

Lithium Prospects in South Korea

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Lithium deposits are classified into three types: brine, hard rock, and clay (volcanic-sedimentary). In South Korea, lithium minerals are found in both hard rock (pegmatite) and clay (volcanic-sedimentary) deposits. Representative hard rock-type lithium prospects include Uljin and Danyang, where lithium minerals such as lepidolite, zinnwaldite, and elbaite occur within LCT-type pegmatites. Representative clay (volcanic-sedimentary)-type lithium prospects include Cheongsong, Miryang, and Namhae, where lithium minerals such as tosudite occur within volcanic-sedimentary rocks. The Uljin lithium prospect is a small-scale deposit consisting of three ore bodies, each measuring 80–100 m in length and 0.5–1.0 m in width. The primary lithium minerals in these pegmatites include lepidolite, spodumene, elbaite, and zinnwaldite. Lithium-bearing pegmatites exhibit both regional and internal zoning, which is attributed to magmatic differentiation. In the Danyang prospect, lithium minerals such as lepidolite and zinnwaldite are also found in the lithium-bearing pegmatite. The pegmatite body at Danyang extends approximately 140 m in length and varies in width from 0.5 to 5.0 m. The Cheongsong prospect, a clay (volcanic-sedimentary) deposit, is characterized by a relatively high lithium content in the alteration zone. Geochemical analysis indicates that the average lithium oxide (Li₂O) content in the hard rock-type deposits at Uljin and Danyang is 2,130 ppm and 1,469 ppm, respectively. Among the clay (volcanic-sedimentary) deposits, the Cheongsong prospect exhibits a relatively high lithium concentration, ranging from 23 to 3,323 ppm (Li) [1].

Reference

[1] Heo, C.H., Lee, B.H., Pak, S.J., Yang, S.J., Oh, I.H., Yoo, B.C., Yoon, S.J., Park, G., Son, J.S. and Shin, Y.H. (2024). Current Status of Lithium Exploration in South Korea. Korea Institute of Geoscience and Mineral Resources, 134p.