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Iran's Uranium Stockpile Dwindling

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On December 29 AP's George Jahn [reported](#) on an effort by Iran to import clandestinely 1,350 tons of purified uranium ore from Kazakhstan. The information was contained in an intelligence report authored by an IAEA member state and obtained by Jahn.

That Iran would be seeking a new source of uranium ore is not surprising, given how low its existing stocks are believed to be. According to the [November 2004 IAEA report](#), Iran received 531 t of yellow cake, or uranium oxide (U₃O₈), from South Africa in the early 1980s. (Note, ISIS has previously [reported](#) the quantity of uranium obtained from South Africa as 600 t; ISIS has since learned with greater accuracy the quantity transferred and uses as a baseline the quantity reported by the IAEA in 2004).

This 531 t of yellowcake, or uranium oxide, is the equivalent of 450 t of uranium in the form of uranium oxide or 448 t of uranium in the form of uranium hexafluoride. According to the IAEA, Iran has produced at Esfahan 366 t of uranium in the form of UF₆, leaving Iran with a relatively small stock of yellowcake. With its remaining yellowcake, Iran could produce approximately 82 t of uranium in the form of UF₆. But at least some of this yellowcake is probably reserved by Iran for the operation of the Arak heavy water reactor when it is complete. Uranium conversion activity at Esfahan, as seen in the chart below, has effectively plateaued since the middle of 2008, with only 46 t of uranium in the form of UF₆ processed since May 2008 according to the IAEA. The Esfahan facility has an annual production capacity of 200 t of uranium in the form of UF₆ (the equivalent of 237 t of uranium oxide).

One final note: It is important to distinguish between uranium ore, of which Iran's stocks have been depleted, and Iran's supply of converted UF₆ which is plentiful and sufficient to maintain Natanz at existing rates of enrichment for decades. While Iran has some 366 t of uranium in the form of UF₆ as feedstock for its centrifuges, it consumes this material relatively slowly. Since commencing enrichment at the Natanz Fuel Enrichment Plant, Iran has introduced approximately 20.3 t of UF₆ (uranium content is 13.7 t). At current rates of consumption, very roughly 1 t per month, Iran's supply of UF₆ would last for a long time. Of course, If Iran dramatically increased its rate of consumption, in particular the number of centrifuges operating, this stock would be depleted more rapidly.