

Lithium exploration in Saskatchewan: New data from the 2022 sampling season as well as new data from recent industry exploration.

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Abstract

Driven by the demand for lithium and other trace elements that could potentially be derived from basinal brines, the Saskatchewan Geological Survey began sampling brines in 2011. Numerous wells were sampled from oil-producing regions of Saskatchewan where production was from Paleozoic-aged formations. The sampling results show that lithium concentrations differ and include spatial variations within individual formations.

The new results from 23 wells sampled in the 2022 season will be presented. These were collected in conjunction with a University of Regina project investigating Rare Earth Element (REE) potential from Saskatchewan formation waters. The University of Regina project was initiated because of REE being placed on the recently announced list of Canada's critical minerals, with this inclusion on this list it is expected demand for REE will grow over the coming years.

Recent drilling of new wells and re-entry of suspended wells from numerous companies that are investigating the lithium potential in the province, have added to the limited lithium dataset of lithium values in Saskatchewan. A summation of all Duperow lithium values in the province will be presented.