

**YER OSTI KON ISHLARIDA QO'LLANILADIGAN QAZIB OLISH TIZIMLARIDA XAVFSIZLIKNI
TA'MINLASH TADBIRLARI**

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Ushbu maqolada yer qa'ridan foydalanishda yerning tabiiy boyliklaridan unumli foydalanish bilan bir qatorda atrof muhit muhofazasini saqlash chora tadbirlari haqida ma'lumotlar ko'rib chiqilgan.

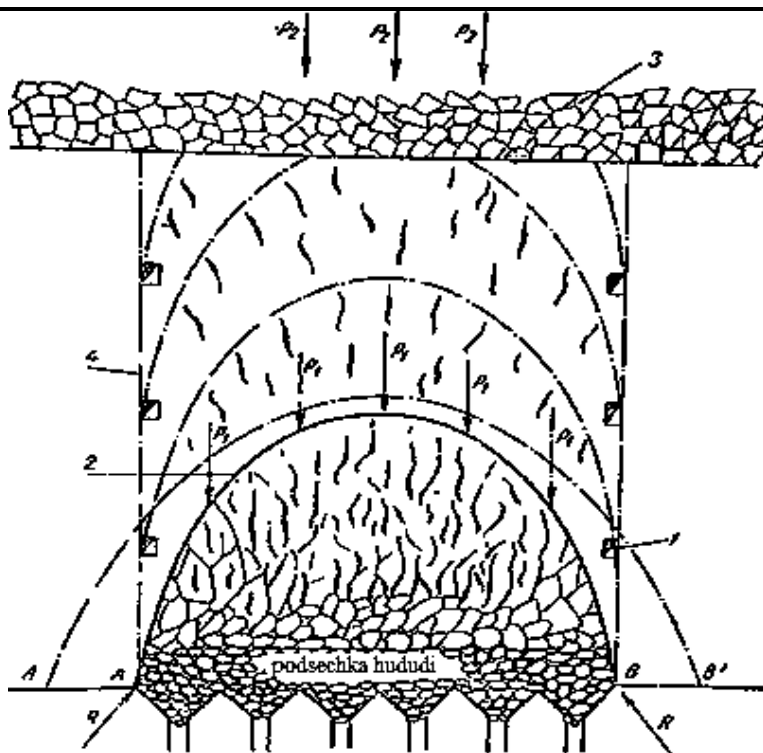
Kalit so'zlar. qazib olish tizimi, mineral, tog' jinsi, yo'qotilish, zaxira, qavat, resurs, blok, ruda, massiv.

Hozirgi kunda ko'plab shaxta va rudniklarda qo'llanilayotgan qavatni qulatib qazib olish tizimining mohiyati mohiyati shundan iboratki, qavat balandligi chegarasida tayyorlangan blok rudalarini qulatish, undan keyin qazib olingan bo'shliqni to'ldiruvchi puch tog' jinslari bosimi ostida qulatilgan rudani blokdan yoppasiga chiqarishdan iborat. Qavatni qulatish tizimining ikki turi mavjud bo'lib, ular quyidagilar: qavatning o'z-o'zidan qulashi va qavatni majburlab qulatish.

Ushbu qazib olish tizimining turlari orasidagi asosiy farq quyidagilardan iborat. Qavat o'z-o'zidan qulashi variantida blok chegarasida maxsus kon ishlarini bajarish natijasida (blokni tagidan kesish, blokni yon tomonidan kesish) ruda massivi asta-sekin o'z-o'zidan butun qavat balandligi bo'ylab qulay boshlaydi. Qazib olinayotgan ruda o'z-o'zidan qulashga moyil bo'lishi kerak.

Qavatdagi rudani majburlab qulatish variantida rudani qulatish va maydalash uchun portlovchi moddasidan foydalanib ruda massivi qavat chegarasida majburlab qulatiladi. Shuning uchun ushbu qazib olish tizimi har qanday turg'unlikdagi va mustahamlikdagi ruda tanalarini qazib olishda qo'llanilishi mumkin. Bu tizimning ikki varianti mavjud bo'lib ular bir-biridan ruda massivini qulatish usuli bilan farq qiladi. Lekin lahimlarni saqlab turish va rudani blokdan chiqarish texnologiyasi bo'yicha tizimning tuzilish qismlari ko'p o'xshashliklarga ega. Qavatdagi ruda massivi o'z-o'zidan qulash tizimi variantida shaxta maydoni chegarasida qavatlar bloklarga bo'linadi. Bloklarni tagidan va ikki yon tomonidan kesish natijasida ruda massivi o'z - o'zidan qulashining hisobiga qazib olinadi (1-rasm).

Voronkalar hosil qilingan sathida, blokni tagidan kesish ishlari natijasida massiv og'irligi kuchi R_1 va ruda ustida yotgan puch tog' jinslari bosimi R_2 ta'sirida ruda massivida yoriqlar paydo bo'ladi va qulay boshlaydi. Ruda qulashi tabiiy muvozanat gumbazi hajmida amalga oshadi. Tabiiy muvozanat gumbazining yuzasi siquvchi kuchlanish harakati ta'sirida bo'ladi. A va B nuqtadagi gumbaz tayanch reaksiyasi kuchlanishi R_1+R_2 kuchlarning o'zaro ta'siri muvozanati bilan aniqlanadi.



1-kesuvchi kon lahimi; 2- tabiiy muvozanat gumbazi; 3-qulagan puch tog' jinslari; 4-blok chegarasi;

P_1 -rudaning o'z og'irlik kuchi; P_2 - qulagan puch tog' jinslarining bosimi.

1-rasm. Qavat o'z-o'zidan qulashi tizimida massivning yemirilish sxemasi.

Gumbaz turg'un holatida ruda massivi qulashdan to'xtaydi. Massivning qulash jarayonini tiklash uchun gumbaz turg'unligini buzish kerak bo'ladi. Bu esa tayanch reaksiya kuchining ta'sirini susaytirish bilan yoki tayanch nuqtalari A va B ni vertikal yuqoriga siljitish bilan amalga oshiriladi. Birinchi holatda tabiiy muvozanat gumbazining asosi gorizontaal yo'nalishda kengayadi va ruda massivi qulashi blok chegarasidan tashqariga chiqishi mumkin. Ikkinchi holatda esa, tabiiy muvozanat gumbazi yuzasi yuqoriga qarab siljiydi va ruda massivining qulashi tikalanadi. Bunda ruda massivining qulashi blok chegarasidan chiqmaydi. Tabiiy muvozanat gumbazini yuqorilashtirish uchun blok chegarasi vertikal yuzasida ruda massivi bilan tutashishini susaytirish yordamida amalga oshiriladi. Blokning o'lchamlari va atrof tog' jinslarining fizik-mexanik xususiyatlariga bog'liq holda kesish ishlari qisman yoki to'liq bajariladi.

Ushbu qazib olish tizimini muvofaqqiyatli qo'llash uchun quyidagi sharoitlar mavjud bo'lishi kerak:

- qazib olinayotgan ruda tanasi juda qalin bo'lishi;
- qulatilayotgan ruda o'zining fizik-mexanik xususiyatlari bo'yicha o'rtacha mustahkam, imkon boricha bir xil, mo'rt va yengil maydalanuvchan bo'lishi;
- qazib olinayotgan ruda qiymati baland bo'lmasligi;
- ruda o'z-o'zidan yonishga moyil bo'lmasligi.

Blokni tagidan kesuvchi lahimining shipidagi ruda qulashi bir zumda sodir bo'lmaydi. Bir oz vaqt o'tgandan keyin qulay boshlaydi. Ayrim holatlarda muvozanat gumbazining ichida tog' jinslari to'satdan qulaydi. Qavat o'z-o'zidan qulash tizimini qo'llash sharoitida belgilangan chegarada osilgan joylari

qolmasdan ruda massivining to'liq qulashi hisoblanadi. Bunga erishish uchun blokni tagidan va yon tomonida kesish usullarini rudani chiqarish jadalligi bilan bog'liqlikda olib borilishi kerak.

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