

Field Meeting at Clee Hill

K. Chell¹

CHELL, K. (1981). Field Meeting at Clee Hill. *Proceedings of the Shropshire Geological Society*, **1**, 15-16. Dolerite sills seen on Titterstone Clee. Carboniferous limestone and mudstones, the latter containing several seams of coal up to 30 cm in thickness with good plant fossils were found in the clays such as the articulate *Calamites*, some *Lycopod stigmara*, and *Lepidodendron*. One curious feature, in a large joint face or fault plane in the intrusion were a series of spheroids, all about the size of cricket balls, probably formed by weathering or chemical action.

Farlow exposed Lower Carboniferous limestone on top of a conglomerate of red sandstone and quartz pebbles. Although the sandstone at the top was not red, the soil in the fields round about showed the characteristic colour. Soils above the conglomerate in the limestone are alkaline and those below, in the Old Red Sandstone (e.g. Green Dingle), quite acid. Oreton quarry exposed fossiliferous Lower Carboniferous Limestone with corals, brachiopods, crinoids and polyzoans.

¹Shrewsbury, UK. E-mail: editor@shropshiregeology.org.uk

This was a joint field meeting between Society members and various groups of those attending geology evening lectures in Shrewsbury and Ludlow. About thirty turned up at the car park on a wet and windy morning, setting off into the main quarry on the top of Clee Hill (SO 57-595765). The material being quarried is the basic igneous rock of a sill about two hundred feet thick which caps the top of the hill and dips gently to the south. A good exposure on the top of the sill, intruding into the Carboniferous country rock, showed weathering and the minerals: plagioclase feldspar, olivine and augite breaking down.

The igneous rock is very dark coloured and, although difficult to see, at the top the less dense feldspar and augite show up slightly lighter in tone than at the bottom of the sill where the denser olivine is in greater concentration. Parts of the worked face provided good examples of the typical horizontal and columnar cooling joints associated with such intrusions.

The exposure at the top surface of the sill also cut through and showed about 10 metres of vertical face in the Carboniferous. Although there was obvious effect of heating at the contact no metamorphism was visible in the Carboniferous mudstones; these showed very clear bedding. Several good seams of coal up to 30 cm in thickness were also exposed. Some good plant fossils were found in the clays such as the articulate *Calamites*, some *Lycopod stigmara*, and *Lepidodendron*.

One curious feature, in a large joint face or fault plane in the intrusion were a series of spheroids, all about the size of cricket balls, probably formed by weathering or chemical action.

At the base of the sill a small exposure showed the contact to be a Carboniferous quartz sediment which was very weathered without obvious signs of metamorphism.

At this stage the party moved off towards Farlow (Figure 1) and stopped for lunch at a pub where the victuals were good but the service too slow for such a hungry crowd. Just below the school in Farlow we looked at an exposure in the road cutting (SO 68-641807). This was Lower Carboniferous limestone on top of a conglomerate of red sandstone and quartz pebbles. Although the sandstone at the top was not red, the soil in the fields round about showed the characteristic colour.

Keith Chell demonstrated the properties of soils in the area. Those above the conglomerate in the limestone being typically alkaline and those below, in the Old Red Sandstone, quite acid. The conglomerate typifies deltaic features but there was insufficient time to measure the orientation of the pebbles.

Our next stop after traversing back up the succession was Oreton quarry (SO 68-648806) which is in well bedded and fossiliferous Lower Carboniferous Limestone. The dip to SSW (150°) averaged 28° and the view was in the same direction, towards Abberley. The fossils were very abundant and included corals, brachiopods,

crinoids and polyzoans, including *Michelinia tenuisepta*, an indicator fossil dating the South Shropshire Limestone as Tournaisian in age. Also found was what is possibly *Paraconularia quadrisulcata*, which is a very odd individual.

Our final stop was a roadside quarry in Green Dingle (SO 68-620821) where the Old Red Sandstone is well exposed. The bedding is on the whole horizontal but when examined closely shows some cross-bedding. This is the Lower Devonian, Ditton series but no one found any fish fossils, only a few calcareous nodules or

cornstones. The day's outing, which was very ably led by Keith Chell, was to a scenic area which is obviously infrequently visited by geologists but, due to its variety, must be of interest, and no doubt some of us will be heading that way again.

A FIELD MEETING LED BY KEITH CHELL
ON 17 MAY 1981

Les Dolamore

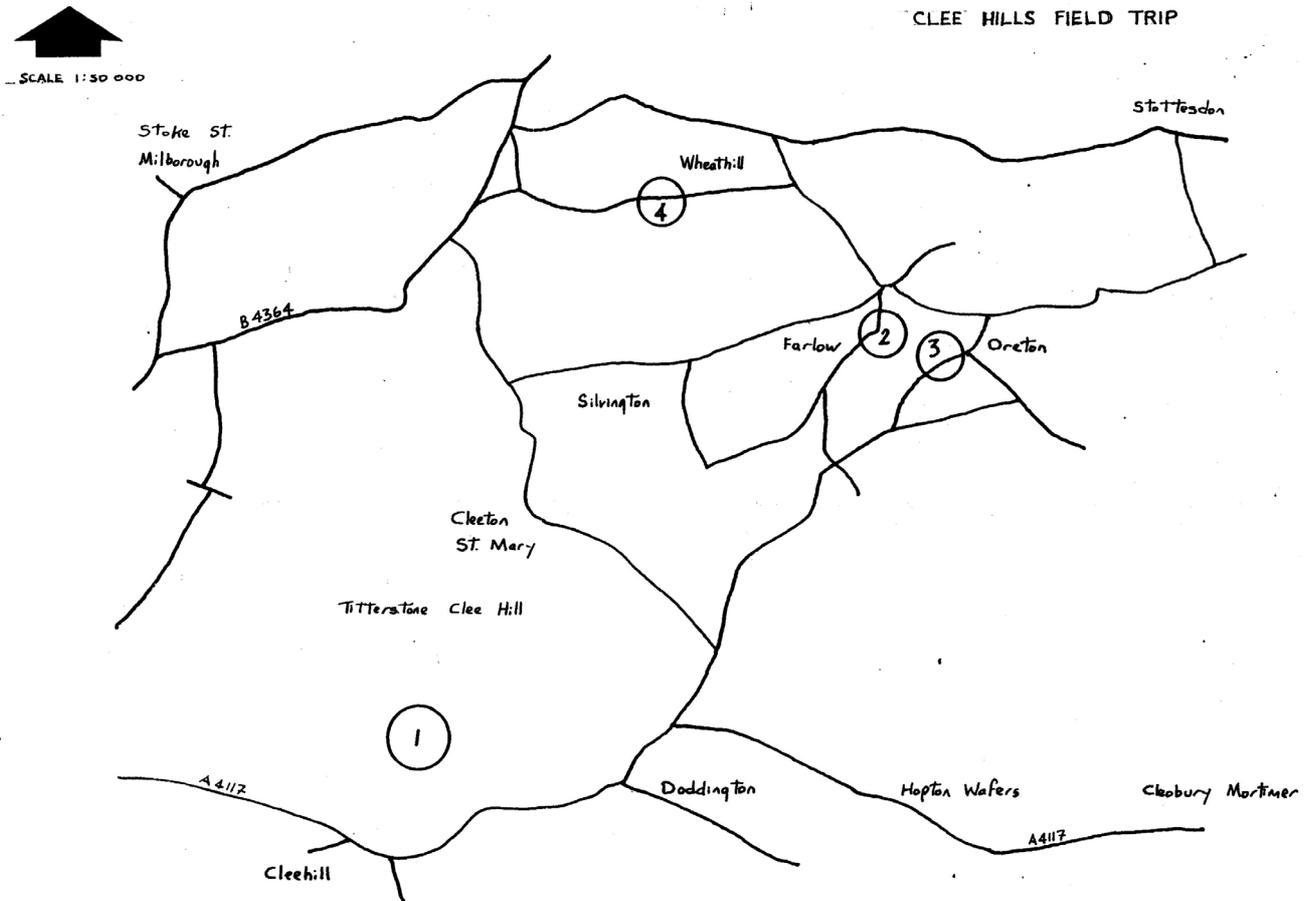


Figure 1. Locality map for the Clee Hill field trip.