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GEOLOGISTS REPORT

for

Robert Vernon #1-86

API# 115-087-20,228

SE4, NE4, Sec. 8, T9S, R20E

Jefferson County, Kansas

January 1986

by

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

DEACON GEOLOGY INC.

professional geologists

GEOLOGISTS REPORT

Robert Vernon #1-86

January 23, 1986: Called to well @ 5:40 PM; on location 7:45PM.
January 24, 1986: Released from location at 8:14 AM.

Elevation: 1039 G.L. (Topo)

FORMATION TOPS	LOG DEPTH(GL)	DATUM	THICKNESS
Base Kc	748	+291	
Marmaton	888	+151	90'
Cherokee Sh.	978	+61	502'
"U. McLouth Sd."	1,432	-393	6'
"M. McLouth Sd."	1,438	-399	10'
"L. McLouth Sd."	1,448	-409	10'
Miss. Lm.	1,480	-441	
RTD & LTD	1,504		

Sample returns were examined from a drilled depth of 800 feet to TD for the presence of visible hydrocarbons. Formation tops and intervals for this report were picked from the drilling time log, sample returns, and the Neutron-Density Porosity Log. There was no evidence of the presence of producable hydrocarbons in any of the geologic units above the Cherokee Group.

CHEROKEE GROUP:

There was less clean sand development in this well than in the just completed Joe Noll #1-86. One interval which had good sand development was found between 1222 and 1260. This sand was a white, subrounded, medium grained quartz sand containing traces of glauconite. The upper portion of the sand was somewhat shaly and had limited porosity. The porosity values increased between 1240 and 1260. There were no visible shows of hydrocarbons in the samples from this interval; however, calculations were prepared for this report using Rw=.2 and M=1.8.

Interval	Ø	Rt	Sw
1240-42	17	10	70
42-44	19	10	63
44-46	20	9	63
46-48	23	7	63
48-50	25	6	64
50-52	24	7	61
52-54	25	8	55
54-56	25	7	59
56-58	23	8	59
58-60	19	9	66

There was a slight cross-over effect shown on the logs between 1240 and 1258 which indicated the probable presence of gas.

This interval should be tested after the "McLouth Sand" has been depleted. There were no other sands present above the "McLouth" that had any indications that gas might be present.

The "McLouth Sands" were topped at a log depth of 1432 feet. The "Upper McLouth" (1432-38) and the "Middle McLouth" (1438-48) were not developed in this well as these intervals appeared as a slightly sandy shale on both the logs and in the samples. There is no potential for production from these zones in this well.

The "Lower McLouth" was reached at a log depth of 1448 feet (-409) and had a thickness of 10 feet. This unit was composed of a tan, medium to coarse grained, subrounded quartz sand which contained a medium to dark brown oil. There was a good odor thru this interval and the application of trichlor-ethane yielded streaming cuts and bright fluorescence. The quantity of oil appeared to be greater towards the bottom of the sand. The lower part of the sand was a clear, coarse

grained sand with dark brown, heavy oil.

Log calculations for this interval were prepared on location by Mr. Glenn Schmeidler of Log-Tech Inc. using the following values: M=1.8, Rw= .2.

Interval	Ø	Rt	Sw
1448-50	20	15	48
50-52	25	50	23
52-54	22	40	27
54-56	22	35	30
56-58	22	60	23
58-60	24	30	30

The Neutron-Density Porosity cross-plot indicated a strong cross-over gas effect between 1448 and 1458. This effect along with the low Sw values suggest that this interval should produce commercial quantities of gas.

MISSISSIPPIAN LIME:

The top of the Mississippian was reached at a log depth of 1480 feet (-441). Sample returns consisted of tan, semi-lithographic, dense limestone. There was a strong petroleum odor throughout the drilled interval. A show of heavy, dark brown oil was observed on fracture faces and in a poorly developed secondary porosity consisting of partially re-cemented fractures. The application of trichlorethane yielded streaming cuts and bright fluorescence.

The log indicated low porosities and there appears to be little chance of establishing commercial production of oil or gas from the drilled interval in this well.

CONCLUSIONS AND RECOMMENDATIONS:

The "Lower McLouth Sand" should produce good quantities

of gas in this well. The unnamed sand located between 1240 and 1258 should be throughly tested for gas before the well is eventually plugged. As was stated in the report for the J. Noll #1-86, consideration should be given to beginning the mud-up progran at a shallower depth to insure adequate protection for these sands.

It should be re-emphasized that a surveyed elevation and location are necessary to insure that the detailed mapping necessary for this project is as accurate as possible.

Based on the existing wells in the area, the remaining three locations on this lease should all prove productive.

Should additional information be required, please contact me.

Respectfully submitted,

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

DEACON GEOLOGY INC.

mrp/GEP