

## MAGNETIC PROPERTIES OF NW BLACK SEA SEDIMENTS : RESULTS OF BLASON II CRUISE.

A.JELINOWSKA<sup>1</sup>, A. LOUCHET<sup>1</sup>, C. STRECHIE<sup>1,2</sup>, L. MEYNADIER<sup>3</sup>, F. GUICHARD<sup>4</sup>,  
P. TUCHOLKA<sup>1</sup>.

<sup>1</sup> CNRS-UMR 8148 IDES, Université Paris Sud XI, Bat. 504, 91405 Orsay, Cedex, France

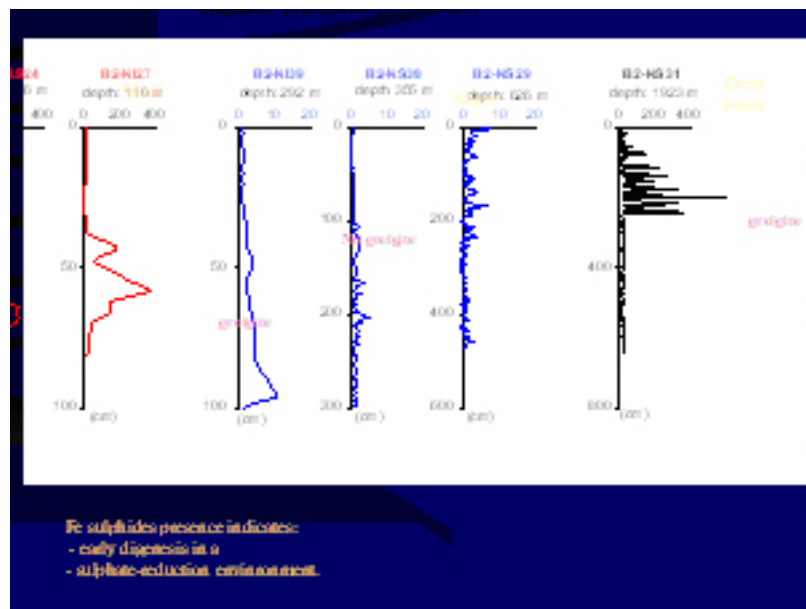
<sup>2</sup> GeoEcoMar, Str. D. Onciul nr 23-25, 024053 Bucuresti, România

<sup>3</sup> CNRS UMR 7579, IGP - Boite 89 - 4 place Jussieu - 75252 Paris cedex 05

<sup>4</sup> LSCE, Av de la Terrasse, Bat. 12, 91198 Gif/Yvette, Cedex, France

Magnetic properties : susceptibility, Natural (NRM) and Anhyseretic (ARM) Remanent Magnetisations and thermomagnetic behaviour were studied on cores taken out during the BLASON 2 cruise. Two of studied cores come from the continental plateau (B2-KI 24 from depth 96 and B2-KI 27 from depth 110m), four others are from progressively deeper water and from different zones of the bottom of the sea : B2-KI 39 (292 m b.s.l.), B2-KI 38 (355 m), B2-KI 29 (626 m) and B2-KI 31 (1923 m).

The two cores from « shallow water » show similar results : magnetic susceptibility, NRM and ARM low and constant in the top part down to the lithological change into laminated, grey mud in the lower part of cores in which marked rise of magnetic parameters shows a significant increase of magnetic grains concentration. Curie balance analyses show that the magnetic fraction of sediments in lower parts of both cores is dominated by greigite (Fe<sub>3</sub>S<sub>4</sub>) while the top parts contain non identified paramagnetic minerals and pyrite (FeS<sub>2</sub>). Similar evolution was observed by C. Strechie in shallow water cores from the Blason 1 cruise (BLKS98-04, BLKS98-06) indicating environmental change following input of marine water and set up of sulphato-reducing conditions .



The three intermediate cores (B2-KI 39, B2-KS 38 et B2-KS 29), from water depths from 292 m to 626 m show the values of magnetic susceptibility and remanences significantly (factor 10) lower than the greigite dominated sediments from shallow water cores described above. This shows low concentration of magnetic minerals. Lithological parameters of these cores allow identification of units I and II (with different lengths) containing paramagnetic minerals including pyrite and diamagnetic substances. In cores BLKS98-10, BLKS98-11 and BLKS98-22 C. Strechie observed similar pattern with an exception of small quantities of ferromagnetic iron sulphide at the base of unit II.

The deepest core (B2-KS 31) shows highest values of magnetic parameters but also very variable in the top 250 cm of the sediment. Cores from deep water in Blason 1 (in particular BLKS98-22) show similar parameters.

