

The later deformation event (F2) refolds the F1 structures about an axis trending NNE to N. This results in the distribution of bedding planes at widely varying dips and dip direction, though averaging a NNE trending strike. The variable nature of the folds is related to locality, and the degree of folding can be observed to change gradually across different localities. The variation in folding style and intensity is also well illustrated by the complexity in the 1:10,000 geological interpretation by A McNeil et al. This fold pattern is illustrated in an interpretive structural map, based on the 1:2,500 geology, presented in Appendix 3 and described in the following section.

In order to examine the major structural features around Hellyer, each area of distinct structural style shall be described separately as follows:

#### 2.1.1 TAILINGS DAM SYNCLINE AREA (TDS)

The main feature of the tailings dam area, the TDS, is expressed in the mapping as a trough of Upper Rhyolite Sequence (URS) volcanics, gradually thickening to the NE with the gentle plunge of the syncline. The structure is covered by Tertiary basalt past 11,000N but appears to terminate at approx. 12,000N against a NW fault, with mica sandstone mapped on the northern side. To the south the syncline is complicated by other structures but is mapped to continue to the Mt Charter Fault. Analysis of the bedding plane data from the vicinity of the TDS indicates the syncline plunges at an average of approx.  $7^{\circ}$  to  $30^{\circ}$ . The axis has a significant variation in plunge due to interference with F1 fold closures trending along approximately  $310^{\circ}$ . The interaction between the TDS and related F2 fold structures with the F1 folds forms a classic interference pattern of basins and domes. An interpretation of the interference pattern and position of fold axes is illustrated by plotting the inferred position of these structures on the 1:2,500 outcrop geology plans contained in Appendix 3. The indicated strike of the TDS is more northerly than interpreted in the 1:10,000 solid geology. This requires the fold axis to be placed further north in order for the closure to run through the nose of the URS and Dolerite.

The other closures parallel to the TDS are interpreted from bedding reversals and outcrop patterns. Although significant, it appears these structures are secondary to the TDS. The anticline to the adjacent north controls the domal outcrop of Basalt Lava south-west