

Computer inverted
 Schafer & Ross #1 Seidel
 NE NE NW; 19-27S-12W
 Pratt County, Kansas
 Elevation: 1879 derrick floor

WENDELL S. JOHNS

Comm: 12-9-52
 Comp:
 8 5/8" surface casing 357'
 5 1/2" casing 4350'

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

There is an 8' difference between drilling measurements and electric log measurements from 3400 to approximately 4280, i.e. 3408 electric log = 3400 drilling measurements. From 4280 to the total depth the electric log measurements are 10' deeper than the drilling measurements. The drilling measurements have been used in this formation log.

Depth	Formation Description	Remarks
0 - 10	Surface clay and sand	Drillers log 0-3400
10 - 129	Shale and sand	
129 - 190	Shale	
190 - 220	Shale and shells	
220 - 665	Red bed	
665 - 710	Andydrile	Stone Corral
710 - 790	Red bed and shale	
790 - 1230	Red bed, shale and shells	
1230 - 1820	Shale	
1820 - 1885	Shale and limestone	
1885 - 2115	Limestone	
2115 - 2300	Limestone and shale	
2300 - 2495	Shale and limestone	
2495 - 2640	Shale	
2640 - 2960	Shale and limestone	
2960 - 3315	Limestone and shale	
3315 - 3400	Limestone	
3400 - 12	Limestone, gray to tan, sub-crystalline to finely crystalline; shale gray to gray brown	Sample log 3400 to T.D.
3412 - 18	Limestone, gray to brown, mottled, finely crystalline	Fair vugular porosity, No show
3418 - 29	Shale and limestone	
3429 - 37	Limestone, porous, as above	No show
3437 - 44	Limestone and shale streaks	
3444 - 68	Limestone, tan to buff, finely sucrose, good vugular and pinpoint porosity	No show
3468 - 73	Limestone, as above, no porosity	
3473 - 80	Limestone, as above, finely oolitic; fine oolitic porosity	No show
3480 - 94	Limestone and black micaceous shale	
3494 - 3511	Limestone, brown to buff, medium crystalline to finely crystalline; good vugular porosity	No show
3511 - 16	Shale, brown-black, soft, micaceous	Heumander
3516 - 24	Limestone, gray-brown, sub-crystalline to dense	Plattsouth

(2) Formation Log: Schafer & Ross #1 Seidel

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
3524 - 28	Shale, soft, brown-black, micaceous	Heebner
3528 - 32	Limestone, gray-blue to gray-brown, sub-crystalline to dense	Leavenworth
3532 - 40	Shale, gray-green, silty; some brown	Snyderville
3540 - 61	Limestone, cream to buff, sub-crystalline to finely crystalline; much gray shale	Toronto
3561 - 3698	Mostly shale, gray and gray-green, silty; much sand, white, very fine, sub-rounded to sub-angular, micaceous; much gray-green, medium, angular, glauconitic, micaceous. Increase in shale toward bottom	Douglas
3698 - 3706	Limestone, brown, dense, hard	Top Brown Lansing 3698
3706 - 21	Much gray-brown shale; streaks limestone, as above	
3721 - 49	Limestone, cream to tan to white, sub, crystalline to finely crystalline; streak gray brown shale 3747-49	Top Lansing 3721
3749 - 63	Limestone, gray brown, sub-crystalline, mottled; spotted vugular porosity	Trace odor, fair show free oil; D.S.T.
3763 - 75	Limestone, dark gray to brown, sub-crystalline to dense, pyritic; shale, gray-brown	
3775 - 84	Limestone, gray, sub-crystalline; pinpoint porosity	Slight stain, no free oil
3784 - 3821	Limestone, gray, sub-crystalline to dense; shale, gray and brown	
3821 - 25	Limestone, tan to buff, granular; spotted vugular porosity	Possible slight show free oil
3825 - 38	Limestone, gray, sucrose, black irregular figures	
3838 - 48	Limestone, gray to buff, finely sucrose; good pinpoint porosity	Trace stain
3848 - 52	Limestone and shale streaks	
3852 - 67	Limestone, gray to buff, sub-crystalline, chalky; fair pinpoint and vugular porosity	No show
3867 - 74	Limestone, gray, sub-crystalline; chert, white to gray, opaque	
3874 - 82	Limestone, as above, much shale	
3882 - 86	Limestone, gray to tan, sub-crystalline, finely sucrose; spotted vugular and pinpoint porosity	No show
3886 - 97	Limestone, brown, dense, lithographic; much gray shale	
3897 - 3903	Limestone, gray to buff, finely sucrose, oolitic; good oolitic and vugular porosity	Fair show free oil, much dead, black oil; D.S.T.
3903 - 13	Limestone	
3913 - 19	Limestone, gray, as above; good oolitic porosity	Show oil, as above; D.S.T.

(3) Formation Log: Schafer & Ross #1 Seidel

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
3919 - 28	Limestone, brown to gray, dense; much gray and brown shale	
3928 - 37	Limestone, gray, sub-crystalline, fossiliferous; good vugular porosity	Slight show free oil, no odor
3937 - 59	Limestone, brown, dense; some gray-green and brown shale	
3959 - 68	Limestone, gray to tan, finely crystalline to sucrose, oolitic; good oolitic porosity	Good stain
3968 - 4049	Limestone, light gray to tan and brown, dense, some oolitic streaks gray-brown and black shale	
4049 - 54	Limestone, as above	Porous on electric log
4054 - 58	Limestone, as above	Base Kansas City 4058
4058 - 81	Mostly shale, green-gray, slightly silty; streak gray-dense limestone	Top Marmaton 4058
4081 - 96	Limestone, gray, dense; chert, brown, citrine, white, translucent to opaque, vitreous	
4096 - 4118	Limestone, gray to green-gray, dense to sub-crystalline; chert, as above; much shale	
4118 - 30	Chert, white, figured, translucent to opaque, trace black stain	Top Mississippi 4118 Mississippi Zone Trace gas bubbles, trace live oil; D.S.T.
4130 - 45	Mostly shale, green-gray, trace purple	
4145 - 61	Chert, white to light citrine to red, translucent, figured, vitreous; chert white to green-gray, opaque to translucent, some figured	Main Chert Zone Fair dark stain, trace gas bubbles, D.S.T.
4161 - 70	Shale, dark gray and green-gray; trace brown shale; trace green dense limestone	Top Kinderhook 4161
4170 - 93	Chert, white to brown, opaque to translucent, some figured	D.S.T.
4193 - 4225	Shale, dark gray, streaks dark gray to black limestone, granular to finely crystalline, mottled; possible trace chert	
4225 - 56	Chert, white, opaque, vitreous; chert, white, opaque to translucent, vitreous, figured; much white, opaque, non-vitreous chert	Top Viola 4225; much dark brown to black dead stain, no odor or live oil; D.S.T.
4256 - 63	Limestone, white, crystalline, sandy, some green shale	
4263 - 73	Shale, green, sandy, grading into sand, white to light tan, some pink, sub-angular to angular, calcareous; many medium-sized phosphate nodules	Top Simpson 4263 Slight spotted stain, slight trace odor; Cored 4270-4315

(4) Formation Log: Schafer & Ross #1 Seidel

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
3273 - 76	Dolomite, light tan to light brown, hard, finely crystalline to sub-crystalline, sandy, very tight	No odor or stain
4276 - 82	Dolomite, light to dark brown, sub-crystalline, slightly sandy to dense, lithographic	No odor or stain
4282 - 85	Shale, black, waxy, very sandy, slowly bleeding oil from fissures	Good odor
4285 - 88	Shale, gray-green, slightly sandy pyritic. Many phosphate nodules	
4288 - 92	Sand, white, very fine, tight, hard, quartzitic; few thin inter-fingered streaks pale green shale; fissures in sand bleeding oil	Good odor
4292 - 94	Sand, white to pale green, very shaly	No show
4294 - 4300	Sand, white to light green, very fine, quartzitic, very tight, bleeding oil from fissures	Fair saturation, good odor
4300 - 26	Sand, white, fine, sub-rounded to sub-angular, quartzitic, very hard	Slight spotted stain, No free oil
4326 - 29	Shale, dark gray-green well compacted	
4329 - 34	Sand, white to light gray, quartzitic, poorly sorted, slightly dolomitic, conglomeratic. Many shale, mudball inclusions in sand, pyritic	
4334 - 45	Shale, as above; thin streaks quartzitic sand, as above	
4345	Total Depth	

LANSING:

D.S.T. 3742-65 (Lansing Zone #1) Open 1 hour, strong blow throughout- gas to surface in 1 hour.
Recovered 190' muddy oil
90' clean oil
Bottom hole pressure 1350# (20 minutes)
Initial flow pressure 0
Final flow pressure 100#
D.S.T. 3889-3923 (Lansing Zones #7 & 8) Open 1½ hours, weak blow for 22 minutes, dead for 30 minutes, weak blow for 20 minutes.
Recovered 360' gas and 40' gas cut mud
Bottom hole pressure 0# (20 minutes)

MISSISSIPPI:

D.S.T. 4109-59; Open 1½ hrs. fair blow for 30 minutes, decreased to occasional bubble by 47 minutes, suddenly increased to good blow at 55 minutes.
Recovered 690' gas and 137' gas cut mud
Bottom hole pressure 150# (20 minutes)

(5) Formation Log: Schafer & Ross #1 Seidel

KINDERHOOK:

D.S.T. 4170-95; Open 1 hour, small blow throughout.
Recovered 40' mud, no oil, gas or water.
Bottom hole pressure 0# (20 minutes).

VIOLA:

D.S.T. 4216-58; Open 1 hour, small blow throughout.
Recovered 30' mud, no oil, gas or water.
Bottom hole pressure 0# (20 minutes).

Samples examined and log compiled by:

Wendell S. Johns and Willis Jack Magathan

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

The electric log measurements indicate that all depths on this log should be 8' deeper to a depth of 4280. From 4280 to the total depth the depths should be 10' deeper.

<u>Depth</u>	<u>Time</u>	<u>Remarks</u>
3400 - 3410	4-4-6-7-6-5-10-11-11-9	
20	8-8-5-5-5-4-5-4-5-7	
30	7-5-5-6-5-10-7-6-8-7	
40	5-5-4-4-4-4-4-6-4-5	
50	10-11-6-5-3-2-2-3-2-2	
60	2-3-5-5-4-4-4-4-3-5	
70	4-5-4-3-3-4-7-4-8-10	
80	12-12-12-4-4-3-4-3-2	
90	3-3-3-2-3-2-12-10-9-6	Kelly Corr. 3479-3480
3490 - 3500	7-7-7-6-4-4-4-3-5-4	
10	3-2-3-3-4-6-4-3-6-4	
20	5-4-10-9-8-8-10-5-8-9	
30	14-13-5-4-3-2-2-2-3-3	Trip 3522
40	6-7-4-5-4-5-4-3-5-4	Top Heebner 3524
50	3-3-4-3-3-2-1-3-2-2	
60	3-2-2-2-3-3-3-4-3-4	
70	3-2-3-3-3-2-2-1-3-2	
80	4-3-5-3-2-3-2-3-3-3	
90	3-3-2-3-2-3-2-3-3-3	
3590 - 3600	2-2-3-3-2-1-3-3-3-2	
10	3-2-2-4-2-3-2-4-2-3	
20	3-3-3-2-3-2-2-2-2-3	
30	3-2-3-3-4-3-3-3-3-2	
40	2-4-4-4-4-4-4-3-4-5	
50	6-5-6-4-5-4-6-5-4	
60	5-4-7-3-7-5-8-7-9-8	
70	6-9-7-7-7-8-8-7-8-9	
80	7-8-9-6-8-8-8-8-8-7	
90	8-9-7-8-8-7-8-8-8-8	
3690 - 3700	9-7-7-7-7-7-8-7-9-9	Top Brown Lansing 3698
10	15-11-10-9-10-14-12-11-15-9	
20	13-10-11-10-13-10-12-12-9-13	
30	13-11-11-14-15-16-12-11-12-14	Top Lansing 3721
40	12-13-14-10-11-12-12-12-12-11	
50	12-14-10-11-10-13-13-13-9-12	
60	7-7-7-7-10-6-9-8-5-8	
70	8-8-6-13-14-5-9-10-7-10	Circ. 1 hr. 3765
80	10-9-6-6-5-4-5-5-8-5	New bit 3765
90	8-10-7-7-8-9-9-11-10-10	Circ. 1 hr. 3790
3790 - 3800	10-9-10-10-10-8-7-7-9-8	

(2) Time Log: Schafer & Ross #1 Seidel

<u>Depth</u>	<u>Time</u>	<u>Remarks</u>
3800 - 3810	9-9-9-9-10-10-12-13-14-13	
20	8-9-10-9-8-9-12-7-8-12	
30	9-6-7-9-8-10-10-11-8-7	Circ. 1 hr. 3825
40	5-4-5-7-7-7-7-5-5-4	
50	4-4-3-2-3-3-4-6-9-5	
60	8-9-6-5-4-3-5-7-4-2	
70	6-5-5-5-6-6-7-12-10-12	
80	13-10-12-11-8-6-6-6-7-6	Circ. 2 hrs. 3880
90	5-10-3-3-5-4-12-12-14-11	
3890 - 3900	10-12-11-11-10-10-6-4-6-7	
10	7-8-10-11-13-13-11-12-11-10	
20	7-10-10-6-6-6-7-9-8-8	
30	8-9-19-7-6-3-3-2-2-2	Circ. 1½ hrs. 3923 New bit 3923
40	4-2-2-5-4-4-4-5-6-6	
50	5-5-7-8-6-9-9-7-7-8	Circ. 1 hr. 3945
60	8-7-9-9-4-4-7-2-2-2	
70	2-2-2-2-3-4-2-4-2-2	
80	3-4-6-6-7-7-8-9-8-9	
90	6-8-8-10-7-9-10-8-9-8	
3990 - 4000	8-8-10-8-8-9-8-3-9-5	
10	4-3-7-8-8-9-10-8-6-6	
20	7-8-7-8-8-8-8-6-6-6	Trip # 4017
30	7-7-7-6-6-7-7-6-7-6	
40	5-6-7-5-4-5-6-7-5-8	
50	7-6-7-6-7-5-5-7-7-6	
60	7-8-5-7-7-7-6-6-5-5	Base Kansas City 4058
70	3-4-3-4-4-5-3-4-4-7	
80	8-8-8-7-6-6-5-6-6-5	
90	6-9-6-8-8-8-8-8-8-10	
4090 - 4100	9-14-9-8-7-9-9-9-10-11	
10	9-10-10-12-10-9-9-8-10-10	
20	9-11-9-10-9-10-12-12-9-11	Top Mississippi 4118
30	8-12-10-8-9-8-11-14-16-14	Circ. ½ hr. @ 4130
40	16-18-3-8-9-10-11-12-11-11	New bit @ 4132
50	10-7-4-5-5-5-4-3-3-3	Circ. 1 hr. @ 4150
60	3-3-5-5-4-6-4-5-6-3	Circ. 1½ hrs. @ 4159
70	8-8-7-6-7-8-7-9-8-11	New bit @ 4159
80	5-3-4-4-5-4-5-4-4-4	Top Kinderhook 4161
90	4-4-5-4-4-8-6-5-3-4	Circ. 1 hr. @ 4185
4190 - 4200	5-5-5-6-12-11-7-8-11-7	Circ. 1½ hrs. @ 4195
10	8-9-9-12-15-15-18-11-15-12	New bit 4195
20	16-12-13-10-13-9-11-9-7-5	
30	5-6-6-6-6-5-4-4-4-4	Top Viola 4225
40	4-4-4-3-4-5-5-5-5-5	
50	5-5-5-3-5-5-6-5-5-5	
60	6-4-5-5-5-4-14-16-7-8	Circ. 1½ hrs. @ 4258
70	10-11-11-7-11-9-9-7-12-10	New bit 4258
80	20-26-28-24-26-24-30-31-33-34	Top Simpson 4263
90	33-29-30-16-59-63-24-11-10-6	Circ. ½ hr. @ 4270
		Cored 4270 - 4315

(3) Time Log: Schafer & Ross #1 Seidel

<u>Depth</u>	<u>Time</u>	<u>Remarks</u>
4290 - 4300	11-15-11-17-15-12-11-15-16-16	
10	21-20-15-31-22-28-42-37-32-35	
20	39-31-42-61-49-41-42-41-40-29	Cored 4315 - 26
30	40-32-42-47-38-43-51-48-46-20	Cored 4326 - 45
40	14-22-62-47-53-60-45-47-49-29	
45	48-26-44-43-50	
R.T.D. 4345		

Time Log condensed by Willis Jack Hagathan