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Discovery and Development of the Lower Wilcox Southwest Speaks Field, Lavaca County, Texas

The United Oil and Minerals #1 Pilgreen discovery in January 1996 opened up a significant Lower Wilcox play throughout Lavaca and Colorado counties, Texas. The play concept involved finding undrilled Lower Wilcox structures beneath Upper Wilcox dip-trending structural axes. At the Southwest Speaks Prospect a large shallow Upper Wilcox high-side fault trap had been drilled by three unsuccessful wells, all of which had tested gas from different Lower Wilcox sands. Adjacent downthrown Lower Wilcox production was noncommercial, and the primary target sands had never produced anywhere in Lavaca or Colorado counties.

Production from Lower Wilcox sands at Southwest Speaks will exceed 230 bcfg from 10 different sands. The main pays are in the Roeder (a misnomer), Rainbow and Magnolia sands. The single best well (Eaves #1) has produced 16 bcfg from the Rainbow, which is the best zone with over 84 bcfg produced (10/2006). The Rainbow Sand includes two upthrown fault closures, the largest of which covers 1490 acres and has over 515 feet of column.

The original prospect was developed on 2D data. Five wells were drilled before 3D seismic over the field was completed in 1997. The 3D showed the structural high was in an unexpected area. The data was part vibroseis and part dynamite and acquired at different times. Fault shadows caused time sag and relative amplitude problems.

All wells required fracture treatment and some had second fracs, which prolonged their life. Lower Wilcox gas has varying amounts of H₂S and CO₂ requiring treatment for sales. Generally speaking, the highest wells are the best producers, having the best porosity and permeability, but there are off-structure "sweet spots" in the Rainbow and Simpson sands.

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Regional geology prior to 1995 showed a lack of production along the Lower Wilcox Fault Trend between Dry Hollow Field and Provident City Field in Lavaca County. At Southwest Speaks the best production came from Lower Wilcox sands that had not produced in the county. Explorationists should always be looking for new reservoirs and not be led only to those prospects with nearby look-alikes in the same target sands. ■

Biographical Sketch

FRANK CORNISH received his BS from Louisiana State University (1973) and MA from the University of Texas at Austin (1975), both degrees in geology. He began his career with the USGS in Colorado. After UT he worked the Permian and Anadarko basins for Getty Oil in Midland and Oklahoma City. In 1978 he started with Texas Oil and Gas in Oklahoma City and was transferred to Corpus Christi as District Geologist. After TXO was sold in 1990, he worked for Suemaur Exploration and Yuma Exploration. Since 2003 he has generated prospects for various industry partners under his company name of Imagine Resources, LLC. He is the author of several technical and popular articles, including "Dinosaurs" (*Texas Highways*, 1988) and "Riches in the Heart of Texas" (*Texas Parks and Wildlife*, 1991). Mr. Cornish has studied and published papers about the local Recent/Pleistocene sediments with Dr. Jon Baskin of Texas A & M, Kingsville. He is a co-chairman of the Academic Liaison Committee of the Corpus Christi Geological Society and received that society's Distinguished Member Award in 1995. He is a member of AAPG, SEG, SIPES, CCGS, CBGS, and Rotary.

