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Research Article

Analysis of the Yaregskaya Oil With Underlying Deposit Lower Placer With Genetic Unity, Migration Consequences and Transition of Metals in Oil

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Abstract: The paper aims to figure out Analysis of the Yaregskaya oil with underlying deposit "lower placer with genetic unity, migration consequences and transition of metals in oil. By using descriptive method for primary model, synthesis methods and process analysis and analysis of difficulties and discussion, The study of this problem point that, In general, assessing the possibility of toxicological impact on the environment of oil Caspian region and the sale of products of their processing, it should be noted a relatively low PTE enrichment for subsalt productive deposits. Last but not least, it can be concluded that there is no genetic, migratory and structural connection of the Yaregskaya oil with underlying deposit "lower placer". Three options may be equal in rights: genetic unity; migration consequences; transition of metals in oil within the structure by contacts or violations. But in the latter case, one must take into account the extremely low solubility of titanium and only in highly acidic environments.

Keywords: yaregskaya oil, underlying deposit, metals in oil, composition, oil and gas fields.

1. Introduction

The amount of data on the metal content of CCI oil was able to be amassed across several field seasons spent in this area, greatly increasing its representativeness in comparison to earlier data.

It turned out that many recently discovered deposits or their deposits were not examined for metal content as part of the systematic research of the metal content of oil that we began in 1987. As a result, several experiments were conducted on a single methodological foundation, particularly on new deposits that proved to be useful for these goals. After that, analytical studies were completed, mostly in VNIGRI. Their goal back then was to evaluate the industrial importance of petroleum V and Ni as metallurgical raw materials.

The article discusses associated research and analysis of the Yaregskaya oil's underlying deposit, which includes "lower placer with genetic unity, migration effects, and metal transitions in oil."

Research Questions

Question 1: What studies and analyses have been done in relation to the Yaregskaya oil and its underlying deposit, which has a "lower placer with genetic unity, migration effects, and metal transitions in oil"?

Methodology

In this work, the authors used synthesis, discussion, and descriptive methods for the primary model as well as qualitative and analytical approaches.

The historical materialism method was also applied.

Main Findings

Analysis of Problem

In general, the CCI upholds the natural correlation between increased metal content of oil and bitumen and areas with tectonic-magmatic manifestations, inversion of productive strata, their surface exits in the zone of hypergenesis, areas complicated by aulacogens, block dislocations, faults, especially deep ones, abnormal metal concentrations in rocks containing them, etc.

Two deposits in the province, Yaregskoye and Usinskoye (-), which produce heavy oils and have considerable reserves, were the subjects of our most in-depth research. Due to a lack of infrastructure, metal-containing oils in the Varandey-Adzva zone are not yet ready for

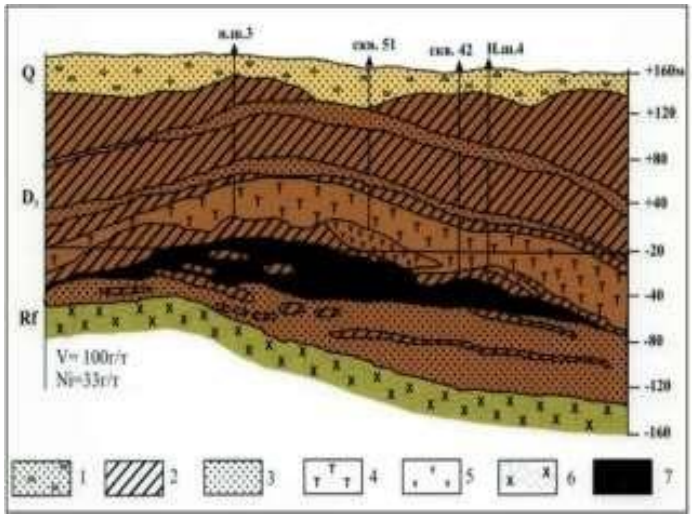

Figure 1. Geological profile for the Yaregskoye field, layer III 1 - Quaternary deposits, 2 - mudstones, 3 - sandstones, 4- tuffites, 5 - Diabases, 6 - metamorphic shales, 7 - oil.

development. However, their potential ecological effects on the environment will be very different, particularly in the case of Ni from the Toboy and Myadsey deposits, which have 150 and 100 g/t, respectively, of Ni in the Yarega deposit. associated with a large anticlinal fold in the northeastern slope of Timan's Ukhto-Izhma swell in the northwest. On blocks, there are numerous disjunctive disturbances that disrupt the deposit in the fractured-porous sandstones D2+3.

In terms of global development strategies, this is one of the most intriguing oil resources. Its primary heavy oil deposit, with geological reserves of 337 million

tonnes, is only 100–200 metres deep and has a density of 0.945 g/cm3. It is created using a mine approach, which enables visual as well as core studies of the deposit. The Yaregskoye field's geological profile is depicted in Figure 1.

Yarega is the greatest complex metal-oil field in the area, with oil in the upper section of the structure (D3-D2) and titanium leucoxene sandstones (D2). Sandstones from the Leucoxene era are regarded as buried placers. They are uncomfortably thick on Riphean metamorphic schists, ranging from 30 to 100 metres. The upper portion has a leucoxene concentration of up to 30% and a TiO2 content of 58–72%. Additionally, tantalum and niobium exist. The Riphean slates' weathering is credited with the creation of placer deposits. Although hypsometrically and stratigraphically isolated, this deposit is interesting from the perspective of resolving the genetic problems of oil and the existence or lack of a relationship between metal-bearing rocks and oil inside a single structure.

The study's findings were very unexpected—titanium was neither discovered in oil nor identified on spectra. One sample, extraction oil, with 142 g/t of titanium, stands out as the sole exception. It's unclear what criteria were used to choose her. More thorough investigation on these topics would be very fascinating. It can be determined that there is no genetic, migratory, or structural link between the Yaregskaya oil and the underlying deposit "lower placer" in the case of a reliable exclusion of titanium concentration in oil. If the connection is confirmed, the output will become indivisible because three possibilities may have equal legal standing: genetic unity; migration-related effects; and the movement of metals in oil within the structure through contacts or violations. However, in the latter scenario, one must consider titanium's extremely low solubility and its limited solubilization in strongly acidic environments.

Evaluation of the likelihood, mechanism, and kinetics of the transition into a state soluble in oil (water) for Ti, Ta, and Nb, as well as the magnitude of such a process, particularly for tantalum, as a hazardous element, are also crucial.

Discussion And Conclusion

In general, a relatively modest PTE enrichment for subsalt productive deposits should be observed when analysing the potential toxicological influence on the environment of oil from the Caspian region and the sale of products from their processing. Finally, it can be said that there is no structural, genetic, or migratory link between the Yaregskaya oil and the "lower placer" deposit underneath it.

As a result, the oil that was extracted and used with PTE played a substantial role in the establishment of the unfavourable environmental conditions in these locations.

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Conflicts of interest

There is no conflict of interest

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