

FORMATION LOG

R. W. Rine #5 Jo
 SW/NW/SW; 33-260-13W
 Pratt County, Kansas
 Elevation: 1964 derrick floor

8 5/8" surface casing 847'
 5 1/2" casing 4467'
 Conn: 1/11/53
 Comp:

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

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
0 - 540	Sand, shale and shells	Drillers log 0 - 3500
540 - 820	Red bed and shale	
820 - 850	Anhydrite	Stone Corral (drillers top)
850 - 1220	Shale and shells	
1220 - 2150	Shale and shells	
2150 - 2340	Limestone and shale	
2340 - 2475	Limestone	
2475 - 2790	Limestone and shale	
2790 - 2960	Shale	
2960 - 3500	Limestone and shale	
3500 - 3535	Limestone, gray to buff, sucrose, good vugular porosity; good stain.	Sample log 3500 to T.D. <u>Note:</u> The oil stains encountered in the Topeka are probably a result of drilling with oil emulsion mud. It was found through testing this mud that it did leave a deposit of oil in the pore spaces. However, these samples were examined dry and we cannot be certain that the wet samples didn't carry free oil.
3535 - 3539	Limestone, blue gray, sub-crystalline to dense.	
3539 - 3560	Limestone, gray to brown, sucrose; good vugular porosity	Very good stain
3560 - 3563	Shale, dark gray to gray-black	
3563 - 3605	Limestone, gray to brown, sucrose, oolitic; good inter-oolitic porosity; some cream to buff, sub-crystalline limestone; fair spotted vugular porosity.	Fair to good stain
3605 - 3625	Limestone, gray to brown, sub-crystalline to dense; resinous; streaks gray-black shale.	
3625 - 3630	Shale, brown, black, soft, fissile, micaceous.	Heebner
3630 - 3634	Limestone, gray-brown, sub-crystalline to dense.	Leavenworth
3634 - 3643	Shale, gray and gray-green, waxy	Snyderville
3643 - 3670	Limestone, cream to white, sub-crystalline; much gray shale.	Toronto
3670 - 3678	Shale, gray, dark gray and gray-green, micaceous; streaks sand, fine silvery gray, micaceous.	Top Douglas 3670
3678 - 3683	Limestone, chocolate brown, dense	

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
3683 - 3776	Mostly sand, fine, gray, micaceous, argillaceous, glauconitic; much shale, gray to gray-green, silty, micaceous; siltstone, gray-black, micaceous.	
3776 - 3783	Limestone, brown, dense, resinous	Top Brown Lansing 3776
3783 - 3801	Mostly gray shale; streaks limestone, as above.	
3801 - 3825	Limestone, cream to tan, sub-crystalline with brown to gray irregular oolites; trace gray opaque to translucent, vitreous chert; streaks gray to gray-green shale.	Top Lansing 3801
3825 - 3841	Limestone, gray to buff, sub-crystalline; fair vugular porosity; some gray, sub-crystalline, dolomitic limestone with white silicified oolites.	Good show free oil
3841 - 3851	Limestone, brown, sub-crystalline to dense, crinoidal; streaks gray shale.	
3851 - 3867	Limestone, white to cream, sub-crystalline, many calcitic inclusions; fair vugular porosity.	Spotted fair stain
3867 - 3903	Limestone, brown to chocolate brown, dense; trace gray-brown shale at bottom; some gray-brown, dense, resinous limestone; chert, gray to blue-gray, mottled, opaque, vitreous; much gray-green and gray shale	
3903 - 3916	Limestone, dark brown, very finely sucrose; honeycomb porosity; much gray, opaque chert	Fair stain
3916 - 3919	Limestone, brown, dense; chert, as above	
3919 - 3932	Limestone, tan, finely crystalline to coarsely crystalline; poor pinpoint porosity; much gray, opaque chert	Slight stain
3932 - 3935	Limestone and chert, as above	No porosity
3935 - 3942	Limestone, brown, finely crystalline, fossiliferous; pin-point porosity; chert, brown, semi-translucent, resinous.	Slight stain
3942 - 3952	Limestone, gray, sub-crystalline; shale, gray and brown; chert, gray to tan, opaque, earthy.	
3952 - 3956	Limestone, gray to tan, sub-crystalline, oolitic; good vugular and oolitic porosity.	Fair show free oil
3956 - 3968	Limestone, gray; sub-crystalline to dense; chert, gray to tan, opaque.	
3968 - 3974	Limestone, brown, sucrose, many large, irregular oolites; good vugular and oolitic porosity.	Fair to good show free oil
3974 - 3987	Limestone, tan to brown, sub-crystalline to dense, fossiliferous; streak gray-green and brown shale.	
3987 - 3991	Limestone, tan to brown, sub-crystalline; good oolitic and inter-oolitic porosity,	Good show free oil

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
3991 - 4001	Limestone, brown, dense, lithographic.	
4001 - 4011	Limestone, brown, finely sucrose, oolitic; good honeycomb porosity.	Fair to good show free oil
4011 - 4020	Limestone, gray, sub-crystalline to brown, dense.	
4020 - 4025	Limestone, gray, sub-crystalline, spotted vugular porosity	Spotted stain
4025 - 4031	Limestone and shale streaks	
4031 - 4036	Limestone, tan to gray, finely sucrose; good oolitic porosity.	Fair dark stain
4036 - 4071	Mostly limestone, gray, sub-crystalline to gray-brown, dense; streaks brown and gray-black shale.	
4071 - 4076	Limestone, tan to brown, finely crystalline, many calcite crystals, fair vugular porosity.	Good stain
4076 - 4123	Limestone, brown to chocolate brown black, dense; streaks shale, gray-black to brown-black, soft, micaceous.	Base Kansas City 4123
4123 - 4131	Shale, gray and gray-green, some silty.	Top Maraton 4123
4131 - 4136	Limestone, tan to brown, sub-crystalline, poor vugular porosity; chert, gray to tan to salmon, vitreous	Trace stain
4136 - 4162	Limestone, gray to brown, dense; chert gray to tan to semi-translucent, shale, brown and green.	
4162 - 4175	Limestone, tan to buff, calcitic, finely crystalline; poor pinpoint porosity.	Trace stain
4175 - 4193	Much chert, white to pale amber, vitreous, translucent, figured, some white, opaque; limestone, white to brown to gray-green, sub-crystalline to dense.	
4193 - 4198	Shale, gray-green and brown	
4198 - 4211	Chert, white, opaque, vitreous, figured, much chert, brown, white and black, devitrified; some gray-green shale	Top Mississippi 4198 Mr. Sippi zone; slight show free oil.
4211 - 4217	Shale, gray-green	
4217 - 4246	Chert, white, opaque, vitreous; devitrified, chert, as above; much dirty-brown-white devitrified chert; some limestone	Slight to good brown stain; no free oil.
4246 - 4252	Shale, green-gray to silver-gray to black, micaceous	Top Kinderhook 4246
4252 - 4269	Chert, tan to salmon to light brown, translucent to semi-translucent, vitreous; chert, white to tan, devitrified; chert, white to tan, opaque, semi-vitreous.	Fair show free oil; D.S.T.
4269 - 4302	Mostly limestone, dirty gray-green to brown, sub-crystalline, fossiliferous; streaks shale, as above.	
4302 - 4338	Much chert, white, opaque, vitreous to semi-vitreous; chert, white to brown, semi-devitrified; some chert, salmon to white, translucent, vitreous to semi-vitreous.	Top Viola 4302; slight show free oil; DST

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
4338 - 4342	Limestone, white, finely crystalline; with large, clear, rounded, included sand grains.	
4342 - 4348	Shale, bright green to gray-green sandy.	Top Simpson 4342
4348 - 4357	Sand, tan to brown to light green, coarse to medium, sub-angular, dolomitic.	Slight show brown flaky oil
4357 - 4376	Dolomite, tan to brown, finely crystalline to dense, some sandy; interfingered streaks bright green shale.	
4376 - 4378	Shale, gray-green	
4378 - 4386	Sand, medium, fairly well sorted, tan to brown; streaks shale.	Fair show free oil; DST
4386 - 4432	Mostly shale, gray-green and gray, some bright green; streaks sand, white to tan to brown, medium, sub-rounded, some glauconitic; dolomite, gray to tan to brown, sub-crystalline to dense	
4432 - 4435	Dolomite, white to light gray, sub-crystalline	Top Arbuckle 4432
4435 - 4444	Dolomite, brown to gray, finely crystalline, rhombohedral; fair vugular porosity; chert, amber with white oolites.	Fair show free oil
4444 - 4448	Dolomite, as above	No porosity
4448 - 4456	Dolomite, tan to brown, crystalline to finely crystalline, spotted vugular porosity; some chert.	Spotted show free oil
4456 - 4461	Dolomite, as above	No porosity
4461 - 4466	Dolomite, tan to brown, sub-crystalline to finely crystalline, some buff, coarsely crystalline, rhombohedral; chert, white to amber, oolitic; spotted vugular porosity.	No show
4466 - 4471	Dolomite, as above, no porosity.	
4471 - 4476	Dolomite, tan, sub-crystalline, oolitic; good oolitic porosity.	No show
4476 - 4480	Dolomite, buff to gray, sub-crystalline to dense.	
4480	ROTARY TOTAL DEPTH.	

DST 3819 - 42; open 1 hour - strong blow which decreased to small blow at end of test.
Recovered 90' gas cut mud
B.H.P. 195# (20 min.)

DST 3961 - 75; open 1 hour; weak blow which died in 20 min; started weak intermittent blow at 30 minutes and blew till end of test.
Recovered 20' mud
B.H.P. 15# (20 min.)

(DST continued)

DST 3987 - 4010; open 1 hour - good blow decreasing to fair blow at end.

Recovered 60' thin gassy mud; possibly some water; bomb had clean dark oil on it.

B.H.P. 345# (20 min.)

DST 4192-4210; open 45 minutes; weak intermittent blow throughout test.

Recovered 10' mud

B.H.P. 30# (15 min.)

DST 4250 - 70; open 1 hour; strong blow throughout; gas in 4 minutes.

Recovered 90' medium oil and gas cut mud.

B.H.P. 1180# (20 min.)

Initial flowing pressure 40#

Final Flowing pressure 45#

DST 4291-4340; open 1 hour; strong blow throughout; gas in 4 minutes

Recovered 1670' clean gassy oil

B.H.P. 1150# (20 min.)

Initial flowing pressure 130#

Final flowing pressure 480#

DST 4375 - 87; open 1 hour; fair blow which decreased to small blow and died in 50 minutes.

Recovered 20' mud

B.H.P. 70# (20 min.)

(Samples examined and log compiled by Willis Jack Magathan)

T I M E L O G

Rine #5 Jo
 SW/NW/SE; 33-26-13#
 Pratt County, Kansas
 elevation: 1964 derrick floor

WENTON

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

<u>Depth</u>	<u>Time</u>	<u>Remarks</u>
3500 - 10	1-1-1-2-3-3-3-3-2	
20	2-2-2-3-3-3-3-2-3	
30	3-3-5-3-3-3-3-3-2	
40	2-3-2-2-2-5-4-3-3-1	
50	3-3-1-1-1-2-2-2-2-2	
60	1-2-1-1-3-2-2-2-2-2	
70	1-1-2-2-2-2-2-1-1-1	
80	2-1-2-3-3-2-3-2-2-3	
90	5-3-2-2-2-2-2-2-2-1	
90 - 3600	1-1-1-1-1-1-1-1-1-1	
3600 - 10	1-2-3-3-3-4-2-2-2-2	
20	2-2-2-1-1-4-5-5-4-4	
30	4-5-5-4-4-1-2-2-2-2	
40	3-3-3-5-3-2-2-1-1-1	Top Heebner 3625
50	1-1-1-2-3-3-3-5-3-3	
60	4-4-4-4-2-3-3-2-6-6	
70	5-5-10-8-7-5-4-5-7-7	
80	4-2-2-2-3-2-2-2-3-5	
90	10-6-5-3-2-1-1-1-2-2	
90 - 3700	1-3-3-3-3-2-2-2-3-3	
3700 - 10	3-3-3-3-3-3-3-2-2-3	
20	3-2-2-1-2-2-3-2-2-2	
30	3-2-2-2-2-3-2-3-2-3	
40	2-2-3-3-2-3-3-2-3-3	
50	2-2-3-3-2-3-3-3-2-3-4	
60	3-3-3-3-3-2-2-2-2-2	
70	2-2-2-2-2-2-3-2-2-2	
80	2-2-2-2-3-4-6-7-6-5	
90	5-4-3-3-3-3-2-3-2-3	Top Brown Lansing 3776
90 - 3800	4-3-7-9-6-5-4-4-4-5	
3800 - 10	6-6-6-7-7-7-9-7-8	
20	10-8-9-9-6-1-1-10-11-9	Top Lansing 3801
30	8-3-5-9-9-8-6-5-5-5	Kelly Correction 3815 = 3817
40	5-6-5-6-3-3-4-5-3-5	
50	5-9-8-6-11-12-7-13-13-5	
60	5-4-4-3-3-4-4-3-3-3	
70	3-2-2-4-4-5-7-8-9-9	
80	9-9-10-9-8-9-10-9-9-7	
90	8-9-10-13-13-14-14-14-12-8	
90 - 3900	8-7-13-12-12-8-6-6-4-3	
3900 - 10	6-5-7-7-9-6-7-6-6-5	
20	6-7-5-5-7-6-10-9-12-8	
30	9-10-8-9-7-5-7-6-5-5	
40	1-8-11-12-9-8-7-7-9-8	
50	11-11-15-14-16-8-12-6-4	Trip # 3945

<u>Depth</u>	<u>Time</u>	<u>Remarks</u>
3950 - 60	5-5-8-6-4-10-12-12-13-15	
70	15-1-10-10-10-8-7-7-5-4	
80	4-4-4-5-13-11-11-10-10-10	Circ. 1 1/2 hr. @ 3975; new bit 3975
90	7-5-11-11-10-10-10-4-4-3	
90 - 4000	5-4-4-7-7-10-9-4-4-4	
4000 - 10	5-4-3-3-3-3-3-5-5	Circ. 1 1/2 hr. @ 4010; new bit @ 4010
20	7-8-8-7-9-6-9-10-10-10	
30	6-5-7-8-5-10-10-8-4-4	
40	4-5-5-5-7-7-4-8-9-9	
50	15-14-12-12-11-12-11-12-11-11	
60	12-13-12-11-12-13-12-13-12-12	
70	13-13-13-14-14-14-13-11-7-5	
80	9-6-3-3-4-4-7-9-9-9	
90	11-12-14-13-11-13-12-12-11-11	
90 - 4100	10-12-12-14-12-10-8-3-5-10	
4100 - 10	10-10-4-3-6-12-9-8-8-9	
20	9-10-7-7-7-9-5-5-5-7	
30	9-13-13-7-5-5-4-3-3-3	Trip 4123
40	3-2-2-2-2-2-6-7-9-10	
50	8-6-5-5-4-4-3-3-6-7	
60	12-12-5-5-5-4-7-9-10-10	
70	10-10-5-5-9-9-10-11-8-9	
80	11-7-7-7-5-13-7-9-9-8	
90	11-15-14-16-14-14-14-14-15-14	
90 - 4200	14-16-16-14-16-16-14-14-9-13	Top Mississippi 4198
4200 - 10	12-10-8-9-8-4-5-5-5-5	Circ. 1 1/2 hr. 4210; new bit 4210
20	3-4-4-3-4-3-3-4-5-4	
30	6-5-5-5-4-6-6-6-6-5	
40	5-7-6-5-5-4-7-5-6-6	
50	6-5-7-5-11-11-8-10-11-11	Top Kinderhook 4246
60	11-10-8-3-5-3-4-5-6-7	
70	8-4-4-10-10-5-6-10-9-11	
80	7-8-9-11-10-9-8-8-10-11	
90	11-11-11-11-11-11-9-11-9	Circ. 1 1/2 hr. @ 4270; new bit 4270
90 - 4300	9-11-8-7-6-6-6-6-6-10	Kelly Corr. 4285 = 4287
4300 - 10	10-6-5-4-5-5-4-4-4-4	Top Viola @ 4302
20	5-4-7-7-5-4-6-4-5-5	
30	6-5-4-4-5-4-5-5-4-7	
40	3-4-5-4-5-4-5-5-8-9	
50	8-9-8-6-6-5-5-5-8-6	
60	8-8-6-4-5-5-5-6-6-6	
70	7-8-10-10-11-13-14-13-13-13	Top Simpson 4342; circ. 1 1/2 hr @ 4350
80	12-12-12-11-13-11-5-4-5-4-	
90	4-4-4-4-5-5-6-6-6-9	
90 - 4400	8-6-5-5-5-5-5-5-5-5	Circ. 1 1/2 hr. @ 4387; new bit 4387
4400 - 10	7-10-8-5-5-5-3-3-4-3	
20	2-2-4-5-5-10-5-5-5-5	
30	10-5-5-5-4-5-4-4-7-6	
40	6-6-7-8-9-8-8-7-7-6	
50	5-6-5-6-7-8-7-9-7-7	Circ. 1 1/2 hr. 4430
60	9-9-9-9-7-9-10-10-12-10	Top Arbuckle 4432; circ. 1 1/2 hr @ 4435; Circ. 1 1/2 hr. @ 4440
70	11-11-15-12-12-15-15-15-13-12	
80	13-9-3-6-9-9-16-13-14-16	Circ. 1 1/2 hr @ 4480
		R.T.D. 4480