



**British  
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

The National Grid and other  
Ordnance Survey data are used  
with the permission of the  
Controller of Her Majesty's  
Stationery Office.  
Ordnance Survey licence number  
GD 272191/1999

*Key words*

Biostratigraphy; Foraminifera;  
Late Cretaceous.

*Bibliographical reference*

WILKINSON, I.P.. 2003.  
Biostratigraphical determinations  
for two samples from 1:50K  
sheet 283. *British Geological  
Survey Internal Report*,  
IR/03/024. 2pp.

## BRITISH GEOLOGICAL SURVEY

The full range of Survey publications is available from the BGS Sales Desks at Nottingham and Edinburgh; see contact details below or shop online at [www.thebgs.co.uk](http://www.thebgs.co.uk)

The London Information Office maintains a reference collection of BGS publications including maps for consultation.

The Survey publishes an annual catalogue of its maps and other publications; this catalogue is available from any of the BGS Sales Desks.

*The British Geological Survey carries out the geological survey of Great Britain and Northern Ireland (the latter as an agency service for the government of Northern Ireland), and of the surrounding continental shelf, as well as its basic research projects. It also undertakes programmes of British technical aid in geology in developing countries as arranged by the Department for International Development and other agencies.*

*The British Geological Survey is a component body of the Natural Environment Research Council.*

### **Keyworth, Nottingham NG12 5GG**

☎ 0115-936 3241 Fax 0115-936 3488  
e-mail: [sales@bgs.ac.uk](mailto:sales@bgs.ac.uk)  
[www.bgs.ac.uk](http://www.bgs.ac.uk)  
Shop online at: [www.thebgs.co.uk](http://www.thebgs.co.uk)

### **Murchison House, West Mains Road, Edinburgh EH9 3LA**

☎ 0131-667 1000 Fax 0131-668 2683  
e-mail: [scotsales@bgs.ac.uk](mailto:scotsales@bgs.ac.uk)

### **London Information Office at the Natural History Museum (Earth Galleries), Exhibition Road, South Kensington, London SW7 2DE**

☎ 020-7589 4090 Fax 020-7584 8270  
☎ 020-7942 5344/45 email: [bgs london@bgs.ac.uk](mailto:bgs london@bgs.ac.uk)

### **Forde House, Park Five Business Centre, Harrier Way, Sowton, Exeter, Devon EX2 7HU**

☎ 01392-445271 Fax 01392-445371

### **Geological Survey of Northern Ireland, 20 College Gardens, Belfast BT9 6BS**

☎ 028-9066 6595 Fax 028-9066 2835

### **Maclea Building, Crowmarsh Gifford, Wallingford, Oxfordshire OX10 8BB**

☎ 01491-838800 Fax 01491-692345

### *Parent Body*

### **Natural Environment Research Council, Polaris House, North Star Avenue, Swindon, Wiltshire SN2 1EU**

☎ 01793-411500 Fax 01793-411501  
[www.nerc.ac.uk](http://www.nerc.ac.uk)

# Contents

<b>Contents</b> .....	<b>i</b>
<b>Summary</b> .....	<b>i</b>
<b>1 Introduction</b> .....	<b>1</b>
<b>2 Sample details and conclusions</b> .....	<b>1</b>
2.1 MPA51424 PMH3655 39412 60543.....	1
2.2 MPA51425 PMH3656 39944 60708.....	1
<b>3. References</b> .....	<b>2</b>

## Summary

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

HART, M.B., BAILEY, H.W., CRITTENDEN, S., FLETCHER, B.N., PRICE, R.J. & SWIECICKI, A. 1989. Cretaceous. *In*: Jenkins, D.G. & Murray, J.W. *Stratigraphical index of fossil foraminifera*, Second edition, 273-371.

WILKINSON, I.P.2000. A preliminary foraminiferal biozonation of the Chalk Group (In preparation for the Holostrat Project: Upper Cretaceous). *British Geological Survey Internal Report*, IR/00/13, 21pp.