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CARNERO PEAK UNIT
EDDY COUNTY, NEW MEXICO

BEFORE EXAMINER NUTTER

OIL CONSERVATION COMMISSION

EXHIBIT NO. 3

CASE NO. 268

INTRODUCTION

The following report is submitted in conjunction with a request for the formation of a working interest unit for the purpose of drilling an 11,500' Devonian test to be located in Section 31, T-22-S, R-25-E, Eddy County, New Mexico.

LOCATION

The proposed unit is approximately 12 miles West-Southwest of Carlsbad, New Mexico and the geographic center of the unit is near the Southwest corner of T-22-S, R-25-E, Eddy County, New Mexico. The crest of a prominent topographic high, referred to as Carnero Peak on the USGS West Carlsbad Quadrangle topographic map, is one mile East of the eastern limits of the proposed unit.

The following described acreage will be included within the geographical confines of the proposed unit:

Township 22 South, Range 24 East
Sections 24, 25, and 36
Township 22 South, Range 25 East
Sections 19, 29, 30, 31,
and 32
Township 23 South, Range 24 East
Sections 1, 12, and 13
E/2 of Section 11
E/2 of Section 14
Township 23 South, Range 25 East
Sections 5, 6, 7, 8,
and 18

GEOLOGY

STRUCTURE: The interpreted structural configuration as indicated on the enclosed map contoured on top of the Devonian shows the proposed unit to be located on a structural anticline trending approximately North-South. The prominent structural feature is indicated by subsurface information obtained from wells which penetrated the Devonian in the immediate area of the proposed unit. Reconnaissance reflection seismograph and gravity meter surveys also indicate the

presence of a structural anticline. Carnero Peak may also be a topographic expression of a deep seated structure in the immediate area.

Geophysical reconnaissance indicates the possibility of Pre-Pennsylvanian faulting in the western portion of the prospect area. There is some evidence of faulting based on electrical log correlations and substantiated by paleontologic information.

STRATIGRAPHY: The Permian System is represented by approximately 8700' of sedimentary rock. The lithologic units are formations of the Whitehorse and Delaware Mountain Groups of the Guadalupe Series, the Bone Springs formation of the Leonard Series, and the Wolfcamp formation of the Wolfcamp Series.

The Pennsylvanian System consists of approximately 2200' of sediments represented by the Cisco, Canyon, Strawn, Atoka and Morrow Series. The Cisco and Canyon Series consist predominately of organic limestone often considered to be the result of reefing. The Strawn Series is predominately bedded limestone with interbedded sand and shale, and is frequently dolomitic and cherty in the upper section. The Atoka and Morrow Series are characterized by interbedded sands, shales, and limes. The sand intervals of the Atoka and Morrow Series have been the objective for much gas exploration in the last several years, and are productive within five miles East and West of the proposed unit.

The Mississippian System consists of approximately 350' of cherty limestone of probable Meramec and Osage Series age. The Kinderhook Series is represented by approximately 50' of Woodford Shale.

The Devonian System consists of approximately 450' of cherty dolomite.

PROSPECTIVE RESERVOIRS

Potential reservoirs within the proposed unit have been determined by correlation and evaluation of the electric logs on nearby deep wells. The characteristics of favorable reservoir development with regards to porosity, gross interval and net pay thickness, estimated productive acres and recovery factor have been considered in determining the prospective reservoirs to be anticipated within the proposed unit.

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PERMIAN: The Bone Springs formation is considered to be prospective for gas production. The Pan American #1 Guadalupe Foothills Unit, SW/4 SE/4 of Section 30, T-22-S, R-25-E, flowed 18,000 CFOPD after the interval from 4498' to 4800' had been treated with 4000 gallons of sandfrac. It is anticipated that this section would be commercially productive if encountered at a higher structural position.

PRE-PERMIAN: The Pennsylvanian and Devonian are considered to be the primary objectives of the initial test to be drilled on the proposed unit. The Pennsylvanian zones from which gas production is being obtained in the Gulf Oil Corporation #1 Hackberry Hills Unit, SW/4 SE/4 of Section 1, T-22-S, R-25-E, and the Honolulu Oil Corporation #1 McKittrick Canyon Unit, SW/4 NE/4 of Section 25, T-22-S, R-25-E, should be encountered at a much higher structural position on the crest of the anticlinal anomaly within the proposed unit. This structural advantage should assure gas production from these zones. Several other zones within the Pennsylvanian section have recovered gas on drillstem tests and may also be productive at higher structural positions.

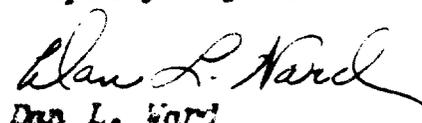
Drillstem tests of the Devonian in wells in the area of the proposed unit have not recovered any shows of oil or gas. The possibility of encountering the Devonian at a substantially higher structural position than any of the nearby wells is considered to be sufficient to warrant testing this formation. The prolific potential of a Devonian reservoir should not be overlooked when encountered on a high structural anomaly.

CONCLUSIONS AND RECOMMENDATIONS

The interpreted structural configuration of the Devonian indicates a very high structural anomaly, to be present with the proposed unit. The prospects for obtaining commercial quantities of gas and/or oil from the Bone Springs, Pennsylvanian, and Devonian are considered to be very good and would economically justify the drilling of a test well.

It is recommended that a Devonian test be drilled to an approximate depth of 11,500' at a location to be selected near the common corner of Sections 29, 30, 31, and 32, T-22-S, R-25-E, Eddy County, New Mexico.

Respectfully submitted,


Dan L. Ward

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