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GEOLOGISTS REPORT

for

P. King #2-85
C, NW, NE, Sec. 35, T9S, R19E
Jefferson County, Kansas

August 1985

by

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DEACON GEOLOGY INC,



professional geologists

GEOLOGISTS REPORT

P. King #2-85

August 26, 1985: Called to wellsite @ 2PM.

August 27, 1985: Released from wellsite @ 11AM.

Elevation: 1065 G.L. (Topo)

FORMATION TOPS	DEPTH	DATUM	THICKNESS
Hushpuckney Sh.	802	+263	---
Marmaton Gp.	944	+121	88'
Cherokee Sh.	1,032	+33	502'
"U. McLouth Sd."	1,501	-436	7'
"M. McLouth Sd."	1,508	-443	14'
"L. McLouth Sd."	1,522	-457	11'
Mississippian Lm.	1,534	-469	---
RTD	1,575		
LTD	1,575		

Sample returns were examined from a drilled depth of 1200 feet to TD for the presence of visible hydrocarbons. Formation tops and thicknesses were picked from the Neutron-Density Porosity Log as sample returns were very poor due to mud pump problems. There was no evidence of the presence of hydrocarbons in any of the geologic units above the "McLouth Sands"; however, there may be gas in some of the sands in the middle and upper Cherokee Group.

CHEROKEE GROUP:

There were several sand intervals having thicknesses of ten feet or more which appeared to show some gas effect on the Density-Porosity Log. There was no visible evidence of oil in the sands; therefore, it is very possible they may contain some quantities of gas. Log calculations have not been prepared; however, these zones should be examined before eventual abandonment of the well.

The "McLouth Sands" were topped at a log depth of 1501 feet (-436). The sands were divided into an upper, middle,

and lower unit for correlation and mapping purposes. The upper sand had a thickness of seven feet and was very shaly. It was a medium to coarse grained quartz sand which contained a show of medium brown free oil. There was a faint odor from the samples through this interval.

The middle sand was found from 1508 to 1522 feet. It was a medium to coarse grained, subrounded, poorly sorted, quartz sand. There was a show of medium brown free oil and the application of trichlorethane yielded streaming cuts and bright yellow fluorescence. There was a light petroleum odor from these samples.

There was a slight cross-over effect noted on the log through this interval.

The lower sand began at a log depth of 1522 and had a thickness of eleven feet. This sand was a clean, clear, very coarse grained quartz sand. There was a show of very dark brown, heavy oil in the samples and a slight odor. Application of trichlorethane yielded good cuts and bright fluorescence. There was a good cross-over effect on the log from 1520 to 1528.

Log calculations for the McLouth Sands were prepared on location by Log-Tech personnel using the following values:

M=1.8, $R_w = .2$.

Interval	ϕ	Rt	Sw
1508-10	18	25	42
10-12	18	10	68
12-14	19	15	50
14-16	20	10	58
16-18	21	15	46
18-20	20	10	58
20-22	21	10	55
22-24	24	50	20
24-26	22	50	25

<u>Interval</u>	<u>Ø</u>	<u>Rt</u>	<u>Sw</u>
1526-28	22	90	20
28-30	21	80	22
30-1532	18	70	26

The "McLouth Sands" should produce commercial quantities of gas from this well. It is doubtful if any oil will be produced as there was limited oil saturation visible in the samples.

MISSISSIPPIAN LIME:

The Mississippian Lime was reached at a log depth of 1434 (-496) where a light tan to tan, very crystalline to grainy to fragmental limestone was found. White chert fragments were also observed in the samples. There were no shows of oil in the Mississippian and there is no potential for the production of oil or gas from the lime in this well.

CONCLUSIONS AND RECOMMENDATIONS:

The "McLouth Sands" should produce good quantities of gas with little or no water. The sand is generally clean in the lower part and somewhat shaly in the middle. The shale factor may have prevented the logs from showing more cross-over effect.

Care should be taken in the completion methods and production practices to insure the maximum life of this well.

Should additional information be required, please contact me.

Respectfully submitted,

George E. Petersen C.P.G.S.

DEACON GEOLOGY INC.