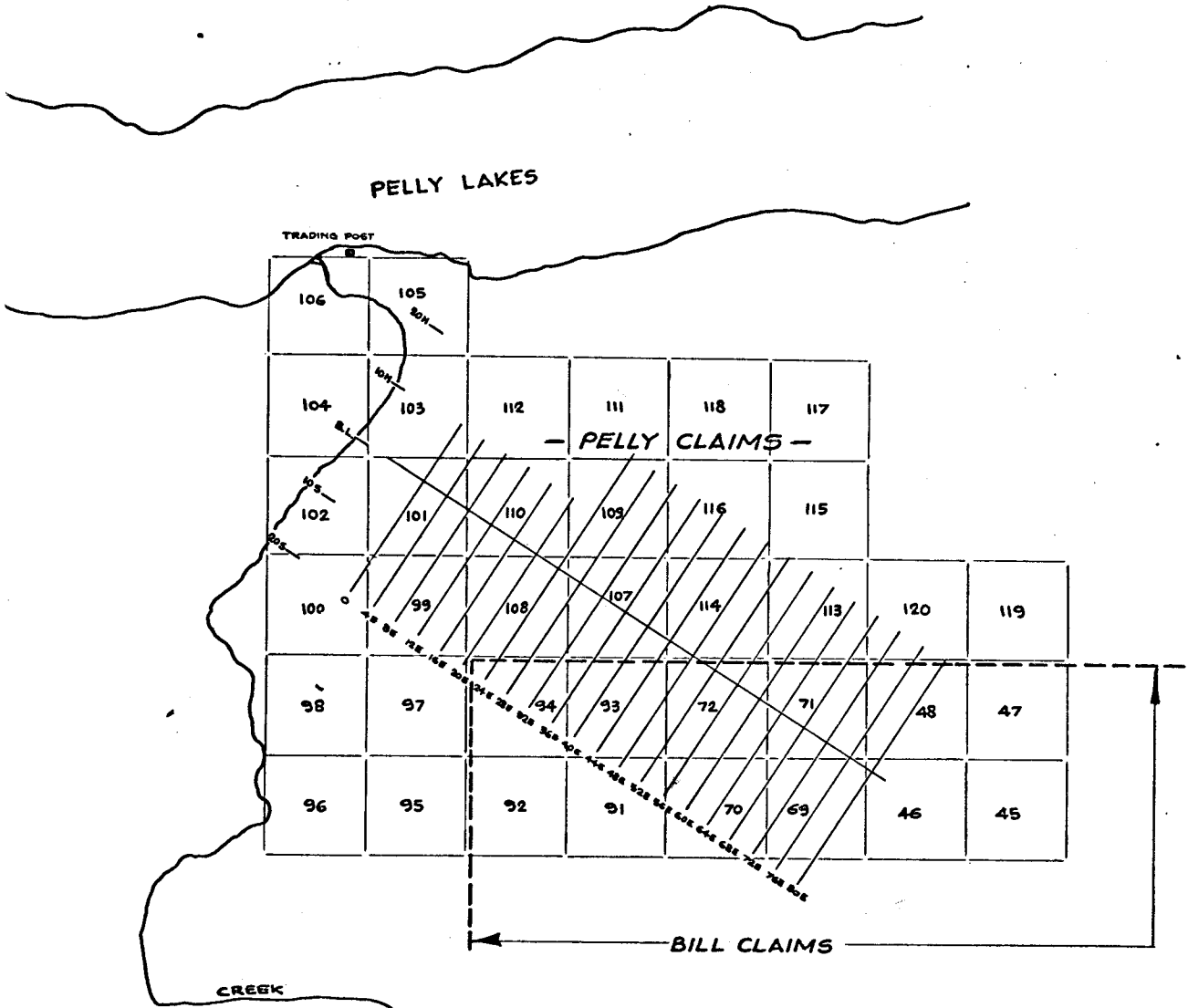
APPENDIX II - Affidavit Supporting Summary  
of Costs

APPENDIX III - Personnel

TRAFFIC MOUNTAIN  
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 1 <sup>8</sup> 015 | 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                |
|                 | 2 | Black chert, 2a - gray dolomite; 2b - gray quartzite and black phyllite |
|                 | 1 | Gray phyllite, 1a - gray quartzite                                      |
| Proterozoic (?) |   |   |

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.

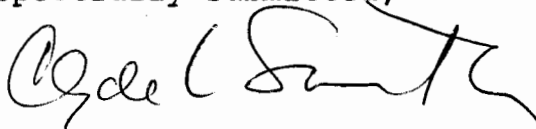
Small vein showings occur scattered along the two faults and to the south. Only two showings of significance were located. One is a Pb-Zn breccia filling in black limestone breccia-assays run to 3.65% combined Pb-Zn; another is a small replacement Pb-Zn zone in dolomite running 3.05% combined Pb-Zn. 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 dark ink, appearing to read "Clyde L. Smith". The signature is fluid and cursive, with a large initial "C" and a long, sweeping tail.

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   | 16.50     | \$ 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> |   |           |           |
|        | Drafting:                                      | 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 BURRARD STREET  
VANCOUVER 1, B.C.

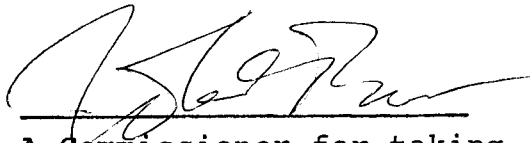
**AFFIDAVIT SUPPORTING SUMMARY OF COSTS**

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.    |