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PROJECT NAME:

REPORT A24

1984 GENIE EM SURVEY

TITLE:

OF BUTLERS ROAD GRID - COMSTAFF

Location of Butlers Road Grid
Found in Report 85-2400

AREA NAME/S, STATE 1:250,000 SHEET NO/S & COORDINATES:

COMMODITY/IES:

TEXT PAGES NO:

PLAN NOS:

TABLE NOS:

APPENDICES:

AUTHOR/S: D B Trussell

DATE: October 1984

AUSTRALIAN ANGLO AMERICAN LIMITED

Incorporated in the State of Victoria

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REPORT A24

1984 GENIE EM SURVEY OF BUTLERS ROAD GRID - COMSTAFF

INTRODUCTION

DIGHEM anomalies 2700C, 2710B, 2710C, 2730E and 2740G were selected as worthy of follow up. In September 1984 a Genie EM survey using 100m coil separation and 3737 Hz was carried out over the following lines:-

5200N	5050E	- 6150E
5400N	5050E	- 6170E
5600N	5050E	- 6110E
6000N	5050E	- 6550E
6200N	5050E	- 6610E
6400N	5050E	- 6630E

Line 5800N was omitted due to an error on the part of the contractor. Readings were taken every 20m.

RESULTS

The quality of the data is adequate. The repeatability of the data is generally within ±one degree. There is good agreement between the ground EM results and the DIGHEM data. The data were also examined by D Webb of Scintrex. His analysis (appended) is in substantial agreement with that presented here.

Anomaly 2700C This anomaly is observed on the two lines - on 6200N at 6500E and on 6000N at 6290E. The conductor is near vertical possibly with a steep easterly dip. The conductor plunges to the north. The depth to the top is 15m on line 6000N and 30m on line 6200N.

2710B, 2710C These anomalies are quite close together and hence it is difficult to extract quantitive information from the Genie results. DIGHEM anomaly 2710B appears to correlate with a near vertical ground EM conductor at 5740E on line 6200N and 5570E on line 6400N. DIGHEM anomaly 2710C appears to correlate with a near vertical ground EM conductor at 5850E on line 6200N and at 5790E on line 6400N. This group of responses could equally well be explained by a horizontal conductor from 5750E to 5850E on line 6200N and from 5600E to 5780E on line 6400N. In either case the responses are greater on line 6400N indicating a southerly plunge.

2730E This anomaly is obseved on the ground only on line 6200N at 5320E. It has steep dip probably to the west. The depth of burial is 30-35m.

2740G This anomaly is observed on the ground at 5700E on lines 5200N and 5400N. The response is due to a horizontal conductor. It is less than 10 metres from surface on line 5400N and 20-25m deep on line 5200N.

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CONCLUSIONS

All DIGHEM anomalies in the area have been satisfactorily located on the ground by the Genie Survey. Except for anomaly 2730E which occurs only on a single line all DIGHEM responses have been sufficiently well defined that no further geophysical work is necessary.

Anomalies 2700C and 2740G are due to near surface sources. Therefore the costeaning should be the next stage of investigation for these anomalies.

D B Trussell
October 1984

BUTLERS ROAD

DISCUSSION

There were six lines and an approximate total of 7.6 kilometres surveyed on this prospect. Line spacings were generally 200 metres, but no line at 5800N was prepared, leaving a 400 metres gap.

The main feature of this area (Zone A) is a conductive system running between about 6200N/6500E and 5400N/5700E, which is roughly north-east south-west. The anomaly does not consistently have the same profile shape but varies considerably. The most outstanding expression is at 5400N/5700E where without detailing work, it is impossible to distinguish between the anomaly being about 70 to 100 metres wide and flat lying, or two near vertical sources close to the surface and about 50 metres apart. No continuation of this conductor was evident on line 5200N, indicating its probable termination. However, two westerly dipping conductors were seen at 5200N/5620E and 5200N/5790E.

North-east along the conductor at 5600N/5950E the shallow expression in the profile implies a possible deepening of the conductor, or a decrease in the conductivity thickness ratio. It would be useful to compare this with the topography to determine possible overburden thickness. Detailing would be useful here to resolve this.

At 6000N/6290E and 6200N/6510E the conductor is clearly indicated as broad and having a near vertical or possibly easterly dip. It is suggested by

the data that the conductor continues to cross line 6400N at about 6650E. Further reconnaissance is recommended to determine this.

Other Features

On the northern three lines several surficial conductors were noted. These tend to be concentrated in the northern central area, and it is difficult to delineate these north south (due to line spacing) and could possibly be related to increased overburden/weathering and hence might appear related to topography.

Surface Conductor Locations:-

6400N 5630E - 5990E

6200N 5450E - 5870E, 6290E - 6610E (End of line)

6000N 5330E - 5530E, 5630E - 5690E

Several semi-vertical conductive features occur elsewhere on the grid, but since the line spacing is so great, it is difficult to establish continuity and hence the direction of the conductors. The more notable of these are as follows.

On line 6400n at 5570E a possible vertical to easterly dipping conductor appears. This is adjacent to a second conductor at about 5790E of similar dip but is overlain by a surface conductor.

On line 6200N there are two conductors at 5310E and 5850E. It is difficult to elaborate without further information.

CONCLUSIONS AND RECOMMENDATIONS

A main conductive system from 5400N/5700E and 6200N/6510E is complex as it appears to either flatten out from being semi-vertical or to split into two. This conductor may be due to faulting and/or mineralisation, but until geological evidence proves otherwise, it should be regarded as significant. It is recommended that detail work be done on lines 6000N and 5400N to give more precisely the nature and orientation of the source. It is understood that while no line has been cut along 5800N there is a vehicle track. Perhaps this could be surveyed too at the time of detailing. Since the anomaly is open to the north, an extension of line 6400N should be considered if the anomaly is to be pursued.

0064

LOCATION: BUTLERS ROAD.
DATE : 24/9/84
SURVEY: GENIE
SEP : 100MTS
L LINE : 5400N

EL 5/83 Part 1

0066

LOCATION: BUTLERS ROAD.
DATE : 24/9/84
SURVEY: GENIE
SEP : 100MTS
L LINE : 5400N

167007

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K+E MADE IN THE U.S.A.

007A

167008

007B

DATE : 26/9/84
SURVEY : GENIE
SEP : 100mETS 11A/5037
LINE : 62000N

BUTLERS ROAD EL5/83 Part 1

007C

LOCATION :
DATE : 26/9/84
SURVEY : Genie
SEP 100mETS 11A/5037
LINE 62000N

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5300E 5400E 5500E 5600E 5700E 5800E 5900E 6000E 6100E 6200E 6300E 6400E 6500E 6600E

DATE : 24/9/89
SURVEY : Geonics
SEP : 100mts
LINE : S400W

Les Trees Road EL 5/63 Part

DATE : 24/9/89
Survey : Geonics
Separation : 100mts
Line : S200W

0080

K+E 10 X 10 TO THE CENTIMETER 46 0740 MADE IN U.S.A.

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162009

0080

009A

009B

DATE : 29/9/84
SURVEY : GENIE
SEP : 100 mts
LINE : 5600N

BUTLERS ROAD EL 5/83 PLT 1

009C

LOCATION :
DATE : 29/9/84
SURVEY : GENIE
SEP : 100 mts
LINE : 5200N

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16,010

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20

5000E 5100E 5200E 5300E 5400E 5500E 5600E 5700E 5800E 5900E 6000E 6100E 6200E

010A

010B

LOCATION :
DATE : 24/9/84
SURVEY : Genie
SEPARATION : 100 mts
LINE : 6900N

EL 5/63 PART 1. BUTLERS LOAD

010C

LOCATION :
DATE : 24/9/84
SURVEY : Genie
SEPARATION : 100 MTS.
LINE : 6900N.

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167011

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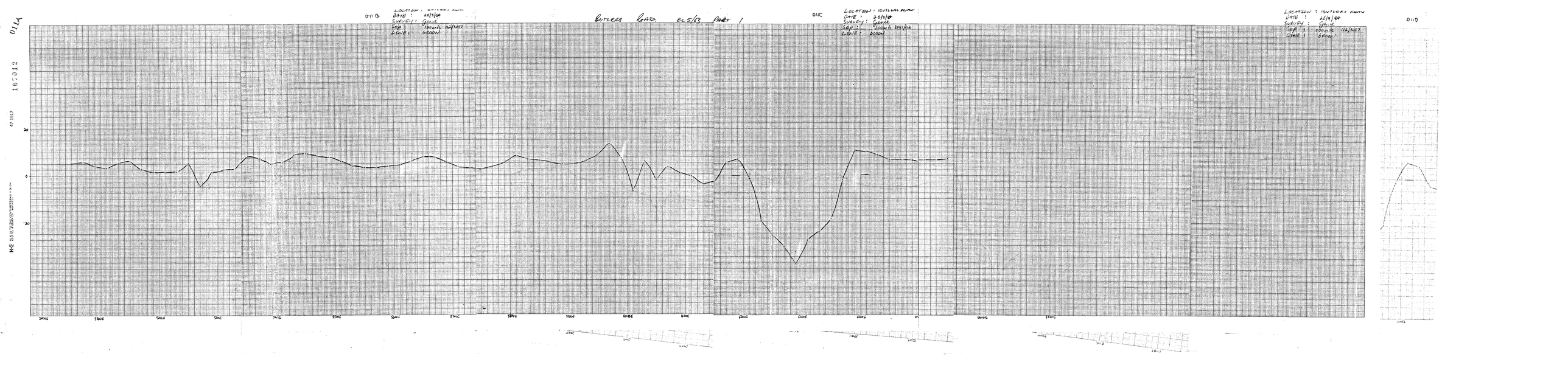
K+E 10 X 10 TO THE CENTIMETRE 25 X 38 CM

5000E 5100E 5200E 5300E 5400E 5500E 5600E 5700E 5800E 5900E 6000E 6100E 6200E


BUTLERS ROAD ELS/13 PART 1
LOCATION : ISWYNDRS ROAD
DATE : 26/9/88
SURVEY : GAUGE
SCALE : 1 DIVISION = 1/2 KNOT
LOCATION : ISWYNDRS ROAD
DATE : 26/9/88
SURVEY : GAUGE
SCALE : 1 DIVISION = 1/2 KNOT
LOCATION : ISWYNDRS ROAD
DATE : 26/9/88
SURVEY : GAUGE
SCALE : 1 DIVISION = 1/2 KNOT
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-10
SCALE