

100 ft. as most of the old pegs were still in existence.

2.3.3 Geology

1. Introduction

A small amount of geological mapping was conducted on the Selina Grid during soil sampling traverses in 1980-81. The scarcity of outcrop and poor accessibility, however, made it difficult to accurately map the various formations, especially the volcanic lithologies.

Four major formations were recognised in the Selina area (Figure 27):

Owen Conglomerate
Jukes Formation
Central Volcanic Sequence
Lower Cambrian Sediments

2. Lower Cambrian Sediments

The Lower Cambrian Sediments along the eastern flank of the Selina Grid consist of a fining-up sequence of pebble conglomerate, quartz sandstone, siltstone and black shales, derived from, and apparently resting unconformably on, Precambrian quartzites and schists of the Tyennan Block (Corbett, et al, 1974). Previous mapping (McKibben, 1971) showed that they conformably pass up-sequence into the overlying volcanics and that they may correlate with the Success Ck Group.

Black shales were found in a creek on the eastern ends of lines 184N to 160N near where Dighem anomalies were detected in 1980 (Hutton, 1980, p 21). Consequently other Dighem anomalies to the south in this zone were assumed to be due to Lower Cambrian black shales. Grid lines to the south were foreshortened to end about 100 m east of the volcanics-sediments contact as the sediments are considered to be unprospective.

Outcrops of pebble conglomerate and quartz sandstone on lines 120N to 96N generally dipped and faced (graded bedding) westwards at 70°-80° but local folding has produced some moderate eastwards dips.

3. Central Volcanic Sequence

The Central Volcanic Sequence is the term that has been 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 Selina-Dora area interbedded quartz-phyric rocks are also present.

Poor exposure and inaccessibility has made it very difficult to differentiate between the various volcanic lithologies in the Selina Grid area. Also the lack of bedding data has hindered analysis of the structure and, therefore, stratigraphic relationships between the lithological units. The sequence as presented in this report and in Figure 27 is only tentative.

For the most part volcanic lithologies in the eastern half of Selina Grid are dominated by pyroclastic and coarse epiclastic rocks derived from volcanics. The lowermost unit, resting conformably on the Lower Cambrian sediments, is a coarse quartz crystal tuff. Further to the west is a sequence of lithic tuffs, volcanoclastic conglomerates and sandstones, and minor crystal tuffs and felsic lavas. Minor felsic