

### 3. TARGET AREAS

Some general observations relating to the distribution of gold mineralisation can be made based on this interpretation of the aeromagnetic data.

The Mathinna, Dans Rivulet and Alberton Goldfields are within a north-northwest structural zone defined here by faults F6 and F9/F10. The gold mines/prospects are grossly aligned at  $\sim 345^\circ$  ie obliquely to the trend of the interpreted structural zone. The Tower Hill goldfield is on the west margin of this zone.

The Mangana Goldfield is interpreted to be within a separate, parallel, structural zone defined here by faults F4 and F5.

Within the Mathinna/Alberton zone the Mathinna mineralisation is located over the northern end of an ovoid magnetic 'low' (axis L1). This 'low' is bounded to the north by an east-southeast magnetic 'high' (the Z2 zone) which is flanked to the north by an east-southeast magnetic 'low' (axis L2). The Alberton mineralisation is more or less over the axis of a near north trending magnetic 'low' (axis L4). The sources of these magnetic 'lows' are not clear but they may represent alteration zones within or beneath the Mathinna Beds.

The Mangana Goldfield and Alberton Goldfield are over inferred 'deep' granodiorites. Similar rocks are inferred beneath the  $f_2$  axis west of Mathinna. This axis more or less coincides with favourable stratigraphy outlined by Keele. This stratigraphic unit was interpreted (Keele) to be the Mathinna unit sinistrally offset by a northeast transfer fault - the latter is not evident in the magnetic data.

In detail, at Mathinna, there is some evidence for a dextral north-northwest fault (F13), along strike, to the south-southeast of the Golden Gate deposit. This is inferred to extend to the north into the Dans Rivulet Goldfield where it merges with F9. Assuming that north-northeast secondary structures are dilational (Reidel faults) then target zones T1 - T3 can be defined where such structures intersect F13/F9. A dextral north-northeast fault is interpreted 1km to the northwest of Golden Gate; a target zone (T4) is outlined along the presumed extension of this fault beneath the alluvium.

A similar fault is well defined in the Tower Hill area thus defining target zone T5. To the south-southeast similar targets (T6 - T8) are outlined.

In the Mangana area specific targets are not defined since specific dilation zones have not been recognised. The vein direction here is dominantly north-northwest and a general zone of interest extends to the north and south adjacent to fault F5. A similar general zone of interest is adjacent to fault F4; a specific target (T9) is outlined where a dextral secondary fault is interpreted.