

3-D Seismic Exploration in the Ames Hole: Abstract

Kenneth R. Ainsworth¹

ABSTRACT

The Ames Crater of Major County, Oklahoma has been one of the more controversial drilling projects to emerge in the Mid-Continent province in this decade. Within the crater, dolomitic and granodiorite breccias produce substantial quantities of oil and gas within structurally controlled accumulations. To understand the structural complexities of the crater, Continental Resources, in partnership with other Ames operators, acquired 3-D seismic data in four separate acquisition projects across various exploratory and development projects across the crater.

Integrated seismic and subsurface control revealed four separate features within the principal crater floor oil and gas accumulation. Using the 3-D data as a lead tool, these companies identified and developed a significant number of commercial tests within the limits of the seismic surveys.

Although the tool generally proved to be successful, reservoir variability, velocity variations, and interpretational errors resulted in some non-commercial and dry tests.

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¹ Continental Resources, Inc., Enid, OK

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