

Methodical importance of generalized results of the geochemical exploration on the West of Ukrainian Black Sea shelf

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Various organizations research from 1969 to the present deposed effectiveness of geochemical exploration for oil and gas, mainly gasgeochemical. Positive prognoses for fields Holitsynske, Shmidta, Shtormove, Odeske, Bezimenne and negative for Hamburtseva structure proved. No successful prognoses examples occur. From skill of exploratory testing of Upper-Quaternary deposits analysis courses for development considered.

Objectives. Authors` scheme shows inconsistent observation of Northern-West shelf structural-tectonic zones with geochemical surveys (28–41 %). Presentation focused on demonstration the features of revealed gas anomalies within these zones and local objects and methodical conclusions.

No-realized opportunities. No enough density of testing net upon 2003. Scales 1 : 100 000 – 1 : 200 000. Amount of regional and zonal surveys is insignificant. They are not connected with data from survey ships and 3D geochemical generation-migration models. Olympyske and some other fields not surveyed as potential geochemical etalons.

Testing techniques should be modern (phase-equilibrium analysis etc). Acoustic profiling in top of section needed. Low exploratory informativity of Holocene section test samples should be replaced by measurements in Novoevxine horizon (depth 1–10 m).

Known gas migration and anomalies genesis indices – gas rich, acyclic hydrocarbons index etc. imperfectly employed. Analyzed gases composition is not enough for anomalies genesis ascertainment. Several litogeochemical indices (iron forms, carbonates content, microelements ratio) are ambiguous.

System analysis of landscape agents and neotectonic activity effect on geochemical field is deficient. The background groundlessly accepted as linear. Owing to small quantity of fields-etelons prognoses were based on analogy method that disabled positive prognosis for productive structures Archangelska and Crimska. Anomalies upon Selskogo and Illichivska structures were interpreted based on non-alternative seismogeological models, which were not confirmed. Bezimenna structure`s (field) perspectives estimated only with reiterated and detailed research.

Recommended courses. Renewal the research stages and their modern methodical-analytical realize. Increasing regional and zonal geochemical prognosis with accounting perspective sediments gas generation potential. Tectonic-geochemical 3D modeling of hydrocarbons migration. Geochemical zoning of submarine landscapes in structural-tectonic units based on exploration effectiveness conditions. Elaboration of multi-aim geochemical mapping program for the West of Ukrainian Black Sea shelf (ore generation, oil and gas exploration, ecological monitoring).