

Computer Inventoried

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GEOLOGISTS REPORT

for

Jones 1-88

550' FSL, 2475' FEL, SE4, Sec. 4, T9S, R20E

Jefferson County, Kansas

April 1988

by

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

DEACON GEOLOGY INC.



professional geologists

GEOLOGISTS REPORT

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April 27, 1988: Called to wellsite @ 6PM, on location @ 7:40 PM, drlg. @ 1022'.

April 28, 1988: Logging completed @ 3PM, delivered logs to Dow Geological Services @ 4:00PM for further analysis.

ELEVATION: 945 G.L. (all measurements from G.L.)

FORMATION TOPS	LOG DEPTH	DATUM	THICKNESS
Base KC	668	+283	138'
Marmaton	800	+145	97'
Cherokee	893	+48	484'
Coal Marker	1,304	-369	2'±
Lower McLouth Sd.	1,350	-405	10'
Mississippian	1,381	-436	---
RTD	1,460		
LTD	1,454		

Sample returns were examined microscopically from a drilled depth of 1100 feet to TD for the presence of visible hydrocarbons. Formation tops and intervals for this report were picked from the Neutron-Density Porosity Log and sample returns. The logs were evaluated from the base of the Kansas City Group to TD for any evidence that hydrocarbons might be present.

There were no indications of the presence of hydrocarbons in any of the intervals above the Cherokee Group.

CHEROKEE GROUP:

There were several sand intervals above the McLouth sequence in the Cherokee Group but none had any indications that hydrocarbons were present in commercial quantities.

The "McLouth" sand section consisted of a sandy shale sequence in the upper and middle sections and a shaly sand in the lower McLouth interval. There was a slight show of oil and gas on the pits and a slight cut from the application of trichlorethane in the samples from the upper and middle McLouth. There are probably very thin sand laminations containing some quantities of oil and

gas in this interval; however, due to the overall shaley nature no commercial production of oil or gas is expected.

The lower "McLouth" sand was a fine to-medium, to coarse quartz sand that contained a heavy dark brown oil. There was a good odor present in the samples from this interval. Those persons present on the well during the drilling of this interval also noted a show of oil and gas on the pits in the drilling mud returns.

Log calculations prepared on location by Mr. Glenn Schmeidler of Log Tech Inc. yielded the following values.

INTERVAL	\emptyset	Rt	Sw
1352-54	15	18	55
54-56	18	25	36
56-58	16	25	42
58-60	20	10	60

Log data was run thru Dow Geological Services computer and this yielded slightly higher SW values, generally 3 to 5% higher. The log response is very comparable to that found in the Karl #1 located approximately one mile to the SW. The Karl contained good gas and oil when completed. Based on the comparison of the logs and the results found in the Karl well, it is anticipated that this interval can produce commercial quantities of oil and gas in this well.

MISSISSIPPAIN:

The Mississippian top was reached at a log depth of 1381 feet (-436). Sample returns were examined at the wellsite and then re-evaluated at Mr. Dow's office where more work space and better working conditions were available. The subsequent examination of the samples, including microscopic along with the application of acid to the samples indicates that a portion of the upper 20

feet ± of the unit is a tan to gray earthy to grainy dolomitic material containing some glauconite. There was a strong odor present in the interval and a good show of medium to dark brown free oil on fracture faces and in pinpoint porosity. There was a good show of oil on the pit during the drilling of this interval. The lower sample returns (1420-TD) consisted of abundant quantities of white to tan tripolitic chert and salmon colored chert along with tan very crystalline to fragmental limestone. There was no show of oil below 1430 and no odor.

Log calculations were not prepared on location for the upper portion of the Mississippian as the logs were run on a limestone matrix and the porosity values indicated would not calculate. After it was determined through further sample testing that the upper portion of the Mississippian is dolomitic in this well, calculations were prepared from the computer analysis of the adjusted porosity values and are presented here along with the calculated values if the unit were limestone.

Dolomite			
Interval	Ø	Rt	Sw
1380-82	11	10	100
82-84	10	100	44
84-86	8	270	34
86-88	9	400	25
88-90	9	60	64
90-92	9	50	55
92-94	10	50	63
94-96	11	30	74
96-98	12	100	37
98-1400	17	10	83
Limestone			
1380-82	3	10	100
82-84	2	100	100
84-86	0	270	100
86-88	1	400	100
88-90	1	60	100

Interval	ϕ	Rt	Sw
1390-92	1	50	100
92-94	2	50	100
94-96	3	30	100
96-98	4	100	100
98-1400	9	10	100

The lower interval from 1408 to 1430 was calculated and the results indicate 100% Sw values throughout, thus they are not presented in this report.

It is rather difficult to determine grain density without a core and therefore the determination that the upper portion is dolomite was made from the log response and the rate of effervesence when immersed in a solution of hydrochloric acid.

This upper interval 1382-90 should be carefully tested as it appears to have the potential to produce commercial quantities of oil along with some gas.

CONCLUSIONS AND RECOMMENDATIONS:

After comparison of the logs from this well with logs from other wells in this area, it appears that oil and possibly gas can be produced from the lower "McLouth" sand. The upper Mississippian also appears to have good potential for the production of oil. This dolomitic zone should be carefully tested before eventual abandonment of the well.

Due to the unusual nature of the upper Mississippian, consideration should be given to obtaining a core from an offset location for additional testing as to its makeup. This information will assist in obtaining more accurate logs.

There was a 6'± discrepancy between the geolograph and the plotted drilling time and the electric logs. No lithologic symbols

were placed on the geologists log due to this problem. It appears that by drilling a 7 7/8" hole a different set of subs was used to fit the bit to the drill collars and this may account for the difference as this approximate interval was noted from the base of the Kansas City to TD.

Should additional information be required, please contact me.

Respectfully submitted,

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

DEACON GEOLOGY INC.

cc Tim Justice
mp/GEP