

Review of the microfaunal and nannofloral stratigraphy of the Upper Cretaceous of the TWC-3 well

- a contribution to the EFP-93 project:
Lower and Upper Cretaceous
stratigraphy in the Central Trough

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Contents

1. Introduction	3
1.1 Method.....	3
2. Review	4
3. References	5

1. Introduction

In order to tie in a seismic line in the study area of the EFP 93 project, the stratigraphy Upper Cretaceous section of the TWC-3 well (Tyra Field, Danish North Sea) was reviewed and updated to make it compatible with the zonation scheme which has been developed for the project.

The decision to include the TWC-3 well occurred late in the project and therefore the review was limited to a paper review using the original data from the commercial report produced by SPT analysts.

1.1 Method

The data from the original report was initially updated with regards to taxonomy, synonymy and in-house nomenclature. The in-house names were 'translated' after discussion with one of the SPT analysts. The SPT zonation scheme for the Upper Cretaceous interval can be seen in Appendix 1. Subsequently, marker species used in the EFP-93 scheme were identified and the review was carried out with the result that units could be assigned to the EFP scheme sufficiently well to complete the seismic work.

2. Review

Depth	Age	SPT Zone	Marker Species	EFP- 93 Zones
6489'	Uppermost Upper Maastrichtian	NUK 1 MUK 1	Abundant <i>Micula decussata</i> <i>Arkhangelskiella cymbiformis</i> <i>Pseudotextularia elegans</i> <i>Rosita contusa</i>	TA III
6538'	Upper Maastrichtian	MUK 2	<i>Rugoglobigerina rugosa</i>	TA II
6683'	Lower Maastrichtian	MUK 5	<i>Bolivinoides draco miliaris</i>	TD
7011'	Upper Campanian	MUK 8-9 NUK 8	<i>R. rugosa rotundata</i> <i>Reinhardtites anthophorus</i>	HA II
7231'	Lower Campanian - Upper Santonian	NUK 9	<i>Broinsonia enormis</i> bundant <i>Lucianorhabdus cayeuxii</i> common <i>Monomarginatus quatemarius</i>	HB-HC II
7382'	Upper Santonian	MUK 15	Com./abnt. <i>Cenosphaera</i> spp.	HC II
7408'	Lower Santonian	MUK 16-17	<i>Stensioeina granulata polonica</i>	HC I
7670'	Coniacian - Turonian	MUK 18-20	abnt <i>Marginotruncana marginata</i>	HD II
7885'	Turonian	MUK 22-25 NUK 11-15	<i>Stensioeina granulata humilis</i> <i>Quadrum gartneri</i> <i>Helicolithus</i> aff. <i>trabeculatus</i>	HD 1 - HE
8160'	Upper - Lower Cenomanian	MUK 26-29 NUK 16	common <i>Hedbergella</i> spp. <i>Zygrhabdotus theta</i>	HRB - HRC
8303'-8369'	Lower Cenomanian	MUK 30	actinommid radiolaria	HRC

All depths are in total vertical depth sub sea (TVDSS)

3. References

Barrington, D.I., 1993: A Biostratigraphic Correlation of the Maastrichtian of the TEB-1P, TEB-12 and E-7X Wells and Upper Cretaceous of the E-4X and TWC-3P Wells. Commercial Report: *Simon Petroleum Technologies Limited*. (GEUS Rept. File No 3319).