FORMATION LOG

WENDELL G. JOHNS

Rine #3 Hoener "B"
NW NE NW; 35-26S-13W
Pratt County, Kansas
Elevation: 1942 derrick floor

8 5/8" surface casing; 1193
5½" casing 4326
Comm: 11-25-54
Comp:

Note: All measurements are from the top of the rotary bushing which is 3' above the derrick floor.

Depth	Formation Description	Remarks
0 - 30	Sand and surface clay	Drillers log 0 - 3500'
30 - 250	Sand	
250 - 730	Sandy shale and shells	
730 - 760	Shale	
760 - 795	Chalky limestone	
795 - 1110	Shale	
1110 - 1206	Shale and shells	
1206 - 1360	Shale and shells	
1360 - 1875	Sandy shale and shells	
1875 - 2000	Shale and limestone streaks	
2000 - 2190	Limestone and shale	
2190 - 2345	Shale and limestone	
2345 - 3460	Limestone and shale	
3460 - 3500	Limestone and shale	
3500 - 3532	Limestone, white to cream, finely crystalline to finely sucrose, slightly dolomitic; spotted vugular porosity.	No show; the samples are practically worthless from 3500-3800 and very bad to 3900
3532 - 3539	Shale, gray and gray-black	
3539 - 3551	Limestone, tanto white, finely crystalline, spotted vugular porosity.	No show
3551 - 3559	Shale, brown-black to gray-black, soft	Heebner
3559 - 3562	Limestone, brown, sub-crystalline to tan, dense	Leavenworth
3562 - 3573	Shale, gray andggray-green	Snyderville
3573 - 3589	Limestone, cream to buff, finely crystalline to sub-crystalline	Toronto
3589 - 3614	Shale, gray, gray-green and gray-black; trace fine, gray siltstone	Top Douglas 3589
3614 - 3653	Sand, fine, gray, argillaceous, finely micaceous; porous 3622-53.	No show
3653 - 3715	Shale, gray and gray-green; thin streaks sand, as above	
3715 - 3723	Limestone, brown, dense, resinous.	Top Brown Lime 3715
3723 - 3740	Mostly shale, gray; streaks limestone, as above	
3740 - 65	Limestone, gray to tan, subcrystalline to finely crystalline; streaks gray and brown shale.	Top Lansing 3740
3765 - 3777	Limestone, light tan to cream, finely crystalline; spotted vugular porosity	Slight odor, no free oil(?) DST

Depth	Formation Description	Remarks
3777 - 3791	Limestone, gray, sub-crystalline, very shaly	
3791 - 3802	Limestone, light tan, very finely sucrose, oolitic; spotted inter-oolitic porosity	Trace stain
3802 - 3833	Limestone, gray to tan to salmon, sub-crystalline todense; trace gray, opaque chert; no porosity in samples'	Electric log shows streak porosity 3825-27
3833 - 3836	Limestone, tan, sub-crystalline; spotted fine vugular porosity	Spotted stain
3836 - 3844	Shale and limestone streaks	
3844 - 3855	Limestone, cream, sub-crystalline; chalky; spotted vugular porosity; chert, gray, opaque	Trace stain
3855 - 3859	Shaly limestone	
3859 - 3868	Limestone, tan, finely sucrose; fine pinpoint porosity; chert, gray, opaque, sub-vitreous.	Fair spotted stain
3868 - 3874	Limestone and chert, as above, no porosity	
3874 - 3880	Limestone, tan to brown, sub-crystalline; spotted vugular porosity; chert, as above	Fair stain
3880 - 3892	Limestone, brown, dense; streaks gray-black shale	
3892 - 3895	Limestone, brown, very finely sucrose, oolitic; good oolicastic porosity	Good stain
3895 - 3907	Limestone, tan to gray, sub-crystalline; streaks gray shale	
3907 - 3913	Limestone, light tan, sub-crystal-line; spotted vugular porosity	Spotted slight show free oil
3913 - 3926	Limestone, tan, sub-crystalline, oolitic to tan, dense; streaks gray shale	
3926 - 3929	Limestone, tan to buff, sub-crystal-line, crypto-oolitic; fair vugular porosity.	Good odor, slight to fair show free oil'
3929 - 3936	Limestone, tan, dense	
3936 - 3948	Limestone, tan to buff, finely sucrose, oolitic; good oolicastic porosity	Good odor, good show free oil; DST
3948 - 3960	Limestone, light gray, dense, lithographic; chert, blue-gray, opaque, figured	
3960 - 3963	Limestone, tan, sub-crystalline, very finely sucrose, oolitic; fair oolicastic porosity	Good odor, fair to good show free oil; DST

Depth	Formation Description	Remarks
3963 - 3971	Limestone and brown shale streaks	
3971 - 3982	Limestone, tan, sub-crystalline, large irregular oolites; good oolicastic and vugular porosity	Good odor, good show free oil; DST
3982 - 4014	Limestone, tan to gray, sub-crystalline to dense; streaks gray and black shale	
4014 - 4020	Limestone, tan to brown, sub-crystalline; spotted vugular porosity 4014-17 and 4019-20	Slight stain
4020 - 4057	Limestone, tan to blue-gray, sub-crystalline and tan, dense, lithographic; streaks shale, as above	Base Kansas City 4057
4057 - 4067	Shale, gray-green, gray and brown, some silty	Top Marmaton 4057
4067 - 4073	Limestone, salmon to tan, sub-crystalline	
4073 - 4083	Shale, as above	
4083 - 4127	Limestone, tan to brown, mottled, sub-crystalline to dense, resinous; much salmon to gray, vitreous, translucent chert; streaks pale green to gray to maroon shale	
4127 - 4135	Shale, as above	
4135 - 4141	Dolomite, dirty brown, finely crystalline; less chert; much silicified limestone	Trace stain
4141 - 4151	Shale, as above	
4151 - 4162	Chert, white, opaque to translucent, vitreous; chert, white to tan, semi-devitrified; chert, salmon and white figured	Mississippi
4162 - 4187	Mostly shale, gray-green to gray black; streaks brown, sub-crystalline, resinous limestone; chert, cream, opaque, figured	Kinderhook
4187 - 4221	Chert, white, opaque to semi-translucent, lacy, vitreous; chert, white, devitrified to brown and white, mottled, devitrified; chert, salmon, semi-translucent and pale green, opaque to semi-translucent.	Top Viola 4187; slight odor, slight show free oil; DST
4221 - 4224	Limestone, white, finely crystalline to coarsely crystalline; sandy	
4224 - 4230	Shale, pale to bright green, sandy; trace white, medium, angular sand	Top Simpson 4224

Depth	Formation Description	Remarks
4230 - 4247	Dolomite, brown to yellow-tan, finely crystalline to coarsely crystalline, sandy; trace spotted vugular porosity	Trace odor, slight stain?. No porosity on electric log DST
4247 - 4251	Sandy shale,as above'	
4251 - 4259	Sand, tan, well sorted, medium sub-angular to angular	Very slight stain, fair odor, no free oil; DST
4259 - 4279	Mostly shale, gray-green to bright green to black; thin sand streaks	
4279 - 4285	Sand, light tan, medium to coarse, poorly sorted	Light stain, possibly oil?
4285 - 4321	Shale, bright green to gray-green to maroon; thin streaks poorly sorted sand	
4321 - 4332	Dolomite, cream, medium crystalline, sandy; dolomite, cream to gray, coarsely crystalline to finely crystalline, rhombohedral; trace white, opaque chert	Top Arbuckle 4321
4332 - 4335	Dolomite, tan, finely crystalline to finely sucrose, spotted vugular porosity	Good odor, very slight show free oil; DST
4335 - 4338	Dolomite, cream to tan, finely crystalline	
4338 - 4340	Dolomite, porous, as above; trace salmon to white, translucent, oolitic chert	Good odor, very slight show free oil; DST
4340 -	Rotary total depth	
4340 - 4342	No sample description	Cable tool samples 4340-48
4342 - 4344	Dolomite, white, coarsely crystalline to medium-fine crystalline; poor to fairly good porosity in 20% of sample	Fair oil saturation
4344 - 4348	Much clear glassy dolomite; some medium crystalline to finely crystalline dolomite; 15% of sample had poor to fairly good porosity	Fair saturation
4348	Total Depth	

DRILL STEM/TEST DATA:

Lansing-Kansas City:

(1) DST 3763-78; open 1 hour - strong blow throughout test, gas to surface in 4 min
Gauge: 887,000 CFG @ 10 min
887,000 CFG @ 30 min
954,000 CFG @ 40 min
1,020,000 CFG @ 1 hr
Recovered 80' gas cut mud
Bottom hole pressure: 1405# (20 min)
Initial flow pressure: 85#

(2) DST - 3935 - 49; open 1 hour - good blow throughout test, gas to surface in 40 min; not enough to guage
Recovered 65' slightly oil and gas cut mud
60' heavily oil and gas cut mud and muddy oil
40' muddy oil
20' muddy water
Bottom hole pressure: 971# (20 min - still building up rapidly)

(3) DST - 3959 - 79; open 1 hour - strong blow throughout test, gas to surface in 2 min.
Gauge: 353,000 CFG @ 5 min
293,500 CFG @ 25 min
249,000 CFG @ 1 hr
Recovered 225# heavily oil and gas cut mud
15' clean oil
Bottom hole pressure: 1385# (30 min)
Initial flow pressure: 93#
Final flow pressure: 119#

Viola:
(4) DST - 4179-4213; open 1 hour - good blow throughout test
Recovered 1400' gas
90' gas cut mud
Bottom hole pressure: 315# (30 min)

Simpson:
(5) DST - 4230 - 64; open 1 hour - strong blow throughout test, gas to surface in 4½ min
Gauge: 196,000 CFG @ 10 min
240,000 CFG @ 20 min
277,000 CFG @ 30 min
277,000 CFG @ 1 hr
Recovered 70' gas cut mud
Bottom hole pressure: 1315# (30 min)

Arbuckle:
(6) DST - 4323 - 40; open 1 hour - good blow throughout test
Recovered 3700' gas
31' very heavily oil and gas cut mud
126' m uddy to clean oil
126' clean oil
Bottom hole pressure: 1460# (30 min)
Initial flow pressure: 30#
Final flow pressure: 110#

SAMPLES EXAMINED & LOG COMPILED

by

WILLIS JACK MAGATHAN

WENDELL S. JOHNS

TIME LOG

Rine #3 Hoener "B"
NW NE NW; 35-268-13W
Pratt County, Kansas
Elevation: 1942 derrick floor

Note: All measurements are from the top of the rotary bushing which is 3' above the derrick floor.

Depth	Time	Remarks
3500 - 10	1-1-1-½-1½-1-2-1-1-2	
20	2-1-1-2-1-1-1-1-1-	
30	1-1-2-2-3-3-2-1-2-1	
40	2-1-3-3-2-3-3-3-3-4	
50	3-4-3-3-2-2-3-3-4-4	
60	4-3-3-3-2-3-2-1-3-5	Top Heebner 3551
70	5-4-2-2-3-2-2-2-2-2	
80	1-2-2-3-3-4-4-4-4-4	
90	4-4-4-4-4-6-6-5-5-5	
90 - 3600	6-3-3-3-2-2-2-2-2-2	
3600 - 10	1-1-3-2-2-2-3-2-2-3	
20	2-3-3-3-3-3-3-3-3-4	
30	2-2-1-1-1-1-1-1-1-1	
40	1-1-1-1-1-1-2-1-1-1	
50	1-2-1-1-1-2-1-3-2-2	
60	1-2-2-2-2-1-1-2-2-2	
70	2-1-2-2-2-3-3-3-4-2	
80	3-2-3-3-2-3-4-2-3-3	
90	3-3-2-3-2-3-3-2-2-1	
90 - 3700	2-2-2-1-2-2-3-2-3-2	
3700 - 10	2-2-3-2-3-3-2-3-3-2	
20	3-2-2-3-3-2-3-2-3-3	Top Brown Lime 3715
30	3-2-3-3-3-4-3-5-5-4	
40	7-7-3-2-3-2-2-2-2-3	Top Lansing 3740
50	4-4-3-3-3-5-3-3-3-3	
60	3-3-5-6-5-5-5-5-5-5	
70	5-5-6-5-5-3-3-3-2-2	
80	3-3-2-3-3-3-2-4-3-4	Circ 1½ hr @ 3778;D.S.T New bit @ 3778
90	5-6-6-11-6-7-5-4-3-5	
90 - 3800	3-3-3-3-3-4-3-4-4-7	
3800 - 10	6-6-8-6-7-5-5-5-6-8	
20	4-6-6-5-3-6-3-6-6-8	
30	10-9-9-8-7-3-4-8-6-8	
40	11-8-7-2-4-4-5-8-8-8	
50	5-7-6-5-6-6-6-4-4-3	
60	5-4-4-4-7-10-7-7-7-7	
70	7-5-4-5-5-4-6-4-7-6	
80	11-14-12-7-5-5-7-6-9-11	
90	11-11-11-13-10-8-7-7-6-7	

-2- Time Log
Rine #3 Hoener "B"

Depth	Time	Remarks
90 - 3900	11-11-3-2-2-4-10-13-10-9	
3900 - 10	10-7-9-10-7-4-5-4-4-6	
20	10-12-12-14-25-22-10-8-12-7	Circ 1½ hr @ 3911 Trip @ 3916
30	8-6-6-11-6-8-6-3-4-6	
40	10-8-9-10-11-4-2-2-1-2	
50	2-2-2-3-4-4-3-4-6-8	Circ 1½ hr @ 3949: D.S.T
60	10-9-9-9-10-10-9-9-8-8	
70	4-3-5-6-9-8-8-5-3-5	
80	7-3-3-3-3-4-4-8-11-11	Circ 1½ hr @ 3979;D.S.T New bit @ 3979
90	14-10-9-8-8-10-10-10-8-9	
90 - 4000	9-8-9-8-10-7-9-8-12-10	
4000 - 10	11-9-8-8-7-5-5-9-7-5	
20	5-10-10-8-8-4-5-10-7-7	
30	8-9-9-10-10-10-13-6-6-6	
40	5-5-7-5-5-5-5-8-9-7	
50	7-9-9-9-7-8-8-8-7-9	
60	9-8-10-10-14-13-9-6-5-6	Base Kansas City @ 4057
70	5-6-4-4-5-4-5-7--9-9	
80	12-11-9-7-8-6-7-9-9-8	
90	8-8-10-12-13-10-10-10-8-11	
90 - 4100	11-15-15-9-14-14-10-14-14-12	
4100 - 10	13-13-14-8-14-17-18-11-14-13	
20	10-8-11-15-16-18-10-12-17-14	
30	8-10-12-10-11-7-7-7-6-6	Trip @ 4125
40	4-4-3-3-3-7-4-6-4-6	
50	8-6-7-6-6-6-6-7-6-7	
60	7-5-5-5-4-3-3-3-3-3	Top Mississippi 4151
70	4-5-8-12-13-20-20-20-20-14	Top Kinderhook 4162 Twist off @ 4169 New bit @ 4169
80	15-18-15-14-10-12-14-14-14-12	
90	10-9-11-10-7-5-6-5-4-4	Top Viola 4187
90 - 4200	4-4-4-4-5-5-4-4-6-6	
4200 - 10	4-5-5-5-5-7-4-6-6-6	
20	7-7-10-10-9-9-6-7-7-7	Circ. 1½ hr. @ 4213; D.S.T.
30	8-12-13-11-15-15-15-14-12-12	Top Simpson 4224
40	13-10-10-12-9-10-9-10-9-8	C irc. 1½ hr @ 4240
50	14-14-16-21-16-15-13-12-8-8	
60	2-5-6-4-8-10-7-8-9-12	
70	10-13-19-23-16-12-10-12-9-14	Circ. 1½ hr. @ 4264; D.S.T. New bit at 4264
80	12-11-12-12-14-14-12-15-15-13	
90	8-12-10-11-13-14-16-17-16-15	

Depth	Time	Remarks
90 - 4300	12-16-12-14-13-13-12-14-14-15	
4300 - 10	15-15-14-14-14-9-6-13-16-17	
20	19-17-15-16-17-20-14-16-19-17	
30	22-19-24-21-17-19-18-16-19-18	Top Arbuckle 4321 Circ. 1½ hr.@ 4330
40	13-18-13-15-12-16-16-16-12-12	Circ 1½ hr @ 4340 : D.S.T. R.T.D. 4340

Time Log Condensed
by
Johns and Magathan