

THE LOWER JURASSIC OF SOUTH NOTTINGHAMSHIRE AND ADJACENT PARTS OF
LEICESTERSHIRE AND LINCOLNSHIRE

Leader: P. C. Stevenson

Sunday, 4th October 1964

(Map references refer to the Ordnance Survey One-inch Sheet No. 122, Melton Mowbray)

A party of forty-six society members left Shakespeare Street, Nottingham at 9.40 a.m. Passing eastward along the Grantham road, the Director indicated that first, alluvial gravels and then the subdued topography of the Keuper Marl would be crossed. Any rising ground seen was formed by the harder skerry bands in the Marl.

The bus turned south off the Grantham road at 725393 and, going by way of Granby, made a brief stop at 739359, where the Director pointed out the low escarpment formed by the Rhaetic rocks. This formation, though of considerable interest, was poorly exposed throughout the Midlands, and he hoped that since the railway cutting was now abandoned, the society might take an interest in excavating an artificial section at that point.

A minute longer in the bus took the party to the Barnstone Pit of Messrs. G. & T. Earle, in the Hydraulic Limestones of the Lower Lias (740350). Here the lowest member of the Lias succession, about 25 feet of an alternating sequence of grey clays and impure limestones was seen dipping south at about 5 degrees. The zone ammonite, Psiloceras planorbis, was soon found as well as specimens of Caloceras and the lamellibranchs Lima, Modiola, and Gryphea. Before leaving, the party noted the thin drift gravels overlying the Lias in the wall of the pit, and the way in which the highest beds of the Lias had been 'rucked up', presumably by the friction of ice passing over them.

The bus then took the party south again through Plungar (768340). The Director remarked that little of the seven hundred feet of the lower Lias was exposed, that it was composed of clays with thin impersistent limestones, and that the village of Plungar was built on a ridge formed by one of these. This particular limestone was ferruginous and appeared to be at the same horizon as the Frodingham Ironstone of north Lincolnshire.

The next stop was at Denton Park, where a pit owned by Stewarts and Lloyds Minerals Ltd. was working the Middle Lias Marlstone ironstone (855316). The Marlstone itself was seen to be a green sandy rock, but was difficult of access as the pit was being worked. Loose blocks of weathered marlstone yielded the brachiopods Tetrarhynchia tetrahedra and Lobothyris punctata, the belemnite Passaloteuthis and some lamellibranchs. The shales overlying the marlstone had been removed as overburden and contained Harpoceratids, more belemnites, and some hand-sized pieces of jet, all of which were recovered from the spoil heaps.

The party then moved to the Hungerton pit of Stewarts and Lloyds Ltd., where a face over half a mile long was working the Northampton Sand Ironstone (895302). The full succession seen here was:-

Lincolnshire Limestone, here rubbly and shattered, and sometimes gullied by drift-filled channels.

Lower Deltaic Series, about 16 feet of brown and white sands and sandy clays.

Northampton Sand Ironstone, about 20 feet, here being a sandy facies and showing 'boxstone structure'.

Upper Lias grey shales occasionally visible under the ironstone.

Mr. Jones, the Surveyor to the owners, was present to describe the working of the pit.

The Northampton Sand ironstone was seen again in the next exposure, the Sproxton pit belonging to the Park Gate Iron and Steel Co. (860252), where the Lincolnshire Limestone was noted as more massive. The main interest at Sproxton was devoted, however, to the glacial channel containing layers of sand and boulders which replaces the whole visible succession over some three hundred yards of the working face and has caused abandonment of the pit in which it appears. The Director said that several members of the Society had been attempting to determine the origin of the channel, but had not yet come to a firm conclusion. The Surveyor to the owners, Mr. Newman, accompanied the main party in the pit, while an engineer showed a smaller party over one of the large walking excavators.

The last exposure of the day was at Holwell (743238) where the Marlstone was seen again. As the pit was not being worked the ore bed was more readily accessible and in addition was oxidised, so that fossils were more readily extracted. These appeared to be the same as at Denton Park, with the addition of groups of echinoid spines.

The party returned to Nottingham along the A.606 noting the strong features formed by the Marlstone at Broughton Hill (715241) and by sandy shales and thin limestones in the upper part of the Lower Lias at Upper and Nether Broughton in the region of 705265, arriving back at Shakespeare Street about 7.40 p.m.

P. C. S.

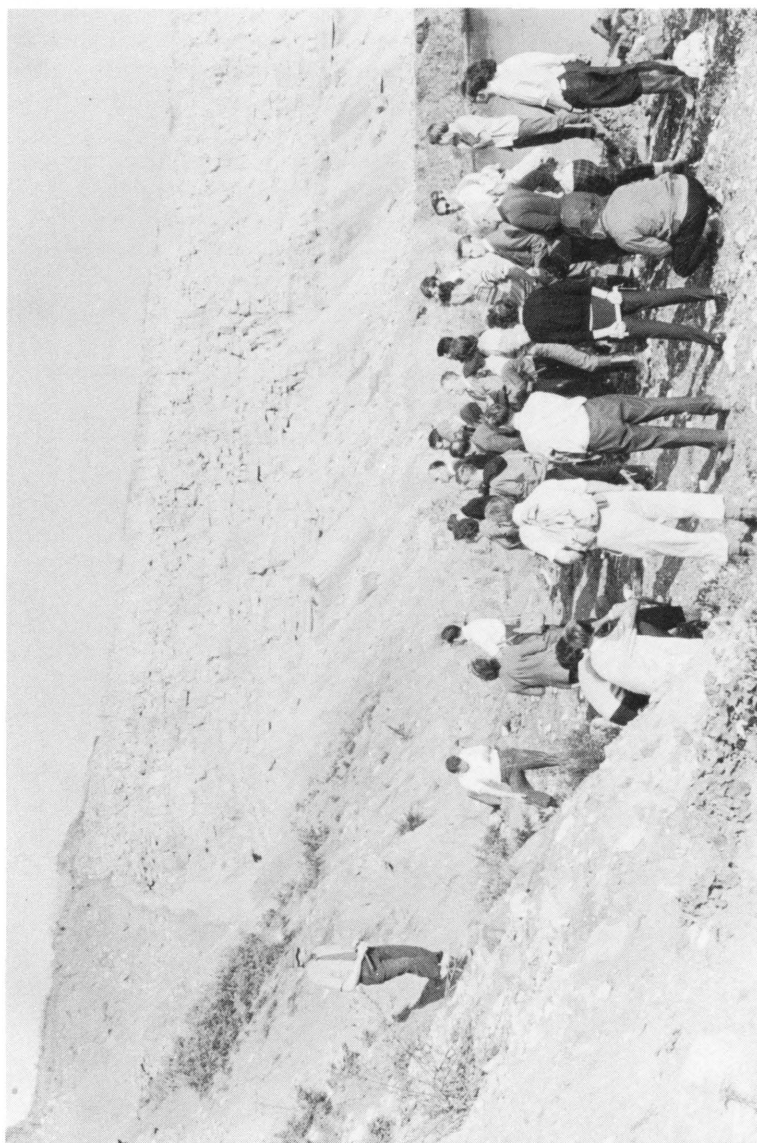


Photo: J. Eyett Mr. P. C. Stevenson, President of the East Midlands Geological Society, addressing members during a visit to the Sproxton pit at Park Gate Iron & Steel Co. The section shows Lincolnshire Limestone overlying Lower Estuarine Clays, with Northampton Ironstone Sands at base. A glacial overflow channel truncates the section at left.