Sample From	Sample To	Cut	Recovery	Time per Foot	Sample From	Sample To	Cut	Recovery	Time per Foot
3700	3705	5	5	5-5-5-5-5	4200	4205	5	5	5-5-5-5-5
3705	3710	5	5	5-5-5-5-5	4205	4210	5	5	5-5-5-5-5
3710	3715	5	5	5-5-5-5-5	4210	4215	5	5	5-5-5-5-5
3715	3720	5	5	5-5-5-5-5	4215	4220	5	5	5-5-5-5-5
3720	3725	5	5	5-5-5-5-5	4220	4225	5	5	5-5-5-5-5
3725	3730	5	5	5-5-5-5-5	4225	4230	5	5	5-5-5-5-5
3730	3735	5	5	5-5-5-5-5	4230	4235	5	5	5-5-5-5-5
3735	3740	5	5	5-5-5-5-5	4235	4240	5	5	5-5-5-5-5
3740	3745	5	5	5-5-5-5-5	4240	4245	5	5	5-5-5-5-5
3745	3750	5	5	5-5-5-5-5	4245	4250	5	5	5-5-5-5-5
3750	3755	5	5	5-5-5-5-5	4250	4255	5	5	5-5-5-5-5
3755	3760	5	5	5-5-5-5-5	4255	4260	5	5	5-5-5-5-5
3760	3765	5	5	5-5-5-5-5	4260	4265	5	5	5-5-5-5-5
3765	3770	5	5	5-5-5-5-5	4265	4270	5	5	5-5-5-5-5
3770	3775	5	5	5-5-5-5-5	4270	4275	5	5	5-5-5-5-5
3775	3780	5	5	5-5-5-5-5	4275	4280	5	5	5-5-5-5-5
3780	3785	5	5	5-5-5-5-5	4280	4285	5	5	5-5-5-5-5
3785	3790	5	5	5-5-5-5-5	4285	4290	5	5	5-5-5-5-5
3790	3795	5	5	5-5-5-5-5	4290	4295	5	5	5-5-5-5-5
3795	3800	5	5	5-5-5-5-5	4295	4300	5	5	5-5-5-5-5
3800	3805	5	5	5-5-5-5-5	4300	4305	5	5	5-5-5-5-5
3805	3810	5	5	5-5-5-5-5	4305	4310	5	5	5-5-5-5-5
3810	3815	5	5	5-5-5-5-5	4310	4315	5	5	5-5-5-5-5
3815	3820	5	5	5-5-5-5-5	4315	4320	5	5	5-5-5-5-5
3820	3825	5	5	5-5-5-5-5	4320	4325	5	5	5-5-5-5-5
3825	3830	5	5	5-5-5-5-5	4325	4330	5	5	5-5-5-5-5
3830	3835	5	5	5-5-5-5-5	4330	4335	5	5	5-5-5-5-5
3835	3840	5	5	5-5-5-5-5	4335	4340	5	5	5-5-5-5-5
3840	3845	5	5	5-5-5-5-5	4340	4345	5	5	5-5-5-5-5
3845	3850	5	5	5-5-5-5-5	4345	4350	5	5	5-5-5-5-5
3850	3855	5	5	5-5-5-5-5	4350	4355	5	5	5-5-5-5-5
3855	3860	5	5	5-5-5-5-5	4355	4360	5	5	5-5-5-5-5
3860	3865	5	5	5-5-5-5-5	4360	4365	5	5	5-5-5-5-5
3865	3870	5	5	5-5-5-5-5	4365	4370	5	5	5-5-5-5-5
3870	3875	5	5	5-5-5-5-5	4370	4375	5	5	5-5-5-5-5
3875	3880	5	5	5-5-5-5-5	4375	4380	5	5	5-5-5-5-5
3880	3885	5	5	5-5-5-5-5	4380	4385	5	5	5-5-5-5-5
3885	3890	5	5	5-5-5-5-5	4385	4390	5	5	5-5-5-5-5
3890	3895	5	5	5-5-5-5-5	4390	4395	5	5	5-5-5-5-5
3895	3900	5	5	5-5-5-5-5	4395	4400	5	5	5-5-5-5-5
3900	3905	5	5	5-5-5-5-5	4400	4405	5	5	5-5-5-5-5
3905	3910	5	5	5-5-5-5-5	4405	4410	5	5	5-5-5-5-5
3910	3915	5	5	5-5-5-5-5	4410	4415	5	5	5-5-5-5-5
3915	3920	5	5	5-5-5-5-5	4415	4420	5	5	5-5-5-5-5
3920	3925	5	5	5-5-5-5-5	4420	4425	5	5	5-5-5-5-5
3925	3930	5	5	5-5-5-5-5	4425	4430	5	5	5-5-5-5-5
3930	3935	5	5	5-5-5-5-5	4430	4435	5	5	5-5-5-5-5
3935	3940	5	5	5-5-5-5-5	4435	4440	5	5	5-5-5-5-5
3940	3945	5	5	5-5-5-5-5	4440	4445	5	5	5-5-5-5-5
3945	3950	5	5	5-5-5-5-5	4445	4450	5	5	5-5-5-5-5
3950	3955	5	5	5-5-5-5-5	4450	4455	5	5	5-5-5-5-5
3955	3960	5	5	5-5-5-5-5	4455	4460	5	5	5-5-5-5-5
3960	3965	5	5	5-5-5-5-5	4460	4465	5	5	5-5-5-5-5
3965	3970	5	5	5-5-5-5-5	4465	4470	5	5	5-5-5-5-5
3970	3975	5	5	5-5-5-5-5	4470	4475	5	5	5-5-5-5-5
3975	3980	5	5	5-5-5-5-5	4475	4480	5	5	5-5-5-5-5
3980	3985	5	5	5-5-5-5-5	4480	4485	5	5	5-5-5-5-5
3985	3990	5	5	5-5-5-5-5	4485	4490	5	5	5-5-5-5-5
3990	3995	5	5	5-5-5-5-5	4490	4495	5	5	5-5-5-5-5
3995	4000	5	5	5-5-5-5-5	4495	4500	5	5	5-5-5-5-5
4000	4005	5	5	5-5-5-5-5	4500	4505	5	5	5-5-5-5-5
4005	4010	5	5	5-5-5-5-5	4505	4510	5	5	5-5-5-5-5
4010	4015	5	5	5-5-5-5-5	4510	4515	5	5	5-5-5-5-5
4015	4020	5	5	5-5-5-5-5	4515	4520	5	5	5-5-5-5-5
4020	4025	5	5	5-5-5-5-5	4520	4525	5	5	5-5-5-5-5
4025	4030	5	5	5-5-5-5-5	4525	4530	5	5	5-5-5-5-5
4030	4035	5	5	5-5-5-5-5	4530	4535	5	5	5-5-5-5-5
4035	4040	5	5	5-5-5-5-5	4535	4540	5	5	5-5-5-5-5
4040	4045	5	5	5-5-5-5-5	4540	4545	5	5	5-5-5-5-5
4045	4050	5	5	5-5-5-5-5	4545	4550	5	5	5-5-5-5-5
4050	4055	5	5	5-5-5-5-5	4550	4555	5	5	5-5-5-5-5
4055	4060	5	5	5-5-5-5-5	4555	4560	5	5	5-5-5-5-5
4060	4065	5	5	5-5-5-5-5	4560	4565	5	5	5-5-5-5-5
4065	4070	5	5	5-5-5-5-5	4565	4570	5	5	5-5-5-5-5
4070	4075	5	5	5-5-5-5-5	4570	4575	5	5	5-5-5-5-5
4075	4080	5	5	5-5-5-5-5	4575	4580	5	5	5-5-5-5-5
4080	4085	5	5	5-5-5-5-5	4580	4585	5	5	5-5-5-5-5
4085	4090	5	5	5-5-5-5-5	4585	4590	5	5	5-5-5-5-5
4090	4095	5	5	5-5-5-5-5	4590	4595	5	5	5-5-5-5-5
4095	4100	5	5	5-5-5-5-5	4595	4600	5	5	5-5-5-5-5
4100	4105	5	5	5-5-5-5-5					
4105	4110	5	5	5-5-5-5-5					
4110	4115	5	5	5-5-5-5-5					
4115	4120	5	5	5-5-5-5-5					
4120	4125	5	5	5-5-5-5-5					
4125	4130	5	5	5-5-5-5-5					
4130	4135	5	5	5-5-5-5-5					
4135	4140	5	5	5-5-5-5-5					
4140	4145	5	5	5-5-5-5-5					
4145	4150	5	5	5-5-5-5-5					
4150	4155	5	5	5-5-5-5-5					
4155	4160	5	5	5-5-5-5-5					
4160	4165	5	5	5-5-5-5-5					
4165	4170	5	5	5-5-5-5-5					
4170	4175	5	5	5-5-5-5-5					
4175	4180	5	5	5-5-5-5-5					
4180	4185	5	5	5-5-5-5-5					
4185	4190	5	5	5-5-5-5-5					
4190	4195	5	5	5-5-5-5-5					
4195	4200	5	5	5-5-5-5-5					

Formation	Source	Log	Datum
ARBUCKLE	1598	1597	+922	-3
KINDERHOOK	1598	1596	+923	-2
HEEBNER	3513	3514	+1,113	+19
LANSING	3562	3563	+1,064	+21
KANSAS	3763	3763	+863	+21
STARK	4092	4092	+1534	+44
HUSHPUCKNEY	4138	4138	+1488	+44
BASEKANSAS	4178	4181	+1445	+47
PAWNEE	4289	4288	+1338	+48
FORT SCOTT	4319	4320	+1306	+48
CHEROKEE SHALE	4351	4352	+1274	+48
ATOKA	4390	4391	+1235	+47
MORO	4392	4393	+1233	+52
TOTAL DEPTH	4400	4400	-1241	

Formation	Sample	Log	Datum	+-

BIT RECORD							
Bit No.	Size of Hole	Serial No.	Depth In	Depth Out	Depth In	Depth Out	Hours
1	7 7/8 REED	88	28.4-0	0	338	338	19½
2	7 7/8 REED	88 RRS	10-14-59	338	4060	4098	24½

CASING RECORD				
Size	Weight	Grade	Depth	Cement
8 5/8	24		338	250
5½	14		4098	150

a Structural Position in the Area: SHAKEY OIL COMPANY
NE/4-SW/4 SEC 19 T21S R22W

LEGEND

Anhydrite | Salt | Sandstone | Shale | Gyp. sh. | Limestone | Oolitic/Lime | Chert | Dolomite

SCALE " = 100'

DEPTH	DRILLING TIME IN MINUTES PER FOOT (Rate of Penetration Increases)	LITHOLOGY	SAMPLE DESCRIPTIONS	REMARKS
3600	5" 10" 15" 20" 25"			Spud on 4th of 7500' at 8:15pm on 9-26-59
				Mud Properties: Mobile/Gemite Mud 9 lbs/gal Vis 60
				Samples Cuttings: 30ft Wet Samples Library
				Deviations: 338' - ¾° 722' - ¾° 1432' - ¾° 2527' - ¾° 4060' - 1¼°
3700				
	ARBUCKLE 3730 (-1613)			
	BASEKANSAS 3752 (-1635)			
3800				
	LANSING 3762 (-1645)			
3900				
				Mud Data at 3900' of 12:45pm on 9-27-59: Wt 9.2 Vis 60 Wtr 12.2 pH 9 Cake 10/32 Solids 8% 4%
4000				
	STARK 4092 (-1945)			
	HUSHPUCKNEY 4138 (-1991)			
	BASEKANSAS 4178 (-2031)			
4100	PAWNEE 4289 (-2142)			
				Mud Data at 4098' of 12:30pm on 9-28-59: Wt 9.2 Vis 60 W.L. 8.8 pH 9 Cake 2&32nd Solids 9% 3½%
	FORT SCOTT 4319 (-2172)			
4200	CHEROKEE SH 4351 (-2204)			
	ATOKA 4390 (-2243)			
	MORO 4392 (-2245)			
4300				
	MISSISSIPPI 4400 (-2253)			
				Finished Drilling at 11:45 am on 9-29-59. Ran 4401' Rotary Tools Cut No. 1 Cut 98' Drilled 20 Hour Short Trip Made Cut No. 2 Cut 98' Finished Logging at 10:45pm

DEPTH	DRILLING TIME Minutes/Foot (Rate of Penetration Increases)	LITHOLOGY	SAMPLE DESCRIPTIONS	REMARKS

COMPANY MULL DRILLING COMPANY
LEASE BOWIE NO. 1-19 ELEVATIONS 2104 KB
LOCATION NE/4-SW/4 SEC 19 TWP 21S RGE 22W
COUNTY HODGEMAN STATE KANSAS