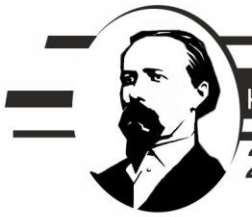

Kazan Golovkinsky Stratigraphic Meeting 2021

Kazan Federal University
Institute of Geology and Petroleum Technologies

Kazan Golovkinsky Stratigraphic Meeting 2021

celebrating the 180th anniversary of the establishment of the Permian system

"Sedimentary Earth Systems: Stratigraphy, Paleoclimate, Geochronology, Petroleum Resources"

Sixth All-Russian Conference "Upper Paleozoic of Russia"

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ABSTRACT VOLUME

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International Stratigraphic Meeting is dedicated Earth systems, stratigraphic events, paleoclimate, biotic evolution, sedimentary basins and resources.

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Lacustrine sediments variability on magnetic properties, mineral and chemical composition, lakes Bolshoye Miassovo and Turgoyak (South Urals)

Anastasia R. Yusupova, Nuriia G. Nourgalieva, Dilyara M. Kuzina, Lina R. Kosareva, Pavel S. Krylov, Vadim V. Antonenko
Kazan Federal University, Kazan, Russia; yusupovaanast095@gmail.com

The work is devoted to the study of the magnetic and geochemical parameters of the Southern Urals lakes. The main aim of this investigation is to identify the events and trends of environmental and climate factors changes in the Late Quaternary.

The objects of research are the lakes of the Southern Urals: Turgoyak (55°09′00″ N, 60°04′00″E) and Bolshoye Miassovo (55°9′59.89″ N 60°20′51.82″ E).

According of previously seismoacoustic studies, 5 core column were taken for each study lake. The total number of samples for Lake Turgoyak was 1275 samples (the length of column varies from 384 to 558 cm), for Lake Bolshoye Miassovo – 1073 samples (the length of core columns changes from 282 to 526 cm).

For a detailed complex analysis, core No. 3 of Lake Bolshoye Miassovo and No. 5 of Lake Turgoyak were selected according of the primary lithological description and the results of seismoacoustic studies.

According of radiocarbon dating results, the age of the Lake Turgoyak sediments is more than 25000 years; Lake Bolshoye Miassovo is ~ 13500 years.

The detailed complex analysis included the measurements of magnetic susceptibility and natural remanent magnetization, coercive spectrometry, differential thermomagnetic analysis, scanning and transmission electron microscopy, and analysis of the chemical composition of sediments.

Normal-magnetization curves were used to determine the hysteresis parameters, the domain structure and ferrimagnetic grain sizes, as well as the contribution of para-, ferro- and superparamagnetic components to the total magnetic susceptibility. The results of elemental analysis were used to calculate the chemical alteration index CIA for assessing the intensity of chemical weathering and paleoclimate sedimentation conditions.

The integration of the values variations of magnetic-mineralogical and geochemical parameters made it possible to reveal the features of climatic and other environmental changes on the studied lacustrine sediments, by taking into account of regional data and in accordance with the periodization of the Blytt-Sernander scheme.

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