

UNIT IV 405-554m Intermediate to mafic lithic tuffs, reworked tuffs, mafic volcanic lithic wackés and interbedded mudstones and minor breccias. This unit also contains an altered gabbroic intrusive.

UNIT V 554-568.5m Sedimentary breccia, black carbonaceous mudstone and pale grey quartz arenite with no volcanic component.

Carbonate and quartz annealed tectonic breccias occur at many locations in the hole, and at least three zones of strong veining and broken core mark fault planes or major fractures.

Facing evidence is not abundant and may be of only limited significance in a sequence which shows so much evidence of soft sediment slumping. UNIT I faces west. UNIT II commences with east facings at 130m; then shows west facings at 175m; and a return to east facing at 300m. The different facing sections are each separated by a significant fault or fracture zone; at 167m and at 255m. The contact between UNITS I and II is marked by a thin tectonic breccia. The contact between UNITS II and III is a zone of veined fault breccia. There were no facings observed in UNIT III. The contact between UNITS III and IV is a major fault zone with brecciation, silicification and sulphide mineralisation. UNIT IV faces west. There were no facings observed in UNIT V.

The rocks in UNITS I and III are lithologically similar and could be the same unit repeated by folding and/or faulting. Geochemically the units differ with UNIT III showing slightly higher values for Cu, Cr and Fe than UNIT I. The magnetic susceptibility measurements also suggest that they are two separate units. UNIT I values are fairly uniformly low, with all values less than 0.0003 c.g.s., whereas UNIT III contains more erratic values with a spot high of 0.008 c.g.s. from a reworked dacitic tuff. Values of 0.0004 however, are more typical of the higher readings in UNIT III. It is proposed that these erratically magnetic tuffs of UNIT III correspond to the magnetic tuffs exposed in the Ring River bed and that UNIT I is a separate stratigraphic unit higher in the sequence.

It is proposed that, in broad terms, UNITS I to V represent a continuous generally west facing stratigraphic sequence with UNIT V at the base and UNIT I at the top. In detail the sequence is very complex because of faulting and folding. The fracture zone between UNITS III and IV is regarded as a major structure because it separates