Abstracts of Additional Hydrocarbon Session Papers

Hoadley—A Potential Supergiant Gas Field in South-Central Alberta, Canada

Kam Chiang
Caswell Silver
Sundance Oil Co.
Denver, Colorado

The Hoadley gas field is a potential supergiant gas condensate accumulation, discovered in November 1977 by Sundance Oil. The discovery well, Hoadley 6-2, has an AOF of 26 mmcf of gas/day with 60 bbl of natural gas liquids per Mcf of gas. The field covers approximately 1,500 sq mi (3,885 sq km) in south-central Alberta. The producing zone is in the Lower Cretaceous Glauconitic formation consisting of 25 to 80 ft (7.6 to 14.4 m) of sandstone pay. The sand was deposited as a gigantic marine barrier bar with an approximate width of 15 mi (24 km) and a length of more than 130 mi (209 km), trending southwest-northeast across south-central Alberta. The central and southwestern part of the barrier bar (approximately 100 mi long [161 km long]) is entirely saturated with gas and natural gas liquids. Of more than 100 Galuconitic gas wells completed within this section of the barrier bar since discovery, none has tested or produced salt water. The field is estimated to contain a potential recoverable reserve of 6 to 7 Tcf of gas, and a potential recoverable reserve of 350 to 400 million bbl of natural gas liquids.

The geology of the Hoadley gas field is a classic example of a modern barrier-bar complex. Principal facies recognized in the studied area include marine shale, bay, barrier sand bar, eolian sand ridge, tidal channel, levee, inter-bar lagoon, and back-bar washed sands. A deltaic complex, found immediately to the southeast of the barrier bar, includes deltaic distributary channel and abandoned channel sand facies. Each of these facies can be recognized from diagnostic electric-log characteristics.