

George R. Reddy

Consulting Geologist
Bus. (505) 623-6233
Res. (505) 623-3767

200 W. 1st St.
P. O. Box 778
Roswell, NM 88202-0778

Geological Report Proposed Northeast Artesia Unit

Location:

Township 16 South, Range 26 East
Sections 25, 26, 35, and 36
Eddy County, New Mexico

Prospective Formations:

Primary: Morrow
Secondary: Queen, Grayburg, San Andres, Wolfcamp,
Cisco, and Atoka

Introduction:

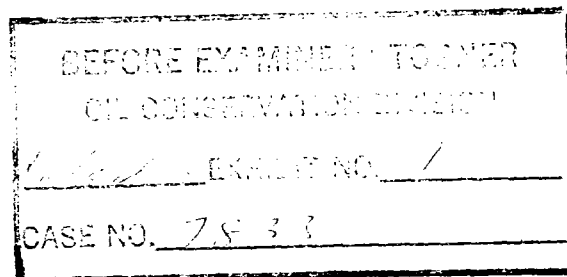
The Northeast Artesia Unit is proposed for the purpose of evaluating the hydrocarbon potential of Morrow sandstone reservoirs in the southeastern part of Township 16 South, Range 26 East, Eddy County, New Mexico. The unit is proposed upon the basis of subsurface mapping of Atoka structure and Morrow sandstone distribution.

Geological Discussion:

The proposed unit is located on the northwest shelf of the Delaware Basin. Atoka and Morrow beds, which wedge out a few miles northwest of the area, dip southeasterly at a rate of about 200 feet per mile. Subsurface mapping of the Atoka structure indicate that the proposed unit lies across the axis of a gentle, southeasterly plunging nose (figure 1).

The Morrow Net Sandstone Isopach map indicates that Morrow gas production in the general area occurs in a northeasterly trend in isolated northerly- and northwesterly-oriented sandstone thicks which pinch out northwestward against regional dip (figure 2). The proposed unit is thought to lie over one of these Morrow sandstone channel deposits or thicks.

In drawing the prospect outline the ten-foot isopach has been considered a reasonable economic limit for the Morrow sandstone reservoirs (figure 3). On that basis the proposed



unit boundary encompasses most of that part of the Northeast Artesia Morrow prospect that lies up dip from the abandoned Morrow gas producer in section 31, Township 16 South, Range 27 East.

Proposed Well:

Based upon the information presented herein a test well is proposed, the well to be located 1,980 feet from the west line and 660 feet from the north line of section 36, Township 16 South, Range 26 East, and drilled to the Mississippian Chester limestone, a depth of approximately 8400 feet.

From estimated surface elevation of 3,313 feet above mean sea level the depths to expected formation tops are as follows:

Formation	Estimated Depth
Quaternary	
Alluvium	Surface
Permian	
San Andres	1025'
Glorieta	2340'
Tubb	3700'
Abo	4390'
Wolfcamp	5580'
Pennsylvanian	
Cisco	6610'
Strawn	7560'
Atoka	7978'
Morrow Clastics	8138'
Mississippian	
Chester	8350'
T.D.	8400'

Enclosures:

- Figure 1 Structure Map - Top of Atoka
- Figure 2 Net Sandstone Isopach - Morrow Formation
- Figure 3 Morrow Prospect Outline Map

*see also well
located further west
in the same block*

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