



(above) pink shell fragment of the inoceramid bivalve *Mytiloides* - abundant in the higher part of the Holywell Nodular Chalk



(above) Iron-stained outlines of fossil sponges seen in the Holywell Nodular Chalk including Melbourn Rock

Key characteristics for identifying the core interval containing the Melbourn Rock from core chippings:

1. A few metres above the Melbourn Rock the chalk will be cream-coloured, hard, nodular and gritty textured with lots of thin slivers of marl in core fragments and scattered pieces of pinkish-coloured shell.
2. The Melbourn Rock will be intensely hard (impossible to break with hand pressure) cream-coloured chalk, and is unlikely to contain much shell.
3. The Plenus Marls (below the Melbourn Rock) will be dark greenish-grey, soft mudstone, but with some fragments of hard limestone. The mudstone will likely be 0.5 m - 1 m thick.
4. The succession below the Plenus Marls is uniformly darker grey compared to the chalk above the Plenus Marls. The chalk is a lot harder than the Plenus Marls, but much softer than the Melbourn Rock, and will contain intervals of softer, darker-grey mudstone. This chalk is generally smooth-textured with very rare shell

Holywell nodular Chalk: Common medium to dark grey muddy chalk horizons (marls) that weave around and between nodules of hard white chalk. Gritty-textured chalk with common shell fragments

Holywell nodular Chalk: as above

Intensely hard, pale cream coloured Melbourn Rock with a few very thin grey-coloured marls (mud-rich chalk)

Contact of soft, greenish-grey Plenus Marls and intensely hard, pale cream coloured Melbourn Rock

Smooth-textured, medium grey coloured Zig Zag Chalk Formation





