

Computer in Action

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



*3223 Mc Clure Rd.
Topeka, Kansas 66614 913.272.4383*

GEOLOGISTS REPORT

for

W. Johnson #3-85
SE, NE, Sec. 35, T9S, R19E
Jefferson County, Kansas

July 1985

by

George E. Petersen C.P.G.S.
DEACON GEOLOGY Inc.



professional geologists

GEOLOGISTS REPORT

W. Johnson #3-85

July 27, 1985: Called to well @ 9 AM, released from location @ 10 PM.

Elevation: 1093 G.L. (est'd from Topo)

Formation Tops	Drilled Depth*	Log Depth	Datum	Thickness
Hushpuckney Sh.	-	826	+286	-
Marmaton Gp.	-	966	+127	92'
Cherokee Gp.	-	1,058	+35	592'
U. McLouth Sd.	1,476	1,516	-423	8'
M. McLouth Sd.	-	1,524	-431	12'
L. McLouth Sd.	-	1,536	-443	50'
Miss. Lm.	1,547	1,587	-497	-
RTD	-	1,586		
LTD	-	1,624		

*Drilled depth is 40 foot less than logged depth due to an error in the pipe tally!

Sample returns were examined from a drilled depth of 1200 feet to TD for any evidence of visible hydrocarbons. Formation tops and intervals for this report were picked from 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 some gas present in some of the other Cherokee sands.

CHEROKEE SANDS:

There were several clean sand intervals within the Cherokee Group which have good porosity and may contain some gas. There was no evidence of oil in any of the sands above the "McLouth Sands".

The "McLouth Sands" were reached at a log top of 1516 feet (-423). The sand has been broken into three units for this report; the "Upper McLouth" from 1516 to 1524, the "Middle McLouth" from 1524 to 1536 and the "Lower McLouth" from 1536 to 1587 (log depth). The shale seams separating the three sands are generally less

than 1 foot in thickness.

The upper and middle sands are a shaly, coarse grained, sub-rounded tan quartz sandstone containing some oil staining and light brown free oil. There was a sharp odor in these samples. Application of trichlorethane yielded good streaming cuts and bright yellow fluorescence.

The "Lower McLouth" was a coarse grained tan quartz sand, that became a clear quartz sand in the lower 10 feet of the unit. Oil shows became increasingly darker brown until the lower portion where a heavy dark brown oil was encountered. A strong odor was noted throughout the interval along with a show of oil on the pit. Cuts were obtained with the application of trichlorethane along with bright yellow fluorescence.

Log calculations were prepared for this interval by Mr. Greg Rush of Log-Tech Inc. using the following values; $M=1.8$, $R_w=.2$.

Interval	ϕ	R_t	S_w
1516-18	12	5	100
18-20	13	6	100
20-22	14	10	83
22-24	13	9	95
24-26	14	9	89
26-28	16	9	78
28-30	16	10	73
30-32	18	13	58
32-34	24	20	37
34-36	26	50	22
36-38	27	150	13
38-40	27	70	17
40-42	26	60	18
42-44	26	80	17
44-46	27	70	17
46-48	27	70	17
48-50	27	40	23
50-52	27	35	24
52-54	27	24	30
54-56	25	18	37
56-58	22	30	33

Interval	Ø	Rt	Sw
1558-60	22	30	33
60-62	22	40	27
62-64	23	25	34
64-66	22	30	33
66-68	23	25	34
68-70	23	30	38
70-72	23	20	38
72-74	23	15	47
74-76	22	12	50
76-78	22	9	59
78-80	22	10	55
80-82	20	11	58
82-84	18	10	67
84-86	14	13	73

This well has the potential to be a very good gas well as evidenced by the good Sw values and the strong cross-over shown on the Neutron Density Porosity Log between 1632 and 1673 (Log depths). The magnitude of the cross-over is slightly less as is the thickness than in the P. King #1-85; however, this will still be a very good gas well.

MISSISSIPPIAN LIME:

The Mississippian Lime was reached at a log depth of 1587 (-494). The sample returns consisted of white-to-light-tan, to buff very crystalline to fragmental limestone. There was also abundant amounts of white to gray to blue chert present. There were no shows of hydrocarbons present in the drilled portion of the Mississippian in this well. Wells drilled into the lower portion of the Mississippian to the east and west of this lease did not encounter any hydrocarbons thru this section. There is no potential for the production of hydrocarbons from the Mississippian in this well.

CONCLUSIONS AND RECOMMENDATIONS:

Samples were not collected above 1200 feet in this well;

however, the Neutron-Density Porosity Log indicated a possible gas zone with a cross-over shown between 766-771 (log depth). This zone is in one of the limestones in the lower Kansas City Group. Log calculations were prepared for this interval by Log-Tech Inc. using the following values: $M=2.0$, $R_w=.2$.

Interval	ϕ	R_t	S_w
766-68	7	50	90
68-70	10	40	70
70-72	11	70	48
72-74	6	80	82
74-76	9	30	100

This zone should be completed before eventual abandonment of the well as the log indicated the probable presence of gas.

This well is slightly lower structurally than the P. King #1-85 but there is a greater thickness of sand. The main body of the sand (Lower McLouth) is a very clean sand and should produce good quantities of gas with little or no water.

Care should be taken in selecting the interval to be perforated to insure the maximum productive life of this well.

Should additional information be required, please contact me.

Respectfully submitted,

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

DEACON GEOLOGY INC.

mrp/GEP