

## 2.2. Drill Hole Logging and Sampling

Drill Holes HL40, HL62 and Mac-22 were logged and sampled at a scale of 1:50. Detailed drill logs are presented in figure 1. Representative samples were taken of most different lithologies present. Sometimes, several samples were taken to document vertical variation within units. All 62 samples taken have been described, and most have also been thin sectioned for textural analysis. All samples taken have been noted in the core trays with wood blocks. Where full core is available, half-core samples have been taken, where less core was available, smaller samples (e.g., thin slabs) were taken. All core samples taken have been catalogued and stored at Monash.

## 3. Results

A summary of the work completed on the logged drill holes is presented with a further comparison of the differing depositional and eruptive styles observed. The data gathered suggest an immediate subdivision of the Upper Rhyolitic Sequence into two distinct zones. The basal zone, immediately overlying the Que River Shale is represented in HL40 and HL62, while the upper zone is represented in the younger sediments observed in MAC22.

### 3.1. Summary of features of HL40, HL62 and MAC22.

At least two different types of explosive volcanism may be distinguished in the rocks examined, with at least two penecontemporaneous effusive magmatic phases. An attempt to relate these more effusive magmas to the obviously explosive magmas may be warranted.

#### HL62

The first examples of both explosive and effusive volcanism are identified in drill hole HL62. They are identified by the deposition immediately above the Que River Shale of a basal closed framework polymict breccia (fig 2). This contains a variety of lava clasts, ranging in composition from vesicular andesite to feldspar-phyric rhyolite. The unit grades uphole into a fine grained grey unit with scattered crystal and lithic fragments, set in a matrix of what appear be fine grained cusped glass shards (figs. 3,4) . This unit represents the almost concurrent onset of both effusive magmatic activity, represented by the lava clasts, and explosive eruptive activity, represented by the abundant glass shards in the upper part of the unit. This unit is absent in HL40, where the highly sheared and silicified basal contact with Que River Shales indicates a fault contact.