

2. Lower Cambrian Sediments

Lower Cambrian siltstones, shales and quartz sandstones occur in the eastern part of the grid and apparently rest unconformably on Precambrian quartzites and quartz-mica schists further to the east (Corbett, et al, 1974).

The sequence dips and faces towards the west at about 60° - 80° . Facings were determined by graded bedding and truncated cross-bedding laminae.

The upper part of the sequence, which consists mostly of shales and siltstones, shows strong intraformational slumping, brecciation and small-scale faulting.

The contact between the sediments and the overlying volcanics is transitional over 10-20 m with interbedded sediments and thin horizons of fine-grained tuffaceous material grading up into quartz crystal tuffs containing deformed blocks of sediments.

3. Central Volcanic Sequence

The Central Volcanic Sequence is the term applied to Cambrian volcanic rocks exposed between Mt. Darwin and Red Hills which are characterised by feldspar-phyric units (Corbett, et al, 1974; Corbett, 1979). In the Spicer area interbedded quartz-phyric rocks are also present.

The volcanics occupy the northern part of the grid and form a wedge between two zones of Dora Conglomerate (Figure 46). Lithic and quartz crystal tuffs are dominant in the lower (easternmost) units but feldspar-phyric lavas and fine-grained vitric tuffs are also present higher up the sequence.

Alteration of the volcanics has made accurate field identification of some units difficult. Several different rock types have been chloritised to produce orange-coloured outcrops which can only be differentiated by the presence of quartz or lithic fragments on the weathered surface.

Two small feldspar porphyry intrusives with compositions similar to the volcanics have been found on line 192S and on lines 160S and 168S. The latter occurs between outcrops of Dora Conglomerate and Owen Conglomerate.

4. Dora Conglomerate

The Dora Conglomerate occupies most of the southern half of the grid. To the north of line 200S it appears to split and lens out.

The dominant rock is a very coarse-grained volcanoclastic conglomerate consisting of rounded to subrounded boulders of quartz-phyric volcanics, cobbles and pebbles of quartzite and red jasper and rare pebbles of massive magnetite. The presence of the magnetite pebbles indicates that some mineralisation occurred prior to deposition of at least part of the Dora Conglomerate.

The matrix consists of volcanoclastic sandstone with coarse-grained quartz and lithic fragments which often form lenses up to 1m thick. Grading from coarse conglomerate to medium-grained sandstone occasionally provides facings.