

3. 8700N - 9000N 1900E, 2100E, 2300E,
2100E - 2700E 2500E, and 2700E.

Measurement of the two components were taken at 25 metre intervals along the grid lines and data plots, supplied by the contractor, consist of profiles at a logarithmic scale of the two components for each traverse line. These plots are presented in the Appendix.

The Sirotem work was carried out using a Sirotem MK III in order that the new composite time series, incorporating early times and standard times could be used. This strategy was adopted because of the very high resistivities of the area and the anticipation therefore of virtually zero signal for standard delay times.

2. RESULTS AND INTERPRETATION

- 2.1 The Time domain Electromagnetic (Sirotem) results exhibit unusual half space or background responses. These are manifest as very flat, featureless and positive vertical (Z) component profiles with weak lows coincident with loop positions. This behavior can be reconciled to some extent, with the high resistivity background and therefore a very high velocity for expanding subsurface electric field maxima. The horizontal (X) component however has atypical sign reversals which vary throughout the grid. Significant X component sign reversals occur in the vicinity of the transmitting loop.

The 'anomalous' half space behavior of the Mount Jacob data cannot be reconciled with any known Inductive/Conductive phenomena. It is felt that the results are related to a combination of factors. Viz:

- a) Instrumental errors. (P. McSkimming suspects a self response of the RVR receiving coil which is only evident at very early times and in low signal areas - such as Mount Jacob).
- b) IP effects which will give rise to sign reversals at early times. This factor can be reconciled with the presence of widespread disseminated pyrite in the Mount Jacob area, albeit at low concentrations.
- c) Current channeling within certain geological features e.g. fault zones or shallow dipping contacts/horizons.
- d) The topography.
- e) Galvanic current leakage from Transmitting loops.

- 2.2 No significant conductor anomalies are evident in the data. Several traverse lines have small, weak, narrow anomalies which are most likely related to either surficial surface features or narrow and minor variations in bedrock conductivity at a very shallow depth. The