

ANALYSIS OF COMPOSITION OF HYDROCARBON DEPOSITS AND OIL AND GAS FIELDS AND PROCESSED PRODUCTS

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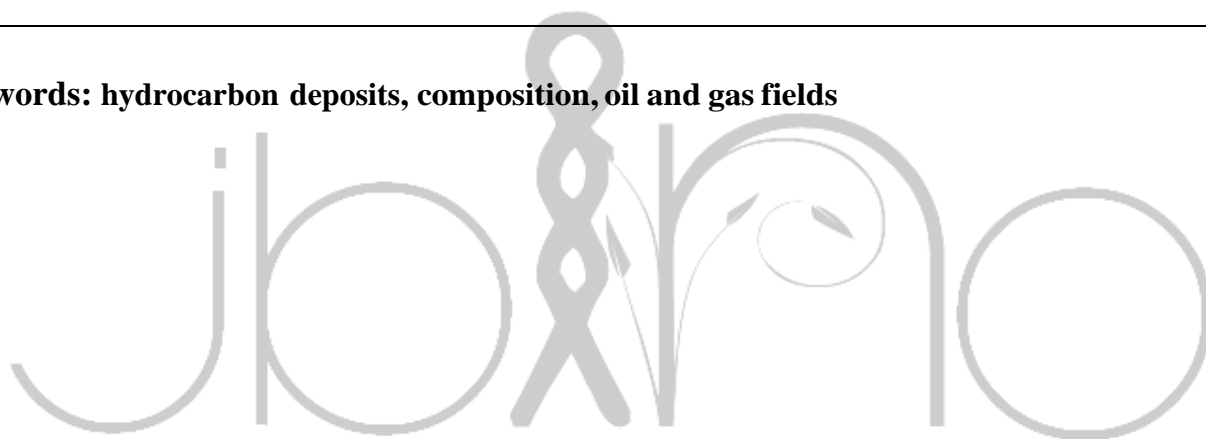
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ABSTRACT

The paper aims to figure out Analysis of Composition of hydrocarbon deposits and oil and gas fields and processed products. 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, At the current level of knowledge, it is also legitimate to assume that geochemical depression. Therefore, the question of the reason for the comparatively low metal content in this part of the deposit needs further study.

Key words: hydrocarbon deposits, composition, oil and gas fields



1. Introduction

Prior to the development of the deposit (1934-1939), determinations of the content of metals in Yarega oil was not produced. Long periods of subsequent operation with selective the use of various secondary methods of impact on productive formations exclude the possibility of a correct assessment of the initial concentrations of metals in oil. And if by sampling of unaffected areas of the deposit can be assessed, with a known approximation, the primary content of metals in oil, it is completely excluded the possibility of determining the geochemical dispersion in the developed deposits. This one reality to be reckoned with. Therefore, changes in the content of metals in oil reflect the current state that has developed in the process of field development, in addition practically independent of the temperature of the impact on the formation, and not their natural dispersion.

The dependence of the contents of vanadium and nickel pentoxide in produced oil with different heating temperature in oil mines 1 and 2 of the Yaregskoye field is shown.

The paper presents related studies and Analysis of Composition of hydrocarbon deposits and oil and gas fields and processed products

Research questions:

Question 1: What are related researches and Analysis of Composition of hydrocarbon deposits and oil and gas fields and processed products?

2. Methodology

Authors have used qualitative and analytical methods, descriptive method for primary model, synthesis and discussion methods in this paper.

We also used historical materialism method.

3. Main findings

Analysis of problem :

The scale of uplift here reached 600-700 m and was accompanied by intense dislocation of productive deposits, including volcanic and hydrothermal development.

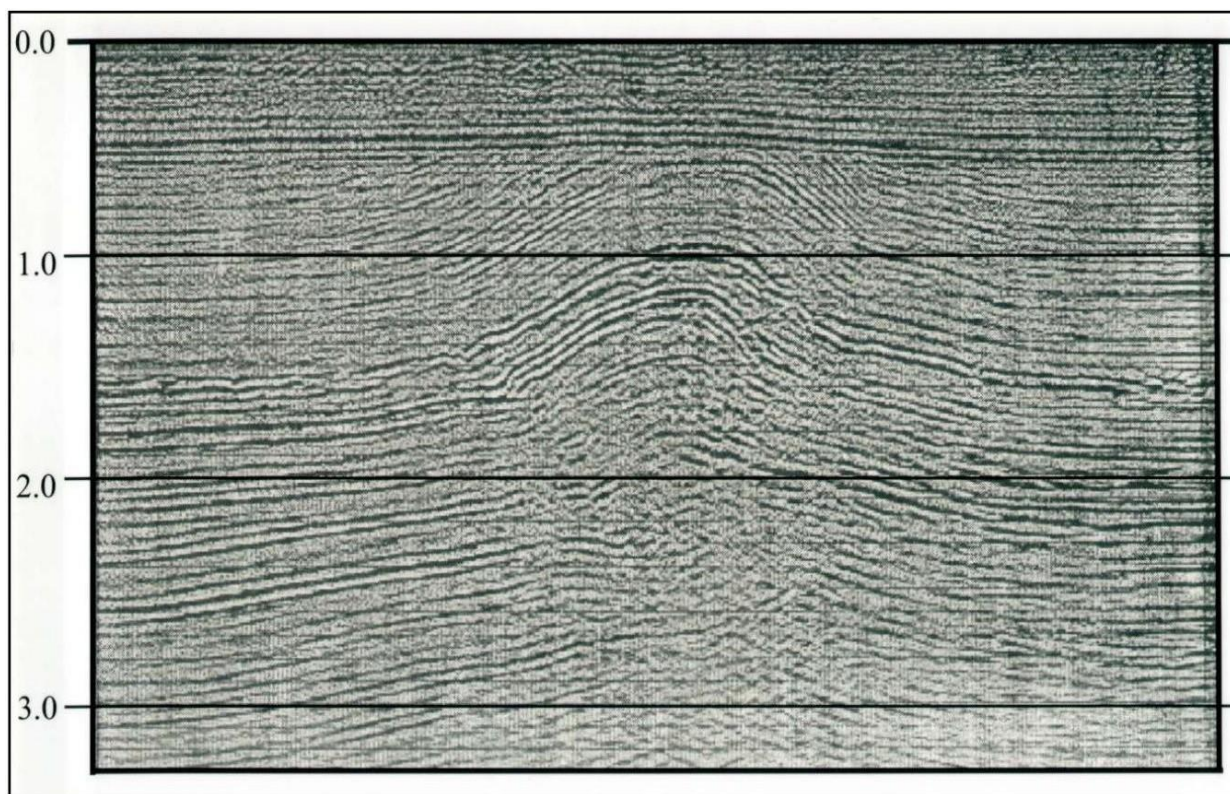


Figure 1 - Seismic profile through the Varandey-Adzva structural zone along coastal shelf of the Pechora Sea (Sevmorneftegeofizika, 1993)

In the south of Novaya Zemlya, back in the 19th century, prospectors explored and developed ore occurrences of Ag, Pb and Cu. Now other accumulations of polymetals have been identified here, the industrial significance of which has not yet been assessed. Many of them are reflected in composition of anthraxolites sampled in the Tanaya Bay of the South Island of Novaya Zemlya: V – up to 750 g/t; Ni - up to 320 g/t, U - 9 g/t at S content - 6.6% (B.A. Klubov, V.M. Bezrukov).

It is advisable to mention again the extremely bright vanadium-uranium mineralization in Karelia (Middle Padma, Medvezhegorsk region). Reserves of

vanadium pentoxide, calculated only in the Medvezhyegorsk region, they amount to about 170 thousand tons. Minerogenic influence this region can only have an impact on the Mezen basin, the industrial productivity of which for oil has not yet been confirmed, but the enrichment of basement rocks in vanadium up to to industrial, albeit low concentrations, is quite important for predictive estimates, both sedimentary rocks and possible hydrocarbons.

The extreme northeast of the region has been little studied, but the activity of tectonic and magmatic impacts can be

judged by the specifics of the composition of hydrocarbon deposits in the Varandey-Adzva zone -all oils in the upper parts of the section are heavy, with high and high contents of V and Ni, especially in Toraveyskoye, Toboyskoye and Tolotinskoye deposits.

It is also necessary to mention the ore occurrences of Cu, Pb and Ag in the Ust-Tsilma region, in the upper reaches Pechora and Vychegda, as well as vanadium and, especially, uranium bitumen occurrences in the eastern Pritimanye.

In the Izhma asphalt deposit, the content of vanadium reaches disseminated ores 3.47 kg/t. The deposit here is confined to cavernous limestones D3+C1. Especially they are abundantly filled with bitumen in the crushing zones - 3-4%, but on average only 1.0-1.2%. It eroded oil reservoir. The content of S is high, about 5-6%, up to 7% in some areas. The density of asphalts is 1.06 g/cm³. Asphalt accumulations in Ukhta Izhma region is so often enriched with radioactive elements that even evaluated for their industrial significance. Unfortunately, more specific data there are no publications of those years. But active ecological damage to the biota in the area Ra extraction (Water industry), as well as those associated with the development of radioactive asphalts as waterproofing material, take place.

One of the non-industrial uranium-bitumen deposits in the Chamber of Commerce and Industry is Badyolskoye, located within the Omra-Soyvinskoye oil field, timed to coincide with limestone-

dolomite deposits of the Carboniferous. Also, uranium-bearing bituminous deposit, contains thiokerite, pitchblende and uranium black. deposit it also has a high content of other metals (g/t): V - 1000-10000; Mo - 10; Cu -100-400; Pb - 1000; As - 100; Zn - 10-100; Ni - 100.

Bitumen reserves here are estimated at 3 million tons. Most of the studied smaller accumulations asphaltites in the region contain (g/t): V- 180-435 (up to 3470); Ni- 100-340; As-25. In Kk (Kk -coefficient of multiple excess of element clarke in the earth's crust): U-12-130; Re > 10.

It is necessary to pay attention to the high enrichment of bitumen in the region, not only heavy metals, but also arsenic. Essentially, all of the items listed above excluding Re, are toxic, and Mo is highly toxic. The environmental consequences of the development of such kind of deposits, for example, for pavement or waterproofing of buildings, not need explanations, but the Izhemsky asphalt mine has been developed for a long time -1934-1968, for urban purposes in the city of Ukhta, and was mothballed only in 1969.

It should also be emphasized that not all bitumen manifestations in the TPP are so intense enriched in metals, as in the Ukhta-Izhma or Varandey-Adzva regions. There are also their accumulations are much calmer in terms of metallogenicity. In particular, to the latter can be attributed to the Ust-Voyya deposit. Bitumen reserves estimated by B.A. Club in 1994, only for open pits amounted to 272 million tons - bituminous quartz sandstone, previously

developed as a "whetstone".

The bituminous content of sandstones is low, on average - 2-3%. Microcomponent composition of bitumen, represented by asphaltenes selected by us turned out to be the following (g/t): $\ddot{y}b$ -11; CD-6.2; Cu-17.2; V-10.0; Mo-3.4; Sn-20.0; Zn-65.0; Co-0.5; Be-0.06; Ti-12.0; Ni-61.0; Cr-61.0; Mn-6.0.

That is, the leaders in concentrations, almost on an equal footing, turned out to be Zn, Ni and Cr. The S content is high - 3.5-5.0%. Pay special attention to the extremely high content

Cd - 6.2 g / t, more than an order of magnitude higher than its average content in sandstones - 0.2 and clay shales - 0.3 g/t. Vein asphaltites are also noted, somewhat less sulphurous about 3%. Genetically, just like most other accumulations of bitumen, the Ust Chamber of Commerce and Industry Voyskoye field - a destroyed large oil deposit, raised during the Permian (pre-Kungur) regional rise. Modern sediments are thin, measured units of meters

nickel content to the north remains approximately in the same



Figure 2 - Panorama of the Ust-Voysky asphaltite deposit "Tochilnoye stone" from the side of an abandoned quarry (Sergey Yakutseni ©).

The permeability of basement rocks for fluids, including ore-bearing ones, is evidenced by studies of cores from the Minnibaevskaya deep well No. 20000, illustrating

intense local fracturing and fragmentation of the rocks of the crystalline basement at depths up to 5 km. Water flow rates from depths of 4.7-5.1 km with a density of 1.22 g/cm³ and a total mineralization of 289.5 g/l reached 66-125 m³/day. Waters of calcium chloride type, characteristic of the entire Volga-Ural province. To fractured zones of crystalline basement rocks and catagenesis zones are associated with bituminous manifestations of secondary superimposed nature with increased and high uranium content, up to 10% in oval inclusions of black bitumen, with a background content of uranium in the basement rocks of about 10-2% or less.

Numerous traces of migration of uranium-bearing fluids in the basement and sedimentary cover. We present data on uranium and its migration in ore solutions, because as a radioactive element, it leaves bright traces of its movements in the form of tracks. This the same process for other elements, of course, is not so noticeable, but, nevertheless, just as clear and active.

4. Discussion and conclusion

In general, At the current level of knowledge, it is also legitimate to assume that geochemical depression. Therefore, the question of the reason for the comparatively low metal content in

this part of the deposit needs further study.

Therefore, when it comes to the unfavorable environmental situation in these areas, then a significant contribution to its formation belongs to the extracted and utilized oil with PTE.

Acknowledgement

Thank you editors, friends to assist this publishing

Conflicts of interest

There is no conflict of interest

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