

27-11-24W

State Geological Survey
WICHITA BRANCH

CONFIDENTIAL

GEOLOGICAL REPORT*

AP2#15-195-21306

FRONTIER OIL COMPANY

STRUSS NO. 2

NE NE NE

27-11S-24W

TREGO COUNTY, KANSAS

Commenced: August 15, 1983

Completed: August 23, 1983

RELEASED

Date: SEP 1 1984
FROM CONFIDENTIAL

RECEIVED
STATE CORPORATION COMMISSION

SEP 28 1983
CONSERVATION DIVISION
Wichita, Kansas

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

Re: Frontier Oil Company
Struss No. 2
NE NE NE 27-11S-24W
Trego County, Kansas

Dear Sir:

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

Drilling was supervised from 3400' to 4100', rotary total depth. Samples were examined from 3400' to 4100', 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	2457 GL -- 2462 KB
Anhydrite	2038 to 2086 (+424)
Howard	3505 (-1043)
Topeka	3546 (-1084)
Heebner	3768 (-1306)
Toronto	3790 (-1328)
Lansing-Kansas City	3804 (-1342)
Base-Kansas City	4048 (-1586)
RTD	4100 (-1638)

Structurally, on top of the Lansing-Kansas City, the Struss No. 2 ran 6' high to the Struss No. 1, a Lansing-Kansas City producer, located 660' to the south.

ZONES OF INTEREST

HOWARD (Top 3505)

TOPEKA (Top 3546) 3546 to 3554

Tan fine crystalline to dense, slightly silty lime.

3570 to 3580

Tan, slightly crystalline , silty, chalky lime.

3670 to 3680

Scattered tan oolitic and fossiliferous limes.

3690 to 3700

Tan crystalline fossiliferous lime.

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Stress #2
27-11-24W

3730 to 3738

Light gray cherts and tan crystalline lime.

3740 to 3750

Tan, fine crystalline with good pinpoint porosity. No show of free oil or staining and no odor.

HEEBNER (Top 3768)

TORONTO (Top 3790)

3790 to 3800

Tan crystalline to tan cherty limes.

LANSING-KANSAS CITY (Top 3804)

3804 to 3814

Yellow fossiliferous chert and tan cherts, cherty limes with no show of oil and no odor.

3815 to 3824

Tan cherty limes, tan cherts and scattered glauconitic sand clusters.

3828 to 3840

Tan crystalline limes and tan cherty limes.

3842 to 3850

Tan cherty limes with a fair to good show of black tar oil and no odor.

3866 to 3872

Tan and white crystalline lime with a fair show of black tar oil and no odor.

3875 to 3882

Tan cherty slightly vuggy lime with a small show of free oil, good staining and no odor. (Included in DST #1)

3888 to 3894

Scattered white, cherty, junky limes with a small show of free oil and no odor.

3900 to 3908

Tan crystalline limes.

3908 to 3915

Same as above.

3918 to 3925

Few pieces of tan, slightly crystalline, chalky lime with a trace of free oil, fair staining and no odor.

3927 to 3934

Tan crystalline to dense limes.

3940 to 3950

Tan cherty, vuggy lime with a fair show of free oil and no odor.

3950 to 3958

Tan cherty fossiliferous lime, slightly silty with a fair show of free oil and a faint odor.

DRILL STEM TEST NO. 1

3872 to 3960

3960 to 3968

3973 to 3980

DRILL STEM TEST NO. 2

3958 to 3980

3982 to 3988

3993 to 3999

4000 to 4005

DRILL STEM TEST NO. 3

3978 to 4005

4010 to 4015

4018 to 4024

4026 to 4034

4039 to 4048

4056 to 4062

Struss #2
27-11-24W

TEST: 30-30-30-30. Weak blow for 18 minutes, flushed tool - no help. SI 30". No blow, flushed tool - no help. SI 30". Recovered 80' of mud.

PRESSURES: 81-104, 104-115, 632-518 Bhps.

Tan crystalline and white crystalline lime.

Tan fossiliferous lime with small show free oil and a small show of black dead oil and tan vuggy chert with a small show of free oil and no odor.

TEST: 30-30-30-30. Very weak blow for 13 minutes. Flushed tool - no help. SI 30". No blow - flushed tool - no help. SI 30". Recovered 15' of mud.

PRESSURES: 46-58, 58-58, 138-81 Bhps.

Tan cherty limes.

Tan cherty limes with traces of free oil and brown flakes of oil with a very faint odor.

Tan crystalline limes and scattered fossiliferous limes with fair shows of free oil and no odor.

TEST: 15-30-15-30. Very weak blow for 5 minutes. Flushed tool - few bubbles, died. SI 30". No blow. SI 30". Recovered 5' mud.

PRESSURES: 46-46, 46-46, 69-46 Bhps.

White slightly crystalline fossiliferous lime to poorly developed oolitic lime with a small show of free oil and no odor.

Tan and white fossiliferous lime with a small show of free oil and no odor.

Tan dense and white fossiliferous limes.

Tan and white crystalline to dense limes with a few pieces of tan cherty slightly vuggy containing fair to good shows of black tar oil and fair shows of black oil flakes and no odor.

Red shales.

4064 to 4070

4084 to 4090

4090 to 4095

4095 to 4100

DRILL STEM TEST NO. 4
3997 to 4100

ROTARY TOTAL DEPTH @ 4100'

Struss #2
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Tan and white dense limes.

Tan crystalline and tan dense limes.

Tan and white sandy limes.

Tan and white crystalline dense limes.

TEST: 15-30-15-30. Weak blow for 8 minutes.
SI 30". No blow, flushed tool and had a
weak blow for 1 minute. SI 30". Recovered
10' of mud.

PRESSURES: 92-92, 92-92, 426-288 Bhps.

Struss #2
27-11-24W

Due to negative drill stem tests and absence of shows of oil, the Frontier Oil Company Struss No. 2 was plugged and abandoned a dry hole.

Sincerely,

A handwritten signature in cursive script, reading "Steven D. Angle". The signature is written in black ink and is positioned above the printed name.

Steven D. Angle

DRILLING INFORMATION ON THE STRUSS NO. 2 27-11-24W

Drilling Contractor: Red Tiger Drilling Co.
Rig #10

Tool Pusher: Bruce Fickel

Drillers: B. Fickel
D. Bailey
T. Shrout

Spud Date: August 15, 1983

Date of RTD: August 23, 1983

Surface Pipe: New 8-5/8" 20# set @ 328'
w/200 sx 60/40 Pozmix plus
2% gel & 3% CC. CDC.

Casing: None - Plugged & Abandoned

TOTAL FOOTAGE DRILLED PER DAY
Under surface at 9:15 A.M. on 8-16-83

2110	Feet	At	7:00 A.M.	On	8-17-83
2870	"	"	"	"	8-18-83
3415	"	"	"	"	8-19-83
3740	"	"	"	"	8-20-83
3925	"	"	"	"	8-21-83
3980	"	"	"	"	8-22-83
4005	"	"	"	"	8-23-83
4100	Feet	At	3:39 P.M.	On	8-23-83

MUD RECORD

Surface - 30 sx gel, 7 sx hulls, 4 sx lime.
3645 - 80 sx salt mud, 1 sx mudseal, 12 sx hulls, 3 sx preservative, 50 sx starch.
3855 - 71 sx salt mud, 9 sx hulls.
3960 - 20 sx salt mud, 6 sx starch.
4100 - 10 sx starch.