

CONFIDENTIAL

9-11-17W

State Geological Survey
WICHITA BRANCH

GEOLOGICAL REPORT

FRONTIER OIL COMPANY

NO. 1 SIMPSON

NW SW SE, 9-11S-17W

ELLIS COUNTY, KANSAS

Commenced: January 28, 1982

Date of RTD: February 9, 1982

RECEIVED
STATE CORPORATION COMMISSION

JUL 15 1982

CONSERVATION DIVISION
Wichita, Kansas

Joel A. Alberts

9-11-17W

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

Re: Frontier Oil Company
No. 1 Simpson
NW SW SE 9-11S-17W
Ellis County, Kansas

Dear Sir:

The following is a Geological Report with a time log attached on the above captioned well.

Drilling was supervised from 2400' to 3361', rotary total depth. Samples were examined from 2400' to 3361', rotary total depth.

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

Elevation:		1801 GL -- 1806 KB
Anhydrite	State Geological Survey WICHITA BRANCH	1028 (+ 778)
Brownville		2442 (- 636)
Tarkio		2546 (- 740)
Elmont		2597 (- 791)
Howard		2718 (- 912)
Topeka		2743 (- 937)
Heebner		2976 (-1170)
Toronto		2997 (-1191)
Lansing-Kansas City		3018 (-1212)
Base of Kansas City		3257 (-1451)
Conglomerate		3284 (-1478)
Simpson Sand		3348 (-1542)
Simpson Shale		3352 (-1546)
Arbuckle Dolomite		3359 (-1553)
RTD		3361 (-1555)
5½" at		3360 (-1554)

Structurally, on top of the Lansing-Kansas City, the No. 1 Simpson ran 1' low to the Ramond Oil Company's No. 1 Carmichael, an Arbuckle producer located approximately 660' to the West. The Arbuckle top in the No. 1 Simpson ran 6' low to the No. 1 Carmichael.

ZONES OF INTEREST

BROWNVILLE (Top 2442 (-636))
2530 to 2535

Scattered tan sand clusters.
Slightly micaceous. No odor. No
show of oil.

9-11-17w R1
J Simpson

TARKIO (Top 2546 (-740))
2558 to 2564

Grey-green slightly micaceous shale, silty. No show of oil.

TOPEKA (Top 2743 (-937))
2743 to 2749

Tan sucrosic limestone. No show of oil. No odor.

2773 to 2781

Tan sucrosic limestone. Faint odor. Slight show of free oil. Light spotted stain.

DRILL STEM TEST No. 1 (FOC Test)
2750 to 2795

60-30-60-30 First open weak blow. Second open weak blow. Recovered 135' muddy salt water. Initial flow of 62 to 83. Final flow of 83 to 104. Initial shut in pressure 932. Final shut in pressure 932.

2918 to 2922

White chalky limestone. No show of oil.

2927 to 2934

White chalky to sucrosic limestone. No show of oil.

2937 to 2944

Tan chalky to sucrosic limestone. Dark spotted stain. Scattered pin-point porosity. Faint odor.

DRILL STEM TEST No. 2 (FOC Test)
2918 to 2965

60-30-60-30 First open fair blow throughout. Second open fair decreasing to weak blow. Recovered 100' mud with specks of oil. Initial flow of 42 to 62. Final flow of 62 to 83. Initial shut in pressure of 932. Final shut in pressure of 829.

TORONTO (Top 2997 (-1191))
2997 to 3002

Tan fine crystalline limestone. Very faint odor. Scattered show of free oil.

LANSING-KANSAS CITY (Top 3018 (-1212))
3018 to 3022

White chalky, cherty limestone. No odor. No show of oil.

3030 to 3033

Tan fine crystalline, vuggy limestone. Faint odor. Slight show of free oil.

9-11-17w P1
1 Simpson

DRILL STEM TEST No. 3 (FOC Test)
2965 to 3035

60-30-60-30 Weak blow both openings.
Recovered 75' watery mud with spots
of oil. Initial flow of 21 to 41.
Final flow of 41 to 52. Initial shut
in pressure of 952. Final shut in
pressure of 880.

3038 to 3042

State Geological Survey
WICHITA BRANCH

White chalky limestone. No odor.
Very slight show of free oil. Light
stain.

3050 to 3055

Tan fine crystalline limestone.
Faint odor. Slight show of free oil.
Spotted stain.

DRILL STEM TEST No. 4 (FOC Test)
3035 to 3063

60-30-30-30 Weak blow first open.
No blow second open. Recovered 20'
mud. Initial flow of 41 to 51. Final
flow of 41 to 51. Initial shut in
pressure of 105. Final shut in
pressure of 103.

3071 to 3075

Tan fine crystalline, vuggy limestone.
Fair odor. Scattered show of free oil.
Dark spotted stain.

DRILL STEM TEST No. 5 (FOC Test)
3061 to 3090

60-30-60-30 Weak blow both openings.
Recovered 30' watery mud. Initial
flow of 62 to 83. Final flow of 62
to 83. Initial shut in pressure 519.
Final shut in pressure 508. (Severe
plugging action).

3095 to 3101

White cherty, fossiliferous limestone.
Abundant fresh brown chert. No odor.
No show of oil.

3103 to 3106

White cherty, fossiliferous limestone.
Abundant fresh brown chert. No odor.
No show of oil.

3107 to 3111

Tan oolitic to fossiliferous limestone.
Fair odor. Fair show of free oil.

9-11-17w (P)
/ Simpson

DRILL STEM TEST No. 6 (FOC Test)
3086 to 3112

60-30-60-30 Weak blow both openings. Recovered 300' oil specked muddy water. Initial flow of 41 to 93. Final flow of 105 to 109. Initial shut in pressure of 559. Final shut in pressure of 549.

3116 to 3120

White chalky limestone. No show of oil.

3122 to 3127

White to tan poorly developed fossiliferous limestone. Faint odor. Scattered show of free oil.

DRILL STEM TEST No. 7 (FOC Test)
3112 to 3146

60-30-60-30 Weak blow both openings. Recovered 50' watery mud. Initial flow of 41 to 62. Final flow of 62 to 83. Initial shut in pressure 683. Final shut in pressure 684.

3153 to 3157

Tan fine crystalline to vuggy limestone. No odor. Scattered show of free oil.

3162 to 3166

Tan well developed fossiliferous to oolitic limestone. Fair odor. Fair show of free oil.

DRILL STEM TEST No. 8 (FOC Test)
3138 to 3173

60-30-60-30 Both openings fair steady blow. Recovered 300' gas in pipe, 60' heavy oil cut mud, 120' mud cut oil. Initial flow of 10 to 41. Final flow of 52 to 83. Initial shut in pressure of 911. Final shut in pressure of 880.

3180 to 3184

White to tan fine crystalline to fossiliferous limestone. Faint odor. Fair show of free oil.

DRILL STEM TEST No. 9 (FOC Test)
3173 to 3198

60-30-60-30 Weak blow first opening. Weak to dead blow second opening. Recovered 25' mud. Initial flow and final flow of 41 to 41. Initial shut in pressure 51. Final shut in pressure 61.

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3200 to 3205

Tan poorly developed oolitic limestone. Fair odor. Fair show of free oil.

3207 to 3211

White oolitic limestone. Barren. No show of oil.

DRILL STEM TEST No. 10 (FOC Test)
3188 to 3215

60-30-30-30 First opening weak blow for 30 minutes. Second opening no blow. Recovered 10' mud with oil specks. Initial flow of 31 to 41. Final flow of 41 to 62. Initial shut in pressure 104. Final shut in pressure 72.

3221 to 3224

White to tan fine crystalline limestone. No odor. No show of oil.

3245 to 3248

White to tan fine crystalline limestone. No odor. No show of free oil.

DRILL STEM TEST No. 11 (FOC Test)
3210 to 3260

60-30-30-30 First open weak blow for 45 minutes. Second open weak blow dead in 15 minutes. Flushed tool - no help. Recovered 15' mud with spots of oil in tool. Initial flow of 41 to 52. Final flow of 62 to 62. Initial shut in pressure of 436. Final shut in pressure of 519.

CONGLOMERATE (Top 3288 (-1478))
3293 to 3298

Tan to brown fossiliferous to oolitic limestone. No odor. Fair show of free oil. Scattered yellow chert.

3308 to 3318

White, tan, yellow fresh cherts. Soft red shale. Large sand grains. No odor. Good show of free oil.

DRILL STEM TEST No. 12 (FOC Test)
3283 to 3320

45-30-30-30 First open weak blow. Second open dead 5 minutes. Recovered 15' mud. Initial flow of 31 to 41. Final flow of 41 to 51. Initial shut in pressure of 414. Final shut in pressure of 497. (Shut in pressures still climbing.)

9-11-17w 71
1 Simpson

ARBUCKLE DOLOMITE (Top 3359 (-1533))
3359 to 3361

Tan medium crystalline dolomite.
Good inter-crystalline porosity.
Fair odor. Fair show of free oil.

5-1/2" casing was set at 3360', 1' off bottom and 1' in the Arbuckle with 200 sacks of cement. Zero point is 5' A.G.L. The shoe joint is 41-23' long.

Sincerely,

Joel A. Alberts

Joel A. Alberts

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DRILLING INFORMATION ON THE NO. 1 SIMPSON

Drilling Contractor: Red Tiger Drilling Co.

Drillers: Ochs, Duane
Ogle, Jerb
Bates, Stan

Tool Pusher: Jerb Ogle

Spud Date: January 28, 1982

Date of RTD: February 9, 1982

Surface Casing: 8-5/8" at 1036' w/400 sx

Production Casing: 5-1/2" at 3360'
w/200 sx

TOTAL FOOTAGE DRILLED PER DAY
Under surface at 4:00 A.M. on January 30, 1982

	Feet	At	7:00 A.M.	On	
1140					1-30-82
2260	"	"	" "	"	1-31-82
2795	"	"	" "	"	2-01-82
2935	"	"	" "	"	2-02-82
3035	"	"	" "	"	2-03-82
3090	"	"	" "	"	2-04-82
3112	"	"	" "	"	2-05-82
3173	"	"	" "	"	2-06-82
3198	"	"	" "	"	2-07-82
3260	"	"	" "	"	2-08-82
3330	"	"	" "	"	2-09-82

BIT RECORD

<u>Bits</u>	<u>Type</u>	<u>Footage</u>
#1	OSC 3	918
#2	F-2	1366

9-11-17w
1 Simpson

MUD RECORD

Surface:	5 sx saltgel, 25 sx bentonite, 6 sx hulls, 2 sx lime
2260	40 sx saltgel, 6 sx hulls, 2 sx preservative
2480	25 sx starch
2670	20 sx saltgel
2795	10 sx saltgel, 10 sx starch
2935	10 sx saltgel, 6 sx starch
2965	10 sx saltgel, 10 sx starch
3063	30 sx saltgel, 6 sx hulls
3090	10 sx saltgel, 8 sx starch
3112	10 sx saltgel, 6 sx starch
3173	10 sx saltgel, 8 sx starch, 1 sx preservative
3198	10 sx saltgel, 4 sx starch
3215	8 sx saltgel, 8 sx starch
3361	4 sx hulls

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