

FORMATION LOG

R. W. Rine #2 Briggman "B"
SE NW SW; 35-26S-13W
Prett County, Kansas
Elevation: 1940 Kelly bushing

13 3/4" conductor csg; 725 sacks
8 5/8" surface csg; 700 sacks
5 1/2" casing;
Comm: 5-17-55
Comp:

Note: All measurements are from the top of the Kelly bushing.

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
0 - 240	Clay - sand	Drillers log 0-3500'
240 - 785	Red bed and shale	
785 - 815	Anhydrite	Stone Corral, drillers top
815 - 940	Shale and shells	
940 - 1480	Shale	
1480 - 1935	Shale and shells	
1935 - 2015	Broken limestone and shale	
2015 - 2325	Limestone and shale	
2325 - 2465	Shale	
2465 - 2900	Shale and limestone streaks	
2900 - 3500	Limestone and shale	
3500 - 12	Limestone, gray to white to tan, chalky to finely crystalline, porous	Sample log 3500' to R.T.D., No show 3500-12
3512 - 18	Limestone brown, dense	
3518 - 21	Shale, gray and brown	
3521 - 53	Limestone, brown, sucrose, de- mitic; porous 3521-25 and 3529-53	Some oil stain
3553 - 59	Shale, brown and gray	
3559 - 71	Limestone, gray, dense	Porous on electric log, no porosity detected in samples
3571 - 77	Shale, soft, gray-black to brown- black	Hebner
3577 - 82	Limestone, dark blue-gray to gray- brown, dense, fossiliferous	Leavenworth
3582 - 93	Shale, green-gray to gray, silty; trace fine, gray, micaceous sand	Snyderville
3593 - 3610	Limestone, white, chalky to light tan, clean, dense to sucrose; gray shale 3597-3604	Toronto
3610 - 35	Shale, green-gray, trace brown; trace fine shaly sand; streak limestone 3620-22	Top Douglas 3610
3635 - 72	Sand, silver-gray, fine to sub- medium, angular, micaceous; some greenish-white, medium, angular sand	No show

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Formation Log
Rine #2 Briggeman "D"

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
3672 - 3736	Shale, green-gray, some black shale; streaks sandy as above	
3736 - 44	Limestone, dark brown-black to gray-brown, dense, fossiliferous-	Top Brown Line 3736
3744 - 60	Shale, gray; streaks limestone, as above	
3760 - 85	Limestone, light gray-tan, finely crystalline to dense, fossiliferous; streaks gray and brown shale	Top Lansing 3760
3785 - 3801	Limestone, brown to black, dense to crystalline, oolitic and fossiliferous; trace porosity	Spotted stain, very slight trace free oil
3801 - 19	Limestone, gray and tan to brown, dense; streaks gray shale	
3819 - 29	Limestone, tan to light gray to white, subcrystalline to crystalline; fair vugular porosity	Spotted stain, trace free oil
3829 - 32	Shaly limestone	
3832 - 34	Limestone, brown, dense, fossiliferous, good pinpoint porosity; some gray and brown, opaque chert	Trace gas, possible trace free oil; saturated
3834 - 49	Limestone, as above, no porosity; chert, as above	
3849 - 67	Shale, dark gray to green-gray; streaks gray to brown, dense, limestone	
3867 - 3909	Limestone, gray to tan, dense to subcrystalline some pinpoint and vugular porosity 3867-79, 3883-94 & 3897-3905; much gray, subvitreous chert	Spotted staining
3909 - 15	Shale, gray and green-gray, trace brown	
3915 - 17	Limestone and shale, as above	
3917 - 19	Limestone, gray, coarsely oolitic; good oolitic and vugular porosity	Trace free oil, good stain, much gilsonite; D.S.T. 3908-25
3919 - 25	Limestone, light gray, chalky; chert, gray, opaque	
3925 - 31	Shale, gray	
3931 - 37	Limestone, light tan, finely crystalline, oolitic, very fossiliferous; fair vugular porosity	Spotted stain, slight trace free oil

Formation Log
Rine #2 Briggsmen "B"

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
3937 - 47	Limestone, tan, dense	
3947 - 49	Shale, gray-brown	
3949 - 53	Limestone, light tan to light brown, dense, oolitic, very fossiliferous; good vugular porosity 3953-55	Trace free oil, fair spotted stain
3953 - 57	Limestone, gray to tan, dense, spotted large vugs and oolite	No show
3987 - 94	Shale, gray and brown	
3994 - 98	Limestone, brown, dense, good vugular porosity	Good stain, fair show free oil and odor; D.S.T. 3987-99
3998 - 4016	Limestone, gray to brown-gray, dense	
4016 - 20	Limestone, brown, dense, trace vugular porosity	Trace stain
4020 - 42	Limestone, as above trace gray opaque chert; streak green and brown shale 4034-36	
4042 - 46	Limestone, gray, fair vugular porosity 4042 - 44 and 4046-48	Very slight trace free oil; D.S.T. 4039-72
4048 - 66	Limestone, gray to dark gray, dense; chert, gray to white, vitreous, opaque to translucent; streak gray and brown shale	
4066 - 74	Limestone, dark gray-to brown, dense to subcrystalline, fossiliferous fair pinpoint to vugular porosity 4066-68 and 4070-74	Fair show free oil, slight odor.
4074 - 79	Shale, gray to green-gray	
4079 - 86	Limestone, gray and brown, dense; trace gray, opaque chert	Base Kansas City 4086
4086 - 4102	Shale, gray and green; some brown-black, silicified limestone; some green silty shale	Top Marston 4086
4102 - 08	Limestone, tan to salmon to gray, fossiliferous; trace gray-brown, semi-translucent chert.	
4108 - 11	Shale, as above	
4111 - 53	Limestone, as above; some limestone, light gray, subcrystalline to finely micaceous, dolomitic; chert, gray to white, opaque to translucent, figured, much chert, as above streaks pale green to gray-green and maroon shale; streaks porosity 4120-28 and 4147-50	No show

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Formation Log
Line #2 Briggman "B"

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
4153 - 77	Shale, dark gray to green-gray; streaks dark tan to brown limestone toward bottom	
4177 - 91	Chart, white, opaque, vitreous to devitrified, some translucent, figured, chert, smoky, translucent, vitreous.	Top Mississippi 4177
4191 - 4204	Shale, silver-gray to gray-green finely micaceous	Top Kinderhook 4191
4204 - 13	Chart, salmon to cream to light tan, vitreous, semi-translucent; streaks gray, finely crystalline to sub-crystalline limestone; some white to brown, devitrified, opaque chert; porous 4204-07	Fair odor, slight stain, no free oil D.S.T. 4198-4218
4213 - 18	Mostly shale, dark gray to green gray; streaks tan to brown sub-crystalline limestone	
4218 - 34	Chart and limestone, as above; porous 4231 - 34	Slight stain
4234 - 37	Shale, as above	
4237 - 76	Chart, white, opaque, vitreous, some vuggy; chert, salmon to light amber, vitreous, semi-translucent; chert, brown and white, opaque, devitrified; some pink to white, medium to coarsely crystalline limestone	Top Viola 4237; good stain, no free oil; D.S.T. 4235-55; D.S.T. 4255-85
4276 - 79	Limestone, white, medium crystalline, cherty; large, included, frosted sand grains; streaks green-black shale	
4279 - 89	Shale, pale green to bright blue-green, sandy	Top Simpson 4279
4289 - 93	Sand, white to tan, fairly well sorted, dolomitic, subrounded to angular, tight	
4293 - 95	Shale, as above	
4295 - 99	Sand as above, porous	Slight show free oil, fair odor; D.S.T. 4280-4320
4299 - 4308	Dolomite, tan to brown to gray, finely sacrose, sandy; very little porosity	Trace gilsonite

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Formation Log
Rins #2 Briggman "B"

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
4308 - 11	Shale, as above	
4311 - 20	Sand, tan, subangular to subrounded, fairly well sorted, glassy; porous 4313-15 & 4317-18	Fair spotted show free oil, fair odor
4320 - 50	Shale, gray-green to dark gray; some pale green, slightly sandy shale	
4350 - 56	Limestone, gray to brown, sub- crystalline, dolomitic, very sandy, grading into sand, tan to white, very argillaceous	
4356 - 88	Shale and thin streaks dirty sand, as above	
4388 - 90	Dolomite, cream to gray, crypto- colitic, subcrystalline	Top Arbuckle 4388
4390 - 94	Dolomite, tan to buff, very finely crystalline; spotted poor pin- point porosity	Trace odor, slight show free oil; D.S.T. 4390-4400
4394 - 95	Dolomite, gray to tan, coarsely crystalline, rhombohedral	
4395 - 98	Dolomite, tan, finely crystalline, rhombohedral; fair vugular por- osity, poor permeability	Slight show free oil, trace odor
4398 - 4400	Dolomite, gray, subcrystalline to nearly dense; trace gray and tan, mottled chert.	
4400	Rotary Total Depth	
4422	Total Depth	

Drill Stem Test Data: The following drill stem tests were taken on the #2 Briggman "B".

Lansing-Kansas City:

- D.S.T. #1 3908-25; Open 1 hour-good blow throughout test.
Recovered 630' gas
65' slightly oil cut mud
Initial Flow Pressure: 35 PSI
Final Flow Pressure: 44 PSI
Bottom Hole Pressure: 416 PSI (20 min.-still building rapidly.)
- D.S.T. #2 3987 -99; Open 1 hour- very small blow for 25 minutes. Flushed tool
after 10 minutes.
Recovered 30' mud
Bottom Hole Pressure: 95 PSI (30 min. still building up slowly)

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Formation Log
Rine #2 Briggsman "B"

Drill Stem Test Data:
Lansing-Kansas City: continued

D.S.T. #3 4039 - 72; Open 1 hour small blow which died in 45 minutes
Recovered: 30' mud-few spots oil on top tool
Bottom Hole Pressure: 84 PSI (30 minutes)

Kinderhook:

D.S.T. #4 4198 - 4218; Open 1 hour-weak blow which increased to fair blow by
end test.
Recovered: 300' gas
30' very slightly oil cut mud
Initial Flow Pressure: 15 PSI
Final Flow Pressure: 15 PSI
Bottom Hole Pressure: 135 PSI (20 min. - still building up rapidly)

Viola:

D.S.T. #5 4231 - 55; Open 1 hour-good blow throughout test.
Recovered 65' mud
Bottom Hole Pressure: 263 PSI (30 min. - still building slowly)

D.S.T. #6 4255 - 85; Open 1 hour-strong blow throughout test.
Recovered 2700' gas
125' heavily oil and gas cut mud
60' very heavily oil and gas cut mud
540' slightly oil cut salt water
Initial Flow Pressure: 44 PSI
Final Flow Pressure: 320 PSI
Bottom Hole Pressure: 827 PSI (30 min.)

Simmons:

D.S.T. #7 4280-4320; Open 1 hour-strong blow throughout test, gas to surface in
20 minutes.
Recovered: 130' very heavily oil and gas cut mud
120' very muddy gas cut oil
60' slightly muddy gas cut oil
65' clean gassy oil
Initial Flow Pressure: 40 PSI
Final Flow Pressure: 130 PSI
Bottom Hole Pressure: 1050 PSI (30 min.)

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Formation Log
Rine #2 Briggman "B"

Drill Stem Test Data:

Artificial:

D.S.T. #8 4390 - 4400: Open 1 hour-small blow throughout test.
Recovered 30' slightly oil cut mud
Initial Flow Pressure: 15 PSI
Final Flow Pressure: 28 PSI
Bottom Hole Pressure: 190 PSI (20 min. - still building rapidly)

Samples examined and log compiled

by

Wendell S. Johns & Willis Jack Magathen

WENDELL S. JOHNS

TIME LOG

R. W. Rine #2 Briggeman "B"
SE NW SW; 33-26S-13W
Pratt County, Kansas
Elevation: 1940 Kelly bushing

Note: All measurements are from the top of the Kelly bushing.

Depth	Time	Remarks
3500 - 10	5-5-4-4-4-4-3-3-4-4	
20	6-6-4-6-7-7-6-5-5-5	
30	3-5-3-3-4-6-7-7-4-4	
40	3-2-2-2-2-2-3-2-3-2	
50	4-6-7-5-6-6-3-4-5-3	
60	4-5-3-3-3-6-6-5-7-12	
70	6-9-6-7-7-9-10-7-8-11	
80	5-6-4-4-3-2-2-8-13-13	Reebner 2571-77
90	3-4-4-3-5-4-6-5-5-6	
90 - 3600	5-6-4-3-8-7-6-5-6-6	
3600 - 10	5-5-6-5-10-10-10-8-9-8	
20	7-8-9-7-6-6-7-6-7-7	
30	10-6-4-4-5-3-3-4-4-5	
40	4-4-4-5-5-6-8-7-6-6	
50	6-6-4-2-4-4-5-2-2-2	
60	3-3-2-3-2-3-3-3-2-3	
70	1-3-5-2-5-4-2-2-2-3	
80	3-4-4-5-3-3-3-4-4-3	
90	5-4-3-7-8-5-5-8-3-3	Trip 3688; OWV
90 - 3700	3-3-3-5-3-3-4-3-5-3	
3700 - 10	4-4-3-3-2-5-3-4-2-3	
20	2-1-2-2-3-2-4-2-2-2	
30	2-3-2-3-3-3-4-3-2-2	
40	2-3-2-2-2-2-6-6-6-7	Top Brown Line 3736
50	6-6-4-4-6-6-4-4-4-5	
60	3-2-2-4-4-4-4-4-3-5	Top Lansing 3760
70	6-6-5-5-5-6-8-6-9-9	
80	8-9-8-8-10-9-6-10-10-7	
90	7-3-4-12-8-8-6-4-5-5	
90 - 3800	5-5-5-5-5-4-4-6-5-6	
3800 - 10	8-10-8-10-10-11-12-11-11-3	
20	4-3-7-7-9-6-5-5-4-4	
30	3-5-5-4-5-5-4-6-8-6	
40	9-7-9-8-8-9-12-8-13-9	
50	10-11-13-9-12-13-14-11-10-7	

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Time Log

Rino #2 Briggaman "B"

Depth	Time	Remarks
3850 - 60	11-9-14-12-13-13-11-17-15-17	
70	12-15-11-9-6-4-7-5-7-5	
80	4-4-4-4-4-2-3-5-5-12	
90	11-9-11-8-6-7-5-5-6-7	
90 - 3900	7-6-7-5-12-14-6-6-11-7	
3900 - 10	8-9-13-16-15-19-19-19-22-12	
20	9-9-8-9-9-14-11-3-3-12	
30	13-17-18-17-14-7-9-12-9-6	Circ. 1 1/2 hr. 3925 D.S.T. 3908-25; New W 7 3925
40	5-6-4-5-6-5-6-10-8-14	
50	14-10-12-15-9-9-9-5-3-9	
60	10-9-9-5-7-8-8-10-6-7	
70	5-9-11-12-5-5-5-7-8-9	
80	8-9-7-11-9-10-9-10-12-10	
90	6-6-4-7-8-8-9-5-4-6	
90 - 4000	5-6-7-8-11-5-4-3-4-5	Circ. 1 1/2 hr 3999; D.S.T. 3987-99 New W 7 3999
4000 - 10	5-8-9-9-8-11-10-11-10-10	
20	12-10-10-11-10-9-11-10-9-9	
30	10-10-12-9-10-12-14-14-12-15	
40	9-12-10-10-4-8-11-11-11-11	
50	9-9-10-8-9-8-5-5-11-11	
60	15-14-13-13-12-15-14-16-8-8	
70	11-13-9-9-7-10-9-9-11-14	
80	12-10-11-11-10-8-8-7-9	Circ. 1 1/2 hr. 4072; D.S.T 4039-72 Base Kansas City 4086
90	9-9-9-11-11-8-6-7-6-8	
90 - 4100	7-6-5-4-3-5-5-5-6-5	
4100 - 10	7-5-7-8-11-9-11-11-10-8	
20	11-9-10-10-12-10-13-16-12-15	
30	10-11-6-11-11-8-12-10-8-11	
40	9-13-10-8-11-10-9-10-11-10	
50	14-15-10-14-15-8-6-8-7-9	
60	9-15-11-11-11-10-6-9-10-9	
70	7-8-7-9-9-10-10-11-13-11	
80	12-10-13-11-10-10-11-6-2-5	Top Mississippi 4177
90	4-4-3-5-3-3-3-3-5-6	
90 - 4200	7-16-14-14-15-16-14-14-13-10	Top Kinderhook 4191

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Time Log

Rine #2 Briggeman "B"

<u>Depth</u>	<u>Time</u>	<u>Remarks</u>
4200 - 10	8-6-3-8-6-5-8-11-8-8	
20	11-12-8-9-10-13-30-42-9-11	Circ. 1 hr. @ 4219 D.S.T. 4218-4218 New W7R @ 4218
30	12-15-13-13-15-13-13-13-15-12	
40	12-13-10-11-7-6-5-4-5-4	Top Viola 4237
50	4-3-4-3-6-3-4-3-3-5	
60	4-3-4-3-5-4-3-6-6-4	Circ. 1 hr. 4255 D.S.T. 4231-55
70	3-5-5-6-7-9-7-9-10-12	
80	15-11-11-8-12-10-14-22-27-19	Top Simpson 4279
90	20-17-13-16-16-6-7-5-7-7	Circ. 1 1/2 hr. 4285 D.S.T. 4255-85 New W7 4285
50 - 4300	6-8-3-5-5-8-3-4-9-9	
4300 - 10	15-13-13-10-8-7-9-10-9-9	
20	11-9-8-6-10-7-8-8-9-10	Circ. 1 hr 4320 D.S.T. 4280-4320 New W7R 4320
30	8-9-13-11-11-9-12-7-10-8	
40	8-6-8-8-7-8-7-6-9-8	
50	13-10-7-8-9-8-12-13-10-13	
60	12-10-11-11-10-13-11-11-13-10	
70	10-10-10-14-11-10-11-10-11-12	
80	11-12-11-12-11-13-14-12-11-11	
90	12-11-10-13-13-11-12-13-21-19	Top Arbuckle 4388 Circ. 1 1/2 hr. 4390
90 - 4400	17-17-21-23-19-15-19-15-18-21	Circ. 1 hr. 4400 D.S.T. 4390-4400 R.T.D. 4400

Time Log Condensed

by

Johns & Magathan