

Computer Inventoried

FORMATION LOG

Deep Rock #12 Calbeck

NW/SW/NE; 33-26-13W

Pratt County, Kansas

Elevation: 1961 derrick floor

1963 rotary bushing

8 5/8" casing 872

5 1/2" casing 4474

Comm. 11-26-51

Comp.

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

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
0 - 40	Surface clay	Drillers log 0-3500
40 - 80	Sandy clay	
80 - 170	Sand	
170 - 245	Red beds	
245 - 670	Shale and red beds	
670 - 830	Red beds	
830 - 41	Anhydrite	Stone Corral
841 - 1060	Shale	
1060 - 1810	Shale, shells and salt	
1810 - 1970	Shale and limestone	
1970 - 2405	Limestone and shale	
2405 - 2755	Limestone and shale	
2755 - 2990	Sandy limestone and shale	
2990 - 3500	Limestone and shale	
3500 - 37	Limestone, light tan sub-crystalline to finely crystalline	Sample log 3500 - TD
3537 - 56	Limestone finely crystalline to crystalline good vugular porosity	No show
3556 - 82	Limestone tan to buff, sucrose Fair porosity.	Possible trace stain?
3582 - 84	Shale, gray	
3584 - 98	Limestone tan sub-crystalline	
3598 - 3603	Shale, black, soft	Heebner
3603 - 08	Limestone, brown, dense	Leavenworth
3608 - 17	Shale, gray, green, trace shaley sand.	Snyderville
3617 - 34	Limestone, white to cream, crystalline	Toronto
3634 - 68	Shale, gray, some fine, gray shaley sand	Douglas
3668 - 3707	Sand gray, medium, angular micaceous.	Possible trace oil stain at top?
3707 - 62	Shale, gray, green and brown	
3762 - 68	Limestone, dark brown to darkgray, dense	Brown Lansing
3768 - 80	Shale, gray	
3780 - 84	Limestone as above	
8784 - 86	Shale, gray	
3786 - 3803	Limestone, gray - tan, sub-crystalline, oolitic, some chert, gray opaque oolitic	Lansing
3803 - 09	Limestone as above with streaks gray shale.	
3809 - 24	Limestone, brown to gray, sub-crystalline, trace chert, few streaks pin-	Trace spotted stain

(2) Formation log: Deep rock #12 Calback

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
	point porosity, some vugular porosity	
3824 - 29	Limestone as above, no porosity	
3829 - 31	Shale, brown	
3831 - 37	Limestone as above	
3837 - 39	Shale, brown	
3839 - 55	Limestone, as above, fair vugular porosity, some oolites, possibly some oolitic	Fair oil stain
3855 - 81	Limestone gray to tan dense, possibly a trace of variegated shale	
3881 - 81	Limestone, gray sub-crystalline streaks of slight pin-point porosity, some chert, gray opaque vitreous.	No show
3881 - 92	Shale, gray	
3892 - 3902	Limestone as above, slight porosity	No show
3902 - 07	Limestone as above, no porosity	
3907 - 17	Limestone as above, some porosity	No show
3917 - 21	Limestone, tan, dense, considerable chert, gray, opaque, vitreous to non-vitreous, some scattered oolites.	
3921 - 27	Limestone and chert as above some porosity	No show
3927 - 32	Limestone as above, no porosity	
3932 - 36	Shale, gray	
3936 - 43	Limestone, gray, dense to sub-crystalline, large black oolites, some vugular and oolitic porosity	Spotted stain
3943 - 46	Limestone as above, no porosity	
3946 - 52	Shale gray	
3952 - 59	Limestone, brown, oolitic fair porosity	Fair stain
3959 - 66	Limestone, brown, sub-crystalline	
3966 - 69	Shale, brown and gray	
3969 - 73	Limestone, sub-crystalline, oolitic, good oolitic and vugular porosity	Good saturation; trace odor
3973 - 85	Limestone, light tan, dense	
3985 - 96	Limestone, gray to tan, dense, trace oolites, good oolitic and vugular porosity - probably some shale streaks	Good saturation, trace odor
3994 - 4003	Limestone, tan, dense to sub-crystalline	
4003 - 09	Limestone, light tan, sub-crystalline, good vugular porosity	Good stain
4009 - 13	Limestone tan to brown, dense; trace oolites, chert, gray and brown, opaque to translucent.	
4013 - 22	Shale, green and gray	
4022 - 38	Limestone as above, possibly less chert	
4038 - 40	Shale, brown and gray	
4040 - 52	Limestone, light tan to white, dense	
4052 - 59	Shale brown	
4059 - 62	Limestone, brown to tan, dense oolitic, some fair vugular and inter-oolite porosity.	Fair stain; slight odor Trace free oil.

(3) Formation log: Deep Rock #12 Dalbeck

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
4062 - 65	Limestone white to tan chalky	
4065 - 70	Limestone as above, trace pin-point porosity.	Trace stain
4070 - 80	Limestone, tan, dense	
4080 - 88	Shale, brown and gray	
4088 - 96	Limestone, as above	
4096 - 103	Shale, brown and gray	
4103 - 08	Limestone as above, some chert, brown, translucent	Base Kansas City 4108
4108 - 18	Shale, gray and brown	
4118 - 25	Limestone, dark brown to gray, dense, trace vugular porosity	Slight spotted stain
4125 - 30	Shale gray, streaks of limestone	
4130 - 52	Limestone, as above, some chert, gray opaque, no porosity.	
4152 - 60	Shale gray and brown, some limestone and chert as above.	
4160 - 62	Shale, gray	
4162 - 70	Limestone, light gray, dense, ochalky, chert salmon, and light gray translucent. Some gray silicified limestone.	
4170 - 84	Increase in chert, white, semi-opaque, opalescent figured, amber and salmon, translucent	
4184 - 95	Chert gray devitrified, some gray and green shale,	Possible Mississippi Some dead brown stain.
4195 - 98	Shale gray	
4198 - 4208	Such chert, white, opalescent, opaque, some devitrified some translucent.	Definite Mississippi
4208 - 19	Chert as above	Fair show; dead oil
4219 - 30	Shale, green-gray to green, some maroon and green variegated, some green chert	Kindershook
4230 - 49	Chert, white, translucent and figured, some brown and amber, translucent, very vitreous.	Top Viola No show
4249 - 50	Shale, green-gray and gray; some green-brown dense limestone; possibly some chert.	
4280 - 4324	Chert, white opaque, to translucent, some brown devitrified.	Fair odor and stain Trace free oil.
4324 - 29	Limestone, gray to white finely crystalline, sandy; some gray green shale.	
4329 - 34	Shale green, sandy, streaks white; very sandy limestone	Top Simpson 4329
4334 - 42	Sand, brown, medium angular to sub-rounded.	Fair odor, good stain
4342 - 47	Sand as above with some streaks dark brown fossiliferous limestone.	
4347 - 50	Shale, bright green, sandy	
4350 - 56	Sand, brown, green, and black, medium, angular, fair porosity	Some spotted live stain. Much dead black stain.

(4) Formation log: Deep Rock #12 Calbeck

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
4356 - 66	Dolomite, dark brown, finely crystalline, tight, some sandy	
4366 - 69	Shale, green, sandy	
4369 - 74	Sand brown to green calcareous, trace green shale.	Good stain
4374 - 4413	Shale, green-gray, streaks sand and brown dolomite.	
4413 - 30	Increase in light green Simpson shale.	
4430 - 33	Dolomite buff to light brown, very finely crystalline; trace vugular porosity.	Top Artuskie 4430 Good odor; fair show; free oil
4433 - 36	Dolomite, tan to brown, finely crystalline to crystalline; fair vugular porosity.	Fair odor and spotted oil show
4436 - 37	Some light green shale	
4437 - 42	Dolomite brown, very sandy some white, translucent chert-some porosity	Fair odor; and spotted saturation
4442 - 49	Dolomite, light gray crystalline to coarsely crystalline; much chert, white, opaque and translucent. a few streaks shale, light green, sandy.	
4449 - 53	Dolomite, brown, very finely crystalline, to sucrose, slightly calcareous, trace sand grains.	Good odor and saturation
4453 - 62	Dolomite, white, to light gray to light brown crystalline to sub-crystalline some white opaque chert streaks of fair porosity.	Good odor; much free oil
4462 - 64	Light green shale	
4464 - 69	Dolomite, tan to gray crystalline, trace sand, some tripalitic cement	Spotted stain.
4469 - 75	Dolomite, light gray to tan, crystalline to coarsely crystalline, some white, opaque, chert, some tripalitic cement some inter-crystalline porosity.	Some odor and free oil.
4475	Total depth	

DRILL STOP LOGS:

- (1) 4049 - 72: open 30 minutes
Recovered 15' mud - no oil, gas, or water
Bottom hole pressure = zero
- (2) 4278 - 4310: open 45 minutes
Recovered 170' oil cut and
Bottom hole pressure 686 pounds
- (3) 4329 - 39: open 1 hour
Recovered 305' oil and muddy oil
Bottom hole pressure 1211 pounds
- (4) 4433-42: open 1 hour
Recovered 60' heavily oil cut mud - no water
Bottom hole pressure 597 pounds
- (5) 4442-60: open 1 hour
Recovered 145' heavily oil cut mud - a little free oil - no water.

(5) Formation log: Deep Rock #12 Calbeck

Bottom hole pressure 915 pounds.

COMPLETION DATA:

Perforated 164 holes 4290 - 4318

Sailed 10 gallons of free oil

acidized with 500 gallons

Swabbed 96 S.O. and 12 barrels acid and acid water - swabbed down to 2500.

Shut in for 45 minutes

Opened well - flowed 25 S.O. in 22 minutes

Shut well in over night - would not flow next morning.

Swabbed 157½ barrels oil in 5 hours.

Run tubing and rods and put on pump.

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

WENDELL S. JOHNS

Deep Rock #12 Calbeck
 No. 84/84; 33-2600-134
 Pratt County, Kansas
 Elevation: 1961 derrick floor

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

Depth	Time	Remarks
3500 - 10	2-3-3-3-3-3-4-3-3-3	
202	3-2-2-4-3-3-3-2-4-3	
30	3-3-2-2-4-3-3-3-2-3	
40	3-3-3-2-2-2-3-2-2-2	
50	3-3-2-3-3-2-1-2-1-1	
60	1-1-1-2-4-3-1-2-1-2	Trip 3545
70	2-2-1-1-1-1-1-1-1-1	
80	1-1-1-1-1-1-1-2-1-2	
90	2-3-2-1-2-3-2-3-3-2	
90 - 3600	2-2-2-2-4-3-3-3-3-2	Heebner 3598-3603
3600 - 10	3-3-2-2-2-2-2-2-3-2	
20	3-2-3-2-3-2-3-3-3-2	
30	2-4-3-3-3-3-2-3-2-3	
40	3-3-3-3-2-3-2-2-2-1	
50	1-2-2-2-2-1-2-2-2-2	
60	2-2-2-2-2-2-3-3-2-2	
70	2-3-3-2-3-2-2-2-1-2	
80	2-1-1-2-1-1-1-1-1-1	
90	1-1-1-1-1-1-1-1-1-1	
90 - 3700	1-1-1-1-1-1-1-1-1-1	
3700 - 10	1-1-1-1-1-1-1-2-3-2	
20	3-3-3-3-3-3-2-3-4-3	
30	3-3-3-4-3-3-3-2-3-3	
40	3-4-4-3-3-3-3-2-4-3	
50	3-2-3-3-3-2-3-2-3-3	
60	3-3-3-3-3-3-2-3-3-3	
70	3-3-3-3-3-4-3-4-4-3	
80	3-3-3-4-4-3-4-4-4-4	Top Brown Lansing 3762
90	4-3-4-4-3-3-3-3-4-4	
90 - 3800	4-6-5-6-5-5-6-6-6-6	Top Lansing 3786
3800 - 10	5-6-7-7-6-5-5-6-7-6	Started drilling in 2nd gear 3791
20	6-5-7-5-5-6-7-5-6-7	Trip 3805; 4-7
30	7-7-6-6-6-6-7-6-6-6	
40	6-8-7-8-8-8-9-8-8-5	
50	6-7-6-4-3-5-4-4-1-3	
60	3-4-5-4-4-6-7-8-9-8	
70	8-8-8-8-8-9-8-8-8-6	
80	7-8-10-15-13-13-12-6-3-4	
90	8-4-5-6-5-4-4-4-4-4	Trip 3877; 4-7
90 - 3900	4-3-5-6-4-4-5-5-5-5	
3900 - 10	4-4-5-8-7-8-8-7-5-7	
20	6-7-7-6-7-8-8-9-8-9	
30	12-11-7-8-8-8-8-10-10-12	
40	12-13-12-11-14-15-12-8-10-10	

(2) Time log; Deep Rock #12 Calbeck:

<u>Depth</u>	<u>Time</u>	<u>Remarks</u>	<u>Remarks</u>
3940 - 50	906-4-9-14-13-9-13-11-15		
60	15-14-12-8-6-8-5-7-4-9		Trip 3952; #7
70	10-7-12-12-10-9-7-5-10-7		
80	5-3-6-9-8-3-4-6-4-5		
90	8-8-8-8-8-5-3-3-3-3		
90 - 4000	3-2-4-4-5-7-7-9-7-9		
4000 - 10	8-8-8-7-2-6-5-5-4-5		
20	11-7-11-6-6-7-6-7-10-5		
30	7-5-9-7-10-9-10-7-9-9		
40	10-10-9-8-10-10-7-9-9-7		
50	9-9-8-8-7-9-7-10-10-10		
60	9-9-8-8-9-8-8-7-9-5		
70	5-5-7-8-9-7-8-7-7-7		
80	8-8-4-9-4-9-7-7-7-8		Circ. 4072 1½ hrs.; D.S.T. 4049-72; New bit #7
90	9-9-9-6-7-7-7-6-7-6		
90 - 4100	3-7-9-8-8-9-8-10-9-9		
4100 - 10	10-12-11-7-7-8-8-10-7-9		Base Kansas City 4108
20	10-10-10-9-9-9-9-6-7-9		
30	10-8-10-9-9-10-10-10-9-8		
40	9-8-7-7-7-8-10-10-10-10		
50	9-11-9-9-11-11-10-9-8-6		
60	8-9-10-8-10-9-10-10-10-11		
70	7-3-4-8-6-10-7-9-7-10		
80	10-9-12-7-12-10-7-8-8-8		
90	8-8-8-8-8-8-7-8-7-7		Trip 4173; #7
90 - 4200	7-6-7-7-7-6-5-5-5-5		Possible top Mississippi 4184
4200 - 10	6-5-3-2-5-6-2-4-3-3		Top Definite Mississippi 4198
20	2-3-3-3-3-3-4-3-4-5		
30	7-11-9-7-9-9-7-9-8-9		Kinderhook 4219
40	6-2-4-3-4-3-4-5-3-4		Top Viola 4230
50	4-3-4-4-5-5-4-4-4-5		
60	6-7-10-6-21-12-15-14-12-13		
70	16-14-14-13-7-10-12-11-12-11		Trip 4255; #7A
80	11-10-9-8-7-8-13-11-8-9		
90	7-8-4-5-4-6-4-4-4-3		
90 - 4300	4-5-4-4-4-5-4-4-4-5		
4300 - 10	4-5-4-4-5-5-5-5-4-5		
20	3-2-3-5-6-9-10-12-6-6		Circ. 4310, 1½ hrs. D.S.T. 4278-4310; new #7H bit
30	4-6-3-7-6-4-6-7-9-7		
40	6-8-11-11-7-7-9-8-10-4		Top Simpson 4329
50	5-6-8-8-7-7-7-4-4-4		Circ. 4339, 1½ hrs.. D.S.T. 4329-39 new #7H bit
60	5-5-5-5-6-6-6-7-8-7		
70	8-9-10-10-11-11-10-9-8-6		
80	5-6-6-5-6-8-11-12-10-10		
90	10-9-7-10-8-7-7-8-8-9		
90 - 4400	7-13-8-10-10-12-10-10-10-11		
4400 p 10	12-12-9-13-11-11-8-10-10-11		
20	11-11-10-9-11-6-10-8-11		Circ. 4420, 1 hr.
30	11-12-11-11-12-10-12-10-9-9		Circ. 1½ hrs 4430; Top Arbuckle
40	10-11-8-7-8-9-7-7-8-8		S.H. 4438-39; Circ. 4440-10 min.
50	9-9-5-4-4-5-9-5-8-7		Circ. 4442; 1½ hrs, DST 4435-42 new #7H
60	8-6-5-7-7-6-9-11-8-10		Circ. 4460 1½ hrs; DST 4442-60; reran old #7 bit
70	10-13-12-10-10-8-8-8-13		
75	10-10-10-10-8		
(Time log condensed by Wendell S. Johns)			Circ. 4475, 1½ hrs; T.O. 4475