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A REPORT

on

AN INDUCED POLARIZATION TEST SURVEY

over

The Faro #3 Orebody

of

Anvil Mining Corporation Ltd.

For

KANGAROO EXPLORATION CORPORATION LIMITED

Vancouver, British Columbia

By

PETER E. WALCOTT & ASSOCIATES LIMITED

Vancouver, British Columbia

NOVEMBER 1970

INTRODUCTION

Between October 16th and 18th, 1970, at the request of Kangaroo Exploration Corporation Limited, Peter E. Walcott & Associates Limited carried out an induced polarization (I.P.) test survey over the Faro #3 orebody of Anvil Mining Corporation Limited.

The survey was carried out over three lines 400 feet apart using the "pole - dipole" method of surveying. These lines were part of the original 1965 grid, and had to be located using marked collar locations of drill holes, and then be rechained and repicketed.

Measurements of apparent chargeability (the I.P. response parameter) and resistivity were made using electrode separations of 200, 400, 600 and 800 feet respectively at 200 foot station intervals using a 7.5 kw I.P. system.

The data are presented in profile form on a plan map of the lines, Map W-121-1, at a scale of 1" = 200 feet.

DISCUSSION OF RESULTS

The Faro #3 orebody, a downfaulted expression of the main orebody, is on the average some 500 feet below the surface on Line 56 W, some 560 feet below on Line 52 W, and some 600 feet below on Line 48 W. Overburden is relatively shallow, being in the order of ten to thirty feet. Accordingly not much of an I.P. would be expected on the 200 and 400 foot electrode separations.

This is reflected in the chargeability readings, particularly on Line 48 W and 52 W where a noticeable low occurs over the centre of the orebody.

The orebody as inferred from the 600 and 800 foot separations exhibits about 2 to 2 1/2 times background response as best seen on Line 56 W. The background response is high due to the surrounding halo of sericite schist which generally produces high chargeability effects.

The I.P. anomaly is, as expected, broader than the outline of the orebody shown on the map, particularly on the northern side. This can be explained by:

- (a) the outline of an orebody is not always the outline of mineralization.
- (b) the gravity anomaly associated with this orebody extends some 400 feet northward.
- (c) higher chargeability readings are usually obtained when some portion of the array moves over part of a large causative source.
- (d) insufficient is known about the high background response of the surrounding sericite schist.

Slightly lower resistivity readings were obtained on the average over the orebody, as best emphasized on Line 56 W.

High resistivity readings were obtained on the 200 and 400 foot separations over an outcropping diorite mass on Line 48 W suggesting a narrow shallow body.

The resistivity low (i.e. conductivity high) discernible on all four separations on Line 48 around 2 S coincides with a topographic low and the inferred intersection of a fault trace and the line.

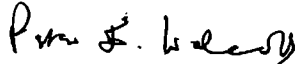
CONCLUSIONS

As a result of the test survey over the Faro #3 orebody the writer concludes that:

1. This orebody would not have been detected by conventional ground or airborne E.M. systems on account of (a) its poor conductivity contrast, and (b) its depth of burial.
2. It is doubtful whether it would be detectable by geochemical technique.
3. It most probably would not have been investigated if the I.P. survey had only been carried out using the 200 and 400 foot separations.
4. Changes in background response due to changes in rock types can give rise to stronger anomalies than that obtained over the orebody, particularly in areas of high background.
5. This orebody can be detected by the induced polarization technique using 600 and 800 foot electrode separations.
6. No anomaly, no matter how weak, should be discounted in the search for ore as due to the nature of their mineralization and depth of burial economic bodies can produce subtle anomalies, such as obtained over this orebody.

Respectfully submitted,

PETER E. WALCOTT & ASSOCIATES LTD.



Peter E. Walcott, P.Eng.
Geophysicist

November 1970

Vancouver,
British Columbia

A P P E N D I X

COST OF SURVEY

Peter E. Walcott & Associates Limited undertook the I.P. test survey on a daily basis. Draughting costs were extra so that the total cost of services provided was \$2,264.60.

PERSONNEL EMPLOYED ON SURVEY

<u>Name</u>	<u>Occupation</u>	<u>Address</u>	<u>Date</u>
Peter E. Walcott	Geophysicist	Peter E. Walcott & Assoc. 605 Rutland Court, Coquitlam, B.C.	Oct. 16th - Oct. 18th, 1970 Nov. 23rd - 24th, 1970
G. MacMillan	Geophysical Operator	" "	Oct. 16th - Oct. 18th, 1970
C. Sneddon	"	" "	"
V. Pashniak	"	" "	Oct. 16th - Oct. 18th, 1970 Nov. 15th - Nov. 20th, 1970
J. Walcott	Typing	" "	Nov. 22nd, 1970
E. Scurvey	Helper	General Delivery, Whitehorse, Y.T.	Oct. 16th - Oct. 18th, 1970
J. Kodwat	"	" "	"
G. Gordon	"	" "	"