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Geological Survey**

NATURAL ENVIRONMENT RESEARCH COUNCIL

# Biostratigraphical determinations for two samples from 1:50K sheet 283

Internal Report IR/03/024



BRITISH GEOLOGICAL SURVEY

INTERNAL REPORT IR/03/024

# Biostratigraphical determinations for two samples from 1:50K sheet 283

I.P. Wilkinson

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## Summary

This report describes the biostratigraphical age determinations of a suite of Chalk samples from 1:50K Sheet 283. Foraminifera indicate that Cenomanian chinks are present.

# 1 Introduction

Two chalk samples from the West Woodhay area of the Andover Sheet (283) were examined for calcareous microfaunas (foraminifera) in order to determine the biostratigraphical ages. Comparison with other localities in southern England was carried out to relate the foraminiferal assemblages to the new lithostratigraphical framework for the Chalk.

## 2 Sample details and conclusions

The full listing of the species present in each sample is held on file in the Biostratigraphical Records of the BGS held in Keyworth. The foraminiferal zonation used herein is that of WILKINSON (2000).

National Grid References throughout this report refer to 100km quadrant SU.

### 2.1 MPA51424 PMH3655 39412 60543

Planktonic species including *Hedbergella aprica*, *Hedbergella brittonensis*, *Hedbergella baltica*, *Marginotruncana marginata*, *Whiteinella archaeocretacea* and *Dicarinella imbricata* form the bulk of the association. Benthonic species include *Globorotalites michelinianus* (species of *Stensioeina* and *Loxostomum eleyi* were not present). This fauna places the sample into BGS10 to the lower part of BGS12. The absence of *Marginotruncana sigali* may imply a position above the New Pit Chalk, but species characteristic of the higher part of the Lewes Chalk (e.g. *Marginotruncana coronata*) were also missing. Taking this at face value, the best fit is BGS11ii to low within BGS12 (*T. lata* macrofaunal zone) and the Lewes Chalk can be inferred. The absence of *Stensioeina* and *Loxostomum eleyi* indicates that the fauna is unlikely to have come from the Seaford Chalk.

### 2.2 MPA51425 PMH3656 39944 60708

Foraminifera are very rare and poorly preserved in this sample. They include *Gavelinella berthellini*, *Gavelinella baltica*, *Gavelinella intermedia*, *Arenobulimina advena*, *Plectina mariae*, *Gavelinella ?tourainensis*, together with a single fragment tentatively assigned to *Lingulogavelinella globosa*. Most species are found as isolated specimens and none occur in numbers greater to 2 or 3. This is unusual as Foraminifera are normally common in the Chalk Group (exceptions being in the Plenus Marls, Blackband or other low oxygenated levels) and low oxygenation may be the reason. The majority of the foraminifera are long-ranging Cenomanian species, some becoming extinct in the Plenus Marls, but a few extend up into the Turonian. The upper part of the Cenomanian is suggested and if the poorly preserved specimen assigned to *L. globosa* is correctly identified, Zone BGS6 (*guerangeri* macrofaunal zone) is the best fit (HART, 1989, shows the inception of this species to be in the highest *jukesbrownei* zone). Although several species are also present in the base of the Plenus Marls, the sample is better placed in the upper part of the Zigzag Chalk.

### 3. References

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