

19-9-28W

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X
GEOLOGICAL REPORT

FRONTIER OIL COMPANY

RELEASED

Date: **DEC 1 1986**

FROM CONFIDENTIAL

CLARK TRUST NO. 1

C NE SW 19-9S-28W

SHERIDAN COUNTY, KANSAS

SEP 18 1985
State Geological Survey
WICHITA BRANCH

Commenced: August 7, 1985

Date of RTD: August 17, 1985

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RECEIVED
STATE CORPORATION COMMISSION

SEP 17 1985

CONSERVATION DIVISION
Wichita, Kansas

Steven D. Angle

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

Re: Frontier Oil Company
Clark Trust No. 1
C NE SW 19-9S-28W
Sheridan County, Kansas

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Dear Sir:

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

Drilling was supervised from 3200' to 4235', rotary total depth. Samples were examined from 3200' 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	2846 GL ---	2851 KB
Anhydrite	2441-2495	(+ 410)
Howard	3635	(- 784)
Topeka	3724	(- 873)
Heebner	3944	(-1093)
Toronto	3960	(-1109)
Lansing Kansas City	3974	(-1123)
Base Kansas City	4211	(-1360)
RTD	4235	(-1384)

SEP 18 1961
State Geological Survey
WICHITA BRANCH

Structurally, on top of the Topeka the Frontier Oil Company Clark Trust No. 1 ran 7' high to the Frontier Oil Company Adams No. 1, NW NW NE 30-9S-28W, approximately 1320' to the Southeast. On top of the Lansing Kansas City the Clark Trust No. 1 ran 12' high to the Adams No. 1.

ZONES OF INTEREST

HOWARD (Top 3635)

3635 to 3650

Tan fine crystalline to fossiliferous limes and scattered grey and orange cherts.

TOPEKA (Top 3724)

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3724 to 3732

Tan crystalline slightly silty limes.

3840 to 3855

Light grey to green sandy limes and soft red to brown shales.

3900 to 3910

Tan crystalline limes, tan chalky limes and white chalk.

HEEBNER SHALE (Top 3944)

TORONTO (Top 3960)

3960 to 3968

White fossiliferous limes, scattered vugginess with a good show of tarry surpy oil and a very faint odor.

DRILL STEM TEST NO. 1

3936 to 3973

60-30-60-30 First open fair blow throughout. Second open good to strong blow.
Recovered 908' muddy salt water.
Pressures: 82-288, 309-463, 1306-1286 Bhps.

LANSING-KANSAS CITY (Top 3974)

3974 to 3982

Tan fossiliferous to slightly cherty limes.

4004 to 4010

Light tan fine crystalline to slightly vuggy limes with a trace of free oil and black stain and a faint odor.

DRILL STEM TEST NO. 2

3986 to 4010

30-30-30-30 First open very weak blow. Second open very weak blow. Recovered 10' mud.
Pressures: 51-51, 62-62, 1136-1096 Bhps.

4014 to 4018

White fine crystalline to vuggy limes with a fair show of free oil, dark staining and a good odor.

DRILL STEM TEST NO. 3

4008 to 4030

30-30-30-30 First open very weak blow. Second open very weak blow. Recovered 20' mud.
Pressures: 66-66, 82-82, 1256-1196 Bhps.

4058 to 4068

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Tan fine crystalline limes.

4072 to 4084

Tan dense to cherty limes and some fresh chert.

4102 to 4108

Tan fossiliferous limes.

4133 to 4138

Light grey chert. One piece of oolitic lime with a trace of free oil.

DRILL STEM TEST NO. 4

4116 to 4142

30-30-30-30 First open very weak blow. Second open few bubbles then no blow. Recovered 5' mud.
Pressures: 51-51, 51-51, 62-72 Bhps.

4145 to 4151

Tan very slightly vuggy limes with a small show of free oil.

4151 to 4157

White fine crystalline cherty limes with a small show of free oil.

SEP 18 1985

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DRILL STEM TEST NO. 5

4115 to 4162

60-30-50-30 First open weak blow throughout. Second open very weak blow for 30 minutes. Recovered 40' mud with a few oil spots. Pressures: 52-52, 55-55, 329-238 Bhps.

4170 to 4175

Tan crystalline and cherty limes, few pieces of orange chert. One piece of cherty lime with a trace of free oil.

4182 to 4190

Chalky limes,

4194 to 4202

Tan and white crystalline limes.

4202 to 4210

Scattered multi colored shales and limes.

CONFIDENTIALBASE KANSAS CITY (Top 4211)

4211 to 4225

White crystalline limes, scattered brown and red shales. Few scattered sand clusters and cherty fossiliferous limes.

Rotary Total Depth at 4235'

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Due to negative drill stem tests the Frontier Oil Company's Clark Trust No. 1 was plugged and abandoned, a dry hole.

Sincerely,

Steven D. Angle
Steven D. Angle

Se

SDA:ss

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DRILLING INFORMATION ON THE CLARK TRUST NO. 1

Drilling Contractor: Red Tiger Drilling Co.

Drillers: K. Bieker

V. Honas

Tool Pusher: Kenneth J. Bieker - Rig 9

L. Newell

Spud Date: August 7, 1985

Date of RTD: August 17, 1985

Surface: 8-5/8" @ 281' w/170 sx 60-40 poz

Casing: None

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TOTAL FOOTAGE DRILLED PER DAY

Under Surface At 1:00 P.M. On August 8, 1985

	Feet	At	7:00 A.M.	On	
1452	"	"	"	"	August 9, 1985
1992	"	"	"	"	August 10, 1985
2770	"	"	"	"	August 11, 1985
3410	"	"	"	"	August 12, 1985
3777	"	"	"	"	August 13, 1985
3973	"	"	"	"	August 14, 1985
4010	"	"	"	"	August 15, 1985
4070	"	"	"	"	August 16, 1985
4162	"	"	"	"	August 17, 1985
4235	"	"	11:14 P.M.	"	August 17, 1985

SEP 1 8 1985

MUD RECORD

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Surface:	32 sx gel, 4 sx hulls, 5 sx lime
1349'	18 sx gel, 13 sx hulls, 10 sx mud seal
1950'	28 sx gel, 92 sx hulls, 21 sx mud seal, 12 sx multi seal
2539'	15 sx gel, 20 sx hulls, 15 sx mud seal, 2 sx multi seal
3663'	45 sx gel, 15 sx hulls, 8 sx soda ash, 1 sx caustic soda, 3 sx moncose, 6 sx lignite
3973'	28 sx gel, 2 sx caustic soda, 5 sx lignite, 2 sx moncose
3990'	44 sx gel, 20 sx hulls, 1 sx caustic soda
4030'	3 sx caustic soda
4142'	15 sx gel, 6 sx hulls, 1 sx caustic soda
4162'	10 sx gel, 6 sx hulls, 1 sx caustic soda

19-a-28W

DRILLERS TIME LOGFrontier Oil Company
No. 1 Clark TrustC NE SW
19-9S-28W
Sheridan County, KansasElev.: 2846 GL
2851 KB

DEPTH

MINUTES

REMARKS

1 Foot Drilling Time

3200 to 3210	2-2-2-2-2-2-2-1- $\frac{1}{4}$ - $\frac{1}{4}$
3220	$\frac{1}{4}$ - $\frac{1}{4}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ -1-1-1- $\frac{1}{2}$
3230	$\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$
3240	$\frac{1}{2}$ -1-1-2-1- $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$
3250	$\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ -1-2-1-2-2
3260	1-2-2-2-2-2-2-1-2-1
3270	2-2-2-3-2-2-3-3-2-2
3280	1-1-1-2-1-1-2-2-3-4
3290	2-2-2-3-4-4-4-3-4-4
3300	4-4-4-4-4-4-4-3-3-3
3300 to 3310	3-2-3-3-3-3-3-3-4-3
3320	3-2-3-3-3-4-3-5-5-4
3330	4-5-4-3-4-3-4-4-3-5
3340	4-4-2-1-1-2-2-3-4-2
3350	3-3-3-4-4-3-2-3-2-3
3360	4-3-3-3-2-3-3-3-2-2
3370	3-1-2-2-3-2-3-3-2-3
3380	3-2-3-2-2-3-2-1-2-2
3390	3-4-5-3-4-3-4-4-3-4
3400	4-5-5-4-3-4-5-4-4-5
3400 to 3410	3-4-3-4-4-4-5-5-5-4
3420	5-5-5-4-4-4-5-5-4-4
3430	4-3-4-3-4-3-4-3-3-4
3440	4-4-4-3-3-3-3-2-3-3
3450	3-4-4-4-4-3-3-3-3-4
3460	4-5-5-5-4-4-4-3-3-5
3470	3-4-5-4-4-4-4-4-3-4
3480	3-5-4-4-3-3-3-2-3-3
3490	3-3-3-3-2-4-3-3-3-3
3500	3-3-3-3-2-2-2-3-3-3

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SEP 8 1985

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WICHITA BRANCH

3500 to	3510	3-4-5-5-3-4-4-4-3-2
	3520	3-4-6-4-4-4-4-3-4-4
	3530	4-4-4-4-4-4-4-4-3-3
	3540	4-5-4-5-5-3-3-3-2-2
	3550	2-3-3-4-4-2-3-2-3-3
	3560	4-4-4-3-3-4-3-3-3-3
	3570	3-3-4-4-3-4-3-3-3-3
	3580	3-2-3-2-2-2-3-2-2-1
	3590	2-2-2-2-3-4-3-2-2-2
	3600	2-2-2-2-2-4-4-4-4-3
3600 to	3610	3-3-3-3-3-3-4-4-3-4
	3620	4-4-3-4-3-2-2-3-4-5
	3630	3-3-3-3-3-4-3-4-3-3
	3640	4-3-4-4-3-3-3-4-4-4
	3650	3-3-4-3-3-2-3-1 $\frac{1}{2}$ -1 $\frac{1}{2}$ -3
	3660	1-2-3-3-1-2-2-2-2-3
	3670	3-3-3-4-3-2-2-2-2-2
	3680	2-3-4-4-2-1-3-3-4-3
	3690	3-3-4-4-4-5-5-5-4-3
	3700	4-4-4-5-4-4-4-6-5-6
3700 to	3710	6-7-6-5-6-4-3-4-3-5
	3720	4-4-3-4-3-3-4-4-4-2
	3730	4-4-5-5-4-4-2-3-3-4
	3740	5-3-5-5-4-5-4-6-4-4
	3750	4-3-3-4-3-3-3-3-5-5
	3760	5-6-5-5-3-4-4-4-4-4
	3770	4-3-4-3-3-3-3-3-5-6
	3780	5-4-5-5-5-4-5-4-5-5
	3790	5-6-6-4-4-3-4-3-3-3
	3800	4-3-3-3-3-3-3-3-4-4
3800 to	3810	3-4-4-4-2-4-3-3-3-4
	3820	3-3-4-3-2-3-3-3-2-3
	3830	3-4-4-5-5-6-6-3-3-3
	3840	3-3-2-2-3-4-3-3-3-2
	3850	2-2-2-1-2-1-2-2-1-2
	3860	2-3-3-3-2-4-4-6-5-5
	3870	5-5-5-5-5-5-3-3-3-4
	3880	4-5-4-5-5-4-4-5-5-4
	3890	5-5-5-5-5-5-5-6-3-5
	3900	5-5-6-6-6-5-3-4-4-4
3900 to	3910	4-3-3-4-3-3-2-2-2-4
	3920	6-6-6-4-4-4-4-5-5-4
	3930	7-8-7-4-4-3-3-4-4-4
	3940	3-5-5-4-4-3-4-3-2-3
	3950	2-3-6-6-4-3-3-4-4-5
	3960	6-5-6-5-6-5-6-5-6-5
	3970	5-4-4-3-4-5-6-6-5-6
	3980	6-6-6-2-3-3-3-3-3-3
	3990	3-3-3-3-3-4-3-4-3-2
	4000	3-4-4-5-5-5-5-6-6-4

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DST No. 1 (3936 to 3973)

4000 to 4010

4020

4030

4040

4050

4060

4070

4080

4090

4100

4100 to 4110

4120

4130

4140

4150

4160

4170

4180

4190

4200

4200 to 4210

4220

4230

4235

5-7-6-7-5-5-5-5-4-5

3-5-5-5-3-4-2-3-4-4

4-5-4-5-5-4-4-5-4-4

4-4-6-5-6-6-7-6-6-5

5-5-4-4-5-6-5-6-6-6

4-5-4-4-4-4-5-5-5-4

3-4-4-4-4-4-4-3-4-4

4-4-5-5-5-5-5-5-5-5

5-5-6-5-5-5-4-4-5-5

6-4-5-5-5-3-5-5-5-6

6-5-4-5-5-5-5-6-5-4

5-5-4-5-5-6-6-5-4-5

5-5-6-5-5-5-6-6-7-6

7-6-6-4-7-6-6-6-7-7

6-4-4-6-5-5-5-6-6-4

5-6-7-7-7-7-8-5-4-6

5-5-4-5-5-6-6-6-7-6

4-5-8-8-7-8-8-7-7-5

6-6-6-4-5-6-6-6-6-6

6-7-7-8-6-8-9-7-8-6

8-7-5-5-6-5-5-5-5-6

6-7-6-6-6-9-7-4-4-3

5-4-4-4-4-3-3-2-2-2

2-2-2-2-2

DST No. 2 (3986 to 4010)

DST No. 3 (4008 to 4030)

DST No. 4 (4116 to 4142)

DST No. 5 (4115 to 4162)

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