

9.2. AIRBORNE E-M (Fig. 6)

A Turair survey by Seigel Associates in 1972 used a helicopter-mounted Scintrex Turair - II unit (400Hz) with an average bird terrain clearance of 45m (although it varied from 30m to greater than 150m). East-west flight lines approx. 150m apart were flown. Most of the anomalies are F.S.R. (field strength ratio). Amplitudes of the anomalous E-M responses were "very weak" and close to the noise level of the system; however, similar responses were recorded over the Hercules Mine. The results are presented in Linford (1972) and have since been replotted at 1:10,000.

Scintrex flew a helicopter-borne Turair-aeromagnetic survey for Texins Devel. in 1973 over selected areas of E.L. 7/68 including virtually all the Natone Area south of Moores Pimple (Howland-Rose, 1973). Lines were east-west and approx. 200m apart; bird height was generally 30-75m. A Scintrex Turair - II unit at 400Hz was used. The flight lines were marked on a photo-mosaic base map and hence topographic control on the 1:10,000 combined Turair-aeromagnetic plan is not particularly good. This, together with the scarcity of topographic data on this plan, precludes anomalies being positioned more accurately than to within 100-200m.

In 1975 Geotrex carried out an INPUT E-M survey for Comstaff which covered most of the Natone Area as far south as Bakers Creek. A Barringer Mark V Input system was used. The aircraft flew east-west lines at approx. 400m spacings with a terrain clearance of 120-180m. Results and interpretation are presented in Butt, Hanse & Finney (1975), a copy of which is held by E.Z. The Natone Area lies within the two southern sheets. Flight lines were plotted on a photo-mosaic base map so topographic control is not particularly good. Anomalies have now been compiled on E.Z. 1:10,000 sheets.

Nearly all anomalies detected by the 1972 E.Z. Turair survey were very weak F.S.R. anomalies of little interest. The best anomaly, Conductor 7, is well-defined and lies just south-east of the road between Mt. Read and Moores Pimple. It appears to lie oblique to strike within an acid pyroclastic sequence and thus probably lies within the Primrose Pyroclastics (and outside the scope of this study). Linford's (1972) correlation of this anomaly with a geochemically anomalous black shale well to the west is stretching credibility.

Conductor 18, which corresponds closely to the Colebrook workings, comprises three F.S.R. and phase anomalies which all have relatively low conductivity thickness values and the conductor is therefore rated by Linford as being of "minor interest". A northwesterly strike and a length of approx. 450m is indicated. This apparent strike direction conflicts with the northerly strike suggested by the INPUT survey.

Anomaly 84 is an isolated anomaly associated with a sudden drop in bird height but it corresponds almost exactly with drill hole NP 104 which intersected 6m of 11% pyrite (and minor sphalerite). However this anomaly is unsupported on adjacent lines so its significance remains dubious. Conductor 16 is the only other anomalous zone of any interest within the Natone area; it trends north-south with a strike length of approx. 600m. It lies between Williamsford road and upper Natone Creek within Westcott Argillite and displays variable definition, phase and F.S.R. distortions and low conductivity-thickness values. It is classified as "of minor interest" but in view of this same designation for the Colebrook Mine anomaly it is worth following up.

A weak conductive axis was found to be associated with the Hercules mineralisation (Conductor 10) but most of the constituent anomalies are "poorly defined" and have "very weak amplitudes". Thus Turair is not a very effective method for locating Hercules- & Colebrook-type mineralisation. It should also be noted (and pondered) that, apart from the Colebrook Mine, there is no correlation whatever between the INPUT and Turair surveys with