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3D Modeling of roll-front type uranium deposits in Kazakhstan

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Nowadays Inkai is one of the unique deposit of uranium resources in the world. Resources of uranium are estimated more than 700 000 tonnes. The owners of site 1, site 2 and site 3 at Inkai are National Company “Kazatomprom” and Cameco Corporation. Inkai is roll front sandstone deposit where mineralization of U is related to redox zone. The main uranium minerals are sooty pitchblende (85%) and coffinite (15%). Average grades of U - 0,06-0.07%.

Resource estimation was performed by using the GT estimation method on two-dimensional blocks in plan view. Nowadays due to implementation of various types of software into mining process an approach to mineral resource estimation and geology interpretation was essentially revised. JV Inkai with Cameco corporation assistance made decision regarding 3D modeling adoption into the workflow. At the current time project of 3D implementation has achieved its median but we already value all potential and advantages of using 3D tools. Taking into account that Kazakhstan is in CRIRSCO family since 2016 the practice of applying block modeling for resource estimation and public reporting will be encouraged.

Country or International Organization

Kazakhstan

Primary author: Ms GORBATENKO, Olga (Inkai Joint Venture)

Presenter: Ms GORBATENKO, Olga (Inkai Joint Venture)

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