
Kilmersdon Road Quarry, Bath and North-East Somerset

[ST 689 542]

Introduction

Kilmersdon Road Quarry is a small quarry, sometimes referred to in the literature as 'Radstock Grove', which lies less than 1 km south of Radstock (Figure 3.13). It is a key Lias locality spanning much of the Hettangian, Sinemurian and Pliensbachian stages. However, this has developed in a greatly attenuated succession only 5 m in thickness. Evidence for six major non-sequences is found in this succession. The broken and condensed series of rocks is of outstanding importance in understanding the complete Lower Jurassic history of the north Mendip area.

The site has received less attention than some of the other Radstock sites although it is now the best exposed of those remaining and is visited by many collectors in search of the derived echioceratid ammonites in the Armatum Bed. 'Ditcher and Trueman (1925) were the first to describe the site, as their 'site 10', but stated only which beds were present in the quarry and their thickness. Nonetheless, they provided a more detailed log of the succession as part of their figure 3. Getty (in Hemingway *et al.*, 1969) and Macfadyen (1970) provided a little more detail and the site was also mentioned briefly by Sellwood (1972). A graphic log of the section (Figure 3.14) was published by Donovan and Kellaway (1984), who summarized the current state of knowledge for this site. The site has recently undergone major re-excavation (Figure 3.17).

Description

The lowest strata seen by 'Ditcher and Trueman (1925) at Kilmersdon Road Quarry were of late Triassic age, comprising the upper beds of the Langport Member (= White Lias) capped by the distinctive Sun Bed. Above lies just over 3 m (10 ft) of Hettangian limestones with thin shales (Figure 3.14). Titcher and Trueman recognized two main units within the Hettangian succession. The lower 2.6 m (8 ft 6 in.) comprised alternating limestones and thin shales containing *Franziceras ruidum*, and can be assigned to the Planorbis Zone. The uppermost 0.45 m (1 ft 6 in.) is limestone-dominated with only minor shale partings and is assigned to the Liasicus Zone.

Getty (in Hemingway *et al.*, 1969) considered that, as at Bowdish Quarry, the upper limestone of the Hettangian succession was continuous with the Bucklandi Bed at the base of the succeeding Sinemurian Stage, a view maintained by Donovan and Kellaway (1984). The Bucklandi Bed is a massive, pale, coarse shelly limestone with an irregular lower surface, and varies from 0.05 m to 0.30 m in thickness. The upper surface is commonly ferruginous, traversed by cracks and pierced by small borings. In places it is capped by a phosphatic horizon, the Spiriferina Bed, while locally the phosphatic crust is overlain by a 0.1 m-thick limestone riddled with bivalve borings. In some instances these bivalve crypts are present both on the upper surface and on the sides of these blocks. The remainder of the Sinemurian succession is extremely attenuated, comprising from 0.15 m to 0.30 m of clay with lumps and nodules of limestone at two levels. The lower nodule band lies within the Turner Clay, and has yielded *Arnioceras semicostatum*, while above lie the Obtusum Nodules, which contain both *Arnioceras semicostatum* and *Asteroceras confusum*. The succeeding Raricostatum Clay is never more than a few centimetres thick.

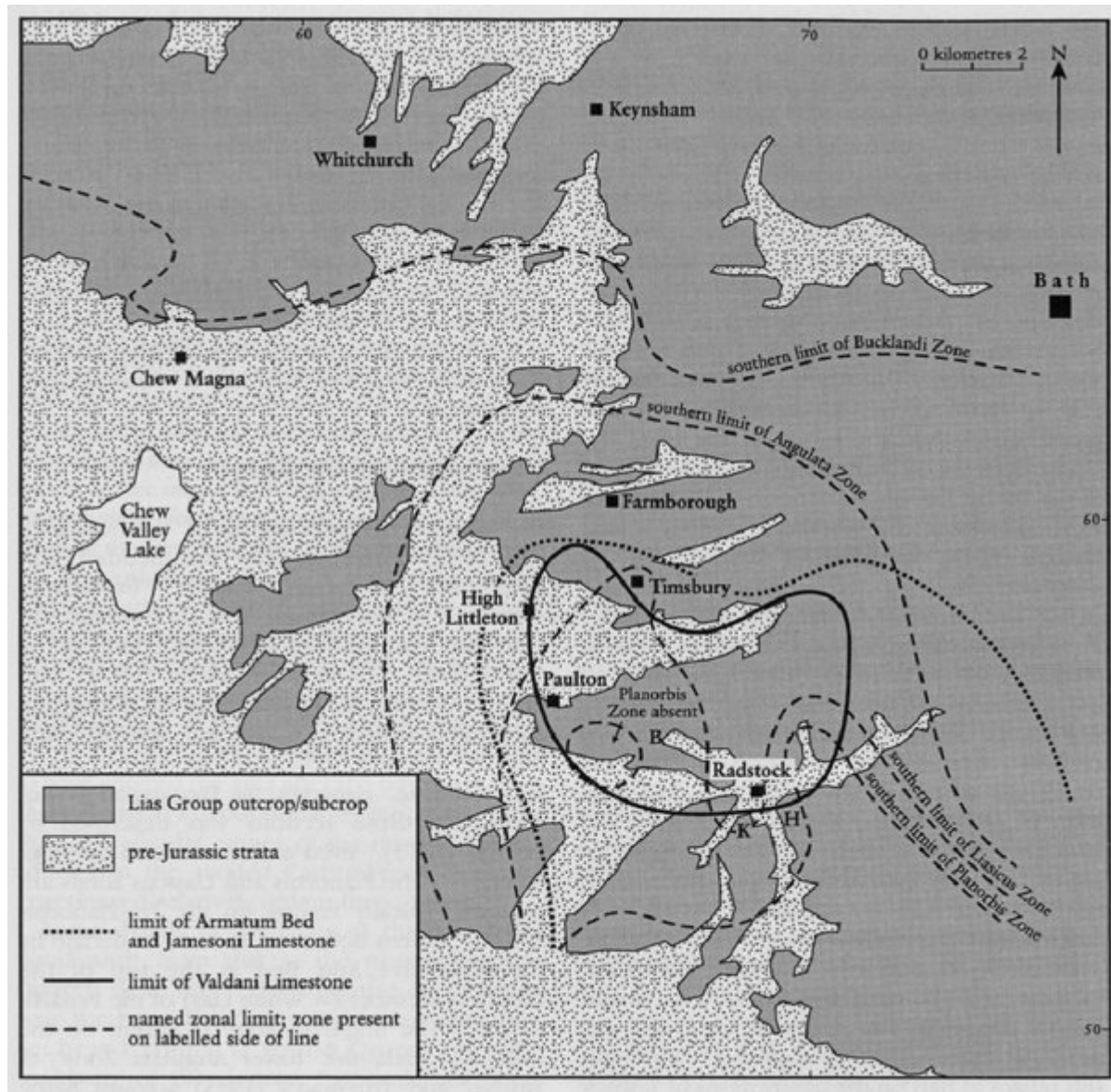
The massive Lower Pliensbachian limestones above are well developed and clearly exposed around the quarry (Figure 3.17). The Armatum Bed at the base is 0.6 m (2 ft) thick and clearly divisible into two distinct units, the lower of which contains abundant phosphate nodules and derived fossils. Echioceratid ammonites are a conspicuous element of the fauna of this lower unit, while large specimens of *Apoderocheras* are also common in the Armatum Bed. A specimen of the rare late Sinemurian liparoceratid *Vicinodoceras simplicicosta* has also been recovered from the lower unit (Donovan, 1990). Donovan and Kellaway (1984) noted preservational differences between specimens of *Echioceras*, *Paltechioceras* and *Gleviceras* in this bed (Figure 3.18), suggesting distinct origins for each, though they also inferred that specimens of *Gleviceras* and of *Phricodoceras lamellosum* probably were contemporary with deposition of the bed. Nominal ammonite taxa described from the Armatum Bed of this site include *Tutchericeras*, now considered a synonym of *Gleviceras*, and

the genotype of *Paltechioceras*.

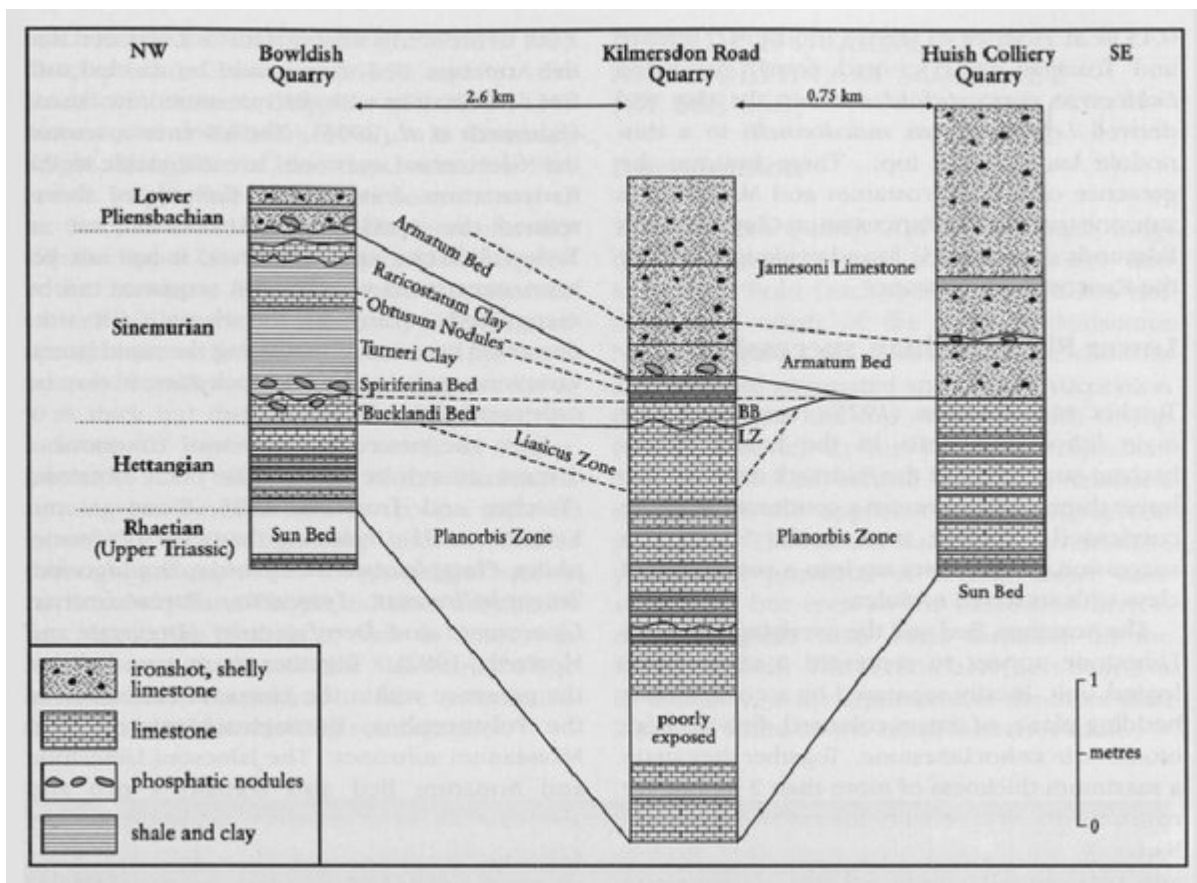
The Armatum Bed is overlain directly by the Jamesoni Limestone, comprising 1.55 m (5 ft) of ironshot, bioclastic, fossiliferous limestone, which at this site was the source of the holotypes of *Platypleuroceras bituberculatum* and of *Aegolytoceras rotundicosta* (Donovan and Howarth, 1982). A magnified thin-section through a sample of Jamesoni Limestone from this site was figured by Titcher and Trueman (1925, fig. 4), revealing an abundance of echinoderm and shell debris. The basal part of the Striatum Clays was indicated on Titcher and Trueman's section (1925, fig. 3) as resting directly on the Jamesoni Limestone, but they cannot be seen at present.

For Interpretation and Conclusion see [Condensed facies of the Radstock Shelf](#) — General interpretation and General conclusion.

References



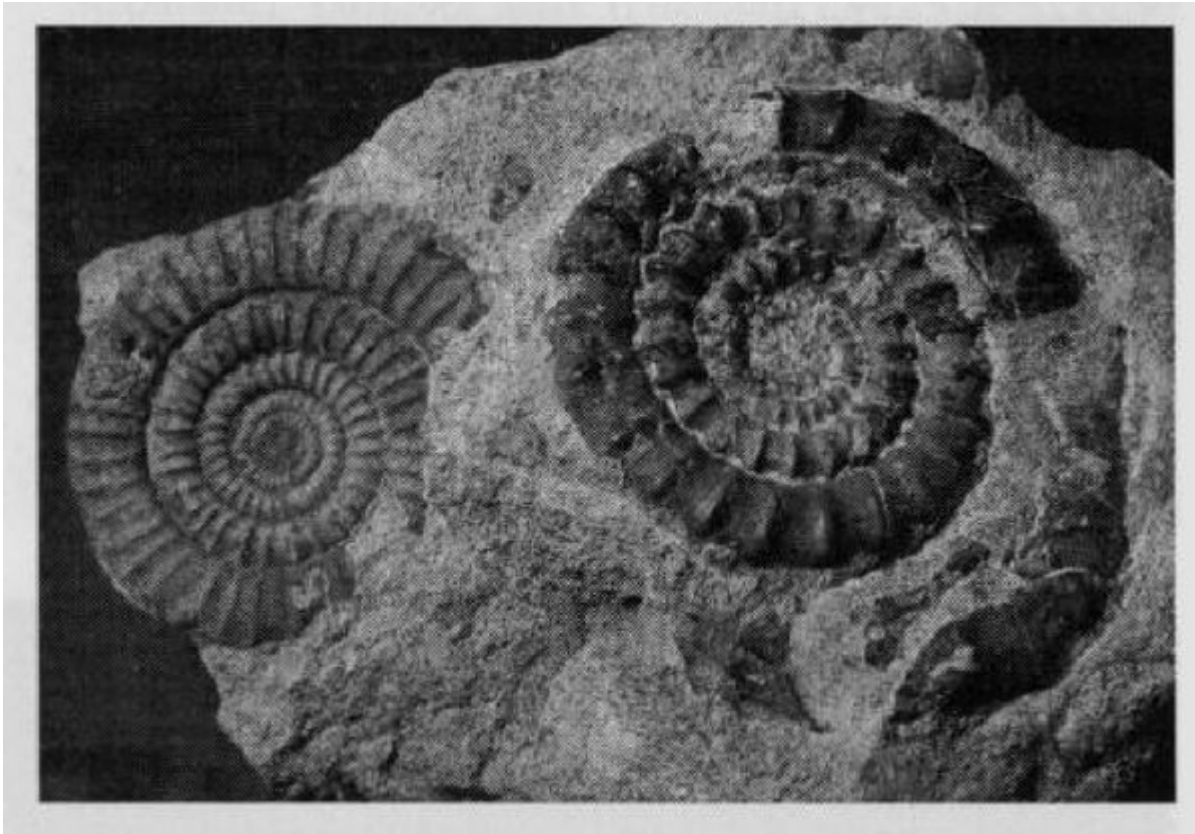
(Figure 3.13) Sketch map showing the southern limits of the Planorbis to Bucklandi zones in the Radstock district and the distribution of the Armatum Bed, Jamesoni Limestone and Valdani Limestone. The letters B, K and H correspond to the approximate locations of the three GCR sites of Bowdish Quarry; Kilmersdon Road Quarry and Huish Colliery Quarry. After Donovan and Kellaway (1984).



(Figure 3.14) Lithostratigraphy and correlation of the Radstock GCR sites After Donovan and Kellaway (1984).



(Figure 3.17) The recently cleared face of Kilmersdon Road Quarry. The main face is in thinly bedded limestones and mudstone of the Planorbis and Liasicus zones, capped by the planed-off surface of the Bucklandi Bed. The thin Sinemurian succession and the thicker bioclastic limestones of the Armatum Bed and Jamesoni Limestone are exposed in the low face above the conspicuous ledge. (Photo: M.J. Simms.)



(Figure 3.18) Phosphatized specimens of *Paltechioceras aureolum* (left) and *Echioceras raricostatum* (right) from the *Armatum* Bed of Kilmersdon Road Quarry. *Paltechioceras* is 65 mm across. From the T.R. Fry Collection in Bristol City Museum. (Photo: M.J. Simms.)