

SIDE ONE

(Rules 82-3-130 and 82-3-107)

This form shall be filed with the Kansas Corporation Commission, 200 Colorado Derby Building, Wichita, Kansas 67202, within ninety (90) days after the completion of a well, regardless of how the well was completed.

FOR INFORMATION REGARDING THE NUMBER OF COPIES TO BE FILED AND APPLICATIONS REQUIRING COPIES OF ACO-1 FORMS SEE PAGE TWO (2), SIDE TWO (2) OF THIS FORM.

(F) Letter requesting confidentiality attached.

C N/A Attach ONE COPY of EACH wireline log run (i.e. electrical log, sonic log, gamma ray neutron log etc.)***Check here if NO logs were run X.

PLEASE FILL IN ALL INFORMATION. IF NOT AVAILABLE, INDICATE. IF INFORMATION LATER BECOMES AVAILABLE, SUBMIT BY LETTER.

LICENSE # 5140 EXPIRATION DATE 6/30/84

OPERATOR Frontier Oil Company API NO. 15-163-22,063-0000

ADDRESS 1720 Kansas State Bank Bldg. COUNTY Rooks

Wichita, Kansas 67202 FIELD Plainville

** CONTACT PERSON Jean Angle PROD. FORMATION n/a
PHONE 263-1201

PURCHASER n/a LEASE JACO

ADDRESS _____ WELL NO. 5

WELL LOCATION NW SE NE

DRILLING Red Tiger Drilling Company 990 Ft. from East Line and

CONTRACTOR 1720 Kansas State Bank Bldg. 990 Ft. from South Line of

ADDRESS Wichita, Kansas 67202 the NE 1/4 (Qtr.) SEC 13 TWP 10S RGE 18 (W).

PLUGGING n/a WELL PLAT _____ (Office Use Only)

CONTRACTOR _____ KCC
ADDRESS _____ KGS

TOTAL DEPTH 3870 PBTDW 3700 SWD/REP _____

SPUD DATE 6-1-83 DATE COMPLETED TA 6-29-83 PLG. _____

ELEV: GR 2157 DF 2160 KB 2162 NGPA _____

DRILLED WITH (~~KAMMEX~~) (ROTARY) (~~KAMMEX~~) TOOLS.

DOCKET NO. OF DISPOSAL OR REPRESSURING WELL BEING USED TO DISPOSE OF WATER FROM THIS LEASE n/a

Amount of surface pipe set and cemented 321.66 DV Tool Used? yes

TYPE OF COMPLETION THIS AFFIDAVIT APPLIES TO: (Circle ONE) - ~~XXXXXXXXXXXXXXXXXXXX~~

~~XXXXXXXXXXXXXXXXXXXX~~ ~~Temporarily Abandoned~~ If OWWO, indicate type of re-completion _____ Other completion Temporarily Abandoned NGPA filing _____

ALL REQUIREMENTS OF THE STATUTES, RULES AND REGULATIONS PROMULGATED TO REGULATE THE OIL AND GAS INDUSTRY HAVE BEEN FULLY COMPLIED WITH.

A F F I D A V I T

Jean Angle, being of lawful age, hereby certifies that:

I am the Affiant, and I am familiar with the contents of the foregoing Affidavit. The statements and allegations contained therein are true and correct.

Jean Angle
(Name)

SUBSCRIBED AND SWORN TO BEFORE ME this 30th day of June, 19 83.

Stella Sewell
(NOTARY PUBLIC)

MY COMMISSION EXPIRES: June 24, 1984

** The person who can be reached by phone regarding any questions concerning this information.

SIDE TWO

ACO-1 WELL HISTORY (X)

OPERATOR Frontier Oil Co.

LEASE JACO

SEC. 13 TWP. 10SRGE. 18 (W)

Rooks County, Kansas

FILL IN WELL INFORMATION AS REQUIRED:

WELL NO. 5

Show all important zones of porosity and contents thereof; cored intervals, and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries.

SHOW GEOLOGICAL MARKERS, LOGS RUN, OR OTHER DESCRIPTIVE INFORMATION.

FORMATION DESCRIPTION, CONTENTS, ETC.	TOP	BOTTOM	NAME	DEPTH
Check if no Drill Stem Tests Run.			Anhy (Top)	1485(+ 677
Check if samples sent to Geological (L-KC)	Survey		(Base)	1508(+ 654
	3381		Brnvl	2818(- 656
			Tark	2918(- 756
DST #1 3334-3406 60-30-30-30			How	3089(- 927
1st Op Wk Blo/2nd Op no blo			Top	3117(- 955
Rec 25'M, IF 62-73#, FF 73-83#			Hb	3340(-1178
			Tor	3360(-1199
DST #2 3400-3448 60-30-30-30			L-KC	3381(-1219
1st Op Wk Blo/2nd Op no blo			BKC	3622(-1460
Red 20' WM, IF 62-73#, ISIP 130			Cong	3630(-1468
FSIP 1281			Ch Cong	3648(-1559
			Simp	3721(-1582
DST #3 3450-3466 60-30-30-30			Arb	3744(-1708
1st Op wk blo/2nd op no blo			RTD	3870(-1689
Rec 15'M No Pressures recorded			4 1/2"	3851(-
DSt #4 3480-3552 60-30-30-30				
1st op wk blo, dead in 27"				
2nd op no blo. Rec 25'WM				
IF 62-73, FF 73-83, ISIP 1117, FSIP 1004				
DST #5 3550-3628 60-30-30-30				
1st op wk blo dead in 24"/2nd				
op no blo. Rec 10' M, IF 62-62				
FF 52-83, ISIP 560, FSIP 498				
(Ch Cong)	3648			
DST #6 3618-3680 60-30-30-30				
1st op wk blo/2nd op wk blo dead in 8"				
Rec 10' M, IF 41-52, FF 62-62				
ISIP 394, FSIP 353				
RTD 3870'.				
If additional space is needed use Page 2,				

RELEASED
JUL 20 1964
FROM CONFIDENTIAL

Report of all strings set — surface, intermediate, production, etc. CASING RECORD (New) or (Used)

Purpose of string	Size hole drilled	Size casing set (in O.D.)	Weight lbs/ft.	Setting depth	Type cement	Socks	Type and percent additives
Surface	12 1/4"	8 5/8	24#	329	Common	180	2% Gel/3% CC
DV Tool	7 7/8"	4 1/2"	-	1509	50/50 Poz	550	5% Gel
Prod.	"	"	10 1/2#	3851	Common	275	10% Salt

LINER RECORD

PERFORATION RECORD

Top, ft.	Bottom, ft.	Socks cement	Shots per ft.	Size & type	Depth interval
			4	DPS	3515-20
			4	DPS	3524-30
			1 only	DPS	3546
			1 only	DPS	3560
			1 only	DPS	3580
			4	DPS	3599-3605
				DPS	3614-20

ACID, FRACTURE, SHOT, CEMENT SQUEEZE RECORD

Amount and kind of material used	Depth interval treated
1000 G. 15% Regular-----	3515-20/3524-30
1000 G. 15% Regular-----	3548/3560
1500 G. 15% Demulsion-----	3580/3589-3605/3614-20

Date of first production n/a	Producing method (flowing, pumping, gas lift, etc.) n/a	Gravity
Estimated Production -I.P.	Oil bbls.	Gas MCF
	Water %	Gas-oil ratio CFPB
Disposition of gas (vented, used on lease or sold) N/a	Perforations 3515-20/3524-30/3546/3560/3580 3599-3605/3614-20	

15-163-22063-0000

State Geological Survey
WICHITA BRANCH



CONFIDENTIAL

GEOLOGICAL REPORT

RELEASED
Date: JUL 1 1984
FROM CONFIDENTIAL

FRONTIER OIL COMPANY

JACO NO. 5

NW SE NE

13-10S-18W

ROOKS COUNTY, KANSAS

Commenced: June 1, 1983

Completed: June 11, 1983

RECEIVED
STATE CONSERVATION COMMISSION

AUG 26 1983

CONSERVATION DIVISION
Wichita, Kansas

CONFIDENTIAL

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

RE: Frontier Oil Company
No. 5 Jaco
NW SE NE 13-10S-18W
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 2700' to 3870', rotary total depth. Samples were examined from 2700' 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 this well have been incorporated into this report.

Elevation (L & S)	2157 GL	---	2162 KB
Anhydrite (Top)	1485	(+ 677)	
(Base)	1508	(+ 654)	
Brownville	2818	(- 656)	
Tarkio	2918	(- 756)	
Howard	3089	(- 927)	
Topeka	3117	(- 955)	
Heebner	3340	(-1178)	
Toronto	3361	(-1199)	
Lansing-Kansas City	3381	(-1219)	
Base of Kansas City	3622	(-1460)	
Conglomerate	3630	(-1468)	
Cherty Conglomerate	3648	(-1486)	
Simpson Dolomite	3721	(-1559)	
Arbuckle	3744	(-1582)	
RTD	3870	(-1708)	
4½" Casing	3851	(-1689)	

Structurally on top of the Lansing-Kansas City, the No. 5 Jaco ran 10' low to the No. 3 Jaco, a Lansing-Kansas City producer located one location (660') west. The Arbuckle ran 5' low to the No. 3 Jaco.

ZONES OF INTEREST

TOPEKA (Top 3117)

- 3125 to 3131 Light brown, fine crystalline, fossiliferous limestone. No show of oil.
- 3145 to 3151 Light tan sucrosic limestone. No show of oil.
- 3268 to 3272 Tan fine crystalline, fossiliferous limestone. No show of oil.
- 3285 to 3289 White chalky to vuggy limestone. Trace of dark oil staining, no free oil, and no odor.
- 3302 to 3306 Light tan fine crystalline to vugular limestone with scattered oil staining, a slight show of free oil, and no odor.

TORONTO (Top 3361)

- 3361 to 3363 White fine crystalline to vuggy limestone. Scattered light oil staining, no show of free oil, and no odor.
(Included in DST No. 1.)

LANSING-KANSAS CITY (Top 3381)

- 3381 to 3383 Tan fine crystalline, poorly developed oolitic limestone. Scattered oil staining, slight show of free oil, and no odor.
(Included in DST No. 1.)
- 3391 to 3393 Light tan, fine crystalline, well developed oolitic limestone. Scattered oil staining, trace of free oil, and no odor.
(Included in DST No. 1.)

DRILL STEM TEST NO. 1 (FOC TEST)

- 3334 to 3406 60-30-30-30 First open weak blow. Second open no blow. Recovered 25' mud. Initial flows of 62 to 73#. Final flows of 73 to 83#.

Initial shut in pressure of 1127#.
Final shut in pressure of 1045#.

3416 to 3419

Tan fine crystalline limestone.
Saturated oil staining, trace of
free oil, and a fair odor.
(Included in DST No. 2.)

3421 to 3424

Tan fairly well-developed
oolitic limestone. Good
spotted oil staining, no free
oil, and a fair odor.
(Included in DST No. 2.)

3440 to 3444

Light tan fine crystalline to
vuggy limestone. Good light
spotted oil staining, no free oil,
and a good odor.
(Included in DST No. 2.)

DRILL STEM TEST NO. 2 (FOC TEST)

3400 to 3448

60-30-30-30 First open weak blow.
Second open no blow. Recovered
20' watery mud.
Initial flows of 62 to 73#.
Final flows of 73 to 73#.
Initial shut in pressure of 1301#.
Final shut in pressure of 1281#.

3460 to 3464

White fossiliferous, fine crystalline
to slightly vuggy limestone.
Scattered spotted oil staining, no
show of free oil, and a good odor.
(Included in DST No. 3.)

DRILL STEM TEST NO. 3 (FOC TEST)

3450 to 3466

60-30-30-30 First open weak blow.
Second open no blow. Recovered
15' mud. No pressures were
recorded due to improper alignment
of charts.

3473 to 3475

White tripolitic chert with a
trace of oil staining, no free
oil, and a fair odor.

3480 to 3483

White chalky limestone. Trace
of dark oil staining, no free
oil, and a faint odor.
(Included in DST No. 4.)

3518 to 3522

Brown fossiliferous, coarse crystalline limestone. Trace of scattered oil staining, no free oil, and fair odor. (Included in DST No. 4.)

3537 to 3541

Light tan coarse crystalline to vugular limestone. Scattered saturated oil staining, no free oil, and a good odor. (Included in DST No. 4.)

DRILL STEM TEST NO. 4 (FOC TEST)

3480 to 3552

60-30-30-30 First open weak blow dead in 27 minutes. Second open no blow. Recovered 25' watery mud! Initial flows of 62 to 73#. Final flows of 73 to 83#. Initial shut in pressure of 1117#. Final shut in pressure of 1004#.

3557 to 3562

Tan fine crystalline to fairly well-developed oolitic limestone. Scattered spotted oil staining, trace of free oil, and a good odor. (Included in DST No. 5.)

3575 to 3577

Tan fine crystalline to vuggy limestone with pin point porosity. Good saturated oil staining, trace of free oil, and a strong odor. (Included in DST No. 5.)

3594 to 3599

White to light tan fine crystalline limestone. Spotted oil staining, no show of free oil, and a fair odor. (Included in DST No. 5.)

3608 to 3611

Light tan fossiliferous, fine crystalline, well-developed oolitic limestone. Scattered spotted to saturated oil staining, no show of free oil, and a good odor. (Included in DST No. 5.)

DRILL STEM TEST NO. 5 (FOC TEST)

3550 to 3628

60-30-30-30 First open weak blow dead in 24 minutes. Second open no blow. Recovered 10' mud. Initial flows of 62 to 62#. Final flows of 52 to 83#. Initial shut in pressure of 560#. Final shut in pressure of 498#.

CHERTY CONGLOMERATE (Top 3648)

3648 to 3655

White to yellowish-tan weathered chert. Good dark oil staining, a fair show of free oil, and a faint odor.
(Included in DST No. 6.)

DRILL STEM TEST NO. 6 (FOC TEST)

3618 to 3680

60-30-30-30 First open weak blow. Second open weak blow dead in 8 minutes. Recovered 10' mud. Initial flows of 41 to 52#. Final flows of 62 to 62#. Initial shut in pressure of 394#. Final shut in pressure of 353#.

SIMPSON DOLOMITE (Top 3721)

3721 to 3725

Pinkish-tan medium to coarse crystalline dolomite. No show of oil.

ARBUCKLE DOLOMITE (Top 3744)

3744 to 3746

Tan medium crystalline dolomite. No show of oil and no odor.

3746 to 3870

Tan medium crystalline dolomite grading into coarse to very coarse crystalline dolomite with scattered oolitic dolomite. No show of oil and no odor.

ROTARY TOTAL DEPTH @ 3870

4½" Casing was set 19' off bottom with 275 sx common cement plus 10% salt. DV @ 1509' with 550 sx 50/50 poz plus 5% gel.

Sincerely,



Steve D. Parker

DRILLING INFORMATION ON THE JACO NO. 5

Contractor: Red Tiger Drilling Co.

Drillers: Derauf
Ayres
Kennedy

Tool Pusher: William Ayres

Spud Date: June 1, 1983

Date of RTD: June 11, 1983

Surface Pipe: 8-5/8" @ 329' w/180 sx

Casing: 4½" @ 3851 w/275
sx common plus 10% salt.
DV @ 1509' w/550 sx
50/50 poz plus 5% gel.

TOTAL FOOTAGE DRILLED PER DAY

Under Surface at 9:00 P.M. On June 1, 1983

1280	Feet	At	7:00 A.M.	On	June 2, 1983
2281	"	"	" "	"	June 3, 1983
2794	"	"	" "	"	June 4, 1983
3150	"	"	" "	"	June 5, 1983
3375	"	"	" "	"	June 6, 1983
3440	"	"	" "	"	June 7, 1983
3466	"	"	" "	"	June 8, 1983
3567	"	"	" "	"	June 9, 1983
3680	"	"	" "	"	June 10, 1983
3809	"	"	" "	"	June 11, 1983
3870	"	"	11:51 A.M.	"	June 11, 1983

BIT RECORD

<u>BITS</u>	<u>TYPE</u>	<u>FOOTAGE</u>
No. 1	Walker-McDonald 03-L30344	332' to 1725'
No. 2	Walker-McDonald 52-L34689	1725' to 3809'
No. 3	Smith F2-EA6126	3809' to 3870'

MUD RECORD (MUD-CO)

Surface:	30 sx premium gel, 2 sx hulls, 6 sx lime.
2700	65 sx salt clay, 8 sx hulls.
3000	3 sx preservatives, 40 sx starch.
3035	15 sx salt clay, 4 sx hulls.
3200	20 sx salt clay, 7 sx starch.
3250	30 sx salt clay, 3 sx hulls.
3340	20 sx salt clay.
3440	15 sx salt clay, 6 sx starch.
3466	15 sx salt clay, 7 sx starch.
3520	25 sx salt clay, 3 sx hulls.
3550	26 sx salt clay.
3600	15 sx salt clay, 7 sx starch.
3680	5 sx starch, 7 sx hulls.
3754	10 sx hulls.
3809	4 sx hulls.

DRILLERS TIME LOG

FRONTIER OIL COMPANY
NO. 5 JACO

NW SE NE
13-10S-18W
Rooks County

Elev.: 2157 GL
2162 KB

DEPTH

MINUTES

REMARKS

1 Foot Drilling Time

2700 to 2710	2-4-3-2-2-1-2-1-1-2
2720	3-2-1-1-2-3-2-3-3-3
2730	4-4-4-4-3-4-4-3-3-4
2740	3-3-3-3-4-3-4-4-5-4
2750	4-4-3-3-2-4-4-4-3-4
2760	3-4-3-4-2-4-2-3-2-3
2770	4-3-3-3-3-4-4-4-4-5
2780	5-3-4-3-3-3-2-3-4-4
2790	3-4-3-4-5-5-4-4-2-2
2800	1-2-2-1- $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ -1-1
2800 to 2810	4-4-3-4-3-4-4-3-1-1
2820	5-6-5-5-4-3-3-3-5-4
2830	3-5-3-4-3-4-4-3-3-4
2840	5-4-4-3-4-5-3-4-5-4
2850	5-5-4-3-3-3-3-2-2-3
2860	3-4-4-3-4-3-3-3-5-3
2870	5-5-3-3-4-5-5-3-4-4
2880	3-4-2-2-3-2-1-2-2-2
2890	3-2-2-2-2-2-1-3-3-3
2900	3-2-2-2-2-2-3-3-2-3
2900 to 2910	2-3-1-1-1-1-2-2-2-1
2920	2-2-1-2-2-2-1-2-4-5
2930	4-6-3-3-5-5-4-4-5-4
2940	4-3-6-5-6-5-5-6-6-6
2950	4-4-2-5-7-6-4-2-2-2
2960	2-2-2-3-3-4-4-3-4-3
2970	3-3-2-3-3-2-3-9-8-6
2980	5-4-3-4-3-4-6-5-5-5
2990	2-5-5-5-6-6-6-4-5-7
3000	4-2-6-7-6-8-7-6-7-5

3000 to	3010	5-4-4-5-7-8-6-5-4-5
	3020	5-3-2-3-5-4-6-6-6-7
	3030	6-7-8-7-5-6-5-5-5-4
	3040	5-3-3-2-3-3-3-2-2-2
	3050	2-2-3-3-4-4-6-6-6-6
	3060	4-4-3-4-6-5-4-2-3-3
	3070	2-3-2-3-5-6-5-2-3-2
	3080	1-2-2-1-2-2-3-2-2-3
	3090	1-2-2-2-2-1-2-2-2-7
	3100	6-5-4-3-5-4-4-5-6-3
3100 to	3110	1-1-1-1-2-2-2-1-2-2
	3120	6-1-1-1-1-1-2-6-6-7
	3130	7-6-7-8-9-5-6-5-6-5
	3140	5-9-8-6-6-6-7-6-6-6
	3150	6-6-4-6-5-4-4-5-5-4
	3160	6-7-7-8-6-6-6-5-7-2
	3170	7-6-8-7-5-4-3-4-5-4
	3180	4-5-6-8-7-6-8-6-7-7
	3190	6-7-6-4-3-7-6-4-7-6
	3200	4-4-4-5-4-4-5-4-5-3
3200 to	3210	4-5-4-3-4-3-4-3-3-3
	3220	2-3-3-3-5-5-5-4-4-6
	3230	7-5-4-4-4-6-5-4-4-4
	3240	3-4-4-4-6-6-7-9-9-6
	3250	6-10-7-5-7-4-8-8-9-7
	3260	7-8-7-7-6-5-7-6-7-8
	3270	8-6-6-5-4-4-5-7-6-5
	3280	6-8-6-6-5-3-3-10-8-7
	3290	7-9-5-7-5-5-4-5-6-6
	3300	8-8-8-9-9-8-9-8-9-9
3300 to	3310	10-10-8-4-7-8-6-7-7-6
	3320	7-9-9-9-10-8-7-8-8-6
	3330	6-7-7-7-7-6-7-7-8-7
	3340	6-7-6-6-6-7-7-8-7-8
	3350	4-3-6-9-10-10-8-4-5-6
	3360	7-5-6-6-5-6-8-5-7-7
	3370	6-8-10-8-10-8-7-8-9-8
	3380	8-9-9-9-8-9-7-4-2-4
	3390	4-3-7-9-7-13-8-8-10-13
	3400	11-4-8-8-10-10-9-10-11-9
3400 to	3410	8-9-9-9-9-10-11-7-10-9
	3420	11-10-9-7-9-5-6-6-6-9
	3430	10-6-7-10-10-12-9-13-14-13
	3440	10-9-6-5-5-7-6-7-9-8
	3450	4-4-4-7-6-6-7-7-9-9
	3460	9-7-7-6-6-12-9-8-8-9
	3470	7-6-6-7-9-9-5-8-6-3
	3480	2-3-5-5-4-9-9-8-9-9
	3490	5-6-8-8-9-9-8-8-10-7
	3500	7-11-8-9-8-8-10-9-7-6

DST No. 1 (3334 to 3406)

DST No. 2 (3400 to 3448)

DST No. 3 (3450 to 3466)

3500 to	3510	7-7-5-8-6-4-4-6-8-6	
	3520	4-4-4-4-5-5-7-7-5-5	
	3530	6-7-6-7-6-6-7-6-6-6	
	3540	5-6-8-5-6-5-7-4-4-5	
	3550	4-7-7-7-6-7-8-7-9-9	
	3560	9-6-4-3-8-12-8-7-5-4	DST No. 4 (3480 to 3552)
	3570	6-8-7-8-10-9-6-6-5-2	
	3580	6-7-6-7-8-7-6-12-12-6	
	3590	7-8-7-7-7-6-9-7-8-8	
	3600	7-8-5-5-3-3-4-4-4-5	
3600 to	3610	7-5-6-6-7-8-6-5-6-6	
	3620	7-7-6-6-5-6-6-5-6-3	
	3630	7-4-2-4-3-3-4-5-5-6	DST No. 5 (3550 to 3628)
	3640	8-9-8-6-5-5-6-8-7-5	
	3650	6-9-10-12-12-10-10-5-3-4	
	3660	4-3-3-2-3-3-3-3-3-2	
	3670	3-3-3-3-3-4-3-4-3-5	
	3680	5-3-3-3-2-2-2-3-2-2	DST No. 6 (3618 to 3680)
	3690	2-4-2-3-2-2-2-3-2-2	
	3700	3-2-3-2-2-3-3-2-3-3	
3700 to	3710	3-3-3-3-4-3-3-4-4-4	
	3720	6-5-4-4-9-7-3-5-5-6	
	3730	7-11-12-8-9-10-9-8-7-14	
	3740	9-9-8-3-7-9-6-6-6-6	
	3750	12-13-13-9-7-11-7-9-8-6	
	3760	5-6-5-3-7-5-6-5-5-6	
	3770	5-4-5-3-7-4-6-6-5-6	
	3780	2-1-2-2-5-4-5-4-4-4	
	3790	4-5-3-5-6-5-6-4-5-5	
	3800	6-7-4-4-7-8-7-9-6-7	
3800 to	3810	5-8-6-5-7-11-5-13-6-7	
	3820	8-7-6-5-4-6-5-4-5-4	
	3830	4-5-6-4-3-4-3-4-3-5	
	3840	5-4-5-4-4-5-4-6-4-5	
	3850	5-4-4-6-4-3-3-3-5-4	
	3860	4-3-4-4-3-4-4-4-4-4	
	3870	3-4-1-1-3-4-4-4-5-3	

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State Geological Survey
WICHITA BRANCH