

Deep Rock #2 Lemon 8 5/8" Surf. casing 848'; 240 sacks cement &
 NW/NE/SE; 33-268-13W 63 sacks strata crete & 4% gel
 Pratt County, Kansas 100 sacks cement & 100# Calcium Chloride
 Elevation: 1959 Derrick floor 5 1/2" casing 4466'; 275 sacks cement

Note: All measurements are taken 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 - 244	Sand and red bed	Trillers log 0-3000'
244 - 700	Red bed	
700 - 854	Shale, shells & Anhydrite	
854 - 1135	Shale & shells	
1135 - 1435	Shale	
1435 - 1925	Shale, shells & limestone	
1925 - 2435	Limestone	
2435 - 2775	Limestone & shale	
2775 - 3000	Shale & Limestone	
3000 - 3004	Limestone, gray to brown, finely crystalline	Sample log 3000' to T.D.
3004 - 3008	Shale, gray to brown	
3008 - 3016	Limestone, as above, granular, some gray sub-crystalline with black irregular oolites.	
3016 - 3018	Shale, as above	
3018 - 3022	Limestone, gray - brown, dense	
3022 - 3025	Shale, as above	
3025 - 3030	Limestone, as above	
3030 - 3033	Shale, as above	
3033 - 3044	Limestone, gray to brown, finely crystalline to dense	
3044 - 3047	Shale, as above	
3047 - 3060	Sand, fine, gray, angular, micaceous; Shale, as above	
3060 - 3062	Shale, gray & brown	
3062 - 3067	Limestone, gray to buff, sub-crystalline, argillaceous, fossiliferous	
3067 - 3079	Shale, gray & gray-green, silty; Sand, as above, some green	
3079 - 3095	Limestone and shale, as above	
3095 - 3099	Shale, as above	
3099 - 3105	Limestone, gray to cream to brown, sub-crystalline to dense	Porous on electric log
3105 - 3120	Limestone, as above	No porosity
3120 - 3143	Mostly shale, brown, gray & green, some silty; streaks limestone	
3143 - 3147	Limestone, as above, sandy	
3147 - 3157	Limestone, gray, sub-crystalline, mottled, fossiliferous	Porous on electric log
3157 - 3197	Limestone, gray to buff, sub-crystalline, argillaceous, fossiliferous; streaks gray-green & brown shale	

#2 Formation Log: Deep Rock #2 Lemon-

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
3197 - 3229	Sand, fine, gray, argillaceous, micaceous; Shale, brown & gray	
3229 - 3245	Limestone, blue-gray to brown, dense	Topeka 3229 (?)
3245 - 3260	Limestone, light gray, oolitic, finely crystalline; Spotted vugular porosity	No show
3260 - 3304	Limestone, cream to buff, sub-crystalline to finely crystalline, oolitic; Fair spotted oolitic porosity	
3304 - 3317	Limestone gray to tan, fossiliferous, argillaceous	
3317 - 3330	Limestone, cream to tan, sub-crystalline, some oolitic, fair spotted vugular & oolitic porosity	Possible light oil stain
3330 - 3342	Limestone, gray, sub-crystalline to dense; Some dense, brown nodular limestone; Streaks gray-green & brown shale	
3342 - 3348	Limestone, gray, finely crystalline, large oolites; Spotted fair oolitic porosity	Possible trace stain
3348 - 3356	Limestone, gray to brown, dense; Streaks gray shale	
3356 - 3368	Limestone, porous, as above	Slight oil stain
3368 - 3395	Limestone, gray to tan, sub-crystalline, chalky; Trace brown to gray opaque chert	
3395 - 3423	Limestone, gray to tan, sub-crystalline to dense; Spotted vugular porosity; Some gray granular limestone, oolitic; Spotted oolitic porosity	No show
3423 - 3429	Limestone, as above, no porosity	
3429 - 3449	Limestone, cream to tan, finely crystalline to sub-crystalline finely sucrose, fossiliferous, good spotted vugular porosity	No show
3449 - 3455	Limestone, as above, no porosity	
3455 - 3486	Limestone, gray to brown, sub-crystalline to dense, resinous, good vugular porosity	Possible trace stain
3486 - 3491	Limestone, as above, no porosity	
3491 - 3518	Limestone, light gray, finely sucrose, sub-crystalline, spotted vugular porosity	No show
3518 - 3548	Limestone, brown-gray to blue-gray, sub-crystalline to dense; Streaks gray shale.	
3548 - 3585	Limestone, as above, spotted vugular porosity	No show

#3 Formation Log: Deep Rock #2 Lenon-

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
3585 - 3604	Limestone, gray to brown, sub-crystalline, fossiliferous; Streaks gray-black shale.	
3604 - 3608	Shale, brown black, soft, micaceous	Heebner
3608 - 3612	Limestone, brown-gray, finely crystalline to medium crystalline	Leavenworth
3612 - 3625	Shale, gray-green & brown, micaceous	Snyderville
3625 - 3640	Limestone, cream to gray, sub-crystalline to finely crystalline	Toronto
3640 - 3667	Shale, gray & gray-green, sandy; Streaks sand, fine, gray, micaceous, angular	Top Douglas 3640
3667 - 3711	Sand, fine, gray, angular, micaceous, sub-angular, argillaceous, some glauconitic	
3711 - 3765	Mostly shale, as above, some brown silty shale; some streaks sand, as above.	
3765 - 3771	Limestone, brown, dense, lithographic	Brown Lansing
3771 - 3788	Shale, gray & brown; Streaks limestone, as above	
3788 - 3820	Limestone, gray to brown, fossiliferous, argillaceous; Streaks gray & brown shale	Lansing
3820 - 3840	Limestone, gray to brown, sub-crystalline, fossiliferous, poor vugular porosity	Trace stain, no odor or free oil
3840 - 3849	Limestone, brown to gray-black, dense, fossiliferous; Streak shale gray & brown	
3849 - 3858	Limestone, gray-brown, sub-crystalline to dense, oolitic; Good vugular porosity	Possible trace stain
3858 - 3893	Limestone, gray to tan, sub-crystalline; Chert, gray, opaque, vitreous; Streaks shale, as above	
3893 - 3905	Limestone, tan to brown, sub-crystalline to dense, poor pinpoint & fine vugular porosity; Chert, pearl, gray	Trace odor & stain
3905 - 3909	Limestone, as above, no porosity	
3909 - 3920	Limestone, gray, finely crystalline, resinous, fair vugular porosity; Chert, tan opaque	Trace odor & stain

#4 Formation Log: Deep Rock #2 Lemon-

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
3920 - 3924	Limestone, as above, no porosity	Trace odor & stain
3924 - 3930	Limestone, porous, as above; Chert, tan & brown, vitreous, semi-opaque	
3930 - 3943	Limestone, gray to brown, dense, lithographic; Streaks gray-green & brown shale	
3943 - 3951	Limestone, gray to brown, sub- crystalline, oolitic; Spotted oolitic porosity	Slight show free oil, no odor
3951 - 3954	Limestone, brown, dense	
3954 - 3962	Limestone, tan to brown, finely crystalline, oolitic, good vug- ular & oolitic porosity	Trace odor, fair show free oil
3962 - 3972	Limestone, cream to gray, sub- crystalline; Streak brown & gray shale	
3972 - 3986	Limestone, tan, finely crystal- line, granular, oolitic, poor oolitic & vugular porosity	Very slight show free oil, trace odor
3986 - 3989	Limestone, as above, no porosity	
3989 - 3995	Limestone, tan, sub-crystalline, finely sucrose, fair honeycomb porosity	Slight trace free oil, no odor, good stain
3995 - 4007	Limestone, tan to brown, dense	
4007 - 4021	Limestone, tan, dense, large oolitics, very little porosity; Shale streak 4010-12	Fair stain
4021 - 4056	Limestone, light gray to tan, dense, some gray, finely crys- talline to sub-crystalline; Chert, light brown to gray opaque; Streaks gray & brown shale	
4056 - 4059	Limestone, as above	Porous on electric log
4059 - 4108	Limestone and shale, as above; Some brown, finely crystalline resinous limestone	Base Kansas City 4108 (?)
4108 - 4145	Mostly shale, gray-green & brown; Limestone, brown, dense; Trace green limestone	Top Marmaton 4108 (?)
4145 - 4156	Limestone, gray & tan, trace green, finely crystalline to dense	Porous on electric log
4156 - 4162	Limestone & shale, as above	
4162 - 4171	Limestone, gray to tan, sub- crystalline to dense; Much chert, brown, translucent; gray, opaque, non-vitreous to devi- trified	Trace black stain
4171 - 4175	Limestone & chert, as above	No porosity
4175 - 4180	Limestone & chert, as above	Stain, as above
4180 - 4182	Streak green & brown shale	

#5 Formation Log: Deep Rock #2 Lemon-

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
4182 - 4185	Limestone & chert, as above	Less stain
4185 - 4191	Chert, white, opaque, vitreous to devitrified; Shale as above	Mississippi, some dead stain
4191 - 4201	Mostly shale, as above; Some chert & limestone	
4201 - 4215	Chert, white, opaque, vitreous; white devitrified with dead brown stain; Some amber to brown, translucent chert	Dead black stain
4215 - 4221	Shale, brown, gray & green-gray	Top Kinderhook 4215
4221 - 4243	Chert, white, semi-translucent to opaque, figured; Chert, brown & Citrine, translucent, some brown, devitrified with dead brown stain	Kinderhook Chert (Upper Viola Chert) no odor or free oil
4243 - 4272	Shale, brown-maroon & green-gray; Trace green dense limestone; Probably some chert, as above	
4272 - 4322	Chert, white, opaque to semi-translucent; much gray to tan chert, opaque, figured, much dark brown to black stain, no free oil, doubtful odor; Some green shale	Top Viola 4272 Viola Chert 4272-4322
4322 - 4327	Limestone, white to tan, dense to sub-crystalline, sandy	Top Simpson 4327
4327 - 4330	Shale, bright green, sandy, calcareous & shale, dark green, waxy, with nodules of white to tan dense limestone	
4330 - 4333	Sand, fine, tight, sub-rounded to sub-angular, medium, fairly well sorted, calcareous	Fair spotted stain
4333 - 4335	Dolomite, sub-crystalline to dense, brown, sandy & sand, as above, dolomitic	Spotted stain
4335 - 4342	Sand, gray to brown to green, fine to medium, sub-rounded to sub-angular, dolomitic; Streaks interfingered thin bright green shale	Fair saturation, good odor
4342 - 4345	Sand, gray to brown, as above, tight; Streaks shale, as above	Poor spotted saturation, good odor
4345 - 4355	Sand, as above, calcareous to dolomitic; Streaks shale, as above	Streaks fair to good saturation & fair to good odor
4355 - 4360	Dolomite, brown to green-brown to chocolate brown, dense, some sandy	
4360 - 4370	Sand, tan to dirty gray, rounded, poorly sorted, calcareous & dolomitic; Thin streaks shale, as above	Spotted brown stain, much gilsonite
4370 - 4424	Much shale, as above; Shale, gray-green to black, waxy; Streaks sand, as above; Dolomite, tan to gray, finely crystalline to dense, some sandy	

#6 Formation Log: Deep Rock #2 Lemon-

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
4424 - 4430	Dolomite, light tan to cream finely crystalline to sub-crystalline; chert, gray, opaque to translucent, oolitic	Top Arbuckle 4424
4430 - 4435	Dolomite, as above	Porous on electric log
4435 - 4438	Dolomite, as above, no porosity	
4438 - 4447	Dolomite, tan to cream finely crystalline, oolitic, finely sucrose	Good oolitic porosity Very spotted good show free oil, fair odor
4447 - 4453	Dolomite, tan to brown, medium crystalline to sub-crystalline, rhombohedral; chert, gray, opaque	
4453 - 4465	Dolomite, tan, as above, good vugular porosity	Slight show free oil, fair odor
4465 - 4468 4468	Dolomite, as above, no porosity Rotary total depth	

The following drill stem tests were run on the #2 Lemon.

Lansing:

- (1) 3820 - 40; open 45 minutes; good blow throughout test.
Recovered 360' gas & 35' gas out mud
B.H.P. 0# (15 min.)
- (2) 3935-63; open 1 hour; weak blow for 30 minutes
Recovered 25' mud - no oil, gas or water
B.H.P. 0# (15 min.)

Mississippi:

- (3) 4174-98; open 1 hour; weak blow for 20 minutes
Recovered 25' mud, no oil, gas or water
B.H.P. 0# (15 min.)

Kinderhook:

- (4) 4220-49; open 1 hour; strong blow throughout test
Recovered 40' slightly gas out mud
B.H.P. 375# (15 min.)

Viola:

- (5) 4271-4305; open 1 hour; strong blow throughout test - gas to surface in 8 minutes
Recovered 200' heavily oil & gas out mud
3000' gassy oil
B.H.P. 1350# (15 min.)
I.F.P. 180#
F.F.P. 210#

#7 Formation Log: Deep Rock #2 Leason-

<u>Depth</u>	<u>Formation Description</u>	<u>Remarks</u>
<u>Simpson:</u>		
(6)	4325-35; open 1 hour; weak blow for 30 minutes Recovered 15' mud - no oil, gas or water B.H.P. 0% (15 min.)	
(7)	4335-47; open 1 hour; fair blow throughout test Recovered 500' gas & 40' slightly oil out mud B.H.P. 90% (15 min.)	
<u>Arbuckle:</u>		
(8)	4430-50; open 1 hour; small blow throughout test Recovered 180' muddy water, trace oil B.H.P. 1440% (15 min)	

Samples examined & log compiled by Wendell S. Johns &
Willis Jack Magathan

Geologic report: Deep Rock #2 Lemon-

TIME LOG

WENDELL C. JOHNS

Deep Rock #2 Lemon
 NW/NE/SE, 33-26-13W
 Pratt County, Kansas
 Elevation: 1959 Derrick Floor
 1961 Rotary bushing

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

<u>Depth</u>	<u>Time</u>	<u>Remarks</u>
3000 - 10	2-2-1-2-2-1-2-2-3-4	
20	4-4-3-4-3-3-2-3-3-3	
30	3-3-3-3-4-4-4-3-2-3	
40	4-4-4-5-5-3-2-3-2-3	
50	4-3-4-4-3-4-4-3-2-3	
60	2-2-2-2-3-3-3-3-3-3	
70	4-3-4-2-1-3-3-3-3-4	
80	4-5-4-5-4-5-4-4-3-3	
90	3-3-3-3-3-3-3-2-2-2	
3100	2-2-3-2-2-4-4-5-4-5	
3100 - 10	4-4-4-5-4-4-4-5-4	
20	4-4-4-5-4-4-4-4-5-5	
30	4-4-5-5-5-4-4-4-4-3	
40	3-2-2-2-3-3-3-3-3-2	
50	2-2-3-3-3-3-3-2-3-3	
60	2-2-3-3-2-2-2-3-3-4	
70	3-3-4-4-3-3-3-3-3-3	
80	4-4-3-3-3-3-2-3-3-3	
90	4-5-4-5-4-4-3-2-4-5	Trip 3190, OWS
3200	4-4-3-3-2-2-3-3-3-3	
3200 - 10	3-2-2-2-2-4-4-3-4-4	
20	3-3-3-3-3-2-3-3-3-3	
30	3-2-2-2-2-2-3-2-2-2	Top Topeka (?) 3229
40	2-2-2-3-3-4-4-4-4-4	
50	3-5-5-4-4-3-2-1-1-2	
60	2-2-2-2-2-2-2-3-3-3	
70	2-2-2-2-2-2-2-3-3-3	
80	3-3-3-2-2-2-2-2-2-2	
90	2-1-1-2-2-2-1-1-1-1	
3300	1-1-1-1-1-1-1-1-2-2	
3300 - 10	2-1-1-1-3-4-4-4-4-6	
20	4-4-4-4-4-3-3-2-2-3	
30	3-2-3-2-2-3-4-3-4-3	
40	4-3-4-4-4-4-4-4-4-4	
50	4-4-4-4-4-3-2-2-5-3	
60	4-5-5-5-6-6-3-3-2-1	
70	1-1-1-1-1-1-1-1-3-3	
80	3-3-3-5-6-4-4-4-4-4	
90	5-4-3-4-4-5-5-5-4-5	
3400	6-5-5-5-5-5-3-3-3-3	

Geologic report: Deep Rock #2 Lemon-

<u>Depth</u>	<u>Time</u>	<u>Remarks</u>
3400 - 10	3-3-2-2-2-3-3-2-2-2	
20	2-2-2-2-2-1-2-2-2-2-2	
30	3-2-2-5-5-6-6-5-5-2	
40	2-2-2-2-2-2-2-2-2-2-2	
50	2-3-3-3-3-3-3-2-2-3	
60	4-5-6-6-2-1-2-3-3-2	
70	2-2-3-3-3-2-2-2-2-3	
80	3-3-3-3-3-2-2-3-4-4	
90	3-3-4-3-3-3-4-6-6-6	
3500	6-5-5-4-3-3-3-3-3-3	
3500 - 10	3-3-3-3-2-3-4-3-4-3	
20	4-4-4-4-3-4-3-3-4-4	
30	4-4-5-4-5-4-4-4-2-4	
40	4-4-6-6-6-7-6-5-6-5	
50	4-4-4-4-5-5-5-5-4-3	
60	4-6-4-3-4-2-2-2-2-3	
70	3-3-3-4-3-4-6-4-4-2	
80	2-2-3-2-3-3-3-3-4-4	
90	3-3-3-3-4-7-7-6-6-8	
3600	6-5-5-5-11-6-8-12-5-5-	Trip 3598
3600 - 10	4-4-3-5-5-4-4-4-3-3	Heebner 3604
20	3-3-2-2-2-5-8-7-6-5	
30	4-3-3-2-2-4-4-4-4-3	Toronto 3625
40	3-3-3-5-5-5-3-5-4-4	
50	4-4-4-4-4-4-4-4-3-2	
60	3-2-3-2-3-3-3-3-3-4	
70	4-4-4-4-3-3-5-4-4-4	
80	3-2-2-1-2-1-1-1-1-1	
90	1-1-1-1-1-1-1-1-1-1	
3700	1-1-1-1-1-1-1-1-1-1	
3700 - 10	1-2-3-3-1-1-2-1-1-1	
20	1-2-2-3-3-3-4-3-3-4	
30	4-5-4-4-4-4-5-5-3-4	
40	5-4-4-4-4-4-5-4-4-4	
50	3-3-4-4-3-3-4-4-3-4	
60	4-4-4-4-4-4-4-4-4-4	
70	4-4-4-4-4-4-4-4-5-5	Brown Lansing 3765
80	5-5-5-6-5-4-5-4-4-5	
90	4-5-6-5-5-4-4-5-6-4	Lansing 3788
3800	4-4-5-4-4-5-5-5-5-5	
3800 - 10	5-6-6-6-5-5-5-7-7-7	
20	6-6-5-6-6-8-8-8-8-8	
30	8-5-6-5-4-4-5-5-5-5	
40	6-6-7-6-7-6-8-8-7-9	
50	5-6-5-4-5-5-5-5-4-4	
60	3-3-3-2-2-2-3-3-7-5	
70	5-6-6-6-6-6-5-6-5-6	
80	6-6-6-7-7-7-8-7-7-8	
3880 - 90	8-8-7-9-6-5-6-7-6-4	
3900	4-6-6-5-5-5-5-3-3-3	Ciro. 3840 1 1/2 hrs. DST 3820-40 New OWS 3840

Geologic report: Deep Rock #7 Lemon-

<u>Depth</u>	<u>Time</u>	<u>Remarks</u>
3900 - 10	4-4-5-5-5-7-9-8-10-7	Circ. 3910 1½ hrs.
20	6-5-4-5-4-4-4-4-3-4	
30	5-5-9-10-9-7-5-6-7-7	
40	9-11-11-12-15-10-7-7-7-7	Circ. 3935 1 hr. Trip 3935 W7
50	7-5-5-4-3-3-5-6-6-6	
60	4-5-7-6-6-7-6-4-2-2	
70	3-3-6-6-5-5-6-6-7-5	Circ. 3963 1½ hrs. DST 3935-63 New W7 3963
80	5-5-4-4-4-4-5-4-4-5	
90	4-3-5-6-5-5-5-3-5-5	
4000	5-3-2-2-2-3-3-5-5-6	Circ. 4000 1½ hrs.
4000 - 10	5-6-6-6-7-9-10-9-7-7	
20	8-10-9-9-9-10-9-8-5-4	
30	4-5-8-10-13-5-7-7-8-7	Trip 4025 W-7
40	7-7-8-7-6-7-6-6-8-8	
50	8-8-8-9-9-8-9-8-8-9	
60	9-8-8-9-5-9-8-5-5-10	
70	9-10-10-10-10-10-10-10-10-10	
80	10-10-10-10-9-8-8-9-9-5	
90	5-8-7-8-7-7-9-7-7-7	
4100	7-7-6-6-6-8-8-7-8-7	
4100 - 10	8-7-6-9-9-9-7-8-6-6	Probable Base N. O. 4108
20	6-6-8-7-8-9-10-13-10-13	Trip 4120 W7
30	4-3-4-3-4-4-6-9-8-9	
40	6-9-8-7-9-8-8-7-9-6	
50	9-9-10-9-10-8-8-8-8-8	
60	8-8-7-8-7-8-8-9-8-6	
70	9-11-8-4-3-6-6-7-6-6	Circ. 4170 2 1/4 Hrs.
80	7-9-13-13-13-10-11-11-11-10	
90	12-13-12-14-16-15-12-14-12-13	
4200	13-16-13-11-8-8-7-14-13-14	Circ 4198 1½ hrs. DST 4174 -98 New W7 R 4198
4200 - 10	12-6-3-3-4-3-4-4-3-4	Top Mississippi 4201
4210 - 20	3-4-4-4-5-12-10-10-10-10	Top Kinderhook 4215 Circ 4220 1½ hrs. Kinderhook Chert (Upper Viola) 4221-43
30	9-6-4-4-5-5-5-5-4-5	
40	4-4-4-5-4-5-5-4-5-7	
50	5-6-6-9-9-11-20-20-27-23	Circ. 4249 1½ hrs. DST 4220-49 New W7 R 4249
60	16-15-19-15-10-9-8-10-9-9	
70	8-8-12-13-14-11-9-10-10-13	
80	13-10-6-4-5-5-5-4-6-6	Top Viola 4272 Viola Chert 4272-4322
90	5-5-4-6-6-7-6-5-5-5	
4300	5-7-12-5-8-7-5-5-5-5	
4300 - 10	4-4-5-6-5-3-3-3-3-3	Circ 1½ hr. 4305 D.S.T. 4271 - 4305 New W7R 4305
20	3-4-3-4-4-3-3-4-3-3	Circ 1½ hr 4323 Cored 4323 - 35 Top Simpson 4327 Circ. 1½ hr 4335 D.S.T. 4325 - 35
	5-5-6-12-19-21-18-13-17-18	

Geologic report: Deep Rock #²/₄ Lemon-

<u>Depth</u>	<u>Time</u>	<u>Remarks</u>
4300 - 30	5-5-6-12-19-21-18-13-17-18	Circ 1½ hr 4323 Cored 4323-35 Top Simpson 4327 Circ 1½ hr. 4335 D.S.T. 4325 - 35
40	20-19-15-10-13-15-14-8-10-9	
50	9-9-8-10-10-9-8-3-4-3	Circ 1½ hr. 4347 D.S.T. 4335 - 47 New WTR @ 4347
60	4-4-4-5-5-9-9-10-10-10-	
70	9-7-8-5-8-8-8-8-8-8	
80	4-6-7-8-10-6-6-6-6-7	
90	9-8-8-9-10-9-7-9-8-8	
4400	7-8-10-10-11-10-10-12-10-9	
4400 - 10	10-10-10-13-11-10-10-9-11-10	
20	10-11-11-10-8-7-9-8-9-8	
30	8-8-8-11-10-9-8-7-10-13	Top Arbuckle 4424 Circ 1½ hr. 4435
40	12-13-14-13-10-15-15-15-12-12	
50	13-11-11-8-6-14-15-17-18-20	Circ 1½ hr 4450 D.S.T. 4430-50
60	6-8-9-9-9-6-6-6-5-5	
68	6-6-5-5-5-8-5-7	Circ 1½ hr. 4468
4468	R.T.D.	

Time log condensed by Willis Jack Magathan.