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30-18-17W

15-165-21355

GEOLOGICAL REPORT

FRONTIER OIL COMPANY

NO. 1 ZIMMER

NE NW SW
SEC. 30-18S-17W

RUSH COUNTY, KANSAS

Commenced: February 18, 1986

Date of RTD: February 27, 1986

STEVEN D. ANGLE

RECEIVED
STATE CORPORATION COMMISSION

APR 25 1986

CONSERVATION DIVISION
Wichita, Kansas

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

Frontier Oil Company
No. 1 Zimmer
NE NW SW Sec. 30-18S-17W
Rush County, Kansas

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Dear Sir:

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

Drilling was supervised from 3000' to 3744', rotary total depth. Samples examined from 3000' to 3744', 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 this well have been incorporated into this report.

Elevation	1984 GL	-- 1989 KB
Anhydrite	1104-1136	(+ 885)
Topeka	3066	(-1077)
Heebner	3320	(-1331)
Toronto	3340	(-1351)
Lansing/Kansas City	3370	(-1381)
Base of Kansas City	3632	(-1643)
Cherokee	3690	(-1701)
Arbuckle	3726	(-1737)
RTD	3744	(-1755)
5½" Casing	3735	(-1746)

Structurally, on top of the Lansing-Kansas City the Frontier Oil Company No. 1 Zimmer ran 5' low to the Donald C. Slawson Oliverius "Q" No.1 located 1320' to the west.

On top of the Arbuckle the No. 1 Zimmer ran 8' high to the Donald C. Slawson Oliverius "Q" No. 1.

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30-14-17W

ZONES OF INTEREST

TOPEKA (Top 3066)
3066 to 3080

Tan crystalline limes.

3100 to 3110

Tan crystalline fossiliferous limes.

HEEBNER SHALE (Top 3320)

TORONTO (Top 3340)
3340 to 3348

Tan crystalline limes.

LANSING-KANSAS CITY (Top 3370)
3370 to 3380

White to tan slightly crystalline limes.

3394 to 3401

White crystalline limes, Grey transparent cherts and a few scattered white crystalline slightly vuggy limes with a trace of free oil and a faint odor.

3425 to 3431

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Tan crystalline cherty limes, white crystalline fossiliferous limes and scattered tan cherts.

3448 to 3454

Tan cherty limes and tan to white crystalline fossiliferous limes.

3461 to 3466

Tan crystalline fossiliferous limes.

3472 to 3480

Tan fossiliferous limes, white crystalline slightly vuggy limes and scattered poorly developed oolitic limes.

3502 to 3508

Tan to white poorly developed oolitic limes and tan cherty limes.

3513 to 3520

Tan cherty limes and white crystalline limes with a few brown cherts.

3527 to 3535

Brown and grey cherts and tan to white crystalline limes.

3537 to 3541

Tan and white crystalline limes and scattered light tan cherts.

3549 to 3555

Tan crystalline fossiliferous and slightly oolitic limes.

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3570 to 3576

Tan to white crystalline limes
and scattered cherty limes.

BASE OF KANSAS CITY (Top 3632)

3651 to 3660

White and tan crystalline limes and
orange fresh cherts.

3660 to 3680

Same as above

3680 to 3686

Tan and white crystalline limes
and scattered orange cherts.

WEROKEE (Top 3690)
3690 to 3700

Multi-colored cherts.

3700 to 3704

Fine red and clear sand grains.
(included in DST #1 & 2)

3704 to 3710

Multi-colored fresh cherts, scattered
sand grains and scattered red shales.

3715 to 3720

Fresh cherts, scattered fine clear
and red sand grains and scattered
oolitic cherts.

ARBUCKLE (Top 3726)
3726 to 3730

Tan sucrosic to dense dolomite with
a scattered show of free oil and
fair odor, and scattered weathered
cherts.

DRILL STEM TEST NO. 1
3699 to 3730

60-30-60-30. 1st op - strong blow
in 10 minutes. Shut in 30 minutes.
2nd op - strong blow throughout.
Shut in 30 minutes. Recovered
230' HO&GCM. IF 81-101 FF 123-123
ISIP 132 FSIP 123.

3730 to 3735

Tan sucrosis to dense dolomite with a
trace of free oil.

DRILL STEM TEST NO. 2
3700 to 3735

60-30-60-30. 1st op - strong blow
Shut in 30 minutes. 2nd op -
strong blow decreasing, Shut in
30 minutes. Recovered 240' of
HO&GCM IF 80-110 FF 123-123
ISIP 123 FSIP 132

3735 to 3740

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Tan crystalline dolomite with
a small show of free oil and no
odor.

DRILL STEM TEST NO. 3
3730 to 3740

60-30-60-30. 1st op - str blow in 20
minutes. Shut in 30 minutes.
2nd op - strong blow throughout.
Shut in 30 minutes.
Recovered 120' GIP, 120' Froggy oil
60' VHO&GCM. IF 91-111 FF 102-121
ISIP 132 FSIP 142

Same as above.

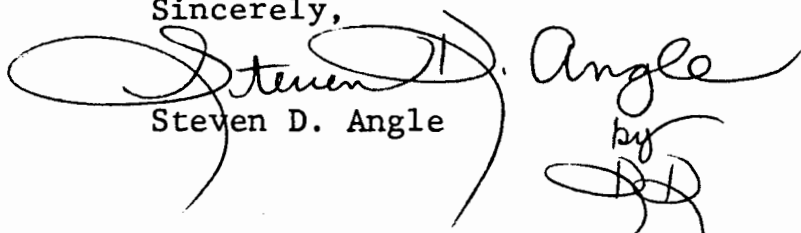
3740 to 3744

DRILL STEM TEST NO. 4
3734 to 3744

60-30-60-30. 1st op - strong blow
Shut in 30 minutes. 2nd op -
Shut in 30 minutes. Recovered
420' clean gassy oil. IF 40-71
FF 91-91 ISIP 131 FSIP 142

5½" casing was set at 3735', 9' into the Arbuckle and 9' off bottom
with 100 sx of common cement plus 10% salt. Zero point is 5' AGL.

Sincerely,


Steven D. Angle

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DRILLING INFORMATION ON THE NO. 1 ZIMMER

Drilling Contractor: Red Tiger Drilling Co.

Drillers: K. Bieker
L. Newell
V. Honas

Tool Pusher: Kenneth Bieker

Spud Date: February 18, 1986

Date of RTD: February 27, 1986

Surface Pipe: 8 5/8" @ 1115.79' w/425 sx
60-40 poz., 2% gel, 3% c.c.

Casing: 5 1/2" @ 3735' w/ 100
sx com, 10% salt

TOTAL FOOTAGE DRILLED PER DAY

Under Surface at 11:15 P.M. on 2-20-86

2244	Feet	At	7:00 A.M.	On	February 21, 1986
2886	"	"	" "	"	February 22, 1986
33	"	"	" "	"	February 23, 1986
3578	"	"	" "	"	February 24, 1986
3730	"	"	" "	"	February 25, 1986
3735	"	"	" "	"	February 26, 1986
3744	"	"	2:00 A.M.	"	February 27, 1986

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MUD RECORD

Surface: 28 sx premium gel, 18 sx WT. mud, 2 sx Driscose, 15 sx hulls,
2 sx lime

3218	45 sx salt gel, 10 sx hulls
3525	45 sx starch, 35 sx gel, 2 sx aldacide
37	80 sx salt gel, 5 sx starch, 6 sx hulls, 1 sk lime
3735	30 sx salt gel, 2 sx soda ash, 4 sx starch. 1 sk preservative
3740	15 sx salt gel, 5 sx starch, 6 sx hulls

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DRILLERS TIME LOGFrontier Oil Company
#1 ZimmerNE NW SW
Sec. 30-18-17W
Rush CountyElev: 1984 GL
1989 KB

DEPTH	MINUTES	REMARKS
	1 Foot Drilling Time	
3000 to 3010	1- $\frac{1}{2}$ - $\frac{1}{2}$ -1-2-2-3-3-4-4	CONFIDENTIAL
3020	4-4-4-3-4-4-3-3-4-3	
3030	3-2-3-4-3-2-3-3-3-3	
3040	2-2-3-3-3-3-3-3-3-4	
3050	3-3-2-3-3-3-3-3-2-3	
3060	3-4-3-2-2-1-2-2-1-1	
3070	1-1-2-1-1-1-2-2-3-3	
3080	4-3-3-4-4-4-4-4-4-3	
3090	3-2-3-4-3-4-4-4-4-4	
3100	4-4-3-3-3-4-3-3-2-2	
3100 to 3110	3-2-1-3-2-2-4-4-4-3	
3120	4-3-3-3-4-3-2-3-4-2	
3130	3-1-1-2-3-3-3-1-2-2	
3140	3-2-2-2-2-1-1-1-2-4	
3150	4-2-3-3-3-3-2-2-2-2	
3160	3-4-3-2-3-3-2-4-3-4	
3170	4-3-4-5-4-5-3-3-4-3	
3180	3-3-4-4-2-3-1-2-3-4	
3190	3-4-2-4-2-2-2-3-3-2	
3200	3-3-3-2-3-3-4-3-4-3	
3200 to 3210	2-4-4-4-3-3-3-3-3-3	
3220	3-2-3-3-3-2-2-3-3-3	
3230	2-3-3-2-3-1-1-1-1-1	
3240	1-1-1-3-3-3-2-1-1-1	
3250	1-1-1-1-1-1-1-2-1-2	
3260	4-4-3-4-3-4-3-3-1-1	
3270	$\frac{1}{2}$ - $\frac{1}{2}$ -1-1-1-1-1-1-1-1	
3280	1-1-1-2-1-2-3-2-3-2	
3290	3-3-3-4-3-4-4-3-4-3	
3300	3-2-3-2-3-2-2-2-1-2	
3300 to 3310	2-2-2-2-2-3-2-2-2-2	
3320	4-3-4-5-4-4-5-5-6-4	
3330	4-4-3-2-3-5-6-4-4-3	
3340	2-3-4-3-4-2-4-4-4-2	
3350	5-4-6-5-5-5-5-6-7-6	
3360	8-8-6-5-4-4-5-4-3-4	
3370	3-3-3-4-3-3-3-3-3-2	
3380	3-6-4-5-4-5-4-4-5-5	
3390	6-5-6-6-6-6-5-6-5-5	
3400	4-5-4-4-4-4-4-4-4-4	

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3400 to 3410	4-6-6-6-6-4-6-6-5-4
3420	4-4-4-5-5-5-4-5-5-5
3430	5-5-5-6-5-5-5-5-5-5
3440	5-6-6-6-4-5-4-6-5-5
3450	4-4-3-3-4-4-6-5-5-5
3460	5-5-5-5-4-3-2-2-4-3
3470	2-2-4-5-1-5-5-5-4-4
3480	3-2-2-2-2-2-2-3-3-3
3490	2-2-3-5-5-5-6-6-6-5
3500	4-5-6-6-6-7-7-8-8-7
3500 to 3510	7-7-7-6-6-7-7-5-7-7
3520	7-4-4-6-5-5-6-5-6-6
3530	4-4-4-5-5-3-7-6-7-7
3540	7-7-7-7-7-6-6-7-7-7
3550	8-5-5-5-6-5-4-3-7-6
3560	6-7-6-5-4-6-7-8-7-8
3570	7-4-5-5-6-5-5-6-6-7
3580	5-6-6-6-8-9-8-7-7-8
3590	7-7-7-8-6-6-6-6-7-6
3600	8-7-8-7-7-6-8-9-7-7
3600 to 3610	7-7-8-8-8-7-7-7-6-9
3620	7-7-7-7-7-6-7-8-7-5
3630	5-5-5-5-5-4-5-5-6-7
3640	7-6-7-8-8-6-5-8-6-5
3650	5-9-10-10-7-5-5-4-4-4
3660	4-7-6-7-6-6-9-10-6-6
3670	6-4-4-4-4-5-6-8-7-9
3680	7-6-6-6-6-5-5-6-6-6
3690	6-5-7-8-10-10-9-7-6-4
3700	6-7-10-8-8-8-7-9-9-8
3700 to 3710	6-7-6-5-4-5-4-5-5-5
3720	3-5-6-6-7-6-5-5-5-6
3730	6-7-5-7-6-4-4-4-4-5
3740	4-3-3-6-6-5-5-5-6-6
3750	5-6-6-6

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DST #1	(3690-3730)
DST #2	(3700-3735)
DST #3	(3730-3740)
DST #4	(3734-3744)