

## Significance of Accurate Carbonate Reservoir Definition and Delineation

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Reservoir definition may be vague or poor even in mature areas because of misidentified angular unconformities, facies changes, or poor understanding of the relationships existing in deep portions of a basin that was undrilled until late in the development history. Typically no mechanism exists to correct misnamed reservoirs, and the problem may be dismissed as being "purely academic," insignificant, or unnecessary. As a result of a recent Gas Research Institute project (GRI-96/0196), a classic example of the significance of accurate reservoir definition and delineation was identified. One thousand two-hundred and thirty-two (1,232) well completions had been reported as being from the Chester (Mississippian), when, after detailed correlations, it was demonstrated that only 221 completions could be attributed to the Chester within the study area. Consequently, the ultimate recovery of the Chester diminished from 1,781 BCF to 277 BCF gas. Most of the gas was being produced from carbonate reservoirs belonging to the overlying Springer Group and could be identified as such through regional stratigraphic correlations. Although occurring at comparable depths, the carbonate reservoirs belonging to the Springer Group typically produce 50 to 80% more gas per completion than completions in the Chester.

This paper will present the findings which explain the significance of the disparity between the misidentified reservoirs. These findings demonstrate that opportunities exist for significant infield development, trend extensions, and the further development of newly recognizable trends. Basinwide stratigraphic correlations and detailed geologic analysis will be presented.