**Практическое занятие 6**

**Аварийные ситуации при бурении скважин**

**1. Прочтите и переведите текст.**

TYPES OF DRILLING ACCIDENTS

The accidents at drilling process are called breakdown (failure) and leaving in the well some parts of drillstem and casings, bits, downhole motors and some foreign metal parts. The accidents take place because drilling operation is not observed, breakdown of drilling tools and equipment and some other reasons.

The main types of accidents are seize (key seating), breakdown of bits and turbo drills in the well, breakdown and unscrewing of drill pipes and falling of drilling tools and other parts into the well.

To prevent drillstem seize using weighted clay mud engineers should apply prophylactic agents. The laboratory of clay muds must define selection of composition in each particular case more accurately.

Bits breakdown is a result of faulty bits lowering without their proper check, extra loading on the bits and their extra-holding on the bottom-hole.

To prevent accidents dealing with bits breakdown the engineers and workers must check the bits on all parameters before their lowing into the well. The peculiar attention should be paid to the cleaning of drilling fluid (mud). The raised bit from the well should be unscrewed with the help of bit-board, washed with water, exposed to external observation and measurement.

It is recommended to clean currently bottom-hole from metal with magnet mill or bottom sludge trap.

To prevent accidents with turbo drills engineers and workers should check attachment of nut, sub, nipple and shaft rotation of each turbo drill.

The accidents with drilling pipes are often at rotary drilling. The most accidents with drilling pipes at turbine drilling deals with drilling fluid attack on the thread.

Fall of drill-stem into the well is one of the most serious types of accidents. It occurs in the results of drill-stem bits and blows at well walls shoulders (bosses), elevator opening at accidental delay at drill-stem lowering, rough loaded elevator fit on the rotor when draw works breaks are out of order and break of rotary drill line and tubing block fall on the rotor.

Small parts fall into the well takes place during raising and lowering operations and is explained by using of fault tools.

**2. Ответьте на вопросы.**

1. What engineers should apply to prevent drillstem seize?

2. What are the main types of accidents?

3. Are the accidents with drilling pipes often at rotary drilling?

4. What should engineers and workers do to prevent accidents with turbo drills?

5. What is the most serious type of accidents?

**3. Переведите предложения на английский язык.**

a. Существуют три основных метода бурения: ударно-канатный, роторный и турбинный.

b. В России применяют роторное (вращательное) и турбинное бурение.

c. Способы бурения можно классифицировать по характеру воздействия на горные породы.

d. При роторном методе долото прикрепляют к стальным трубам, которые вращаются с помощью ротора.

e. По мере бурения скважины трубы наращивают.

f. Роторный метод был внедрен в середине 20-х годов прошлого столетия.

g. Турбинный метод начали применять в России с 1944.

h. Глубина скважины обычно бывает очень большой, причем некоторые скважины достигают глубины нескольких километров.

i. Нефть залегает на больших глубинах, причем глубина бурения растет из года в год.

j. Современные методы бурения дают возможность производить бурение на большие глубины.

**4. Определите от каких глаголов образованы следующие существительные при помощи суффиксов -er; -tion. Слова переведите.**

driller elimination

worker operation

manager rotation

singer construction

teacher production

builder connection

seller composition

trainer competition

designer graduation

speaker distribution

**5. Прочтите и переведите текст.**

ACCIDENT OPERATIONS IN THE WELL

To carry out the accident operations the bitch is used. The construction of bitches is quite various. Although, according to the catch principle they can be divided into three main groups:

1. fishing dies, operating on the principle of thing jamming outside or inside of the catcher (bitch);
2. screw bitches, operating on the principle of cutting the thread on the thing with simultaneous catcher screwing on it;
3. other tools.

Let’s study some types of catchers (bitches).

Outside tubing spear is used to catch tubes (pipes), boring bars or other things in the well on the body or joint.

Inside tubing spear is used to lower inside the tube (pipe) that should be caught. It consists of the body, where the die is fixed, connected with the bar and movable collar.

Productive overshot is used to catch the tubes (pipes) or boring bars on the joint with the help of flat springs fixed on the inner surface of the body.

The valve for boring bars catching is used for boring bars catching on the joint.

The fishing mill with inner teeth is used for milling upper ends of accidental tubes (pipes) or boring bars to work then by catchers (bitches). It consists of a body, in which longitudinal teeth are cut.

Productive tap is used to catch the tube (pipe) or joint on the inner thread.

(Bell) socket is used for tube (pipe) catching on outside thread. The bell socket is a connection with tool-joint thread cut on its inner surface. The thread length is about 35 sm.

**6. Прочитайте и запомните слова и выражения текста.**

Аccident operation – аварийные работы.

Bitch (catcher) – ловильный инструмент.

Catch principle – принцип захвата.

Fishing die – плошечный ловильный инструмент.

Jamming – заклинивание.

Screw bitch – нарезной ловильный инструмент.

Оutside tubing spear – наружная труболовка.

Boring bar – штанга.

Inside tubing spear – внутренняя труболовка.

Movable collar – подвижное кольцо.

Productive overshot – эксплуатационный овершот.

Flat spring – плоская пружина.

Fishing mill – ловильный фрезер.

Productive tap – эксплуатационный метчик.

Socket (bell) – колокол.

Тool-joint thread – замковая резьба.