

15-7-19W

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GEOLOGICAL REPORT  
FROM CONFIDENTIAL

FRONTIER OIL COMPANY

NO. 5 BURTON

*APL 6-163-23163*

SE NE SW SEC. 15-7S-19W

ROOKS COUNTY, KANSAS

DATE COMMENCED: April 19, 1991

DATE OF RTD: April 27, 1991

GEOLOGIST:

RICHARD D. PARKER

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STATE CORPORATION COMMISSION

JUN 05 1991

CONSERVATION DIVISION  
Wichita, Kansas

Frontier Oil Company  
125 N. Market, Ste. 1720  
Wichita, Kansas 67202

Re: Frontier Oil Company  
No. 5 Burton  
SE NE SW Sec. 15-7-19W  
Rooks County, Kansas

Dear Sir:

The following is a Geological Report with a Time Log attached on the above captioned test well.

Drilling was supervised from 2800' to 3550', rotary total depth. Samples were examined from 2900' to rotary total depth.

All formation tops, zones of porosity and staining are based on rotary bushing measurements. Any corrections of measurements during the drilling of the well have been incorporated into this report.

Elevation (American Elevations)	1929 DF	--	1932 KB
Anhydrite	1431		+ 501
Topeka	2885		- 953
Heebner	3087		-1155
Toronto	3110		-1178
Lansing-Kansas City	3126		-1194
Base of Kansas City Conglomerate	3349		-1417
Arbuckle	3394		-1462
Granite Wash	3402		-1470
RTD	3490		-1558
	3550		-1618

Structurally on top of the Lansing-Kansas City, the Burton No. 5 ran 1' low to the Burton No. 1, located approximately 1/2 mile north.

ZONES OF INTEREST

TOPEKA (Top 2885)  
2885 to 2890

Tan to light grey fossiliferous lime with no show of oil.

2915 to 2923

Tan fine crystalline to sucrosic lime with no show.

3042 to 3050

White slightly oolitic lime with no show of oil.

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Wichita, Kansas

TORONTO (Top 3110)  
3110 to 3116

White chalky to fine crystalline lime with a trace of stain, no show of free oil, no odor.

LANSING-KANSAS CITY (Top 3126)  
3126 to 3132

White fine crystalline to oolitic lime with a trace of stain, no show of free oil, no odor.

3168 to 3172

White chalky to slight oolitic lime with no show, no odor

3187 to 3190

White fine crystalline to oolitic lime with some inter-oolitic porosity. Trace of oil stain, trace of free odor, very faint odor.

3216 to 3220

White fine crystalline to vuggy lime with trace of oil stain, trace of free oil, no odor.

3226 to 3232

White poorly developed oolitic lime with tar spotted stain. Traces of free oil. Faint odor.

3284 to 3288

White fine crystalline to fossiliferous lime with trace of stain and trace of free oil, no odor.  
(Included in DST #1)

3304 to 3308

White oolitic to oolitic lime with a fair show of free oil, fair spotted stain and a fair odor.

3323 to 3330

Tan fine crystalline to slightly vuggy lime with a trace of free oil, trace of stain, very faint odor.

DRILL STEM TEST NO. 1 (TRILOBITE TESTING)  
3268 to 3336

15-30 Packer failure. Rec. 620'  
M. IF 444-625. 30" SIP 995.

DRILL STEM TEST NO. 2 (Re-Run)  
3292 to 3336 (TRILOBITE TESTING)

Packer Failure.

ARBUCKLE (Top 3402)  
3402 to 3420

White medium crystalline dolomite  
with black flakes of gilsonite  
material. No show of free oil  
and no odor.

GRANITE WASH (Top 3490)  
3490 to 3532

Clear well rounded sand in  
clusters with pink feldspars  
micas, pyrite and other granitic  
materials.

3532 to 3550

Pink and red feldspar and clear  
quartz, extremely hard.

4½" new 10½# casing was set @ 3457', 55' in the Arbuckle and 93' off  
bottom with 160 sx Allied ASC cement. Zero point is 5' AGL and the shoe  
joint is 40-85' long.

Sincerely,

*Richard D. Parker*  
Richard D. Parker

DRILLING INFORMATION ON THE BURTON NO. 5

Contractor: Red Tiger Drilling Co.	Drillers: Hejney, Lyle Leech
Tool Pusher: Kenneth Lyle	Date of RTD: April 27, 1991
Spud Date: April 19, 1991	Casing: 4½" @ 3457/160 sx Basket @ 3250'
Surface Pipe: 8 5/8" @ 264/170 sx	Basket @ 1480'

TOTAL FOOTAGE DRILLED PER DAY

Under Surface At 3:00 AM on March 20, 1991

	Feet	At	7:00 AM	On	
497	"	"	" "	"	4-20-91
1620	"	"	" "	"	4-21-91
2092	"	"	" "	"	4-22-91
2575	"	"	" "	"	4-23-91
2978	"	"	" "	"	4-24-91
3252	"	"	" "	"	4-25-91
3336	"	"	" "	"	4-26-91
3402	"	"	3:40 PM	"	4-27-91

BIT RECORD

Bits	Type	Footage
#1	Varel- (U 126) (New)	267 to 1560
#2	Varel- (U 527) (New)	1560 to 3550

MUD RECORD

Mud Company: Midland Mud

Mud Type: Starch

Surface:	50 sx gel, 6 sx hulls, 3 sx lime, 1 sk soda ash
1483	2 sx hulls
1933	2 sx hulls
2260	4 sx hulls
2814	40 sx starch, 10 sx salt gel, 10 sx gel, 1½ sx soda ash, 9 sx hulls 8 sx cedar fiber
3169	36 sx gel, 6 sx salt gel, 3 sx hulls, ½ sk soda ash
3336	55 sx gel, 20 sx starch, 12 sx salt gel, 54 sx gel, 29 sx cedar fiber 13 sx hulls, 10 sx gel, ½ sk soda ash
3402	5 sx starch, 4 sx caustic, 30 sx cedar fiber, 6 sx poly seal, 5 sx sure plug, 1 sk preservative, 1 sk defoamer

Frontier Oil

DRILLERS TIME LOG

NO. 5 BURTON  
SE NE SW SEC. 15-7-19W  
ROOKS COUNTY, KANSAS

DEPTH	MINUTES	REMARKS
2800 to 2810	4-5-4-4-5-4-5-4-3-3	
2820	3-4-4-3-2-2-3-2-2-1	
2830	2-2-2-1-2-2-3-4-6-5	
2840	5-3-5-3-3-2-2-3-3-4	
2850	4-4-2-2-2-4-3-2-1½-1	
2860	1-1-1-1½-1-1½-1½-1½-1½-1½	
2870	2½-3-2½-2½-2-2-2-2½-3-2½	
2880	1½-1½-1½-1½-1½-1½-1-2-1½-2-1½	
2890	1½-2-1½-1½-1-2-3-4-3-4	
2900	4-3½-3½-4-4-4-4-3-3-4	
2900 to 2910	4-3-4-2-3-3-3-4-3-2	
2920	2-4-4-3-3-2-1-1-2-1	
2930	1-2-2-3-3-4-4-3-3-4	
2940	4-4-3-3-3-3-3-2½-2½	
2950	2-3-3-2-3-3-3-4-4-4	
2960	3-4-3-2-1-2-2-3-2-3	
2970	4-3-4-4-3-3-2-3-3-3	
2980	2-2-1-1-2-2-2-2-3-3	
2990	3-3-4-4-3-3-3-3-3-3	
3000	3-2-1-3-3-3-4-3-4-3	
3000 to 3010	5-5-4-5-4-2-3-4-4-4	
3020	2-3-4-3-4-5-5-5-4-5	
3030	5-5-4-3-4-4-5-6-6-5	
3040	4-5-5-3-5-6-6-5-4-5	
3050	5-6-2-2-1-2-2-3-3-3	
3060	4-5-4-5-4-4-4-5-4-5	
3070	3-3-2-2-3-4-3-3-3-3	
3080	2-3-3-3-4-5-4-3-4-4	
3090	3-4-4-4-5-5-5-4-2-2	
3100	6-5-4-5-5-5-4-3-4-4	
3100 to 3110	3-3-2-4-3-3-3-1-3-2	
3120	3-3-3-3-3-3-4-3-4-5	
3130	4-5-5-4-4-4-3-4-4-4	
3140	3-4-3-2-4-4-4-3-5-5	
3150	5-6-6-5-7-4-4-4-5-5	
3160	5-6-6-6-6-6-6-6-6-4	
3170	7-6-7-6-5-6-4-5-6-3	
3180	4-5-6-7-7-6-6-7-7-7	
3190	7-6-6-6-6-5-6-5-5-7	
3200	6-7-8-6-6-7-6-6-6-7	

3200 to 3210	5-5-5-5-5-5-6-5-4-5	
3220	5-5-5-4-6-6-6-5-4-5	
3230	6-5-5-5-5-5-7-5-3-4	
3240	3-6-6-5-5-5-5-6-6-5	
3250	6-5-6-5-6-5-6-5-7-6	
3260	4-6-7-6-5-6-6-5-6-6	
3270	6-4-5-6-6-6-6-6-6-6	
3280	5-6-6-6-6-7-6-6-7-7	
3290	5-4-7-6-3-4-6-6-5-6	
3300	5-6-2-3-4-3-5-5-3-3	
3300 to 3310	3-3-1-2-2-2-1½-4½-5-6½	
3320	6½-6-7-7-5-7-6-6-6-7	
3330	8-7-7-3-4-3-4-4-4-4	
3340	5-6-6-10-6-7-5-5-5-4	DST #1 (3268-3336) Pkr Fail
3350	6-6-5-4-5-5-6-6-7-6	DST #2 (3292-3336) Pkr Fail
3360	5-5-4-3-4-4-4-3-4-4	
3370	3-4-4-4-4-5-5-6-5-4	
3380	5-4-3-4-3-4-4-4-4-4	
3390	5-6-6-5-5-5-5-5-4-4	
3400	5-4-6-4-4-4-3-3-2-2	
3400 to 3410	2-2-4-3-3-4-3-1-1-3	
3420	4-3-4-3-3-5-1-2-3-2	
3430	1-2-2-2-2-3-2-2-2-1	
3440	3-1-3-2-2-3-2-3-2-3	
3450	2-4-3-3-3-2-1-2-3-2	
3460	3-2-3-3-2-2-2-3-3-2	
3470	3-3-2-2-2-2-2-2-2-3	
3480	2-3-2-3-2-3-2-2-3-3	
3490	3-3-3-3-2-3-3-3-2-3	
3500	2-2-1-1-3-2-3-3-3-3	
3500 to 3510	3-4-3-2-2-2-3-2-2-2	
3520	3-2-3-2-3-2-2-2-3-2	
3530	3-3-3-4-3-3-3-2-4-3	
3540	3-3-6-7-7-6-6-7-6-8	
3550	10-10-7-8-5-8-8-9-8-7	RTD 3350