

The Wildest Plays on the Planet

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Abstract

The vast majority of the world's hydrocarbons have historically been discovered in what are termed conventional settings. These are often structural closures into which oil or gas has migrated, becoming trapped in layers of porous, reservoir sandstone or limestone beneath an impervious cap rock. Stratigraphic traps in which similar reservoirs are encased in shales make up a smaller proportion of successful hydrocarbon plays, and in recent years, we have seen the rise of a variety of unconventional plays. However, beyond these accumulations lies a subset of truly "unconventional", simply wacky plays, where the geologist needs an open mind to appreciate the "wildest plays on the planet".

This paper details some wild plays ranging from those hosted in granitic, volcanic or metamorphic basement, to those contained within astroblemes. Other unusual reservoirs include diatomites, diapirs and glacial deposits. Unexpected traps such as caves, synclines and the craters mentioned above are complimented by seals that include tills, tar mats and lava flows. There is also a variety of commercially viable, non-hydrocarbon gases: helium, nitrogen and carbon dioxide to name but three, all of which can be produced directly from the subsurface. By examining these plays it is hoped that the explorers for hydrocarbons may gain new insights into ways to think outside of the box.

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