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THE EVOLUTION OF THE GEOLOGIC INTERPRETATION OF THE NEW HOME SALT DOME FOR THE LEAF RIVER GAS STORAGE PROJECT: An Examination of the Variance Between Edge of Salt Interpretations Provided by an Expanding Data Base

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Abstract

The New Home salt dome provides an example of how an expanding data base accompanying project development resulted in the refinement of the geologic interpretation and geologic risk assessments in regards to edge of salt and cavern locations. The geologic interpretations range from the initial feasibility study based on published information through stages representing the additional 1) integration of off the shelf 2D seismic, 2) the revision of the top of salt with the additional data from the cavern wells drilled for the project, and 3) the acquisition and integration of a 3D seismic survey over the dome. Each stage of the geologic evaluation is discussed and the geologic risk assessed as to that phase of the project. The variance that resulted in the placement and character of the flanks of the dome resulting from the changing geologic interpretation of the salt diapir is discussed. The Leaf River Project used the same geologic interpreter throughout the project thus reducing the variance that can occur based on the varying knowledge and experience levels of different geologists.

Key words: Domal Salt, Geology, Geophysics, Mississippi, Salt Domes, Seismic

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