

EXCURSION REPORT: PERMIAN ROCKS OF THE DONCASTER (YORKSHIRE) AREA

Leader: D.B. Smith

Sunday, 4 June 1972

Report by F.M. Taylor in association with the leader

Members of the East Midlands Geological Society met the leader of this excursion at the first locality, adjacent to the A.1. at the Haven Cafe, Skellow (SE 519115). The general geology of the Permian rocks in the Doncaster area was outlined and it was stated that the excursion would visit exposures of the Upper, Middle and Lower Magnesian Limestone (see sequence published in Morrow and Smith 1969) at localities between Skellow and Cadeby, but that most of the exposures were within a few miles of Skellow. The excursion would be concerned with the sedimentary details of the Magnesian Limestone and would supplement the Permian excursion of 1968 (Morrow and Smith 1969). The feature formed by the Lower and Middle Magnesian Limestone was pointed out from Skellow Quarry, situated in the Upper Magnesian Limestone, with the outcrop of the 'Permian Middle Marls' between. The details of Skellow Quarry were then examined.

Skellow Quarry (SE 519115)

The quarry exposes part of the Upper Magnesian Limestone. It exhibits a shallow water facies with a bivalve fauna. The top layers of the quarry have been disturbed by Pleistocene ice-wedges.

Road-side section near Hampole (SE 500106)

The exposure is close to the road bridge, the railway under A. 638 road. Here a section of the Lower Magnesian Limestone can be examined. The well-bedded dolomite is made up of white pisoliths, and similar beds draping over a suspected small reef can be seen in the railway cutting.

Hazel Lane Quarry, Hampole (SE 499109)

At the large working quarry near Hampole, the Lower Magnesian Limestone was again seen to contain ooliths but the rock is also partly mineralised with haematite. In the quarry there are some beds with numerous bivalves, often associated with the haematite, giving a very attractive rock.

South Elmsall (SE 483115)

This locality was visited on the 1968 excursion and is the site of an old quarry now partly filled with rubbish. It is close to the village of South Elmsall. The upper part of the Lower Magnesian Limestone is exposed and shows an algal reef embedded in oolitic and oncolitic dolomite. Some very fine grained patches were examined and a search made for bivalves and stromatolites. An attempt is being made to preserve part of this quarry as a site of special scientific value.

Hooton Pagnell (SE 4808)

This pleasant village is built on a bryozoan reef with interbedded dolomites. There are many exposures, including those near the war memorial, the school, close to houses and at the foot of walls. Special permission to visit the exposures was obtained by the leader of the excursion from the Parish Council. Hammers were left in the coach.

Mercian Geologist, Vol. 5, No.1.
1974. pp. 75-76.

Bilham Sand Quarry, Hooton Pagnell (SE 488068)

Permission to visit this quarry was not available for the party as a whole but a specimen of highly fossiliferous Lower Magnesian Limestone was available for study. The rock rests on about 3 m. of yellow Basal Permian Sands, there being no 'Permian Lower Marl' or Basal Breccia in this area.

Hampole Limeworks Quarry (SE 515097)

This deep quarry exposes the base of the Middle Magnesian Limestone and the top part of the Lower Magnesian Limestone. At the junction are two clay seams separated by a layer of fenestrate dolomite. These are part of the Hampole Beds (Smith 1968). Some time was spent examining these and the large scale cross-bedding, up to 7 m. thick, in the overlying oolitic dolomite.

Cadeby Quarry (SE 520000)

This enormous quarry, also visited in 1968, has now been further extended. Permission to visit was given by the Steetley Co. Ltd. The rocks exposed are the top part of the Lower and the base of the Middle Magnesian Limestones. The distinctive Hampole Beds could be seen in the quarry face and blocks of them examined on the quarry floor. Plant specimens are preserved in the clay seams. Good examples of algal and bryozoan limestones were collected and occasional bivalves noted.

Sprotbrough Quarry (SE 533015)

The junction of the Middle and Lower Magnesian Limestone at this quarry gave a final opportunity to examine the Hampole Beds, here much thinner than at Cadeby Quarry. A pink mineral with high specific gravity, infilling some of the cavities in the fenestrate dolomite, was said to be barite. Some of the clay from the clay seams had been squeezed into joints of the dolomite, which was domed in places.

The President thanked Mr. Smith for the arrangements he had made for the excursion and for his interesting instructive tour of Permian sedimentary environments.

References

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