

Figure 4 Leaders Clive and Dave introducing the Side Pike Ignimbrite at Locality 1. (photo Myles Hamilton)

sandstones as Seathwaite Fell Formation. This is overlain by stratified rhyolite identified as the airfall tuffs at the base of the Side Pike Member.

Locality 7: NE Ridge of Blake Rigg NY 28557 04243 and NY 28537 0425.

The ridge exposed several areas of breccia whose formation was currently under discussion. Initially the breccias were thought to have a hydroclastic origin formed at the contact of an andesite intrusion. However, this was now considered to be a massive tuff rather than an andesite sill and highlighted the challenge of identifying rock types in the field, in particular when they have been subject to hydrothermal alteration. The breccias were probably formed as injectites prior to complete lithification.

Locality 8: NY 28435 03925 Blake Rigg

Several localities were visited close to the summit of Blake Rigg. The first at NY 28435 03925 is an excellent exposure of white-weathered rhyolite with well-developed flow-stratification and folding. This is interpreted as a rhyolitic lava dome extruded after the climactic eruption of the Side Pike Ignimbrite. At NY 28439 03933 the rhyolite is overlain by a thin eutaxitic tuff and at NY 28420 03942 there is a spectacular meso-breccia involving metric scale welded ignimbrite blocks. This is interpreted as a block and ash ignimbrite from collapse of the lava dome though it may have formed as an apron of talus as the dome was eroded. Figure 5.



Figure 5 The spectacular meso-breccia at Locality 8 is thought to be a block and ash ignimbrite deposit. (photo Myles Hamilton)

Locality 9: NY 28410 03937 Evidence for the Lava Dome

The BGS had mapped the flow-banded rhyolite at this locality as the rheomorphic Oxendale Tuff since it rested on Whorneyside Tuff Formation bedded tuff (Millward, D., et al.(2000) and British Geological Survey. (1996)). However, at Locality 9 Dave demonstrated that the flow-banded rhyolite oversteps the Whorneyside bedded tuff to rest on the Side Pike Ignimbrite across a significant volcano-tectonic fault showing that the rhyolite was part of the later Langdale Caldera.