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19-18-17W

15-165-21400

GEOLOGICAL REPORT

RELEASED
Date: APR 1 1989
FROM CONFIDENTIAL

FRONTIER OIL COMPANY

NO. 1 SEUSER
NE SE SW SEC. 19-18S-17W
RUSH COUNTY, KANSAS

KANSAS GEOLOGICAL SURVEY
WICHITA BRANCH

APR 26 1989

DATE COMMENCED: JANUARY 30, 1988

DATE OF RTD: FEBRUARY 7, 1988

GEOLOGIST: RICHARD D. PARKER

CONFIDENTIAL

RECEIVED
STATE CORPORATIONS COMMISSION

MAR - 9 1988

CONSERVATION DIVISION
Wichita, Kansas

19-18-17W

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

Re: Frontier Oil Company
No. 1 Seuser
NE 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 3726', 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 this well have been incorporated into this report.

Elevation (American Elevations)

1983 DF -- 1986 KB

SAMPLE TOPS

Anhydrite	1097	+ 889
Topeka	3061	-1075
Heebner	3311	-1325
Toronto	3331	-1345
Lansing-Kansas City	3364	-1378
Base of Kansas City	3622	-1636
Conglomerate	3696	-1710
Arbuckle	3722	-1736
RTD	3726	-1740

Structurally on top of the Lansing-Kansas City the No. 1 Seuser ran 4' higher than the No. 2 Baker, a dry hole, located three locations southeast. On top of the Arbuckle the No. 1 Seuser ran 43' higher than the Baker No. 2.

ZONES OF INTEREST

TOPEKA (Top 3061)
3061 to 3072

Light tan fine crystalline to sucrosic lime with fair pinpoint porosity. No show of oil and no odor.

3092 to 3106

Tan fine crystalline to sucrosic lime with fair pinpoint porosity. No show of oil and no odor.

3233 to 3244

Tan sucrosic to fossiliferous lime with good pinpoint to fossilcastic porosity. No show of free oil and no odor.

3250 to 3272

Tan fine crystalline to fossiliferous lime with good fossilcastic porosity. No show of oil and no odor.

TORONTO (Top 3331)
3331 to 3340

White to light tan fine crystalline to dense lime with no show of oil and no odor.

LANSING-KANSAS CITY (Top 3364)
3364 to 3374

Tan fine crystalline to fossiliferous lime with poor fossilcastic porosity. No show of oil and no odor.

3389 to 3393

White oolitic to fossiliferous lime with good fossilcastic to fair oolitic porosity. Traces of free oil, the oil is extremely light to some dark free oil, trace of light to dark stain, no odor.

DRILL STEM TEST NO. 1 (TRILOBITE TESTING)
3378 to 3398

60-30-30-30. 1st op - wk blo increasing 1st 30", then decreasing last 30". 2nd op - wk steady blo. Rec. 60' M and 140' MW. IF 62-93 FF 134-134 ISIP 1225 FSIP 1215

3408 to 3412

Tan fine crystalline to fossiliferous lime No visible porosity. No show of oil and no odor.

3448 to 3454

Tan oolitic to slightly oolitic lime with no show of oil and no odor.

3460 to 3475

Tan well developed oolitic lime with good honey combed oolitic porosity. No show of oil and no odor.

ARBUCKLE (Top 3722)
3722 to 3726

White medium crystalline dolomite with a fair show of extremely light free oil along with some darker free oil, spotted light stain and a faint odor.

DRILL STEM TEST NO. 2 (TRILOBITE TESTING)
3678 to 3726

60-30-60-30. 1st op - str blo off btm of bucket in 14". 2nd op - str blo off btm of bucket in 25". Recovered 180' GIP, 650' CGO, 154' OCM, 166' MCO. IF 82-207 FF 269-352 ISIP 1184 FSIP 1163.

4½" used casing was set @ 3723', 1' in the Arbuckle and 3' off bottom with 150 sacks of common cement, 10% added salt. Zero point is 5' AGL and the shoe joint is 38-14' long.

Sincerely,



Richard D. Parker by ddd

DRILLING INFORMATION ON THE SEUSER NO. 1

Contractor: Red Tiger Drilling Company

Drillers: Dreiling
Waggoner
Kerns

Tool Pusher: Pat Waggoner

Spud Date: January 30, 1988

Date of RTD: February 7, 1988

Surface Pipe: 8 5/8" @1108'/500 sx

Casing: 4 1/2" @ 3723'/150 sx

TOTAL FOOTAGE DRILLED PER DAY

Under Surface At 7:00 AM on February 2, 1988

	Feet	At	7:00 AM	On	
2080	"	"	"	"	2-03-88
2765	"	"	"	"	2-04-88
3300	"	"	"	"	2-05-88
3435	"	"	"	"	2-06-88
3726	"	"	6:09 AM	"	2-07-88

BIT RECORD

<u>Bits</u>	<u>Type</u>	<u>Footage</u>
#1	Walker-Mc 52CF (new)	1110 to 3726

MUD RECORD

Mud Company - Milpark

Type of Mud - Chemical-Drispac

Surface: 170 sx gel, 8 sx hulls, 11 sx caustic, 7 sx lignite, 2 sx soda ash, 2 sx lime,
1456 sx barite

25 - 102 sx gel, 6 sx caustic, 6 sx lignite, 2 1/2 sx soda ash

2955 - 38 sx gel, 3 sx caustic, 3 sx lignite, 1/2 sk caustic, 1 sk drispac

3398 - 15 sx gel, 1 sk caustic, 1 sk lignite

3560 - 2 sx caustic, 3 sx lignite, 1 sk drispac

3726 - 1 sx caustic, 1 sk lignite

DRILLERS TIME LOG

Frontier Oil Company
#1 Seuser

NE SE SW
19-18-17W
Rush County

Elev.: 1981 GR
1986 KB

DEPTH

MINUTES

REMARKS

1 Foot Drilling Time

2900 to 2910	2-1-2-2-2-2-3-2-3-2
2920	3-3-2-3-2-2-2-2-2-2
2930	1-2-2-1-2-2-2-2-1-1
2940	2-3-3-3-2-3-2-2-2-2
2950	2-2-2-2-1-1-2-2-2-2
2960	2-2-1-2-2-1-2-2-2-1
2970	2-2-2-3-3-2-2-2-3-2
2980	1-1-1-1-1-1-1-1-2-1
2990	2-1-1-2-1-1-1-1-3-4
3000	3-2-2-2-3-2-2-2-2-1
3000 to 3010	1-2-2-3-3-3-3-2-2-2
3020	2-2-2-3-2-2-2-1-3-2
3030	2-3-2-3-3-2-3-2-2-2
3040	3-2-3-3-2-3-2-2-3-2
3050	10-3-4-5-2-3-1-1-2-1
3060	1-2-2-4-1-1-1- $\frac{1}{2}$ - $\frac{1}{2}$ -1
3070	1-3-2-3-3-2-2-2-2-2
3080	2-2-1-3-2-2-2-2-3-2
3090	3-3-4-3-3-3-3-3-4-3
3100	3-2-2-1-2-3-1-1-2-2
3100 to 3110	4-3-3-3-4-3-2-5-3-2
3120	1-3-2-3-3-4-2-2-2-2
3130	2-2-2-1-1-1-1-2-3-3
3140	2-2-2-1-1-1- $\frac{1}{2}$ - $\frac{1}{2}$ -1-1
3150	1-2-1-3-3-4-4-4-3-3
3160	1- $\frac{1}{2}$ - $\frac{1}{2}$ -1-1-1- $\frac{1}{2}$ - $\frac{1}{2}$ -1-1
3170	1-2- $\frac{1}{2}$ - $\frac{1}{2}$ -1-1-1-1- $\frac{1}{2}$ - $\frac{1}{2}$
3180	1-1-3-1-2-2-1-1-2-1
3190	1-1-2-1-2-1-1-1-1-2
3200	2-1-2- $\frac{1}{4}$ - $\frac{1}{4}$ - $\frac{1}{4}$ - $\frac{1}{4}$ -1-1-1

3300 to	3310	1-1-2-3-3-3-3-4-3-4
	3320	3-3-3-1-2-3-4-4-3-3
	3330	2-2-2-1-2-4-5-4-3-3
	3340	3-4-2-3-3-2-3-2-2-3
	3350	3-4-3-4-4-3-4-3-3-3
	3360	2-2-2-2-2-1-2-2-2-1
	3370	2-1-1-1-1-2-2-3-2-2
	3380	3-2-2-3-3-3-3-3-4-3
	3390	4-3-4-3-3-2-2-2-1-½
	3400	½-1-3-3-3-4-4-4-3-4
3400 to	3410	4-3-2-2-3-3-4-4-3-3
	3420	2-3-4-4-3-3-3-3-4-3
	3430	3-3-3-3-3-4-4-3-3-3
	3440	3-5-3-4-4-3-6-3-3-3
	3450	3-5-3-4-4-5-5-3-2-3
	3460	2-2-2-2-1-1-1-1-1-1
	3470	1-1-½-½-½-½-½-½-½-½
	3480	½-½-½-½-½-1½-3-2-3-2
	3490	4-5-5-5-4-4-5-3-4-4
	3500	5-5-5-5-4-5-5-2-2-4
3500 to	3510	4-4-3-3-4-4-5-4-4-4
	3520	4-4-4-3-3-3-3-2-3-3
	3530	4-3-2-3-4-4-4-4-5-4
	3540	4-4-5-5-4-4-4-4-3-4
	3550	3-3-3-4-4-4-5-2-3-2
	3560	2-2-3-5-4-3-3-3-2-2
	3570	3-3-2-3-1-1-2-1-1-1
	3580	2-3-2-3-3-4-4-3-4-4
	3590	3-3-3-1-3-3-4-3-4-4
	3600	3-4-4-3-3-4-4-5-4-4
3600 to	3610	4-4-4-5-3-4-6-5-5-5
	3620	3-4-4-4-4-4-6-4-4-3
	3630	4-5-3-4-5-5-4-5-5-5
	3640	5-3-3-2-3-1-1-3-4-5
	3650	3-3-3-3-2-2-3-2-2-3
	3660	2-3-5-6-2-2-1-3-3-3
	3670	2-3-1-1-2-4-6-3-3-3
	3680	4-5-4-5-5-4-5-4-5-5
	3690	5-5-4-3-2-3-3-4-4-4
	3700	5-5-4-5-4-6-5-4-6-5
3700 to	3710	4-4-3-3-3-6-4-4-3-3
	3720	5-4-5-3-3-2-5-4-4-4
	3730	5-5-3-4-4-3-x-x-x-x

DST #1 (3378-98)

DST #2 (3678-3726)