

HIGH-CARBON DOMANIC ROCKS AS UNCONVENTIONAL SOURCES OF HYDROCARBONS - COMPOSITION, PROPERTIES AND METHODS OF PRODUCTION OF SHALE OIL FROM THEM

A Workshop at Soran University (SUN)



[By Anastasia Mikhailova](#)

This Workshop at is arranged by SUN's
Engineering faculty

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Abstract

The presented studies in the workshop made it possible to identify the compositional features of rocks of different lithological-facial types - domanicites and domanicoids, oil extracts extracted from them, the structure and properties of high-molecular compounds in their composition, as well as the features of the products of hydrothermal transformations of organic matter of bituminous carbonate and carbonate-siliceous rocks Domanic deposits of the Upper Devonian and their similarity with the composition of shale oil. Based on the data obtained, more than 40 works in major citation databases, a monograph entitled "Hydrothermal transformations of organic matter of the rocks Domanic sediments of Tatarstan into shale oil", were published. Kayukova G.P., Mikhailova A.N., Nasyrova Z.R., Vakhin A.V. M.: GEOS, 2022. 328 p. DOI 10.34756/GEOS.2021.16.37866). Anastasia is guest reviewer for the journals "ACS Omega", "Energy Fuels", "Petroleum".

پوخته

توێژینهوهکه که پیشکەش دەکەیت لەم وۆرکشۆپە، یارمەتیدەر بوو بۆ ئەوەی بزانییت چی لەناو جۆره جیاوازمەکانی بەرددا هەیە، وەکو دۆمانیسایت و دۆمانیکۆید، هەروەها ئەو رۆنەیی که دەتوانییت لێیان دەستبەکەوێت. هەروەها سەیری ئەو پێکەنانەیی کردوو که ئەم بەردانە پێکدەهێنن و چۆن دەگۆڕییت کاتیک گەرم دەکەین. هەروەها توێژینهوهکه ئەمەیی بەراورد کردوو لەگەڵ ئەوتی شیل بۆ ئەوەی بزانی چۆن لەیەک دەچن. بە بەکارهێنانی ئەو زانیاریانەیی کۆمان کردۆتەوه، کتییێکیان بە ناوی "گۆرانکارییه گەرمییه ئاوییەکان لە نیشتموومەکانی بەردی دۆمانی لە تاتارستانەوه بۆ ئەوتی شیل" بلاوکردەوه، و لە زیاتر لە ۴۰ بۆنکەداوەی گەرمی توێژینهوهدا باسی لێوه کراوه.

خلاصة

لقد ساعدك البحث في معرفة ما هو موجود داخل أنواع مختلفة من الصخور، مثل الدومانسييت والدومانيكويد، بالإضافة إلى النفط الذي يمكنك الحصول عليه منها. كما نظر إلى مكونات هذه الصخور وكيف تتغير عند تسخينها. وقارنت الدراسة أيضًا هذا مع النفط الصخري لمعرفة كيفية مقارنتهما. وباستخدام البيانات التي جمعناها، قمنا بنشر كتاب بعنوان “التحولات الحرارية المائية من رواسب صخر دوماني من تتارستان إلى النفط الصخري”، وقد تم ذكره في أكثر من 40 قاعدة بيانات بحثية مهمة.



Mikhailova Anastasiya Nikolaevna,
Kazan, Russia

Kazan (Volga Region) Federal University,
Institute of Geology and Oil and Gas Technologies

PhD in Chemistry (Petrochemistry),
Senior Researcher of laboratory "In-situ combustion"

Scientific secretary of the dissertation council in the areas of "Petrochemistry" and "Development and operation of oil and gas fields"

Anastasia Mikhailova is part of the scientific group of the Research Laboratory "In-situ Combustion" of the Kazan Federal University and the Laboratory of Petroleum Chemistry and Geochemistry of the Institute of Organic and Physical Chemistry named A.E. Arbuzov over the past years has been working to finding ways to realize the oil-generation potential of low-permeability source rocks of Tatarstan - a source of shale oil, as well as deposits of heavy oil and natural bitumen, using hydrothermal and hydrothermal-catalytic impact.

educational background:

- higher education (specialty): Kazan National Research Technological University, Faculty of Petroleum and Petrochemistry, specialty "Chemical technologies for processing natural energy resources and carbon materials" Qualification: Engineer;
- Higher education (master's degree): Kazan National Research Technological University, Faculty of General Chemical Technology, specialty "Energy and resource-saving processes in chemical technology, petrochemistry and biotechnology";
- Postgraduate studies, Institute of Organic and Physical Chemistry named after A.E. Arbuzova, direction "Petrochemistry"
- Currently - Candidate of Chemical Sciences, senior researcher at the Research Laboratory "In-situ Combustion" of the Institute of Geology and Oil and Gas Technologies of Kazan Federal University

Area of scientific interests: studying the composition and properties of unconventional sources of hydrocarbons - low-permeability shale rocks rich in kerogen, as well as heavy, highly viscous oils; study of the influence of hydrothermal effects on the degree of transformation of organic matter of dense oil source rocks and the composition of extracted oil; studying the influence of natural and industrial

catalysts on the degree of generation of shale oil. Mikhailova Anastasiya will conduct a seminar on the topic « HIGH-CARBON DOMANIC ROCKS AS UNCONVENTIONAL SOURCES OF HYDROCARBONS - COMPOSITION, PROPERTIES AND METHODS OF PRODUCTION OF SHALE OIL FROM THEM». On 21 October 2023 at Soran university, faculty of Engineering Petroleum and Mining Engineering department at 10:00 am.

About Soran University

[Soran University \(SUN\)](#) is located in the city of Soran, which is about a two-hour drive north-east of [Erbil](#) (Arbil, Hewlér), the capital of the [Kurdistan Region](#) of Iraq (KRIQ). The city is flanked by the famous Korek, Zozik, Henderén, and Biradost mountains. The medieval mountain village of [Rewandiz](#) ([Rawanduz](#), [رەواندز](#)) is a stone-cast away, and the two cities share this lovely, harmonious upland. While waiting for its green, environmentally friendly building to be erected on a hilltop overlooking the cities of Soran and Rewandiz, its existing city campus has been meticulously set out to accommodate the lovely natural landscape. The new campus will be the first of its type, being walkable, balanced, powered by renewable energy, and compliant with all international environmental regulations. There are 5 Faculties in [SUN](#); [Faculty of Arts](#) (FAAR), [Faculty of Science](#) (FSCN), [Faculty of Education](#) (FEDU), [Faculty of Law](#), Political Science, and Management (FLAW/PSM), and [Faculty of Engineering](#) (FENG). Also, there is SUN research centre. Moreover, at SUN, there is a Language Center. SUN signed many Memoranda of Understandings (MoU) with many International Universities,

How to get here

Soran University (SUN) is located in the heart of the city of Soran. The main city campus is easily found on Google Maps for direction.