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19-18-17W

CONFIDENTIAL

RELEASED

Date: JUN 1 1989

FROM CONFIDENTIAL

FRONTIER OIL COMPANY

NO. 2 SEUSER

NW SE SW SEC. 19-18S-17W

RUSH COUNTY, KANSAS

DATE COMMENCED: MARCH 12, 1988

DATE OF RTD: March 23, 1988

Geologist: Richard D. Parker

JUN 19 1989

**KANSAS GEOLOGICAL SURVEY
WICHITA BRANCH**

**KANSAS GEOLOGICAL SURVEY
WICHITA BRANCH**

APR 27 1988

**RECEIVED
STATE OF KANSAS, DEPARTMENT OF REVENUE**

APR 25 1988

**CORRECTION DIVISION
Wichita, Kansas**

19-18-17W

14-18-17W

Frontier Oil Company
1720 Kansas State Bank Building
Wichita, Kansas 67202

Frontier Oil Company
#2 Seuser
Apx. NW SE SW
Sec. 19-18-17W
Rush County, Kansas

Dear Sir:

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

Drilling was supervised from 2900' to 3738', rotary total depth. Samples were examined from 2900' to rotary total depth.

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

Elevation (American Elevations)	1984 DF --	1987 KB
Anhydrite	1103	+ 884
Topeka	3057	-1070
Heebner	3302	-1315
Toronto	3321	-1334
Lansing-Kansas City	3354	-1367
Base of Kansas City	3611	-1624
Conglomerate	3692	-1705
Arbuckle	3720	-1733
RTD	3738	-1751
4½" at	3733	-1746

Structurally on top of the Topeka, the No. 2 Seuser ran 5' higher than the No. 1 Seuser located one location east. On top of the Lansing-Kansas City the No. 2 Seuser ran 11' higher than the No. 1 Seuser. On top of the Arbuckle the No. 2 Seuser ran 3' higher than the No. 1 Seuser.

ZONES OF INTEREST

Topeka (Top 3057)
3057 to 3066

Tan fine crystalline to sucrosic lime with no show of oil.

3224 to 3236

Tan sucrosic to fossiliferous lime with good pinpoint porosity. No show of oil.

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3242 to 3266	Same as above
3280 to 3298	Tan fine crystalline to fossiliferous lime with good fossiliferous to pinpoint porosity. No show of oil.
<u>TORONTO (Top 3321)</u>	
3321 to 3328	White dense to cherty lime with no show of oil.
<u>LANSING-KANSAS CITY</u>	
3354 to 3358	White chalky lime with no show of oil.
3379 to 3383	Tan oolitic to well developed oolitic lime with no show of oil.
3444 to 3469	White well developed oolitic lime with no show of oil.
3502 to 3508	White to light tan poorly developed oolitic lime with no show of oil.
3555 to 3564	Tan oolitic to oolitic lime with no show of oil and no odor.
<u>ARBUCKLE (Top 3720)</u>	
3720 to 3724	White medium crystalline dolomite and some clear fractured quartz with scattered show of free oil fair odor and spotted light stain.
<u>DRILL STEM TEST NO. 1 (TRILOBITE TESTING)</u>	
3664 to 3724	60-30-60-30. 1st op - strong blo off bottom of bucket in 30 seconds to no blo in 50 minutes. 2nd op - strong blo off bottom of bucket throughout. Recovered 3020' fluid consisting of : 496' SOCM, 620' OCGM, 180' W&MCO, 1544' CGO, 180' W w/scum of oil. No IF - tool plugged on initial opening. FF 815-1112. ISIP 1194 FSIP 1133.
3724 to 3729	Clear quartz crystals in clusters and large dolomite crystals in coarse crystalline dolomite. Good show of free oil in both quartz and dolomite, good odor, good saturated light and dark stain.
<u>DRILL STEM TEST NO. 2 (TRILOBITE TESTING)</u>	
3724 to 3729	30-30-30-30. 1st op - strong blo. 2nd op - strong blo Recovered 2470' fluid, consisting of 834' GW w/scum of oil, 400' OGW, 248' OGW, 628' WCO (oil very heavy could not run gravity). IF 155-691 FF 681-928 ISIP 1156 FSIP 1146
3729 to 3731	Same as above

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3731 to 3738

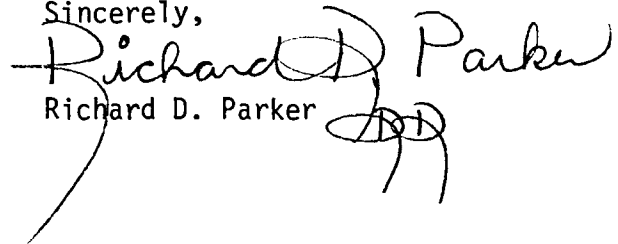
White medium to coarse to some dense dolomite with scattered show of free oil, good odor, good spotted light stain.

DRILL STEM TEST NO. 3 (TRILOBITE TESTING)
3733 to 3738

30-30-30-30. 1st op - strong blo.
2nd op - strong blo. Recovered 2000' fluid
402' GIP, 1456' CGO, 120' OCM, 424' SOCMW.
IF 216-526 FF 547-722 ISIP 1177 FSIP 1156

4½" used casing was set at 3733', 13' in the Arbuckle and 5' off bottom with 150 sacks common cement and 10% salt, 5% gilsonite added. The shoe joint is 33-26' long and zero point is 5' AGL.

Sincerely,


Richard D. Parker

19-18-72

DRILLING INFORMATION ON THE SEUSER NO. 2

Contractor: Red Tiger Driling Co.

Drillers: Grambly
Lyle
Stegman

Tool Pusher: Kenneth Lyle

Spud Date: March 12, 1988

Date of RTD: March 23, 1988

Surface Pipe: 8 5/8" @ 1110'/400 sx

Casing: 4 1/2"/3733'/150 sx

TOTAL FOOTAGE DRILLED PER DAY

Under Surface At 12:15 PM on March 1, 1988

1675	Feet	At	7: 00 AM	On	3-15-88
2224	"	"	"	"	3-16-88
2658	"	"	"	"	3-17-88
2863	"	"	"	"	3-18-88
3097	"	"	"	"	3-19-88
3450	"	"	"	"	3-20-88
3697	"	"	"	"	3-21-88
3729	"	"	"	"	3-22-88
3738	"	"	2:02 AM	"	3-23-88

BIT RECORD

<u>Bits</u>	<u>Type</u>	<u>Footage</u>
No. 1	CP-537	1113 to 3738

MUD RECORD

Surface - 6 sx hulls, 45 sx gel, 3 sx lime
1910 - 2 sx hulls
2508 - (Pre-mix) 68 sx gel, 4 sx caustic, 4 sx lignite, 2 sx soda ash
2863 - 100 sx gel, 6 sx caustic, 5 sx lignite, 2 sx soda ash
3001 - 73 sx gel, 7 sx caustic, 6 sx lignite, 1 1/2 sx soda ash, 1 sk Drispac
3359 - 55 sx gel, 4 sx caustic, 1 sk soda ash, 2 sx liqnite, 2 1/2 sx Drispac
3638 - 55 sx gel, 3 sx caustic, 2 1/2 sx lignite
3724 - 6 sx hulls
3729 - 25 sx gel, 3 sx caustic, 2 sxlignite, 2 sx hulls, 1/2 sk soda ash

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DRILLERS TIME LOGFrontier Oil Company
No. 2 SeuserApx. NW SE SW
Sec. 19-18-17W
Rush County, KansasElev.: 1984 DF
1987 KB

DEPTH

MINUTES

REMARKS

1 Foot Drilling Time

2900 to 2910	4-2-4-3-3-4-2-2-3-3
2920	2-3-3-3-3-3-2-3-3-2
2930	3-3-4-3-2-3-3-4-3-4
2940	3-3-3-2-3-3-2-3-2-3
2950	3-3-4-3-3-3-4-4-4-6
2960	4-5-8-6-5-6-2-3-3-2
2970	4-4-3-2-2-1-2-3-3-2
2980	2-2-3-2-3-2-2-2-2-2
2990	2-2-7-7-6-5-3-4-3-3
3000	3-4-2-1-3-3-3-4-4-4
3000 to 3010	4-3-4-2-3-4-3-4-4-3
3020	3-3-5-4-6-4-3-4-3-4
3030	4-3-3-3-3-4-4-5-3-4
3040	3-3-4-3-4-3-4-4-4-4
3050	3-2-2-2-2-1-2-3-1-1
3060	1-1-2-2-2-2-2-5-3-2
3070	3-3-4-3-3-3-5-4-3-3
3080	3-3-4-4-3-4-5-6-2-3
3090	4-5-5-5-4-3-3-3-1-3
3100	2-2-2-2-2-2-2-5-4-3
3100 to 3110	3-3-5-2-4-3-2-4-2-2
3120	3-4-4-3-3-2-3-2-2-3
3130	3-2-2-1-2-1-2-3-3-4
3140	2-2-4-4-4-6-3-3-4-7
3150	4-5-4-5-3-3-3-5-3-4
3160	3-5-5-4-5-5-4-4-3-4
3170	4-5-4-4-2-4-4-8-6-4
3180	3-3-2-3-4-2-3-4-5-4
3190	3-3-4-6-4-6-6-7-5-5
3200	5-5-4-4-3-4-4-4-4-4
3200 to 3210	5-4-1-2-2-3-4-5-3-4
3220	3-2-3-1-1-2-1-1-1-2
3230	3-2-3-2-1-1-1-3-1-1
3240	1-2-2-1-2-2-2-4-4-4
3250	4-4-3-1-1-1-1-2-1-1
3260	1-1-1-1-1-1-1-1-1-2
3270	1-2-2-2-2-2-3-4-2-4
3280	2-2-3-2-2-3-3-4-3-5
3290	4-3-3-2-2-2-1-3-1-2
3300	1-2-3-2-2-3-3-4-5-5

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3300 to 3310	5-6-5-3-3-2-3-5-5-4
3320	4-3-4-4-4-5-6-5-4-5
3330	7-3-4-3-2-3-3-3-4-6
3340	6-5-6-6-5-4-4-5-3-3
3350	3-3-4-2-3-4-3-3-4-3
3360	3-2-3-2-2-3-3-2-4-3
3370	2-3-4-3-3-3-3-4-3-5
3380	5-4-6-6-5-3-5-3-3-2
3390	1-2-1-6-5-6-6-5-5-5
3400	5-4-6-3-4-3-5-6-5-5
3400 to 3410	5-5-6-5-5-5-5-6-5-6
3420	5-6-6-6-5-5-5-3-3-3
3430	4-5-3-3-4-5-5-1-2-3
3440	5-5-5-6-5-4-5-6-4-4
3450	5-4-5-3-4-2-2-1-1-1
3460	1-2-1-1-2-2-2-3-1-1
3470	1-1-2-1-3-2-2-4-5-4
3480	4-5-5-5-4-3-4-5-5-3
3490	4-3-4-3-3-4-3-4-3-4
3500	3-2-4-4-4-4-5-4-4-4
3500 to 3510	5-4-3-3-2-3-2-3-3-4
3520	3-3-3-4-4-4-4-5-4-4
3530	4-4-5-5-4-5-4-4-3-4
3540	4-4-5-4-4-5-4-2-2-2
3550	3-6-6-5-2-2-3-3-2-4
3560	2-2-4-3-2-1-1- $\frac{1}{2}$ - $\frac{1}{2}$ -1
3570	2-3-4-3-3-5-4-6-5-5
3580	5-4-5-3-3-3-5-5-4-4
3390	4-4-5-3-4-4-7-8-5-5
3600	5-5-6-4-4-6-6-6-6-7
3600 to 3610	7-5-5-5-6-6-5-6-6-6
3620	7-5-6-7-7-8-6-7-8-8
3630	6-7-8-6-5-6-6-10-7-8
3640	9-9-10-9-6-5-5-6-6-4
3650	5-5-6-7-8-8-6-8-8-8
3660	7-5-6-5-5-5-5-8-6-7
3670	9-9-9-9-9-7-5-6-6-7
3680	6-5-5-9-7-9-6-8-7-6
3690	5-4-6-4-5-4-5-8-6-6
3700	6-7-4-2-4-4-4-2-3-2
3700 to 3710	3-4-5-2-3-3-4-5-5-3
3720	2-2 $\frac{1}{2}$ -1 $\frac{1}{2}$ -2-2-1-2-4-2-2
3730	1-1- $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$
3740	1 $\frac{1}{2}$ -2-5-4-3-4-2-4

DST #1 3664-3724

DST #2 3724-3729

DST #3 3733-3738