

23-9-26W

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JUN 10 1992

GEOLOGICAL REPORT

FRONTIER OIL COMPANY

NO. 1 BORGER

APL 15-179-20986

SE SE NW Sec. 23-9S-26W

SHERIDAN COUNTY, KANSAS

DATE COMMENCED: February 21, 1991

DATE OF RTD: March 2, 1991

GEOLOGIST

RICHARD D. PARKER

CONFIDENTIAL

RECEIVED
STATE CORPORATION COMMISSION

MAY 03 1991

CONSERVATION DIVISION
Wichita, Kansas

FRONTIER OIL COMPANY
125 N. Market, Ste. 1720
Wichita, KS 67202

RE: FRONTIER OIL COMPANY
No. 1 Borger
SE SE NW Sec. 23-9S-26W
Sheridan County, Kansas

Dear Sir:

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

Drilling was supervised from 3500' to 4130', rotary total depth,
Samples were examined from 3600' to 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 the well have been incorporated into this
report.

<u>ELEVATION</u>	(American Elevation)	2641 DF - 2644 KB
Anhydrite		2279 +366
Topeka		3644 -1000
Heebner		3850 -1206
Toronto		3871 -1227
Lansing-Kansas City		3889 -1245
Base of Kansas City		4118 -1474
RTD		4130 -1486

Structurally, on top of the Lansing the No. 1 Borger ran 5' high
to the National Petroleum Reserves No. 1 Epler, a Lansing producer
located approximately one half mile southeast.

ZONES OF INTEREST

TOPEKA (Top 3644)

3644 to 3650

Light tan fossiliferous lime, poor
porosity. No show of oil

3678 to 3688

Tan fossiliferous to fine crystalline
sucrosic lime, good fossilcastic
porosity. No show of oil.

3806 to 3814

White fossiliferous to oolitic
lime, fair porosity. No show
of oil.

TORONTO (Top 3871)
3871 to 3876

White vuggy to slightly oolitic lime with good vugular porosity. Fair show of free oil, good saturated oil stain. No odor.

DRILL STEM TEST NO. 1 (WESTERN TESTING)
3848 to 3884

30-45-30-45. First op weak blo for 15 min. Second op no blo. Flushed tool, no help. Rec. 240' M. IF 177-177, FF 188-144, ISIP 997, FSIP 942.

LANSING-KANSAS CITY (Top 3889)
3889 to 3900

Light tan fossiliferous to slightly oolitic lime, grading into fine crystalline to dense cherty lime and chert. No show of oil, no odor, no stain.

3915 to 3919

White oolitic lime with some inter-oolitic porosity, traces of free oil, trace of stain, no odor.

3928 to 3832

White fossiliferous to oolitic grading into white slightly vuggy to dense cherty lime. Traces of free oil in the vuggy and oolitic lime, no show in the cherty lime. No odor.

DRILL STEM TEST NO. 2 (WESTERN TESTING)
3902 to 3944

60-45-60-45. First op strong blo. Second op strong blo. Rec. 10' O, 910' salt water, IF 77-344, FF 377-466, ISIP 710, FSIP 688.

3964 to 3974

White fine crystalline to dense vuggy lime grading into fossiliferous to oolitic lime with fair inter-oolitic porosity, scattered show of free oil, good odor, fair spotted stain.

DRILL STEM TEST NO. 3 (WESTERN TESTING)
3964 to 3972

60-45-60-45. First op good blo. Second op good blo. Rec. 360' SW. IF 33-100, FF 133-177, ISIP 1063, FSIP 1030.

3978 to 3984

White chalky to fine crystalline to tan fine crystalline to dense, no show of oil.

4020 to 4023

White fine crystalline to tan dense lime, no show of oil, no odor, no stain.

4044 to 4448

Tan fine crystalline to sucrosic some chalky lime. Traces of free oil, very faint odor, some pieces with good saturated stain.

DRILL STEM TEST NO. 4

(WESTERN TESTING)

4032 to 4057

30-45-30-45. First op weak blo for 15 min. Second op no blo. Flushed tool, no help. Rec. 5' M. IF & FF 10-10, ISIP & FSIP 10.

4068 to 4072

White fine crystalline to vuggy slight fossiliferous lime w/fair show of black gilsonitic oil and traces of free oil. Some vuggy porosity. Spotted black stain. Very faint odor.

DRILL STEM TEST NO. 5

(WESTERN TESTING)

4052 to 4078

30-45-30-45. First op weak blo for 5 min. 2nd op no blo. Flushed tool, no help. Rec. 10' M. IF & FF 22-22, ISIP 22, FSIP 33.

4084 to 4090

White vuggy to slightly fossiliferous oolitic lime w/fair vugular to inter-fossiliferous porosity, good odor, fair show of free oil, spotted light to dark oil stain.

DRILL STEM TEST NO. 6

(WESTERN TESTING)

4072 to 4100

30-45-30-45. First op weak blo for 5 min. 2nd op no blo. Flushed tool no help. Rec. 10' M. IF 22-22, FF 23-33, ISIP 22, FSIP 33.

4104 to 4112

Light tan to grey fine crystalline to dense lime with no show of oil.

Due to negative drill stem test results, the No. 1 Borger was plugged, an abandoned dry hole.

Sincerely,

Richard D. Parker
Richard D. Parker *RL*

DRILLING INFORMATION ON THE NO. 1 BORGER

CONTRACTOR	:	Red Tiger Drilling Co.	DRILLER	:	Brown Finnesy
TOOL PUSHER	:	Dude Finnesy			Harrell
SPUD DATE	:	February 21, 1991	DATE OF RTD:	:	March 2, 1991
SURFACE PIPE:	:	8 5/8" @ 263'/115sx	CASING	:	None

TOTAL FOOTAGE DRILLED PER DAY

Under surface at 12:45 AM on February 22, 1991

574	Feet	At	7:00	AM	On	2-22-91
2285	"	"	"	"	"	2-23-91
3220	"	"	"	"	"	2-24-91
3667	"	"	"	"	"	2-25-91
3884	"	"	"	"	"	2-26-91
3946	"	"	"	"	"	2-27-91
3978	"	"	"	"	"	2-28-91
4057	"	"	"	"	"	3-01-91
4130	"	"	9:15	PM	"	3-02-91

BIT RECORD

<u>BITS</u>	<u>TYPE</u>	<u>FOOTAGE</u>
No. 1	Walker Mc - 53 CF	265 to 4130

MUD RECORD

MUD COMPANY: Mud Co **MUD TYPE:** Chemical

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Surface: 30sx gel, 4sx lime
1190: 5sx hulls
2990: 60sx gel, 5sx caustic, 5sx soda ash, 1sk desco, 1sk AC120,
1sk monpac
3593: 46sx gel, 2sx caustic, 2sx soda ash, 1sk desco, 1sk AC120,
1sk monpac
3884: 15sx gel
3946: 9sx gel
4057: 1sk AC120, 1sk caustic
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DRILLERS TIME LOGFRONTIER OIL COMPANY
No 1 BorgerSE SE NW
Sec. 23-9S-26W
Sheridan CountyElev.: 2639 GR
2644 KB

DEPTH	MINUTES	REMARKS
	1 Foot Drilling Time	
3500 to 3510	2-2-1-3-3-2-1-2-2-3	
3520	2-2-3-3-3-3-4-3-3-2	
3530	2-2-2-2-2-2-2-3-4-2	
3540	2-3-1-1-1-1-2-2-1-2	
3550	2-1-1-1-1-2-1-1-3-1	
3560	1-2-2-2-2-1-1-2-3-2	
3570	3-2-3-2-3-3-2-3-3-2	
3580	2-2-2-2-2-2-2-2-2-2	
3590	3-3-3-3-2-3-3-3-3-3	
3600	3-3-3-2-1-3-1-2-3-2	
3600 to 3610	2-1-2-2-4-2-3-2-3-2	
3620	3-2-2-1-2-2-2-3-2-1	
3630	2-1-2-3-3-4-3-2-2-2	
3640	1-2-2-2-1-3-2-3-3-2	
3650	3-3-2-3-2-2-1-2-2-2	
3660	2-3-2-3-2-4-3-3-3-3	
3670	2-3-2-2-2-3-5-4-4-4	
3680	5-5-3-3-2-3-2-2-2-2	
3690	1-2-1-2-2-2-1-2-3-3	
3700	3-2-2-3-2-3-3-2-1-2	
3700 to 3710	1-2-2-2-1-2-1-1-4-1	
3720	1-1-1-1-1-1-2-1-2-2	
3730	2-1-2-2-1-1-1-2-1-2	
3740	2-2-1-2-2-1-1-1-3-2	
3750	2-2-2-3-2-3-2-2-2-2	
3760	3-3-1-2-2-2-1-2-2-1	
3770	2-1-2-2-2-2-2-2-3-2	
3780	2-3-2-2-3-2-4-3-4-3	
3790	2-3-3-3-3-3-3-2-2-3	
3800	3-3-3-3-3-2-4-3-3-2	
3800 to 3810	4-2-2-3-3-1-1-2-1-2	
3820	1-1-2-2-4-2-3-3-2-3	
3830	1-4-3-3-3-2-3-3-3-2	
3840	3-3-3-2-2-2-3-3-2-2	DST #1 (3848-3884)
3850	3-3-2-4-3-2-3-2-3-3	
3860	1-1-1-3-5-3-2-2-3-6	
3870	3-3-4-3-4-3-3-3-2-3	
3880	4-3-2-3-3-2-3-3-3-3	
3890	3-3-4-3-3-3-3-3-2-3	
3900	4-3-3-3-3-3-2-2-2-3	

3900 to 3910	4-4-3-4-3-3-4-3-3-2	DST #2 (3902-3944)
3920	3-2-3-3-3-2-3-3-2-3	
3930	5-5-5-8-3-3-3-3-3-2	
3940	3-3-4-4-4-4-4-4-5-4	
3950	4-3-3-3-4-4-3-3-2-2	
3960	4-3-2-3-3-2-4-4-3-3	DST #3 (3964-3972)
3970	3-3-3-3-2-2-2-1-2-3	
3980	2-3-2-2-3-3-3-4-3-2	
3990	2-3-2-3-4-3-3-3-4-3	
4000 to 4010	3-3-3-4-4-3-3-3-3-3	
4020	4-3-3-3-3-5-5-5-5-6	
4030	6-3-4-5-4-4-4-1-2-3	DST #4 (4032-4057)
4040	3-2-4-2-3-3-3-3-3-3	
4050	3-3-3-3-4-4-4-4-3-4	DST #5 (4052-4078)
4060	4-3-4-3-2-3-3-3-4-4	
4070	5-5-4-4-4-4-4-3-5-3	DST #6 (4072-4100)
4080	3-2-3-3-3-3-3-3-2-3	
4090	3-5-5-4-6-4-5-4-9-7	
4100 to 4110	7-6-5-3-4-5-4-4-3-3	
4120	3-4-4-4-5-7-7-7-8-7	
4130	5-6-5-5-5-4-3-4-3-4	
	4-4-5-5-5-4-5-7-7-7	
	7½-5½-7-7-7-6-4-6-6-5	RTD 4130 (-1486)