

Computer inventoried

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



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

GEOLOGISTS REPORT

for

Wagner #1-89A

API No. 15-103-21130

SW, SW, NW, NE, Sec. 3, T9S, R20E

Leavenworth County, Kansas

March 1989

by

George E. Petersen C.P.G.

DEACON GEOLOGY INC.



professional geologists

GEOLOGISTS REPORT

Wagner 1-89A

March 28, 1989: Visited wellsite to lead dozer operator to correct location.

March 30, 1989: Called to wellsite @ 3:30 pm, drlg. @ 1100'.

March 31, 1989: Released from wellsite @ 7:45 pm.

ELEVATION: 1034.5 G.L. (All measurements from 1035 GL)

FORMATION	TOPS	LOG DEPTH	DATUM	THICKNESS
Base KC		736	+299	139'
Marmaton		875	+160	87'
Cherokee		962	+73	502'
"Coal Marker"		1,378	-343	-
"U. McLouth Sd."		1,428	-393	8'
"M. McLouth Sd."		1,436	-401	6'
"L. McLouth Sd."		1,442	-407	14'
Mississippian Lm.		1,464	-429	-
"40' Zn."		1,526	-491	-
"Burlington Keokuk"		1,624	-589	-
LTD		1,660		
RTD		1,662		

Sample returns were examined microscopically from a drilled depth of 1100' to TD for the presence 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"; the sand interval between 1292 and 1298 may contain some limited quantities of gas. This sand interval should be carefully examined in any further wells that may be drilled in the immediate vicinity.

CHEROKEE GROUP:

The top of the Cherokee Group was reached at a log depth of 962' (+73). There appears to be no intervals above the "McLouth Sands" which could be considered commercially productive. The sand interval between 1292 and 1298 indicates the possible presence of gas in the upper two feet of the zone; however,

the sand has limited thickness and calculated water saturation values in excess of 65%. No production attempt should be made in this zone at this time.

The "McLouth Sands" were reached at a log depth of 1428 feet. The sand has been divided into an upper (1428-36), middle (1436-42), and lower (1442-56) unit for mapping and correlation purposes. There was an increasing oil show and odor from the top of the sand. The oil was medium to dark brown in color. There appeared to be some gas present in the early sample returns and there are two areas of cross-over indicated on the Neutron-Density Porosity Log. There was a good show of oil on the pits.

The sand is a medium to coarse grained, clear, subrounded quartz with fair to good porosity. Application of trichloroethane to the samples yielded bright yellow streaming cuts.

Log calculations were prepared on location by Mr. Glenn Schmeidler of Log Tech. Inc. using the following values: $M=1.8$, $R_w = .2$.

Interval	ϕ	Rt	Sw
1426-28	30	11	40
28-30	14	12	75
30-32	15	12	70
32-34	15	12	70
34-36	12	12	81
36-38	14	13	72
1438-40	20	14	50
1440-42	20	16	46
42-44	20	16	46
44-46	18	16	51
46-48	18	16	51
48-50	16	16	60
50-52	14	16	65
52-54	14	16	65
54-56	14	16	65

Based upon the good show of oil and the gas effect shown

on the logs, a decision should be made before any completion attempt as to whether to try to produce the gas, the oil, or both. It is probable that both gas and oil will be produced during any completion attempt; however, one or the other can be minimized by carefully selecting the interval to be completed. The "McLouth Sands" appear to have the potential to make this a commercially productive well.

MISSISSIPPIAN:

The top of the Mississippian was reached at a log depth of 1464 feet (-429). Sample returns from the upper portion consisted of white to light tan, very crystalline limestone which contained some glauconite. There was strong petroleum odor and a good show of free oil on fracture faces. The log responses indicate very limited porosity and it is very doubtful if this interval between 1464 and 1490 can produce commercial quantities of oil.

There is a porosity break at 1520 that contained a very slight show of free oil. There was no noticeable odor and the log indicates the interval is water saturated.

The "40' Zone" was reached at 1526 (-491). This interval between 1526 and 1538 contained a show of free oil along with a strong petroleum odor. The oil was found in pinpoint porosity and on fracture faces in a gray dolomitic appearing limestone. The logs indicate 100% water saturation in this interval.

A porosity break containing a show of free oil was found

at a log depth of 1588. This interval appears to have a thickness of less than 2 feet and it is doubtful if commercial quantities of oil could be produced from it.

The "Burlington Keokuk" was topped at a log depth of 1624' (-589). Sample returns consisted of light to medium tan saccroidal limestone along with large quantities of white to blue chert. There was a moderate odor and a show of free oil in the samples and on the pit. Log calculations indicate 100% water saturation; however, many of the producing wells in the McLouth field to the south show very high water saturations on the log. This interval should be thoroughly tested and if it proves non-productive it has the potential to serve as an interval for disposal.

CONCLUSIONS AND RECOMMENDATIONS:

Based on the show of oil on the pits and in the samples from the "Burlington Keokuk", it is recommended that the very top of this interval be perforated and tested. No more than two feet of the interval should be opened for the test.

Should oil prices rise substantially from March 1989 prices, consideration should be given to testing the following intervals; 1587-89, 1526-30, and the top of the Mississippian between 1464 and 1480. All of these intervals contained shows of oil and a strong petroleum odor. All of these intervals calculated 100% water saturation; however, much of the oil show was in fracture porosity which is not reflected in the porosity logs.

The "McLouth Sands" will be the primary pay zone in this

well as they contain commercial quantities of oil and probably gas. Before completing this interval, a decision must be made whether to try to produce only oil or to produce both oil and gas. It appears that much of the zone can be opened initially.

Comparison of the structural positions of zones in this well to surrounding wells is given on the Geologists log. It should be noted that, until the existing wells have been re-surveyed, these various horizons are somewhat suspect as to their accuracy.

Respectfully submitted,

George E. Petersen C.P.G.

DEACON GEOLOGY INC.

mp/GEP