

**14cen.\* = Microfossil and e-log events in 14 in deep marine Cenozoic  
of the North Sea and offshore Norway**

Problem: The marine (deep neritic to middle bathyal) Cenozoic record, offshore Norway in the early nineties of the last century lacked an integrated foram/dino zonation, despite many years of drilling. In addition, no companies had systematic Cenozoic correlation data sets.

Data: The data set consists of several dozen wells, all of which were analyzed by ourselves. The RASC zonation builds on 14 of the wells with best sample coverage, and best regional coverage. The published data set is based on a total of 27 wells; due to screen space limitations the subset of 14 well data set is used here, since it easier to deal with on PC for teaching.

Name: 14cen\*

Runs: Many RASC runs were done to understand the well data set in terms of the optimal zonation; dozen of records in wells were either deleted or corrected (due to caving and reworking); several taxa were deleted due to erratic correlations. The final well record harbours 287 dictionary taxa (mostly tops) with 999 records; 56 of these taxa occur in 6 or more wells.

Zonation: The Cenozoic optimum sequence includes 56 taxa events (mostly tops), spanning Danian through Plio/Pleistocene marine strata; in addition, 5 events noted with \*\* occur in fewer than 6 wells but are inserted for the purpose of zonal definition.

```
SUMMARY OF DATA PROPERTIES AND RASC17 RESULTS:

NUMBER OF NAMES (TAXA) IN THE DICTIONARY          524
NUMBER OF WELLS                                     14
NUMBER OF DICTIONARY TAXA IN THE WELLS             287
NUMBER OF EVENT RECORDS IN THE WELLS              999
NUMBER OF CYCLES PRIOR TO RANKING                   9
NUMBER OF EVENTS IN THE OPTIMUM SEQUENCE           56
NUMBER OF EVENTS IN OPTIMUM SEQUENCE WITH SD < ave SD 34
NUMBER OF EVENTS IN THE FINAL SCALED OPTIMUM
  SEQUENCE (INCLUDING UNIQUE EVENTS SHOWN WITH **) 61
NUMBER OF STEPMODEL EVENTS WITH MORE THAN
  SIX PENALTY POINTS AFTER SCALING                  4
NUMBER OF NORMALITY TEST EVENTS SHOWN WITH * OR ** 25
NUMBER OF AAAA EVENTS IN SCALING SCATTERGRAMS      18
```

Summary of work: The study went on over several years as part of routine biostratigraphy of deep marine Cenozoic sediments in the North Sea and offshore Norway. The study is reported in Gradstein, F.M. & Bäckström, 1996. Cainozoic

biostratigraphy and paleobathymetry, northern North Sea and Haltenbanken. Norsk Geol. Tidsskrift, 76: 3-32.

RASC run data:    14cen.inp    - parameter file  
                  14cen.dat    - event data file  
                  14cen.dep    - event depth file  
                  14cen.dic    - dictionary of fossil names

Listing of data:    14cen.lst

RASC results in Ascii text format: 14cenout\*.out

RASCW results in visual basic graphics format: 14cenopt.oc2  
  14cenden.oc2

See also Ncenden.oc2, Ncenoptoc2, Ncecas1.oc2, Ncecas2.oc2 and Ncecas3.oc2  
which files show RASC and CASC visual basic results with the masterfile ncen.\* of 27  
wells.