

Southern Region Chalk Group

Lithostratigraphy: Bristow et al. (1997) - Upper Chalk

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The Upper Chalk comprises the Lewes Nodular Chalk, overlain successively by the Seaford Chalk, Newhaven Chalk, Tarrant Chalk, Spetisbury Chalk, Portsdown Chalk and Studland Chalk (Bristow *et al.*, 1997). However, for some geographical areas this nomenclature is altered to take account of local stratigraphical variation. Thus, where the Tarrant Chalk and Spetisbury Chalk cannot be mapped separately, they are combined to form the Culver Chalk, and in East Kent, a lithologically distinct unit equating with the highest Seaford Chalk and part of the Newhaven Chalk is designated Margate Chalk following Robinson's (1986) use of this term. In parts of central Dorset the term Blandford Chalk was used for the combined Seaford and Newhaven Chalk (Bristow *et al.*, 1995), based on the apparent absence of marl seams in strata equivalent to the Newhaven Chalk. However, Bristow *et al.* (1997) subsequently reported that thin marl seams were present in strata coeval with the Newhaven Chalk, although this unit was still not separable from the Seaford Chalk. Consequently, Bristow *et al.* (1997) recommended abandonment of the term Blandford Chalk and its replacement by an undivided Seaford and Newhaven Chalk. This undivided unit contains a local feature-forming horizon in the Dorchester district, but at a level equivalent to some distance above the base of the Newhaven Chalk (Bristow *et al.*, 1997).

In the Isle of Wight, The Upper Chalk *sensu* Bristow *et al.* (1997) (see below) is c. 323-418 m thick, depending on the depth of Palaeogene erosion, and comprises hard, nodular chalk with flints and marl seams (c. 43 m), overlain by smooth, massive chalk with common flints (? c. 86 m), overlain by pure white chalk with fewer flints and conspicuous marl seams (c. 63-71 m), overlain by very flinty chalk with marl seams (c. 67 m), capped by massive, white chalk with common, rather irregular flint bands and many marl seams (up to 147 m) (White, 1921).

The base of the Upper Chalk was revised downwards by Bristow *et al.* (1997) with respect to its traditional definition, and made coincident with the base of the Lewes Nodular Chalk (defined by the upward appearance of hard, nodular, regularly flinty chalk). In south Dorset and the Isle of Wight the base of the Upper Chalk *sensu* Bristow *et al.* (1997) is at the base of the Spurious Chalk Rock, and in parts of Wiltshire, is the base of a highly condensed Chalk Rock, comprising a welded succession of the bottom, middle and upper hardground suites of Bromley & Gale's (1982) Chalk Rock 'Formation'.

Macrofossil Biozonation: upper *T. lata* Zone, *S. plana* Zone, *M. cortestudinarium* Zone, *M. coranguinum* Zone, *U. socialis* Zone, *M. testudinarius* Zone, *U. anglicus* Zone, *O. pilula* Zone, *G. quadrata* Zone, *B. mucronata* Zone

Correlation: see Correlation with other Southern Region successions

see Correlation with other UK successions

References

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BRISTOW, C. R., MORTIMORE, R. N. & WOOD, C. J. 1997. Lithostratigraphy for mapping the Chalk of southern England. *Proceedings of the Geologists' Association*, Vol. **108**, 293-315.

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See: Lewes Nodular Chalk, Seaford Chalk, Newhaven Chalk, Tarrant Chalk, Spetisbury Chalk, Portsdown Chalk, Studland Chalk, Culver Chalk, Margate Chalk, marl, flint, Upper Chalk (traditional classification), Spurious Chalk Rock, Chalk Rock (Chilterns and adjacent areas).

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