

# Alberta's hidden valleys offer both resources and danger

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Alberta is crisscrossed with hidden glacial valleys that hold both resource treasures and potential danger. University of Alberta researcher Doug Schmitt discovered a 300 metre deep, valley hidden beneath the surface of the ground near the community of Rainbow Lake in northwestern Alberta.

The valley was created by [glaciers](#) and over time filled with loose rock gradually disappearing from the landscape.

There had already been extensive underground mapping of the area, but Schmitt went beyond the standard practices to locate the valley. He combined a variety of the existing seismic and electrical mapping data and found the valley. It ranges between two and three kilometers in width.

If these hidden alleys go undetected by standard underground mapping practices there could be serious consequences. Schmitt says if a tailings pond were unknowingly put in an area like this and the liner failed, the effluent could spread far and wide, underground via the aquifer.

And then there's the issue of pockets of natural gas lying in the porous rock just metres beneath the surface. An energy exploration crew could trigger an explosion and fire. Schmitt says it's happened more than once in Alberta.

Schmitt says there are hidden valleys like his find near Rainbow Lake, all over Alberta.

Schmitt is Canada Research Chair in rock physics. Schmitt co authored a paper on the Rainbow Lake discovery. It was published by the Geological Society of America.

Source: University of Alberta ([news](#) : [web](#))

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