

FORMATION LOG

Sterling Drilling Company #1 Baker
 NE NE NW; 21-30S-14W
 Barber County, Kansas
 Elevation: 1915 Kelly Bushing
 1912 Derrick Floor
 1910 Ground

13 3/8" Casing: 177'
 Comm: 10-29-57
 Comp: 11-19-57

NOTE: All measurements are from the top of the kelly bushing.

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
0 - 60	Sand	Drillers log 0-3000
60 - 200	Red beds	
200 - 635	Red beds and shale	
635 - 772	Red beds	
772 - 90	Anhydrite	Stone Corral - Electric log
790 - 930	Red beds and shale	
930 - 75	Salt	
975 - 1100	Salt and red beds	
1100 - 2005	Shale	
2005 - 2970	Limestone	
2970 - 3000	Shale	
3000 - 01	Shale, gray	
3001 - 21	Limestone, dirty gray, finely crystalline to dense, some fossils and black oolites. Some gray shale streaks	Sample log 3000-T.D.
3021 - 53	Shale, gray; some streaks fine, gray, shaly sand.	
3053 - 61	Shale as above; streaks limestone, tan to brown, finely crystalline, fossiliferous	
3061 - 3136	Shale, gray, some fine gray shaly sand, micaceous	
3136 - 74	Limestone, tan to dark brown, mottled, finely crystalline, fossiliferous, some oolites. Trace porosity 3153-57 Some streaks gray shale	Probably Howard Possibly Topeka No shows
3174 - 86	Shale, gray; some sand, fine, dark gray, shaly	Probably Severy
3186 - 3213	Limestone, tan, dense to sub-crystalline. A few thin gray shale streaks	Top Topeka 3186
3213 - 22	Limestone, brown, finely crystalline, fossiliferous	

-2- Formation Log: Sterling Drilling Company #1 Baker.

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
3222 - 3224	Shale, black	
3224 - 40	Limestone, tan to blue-gray, dense	
3240 - 44	Shale, gray	
3244 - 63	Limestone, light tan, dense	
3263 - 66	Shale, gray	
3266 - 72	Limestone, gray, finely sucrose, with fossils and black oolites	
3272 - 82	Limestone, as above, with gray shale streaks. Trace pin-point porosity	Possible trace stain
3282 - 3313	Limestone, tan to light brown, dense to subcrystalline	
3313 - 23	Shale, gray, with limestone streaks	
3323 - 65	Limestone, tan to gray, dense to finely crystalline, fossiliferous. Some vugular porosity 3332-40. Fair vugular and oolitic porosity 3349-53. Good vugular and oolitic porosity 3358-65.	Possible trace dead stain 3349-53
3365 - 3420	Limestone, tan to white, dense to finely crystalline to chalky. A few thin gray shale streaks	
3420 - 27	Shale, gray, a few thin limestone streaks	
3427 - 34	Limestone, gray to dark gray, dense to subcrystalline	
3434 - 37	Shale, gray	
3437 - 48	Limestone as above, lighter gray to tan	
3448 - 50	Shale, gray	
3450 - 58	Dolomite, light tan to cream, finely sucrose to finely crystalline. Fair pin-point to vugular porosity	Possible trace of light stain
3458 - 79	Limestone, light tan, dense	
3479 - 84	Shale, gray	
3484 - 90	Limestone as above, streaks dolomite, cream, sucrose	
3490 - 3517	Limestone and dolomite as above, some chert, gray to white, opaque, fossiliferous. Trace porosity	No show

-3- Formation Log: Sterling Drilling Company #1 Baker.

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
3517 - 3571	Limestone, light tan to white, chalky to subcrystalline. Trace gray chert	
3571 - 72	Shale, black	
3572 - 3606	Limestone, light tan, chalky, trace gray chert. Some vugular porosity	No show
3606 - 10	Shale, black and green	
3610 - 21	Limestone, tan, chalky	
3621 - 22	Shale, black	
3622 - 3706	Limestone as above, some tan dense limestone	
3706 - 10	Shale, green-gray	
3710 - 15	Limestone, tan, dense	
3715 - 18	Shale, dark gray	
3718 - 29	Limestone, dark gray, dense to subcrystalline	
3729 - 35	Limestone, tan, finely crystalline	
3735 - 82	Limestone, tan to dark brown, subcrystalline. Possibly some thin shale streaks or included shale. Possibly some porosity 3752-78	No show
3782 - 96	Shale, gray and black, very soft fissile	
3796 - 3801	Limestone, white to light cream, crystalline to chalky	
3801 - 03	Shale, gray	
3803 - 08	Limestone as above	
3808 - 12	Shale, black, soft, fissile, brown streak	Heebner
3812 - 16	Limestone, black-brown, to blue-gray to dark gray, dense to subcrystalline	Leavenworth
3816 - 34	Shale, gray, soft, silty. Some gray-green, some maroon. Trace limestone streaks	Snyderville
3834 - 50	Limestone, white chalky to cream, dense to finely crystalline, clean	Toronto 3834-55
3850 - 52	Shale, gray	
3852 - 55	Limestone as above	Top Douglas 3855
3855 - 59	Shale, gray, trace brown	
3859 - 86	Sand, light brown to gray, angular, submedium to medium, micaceous	Slight light brown stain. No odor or free oil. D.S.T. #1 3853-75 Recovered water

-4- Formation Log: Sterling Drilling Company #1 Baker.

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
3886 - 3889	Limestone, gray, dense	
3889 - 3904	Sand, as above	No show
3904 - 23	Shale, gray and brown, streaks sand as above	
3923 - 63	Shale, gray and gray-green	
3963 - 73	Limestone, gray to tan to light brown, dense to finely crystalline, fossiliferous	This looks like Lansing but appears to be a stray
3973 - 92	Shale, gray	
3992 - 98	Limestone as above, lighter tan	Top Lansing 3992
3998 - 4000	Shale, gray	
4000 - 08	Limestone, gray chalky, some large, dark gray, oolites.	
4008 - 09	Shale, gray and green	
4009 - 23	Limestone, tan, chalky to subcrystalline, fossils and oolite.	
4023 - 34	Limestone, tan to light brown, dense to subcrystalline	
4034 - 39	Shale, dark gray and brown	
4039 - 51	Limestone tan to dark gray- brown, dense to finely crystalline. Some fossils. Chert, dark gray to brown, mottled, semi-translucent	
4051 - 64	Limestone and chert as above. Possible trace porosity.	No show
4064 - 72	Shale, gray and green	
4072 - 98	Limestone and chert as above. Possible traces of porosity	No show
4098 - 4116	Limestone, tan, chalky to subcrystalline. Trace chert, gray, opaque	
4116 - 18	Limestone, light brown, sub- crystalline. Trace vugular porosity	No show
4118 - 24	Limestone, tan, subcrystalline	
4124 - 26	Shale, green and brown	
4126 - 50	Limestone, gray to tan, sub- crystalline. Fossils and chert, gray to brown, opaque, non- vitreous	
4150 - 58	Limestone as above, some gray shale streaks	
4158 - 81	Limestone, gray to brown, sucrose to subcrystalline. Some chert as above. Some pin-point porosity 4158-65 & 4169-78	No show

-5- Formation Log: Sterling Drilling Company #1 Baker.

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
4181 - 4188	Shale, gray, calcareous to shaly limestone	
4188 .. 99	Limestone, brown to tan, dense to subcrystalline; fossiliferous; crypto-oolitic. Chert, gray and brown, opaque	
4199 - 4204	Shale, gray and green-gray	
4204 - 11	Limestone, tan to brown, subcrystalline, fossiliferous. Some limestone brown, dolomitic, sucrose. Slight amount of porosity	No show
4211 - 27	Limestone, gray to tan, dense to subcrystalline	
4227 - 30	Shale, dark gray to black, some brown	
4230 - 52	Limestone, as above; trace chert, white to gray, opaque. Possible trace porosity	No show
4250 - 67	Limestone, gray to light tan, chalky. Some limestone, gray, dense, fossiliferous. Possible trace porosity	No show
4267 - 79	Limestone, tan to gray, dense. Some chert, gray, brown, opaque	
4279 - 83	Shale, black to green-gray	
4283 - 92	Limestone, light tan, subcrystalline, fossiliferous. Considerable chert, gray, brown, opaque, fossiliferous. Slight pin-point porosity	No show
4292 - 94	Shale, gray	
4294 - 4321	Limestone, tan to brown, dense to subcrystalline. Chert, tan and gray, opaque, subvitreous. Some chert, vitreous, semi-translucent	
4321 - 22	Shale, black	
4322 - 24	Limestone, as above	
4324 - 26	Shale, black and gray, some green and brown	
4326 - 48	Limestone, brown to gray, dense to finely crystalline to chalky, fossiliferous. Some chert as above. Possible trace porosity 4326-30	No show

-6- Formation Log: Sterling Drilling Company #1 Baker.

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
4348 - 4350	Shale, gray	
4350 - 61	Limestone, dark brown to tan, dense. Trace chert, dark brown, semi-translucent	
4361 - 63	Shale, dark gray and brown	
4363 - 67	Limestone, as above	
4367 - 68	Shale, gray, green and brown	
4368 - 88	Limestone, tan to brown, dense to subcrystalline to chalky. Trace of fossils	Base Kansas City 4388
4388 - 95	Shale, black, gray, gray-green, and brown	Marmaton
4395 - 4403	Limestone, gray to brown, dense	
4403 - 08	Shale, gray, black, and brown	
4408 - 13	Limestone, brown, dense, fossiliferous, possibly some oolites	
4413 - 25	Shale as above, some limestone streaks as above	
4425 - 33	Limestone as above	
4433 - 39	Shale, gray, green, maroon	
4439 - 48	Limestone, gray to light tan, dense. Chert, light brown to gray, opaque, vitreous to subvitreous	
4448 - 51	Shale, as above	
4451 - 65	Limestone and chert as above. Some fossils and oolites	
4465 - 83	Shale, dark gray, green, brown, possible thin streaks of gray, subcrystalline, limestone	Probable top Cherokee 4465
4483 - 94	Limestone, tan, subcrystalline, shaly, considerable chert, gray, opaque. Many shale streaks as above	
4494 - 4508	Shale as above, possibly a few thin limestone streaks as above. Considerable chert, gray, opaque; and brown and citrine, translucent.	
4508 - 23	Chert, gray and white, vitreous opaque; gray, white & black, devitrified chert with dead black stain. Chert, gray, brown, and citrine, translucent. Some pink opaque chert. Considerable green and brown shale	Conglomerate

-7- Formation Log: Sterling Drilling Company #1 Baker.

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
4523 - 4548	Chert, white china; white to blue-white semi-translucent, figured. Chert slightly dolomitic below 4544	Viola 4523-59 Slight stain and very slight odor and very slight trace free oil in chert. D.S.T. #2 4519-52 Small amount of gas.
4548 - 55	Dolomite, brown, finely crystalline, possibly some streaks white, chalky limestone	
455 - 59	Limestone, white, chalky. Some limestone, tan and pink mottled, crystalline. Some white chalky limestone with small, rounded, sand grains	
4559 - 66	Shale, green-gray to green, sandy. Possible streaks shaly sand	Top Simpson 4559
4566 - 69	Sand, white, fine, well sorted, rounded, calcareous	
4569 - 73	Sand, brown, fine to medium, round to subround, friable	Good stain, slight odor, fair show free oil. D.S.T. #3 4568-73 D.S.T. #4 4572-85
4573 - 85	Sand - see core record for description	
4585 - 94	Sand as above	Fair show oil - fair odor
4594 - 4602	Sand as above, slightly dolomitic	Spotted stain. Possibly a slight odor.
4602 - 09	Shale, gray-green to green, slightly sandy.	
4609 - 17	Shale as above, streaks sand, medium to coarse, angular to subround, white.	Little if any oil show.
4617 - 31	Shale, green and gray-green	
4631 - 46	Sand, fine, gray, shaly, pyritic. Some sand, white, medium, tight. Streaks green shale	No show
4646 - 68	Shale, green, dark green, and purple maroon	
4668 - 77	Sand, white, glassy to quartzitic, tight. Streaks green shale	No show
4677 - 83	Dolomite, gray-brown, sub-crystalline to dense. Some chert, white devitrified, very oolitic.	Top Arbuckle 4677 No show in Arbuckle
4683 - 85	Shale, light green, probably streaks of dolomite.	

Drill Stem Tests Contd:

- D.S.T. #3 4568-73 (4569-74 electric log measurements).
Simpson - 11-15-57.
Double packers and jars.
Open 1 hour - good blow throughout test.
Recovered 2500' gas.
70' mud - slightly oil cut and heavily gas cut. The bottom 30 feet was fairly thin, but we do not believe there was any formation water.
Initial Bottom Hole Pressure: 1417 p.s.i. (30 min.).
(Pressure at static.).
Initial Flow Pressure: 36 p.s.i.
Final Flow Pressure: 54 p.s.i.
Final Bottom Hole Pressure: 1226 p.s.i. (30 min.).
(Pressure still building slowly).
- D.S.T. #4 4572-85 (4573-86 electric log measurements).
Simpson 11-16-57.
Double packers and jars.
Open 1 hour - good blow throughout test.
Recovered 2850' gas.
75' heavily oil cut mud.
135' oil cut salt water.
480' very slightly oil cut salt water.
Initial Bottom Hole Pressure: 1430 p.s.i. (30 min.).
(Pressure at static.).
Initial Flow Pressure: 65 p.s.i.
Final Flow Pressure: 520 p.s.i.
Final Bottom Hole Pressure: 1238 p.s.i. (45 min.).
(Pressure still building rapidly).
- D.S.T. #5 4569-79 (4570-80 electric log measurements).
Simpson 11-19-57.
This was a straddle test run after the total depth of 4700 (4701 electric log measurements) had been reached and the electric log had been run.
One packer was run at 4569 and one packer was run at 4579. Jars were also run.
Open 2 hours - good blow throughout test.
Recovered 3250' gas.
127' slightly oil cut mud and water. The bottom 60 feet was almost all water.
Initial Bottom Hole Pressure: 1345 p.s.i. (30 min.).
(Pressure at static.).
Initial Flow Pressure: 15 p.s.i.
Final Flow Pressure: 45 p.s.i.
Final Bottom Hole Pressure: 1160 p.s.i. (45 min.).
(Pressure at static.).

-10- Formation Log: Sterling Drilling Company #1 Baker.

Drill Stem Tests Contd:

NOTE: The pressure charts indicated that both packers held perfectly.

Core Description: One core was taken on the #1 Baker. This was a diamond core in the Simpson Sand cut by Christensen Diamond Products Company.

Core #1 4573 - 85 (-2658 to -2670) (electric log depth 4574-86).
Recovered 12' (full recovery).

4573 - 73'-4" (4") Sand, brown, medium, subangular, calcareous. Intercalated with thin streaks tight, green, shaly, sand. Good odor, good saturation of live oil in the brown sand.

4573'-4"- 74' (8") Sand as above, dark brown, slightly coarser, clean. Small inclusions of white, finely crystalline, calcite. Fair porosity in sand. Good odor - sand saturated with live oil.

4574' - 75' (1') Sand as above with several 1" to 2" streaks of fine white sand carrying much dead black oil. Good odor and saturation in the brown sand.

4575' - 78' (3') Sand as above. Intercalated with brown, quartzitic sand and white finely crystalline calcite. Some thin intercalated green shale laminae. Good odor and saturation in the porous part of the sand.

4578' - 82' (4') Sand as above. Increase in calcite. Streaks coarse, rounded, to very poorly sorted sand. Better porosity than above. Good odor, very good saturation.

4582' - 83½' (1½') Sand as above, less shale and calcite, coarser. Good odor and saturation.

4583½' - 85' (1½') Sand, brown, coarse, rounded, very soft and friable. Good porosity, less odor than above; some dead black stain. This sand looks saturated but has a slight gray cast which may indicate that it carries water.

-11- Formation Log: Sterling Drilling Company #1 Baker.

Core Description Contd:

NOTE: There was some bleeding of oil from this core throughout its length, however, the section from 4575-82 bled most freely, while the bottom 1 1/2 feet bled the least.

Samples examined and log compiled by

WENDELL S. JOHNS

-2- Time Log: Sterling Drilling Company #1 Baker.

<u>Depth</u>	<u>Time</u>	<u>Remarks</u>
3300 - 3310	3-4-3-3-3-4-4-3-4-4	
3310 - 20	5-5-6-5-5-4-4-5-5-4	
3320 - 30	4-4-3-7-7-9-3-4-5-5	
3330 - 40	6-6-4-3-4-4-3-2-2-3	
3340 - 50	4-6-6-6-7-5-8-5-6-2	
3350 - 60	2-2-3-6-9-8-9-6-8-4	
3360 - 70	5-3-2-2-3-7-9-8-7-8	
3370 - 80	10-8-8-7-8-6-9-9-6-6	
3380 - 90	8-6-6-5-6-9-8-7-8-8	
3390 - 3400	10-10-10-9-9-6-7-5-4-6	
3400 - 10	6-7-9-8-9-7-9-9-8-8	
3410 - 20	7-8-8-9-6-7-6-7-8-8	
3420 - 30	5-4-5-4-3-4-3-5-5-5	
3430 - 40	6-4-5-7-5-5-4-6-8-9	
3440 - 50	8-8-8-8-9-3-4-3-3-3	Trip 3445 OWV
3450 - 60	2-1-1-1-3-2-1-3-4-6	
3460 - 70	6-3-4-6-6-6-5-6-5-6	
3470 - 80	6-6-6-7-4-3-4-4-4-4	
3480 - 90	4-5-4-6-5-4-5-5-5-5	
3490 - 3500	4-3-4-3-3-4-4-4-3-2	
3500 - 10	3-5-3-1-1-2-2-2-4-5	
3510 - 20	4-4-4-3-3-2-5-5-7-6	
3520 - 30	7-7-7-5-7-7-7-7-8-6	
3530 - 40	6-7-8-6-6-6-7-6-6-5	
3540 - 50	6-6-5-4-5-6-7-6-8-7	
3550 - 60	9-5-8-8-8-5-7-7-6-9	
3560 - 70	7-6-6-8-8-9-6-6-4-10	
3570 - 80	8-1-5-4-4-3-3-4-3-4	
3580 - 90	4-5-4-5-4-4-5-6-4-6	
3590 - 3600	6-3-4-4-3-4-3-4-4-3	
3600 - 10	4-4-3-4-9-6-4-2-2-2	
3610 - 20	5-6-8-8-8-9-9-9-10-7	
3620 - 30	7-4-10-10-12-10-10-10-10-10	
3630 - 40	10-9-8-9-9-8-9-9-8-8	
3640 - 50	8-9-9-9-8-6-6-7-9-9	
3650 - 60	9-6-5-6-8-9-9-9-8-10	
3660 - 70	9-10-9-8-8-10-10-9-8-9	
3670 - 80	8-8-9-9-8-10-9-9-10-7	
3680 - 90	10-10-8-8-7-8-9-9-9-8	
3690 - 3700	10-10-9-9-10-10-7-7-8-9	
3700 - 10	11-9-10-7-7-8-6-6-6-4	
3710 - 20	8-10-10-7-7-3-3-5-9-7	Trip 3713 - Reed YS1
3720 - 30	7-7-8-8-7-7-7-7-7-9	
3730 - 40	10-7-8-6-8-6-6-5-5-5	
3740 - 50	6-7-7-7-7-7-7-6-6-4	

TIME LOG

Sterling Drilling Company #1 Baker
 NE NE NW, 21-30S-14W
 Barber County, Kansas
 Elevation: 1915 Kelly Bushing
 1912 Derrick Floor
 1910 Ground

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

<u>Depth</u>	<u>Time</u>	<u>Remarks</u>
3000 - 3010	2-4-3-4-3-2-2-3-2-2	Trip 2970 O.S.C.
3010 - 20	2-2-2-3-3-3-3-3-2-2	
3020 - 30	2-2-2-1-2-1-1-2-1-1	
3030 - 40	2-2-2-2-2-2-1-1-1-1	
3040 - 50	2-1-2-2-1-1-2-2-3-7	
3050 - 60	7-7-3-3-2-3-3-3-3-4	
3060 - 70	4-2-2-2-1-2-2-2-2-1	
3070 - 80	1-2-2-1-1-2-2-1-2-1	
3080 - 90	2-1-1-1-2-2-1-1-1-2	
3090 - 3100	1-2-2-1-2-2-2-2-2-2	
3100 - 10	2-2-2-3-4-4-3-3-3-2	
3110 - 20	3-2-3-2-1-2-1-1-2-1	
3120 - 30	1-2-2-3-2-2-2-3-2-2	
3130 - 40	2-2-2-2-1-2-3-4-4-4	Top Limestone Section 3136 - Possibly Topeka - probably Howard
3140 - 50	3-3-3-3-2-3-4-3-2-2	
3150 - 60	2-2-3-2-2-2-3-5-4-2	
3160 - 70	3-3-3-3-3-3-4-3-3-2	
3170 - 80	3-4-6-3-2-2-3-2-2-2	
3180 - 90	2-2-1-1-2-2-3-3-3-4	Probable Top Topeka 3186
3190 - 3200	4-4-3-4-4-4-3-2-2-2	
3200 - 10	3-4-4-3-4-4-4-6-4-4	
3210 - 20	5-4-3-3-4-4-4-3-4-4	
3220 - 30	5-5-4-5-6-5-4-5-5-4	
3230 - 40	5-4-5-5-4-4-4-4-4-5	
3240 - 50	4-4-3-3-4-4-3-4-5-4	
3350 - 60	3-3-4-4-4-5-5-5-4-4	
3260 - 70	5-5-5-4-4-3-3-6-6-5	
3270 - 80	5-5-4-4-3-3-3-4-4-3	
3280 - 90	3-3-5-5-6-7-6-7-5-7	
3290 - 3300	5-6-6-7-6-5-5-7-5-5	

-3- Time Log: --- Sterling Drilling Company #1 Baker.

<u>Depth</u>	<u>Time</u>	<u>Remarks</u>
3750 - 3760	7-6-5-5-5-5-5-6-6-4	
3760 - 70	3-3-3-3-4-5-5-4-3-4	
3770 - 80	3-3-3-3-3-3-3-2-3-4	
3780 - 90	4-5-3-2-2-1-1-2-2-1	
3790 - 3800	2-2-2-2-2-2-4-5-5-4	
3800 - 10	4-2-4-4-5-7-6-3-2-2	Heebner 3808-12
3810 - 20	2-2-3-4-7-5-3-2-3-3	
3820 - 30	4-3-4-5-4-3-5-5-4-3	
3830 - 40	3-3-3-2-3-4-4-4-3-4	Toronto 3834-55
3840 - 50	4-4-4-3-3-3-4-4-4-3	
3850 - 60	2-5-5-4-3-2-2-1-1-2	Top Douglas 3855 Douglas Sand 3859-3904 D.S.T. #1 3853-75 - Wtr.
3860 - 70	1-1-1-1-1-1-1-2-1-1	
3870 - 80	1-1-1-1-1-1-1-1-2-1	Circ. 3875 - 1 1/2 Hrs. New bit - Smith 3C2
3880 - 90	2-1-1-2-2-1-2-5-8-3	
3890 - 3900	3-1-1-2-2-2-2-1-1-2	
3900 - 10	2-2-2-2-3-5-4-5-4-4	
3910 - 20	3-5-3-3-3-3-3-2-1-1	
3920 - 30	2-3-3-4-4-4-4-4-3-4	
3930 - 40	5-5-2-3-4-3-3-5-3-4	
3940 - 50	5-6-4-4-4-5-5-4-5-5	
3950 - 60	5-4-5-5-5-4-4-5-5-4	
3960 - 70	3-4-4-5-5-5-6-6-3-2	Limestone 3963-73 Looks like Lansing
3970 - 80	2-3-5-4-4-3-3-4-4-3	
3980 - 90	3-4-4-3-3-4-4-3-4-4	
3990 - 4000	5-4-7-8-10-10-10-8-7-4	Circ. 3985 - 1/2 Hrs. Top Lansing 3992
4000 - 10	6-6-6-7-6-10-7-8-9-10	
4010 - 20	12-10-9-7-8-7-8-7-7-10	
4020 - 30	10-8-8-14-9-11-8-12-14-11	
4030 - 40	12-13-14-5-5-3-6-6-6-12	
4040 - 50	12-11-13-15-17-16-14-15-16-13	Circ. 4041 - 1 Hr.
4050 - 60	10-8-8-8-6-5-8-8-11-11	
4060 - 70	12-10-13-14-12-11-11-12-11-11	
4070 - 80	9-8-10-13-10-8-8-9-10-8	
4080 - 90	8-11-12-14-12-12-10-11-12-17	
4090 - 4100	13-11-10-12-6-8-11-11-13-13	
4100 - 10	13-11-14-16-11-14-17-19-17-17	Trip 4110 - Reed YH
4110 - 20	10-10-9-9-7-7-4-4-6-8	
4120 - 30	9-10-6-5-5-3-5-9-10-6	Circ. 4128 - 1 Hr.
4130 - 40	4-6-8-7-9-6-7-5-5-8	
4140 - 50	6-5-7-7-8-9-10-10-9-10	

-4- Time Log: Sterling Drilling Company #1 Baker.

<u>Depth</u>	<u>Time</u>	<u>Remarks</u>
4150 - 4160	8-7-10-9-10-8-7-4-2-3	
4160 - 70	4-5-6-4-8-8-9-7-8-6	Circ. 4163 - 1 Hr.
4170 - 80	6-7-5-4-12-10-10-10-13-17	
4180 - 90	15-5-7-6-7-6-6-6-7-6	
4190 - 4200	7-6-10-12-14-13-11-15-16-14	
4200 - 10	10-8-9-8-12-6-5-5-7-7	
4210 - 20	10-17-14-15-17-18-16-16-16-11	Trip 4219 - W7
4220 - 30	10-12-8-7-7-8-9-7-6-5	
4230 - 40	6-5-10-11-13-11-11-6-7-8	Circ. 4234 - 1 Hr.
4240 - 50	9-11-11-12-11-11-11-13-11-11	
4250 - 60	11-12-8-5-5-6-8-7-8-8	Circ. 4258 - 1 1/2 Hrs.
4260 - 70	7-9-7-6-8-8-8-13-14-14	
4270 - 80	8-12-12-15-17-15-17-13-12-7	
4280 - 90	9-8-7-15-15-8-6-5-7-5	Circ. 4285 1 1/2 Hrs.
4290 - 4300	5-12-10-11-11-13-15-14-14-13	
4300 - 10	16-16-16-17-20-17-19-19-18-17	
4310 - 20	15-15-15-18-15-16-14-16-15-15	
4320 - 30	15-7-15-15-12-5-10-7-10-6	
4330 - 40	13-17-18-14-14-14-14-15-11-15	
4340 - 50	18-16-12-14-14-12-12-12-10-11	
4350 - 60	15-14-15-13-11-13-16-11-15-12	Trip 4352 - W7
4360 - 70	13-6-6-15-19-19-14-10-8-4	
4370 - 80	9-12-11-15-16-13-15-14-12-18	
4380 - 90	14-11-14-11-12-14-12-11-9-8	Base Kansas City 4388 Top Marmaton
4390 - 4400	6-6-8-7-7-12-12-14-17-18	
4400 - 10	20-18-18-15-16-12-11-12-16-15	
4410 - 20	16-16-16-13-15-22-14-11-13-18	
4420 - 30	11-10-9-11-12-15-12-14-12-16	
4430 - 40	17-14-11-20-23-21-38-10-9-11	Trip 4437 - W7
4440 - 50	12-10-10-12-11-8-8-9-8-8	
4450 - 60	8-11-11-14-10-10-11-10-11-11	
4460 - 70	12-11-10-10-10-7-7-5-5-6	Probable Top Cherokee 4465 Rough 4465-69
4470 - 80	7-8-9-6-6-7-7-8-9-7	Circ. 4476 - 1 Hr.
4480 - 90	6-6-6-9-13-14-11-10-11-10	
4490 - 4500	10-10-11-11-9-6-6-8-7-7	
4500 - 10	6-6-8-7-7-8-7-7-9-9	Top Conglomerate 4508
4510 - 20	9-8-9-8-9-9-8-10-10-6	Circ. 4510 - 1 Hr.
4520 - 30	10-8-6-4-4-4-4-4-5-5	Top Viola 4523 Circ. 4530 - 1 Hr.
4530 - 40	5-4-5-5-5-4-5-4-5-7	SR 4534-35 & 4538-39
4540 - 50	5-5-5-5-5-6-7-7-11-8	Circ. 4540 - 1 Hr.
4550 - 60	12-8-6-8-8-13-15-13-10-6	D.S.T. #2 4519-52 A little gas - New bit W7R Circ. 4552 - 1 1/2 Hrs. Circ. 4558 - 1 Hr.

-5- Time Log: Sterling Drilling Company #1 Baker.

<u>Depth</u>	<u>Time</u>	<u>Remarks</u>
4560 - 4570	9-10-5-6-8-10-9-10-10-9	Circ. 4566 - 1 Hr.
4570 - 80	8-9-7-10-9-9-9-9-10-9	Circ. 4570 - 1 Hr. Circ. 4573 - 1 Hr. D.S.T. #3 4568-73 S.O.C.M. Cored 4573-85 D.S.T. #4 4572-85 O.C.M. & Wtr. Reran same W7R
4580 - 90	10-11-10-23-29-7-8-19-25-21	
4590 - 4600	35-23-22-10-10-18-20-20-21-14	Trip 4593 - W7
4600 - 10	20-14-6-8-12-9-10-9-10-8	Base Sand 4602
4610 - 20	9-10-10-12-12-10-11-14-11-17	
4520 - 30	17-15-15-14-13-13-15-14-13-12	
4630 - 40	11-17-20-20-33-36-8-12-10-7	Trip 4635 - W7
4640 - 50	7-7-7-7-7-8-8-9-9-10	Top Simpson 4559
4650 - 60	8-10-9-9-10-7-7-8-7-7	Circ. 4660 - 1 Hr.
4660 - 70	7-10-10-9-9-8-9-9-14-14	Top Simpson Sd. 4566
4670 - 80	12-10-10-11-13-17-15-18-20-20	Top <u>Arbuckle</u> 4677
4680 - 90	15-13-11-12-20-26-28-20-20-16	
4690 - 4700	13-11-11-14-12-13-14-17-23-22	Circ. 1 1/2 Hrs. - 4700 Ran elec. log. D.S.T. #5 4569-79 S.O.C.M. & Wtr. T.D. 4700 D & A 11-19-57

Time log condensed by Wendell S. Johns.