

Title (en)

METHODS OF USING NATURAL PRODUCTS AS DEWATERING AIDS FOR FINE PARTICLES

Title (de)

VERFAHREN ZUR VERWENDUNG VON NATÜRLICHEN PRODUKTEN ALS ENTWÄSSERUNGSHILFEN FÜR FEINE TEILCHEN

Title (fr)

PROCEDES PERMETTANT D'UTILISER DES PRODUITS NATURELS COMME AUXILIAIRES DE DESHYDRATATION DE PARTICULES FINES

Publication

EP 1406711 A4 20051005 (EN)

Application

EP 00967147 A 20000928

Priority

US 0026925 W 20000928

Abstract (en)

[origin: WO0226340A2] A new method of improving the process of dewatering fine particulate materials is disclosed. In this method, an aqueous slurry of fine particles is treated with appropriate hydrophobizing reagents so that the particulate material becomes moderately hydrophobic. A lipid of vegetable or animal origin is then added to the slurry in solutions of light hydrocarbon oils and short-chain alcohols, so that the hydrophobic lipid molecules adsorb on the moderately hydrophobic surface and, thereby, greatly enhance its hydrophobicity. By virtue of the enhanced hydrophobicity, the water molecules adhering to the surface are destabilized and more readily removed during the process of mechanical dewatering. The moisture reduction can be further improved using appropriate electrolytes in conjunction with the lipids, spraying surface tension lowering reagents onto the filter cake, subjecting the cake to a suitable vibratory means, and using combinations thereof.

IPC 1-7

B01D 1/00; **B01D 37/02**; **C02F 11/00**; **C02F 1/00**

IPC 8 full level

B01D 37/02 (2006.01); **C02F 1/00** (2006.01); **C02F 11/00** (2006.01); **F26B 5/00** (2006.01)

CPC (source: EP)

F26B 5/005 (2013.01); **F26B 2200/18** (2013.01)

Citation (search report)

- No further relevant documents disclosed
- See references of WO 0226340A2

Cited by

CN110215763A; EP3482811A1; US10457584B2

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)

WO 0226340 A2 20020404; **WO 0226340 A3 20040115**; AT E448846 T1 20091215; AU 2000277395 B2 20051110; AU 7739500 A 20020408; DE 60043357 D1 20091231; EP 1406711 A2 20040414; EP 1406711 A4 20051005; EP 1406711 B1 20091118; ES 2335384 T3 20100326; PT 1406711 E 20100127

DOCDB simple family (application)

US 0026925 W 20000928; AT 00967147 T 20000928; AU 2000277395 A 20000928; AU 7739500 A 20000928; DE 60043357 T 20000928; EP 00967147 A 20000928; ES 00967147 T 20000928; PT 00967147 T 20000928