Enhanced ultrafine coal dewatering with chemical additives = Peningkatan performa dewatering batubara dengan aditif kimia

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Abstrak

Dewatering of ultra fine coal and tailings slurries using the conventional technologies are difficult. In this report, a novel Centribaric technique was applied to study the effect of surfactants, flocculant, and mixed surfactant flocculant on the dewatering of coal and tailings. The results of both coal and tailings revealed that anionic surfactants were effective at reducing moisture content, but they decreased solid recovery. On the other hand, the effect of the anionic surfactant was negligible even at high dosages. The flocculant showed an increase in moisture content with increasing its dosage. However, there was a significant increase in solid recovery. Synergistic effect of mixed anionic surfactant flocculent was observed. In the mixture of anionic surfactant and flocculant, the final moisture acquired for a 0.5 kg t, 1 kg t, and 2 kg t surfactant concentration is 17.63 , 16.79 , and 13.39 , respectively.

......Proses dewatering batubara dengan menggunakan teknologi konvensional sulit dilakukan. Dalam laporan ini, Teknik centribaric baru ditetapkan untuk mempelajari pengaruh surfaktan, flokulan, dan campuran surfaktan/flokulan pada performa dewatering batubara. Hasil dari eksperimen menunjukan bahwa surfaktan anionic efektif dalam mengurangi kadar air, namun menurunkan solid recovery. Di sisi lain, efek surfaktan anionic dapat diabaikan bahkan pada dosis tinggi. Flokulan menunjukan terdapatnya peningkatan kadar air saat dosis ditambahkan. Namun, ada peningkatan yang signifikan dalam solid recovery. Dari pengamatan efek sinergis dari surfaktan anionik campuran / flokulan, dalam campuran surfaktan anionik dan flokulan, kelembaban akhir yang diperoleh untuk konsentrasi surfaktan 0,5 kg / t, 1 kg / t, dan 2 kg / t adalah 17,63 , 16,79 , dan 13,39.