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Reasonable Operation of Wells in The Gaslift Method

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Abstract
Choosing the right gaslift method depends on many factors. In addition, the gas lift method is widely used in the USA, Russia, Canada, Kazakhstan and other countries that are engaged in oil production, and its efficiency indicators and long-term service depend on the use of new technologies and the results of research data analysis during the use of wells.

Keywords:

Introduction

The wellbore profile can be used for efficient use of gaslift wells as well profile for inclined wells or horizontal wells in marine conditions. In addition, it has little effect on its work even when there is high pressure and temperature in the productive layer or when there are mechanical mixtures.

When there is not enough natural energy to lift the oil from the bottom of the well to the surface, the wells stop pumping. But to continue the fountain, compressed gas or air is pumped into the well with the help of NKQs. The process of gas compression is carried out using a compressor device.

In wells, after the end of the fountain period, fountain fittings are used for use in the gaslift method. Special simplified and light fittings are used in this, but the difficulties that may occur are not dangerous in an open fountain. Fittings in gas lift wells are often adapted to drive gas through pipe spacing or through central pipes. If rapid paraffin deposits are observed during the operation of gaslift wells, the upper part of the fitting is equipped with an additional lubricator and through it a scraper is inserted into the NKQ, the paraffin deposits during the use of the well are lowered into the well by means of a mechanical cleaning method. Other methods are used to deal with paraffin deposits. For example, when the wall of the pipes is covered with liquid glasses or when enameled pipes are used, paraffin does not get caught on the surface of the smooth surface. A pressure-adjusting valve with a membrane-controlled mechanism is installed on the upper part of the gas lift wells, it serves to maintain a constant pressure of the gas pumped into the well, because sometimes there are pressure fluctuations in the main systems, the normal operation of the well is disturbed, and sometimes it is necessary to stop the well.

The operating mode of the well is set according to the minimum value of liquid extraction and the transmission consumption of the compressor station. If the compressed gas is enough for the mine, then the well can be used in the maximum mode. If the compressed gas is not enough for oil fields, or when the extraction of liquid from the well is limited, then the well is used in the mode of relative minimum consumption. The North Ortabulok field is an oil and gas field, which means that there is a gas cap. The mine has been in operation since 1986, with wells operated both by the fountain method and by means of a rod-shaped sump pump.

At present, the North Ortabulok mine has entered the third stage of the exploitation period, which is characterized by a decrease in the production rate and an increase in hydration. In order to maintain the rate of production, a decision was made to accelerate liquid extraction using the gas lift method in the future use of the North Ortabulok field. The transfer of oil wells in the field to the use of the gas lift method is determined by the following situations. In order to ensure the efficient use of oil condensate piles in fields, it is necessary to justify the rise of liquid based on the value of formation pressure. Kokdumalok, North Ortabulok, North Ortabulok and other mines were used in the fountain state due to the energy of the formation in the initial period. At present, the mine is operated using a fountain, gaslift method, and with the help of SChNQs. In order to fulfill the condition of fountaining of the well, the fountaining is calculated on the minimum pressure of the bottom of the well. The effective gas factor for well fountaining should be high, equal to the specific gas consumption for optimum operation of the riser at the latest size.

To determine the optimal operating mode of the gas lift well, we calculate the movement of the gas-liquid mixture along the well shaft. Calculation of gas-liquid mixture density, mixture flow rate in the layer, geometric gradient and other parameters. As a result of repeated acid treatment of wells No. 31, 34, 50, 54 in the upper reef area, the amount of water pumped into the formation from 1,221 m3 to 337 m3 per day due to the rupture of pump compressor pipes (flying) at the expense of these wells 21gl, 38 gl, 41 gl, 51 gl, 52 gl, 63 gl wells caused the average static level to drop from 1800 m to 2000 m and productivity decreased. That is why it is necessary to constantly control the amount of water pumped into the formation and the range of influence of water through monitoring wells to increase the indicators of the use of gas lift wellsIt is possible to increase the daily oil production by eliminating the accident in wells No. 11, 19 and starting wells No. 18, 32, 28, where 2-barrels are being drilled from Otra anhydrite.

5 gas lift wells No. 44,51,15,25,89 can be converted from gas lift to high performance rotoflex drilling rig to save additional daily oil production and gas and other costs from these wells.

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