

ORIGINAL

SIDE ONE

RELEASED
9-24-1990
SEP 24 1990

STATE CORPORATION COMMISSION OF KANSAS
OIL & GAS CONSERVATION DIVISION
WELL COMPLETION OR RECOMPLETION FORM
ACO-1 WELL HISTORY
DESCRIPTION OF WELL AND LEASE

Operator: License # 5140
Name .. Frontier Oil Company
Address .. 125 N. Market, Ste. 1720
City/State/Zip .. Wichita, Kansas 67202

Purchaser .. N.C.R.A.
.. McPherson, Kansas 67460

Operator Contact Person .. Jean Angle
Phone 316-263-1201

Contractor: License # .. 5302
Name .. Red Tiger Drilling Co

Wellsite Geologist .. Richard D. Parker
Phone .. 913-483-5348

Designate Type of Completion
 New Well Re-Entry Workover
 Oil SWD Temp Abd
 Gas Inj Delayed Comp.
 Dry Other (Core, Water Supply etc)
If **OWNO**: old well info as follows:
Operator ..
Well Name ..
Comp. Date .. Old Total Depth ..

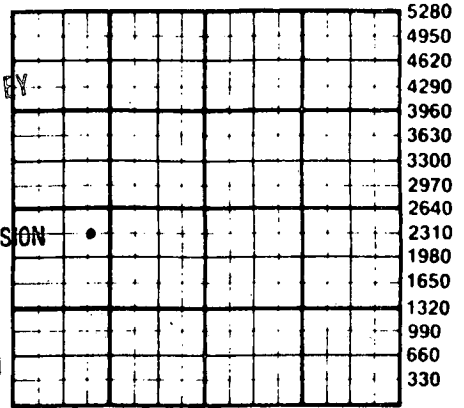
WELL HISTORY

Drilling Method:
 Mud Rotary Air Rotary Cable
2-22-89 3-07-89 5-24-89
Spud Date Date Reached TD Completion Date
3325 3312
Total Depth PBDT
Amount of Surface Pipe Set and Cemented at 207 feet
Multiple Stage Cementing Collar Used? Yes No
If yes, show depth set .. feet
If alternate 2 completion, cement circulated from .. feet depth to .. w/ .. SX cmt
Cement Company Name ..
Invoice # ..

API NO. 15-167-22,838 -00-00
County .. Russell FROM CONFIDENTIAL
.. NE .. NW .. SW Sec. 27 Twp. 11 Rge. 15W East
2310 Ft North from Southeast Corner of Section
4290 Ft West from Southeast Corner of Section
(Note: Locate well in section plat below)

Lease Name .. Abbott Well # .. 1
Field Name .. WC
Producing Formation .. Arbuckle, Lansing
Elevation: Ground .. 1829 KB .. 1834

Section Plat



KANSAS GEOLOGICAL SURVEY
WICHITA BRANCH
RECEIVED
6-1-1989
JUN - 1 1989
STATE CORPORATION COMMISSION
CONSERVATION DIVISION
Wichita, Kansas

ACT II
9-24-90

WATER SUPPLY INFORMATION

Disposition of Produced Water: Disposal
Docket # .. Repressuring

Questions on this portion of the ACO-1 call:

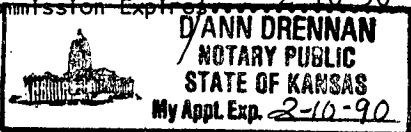
Water Resources Board (913) 296-3717
Source of Water: Mr. Bud Eulert, Paradise, Kansas
Division of Water Resources Permit # 89-76
 Groundwater .. Ft North from Southeast Corner
(Well) .. Ft West from Southeast Corner of
Sec Twp Rge East West
 Surface Water 1600 Ft North from Southeast Corner
5000 Ft West from Southeast Corner
Sec 4 Twp 12 Rge 15W East West
 Other (explain) ..
(purchased from city, R.W.D. #)

INSTRUCTIONS: This form shall be completed in triplicate and filed with the Kansas Corporation Commission, 200 Colorado Derby Building, Wichita, Kansas 67202, within 120 days of the spud date of any well. Rule 82-3-130, 82-3-107 and 82-3-106 apply. Information on side two of this form will be held confidential for a period of 12 months if requested in writing and submitted with the form. See rule 82-3-107 for confidentiality in excess of 12 months. One copy of all wireline logs and drillers time log shall be attached with this form. Submit CP-4 form with all plugged wells. Submit CP-111 form with all temporarily abandoned wells.

All requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Signature .. Jean Angle
Title .. Agent Date May 31, 1989

Subscribed and sworn to before me this 31st day of May 1989
Notary Public .. D'Ann Drennan
Date Commission Expires 2-10-90



K.C.C. OFFICE USE ONLY
 Letter of Confidentiality Attached
 Wireline Log Received
 Drillers Timelog Received
Distribution
 KCC SWD/Rep NGPA
 KGS Plug Other
(Specify)

Sec. 27 Twp. 11 Rge. 15W

81

10000

Operator Name Frontier Oil Company Lease Name Abbott Well # 1

Sec. 27 Twp. 11 Rge. 15W East West County Russell RELEASED

CONFIDENTIAL

WELL LOG

SEP 24 1990

FROM CONFIDENTIAL

INSTRUCTIONS: Show important tops and base of formations penetrated. Detail all cores. Report all drill stem tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface during test. Attach extra sheet if more space is needed. Attach copy of log. (Attached)

Drill Stem Tests Taken [X] Yes [] No
Samples Sent to Geological Survey [] Yes [X] No
Cores Taken [] Yes [X] No

Formation Description [] Log [X] Sample

Table with 3 columns: Name, Top, Bottom. Lists formations like Anhydrite, Howard, Topeka, Heebner, Toronto, Lansing-Kansas City, Base of Kansas City, Arbuckle, and RTD with their respective top and bottom depths.

DST #1 (2690-2730) 30-30-30-30. Rec. 690' GIP, 30' GM. IF & FF 59-59 ISIP 130 FSIP 107
DST #2 (2720-2752) 30-30-15-30. Rec. 20' M IF 44-44 FF 55-55 ISIP 510 FSIP 500
DST #3 (2872-2910) 15-30-15-30. Rec. 60' M IF & FF 55-55 ISIP 707 FSIP 663
DST #4 (2922-3000) 60-30-30-30 Rec. 130' MW w/few spks O. IF 95-119 FF 130-130 ISIP & FSIP 333
DST #5 (2990-3018) 60-30-30-30 Rec. 1034' SW IF 71-297 FF 345-452 ISIP & FSIP 725
DST #6 (2916-3044) 60-30-30-30. Rec. 186' GIP, 372' OCGW, 434' OW, 824' SW. IF 214-689 FF 689-748 ISIP 736 FSIP 772
DST #7 (3150-82) 30-30-15-30 Rec. 5' M IF & FF 47-47 ISIP 261 FSIP 107

CASING RECORD [] New [X] Used
Report all strings set-conductor, surface, intermediate, production, etc.
Table with columns: Purpose of String, Size Hole Drilled, Size Casing Set (In O.D.), Weight Lbs/Ft., Setting Depth, Type of Cement, #Sacks Used, Type and Percent Additives.
PERFORATION RECORD
Shots Per Foot Specify Footage of Each Interval Perforated Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Material Used) Depth
TUBING RECORD
Date of First Production Producing Method [] Flowing [X] Pumping [] Gas Lift [] Other (explain)
Estimated Production Per 24 Hours Oil Gas Water Gas-Oil Ratio Gravity

METHOD OF COMPLETION

Production Interval

Disposition of gas: [] Vented [] Sold [] Used on Lease [] Open Hole [X] Perforation [] Other (Specify)
3300-3308
3196-3202
[] Dually Completed [] Commingled

CONFIDENTIAL

SIDE TWO (Page Two)

ACO-1 WELL HISTORY

OPERATOR Frontier Oil Company LEASE NAME #1 Abbott * SEC. 27 TWP. 11 RGE. 15W

FILL IN WELL LOG AS REQUIRED:

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
DST #8 (3180-3210) 60-30-60-30. Rec. 434' GIP, 62' OCCM, 252' HMCO. IF 77-111 FF 1440-177 ISIP 969 FSIP 936			<p>ORIGINAL</p> <p>RELEASED 9-24-1990 SEP 24 1990</p> <p>FROM CONFIDENTIAL</p>	
DST #9 (3286-3300) 30-30-15-30 Rec. 15' M w/oil on top of tool. IF 47-47 FF 59-59 ISIP & FSIP 1068				
DST #10 (3286-3305) 30-30-15-30. Rec. 10' M w/show of oil on top. IF 47-47 FF 59-59 ISIP 1009 FSIP 985				
DST #11 (3285-3310) 30-30-15-30. Rec. 300' M w/oil on top of tool. (Test tool slid 20'0) IF & FF 285-285 ISIP & FSIP 1021				
DST #12 (3288-3315) 30-30-15-30. Rec. 20' M w/oil on top of tool. IF & FF 47-47 ISIP & FSIP 950				
DST #13 (3288-3320) 30-30-15-30 Rec. 15' M w/oil on top of tool IF & FF 47-47 ISIP & FSIP 973				
DST #14 (3320-3325) 60-30-30-30 Rec. 10' HMCO (90% O), 60' SOCWM (40% W) IF 47-47 FF 71-71 ISIP & FSIP 1021				

RECEIVED
 STATE CORPORATION COMMISSION
 6-1-1989
JUN - 1 1989
 CONSERVATION DIVISION
 Wichita, Kansas

15-167-22838-00-00

Phone 913-793-2627, Russell, Kansas

Phone Plainville 913-434-2812

Phone 316-793-5861, Great Bend, Kansas

Phone Ness City 913-798-3843

New

ALLIED CEMENTING CO., INC.

Home Office P. O. Box 31

Russell, Kansas 67665

ORIGINAL No. 4333

Date	2-22-89	Sec.	27	Twp.	11	Range	15	Called Out	Noon	On Location	1:30 P.M.	Job Start		Finish	3:00 P.M.	
Lease	Abbott	Well No. #	1	Location	Goeham	E 9N 12E 15W		County	Russell	State	Kansas					
Contractor	Red Tiger #9											Owner	Same			
Type Job	Surface											To Allied Cementing Co., Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.				
Hole Size	12 1/4		T.D.	215												
Csg.	8 5/8		Depth	211												
Tbg. Size			Depth													
Drill Pipe			Depth													
Tool			Depth													
Cement Left in Csg.	15		Shoe Joint													
Press Max.			Minimum													
Meas Line	L		Displace													
Perf.																

EQUIPMENT

No.	Cementer	R. Davis
Pumptrk 83	Helper	Duke
No.	Cementer	
Pumptrk	Helper	
	Driver	
Bulktrk 155	Driver	

Amount Ordered	140 Sks 60/40 3% CC		
Consisting of	290 Gal		
Common	84 Sks @ 5.00	420.00	
Poz. Mix.	56 Sks @ 2.25	126.00	
Gel.	3 Sks @ 6.75	20.25	
Chloride	4 Sks @ 20.00	80.00	
Quickset			
Sales Tax			

DEPTH of Job		
Reference: #1		360.00
	1-8 5/8 Plug	40.00
	@ 1.00 Per Mile	19.00
	Sub Total	
	Tax	
	Total	419.00

Handling	90¢	126.00
Mileage	3¢	79.80
	19 mile	
Sub Total		
Total		852.05

Remarks:
Cement
C12.

STATE OF KANSAS

JAN 9 1989

Phone 913-43-2627, Russell, Kansas

15-167-22 838-00-00

Phone Plainville 913-434-2812

Phone 316-793-5861, Great Bend, Kansas

Phone Ness City 913-798-3843

ALLIED CEMENTING CO., INC.

Home Office P. O. Box 31

Russell, Kansas 67665

ORIGINAL No 4585

New

Date	3-8-89	Sec.	27	Twp.	11	Range	15	Called Out		On Location		Job Start	8:15 AM	Finish	9:00 AM	
Lease	Abbott	Well No.	1	Location				Garham 1E N to River	County	Russell	State	KS				
Contractor	Red Tiger #9															
Type Job	Production String															
Hole Size	7 7/8	T.D.	3325													
Csg.	4 1/2	Depth	3320													
Tbg. Size		Depth														
Drill Pipe		Depth														
Tool		Depth														
Cement Left in Csg.		Shoe Joint	32													
Press Max.		Minimum														
Meas Line		Displace														
Perf.																

Owner EN E E 16N 1E
 To Allied Cementing Co., Inc.
 You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.

Charge To Frontier Oil Company
 Street 1437 N. FRANKLIN
 City Russell State Kansas
 The above was done to satisfaction and supervision of owner agent or contractor

Purchase Order No. [Signature]
 X [Signature]

CEMENT

Amount Ordered 150 com 10% salt
 Consisting of
 Common 150 com @ 5.00 750.00
 Poz. Mix
 Salt 14 sks @ 4.75 66.50
 Chloride
 Quickset

Handling 0.90¢ 135.00
 Mileage 3¢/sk/mile 85.50
 Sub Total
 Total 1037.00

Floating Equipment
1 Basket - 108.00

EQUIPMENT

Pumptrk	No.	Cementer.	<u>Dave</u>
	<u>153</u>	Helper	
Pumptrk	No.	Cementer	
		Helper	
Bulktrk		Driver	<u>Jul</u>
	<u>155</u>	Driver	

DEPTH of Job		
Reference:	<u>Pump hole chg</u>	<u>838.00</u>
	<u>100 per mile</u>	<u>19.00</u>
	<u>4 1/2 Rubber Plug</u>	<u>31.00</u>
	Sub Total	
	Tax	
	Total	<u>888.00</u>

Remarks: plug rat hole w/ 10sk
Float held

15-167-22 838-00-00

Phone 913-483-2627, Russell, Kansas
 Phone 316-793-5861, Great Bend, Kansas

Phone Plainville 913-434-2812
 Phone Ness City 913-798-3843

ALLIED CEMENTING CO., INC. ORIGINAL 731

Home Office P. O. Box 31 Russell, Kansas 67665

New

Date	8-24-89	Sec.	Twp.	Range	Called Out	On Location	Job Start	Finish			
					8:00 AM	10:15 AM	10:30 AM	5 PM			
Case	ABBOTE	Well No.	#1			Location	GORHAM 1 E 10N 12 E 2N	County	RUSSELL	State	KANSAS
Contractor	EXPRESS Well Service										
Type Job	Circulate Cement										
Well Size	T.D.										
Depth	4 1/2										
Depth	2										
Depth	(KAY D.)										
Depth	BRAD OIL TOOLS										
Shoe Joint											
Minimum											
Displace											

Owner: *NE 1/2 S into*

To Allied Cementing Co., Inc.
 You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.

Charge To: *FRONTIER OIL Company*

Street:

City: _____ State: _____

The above was done to satisfaction and supervision of owner agent or contractor

Purchase Order No. *100*

100

Depth @ 927' - 917' (Great Guns)

EQUIPMENT

No.	Cementor	<i>Don Bell</i>
#61	Helper	<i>Walt</i>
No.	Cementor	
	Helper	
#155	Driver	<i>Jack</i>
#160	Driver	<i>Paul</i>

CEMENT

Amount Ordered: *200 BK 6% gel 50 SK Cem 3% CC*

Consisting of

Common	
Poz. Mix	
Gel.	
Chloride	
Quickset	

DEPTH of Job

Reference	PUMP TRUCK CHRG.
Sub Total	
Tax	
Total	

Handling *.90 PER BK*

Mileage *.03 PER TWO MILE*

Sales Tax:

Sub Total

JAN 9 1989

Total

Flooring Equipment

CONSERVATION DIVISION
 Winona, Kansas

MAN PACKER BELOW PERF. & TESTED TOOL TO 1500' & HELD. CAME UP TO 857'
 SET PACKER, LOADED BACKSIDE & SHUT IN @ 500'. HOOKED UP TO TUBING &
 PUMP RATE OF 3 BBL PER MIN. @ 1200'. MIXED 10 SK CEMENT & PRESSURED UP
 1500' & HELD. RELEASED PACKER & WASHED TUBING CLEAN & RAN DOWN TO 977'
 WASHED OUT REG. PERF @ 917'. RENTED 200 BK 6% GEL 50 SK CEM 3% CC
 COM. 3% CC. STAYED IN SIGHT.

Phone 913-483-2627, Russell, Kansas

15-167-22838-00-00

Phone Plainville 913-434-2812

Phone 316-793-5861, Great Bend, Kansas

Phone Ness City 913-798-3843

ALLIED CEMENTING CO., INC

Home Office P. O. Box 31

Russell, Kansas 67665

NO 7503 ORIGINAL

Date	8-26-89	Sec.		Twp.		Range		Called Out		On Location	7AM	Job Start		Finish	2:30PM
Lease	Abbet	Well No.	1	Location				County	Russell	State	Kan				

Contractor: Express
 Type Job: Squeeze
 Hole Size: [blank] T.D.
 Casing: 4 1/2" Depth: [blank]
 Casing Size: 2" Depth: 564
 Drill Pipe: [blank] Depth: [blank]
 Tool: [blank] Depth: [blank]
 Cement Left in Cag: [blank] Shoe Joint: [blank]
 Pressure Max: 1000# Minimum: [blank]
 Max Line: [blank] Displace: [blank]
 Cost: 6.20

Owner: To Allied Cementing Co., Inc.
 You are hereby requested to rent cementing equipment and furnish cement and helper to assist owner or contractor to do work as listed.
 Charge To: Frontier Oil
 Street: [blank]
 City: [blank] State: [blank]
 The above was done to satisfaction and supervision of owner agent or contractor
 Purchase Order No: [blank]
 X [Signature]

EQUIPMENT

No.	Cementer	McAdoo
153	Helper	D Funk
No.	Cementer	
	Helper	
146	Driver	Ed
160	Driver	Joe

Amount Ordered: 200 406 1/2 Gal 50 2x Con
 Consisting of: 3 BCC
 Common
 Poz. Mix
 Gel.
 Chloride
 Quickset

DEPTH of Job

Reference:	Pump Track	
	1.00 per mile	
		Sub Total
		Tax
		Total

Handling: [blank]
 Mileage: [blank]
 Sales Tax: [blank]
 Sub Total: [blank]
 Total: [blank]

Remarks: Tank Injection M.T.
 100PM at 50#
 M. x 2 1/2 200 gal 6% Gel
 50 5x 200 200 Squeeze
 1000# 1000# Tubing

JAN 9 1991
 GCA - Division Division
 Wichita, Kansas

Phone 913-483-2627, Russell, Kansas 15-167-22 838-00-00
Phone 316-793-5861, Great Bend, Kansas

Phone Plainville 913-434-2812
Phone Ness City 913-798-3843

ALLIED CEMENTING CO., INC.

Home Office P. O. Box 31 Russell, Kansas 67665

NO 7505
ORIGINAL

Date	8-29-87	Sec.	Twp.	Range	Called Out	On Location	Job Start	Finish
Lease	Abbett	Well No.	1	Location			County	State
Contractor	Express						Russell	Kan
Type Job	Squeeze Back Side							
Hole Size		T.D.						
Csg.	4 1/2	Depth						
Tbg. Size		Depth						
Drill Pipe		Depth						
Tool		Depth						
Cement Left in Csg.		Shoe Joint						
Press Max.	800#	Minimum						
Mass Line		Displace						
Perf.								

Owner	To: Allied Cementing Co., Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.
Charge To	Frontier Oil Co.
Street	
City	State
The above was done to satisfaction and supervision of owner, agent or contractor.	
Purchase Order No.	
X	

EQUIPMENT

No.	Cementer	Helper
Pumpjack 153	McAdoo	
Pumpjack	O Kuhn	
Bulktrk 160	Joe	
Bulktrk		

Amount Ordered	110 Com 4 7/8 1/2 15x Hull
Consisting of	
Common	
Poz. Mix	
Gel	
Chloride	
Quickset	
Sales Tax	
Handling	
Mileage	
Sub Total	
Total	
Floating Equipment	

DEPTH of Job

Reference:	Pump Truck
	100 Perm. 1/2
Sub Total	
Tax	
Total	

Remarks: Press up casing at 500# Took injection rate 3 RPM at 500# Mixed 110 Com 4 7/8 bel Down Dick side with 15x Hulls Squeezed at 800# Shut in.

JAN 9 1988

CONSERVATION DIVISION
Wichita, Kansas

COPY

RELEASED

SEP 24 1990

KCC

SEP 24 1990

FROM CONFIDENTIAL

GEOLOGICAL REPORT

NO. 1 ABBOTT

NE NW SW Sec. 27-11S-15W

RUSSELL COUNTY, KANSAS

RECEIVED
STATE CORPORATION COMMISSION

JUN - 1 1989

CONSERVATION DIVISION
Wichita, Kansas

DATE COMMENCED: FEBRUARY 22, 1989

DATE OF RTD: MARCH 7, 1989

GEOLOGIST: RICHARD D. PARKER

CONFIDENTIAL

JUN 01 1989

Frontier Oil Company
125 N. Market, Ste. 1720
Wichita, Kansas 67202

Frontier Oil Company
No. 1 Abbott
NW NW SW Sec. 27-11-15W
Russell County, Kansas

Dear Sir:

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

Drilling was supervised from 2300' to 3350', rotary total depth. Samples were examined from 2300' to rotary total depth.

All formation tops, zones of porosity and staining are based on rotary bushing measurements. Any corrections in measurements are incorporated into this report.

Elevation (American Elevations)	1831 DF -- 1834 KB	
Anhydrite	906	+ 928
Howard	2659	- 825
Topeka	2707	- 873
Heebner	2928	-1094
Toronto	2950	-1116
Lansing-Kansas City	2980	-1146
Base of Kansas City	3232	-1398
Arbuckle	3296	-1462
RTD	3325	-1491
4½" Pipe At	3320	-1486

Structurally on top of the Topeka, the No. 1 Abbott ran 6' high to the Abercrombie Drilling Company's No. 1 Hagaman, a dry hole three locations south. On top of the Lansing, the No. 1 Abbott ran 6' high to the No. 1 Hagaman. On top of the Arbuckle the No. 1 Abbott ran 3' high to the erosional Arbuckle on the No. 1 Hagaman, 22' high to the clean Arbuckle on the No. 1 Hagaman.

ZONES OF INTEREST

TOPEKA A (Top 2707)
2707 to 2712

Tan fine crystalline to sucrosic lime with fair small pinpoint porosity, fair show of free oil, good odor and fair saturated stain.

DRILL STEM TEST NO. 1 (TRILOBITE TESTING)
2690 to 2730

30-30-30-30 1st op - wk surface blow for 30 minutes. Second opening - weak surface blow for 20 minutes. Rec. 60' GIP 30' GM IF & FF 59-59 ISIP 130 FSIP 107

2734 to 2738

Tan fine crystalline to fossiliferous lime with a trace of free oil, fair odor and a trace of oil stain.

DRILL STEM NO. 2 (TRILOBITE TESTING)
2720 to 2752

30-30-15-30. First opening - wk blo for 5". Second op - no blow flushed tool, no help. Rec. 20' M IF 44-44 FF 55-55 ISIP 510 FSIP 500

2894 to 2899

Light tan fine crystalline to chalky fossiliferous lime with fair pinpoint porosity fair show of free oil, fair odor, spotted light stain.

DRILL STEM TEST NO. 3 (TRILOBITE TESTING)
2872 to 2910

15-30-15-30. First op - wk blo for 5". 2nd op - no blo. Rec. 60 M. IF & FF 55-55 ISIP 707 FSIP 663

TORONTO (Top 2950)
2950 to 2954

White chalky to fine crystalline dense with a fair show of free oil, fair odor and spotted light stain. (Included in DST #4)

LANSING-KANSAS CITY (TOP 2980)
2980 to 2984

White to light tan chalky to fine crystalline lime with trace of free oil, faint odor, trace of oil stain.

DRILL STEM TEST NO. 4 (TRILOBITE TESTING)
2922 to 3000

60-30-30-30. 1st op - wk blo . 2nd op - wk blo. Rec. 130' MW w/few spks 0.
IF 95-119 FF 130-130 ISIP & FSIP 333

3006 to 3010

White fossiliferous to poorly developed oolitic lime with fair show of free oil, good odor, fair spotted light stain.

DRILL STEM TEST NO. 5 (TRILOBITE TESTING)
2990 to 3018

60-30-60-30 strong blo on both op's.
Rec. 1034' SW IF 71-297 FF 345-452
ISIP & FSIP 725

3022 to 3028

Tan fossiliferous lime with fair fossiliferous porosity, fair show of free oil, good odor, spotted light stain.

3030 to 3034

White fine crystalline lime and fresh white chert. Fair show of free oil in the lime, good odor, fair spotted light stain.

DRILL STEM TEST NO. 6 (TRILOBITE TESTING)
2916 to 3044

60-30-30-30. 1st op - strong blo
2nd op - wk inc. to good blo. Rec. 186'
GIP, 1630' fl. (372' OCGW, 434' OW, 824' SW)
IF 214-689 FF 689-748 ISIP 736 FSIP 772

3050 to 3054

White to tan chalky to fine crystalline lime with no show of oil, possible faint odor.

3062 to 3070

White chalky lime with no show of oil.

3078 to 3083

White chalky to dense lime with no show of oil.

3318 to 3124

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

3144 to 3148

Tan to light grey fine crystalline to dense lime with no show of oil.

3169 to 3176

White to light tan slightly oolitic to fossiliferous lime with fair fossilcastic to slightly vuggy porosity, fair show of free oil, good odor, spotted light stain

DRILL STEM TEST NO. 7 (TRILOBITE TESTING)

3150 to 3182

30-30-15-30. 2st op - wk blo for 15".
2nd op - no blo. Rec. 5' M IF 47-47
FF 47-47 ISIP 261 FSIP 107

3195 to 3200

White to light tan fine crystalline to fossiliferous slightly vuggy lime with a faint odor, traces of free oil, trace of stain.

DRILL STEM TEST NO. 8 (TRILOBITE TESTING)

3180 to 3210

60-30-60-30. 1st op - fair inc. to gd blo. 2nd op - fair blo. Rec. 434' GIP, 62' OCGM, 252' HMC60. IF 77-111 FF 144-177
ISIP 969 FSIP 936ARBUCKLE (Top 3296)

3296 to 3300

White medium crystalline dolomite with scattered show for free oil, fair odor spotted light stain.

DRILL STEM TEST NO. 9 (TRILOBITE TESTING)

3286 to 3300

1st op - wk blo for 15". 2nd op - no blo.
Rec. 15' M w/oil on top of tool.
IF 47-47 FF 59-59 ISIP & FSIP 1068

3300 to 3305

White to light tan dense to slightly cherty dolomite with a fair show of free oil, good odor, spotted stain.

DRILL STEM TEST NO. 10 (TRILOBITE TESTING)

3286 to 3305

30-30-15-30. 1st op - wk blo for 15"
Rec. 10' M IF 47-47 FF 59-59
ISIP 1009 FSIP 985.

3305 to 3310

White medium crystalline to white dense cherty dolomite with scattered show of free oil, good odor.

DRILL STEM TEST NO. 11 (TRILOBITE TESTING)
3286 to 3310

30-30-15-30. Tool slid 20'. 1st op - gd blo when tool slid, to wk blo for 20". 2nd op - no blo. Rec. 300' M w/oil on top of tool. Mud was recovered when tool slid. IF & FF 285-285 ISIP & FSIP 1021

3305 to 3310

White to lite tan medium cyrstalline dolomite with a scattered show of free oil fair odor, spotted light stain.

DRILL STEM TEST NO. 12 (TRILOBITE TESTING)
3288 to 3315

30-30-15-30. 1st op - wk blo for 20". 2nd op - no blo. Rec. 20' M w/oil on top of tool. IF & FF 47-47 ISIP & FSIP 950

3315 to 3320

White medium crystalline dolomite with a good show of free oil, good odor, fair to good spotted stain.

DRILL STEM TEST NO. 13 (TRILOBITE TESTING)
3288 to 3320

30-30-15-30. 1st op - wk blo for 15". 2nd op - no blo. Rec. 15' M w/oil on top of tool. IF & FF 47-47 ISIP & FSIP 973

DRILL STEM TEST NO. 14 (TRILOBITE TESTING)
3320 to 3325

60-30-30-30. 1st op - wk steady blo $\frac{1}{2}$ " in bucket. 2nd op - no blo. Rec. 10' HMCO (90% O), 60' SOCWM (40% water). IF 47-47 ISIP & FSIP 1021

4 $\frac{1}{2}$ " used 9 $\frac{1}{2}$ # casing was set at 3320', 24' in the Arbuckle and 5' off bottom with 150 sx common cement, 10% added salt. Zero point is 5' AGL and the shoe joint is 31-64' long.

Sincerely,

Richard D. Parker
Richard D. Parker *RDP*

DRILLING INFORMATION ON THE NO. 1 ABBOTT

Contractor: Red Tiger Drilling Co.

Drillers: Engel
Waggoner
Harrell

Tool Pusher: Mike Waggoner

Spud Date: February 22, 1989

Date of RTD: March 7, 1989

Surface Pipe: 8 5/8"/207'/140 sx

Casing: 4 1/2"/3320' w/150 sx
Basket @ 922'

TOTAL FOOTAGE DRILLED PER DAY

Under Surface At 11:00 PM on February 22, 1989

	Feet	At	7:00 AM	On	
726	"	"	"	"	2-23-89
1780	"	"	"	"	2-24-89
2585	"	"	"	"	2-25-89
2730	"	"	"	"	2-26-89
2910	"	"	"	"	2-27-89
2980	"	"	"	"	2-28-89
3018	"	"	"	"	3-01-89
3130	"	"	"	"	3-02-89
3210	"	"	"	"	3-03-89
3300	"	"	"	"	3-04-89
3310	"	"	"	"	3-05-89
3315	"	"	"	"	3-06-89
3325	"	"	10:00 AM	"	3-07-89

BIT RECORD

<u>Bits</u>	<u>Type</u>	<u>Footage</u>
#1	CP-537	287 to 2675
#2	Smith-F3L (New)	2675 to 3325

MUD RECORD

Mud Company: Milpark Drilling Fluids

Mud Type: Starch

Surface:	20 sx gel, 2 sx lime, 3 sx hulls
2730:	63 sx salt gel, 42 sx starch, 5 sx hulls, 2 sx preservative
2782:	17 sx salt gel, 6 sx starch
2910:	39 sx salt gel, 7 sx sta5ch
3018:	35 sx salt gel, 2 sx starch
3044:	25 sx salt gel, 8 sx starch
3200:	30 sx salt gel, 8 sx starch
3255:	15 sx salt gel, 3 sx starch, 3 sx hulls.
3305:	50 sx salt gel
3315:	55 sx salt gel, 10 sx starch, 50 sx barweight mud, 1 sk soda ash
3320:	15 sx salt gel, 10 sx starch, 5 sx hulls.

DRILLERS TIME LOG

Frontier Oil Company
#1 Abbott

NE NW SW
27-11S-15W
RUSSELL COUNTY, KANSAS

Elev.: 1831 DF
1834 KB

DEPTH MINUTES REMARKS

1 Foot Drilling Time

2300 to 2310	1-1-1-2-1-1-3-3-3-2
2320	3-3-3-2-1-2-2-1-2-1
2330	1- $\frac{1}{2}$ - $\frac{1}{2}$ -1-1-1-1-2-2-3
2340	3-2-3-2-2-2-2-2-1-2
2350	1-1-1-1-3-2-3-2-2-2
2360	2-3-3-2-3-2-3-2-3-2
2370	3-2-2-2-3-3-3-3-3-4
2380	3-4-3-3-2-2-2-2-2-4
2390	2-1-1-2-2-2-1-1-2-1
2400	2-1-1-2-1-2-2-3-2-2
400 to 2410	2-2-2-2-2-2-1-2-1-2
2420	1-2-2-2-1-2-1-2-2-1
2430	2-1-2-3-3-1-1-2-1-2
2440	1-2-1-1-1-1-2-1-2-1
2450	2-1-2-1-2-1- $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$
2460	$\frac{1}{2}$ - $\frac{1}{2}$ -1- $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ -1
2470	$\frac{1}{2}$ - $\frac{1}{2}$ -1-2-2-2-2-2-2-2
2480	3-1-2-3-2-2-2-3-2-2
2490	2-1-2-2-1-2-3-1-1-1
2500	$\frac{1}{2}$ - $\frac{1}{2}$ -1-1-1-1-1-1-1-1
500 to 2510	1-1-4-2-2-1-2-1-1-2
2520	1-1-1-1-1-1-1-1-2-2
2530	2-2-3-2-2-3-3-3-3-1
2540	2-2-1-1-2-2-1-2-4-1
2550	3-2-2-3-2-3-2-3-2-3
2560	2-2-3-2-3-2-2-2-2-2
2570	1-2-2-2-1-3-2-2-3-2
2580	3-3-2-2-2-3-2-3-2-3
2590	2-3-2-2-1-2-3-1-1-1
2600	1-1-2-2-2-2-3-3-3-2

2600 to 2610	2-3-3-2-3-2-1-2-2-2	
2620	2-2-2-1-2-2-2-1-2-1	
2630	2-1-2-2-4-3-2-1-1-1	
2640	1-½-½-1-1-1-1-1-2-2	
2650	3-2-2-2-2-3-2-3-3-x	
2660	3-2-2-3-3-3-3-3-2-3	
2670	3-2-4-3-3-2-3-4-4-4	
2680	4-4-4-13-14-3-2-4-3-3	
2690	3-2-3-2-3-2-3-3-2-5	
2700	5-3-2-4-4-4-5-5-5-4	
2700 to 2710	4-2-3-2-2-2-3-4-4-3	
2720	4-3-4-4-4-5-5-5-5-5	
2730	5-5-4-3-5-5-4-5-3-3	DST #1 (2690-2730)
2740	2-2-2-¼-¼-¼-¼-1-2-2	
2750	3-3-2-3-2-2-2-3-2-3	DST #2 (2720-2752)
2760	2-3-4-5-4-4-4-3-5-4	
2770	4-4-4-4-4-4-4-4-4-3	
2780	4-5-3-4-4-4-3-4-4-3	
2790	4-4-3-3-3-3-3-2-4-4	
2800	2-2-4-3-4-2-3-3-3-3	
2800 to 2810	3-2-4-3-3-2-3-4-3-4	
2820	4-4-2-3-5-4-3-3-4-3	
2830	3-4-3-3-3-4-3-4-4-3	
2840	4-3-4-4-3-3-3-3-3-3	
2850	3-3-3-4-3-2-3-3-3-4	
2860	3-3-3-2-2-3-4-3-4-3	
2870	3-3-4-2-3-4-3-3-3-4	
2880	3-4-3-3-4-3-4-2-4-2	
2890	2-3-4-2-3-3-3-3-3-3	
2900	2-2-2-3-2-1½-1½-2-2-2	
2900 to 2910	2-2-1-2-2-1-2-2-2-2	DST #3 (2872-2910)
2920	2-3-4-3-3-2-3-3-2-4	
2930	3-2-3-3-2-3-3-3-2-2	
2940	1-1-3-3-3-3-2-2-2-3	
2950	3-3-4-4-3-4-4-3-4-3	
2960	4-4-4-4-5-4-5-4-4-4	
2970	5-5-4-3-5-3-3-3-3-3	
2980	2-2-2-1-2-2-2-2-2-2	
2990	4-3-3-3-4-3-4-3-4-4	
3000	3-5-4-4-3-4-4-4-4-4	DST #4 (2922-3000)
3000 to 3010	4-5-4-5-4-4-3-3-3-3	
3020	4-6-5-6-6-7-7-6-6-6	DST #5 (2990-3018)
3030	4-3-3-3-3-3-3-5-5-4	
3040	4-4-4-5-5-6-5-5-5-5	DST #6 (2916-3044)
3050	5-4-5-6-3-5-5-5-5-4	
3060	3-2-3-2-3-4-5-4-5-5	
3070	5-5-3-3-3-3-4-4-3-2	
3080	3-3-2-2-2-3-5-3-3-3	
3090	3-3-3-4-2-3-3-3-4-3	
3100	4-3-2-2-3-3-3-4-4-4	

3100 to 3110	4-4-4-5-3-4-5-3-5-4	
3120	5-5-5-3-5-4-4-4-4-2	
3130	4-3-5-2-3-3-3-3-3-2	
3140	4-3-4-3-4-3-3-4-3-2	
3150	3-3-3-3-4-2-3-3-4-3	
3160	4-5-4-3-5-4-5-2-4-3	
3170	4-3-4-4-4-4-4-4-4-3	
3180	4-3-3-3-3-3-4-4-4-4	DST #7 (3150-3182)
3190	4-4-3-5-6-4-4-5-7-6	
3200	5-7-6-6-7-6-4-3-7-4	
3200 to 3210	6-6-6-5-7-6-6-6-6-6	DST #8 (3180-3210)
3220	4-5-6-3-3-2-6-6-6-4	
3230	3-2-3-2-4-4-4-4-5-5	
3240	5-4-5-5-6-5-6-4-5-2	
3250	5-2-3-3-4-4-3-5-4-4	
3260	4-4-4-4-4-2-3-2-2-3	
3270	2-3-4-5-4-6-6-6-6-5	
3280	7-5-6-5-5-4-6-6-4-6	
3290	6-6-6-8-8-7-8-8-8-12	DST #9 (3286-3300)
3300	7-7-5-7-6-8-4-7-4-4	DST #10 (3286-3305)
3300 to 3310	4-3-2-3-2-2-2-3-2-2	DST #11 (3286-3310)
3320	4-5-3-4-4-5-2-2-2-3	DST #12 (3288-3315)
3330	3-2-3-4-4-x-x-x-x-x	DST #13 (3288-3320)