

EXCURSION REPORT. IGNEOUS ROCKS OF CHARNWOOD FOREST

Leader - R.B. Elliott

Sunday, 4th July 1976

A large party left Nottingham about 9 a.m., and drove down the M1 to Exit 23 and the first stop at the Amey Roadstone quarry at Newhurst, Leicestershire (SK 487180). The quarry which was formerly the Charnwood Granite Quarry illustrates an elongated plug-like intrusion into volcanic tuffs with both faulted and intrusive margins, copper mineralisation and the unconformity of Triassic marls on Pre-Cambrian volcanics. The intrusion is an example of the Northern Diorites and members were able to see the altered mineralogy of two feldspars, hornblende and epidote; the tuffs are lithified ash-fall deposits belonging to the Blackbrook Series; the main copper minerals found were malachite, bornite and chalcopyrite. Considerable interest was shown in the interpretation of the rough pre-Triassic surface, with its breccia covering, and deeply stained underlying rock as an old desert surface.

The excursion continued to High Sharply, which is owned by Squire de Lisle who had given us permission to visit on the condition that we left hammers in the bus. The rock here is a porphyroid of Peldar-type and is rhyolitic in composition. The western end of the crags has sheared nodular rocks, nevertheless with recognisable crystals of quartz and feldspar; the eastern end, reached by a delightful walk over short upland grass in brilliant sunshine, shows more clearly the primary porphyritic nature of the rock and gives long views over the Blackbrook Valley.

Whitwick Quarry (SK 444160) has unsheared Peldar-type porphyroid and illustrates some of the problems concerning the origin of 'porphyroids'. Many of the crystals are large and the aspect of the rock is coarse and intrusive. On the other hand, we were able to see on the many large fresh surface that parts of the rock are breccia-like with a structure akin to that of a flow-brecciated lava.

Lunches were eaten and/or drink at the Castle Rock (SK 453157) where thirsty geologists are always welcome.

After lunch with sun temperatures quite appropriate to a volcanic excursion the party welcomed the cool dappled shade of Cademan Wood (SK 446170). Here the members were able to see almost non-porphyritic porphyroids, the Grimley type porphyroid (SK 436167) with its 'microphenocrysts' and some spectacular agglomerates with large porphyroid blocks in a fine-grained matrix. These coarse pyroclastic rocks are thought to indicate the near proximity of a volcanic vent.

The excursion then headed south to Cliffe Hill where there is a large quarry in Markfieldite (Monzonite) which is a distinctive decorative stone much used in past years for curbstones and setts. Its junctions with the enclosing volcanic tuffs are displayed at several places and members were able to see the Markfieldite in its normal coarse facies, fine-grained marginal facies, spotted contact rocks and epidote veining. After an hour in here, when several of us were beginning to look rosy, and rather flat tepid water from the garage tap was declared to be nectar, it was time to seek the shade of the bus and head back home.

The party returned to Nottingham about 5.30 p.m.

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