BIG HILL FIELD
JEFFERSON COUNTY TEXAS

by

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(Mr. Dollison will be the speaker at the January, 1966 Meeting)

ABSTRACT

Big Hill Field is in the Frio Sand Trend on the western flank of Big Hill Salt Dome. Multiple reservoirs in Miocene and Oligocene sands are on the downthrown side of a regional up-to-coast growth fault that expands the thickness of Lower Miocene and older sediments 57 %. One Hackberry reservoir is bounded by two growth faults and an erosional surface. The hydrocarbons trapped therein a r e evidently indigenous to the surrounding rocks. An isopach map, "Top of Frio to the Hackberry Unconformity," indicates that Big Hill salt dome was formed prior to the end of Frio time; the crest of the dome at that time was north of the present salt spine. This map also locates a buried down-to-coast growth fault that traverses the west flank of Big Hill Field but does not intersect any wells.

Pressure performance histories of two reservoirs, and also of two wells not producing from these reservoirs, a r e shown graphically in order to illustrate the problems involved in explaining wells that ar e in pressure communication. Four g a s - fluid contacts in a continuous Marginulina reservoir differ in elevation by 600' $\pm$. These original gas contacts were created by hydrocarbons migrating into a complexly faulted area. Accumulation of oil downdip from these gas contacts can be reasonably explained in terms of gravity segregation effects.