

Title (en)  
SORTING PARTICLES

Publication  
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Application  
**EP 80304174 A 19801120**

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Abstract (en)  
[origin: EP0030802A2] A process for separating one type of particle (e.g., ore particles) from a second type of particle (e.g., gangue particles) comprising the steps of (1) conditioning the particles to selectively mark one type of particle i.e. either the ore particles or the gangue particles), to the substantial exclusion of the other; (2) detecting the marked particles; and (3) separating the detected marked particles from the substantially unmarked particles is characterised by the use, as a conditioning agent, of a compound having both a surface-selective functional group and a detectable moiety. In one embodiment, the detectable moiety is fluorescent and detecting is performed under ultraviolet radiation. The process is especially useful for separating higher grade limestone from lower grade limestone and/or gangue or for separating oil shale or coal of high heat value from lower heat content materials or for concentrating valuable minerals, such as silver or copper ores.

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Citation (search report)  
• [AD] US 3356211 A 19671205 - MATHEWS TED C  
• [AD] WO 7900950 A1 19791115 - OCCIDENTAL RES CORP [US]  
• [A] WO 7900952 A1 19791115 - OCCIDENTAL RES CORP [US]  
• [AD] US 3346111 A 19671010 - THOMPSON RICHARD L, et al  
• [AD] US 3901793 A 19750826 - BUCHOT PIERRE CHARLES, et al  
• [AD] US 4169045 A 19790925 - MOUDGIL BRIJ M, et al

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**EP 0030802 A2 19810624**; **EP 0030802 A3 19830720**; BR 8008964 A 19811020; ES 497438 A0 19811101; ES 8205136 A1 19811101; FI 803761 L 19810606; GR 72502 B 19831115; JP S56501636 A 19811112; WO 8101530 A1 19810611

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