

Chalk Group Lithostratigraphy: Marlborough Downs/Berkshire Downs/Chilterns - Middle Chalk

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In the Chilterns and adjacent areas, the base of the Middle Chalk is marked by a strongly indurated feature-forming bed, named the Melbourn Rock after a village near Royston, Hertfordshire. The top of the Middle Chalk is the base of another indurated feature-forming bed named the Chalk Rock. Owing to the strongly diachronous nature of the base of the Chalk Rock, the Middle Chalk varies in thickness from 65 to 70 m in the northern Chilterns to c. 40 m in the Marlborough Downs (Wood, 1996).

The lower part of the Middle Chalk comprises, hard, nodular chalk, with abundant inoceramid bivalve shell debris, thin marls and locally conspicuous flints. Around Hitchin, Hopson *et al.* (1996) recorded about 10 m of shelly chalk with the Melbourn Rock at the base, and identified several marker horizons. The Morden Rock, in the lower part of the succession, is a very coarsely shelly, indurated bed, with abundant remains of the inoceramid bivalve *Mytiloides* (Hopson *et al.*, 1996). Higher, the Aston Marl is overlain in the Leighton Buzzard district by the *Mytiloides*-bearing Maiden Bower Flint, representing the lowest occurrence of flint in the Chalk Group of the Chilterns (Hopson *et al.*, 1996; Shephard-Thorn *et al.*, 1994). However, in the southern Chilterns, flint is restricted to the highest beds of the Middle Chalk (Wood, 1996). Another *Mytiloides*-rich flint occurs slightly higher in the Hitchin district, and is named the Morden Flint (Hopson *et al.*, 1996). The top of the shell-rich lower part of the Middle Chalk is coincident with a pair of marls in the Hitchin district, the lower, more conspicuous of which is named the Odsey Marl (Hopson *et al.*, 1996).

The higher part of the Middle Chalk is smooth-textured, non-nodular chalk (Wood, 1996). Around Hitchin, these beds comprise white, massively bedded, sparsely fossiliferous chalk with hardgrounds, sponge beds, semi-porcellanous horizons as well as marl seams, and bands of nodular flints in the lower and higher parts of the succession (Hopson *et al.*, 1996). Key marker marls in the succession are, in ascending order, the Denton Lodge Marl, the Pilgrims Walk Marl, the Latimer Marl and the Reed Marl (Hopson *et al.*, 1996).

Macrofossil Biozonation: *M. geslinianum* Zone (pars), *N. juddii* Zone, *Mytiloides* spp. Zone, *T. lata* Zone (pars) (Wood, 1996)

Correlation: see Correlation with other parts of the UK

References

HOPSON, P. M., ALDISS, D. T. & SMITH, A. 1996. Geology of the country around Hitchin. *Memoir of the British Geological Survey*, Sheet 221 (England & Wales).

WOOD, C. J. 1996. Upper Cretaceous: the Chalk Group. In **SUMBLER, M. G.**, *British Regional Geology: London and the Thames Valley*. Fourth Edition. (London: HMSO for the British Geological Survey).

See: Melbourn Rock, Chalk Rock, marl, flint, hardground

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