

# CORPORATION FALCONBRIDGE COPPER

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MEMORANDUM

DATE: July 11, 1984  
TO: A. J. Davidson  
COPIES TO: D. H. Watkins  
DE FROM: D. Lefebure  
Sujet SUBJECT: PEM/DEEPEM SURVEY, MT. SICKER PROJECT, JUNE 1984 NTS 92B/13

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Crone Geophysics Ltd. completed a PEM survey of 4 holes (MTS 1, 2, 4 and 5) and DEEPEM surveys from 4 loops (16.1 km) over the period from June 4th to June 22nd. Four days were lost due to equipment problems (June 9, 11, 12 and 14) and two days were spent repeating borehole surveys on MTS 4 and 5 (June 21 and 22). Doug Croft operated the data logger and supervised the survey.

## Deepem Survey

Surface loops measuring 600m. by 300m. were laid out with the long dimension roughly parallel to the strike of the map units (Figure 1). The anomalies are listed in Table 1 four loops were used during the survey.

- a) Loop #1 laid out to test AJD DIGHEM anomaly to the south and 1983 DEEPEM anomalies which were distant from the loop
- b) Loop #2 used to test the Lenora-Tyee and Postuk-Fulton trench anomalies to the west
- c) Loop #3 set out to test DIGHEM anomaly at Northeast Copper
- d) Loop #4 set out to test eastern extension of Postuk-Fulton trench anomaly

All the DEEPEM anomalies warrant further examination in the field. Anomalies "I", "J" and "F" are highest priority followed by "A", "C" and "H".

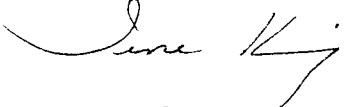
## PEM Surveys

MTS 1 and MTS 2 were surveyed with a 300 X 600m located 250m to the south. No anomalies were found in these holes. For MTS 4 and MTS 5, D.

Croft used multiple 100m by 100m loops to survey the holes. The initial surveys of holes 4 and 5 encountered problems with the primary pulse data. After resurveying these holes, the problem was located in the field computer which was not plotting the primary pulse data correctly. Apparently the first figure of the primary pulse was not being used, only the final three figures. Crone will send us copies of the profiles for these two holes plotted correctly.

#### Recommendations

- 1) Make sure we get an experienced Crone operator.
- 2) Get Crone to print good profiles for several DEEPEM lines to see if we are missing subtle anomalies in field plots.
- 3) Have F. Hiebert review all the data.

  
per D. Lefebure

DVL/ik

Table 1 LIST OF DEEPEM ANOMALIES, JUNE 1984 SURVEY

MT. SICKER

<u>Anomaly</u>	<u># of Channels*</u>	<u># of Lines</u>	<u>Geology</u>	<u>Comments</u>
<u>Loop #1</u>				
A	1-3	4	- central pannel of felsic schists	- coincidental with AJD DIGHEM anomaly
B	1-2	5	- mafic to int. volcanics	- chaining errors could be reason for offset on line 1E
C	2-4	4	- ibid	- weak DIGHEM anomaly on 2 flight lines
D	2-3	4	- felsic to int. volcanics	
<u>Loop #2</u>				
E	2-6(?)	4	- felsic to int. volcanics south of Mine fault	- picked up on line 6W of 1983 survey - 6 channel anomaly
F	1-3	4&3	- felsic volcanics and diorite	- coincident with AJD DIGHEM anomaly and the western extension of a 1983 DEEPEM anomaly

G	1-2	4	- diorite	
H	3-4	3	- crosses Nugget Ck - in felsic tuffs	- good broad anomaly with cross-overs on vertical component
<u>Loop #3</u>				
I	2-4	7	- at QP/chert/mafic volcanic contact - massive sulphides associated with chert	- best 1984 DEEPEM anomaly - weak cross-overs on vertical on lines 21 to 24E - correlated with DIGHEM and UTEM anomalies
J	2	2	- in mafic volcanics possibly associated with chert	- may correlate with UTEM anomaly at depth on line 22E
K	2-3	3	- not parallel to strike of units - felsic volcanics?	

\* picked from horizontal profiles