WILLIAM M. CAPPS
GEOLOGIST
1740 WICHITA PLAZA BUILDING
WICHITA, KANSAS 67201
AMHERST 4-1741

December 15, 1966

GEOLOGICAL REPORT

Ferguson Oil Company, No. 1 FRIESEN "C"
C NE SW NE Sec. 22-33s-28w
Meade County, Kansas

Commenced: December 2, 1966
Completed: December 14, 1966 (rotary)
Contractor: Zenith Drilling Corp.
Wichita, Kansas

Elevation: 2506 G.L.
2514 K.B.

Drill Stem Tests: 1 (Morrow sand)
Logging: Dual Induction-Laterolog; Sonic w/Gamma Ray
Samples: 10 foot from 4300'-5970'RTD
Drilling Time: 1 foot from 4300'-5970'RTD

Casing Record:
8 5/8" @ 1577' w/576 sx. posmix, 250 sx. common.
4½" @ 5970 w/200 sx.

FORMATION TOPS (Schlumberger)

	Depth	Subsea
Hoebner sh.	4442	-1928
Lansing	4596	-2082
Marmaton	5256	-2742
Cherokee	5430	-2916
Morrow sh.	5730	-3216
Morrow sd.	5744:37	-3230
Mississippian (Chester)	5807	-3293
Total Depth	5972	-3458

SUMMARY OF POROUS ZONES AND OIL OR GAS SHOWS

Council Grove

3016-3022 Samples not saved. 11-13 % porosity, 50-54 % water saturation.

Lansing

5078-5084 Limestone, tan to gray, brown, dense to very finely crystalline. No show of oil or odor. 16-18 % porosity, ~~42-44~~ % water saturation.

38 42 70

Marmaton

5258-5262 Limestone, gray to tan, dense to very finely crystalline. No show of oil or odor. 11-15 % porosity, 44-51 % water saturation.

5262-5265 Same. 19 % porosity, 87 % water saturation.

Morrow sand

5744-5781 Sandstone, gray, fine grained to very fine grained, sub-rounded, porous and friable, possible clear oily stain and questionable odor. Porosity and water saturation are as follows:

5748-5751	13-17 % por., 49 % W.S. (low perm.)
5757-5760	19 % por., 36-39 % W.S.
5760-5765	19 % por., 39-50 % W.S.
5765-5767	19 % por., 55 % W.S.
5767-5770	18 % por., 58 % W.S.
5770-5774	20 % por., 57-89 % W.S.
5774-5776	19 % por., 89 % W.S.
5776-5779	21 % por., 97 % W.S.

DST No. 1: 5728-5757, open 1 hour. Gas to surface in 4 minutes. Gauged 1,250 MCFGD increasing to 2,740 MCFGD at end of test. Recovered 195 feet of gas cut mud. FP 111-323#. 30" SIBHP 2011-2000#. HH 2977-2944#.

Mississippian (Chester)

5807-5970 RTD Limestone, buff to cream, tan, dark tan, brown, dense to medium crystalline, fossiliferous in part, chalky in part, shaly in part, with interbedded gray and greenish gray, slightly silty shales. No shows.

REMARKS

Drill stem test recovery and electric and sonic log calculations indicates commercial quantities of gas to be present in approximately 19 feet of Morrow sand from 5748-51 and 5744-70. It was, therefore, recommended that production casing be set and the well completed in the Morrow sand.

William M. Capps

William M. Capps

FERGUSON OIL COMPANY

FRESEN "C" NO. 1

Drilling Time Log

From	To	Minutes	Remarks
4300	4310	½-½-½-½-1-1-1-1-½-½	
	4320	1-1-1-½-½-1-1-1-1-1	
	4330	1-1-1-1-1-1-2-1-1-1	
	4340	2-1-1-1-1-1-1-x-x-1	Correction
	4350	1-½-½-2-1-1-2-1-1-1	
	4360	2-1-1-1-1-1-1-1-1-1	
	4370	1-2-1-1-1-1-2-1-1-1	
	4380	1-1-2-1-1-1-2-1-1-2	
	4390	1-1-1-1-1-1-2-1-1-1	
	4400	1-1-1-1-1-1-1-1-1-1	
4400	4410	1-1-½-½-½-½-1-1-1-1	
	4420	2-1-1-1-1-1-1-2-2-2	
	4430	1-2-1-1-1-1-1-1-½-½	
	4440	1-2-x-1-2-1-2-2-2-2	Correction
	4450	2-1-1-1-1-1-1-½-½-1	
	4460	2-3-2-2-1-1-1-1-2-2	
	4470	2-1-1-1-2-1-2-2-2-1	
	4480	1-2-2-2-2-2-3-2-2-1	
	4490	2-2-2-2-2-2-3-1-3-2	
	4500	2-2-2-2-3-1-2-1-1-1	
4500	4510	1-1-1-2-1-2-1-2-2-1	
	4520	1-1-1-2-2-1-1-2-2-1	
	4530	2-1-2-2-1-1-1-1-1-1	
	4540	1-1-1-1-1-1-1-1-1-1	
	4550	1-1-½-½-1-1-½-½-1-1	
	4560	1-½-½-1-1-1-1-x-1-1	Correction
	4570	1-1-1-1-1-2-2-2-1-2	
	4580	2-1-2-2-2-2-2-2-2-3	
	4590	1-2-1-2-2-1-1-2-1-1	
	4600	1-1-2-1-1-1-1-2-2-2	
4600	4610	3-2-2-2-1-2-2-2-1-2	
	4620	1-1-1-2-1-1-1-2-2-2	
	4630	x-2-2-2-2-1-2-1-3-3	Correction
	4640	2-3-2-3-3-2-3-3-2-2	
	4650	2-2-3-3-3-3-2-1-4-2	
	4660	2-2-2-x-2-1-1-½-½-1	Correction
	4670	1-1-2-2-2-1-2-1-2-1	Trip @ 4675
	4680	1-2-2-4-2-x-1-1-2-1	
	4690	1-2-1-2-2-1-1-½-½-½	
	4700	½-1-½-½-1-1-½-½-1-1	

From	To	Minutes	Remarks
4700	4710	3-1-3-3-2-2-2-3-3-2	
	4720	3-2-1-1-1-1-1-3-2-3	
	4730	2-2-4-1-3-2-1-1-1-1	
	4740	½-½-½-½-1-1-1-1-1-1	
	4750	1-2-3-2-3-3-1-4-½-½	
	4760	1-1-1-1-2-1-1-½-½-½	
	4770	1-1-1-1-½-1-½-1-1-½	
	4780	1-½-1-½-½-½-1-½-½-½	
	4790	½-½-½-½-½-½-½-½-½-1	
	4800	1-1-1-1-1-1-1-½-½-½	
4800	4810	2-2-3-3-4-3-2-3-2-4	
	4820	2-1-5-3-1-1-1-1-1-1	
	4830	1-1-1-1-1-1-1-1-2-1	
	4840	3-1-2-2-1-1-1-1-2-1	
	4850	2-2-2-2-2-4-3-3-3-3	
	4860	4-4-5-5-2-3-2-2-2-3	
	4870	3-4-2-2-2-2-4-4-2-3	
	4880	2-2-4-2-2-2-2-½-½-½	
	4890	½-½-½-½-½-3-4-2-4-4	
	4900	3-3-3-2-3-3-2-2-1-3	
4900	4910	2-2-2-3-2-3-2-2-2-2	
	4920	2-2-2-2-2-2-5-6-6-x	Correction
	4930	2-5-6-6-6-3-2-3-3-3	
	4940	3-2-2-3-2-3-3-2-2-3	Trip @ 4931
	4950	2-2-2-2-3-3-2-3-5-3	
	4960	5-5-4-4-5-3-3-1-3-2	
	4970	2-3-5-5-4-4-6-4-5-4	
	4980	4-5-5-5-5-3-1-½-½-1	
	4990	1-2-2-2-3-6-4-5-4-5	
	5000	5-5-5-4-4-4-3-4-5-4	
5000	5010	3-3-3-1-2-2-2-3-2-2	
	5020	4-2-2-2-2-2-2-1-1-2	
	5030	1-2-2-3-2-4-4-3-3-3	
	5040	4-3-4-4-4-4-4-6-4-4	
	5050	4-5-4-5-3-4-6-4-7-5	
	5060	4-7-4-3-2-3-3-8-6-3	
	5070	5-5-5-4-4-4-5-3-5-4	
	5080	4-3-2-2-4-5-5-½-½-½	- Ho Dg.s ?
	5090	½-½-½-½-½-½-½-2-4-5	
	5100	4-4-4-4-2-4-3-4-3-3	
5100	5110	3-3-4-3-5-3-3-4-5-3	
	5120	6-2-4-4-4-2-2-4-3-3	
	5130	4-3-6-3-3-4-x-2-2-2	Trip @ 5126
	5140	3-2-3-2-2-2-2-2-2-2	
	5150	3-2-3-2-2-2-1-1-2-6	
	5160	3-3-3-2-2-2-2-3-2-5	
	5170	4-4-4-2-5-4-3-1-½-½	
	5180	½-½-½-½-½-½-½-½-½-½	
	5190	½-½-½-½-1-½-½-½-½-½	
	5200	½-½-½-½-½-½-½-1-1-1	

From	To	Minutes	Remarks
5200	5210	1-1-4-5-6-5-6-6-6-6	
	5220	7-7-7-4-x-6-6-6-5-5	Correction
	5230	5-4-7-4-7-5-7-6-5-7	
	5240	6-6-3-5-5-4-4-4-4-3	
	5250	3-2-2-2-2-2-2-3-5-3	
	5260	3-4-3-4-2-3-2-3-3-2	
	5270	½-½-½-1-1-½-½-½-1-1	
	5280	1-2-4-3-3-3-4-2-3-1	
	5290	4-4-3-4-4-4-5-3-5-3	
	5300	4-4-3-4-3-5-3-4-4-2	
5300	5310	2-3-3-2-2-4-4-5-4-2	
	5320	5-4-4-4-5-5-4-3-2-4	
	5330	2-4-4-3-4-3-3-2-4-4	
	5340	4-5-2-2-2-5-3-4-5-4	
	5350	4-3-2-2-2-2-2-2-2-4	
	5360	1-3-2-3-2-2-5-4-4-5	
	5370	x-2-2-2-1-1-1-1-1-2	Trip @ 5361
	5380	2-1-1-2-3-2-2-2-2-2	
	5390	2-3-2-2-1-2-2-1-3-1	
	5400	2-3-1-2-2-2-2-2-2-2	
5400	5410	3-4-2-3-3-7-5-2-4-3	
	5420	3-4-2-1-1-3-4-3-3-2	
	5430	5-5-6-7-6-5-4-3-7-5	
	5440	8-5-3-2-3-2-4-3-4-3	
	5450	6-5-6-6-4-4-3-5-5-5	
	5460	7-3-4-4-3-5-6-3-5-4	
	5470	4-4-6-5-6-4-5-4-4-7	
	5480	4-7-4-8-6-8-10-2-3-4	Trip @ 5477
	5490	3-2-2-3-2-3-2-3-4-2	
	5500	2-4-3-3-4-2-4-3-4-4	
5500	5510	3-4-3-4-4-3-3-5-5-3	
	5520	3-2-3-4-5-5-6-6-4-6	
	5530	8-8-7-4-3-4-5-7-5-8	
	5540	6-7-7-4-5-6-6-4-2-5	
	5550	4-3-3-3-3-2-2-4-5-6	
	5560	5-1-5-4-4-3-4-4-5-2	
	5570	3-2-4-4-6-4-4-4-4-6	
	5580	4-5-3-3-4-2-2-2-3-2	
	5590	2-2-3-5-5-4-4-6-5-4	
	5600	4-2-6-3-8-4-4-5-5-7	
5600	5610	3-7-5-4-6-3-7-3-3-2	
	5620	1-4-7-6-5-6-3-3-4-4	
	5630	4-3-4-3-3-6-4-6-6-2	
	5640	4-x-3-3-6-4-5-6-4-7	Trip @ 5632
	5650	2-6-4-3-4-5-5-3-4-4	
	5660	2-2-7-6-6-5-9-3-6-4	
	5670	4-7-3-6-5-4-6-3-5-4	
	5680	6-6-4-9-5-8-5-5-3-1	
	5690	2-2-1-1-3-5-7-3-3-4	
	5700	4-3-8-4-2-3-2-2-5-5	

From	To	Minutes	Remarks
5700	5710	7-6-6-6-6-6-6-4-4-4	
	5720	4-5-4-3-6-3-5-4-5-5	
	5730	4-4-4-3-5-5-5-5-3-3	
	5740	3-3-3-3-3-3-5-5-4-4	
	5750	4-4-5-4-3-4-3-3-3-2	
	5760	1-1-2-2-2-1-1-1-1-1	DST #1: 5728-57
	5770	1-1-1-1-1-1-1-1-½-1	
	5780	1-1-1-½-1-1-1-1-1-2	
	5790	2-2-1-1-1-1-2-2-2-2	
	5800	1-2-4-4-2-3-3-2-3-3	
5800	5810	3-4-3-4-4-3-2-3-4-6	
	5820	6-7-8-8-9-9-10-6-8-11	
	5830	7-7-8-7-6-6-7-6-6-7	
	5840	8-4-9-8-6-5-4-3-4-9	
	5850	x-6-6-7-5-7-7-8-6-5	Correction
	5860	2-3-7-6-6-7-4-3-4-6	
	5870	6-8-6-7-5-6-7-4-7-3	
	5880	6-4-5-4-7-3-3-3-3-5	
	5890	3-2-8-5-2-4-4-2-3-4	Trip @ 5884
	5900	2-3-4-4-5-4-2-2-2-2	
5900-5910		1-3-3-4-4-4-2-3-3-2	
	5920	2-2-3-3-2-3-2-2-4-4	
	5930	4-3-3-4-3-5-3-4-3-4	
	5940	4-4-3-3-4-4-3-2-3-3	
	5950	3-4-4-4-2-2-1-2-2-1	
	5960	2-2-1-1-1-1-2-1-1-1	
	5970	4-2-4-3-5-2-4-3-4-3	