

ECOLOGICAL AND TECHNICAL SITUATION OF FLOODED OIL WELLS IN KAZAKHSTAN

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Annotation

The data of ecological and technical condition of flooded and inundated wells in Atyrau and Mangystau regions of the West of Kazakhstan is given in this abstract. There is necessary to elaborate methods for liquidation, individual plans of conservations, to produce isolating and liquidation procedures on wells and to estimate environment effects. Also we will provide for estimation technical condition of conservation oil wells on territory of flooded by Caspian sea.

Keywords

Environment, underflooded wells, conservation and liquidation of wells, remediation

1 INTRODUCTION

The Ministry of Geology and Ministry of oil and gas industry of former Soviet Union were drilled more than 10 000 of oil wells and 360 000 of earth bores and hydrogeological wells on the territory Republic of Kazakhstan including self-limiting wells. The bulk of these wells were injected to temporary abandonment because the lack of finance [1].

The temporary abandonment of wells was produced on the different degrees of studying and adaptation oil deposits as a) wells- suspend on drilling stage; b) “strike”- prepared for exploitation but conserved before trade organization; c) emergency “strike”.

The most dangerous are emergency wells where inrush of gases as hydrogen sulfide and other oil products. One of the risks is wells which are flooded by Caspian sea.

There are more 400 wells which are flooded by Caspian sea on Atyrau and Mangystau regions of Kazakhstan. The abandonment of these flooded wells is not acceptable [2].

There is necessary to analyze technical condition of inundated and flooded wells of Kultuk, Nikolaevski, Tereshkovskaya, Komsomolskaya, Karaturun, Kultai, the North Dolginez and Karazhanbas deposits and to give estimation of their influence on environment including elaboration the abandonment jobs, individuals plans of conservation and producing isolating jobs on wells.

We are divided these wells and deposits to different types on classification of the dangerous of environment and Caspian sea. For convenience we divided the investigated wells into two groups. The first group is well which is presented as justifiable threat to Caspian sea and environment. At the present time these wells have the most flooded and emergency level as compared with the period of well-drilling. The second group of well isn't presented as justifiable threat to Caspian sea but has influence to environment. These wells are impeded to distribution on the territory of deposits and exception of entering oil to water of Caspian sea after protected with dam.

The further work is proposed to determine the pollution of soil and ground after their flooding by oil and reservoir waters. The obtained data will be compared with the result of pollution soil (physic-chemical methods) heavy metals, chemical components and arsenic with exciting maximum permissible concentration of soil and water. We proposed to determine mineralization of reservoir waters and saline soil also penetration depth oil pollution in ground.

Also we will provide for estimation technical condition of conservation oil wells on territory of flooded by Caspian sea. The data base of wells will be elaborated and created by GIS-technology.

We collected all information about wells from all available sources including local organizations.

We will give recommendation for ensuring access on conservation oil wells in flooded zones of Caspian sea. The most important factor of well's conservation and liquidation is to determine the real of wells seats and estimation of environment in flooded zones. Because the real seats of conservation and liquidations wells aren't coincided with archives data as usual because the data of ground mapping has much errors.

The more important is to elaborate methods for environmental protection of Caspian sea in case of oil blowout under technological operations. On the basis data the technical condition of flooded wells is critically and the possibility of emergency is high.

2 ACKNOWLEDGMENTS

The authors are grateful to staff of Committee of geology and resource exploitation for given necessary materials. The authors are also grateful to co-authors for their contribution to this investigation.

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