

Computer inventoried

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



*3223 Mc Clure Rd.*  
*Topeka, Kansas 66614 913-279-4383*

GEOLOGISTS REPORT

for

Demoranville 9-3 (COG 107)

API No. 15-103-21177

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

Leavenworth County, Kansas

December 1989

by

George E. Petersen C.P.G.

DEACON GEOLOGY INC.



*professional geologists*

GEOLOGISTS REPORT

Demoranville 9-3 (COG 107)

December 7, 1989: Called to wellsite @ 2:30am. on location @ 3:45am drilling @ 1152. Released from well-site @ 7pm upon completion of logging.

ELEVATION: 1067.3 G.L. (All measurements from G.L.)

<u>FORMATION TOPS</u>	<u>LOG DEPTH</u>	<u>DATUM</u>	<u>THICKNESS</u>
Base KC	777	+290	137'
Marmaton	914	+153	96'
Cherokee	1,010	+57	497'
"Coal Marker"	1,430	-363	---
"U. McLouth Sd."	1,476	-409	3'
"M. McLouth Sd."	1,479	-412	9'
"L. McLouth Sd."	1,488	-421	10'
Mississippian Lm.	1,507	-440	---
RTD & LTD	1,530		

Sample returns were examined 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 sample returns, drilling time log 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 were several sand intervals noted on the logs and in the samples which need to be carefully evaluated and possibly tested for gas.

CHEROKEE GROUP:

There were several sand intervals found between the top of the Cherokee Group and the "McLouth" which had moderate to good porosity. The upper "Squirrel" has developed as a clean sand with very good porosity between 1026 and 1032. Although this interval calculates as having 100% water, the fact that this sand has not been seen in other wells in this field warrants further study and evaluation.

Many other clean sands were noted on the logs and in the samples; however, initial study indicates all of these intervals contain excessive amounts of water. Some sands such as the one found between 1226-1230 have a good filter cake build up over the interval indication good permeability. All of these sands warrant further study and possible testing before eventual abandonment of the well.

The "McLouth Sands" were divided into an upper (1476-79), middle (1479-1488), and lower (1488-98) unit for mapping and correlation purposes. The upper 3' sand is a clear, coarse, fine quartz sand with a high shale content. Gas from the overlying coal may be present in this interval.

The middle and lower units are composed of clear to slightly shaly, to shaly, coarse grained quartz sands. There was a good show of medium brown free oil in the samples and on the pit and the application of trichlorethane yielded bright streaming cuts. There was also a strong odor present thru this interval. Gas was also observed in the samples.

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	$\phi$	Rt	Sw
1458-60	8	11	100
60-62	9	13	100
1478-80	17	12	61
80-82	19	20	44
82-84	17	21	45
84-86	17	15	55
86-88	18	14	54
88-90	18	15	52
90-92	12	15	78
92-94	14	13	71

The Rt values were extracted from the EIL Log and are more conservative than those taken from the RAG Log.

Based on the log calculations, the good visible show of oil and gas and the production history of the L. Noll 1-87 to the south and the COG 102 to the NE, this well appears to have the potential to produce commercial quantities of oil along with some gas.

MISSISSIPPIAN LIME:

The top of the Mississippian Lime was reached at a log depth of 1507' (-440). Sample returns from this interval consisted of light to medium brown very coarsely crystalline limestone with coarse calcite crystalline veining. The visible hydrocarbons present in this interval were black and tar like in nature. There was a strong petroleum odor present.

No production attempt should be made on this interval in this well.

CONCLUSIONS AND RECOMMENDATIONS:

This well should produce good commercial quantities of oil from the middle and lower "McLouth" along with some gas. Completion should be done in the same manner as on the COG 102.

There was much less oil dumped on the pits by the water hauler on this well and sample examination was thus much easier. This was greathy appreciated.

Should additional information be required, please  
contact me.

Respectfully submitted,

George E. Petersen C.P.G.

DEACON GEOLOGY INC.

mp/GEP