LOS PINOS FRUITLAND, NORTH

(Gas)

T. 32 N., R. 7-8 W., NMPM
San Juan County, New Mexico

GEOLOGY

Regional Setting: Near synclinal axis of San Juan Basin

Surface Formations: Cretaceous and Tertiary, Animas Formation; Tertiary, San Jose Formation

Exploration Method Leading to Discovery: Subsurface, drilling and testing

Type of Trap: Stratigraphic

Producing Formation: Cretaceous, Fruitland Formation,

(see discussion under Drilling and Completion Practices)

Gross Thickness and Lithology of Reservoir Rocks: Approximately 320 feet, interbedded sandstone, silstone, shale and coal

Geometry of Reservoir Rock: Relatively uniform with minor facies associated with paludal depositional environment

Other Significant Shows: Cretaceous, Pictured Cliffs Sandstone; Mesaverde Group, partially developed; Dakota Sandstone, partially developed

Oldest Stratigraphic Horizon Penetrated: Cretaceous, Dakota Sandstone

DISCOVERY WELL

Name: Phillips Petroleum Company No. 3-18 Mesa Unit 32-7
(present operator, Northwest Pipeline Corp.)

Location: NE NE sec. 18, T. 32 N., R. 7 W., NMPM

Elevation (KB): 6,261 feet

Date of Completion: July 31, 1953

Total Depth: 5,002 feet (Mesaverde Group)

Production Casing: 7" at 4,990 feet, multistage with 393 siks of cement

Perforations: 2,766 feet to 2,806 feet with 4 perforations per foot

Stimulation: None, completed natural

Initial Potential: 1,310 MCFGD; shut-in tubing pressure 1,369 psi; shut-in casing pressure 1,427 psi (3 hours)

Bottom Hole Pressure: 1,473 psi (minimum)

DRILLING AND COMPLETION PRACTICES

Surface casing set at 170 to 300 feet with 200 to 300 sacks of cement. Both pool wells were mud drilled through Fruitland and casing set through. Discovery well was completed natural through perforations. Gas lift valves were installed in 1964 to lift formation water which is now produced at approximately 1 BW per day. The second pool well, Aztec Oil and Gas Wilmer Canyon No. 1, sec. 24, T. 32 N., R. 8 W., was perforated and sand-water fractured through 7 5/8" intermediate casing after completion attempts of deeper Cretaceous horizons had failed.

RESERVOIR DATA

Productive Area:

Proved (as determined geologically): 3,160 acres (minimum, as determined by pool-outline March 1978)

Unproved: 2,680 acres (minimum, as of March 1978)

Approved Spacing: 160 acres

No. of Producing Wells: 2 (December 31, 1976)

No. of Abandoned Wells: 0

No. of Dry Holes: 0

Average Net Pay: 50 feet from microlog analysis

Porosity: Estimated 12 to 14 percent

Permeability: Unknown, probably enhanced by natural fractures

Water Saturation: Unknown

Initial Field Pressure: Minimum 1,473 psi

Type of Drive: Gas expansion

Gas Characteristics and Analysis:

<table>
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<th>Mesa Unit 32-7</th>
<th>Dry Gas</th>
<th>Wilmer Canyon No. 1</th>
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<tr>
<td></td>
<td>No. 3-18</td>
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Oil Characteristics and Analysis: None

Associated Water Characteristics and Analysis: Mesa Unit 32-8 No. 3-18; chlorides 660 ppm, bicarbonates 660 ppm, sulfates 1,750 ppm, pH 7.9

Original Gas, Oil, and Water Contact Datums: Unknown

Estimated Primary Recovery: 929,000 MCFG (from two wells)

Type of Secondary Recovery: None

Estimated Ultimate Recovery: 929,000 MCFG

Present Daily Average Production: 153 MCFGD (as of December 1976 from 2 wells)

Market Outlets: Northwest Pipeline Corporation

Note: As of December 1977 there were three completed Fruitland wells in this field capable of combined daily production of 479 MCFGD

FIELD COMMENTARY

The Aztec Oil and Gas No. 1 Wilmer Canyon is classified as a Fruitland completion. Many geologists would describe this