

Deep Rock #5 Strait
 NE/SE/NE; 33-263-130
 Pratt County, Kansas
 Elevation: 1960 derrick floor

8 5/8" surface casing 870'; 250 sacks cement;
 62 sacks stratacrete
 46 gal
 5 1/2" casing 4464'; 250 sacks cement

Note: All measurements are from the top of the rotary bushing which is 2' above the derrick floor.

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
0 - 40	Surface clay	Drillers log 0 - 3100
40 - 70	Sandy clay	
70 - 170	Sand	
170 - 230	Shale & shells	
230 - 830	Red bed & shale	
830 - 855	Anhydrite	Stone Corral
855 - 875	Shale	
875 - 1370	Shale & shells	
1370 - 1875	Shale, salt & limestone	
1875 - 2020	Shale	
2020 - 2055	Sandy limestone	
2055 - 2400	Limestone & shale	
2400 - 2490	Shale & limestone	
2490 - 2510	Shale	
2510 - 2895	Limestone & shale	
2895 - 3020	Sandy limestone & shale	
3020 - 3100	Limestone & shale	
3100 - 3236	Limestone, gray to brown, sub-crystalline to dense, some black oolites & fusulinids; limestone, light tan, sub-crystalline to sucrose, streaks gray & green-gray to black shale.	Sample log 3100 to T.S.
3236 - 3273	Limestone, brown, oolitic; limestone, tan, gray & brown, sub-crystalline to sucrose; streaks gray & gray-black shale.	Topeka questionable
3273 - 3300	Limestone, as above, oolitic, very porous.	No show
3300 - 3314	Limestone, gray to tan, sub-crystalline to dense; trace gray opaque chert	
3314 - 3324	Limestone, light gray-tan, finely crystalline to sub-crystalline, soft, porous.	No show
3324 - 3342	Limestone, gray to tan, dense	
3342 - 3349	Limestone, tan, buff, finely crystalline to sub-crystalline, oolitic & oolitic; porous	No show
3349 - 3375	Limestone, gray to light brown, dense, hard; some chert, white to gray; opaque; streaks gray shale.	
3375 - 3381	Limestone, light gray, dense to sub-crystalline, possible trace oolites; trace porosity	Possible trace stain
3381 - 3394	Limestone, light gray, dense	
3394 - 3453	Limestone, oolitic, as above, fair oolitic porosity; limestone, light tan, sub-crystalline, fair vugular porosity with trace stain at 3444-50	

(2) Formation log; Deep Rock #5 Strait.

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
3453 - 3473	Limestone, gray-brown, dense, gray shale streaks.	
3473 - 3570	Limestone, light cream, finely crystalline to gray, dense, some oolites, fair p porosity; scattered streaks green-gray shale; some chert, cream, opaque	No show
3570 - 3587	Limestone, white, dense to chalky, some gray, dense, some good vugular porosity, limestone & shale streaks	Possible trace stain
3587 - 3606	Shale, brown-black soft	Heebner
3606 - 3610	Limestone, gray to brown, dense	Leavenworth
3610 - 3616	Shale, gray & green-gray	Snyderville
3616 - 3625	Limestone, light gray to tan, finely crystalline to sub-crystalline	Toronto
3625 - 3648	Shale, green-gray, silty	Douglas
3648 - 3677	Sand, light, green-gray, silty, micaceous	
3677 - 3720	Sand, white to light gray, angular, micaceous.	
3720 - 3772	Shale, dark gray, trace dark gray-brown streaks sand, as above	
3772 - 3774	Limestone, dark gray-brown, sub-crystalline to dense	Brown Lansing
3774 - 3796	Shale, gray & brown; trace limestone	
3796 - 3821	Limestone, brown to gray to tan, sub-crystalline to finely crystalline, black, oolites; streaks shale, gray & brown	Lansing
3821 - 3838	Limestone, light gray, sub-crystalline to dense, trace vugular porosity	Very slight show free oil & odor, trace spotted stain; D.S.T.
3838 - 3849	Limestone, gray-brown, dense; shale, brown & gray	
3849 - 3862	Limestone, buff, sacrose, pinpoint and vugular porosity	Spotted stain
3862 - 3889	Limestone, tan to brown, sub-crystalline to finely crystalline	
3889 - 3899	Limestone, brown-gray, finely crystalline to sub-crystalline; trace pinpoint porosity	Trace spotted stain
3899 - 3902	Shale	
3902 - 3911	Limestone, as above; porous, as above	Trace spotted stain
3911 - 3915	Limestone, blue-gray, dense to finely crystalline; chert, blue-gray, opaque, non-vitreous; streak gray shale	
3915 - 3926	Limestone, as above; no porosity or show in samples	Porous on electric log
3926 - 3930	Mostly shale, gray-green & brown,	
3930 - 3935	Limestone, as above; trace pinpoint porosity	No show
3935 - 3947	Limestone & chert, as above; streak gray-green shale	
3947 - 3951	Limestone, gray, brown, oolitic; some ooliteasts & vugs	Fair brown spotted stain
3951 - 3963	Limestone, light tan, sub-crystalline; chert, as above; shale streaks	

(3) Formation log; Deep Rock #5 Strait

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
3963 - 3967	Limestone, light tan, sub-crystalline, slightly oolitic; some oolite casts & vugs; slightly porous	No odor, trace free oil; D.S.T.
3967 - 3982	Limestone, tan, finely crystalline, oolitic, shale streaks	
3982 - 3985	Limestone, tan, sub-crystalline; possibly porous	No show
3985 - 3996	Limestone, tan, sub-crystalline	
3996 - 4000	Limestone, brown, finely oolitic; fair oolite porosity	Good stain
4000 - 4012	Limestone, light tan, dense; trace gray, opaque chert	
4012 - 4017	Limestone, gray to brown, finely crystalline to sub-crystalline, oolitic; streaks vugular porosity	Spotted stain
4017 - 4027	Mostly shale, gray, green & brown, trace limestone	
4027 - 4031	Limestone, sub-crystalline, gray to brown trace oolitic; some vugular porosity	Spotted stain
4031 - 4074	Limestone, brown to gray to tan, dense to sub-crystalline; some oolitic; trace chert, white, opaque	
4074 - 4079	Limestone, sub-crystalline, brown to tan, oolitic; trace porosity	No show
4079 - 4115	Limestone, brown to tan to light gray sub-crystalline to dense; shale streaks	Base Kansas City 4115
4115 - 4191	Limestone, as above; streaks shale, brown and green; chert, amber, translucent, black, gray & red-brown, opaque; some, salmon-gray, opaque to translucent; chert, white, pearly, opaque, vitreous.	Top Marmaton 4115
4191 - 4224	Chert, dark gray to black, devitrified, black, dead, oil stain; some white to tan, opaque chert; chert white, opaque, some devitrified; much green & brown shale.	Mississippian D.S.T.
4224 - 4239	Shale, purple-brown & green-gray	Kinderhook
4239 - 4260	Chert, white, vitreous, opaque to translucent; some amber to brown translucent chert, partly devitrified, stain in chert, no free oil.	Top Viola 4239; Upper Viola Chert 4239-4260; D.S.T.
4260 - 4288	Shale, gray, green, some brown; trace green-gray limestone; some green-brown, dense limestone	
4288 - 4331	Chert, white, blue-gray, pink, buff, opaque, china; some amber, some white, translucent, figured, some devitrified to non-vitreous; streaks shale in chert.	Lower Viola Chert 4288-4331; Fair to good show free oil, some odor; D.S.T.
4331 - 4337	Limestone, white, buff & gray, crystalline to finely crystalline, some sandy.	
4337 - 4341	Shale, bright green	Top Simpson 4337
4341 - 4360	Sand, light green, clean, porous medium, sub-angular	Good saturation, trace odor & free oil; D.S.T.
4360 - 4370	Dolomite, dark brown, hard, finely crystalline, sucrose	
4370 - 4373	Shale, green	
4370 - 4377	Sand, white to green, glassy, medium	Trace stain

(4) Formation log; Deep Rock #5 Strait

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
4377 - 4424	Mostly shale, green & gray-green; streaks dolomite, brown, finely crystalline; possible streaks sand	
4424 - 4426	Dolomite, brown to buff, finely sucrose to finely crystalline; chert, brown & gray, opaque, translucent, oolitic	Arbuckle
4426 - 4430	Dolomite, as above; spotted porosity	Spotted stain
4430 - 4432	Dolomite, as above	
4432 - 4436	Dolomite, brown, very oolitic & oolitic, very porous	Good saturation & odor; good show free oil
4436 - 4443	Dolomite, brown to buff, finely sucrose to finely crystalline; chert, as above; streak gray-green shale.	
4443 - 4446	Dolomite, tan to brown, finely sucrose, some oolites; streaks pinpoint porosity	Good odor & show free oil; D.S.T.
4446 - 4448	Dolomite, as above	
4448 - 4450	Dolomite, gray to tan, sub-crystalline to finely crystalline, very little porosity or stain	
4450 - 4455	Dolomite, as above	
4455 - 4458	Dolomite, white to light tan, crystalline; trace crystalline, rhombohedral dolomite with good vugular porosity	Fair to good saturation
4458 - 4465	Dolomite, as above, very little porosity or show	
4465	<u>Rotary total depth</u>	

The following drill stem tests were run on the #5 Strait:

Leasing:

- (1) 3821-40; open 1 hour; fair blow for 17 min, small intermittent blow for rest of hr
Recovered 30' slightly gas cut mud, no oil or water
B.H.P. 0 (15 min.)
- (2) 3955-70; open $\frac{1}{2}$ hr; slight blow for 5 min., left open for 15 min., closed tool and reopened; blew 3 min.
Recovered 30' mud, no oil or water, possible very slight trace gas
B.H.P. 0 (15 min.)

Mississippi:

- (3) 4197-4232; open 45 min; fair blow which gradually decreased to nothing in 37 min.
Recovered 30' mud - no oil, gas or water
B.H.P. 0 (15 min.)

Upper Viola:

- (4) 4238-4265; open 45 min; good blow throughout, gas in 22 min.
Recovered 120' & lightly gas cut mud; no oil or water
B.H.P. 890# (15 min.)

Lower Viola:

- (5) 4286-4314; open 45 min; very good blow gas in 7 min; oil to surface in 45 min.
Recovered: Drill pipe full of oil, some mud
Initial flow pressure 370#
Final flow pressure 840#
B.H.P. 1240# (15 min.)

(5) Formation log; Deep Rock 25 Strait

Drill Stem Tests cont'd.)

Sigsbee:

- (6) 4337-63; open 1 hour; good blow throughout
Recovered 630' very oily mud, 360' oily water & 90' very salty water
B.H.P. 1030# (15 min.)

Arbuckle:

- (7) 4437-55; open 1 hour; good blow throughout
Recovered 315' very oily mud, 225' muddy oil, 180' oily water and 180' water
B.H.P. 1060# (15 min.)

(Samples examined and log compiled by Wendell S. Johns)

WENDELL S. JOHNS

Deep Rock #5 Strait
N1/2S1/4NW, 33-26S-13W
Pratt County, Kansas
Elevation: 1960 derrick floor

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

<u>Depth</u>	<u>Time</u>	<u>Remarks</u>
3100 - 10	4-4-3-3-3-3-4-3-3-3	New OSS bit in at 2900'
20	3-2-4-3-4-4-3-4-4-4	
30	3-3-2-4-4-3-3-3-4-2	
40	3-3-3-3-3-3-3-4-3-4	
50	3-3-3-4-3-3-3-3-3-3	
60	4-3-4-3-3-4-4-4-3-3	
70	2-3-4-4-4-3-4-4-5-4	
80	4-3-4-3-3-2-3-3-3-4	
90	4-4-5-5-4-3-3-2-2-2	
90 - 3200	2-2-4-3-2-3-3-2-3-2	
3200 - 10	2-3-4-2-3-3-3-4-4-4	Trip 3274, OSS
20	4-4-4-3-4-3-4-4-5-5	
30	5-4-4-3-3-3-3-3-3-3	
40	4-3-3-4-4-3-4-3-4-1	
50	1-3-4-4-4-5-4-5-6-4	
60	1-2-1-1-2-2-2-2-1-1	
70	2-4-4-3-3-2-1-2-3-3	
80	2-2-3-7-4-3-2-1-2-2	
90	2-1-1-1-1-1-1-1-1-1	
90 - 3300	2-1-2-1-2-2-2-1-1-2	
3300 - 10	3-3-3-2-3-3-4-4-4-4	
20	4-4-3-4-3-3-2-2-1-1	
30	2-1-1-1-2-2-2-2-2-2	
40	2-2-3-5-4-3-4-4-4-5	
50	5-5-3-3-3-2-1-1-2-2	
60	2-2-3-3-5-5-5-6-5-5	
70	6-7-4-4-5-5-5-5-7-7	
80	8-3-4-6-7-3-3-4-4-4	
90	3-4-6-5-6-6-5-4-4-4	
90 - 3400	4-5-5-2-2-3-3-2-3	
3400 - 10	2-2-2-2-2-3-3-3-2-2	
20	3-3-2-3-2-3-3-3-3-3	
30	4-5-5-3-2-1-2-2-2-2	
40	3-3-3-3-4-5-5-5-5-4	
50	4-4-5-5-5-4-3-2-1-2	
60	2-2-2-5-4-7-7-8-7-6	
70	8-8-5-8-5-5-6-7-6-7	
80	5-4-6-3-4-3-3-3-3-3	
90	3-3-3-3-4-3-3-3-3-3	
90 - 3500	2-3-3-3-3-4-3-3-3-2	
3500 - 10	4-4-4-4-4-3-2-2-3-3	
20	4-3-2-3-2-3-4-4-3-3	
30	2-2-3-4-3-3-2-3-2-3	
40	3-3-3-3-3-4-3-3-3-3	
50	2-3-2-3-2-3-3-4-2-2	

(2) Time log; Deep Rock #5 Strait.

<u>Depth</u>	<u>Time</u>	<u>Remarks</u>
3550 - 60	2-1-2-2-3-3-2-3-3-4	
70	5-3-4-2-2-2-2-3-2-2	
80	1-1-1-1-1-1-1-1-1-1	
90	2-2-3-4-2-3-6-8-10-2	Trip 3589, OMS
90 - 3600	3-4-7-4-4-5-5-3-4-3	
3600 - 10	5-5-4-5-6-5-3-3-3-3	Heebner 3606
20	2-2-6-10-8-4-3-4-4-6	
30	4-3-4-5-4-4-4-4-5-5	
40	5-5-5-6-7-5-4-6-6-8	
50	7-6-3-5-5-5-8-6-3-2	
60	2-4-4-4-5-4-5-4-4-4	
70	6-4-4-5-4-7-6-6-4-3	
80	2-4-3-2-3-4-5-3-2-2	
90	1-2-2-2-2-2-2-2-2-3	
90 - 3700	2-1-1-1-2-1-1-1-1-1	
3700 - 10	2-1-2-3-2-2-2-2-1-1	
20	1-2-2-1-5-2-1-2-1-3	
30	5-5-4-4-5-4-4-5-4-6	
40	4-5-5-3-4-4-5-3-4-4	
50	4-4-4-5-7-7-5-4-5-4	
60	4-5-4-4-4-5-5-5-5-5	
70	5-3-3-5-4-4-5-5-3-4	
80	5-4-9-7-9-10-7-8-8-7	
90	6-7-7-7-7-6-5-10-6-6	Brown Lansing 3772
90 - 3800	4-5-9-7-4-6-9-4-6-5	
3800 - 10	4-6-5-5-4-6-4-4-5-5	Lansing 3796; trip 3797; W-7
20	6-7-8-6-8-6-7-7-7-9	
30	10-8-6-5-7-6-7-7-7-5	
40	7-5-6-7-7-7-6-7-8-6	
50	6-5-9-8-7-7-5-5-5-3	
60	3-3-4-4-3-3-3-2-4-3	
70	4-4-5-6-6-6-6-8-6-6	
80	7-8-8-8-8-8-7-6-5-7	
90	8-8-8-9-10-10-9-9-9-5	
90 - 3900	7-9-7-5-7-9-8-5-6-8	
3900 - 10	7-6-8-7-6-4-7-5-5-7	
20	7-10-9-10-10-6-7-7-7-7	
30	6-7-8-8-7-6-7-8-9-7	
40	5-7-4-3-6-8-10-12-12-10	Trip 3928, W-7
50	7-8-14-6-4-5-6-5-4-2	
60	4-9-10-9-10-10-10-7-10-10	
70	7-3-5-3-2-6-2-6-10-10	
80	9-6-7-7-6-7-6-4-3-3	
90	3-4-7-6-5-7-6-6-7-5	
90 - 4000	5-6-6-6-3-4-2-1-2-2	
4000 - 10	3-5-5-4-5-7-5-6-7-8	
20	9-8-4-5-3-6-5-6-9-9	
30	9-7-7-8-8-6-7-5-4-4	
40	3-6-9-10-13-10-10-9-10-11	
50	11-10-9-11-11-9-10-11-9-12	

Circ. 3840, 1½ hr., D.S.T.
new bit W-7

Circ. 3970, 1½ hrs., D.S.T.
new bit W-7

(3) Time log; Deep Rock #5 Strait

<u>Depth</u>	<u>Time</u>	<u>Remarks</u>
4050 - 60	10-10-13-13-11-11-10-10-12-12	
70	11-11-9-13-13-6-7-6-7-4	Trip 4065; #7
80	3-4-5-5-4-4-5-4-3-4	
90	7-6-4-6-6-6-5-7-7-6	
90 - 4100	7-7-8-6-6-5-3-5-5-6	
4100 - 10	6-7-7-7-6-6-6-6-6-7	
20	7-7-8-8-9-5-5-7-6-6	
30	7-6-6-4-5-4-4-9-9-9	
40	9-7-8-9-8-8-8-7-5-4	
50	5-5-8-7-10-10-10-8-8-8	
60	8-8-8-5-8-8-8-8-8-8	
70	6-6-7-7-9-9-10-7-4-7	Trip 4173
80	8-6-13-6-8-12-10-10-10-10	
90	10-11-11-10-10-11-11-12-10-10	
90 - 4200	13-7-13-11-11-16-12-13-11-13	Mississippi 4191
4200 - 10	8-10-12-9-8-8-7-5-7-7	
20	7-6-6-6-8-8-8-8-8-8	
30	6-4-2-4-5-9-8-9-9-10	Kinderhook 4224
40	9-10-5-5-5-5-5-5-5-3	Viola 4239, circ. 4232, 1½ hr D.S.T., new bit #7
50	2-4-4-5-4-3-3-3-3-4	
60	4-3-3-3-3-4-3-3-4-4	
70	5-8-18-18-20-6-10-10-9-9	Circ. 4265, 1½ hr., D.S.T., new bit W7H
80	10-10-9-9-9-9-10-11-10-7	
90	7-9-7-9-10-10-7-7-2-4	
90 - 4300	4-4-6-4-4-5-6-6-8-8	
4300 - 10	6-6-6-4-8-9-13-9-9-6	
20	9-10-7-16-4-3-4-5-7-6	Circ. 4314, 1½ hrs., D.S.T., new bit #7H S.R. 4322-23 & 4326-27 Slapson 4337
30	4-6-2-5-4-6-3-4-4-4	
40	4-7-7-7-7-8-9-8-7-6	
50	5-6-7-7-7-7-7-9-6-5	
60	6-7-9-7-8-6-4-4-4-4	
70	5-8-11-7-8-6-5-5-6-7	Circ. 4368, 1½ hrs.. D.S.T. New bit #7
80	6-6-6-5-4-4-3-6-6-6	
90	6-6-5-6-6-7-6-6-6-6	
90 - 4400	7-7-9-9-5-6-7-8-7-6	
4400 - 10	6-7-7-7-7-7-7-7-5-6	
20	7-6-7-7-8-7-6-7-15-7	
30	7-6-6-6-7-9-6-7-9-6	
40	9-7-4-3-4-5-9-7-8-6	Arbuckle 4424; Circ. 4425, 1½ hr Circ. 4435, 1½ hr.
50	9-10-10-8-9-8-9-10-9-6	
60	9-11-11-11-12-4-5-5-6-6	Circ. 4455, 1½ hrs. D.S.T. new bit #7 Circ. 4465, 1½ hrs.
765	5-4-6-6-6	
4465	TOTAL DEPTH	

dan laterolog 11/23/51

(Time log condensed by Wendell S. Johns)