

PROPOSED STINKING DRAW UNIT
EDDY COUNTY, NEW MEXICO

YATES PETROLEUM CORPORATION
ARTESIA, NEW MEXICO

BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION
EXHIBIT NO. 24
CASE NO. 60-61
Submitted by _____
Hearing Date _____

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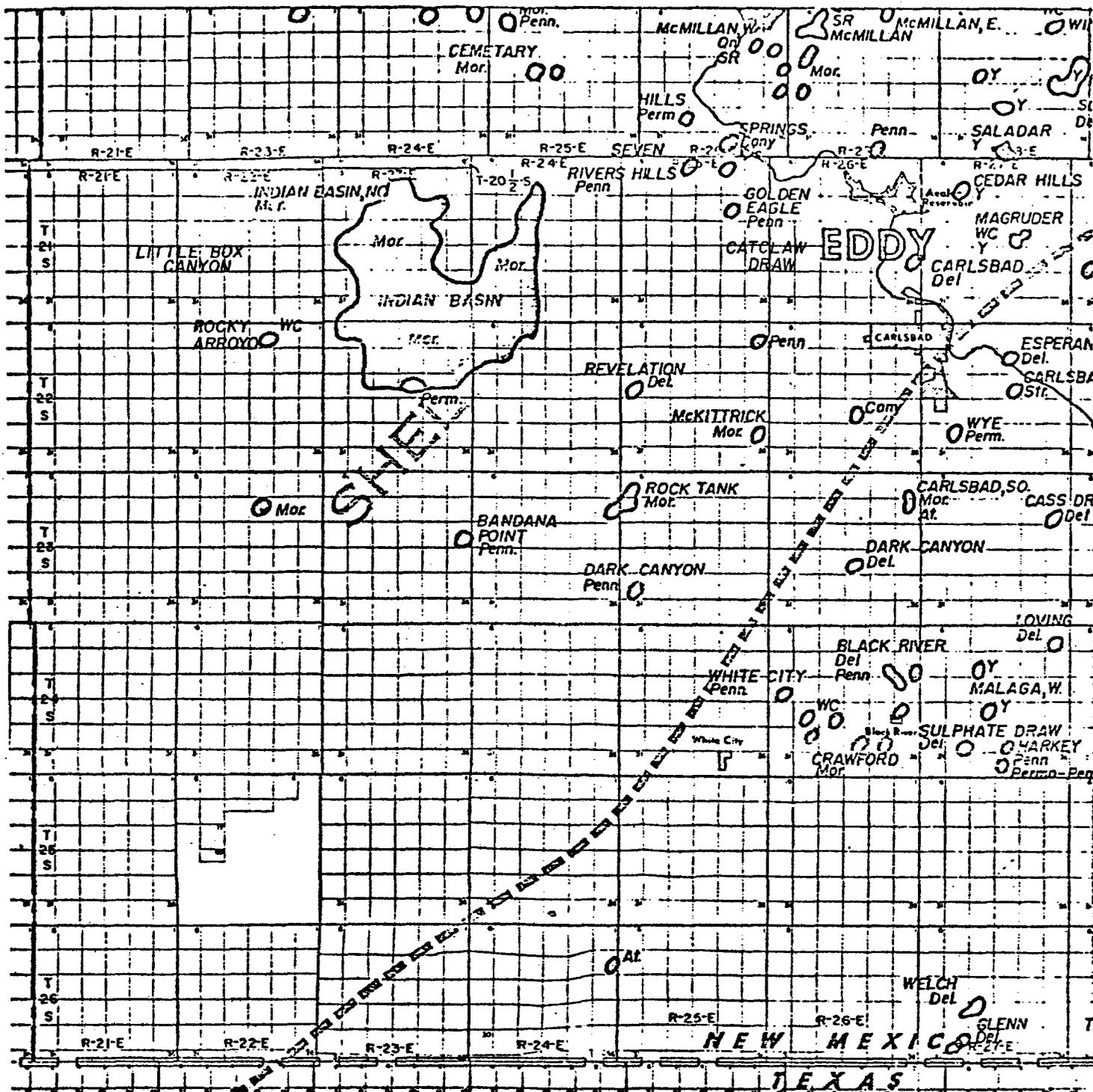
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YATES PETROLEUM CORPORATION

EXHIBIT NO. I

REGIONAL INDEX MAP

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Cities Serv. 6-1-78 30 U.S.	H.E. Yates Co. 6-1-78 29 U.S.	C.A. Deon's Marathon 6-1-78 28 U.S.	C.A. Deon's (Allied Chem) 7858 27 U.S.	C.A. Deon's Allied Chem. 6-1-78 26 U.S.	Allied Chem. 6-1-78 25 U.S.
Marathon 6-1-78 31 U.S.	Kerr-McGee 3-17-80 32 State	C.A. Deon's Marathon 6-1-78 33 U.S.	Allied Chem. 4-8-78 34 U.S.	Allied Chem. 4-8-78 35 U.S.	Reed E. Stevens 5-16-75 36 State
C.P. Serv. 8-1-78 31 U.S.	Yates Pet 6-1-78 32 State	Allied Chem. 6-1-78 20 U.S.	Bu. Bradshaw 7-1-78 22 U.S.	Allied Chem. 6-1-78 35 U.S.	Morton Majeros P.C. Smith, et al. 10-1-78 36 U.S.
Cities Service 8-1-80 6 U.S.	Cities Service 6-1-78 5 U.S.	Cities Service 6-1-78 4 U.S.	Yates Orig. 1-1-80 21 U.S.	Pennzoil 6-1-78 3 U.S.	Allied Chem. 11-1-83 6 U.S.
Cities Serv. 12-24-1 7 U.S.	Cities Service 6-1-78 17 U.S.	Cities Service 6-1-78 9 U.S.	Kerr-McGee 7-1-78 10 U.S.	Marole, Inc. 7-1-80 11 U.S.	Mahon O.G.S. H.T. Hilliard 1-1-77 12 U.S.
Yates Orig. 7-1-81 18 U.S.	Cities Serv. 4-1-78 17 U.S.	Amoco 8-1-81 16 State	Walter Duncan, et al 6-1-78 15 U.S.	Oxy Pet. 9-21-78 13 U.S.	Sun 11-1-80 16 U.S.
Yates Orig. 12-1-81 19 U.S.	Cities Serv. 4-1-78 20 U.S.	Yates Orig. 1-1-80 21 U.S.	(Union) Yates Orig. 1-1-80 22 U.S.	Inesco 6-1-78 23 U.S.	Conforma 1-1-78 24 U.S.

YATES PETROLEUM CORPORATION
EXHIBIT NO. 2
LAND PLAT
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PURPOSE

The purpose of this report is to briefly summarize the geological reasons for forming a four and one-half section Federal Unit. A 9500 foot Morrow wildcat will be drilled within the unit.

LOCATION AND LAND

The proposed Stinking Draw Unit is located approximately 30 miles northwest of Carlsbad, New Mexico and just west of the North Indian Basin Gas Field (Exhibit No.1). It has a semi-arid climate with drainage to the east-southeast. The area is accessible by county and lease-ranch roads.

The proposed unit contains four and one-half sections. It includes Sections 3, 4, 9, 10 and the N½ 16 in T21S-R22E (Exhibit No. 1 and 2).

GENERAL GEOLOGICAL DISCUSSION

The Stinking Draw Unit is located on the Northwestern Shelf of the greater Permian of West Texas and Southeastern New Mexico. Approximately 9300 feet of Permian and Pennsylvanian sedimentary rocks are present and will be tested. A wildcat well drilled to a depth of 9500 feet will penetrate the principally prospective Lower Pennsylvanian Morrow and bottom in the Mississippian Limestone.

Expected tops are as follows:

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San Andres	300'
Glorieta	1590'
Abo	3885'
Wolfcamp	5180'
Cisco	6500' ?
Lower Canyon	7310'
Strawn	7805'
Atoka	8430'
Morrow Clastics	8310'
Mississippian	9400'

The primary objective is the Lower Pennsylvanian Morrow. Secondary objectives include the Atoka and Strawn Clastics, and the Canyon, Cisco and Wolfcamp carbonates. All of these horizons are productive in the surrounding area. Morrow production has been established in the Indian Basin Field to the east in T21S R23E, in the Little Box Canyon Field to the south west in T21S R21-22E, in the Rocky Arroyo Field to the south in T21-22S R22E (Exhibit No. 1) and other scattered production as seen on Exhibit No. 3.

Poor Atoka production is found in the Yates Federal "HQ" in Section 5 of T21S R22E. Canyon production is found in Indian Basin Field and the Rocky Arroyo Field. Cisco production is in the Yates

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Box Canyon No. 3 and El Paso "GS" west and north of the Little Box Canyon Field (Section 14 and 11 of T21S R21E). The Rocky Arroyo Field to the south has Wolfcamp production.

All of the production mentioned is related to stratigraphic trapping. By far the most prolific field is the Indian Basin Canyon and Morrow Gas Field which is a combination of Stratigraphic and structural trapping. Along the west side of the Indian Basin Field there is a well defined fault which serves as a up dip barrier. The fault trends north-northwest and runs along the range line separating R22E and R23E (Exhibit No. 3). A fault approximately parralleling the Indian Basin Fault exists to the west in T21S R22E and is believed to border the proposed Stinking Draw Unit on the west. The down faulted block is the east block in both of these faults. On Exhibit No. 3, the structural contours are drawn on a Lower Canyon marker (Exhibit No. 4). The 2600 foot contour closes against the fault and outlines the Stinking Draw Unit.

A high accumulation of Morrow sands are found in the Standard of Texas State well, in Section 16 and the Cities Service Loafer Draw Unit wells, in Section 17 and T21S R22E. From drill stem tests and log analyses, these sands were found to be water bearing. These wells are on the up thrown block of the Stinking Draw Fault and substantiates existance of this fault. It is proposed that sands of this reservoir

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quality (thick sands and good pressures) are present in the proposed Stinking Draw Unit. With the structural position, this makes the Stinking Draw Unit a potentially good productive area. Morrow sands of good reservoir quality are found in a number of wells in the township and these wells are as follows: The Yates NW Indian Basin in Section 12 and the Hilliard in Section 14, the Inexco Arroyo Federal in Section 26, the Yates Little Indian Basin in Section 36. The Inexco Arroyo Federal, which has not been completed and the logs have not been released, is in a similar structural position as the Stinking Draw Unit. It has been drilled tight, but from various sources, Strawn and Morrow sands were tested with good volumes and pressures.

The Hilliard "BF" (Exhibit No. 3 and 4) is a good Morrow gas well from four feet of pay sand. This sand is part of a complex Upper Morrow shoreline strike sand deposit (beach, bar) and can be traced from Cat Claw Draw to Little Box Canyon. A sand in the Morrow at this interval should be present in the Stinking Draw Unit but probably will not be the same reservoir. An Atoka sand in the Yates Hilliard well (Exhibit No. 4), at 8700', has good porosity but showed depletion on drill stem test. Sands in the Atoka and Strawn are sporadic, but do provide additional reservoir objectives. The Yates Hilliard well also has a thick Wolfcamp carbonate, that was tested and water bearing.

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Although this carbonate correlates to the south, the Stinking Draw Unit is still located in favorable position for Wolfcamp carbonate build ups and porosity. With the structural position of the Stinking Draw Unit the Wolfcamp is a very attractive objective.

The Yates Federal "HQ" (Exhibit No. 3 and 4) produces from a thin Atoka sand and is showing rapid depletion. It's structural position close to the fault and on the up thrown block support this reservoir behavior. This well has a carbonate build up in the Cisco and Upper Canyon (5900-6500') which does produce to north and west of the Little Box Canyon Gas Field. This carbonate build up is also expected to exist in the Stinking Draw Unit.

SUMMARY AND CONCLUSION

A Structure map was constructed from subsurface data available from the Stinking Draw Unit area. The Structure map shows Closure against the up thrown block of a near vertical fault which borders the west side of the proposed unit. This Closure (-2600' contour) defines the unit boundaries with all one-half section spacing units with more than one-half of their area within the closure included in the unit. Reservoir potential in the area is very high with good quality reservoirs in the Lower Pennsylvanian Morrow present in area and predicted to be present in the unit area. Secondary objectives in Strawn and Atoka Clastics, Wolfcamp, Cisco and Canyon carbonates have good potential. With the reservoir potential in the Stinking

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Draw Unit present and a favorable structural position demonstrated the proposed Stinking Draw Unit has the potential of being a very prolific gas producing area.

In conclusion, the four and one-half sections, as outlined, appear to be properly located by geologic reasons that give cause and justification for the formation of the Stinking Draw Unit.