
Finedon Gullet, Wellingborough, Northamptonshire

[SP 926 698]

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Introduction

Finedon Gullet, about 2 km north-east of Wellingborough, Northamptonshire, forms part of what was once an extensive pit from which iron ore was extracted (Figure 4.18). Although a complete Rutland Formation has been recorded here in the past, only the top c. 4 m were exposed in August 1997. The section (see (Figure 4.14)) is important in tracing laterally extensive, well-defined, rhythmic rock units in the Rutland Formation, and less readily recognizable units in the overlying Blisworth Limestone Formation. The Sharpi Beds, a valuable regional marker horizon at the base of the Blisworth Limestone Formation, are well developed and well exposed (Figure 4.19). Under its former name, Wellingborough No. 5 Pit, the section was recorded by Aslin (1965), whose description was published in Torrens (1968b). It also features in the unpublished theses of Bradshaw (1978) and Cripps (1986), whose interpretations differ considerably from that of Aslin.

Description

The basal Stamford Member of the Rutland Formation rests unconformably on the Northampton Sand Formation. It consists of 0.4 m of muddy sand with ironstone nodules, overlain by 0.9 m of sandy carbonaceous clay with rootlet traces; the latter is capped by a prominent rootlet bed. The succeeding 4.6 m comprises the Wellingborough Rhythm, which commences with a 1 m-thick bed of silty clay containing subordinate silt and sand layers. This is overlain by 3.5 m of interbedded silty clay, silt and sand, with thin layers of ooidal, finely shell-detrital limestone yielding marine fossils, which together form the Wellingborough Member of which Finedon Gullet is the type section (Bradshaw, 1978); it sharply truncates the unit below. The fauna of the member is dominated by bivalves, of which oysters are abundant in some beds; they are associated with an encrusting fauna of *Dorsoserpula* and *Berenicea*. *Modiolus imbricatus* J. Sowerby and *Placunopsis socialis* Morris and Lycett are also prominent, as well as the echinoid *Acrosalenia* and rhynchonellid brachiopods. The member is capped by a 0.5 m-thick bed of silty clay with rootlets, which defines the top of the Wellingborough Rhythm.

The base of the overlying Cranford Rhythm comprises finely laminated, varicoloured silts and clays, which pass up into pale-green-weathering, less silty clay. The upper part consists of carbonaceous silty clay with rootlets, which rests with a convoluted contact on the beds below. The total thickness is about 0.6 m.

The overlying Blisworth Limestone Formation commences with the Sharpi Beds, which comprise 2 m of alternating bluish marl and limestone beds, containing shelly lenses with abundant oysters and other bivalves, and the brachiopod *Kallirhynchia sharpi* Muir-Wood (Figure 4.19). These beds are succeeded by 2 m of fossiliferous, bioturbated, ooidal, shell-fragmental, micritic limestones with subordinate beds of micritic limestone containing thin laminae of ooidal, sandy marl. The fauna includes the bivalves *Anisocardia*, *Eocallista*, *Pleuromya* and *Vaugonia*, and the brachiopod *Epithyris*. These shelly limestones are overlain by 2.1 m of unfossiliferous, large-scale cross-bedded calcarenites, in which individual foresets are graded and draped by micritic limestone laminae.

Interpretation

The sand and carbonaceous clay of the basal Stamford Member of the Rutland Formation are thought to have formed in a freshwater lacus-trine environment, on the marginal coastal plain of the London Landmass. The succeeding deposits of the Rutland Formation throughout the East Midlands are interpreted largely as the sediments of a shallow, brackish-water lagoon, characterized by a sequence of regressive, rhythmic units that are commonly capped by a rootlet bed, signifying emergent saltmarsh conditions. At Finedon Gullet, the Wellingborough and Cranford rhythms are readily recognized; the

former rests directly on the Stamford Member, indicating that the intervening Ketton, Clipsham and Casterton rhythms are missing here. The Wellingborough Rhythm includes the thin ooidal limestones of the Wellingborough Member, which reflect transient marine incursions and represent the shoreward extremity of the thicker, fully marine, dominantly ooidal Taynton Limestone Formation of Oxfordshire and Gloucestershire.

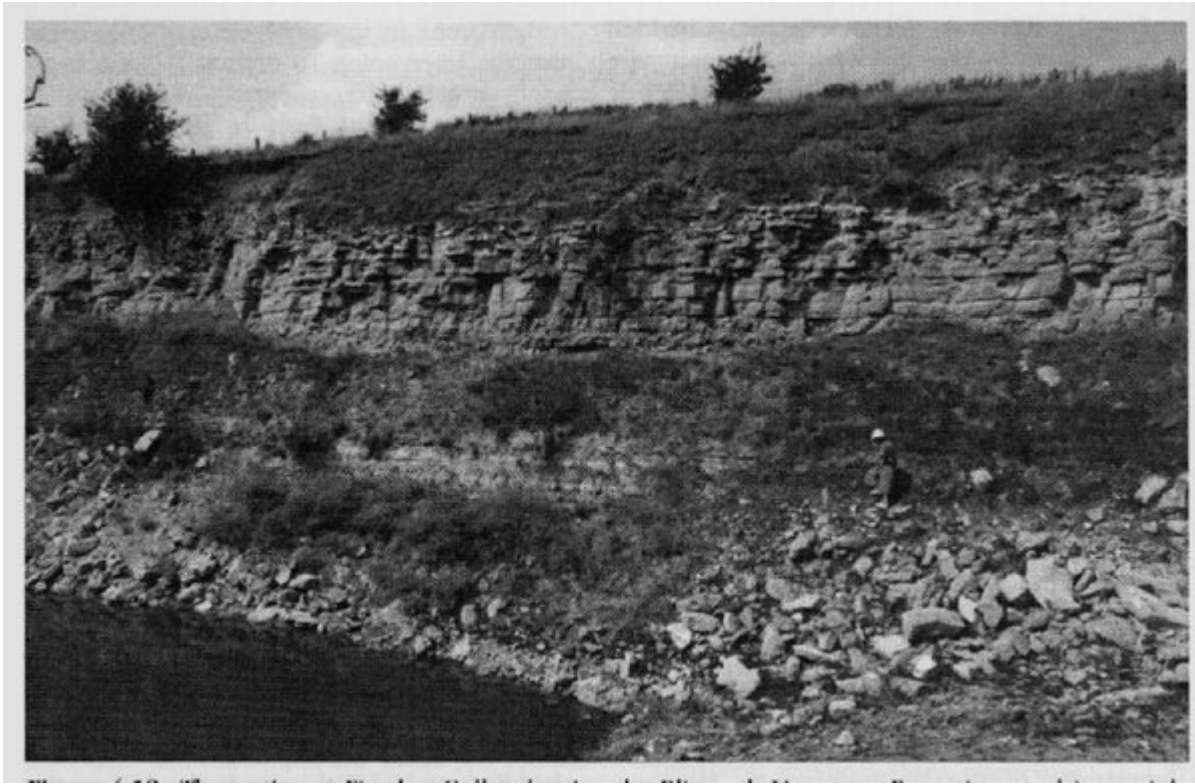
The Blisworth Limestone Formation represents a return of fully marine conditions to the East Midlands, as carbonate lagoonal deposition, accompanied by restricted input of terrigenous sediment, extended eastwards. The mixed epifaunal–infaunal fossil assemblages in the Sharpi Beds and immediately overlying strata, allied to the mainly micritic limestone lithologies, suggest relatively low-energy depositional conditions and a stable substrate. The cross-bedded calcarenites at the top of the section act as witness to turbulent, current-dominated waters that generated mobile sand-banks consisting of abraded shell-detritus. These calcarenites are similar to beds yielding *Digonella digonoides* (S.S. Buckman) at New Lodge Pit, Irchester [SP 907 650] and are inferred to be the Digonoides Beds, although the diagnostic brachiopod has not been found.

Correlation of the Rutland Formation with coeval strata in the Cotswolds indicates a vertical range at Finedon Gullet from the Lower Bathonian Zigzag Zone to the Middle Bathonian Progracilis Zone. However, the absence of certain units in the rhythmic sequence means that the intervening Tenuiplicatus Zone is probably largely unrepresented. The regionally correlatable Sharpi Beds at the base of the Blisworth Limestone Formation are considered to be coeval with the Excavata Bed of the White Limestone Formation in Oxfordshire, which there caps the Shipton Member and belongs to the Morrissi Zone. Since these beds rest directly on the clays of the Cranford Rhythm, cutting out beds of the Finedon Rhythm, the Subcontractus Zone is probably largely unrepresented. The remainder of the Blisworth Limestone Formation belongs, by comparison with nearby sections, to the Retrocostatum Zone, and the Bremeri Zone is probably unrepresented. The uppermost 2 m or so of unfossiliferous calcarenites at Finedon Gullet are lithologically similar to those of Irchester New Lodge Pit, some 6 km to the south, and so may be their lateral equivalent.

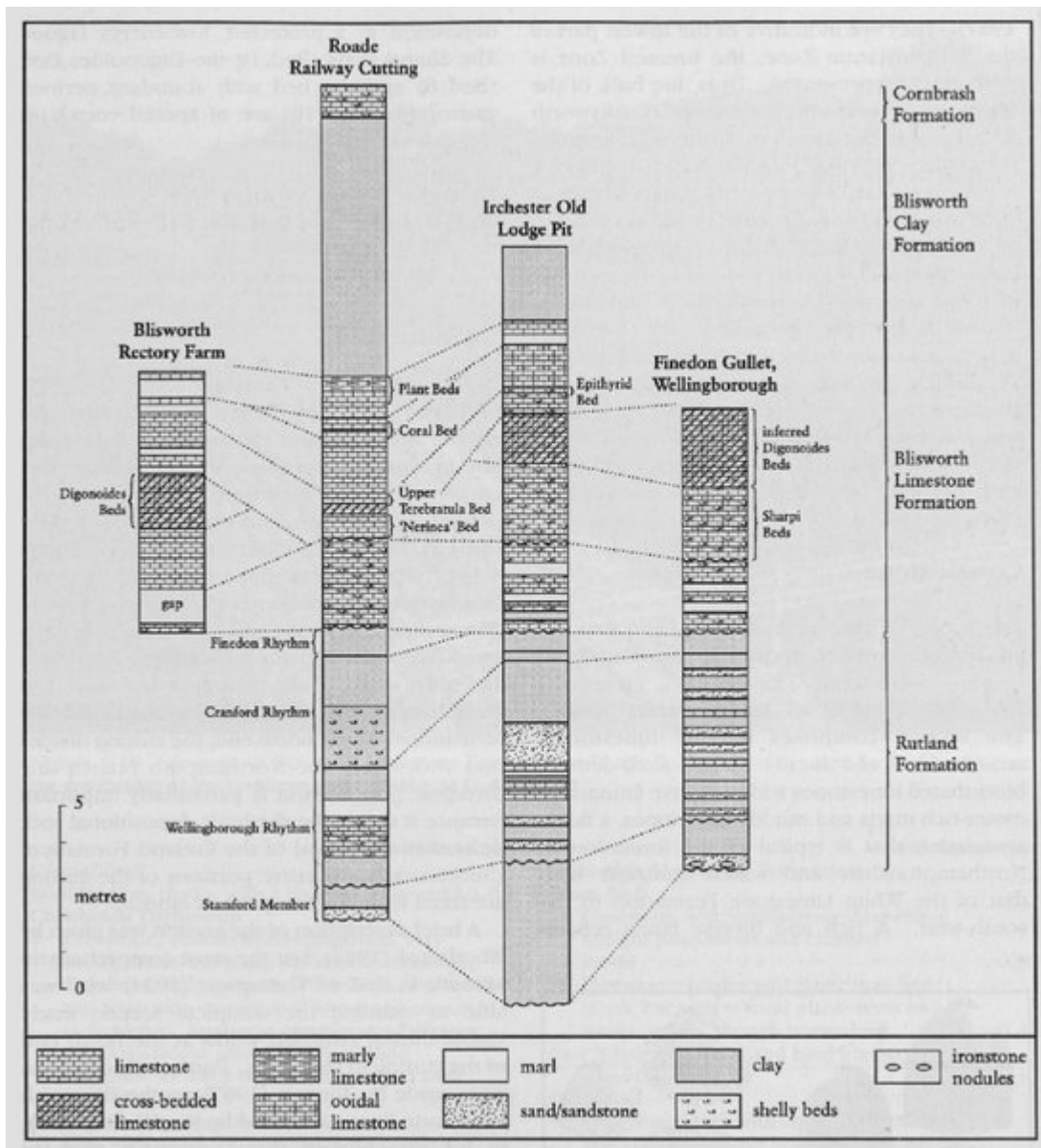
Conclusions

Finedon Gullet, Wellingborough, exposes a complete Early to Mid Bathonian Rutland Formation succession and much of the Mid to Late Bathonian Blisworth Limestone Formation, ranging from the Zigzag Zone to the Retrocostatum Zone. Rhythmic depositional units in the Rutland Formation are well displayed, but the absence of rhythms known from other localities indicates at least two non-sequences. Thin limestones in the Wellingborough Member represent more-or-less the eastern limit of a marine incursion, which in the Cotswolds is represented by the Taynton Limestone Formation. The regionally significant Sharpi Beds at the base of the Blisworth Limestone Formation are present, but the important Digonoides Beds can only be inferred in the absence of the diagnostic brachiopod.

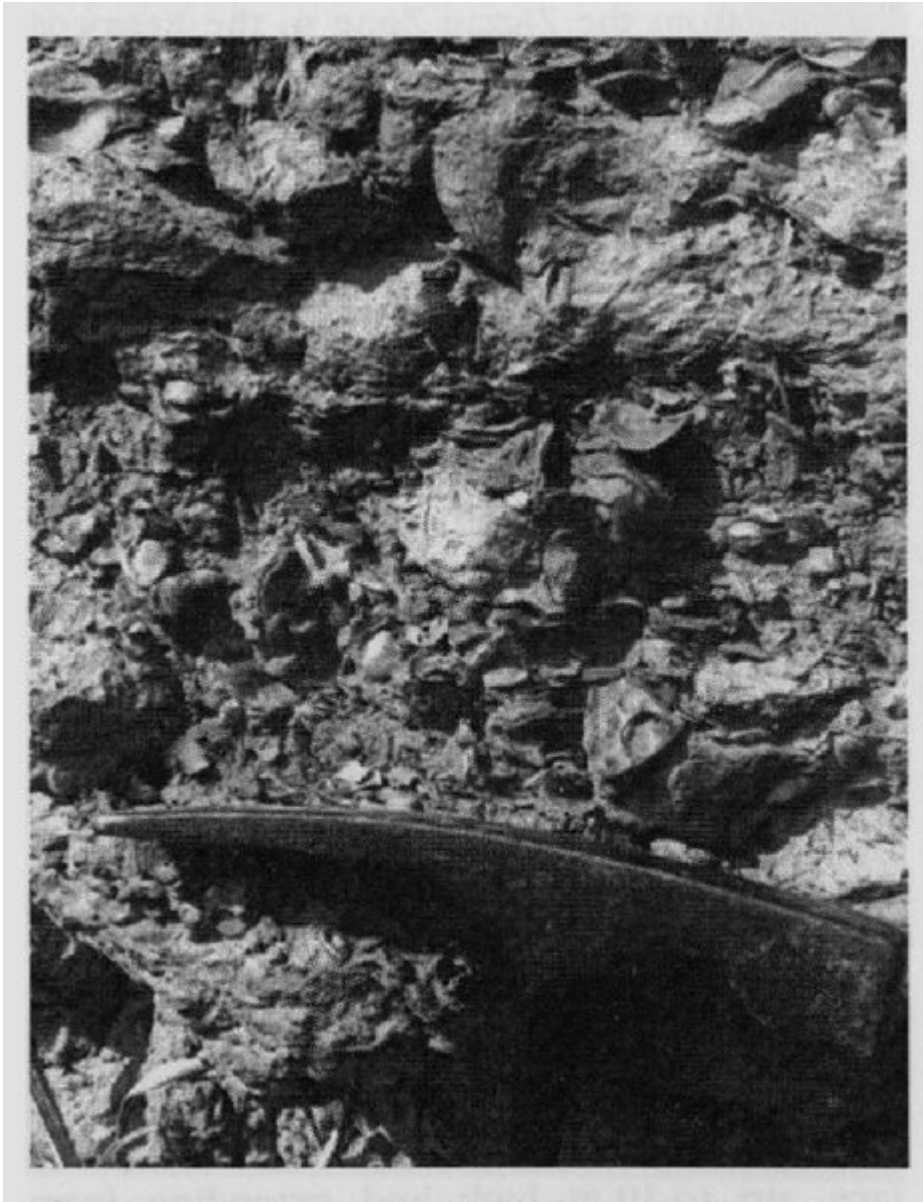
[References](#)



(Figure 4.18) The section at Finedon Gullet showing the Blisworth Limestone Formation overlying mainly grass-covered Rutland Formation. (Photo: M.G. Sumbler.)



(Figure 4.14) Correlation of GCR sites between Blisworth and Wellingborough (Blisworth Rectory Farm, Roade Railway Cutting, Irchester Old Lodge Pit and Finedon Gullet.)



(Figure 4.19) Oysters and *Kallirhynchia sharpi* Muir-Wood in the well-developed Sharpi Beds at Finedon Gullet. (Photo: M.G. Sumbler.)