Problems of forecasting in designing the development of oil, gas and gas condensate fields

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ABSTRACT

This article provides analytical information on the importance of not only collecting data in the oil and gas industry, but also ensuring the accuracy and correlation of geological data, as well as the identity of their change over time when forming them as a specific database and creating a development model.

Keywords: information, object, abstraction, structure, stock, oil, gas, system, identification

Introduction

As is known, oil and gas production is a complex, multifunctional specialized area of human activity. The creation of a system for collecting and processing information for such an industry with the organization of information exchange of functional subsystems is a complex and multifaceted problem. Traditionally Oil production is divided into subsystems corresponding to areas of knowledge (geology, geophysics , drilling, development, production and preparation of products) and into subsystems corresponding to levels of activity (management, production, preparation of production, science) .

Main part

Understanding the nature of the contradictions that arise ways of creating this information conveyor, and choosing To resolve them, it is necessary to carefully consider the nature of data in general and specifically in oil and gas production . The peculiarity of human perception is such that the data is considered in some context, i.e. in connection with the image of an object existing in the human mind and being a reflection of a real object outside his . In the machine representation of information, this context is formalized through the assignment of data to identifiers of information objects, which are operated by a specialist in their abstract constructions. Information model the subject area reflects the system of abstractions of the user of the automated system gives semantic content to data.

Data (instrumental measurement or the result of its processing) do not carry any semantic load until they are not related to some object in the system of abstractions user. This fact underlies the technology of databases, although when designing local operational databases data on it is usually not focused on, representing information in them as something whole, since

in practical The work only requires interpreted information.

The characteristics of data in oil and gas production are determined by the dynamism of the information model of the system and the presence of objects in the system that, from the point of view of cybernetics, are a "black box". Ideas about the structure and properties of such objects (layer, deposit, field, structure, etc.) are formed in the course of accumulation of data from sensors (in oil and gas production from wells). The images of these objects change over time, since the analysis of data on them and comparing them with the accumulated intra-system data knowledge often leads to a rethinking of previous representations. This entails not only a change in their characteristics , but also in their essence. For example, when recalculating oil and gas reserves at the field new objects of reserves calculation can be a combination and separation previous ones. Based on the accumulated knowledge, the stratigraphic reference of layers, deposits, the composition and reservoir properties of the latter, the structure and type of deposits, etc. are specified . As a consequence, new formations are formed, new development systems, methods of influence, displacing agents, equipment, etc. are used in the field of development. The latter leads to the emergence of new types data structures. All this constitutes the concept of dynamism information model of the system, the other side which changing identifiers of information objects during the life cycle of the system.

Another feature of data in oil and gas production is the multi-aspect nature of their presentation in different subsystems. Each subsystem requires specific information about a specific part of the subject area of the problem environment. The problematic environments of subsystems can be in different relationships: independent, intersecting and including one another. At the same time, however, the vision of the same sets of real objects in different subsystems, determined by the specifics of the tasks being solved, may be different.

Conclusion

In such cases, they say that the data There are different ideas about such a set of objects (different forms of collective expression of knowledge about the subject area). Different data representations include considering them on different time scales. Operational management requires presenting information on a daily, monthly, quarterly scale. Planning and related reporting from a day to a five-year period. Design requires analysis of the entire history of previous activities.

Literatures:

1. Коршунов Ю.М. Математические основы кибернетики. - М.: Энергия, 1972 - 376 с.
2. Крылов А.П. Проектирование разработки нефтяных месторождений - М.: Гостоптехиздат, 1962. — 424 с.
3. М. Дж. Денем. Проблемы создания автоматизированных систем проектирования, систем управления. М.: Мир, 1987 386 с.
4. Мартин Дж. Вычислительные сети и распределённая обработка данных М.: Мир, 1986. - 307 с.
5. Мартин Дж. Организация баз данных в вычислительных сетях. М.: Мир, 1982. 283 с.
6. Михайлов Н.Н. Информационно-технологическая геодинамика около скважинных зон. - М.: Недра, 1996. - 130 с.
7. Abdirazakov, A. (2022). Knit connection effect of variable pressure i on filtration properties of porous media. *Евразийский журнал академических исследований*, *2*(12), 1217-1219.
8. Мавланов, З. А., Абдиразаков, А. И., & Машарипов, А. Н. (2023). Современные принципы проектирования разработки нефтяных, газовых и газоконденсатных месторождений. *Экономика и социум*, (12 (115)-1), 1206-1209.