KIFFEN NACIMIENTO  
(Gas)  
T. 32 N., R. 11 W., NMPM  
San Juan County, New Mexico

GEOLOGY
Regional Setting: Northwestern part, San Juan Basin  
Surface Formations: Tertiary, Nacimiento Formation  
Exploration Method Leading to Discovery: A nearby well kicked while drilling deeper to the Pictured Cliffs Sandstone  
Type of Trap: Stratigraphic  
Producing Formation: Paleocene, Nacimiento Formation  
Gross Thickness and Lithology of Reservoir Rocks: About 7 feet, lithology unknown  
Geometry of Reservoir Rock: Unknown  
Other Significant Shows: None  
Oldest Stratigraphic Horizon Penetrated: Nacimiento Formation

DISCOVERY WELL
Name: Kimbark Operating Co. No. 3 Storey  
Location: SE SE (1,190' FSL and 1,012' FEL) sec. 34, T. 32 N., R. 11 W.  
Elevation (KB): 6,009 feet  
Date of Completion: February 19, 1976  
Total Depth: 725 feet  
Production Casing: 4½" to 710 feet  
Perforations: None  
Stimulation: None  
Initial Potential: 410 MCFGD, 5 BWD  
Bottom Hole Pressure: 405 psig (shut-in casing pressure)

DRILLING AND COMPLETION PRACTICES
Due to the high pressure of this reservoir (greater than hydrostatic), it was necessary to drill the well with special precautions. A string of 8½" casing was set to 124 feet and cemented to the surface. A string of 4½" casing was run in a 6¼" hole to 710 feet and cemented. A bit and a bit sub were run on 2½" tubing to drill out the cement and to open the hole below the 4½" casing. The well was drilled out with gas and the well began to make new gas at 718 feet. The well was drilled to a total depth of 725 feet where a large increase in gas was noted. The tubing, bit, and bit sub were left in the hole. Two ½" Kinley shots were made in the tubing, one at 658 feet and the other at 659 feet. The well was shut-in pending pipeline connection.

RESERVOIR DATA
Productive Area:  
Proved: Unknown  
Unproved: Unknown  
Approved Spacing: 160 acres  
No. of Producing Wells: 1  
No. of Abandoned Wells: 0  
No. of Dry Holes: 0  
Average Net Pay: 7 feet

By: Elliott A. Riggs  
Independent Petroleum Geologist

Porosity: Unknown  
Permeability: Unknown  
Water Saturation: Unknown  
Initial Field Pressure: 405 psig (shut-in casing pressure)  
Type of Drive: Gas expansion  
Gas Characteristics and Analysis: Sweet, high Btu  
Associated Water Characteristics and Analysis: Fresh

Original Gas, Oil, and Water Contact Datums: Unknown  
Estimated Primary Recovery: 12,000 MCFG  
Type of Secondary Recovery: (existing or planned) None  
Estimated Ultimate Recovery: 12,000 MCFG  
Present Daily Average Production: Well shut-in, unable to buck high line pressure  
Market Outlets: Southwest Gas Corp.

FIELD COMMENTARY
The potential for a shallow producing gas zone in this area was noted during the drilling of the Kimbark No. 2 Storey, a Pictured Cliffs Sandstone well which was drilled nearby. This well kicked while drilling at 726 feet. It continued to make enough gas during the drilling to the Pictured Cliffs, that it was not prudent to run electric logs and casing was run without logging the open hole. A through casing thermal neutron decay log indicated a thin gas zone was present and further study was warranted. The Kimbark No. 1-A Storey Mesa Verde Group well was drilled several hundred feet to the south of the No. 2 Storey Pictured Cliffs well and it was anticipated that this well might also kick at approximately the 726 foot interval. This did not happen. The rig was shut down at about 1,300 feet for eight hours for rig repair and the well then did begin to make some gas. Based on this information, the location for the shallow Nacimiento test was moved and the bore hole located about 72½ feet west of the No. 2 Storey wellhead. The well was completed open hole.

A good suite of logs does not exist on this thin shallow zone; however, it is thought to be either a fractured sandy interval or an unusually porous and permeable sandstone-stringer. The fact that the No. 1-A Storey Mesa Verde well did not kick indicates that a blanket sandstone condition does not exist. The New Mexico Oil Conservation Commission ordered bradenhead tests on all wells in the area in the event that a leaky string of casing was charging up this shallow interval. The bradenhead tests were all negative and it was concluded that this is not a charged-up interval. In all probability this zone would never have been noted on electric well logs and it was only through alert well site personnel and the fact that they noted the kick, that this future completion was possible. The well is currently shut-in due to the high pressure gathering line situation in the area. The reservoir appears to have a limited extent as the productivity decline is rather steep. It is doubtful that the well will pay out.

REFERENCES
New Mexico Oil & Gas Engineering Committee, annual production figures.  
Riggs, E. A., personal files and geologic data.

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