

XCA

012455

GEOLOGY AND GEOCHEMISTRY

ON THE OATS GROUP

Longitude: 138<sup>o</sup> 07'W  
Latitude : 62<sup>o</sup> 40'N

Claim Sheet - 115-J-9

By:

D. BRABEC

W. O. KARVINEN

ATLAS EXPLORATIONS LIMITED

September, 1970.

LIST OF CLAIMS

CLAIM NO.

GRANT NUMBER

RECORDING DATE

OATS 1 - 78

Y46366 - Y46443

December 23, 1970

# ATLAS EXPLORATIONS LIMITED

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

## GEOLOGY AND GEOCHEMISTRY OF THE OATS GROUP

### INTRODUCTION

The OATS Claim Group is located in the Dawson Range between Hayes Creek and the Yukon River some 25 miles east of Casino.

The writer spent 3 to 4 days mapping and prospecting the area of the group while 2 assistants sampled the drainages of the area.

### GEOLOGY

The area is totally underlain by 'Yukon Group' rocks which trend northeasterly and dip to the northwest. Some later volcanic rocks cap a dome to the northeast (see map).

The rocks were divided into two mappable units: gneisses and schists. The gneisses outcrop to the northwest and consist mainly of biotite gneiss and biotite-granite-gneiss with lesser amounts of hornblende gneiss and amphibolite. In general, the gneisses become more amphibole rich towards the schist-gneiss contact where the rocks are nearly all amphibolites.

The schists consist mainly of mica-quartz-schist with lesser amounts of quartzite, mica-schist and graphitic quartz schist.

Virtually no mineralization was found in any form. Some pyrite occurs in the graphitic schist and in small localized shears near the gneiss-schist contact.

No intrusive rocks outcrop in the area, however, the gneisses appear to become more granitic and migmatitic towards the north.

#### GEOCHEMICAL SURVEY

##### a) Sampling Techniques

Most samples consist of stream sediments taken above every confluence and at  $\frac{1}{4}$  mile intervals along main creeks. The survey covered both the claim group and the adjoining areas, particularly in northeast direction. Only a small number of soil and rock chip samples were collected at selected sites.

##### b) Analytical Methods

After drying, all silt and soil samples were sieved to - 80 mesh and the fines retained for analysis. Rock samples were crushed in a jaw crusher and then pulverized in a grinder with steel plates. The resulting powder was reduced by quartering to a 20-30g working sample.

0.5g of each sample was digested with concentrated  $\text{HN03}$ , diluted to 10 mls and allow to settle. The concentrations of Cu, Pb and Zn in the solutions were determined with a

Perkin-Elmer 303 atomic absorption spectrophotometer in the laboratory of Atlas Explorations Limited.

Analytical precision was controlled by including a soil sample selected as standard with every 20 samples to be analyzed. Average precision estimated from these replicates was  $\pm 30\%$ , and lower detection limit 2 ppm for all elements sought.

c) Previous Geochemical Work

A previous stream sediment survey by Coranex Ltd. indicated several copper values in the 41-80 ppm range and one between 81 and 160 ppm. (The latter was confirmed in the present survey). A molybdenum value in 7-12 ppm interval coincides with a Cu high. Several other Mo values which could be considered as anomalous (4-6 ppm, and one in 13-25 ppm interval) were also found over the present claim group area. Maps showing the areal distribution of data are kept on file at Atlas Explorations Limited.

d) Presentation of Data

All analytical values are plotted on a  $\frac{1}{2}$  mile to 1 inch map accompanying this report, and anomalous values indicated by symbols.

May be changed to 1 mile

INTERPRETATION OF RESULTS

Values of 50 ppm, 20 ppm and 100 ppm were adopted as Cu, Pb and Zn anomaly thresholds respectively.

Cu highs, ranging from 52 to 92 ppm, are concentrated along a northeasterly zone partly coinciding with an air photo linear and parallel with the contact between two metamorphic units (see geologic map, Fig. 3).

Most Zn-anomalous samples were found in the eastern part of the area within a metamorphic unit composed of mica-quartz schist, quartzite and graphitic schist.

Only a few Pb values slightly over threshold were found on the claim group.

Distribution of values for elements sought is shown on Fig. 4.

#### CONCLUSIONS AND RECOMMENDATIONS

Anomalous Cu values appear to be related to a structural direction and are not considered to reflect any significant mineralization. Zn highs are related to a metamorphic unit containing quartzite and graphitic schists which are often found to be consistently high in Zn and/or Mo.

It is considered that no further geochemical work on the claim group is warranted.

Respectfully submitted,

D. Brabec  
Geochemist

\* Geology by W.O. Karvinen

September, 1970

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

## AFFIDAVIT SUPPORTING SUMMARY OF COSTS

I, DRAGAN BRABEC, Geochemist, Atlas Explorations Limited, of Vancouver, British Columbia, do hereby state that, to the best of my knowledge and belief, the statement of cost presented in this report (Geology and Geochemistry Report on the Oats Group) is both correct and true.

\_\_\_\_\_  
D. Brabec

\_\_\_\_\_  
Date

\_\_\_\_\_  
Notary Public in and for  
Yukon Territory