



A region of strategic importance

LUKOIL is constantly seeking promising new overseas upstream projects. In recent years, the countries of West Africa – Ghana and Cote d'Ivoire – have come to the Company's attention. West Africa is of strategic importance for the development of LUKOIL's business. West Africa is proven oil- and gas-bearing region in which a

LUKOIL'S AFRICAN PROSPECTS

The Company discovered hydrocarbons offshore Ghana

Vladimir Igorev

In February 2010, a consortium consisting of LUKOIL Overseas, the U.S. firm Vanco and the Ghana National Petroleum Corporation discovered substantial reserves of hydrocarbons in the Dzata structure of the Cape Three Points Deep Water block, situated in the Gulf of Guinea on the shelf of the African Republic of Ghana.



On February 26, 2010, LUKOIL President Vagit Alekperov (left) and President of the Republic of Ghana John Mills (left) met to announce the discovery of a significant hydrocarbon accumulation in the Gulf of Guinea offshore the Republic

whole series of major hydrocarbon fields have been discovered in recent years. Suffice it to recall the recent discovery of the Jubilee field in Ghana, with proven reserves of about 2 billion barrels of oil. In addition, Ghana and Cote d'Ivoire are among the oldest democracies on the African continent and have low political risks. Also to be noted is the quite favorable investment climate created by the governments of these countries for oil companies. For this reason, in spite of the enormous capital investments in geological prospecting and production in the region owing, primarily, to the considerable depth of the sea, reaching three kilometers, West Africa is a priority sphere of activity for LUKOIL outside Russia.

First deepwater drilling experience

During implementation of the project, LUKOIL was faced, for the first time in the history of the Russian oil industry, with the task of conducting geological prospecting on a deepwater continental slope.

When the Company joined the project, it received seismological data of previous years, which required additional studying and reinterpretation, and then they were used as the basis for

During implementation of the project, LUKOIL was faced, for the first time in the history of the Russian oil industry, with the task of conducting geological prospecting on a deepwater continental slope

drawing up a plan for further geological prospecting, including 3D seismology and probe drilling. A 3D seismological prospecting requires considerable outlays, the latest technical means for measuring elastic vibrations and high precision positioning of the vessels carrying out the seismological studies round the clock, for several months.

Recording of vibrations in the sea is the first stage of seismological prospecting. Then came the turn of computer centers in London and Houston to transform the seismological data into a format appropriate for geological interpretation and finding hydrocarbon traps. As a result, a geological model was created of the contract sector, the most promising structures were identified and the position for the prospecting well selected. After environmental background monitoring and engineering and geological survey, the key stage of the geological prospecting was launched – deepwater drilling.

Drilling of the first prospecting well on the shelf of the Republic of Ghana began in October 2009. The work was carried out from a semi-submersible platform equipped with a dynamic positioning system. The system makes it possible to keep the platform at the drilling site by using a complex of constantly operating maneuvering devices. The sea depth at the well drilling site on the Dzata structure was about 1,900 meters. The total depth of the well below sea level is almost 4,500 meters. It took 117 days to sink the well.

During the drilling and during performance of the seismological survey, the very latest technologies were used. In particular, all operations to equip the mouth of the well were controlled by a deepwater apparatus equipped with remote surveillance manipulators and riser landing control and a complex of

underwater blow-out preventer equipment designed for high pressure conditions. The pulling and running operations were carried out by an automated complex for supplying and spinning up pipes that cut time and labor input considerably. During construction of the well, use was made of a remote monitoring system transmitting information about the drilling by satellite in online regime. The process could thus be controlled by Internet from anywhere in the world.

The results of the first well drilled by LUKOIL on the deepwater shelf of Ghana are very hopeful. On the Dzata structure, an oil and gas condensate field has been discovered and the existence confirmed of an oil- and gas-bearing system on the block as a whole. The block is about 5,200 km² in area and lies at a depth of from 200 to 3,000 meters. The Dzata structure is located at a depth of about 2 kilometers. The Dzata-1 well, sunk to a depth of about 4,500 meters below sea level, opened up a hydrocarbon-