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Geological Survey**

NATURAL ENVIRONMENT RESEARCH COUNCIL

# Foraminifera from a suite of Chalk samples from near Stonehenge

Internal Report IR/04/083



BRITISH GEOLOGICAL SURVEY

INTERNAL REPORT IR/04/083

# Foraminifera from a suite of Chalk samples from near Stonehenge

Ian P Wilkinson

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*Key words*

Foraminifera, Cretaceous,  
biostratigraphy.

*Bibliographical reference*

WILKINSON I P. .... 2004.  
Foraminifera from a suite of  
Chalk samples from near  
Stonehenge. *British Geological  
Survey Internal Report*,  
IR/04/083. 2pp.

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## Summary

Foraminifera were recovered from the Upper Newhaven and Lower Seaford Chalk formations of the area around Stonehenge.

# 1 Introduction

Foraminifera from seven samples of chalk were examined in order to provide biostratigraphical age determinations.

## 1.1 MPA52411 ARF1103 SU 1212 4170

*Reussella szajnochae praecursor*

*Stensioeina exsculpta exsculpta*

*Gavelinella cristata*

BGS17iii. The fauna is no lower than Barrois Sponge Bed. It is placed no higher than basal *pilula*, but the absence of *Bolivinooides* and *Stensioeina granulata perfecta* suggests it is below that level. Although *G. cristata* is present, it is very rare suggesting a position below Peake's Sponge Bed (as above this horizon it is a common element in the fauna). Highest Seaford is the best fit (between Barrois and Peake's Sponge Bed), but the basal Newhaven Chalk cannot be ruled out entirely.

## 1.2 MPA52412 ARF1104 SU 1203 4136

*Gavelinella stelligera*

*Stensioeina exsculpta exsculpta*

*Reussella kelleri*

BGS17iii. The fauna is placed no lower than the Barrois-Peake's sponge beds and the absence of *G. cristata* suggests a position below Peake's Sponge Bed. However, the extinction of *S exsculpta exsculpta* in the basal *pilula* Zone is the only solid evidence for an upper stratigraphical limit for the fauna. Top Seaford Chalk is indicated.

## 1.3 MPA52413 ARF1105 SU 1232 4161

*Reussella szajnochae praecursor*

*Gavelinella stelligera*

BGS17iii (uppermost part). The absence of *Gavelinella cristata* suggests a position below Peake's Sponge Bed. However the foraminifera listed indicate a position no lower than the Barrois-Peake's sponge beds interval, and probably immediately below the higher sponge bed. The Upper Seaford Chalk is inferred.

## 1.4 MPA52414 ARF1106 SU 1198 4186

*Cibicides beaumontianus*

BGS17. There are no biostratigraphically useful markers, but *C. beaumontianus* indicates a position above Whittaker's 3" flint. The absence of *Gavelinella cristata* is indicative of a position below Peake's Sponge Bed.

**1.5 MPA52415 ARF1107 SU 1238 4123**

*Gavelinella stelligera*

*Stensioeina polonica*

BGS17iii. The concurrent range of the species listed limit the sample to a point between Peake's and Barrois sponge Beds in the top Seaford Chalk.

**1.6 MPA52416 ARF1108 SU 1158 4132**

*Heterohelix striata*

*Rugoglobigerina pilula*

*Archaeoglobigerina cretacea*

*Bolivinoidea strigillatus*

*Stensioeina exsculpta exsculpta*

*Gavelinella cristata*

BGS18iv (to basal BGS19). A large fauna dominated by *G cristata* suggests a position above Peake's Sponge Bed, within the basal Newhaven Chalk. *Bolivinoidea strigillatus* ranges from the upper *socialis* Zone to the *pilula* Zone and the first three species listed above have their inception at the base of the the *U. anglicus* Zone. *Stensioeina exsculpta exsculpta* becomes extinct in the basal *pilula* Zone. The fauna is indicative of the *anglicus* to basal *pilula* zones in the basal Newhaven Chalk.

**1.7 MPA52417 ARF1109 SU 1150 4152**

*Gavelinella stelligera*

*Reussella szajnochae praecursor*

*Stensioeina exsculpta exsculpta*

BGS17iii (uppermost part). The first two species listed have their inception between Barrois and Peake's sponge beds, *G. stelligera* first appearing a little below Peake's Spnge Bed. *Stensioeina exsculpta exsculpta* becomes extinct in the basal *pilula* Zone. The absence of *Gavelinella cristata* suggests a position below Peake's Sponge Bed. The upper Seaford Chalk is indicated.