

PT

33-15-11W

GEOLOGICAL REPORT

FOSTER NO. 7

NW NE SW

33-15S-11W

RUSSELL COUNTY, KANSAS

Commenced: April 26, 1984

Completed: May 3, 1984

JUN 21 1984

State Geological Survey  
WICHITA BRANCH

RECEIVED  
STATE CORPORATION COMMISSION

JUN 14 1984

CONSERVATION DIVISION  
Wichita, Kansas

PT

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

Re: Frontier Oil Company  
Foster No. 7  
NW NE SW 33-15S-11W  
Russell County, Kansas

Dear Sir:

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

Drilling was supervised from 2100' to 3264', rotary total depth. Samples were examined from 2100' to 3264', 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	1801 GL -- 1806 KB	
Anhydrite	659 to 687	(+1147)
Tarkio	2312	( -506)
Topeka	2592	( -786)
Heebner	2836	(-1030)
Toronto	2856	(-1050)
Brown Lime	2929	(-1123)
Lansing-Kansas City	2947	(-1141)
Base-Kansas City	3208	(-1402)
Arbuckle	3259	(-1453)
RTD	3264	(-1458)
5½" Casing	3260	(-1454)

Structurally, on top of the Lansing-Kansas City, the Frontier Oil Company Foster No. 7 ran 3' high to the Foster No. 1 located approximately 1000' to the southeast.

On top of the Arbuckle, the Foster No. 7 ran 21' high to the Foster No. 1.

#### ZONES OF INTEREST

2188 to 2202	Scattered gray sand clusters with possible staining.
2252 to 2262	Scattered gray to tan sand clusters, tightly bonded.
2270 to 2280	Tan crystalline and gray fossiliferous crystalline limes.

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7 Foster

2288 to 2298

Tan, tightly bonded sand clusters.

TARKIO LIME (Top 2312)  
2312 to 2324

Tan slightly crystalline to junky limes.

2346 to 2360

One piece of tan silty, sandy shale with dark staining.

TOPEKA (Top 2592)  
2592 to 2600

Tan crystalline silty limes.

2770 to 2780

Scattered tan cherty, slightly vuggy limes with fair dark staining.

2783 to 2790

Tan vuggy to oolitic lime with spotted dark staining.

DRILL STEM TEST NO. 1  
2719 to 2835

TEST: 60-30-15-30. Good blow decreasing to a weak blow. SI 30". No blow, flushed tool - no help. SI 30". Recovered 345' of mud.  
PRESSURES: 283-283, 283-UNRDBLE., 912-1195

WEBNER SHALE (Top 2836)

TORONTO (Top 2856)  
2856 to 2870

Tan crystalline limes with scattered fair dark staining.

2872 to 2882

Tan sucrosic limes with fair, medium dark staining.

2890 to 2895

Scattered sandy lime with fair spotted dark staining.

BROWN LIME (Top 2929)  
2929 to 2940

White chalky to tan crystalline limes.

LANSING-KANSAS CITY (Top 2947)  
2947 to 2963

Scattered tan oolitic, weathered limes and tan fossiliferous limes.

DRILL STEM TEST NO. 2  
2830 to 2965

TEST: 60-30-60-30. Weak to good blow in 10 minutes, decreasing to fair blow in 60 minutes. SI 30". Good blow decreasing to a weak blow in 60". SI 30". Recovered 250' mud, 245' muddy water, 250' water.  
PRESSURES: 101-303, 344-445, 994-994. Bhps.

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Foster 7

2982 to 2990

Poorly developed oolitic limes with a trace to small show of free oil and a faint odor.

DRILL STEM TEST NO. 3  
2961 to 2993

TEST: 60-30-60-30. Strong blow. SI 30". Strong blow. SI 30". Recovered 60' of mud. PRESSURES: 40-40, 40-40, 202-344 Bhps.

3001 to 3010

Tan cherty to junky limes.

3020 to 3028

Tan junky limes.

3030 to 3038

White to tan slightly fossiliferous limes.

3058 to 3070

Tan fossiliferous limes, scattered tan cherty limes with a small show of black dead oil staining.

DRILL STEM TEST NO. 4  
2993 to 3084

TEST: 60-30-60-30. Weak blow. SI 30". Weak blow. SI 30". Recovered 30' of mud. PRESSURES: 71-71, 71-81, 243-162 Bhps.

3100 to 3110

White crystalline to oolitic limes.

3114 to 3124

White fossiliferous to poorly developed oolitic limes.

3178 to 3190

Tan crystalline to slightly cherty limes.

RILL STEM TEST NO. 5  
3076 to 3192

TEST: 60-30-60-30. Weak to fair blow. SI 30". Weak to fair blow. SI 30". Recovered 160' mud. PRESSURES: 61-101, 121-142, 790-709 Bhps.

ASE-KANSAS CITY (Top 3208)  
3208 to 3220

Tan crystalline to cherty limes. Scattered tan and orange cherts.

ARBUCKLE (Top 3259)  
3259 to 3260

Pale green soft shales, scattered tan medium, loose crystalline dolomite with a good show of free oil and a good odor. White barren dolomite and pyritized dolomite.

3260 to 3264

White medium crystalline dolomite with a scattered show of free oil and a good odor. White shales, green sandy shales and pyritized shales.

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Foster 7

DRILL STEM TEST NO. 6  
3190 to 3264

TEST: 60-30-60-30. Very strong blow in 2".  
SI 30". Strong blow. SI 30". Recovered 100'  
clean oil, 1420' gas cut muddy oil.  
PRESSURES: 101-547, 608-689, 831-821 Bhps.

ROTARY TOTAL DEPTH @ 3264'

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Foster 7

5½" Casing was set at 3260', 4' off bottom with 175 sx of common cement plus 10% salt.

The shoe joint is 32.36' in length and zero point is 5' AGL.

Sincerely,

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

Steven D. Angle

PI

33-15-1/w

DRILLING INFORMATION ON THE FOSTER NO. 7

Drilling Contractor: Red Tiger Drilling Co.  
Rig No. 3  
Tool Pusher: Ross Crawford, Jr.

Drillers: R. Crawford  
R. Cox  
J. Ball

Spud Date: April 26, 1984

Date of RTD: May 3, 1984

Surface Pipe: 8-5/8" @ 669.60'  
w/280 sx 60/40 Pozmix,  
2% Gel, 3% CC.

Casing: 5 1/2" @ 3260' w/175 sx common plus  
10% salt. SJ = 32.36'

TOTAL FOOTAGE DRILLED PER DAY  
Under surface at 4:00 A.M. on 4-27-84

1875	Feet	At	7:00 A.M.	On	4-28-84
2715	"	"	"	"	4-29-84
2835	"	"	"	"	4-30-84
2993	"	"	"	"	5-01-84
84	"	"	"	"	5-02-84
3254	"	"	"	"	5-03-84
3264	Feet	At	1:42 P.M.	On	5-03-84

MUD RECORD

Surface - 20 sx Mud-Co gel, 1 Duxseal, 1 sx soda ash, 1 sx caustic soda.  
25 - 70 sx salt gel, 1 sx preservative.  
2835 - 40 sx starch, 20 sx zeogel, 12 sx salt gel, 2 sx preservative.  
2870 - 5 sx starch, 10 sx salt gel, 4 sx hulls.  
3084 - 25 sx starch, 20 sx zeogel, 10 sx salt mud.  
3192 - 5 sx starch, 30 sx zeogel.  
64 - 16 sx zeogel, 8 sx starch, 5 sx hulls.