



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”

October 18-22, 2021, Kazan, Russia

ABSTRACT VOLUME





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Abstract Volume

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Vladimir V. Silantiev

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Milyausha N. Urazaeva,
Veronika V. Zharinova



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**Международная конференция
Kazan Golovkinsky Stratigraphic Meeting 2021,**

посвященная 180-летию со дня установления пермской системы

Осадочные системы: стратиграфия, геохронология, палеоклимат,
углеводородные ресурсы

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Международная конференция Kazan Golovkinsky Stratigraphic Meeting 2021, посвященная 180-летию со дня установления пермской системы. Осадочные системы: стратиграфия, геохронология, палеоклимат, углеводородные ресурсы. Шестая Всероссийская конференция «Верхний палеозой России» (18–22 октября 2021 г., Казань, Россия) [Электронный ресурс]: сборник тезисов. – Электронные сетевые данные (1 файл: 3,65 МБ). – Казань: Издательство Казанского университета, 2021. – 96 с. – Системные требования: Adobe Acrobat Reader. – Режим доступа: <https://dspace.kpfu.ru/xmlui/bitstream/handle/net/166390/Golovkinsky-2021.pdf>. – Загл. с титул. экрана.

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

Международная конференция посвящена проблемам планетарных систем, стратиграфическим событиям, палеоклимату, эволюции биоты, седиментационным бассейнам и полезным ископаемым.

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Magnetic investigations of Lake Bannoe (South Urals) sediments

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The work is devoted to the study of the magnetic parameters of the Bannoe Lake. The main aim of this investigation is to identify the presence of magnetic minerals and recognize their origin: cosmic, terrestrial (biogenic, volcanic etc.).

The object of research Lake Bannoe (53°35'48.13"N 58°37'47.28"E) is located in the Southern Urals. The altitude of the lake is 434 m, the width is ~1.9 km, the length is ~4.2 km, and the basin area is 36.3 km². The sediment section is represented by gray-blue clay with shell fragments, dark green to gray-green silts. According to the radiocarbon dating the lake is ~12.5 thousand years of age.

The magnetic susceptibility (MS) was measured for all (254) samples of the core #3 using MFK-1A (AGICO). The obtained values of the MS were normalized by weight. Coercive parameters of the core were obtained on the J_meter coercive spectrometer. The magnetic hysteresis parameters reflect the size of magnetic particles, the composition of the magnetic grains, and the contribution of the para-, ferro-, and superparamagnetic components of the MS.

Measurements of magnetic susceptibility (MS), hysteresis parameters and thermomagnetic analysis were carried out to determine changes in magnetic mineralogy and sedimentation conditions. Thermomagnetic curves measured on Curie express balance, coercive parameters on J-coercivity spectrometer and magnetic susceptibility on multi-function kappabridge MFK1-FA (AGICO). Thermomagnetic analysis is a major method for the diagnosis of ferromagnetic fraction composition in rocks. Differential thermomagnetic analysis (DTMA) of all (254) samples of core #3 was carried out using a Curie express balance. Before measuring the dried sample was ground and weighed. Temperature dependences of induced magnetization up to 800°C at a heating rate of 100°C per minute in a constant magnetic field of 0.4 T were obtained. The curves of the first and second heating allow to evaluate possible mineralogical transformations in a sample.

The integrated analysis of magnetic parameters made it possible to divide the studied core into several sections with different magnetic mineralogy and magnetic properties. Based on the data obtained, conclusions were drawn about the nature of magnetic particles in the sediment.

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