

# NEW SMACKOVER PRODUCTION AT ANAHUAC, NORTHEAST MEXICO

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## ABSTRACT

The first proven commercial gas production in the Smackover trend of the Rio Grande embayment was found in a well which flowed an estimated 5,000 MCFGPD in open hole at Anahuac, Northeast Mexico, 40 miles southwest of Laredo, Texas. Further discoveries can be expected from future exploration in this trend. The reservoir is a porous macrolomitized lagoonal facies of the Novillo Formation (Smackover equivalent). Methane gas is trapped by the "pinch-out" of the dolomites against red beds as they cross the plunging Salado arch.

Development drilling has shown that, with normal stimulation techniques, commercial production is restricted to the more porous dolomitized calcarenites. These are believed to have been deposited around the shores of a lagoon and are possibly related to a hingeline which can be identified on seismic sections. Special fracturing techniques may be able to improve recovery from the tighter dolomitized calcilutites.

Problems with overpressures in the reservoir raise the cost of drilling operations. Nearly equal quantities of nitrogen associated with the methane reduce the value of the accumulation. Despite these considerations, it is believed that this small strategic field is a worthwhile economic prospect under the present price regime.

Interest in the Anahuac area was stimulated by a reevaluation of wells drilled in the area between 1960 and 1965. This reevaluation was based on a detailed stratigraphic-petrographic study, supplemented by a critical reappraisal of electrical logs and operational data. Similar studies of old wells elsewhere in the Rio Grande embayment could lead to the recognition of gas accumulations previously overlooked.

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