Title (en)

PROCESS AND APPARATUS FOR THE EXTRACTION OF GIBBSITIC ALUMINA FROM BAUXITE.

Title (de)

VERFAHREN UND ANLAGE ZUR EXTRAKTION VON GIBBSITISCHEN ALUMINIUMHYDROXID AUS BAUXIT.

Title (fr)

PROCEDE ET APPAREIL POUR L'EXTRACTION DE L'ALUMINE GIBBSITIQUE DE LA BAUXITE.

Publication

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Application

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Abstract (en)

[origin: WO9418122A1] The invention provides a process for extracting gibbsite from gibbsitic alumina containing bauxite, comprising: (i) providing a thick slurry of ground bauxite containing gibbsite; (ii) mixing the thick slurry with preheated spent Bayer process liquor stream to form a preheated combined slurry-liquor mixture; (iii) passing the preheated combined liquor/slurry mixture through a reaction tube or plurality of tubes sized such that the slurry-liquor mixture remains in the reaction tube for an average total residence time of up to about four minutes, said residence time being sufficient to extract the gibbsite from the slurry; (iv) separating red mud containing solids from the resulting pregnant liquor in which the gibbsite has been dissolved in a solid-liquid separator operating at substantially the same temperature and pressure as in the reaction tube; and (v) removing dissolved silica from the pregnant liquor by seeding the liquor with Bayer process desilication product and separating the desilicated pregnant liquor from the solid desilication product. An apparatus for carrying out the above process is also described.

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