

Confidentiality Requested:

Yes No

**KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION**

Form ACO-1

January 2018

Form must be Typed

Form must be Signed

All blanks must be Filled

**WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE**

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

New Well Re-Entry Workover

Oil WSW SWD

Gas DH EOR

OG GSW

CM (Coal Bed Methane)

Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

Deepening Re-perf. Conv. to EOR Conv. to SWD

Plug Back Liner Conv. to GSW Conv. to Producer

Commingled Permit #: _____

Dual Completion Permit #: _____

SWD Permit #: _____

EOR Permit #: _____

GSW Permit #: _____

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE NW SE SW

GPS Location: Lat: _____, Long: _____
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that 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.

Submitted Electronically

KCC Office Use ONLY

Confidentiality Requested

Date: _____

Confidential Release Date: _____

Wireline Log Received Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT I II III Approved by: _____ Date: _____

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems 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 test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
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

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

1. Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____			
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Griffin, Charles N.
Well Name	MILLS 2
Doc ID	1429838

Tops

Name	Top	Datum
Heebner	3611	-1952
Douglas Sand	3756	-2097
Brown Lime	3784	-2125
Lansing	3806	-2147
Base KC	4217	-2558
Viola	4351	-2692
Simpson	4479	-2820
Simpson Sand	4485	-2826
Arbuckle	4587	-2928

OPERATOR

Company: Charles N. Griffin
Address: PO Box 347
Pratt, KS 67124-0347

Contact Geologist:
Contact Phone Nbr:

Well Name: #2 Mills
Location: Section 9-31S-14W
Pool:
State: Kansas

API: 15-007-24337
Field: Skinner
Country: USA

Scale 1:240 Imperial

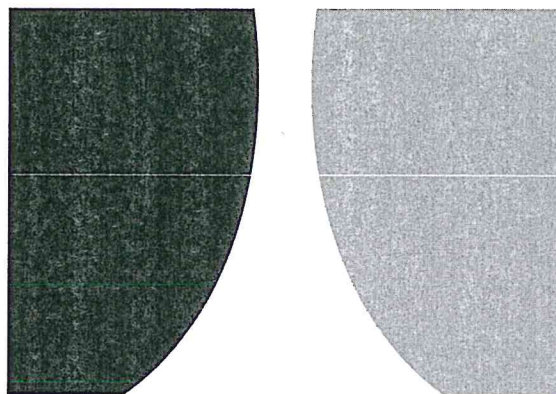
Well Name: #2 Mills
Surface Location: Section 9-31S-14W
Bottom Location:
API: 15-007-24337
License Number:
Spud Date: 8/17/2018 Time: 8:30 PM
Region: Barber County
Drilling Completed: 8/25/2018 Time: 9:00 AM
Surface Coordinates: 660' FNL & 330' FWL
Bottom Hole Coordinates:
Ground Elevation: 1654.00ft
K.B. Elevation: 1659.00ft
Logged Interval: 3500.00ft To: 4650.00ft
Total Depth: 4650.00ft
Formation:
Drilling Fluid Type: Chemical (MudCo)

SURFACE CO-ORDINATES

Well Type: Vertical
Longitude:
N/S Co-ord: 660' FNL
E/W Co-ord: 330' FWL

Latitude:

LOGGED BY



TERRATECH
ENERGY SERVICES LTD

Company: TerraTech Energy Service LLC.
Address: 1632 S. West St. Suite 12
Wichita, KS 67208

Phone Nbr: 316-617-3959
Logged By: Geologist

Name: Bruce Reed

CONTRACTOR

Contractor: WW Drilling
Rig #: 4
Rig Type: mud rotary
Spud Date: 8/17/2018
TD Date: 8/25/2018
Rig Release: 8/26/2018

Time: 8:30 PM
Time: 9:00 AM
Time: 5:00 PM

ELEVATIONS

K.B. Elevation: 1659.00ft
K.B. to Ground: 5.00ft

Ground Elevation: 1654.00ft

NOTES

Surface Casing: 8-5/8" at 260'
Production Casing: 5-1/2" at 4653'

Daily Penetration: 08/17/18 Spud @ 8:30 PM
08/18/18 260'

Daily Penetration:	08/17/18	Spud @ 8:50 PM
	08/18/18	260'
	08/19/18	2110'
	08/20/18	3250'
	08/21/18	3790' Twisted off @ 3867'
	08/22/18	3868'
	08/23/18	4207'
	08/24/18	4440'
	08/25/18	4600' Drilling completed @ 9:00 AM
	08/26/18	4730' Rig released @ 5:00 PM

DRILL STEM TESTS

DST #1 4395' to 4440' Viola. Strong blow, BOB in 30 seconds during the initial flow period.
 Strong blow, BOB immediately during the second flow period.
 Recovered: 2,300 GIP, 55' GOCM (10% Gas, 10% Oil, 80% mud).
 IFP: 30" 21-35 psi, ISIP: 60" 648 psi, FFP: 45" 23-38 psi, FSIP: 90" 365 psi

FORMATION TOPS

<u>Formation</u>	<u>Sample Top</u>	<u>Datum</u>	<u>Log Top</u>	<u>Datum</u>	<u>Comparison*</u>
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FORMATION TOPS

Formation	Sample Top	Datum	Log Top	Datum	Comparison*
Heebner	3611'	-1952	3611'	-1952	-18
Douglas Sand	3756'	-2097	3757'	-2098	-14
Brown Lime	3784'	-2125	3785'	-2126	-12
Lansing	3806'	-2147	3807'	-2148	-12
Base KC	4217'	-2558	4217'	-2558	-13
Viola	4351'	-2692	4353'	-2694	-21
Simpson	4479'	-2820	4477'	-2818	+2
Simpson Sand	4485'	-2826	4484'	-2825	+5
Arbuckle	4587'	-2928	4486'	-2927	DNP

*National Crude, #1 Lake City-Mills , NE SW NW Section 9-31S-14W

Barber County, Kansas

ROCK TYPES

-  Cht
-  Dolprim
-  Lmst fw7>
-  shale, gry
-  Carbon Sh
-  Ss

ACCESSORIES

MINERAL

-  Dolomitic
-  Chert White
-  Argillaceous/Shale

OTHER SYMBOLS

INTERVALS

-  Core
-  DST








Oil Show

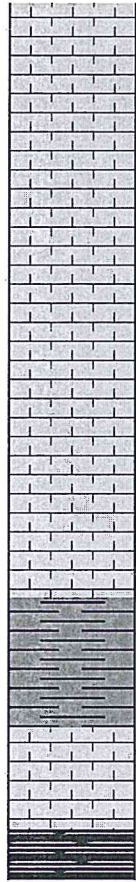
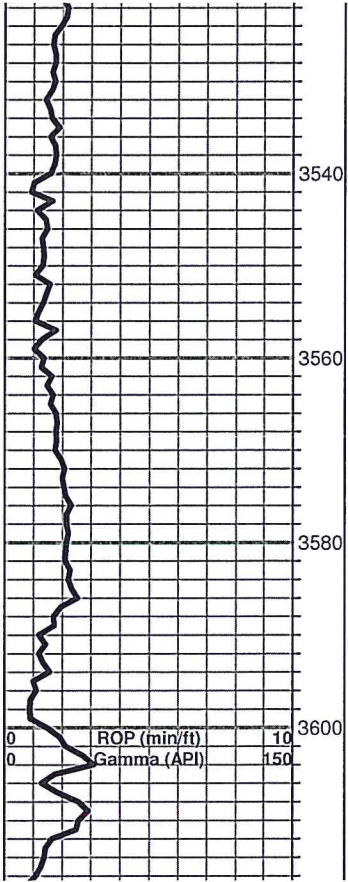
-  Good Show
-  Fair Show
-  Poor Show
-  Spotted or Trace
-  Questionable Strn
-  Dead Oil Strn
-  Fluorescence
-  Gas

DST

-  DST Int
-  DST alt
-  Core
-  tail pipe

Printed by GEOstrip VC Striplog version 4.0.7.0 (www.grsi.ca)

Curve Track #1								TG, C1 - C5
ROP (min/ft)		Depth Intervals	DST	Lithology	Oil Show	Geological Descriptions		Total Gas (units) 
Gamma (API)								C1 (units) 
								C2 (units) 
								C3 (units) 
								C4 (units) 



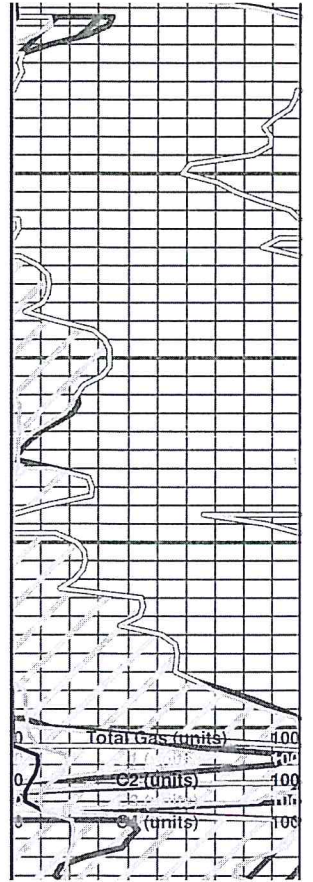
Limestone: cream-white, fine crystalline, trace chalky material, no shows

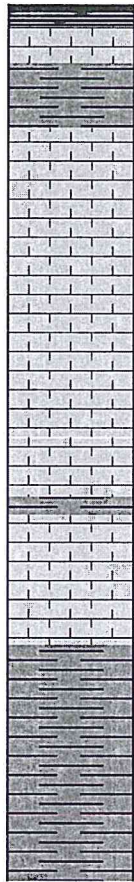
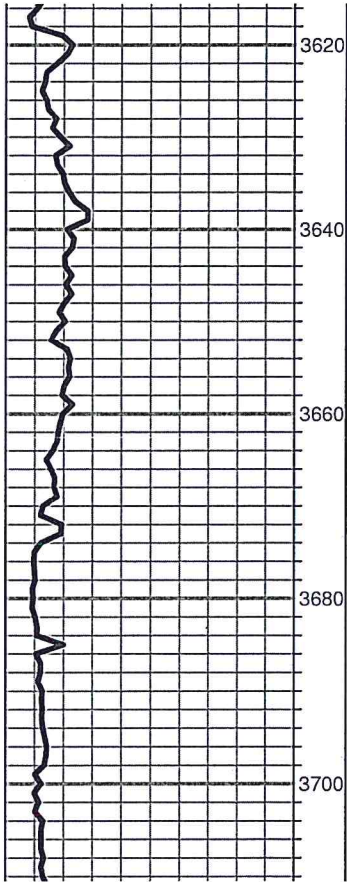
Limestone: cream-light gray, trace pinpoint porosity, no shows

Shale: vari-colored, mostly gray, some black

Heebner 3611' (-1952)

* Shale: black, carbonaceous, fissile, bleeds gas

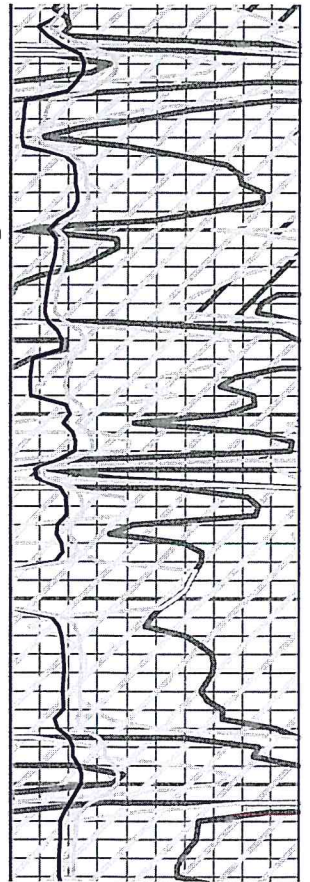


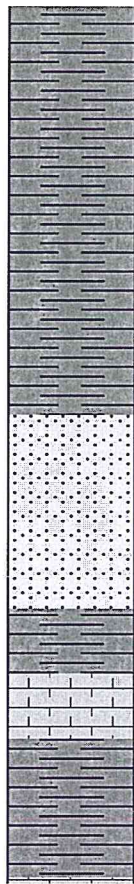
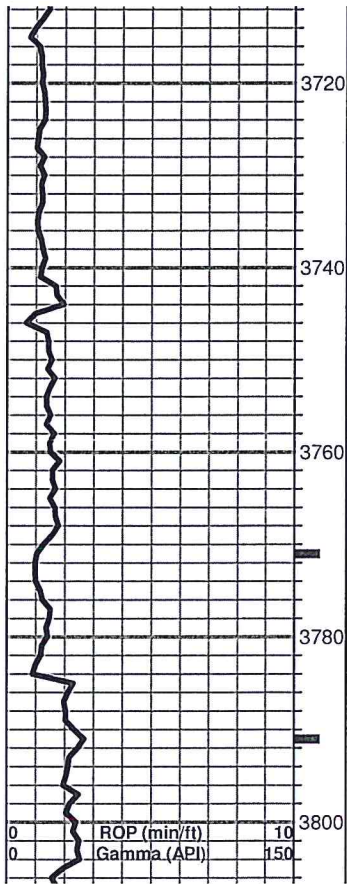


Limestone: cream-medium to light tan, fine crystalline grades to medium crystalline, sub chalky, no shows

Limestone: cream-white-chalky

Shale: dark-medium gray-brick red





Shale: as above

Shale: as above

Douglas Sand 3756' (-2097)

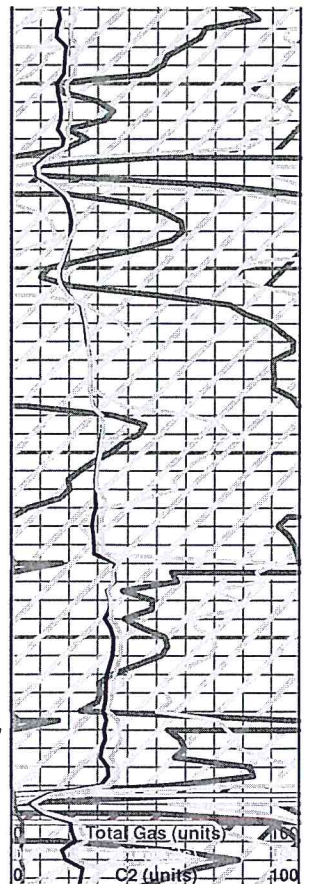
Circulated at 3770' Sandstone: cream-brown, very fine grained, questionable odor, trace dead oil

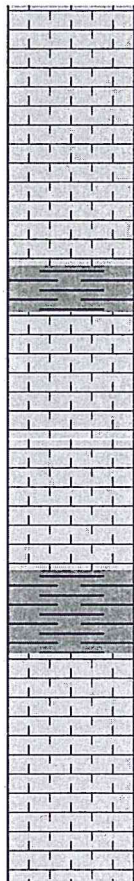
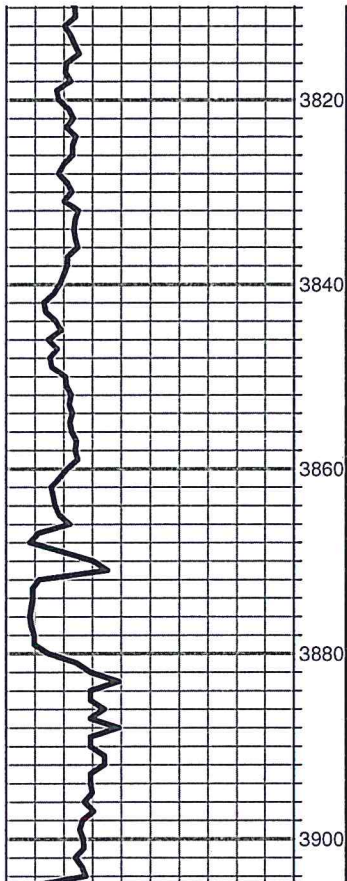
Brown Lime 3784' (-2125)

Circulated at 3790' Limestone: cream-brown, fine to very fine crystalline, poor visible porosity, dense

Shale: gray

Lansing 3806' (-2147)





Limestone: cream-light tan-brown, fine crystalline, very slightly fossiliferous, poor to no visible porosity, dense

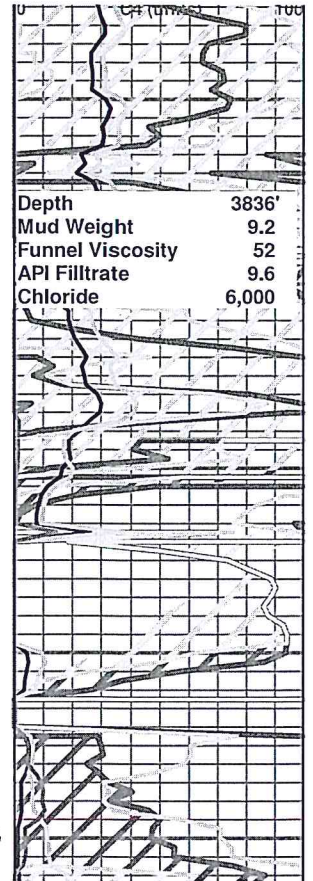
Shale: gray

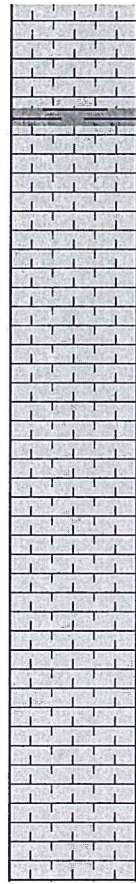
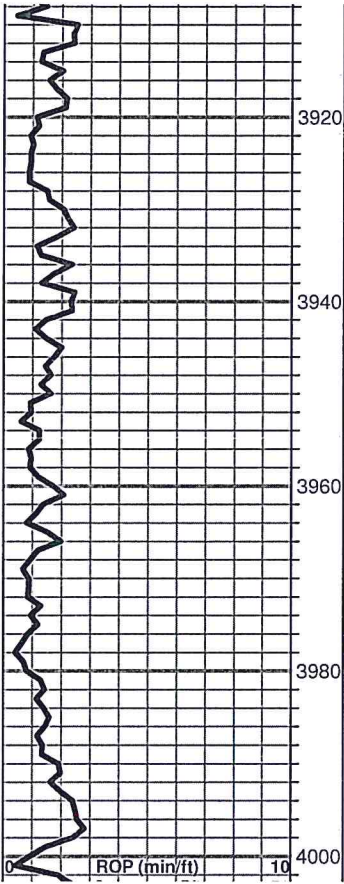
Limestone: more cream-light tan, fine crystalline, dense

Twisted off @ 3867'

Shale: gray-green

Limestone: cream, fine crystalline to fossiliferous, rare pinpoint porosity, no shows





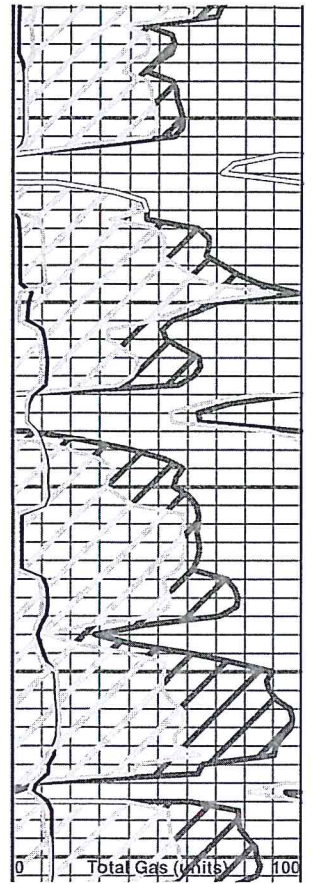
Shale: gray

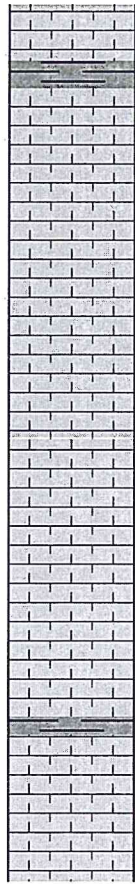
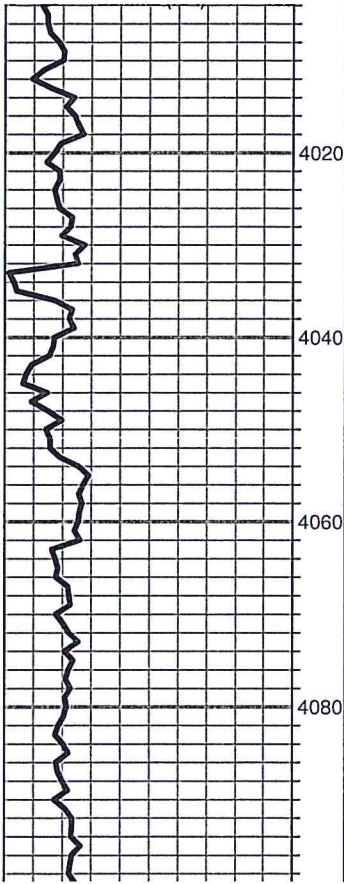
Note: sample carrying abundant shale

Poor quality sample

Poor quality sample

Poor quality sample





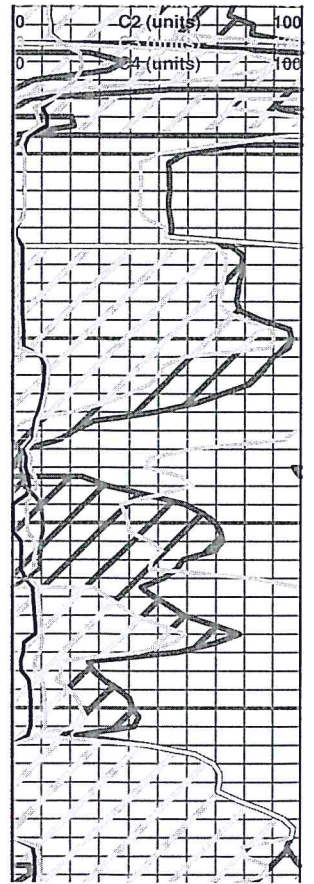
Shale: gray

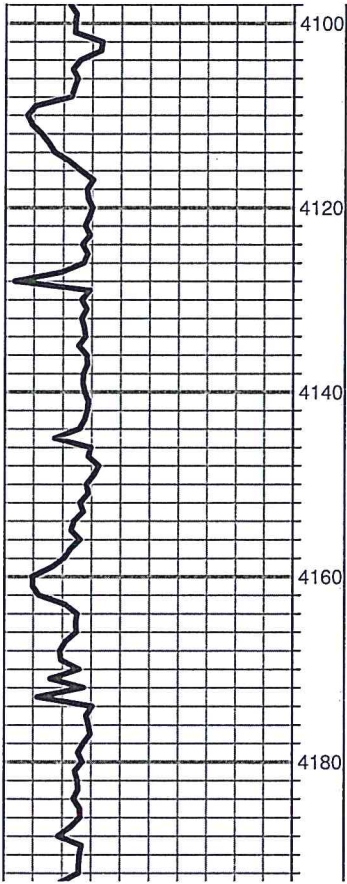
Limestone: light tan-cream-white, fine crystalline, chalky material

Poor quality sample

Poor quality sample

Poor quality sample





Limestone: cream, fine crystalline, trace chalky material

Limestone: cream-light gray, fine crystalline, dense

Shale: black

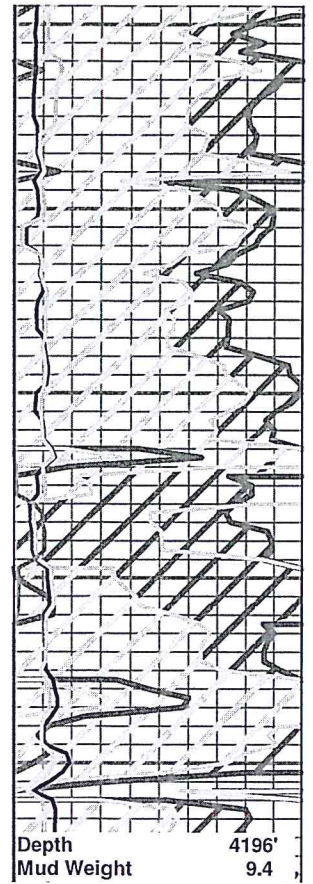
Limestone: cream-light tan, fine crystalline, grades to oolimoldic, no shows

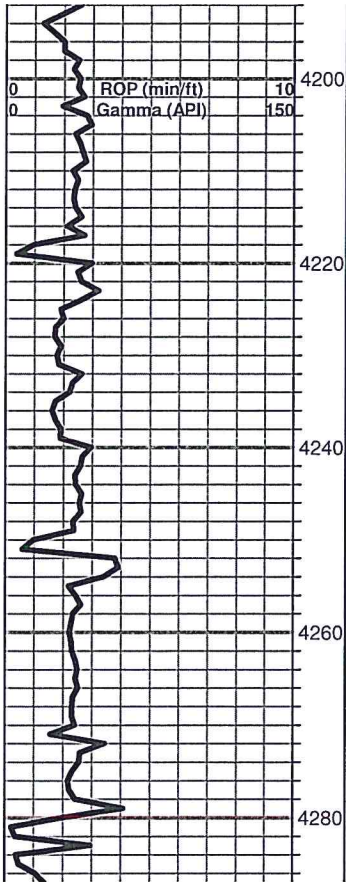
Limestone: cream-light tan, fine crystalline, dense

Shale: gray-green

Limestone: cream, fine crystalline, poor to no visible porosity, dense

Shale: gray





Shale: gray

Limestone: cream-tan-gray, fine crystalline, dense

B/KC 4217' (2558)

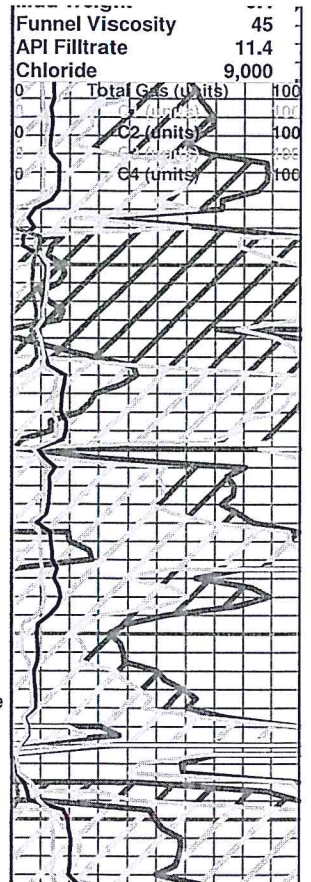
Shales: varicolored

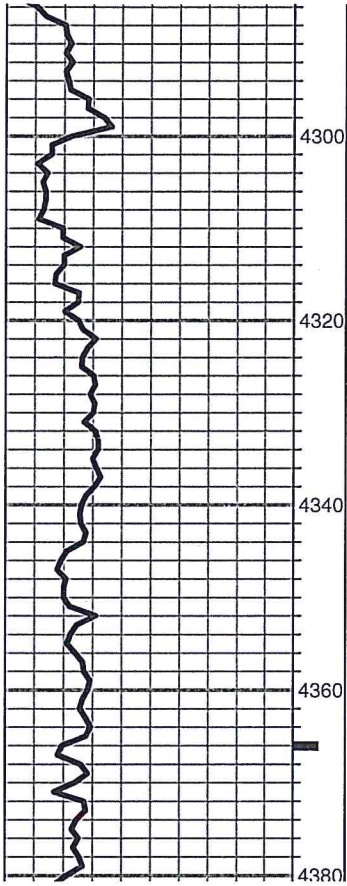
Limestone: cream-tan-brown, fine crystalline, no visible porosity, dense, sub shaley

Shale: gray

Limestone: cream-light tan-gray, fine to micro-crystalline, dense, sample carries lots of shale

Shale: gray





Limestone: cream, fine crystalline, dense

Shale: dark-medium gray

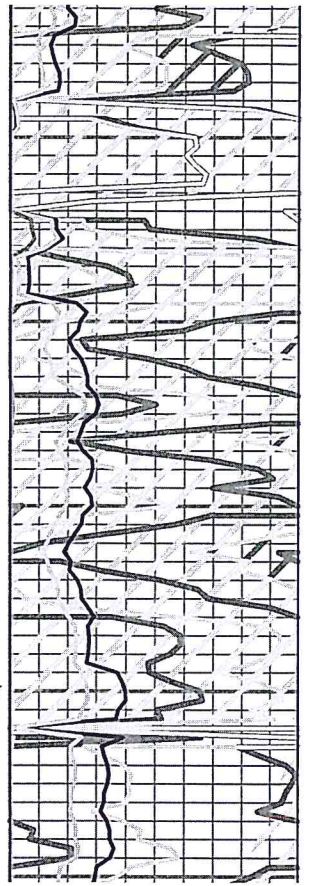
Limestone: tan-cream, fine crystalline, sub cherty

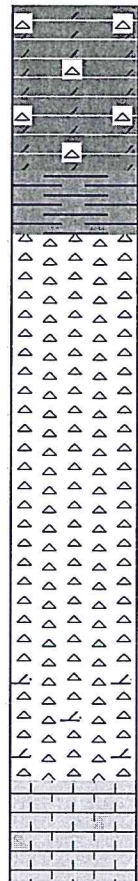
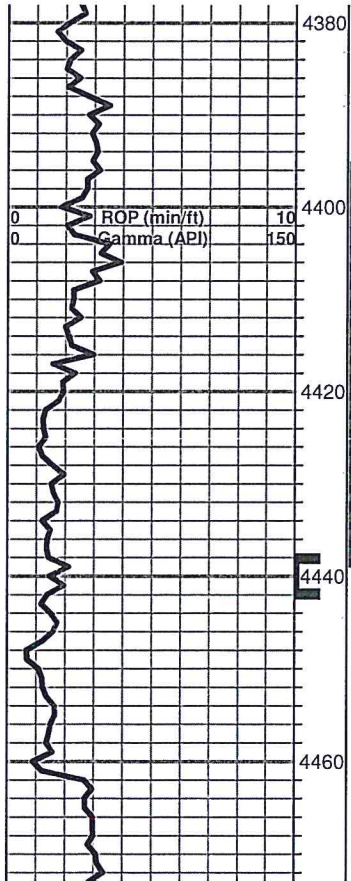
Poor quality sample, sample carries lots of shale

Viola 4351' (-2692)

Circulated at 4365' Dolomitic chert: cream-white, sharp and blocky, poor visible inter-crystalline porosity, no odor in fresh, no show free oil or fluorescence

Cherty dolomite: cream-white, sub sugrosic, looks like few pieces





Cherty dolomite: cream-white, sub sucrosic, looks lite, few pieces vitreous chert and some dolomitic chert, sharp and blocky, no odor in fresh, no show free oil or fluorescence

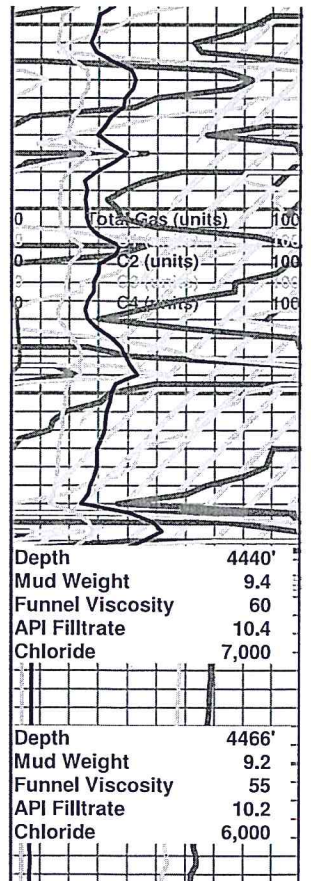
Poor quality sample, lots of shale

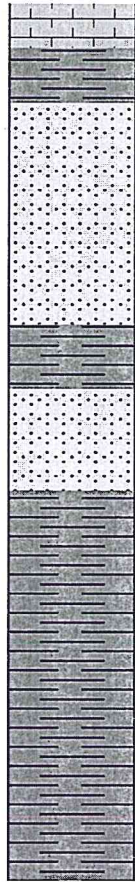
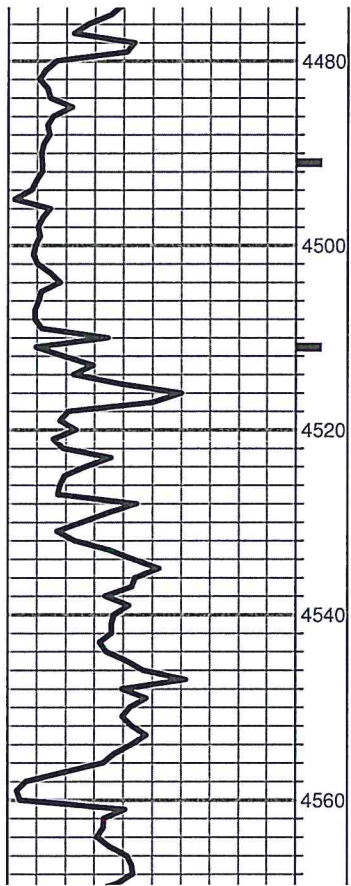
Chert: cream-white, few pieces dolomitic, mostly vitreous, opaque, sharp and blocky, no odor or show oil, edge fluorescence on chert

Circulated at 4440' Flood white chert, opaque, sharp and blocky, no odor in fresh, moderate fluorescence, few pieces when broken light film oil

Chert: as above, with trace finely sucrosic dolomite, brown-white, some chalky material, few pieces gray dolomite, medium crystalline with slight show free oil

Limestone: tan, fine crystalline, dense





Simpson Shale 4479' (-2820)
Simpson Sand 4485' (-2826)

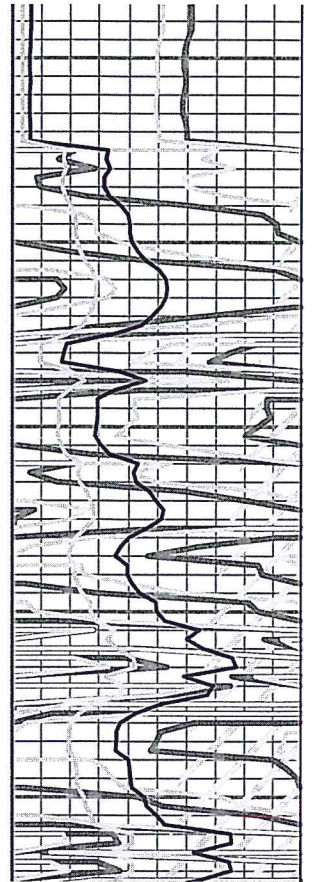
Circulated at 4490' Mostly varicolored shales, some turquoise, pale blue, waxy, few sandstone clusters, looks tite, no shows

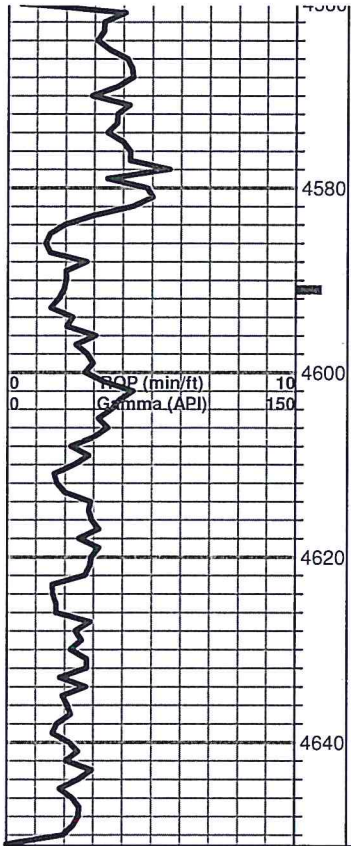
Circulated at 4510' Sandstone clusters: brown, fine grained, poor to moderate friability, abundant clear, sub rounded sandstone grains in bottom of tray, no shows

Shales: varicolored with tite sandstone, flakes of oil or tarry oil, no odor or fluorescence

Shale: turquoise-blue-green, rare sandstone clusters, no show

Shale: Simpson type





Shale: Simpson type

Shale: Simpson type

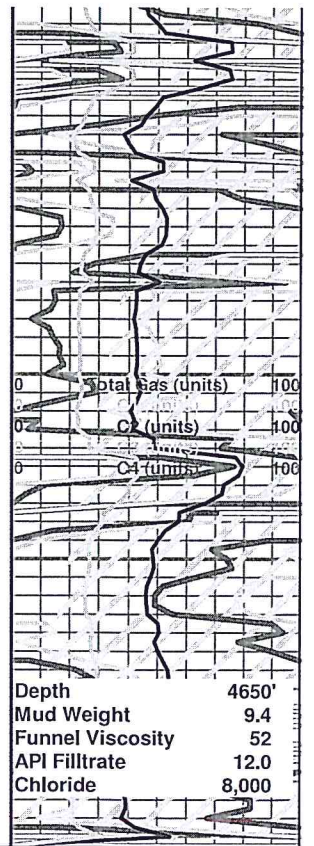
Arbuckle 4587' (-2928)

Circulated at 4590' Dolomite: light tan, fine crystalline, sucrosic, poor visible inter-crystalline porosity, no shows

Poor quality sample, lots of shale and some light brown dolomite, sucrosic, lots of white vitreous chert, no shows

Poor quality sample, sample as above

Poor quality sample, mostly shale and white chert with trace light brown dolomite, no shows



Depth	4650'
Mud Weight	9.4
Funnel Viscosity	52
API Filltrate	12.0
Chloride	8,000

QUALITY WELL SERVICE, INC.

6904

Federal Tax I.D. # 481187368

Home Office 30060 N. Hwy 281, Pratt, KS 67124

Mailing Address P.O. Box 468

Office 620-727-3410

Fax 620-672-3663

Rich's Cell 620-727-3409

Brady's Cell 620-727-6964

Handwritten: C-1820

Date	8-18-18	Sec.	9	Twp.	31	Range	14	County	Barber	State	KS	On Location	1:30	Finish	3:30
Lease	Mills	Well No.	2		Location										
Contractor	WW 4				Owner										
Type Job	Surface				To Quality Well Service, 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.		266										
Csg.	8 5/8		Depth		266										
Tbg. Size			Depth		Charge To Griffin										
Tool			Depth		Street										
Cement Left in Csg.	20'		Shoe Joint		City										
Meas Line			Displace		State										
			Shoe Joint		The above was done to satisfaction and supervision of owner agent or contractor.										
			Displace		Cement Amount Ordered										
			15 bbls		2255. Common 2% Gel										
EQUIPMENT										3% CC 1/4 C.F.					
Pumptrk	8	No.			Common 225										
Bulktrk	10	No.			Poz. Mix										
Bulktrk		No.			Gel. 4										
Pickup		No.			Calcium 8										
JOB SERVICES & REMARKS										Hulls					
Rat Hole										Salt					
Mouse Hole										Flowseal 5625					
Centralizers										Kol-Seal					
Baskets										Mud CLR 48					
D/V or Port Collar										CFL-117 or CD110 CAF 38					
Ran 6 jts 8 5/8. Broke circulation with rig. Mixed 2255x common 2% Gel, 3% CC 1/4 C.F. Displaced 15 bbls H2O shut in. Cement circulated to surface.										Sand					
										Handling 237					
										Mileage 20					
										FLOAT EQUIPMENT					
										Guide Shoe					
										Centralizer					
										Baskets					
										AFU Inserts					
										Float Shoe					
										Latch Down					
										LMV 20					
										Service Supervisor					
										Pumptrk Charge Surface					
										Mileage 40					
										Tax					
										Discount					
X Signature										Total Charge					

QUALITY WELL SERVICE, INC.

6910

Federal Tax I.D. # 481187368

Home Office 30060 N. Hwy 281, Pratt, KS 67124

Mailing Address P.O. Box 468

Office 620-727-3410
Fax 620-672-3663

Rich's Cell 620-727-3409
Brady's Cell 620-727-6964

JW
C-1827

Date	Sec.	Twp.	Range	County	State	On Location	Finish
8-26-13	9	31S	14W	Barber	Ks		
Lease Mills	Well No. 2		Location Lake City West: N into				
Contractor W.W. Dalg. P. 4				Owner			
Type Job 5 1/2 LS	T.D. 4730'			To Quality Well Service, 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 7 7/8	Depth 46.5495			Charge To Geiffin Management LLC			
Csg. 5 1/2 15.5	Depth			Street			
Tbg. Size	Depth			City State			
Tool	Depth			City State			
Cement Left in Csg. 21.01	Shoe Joint 21.01			The above was done to satisfaction and supervision of owner agent or contractor.			
Meas Line	Displace 110.29			Cement Amount Ordered 250 sx Pro C 2% GEL			
EQUIPMENT				10% Salt 5 1/2 sx ROSEAL .75% C110A			
Pumptrk 8 No. SCOTT				Common 250 sx			
Bulktrk 10 No. TS				Poz. Mix			
Bulktrk No.				Gel. 5 sx			
Pickup No. T000				Calcium 1			
JOB SERVICES & REMARKS				Hulls			
Rat Hole 25				Salt 30 sx			
Mouse Hole				Flowseal			
Centralizers 1-2-3-4-5				Kol-Seal 1375 lbs			
Baskets TOP OF 1" J				Mud CLR 48 500 gal			
D/V or Port Collar				CFL-148 or CD110 CAF 38 193.88			
RUN 100' H's 5 1/2 15.5 "CSG SET @ 46.5495				Sand CC-1 10 gal			
CSG ON BOTTOM DROP BALL HOOK UP TO CSG				Handling 285			
BREAK CIRC W/REG				Mileage 20			
START Pumping P. 1 floches 10 Bbl H ₂ O 12 Bbl MF				5 1/2 FLOAT EQUIPMENT			
5 Bbl H ₂ O Plug P-Hole 25 sx Pro C				Guide Shoe 5 1/2 H: manifold			
START mix: Pump 225 sx Pro C @ 14.8" gal				Centralizer 5 EA			
SHUT DOWN Wash up tkl 1 Linc Release 5 1/2 L				Baskets 1 EA			
START DISP W/2% KCL 7 BPM 0"				AFU Inserts			
1st pi 30 out 500"				Float Shoe 1 EA			
Slow Rate 35 out 600" SBM				Latch Down 1 EA			
Land Plug 1000" 2 BPM 1:05 PM				SERVICE SUPERVISOR 1 EA			
Pi up 1500"				LMV 20			
RELEASE PSI HELD 1:07 PM				Pumptrk Charge Longstrains			
1/2 Bbl BACK				Mileage 40			
THANK YOU PLEASE CALL AGAIN				Tax Discount Total Charge			
T000 TS Scott							
X Signature <i>[Signature]</i>							



DRILL STEM TEST REPORT

Prepared For: **Charles N Griffin**

PO Box 347
Pratt, KS 67124

ATTN: Bruce Reed

Mills #2

9-31S-14W Pratt,KS

Start Date: 2018.08.24 @ 01:30:34

End Date: 2018.08.24 @ 10:46:21

Job Ticket #: 63958 DST #: 1

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2018.08.28 @ 07:51:25

Charles N Griffin
9-31S-14W Pratt,KS
Mills #2
DST # 1
Viola
2018.08.24



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Charles N Griffin

9-31S-14W Pratt,KS

PO Box 347
Pratt, KS 67124

Mills #2

Job Ticket: 63958

DST#: 1

ATTN: Bruce Reed

Test Start: 2018.08.24 @ 01:30:34

GENERAL INFORMATION:

Formation: **Viola**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:39:36

Time Test Ended: 10:46:21

Test Type: Conventional Bottom Hole (Initial)

Tester: Leal Cason

Unit No: 74

Interval: **4395.00 ft (KB) To 4440.00 ft (KB) (TVD)**

Reference Elevations: 1659.00 ft (KB)

Total Depth: 4440.00 ft (KB) (TVD)

1654.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 6749 Outside

Press@RunDepth: 37.62 psig @ 4396.00 ft (KB)

Capacity: psig

Start Date: 2018.08.24

End Date:

2018.08.24

Last Calib.: 2018.08.24

Start Time: 01:30:35

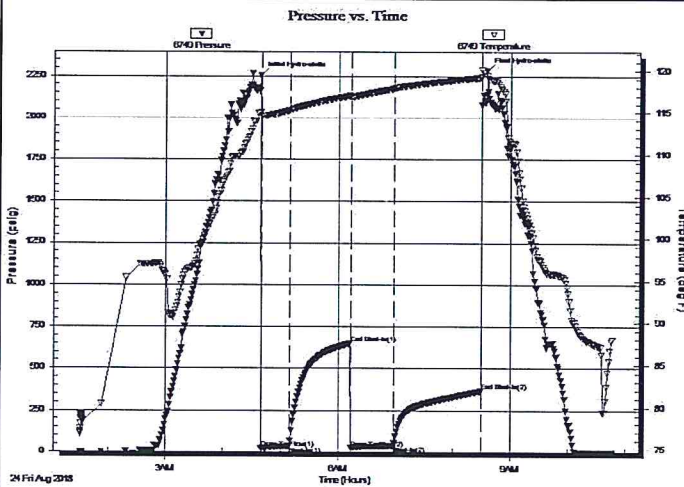
End Time:

10:46:21

Time On Btm: 2018.08.24 @ 04:38:36

Time Off Btm: 2018.08.24 @ 08:35:21

TEST COMMENT: IF: Strong Blow, BOB in 30 seconds Built to 207"
IS: No Blow Back
FF: Strong Blow, BOB Immediate, Built to 151"
FSI: No Blow Back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2252.70	115.02	Initial Hydro-static
1	21.06	114.58	Open To Flow (1)
31	35.16	115.29	Shut-In(1)
94	647.84	116.99	End Shut-In(1)
95	23.33	116.92	Open To Flow (2)
140	37.62	117.86	Shut-In(2)
232	365.34	119.25	End Shut-In(2)
237	2282.37	119.36	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	2300 GIP	0.00
55.00	GSY OCM 10%G 10%O 80%M	0.27

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (MMcf/d)



DRILL STEM TEST REPORT

Charles N Griffin 9-31S-14W Pratt,KS

PO Box 347 Mills #2
 Pratt, KS 67124 Job Ticket: 63958 DST#: 1

ATTN: Bruce Reed Test Start: 2018.08.24 @ 01:30:34

GENERAL INFORMATION:

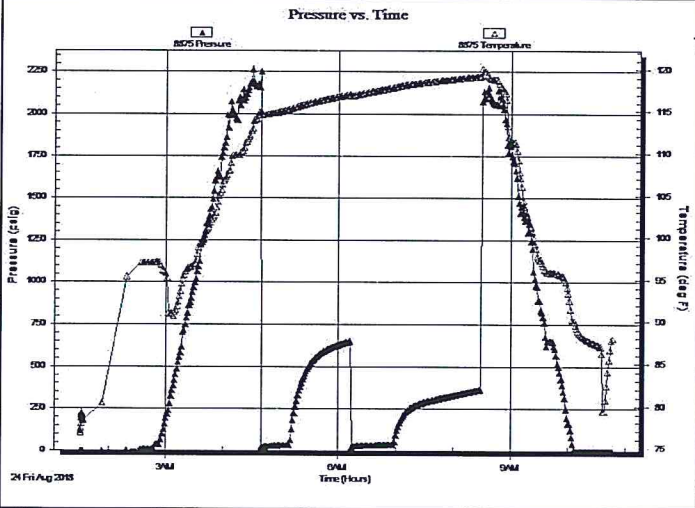
Formation: **Viola**
 Deviated: **No Whipstock: ft (KB)** Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 04:39:36 Tester: Leal Cason
 Time Test Ended: 10:46:21 Unit No: 74

Interval: **4395.00 ft (KB) To 4440.00 ft (KB) (TVD)** Reference Elevations: 1659.00 ft (KB)
 Total Depth: **4440.00 ft (KB) (TVD)** 1654.00 ft (CF)
 Hole Diameter: **7.88 inches** Hole Condition: **Good** KB to GR/CF: 5.00 ft

Serial #: 8875 Inside

Press@RunDepth:	psig @	4396.00 ft (KB)	Capacity:	psig	
Start Date:	2018.08.24	End Date:	2018.08.24	Last Calib.:	2018.08.24
Start Time:	01:30:46	End Time:	10:46:32	Time On Btm:	
				Time Off Btm:	

TEST COMMENT: IF: Strong Blow, BOB in 30 seconds Built to 207"
 IS: No Blow Back
 FF: Strong Blow, BOB Immediate, Built to 151"
 FSI: No Blow Back



PRESSURE SUMMARY

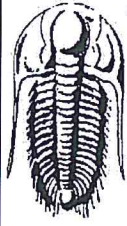
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
0.00	2300 GIP	0.00
55.00	GSY OCM 10%G 10%O 80%M	0.27

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (MMcfd)



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Charles N Griffin

9-31S-14W Pratt,KS

PO Box 347
Pratt, KS 67124

Mills #2

Job Ticket: 63958

DST#: 1

ATTN: Bruce Reed

Test Start: 2018.08.24 @ 01:30:34

Tool Information

Drill Pipe:	Length: 4332.00 ft	Diameter: 3.80 inches	Volume: 60.77 bbl	Tool Weight: 2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 61.00 ft	Diameter: 2.25 inches	Volume: 0.30 bbl	Weight to Pull Loose: 70000.00 lb
			Total Volume: 61.07 bbl	Tool Chased ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	4395.00 ft			Final 57000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	45.00 ft			
Tool Length:	64.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4381.00	
Hydraulic tool	5.00			4386.00	
Packer	5.00			4391.00	19.00 Bottom Of Top Packer
Packer	4.00			4395.00	
Stubb	1.00			4396.00	
Recorder	0.00	8875	Inside	4396.00	
Recorder	0.00	6749	Outside	4396.00	
Perforations	7.00			4403.00	
Change Over Sub	1.00			4404.00	
Drill Pipe	32.00			4436.00	
Change Over Sub	1.00			4437.00	
Bullnose	3.00			4440.00	45.00 Bottom Packers & Anchor

Total Tool Length: 64.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Charles N Griffin

9-31S-14W Pratt,KS

PO Box 347
Pratt, KS 67124

Mills #2

Job Ticket: 63958

DST#: 1

ATTN: Bruce Reed

Test Start: 2018.08.24 @ 01:30:34

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 60.00 sec/qt	Cushion Volume: bbl		
Water Loss: 10.39 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 7000.00 ppm			
Filter Cake: 0.02 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	2300 GIP	0.000
55.00	GSY OCM 10%G 10%O 80%M	0.270

Total Length: 55.00 ft Total Volume: 0.270 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:

Serial #: 6749

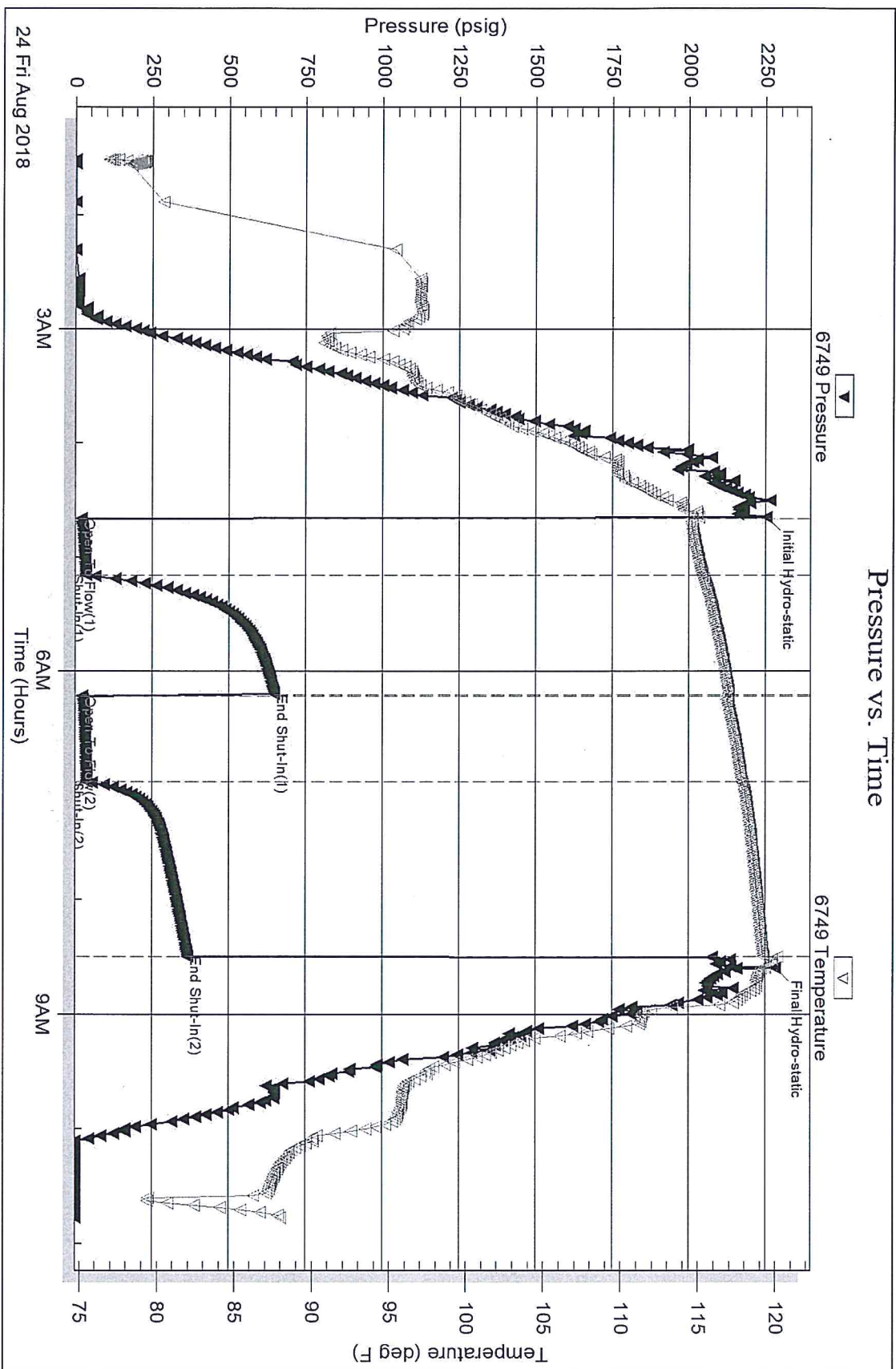
Outside

Charles N Griffin

Mills #2

DST Test Number: 1

Pressure vs. Time



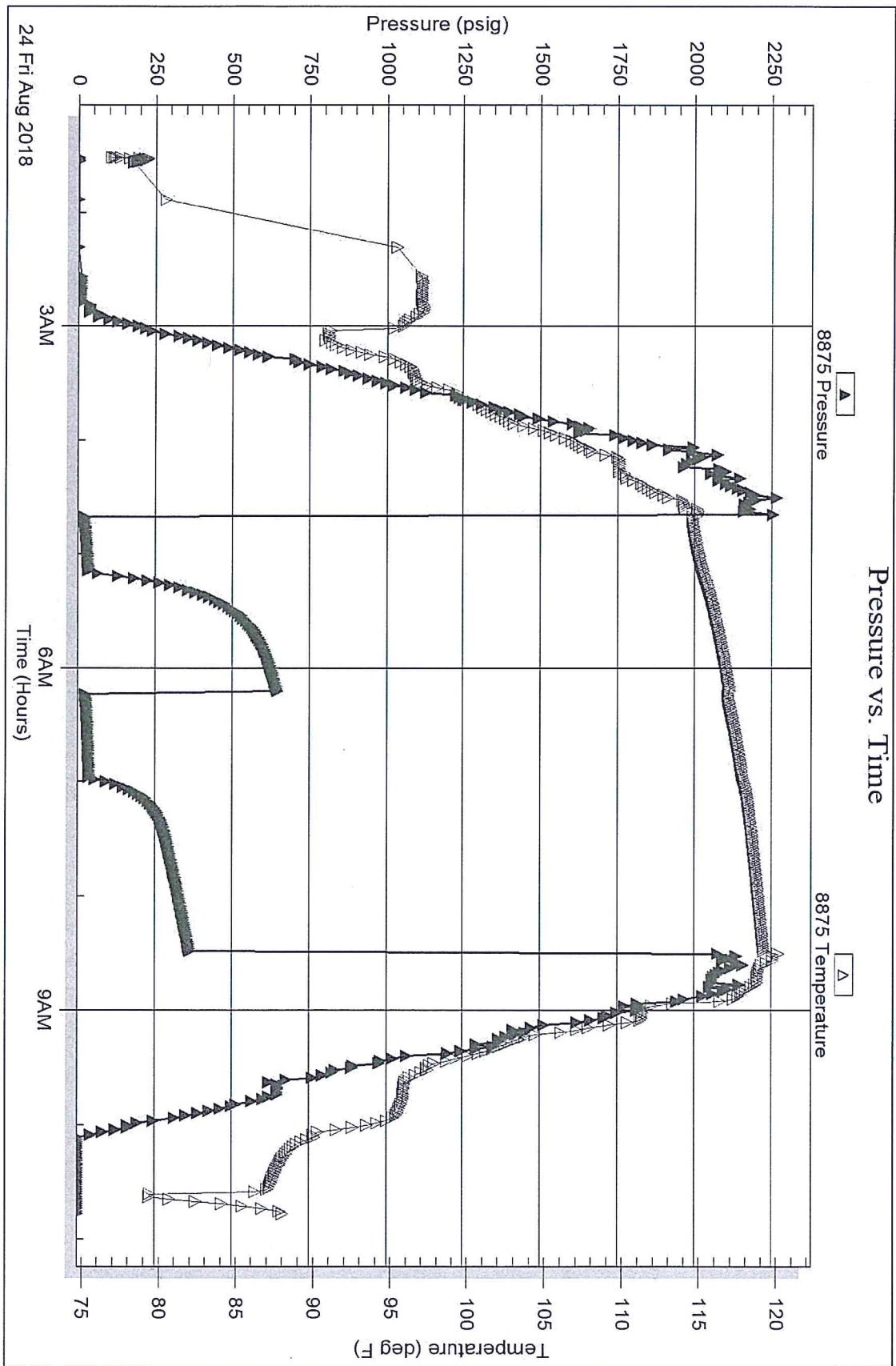
Serial #: 8875

Inside

Charles N Griffin

Mills #2

DST Test Number: 1





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 63958

Well Name & No. Mills 2 Test No. 1 Date 08/24/18
 Company Charles M. Griffin Elevation 1659 KB 1654 GL
 Address PO Box 347 Pratt, KS 67124
 Co. Rep / Geo. Bruce Reed Rig Ww 4
 Location: Sec. 9 Twp 31S Rge. 14W Co. Barber State KS

Interval Tested 4395 - 4440 Zone Tested Viola
 Anchor Length 45 Drill Pipe Run 4332 Mud Wt. 9.4
 Top Packer Depth 4390 Drill Collars Run 61 Vls 60
 Bottom Packer Depth 4395 Wt. Pipe Run 0 WL 10.4
 Total Depth 4440 Chlorides 7000 ppm System LCM 1#

Blow Description IF: Strong Blow, BOB in 30 seconds, Built to 207 inches
ISI: NO Blow Back

FF: Strong Blow, BOB Immediate, Built to 151 inches
FST: NO Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>2300</u>	<u>6IP</u>				
<u>55</u>	<u>GSYOCM</u>	<u>10%</u>	<u>10%</u>		<u>80%</u>

Rec Total 55 BHT 120 Gravity NIC API RW NIC @ NIC F Chlorides NIC ppm

(A) Initial Hydrostatic 2257 Test 1150 T-On Location 01:00
 (B) First Initial Flow 21 Jars _____ T-Started 01:30
 (C) First Final Flow 35 Safety Joint _____ T-Open 04:39
 (D) Initial Shut-In 648 Circ Sub _____ T-Pulled 08:29
 (E) Second Initial Flow 23 Hourly Standby _____ T-Out 10:46
 (F) Second Final Flow 38 Mileage 1002 200 Comments Loaded Tools
 (G) Final Shut-In 765 Sampler _____ @ 10:00 on 08/25
 (H) Final Hydrostatic 2282 Straddle _____
 Shale Packer _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Initial Open 30 Ruined Shale Packer _____
 Initial Shut-In 60 Ruined Packer _____
 Final Flow 45 Extra Copies _____
 Final Shut-In 90 Sub Total 0
 Total 1350
 MP/DST Disc't _____
 Sub Total 1350

Approved By Bruce Reed Our Representative _____

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the note shall be paid for at cost by the party for whom the test is made.