Title (en)
RECOVERY OF NON-FERROUS METALS FROM BY-PRODUCTS OF THE ZINC AND LEAD INDUSTRY USING ELECTRIC SMELTING WITH SUBMERGED PLASMA

Title (de)
GEWINNUNG VON NICHTEISENMETALLEN AUS NEBENPRODUKTEN DER ZINK- UND BLEIINDUSTRIE UNTER VERWENDUNG VON ELEKTRISCHEM SCHMELZEN MIT TAUCHPLASMA

Title (fr)
RÉCUPÉRATION DE MÉTAUX NON FERREUX À PARTIR DE SOUS-PRODUITS DE L'INDUSTRIE DE PRODUCTION DU ZINC ET DU PLOMB UTILISANT LA FUSION ÉLECTRIQUE AVEC PLASMA IMMERGÉ

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Abstract (en)
[origin: WO2008052661A1] This invention relates to a single-step pyrometallurgical process for the recovery of non-ferrous metals from zinc bearing residues, in particular from by-products of the zinc and lead industry such as goethite and jarosite. A process for the recovery of metals from industrial Zn residues containing Zn, Fe and S is defined, wherein Zn is fumed, Fe is slagged, and S is oxidized to SO_2, characterized in that the Zn fuming, the Fe slagging, and the S oxidation are performed in a single step process, by smelting the residues in a furnace comprising at least one submerged plasma torch generating an oxidizing gas mixture, and by feeding a solid reducing agent to the melt. The process achieves the oxidation of S and the slagging of Fe, while simultaneously achieving the reduction and the fuming of metals such as Zn.

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