



"INNOVATIVE ACHIEVEMENTS IN SCIENCE 2023"

TECHNOLOGY TO PREVENT WATER FROM ENTERING OIL AND GAS WELLS

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Abstract: *In this article, we describe the technology of preventing water from entering oil and gas wells and its importance in the oil and gas industry. Oil and natural gas are major industries in the energy market and play an influential role in the global economy as the world's primary fuel sources. The processes and systems involved in producing and distributing oil and gas are highly complex, capital-intensive, and require state-of-the-art technology. Historically, natural gas has been linked to oil, mainly because of the production process or upstream side of the business. For much of the history of the industry, natural gas was viewed as a nuisance and even today is flared in large quantities in some parts of the world, including the United States. Natural gas has taken on a more prominent role in the world's energy supply as a consequence of shale gas development in the United States, as mentioned above, and its lower greenhouse gas emissions when combusted when compared to oil and coal.*

Key words: *Well construction - a protection lowered into the well number of pipes, diameter, discharge depth and cement height of rise of mixture.*

INTRODUCTION

This guide looks at the business of oil and gas and is intended to serve as a research aid to sources worldwide, with a specific emphasis on the United States. It covers a brief history of the oil and gas industry, an overview of companies and organizations, statistic and pricing resources, and regulations. The industry is often divided into three segments: upstream, the business of oil and gas exploration and production; midstream, transportation and storage; and downstream, which includes refining and marketing. Natural gas represents nearly one-quarter of the world's energy resources. More than half of American homes rely on it as their main heating fuel. It serves as the raw material necessary in everyday paints, plastics, medicines and explosives. It is the cleanest of all fossil fuels. It is natural gas--and everybody should acquire a basic understanding of it. This valuable easy-to-use reference supplies all the basics that every person should know about the natural gas industry. Introductory engineers, managers and analysts will benefit from this informative, practical handbook. Natural gas remains a vital component of all energy sources, and with an increasing demand for information on this useful energy source.



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MATERIALS AND DISCUSSION

Modern production industry of Uzbekistan - It is one of the major branches of heavy industry and is a fuel and energy base. Uzbek oil experts more than 100 years, half a century of scientific and have practical knowledge and experience. It is noticeable in the network scientific and technical potential is created and in its development. A lot of progress has been made. In 1990-1995, this network structure technical equipment for improvement and re-new arming with equipment, launching mines Great efforts were made to accelerate and increase its size. Oil and gas production in the CIS during this period if there is a decrease, oil and gas extraction in Uzbekistan output stabilized and then to dynamic growth has been achieved. At present, before the employees of the oil and gas industry finding new oil and gas fields, our working fields extracting as much oil and gas as possible provision, oil and gas well drilling technology in the bosom of the earth using advanced and modern methods a large amount of remaining oil products. The issues of fulfilling the possibilities of release to the surface are the most it is set as a current topic. In this regard, the process of drilling a well, the method of drilling, well construction, type of drills, drilling mode choose, open productive layers with them, test them, commissioning, physical-geological characteristics of the layer to study the properties of existing oil, gas, and water in them, there are heaps of oil, gas, and water. Determining and calculating the structure of the structures is reasonable from the mine the number of wells to be drilled for use determination and order of their excavation and commissioning to determine, estimate the energy potential of the layer, in it methods that allow the product to be expelled recommendation and application, underground during mining without breaking the structure, the product is delivered to consumers quickly and cheaply delivery at prices, drilling of oil and gas wells protection of underground resources and environment in the process jobs - all employees of the oil and gas industry and mining is the task of a geologist.

As a well, its diameter is many times smaller than its length. It is called a cylindrical rock. The beginning of the well is called its upper part. Well the vertical projection of its axis is called its depth.

There are 3 types of wells:

- 1) Vertical wells;
- 2) Inclined wells;
- 3) Horizontal wells.

The diameter of the well changes as its depth increases goes The diameter of the largest oil and gas wells is 900 up to mm. The depth of the wells is from several tens of meters up to a thousand meters.

Wells are divided into 2 types:

- 1) Wells drilled from rock samples;
- 2) Wells drilled without a sample.



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Geological survey of wells, exploration and oil from mines, it is drilled to release gas products to the surface. Wells are divided into several types depending on their function:

1. Support wells,
2. Parametric wells,
3. Structured (structural) wells,
4. Exploration wells,
5. Exploration wells,
6. Use (exploitation) wells,
7. Special wells.

1. Foundation wells - sedimentary rocks location, hydrogeology, rock composition, determining the geology and geophysics of oil and gas formation is drilled for.

2. Parametric wells - oil and gas production construction of geological cuttings and geological exploration in the future will be drilled to expand its operations. Base clarifies information obtained from wells.

3. Structural wells - base and parametric wells to determine the structure with the information provided and to expand geological exploration, oil and gas determining how the layers are located, geophysical investigation the structure map of the oil-gas layer based on the information of the works is drilled to form.

4. Exploration wells - base, parametric and structured oil and gas based on the information provided by the wells clarifies when opening wells. From the oil-gas layer taking a sample, checking its composition and how it is located clarifies.

5. Exploration wells - all previous wells taking the data, the outline, quantity of oil and gas fields, project in determining reserves and oil and gas production is drilled to form.

6. Production (exploitation) wells - drilled to obtain products from these opened oil and gas fields. This three more types of wells for efficient operation of wells dug up: 1) Assessment wells; 2) Driving wells; 3) Monitoring wells.

CONCLUSION

Choosing a well construction is the most important thing in building a well is one of the main stages and it is a well ensures high-quality construction. Wells in the process of drilling to the depth of the project to avoid troubles and accidents, to dig a well consumption of time and material and technical items reduction - to the correct choice of well construction depends. Can fully meet the specified requirements, the number of protective ridges to be lowered - it is selected based on the conditions of certain intervals of the well or other technical-technological conditions. Selection of the well structure, which will be drilled from the field and drilled in the nearest neighboring fields geological indicators obtained from wells and collected based on material analysis.



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