

Introduction

Electromagnetic surveys have played an important part in the discovery of the Que and Hellyer deposits (Webster and Skey, 1978, Silic et al 1985).

As part of an ongoing EM program, UTEM (West et al, 1984) data was collected over the Southwell Leven grid, in searching for buried conductive deposit.

The purpose of this report is to present the analysis of this data set and to make recommendations for future exploration.

Survey Specification

A 1km x 1km loop with a front edge at 8000E was used to energise the ground. Vertical component (Hz) data was collected on six lines (11200N, 11400N, 11600N, 11800N, 12000N and 12200N) at 50 metre station spacings covering an area extending from 8000E - 7400E in the E-W direction. Both the continuous and point norm data sets are presented (West et al 1984).

Interpretation of the data

Using simple spatial derivative techniques from Silic, 1989 (Appendix I), it is concluded that all cross-overs in the vertical component, are due to variations in the near surface conductivity, in particular a number sharp second derivative peaks are evident in the data and represent near surface contacts in the resistivity profile of the ground (< 25 metres from the surface).

No responses which could be attributed to confined BMS type conductors are evident in the data (Appendix II)

Conclusions and Recommendations

No responses which can be attributed to confined BMS type conductors are evident in the data sets. The data set however is good enough, so that if a 2 mt target at a depth 150-200 metres exists on the grid, it would have been detected.