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[54] **RECOVERY OF SULFUR FROM NATIVE ORES**

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[57] ABSTRACT

[51] Int. Cl.⁵ **B03D 1/02**

[52] U.S. Cl. **209/164; 209/11; 209/166; 241/24; 241/78**

[58] Field of Search 209/164, 166, 167, 11; 241/24, 20, 78; 23/293 S, 308 S; 423/567 A, 578 R, 578 A

A process for recovering elemental sulfur from volcanic and non-volcanic ores is disclosed. Ore is processed by crushing the ore to a coarse particle size autoclaving to separate the sulfur from the ore, mild grinding to selectively reduce the size of the liberated sulfur particles, flotation and sulfur separation/filtration steps to produce a sulfur of at least 99% purity. The process recovers at least 90% of the elemental sulfur contained in the ore. The particular crushing of the ore and selective grinding techniques for reducing sulfur particles for reducing sulfur particles size are important factors in the efficiency of the process since the grinding techniques inhibit the formation of fine gangue which is difficult to separate from the liberated sulfur.

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31 Claims, 1 Drawing Sheet

