

OJO CHISO PROSPECT
T-22-S, R-34-E
Lea County, New Mexico

GEOLOGY

This prospect is located on the northeast edge of the Delaware Basin and as such is 8 to 10 miles west of the Central Basin Platform. On a regional basis most dips are steep from the raised Central Basin Platform into the Delaware Basin and down to the basin faulting is not uncommon.

The prospect is about equidistant between the very large Bell Lake structure to the South and the Grama Ridge structure to the North. The Bell Lake pool produces from the Permian Bone Spring, the Morrow and Atoka of Pennsylvanian age, and the Devonian (or Hunton). The Grama Ridge pool produces from only the Morrow and has only one well which penetrated the Devonian.

The only other deep test in the prospect area is the Phillips #1 Merchant located 1980' from the South line and 660' from the East line of Section 26, Township 22 South, Range 34 East. This well was drilled to a total depth of 13,600' in the Barnett formation (it did not penetrate the Devonian which is the major objective for this test). Electric log tops on this well are as follows:

Delaware Mountain Group	5,900
Bone Spring	8,585
Dean	11,030
Wolfcamp	11,427
Strawn	11,942
Atoka	12,228
Morrow	12,846
Barnett	13,520

No commercial production was found in this well and it was plugged and abandoned 11/29/71.

On the Grama Ridge structure the one well which penetrated the Devonian is the Shell 1-4 Federal located 2310' from the North line and 2310' from the West line of Section 4, Township 22 South, Range 34 East. Electric log tops on the well are as follows:

EXAMINED	STAMETS
11/29/71	11/29/71
4980	4980
6-6-73	6-6-73

Delaware Mountain Group	5,610
Bone Spring	8,343
Dean	11,017
Wolfcamp	11,359
Strawn	11,733
Atoka	11,993
Morrow	12,600
Mississippi	13,830
Devonian	14,414

This well found no commercial quantities of gas in the Devonian but was completed in the Morrow from selected perforations 12,886'-13,111'. The completion date was 6/1/65.

The accompanying cross-section depicts the structural relationship between the Bell Lake structure, the Phillips #1 Merchant, the prospect area, and the Grama Ridge structure.

All available seismic indicates that the prospect consists of an anticline which is present in all horizons. It is therefore anticipated that all horizons will be encountered structurally high to both the Grama Ridge structure and the Phillips #1 Merchant which did not go deep enough to test the Devonian.

SEISMIC

The seismic work on this prospect was done by Mr. Colin McMillan, consulting geophysicist of Roswell, New Mexico.

Field and Computing Techniques

The data shown on the enclosed maps were vibrated by Amoco Production Company in 1968 using four vibrators with 15 sweeps, a 14 x 40 vibrator pilot, an offend offset, and 10 fold stack. The data was processed and played back digitally.

Velocity

The seismic data presented on the accompanying maps were corrected for velocity variations using formation tops from existing wells and regional velocity control. The velocity correlations tended, at the Devonian level, to tilt the datums down to the northeast.

Data Quality

Data Quality was generally good on all horizons mapped and is considered to be reliable.

Results

Seismic data indicates a Devonian structure with approximately 300 feet of closure. A Devonian-Bone Spring isochron map also indicates the presence of this structure. Seismic data further indicates that the crest of this structure (at the Devonian) is apparently 500 feet high to the Phillips #1 Merchant.

PROGNOSIS

The primary objective for this test is the Devonian (Hunton) formation, which should be encountered at approximately 14,200 feet from the surface. Reservoir rock of the Devonian are usually white crystalline dolomite. Porosity is usually vuggy and fractured. In the Continental Oil Company Bell Lake #6 located in Section 6, T-23-S, R-34-E, selected perforations were made in the top several hundred feet. This well has been very prolific having produced over 27 billion cubic feet of gas. The log of this well is included in the accompanying cross-section.

The Pennsylvanian Morrow formation which is productive at Bell Lake and Grama Ridge is expected at approximately 12,600 feet. The pay section in the Morrow consists of very coarse grain clean angular sand. These sands occur as lenses throughout the Morrow section.

The Pennsylvanian Strawn formation is productive in other places of the basin but there is no production at any very close proximity to the prospect. The reservoir rocks of this age are clean algal limestone. The Strawn horizon should definitely be considered as a secondary objective. It is expected at approximately 11,800 feet.

Sands of Atoka age also produce in the area. When productive these sands are medium to coarse grain, angular and clean. The Atoka can be expected at approximately 12,100 feet.

The Permian Bone Spring is productive on the Bell Lake structure. This production comes from a clean lime section within the argillaceous limes and sands of the Bone Spring formation. The top of the Bone Spring is expected at approximately 8600 feet.

WELL SPACING

With the exception of the Bone Spring all other primary and secondary objectives are productive of gas rather than oil. Because of depth, it is anticipated that development drilling will utilize 640 acre spacing.

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