

3-10-29W

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GEOLOGICAL REPORT

FRONTIER OIL COMPANY

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NO. 1 KRANNAWITTER

NE NW SW
SEC. 3-10S-29W

SHERIDAN COUNTY, KANSAS

APR 30 1986
KANSAS GEOLOGICAL SURVEY
WICHITA BRANCH

Commenced: January 24, 1986
Date of RTD: February 3, 1986

STATE CORPORATION COMMISSION
APR 25 1986
CONSERVATION DIVISION
Wichita, Kansas

KANSAS GEOLOGICAL SURVEY
WICHITA BRANCH
JUN 12 1987

Steven D. Angle

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

Frontier Oil Company
#1 Krannawitter
NE NW SW, Sec. 3-10S-29W
Sheridan County, Kansas

Dear Sir:

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

Drilling was supervised from 3500' to 4225', rotary total depth. Samples examined from 3500' 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.

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Elevation	2834 GL --- 2839 KB
Anhydrite	2436-2470 (+ 403)
Howard	3616 (- 777)
Topeka	3706 (- 867)
Heebner	3923 (-1084)
Toronto	3946 (-1107)
Lansing/Kansas City	3962 (-1123)
Base/Kansas City	4211 (-1372)
RTD	4225 (-1386)

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WICHITA BRANCH

Structurally, on top of the Lansing-Kansas City the Frontier Oil Company, Krannawitter No. 1 ran 9' low to the Angle Exploration Krannawitter "A" No. 1 located approximately one location to the northwest.

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ZONES OF INTEREST

HOWARD (Top 3616)
3616 to 3630

White crystalline limes with a small show of free oil. Tan slightly silty sucrosic fossiliferous limes with a small show of free oil and tar oil. Scattered green and red shales.
(Included in DST #1)

3633 to 3638

Same as above.

3640 to 3644

One piece of fossiliferous vuggy lime with a good show of free oil and scattered tan fossiliferous limes with a small show of tar oil.

DRILL STEM TEST NO. 1
3600 to 3647

60-30-60-30.1st opening - very weak blow throughout Shut in 30 minutes. 2nd opening - very weak blow - flushed tool at 15 minutes with a very weak blow throughout. Shut in 30 minutes. Recovered 250' muddy salt water. IF 32-74 FF 105-107 ISIP 1104 FSIP 1073

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3670 to 3680

Tan crystalline limes.

3680 to 3690

Tan and white crystalline fossiliferous limes.

3690 to 3700

Same as above.

TOPEKA (Top 3706)
3706 to 3720

Tan crystalline fossiliferous limes.

3753 to 3760

Tan fossiliferous limes with a fair show of heavy oil.
(Included in DST #2)

3772 to 3776

Same as above.

DRILL STEM TEST NO. 2
3748 to 3790

60-30-60-30. 1st op - strong blow in 7 minutes. Shut in 30 minutes. 2nd opening - good blow throughout. Shut in 30 minutes.

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WICHITA DIVISION

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DRILL STEM TEST NO. 2 (Continued)
3748 to 3790

Recovered 2000 of salt water.
IF 11-734 FF 784-992
ISIP 1062 FSIP 1061.

HEEBNER SHALE (Top 3923)

TONTONTO (Top 3946)
3946 to 3958

Tan crystalline limes and scattered fossiliferous limes.

LANSING-KANSAS CITY (Top 3962)
3962 to 3970

Tan crystalline fossiliferous limes with a few scattered traces of tar oil.

3991 to 3994

White fossiliferous slightly vuggy limes with a small to fair show of free oil and a faint odor. Grey fresh chert.

DRILL STEM TEST NO. 3

3982 to 4002

20-30-25-30. 1st opening - weak blow for 20 minutes Flushed tool - weak blow for 4 minutes. Shut in 30 minutes 2nd opening - no blow flushed tool weak blow for 4 minutes Shut in 30 minutes. Recovered 35' mud. IF 47-47 FF 70-70 ISIP 491 FSIP 491

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4008 to 4013

Tan fossiliferous limes with a fair show of free oil and scattered cherty limes with a small show of free oil and a faint odor.

4020 to 4025

Tan silty to crystalline fossiliferous limes with a trace of free oil, dead oil staining and a fair odor.

4031 to 4036

Tan sandy limes and tan silty limes with a small show of free oil.

4040 to 4048

White silty limes with a small show of free oil with a faint odor. Tan fine crystalline limes with a small to fair show of free oil and a faint odor.

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WORTHEN BUILDING

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DRILL STEM TEST NO. 4
4000 to 4048

60-30-60-30. 1st opening - good blow in 10 minutes, throughout. 2nd opening weak to fair blow throughout. Rec. 360' mud with a few oil spots and 810' of sulphur water. IF 70-374 FF 397-6. ISIP 1297 FSIP 1256.

4054 to 4060

Tan crystalline limes with a trace of free oil and fossiliferous limes with no show.

4072 to 4077

Tan crystalline limes with a trace of free oil and a faint odor. Scattered grey fresh cherts.

4100 to 4105

Tan to white silty limes with a small show of free oil and a faint odor.

4114 to 4120

Tan fine crystalline lime with a trace of free oil.

4123 to 4126

Scattered fine crystalline limes with scattered traces of free oil.

4136 to 4140

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Tan fossiliferous limes slightly fractured with small shows of free oil.

4144 to 4148

Tan fossiliferous vuggy limes with a fair show of wet staining and a very faint odor.

4150 to 4155

Tan fossiliferous vuggy limes with a fair show of staining and a very faint odor.

DRILL STEM TEST NO. 5
4135 to 4165

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MKS ENERGY SURVEY
WICHITA BRANCH

60-30-60-30. 1st opening - strong blow in 1 minute decreasing throughout. Shut in 30 minutes. 2nd opening - weak to fair blow throughout. Shut in 30 minutes. Recovered 1708' of gas in pipe. 75' of clean oil and 155' of very heavy oil cut mud. IF 63-84 FF 96-105 ISIP 105 FSIP 106

4181 to 4186

Tan crystalline limes.

4195 to 4199

Scattered tan slightly vuggy fossiliferous limes with a trace of free oil and flakes with a fair

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4200 to 4206

Tan crystalline fossiliferous limes slightly vuggy with pinpoint porosity and a fair to good show of free oil and a faint odor.

DRILL STEM TEST NO. 6
4187 to 4225

30-30-30-30. 1st opening - very weak blow for 14 minutes. Flushed tool - no help. Shut in 30 minutes. 2nd opening - no blow, flushed tool, very weak blow for 4 minutes. Shut in 30 minutes. Recovered 60' slightly oil cut mud. IF 35-35 FF 47-47 ISIP 1286 FSIP 1133

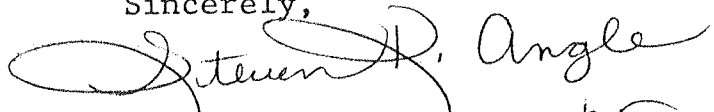
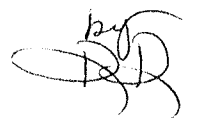
BASE/KANSAS CITY (Top 4211)

ROTARY TOTAL DEPTH AT 4225

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Due to the low structural position and negative drill stem tests, the Frontier Oil Company Krannawitter No. 1 was plugged and abandoned a dry hole.

Sincerely,


Steven D. Angle 

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KANSAS CITY FRONTIER OIL COMPANY
WICHITA BRANCH

3-10-29W

DRILLERS TIME LOG

Frontier Oil Company
#1 Krannawitter

NE NW SW
Sec. 3-10S-29W
Sheridan County

Elev.: 2834 GL
2839 KB

DEPTH

MINUTES

REMARKS

1 Foot Drilling Time

3500 to 3510	3-2-3-3-3-4-5-5-4-3
3520	4-3-3-3-3-3-4-4-2
3530	2-4-4-2-4-4-4-3-4
3540	3-3-3-3-4-3-6-5-5-5
3550	4-4-5-3-3-4-2-4-3-3
3560	3-2-3-2-2-2-2-2-2-2
3570	2-4-4-3-2-3-2-3-3-3
3580	3-3-6-2-4-4-3-4-4-3
3590	4-3-4-4-4-3-3-4-4-3
3600	3-3-4-4-4-4-4-3-3-3
3600 to 3610	5-4-3-2-3-3-3-4-4-4
3620	3-4-4-3-4-4-3-2-4-4
3630	4-3-3-3-5-4-3-3-4-2
3640	6-3-4-3-2-2-3-3-4-5
3650	4-4-3-2-2-3-2-3-2-2
3660	2-2-2-3-3-4-3-3-3-4
3670	3-3-3-3-3-2-2-2-4-3
3680	4-4-2-3-4-4-4-4-4-4
3690	4-3-4-2-2-2-3-3-3-4
3700	3-2-3-2-2-3-3-3-2-2
3700 to 3710	3-3-3-3-3-3-3-3-4-4
3720	4-5-5-5-4-4-4-4-2-2
3730	3-2-3-4-4-4-4-4-3-2
3740	3-3-2-3-2-2-3-3-2-2
3750	2-3-2-2-3-4-5-4-3-3
3760	3-3-2-3-4-3-3-2-3-3
3770	2-2-2-3-2-1-3-3-4-1
3780	2-1-1-1-1-2-3-2-3-2
3790	2-4-2-2-2-2- $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$
3800	2-1-3-2-1-2-2-2-2-2
3800 to 3810	2-3-2-2-2-3-5-3-4-2
3820	3-3-1-3-2-3-4-2-2-2
3830	2-3-2-1-1-2-2-1-2-2
3840	2-2-2-3-2-2-3-4-3-3
3850	3-3-3-4-3-3-3-3-4-4
3860	5-4-3-3-3-3-3-2-3-3
3870	2-3-3-3-4-3-3-3-3-3

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KANSAS GEOLOGICAL SURVEY
WICHITA BRANCH

DST #1 (3600-3647)

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DST #2 (3748-3790)

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WICHITA BRANCH

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3800 to	3880	4-4-3-2-5-5-5-5-3-6
	3890	4-3-2-2-2-2-2-3-3-4
	3900	4-5-5-4-4-3-3-3-2-2
3900 to	3910	3-2-3-2-1-1-2-2-2-4
	3920	2-3-1-1-2-2-1-2-2-4
	3930	2-3-2-2-2-2-3-5-3-3
	3940	3-3-1-1-4-2-3-2-3-3
	3950	2-3-3-3-4-2-4-4-3-3
	3960	3-4-5-5-3-3-4-4-2-3
	3970	3-3-2-3-2-4-4-3-3-2
	3980	2-3-2-2-2-2-2-4-4-4
	3990	3-3-4-3-3-3-4-3-3-4
	4000	4-2-3-4-3-3-4-4-4-4
4000 to	4010	3-3-3-3-3-2-3-3-5-3
	4020	3-4-4-4-4-4-3-4-4-2
	4030	2-3-3-3-5-4-2-2-1-1
	4040	2-2-1-2-4-3-2-3-3-2
	4050	2-2-3-5-4-3-4-4-3-3
	4060	2-3-4-5-5-4-6-3-3-5
	4070	4-5-3-4-4-4-5-5-5-4
	4080	4-5-3-4-3-5-6-4-4-2
	4090	5-4-4-4-4-3-4-5-4-5
	4100	3-5-3-3-3-4-6-5-6-5
4100 to	4110	5-5-4-4-3-4-5-4-5-6
	4120	5-4-3-5-4-4-4-3-4-5
	4130	5-5-4-4-4-4-5-5-5-5
	4140	4-4-5-4-5-4-4-3-4-3
	4150	2-3-2-5-3-4-3-3-4-5
	4160	4-4-4-4-4-3-4-4-4-4
	4170	4-4-3-3-4-3-3-3-3-5
	4180	3-4-4-4-4-3-4-5-4-6
	4190	4-5-3-3-5-4-4-5-4-2
	4200	2-4-4-4-6-5-4-4-6-4
4200 to	4210	5-5-4-5-5-7-6-6-6-7
	4220	4-4-3-3-4-3-4-3-4-3
	4230	4-3-3-2-2

DST #3 (3982-4002)

DST #4 (4000-4048)

DST #5 (4135-4165)

DST #6 (4187-4255)

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KENNETH S. L. BERRY, DUNVEY
WIGHTMAN BARRICK