

Lithium Deposits of Mongolia

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Due to the rapid growth of population and environmental issues, the traditional source is being rejected, whereas renewable resources are being accepted year by year following the increase in energy demand. As the demand for renewable energy grows, the storage is considered crucial for the technological development and environment. The most important means of storing energy is the lithium battery and the capacitor, therefore the significance is high for conducting studies on the most important raw material of lithium battery and assessing its future prospect.

Future global demand for lithium is difficult to forecast, most projections are for increasingly positive trends. Certainly, the progression of increasing consumption over the last decade points to comparable or greater demand into the future. The primary growth in demand has been driven using lithium in rechargeable batteries, not only for electronic devices but also for electric vehicles and storage of renewable and other energies.

In Mongolia, lithium mineralization is relatively low, but in recent years companies have started research in various level. Current studies have found three deposits, seven occurrences and some anomalies mineralized areas associated with pegmatite related silicate ores and sedimentary rocks.

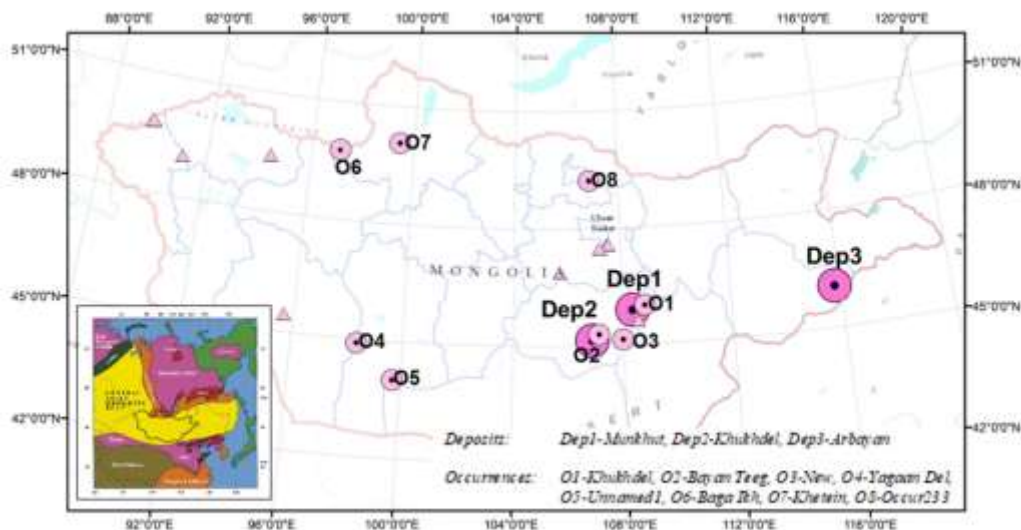


Figure 1. Location map of lithium deposits and occurrences

Lithium deposits have three different types and those related with Jurassic sediments, lithium bearing pegmatite and basic metal bearing greisen. Major lithium minerals showed lithium bearing micas, lepidolite, and zinnwaldite. Lithium grades of deposits are Li 0.3-1.0% Munkhut, Li 0.3% Khukhdel and Li 0.4% Arbayan. All lithium occurrences are related with lithium bearing pegmatites and associated silicate minerals are lepidolite and spodumene. Lithium grades of occurrences are Li 0.27-0.30% Khukhdel, Li 1.71-2.15% Bayanteeg, Li 0.3-0.6% New, Li 0.1-1.0% Yagaandel, Li 0.1% Unnamed1, Li 1.0% Baga Ikh, Li 0.04-0.15% Khetein and Li 1.0% Occur233.

In Central Mongolia, the Khukh Del deposit (KDD) related sedimentary rocks has around 37,700 tons of confirmed lithium resource in 122,300 tons of ore. As for the Munkhtiin Tsagaan Durvuljin (MTD) deposit related lithium bearing pegmatite, the Mineral Resources and Petroleum Authority of Mongolia reported that the deposit has actual reserves of 14,575 tons in 2.2 million tons of ores.

Keywords: Lithium, Pegmatite, Lepidolite