

8-9-20W
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GEOLOGICAL REPORT

RELEASED
Date: AUG 1 1985
FROM CONFIDENTIAL

FRONTIER OIL COMPANY

THYFAULT NO. 1

SW SE NW

8-9S-20W

ROOKS COUNTY, KANSAS

Commenced: June 2, 1984

Completed: June 13, 1984

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RECEIVED
STATE CORPORATION COMMISSION

JUL 26 1984

CONSERVATION DIVISION
Wichita, Kansas

61744

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

Re: Frontier Oil Company
Thyfault No. 1 ✓
SW SE NW 8-9S-20W
Rooks County, Kansas

Dear Sir:

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

Drilling was supervised from 3000' to 3785', rotary total depth. Samples were examined from 3000' to 3785', 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	2172 GL -- 2177 KB	
Anhydrite	1658 to 1698	(+519)
Topeka	3171	(-994)
Heebner	3375	(-1198)
Toronto	3395	(-1218)
Lansing-Kansas City	3415	(-1238)
Base-Kansas City	3632	(-1455)
Conglomerate	3658	(-1481)
Arbuckle	3698	(-1521)
RTD	3785	(-1608)
5½" Casing	3784	(-1607)

Structurally, on top of the Lansing-Kansas City the Frontier Oil Company Thyfault No. 1 ran 1' low to the C & G Drilling Company No. 1 Thyfault located 700' to the southeast.

On top of the Arbuckle, the Frontier Oil Company Thyfault No. 1 ran 11' low to the C & G Drilling Company No. 1 Thyfault.

ZONES OF INTEREST

TOPEKA (3171)
3171 to 3180

3200 to 3210

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Tan to yellowish fossiliferous limes.

Fine crystalline to slightly silty, slightly fossiliferous limes.

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Thyfault # 1 8-9-20W

3500 to 3506

Tan crystalline and white chalky limes.

3511 to 3520

Tan and white cherty limes and white chalky limes, scattered poorly developed oolitic white limes.

3525 to 3533

Tan cherty to junky limes, white chalky limes and tan to white crystalline limes.

3544 to 3550

White crystalline and white chalky limes.

3558 to 3568

Scattered tan cherty chalky limes with scattered traces of oil with a faint odor.

DRILL STEM TEST NO. 4

3534 to 3568

TEST: 60-30-15-30. Weak blow throughout. SI 30". Weak blow for 7 minutes. SI 30". Recovered 5' of mud.
PRESSURES: 20-20, 20-20, 20-20 Bhps.

3578 to 3590

Tan crystalline silty limes with scattered trace of free oil and faint to fair odors.

3594 to 3602

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

3618 to 3622

Scattered fine crystalline limes with scattered traces of oil and a very faint odor.

DRILL STEM TEST NO. 5

3558 to 3625

TEST: 30-30-30-30. Weak blow throughout. SI 30". No blow. SI 30". Recovered 5' of mud.
PRESSURES: 62-62, 62-62, 207-103 Bhps.

BASE-KANSAS CITY (Top 3632)

3632 to 3640

White to tan crystalline to slightly fossiliferous limes.

3648 to 3658

Tan crystalline limes with scattered traces of free oil and a very faint odor.

CONGLOMERATE (Top 3658)

3658 3670

Soft red shales, scattered multi-colored shales and crystalline limes.

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Thyfault #1

8-9-20W

3344 to 3350

Tan cherty to vuggy limes with scattered good shows of free oil and no odor.

3358 to 3366

Scattered cherty limes with scattered fair shows of free oil and no odor.

HEEBNER SHALE (Top 3375)

TORONTO (Top 3395)

3395 to 3409

Tan crystalline to cherty, very slightly vuggy limes with no odor and no shows of r.

DRILL STEM TEST NO. 1

3329 to 3409

TEST: 60-30-60-30. Strong blow in 12 minutes. SI 30". Strong blow in 30 minutes. SI 30". Recovered 870' of muddy salt water. No pressures recorded - clocks failed.

LANSING-KANSAS CITY (Top 3415)

3415 to 3422

White crystalline to oolitic limes.

3430 to 3440

White crystalline and white chalky limes.

3443 to 3448

White fossiliferous, scattered weathering, no show or odor.

3451 to 3459

White cherty to slightly weathered fossiliferous limes with a small show of free oil and a fair odor.

3464 to 3470

White and tan fossiliferous limes with a trace of free oil and a faint odor.

DRILL STEM TEST NO. 2

3409 to 3470

TEST: 60-30-60-30. Fair blow in 12 minutes. SI 30". Fair blow throughout. SI 30". Recovered 180' of oil specked mud. PRESSURES: 31-51, 62-82, 931-929 Bhps.

3473 to 3480

White and tan crystalline to cherty limes with a scattered trace of oil and no odor.

3488 to 3497

Tan cherty, slightly weathered silty limes with a small show of free oil and a fair odor.

DRILL STEM TEST NO. 3

3466 to 3499

TEST: 60-30-60-30. Strong blow in 25 minutes. SI 30". Strong blow throughout. SI 30". Recovered 1000' of muddy water. PRESSURES: 51-165, 165-207, 1034-1034 Bhps.

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Thyfault #1

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3738 to 3745

Brown to gray shales, tan dense, tan medium to large crystalline dolomite, slightly vuggy with scattered fair to good shows of free oil, good show of tarry oil and a faint odor.

DRILL STEM TEST NO. 10
3735 to 3745

TEST: 60-30-60-30. Strong blow in 2 minutes. SI 30". Strong blow throughout. SI 30". Recovered 1255' of salt water. PRESSURES: 414-550, 621-621, 621-621 Bhps.

3747 to 3754

Very fine crystalline dolomite with a good show of free oil, scattered dense, slightly vuggy dolomite with a small to fair show of free oil and a faint odor.

3759 to 3765

Scattered large crystalline weathered dolomite with a fair show of tar oil and no odor.

3766 to 3771

Tan dense dolomite with a fair show of free oil and scattered medium to large crystalline dolomite with a show of tar oil and no odor.

3778 to 3785

Scattered tan oolitic cherts and large white crystalline dolomite with a good show of heavy oil.

ROTARY TOTAL DEPTH @ 3785'

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3686 to 3692

Scattered pale green shales, white chalky limes and scattered fossiliferous limes.

3692 to 3697

Same as above.

ARBUCKLE (Top 3698)
3698 to 3707

Tan fine crystalline dolomite and scattered tan medium crystalline dolomite with small shows of free oil and a fair odor, scattered oolitic cherts.

DRILL STEM TEST NO. 6
3678 to 3707TEST: 30-30-30-30. Very weak blow throughout. SI 30". No blow. SI 30". Recovered 15' of oil specked mud.
PRESSURES: 20-30, 30-30, 207-103 Bhps.

3710 to 3717

Multi-colored shales, tan to yellowish fresh oolitic chert, scattered tan dense to fine crystalline dolomite with a trace of free oil and a faint odor.

DRILL STEM TEST NO. 7
3707 to 3717TEST: 60-30-60-30. Fair blow in 20 minutes. SI 30". Fair blow throughout. SI 30". Recovered 64' of heavy oil and gas cut mud.
PRESSURES: 20-20, 20-40, 89-410 Bhps.

3718 to 3725

Multi-colored shales, scattered tan dense to medium crystalline dolomite with a small to fair show of free oil and a fair odor.

DRILL STEM TEST NO. 8
3715 to 3725TEST: 60-30-60-30. Fair to strong blow in 30 minutes. SI 30". Fair to strong blow in 30 minutes. SI 30". Recovered 255' of gassy oil and 60' of gas in pipe.
PRESSURES: 20-103, 103-145, 518-518 Bhps.

3726 to 3735

Multi-colored shales, tan dense to sandy dolomite and scattered medium crystalline dolomite with fair shows of free oil and a fair odor.

DRILL STEM TEST NO. 9
3725 to 3735TEST: 60-30-60-30. Strong blow in 14 minutes. SI 30". Strong blow throughout. SI 30". Recovered 282' of clean oil and 285' of gassy mud cut oil.
PRESSURES: 52-104, 155-228, 560-539 Bhps.AUG 13 1985
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DRILLING INFORMATION ON THE THYFAULT NO. 1

8-9-206

Drilling Contractor: Red Tiger Drilling Co.
Rig #9
Tool Pusher: Kenneth J. Bieker

Drillers: K. Bieker
L. Newell
V. Honas

Spud Date: June 2, 1984

Date of RTD: June 13, 1984

Surface Pipe: 8-5/8" Set @ 226.70'
w/160 sx common, 2% gel,
3% CC.

Casing: 5 1/2" @ 3784' w/200 sx common plus
10% salt. DV @ 1673' w/500 sx
50/50 Pozmix plus 6% Gel.

TOTAL FOOTAGE DRILLED PER DAY
Under surface at 3:45 P.M. on 6-3-84

1990	Feet	At	7:00 A.M.	On	6-04-84
2770	"	"	"	"	6-05-84
3316	"	"	"	"	6-06-84
3430	"	"	"	"	6-07-84
3499	"	"	"	"	6-08-84
3568	"	"	"	"	6-09-84
3664	"	"	"	"	6-10-84
3717	"	"	"	"	6-11-84
3735	"	"	"	"	6-12-84
3745	"	"	"	"	6-13-84
3785	Feet	At	2:32 P.M.	On	6-13-84

MUD RECORD

- Surface - 28 sx gel, 10 sx hulls, 1 sx lime.
- 3197 - 40 sx salt clay, 40 sx starch, 16 sx hulls, 2 sx preservative.
- 3409 - 50 sx salt gel, 6 sx hulls, 6 sx starch.
- 3470 - 20 sx salt gel.
- 3552 - 15 sx salt gel, 4 sx starch.
- 3625 - 15 sx salt gel, 5 sx starch, 4 sx hulls.
- 3707 - 20 sx salt gel, 4 sx starch.
- 3717 - 5 sx starch, 1 sx preservative.
- 3745 - 8 sx starch, 2 sx preservative.
- 3785 - 20 sx salt gel, 6 sx starch, 8 sx hulls.

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5½" Casing was set at 3784', 86' into the Arbuckle and 1' off bottom with 200 sx of common cement plus 10% salt.

A Halliburton DV Tool was set in the Anhydrite at 1673' and cemented to surface with 500 sx of 50/50 Pozmix plus 6% gel.

The shoe joint is 41.32' in length and zero point is 5' AGL.

Sincerely,



Steven D. Angle

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