

Helium in Southern Saskatchewan

Melinda Yurkowski

Summary

In southern Saskatchewan elevated helium shows from gas analyses exist throughout the stratigraphic column, but are concentrated in the Lower Paleozoic sediments. The helium accumulations are assumed to be derived from the decay of uranium and thorium from a granitic source rock in the Precambrian basement, and to a lesser extent from the shales within the Cambro-Ordovician. Gas analyses trends show regional basement structures, hydrogeology and sources of carrier gases all play a major role in distribution. Early exploration targets include lower Paleozoic structural highs, such as those draped over Precambrian structures, that have an effective seal to trap the small helium molecule.