

lines lack sufficient data symmetrically disposed about anomaly '2'. A limitation is imposed on the analysis by the 10 metre station interval.

The evaluation was concluded with a model reconstruction of the sources to test their magnetic signature. The contribution of the major regional, ultra-basic sourced anomaly which provides a base level for the field has not been assessed.

DISCUSSION:

The profiles (Figure 2) show anomaly '2' to be continuous over a north-south strike distance of about 300 metres. It is larger and more consistent than anomaly '1' north of 5370900mN. The greatest development of the anomaly is observed between lines 950 and 050. In general, anomaly '1' has a purer shape suggesting fewer or simpler source conditions.

Spectral analysis on all lines suggests that there are many thin (less than the sampling interval of 10 metres) and shallow (generally less than 25-30m) sources with a limited depth extent (or continuity in depth). The analysis was undertaken in two passes; one of all data on the line and another of segments along the line. This was done to evaluate the bias induced by the primary structural anomaly at 374400mE. On line 900 noise sources occur within 10m of the surface and the source of anomaly '1' lies within 25-30m of the surface. This estimate is in agreement with Richardson (1982). However, there is a vague suggestion of other source contributions from about 75 metres. On line 000 it is possible to refine the depth estimates and a significant number of sources lie at 40-65m with a suggestion of a deeper source at 100 metres. A value of 50m is typical for anomaly '2'. The low bulge at the eastern end of the line appears to be the combined effect of many sources extending to within 20-25 metres of the surface and a deeper source at about 60-65 metres. Most of the energy is carried in the shallow noise. The 'deeper' source may reflect the effective centre of mass or shape of the many small patchy sources which reach closer to the surface. The deeper source is not depth limited. On line 100 most sources are again depth limited and within 20-25 metres of the surface (20m at '1'). However a significant part of the spectrum at '2' and in the swell of anomaly to the east is derived from depths of up to 80 metres. As a comparison, the ultrabasic-source for the major anomaly to the west lies within 25-40 metres of the surface across a substantial width. On line 200 there is no indication of any sources deeper than 20-30 metres. Most lie at less than 10-20 metres; the limit of resolution with the available data.

Reduction to the source poles indicates a general dispersion of sources. With the exception of the major western ultrabasic body only a small zone at 374850 (line 900 - anomaly '1') is clearly defined. Anomaly '2' on line 000 is poorly defined indicating many sources. Examination of the analytic signal also suggests a complex and diverse source pattern with local exceptions within at anomaly '1' on lines 900 and 100 and within anomaly '2'