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Wiewiorowski et al.

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[54] **PROCESS FOR RECOVERY OF URANIUM FROM WET PROCESS PHOSPHORIC ACID**

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[52] **U.S. Cl.** **423/10**; 423/139

[58] **Field of Search** 423/10, 139

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[57] **ABSTRACT**

Process for the recovery of uranium from wet process phosphoric acid solution in which an organic extractant, containing uranium values and dissolved iron impurities and comprising a dialkylphosphoric acid and a trialkylphosphine oxide dissolved in a water immiscible organic solvent, is contacted with a substantially iron-free dilute aqueous phosphoric acid to remove said iron impurities. The removed impurities are bled from the system by feeding the resulting iron-loaded phosphoric acid to a secondary countercurrent uranium extraction operation from which they leave as part of the uranium-depleted acid raffinate. Also, process for recovering uranium in which the extractant, after it has been stripped of uranium values by aqueous ammonium carbonate, is contacted with a dilute aqueous acid selected from the group consisting of H_2SO_4, HCl, HNO_3 and iron-free H_3PO_4 to improve the extraction efficiency of the organic extractant.

11 Claims, 1 Drawing Figure