

October 30, 1980

GEOLOGICAL REPORT

John P. Jennings
#2 Schaaque (OWDD)
2170' FSL, 220' FEL 32-12S-20E
Douglas County, Kansas

The subject well was drilled to a depth of 733' by John P. Jennings in May, 1980 and was left standing full of mud. See geologic report for that well for show in formation above 733'.

DAILY REPORTS:

10/21 Rig on location at 6:00 p.m.
10/22 635' circulating into old hole
10/23 1110', drilling
10/24 1230', drilling
10/25 1352', drilling
10/26 1397', shut down for Sunday
10/27 1405', drilling
10/28 1480', drilling
10/29 1610', coming out to log

FORMATION TOPS:

Formations	Jennings #2 Schaaque 2170' FSL, 220' FEL 32-12S-20E FEL		Huber #1 Community NW-NW 33-12S-20E Tops estimated from driller's log		Relation of Jennings to Huber well
	Sample	k E-Log			
Base Kansas City	374	372(+446)	375(+441)	+5	
Cherokee	620	620(+198)	610(+206)	-8	
U. Squirrel SS	630	625(+193)	620(+196)	-3	
L. Squirrel SS	697	698(+120)	685(+131)	-11	
Mississippi	1104	1100(-282)	1089(-273)	-9	
Kinderhook	1510	1507(-689)	1507(-691)	+2	
Hunton	1566	1566(-748)	1557(-741)	-7	

SHOWS:

Hunton Limestone, grayish-tan, medium grained, rounded fossil
Smp1 1566-73 grains, fair intergranular porosity; very slight trace
E-Log 1566-70 of oil stain with very slight fluorescence and cut, no
show of free oil in sample.

Smp1 1573-1610 Dolomite, tan, fine crystalline, sucrosic, good
E-Log 1570-1610 intercrystalline porosity, no show.

SUMMARY:

The Schaake #2 (OWDD) was 7 feet low on the Hunton to the Huber #1 Community one-half mile to the northeast which reported a "rainbow show of oil" in the upper 20 feet of the Hunton. Apparently the Schaake #2 is not structurally high enough to trap commercial quantities of oil.

It is interesting to note the difference between the Hunton found in the Schaake #2 and the Jennings Dove #1 located approximately 12 miles to the northeast. In the Schaake #2 the Hunton is mostly a fine crystalline, sucrosic dolomite with good intercrystalline porosity averaging 13-15%. In contrast, the Hunton in the Dove #1 well is a dense limestone having essentially no porosity (less than 4%). Since the Hunton in the Dove #1 is 121 feet higher, this facies change sets up the possibility of a stratigraphic trap in the Hunton. The likelihood of such a trap is, of course, dependant upon the availability of a source rock and the timing of structural movement in the area.

The Jennings Schaake #2 will be plugged and abandoned.

Respectfully submitted,

Martin K. Dubois

MKD:td

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Consulting Geologist

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May 18, 1980

GEOLOGICAL REPORT

John P. Jennings
#2 Schaake
2170' FSL, 220' FEL 32-12S-20E
Douglas County, Kansas

DAILY REPORTS:

5/12 Drilling surface hole
5/13 83', drill out beneath surface casing
5/14 400', drilling
5/15 580', drilling
5/16 698.5, going in hole for core #2
5/17 723, coming out for DST #1
5/18 733, coming out to Log

FORMATION TOPS:

<u>Formations</u>	Jennings #2 Schaake 2170' FSL, 220' FEL 32-12S-20E		Jennings #1 Schaake 200' So. of NW-NE-SW 33-12S-20E		Relation of Schaake #2 to Schaake #1
	Sample	E-Log	E-Log		
Dennis	270	272(+546)	288(+536)		+10
Base Kansas City	374	372(+446)	391(+433)		+13
Altamont	535	536(+282)	556(+268)		+14
Cherokee	620	620(+198)	641(+183)		+15
U. Squirrel SS	630	625(+193)	646(+178)		+15
L. Squirrel SS	697 ₇₂₀	698(+120)	720(+104)		+16
LS Marker	727	727(+91)	755(+69)		+22

SHOWS AND DRILL STEM TESTS:

U. Squirrel SS Sandstone, fine-grained, silty, rounded quartz grains, slight amount of carbonaceous material, micaceous, Smp1 630-36
E-Log 625-32 poor intergranular porosity, good oil stain, slight Smp1 650-53
E-Log 654-58 show of free oil and gas, fair fluorescence, fair cut.

This interval was not tested since it appeared no better than the sand in the Schaake #1 well which did not give up any fluid on a DST.

Smp1 692-97 Sandstone, very silty, fine-grained, shaley, abundant
E-Log 693-98 carbonaceous material, micaceous, poor intergranular porosity, slight show of oil and gas, slight fluorescence, slight cut.

This interval was not tested because it was believed to be impermeable

L. Squirrel SS 697-716.5 Sandstone, gray, very dirty, abundant thin
 Smp1 697-722 dark laminae composed of mica, carbonaceous material
 E-Log 698-724 and clay; fine-grained from 697-708.5, medium-grained
 from 708.5-716.5, 1-2 cm tan mud clasts throughout;
 trough cross bedding in upper part, low angle and ripple
 cross bedded elsewhere; clean sand at 699.2-700,
 709-10, and 713-14; gas odor throughout.
 716.5-722 sandstone, medium to coarse-grained, mica-
 ceous, carbonaceous material, shaley in part, good
 intergranular porosity, good show of free gassy oil,
 good fluorescence, good cut.
 (See core description for more details)

DST #1 699-723

45-45-45-90

Strong blow decreased to fair blow in second open
 Recovered 518' very slightly oil and gas cut muddy water
 Flow Pressures 52-137, 190-211
 Shut in Pressures 285-285

CORE DESCRIPTIONS

Core #1 698-698.5 Recovered 0.5'

Core #2 698.5-718.5 Recovered 20'

698-99.2 Sandstone, gray, fine-grained, quartzose, abundant dark
 laminae composed of mica, carbonaceous material and clay,
 alternating sandstone and dark laminae (appx. 50-50),
 scattered tan mudclasts (1-2 cm), trough crossbedding
 (20-30 degree angle)

699.2-700 Sandstone, gray, fine-grained, quartzose, subrounded, well
 sorted, micaceous (10% mica), minor amount of carbonaceous
 material, trough crossbedding (10-20 degree angle), good
 intergranular porosity, good odor (gas).

700-708.5 Sandstone, same as 698-99.2 except trough crossbeds are
 15-30 degrees from 700-703, low angle crossbeds (appx.
 10 degrees) from 703-708

708.5-09 Sandstone, as above except it is medium-grained and shaley

709-10 Sandstone, gray, medium-grained, quartzose, sub-rounded,
 well sorted, slightly micaceous, low angle crossbedding
 (10 degrees), scattered mud clasts, good intergranular
 porosity, good odor (gas)

710-12 Sandstone, gray, fine to medium-grained, abundant dark
 laminae (as above), shaley, ripple crossbedding, mud
 clasts.

712-13 Sandstone and shale (50-50), micaceous, mud clasts

713-14 Sandstone, medium grained, quartzose, sub-rounded,
 micaceous (10% mica), bioturbated, good intergranular
 porosity, good odor (gas)

714-16.5 Interbedded sandstone, shale and dark laminae, very
 contorted bedding (soft sediment deformation), very
 abundant mud clasts up to 4 cm.

- 716.5-17.5 Sandstone, medium to coarse-grained, sub-rounded, well sorted, slightly micaceous, very good intergranular porosity, good oil stain, good show free gassy oil.
 717.5-18.3 Sandstone, as above, very shaley, abundant large mud clasts, contorted bedding
 718.3-18.5 Sandstone, same as 716.5-717.5

The cored interval overall was dirty sandstone with low permeability. Exceptions were at 699.2-700, 709-10, 713-14, 716.5-717.5, and 718.3-718.5 where good clean sands existed. There was an odor of gas from 698-716.3 and good show of oil from 716.3 to 718.5.

Preliminary Core Analysis:

	<u>Porosity</u>	<u>Permeability</u>	<u>Oil Sat.</u>	<u>Water Sat.</u>	
699.5	16	34	*	*	
709.2	*	2.5	7	80	
712.5	15.8	0	4	78	* Data not
713.5	25	90	2	90	available at
716.4	18.4	17	13	82	time this
717.5	16.4	26	17	64	report was
718.5	18.1	27	29	65	written

The Schaake #2 was 13' high on the Base of Kansas City and the structure increased steadily with depth. The Upper Squirrel Sandstone was 15' high, Lower Squirrel Sandstone was 16' high, and a good marker at the base of the squirrel section was 22' high. Unfortunately the sand was not well developed in this well and what was there was mostly dirty and low permeability, especially in the upper part of the Lower Squirrel Sandstone.

It appears that the Schaake #2 is on the western edge of the channel sand found in the Schaake #1 well in the Lower Squirrel Section. This well may have been productive had the sand been as well developed as it was in the Schaake #1 in the upper portion of the Lower Squirrel Sandstone.

This well was to be plugged and abandoned on 5/19/80.

Respectfully submitted,

Martin K. Dubois

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