Deep hydrocarbon sphere as a possible source for the formation of oil deposits

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The issue of hydrocarbon sources to form the deposits of oil fields remains relevant, despite the long history of its study. Scientific advanced techniques in this case are the results of a study of unique ultra-deep wells. The greatest interests are SG-3 Kola which is unique and the deepest one in the world with 12262 meters and SG-1 Saatli with 8268 meters. Kola super-well has been drilled on the ancient Baltic shield and opposite to Saatli, which has been drilled on the young Kura rift structure. Thus, there is a unique opportunity to trace hydrocarbon saturation of ultradepth in the time interval from the ancient Archean rock to the present day. Hydrocarbon in SG1Saatly and the SG-3 Kola are in different forms like: Free, dissolved, adsorbed and occlude. In the Kola segment of the Baltic Shield abundantly distributed C1-C7 alkanes, and bitumen were there. The content of the gases in the microcracks of rocks is up to 55.8 liter / ton and bitumen up to 110 grams / ton. In closed rock pores and vacuoles methane content is in the range 0.04 - 120.1 cm³ / kg. In the Saatli well, the composition of gases presented to C5, inclusive, and hydrocarbon gas saturation is up to 5.7 cm³ / kg. Its composition, rocks gases unique ultradepth wells resemble the composition of oil and gas fields. Hydrocarbons of different forms and components exist along the whole section of Kola and Saatli. Thus, the combined section of diverse genetic groups of rocks and various types of geological structures like Kola (shield) and Saatli (geosyncline) showed that in ultradepth the temporary crustal section from the Archean 3 billion years and till today there are hydrocarbon gases. Thus ultradepth saturated hydrocarbons virtually exist from the early Archean geological history and up to modern times of the Earth and can be a source of oil and gas fields. Oil Geneses is my favorite theme. Scientific base for this is data of unique Kola Super deep well, (12600 m) and Saatli Super deep well, (8267 m). Studying and researching of fluids/gas in the different geological objects like: Oil, ore, seepages, underground and mines water, mines air, soil, etc., and the different geological objects, genetic type of rocks, different ages from Q to AR, in the different structures like: Rifts, platforms, faults, volcanoes and different depth from surface to ultra depth of 12 600 meter. It is allowed to create a new polygenic model for the formation of oil fields. This model offers perspectives of the search for new deposits in geological heterogeneous objects. On the basis of this model, it is expected to develop a new strategy of finding oil deposits.

Biography

Yuri Galant graduated from Baku State University, as Engineer - Geologist in Prospecting and Exploration of Mineral Resources. He then defended thesis on, “Natural gases southern slope of the Greater Caucasus and gas geochemical prospecting of sulfide ores”. In Baku, at Institute of Geology of Azerbaijan National Academy of Sciences, he did research on the degassing of the Earth, fluids of Kola ultradepth well and Saatli ultradepth well and on the development of gas-geochemical methods to search for polymetallic deposits. Degassing of the Earth is the basis for modeling the formation of oil and earthquake prediction. Oil Geneses is his favorite theme/scientific base as this is data of unique KOLA super deep well, (12600 m) and SAATLY super deep well, (8267 m). His other research interests are study and research of fluids/gas in different geological objects: Oil, ore, seepages, underground and mines water, mines air, soil, etc., and the different geological objects - genetic type of rocks, different ages from Q to Arz, in different structure: Rifts, platforms, faults, volcanoes and different depth from surface to ultradepth upto 12600 m. Now, he is building a model of the formation of petroleum, from the Big Bang to modern days. And also he tries to consider building a model of the formation of crude oil on the basis of magmatic aspects.