

Задание.

1. Подготовить хорошее чтение и перевод текста
2. Выполнить упр. 26
3. Упр. 27 подготовить краткие ответы на вопросы

25. Прочтите текст Б. Скажите, какие системы разработки пластовых месторождений описаны в тексте.

ТЕКСТ Б

Methods of Working Bedded Deposits Underground

The method of working (or method of mining) includes a definite sequence and organization of development work of a deposit, its openings and its face work in certain geological conditions. It depends on the mining plan and machines and develops with their improvements.

A rational method of working should satisfy the following requirements in any particular conditions: 1) safety of the man; 2) maximum output of mineral; 3) minimum development work (per 1,000 tons output); 4) minimum production cost and 5) minimum losses of mineral.

Notwithstanding the considerable number of mining methods in existence, they can be reduced to the following main types: 1. Methods of working with long faces (continuous mining); 2. Methods of working with short faces (room-and-pillar).

The characteristic feature of the continuous mining (Figs. 5 and 6) is the absence of any development openings made in advance of production faces. The main advantage of long continuous faces is that they yield more mineral. Besides, they allow the maximum use of combines (shearers), cutting machines, powered supports and conveyers. The longwall method permits an almost 100 per cent recovery of mineral instead of 50 to 80 per cent obtainable in room-and-pillar methods.

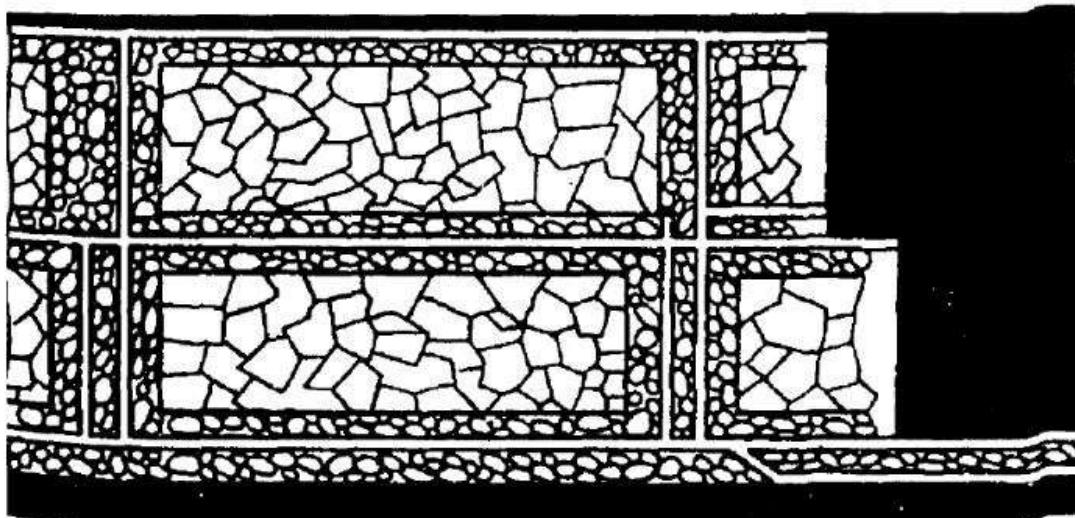


Fig. 5. Longwall advancing

The basic principle of room-and-pillar method (Fig. 7) is that rooms from 4 to 12 metres wide (usually 6-7) are driven from the entries, each room is separated from each other by a rib pillar. Rib pillars are recovered or robbed after the rooms are excavated. The main disadvantage of shortwall work is a considerable loss of mineral and the difficulty of ventilation. In working bedded deposits methods of mining mentioned above may be used either with stowing or with caving.

In Russia, Germany (the Ruhr coal-field), France and Belgium nearly all the faces are now long ones. In Britain longwall faces predominate.

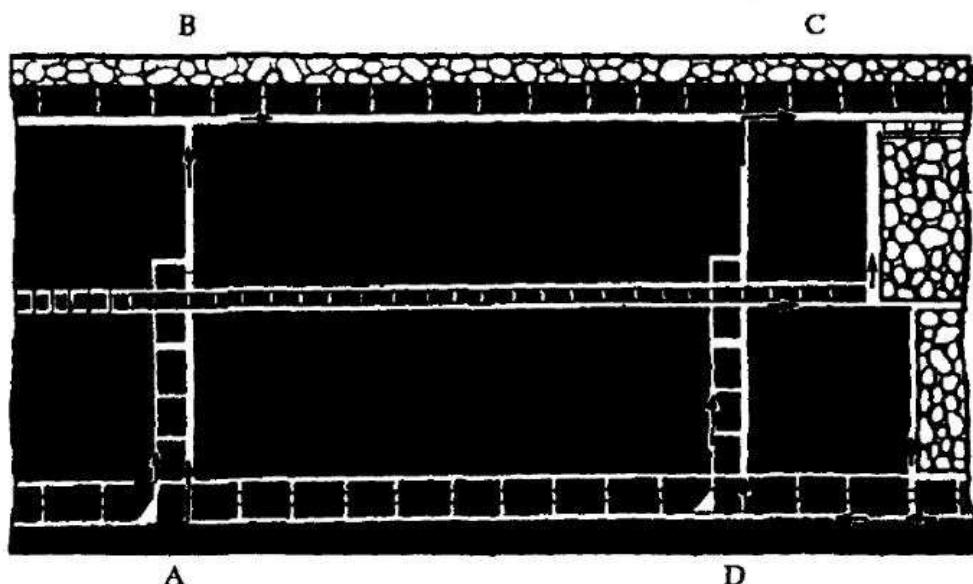


Fig. 6. Longwall retreating by long panels

The USA, Canada, Australia and to some extent India are developing shortwall faces and creating the machines for them. In these countries shortwall faces are widely used.

In Russia the thick seams are taken out to full thickness up to 4.5 m thick if they are steep, and up to 3.5 m thick if they are gently sloping or inclined. In the Kuznetsk coal-field long faces are worked to the dip with a shield protection, using a method proposed by N. Chinakal. In shield mining coal is delivered to the lower working by gravity so that additional haulage is not required (Fig. 8).

It should also be noted that in Russia hydraulic mining is widely used as it is one of the most economic and advantageous methods of coal getting. New hydraulic mines are coming into use in a number of coal-fields. Hydraulic mining is developing in other countries as well.

The aim of hydraulic mining is to remove coal by the monitors (or giants) which win coal and transport it hydraulically from the place of work right to the surface.

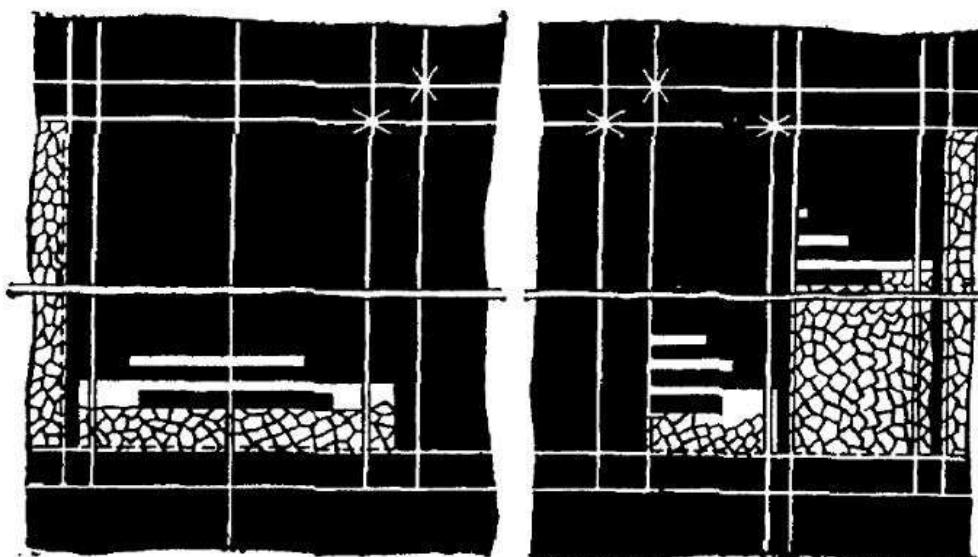


Fig. 7. Room-and-pillar method for working a gently sloping seam

It is quite obvious that the choice of the method of mining will primarily depend on the depth and the shape and the general type of the deposit.

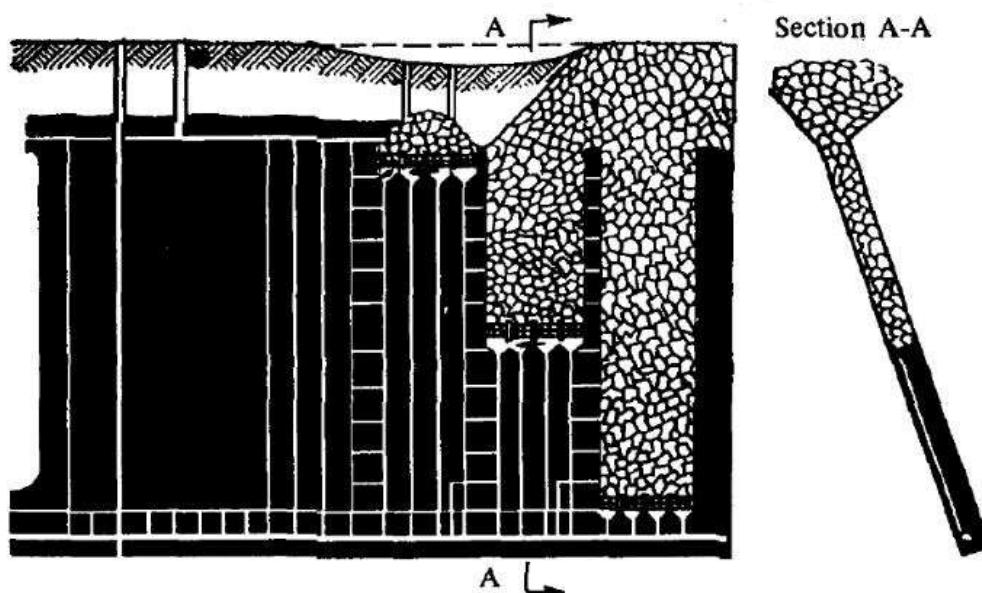


Fig. 8. Shield method of working

УПРАЖНЕНИЯ

26. Укажите, какие предложения соответствуют содержанию текста.
Подтвердите свои ответы фактами из текста Б.

1. A definite sequence and organization of development work is called mining.
2. Mining methods in existence can be reduced to the two main types.
3. The depth and the shape of the deposit influence the choice of the method of working.
4. As is known, in Belgium all the faces are short now, in Great Britain they amount to 84 per cent.
5. In Australian collieries shortwall faces are widely used.
6. The room-and-pillar method is characterized by the absence of any development openings.
7. N. Chinakal worked out the shield method of mining which is used in Kuzbas.
8. High-capacity monitors win coal and transport it hydraulically right to the surface.

27. Ответьте на следующие вопросы:

1. What factors does mining depend on?
2. What is mining?
3. What are the most important factors which affect the choice of the method of working?
4. Do short faces or long faces predominate in Russia? What can you say about the Ruhr coal-field?
5. Is Canada developing shortwall faces or longwall faces? What can you say about the USA?
6. What are the main disadvantages of shortwall faces?
7. What are the two main methods of working?
8. What is the main advantage of long continuous faces?
9. What methods of mining long faces do you know?
10. What method of mining is characterized by the absence of development openings?