NENAHEZAD MESAVERDE
(Oil)
T. 29 N., R. 15 W., NM
San Juan County, New Mexico

GEOLOGY

Regional Setting: Northwest part, San Juan Basin (7 miles east of the Mesaverde, Hogback Monocline)
Surface Formations: Cretaceous, Lewis Shale
Exploration Method Leading to Discovery: Re-entered plugged and abandoned well which had an oil show while trying to set casing; mud log also reported a slight oil show when the well was first drilled
Type of Trap: Stratigraphic
Producing Formation: Cretaceous, Menefeé Formation (lower part)
Gross Thickness and Lithology of Reservoir Rocks: A 30 foot thick lens of sandstone; light gray with a trace of kaolinite after feldspar, slightly oil stained
Geometry of Reservoir Rock: Lenticular channel sandstone
Other Significant Shows: None
Oldest Stratigraphic Horizon Penetrated: “Gallup” sandstone

DISCOVERY WELL

Name: No. 1 Atom
Location: NW SW (2,105' FNL and 650' FWL) sec. 10, T. 29 N., R. 15 W., San Juan County, New Mexico
Elevation (KB): 5,159 feet
Date of Completion: June 17, 1970
Total Depth: 4,358 feet
Production Casing: 4 1/2" set at 3,039 feet
Perforations: 2,551 to 2,556 feet
Stimulation: Sand-water fractured
Initial Potential: 9 BOD, 19 BW
Bottom Hole Pressure: Not available

RESERVOIR DATA

Productive Area:
  Proved (as determined geologically): 160 acres
  Unproved: None
  Approved Spacing: 160 acres
  No. of Producing Wells: 0
  No. of Abandoned Wells: 1
  No. of Dry Holes: None within the field proper
  Average Net Pay: 30 feet
  Porosity: 23 percent (sonic porosity)
  Permeability: Unknown
  Water Saturation: 85 percent
  Initial Field Pressure: Not available
  Type of Drive: Pumped
  Gas Characteristics and Analysis: No gas
  Oil Characteristics and Analysis: Black, high pore point, mixed with water
  Associated Water Characteristics and Analysis: Not available
  Original Gas, Oil and Water Contact Datums: None
  Estimated Primary Recovery: 1,025 BO
  Type of Secondary Recovery: None
  Estimated Ultimate Recovery: 1,025 BO
  Present Daily Average Production: None, field is plugged and abandoned
  Market Outlets: Permian Oil

FIELD COMMENTARY

The Nenahezed Mesaverde oil pool is a one well pool that was plugged and abandoned in 1974 after producing 1,025 barrels of oil. The pool is located less than a mile west of Fruitland, New Mexico and near the Nenahezed Indian School.

The No. 1 Navajo 2063-A was originally drilled and abandoned in the “Gallup” Sandstone in 1964. In April 1970, the abandoned hole was re-entered and 4 1/2" casing was set at a depth of 3,039 feet. The lowermost Menefee sandstone bed was perforated, between 2,551 and 2,556 feet, and sand-water fractured based on a slight oil-cut reported by the mud logger. The name of the well was changed to the No. 1 Atom upon completion in the Menefee sandstone bed. The oil from this well was reportedly very black and mixed with water. The fluids recovered had to be stored in tanks in order that the oil would separate from the water before the oil could be sold. The well, prior to plugging and abandonment, was making less than a barrel of oil per day and more than 40 barrels of water per day. This completion in a Menefee Formation channel sandstone bed has proved to be a very uneconomic venture (personal communication with Hugh Mitchell, July 29, 1983). It should be noted that Merrion and Bayless drilled and abandoned the No. 1 Union (NE sec. 9, T. 29 N., R. 15 W.) as a direct offset to the No. 1 Atom in August 1980.