FORMATION LOG

R. W. Rine #3 Jo.
App. NE NW SW; 33-26S-13W
Pratt County, Kansas
Elevation: 1961 Derrick floor

8 5/8" surface csg. 848; 240 sacks cement with 68 sacks strata-crete & 4% gel.

5½" 100 sacks cement with 100 # s.s casing. 4480'; 250 sacks cement.

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

Depth	Formation Description	Remarks
0 - 175	Surface sand	Drillers log 0-3500'
175 - 240	Red bed & shale.	
240 - 850	Red bed and anhydrite	
850 - 1400	Shale, shells and red bed.	
1400 - 1625	Shale and salt.	
1625 - 1925	Shale	
1925 - 2045	Limestone and shale	
2045 - 2205	Shale	
2205 - 2610	Limestone and shale.	
2610 - 2841	Shale	
2841 - 3200	Limestone and shale	
3200 - 3370	Shale	
3370 - 3500	Limestone and shale.	
3500 - 3595	Limestone, tan to brown, finely crystalline to sub-crystalline; fair spotted vugular and inter-crystalline porosity.	Sample log 3500 - T.D. No show
3595 - 3605	Shale gray to gray-black, fissile; streak limestone, brown, sub-crystalline to dense.	
3605 - 3615	Limestone, gray brown, mottled, sub-crystalline, fossiliferous.	
3615 - 3620	Shale, brown-black; soft, finely micaceous.	Heebner.
3620 - 3626	Limestone, brown-gray, sub-crystalline to dense.	Leavenworth
3626 - 3634	Shale, gray-green and brown	Snyderville
3634 - 3655	Limestone, white to buff, finely crystalline to sub-crystalline; streak gray-green and brown shale 3643-50.	Toronto
3655 - 3693	Shale, brown and brown-gray, silty	Top Douglas 3655
3693 - 3717	Sand, light to dark gray, fine, angular, micaceous; streaks gray-black shale.	
3717 - 3776	Streaks sand, as above, gray to tan, argillaceous; mostly shale, as above.	
3776 - 3780	Limestone, gray-brown to chocolate-brown, dense.	Brown Lansing 3776
3780 - 3799	Limestone, as above; streaks brown and gray shale.	
3799 - 3818	Limestone, cream to buff, finely crystalline.	Top Lansing 3799
3818 - 3821	Shale, brown and gray-green.	
3821 - 3840	Limestone, gray to buff, sub-crystalline	Fair odor and trace

(2) Formation Log: Rine #3 Je.

Depth	Formation Description	Remarks
3821 - 3840	Spotted fine vugular porosity.	free oil.
3840 - 3852	Limestone, brown, dense, streak shale, as above.	
3852 - 3866	Limestone, gray to tan, sub-crystalline crypto-oolitic; fair vugular porosity.	Trace stain.
3866 - 3890	Limestone, gray to brown, sub-crystalline to dense; streaks gray and gray-green shale; chert, blue-gray, opaque to semi-translucent.	
3890 - 3897	Limestone, gray, finely sucrose, finely crystalline; spotted fine vugular porosity.	Spotted stain.
3897 - 3903	Limestone and shale streaks, as above.	
3903 - 3915	Limestone, tan, finely crystalline to dense; fair vugular porosity.	Fair stain.
3915 - 3920	Limestone, gray to brown, dense; chert, gray, opaque.	
3920 - 3930	Limestone, gray to tan, sub-crystalline, some oolitic; some vugular and oolicastic porosity; chert, gray, opaque.	Trace stain.
3930 - 3936	Limestone, and shale streaks as above.	
3936 - 3940	Limestone, porous, as above.	No show
3940 - 3952	Limestone, gray to tan, finely crystalline; streaks gray-green and brown shale.	
3952 - 3960	Limestone, gray to brown, sub-crystalline, oolitic; broken oolicastic porosity.	Good stain
3960 - 3965	Limestone, dense, as above.	
3965 - 3974	Limestone, as above;good honeycomb porosity.	Good stain
3974 - 3980	Limestone, gray-brown, dense; chert, gray, opaque to translucent, nodular.	
3980 - 3989	Limestone, light gray, finely sucrose, crypto-oolitic; spotted vugular porosity.	Good spotted stain.
3989 - 3993	Limestone, dense, as above.	
3993 - 3997	Limestone, porous; as above.	Good stain.
3997 - 4000	Limestone, dense, as above.	
4000 - 4007	Limestone, gray to tan, sub-crystalline to finely crystalline; good vugular porosity.	Fair spotted stain
4007 - 4018	Mostly shale, gray-green and brown; streaks limestone, gray to brown, dense.	
4018 - 4023	Limestone, gray, sub-crystalline; good spotted vugular porosity.	Spotted stain.
4023 - 4033	Limestone, dense, as above; shale, as above.	
4033 - 4042	Limestone, gray, sub-crystalline, granular; some fair vugular porosity.	Spotted stain.
4042 - 4080	Limestone, gray to brown, finely crystalline to dense, mottled; Trace gray, opaque chert; streaks shale, as above.	
4080 - 4084	Limestone, gray, sub-crystalline, finely sucrose; spotted vugular porosity.	No show
4084 - 4124	Limestone gray-brown, sub-crystalline, mottled; shale, gray-green and brown.	Base Kansas City 4124

(3) Formation Log: R.R. Rine #3 Jo.

Depth	Formation Description	Remarks
4124 - 4148	Limestone, gray-brown, sub-crystalline, mottled; much gray-green and brown shale; chert, gray, opaque and tan, semi-translucent.	Harmaton 4124
4148 - 4156	Increase in limestone, as above.	
4156 - 4175	Limestone gray to tan, medium to coarsely crystalline; increase in chert, as above; shale streaks as above.	
4175 - 4188	Limestone, cream to gray, sub-crystalline, to finely crystalline, mottled; chert, gray, opaque to semi-translucent, fossiliferous; chert, salmon, vitreous;.	
4188 - 4197	Streaks gray-green shale, as above; limestone and chert, as above.	
4197 - 4231	Chert, white, opaque, vitreous; chert, salmon to pink, vitreous; chert, white, devitrified; chert, amber to salmon to pearl-gray, translucent, vitreous; chert, white to brown, devitrified; chert, white vitreous, oolitic; streaks gray-green shale.	Top Mississippi 4197 Spotted stain, trace oder and free oil, D.S.T.
4231 - 4243	Shale, gray-green; streaks gray to brown limestone.	Kinderhook.
4243 - 4271	Chert, white opaque vitreous; much brown and white mottled, semi-devitrified chert; chert, white to brown, devitrified.	Top Viola 4243 Trace oder; fair spotted stain. D.S.T.
4271 - 4287	Chert, as above; streaks gray to tan sub-crystalline to finely crystalline limestone.	Stain, as above.
4287 - 4295	Shale, gray-green to gray-black, micaceous; streaks gray, sub-crystalline, argillaceous limestone.	
4295 - 4338	Chert, white, opaque, vitreous; some, very highly, fractured, soft; chert, gray to white, vitreous, opaque, some vugular porosity; chert, brown, tan and white, semi-devitrified, soft; streaks tan, sub-crystalline limestone.	Lower Viola Chert Spotted stain; spotted free oil.
4338 - 4342	Limestone, white, chalky, finely crystalline, sandy:	
4342 - 4345	Shale, bright green, sandy.	Simpson
4345 - 4362	Sand, white to tan, medium, sub-rounded, to sub-angular, some dolomitic; streaks gray-green, interfingered shale.	Spotted saturation
4362 - 4377	Dolomite, tan to brown, sub-crystalline, sandy; thin streaks sand and shale, as above; some vugular porosity.	Spotted stain
4377 - 4396	Streaks dolomite, sand and shale, as above.	
4396 - 4401	Sand, dolomitic, as above	Fair spotted saturation
4401 - 4431	Dolomite, brown, finely crystalline to dense; shale bright green to green-gray sandy; streaks sand & sandy shale, as above.	

(4) Formation Log: R. W. Rine #3 Jo.

Depth	Formation Description	Remarks
4431 - 4465	Dolomite, tan, finely crystalline, rhombohedral, fair vugular porosity; dolomite, tan, sub-crystalline with very large oolites; good oolicastic porosity chert, gray to tan, opaque, oolitic.	Arbuckle Fair to good oder and show free oil.
4465 - 4478	Dolomite, cream to tan, sub-crystalline to finely crystalline; good spotted vugular porosity; some chert, as above.	Fair show free oil.
4478 - 4481	Dolomite, tan, coarsely crystalline; good vugular porosity.	Fair show free oil
4481 - 4488	Dolomite, tan to brown, sub-crystalline to dense; some white oolitic chert.	
4488 - 4490	Shale, gray-green.	
4490 - 4503	Dolomite, cream to tan to gray, medium crystalline to sub-crystalline, chert, gray, opaque.	
4503	Rotary Total Depth	

D.S.T. 4187-4205; open 10 minutes, gas to surface in 2½ minutes (estimated 5 M.C.)
Recovered 60' clean oil
Bottom hole pressure 1290# (15 minutes)

D.S.T. 4205-35; open 45 minutes; good blow. throughout test.
Recovered 60' gas cut mud and 120' gas
Bottom hole pressure 220# (15 minutes)

D.S.T. 4243-65; open 45 minutes; strong blow. throughout. Gas to surface in 42 minutes.
Recovered 90' gas cut mud.
Bottom hole pressure 750# (15 minutes)
Initial flowing pressure 23#
Final flowing pressure 70#

D.S.T. 4287-4330; open 23 minutes; very strong blow which weakened to strong blow at end of test. Gas to surface in 4 minutes; flowed oil in 20 minutes.
Bottom hole pressure 1270# (15 minutes)
Initial flowing pressure 440#
Final flowing pressure 765 #

D.S.T. 4440-63; open 1 hour; strong blow throughout test.
Recovered 2010' gassy oil and water (8% water) and 120' salt water.
Bottom hole pressure 1350# (15 minutes)
Initial flowing pressure 140#
Final flowing pressure 880#

Samples examined and log compiled by Willis Jack Magathan

TIME LOG

WENDELL G. JOHNS

R. W. Rine #3 Jo.
Approximately NE/NW/SW; 33-26S-13W
Pratt County, Kansas
Elevation: 1961 Derrick floor

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

1' time log starts 3500'

Depth	Time	Remarks
3500 - 10	2-1-2-2-2-3-2-2-1-2	
20	2-2-2-3-3-2-2-2-3-2	
30	3-3-3-4-3-2-3-3-3-2	
40	2-2-2-2-3-2-2-2-2-2	
50	2-2-3-3-3-2-2-3-3-3	
60	3-3-1-2-2-1-2-1-1-1	
70	1-1-1-1-2-2-2-1-2-2	
80	3-3-2-1-1-2-2-2-1-1	
90	1-1-1-1-1-1-½-½-1-1	
3590 - 3600	2-2-2-2-2-1-1-2-2-1	
3600 - 10	2-2-2-2-3-3-2-2-2-3	
20	3-3-3-3-3-2-2-1-1-1	Heebner 3615
30	2-2-3-3-2-2-1-1-1-2	
40	2-2-2-2-2-2-3-3-3-3	Toronto 3634
50	3-3-3-2-2-2-3-3-2-2	
60	3-4-4-4-3-3-3-3-3-2	
70	3-3-3-3-3-2-2-2-2-2	
80	2-2-1-1-2-2-2-1-1-2	
90	5-5-4-3-3-2-2-2-3-3	Trip 3682
3690 - 3700	3-3-4-3-3-3-3-2-3-4	
3700 - 10	5-5-6-3-2-2-2-1-1-2	
20	2-1-2-1-2-3-4-5-5-5	
30	5-6-6-6-6-6-5-4-4-4	
40	5-4-4-5-5-5-6-6-5-4	
50	4-4-5-5-4-5-5-4-4-5	
60	3-5-4-5-6-4-3-2-2-2	
70	3-5-3-3-3-4-3-2-3-2	
80	2-2-4-4-3-3-4-4-4-5	Brown Lansing 3776
90	4-5-5-4-4-5-5-6-5-5	
3790 - 3800	4-4-5-6-4-3-3-3-3-4	
3800 - 10	5-4-4-3-4-4-4-4-4-4	Lansing 3799
20	4-4-6-4-6-7-6-5-4-3	
30	4-5-7-6-5-2-2-3-4-3	
40	4-3-3-2-3-3-3-3-3-3	
50	5-5-5-7-9-9-10-10-9-5	
60	3-6-4-3-2-3-4-1-2-3	
70	2-2-2-2-3-4-5-7-3-2	Trip 3868
80	3-3-3-3-3-3-3-3-3-3	

(2) Time Log: R. W. Rine #3 Jo.

Depth	Time	Remarks
3880 - 90	3-3-6-6-6-6-5-4-5-3	
3890 - 3900	2-4-4-5-5-4-3-4-4-4	
3900 - 10	4-4-5-3-4-4-4-3-4-4	
20	3-3-3-3-3-4-6-4-6-6	
30	3-5-5-4-4-4-4-4-4-4	
40	5-5-7-10-8-4-8-6-6-7	
50	9-8-10-20-4-4-4-4-4-5	Trip 3944
60	4-4-3-4-5-5-6-7-7-7	
70	6-609-9-8-5-5-5-6-5	
80	5-5-5-6-5-6-7-6-5-5	
90	3-3-6-3-4-5-6-6-4-3	
3990 - 4000	3-4-5-4-3-3-4-4-5-3	
4000 - 10	2-1-1-1-2-2-3-3-5-4	
20	4-5-4-5-5-3-6-8-6-4	
30	4-6-3-8-5-6-6-8-10-10	
40	8-7-10-6-4-4-4-7-8-6	
50	7-8-10-4-7-8-6-6-7-6	
60	6-10-12-4-4-4-2-2-3-3	Trip 4053
70	3-4-3-3-3-4-4-4-3-3	
80	3-3-4-3-4-5-3-2-2-3	
90	4-3-3-3-5-5-4-4-5-6	
4090 - 4100	4-4-3-5-5-7-6-6-5-5	
4100 - 10	5-3-5-6-6-6-5-5-6-7	
20	3-8-5-4-5-5-9-8-5-6	
30	6-5-5-8-6-9-9-10-8-8	Base Kansas City 4124
40	5-4-4-4-4-6-5-6-8-9	
50	9-8-10-7-6-6-6-7-8-8	Trip 4143
60	6-6-5-7-9-9-7-8-10-11	
70	10-7-4-4-5-5-6-10-8-7	
80	8-4-4-3-4-8-5-9-7-6	
90	7-10-10-7-9-9-11-9-9-9	
4190 - 4200	5-5-7-7-8-8-10-6-7-7	Mississippi 4197
4200 - 10	7-9-11-10-11-3-3-4-4-4	Circ 1½ hr. 4205 New bit 4205
20	4-3-3-4-4-4-3-3-3-3	
30	3-3-3-3-5-5-3-3-4-4	Kinderhook 4231 Circ. 1½ hr. 4235 Viola 4243
40	5-6-7-7-8-9-9-9-12-14	
50	14-10-10-5-5-3-3-2-4-3	
60	2-2-4-2-3-2-2-7-3-2	
70	3-3-2-2-3-4-2-2-2-2	Circ. 1½ hr. 4263 New bit 4263
80	3-9-9-5-10-14-10-7-9-8	
90	8-9-9-7-7-6-7-5-4-4	
4290 - 4300	4-5-5-5-5-3-3-4-3-4	
4300 - 10	3-4-3-3-3-3-3-4-4-4	
20	3-3-5-5-5-5-8-5-5-4	
30	5-5-5-4-6-6-5-3-5-6	Circ. 1½ hr. 4330 New bit 4330
40	4-4-3-4-4-4-4-5-8-8	
50	8-10-6-5-6-6-7-6-7-7	Simpson 4342
60	7-6-7-7-7-7-7-7-5-5	

(3) Time Log: R. W. Rine #3 Sol

Depth	Time	Remarks
4360 - 70	6-6-10-10-11-10-10-10-11-10	
80	9-9-9-10-10-12-18-11-8-5	
90	5-6-8-10-10-8-7-7-7-7	
4390 - 4400	8-8-8-7-7-6-7-8-7-7	Trip 4393
4400 - 10	6-5-7-4-4-5-4-5-4-4	
20	4-4-5-5-5-4-3-3-4-6	
30	7-6-7-7-7-7-6-6-4-3	
40	2-3-6-5-3-5-5-5-5-6	Arbuckle 4431 Circ. 1½ hrs. 4434
50	5-5-5-5-5-5-4-6-6-6	Circ. 1½ hrs. 4441
60	4-4-6-7-7-6-7-5-6-6	Circ. 1½ hrs. 4450; Circ 1½ hrs. 4460
70	5-4-11-4-4-7-5-6-7-6	Circ 1½ hrs. 4463 New bit 4463
80	6-4-4-5-5-4-7-7-2-2	
90	4-4-6-7-10-6-7-9-11-7	Circ 1½ hrs. 4485
4490 - 4500	10-7-7-7-7-8-9-10-8-8	
4500 - 3	10-10-9	Circ. 1½ hrs. 4503
4503	R.T.D.	

Time log condensed by Willis Jack Magathan