BIG WASH  
( Oil )
T. 41 S., R. 25 E., SLPM 
San Juan County, Utah

GEOLOGY

Regional Setting: Southwest shelf, Paradox Basin
Surface Formations: Cretaceous, Dakota Sandstone and Jurassic, Morrison Formation
Exploration Method Leading to Discovery: Subsurface geology
Type of Trap: Structural and stratigraphic; algal mound
Producing Formation: Desert Creek zone of the Paradox Formation
Gross Thickness and Lithology of Reservoir Rocks: Pay thickness 50 feet; dolomite with oolomic, intercrystalline, and vuggy porosity
Geometry of Reservoir Rocks: Lensoid
Other Significant Shows: None
Oldest Stratigraphic Horizon Penetrated: Akah zone of Paradox Formation

DISCOVERY WELL

Name: Zoller and Danneberg-Duncan No. 116-1 Navajo
Location: NW SE sec. 31, T. 41 S., R. 25 E.
Elevation (DF): 5,076 feet
Date of Completion: November 7, 1963
Total Depth: 5,957 feet
Production Casing: 41/2" at 5,952 feet with 100 sacks of cement
Perforations: 5,753 to 5,800 feet with 4 shots per foot
Stimulation: 250 gallons mud clean-up acid, 5,000 gallons 15 percent HCl
Initial Potential: 255 BOD, 18/6" choke with 225 psig flowing tubing pressure
Bottom Hole Pressure: 2,039 psig (drill-stem test)

DRILLING AND COMPLETION PRACTICES

Set 131/8" surface casing at 165 feet and cement with 150 sacks. Set 41/2" production casing at total depth and cement with 200 sacks. The Desert Creek is perforated with 4 jet shots per foot, acidized with 5,000 gallons of 15 percent HCl, and completed flowing. Wells at Big Wash were normally logged with one porosity log, either a sonic or gamma ray-neutron and a dual induction laterolog or an induction electric survey. Mudloggers were not used on most of the wells in the Big Wash area. Terrain is rugged in the Big Wash area, often making drilling and production operations difficult.

RESERVOIR DATA

Produtctive Area: 80 acres
Unproved: 0 acres
No. of Producing Wells: 1
No. of Abandoned Wells: 0
No. of Dry Holes: 3
Average Net Pay: 28 feet
Porosity: 14 percent
Permeability: Unknown
Water Saturation: 25 percent
Initial Field Pressure: 2,039 psig
Type of Drive: Solution gas
Gas Characteristics and Analysis: Specific gravity 0.728; Btu 1,286; (in molecular percent) Co 0.27, H2S nil, N2 2.39, methane 74.11, ethane 13.22, propane 6.12, butanes 2.50, pentanes 0.97, hexanes and higher 0.42; liquids 3.016 gallons per MCFG
Oil Characteristics and Analysis: Dark green, 40.5° API gravity at 60°F
Associated Water Characteristics and Analysis: Unknown
Original Gas, Oil and Water Contact Datums: Unknown
Estimated Primary Recovery: 675,000 BO
Type of Secondary Recovery: None
Estimated Ultimate Recovery: Same as primary
Present Daily Average Production: 33 BOD, 99 MCFGD
Market Outlets: Oil to Four Corners Pipeline; gas to El Paso Natural Gas Pipeline

FIELD COMMENTARY

Big Wash field is located on the Navajo Indian reservation, 11/2 miles southeast of the giant Aneth field in San Juan County, Utah. The discovery well, the Zoller and Danneberg-Duncan No. 116-1 Navajo, in the NW SE sec. 31, T. 41 S., R. 25 E., was drilled and completed in 1963 for 255 BOD flowing. The well has been operated by Duncan Oil Properties since November 1963. The Desert Creek reservoir is a dolomitized Ivanovia algal mound buildup with a possible oolite facies capping it. Structural closure of approximately 30 feet is present, caused primarily by the thickening of the Desert Creek zone. The discovery well is the single well in the field; it has produced in excess of 648,000 barrels of oil and is still producing 33 barrels of oil per day. Three offsets to the No. 116-1 were drilled, all of which were dry holes.

REFERENCES

Duncan Oil Properties' files.