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Meeting Paper



**The Engineered Expansion of
Domal Cavern Space at an
Existing Natural Gas Storage Complex –
A Case History**

by

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“The Engineered Expansion of Domal Cavern Space at an Existing Natural Gas Storage Complex – A Case History”

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Abstract

Two natural gas storage caverns of approximately two million barrels each were developed in the northwest quadrant of the North Dayton salt dome near Dayton, Texas. The two caverns have successfully provided gas storage service for local electric power plants from late 1986 and early 1987 to the present. In 1996, Cavern C-1 was expanded from about 2 million to about 4 million barrels in size, recovering lost storage space and resulting in an additional 2 Bscf of natural gas storage capacity.

This case history tells the expansion story from a rock mechanics engineering perspective relating to new cavern spacing between the enlarged Cavern C-1 and Cavern C-2, normal and unacceptable gas withdrawal velocities, and safe and efficient rock mechanics determined withdrawal rates and pressures.

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