

Interpreting sub-surface structure. An additional factor which has influenced interpretation of the original structure of the district has been the hidden assumption of a relatively flat-lying layer cake stratigraphy. In any proximal volcanic sequence this is always a dangerous assumption. At Mount Charter extreme paleo-topography occurred adjacent to the Mount Charter dacite dome, itself possibly localised by deep faulting and localising the accumulation of epiclastics with both rapid thickness and facies variations.

Figure 2 provides a speculative picture of the deposit settings in the Que-Hellyer district based on a presumed dominance of strike slip faulting. Isopach mapping at Hellyer and reconstruction of the pre-folding setting of Que River both suggest that strike slip basins may have controlled accumulation of volcanoclastics, 'ponding' of UMS deposits and perhaps overall localisation of the deposits. Reactivation of strike slip faults in the basement may be responsible for the faulting superimposed on Hellyer (Jack Fault) and the deformation at Que River.

There are a number of major differences between the GST 1:25000 regional mapping and the detailed Aberfoyle 1:10000 mapping of the Que River - Hellyer district. Aberfoyle 1:10000 cross sections show little structural information and assume no structural discontinuity or intraformational thrusting and a simplistic formation geometry.

This of course allows imagination to run riot as follows (and I claim no special structural expertise in making these suggestions!):

I question whether the sedimentary-volcanic sequence is more internally deformed than generally accredited, whether this sequence, including the known deposits, is part of an imbricate thrust stack above a more extensive detachment and whether on a larger scale the district has evolved during Devonian compression by reactivation of a pre-existing strike-slip fault array closely related to the Henty Fault Zone. At this stage further work would require close interaction with geologists familiar with the detailed mapping of the district and careful relogging of core for discontinuities. Implications of this structural setting for exploration are the possible thrusting of Que River shale over ore horizon volcanics to the west of the Que River-Hellyer axis and displacement of ore sequences due to thrusting. Figure 3 is a totally speculative cross section based on the above.