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Marsden et al.

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(54) **METHOD FOR PROCESSING ELEMENTAL SULFUR-BEARING MATERIALS USING HIGH TEMPERATURE PRESSURE LEACHING**

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Related U.S. Application Data

(57) **ABSTRACT**

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(51) **Int. Cl.⁷** **C22B 3/08**

The present invention relates generally to a process for the production of sulfuric acid and liberation of precious metal values from materials containing sulfur through pressure leaching operations. In accordance with various aspects of the present invention, the sulfur-bearing materials may comprise residues from pressure leaching operations, such as those carried out at medium temperatures. The process of the present invention can be advantageously used to convert such sulfur-bearing materials to sulfuric acid by means of pressure leaching. The sulfuric acid so produced can be used beneficially in other mineral processing operations, for example those at the site where it is produced. Metals, such as precious metals, that are contained within the sulfur-bearing materials advantageously may be recovered from processing products by established precious metals recovery technology.

(52) **U.S. Cl.** **75/743; 75/744; 423/27; 423/658.5**

(58) **Field of Search** **75/743, 744; 423/658.5, 423/27**

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18 Claims, 2 Drawing Sheets

