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Supercritical Extraction by Carbon Dioxide of Uranium from Ore Concentrates and Low-Enriched Ores of Tailing

The extraction and processing of uranium ores in Ukraine have led to the accumulation of large amounts of waste. It is obvious that the old technologies are not applicable to the extraction of uranium from such waste. Therefore, the search for the new, more efficient methods of extracting residual amounts of waste nutrients and subsequent improvement of the environmental status of contaminated areas are both necessary. The supercritical carbon dioxide fluid extraction (SFE-CO₂) is proposed as a method that can be utilized independently or as the last step of the acid leaching method adopted at VostGOK to extract the uranium. The efficiency of uranium SFE-CO₂ can reach 98%.

Keywords: supercritical extraction, carbon dioxide, uranium ore concentrate, low-enriched ore, tailing, extraction efficiency.