



O'ZARO BOG'LANGAN POLIMERLAR ASOSIDA YANGI GIDROGELLAR SINTEZI, VA NATIJALARINI O'RGANISH

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ABSTRACT

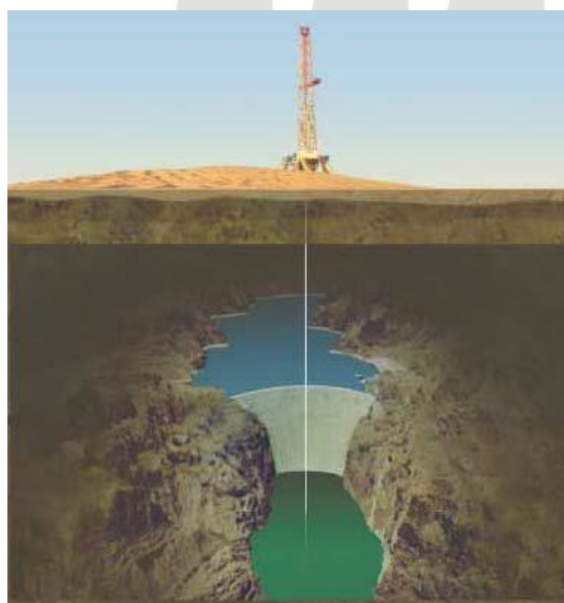
Ushbu maqola bo'yicha olib borilgan tadqiqot natijalari ishlab chiqarish chiqindilari va mahalliy xomashyodan foydalangan holda, yuqori bo'kadigan gidrogellar olish texnologiyasi masalasiga ilmiy asoslangan bo'lib, bu mahsulot sifatini yaxshilash, ishlab chiqarish hajmini oshirish va tannarxini pasaytirish imkonini beradi.

Polimer gellari erituvchida bo'kkan uch o'lchamli o'zaro bog'langan polimerlar deb ataladi. Ular tabiiy yoki sintetik (poliakrilamid gellari, poliakril kislota va boshqalar) bo'lishi mumkin. Gel tarkibidagi erituvchi miqdori ancha yuqori bo'lishi mumkin (99,9% gacha). Gellar asosan suyuq bo'lsa-da, ular qattiq moddalar kabi o'z shakllarini ushlab turishga qodir. Buning sababi shundaki, gelni tashkil etuvchi polimer zanjirlari bitta fazoviy ramka - polimer tarmog'iga o'zaro bog'langan.

Tadqiqot materiallari va metodologiyasi

Gidrogelning ta'siri uning o'simlik atrofida namni ushlashi, bug'lanishga qarshilik ko'rsatishi va yer osti suvlarini tortishiga asoslangan. O'simlik nafaqat sug'orish va atmosfera namligidan, balki bo'kkan gidrogel suvidan ham foydalanishi mumkin. Shuningdek ishlov beriladigan o'simliklarda suv sarfini kamaytiradi. Bundan tashqari toshloq yerlarda suvning singishi katta tezlikda bo'lib, u yerda ishlatilgan gidrogel suvni ildiz atrofida tutib qola oladi.

Gidrogellarni ekin ekish vaqtida urug' bilan aralashtirib ekish kerak. Ekiladigan urug'lar bilan deyarli teng miqdorda sarflanadigan bu gidrogellar, yog'in-sochin, sug'orish vaqtida tuproqqa shimilgan suvni yutib, uni uzoq vaqt ildiz atrofida tutib, o'simlikni suv bilan ta'minlab tura oladi. Natijada yerni sug'orishlar oralig'idagi vaqt kattalashib ancha suv tejab qolinadi. Eng muhimi ekologik jihatdan zararsiz. Shuningdek gidrogellar suvni o'simlikka keyingi sug'orish vaqtigacha berib turadi. Keyingi sug'orishda gidrogel yana suvga bo'kib, o'simlikni suv bilan ta'minlashda davom etadi.



TADQIQOT NATIJALARI

Keyingi vaqtlarda gellar asosida polielektrolitlar sintezlab olinmoqda. Ba'zi polielektrolitlar qimmatbaho super absorbentlar bo'lib juda ko'p sohada qo'llaniladi. Bunday polielektrolitlarda tanlab ta'sir etish xususiyati kuchli bo'ladi. Shu sababli ham ionitlar sifatida keng qo'llanilmoqda.

Gidrogellar bilan rezina va boshqa materiallar kompozitsiyalarining yaratilishi esa gellarning qo'llanilish sohasini yanada kengaytirdi.

Foydalaniladigan quduq tubiga suv oqimini cheklash neft konlarini o'zlashtirish samaradorligini oshirish va neft qazib olishni ko'paytirish bo'yicha chora-tadbirlar tizimidagi eng muhim muammolardan biridir. Bir vaqtning o'zida bir nechta mahsuldor qatlamlari

ishlatadigan quduqlarda sug'orish notekis sodir bo'ladi - suv ko'proq o'tkazuvchan qatlamlar va oraliq qatlamlardan o'tadi. Ko'pgina hollarda, bunday qatlamlar orqali suv oqimi shunchalik kuchliki, quduq butunlay suv bosganga o'xshaydi. Bunday sharoitda alohida qatlamlarning notekis rivojlanishi sodir bo'ladi. Konlar va quduqlarning normal ishlashiga pastki suvning zarari kam emas. Foydalaniladigan quduq tubiga suv oqimini cheklash neft konlarini o'zlashtirish samaradorligini oshirish va neft qazib olishni ko'paytirish bo'yicha chora-tadbirlar tizimidagi eng muhim muammolardan biridir. Bir vaqtning o'zida bir nechta mahsuldor qatlamlari ishlatadigan quduqlarda sug'orish notekis sodir bo'ladi - suv ko'proq o'tkazuvchan qatlamlar va oraliq qatlamlardan o'tadi. Ko'pgina hollarda, bunday qatlamlar orqali suv oqimi shunchalik kuchliki, quduq butunlay suv bosganga o'xshaydi. Bunday sharoitda alohida qatlamlarning notekis rivojlanishi sodir bo'ladi. Konlar va quduqlarning normal ishlashiga pastki suvning zarari kam emas.

Selektiv izolyatsiyalash usullari (SMI) - bu qatlamning butun teshilish qismiga AOK qilingan materiallardan foydalanadigan usullar. Bunda hosil bo'lgan cho'kma, gel yoki qattiqlashtiruvchi vosita faqat qatlamning suvga to'yingan qismida filtratsiya qarshiligini oshiradi va qatlamning neft qismining tiqilib qolishi sodir bo'lmaydi. SMI bilan qayta teshishning hojati yo'q.

Neft quduqlarining o'rtacha ko'rsatgichlari va suyuqlik tarkibi

1	Neft	3-10%	7	Ishqoriylik	2 mg.ekv/l
2	Suv	90-97%	8	Quruq qoldiq	118920 mg/l
3	G'ovaklilik	0,1-3 mm	9	Qattqlik	580 mg.ekv/l,
4	Zichlik	1,07 g/sm ³	10		200-360 atm
5	Yer osti bosimi	50-80 atm	11	O'tkazuvchanlik (suvda)	80-110 atm.
6	pH	6-8	12	Yer osti harorati	50-150 ⁰ C

XULOSA

GIPAN va boshqa ingidrientlar asosida olingan kompozision gidrogellarni olish va ularning fizik-kimyoviy xossalarini o'rganish yuqorida ko'rsatilgan usullar yordamida aniqlash, tajriba natijasida olingan natijalarning bir-biriga yaqinligidan dalolat beradi. Olib borilgan tadqiqot natijalaridagi tajriba xatoligi 2-3 % ni tashkil qiladi.

GIPAN o'zaro bog'lanishini o'rganish suvli eritmalarda initsiator ishtirokida amalga oshirildi. O'zaro bog'lash agenti miqdori GIPAN og'irligining 0,1-7% oralig'ida o'zgargan. Reaksiya haroratining o'zgarishi butun gellanish jarayoniga sezilarli ta'sir ko'rsatadi, shuning uchun 60⁰ C dan yuqori haroratlarda, reaksiya qisqa vaqt ichida davom etadi. Shunday qilib, 70⁰ C optimal harorat tanlangan, bunda gellanish bir necha daqiqada sodir bo'ladi.

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