

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

Re: Frontier Oil Company
No. 1 Gagelman
NE SW NE 26-19S-15W
Barton County, Kansas

Dear Sir:

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

Drilling was supervised from 1700' to 3592', rotary total depth. Samples were examined from 1700' to rotary total depth.

All formation tops, zones of porosity, and staining are based on rotary bushing measurements. Any correction in measurements during the drilling of the well have been incorporated into this report.

Elevation (L&S)	1920 DF	1923 KB
Anhydrite	859	+1064
Herington	1784	+ 139
Council Grove	2124	- 201
Cottonwood	2239	- 316
Red Eagle	2352	- 429
Brownville	2511	- 588
Tarkio	2631	- 708
Topeka	2914	- 991
Heebner	3162	-1239
Toronto	3178	-1255
Brown Lime	3243	-1320
Lansing-Kansas City	3253	-1330
Base of Kansas City	3482	-1559
Shaly Conglomerate	3510	-1587
Cherty Conglomerate	3541	-1618
Arbuckle	3576	-1653
RTD	3592	-1669
4-1/2" pipe at	3587	-1664

Structurally on top of the Lansing-Kansas City, the No. 1 Gagelman ran 5' low to Frontier's Oetken No. 1, a dry hole located approximately one mile North. On top of the Arbuckle the No. 1 Gagelman ran 11' high to the No. 1 Oetken.

ZONES OF INTEREST

HERINGTON (Top 1784)

1833 to 1846

Light tan sucrosic lime with good pin point porosity. No show of oil.

COUNCIL GROVE (Top 2124)

2148 to 2156

White fine crystalline to fossiliferous lime with good pin point porosity. No show of oil.

COTTONWOOD (Top 2239)

2242 to 2252

White fossiliferous lime with good fossilcastic porosity. No show of oil.

RED EAGLE (Top 2352)

2376 to 2382

White fossiliferous lime with no show of oil.

2398 to 2414

White fossiliferous lime with some fossilcastic porosity. No show of oil.

TARKIO (Top 2631)

2658 to 2670

Light grey micaceous silty sandy shale with some clear to white sand clusters. No show of oil.

TOPEKA (Top 2914)

2946 to 2958

Tan fossiliferous to fossilcastic lime with no show of oil.

3104 to 3112

Tan well developed oolitic lime with no show of oil.

TORONTO (Top 3178)

3178 to 3188

White fine crystalline to chalky lime with no show of oil.

LANSING-KANSAS CITY (Top 3253)

3259 to 3264

Light tan fossiliferous lime with some fossilcastic porosity. Trace of free oil and a very faint odor. (Included in DST No. 1).

3270 to 3275

Light tan to light grey fine crystalline lime with no show of oil and no odor.

DRILL STEM TEST NO. 1 (FOC Test)

3248 to 3280

60-30-30-30 First open weak blow. Second open weak to no blow in 20 minutes. Recovered 30' watery mud. Initial flows 52 to 52#. Final flows 65 to 65#. Initial shut in pressure 1043#. Final shut in pressure 965#.

3284 to 3288

Tan to white fine crystalline to fossiliferous lime and some tan fresh cherts. No show of oil. (Included in DST No. 2).

3297 to 3304

Tan fossiliferous to vuggy lime with a fair show of free oil and a very faint odor.

DRILL STEM TEST NO. 2 (FOC Test)

3274 to 3310

30-30-30-30 First open very weak blow. Second open no blow. Recovered 10' oil specked mud. Initial flows 50 to 50#. Final flows 50 to 50#. Initial shut in pressure 60#. Final shut in pressure 60#.

SHALY CONGLOMERATE (Top 3510)

3521 to 3523

Red shales and scattered sand clusters with a trace of free oil, no odor.
(Included in DST No. 5).

CHERTY CONGLOMERATE (Top 3541)

3541 to 3576

Soft red shale and multi-colored cherts. Some scattered sand clusters throughout with black flakes of oil.
(Included in DST No. 5).

ARBUCKLE (Top 3576)

3576 to 3582

White to tan medium crystalline dolomite with no show of free oil and a fair odor.

DRILL STEM TEST NO. 5 (FOC Test)

3478 to 3582

60-30-60-30 First open gas to surface in 5 minutes.
5 minute gauge 416,000 CFGPD;
15 minute gauge 581,000 CFGPD;
30 minute gauge 686,000 CFGPD;
45 minute gauge 700,000 CFGPD;
60 minute gauge 700,000 CFGPD.
Second open mud to surface into 1 minute at second open.
10 minute gauge 1,020,000 CFGPD
very heavy mist of mud;
30 minute gauge 887,000 CFGPD
light mist of mud;
45 minute gauge 734,000 CFGPD
light mist of mud;
60 minute gauge 734,000 CFGPD
light mist of mud.
Recovered 480' gas cut mud.
Initial flows 409 to 292#.
Final flows 409 to 292#.
Initial shut in pressure 1092#.
Final shut in pressure 990#.

SEP 09 1985
State Geological Survey
WICHITA BRANCH

3378 to 3384

Tan dense to slightly vuggy lime
with a trace of free oil, no odor.
(Included in DST No. 3).

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3398 to 3404

Tan fossiliferous lime with a fair
show of free oil and a good odor.

DRILL STEM TEST NO. 3 (FOC Test)

3376 to 3412

30-30-30-30 First open weak blow
for 10 minutes. Second open no blow.
Recovered 5' mud with a scum of oil.
Initial flows 52 to 63#.
Final flows 52 to 52#.
Initial shut in pressure 235#.
Final shut in pressure 75#.

3417 to 3422

SEP 09 1985
State Geological Survey
WICHITA BRANCH

White fine crystalline to fossiliferous
lime with a scattered show of free oil
and no odor.
(Included in DST No. 4).

3430 to 3434

White to tan oolitic lime with no
show of free oil and no odor.
(Included in DST No. 4).

3446 to 3452

Tan to white fossiliferous lime
with traces of free oil and no odor.
(Included in DST No. 4).

3462 to 3468

Tan chalky to fine crystalline lime
with no show of oil.

DRILL STEM TEST NO. 4 (FOC Test)

3412 to 3490

60-30-60-30 First open fair blow.
Second open fair blow.
Recovered 390' watery mud.
Initial flows 93 to 190#.
Final flows 186 to 192#.
Initial shut in pressure 1143#.
Final shut in pressure 1122#.

3582 to 3592

Tan to white medium to coarse crystalline dolomite with a scattered show of free oil and a good odor.

DRILL STEM TEST NO. 6 (FOC Test)

3582 to 3592

60-30-30-30 First open gas to surface in 2 minutes.
5 minute gauge 437,000 CFGPD;
15 minute gauge 33,000 CFGPD;
30, 45, and 60 minute gauge TSTM.
Second open no blow flushed tool 3 times no help.
Recovered 60' gas cut mud,
180' heavily oil and gas cut mud.
(Tool plugged no initial or final flows recorded).
Initial shut in pressure 1143#.
Final shut in pressure 1143#.
(Tool plugged after 10 minutes).

DRILL STEM TEST NO. 6 (ReRun) (Western Testing)

3582 to 3592

60-30-25-30 First open gas to surface in 2 minutes.
15 minute gauge 887,000 CFGPD;
30 minute gauge 887,000 CFGPD.
Heavy mist of oil in 50 minutes could not gauge gas volume.
Second open oil to surface flowed oil for 25 minutes.
Recovered 1140' clean gassy oil.
Initial flows 431 to 431#.
Final flows 474 to 474#.
Initial shut in pressure 1036#.
Final shut in pressure 1016#.

4-1/2" pipe was set at 3587', 11' in the Arbuckle and 5' off bottom with 150 sacks common cement 10% added salt. Zero point is 5' AGL and the shoe joint is 22-61' long.

Sincerely,

Richard D. Parker

Richard D. Parker

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RDP:ss

DRILLING INFORMATION ON THE GAGELMAN NO. 1

Drilling Contractor: Red Tiger Drilling

Drillers: Ogle, Jr.
Ogle, W. C.
Bates

Tool Pusher: W. C. Ogle

Spud Date: May 14, 1985

Date of RTD: May 22, 1985

Surface Pipe: 8-5/8" at 869' w/375 sx

Casing: 4-1/2" at 3587' w/150 sx

SEP 1 1985
State Geologist
WICHITA DISTRICT

TOTAL FOOTAGE DRILLED PER DAY

Under Surface At 12:30 P.M. On May 15, 1985

1795	Feet	At	7:00 A.M.	On	May 16, 1985
2510	"	"	" "	"	May 17, 1985
3090	"	"	" "	"	May 18, 1985
3285	"	"	" "	"	May 19, 1985
3412	"	"	" "	"	May 20, 1985
3505	"	"	" "	"	May 21, 1985
3592	"	"	3:31 A.M.	"	May 22, 1985

BIT RECORD

BITS

TYPE

FOOTAGE

No. 1
No. 2

Smith DT (Rerun)
Smith F2H (New)

870' to 1613'
1613' to 3592'

MUD RECORD

Surface	27 sx benonite, 10 sx hulls, 4 sx lime
2055'	2 sx benonite, 20 sx salt gel
2935'	55 sx salt gel, 5 sx hulls, 1 sx preservative
3280'	80 sx starch, 1 sx preservative
3370'	6 sx starch, 25 sx salt gel
3490'	7 sx starch, 8 sx salt gel, 2 sx hulls
3505'	9 sx starch, 26 sx salt gel, 1 sx hulls, 1 sx fiber seal
3592'	13 sx salt gel, 1 sx lime

MID WEST ANALYTICAL LABORATORIES, INC.

ANALYTICAL-CONSULTING CHEMISTS & ENGINEERS

419 N. HANDLEY • P.O. BOX 2312 • WICHITA, KS 67201 • (316) 262-4407

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26-19-15W

TO: Frontier Oil
1720 Kansas State Bank Bldg.
Wichita, KS 67202

DATE: 6-26-85

LAB. NO.: 19316

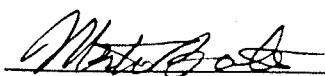
SAMPLE SUBMITTED: One gas: Gagleman #1 DST #5.

DATE SUBMITTED: 6-25-85

ANALYSIS

	<u>MOLAL %</u>
Nitrogen	12.85
Methane	80.51
Ethane	4.03
Propane	1.56
ISO-Butane	0.26
Normal Butane	0.41
ISO-Pentane	0.16
Normal Pentane	0.08
Carbon Dioxide	0.00
Oxygen	0.09
B.T.U.	dry=955.86; wet=939.21
Specific Gravity	0.6569
(Calculated to 60° F., 30" Mercury, dry)	

Respectfully submitted,
MID WEST ANALYTICAL LABORATORIES, INC.



Martin Bates

cc: Dick Buck

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GAGELMAN #1
(Completion)

Rig 2

- 5-25-85 Moved Rig 2 cable tools from Simpson #2 to Gagelman #1.
- 5-26-85 &
5-27-85 Shut down.
- 5-28-85 Rigged up. Swabbed down to float. Drilled up float.
- 5-29-85 Drilled up 20' cement in the shoe jt. Dumped 18 bbl. water in the hole and drilled 2' cement and the shoe. Ran bailer two times and well kicked off. Unloaded water and shut in when well came on oil. Hooked to separator.
- 5-30-85 Testing well. Tried to run through separator at 250# back pressure. 4.64 Bbl. oil and 280,000 CF/Day.
2nd hr. - 10.44 Bbl., oil; 3rd hr - 5.80 Bbl. oil;
4th hr - 4.64 Bbl. oil; 5th hr - 4.00 Bbl. oil.
The 2nd thru 5th hrs were direct in the tank and approximately 300,000 CF/Day.
- 5-31-85 Ran 114 jts - 3579' - 2-3/8" upset tubing w/15' mud anchor and seating nipple. Hooked up well head and tore down. Put well on production.