George E. Petersen, c.p.g.s.
consulting geologist

3223 Mc Clure Rd.
Topeka, Kansas 66614 913-272-4383

GEOLOGISTS REPORT

for

P. King #1-85

100' E of SE, SE, Sec. 35, T9S, R19E

Jefferson County, Kansas

July 1985

by

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

DEACON GEOLOGY INC.

professional geologists

GEOLOGISTS REPORT

July 23, 1985: Called to location @ 2 PM.
July 24, 1984: Released from location @ 4:15 AM.

Elevation: 1105 GL (est'd from Topo)

Formation Tops	Depth	Datum	Thickness
Hushpuckney Sh.	836	+269	
Marmaton Gp.	974	+131	91'
Cherokee Sh.	1,065	+40	527'
U. McLouth	1,521	-416	8'
M. McLouth	1,531	-426	5'
L. McLouth	1,537	-432	48'
Mississippian Lm.	1,592	-487	---
LTD	1,606		
RTD	1,608		

Sample returns were examined from a drilled depth of 800 feet to TD for the presence of visible hydrocarbons. Formation tops and thicknesses were picked from the drilling time log, sample returns and the Neutron-Density Porosity Log. There was no visible 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 upper Cherokee Group.

CHEROKEE GROUP:

There were several clean sand intervals within the Cherokee Group which had good porosity. These sands may contain gas as no oil or oil staining was observed in the samples. There was a cross-over noted on the Neutron-Density Porosity Log between 1460 and 1463 (log depth) which does indicate the presence of gas. Due to the limited thickness of this interval log calculations were not prepared.

The "McLouth Sand" top was called at a Log depth of 1521 feet (-416). This sand can be broken into an upper sand having a thickness of 8' separated from a middle sand by a 2 foot shaly zone. The middle "McLouth" was found at a log depth of 1531' and had

a thickness of 5 feet. A thin shale parting of less than 1 foot separated the middle and lower sand units with the lower sand having a thickness of 47 feet.

The upper and middle sands were a tan, coarse grained quartz sand containing abundant shale as is indicated by the gamma log. There was a slight oil stain, slight show of free light brown oil, and a very strong odor. Application of trichlorethane yielded streaming cuts and bright fluorescence.

The "Lower McLouth" sand was a subrounded, coarse grained, quartz sand which was tan in color in the upper two-thirds of the interval and clear quartz in the lower portion. A strong odor was noted throughout the interval and the oil became increasingly darker brown in color and of lower gravity with increasing depth. As in the upper sands, the application of trichlorethane yielded streaming cuts and bright fluorescence. Free oil was also observed on the pits during the drilling of this interval.

Log calculations for the "McLouth Sand" were prepared on location by Log-Tech personnel using the following values: M=1.8, Rw=.2.

Interval	Ø	Rt	Sw
1522-24	11	2	100
24-26	12	2	100
26-28	12	8	90
28-30	14	25	55
30-32	14	10	82
32-34	18	40	33
34-36	18	30	37
36-38	24	40	27
38-40	26	80	30
40-42	26	120	15
42-44	26	140	13
44-46	26	80	18
46-48	26	65	20
48-50	26	100	18

Interval	Ø	Rt	Sw
1550-52	25	80	20
52-54	25	60	25
54-56	25	50	30
56-58	26	50	23
58-60	27	60	20
60-62	28	70	17
62-64	28	60	20
64-66	28	60	20
66-68	28	50	30
68-70	26	45	25
70-72	24	30	25
72-74	24	20	18
74-76	22	20	24
76-78	20	26	37
78-80	20	26	37
80-82	21	22	40
82-84	20	20	45
84-86	14	15	68

This well has the potential to be the best well drilled to date. The cross-over as shown on the Neutron-Density Porosity cross-plot shows a strong gas-effect and Sw values are very favorble through much of the zone. It appears that gas can be produced with little or no water and when the gas is eventually depleted there may be a slight amount of oil produced.

MISSISSIPPIAN LIME:

The Mississippian Lime was reached at a log depth of 1592 feet (-487). The lime found in the samples consisted of a light tan to tan, very coarsely crystalline to fragmental limestone. Abundant quantities of white chert was also observed in the sample.

There were no shows of oil in the drilled interval and there is no potential for the production of oil or gas from the upper Mississippian in this well.

CONCLUSIONS AND RECOMMENDATIONS:

This well should produce large quantities of gas with little or no water. The sand is generally clean and well sorted with

very good porosity values. Care should be taken in the selection of the interval to be perforated to insure the maximum length of production.

Should additional information be required, please contact me.

Respectfully submitted,

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

DEACON GEOLOGY INC.

mrp/GEP