existing system. This further suggests that deposition is occurring in an environment that is fairly distal to the volcanic source(s).

0181

MAC 22

The rock types observed at HL40 and HL62 are different in character from those observed at Mac 22, which is located much further to the north, and represents rocks from higher in the stratigraphy. The basal contact of the Upper Rhyolitic Sequence is not exposed in this hole.

The rocks in this part of sequence represent a distinct change in the composition of the major magmatic phase associated with volcanism, and possibly a change in eruption rates. The volcanic component of the rocks present in HL40/62 are distinctive by the presence of large pumice clots with abundant quartz and feldspar phenocrysts, whereas the pumice found in MAC22 is almost totally without any phenocrysts. The pumice found lower in the sequence also appears fairly massive, and usually poorly vesicular whilst the pumice found in MAC22 preserves delicate tube pumice textures (fig 8,9)

The first unit in this hole is a massive to slightly feldspar phyric rhyolitic lava. The rock is vesicular in places, indicating a lava flow or shallow intrusive origin. It also contains what appear to be lithophysae and devitrification spheriods. This is overlain by a 40m sequence of pumice and lava rich coarse sandstones and fine breccias. The beds are marked by an apparent lack of internal structure, although some grainsize variation mat be detected. The is a definite density grading of clasts, with most units being enriched in pumice at their tops, and enriched in lava and other dense clasts at their bases. Several of the pumice rich tops display psuedo-eutaxitic textures (figure 10).

Up to approximately 300m, there are repeated several thick units of coarse sandstone to breccia. These units have varying amounts of mud matrix, but overall, the sequence becomes more mud rich moving upsequence. The volcanic clasts present are usually tube pumice fragments and lava fragments. All volcanic clasts have been strongly sericite altered. Examples of some the thin section and hand specimen textures of these units are shown in figures 10-11.

The middle part of the sequence is composed of volcanic greywackes with a large portion of volcanic material. At 213m is a large 27m thick lava clast breccia. It contains dominantly rhyolitic and intermediate lava clasts, as well as more vesicular pumiceous clasts. This unit is followed by volcanic sandstones, with the last appearance of URS material being at ~167m

In general, the rocks in MAC22 display less variation than those previously describe