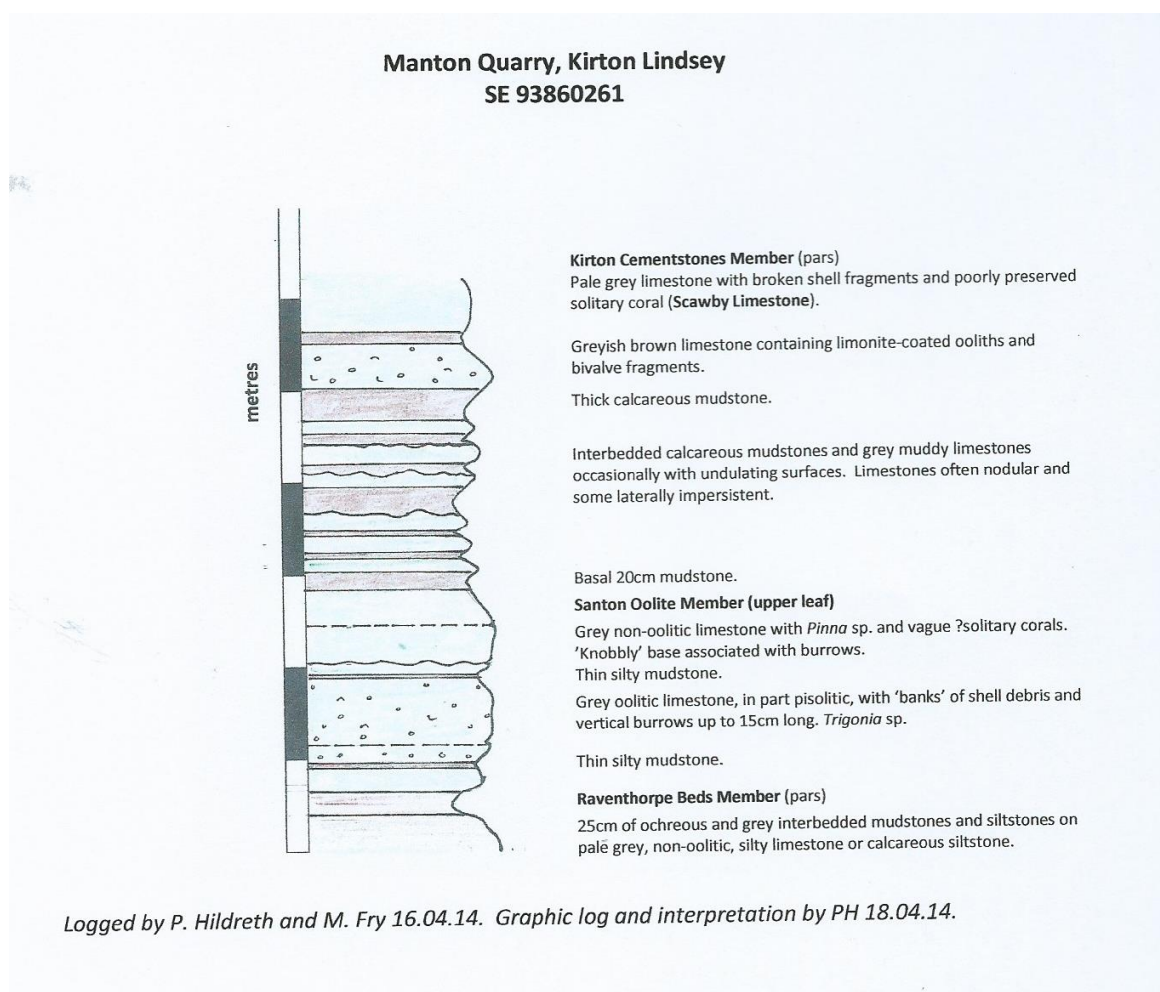


A rare belemnite find in the Lincolnshire Limestone Formation, Middle Jurassic of North Lincolnshire

Paul Hildreth

The sequence of beds exposed in the group of now disused quarries north of Kirton Lindsey, North Lincolnshire, has been described in detail by Ashton (1975) and in the relevant chapter of the BGS Memoir (Gaunt, Fletcher and Wood, 1992). A graphic log of the section preserved for study at Manton Quarry (SE 938 026) is shown in Figure 1.



The lowest part of the section is represented by siltstone and sandy oolite of the Raventhorpe Beds (Bajocian), here interpreted as a northerly- thickening, arenaceous unit within the oolitic and peloidal limestones of the Santon Oolite Member. A thin silty clay band occurs about 25cm above the top of the Raventhorpe Beds (marked with an asterisk in Figure 2) from which a small belemnite was successfully extracted by Alan Mills during a visit of the Hull Geological Society to Manton Quarry (SE 938 027) led by the author in September 2014. Despite several more visits to the same section, no other specimens have been found.

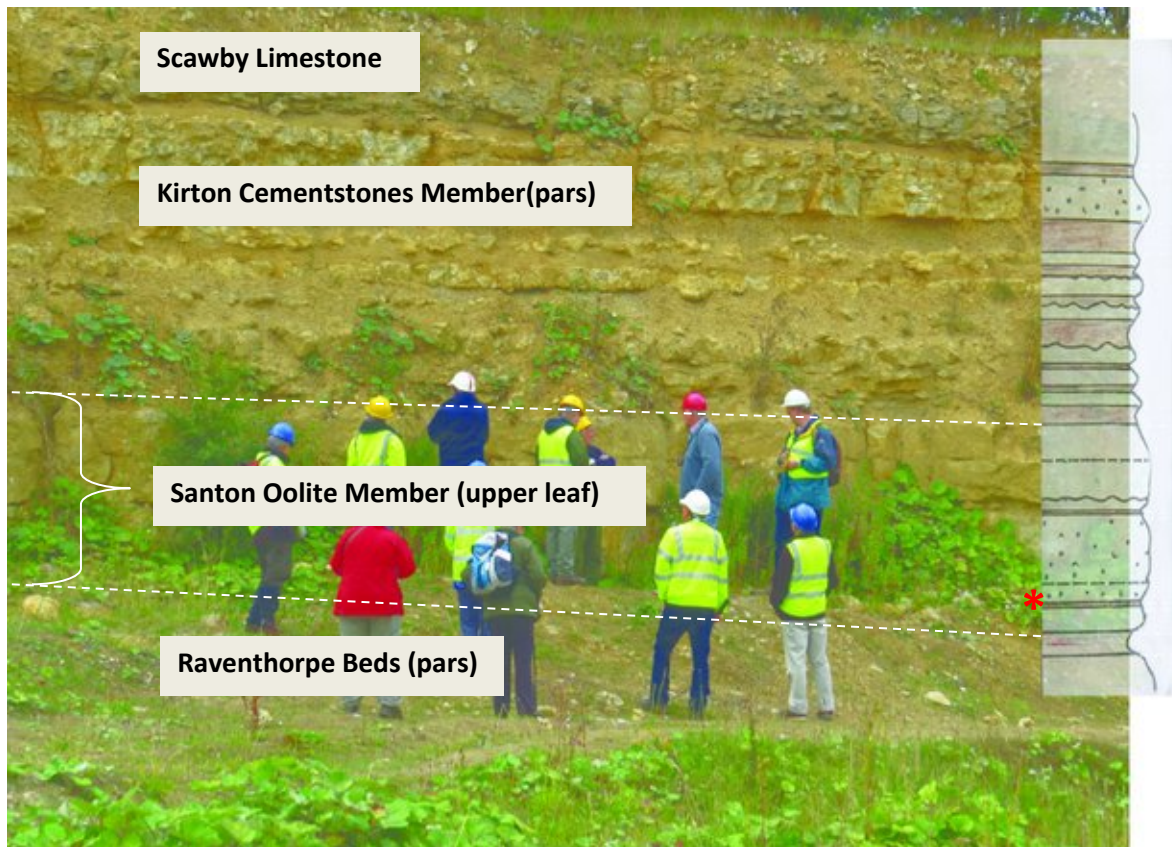


Figure 2. The author's graphic log of the section superimposed onto a photograph taken by a member of the Huddersfield Geology Group during a group visit in May 2014.

The results of a study of the belemnite shown in Figure 2 and undertaken by the author show:

Dimensions:

Overall length: 33mm

Depth of phragmocone: 10mm

Riedel Quotient (RQ): 3.3

Diameters: (measurements in mm taken from tip of guard)

a = diameter measured across rounded sides of guard

b = diameter measured across rounded and flattened sides of guard

	Tip + 10	Tip + 15	Tip + 20	Tip + 25	Tip + 30
a	5	7	8	8.5	10
b	5	6	7	8	8

The underside of the specimen shown in the photographs (Figure 3) is slightly flattened and the guard shows no signs of markings or grooves. It is uniformly smooth.

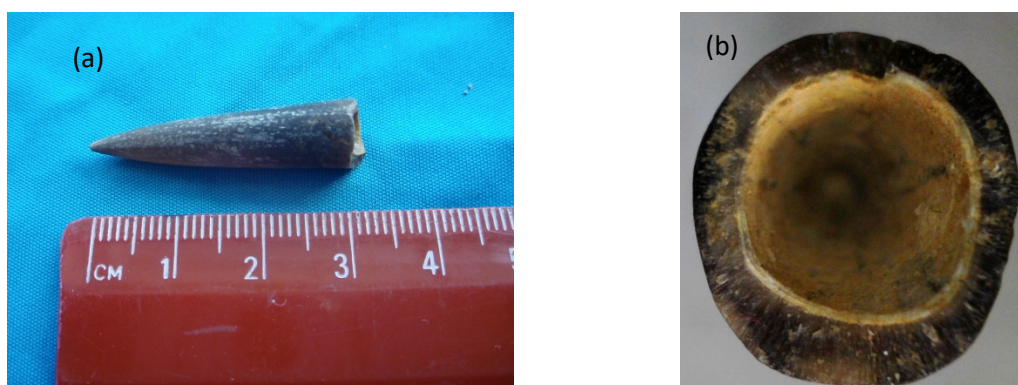


Figure 3. Views of the belemnite. (a) showing length and shape of the guard and (b) showing the phragmocone.

It is believed that this may be the first recording of a belemnite at this level in Lincolnshire and certainly at this site. Ashton (1975) and the BGS Memoir for the area (Gaunt, Fletcher and Wood, 1992) provide extensive lists of macrofossils from the Santon Oolite Member but neither records belemnites.

Professor Simon Mitchell of the University of West Indies has, in a personal communication, identified the find as *Brevibelus* sp. a form typical of the Aalenian to Early Bajocian. He added that belemnite specimens are rare at these levels in Lincolnshire.

References:

M. Ashton 1975. A New Section in the Lincolnshire Limestone of South Humberside and its significance. *Proceedings of the Yorkshire Geological Society*. **40**; 419-429.

Gaunt, G.D., Fletcher, T.P. and Wood, C.J. 1992. Geology of the country around Kingston upon Hull and Brigg. Memoir of the British Geological Survey, sheets 80 and 89 (England and Wales) pp.48 -51.