

## EXPRESS LETTER

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### URANIUM IN IRON OXIDE-COPPER-GOLD (IOCG) SYSTEMS

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#### Abstract

The Olympic Dam iron oxide-copper-gold (IOCG) deposit is currently the world's largest producer of uranium. Other IOCG deposits generally have anomalous, though uneconomic, uranium grades. The fluids that generate IOCG deposits are thought to be saline and highly oxidized and would be capable of leaching and transporting significant uranium. The reasons for uranium enrichment in certain IOCG deposits remain speculative but could include the composition of mineralization-related magmas, of the wall rocks altered by hydrothermal fluids or of the fluids mixing at the site of mineralization. There is sparse data available on uranium abundance in IOCG ores; there is even less reliable data on the uranium content of unaltered wall rocks for the deposits. However, the data that is available suggest that the uranium grade of IOCG deposits may be primarily related to the uranium content of their unaltered host rocks. Many IOCG deposits appear to have approximately 10 to 40 times enrichment in the ore compared to unaltered host rocks. This suggests that exploration for uranium-rich IOCG deposits should focus on areas with anomalously high uranium contents in host-rock sequences.

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