

30-18s-17w
15-165-21361

GEOLOGICAL REPORT

FRONTIER OIL COMPANY

NO. 1 BAKER

SW SW NE
SEC. 30-18S-17W
RUSH COUNTY, KANSAS

Commenced: August 27, 1986

Date of RTD: September 6, 1986

Richard D. Parker

RECEIVED
STATE CORPORATION COMMISSION
CONS. DIV. WICHITA, KS

OCT 3 1986

30-18-17w

Frontier Oil Company
1720 Kansas State Bank Bldg.
Wichita, Kansas 67202

Frontier Oil Company
#1 Baker
SW SW NE Sec. 30-18S-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 3780', 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 in measurements during the drilling of the well have been incorporated into this report.

Elevation (American Elevations)	1977 GR	--	1982 KB
Anhydrite	1099		(+ 883)
Topeka	3059		(-1077)
Heebner	3316		(-1334)
Toronto	3338		(-1356)
Lansing-Kansas City	3366		(-1384)
Base of Kansas City	3626		(-1644)
Cherokee	3686		(-1704)
Arbuckle	3728		(-1746)
RTD	3780		(-1798)
5½" Pipe at	3778		(-1796)

Structurally, on top of the Lansing-Kansas City, the Baker No. 1 ran 3' low to Frontier's Zimmer No. 1, an abandoned Arbuckle well located one quarter mile southeast. On top of the Cherokee the Baker No. 1 ran 3' lower than the Zimmer No. 1. On top of the Arbuckle, the Baker No. 1 ran 9' lower than the Zimmer No. 1.

ZONES OF INTEREST

TOPEKA (Top 3059)
3059 to 3064

Tan fine crystalline lime
with no show of oil.

3094 to 3102

Tan fine crystalline lime
with some pinpoint porosity.
No show of oil.

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3236 to 3248

Tan fine crystalline to small oolitic lime with no show of oil.

TORONTO (Top 3338)
3338 to 3344

White fine crystalline to cherty lime with no show of oil and no odor.

LANSING-KANSAS CITY (Top 3366)
3366 to 3369

White chalky to dense cherty lime with no show of oil & no odor.

3390 to 3396

Tan fine crystalline to oolitic lime with a trace of free oil, faint odor and a trace of light oil stain.

3440 to 3442

Tan oolitic to fossiliferous lime with no show of oil.

3452 to 3456

Tan fossiliferous to oolitic lime with no show of oil.

3470 to 3480

Tan well developed oolitic lime with no show of oil and no odor.

3522 to 3528

Tan fine crystalline lime with no show of oil.

3544 to 3550

Tan cherty to dense lime with no show of oil.

3567 to 3578

White to tan well developed oolitic lime with no show of oil and no odor.

3586 to 3592

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

CHEROKEE (Top 3686)
3686 to 3690

Clear angular to sub-angular clear quartz sand in clusters with a scattered show of free oil, faint odor and spotted light stain.

3698 to 3703

DRILL STEM TEST NO. 1 (FOC TEST)
3684 to 3706

ARBUCKLE (Top 3728)
3728 to 3734

DRILL STEM TEST NO. 2 (FOC TEST)
3729 to 3734

3734 to 3739

3739 to 3740

DRILL STEM TEST NO. 3 (FOC TEST)
3730 to 3740 (Mis-run)

DRILL STEM TEST NO. 4 (Re-Run) (FOC TEST)
3732 to 3740

3740 to 3745

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Clear sub-rounded quartz sand in clusters along with loose well rounded to sub-angular quartz with scattered show of free oil in sand clusters, very faint odor, spotted light stain.

60-30-60-30. First opening weak increasing to strong blo. Second opening weak increasing to strong blo. Recovered 1000' clean oil, 240; mud cut oil. IF 117-350 FF 374-512 ISIP 1092 FSIP 1051.

Tan medium crystalline dolomite with scattered show of free oil, spotted light to dark stain and no odor.

60-30-30-30. 1st op - wk blo 2nd op - no blo. Recovered 70' mud. All pressures 71#.

Tan medium crystalline dolomite with scattered show of free oil spotted light stain and no odor.

White to tan medium crystalline dolomite with good inter-crystalline porosity, good show of free oil, good spotted dark stain and no odor.

Mis-run

60-30-60-30. 1st op - wk blo 2nd op - wk blo. Recovered 15' oil, 15' mud. IF & FF 74-74 ISIP & FSIP 84.

Tan to white medium crystalline to dense dolomite with a scattered show of free oil, black spotted stain and no odor.

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DRILL STEM TEST NO. 5 (WESTERN)
3732 to 3745

3745 to 3753

DRILL STEM TEST NO. 6 (WESTERN)
3738 to 3853

3753 to 3761

DRILL STEM TEST NO. 7 (WESTERN)
3750 to 3761

3761 to 3765

3765 to 3768

DRILL STEM TEST NO. 8 (WESTERN)
3750 to 3768

3968 to 3780

30-30-30-30 1st op - wk blo
2nd op - very wk blo. Recovered 40' mud with few spots of oil. IF 53-53 FF 31-21
ISIP 288 FSIP 191.

Tan dense to fine crystalline dolomite with a trace of free oil, traces of black oil stain and no odor.

30-30-30-30. 1st op - wk blo
2nd op - very wk blo. Recovered 30' mud. IF & FF 42-42
ISIP 820 FSIP 633

Tan medium crystalline to dense dolomite with no show of free oil, no odor.

30-30-30-30 1st op - wk blo
2nd op - very wk blo.
Recovered 15' mud. IF & FF 42-42
ISIP 1012 FSIP 1039

Tan medium crystalline dolomite no show of free oil, no odor.

Tan to white medium crystalline dolomite along with clear oolitic chert, clear well round sand grains in clusters. No show of free oil, no odor.

60-30-60-30. 1st op - wk to strong blo. 2nd op - strong blo. Recovered 120' muddy water, 300' salt water. IF 41-135 FF 156-197 ISIP 759
FSIP 676
Same as above.

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5½' pipe was set at 3778', 50' in the Arbuckle and 2' off bottom with 100 sacks cement, 10% added salt. The shoe joint is 35-37' long and zero point is 5' AGL..

Sincerely,

Richard D. Parker

Richard D. Parker by ddd

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DRILLING INFORMATION ON THE BAKER NO. 1

Drilling Contractor: Red Tiger Drilling Co.

Drillers: Ogle, Jr.
Ogle, W. C.
Bates, Allan

Tool Pusher: W. C. Ogle

Spud Date: August 27, 1986

Date of RTD: September 6, 1986

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

Casing: 5 1/2" @ 3778'/100 sx

TOTAL FOOTAGE DRILLED PER DAY

Under Surface at 9:30 PM on August 28, 1986

	Feet	At	7:00 AM	On	
1650	"	"	"	"	8-29-86
2360	"	"	"	"	8-30-86
2990	"	"	"	"	8-31-86
3485	"	"	"	"	9-01-86
37	"	"	"	"	9-02-86
3734	"	"	"	"	9-03-86
3761	"	"	"	"	9-04-86
3768	"	"	"	"	9-05-86
3780	"	"	8:53 AM	"	9-06-86

BIT RECORD

<u>Bits</u>	<u>Type</u>	<u>Footage</u>
No. 1	Reed-YP11	1111 to 2019
No. 2	Smith F-2	2019 to 3780

MUD RECORD

Surface - 22 sx bentonite, 9 sx hulls, 3 sx lime
3355 - 78 sx salt gel, 6 sx s da ash, 10 sx hulls
3695 - 10 sx salt gel, 40 sx starch, 2 sx preservative, 4 sx hulls
37 - 16 sx salt gel
3740 - 28 sx salt gel, 8 sx starch
3745 - 22sx salt gel, 6 sx starch
3780 - 15 sx salt gel

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DRILLERS TIME LOG

Frontier Oil Company
#1 Baker

SW SW NE
30-18-17W
Rush County

Elev.: 1977 GR
1982 KB

DEPTH

MINUTES

REMARKS

1 Foot Drilling Time

2900 to 2910	2-2-3-3-3-3-2-2-2-3
2920	2-3-2-2-3-3-3-3-4-3
2930	2-3-2-3-2-2-3-2-3-2
2940	3-4-4-4-5-4-3-3-3-3
2950	2-4-4-3-3-2-2-3-2-3
2960	2-3-2-2-3-2-3-3-2-3
2970	2-3-3-2-3-2-3-3-2-2
2980	1-2-2-3-3-2-3-2-2-2
2990	2-2-2-2-2-2-1-2-2-4
3000	4-3-3-3-2-2-1-1-1-1
3000 to 3010	1-2-3-3-2-1-3-2-2-2
3020	2-3-2-3-2-3-2-2-2-3
3030	3-2-3-3-2-3-3-3-3-3
3040	2-3-2-3-4-3-2-3-2-3
3050	2-3-3-3-3-2-2-2-1-1
3060	2-1-1-1-1-2-1-1-1-2
3070	2-1-2-1-3-2-3-3-2-3
3080	2-3-3-3-4-3-2-2-3-3
3090	3-3-4-3-4-3-2-3-4-4
3100	3-4-3-2-3-1-2-2-2-1
3100 to 3110	1-2-2-3-3-3-3-4-2-3
3120	2-3-2-2-3-1-1-2-3-2
3130	3-3-3-2-1-1-3-2-1-2
3140	1-2-1-1-1-1-2-2-2-1
3150	2-2-3-2-2-2-1-3-2-3
3160	2-3-2-2-3-2-2-2-2-2
3170	3-2-3-3-4-3-3-3-3-3
3180	3-3-2-2-1-1-3-3-3-3
3190	2-2-1-1-3-2-2-3-3-4
3200	1-2½-1½-3-4-3-3-4-3-2
3200 to 3210	4-3-4-5-4-2-3-4-3-3

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3200 to	3220	3-4-2-2-2-3-2-4-2-4
	3230	2-2-3-2-1-1-2- $\frac{1}{2}$ - $\frac{1}{2}$ -1
	3240	1-2-4-2-2-1-1-1-1-1
	3250	1-1-1-1-1-1-1-4-4-4
	3260	3-3-3-2-1-1- $\frac{1}{2}$ - $\frac{1}{2}$ -1-1 $\frac{1}{2}$
	3270	$\frac{1}{2}$ -1 $\frac{1}{2}$ - $\frac{1}{2}$ -1-1-1-1-2-1-1
	3280	1-1-1-1-1-1-1-2-2-2
	3290	2-1-3-1-2-1-2-2-2-2
	3300	2-2-2-2-2-1-2-1-1-2
3300 to	3310	1-1-1-2-2-1-3-3-3-3
	3320	4-4-3-3-4-5-4-3-5-7
	3330	8-4-5-5-4-3-5-5-4-5
	3340	4-4-2-2-4-2-2-3-2-3
	3350	4-3-4-2-5-3-2 $\frac{1}{2}$ -2 $\frac{1}{2}$ -4-3
	3360	3-3-2-3-2-2-2-2-3-2
	3370	2-2-2-2-2-2-3-3-2-4
	3380	1-3-3-3-4-3-4-3-4-4
	3390	3-5-4-4-4-5-4-4-3-5
	3400	3-2-1- $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ -2-3-3-4
3400 to	3410	4-4-3-5-5-3-2-3-4-4
	3420	4-4-3-5-5-3-2-3-4-4
	3430	4-4-4-4-4-4-3-4-4-4
	3440	4-5-4-5-5-4-5-5-4-4
	3450	4-2-2-4-4-4-4-5-4-3
	3460	3-2-1-2-2-2-3-5-5-5
	3470	4-2-1- $\frac{1}{2}$ - $\frac{1}{2}$ -1-1-1-1-1
	3480	$\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ -1-1-1-1-1
	3490	1-2-3-6-6-6-5-5-5-6
	3500	2-5-4-4-5-4-4-3-3-4
3500 to	3510	4-3-3-4-3-2-3-3-2-3
	3520	4-3-4-3-5-3-3-4-4-4
	3530	3-3-2-3-3-3-2-2-3-3
	3540	3-4-3-4-3-4-4-5-3-4
	3550	3-4-4-5-4-3-4-2-1-3
	3560	5-3-2-2-2-2-3-3-4-5
	3570	2-3-3-3-3-3-4-2-1-1
	3580	2-2-1-2-1-1-2-2-4-5
	3590	4-5-4-6-2-4-3-2-2-3
	3600	3-3-4-5-5-5-5-6-5-5
3600 to	3610	5-6-6-5-5-4-5-5-7-6
	3620	4-5-8-6-4-3-4-4-3-5
	3630	4-5-8-8-8-7-6-6-6-7
	3640	7-7-7-7-7-8-4-4-4-4
	3650	3-6-6-3-4-3-3-3-3-3
	3660	4-5-6-5-5-5-6-5-4-5
	3670	4-3-4-3-3-5-5-8-7-4
	3680	6-7-6-7-6-6-6-6-6-4
	3690	6-7-7-8-7-6-5-3-5-4
	3700	5-5-5-5-6-6-6-6-2-2

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3700 to 3710
3720
3730
3740
3750
3760
3770
3780

2-1-3-5-7-7-4-1-4-5
3-3-3-3-3-4-3-4-3-4
4-4-5-5-5-5-6-5-2-3
5-5-3-3-1-5-5-6-4-3
2-3-3-4-4-5-4-5-5-6
6-4-5-4-4-5-4-5-4-4
5-4-3-3-4-3-2-3-4-4
4-5-4-4-6-4-3-4-4-5

DST #1 3684-3706
DST #2 3729-34
DST #3 3730-40
DST #4 3832-40
DST #5 3732-45
DST #6 3738-53
DST #7 3750-61
DST #8 3750-68