

The Lower Basalt in drill hole Hat-5 is probably equivalent to the 'Lower Tuff and Lava' sequence of Corbett and Komyshan (1989), which they describe as consisting of both felsic and mafic lavas and tuffs in the order of 200-300 metres maximum thickness.

*Facies:* All of the three main facies within the Pillow Lava Sequence are contained within the Lower Basalt, which, like the PLS, contains several flow units.

The lower most facies in the Lower Basalt is a massive lava facies. This is comprised of massive, mid to dark green-grey, porphyritic basaltic lava. The lava is weakly vesicular with less than 2-3% vesicles which are circular to sub-circular and vary in size from 1 to 35 millimetres in diameter. The in core thickness of this unit is around 18 metres.

In gradational contact, and overlying this massive lava facies is a peperitic breccia or quench fragmented lava facies. This facies consists of angular to sub-angular porphyritic basaltic fragments ranging in size from millimetres to 40-50 centimetres. Some of these larger fragments have small (1-2 mm) chilled margins and look as if they may be small isolated whole pillows. These 'small pillows' often show fracturing parallel to their margins, probably arising from contraction due to rapid quenching. The majority of the fragments range in vesicularity up to 5% with vesicles averaging 1-2 millimetres in size, filled with either carbonate or chlorite. Margins of fragments are straight to weakly cusped and lack 'jig-saw' fit, possibly indicating some transport of individual fragments post quench fragmentation.

The matrix to the peperitic breccias varies from approximately 40% on average, up to 80% locally over small intervals. It consists of muddy, medium to coarse grained, crystal rich volcanoclastic sediments, which varies in mud to sand ratios. In places the matrix is comprised exclusively of dark grey muds.

One peperitic horizon from Hat-5 (~383-387 metres) grades into a greywacke at its top and bottom contacts via a rapid decrease in quench fragmented volcanic fragments.