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Uranium deposit types and resources of Argentina

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The uranium - related activities in Argentina begun in the 1950s and, as a result of the systematic exploration, several types of deposits have been discovered since then: volcanic and caldera-related, sandstone-hosted, vein spatially related to granite (intragranitic and perigranitic) and surficial.

The deposits that have been the focus of the most important uranium exploitations are the ones that belong to the volcanoclastic type. These are localized in Permian formations associated with synsedimentary acid volcanism in the Sierra Pintada district (Mendoza province). The volcanic and caldera related type is also present in the Laguna Colorada deposit (Chubut province) located in the San Jorge basin (Cretaceous). Several important uranium mineralisations have been identified in Cretaceous fluvial sandstones and conglomerates, among which the most relevant is the Cerro Solo deposit (Chubut province) that corresponds to the paleochannel structure subtype.

Other subtypes of sandstone model have been studied. For instance, the Don Otto deposit (Salta province), located in the Salta Group Basin (Cretaceous - Tertiary), belongs to the tabular U-V subtype. The roll front subtype can be also found in the Los Mogotes Colorados deposit (La Rioja province) which is hosted by Carboniferous continental sandstones.

The uranium mineralisations in veins and disseminated episyenites within peraluminous leucogranites of the Sierras Pampeanas (Cordoba and San Luis provinces) represent other types of existing deposits. These granites are Devonian -Carboniferous and the related deposits are comparable to those from the Middle European Variscan.

There are also other vein-type uranium deposits located in metamorphic basement in the periphery of high potassium calcalkaline granites (Sierras Pampeanas of Catamarca and La Rioja provinces), where the mineralisation control is mainly structural.

The current uranium identified resources of the country are approximately 24,000 t U in the production cost category < USD 130/Kg and belong to volcanic and caldera-related and sandstone-hosted models.

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