MAP No.	ASSESSMENT REPORT / N. M. E. A. P. / CONFIDENTIAL / OPEN FILE		TYPE OF WORK: Watson Lake MD Geophysical
105-I-12		X / X	

REPORT FILED UNDER	Itsi Joint Venture — DOCUMENT NO. 061793
DATE PERFORMED	August, 1977 — DATE FILED: April 4, 1978.
LOCATION - LAT.	62° 33'N — AREA: Howards Pass, Yukon/Mack.
LONG.	129° 32'W
CLAIM NO.	ANNIV Gp.
VALUE $	
WORK DONE BY	G. Hendrickson
WORK DONE FOR	Aquitaine Co. of Canada Ltd.
REMARKS Submitted as part of the report on the OHNO Gp. by I.J.V.	A test EM line was run over the Anniv Deposit of Canex Placer Ltd. The profiles show the response of the equipmen to the mineralization.

REPORT ON HORIZONTAL COPLANAR LOOP ELECTROMAGNETIC SURVEYING ON THE ANNIV ZONE OF CANEX PLACER LTD.

FOR

ITSI JOINT VENTURE

G. HENDRICKSON
AQUITAINE CO. OF CANADA LTD.
OCTOBER, 1977

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INTRODUCTION

During the latter part of August, 1977, a test EM Line was run over the Anniv Deposit of Canex Placer. The purpose of this test was to see what role horizontal coplanar loop EM surveying could play in the detection of lead-zinc mineralization. From the outset, it was realized that graphitic zones would cause many anomalies and that some of these graphitic zones may be associated with possible ore zones.

INSTRUMENT

The new five frequency Maxmin II was used on this survey. This instrument was set up in the metric mode. Inphase and Quadrature compensator were both set at 5.0, the electrical 0 position, thus all values shown on the accompanying profile are absolute.

SURVEY PROCEDURE

A topographic profile of the line was first obtained using a small portable inclinometer. From the topographic profile, the information necessary to keep the coils coplanar is obtained. Survey stations were put in at a 25 m horizontal interval. Corrections were made to the inphase response. These corrections were due to the fact that the coil separation was varying with the topography.

DISCUSSION OF RESULTS

Two conductors are shown on the accompanying profile.

The response centered around station 1+70N is typical of the response for a steeply dipping dike shaped body.

The response starting at 3+65N and extending to the north is more typical of the response for a flat laying conductor close to the surface. The northern limit of this conductor is hard to pin down without additional surveying to the north. It is also difficult to say anything about the thickness of this conductor.

The question still remains: is the conductivity due to lead mineralization and/or Graphite zones?

CONCLUSION

Horizontal coplanar loop electromagnetic surveying is a useful mapping tool in this type of geological environment. It is not possible to differentiate between the responses of Sulphides and Graphitic Shales since they both cover a broad range of conductivity. Additional information, such as Geochemistry and Gravity, will be required to screen the numerous conductors that will be picked up when surveying in this area.

If more geological information had been available before the test work, the geophysical program could have been designed better for each particular case. Additional lines and, in some cases, longer lines would have helped.

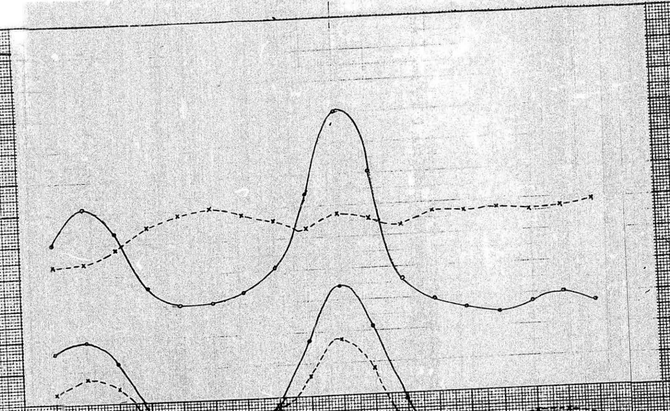
RECOMMENDATION

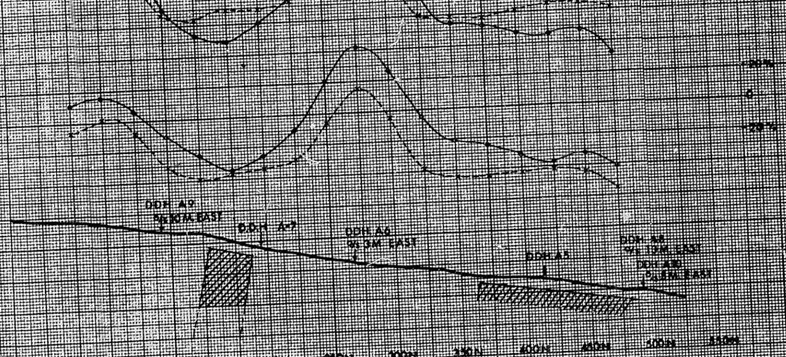
In reconnaissance electromagnetic surveys in this area, the Maxmin II should be used with coil separations of 50 m or 100 m. The choice of coil separation will depend on overburden depth. Two frequencies should generally be read, 888 Hz and 222 Hz. The shorter coil separations and low frequencies should reduce the response of the conductive background.

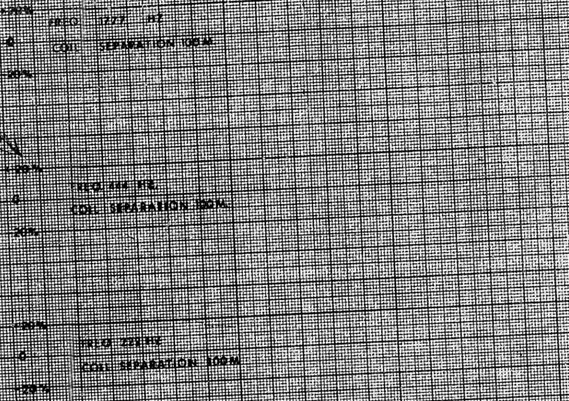
In areas of special interest, all five frequencies of the Maxmin should be read and one should try a couple of different coil separations. More interpretable information will be obtained by doing this.

Grant Hendrickson.

Grant Hendrickson.







THICKNESS OF OVERBURDEN 10 METRES
OVERBURDEN RESISTIVITY 45 OHM
CONDUCTOR RESISTIVITY 4 OHM

INSTRUMENT USED

MAXMIN II

IN PHASE RESPONSE

QUADRATURE RESPONSE

AQUITAINE COMPANY OF CANADA LTD.

HORIZONTAL COPLANAR LOOP E.M.

SCALES:
1cm = 25 meters Horizontal & Vertical
1cm = 20%
INSTRUMENT – MAX MIN II

HOWARD PASS TEST LINE
ANNIV ZONE

SURVEY BY M.C., G.H.
DATE AUGUST, 1977

PLOTTED BY G.H.
A.Y.E. AY-78