
Halfway House Cutting and Quarry, Dorset

[ST 601 164]

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Introduction

The Halfway House Cutting and Quarry GCR site comprises a cutting on the northern side of the A30 road, about midway between Sherborne and Yeovil, and two adjacent old quarries — those known in the literature as 'Rock Cottage Quarry' and 'Chapel Quarry'. The site comprises localities 2, 3 and 4 of Torrens (1969a, fig. 1). Exposure in the quarries, first noted by Wright (1856), is generally now rather poor and recent accounts of the succession have concentrated on the road cutting that was excavated during the latter part of the summer of 1963 (Torrens, 1969a; Whicher, 1969). The locality is particularly famous for the so-called 'Halfway House Fossil Bed' (Buckman, 1893a), the ammonite assemblage of which is taken as typical of the Truellei Subzone (Upper Bajocian Parkinsoni Zone).

Description

The Halfway House Cutting and Quarry GCR site has been well established in the literature since J. Buckman (1877), although it does not feature prominently in the recent published reviews of the Inferior Oolite Formation in this area (e.g. Callomon and Chandler, 1990). Sections at both the Rock Cottage and Chapel quarries were reported by Buckman (1893a) (his sections IV and V respectively) and Richardson (1932) (his sections 17 and 17a respectively). A composite section, based on Richardson (1932), through the whole of the Inferior Oolite Formation and the Bajocian Stage here was reported by Macfadyen (1970). Other records include those of Woodward (1894), Wilson *et al.* (1958) and Callomon and Cope (1995). Part of the section at Chapel Quarry was illustrated by Richardson *et al.* (1911, pl. 100CCX, fig. 1).

The section given below is based on that recorded by Torrens (1969b), Whicher (1969) and Callomon and Cope (1995) in the road cutting on the A30.

	Thickness (m)
Inferior Oolite Formation	
<i>Crackment Limestone Member</i>	
10: Limestone, white, chalky with marl partings	seen
9: Limestone, grey-brown, sandy, marly; poorly fossiliferous and much stained with limonite; becoming more massive towards base; ammonites (<i>Parkinsonia</i>); brachiopods (<i>Acanthothiris</i>); echinoids (<i>Collyrites</i> , <i>Pygomalus</i> and <i>Pygorhytis</i>)	seen to 4.0
8: <i>Halfway House Fossil Bed</i> : Limestone, ooidal, very fossiliferous with ammonites (including <i>Cadomites</i> , <i>Leptosphinctes</i> , <i>Parkinsonia</i> and <i>Strigoceras</i>); nautiloids; echinoids; bivalves	0.25
7: <i>Astarte Bed</i> : Limestone, ooidal, brown, limonite-stained with limonitic concretions; many fossils coated in limonite and encrusted with serpulids; <i>Neocrassina</i> very common together with other bivalves, gastropods and ammonites	0.10–0.30
<i>Irony Bed</i>	
6: Limestone, crystalline, iron-stained, ooidal in places, lensoid; thick layer of limonite at top; conglomeratic at base; ammonites (<i>Caumontisphinctes</i>); gastropods; abundant brachiopods	0–0.25

5: Limestone, pale-brown to blue-hearted, ooidal; ammonites, including <i>Graphoceras</i> ; belemnites; bivalves; <i>Homoeorhynchia ringens</i> (von Buch) in basal 0.10 m <i>Dew Bed</i>	1.20–1.30
4: Limestone, very hard, grey, crystalline with shell debris; top surface encrusted by oysters and extensively bored by <i>Lithophaga</i> and thin, vertical annelid borings	0.30
3: Fissure-filling from Bed 5 above; ooidal matrix with some limonite concretions and pebbles	0–0.15
2: As Bed 4 above	0.50

Lias Group

Bridport Sand Formation

1: Sand, soft, friable, micaceous	seen to 2.0
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Interpretation

Wright (1860) first used the name Dew Bed (beds 2–4 above) for the hard, crystalline limestone at the base of the Inferior Oolite Formation hereabouts. It is also present in the Bradford Abbas Railway Cutting (see GCR site report, this volume) where it is assigned to the Lower Jurassic Toarcian Stage. Torrens (1969b) tentatively assigned the Dew Bed at the Halfway House Cutting and Quarry GCR site to the Levesquei Zone, Moorei Subzone of the latter stage and it therefore seems appropriate to assign the sands of the underlying Bed 1 there to the Bridport Sand Formation of the Lias Group; Wilson *et al.* (1958) and Macfadyen (1970) included the Dew Bed itself in that group.

According to Richardson *et al.* (1911), the quarrymen called Bed 5 'the Blue Beds'. The presence of the brachiopod *Homoeorhynchia ringens* in its basal part is indicative of the Ringens Bed (see Holway Hill Quarry and Louse Hill Quarry GCR site reports, this volume). Davidson (1878) described the species as being abundant and two of his three figured specimens came from here (see (Figure 2.38), Holway Hill Quarry GCR site report, this volume). Ammonites, notably the genus *Brasilina*, from the latter localities and elsewhere locally indicate that the Ringens Bed belongs to the Aalenian Bradfordensis Zone. *Graphoceras*, which has been recorded from Bed 5 at the Halfway House Cutting and Quarry GCR site, may indicate the next youngest Concavum Zone (Callomon and Chandler, 1990).

The Irony Bed (Bed 6) is well developed in this area (see Seavington St Mary Quarry, Bradford Abbas Railway Cutting and Louse Hill Quarry GCR site reports, this volume). It appears to be locally diachronous within the Lower Bajocian Sauzei and Humphriesianum zones (Parsons, 1980a; see Louse Hill Quarry GCR site report, this volume), although the record of *Caumontisphinctes* at the Halfway House Cutting and Quarry GCR site, if correct, would also imply the Upper Bajocian Subfurcatum Zone. There is a substantial non-sequence at the base of the bed where at least the Discites, Ovalis and Laeviuscula zones are missing.

The Astarte Bed (Bed 7) is generally recognized as the oldest Upper Bajocian stratum present in this area, where it is known at several localities (e.g. Louse Hill Quarry, see GCR site report, this volume). Its ammonites indicate the Garantiana Zone although, within that zone, it appears to be diachronous. Ammonites at Louse Hill Quarry indicate the Dichotoma Subzone (Callomon and Cope, 1995) but at Seavington St Mary Quarry, it has been assigned to the Acris Subzone (Parsons, 1980a). The bivalve that gives its name to the bed is now referred to the genus *Neocrassina* (see Burton Cliff and Cliff Hill Road Section GCR site report, this volume).

The highest beds (8–10) of the section, with the ammonite *Parkinsonia*, are assigned to the Upper Bajocian Parkinsoni Zone. Bed 8 (the Halfway House Fossil Bed — a term first used by Buckman, 1893a) is the type horizon for the Truellei Subzone (Buckman, 1891; Arkell, 1951a). The fauna of this very fossiliferous bed is the same as that of the Truellei Bed at Burton Bradstock (see Burton Cliff and Cliff Hill Road Section GCR site report, this volume). It includes large specimens of the ammonites *Leptosphinctes meseres* (S.S. Buckman) and *Parkinsonia dorsetensis* (Wright) (Figure 2.31). These species used to be particularly common at Halfway House Cutting and Quarry, and specimens, when sliced in half and polished, formed the basis of a small local ornament industry (Woodward, 1894; Torrens, 1969a; Arkell, 1956b; Callomon and Cope, 1995). In addition to the fauna given in the description above, Macfadyen (1970) cited

belemnites (*Belemnopsis*) and gastropods (*Natica* and *Pleurotomaria*) based on Richardson's (1932) earlier records. The Halfway House Fossil Bed is also recognized at Bradford Abbas Railway Cutting (and see also Louse Hill Quarry GCR site report, this volume).

Conclusions

The Halfway House Cutting and Quarry GCR site displays nearly the whole of the local Aalenian–Bajocian succession, albeit very attenuated, with its characteristic 'hardgrounds', conglomerates and thin, lenticular 'iron-shot' limestones. It includes a number of significant non-sequences and the zonal succession is even less complete than at the nearby Bradford Abbas Railway Cutting and Louse Hill Quarry GCR sites with which it otherwise has features in common. The Halfway House Fossil Bed is particularly famous and provides the type horizon for the Truellei Subzone of the Upper Bajocian Parkinsoni Zone. Sited in an area of complex Aalenian–Bajocian stratigraphy, the Halfway House Cutting and Quarry locality is thus an important one for the interpretation of the local and regional succession as well as for correlations farther afield.

References



(Figure 2.38) *Homoeorhynchia ringens* (von Buch) as illustrated by Davidson (1878). The specimen on which these figures are based in fact came from Halfway House Cutting and Quarry (see GCR site report, this volume). The specimen is shown at natural size.)

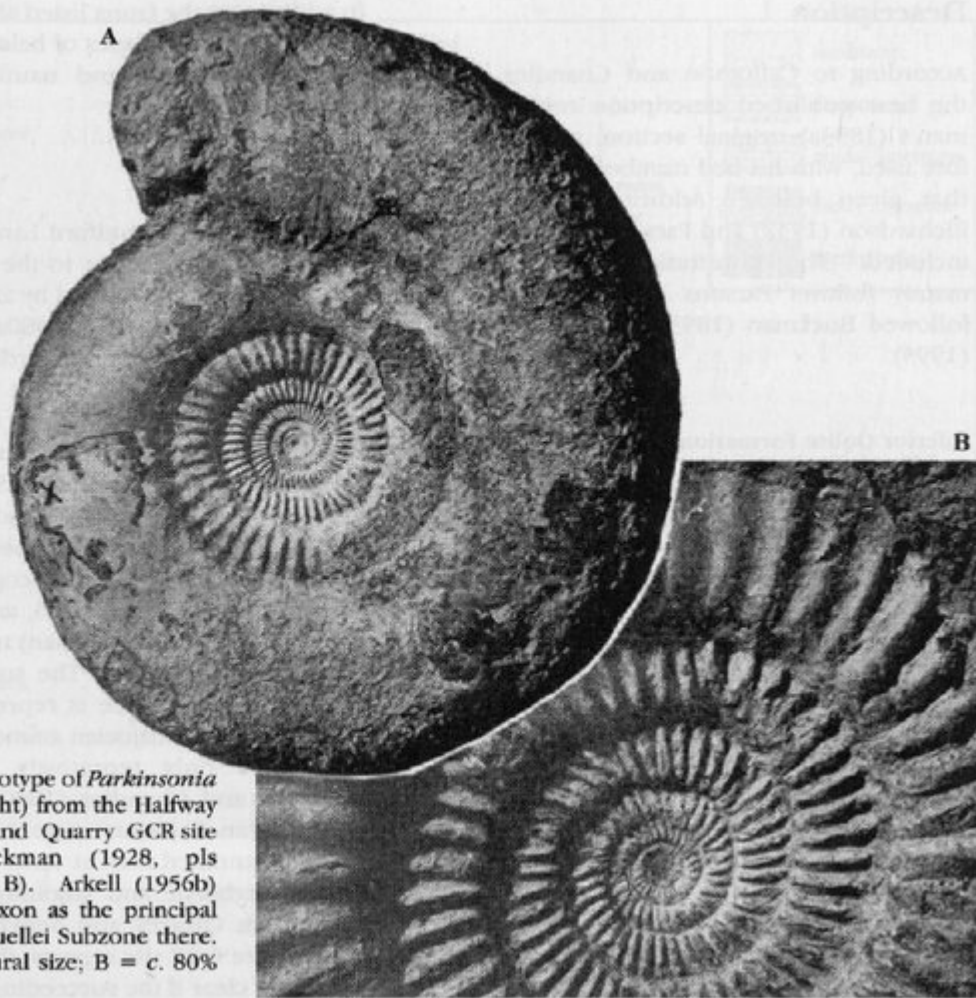


Figure 2.31 Lectotype of *Parkinsonia dorsetensis* (Wright) from the Halfway House Cutting and Quarry GCR site based on Buckman (1928, pls DCCLXVIIA and B). Arkell (1956b) described this taxon as the principal species of the Truellei Subzone there. (A = c. 20% natural size; B = c. 80% natural size.)

(Figure 2.31) Lectotype of *Parkinsonia dorsetensis* (Wright) from the Halfway House Cutting and Quarry GCR site based on Buckman (1928, pls DCCLXVIIA and B). Arkell (1956b) described this taxon as the principal species of the Truellei Subzone there. (A = c. 20% natural size; B = c. 80% natural size.)