



The first rock-magnetic data of sedimentary section the Stolb island (Lena Delta)

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The study of rock-magnetic parameters is one of the ways, which makes it possible to demonstrate clearly change the amount of introduced magnetic material along the section. It included the measurement magnetic susceptibility (k), natural remanent magnetization (NRM) and anisotropy of magnetic susceptibility (AMS). All magnetic measurements were performed in the paleomagnetic center of IPGG SB RAS.

The object of the study is a sedimentary section that located in the Lena Delta. The section is an island with dimensions of 500x500m with monoclinic lithology packets. The age of these rocks is the upper Franconian-Lower Famennian of the Devonian period. The age of rocks according to biostratigraphic data. The section includes 37 lithological packets with a total capacity of 195 meters. These section represents by kalkarenites, dolarenites and sandstones, which have generally quartz-feldspar composition with a large proportion of carbonate material. The material for the study was selected from most packet of the section and is 320 samples.

In result of the measurements, the following data were obtained. In average NRM is varied from $1.510 \cdot 10^{-5}$ A/m to $5.810 \cdot 10^{-5}$ A/m. In packet 26, the NRM value increases to $1.7 \cdot 10^{-4}$ A / m. It increase is also observed in the values magnetic susceptibility (K) for these sediments. In average (K) varied from $5.0810 \cdot 10^{-5}$ Si, to $2.0710 \cdot 10^{-4}$ Si, while in packet 26 the value (K) is $3 \cdot 10^{-4}$ Si. The synchronous increase in these parameters indicates the presence of a large amount of iron oxides in the sediment, which is also confirmed by the presence of a large amount of phenocryst pyrites. Their variations from packet to packet are synchronous and these characteristics are depend upon concentration of magnetic fractions that typically for detrital magnetization. Anomalistic values parameters in packet 26 may be an additional marker for dismembering and correlations Late Devonian deposition.

According to the anisotropy of magnetic susceptibility (AMS), we can conclude that for most rocks the flate type AMS is characteristic. The arrangement of K_{max} and K_{mid} axes in the plane of deposition. The degree of anisotropy P_j , has low values, which is typical for sedimentary rocks that have not undergone significant changes and saved their primary directions of the magnetization vector.

Thus, the rock-magnetic characteristic of the sedimentary rocks of Stolb Island shows that the flow of the magnetic material was not uniform and it allows one to isolate the anomalous values of the parameters, which can be used to correlate the late Devonian sections of the region.

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