

Sedimentology and stratigraphy of a core East of the Belgica mound province: significance for the regional Quaternary se

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Recent geophysical surveys within the Porcupine Seabight have shown the presence of current-related features on the Eastern slope of this region. Very-high-resolution single channel seismic profiles (sparker source) have evidenced the presence of semi-buried carbonate mounds on the slope section between 500 and 1000 m bsl. Around these mounds the sedimentation seems to be highly influenced by a complex and badly understood current system. Also on high-resolution sidescan-sonar imagery sandwaves and sand sheets have been observed within the proximity of these mounds. During the IMAGES-4 campaign of R/V Marion Dufresne in septembre 1999 a 26 metre long core was taken at a water depth of 651m and at a distance of 3 km to the most closeby mound. The uppermost centimetres of the core were blown away and disturbed by the weight of the coring device and therefore resampled in June 2000 with R/V Belgica. The first 5 cm contains a light brown fine sandy unit with quartz and planktonic foraminifers. On the surface of the boxcore, several large IRD were found. The next unit is a very homogeneous silty clay with some sulfide streaks. This changes only after 12 m where the lithology starts changing to a large unit of foraminiferal and detrital fine sand until the end of the core. The core was analysed for magnetic susceptibility, gamma density using the GeoTEK MST. Continuous semi-quantitative records of chemical composition were obtained by the CORTEX corescanner. The sampling interval for biostratigraphy, stable oxygen and carbon isotopes and grainsize analyses was set at 10 cm. Interpretation of this data shows the presence of a very high content of IRD (> 5%) but well-known paleoceanographic markers as the Heinrich Layers are absent. The sortable silt parameter indicates changing intensity of currents throughout the whole core and particularly the third (sandy) unit is thought to be very winnowed. These changes are also reflected by the abundance of the benthic foraminifer *Uvigerina mediterranea*. Stable isotopes and biostratigraphy are used to give a relative chronology which will be used to extrapolate a date of the beginning of the contourite drift deposit, as indicated on seismic profiles.