

REPORT
ON THE
ELECTROMAGNETIC, SELF-POTENTIAL,
MAGNETIC and GEOCHEMICAL SURVEYS

OF THE

CAT 21 - 44 M.C.'s

JULY AND AUGUST, 1963

CLAIM SHEET NO. 105-C-4

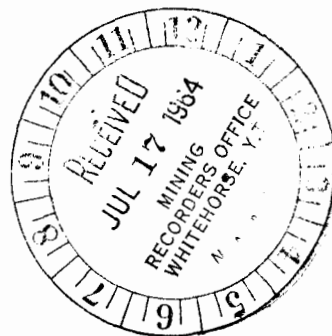
LATITUDE 60° 00' N.

LONGITUDE 133° 30' W.

YUKON TERRITORY

BY

W.M. SIROLA, P. Eng., British Columbia



July 7th, 1964

Vancouver, B.C.

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SUMMARY AND RECOMMENDATIONS

The original Cat Group consisted of 44 claims. Of these, Cat 1 - 20 have been allowed to lapse. The surveys described in this report were conducted on the Cat 21 - 28 and Cat 37 - 40 M.C.'s. A total of 13 miles of line was cut, followed by electromagnetic, self-potential, magnetic and geochemical surveys.

Numerous electrical conductors, probably caused by carbonaceous sediments, were found and were not considered important, except where some substantiating evidence was found.

The superimposed electromagnetic and self-potential anomaly on Cat No. 21 M.C. - Line 18 S., is accompanied by seemingly anomalous zinc values in the soils. The electromagnetic anomaly on Cat No. 21 M.C. - Line 26 S., has a favourable low frequency to high frequency ratio.

The magnetically high area, south of the base line on Cat No. 21 and 23 M.C.'s, is of interest in that it correlates with a weak electrical anomaly on the Cat No. 21 M.C.

The above mentioned anomalies should be tested by diamond drilling.

PROPERTY AND LOCATION

The property consists of 24 claims, designated Cat 21 - 24, held in the name of Kerr Addison Mines Limited.

The claims are located 8 miles east and 2 miles north of the northeast end of Atlin Lake, at a mean altitude of 3,000 ft.

ELECTROMAGNETIC SURVEY

The work was done using a Crone E.M. reconnaissance unit which can be used in such a way that the readings are not affected by transmitter alignment, distance of separation or elevation differences.

In carrying out the survey the two operators traversed the same line, the lines having been cut perpendicular to the average strike of the rocks. Both operators used similar units and kept a separation distance of 200 ft. At each station the chief operator first transmitted until the helper operator had oriented his coil and read a dip angle and then their roles were reversed and the chief operator read a dip angle. The two dip angles read were recorded and the resultant obtained by adding the two readings was plotted on the station position of the mid-point between the two men.

Two strong (20°) sub-parallel conductors occur in the interval 7 - 10 E. on lines 14 - 18 S. A hand trench at 750 E. on line 18 S. revealed the presence of banded, cherty, carbonaceous sediments. These rocks have probably caused the anomalies.

The 5° anomalies, located south of the base line on lines 24 S.-30 S., are potentially interesting in that they are associated with a 2,500 gamma magnetic high. Hand trenching in this area proved useless and it is now known that the depth to bedrock exceeds 47 ft.

The numerous other 5° - 10° conductors which are not associated with either magnetic or geochemical anomalies, are not considered to be targets for further exploration at this time.

SELF-POTENTIAL SURVEY

The instrument used is a null-balance, transistorized potentiometer equipped with a 10-turn dial. Two porous pot electrodes connected through 2,000 ft. of wire on a commutator equipped aluminum reel were used with the potentiometer.

Strong (500 millivolt) self-potential anomalies occur superimposed on E.M. anomalies in the interval 7 - 10 E. on lines 14 - 18 S. These anomalies elongate and narrow in a southeasterly direction and are suggestive of a southeast plunging fold. As mentioned in the section under E.M. survey, a small hand trench revealed carbonaceous sediments, which could easily account for the anomalies.

An equally strong potential difference occurs on the Cat 37 M.C. on lines 24 - 26 S. Here, again, a hand trench revealed carbonaceous rocks.

A reading of 826 millivolts was obtained on top of a cherty bluff on base line 2 at 42 S. This high reading probably connects with the 530 millivolt reading on line 30 S. at 800 N. This anomaly, again, is probably caused by black, cherty, carbonaceous sediments. On lines 24 - 28 S. at 2 W., a 386 - 409 millivolt anomaly occurs on the hanging wall of a 2,500 gamma magnetic anomaly, and is, therefore, of some interest. No significance is attached, at this time, to other anomalous area.

MAGNETIC SURVEY

The instrument used was a small, pocket-type Arvela magnetometer. This instrument measures variations in the total component of the earth's magnetic field directly in gammas. Lines 20 S. - 36 S., from base line 2

westward, were re-run with a Sharpe Magcrometer, Model ES 80. Like the Arvela, this instrument measures variations in the total component of the earth's magnetic field, but is more sensitive and requires conversion of instrument readings to gammas.

A distinct (2,000-4,000 gammas) magnetic anomaly occurs on, or in the vicinity of base line 2, from 2 N. - 30 S. This anomaly could be construed to be a sill-like structure dipping to the southwest. A possible cause would be a basic rock, such as a weakly serpentinized peridotite. It remains to be seen, however, if such a rock-type alone would produce the definite, if somewhat weak, electrical conductors found in this case. The anomaly could also be caused by a rather uniform distribution of pyrrhotite.

GEOCHEMICAL SURVEY

More than 250 soil samples were collected and analysed at the X-Ray Laboratories in Toronto. They were first analysed for heavy metals and copper by the Holman gold extraction method. The samples found to be anomalous by this technique were then re-analysed in parts per million by the X-ray method.

Zinc values, ranging from 130 - 600 p.p.m., partly surround the self-potential and E.M. anomalies on lines 14 - 18 S. on the Cat 24 M.C. These anomalous values have not, as yet, been fully explored by our work, but could be caused by mineralization in the overburden.

The somewhat anomalous values of copper and zinc on the Cat 21

M.C., on lines 24 - 30 S., are interesting in the sense that they flank magnetic and electrical anomalies, but the one high copper value of 230 p.p.m. would appear to be erratic, and no great importance should be attached to these values.

In general, there are no consistent geochemical patterns which could be considered as definite exploration targets.

MAPS

	<u>Scale</u>
Key Map	1" = $\frac{1}{2}$ mile.
Electromagnetic Survey Plan	1" = 200 ft.
Self-Potential Survey Plan	1" = 200 ft.
Magnetic Survey Plan	1" = 200 ft.
Geochemical Survey Plan	1" = 200 ft.

A. M. Swales

133° 42'

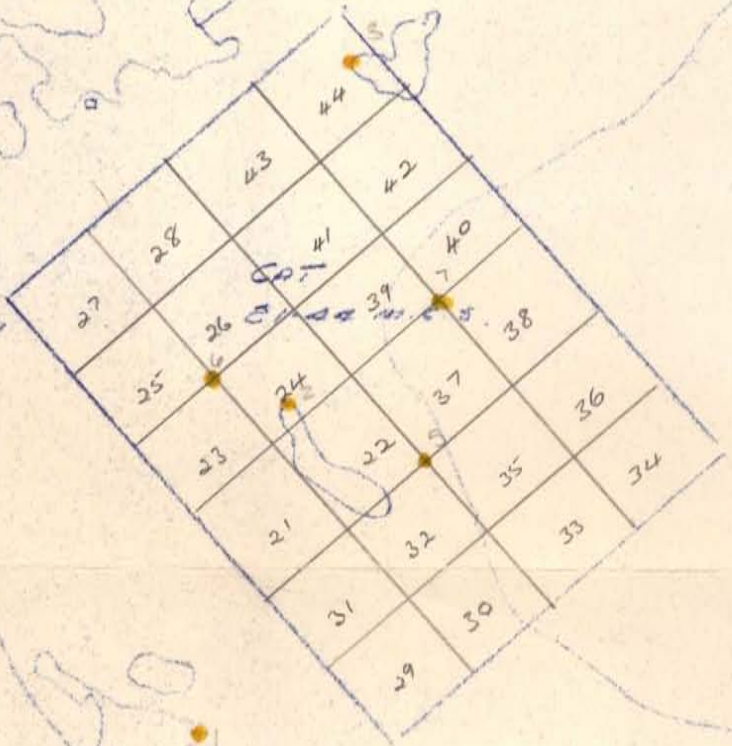
SARFU Cr.

3000'

6 MI. TO
ALASKA HWY

TARFU Cr.

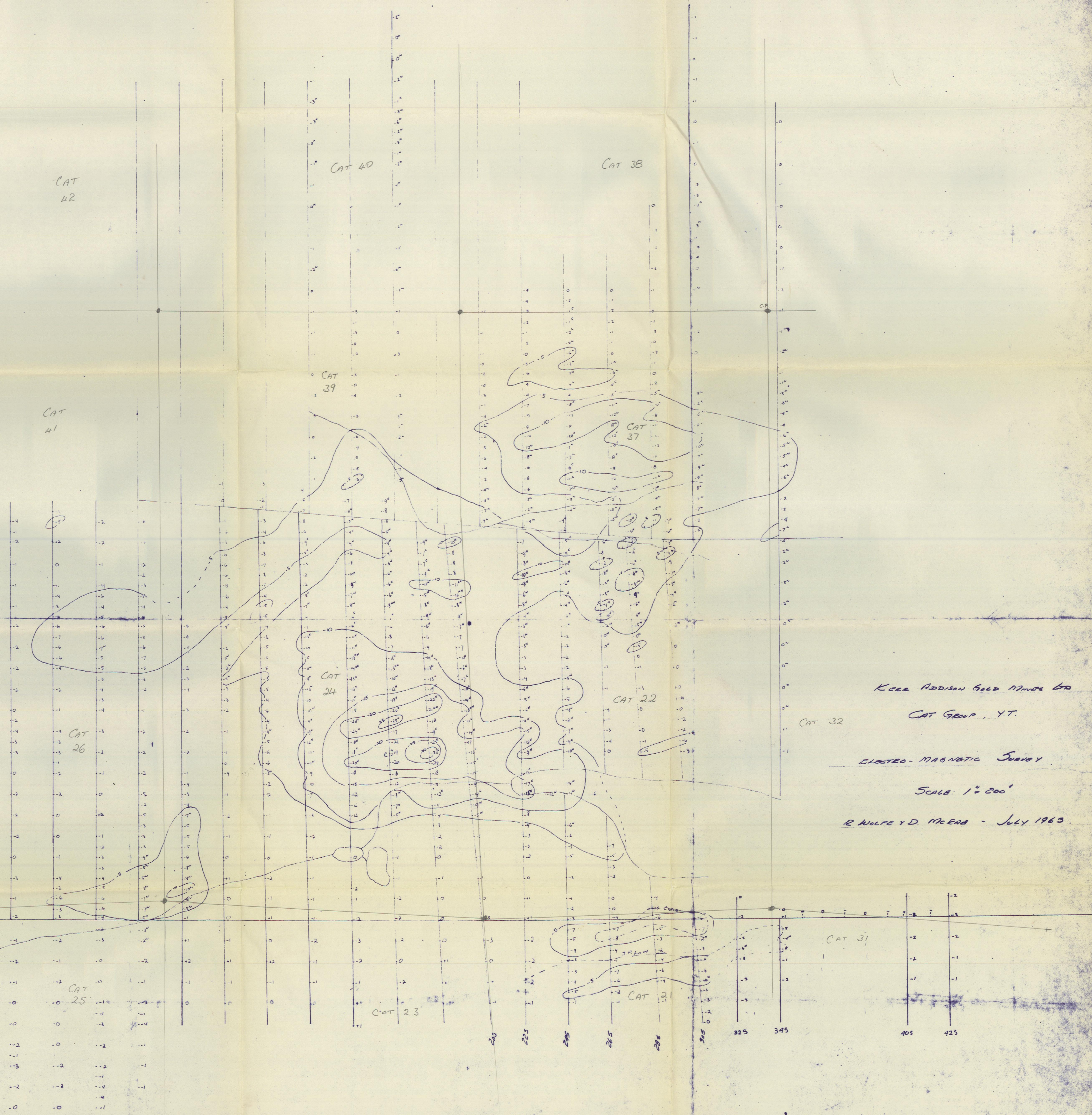
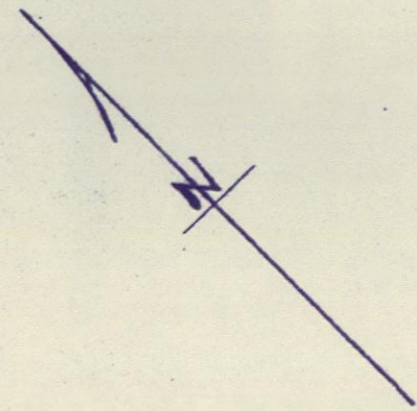
600'



KEY MAP
 CAT C-1-44 M.C.S.
 SCALE 1" = 1/2 MILE

8N 6N 4N 2N 0 2S 4S 6S 8S 10S 12S 14S 16S 18S 20S 22S 24S 26S 28S 30S 32S 34S 36S 38S 40S 42S 44S 46S 48S

44E
42E
40E
38E
36E
34E
32E
30E
28E
26E
24E
22E
20E
18E
16E
14E
12E
10E
8E
6E
4E
2E
BL
2W
4W
6W
8W
10W



KEEL ADDISON GOLD MINES LTD.

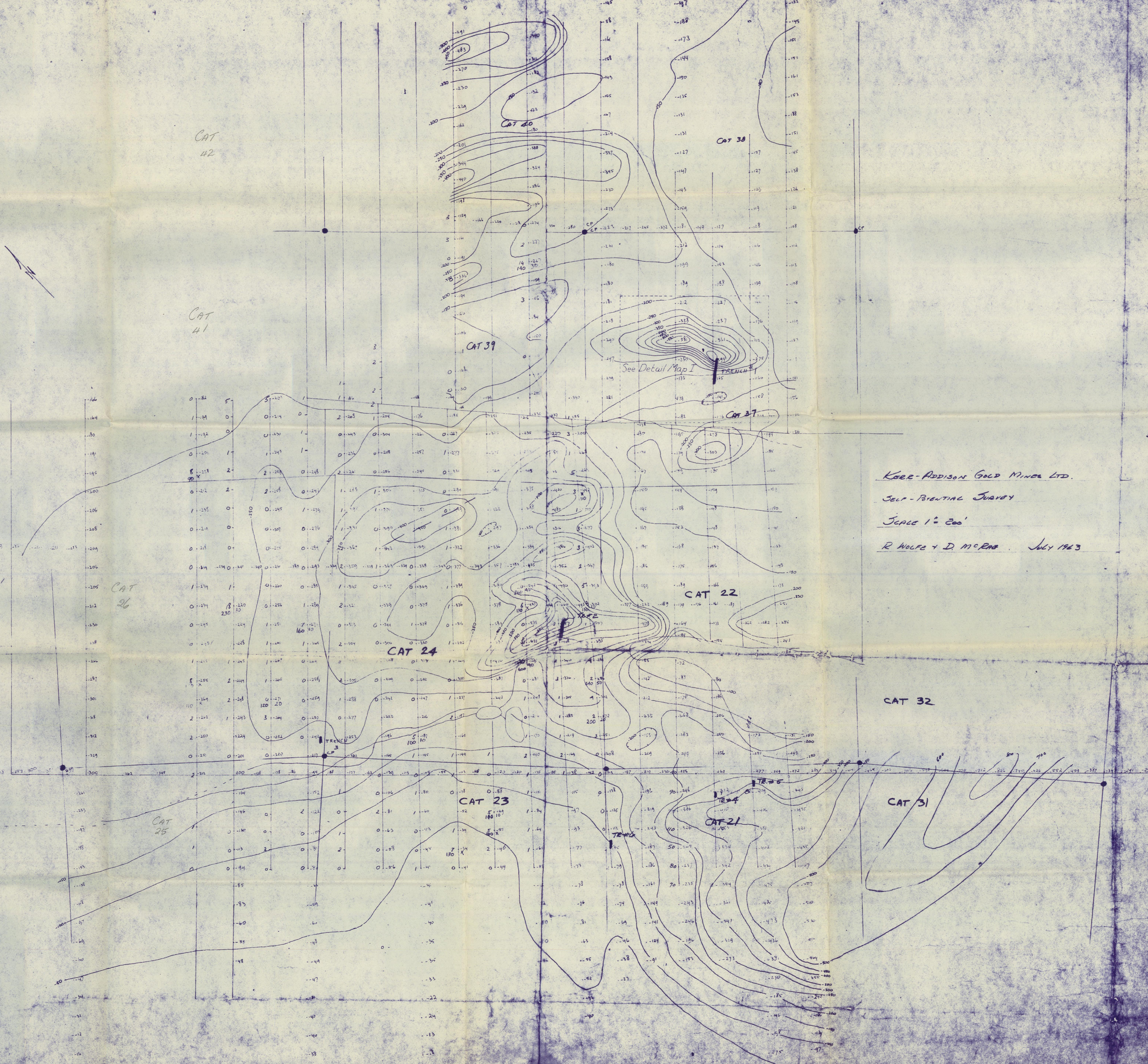
CAT GROUP, Y.T.

ELECTRO-MAGNETIC SURVEY

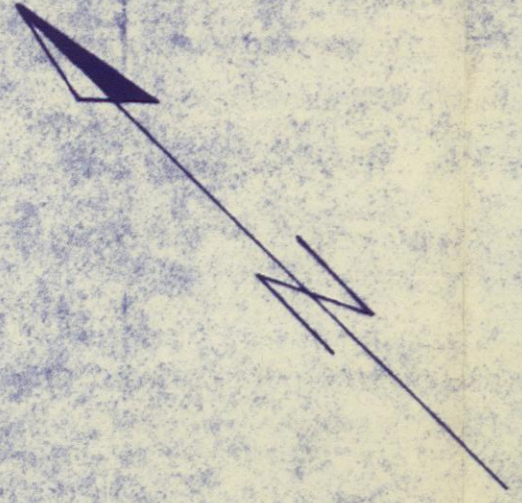
SCALE: 1" = 200'

R. WOLFE & D. MCEWEN - JULY 1963

40E
38E
36E
34E
32E
30E
28E
26E
24E
22E
20E
18E
16E
14E
12E
10E
8E
6E
4E
2E
BL2
2W
4W
6W
8W
10W
12W
14W
16W



KERR-ADDISON GOLD MINES LTD.
SELF-VENTURED SURVEY
SCALE 1" = 200'
R. WOLFE & D. McPHERSON JULY 1963



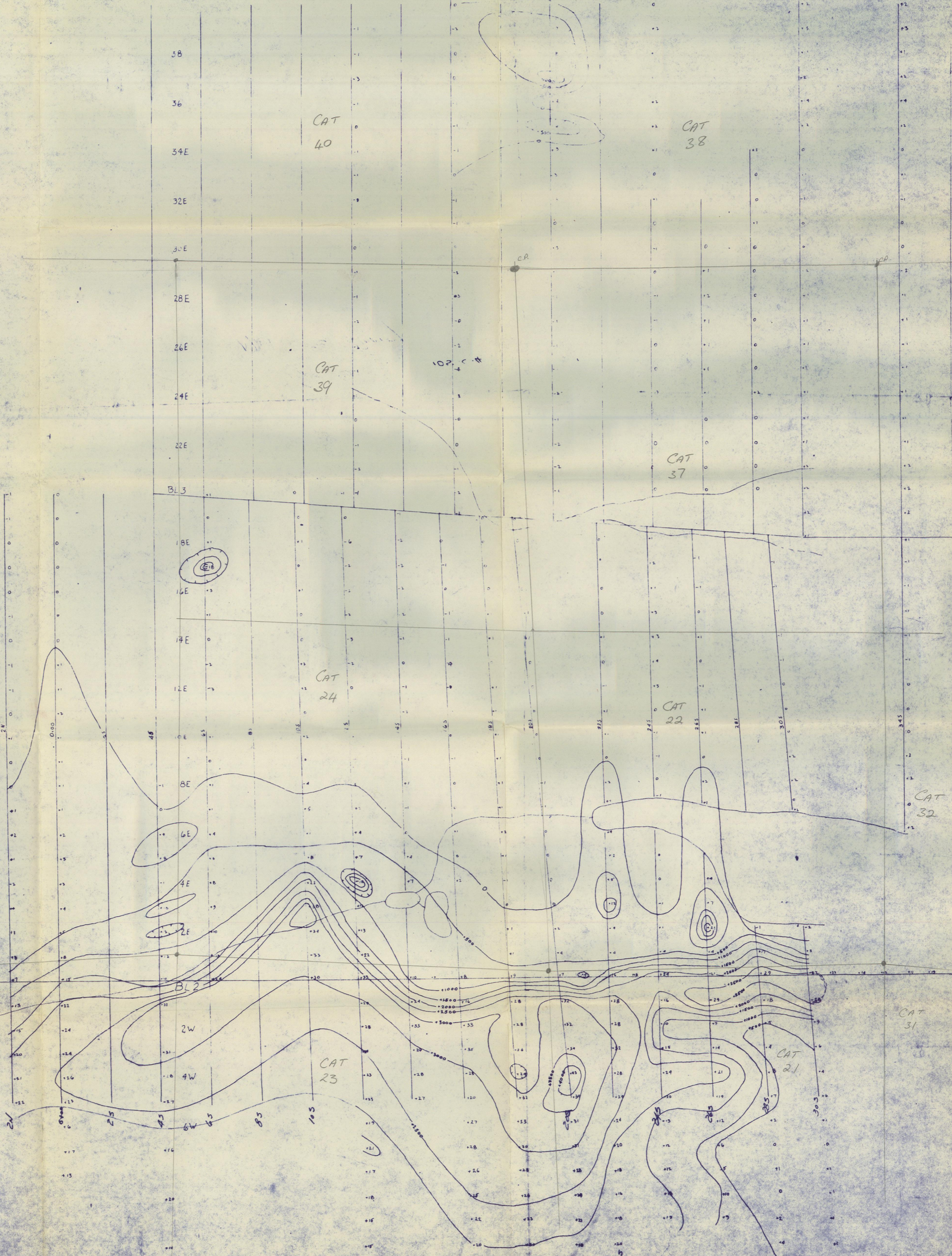
KERR ADDISON GOLD MINES LTD.

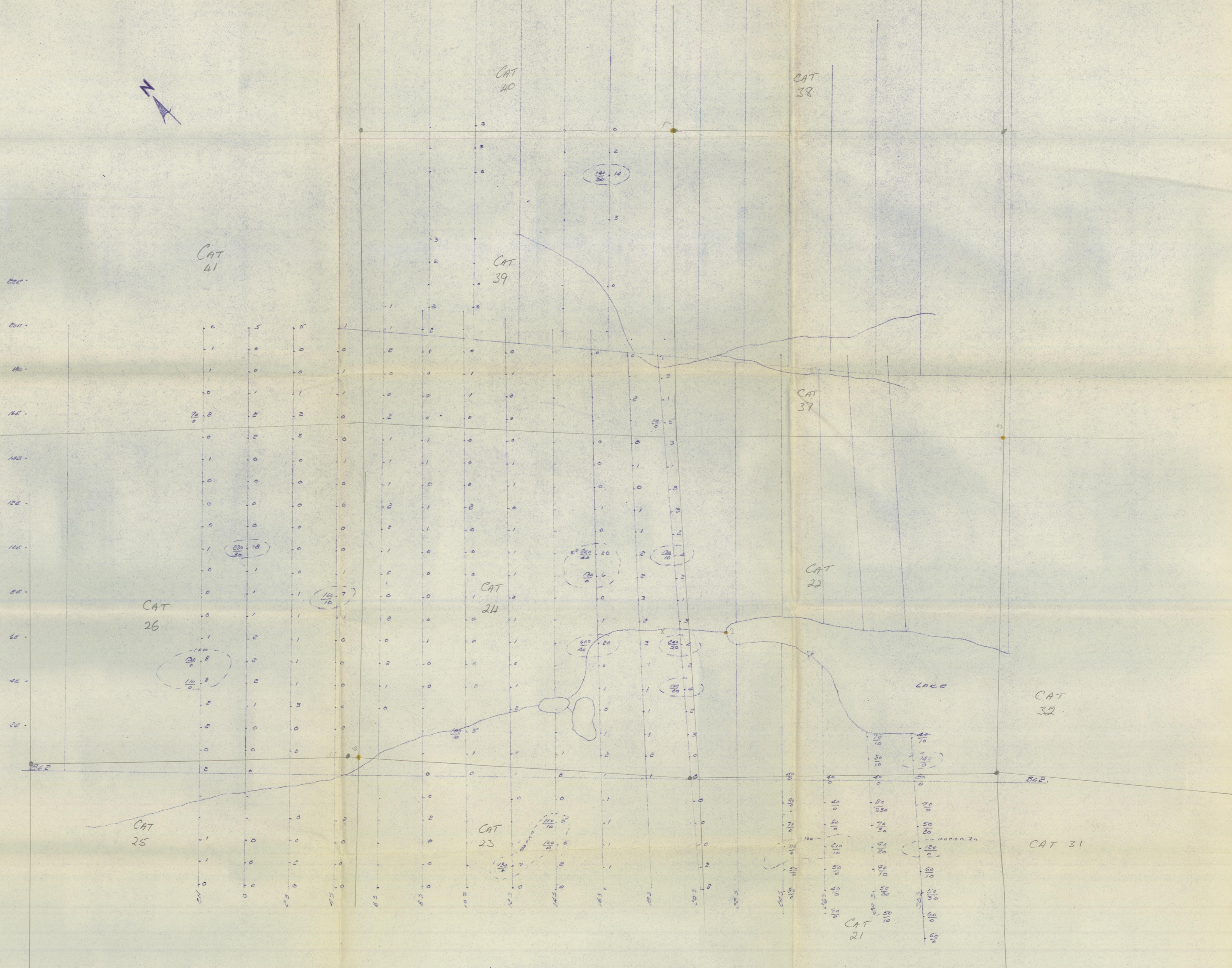
CAT GROUP Y.T.

MAGNETIC SURVEY

SCALE 1" = 200'

R. WOLFE & D. McRUE JULY 1963.





KERR ARDEN GOLD MINES LTD
CAT GROUP, Y.T. 105-6-4
GEOCHEMICAL SURVEY
SCALE: 1" = 600'

70 = PAN Zn - X-RAY METHOD.
 30 = PAN CU.
 1, 2, 7, 670 = 100% DITHIONITE, HELMHOLTZ METHOD.

D. McPhee & R. Wolfe - July 1963.