ATLAS EXPLORATIONS LIMITED
330 MARINE BUILDING
255 BURRARD STREET
VANCOUVER 1, B.C.

GEOLOGICAL SURVEY
NOV 27 1968
Resident Geologist
Whitehorse, Y. T.

GEOPHYSICAL REPORT
ELECTROMAGNETIC AND MAGNETIC SURVEYS
PHIL MINERAL CLAIM GROUP
NTS 105G 15
61° 55' north
130° 31' west

May 20 - June 14, 1968

by:

John S. Bragg
Atlas Explorations Limited

REPUBLIC OF CANADA

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

RESIDENT GEOLOGIST

Approved as to cost in the amount of: $27,500

ESSENTIAL MINING REGULATIONS

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

COMMISSIONER OF YUKON
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Electromagnetic and Magnetic
Geophysical Surveys,
Phil Mineral Claim Group

INTRODUCTION

In August, 1967, an independent prospector, G. Lishy, discovered sphalerite mineralization in an exposure about one-half mile south of the PAY Mineral Claims. Lishy staked the ZN 1 and ZN 2 Mineral Claims over this area which was subsequently optioned by Atlas Explorations. In order to cover adjoining ground as well as to tie the ZN Claims to the PAY Property, the PHIL 1 to PHIL 42 Mineral Claims were staked in early September, 1967.

During August, 1967 a bulldozer trench exposed part of the Lishy showing as well as a related zone of alteration, access routes for travel to the ZN and PHIL Properties were also established from the PAY camp on Fortin Lake.

A further exploration program of the PHIL Group was planned for the 1968 field season to fully evaluate the area by electromagnetic, magnetic and geochemical soil sampling surveys. It was hoped that the known zone of mineralization could be extended and that diamond drill targets be outlined for testing at the same time as drilling was to be carried out on the adjacent PAY Group. As outcrop on the PHIL Property is limited to one main drainage system cutting through the claims, geologic mapping was impossible and emphasis had to be put on geophysical and geochemical methods for exploration.

LOCATION AND ACCESS

The PHIL 1 to 42 Mineral Claims are located near the southeast end of Fortin Lake (MTS 105 G) and are adjacent to the south boundary of the PAY Group.

Access to the property was gained by aircraft equipped with floats based at Ross River, some 64 miles west of Fortin Lake. Landing facilities were made available at a base camp on the PAY Claims about 3 miles north of the PHIL Claims on the east shore of Fortin Lake. Access to the Phil Camp was provided by bombardier from the Pay Camp.
GEOLOGY

The discovery of high grade zinc and associated copper mineralization by Lishy, one half mile south of the Pay Group, emphasized the regional potential of the Pay Property. The Lishy showing, ZN Group, consists of a 4 foot wide zone of massive sphalerite, assaying 48 percent zinc and 4 percent lead. The mineralization is either a vein or replacement in carbonate (Z) altered lustrous phyllite. A bulldozer trench in the area of the showing exposed narrow sections of lead and copper mineralization in an altered phyllite zone grading up to 6.9 percent lead and 0.49 percent copper. The significance of the Lishy showing is that it was not previously detected and possibly could not be detected by reconnaissance geochemical soil sampling, and furthermore that mineralization does not occur in the host dolomite unit such as found on the main Pay zone.

Geologic traverses were made on the PHIL Group between June 1 and June 10, 1968 by K. Kirkland, geologist for Atlas Explorations Ltd. All outcrops found on the claim group occur at or very near 'Phil' Creek. With the exception of the Lishy showing, all outcrops consisted of thinly to moderately foliated grey phyllite, the foliation usually striking 120° to 140° and dipping moderately to the southwest. No mineralization was observed in these phyllites although quartz veining was usually present.

SURVEY METHOD

Linecutting: All lines were cut by employees of Atlas Explorations during the period May 20th to June 4th, 1968. Survey control was maintained by chain and picket methods with occasional checks by compass on line bearings. The survey grid established consisted of a central 8000 foot baseline with crosslines of 6000 feet total length every 800 feet, 100 foot stations were established on all grid lines.

Magnetometer Survey:

Instrumentation: The entire survey was carried out with a hand held Jaylander flux gate magnetometer. The instrument has a sensitivity of 10 gammas on its lowest range and is described by its manufacturer as being self orienting and compensated for drift.

Survey Method: The grid base line was run prior to cross line survey
Survey Method (Cont'd) in order that base stations could be established at crossline intersection points. Readings were corrected for drift and diurnal variation by conventional 'looping' methods, to establish base station values. Readings were taken at each base station prior to cross line surveys as well as at the completion of each cross line in order that adequate control was maintained for magnetic readings over the entire grid.

Data Presentation Maps were prepared (1:800) of the grid plan and corrected gamma values as well as magnetic profiles. The values were not contoured due to low intensity change.

Electromagnetic Survey: A Cronje JEM unit was used for the electromagnetic survey. The instrument is an application of the 'shootback' method where each of two coils are used to transmit and receive in sequence. High and low frequencies (1800 and 280 cps) were used for each station surveyed.

Survey Method A horizontal loop 'in-line' configuration was used on all grid lines. For this method dip angles are measured in the vertical plane passing through the axis of the coils. The coils, when operated, are tilted 15 degrees from a coaxial alignment. The sum of the dip angles, obtained at each recording interval contains no significant errors, due to accidental misalignment of coils in rough terrain.

Data Presentation Maps to scale of 1:800 have been prepared of the grid plan showing high and low frequency dip angle values as well as resultant dip profiles.
GEOPHYSICAL RESULTS

Magnetometer Survey – All magnetic profiles are generally flat and of low gradients. Background has been determined as 1800 gammas and a peak value of 2080 gammas was obtained on line 8N station 11E. Low intensity, uniform profiles were recorded between Lines 40S and 16S, west of the baseline. Magnetics in the vicinity of the main creek generally reflect lower intensity values, however a comparison of results from each line over the creek does not reveal any definite magnetic characteristics. Irregular profiles were recorded to the north and east of the 'low' area between Lines 40S and 16S.

Electromagnetic Survey – The overall survey is generally composed of low-intensity negative resultant dip angles, all dip angle values are within the -3 to +3 degree range and can hardly be considered anomalous. Within a few areas, dips as high as -6 degrees were recorded. Exceptionally 'flat' electromagnetic response was noted between Lines 16S to 40S and west of the baseline.

INTERPRETATION OF RESULTS

The magnetic results appear to reflect the underlying phyllites and metasediments noted through geologic mapping of the grid, although outcrop is limited, no significant response was obtained over known units of phyllite and sericite schist. An area of low magnetics coincident with flat non-conductive electromagnetic results could represent a near surface intrusive plug related to the Fortin stock, float boulders of granodiorite were found close to that portion of the grid (Line 16 to 40S and west of the baseline). The irregular magnetics bordering the 'low' area may define a contact zone of alteration and are coincident with alteration noted near the Lisby showing. In the vicinity of the showing there are no magnetic results indicating the presence of
sulphide mineralization. Negative dip angles coupled with positive
dips recorded on approaching the conductor are found along most lines
crossing the main creek, this response is also recorded near the Lishy
showing. It is not definite, due to the low amplitude of all readings
whether these responses reflect conductive wet overburden areas near the
creek or fault zones represented topographically by the creeks location.
If the creek does reflect a fault zone, a weak northerly trending
conductor over the Lishy showing could be interpreted as a cross fault
related to the mineralization and alteration found there.

CONCLUSIONS AND RECOMMENDATIONS

Magnetic and electromagnetic results over the Phil Grid do not
provide any conclusive evidence as to possible extensions of the
Lishy showing and its related geology.

It is recommended that geochemical soil sampling be relied upon
to provide evidence of possible sulphide mineralization in this
area. From the geophysical results it can only be said that both
magnetics and electromagnetics reflect underlying metasediments of
uniform southwesterly dipping attitudes and that within the southwest
sector of the grid a near surface intrusive plug may be present.

Respectfully submitted,

John S. Brock
Operations Manager,
Atlas Explorations Limited
SUMMARY OF COSTS

Phil Mineral Claim Group
Electromagnetic and Magnetic Surveys

A. Linecutting
Period: May 20 to June 4, 1968
Footage: 77,000 feet (14.5 line miles)
Overall Cost at $50/line mile.............. $ 725.00

B. Magnetometer Survey
Period: June 4 to June 14, 1968
total survey time - 4 days
Operators: J. Harper and N. Newsom
Wages @ $20/man/day ............. $ 160.00
Equipment rental @ $10/day .... 40.00
Camp Costs @ $10/man/day ..... 80.00
Mob and Demob, Ross River .... 106.00
Travel, Bombardier 1 day ...... 50.00
Supervision, 1 day ............. 50.00
Report presentation .......... 100.00
15% overhead and administration 88.00 $ 674.00
cost/line mile = $ 46.50

C. Electromagnetic Survey
Period: June 2 to June 12, 1968
total survey time - 7 days
Operators: J. Harper and N. Newsom
Wages @ $20/man/day ............. 280.00
Equipment rental @ $5/day .... 35.00
Camp Costs @ $10/man/day ..... 140.00
Mob and Demob, Ross River ... 106.00
Supervision, 1 day ............ 50.00
Report Presentation .......... 100.00
15% overhead and administration 105.00 $ 816.00

TOTAL EXPENDITURE, GEOPHYSICAL SURVEYS $ 2215.00
AFFIDAVIT SUPPORTING SUMMARY OF COSTS

I, John S. Brock, Operations Manager, Atlas Explorations Limited, do hereby swear that to the best of my knowledge and belief, the statement 'Summary of Costs', Appendix (i) as presented in this report 'Electromagnetic and Magnetic Surveys Phil Mineral Claims', is both correct and true.

Signed

John S. Brock

Dated this 16 day of Sept. 1968
at Ross River, Yukon

 Commissioner of Oaths in and for the Yukon Territory

C. M. Polin
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<tr>
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GEOLGY OF PHIL MINERAL CLAIMS

Overburden on the Phil Claims is extensive thus limiting the possibilities of any detailed geologic mapping.

The only exposures occurred in a major creek which crosses the grid area and passes close to the main showing. Of all outcrops mapped the most abundant rock type is a dark gray, finely foliessed phyllite. Some outcrops were composed of lighter gray more sericitic phyllite. These tocks are very similar to those mapped southwest of Pay Mountain (6 miles east of Phil Group) and are considered to be middle-upper Cambrian in age.

The phyllites on the Phil Group have an average attitude of 120° and are dipping moderately to the southwest. No mineralization was found in any of the phyllite outcrop.

The main showing consists of a 2 to 3 foot wide quartz-sphalerite vein which appears to lie along a conformable shear forming the contact between an underlying dark gray phyllite and overlying quartz-sericite schist. The vein is composed mainly of sphalerite (40 to 50%) and of quartz with minor amounts of galena and brecciated fragments of the underlying phyllite. An occasional quartz vein with minor amounts of sphalerite can be found cutting the underlying schist.

The schist, light creamy yellow to brown in colour, contains a high percentage of quartz. The quartz occurs mainly as narrow lenses 1 to 6 inches in width and less commonly as veins. In most instances, these lenses and veins are slightly mineralized with chalcopyrite, galena and sphalerite.

From an examination report by:

R. Darney, Atlas Explorations Limited,
August, 1968