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UNCONVENTIONAL HYDROCARBON SOURCES, PROBLEMS OF EXPLORATION AND PRODUCTION

Under this title an international symposium took place in Sankt-Petersburg in Tauria Palace on October 12-16, 1992. It was organized by the All-Russian Petroleum Scientific-Research Geological-Exploration Institute (VNIGRI), the Russian Research Institute of Geology and Mineral Resources of World Ocean (VNII Oceanology) and the Academy of Natural Sciences of the Russian Federation.

The symposium was induced by the ever growing deficiency in energy, drop in hydrocarbon output and increasing expenses on bringing of traditional energy resources under exploitation. During its work the recent studies on the theory and practice of search and exploration of unconventional hydrocarbons (UH) were presented and discussed. Perspective technologies were demonstrated at an exhibition accompanying the symposium.

At present the unconventionality of hydrocarbons like natural gases of coal basins, natural bitumens and others is based on economical, technological and geological criteria. UH are practically not considered in the contemporary balance of raw material resources though they are widely distributed and their use might really be perspective in compensating for a decrease in hydrocarbons output, meet the local demand for energy, and even cover the deficit in production of several metals to some extent.

Scientists from the C.I.S. (Russia, the Ukraine, Byelorussia, Kazakhstan and others) and from 11 foreign states (the U.S.A., Canada, Great Britain, Venezuela, Switzerland, Czechoslovakia, Jordan, Norway, China, the Netherlands and Germany) took part in this symposium.

The programme included a Plenary Session and work in four Sections with 67 reports and 155 poster presentations.

In the 1st section "Heavy crude, natural bitumens and accompanying compounds", 14 reports and 50 posters from several countries (the C.I.S., the U.S.A., Canada, Venezuela, etc.) were presented. Theoretical aspects of bitumen generation and metallogeny of hydrocarbons and black shales, reserves and regularities of distribution of crude oil and natural bitumens, as well as the methods of their prospecting, possible outlook for utilization and modern technologies needed for this were the problems under examination.

In the 2nd section "Unconventional sources of gas", in 25 reports and 24 poster presentations practically the same problems were discussed but with respect to gases in coal fields, gashydrates (onshore and offshore), water-dissolved and dispersed gases.

In the 3rd section "Complex reservoirs with low rate of oil and gas recovery and exhausted deposits" (16 reports, 71 posters from Russia, the Ukraine, U.S.A., Czechoslovakia), the following problems were discussed: the resources and characteristics of gas accumulation in complex unconventional reservoirs, residual supplies in exhausted reservoirs of old oil industry districts, methods of their

exploitation and estimation, recovery intensification in complex reservoirs and different production conditions.

The subject of the 4th section "Petroleum productivity of super depths (more than 6 km)" concerned the studies on thermodynamic conditions, scale and direction of hydrocarbon generation, and chemical characteristics of deep deposit hydrocarbons. Specific features of exploration and differential estimation of super deep resources, the outlook of their perspective exploitation were discussed in 13 reports and 10 posters from Russia, the Ukraine, Kazakhstan, Roumania.

The work of the symposium was supported by a special exhibition where perspective technologies, technique and equipment for exploration and production, corresponding environmental problems and all kinds of information (books, magazines, video etc.) connected with unconventional hydrocarbon problems were demonstrated.

The cultural programme was very interesting and diverse, it included sightseeing in St.-Petersburg and its suburbs, visits to museums, palaces and temples.

After the symposium two field trips were organized: southern beach of Lake Ladoga (Ordovician glauconite limestone and sandstone carriers, both containing asphaltite intercalations) and Southern Karelia (Middle Proterozoic shungite black shale carriers).

This symposium demonstrated once more the real possibilities for extending of hydrocarbon resources and the necessity for international collaboration and coordination between different specialists for carrying out these ideas.

Specialists interested in more detailed information can order the materials of the symposium from: 191104 Russia, Sankt-Petersburg, Liteinyi prospect, 39, VNIGRI.