

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](mailto: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) (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	F. G. Holl Company L.L.C.
Well Name	MILLARD TRUST 2-31
Doc ID	1419336

All Electric Logs Run

CNL/CDL
CPI
Microresistivity
Cement Bond

Form	ACO1 - Well Completion
Operator	F. G. Holl Company L.L.C.
Well Name	MILLARD TRUST 2-31
Doc ID	1419336

Tops

Name	Top	Datum
Herrington	1680	+209
Winfield	1727	+162
Towanda	1800	+89
Fort Riley	1842	+47
Florence	1900	-11
B/ Florence	1946	-57
Kinney LS	1962	-73
Wrefold	1994	-105
Council Grove	2012	-123
Crouse	2049	-160
Neva	2189	-300
Red Eagle	2256	-367
Onaga Shale	2406	-517
Wabaunsee	2416	-527
Root Shale	2503	-614
Stotler	2538	-649
Willard Shale	2562	-673
Tarkio	2595	-706
Howard	2670	-781
Severy Shale	2704	-815
Topeka	2734	-845
Queen Hill Shale	2905	-1016
King Hill Shale	2974	-1085
Heebner	3060	-1171

Form	ACO1 - Well Completion
Operator	F. G. Holl Company L.L.C.
Well Name	MILLARD TRUST 2-31
Doc ID	1419336

Tops

Name	Top	Datum
Toronto	3066	-1177
Douglas Shale	3081	-1192
Brown Lime	3143	-1254
Lansing	3158	-1269
Drum	3283	-1394
BKC	3371	-1482
Conglomerate	3379	-1490
Arbuckle	3401	-1512
RTD	3650	-1761
LTD	3651	-1762

Form	ACO1 - Well Completion
Operator	F. G. Holl Company L.L.C.
Well Name	MILLARD TRUST 2-31
Doc ID	1419336

#### Perforations

Shots Per Foot	Perforation Top	Perforation Bottom	BridgePlugType	BridgePlugSet At	Material Record
4	3400	3404			Spotted 500 gal 10% Acetic acid - Arbuckle
4	3344	3350			150 gal 15% MOD 202 acid on Arbuckle perms.
4	3360	3364			Retreat Arbuckle perms w/ 250 gal 15% MOD 202
					Retreat Arbuckle perms w/ 500 gal 15% MOD 202
					Retreat Arbuckle perms w/ 1000 gal 20% nefe acid
					Spotted 500 gal 15% nefe acid on LKC "K" & "L" perms.
					Treat K & L zones with 1500 gal 15% nefe acid



# Mud-Co / Service Mud Inc.

Operator **FG Holl** County **Barton** State **Kansas** Pump **6** X **15** X **60** SPM Casing Program **8 5/8 " @ 856 ft.**  
 Well **Millard Trust #2-31** Location \_\_\_\_\_ GPM **7.78** BPM \_\_\_\_\_ ft.  
 Contractor **Duke #8** Sec **31 TWP 18S RNG 13W** D.P. **4.5** in. \_\_\_\_\_ ft.  
 Stockpoint **Pratt, Ks.** Date **8/13/2018** Engineer **Jason Whiting** Collar **6.25** in. **450** ft. **349** FT/MIN R.A. \_\_\_\_\_ ft.  
 Total Depth **3650** ft.

DATE	DEPTH feet	WEIGHT lb/gal	VISCOSITY			GELS 10 sec / 10 min.	pH	FILTRATION/ILTRATION ANALYSIS					SAND %	RETORT			L.C.M.	Pump Press. PSI	CUMULATIVE COST	REMARKS AND TREATMENT
			Sec API @ F	PV @ F	Yp			ml API	Cake 32nds	Pres. #/BBL	Cl ppm	Ca ppm		Solids %	Oil %	Water %				
8/13	0																			
8/14	856																			
8/15	1314	9.3	30	2	4	0/0	11.0	N/C	-			38M	Hvy	4.9		95.1				
8/16	2095	9.5	36	5	13	15/19	7.0	16.4	4			35M	Hvy	6.5		93.5				
8/17	2666	8.6	63	15	22	16/39	11.5	8.0	1			2,500	20	2.0		98.0				
8/18	3151	9.1	58	16	22	21/53	9.5	9.2	2			9,000	60	5.2		94.8				
8/19	3214	9.1	56	16	17	13/32	9.5	8.8	2			7,500	40	5.3		94.7				
8/20	3225	9.0	44	10	14	13/35	9.0	12.4	2			10.5M	160	4.0		96.0				
8/21	3295	9.0	49	10	23	23/33	9.0	24.0	4			24M	240	4.3		95.7				
8/21	3305	8.8	84	21	34	22/46	12.0	7.6	1			4,600	20	3.3		96.7				
8/22	3341	8.7	52	12	14	11/33	11.5	8.0	2			8,900	40	2.4		97.6				
8/23	3410	8.8	58	13	15	13/52	11.0	8.0	1			9,400	40	3.1		96.9				
8/24	3650	9.2	58	15	15	12/53	10.5	9.6	2			11M	40	5.7		94.3				
8/25	3650																			

**RURT**  
 Run SP  
 Drlg. Starch displacement ~1600  
 Drlg. Chem displacement @ 2586  
 Drlg. DST #1 @ 3214  
 Short Trip DST #2 @ 3225  
 TIH w/Bit Heavy rains 8-18 causing  
 TIH w/Bit system and product damage  
 CCM DST #3 @ 3246  
 Drlg. DST #4 @ 3295  
 CFS Hit bridges on DST #3 & 4  
 DST #7 but got valid tests - No bridges  
 TOH for log or fill with bit after tests  
 Final: Chloride content up after  
 LTD - 3651'. DST #4 - minidispaced  
 7 DST's. DST #5 @ 3315  
 Run Casing. DST #6 @ 3371  
 DST #7 @ 3410

Resrve Pit, Chl content ppm: 23,000  
 Estimated Volume: 600 bbls or les of free fluids

**MUD-CO / SERVICE MUD INC.**

100 S. Main Suite #310  
 Wichita, Ks. 67202  
 316/264-2814 Fax: 316/264-5024

**DRILLING MUD RECAP**

Materials	Sacks	Amount
C/S HULLS	45	
CAUSTIC SODA	23	
DESCO	4	
DRILL PAK	12	
LIME	8	
PREMIUM GEL	385	
SAPP	2	
SODA ASH	22	
STARCH	44	
SUPER LIG	17	

Materials	Sacks	Amount	Amount
X-CIDE 102W	1	335.00	
Total Mud Cost			
Trucking Cost			
Trucking Surcharge			
Taxes			
<b>TOTAL COST</b>			





## DRILL STEM TEST REPORT

Prepared For: **F G Holl Company LLC**

9431 East Central Suite 100  
Wichita ,Kansas 67206 2663

ATTN: Ryan Greenbaum

**Millard Trust #2-31**

**31-18s-13w Barton**

Start Date: 2018.08.19 @ 20:50:00

End Date: 2018.08.19 @ 04:09:00

Job Ticket #: 01096                      DST #: 1

Eagle Testers  
1309 Patton Road    Great Bend, Kansas 67530  
620-791-7394

Printed: 2018.08.19 @ 04:30:29



# DRILL STEM TEST REPORT

F G Holl Company LLC

**31-18s-13w Barton**

9431 East Central Suite 100  
Wichita ,Kansas 67206 2663

**Millard Trust #2-31**

ATTN: Ryan Greenbaum

Job Ticket: 01096

**DST#: 1**

Test Start: 2018.08.19 @ 20:50:00

## GENERAL INFORMATION:

Formation: **Kansas City "A-D"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 23:22:00  
 Time Test Ended: 04:09:00  
 Interval: **3148.00 ft (KB) To 3214.00 ft (KB) (TVD)**  
 Total Depth: 3214.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Gene Budig  
 Unit No: 1  
 Reference Elevations: 1889.00 ft (KB)  
 1881.00 ft (CF)  
 KB to GR/CF: 8.00 ft

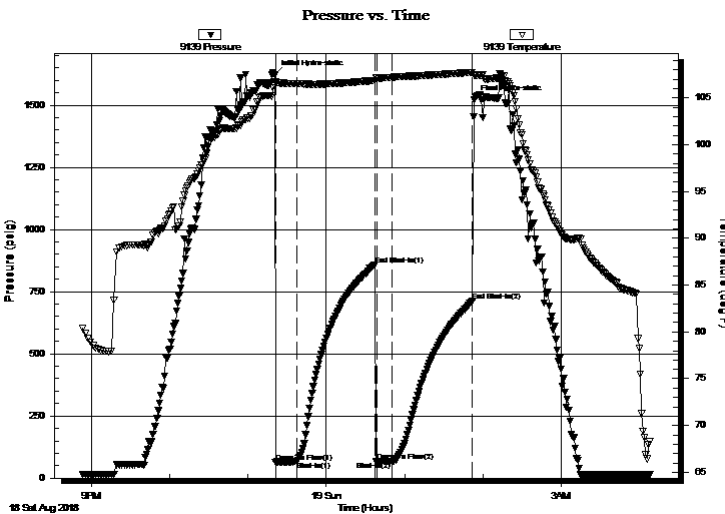
## Serial #: 9139

**Outside**

Press@RunDepth: 711.59 psig @ 3208.97 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2018.08.18 End Date: 2018.08.19 Last Calib.: 2018.08.19  
 Start Time: 20:53:00 End Time: 04:08:00 Time On Btm: 2018.08.18 @ 23:20:30  
 Time Off Btm: 2018.08.19 @ 01:53:30

**TEST COMMENT:** 1st Opening 15 Minutes weak blow for 9 minutes and died  
 1st Shut-In 60 Minutes no blow back  
 2nd Opening 15 Minutes no blow  
 2nd Shut-In 60 Minutes no blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1621.33	106.30	Initial Hydro-static
1	64.89	106.69	Open To Flow (1)
17	66.36	106.51	Shut-In(1)
77	857.69	106.85	End Shut-In(1)
78	66.64	107.12	Open To Flow (2)
90	66.67	107.19	Shut-In(2)
152	711.59	107.72	End Shut-In(2)
153	1521.10	107.44	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	Drilling	0.28
0.00	fair show of oil between the tools	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

F G Holl Company LLC

**31-18s-13w Barton**

9431 East Central Suite 100  
Wichita ,Kansas 67206 2663

**Millard Trust #2-31**

ATTN: Ryan Greenbaum

Job Ticket: 01096

**DST#: 1**

Test Start: 2018.08.19 @ 20:50:00

## GENERAL INFORMATION:

Formation: **Kansas City "A-D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:22:00

Time Test Ended: 04:09:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Gene Budig

Unit No: 1

**Interval: 3148.00 ft (KB) To 3214.00 ft (KB) (TVD)**

Reference Elevations: 1889.00 ft (KB)

Total Depth: 3214.00 ft (KB) (TVD)

1881.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 9119**

**Inside**

Press@RunDepth: 702.55 psig @ 3208.97 ft (KB)

Capacity: 5000.00 psig

Start Date: 2018.08.18

End Date: 2018.08.19

Last Calib.: 2018.08.19

Start Time: 20:53:00

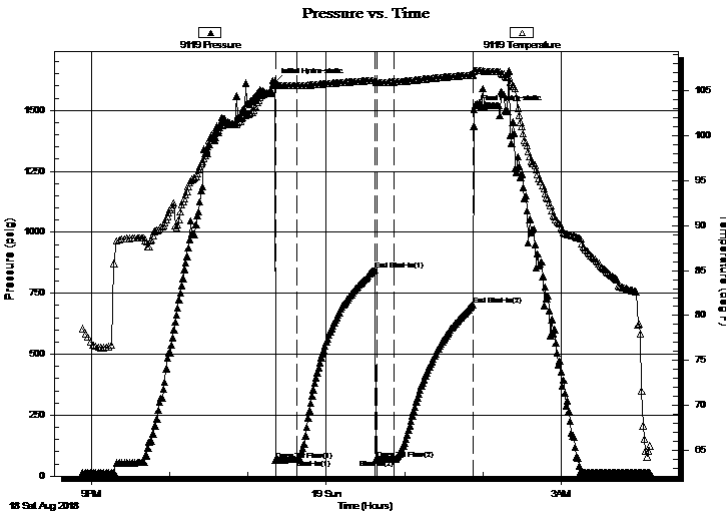
End Time: 04:08:00

Time On Btm: 2018.08.18 @ 23:20:30

Time Off Btm: 2018.08.19 @ 01:53:30

**TEST COMMENT:** 1st Opening 15 Minutes weak blow for 9 minutes and died  
1st Shut-In 60 Minutes no blow back  
2nd Opening 15 Minutes no blow  
2nd Shut-In 60 Minutes no blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1612.37	106.10	Initial Hydro-static
1	66.63	105.61	Open To Flow (1)
17	67.91	105.59	Shut-In(1)
77	846.17	106.18	End Shut-In(1)
78	68.96	105.95	Open To Flow (2)
92	69.08	105.98	Shut-In(2)
152	702.55	106.77	End Shut-In(2)
153	1503.42	107.23	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	Drilling	0.28
0.00	fair show of oil between the tools	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

F G Holl Company LLC

**31-18s-13w Barton**

9431 East Central Suite 100  
Wichita ,Kansas 67206 2663

**Millard Trust #2-31**

ATTN: Ryan Greenbaum

Job Ticket: 01096

**DST#: 1**

Test Start: 2018.08.19 @ 20:50:00

## Tool Information

Drill Pipe:	Length: 3139.00 ft	Diameter: 3.80 inches	Volume: 44.03 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 64000.00 lb
			<u>Total Volume: 44.03 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3148.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	65.97 ft			
Tool Length:	95.97 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3123.00	
Hydraulic tool	5.00			3128.00	
Jars	5.00			3133.00	
Safety Joint	5.00			3138.00	
Packer	5.00			3143.00	30.00 Bottom Of Top Packer
Packer	5.00		Fluid	3148.00	
Anchor	10.00			3158.00	
Change Over Sub	0.75			3158.75	
Drill Pipe	31.47			3190.22	
Change Over Sub	0.75		Inside	3190.97	
Anchor	18.00			3208.97	
Recorder	0.00	9119	Inside	3208.97	
Recorder	0.00	9139	Outside	3208.97	
Bullnose	5.00			3213.97	65.97 Bottom Packers & Anchor

**Total Tool Length: 95.97**



# DRILL STEM TEST REPORT

## FLUID SUMMARY

F G Holl Company LLC

**31-18s-13w Barton**

9431 East Central Suite 100  
Wichita ,Kansas 67206 2663

**Millard Trust #2-31**

Job Ticket: 01096

**DST#: 1**

ATTN: Ryan Greenbaum

Test Start: 2018.08.19 @ 20:50:00

### Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 58.00 sec/qt  
Water Loss: 9.19 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 9000.00 ppm  
Filter Cake: 1.00 inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psig

Oil API: deg API  
Water Salinity: ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	Drilling	0.281
0.00	fair show of oil betw een the tools	0.000

Total Length: 20.00 ft      Total Volume: 0.281 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

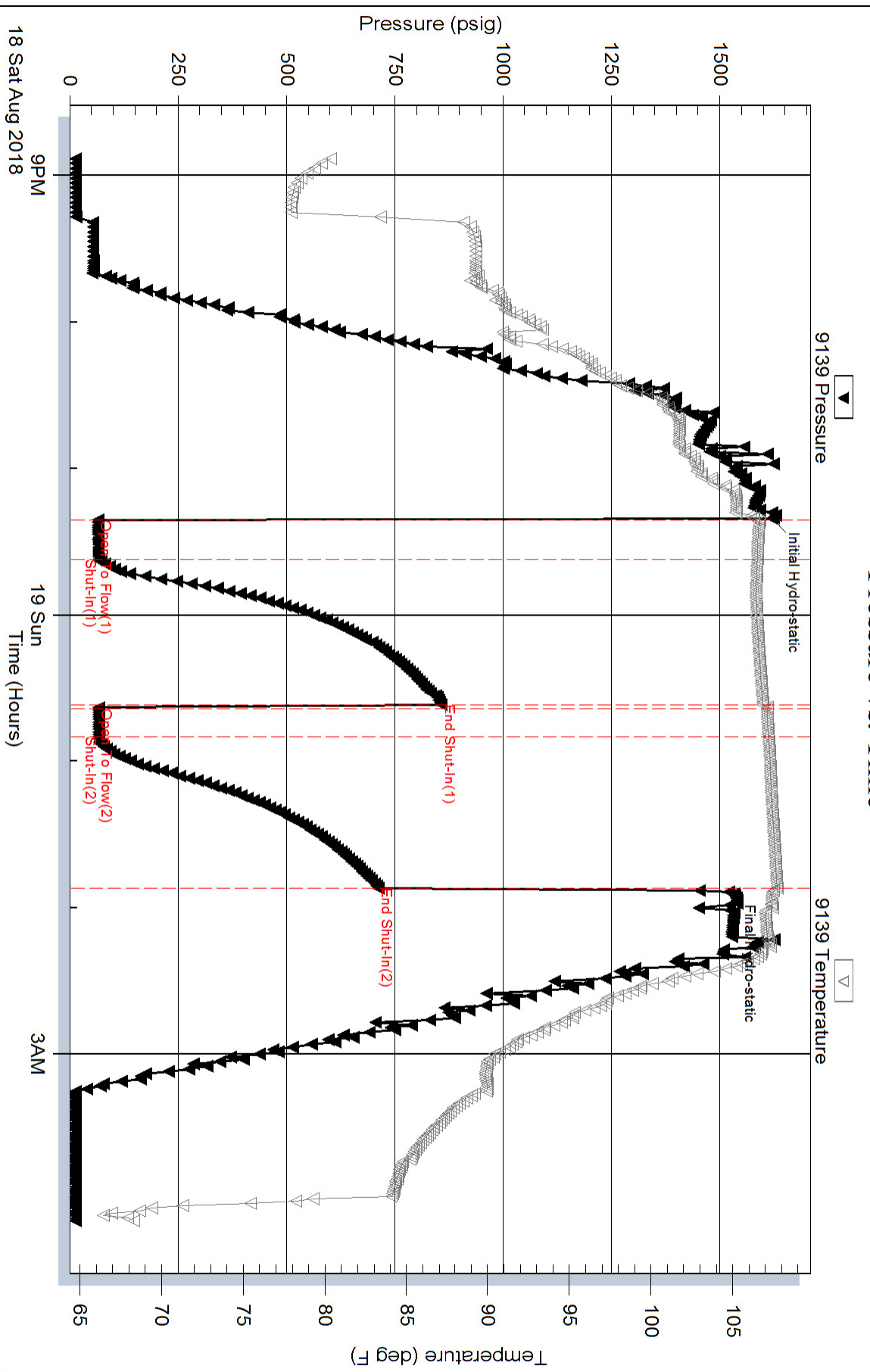
Serial #:

Laboratory Name:

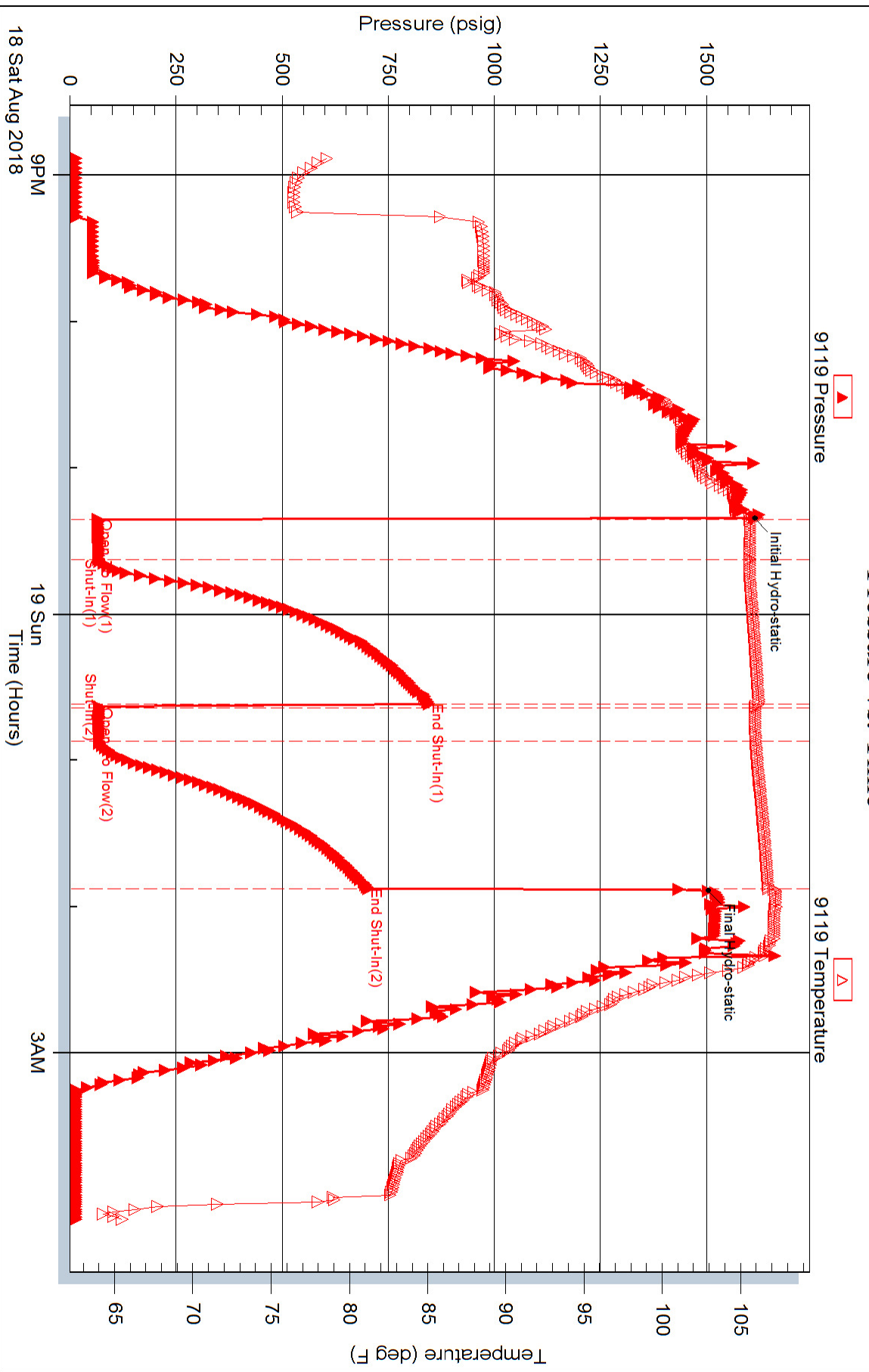
Laboratory Location:

Recovery Comments:

### Pressure vs. Time



### Pressure vs. Time





## DRILL STEM TEST REPORT

Prepared For: **F G Holl Company LLC**

9431 East Central Suite 100  
Wichita ,Kansas 67206 2663

ATTN: Ryan Greenbaum

**Millard Trust #2-31**

**31-18s-13w Barton**

Start Date: 2018.08.19 @ 15:31:00

End Date: 2018.08.19 @ 21:13:00

Job Ticket #: 01097                      DST #: 2

Eagle Testers  
1309 Patton Road    Great Bend, Kansas 67530  
620-791-7394

Printed: 2018.08.19 @ 21:26:19





# DRILL STEM TEST REPORT

F G Holl Company LLC

**31-18s-13w Barton**

9431 East Central Suite 100  
Wichita ,Kansas 67206 2663

**Millard Trust #2-31**

ATTN: Ryan Greenbaum

Job Ticket: 01097

**DST#: 2**

Test Start: 2018.08.19 @ 15:31:00

## GENERAL INFORMATION:

Formation: **Kansas City "D-F"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:27:00

Time Test Ended: 21:13:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Gene Budig

Unit No: 1

**Interval: 3210.00 ft (KB) To 3225.00 ft (KB) (TVD)**

Reference Elevations: 1889.00 ft (KB)

Total Depth: 3225.00 ft (KB) (TVD)

1881.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 9139 Outside**

Press@RunDepth: 909.02 psig @ 3220.00 ft (KB)

Capacity: 5000.00 psig

Start Date: 2018.08.19 End Date: 2018.08.19

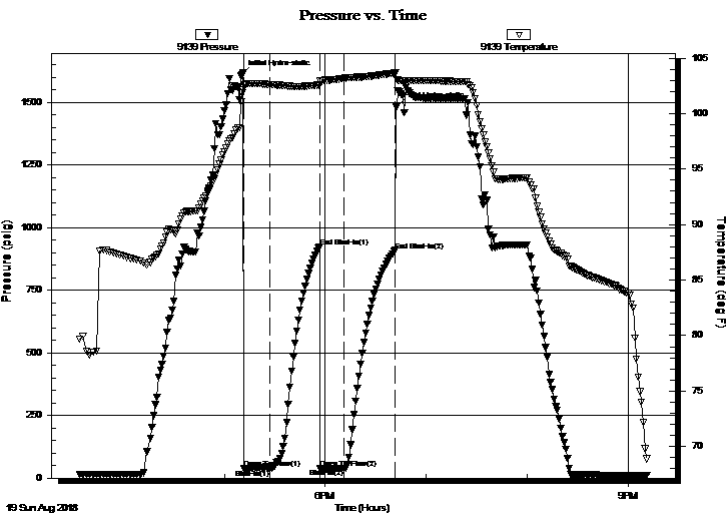
Last Calib.: 2018.08.19

Start Time: 15:34:00 End Time: 21:11:00

Time On Btm: 2018.08.19 @ 17:10:30

Time Off Btm: 2018.08.19 @ 18:42:30

**TEST COMMENT:** 1st Opening 15 Minutes weak blow for 4 minutes and died  
1st Shut-In 30 Minutes no blow back  
2nd Opening 15 Minutes No blow  
2nd Shut-In 30 Minutes no blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1609.85	101.84	Initial Hydro-static
1	37.53	102.62	Open To Flow (1)
17	37.12	102.61	Shut-In(1)
46	924.18	102.58	End Shut-In(1)
47	37.89	102.92	Open To Flow (2)
61	37.70	103.17	Shut-In(2)
91	909.02	103.66	End Shut-In(2)
92	1484.41	103.09	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	Drilling Mud	0.14

## Gas Rates

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



# DRILL STEM TEST REPORT

F G Holl Company LLC

**31-18s-13w Barton**

9431 East Central Suite 100  
Wichita ,Kansas 67206 2663

**Millard Trust #2-31**

ATTN: Ryan Greenbaum

Job Ticket: 01097

**DST#: 2**

Test Start: 2018.08.19 @ 15:31:00

## GENERAL INFORMATION:

Formation: **Kansas City "D-F"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:27:00

Time Test Ended: 21:13:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Gene Budig

Unit No: 1

**Interval: 3210.00 ft (KB) To 3225.00 ft (KB) (TVD)**

Reference Elevations: 1889.00 ft (KB)

Total Depth: 3225.00 ft (KB) (TVD)

1881.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 9119 Inside**

Press@RunDepth: 899.04 psig @ 3220.00 ft (KB)

Capacity: 5000.00 psig

Start Date: 2018.08.19 End Date: 2018.08.19

Last Calib.: 2018.08.19

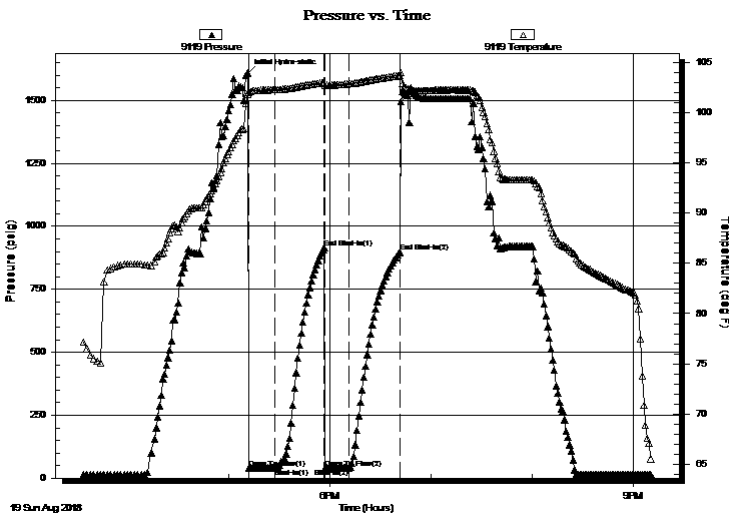
Start Time: 15:34:00 End Time: 21:10:30

Time On Btm: 2018.08.19 @ 17:11:00

Time Off Btm: 2018.08.19 @ 18:42:00

**TEST COMMENT:** 1st Opening 15 Minutes weak blow for 4 minutes and died  
1st Shut-In 30 Minutes no blow back  
2nd Opening 15 Minutes No blow  
2nd Shut-In 30 Minutes no blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1608.26	101.85	Initial Hydro-static
1	40.26	102.02	Open To Flow (1)
17	40.65	102.28	Shut-In(1)
46	914.26	102.98	End Shut-In(1)
46	40.43	102.75	Open To Flow (2)
60	40.26	102.86	Shut-In(2)
91	899.04	103.69	End Shut-In(2)
91	1495.07	104.00	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	Drilling Mud	0.14

## Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

F G Holl Company LLC

**31-18s-13w Barton**

9431 East Central Suite 100  
Wichita ,Kansas 67206 2663

**Millard Trust #2-31**

Job Ticket: 01097

**DST#: 2**

ATTN: Ryan Greenbaum

Test Start: 2018.08.19 @ 15:31:00

## Tool Information

Drill Pipe:	Length: 3202.00 ft	Diameter: 3.80 inches	Volume: 44.92 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose:	68000.00 lb
			<u>Total Volume: 44.92 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial	54000.00 lb
Depth to Top Packer:	3210.00 ft			Final	54000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	15.00 ft				
Tool Length:	45.00 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			3185.00	
Hydraulic tool	5.00			3190.00	
Jars	5.00			3195.00	
Safety Joint	5.00			3200.00	
Packer	5.00			3205.00	30.00 Bottom Of Top Packer
Packer	5.00		Fluid	3210.00	
Anchor	10.00			3220.00	
Recorder	0.00	9119	Inside	3220.00	
Recorder	0.00	9139	Outside	3220.00	
Bullnose	5.00			3225.00	15.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>45.00</b>				



# DRILL STEM TEST REPORT

## FLUID SUMMARY

F G Holl Company LLC

**31-18s-13w Barton**

9431 East Central Suite 100  
Wichita ,Kansas 67206 2663

**Millard Trust #2-31**

Job Ticket: 01097

**DST#:2**

ATTN: Ryan Greenbaum

Test Start: 2018.08.19 @ 15:31:00

### Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 56.00 sec/qt  
Water Loss: 8.79 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 7500.00 ppm  
Filter Cake: 1.00 inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psig

Oil API: deg API  
Water Salinity: ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	Drilling Mud	0.140

Total Length: 10.00 ft      Total Volume: 0.140 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

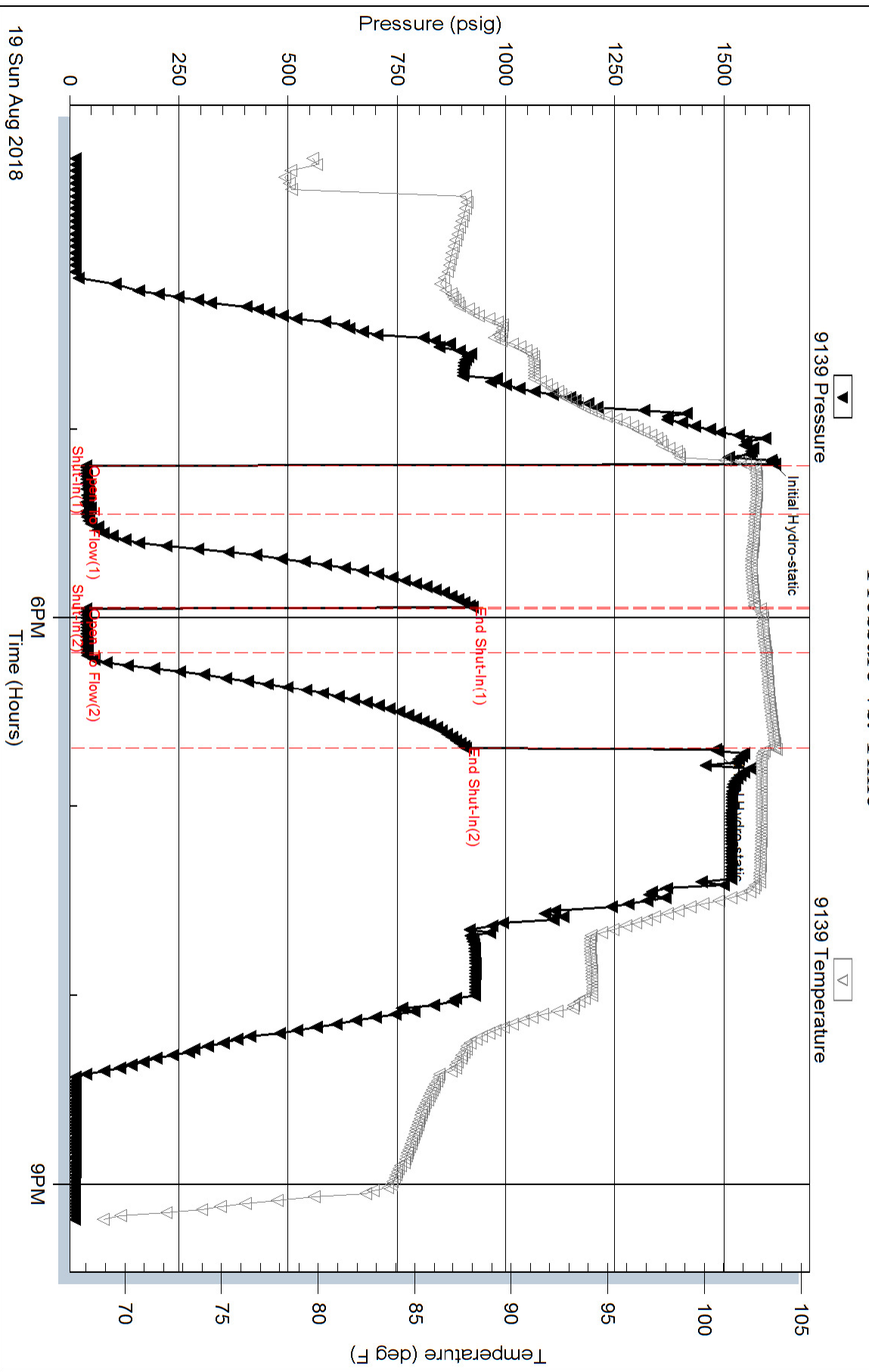
Serial #:

Laboratory Name:

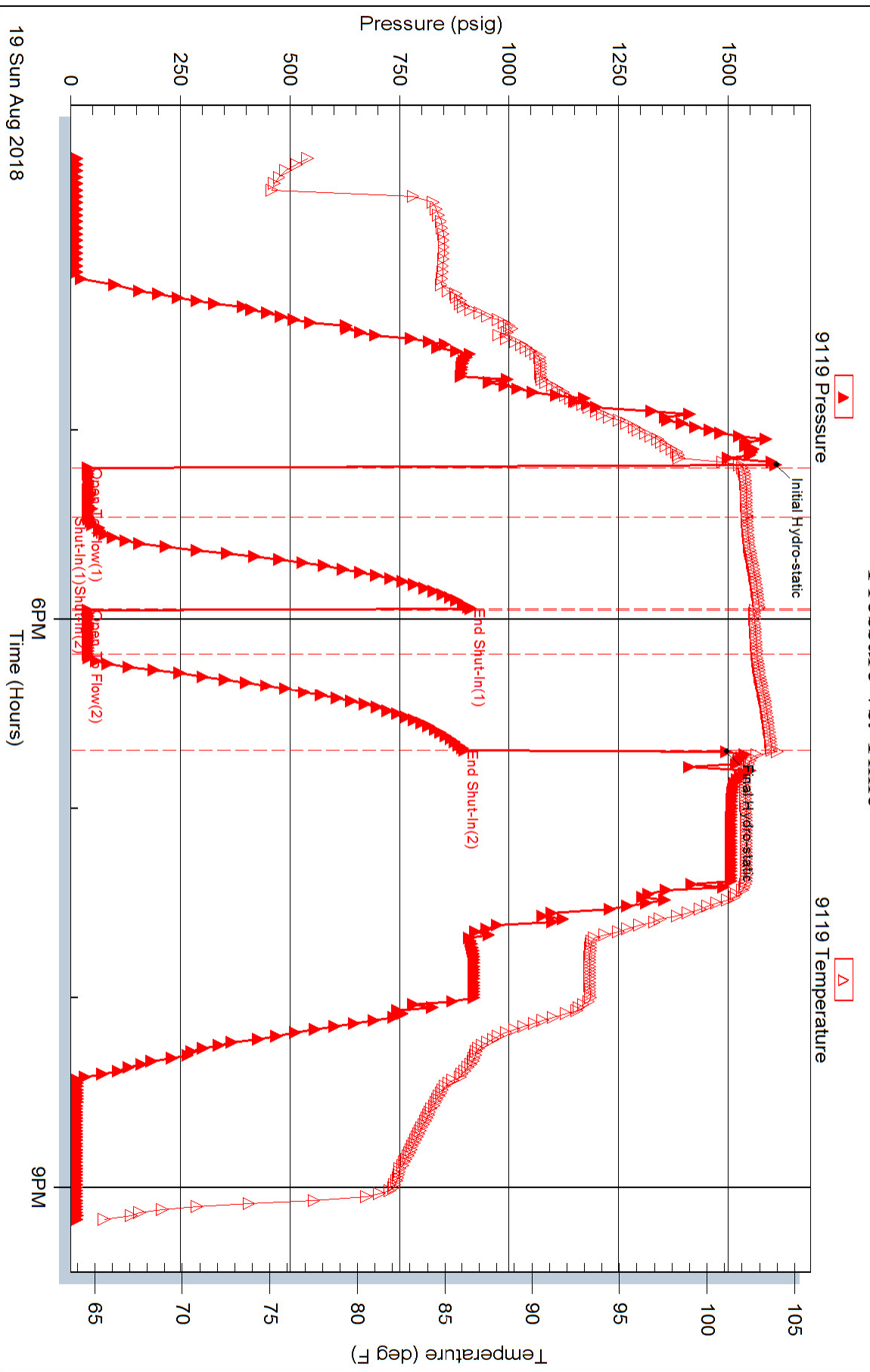
Laboratory Location:

Recovery Comments:

# Pressure vs. Time



# Pressure vs. Time





## DRILL STEM TEST REPORT

Prepared For: **F G Holl Company LLC**

9431 East Central Suite 100  
Wichita ,Kansas 67206 2663

ATTN: Ryan Greenbaum

**Millard Trust #2-31**

**31-18s-13w Barton**

Start Date: 2018.08.20 @ 15:31:00

End Date: 2018.08.20 @ 21:02:00

Job Ticket #: 01098                      DST #: 3

Eagle Testers  
1309 Patton Road    Great Bend, Kansas 67530  
620-791-7394

Printed: 2018.08.20 @ 21:20:50



# DRILL STEM TEST REPORT

F G Holl Company LLC

**31-18s-13w Barton**

9431 East Central Suite 100  
Wichita ,Kansas 67206 2663

**Millard Trust #2-31**

ATTN: Ryan Greenbaum

Job Ticket: 01098

**DST#: 3**

Test Start: 2018.08.20 @ 15:31:00

## GENERAL INFORMATION:

Formation: **Kansas City "G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:23:00

Time Test Ended: 21:02:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Gene Budig

Unit No: 1

**Interval: 32312.0 ft (KB) To 3246.00 ft (KB) (TVD)**

Reference Elevations: 1889.00 ft (KB)

Total Depth: 3246.00 ft (KB) (TVD)

1881.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 9139 Outside**

Press@RunDepth: 1025.09 psig @ 3241.00 ft (KB)

Capacity: 5000.00 psig

Start Date: 2018.08.20 End Date: 2018.08.20

Last Calib.: 2018.08.20

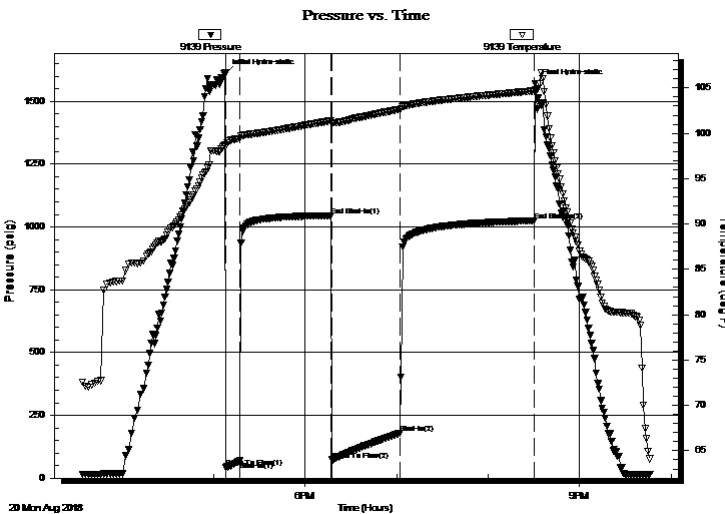
Start Time: 15:34:00 End Time: 21:46:30

Time On Btm: 2018.08.20 @ 17:07:30

Time Off Btm: 2018.08.20 @ 20:31:00

**TEST COMMENT:** 1st Opening 10 Minutes weak blow built to 8 inches  
1st Shut-In 60 Minutes no blow back  
2nd Opening 45 Minutes  
2nd Shut-In 90 Minutes

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1612.38	98.73	Initial Hydro-static
1	42.14	98.53	Open To Flow (1)
10	68.54	99.44	Shut-In(1)
70	1045.57	101.39	End Shut-In(1)
70	72.73	101.00	Open To Flow (2)
115	178.57	102.64	Shut-In(2)
203	1025.09	104.67	End Shut-In(2)
204	1572.06	104.84	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
300.00	Water Chlorides 78000	4.21

## Gas Rates

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





# DRILL STEM TEST REPORT

F G Holl Company LLC

**31-18s-13w Barton**

9431 East Central Suite 100  
Wichita ,Kansas 67206 2663

**Millard Trust #2-31**

ATTN: Ryan Greenbaum

Job Ticket: 01098

**DST#: 3**

Test Start: 2018.08.20 @ 15:31:00

## GENERAL INFORMATION:

Formation: **Kansas City "G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:23:00

Time Test Ended: 21:02:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Gene Budig

Unit No: 1

**Interval: 32312.0 ft (KB) To 3246.00 ft (KB) (TVD)**

Reference Elevations: 1889.00 ft (KB)

Total Depth: 3246.00 ft (KB) (TVD)

1881.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 9119 Inside**

Press@RunDepth: 1035.02 psig @ 3241.00 ft (KB)

Capacity: 5000.00 psig

Start Date: 2018.08.20 End Date: 2018.08.20

Last Calib.: 2018.08.20

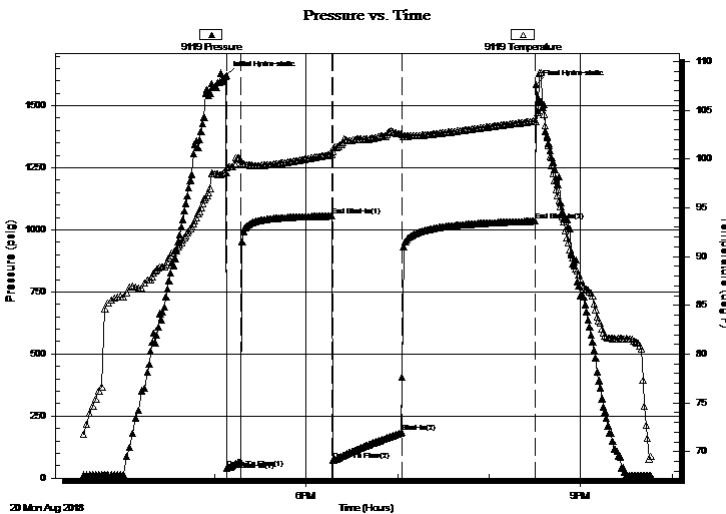
Start Time: 15:34:00 End Time: 21:46:30

Time On Btm: 2018.08.20 @ 17:07:30

Time Off Btm: 2018.08.20 @ 20:31:00

**TEST COMMENT:** 1st Opening 10 Minutes weak blow built to 8 inches  
1st Shut-In 60 Minutes no blow back  
2nd Opening 45 Minutes  
2nd Shut-In 90 Minutes

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1621.22	98.58	Initial Hydro-static
1	40.02	99.12	Open To Flow (1)
10	67.78	99.95	Shut-In(1)
70	1055.49	100.48	End Shut-In(1)
70	71.78	100.80	Open To Flow (2)
115	183.74	102.59	Shut-In(2)
203	1035.02	103.89	End Shut-In(2)
204	1585.75	103.80	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
300.00	Water Chlorides 78000	4.21

## Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

F G Holl Company LLC

**31-18s-13w Barton**

9431 East Central Suite 100  
Wichita ,Kansas 67206 2663

**Millard Trust #2-31**

ATTN: Ryan Greenbaum

Job Ticket: 01098

**DST#: 3**

Test Start: 2018.08.20 @ 15:31:00

## Tool Information

Drill Pipe:	Length: 3204.00 ft	Diameter: 3.80 inches	Volume: 44.94 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 69000.00 lb
			<u>Total Volume: 44.94 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	3.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	3231.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	15.00 ft			
Tool Length:	45.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3206.00	
Hydraulic tool	5.00			3211.00	
Jars	5.00			3216.00	
Safety Joint	5.00			3221.00	
Packer	5.00			3226.00	30.00 Bottom Of Top Packer
Packer	5.00		Fluid	3231.00	
Anchor	10.00			3241.00	
Recorder	0.00	9119	Inside	3241.00	
Recorder	0.00	9139	Outside	3241.00	
Bullnose	5.00			3246.00	15.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>45.00</b>				



# DRILL STEM TEST REPORT

## FLUID SUMMARY

F G Holl Company LLC

**31-18s-13w Barton**

9431 East Central Suite 100  
Wichita ,Kansas 67206 2663

**Millard Trust #2-31**

Job Ticket: 01098

**DST#: 3**

ATTN: Ryan Greenbaum

Test Start: 2018.08.20 @ 15:31:00

### 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: 44.00 sec/qt

Cushion Volume: bbl

Water Loss: 12.39 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure: psig

Salinity: 12.40 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
300.00	Water Chlorides 78000	4.208

Total Length: 300.00 ft      Total Volume: 4.208 bbl

Num Fluid Samples: 0

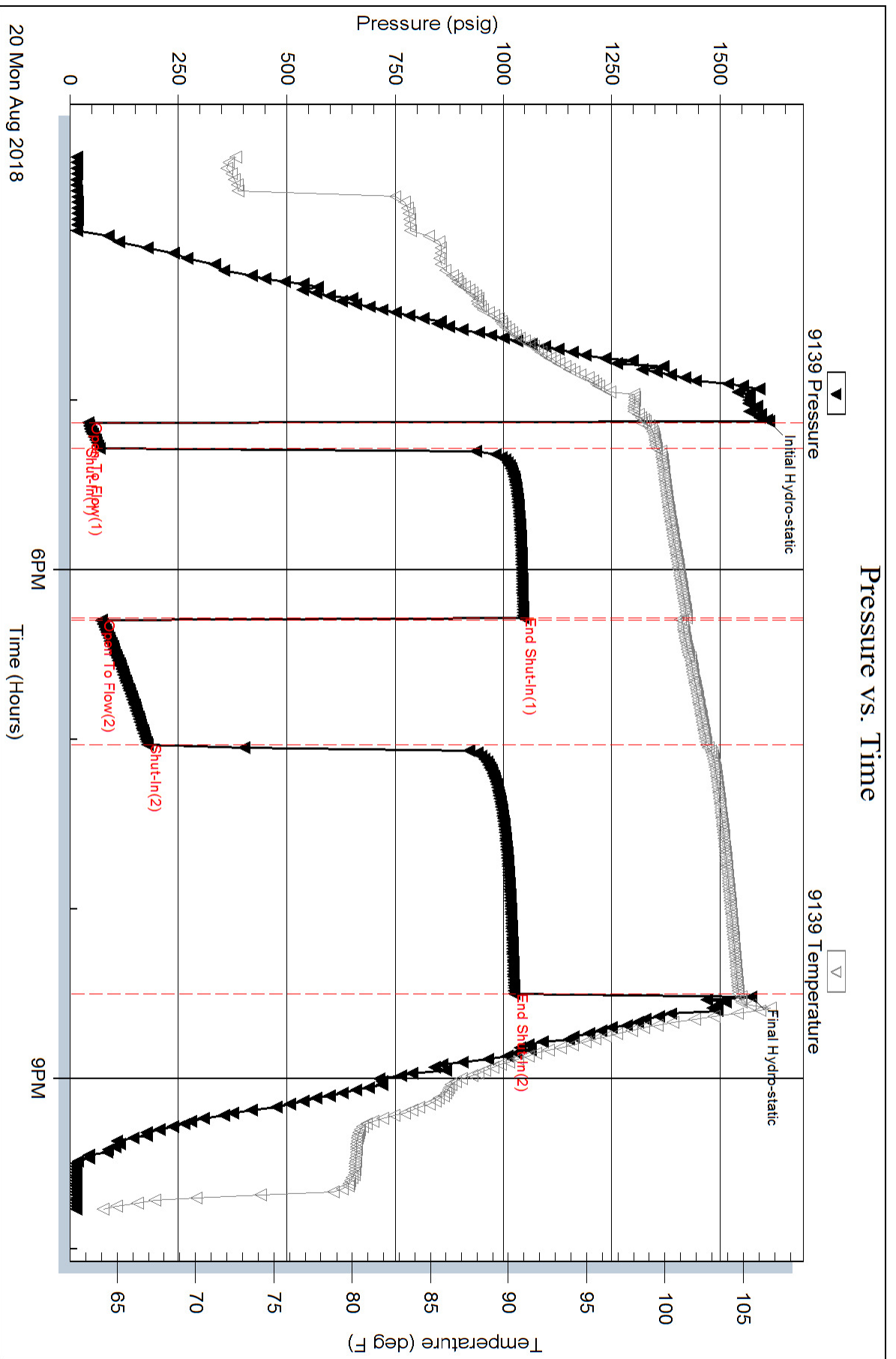
Num Gas Bombs: 0

Serial #:

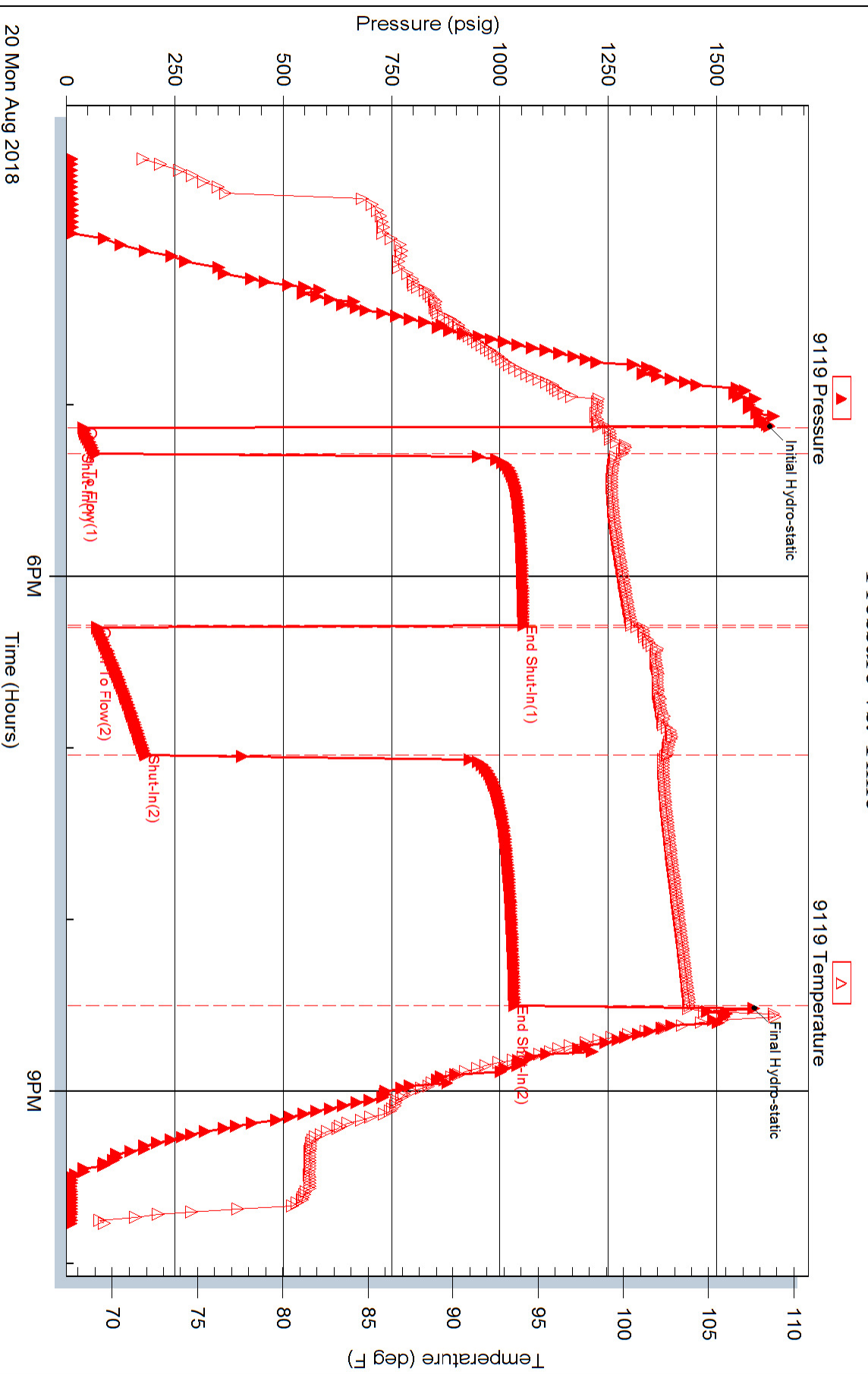
Laboratory Name:

Laboratory Location:

Recovery Comments:



# Pressure vs. Time





## DRILL STEM TEST REPORT

Prepared For: **F G Holl Company LLC**

9431 EastCentral Suite 100  
Wichita, Kansas 67206-2663

ATTN: Ryan Greenbaum

**Millard Trust #2-31**

**31-18s-13w Barton**

Start Date: 2018.08.21 @ 05:10:00

End Date: 2018.08.21 @ 09:47:00

Job Ticket #: 01099                      DST #: 4

Eagle Testers  
1309 Patton Road    Great Bend, Kansas 67530  
620-791-7394

Printed: 2018.08.21 @ 22:37:38



# DRILL STEM TEST REPORT

F G Holl Company LLC  
 9431 EastCentral Suite 100  
 Wichita, Kansas 67206-2663  
 ATTN: Ryan Greenbaum

**31-18s-13w Barton**  
**Millard Trust #2-31**  
 Job Ticket: 01099 **DST#: 4**  
 Test Start: 2018.08.21 @ 05:10:00

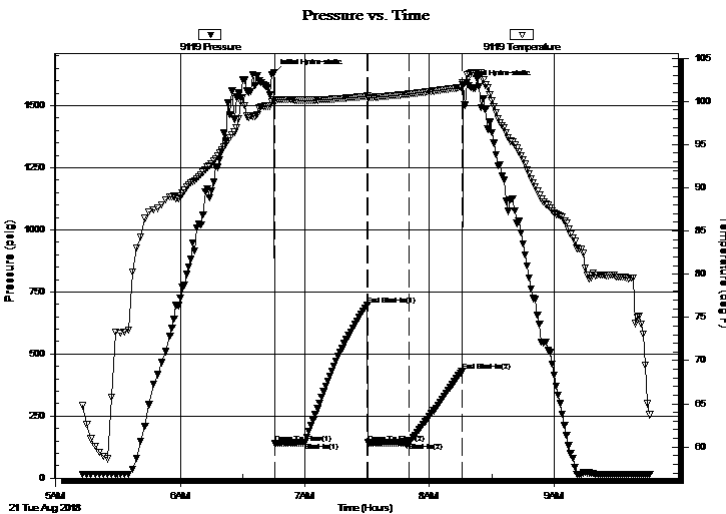
## GENERAL INFORMATION:

Formation: **Kansas City"H"**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 06:45:00 Tester: Gene Budig1  
 Time Test Ended: 09:47:00 Unit No:  
 Interval: **3275.00 ft (KB) To 3295.00 ft (KB) (TVD)** Reference Elevations: 1889.00 ft (KB)  
 Total Depth: 3295.00 ft (KB) (TVD) 1881.00 ft (CF)  
 Hole Diameter: 6.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

**Serial #: 9119 Inside**  
 Press@RunDepth: 429.61 psig @ 3290.00 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2018.08.21 End Date: 2018.08.21 Last Calib.: 2018.08.21  
 Start Time: 05:10:00 End Time: 09:46:30 Time On Btm: 2018.08.21 @ 06:45:00  
 Time Off Btm: 2018.08.21 @ 08:16:00

**TEST COMMENT:** 1st Opening 15 Minutes weak blow 6 minutes and died  
 1st Shut-In 30 Minutes  
 2nd Opening 15 Minutes npo blow  
 2nd shut-In 30 Minutes

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1631.00	100.20	Initial Hydro-static
1	141.27	99.81	Open To Flow (1)
15	142.55	100.12	Shut-In(1)
45	696.34	100.60	End Shut-In(1)
46	141.82	100.46	Open To Flow (2)
65	143.66	100.83	Shut-In(2)
91	429.61	101.62	End Shut-In(2)
91	1584.61	102.17	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
200.00	Drilling Mud	2.81

## Gas Rates

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



# DRILL STEM TEST REPORT

F G Holl Company LLC  
 9431 EastCentral Suite 100  
 Wichita, Kansas 67206-2663  
 ATTN: Ryan Greenbaum

**31-18s-13w Barton**  
**Millard Trust #2-31**  
 Job Ticket: 01099 **DST#: 4**  
 Test Start: 2018.08.21 @ 05:10:00

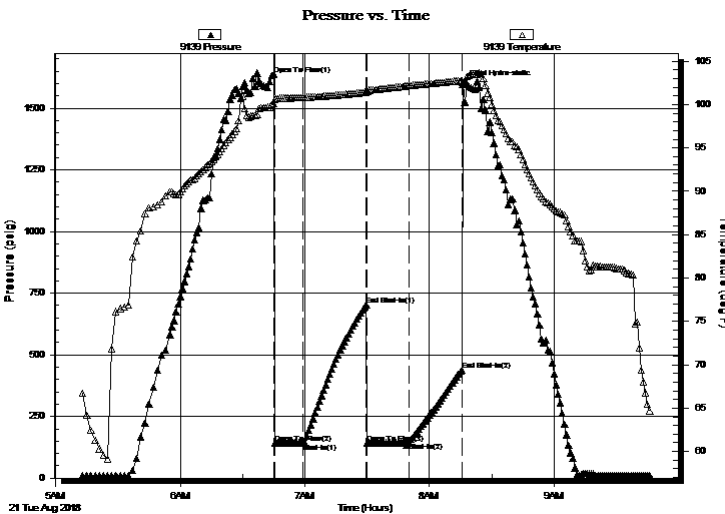
## GENERAL INFORMATION:

Formation: **Kansas City"H"**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 06:45:00 Tester: Gene Budig1  
 Time Test Ended: 09:47:00 Unit No:  
 Interval: **3275.00 ft (KB) To 3295.00 ft (KB) (TVD)** Reference Elevations: 1889.00 ft (KB)  
 Total Depth: 3295.00 ft (KB) (TVD) 1881.00 ft (CF)  
 Hole Diameter: 6.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

**Serial #: 9139 Outside**  
 Press@RunDepth: 438.63 psig @ 3290.00 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2018.08.21 End Date: 2018.08.21 Last Calib.: 2018.08.21  
 Start Time: 05:10:00 End Time: 09:46:30 Time On Btm:  
 Time Off Btm: 2018.08.21 @ 08:16:00

**TEST COMMENT:** 1st Opening 15 Minutes weak blow 6 minutes and died  
 1st Shut-In 30 Minutes  
 2nd Opening 15 Minutes npo blow  
 2nd shut-In 30 Minutes

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1638.16	100.15	Open To Flow (1)
1	142.88	100.61	Open To Flow (2)
14	143.34	100.83	Shut-In(1)
45	701.25	101.43	End Shut-In(1)
45	143.33	101.48	Open To Flow (3)
65	146.25	102.18	Shut-In(2)
91	438.63	102.78	End Shut-In(2)
91	1597.31	102.58	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
200.00	Drilling Mud	2.81

## Gas Rates

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





# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

F G Holl Company LLC

**31-18s-13w Barton**

9431 EastCentral Suite 100  
Wichita, Kansas 67206-2663

**Millard Trust #2-31**

ATTN: Ryan Greenbaum

Job Ticket: 01099

**DST#: 4**

Test Start: 2018.08.21 @ 05:10:00

## Tool Information

Drill Pipe:	Length: 3264.00 ft	Diameter: 3.80 inches	Volume: 45.79 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 86000.00 lb
			<u>Total Volume: 45.79 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	3275.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	20.00 ft			
Tool Length:	50.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			3250.00	
Hydraulic tool	5.00			3255.00	
Jars	5.00			3260.00	
Safety Joint	5.00			3265.00	
Packer	5.00			3270.00	30.00 Bottom Of Top Packer
Packer	5.00		Fluid	3275.00	
Anchor	15.00			3290.00	
Recorder	0.00	9119	Inside	3290.00	
Recorder	0.00	9139	Outside	3290.00	
Bullnose	5.00			3295.00	20.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>50.00</b>				



# DRILL STEM TEST REPORT

## FLUID SUMMARY

F G Holl Company LLC

**31-18s-13w Barton**

9431 EastCentral Suite 100  
Wichita, Kansas 67206-2663

**Millard Trust #2-31**

ATTN: Ryan Greenbaum

Job Ticket: 01099

**DST#: 4**

Test Start: 2018.08.21 @ 05:10:00

### Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 44.00 sec/qt  
Water Loss: 12.40 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 10500.00 ppm  
Filter Cake: 1.00 inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psig

Oil API: deg API  
Water Salinity: ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
200.00	Drilling Mud	2.805

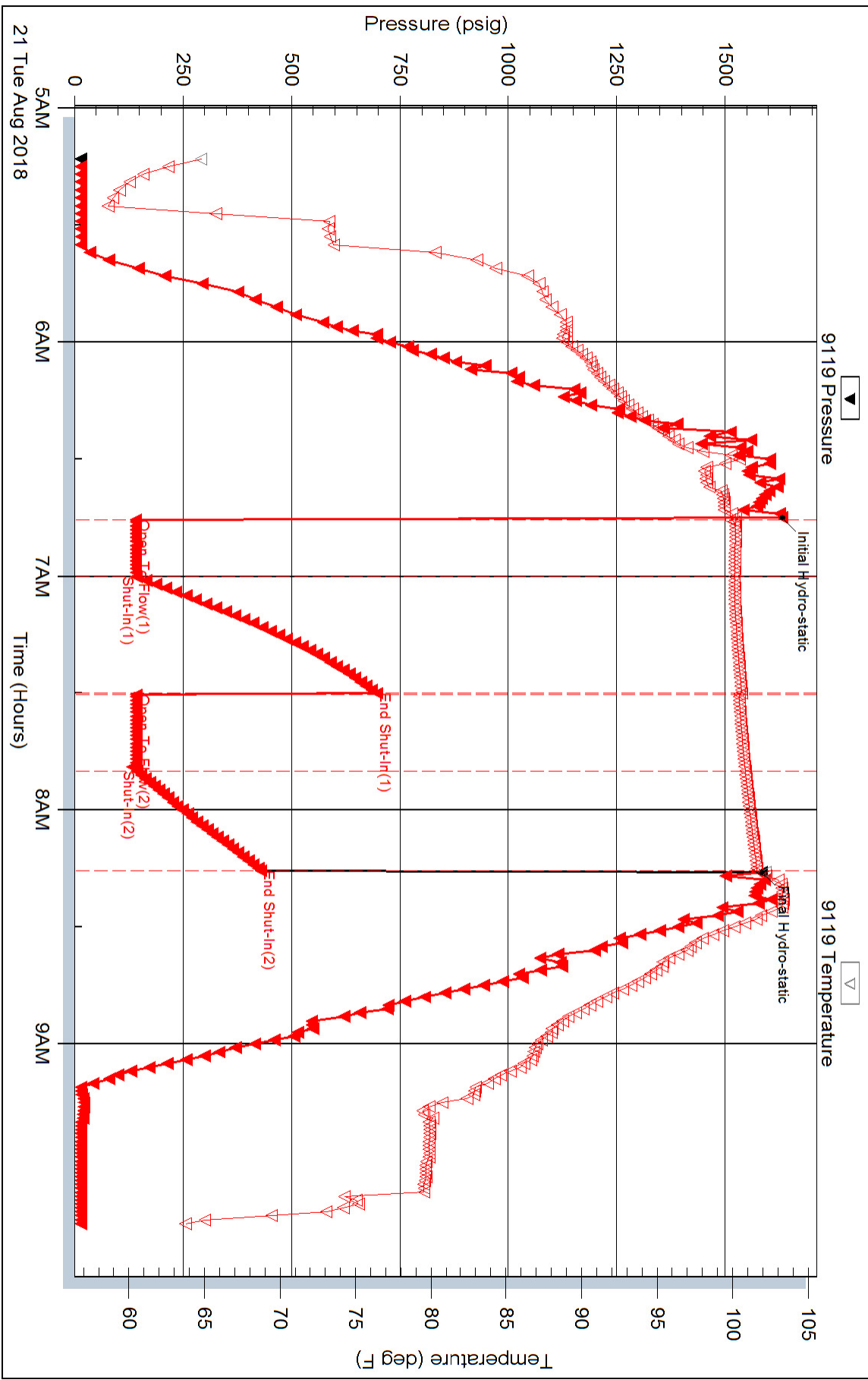
Total Length: 200.00 ft      Total Volume: 2.805 bbl

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

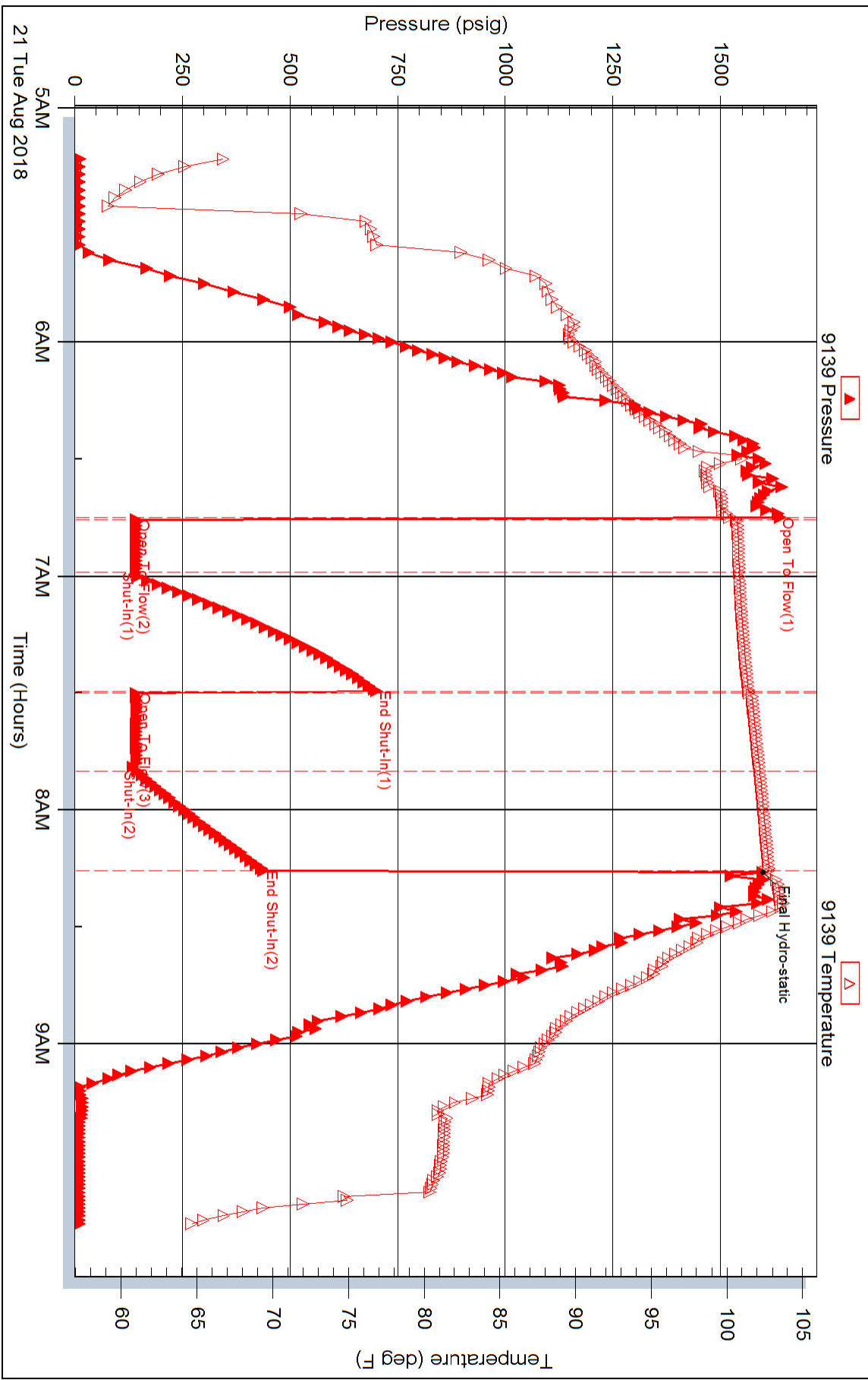
Laboratory Name:      Laboratory Location:

Recovery Comments:

### Pressure vs. Time



### Pressure vs. Time





## DRILL STEM TEST REPORT

Prepared For: **F G Holl Company LLC**

9431 EastCentral Suite 100  
Wichita, Kansas 67206-2663

ATTN: Ryan Greenbaum

**Millard Trust #2-31**

**31-18s-13w Barton**

Start Date: 2018.08.21 @ 20:50:00

End Date: 2018.08.21 @ 03:04:00

Job Ticket #: DST #: 5

Eagle Testers  
1309 Patton Road Great Bend, Kansas 67530  
620-791-7394

Printed: 2018.08.22 @ 03:28:02



# DRILL STEM TEST REPORT

F G Holl Company LLC  
 9431 EastCentral Suite 100  
 Wichita, Kansas 67206-2663  
 ATTN: Ryan Greenbaum

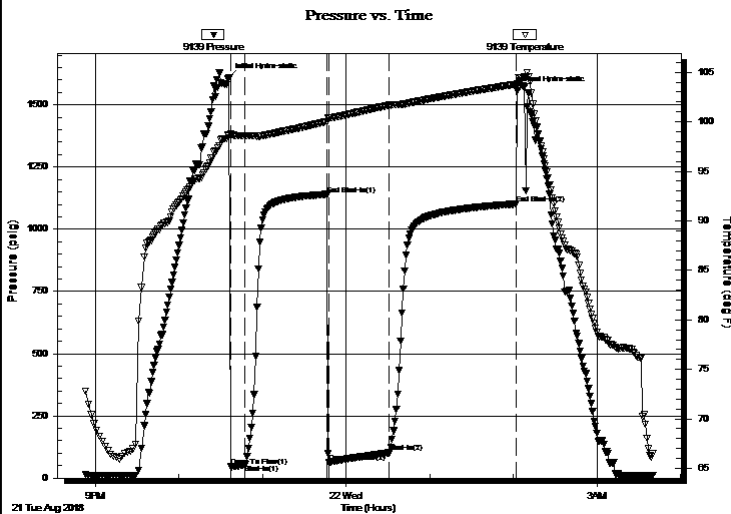
**31-18s-13w Barton**  
**Millard Trust #2-31**  
 Job Ticket: **DST#: 5**  
 Test Start: 2018.08.21 @ 20:50:00

## GENERAL INFORMATION:

Formation: **Kansas City "I"**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 10:04:00 Tester: Gene Budig  
 Time Test Ended: 03:04:00 Unit No: 1  
 Interval: **3295.00 ft (KB) To 3315.00 ft (KB) (TVD)** Reference Elevations: 1889.00 ft (KB)  
 Total Depth: 3315.00 ft (KB) (TVD) 1881.00 ft (CF)  
 Hole Diameter: 6.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

**Serial #: 9139 Outside**  
 Press@RunDepth: 1101.51 psig @ 3310.00 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2018.08.21 End Date: 2018.08.22 Last Calib.: 2018.08.22  
 Start Time: 20:50:00 End Time: 03:40:30 Time On Btm: 2018.08.21 @ 22:36:00  
 Time Off Btm: 2018.08.22 @ 02:03:00

**TEST COMMENT:** 1st Opening 10 Minutes fair blow built to the bottom of the bucket in 3 minutes  
 1st Shut-In 60 Minutes no blow back  
 2nd opening 45 Minutes bottom of the bucket in 30 seconds 3  
 2nd Shut-In 90 Minutes good blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1610.36	98.62	Initial Hydro-static
1	47.16	98.78	Open To Flow (1)
12	53.89	98.59	Shut-In(1)
71	1140.45	100.02	End Shut-In(1)
72	63.10	100.39	Open To Flow (2)
115	102.24	101.67	Shut-In(2)
206	1101.51	103.79	End Shut-In(2)
207	1556.85	103.79	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
0.00	1950 gas in the pipe	0.00
200.00	Clean gassy oil gravity 29 corrected	2.81
20.00	muddy water 30%Mud 70% Water	0.28
0.00	Chlorides 38000	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

F G Holl Company LLC  
 9431 EastCentral Suite 100  
 Wichita, Kansas 67206-2663  
 ATTN: Ryan Greenbaum

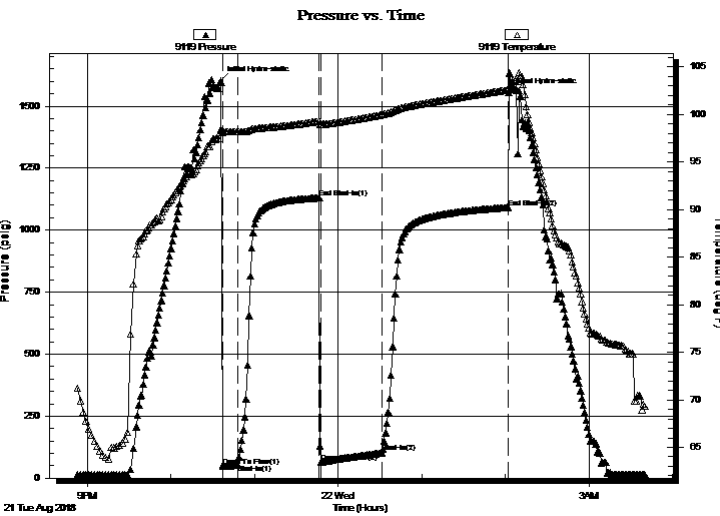
**31-18s-13w Barton**  
**Millard Trust #2-31**  
 Job Ticket: **DST#: 5**  
 Test Start: 2018.08.21 @ 20:50:00

## GENERAL INFORMATION:

Formation: **Kansas City "I"**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 10:04:00 Tester: Gene Budig  
 Time Test Ended: 03:04:00 Unit No: 1  
 Interval: **3295.00 ft (KB) To 3315.00 ft (KB) (TVD)** Reference Elevations: 1889.00 ft (KB)  
 Total Depth: 3315.00 ft (KB) (TVD) 1881.00 ft (CF)  
 Hole Diameter: 6.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

**Serial #: 9119 Inside**  
 Press@RunDepth: 1091.73 psig @ 3310.00 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2018.08.21 End Date: 2018.08.22 Last Calib.: 2018.08.22  
 Start Time: 20:50:00 End Time: 03:40:30 Time On Btm: 2018.08.21 @ 22:35:30  
 Time Off Btm: 2018.08.22 @ 02:02:30

**TEST COMMENT:** 1st Opening 10 Minutes fair blow built to the bottom of the bucket in 3 minutes  
 1st Shut-In 60 Minutes no blow back  
 2nd opening 45 Minutes bottom of the bucket in 30 seconds 3  
 2nd Shut-In 90 Minutes good blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1601.49	98.30	Initial Hydro-static
2	47.96	98.18	Open To Flow (1)
13	55.90	98.17	Shut-In(1)
71	1130.60	99.30	End Shut-In(1)
72	64.78	98.99	Open To Flow (2)
116	103.37	99.97	Shut-In(2)
207	1091.73	102.58	End Shut-In(2)
207	1554.66	102.75	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
0.00	1950 gas in the pipe	0.00
200.00	Clean gassy oil gravity 29 corrected	2.81
20.00	muddy water 30%Mud 70% Water	0.28
0.00	Chlorides 38000	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

F G Holl Company LLC

**31-18s-13w Barton**

9431 EastCentral Suite 100  
Wichita, Kansas 67206-2663

**Millard Trust #2-31**

ATTN: Ryan Greenbaum

Job Ticket:

**DST#: 5**

Test Start: 2018.08.21 @ 20:50:00

## Tool Information

Drill Pipe:	Length: 3295.00 ft	Diameter: 3.80 inches	Volume: 46.22 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose:	74000.00 lb
			<u>Total Volume: 46.22 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial	55000.00 lb
Depth to Top Packer:	3295.00 ft			Final	57000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	20.00 ft				
Tool Length:	50.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3270.00	
Hydraulic tool	5.00			3275.00	
Jars	5.00			3280.00	
Safety Joint	5.00			3285.00	
Packer	5.00			3290.00	30.00 Bottom Of Top Packer
Packer	5.00		Fluid	3295.00	
Anchor	15.00			3310.00	
Recorder	0.00	9119	Inside	3310.00	
Recorder	0.00	9139	Outside	3310.00	
Bullnose	5.00			3315.00	20.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>50.00</b>				





# DRILL STEM TEST REPORT

## FLUID SUMMARY

F G Holl Company LLC

**31-18s-13w Barton**

9431 EastCentral Suite 100  
Wichita, Kansas 67206-2663

**Millard Trust #2-31**

ATTN: Ryan Greenbaum

Job Ticket:

**DST#: 5**

Test Start: 2018.08.21 @ 20:50:00

### Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 84.00 sec/qt  
Water Loss: 75.96 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 4800.00 ppm  
Filter Cake: 1.00 inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psig

Oil API: deg API  
Water Salinity: ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	1950 gas in the pipe	0.000
200.00	Clean gassy oil gravity 29 corrected	2.805
20.00	muddy water 30%Mud 70% Water	0.281
0.00	Chlorides 38000	0.000

Total Length: 220.00 ft      Total Volume: 3.086 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

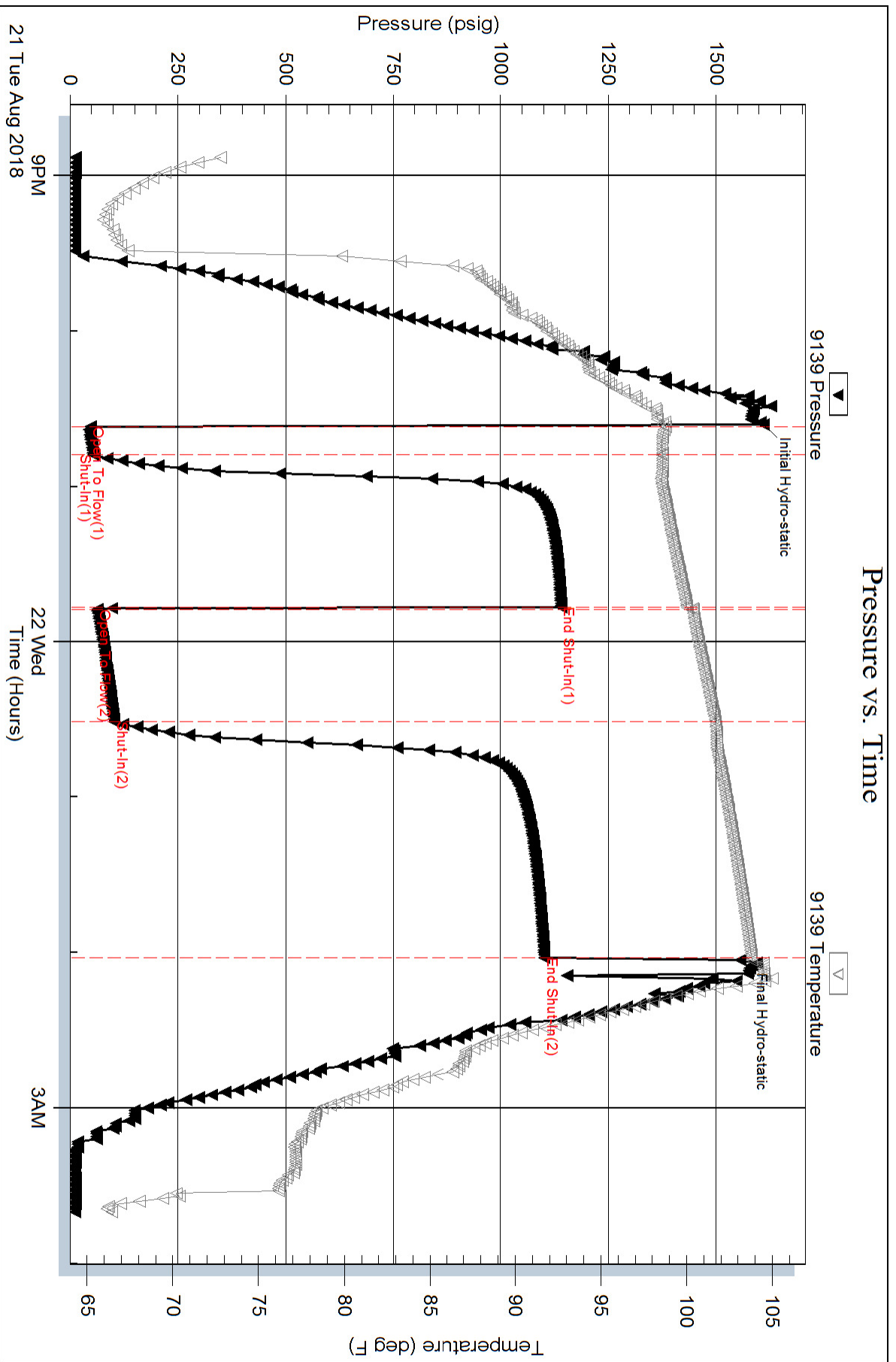
Serial #:

Laboratory Name:

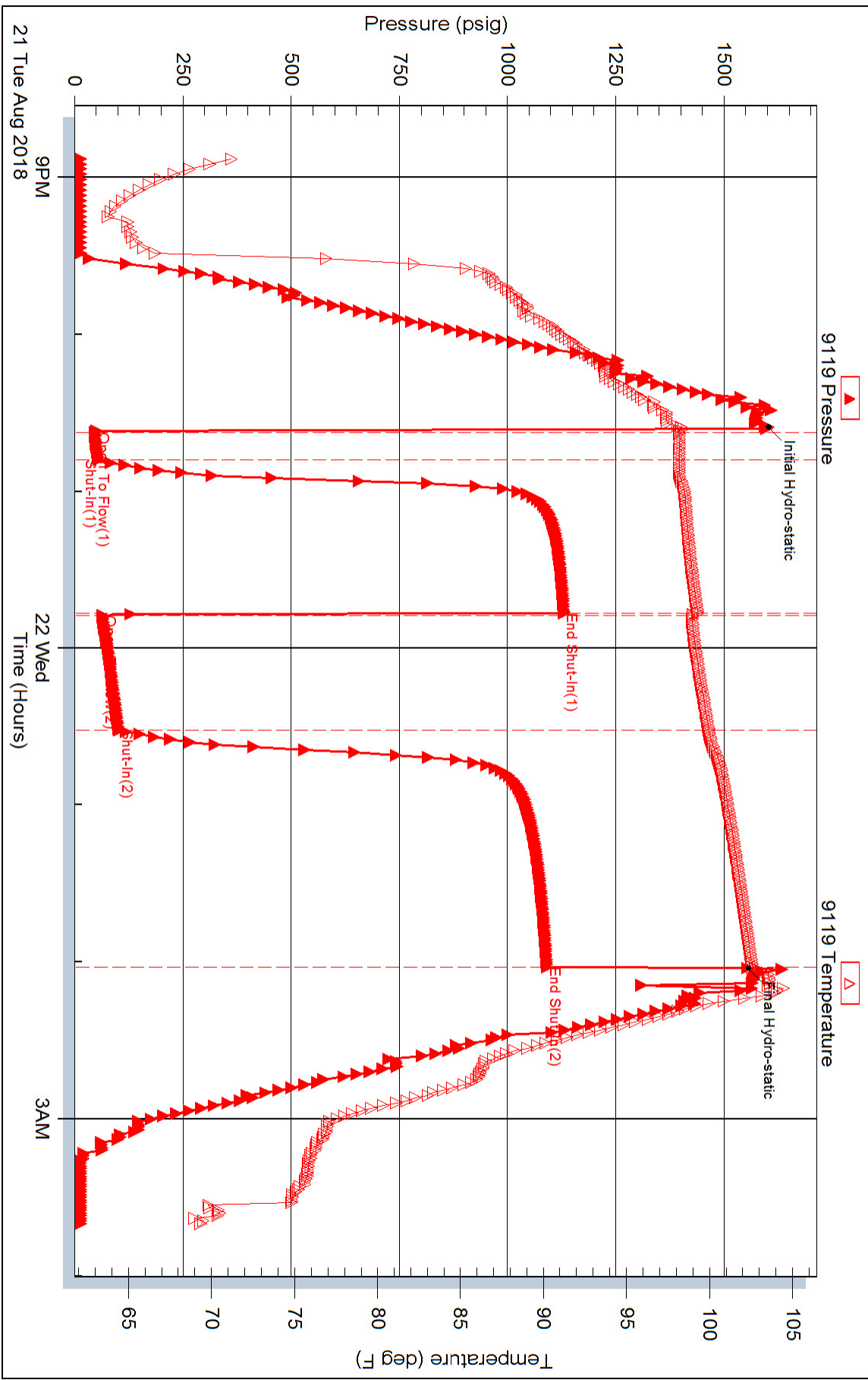
Laboratory Location:

Recovery Comments:

# Pressure vs. Time



### Pressure vs. Time





## DRILL STEM TEST REPORT

Prepared For: **F G Holl Company LLC**

9431 EastCentral Suite 100  
Wichita, Kansas 67206-2663

ATTN: Ryan Greenbaum

**Millard Trust #2-31**

**31-18s-13w Barton**

Start Date: 2018.08.22 @ 14:03:00

End Date: 2018.08.22 @ 21:23:00

Job Ticket #: 01001                      DST #: 6

Eagle Testers  
1309 Patton Road    Great Bend, Kansas 67530  
620-791-7394

Printed: 2018.08.22 @ 21:48:40

F G Holl Company LLC  
31-18s-13w Barton  
Millard Trust #2-31  
DST # 6  
Kansas City "J-K"  
2018.08.22



# DRILL STEM TEST REPORT

F G Holl Company LLC  
 9431 EastCentral Suite 100  
 Wichita, Kansas 67206-2663  
 ATTN: Ryan Greenbaum

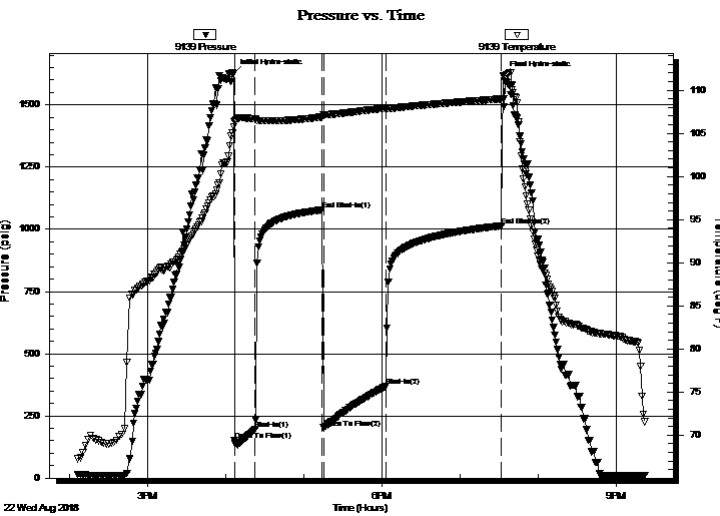
**31-18s-13w Barton**  
**Millard Trust #2-31**  
 Job Ticket: 01001 **DST#: 6**  
 Test Start: 2018.08.22 @ 14:03:00

## GENERAL INFORMATION:

Formation: **Kansas City"J-K"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 16:08:00  
 Time Test Ended: 21:23:00  
 Interval: **3338.00 ft (KB) To 3371.00 ft (KB) (TVD)**  
 Total Depth: 3371.00 ft (KB) (TVD)  
 Hole Diameter: 6.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Gene Budig  
 Unit No:  
 Reference Elevations: 1889.00 ft (KB)  
 1881.00 ft (CF)  
 KB to GR/CF: 8.00 ft

**Serial #: 9139 Outside**  
 Press@RunDepth: 1013.79 psig @ 3366.00 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2018.08.22 End Date: 2018.08.22 Last Calib.: 2018.08.22  
 Start Time: 14:03:00 End Time: 21:22:00 Time On Btm: 2018.08.22 @ 16:06:00  
 Time Off Btm: 2018.08.22 @ 19:33:00

**TEST COMMENT:** 1st Opening 10 Minutes build to the bottom of the bucket in 2 Minutes  
 1st Shut-In 60 Minutes good blow back  
 2nd Opening 45 Minutes good blow built to the bottom of the bucket in 1 minutes  
 2nd Shut-In 90 Minutes good blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1626.56	105.80	Initial Hydro-static
1	153.10	106.36	Open To Flow (1)
17	196.39	106.66	Shut-In(1)
68	1078.08	106.89	End Shut-In(1)
69	201.85	107.15	Open To Flow (2)
117	368.88	107.92	Shut-In(2)
206	1013.79	109.00	End Shut-In(2)
207	1616.32	108.99	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
720.00	clean gassy oil 20% Gas 80% Oil	10.10
0.00	Gravity 39 corrected	0.00
60.00	Oil & gas cut mud 30%Gas 30%Oil 40%	0.84
60.00	slightly mud cut water 10%Mud 90%water	0.84
0.00	Chlorides 33000	0.00

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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# DRILL STEM TEST REPORT

F G Holl Company LLC  
 9431 EastCentral Suite 100  
 Wichita, Kansas 67206-2663  
 ATTN: Ryan Greenbaum

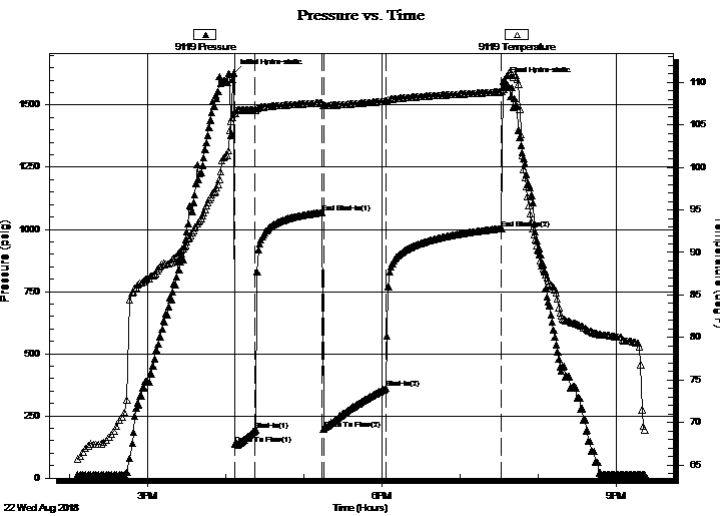
**31-18s-13w Barton**  
**Millard Trust #2-31**  
 Job Ticket: 01001 **DST#: 6**  
 Test Start: 2018.08.22 @ 14:03:00

## GENERAL INFORMATION:

Formation: **Kansas City"J-K"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 16:08:00  
 Time Test Ended: 21:23:00  
 Interval: **3338.00 ft (KB) To 3371.00 ft (KB) (TVD)**  
 Total Depth: 3371.00 ft (KB) (TVD)  
 Hole Diameter: 6.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Gene Budig  
 Unit No:  
 Reference Elevations: 1889.00 ft (KB)  
 1881.00 ft (CF)  
 KB to GR/CF: 8.00 ft

**Serial #: 9119 Inside**  
 Press@RunDepth: 1004.03 psig @ 3366.00 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2018.08.22 End Date: 2018.08.22 Last Calib.: 2018.08.22  
 Start Time: 14:03:00 End Time: 21:22:00 Time On Btm: 2018.08.22 @ 16:06:00  
 Time Off Btm: 2018.08.22 @ 19:33:00

**TEST COMMENT:** 1st Opening 10 Minutes build to the bottom of the bucket in 2 Minutes  
 1st Shut-In 60 Minutes good blow back  
 2nd Opening 45 Minutes good blow built to the bottom of the bucket in 1 minutes  
 2nd Shut-In 90 Minutes good blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1628.32	106.37	Initial Hydro-static
1	136.92	106.36	Open To Flow (1)
17	192.40	106.74	Shut-In(1)
68	1068.36	107.59	End Shut-In(1)
69	198.16	107.33	Open To Flow (2)
117	361.42	107.78	Shut-In(2)
206	1004.03	108.88	End Shut-In(2)
207	1594.75	109.11	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
720.00	clean gassy oil 20% Gas 80% Oil	10.10
0.00	Gravity 39 corrected	0.00
60.00	Oil & gas cut mud 30%Gas 30%Oil 40%	0.84
60.00	slightly mud cut water 10%Mud 90%water	0.84
0.00	Chlorides 33000	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

F G Holl Company LLC

**31-18s-13w Barton**

9431 EastCentral Suite 100  
Wichita, Kansas 67206-2663

**Millard Trust #2-31**

ATTN: Ryan Greenbaum

Job Ticket: 01001

**DST#: 6**

Test Start: 2018.08.22 @ 14:03:00

## Tool Information

Drill Pipe:	Length: 3328.00 ft	Diameter: 3.80 inches	Volume: 46.68 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose:	69000.00 lb
			<u>Total Volume: 46.68 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial	56000.00 lb
Depth to Top Packer:	3338.00 ft			Final	70000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	33.00 ft				
Tool Length:	63.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3313.00	
Hydraulic tool	5.00			3318.00	
Jars	5.00			3323.00	
Safety Joint	5.00			3328.00	
Packer	5.00			3333.00	30.00 Bottom Of Top Packer
Packer	5.00		Fluid	3338.00	
Anchor	28.00			3366.00	
Recorder	0.00	9119	Inside	3366.00	
Recorder	0.00	9139	Outside	3366.00	
Bullnose	5.00			3371.00	33.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>63.00</b>				



# DRILL STEM TEST REPORT

## FLUID SUMMARY

F G Holl Company LLC

**31-18s-13w Barton**

9431 EastCentral Suite 100  
Wichita, Kansas 67206-2663

**Millard Trust #2-31**

Job Ticket: 01001

**DST#: 6**

ATTN: Ryan Greenbaum

Test Start: 2018.08.22 @ 14:03:00

### Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 52.00 sec/qt  
Water Loss: 7.99 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 8900.00 ppm  
Filter Cake: 1.00 inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psig

Oil API: deg API  
Water Salinity: ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
720.00	clean gassy oil 20% Gas 80% Oil	10.100
0.00	Gravity 39 corrected	0.000
60.00	Oil & gas cut mud 30%Gas 30%Oil 40%Mud	0.842
60.00	slightly mud cut w ater 10%Mud 90%w ater	0.842
0.00	Chlorides 33000	0.000

Total Length: ft Total Volume: 11.784 bbl

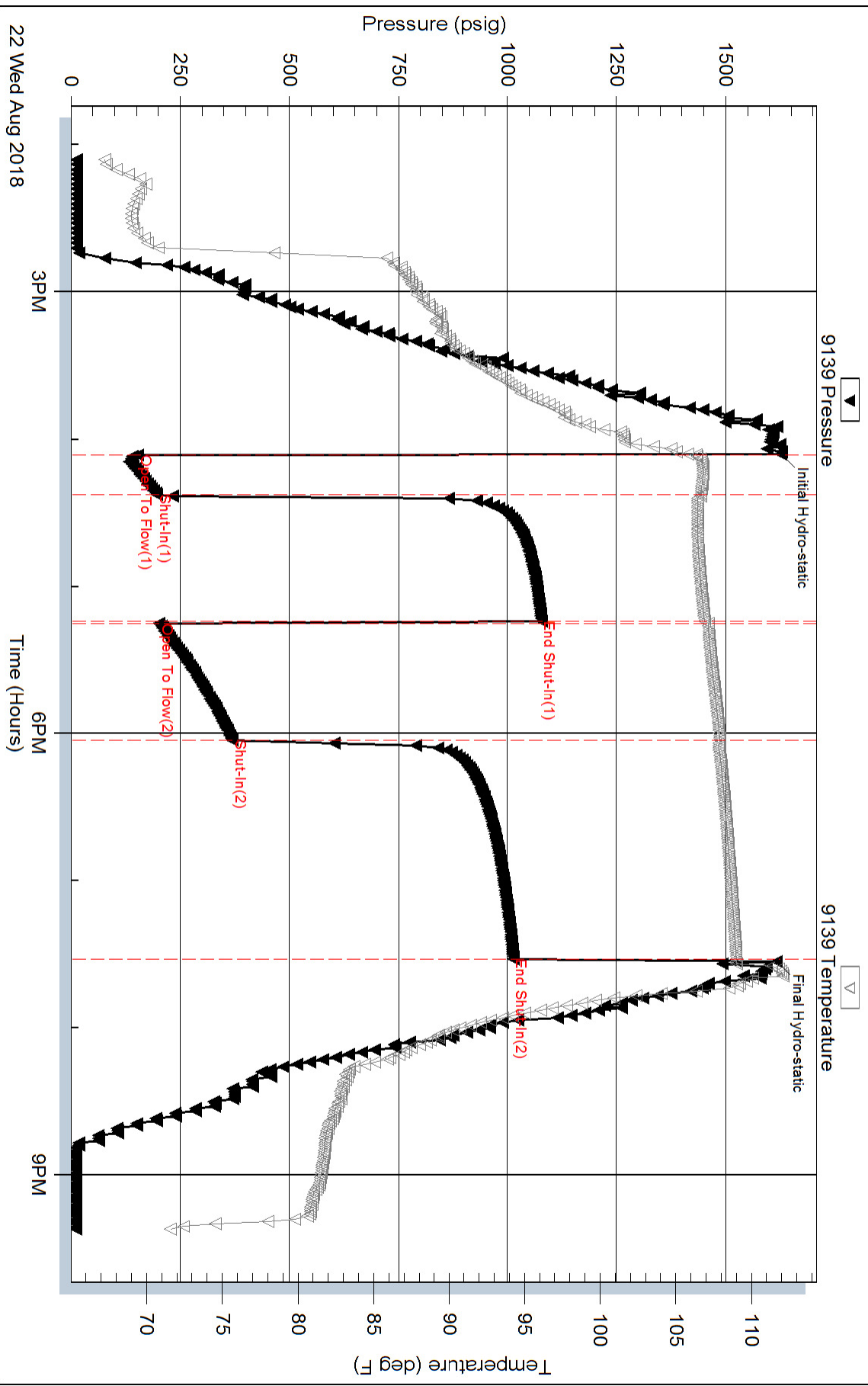
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

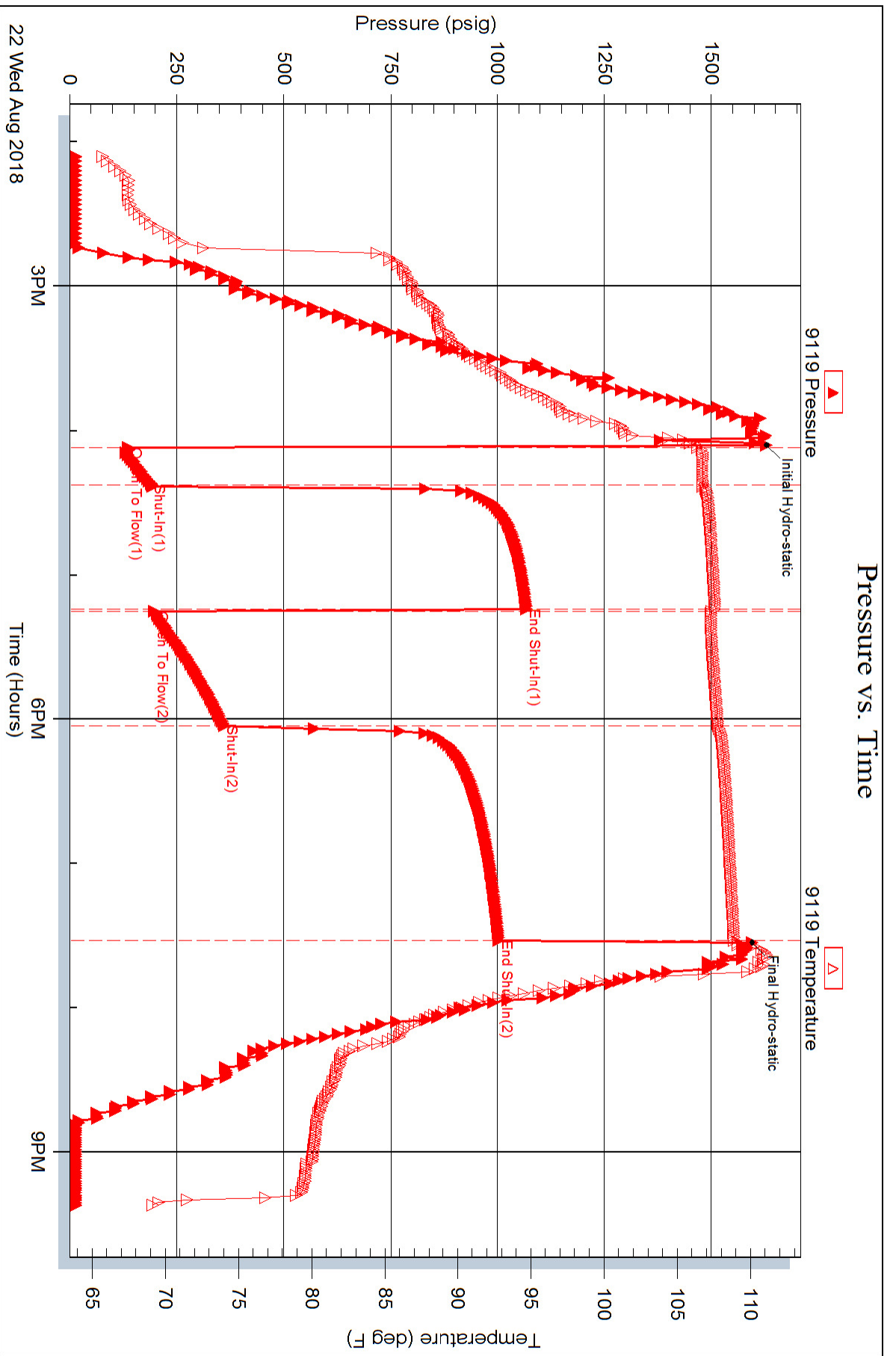
Laboratory Name: Laboratory Location:

Recovery Comments:



### Pressure vs. Time







## DRILL STEM TEST REPORT

Prepared For: **F G Holl Company LLC**

9431 EastCentral Suite 100  
Wichita, Kansas 67206-2663

ATTN: Ryan Greenbaum

**Millard Trust #2-31**

**31-18s-13w Barton**

Start Date: 2018.08.23 @ 06:15:00

End Date: 2018.08.23 @ 13:26:00

Job Ticket #: 01002                      DST #: 7

Eagle Testers  
1309 Patton Road    Great Bend, Kansas 67530  
620-791-7394

Printed: 2018.08.23 @ 14:06:17



# DRILL STEM TEST REPORT

F G Holl Company LLC  
 9431 EastCentral Suite 100  
 Wichita, Kansas 67206-2663  
 ATTN: Ryan Greenbaum

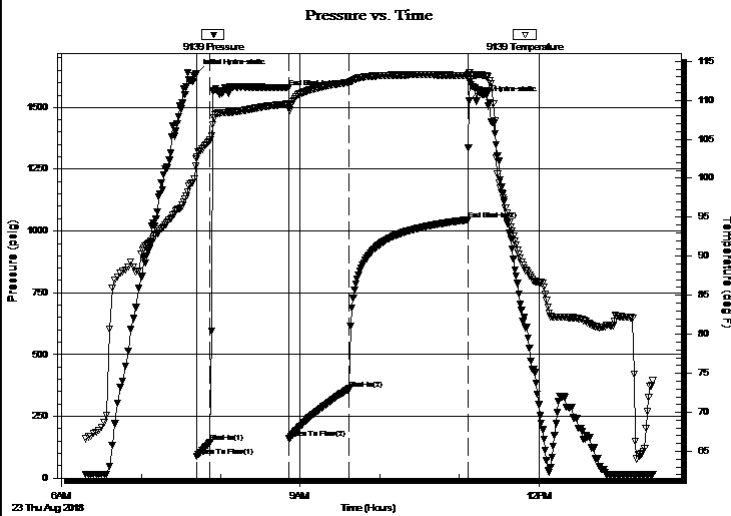
**31-18s-13w Barton**  
**Millard Trust #2-31**  
 Job Ticket: 01002 **DST#: 7**  
 Test Start: 2018.08.23 @ 06:15:00

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 07:42:00 Tester: Gene Budig  
 Time Test Ended: 13:26:00 Unit No: 1  
 Interval: **3375.00 ft (KB) To 3410.00 ft (KB) (TVD)** Reference Elevations: 1889.00 ft (KB)  
 Total Depth: 3410.00 ft (KB) (TVD) 1881.00 ft (CF)  
 Hole Diameter: 6.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

**Serial #: 9139 Outside**  
 Press@RunDepth: 1045.46 psig @ 3405.00 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2018.08.23 End Date: 2018.08.23 Last Calib.: 2018.08.23  
 Start Time: 06:15:00 End Time: 13:25:59 Time On Btm: 2018.08.23 @ 07:41:30  
 Time Off Btm: 2018.08.23 @ 11:07:30

**TEST COMMENT:** 1st Opening 10 Minutes good blow built to the bottom of a 5 gallon bucket in 4 minutes  
 1st Shut-In 60 Minutes weak blow back  
 2nd Opening 45 Minutes good blow built to the bottom of the bucket in 4 minutes  
 2nd Shut-In 90 Minutes weak blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1638.45	102.48	Initial Hydro-static
1	86.89	102.80	Open To Flow (1)
11	145.92	104.88	Shut-In(1)
70	1581.19	109.53	End Shut-In(1)
70	161.48	108.95	Open To Flow (2)
116	361.63	112.29	Shut-In(2)
205	1045.46	113.13	End Shut-In(2)
206	1526.32	113.56	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
0.00	60 feet of Gas in the pipe	0.00
40.00	Clean gassy oil	0.56
120.00	Oil and gas cut muddy w ater	1.68
0.00	5%Gas 45%Oil 25%Mud 25%Water	0.00
180.00	oil and gas cut muddy water	2.52
0.00	2%Gas 28%Oil 35%Mud 35%Water	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

F G Holl Company LLC  
 9431 EastCentral Suite 100  
 Wichita, Kansas 67206-2663  
 ATTN: Ryan Greenbaum

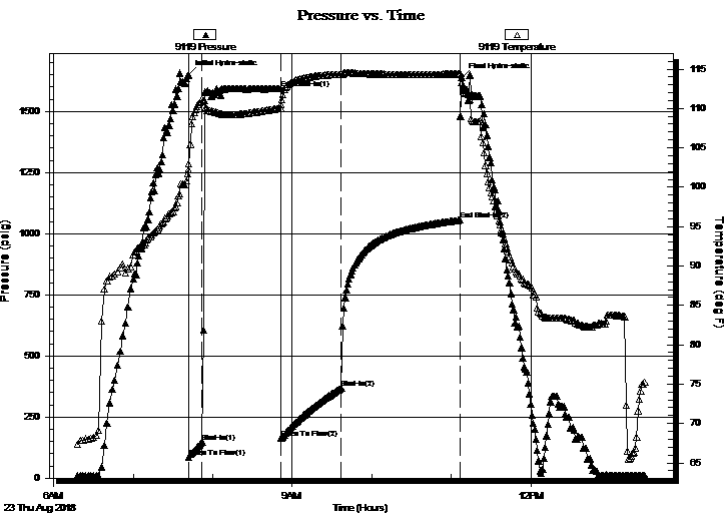
**31-18s-13w Barton**  
**Millard Trust #2-31**  
 Job Ticket: 01002 **DST#: 7**  
 Test Start: 2018.08.23 @ 06:15:00

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 07:42:00 Tester: Gene Budig  
 Time Test Ended: 13:26:00 Unit No: 1  
 Interval: **3375.00 ft (KB) To 3410.00 ft (KB) (TVD)** Reference Elevations: 1889.00 ft (KB)  
 Total Depth: 3410.00 ft (KB) (TVD) 1881.00 ft (CF)  
 Hole Diameter: 6.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

**Serial #: 9119 Inside**  
 Press@RunDepth: 1055.21 psig @ 3405.00 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2018.08.23 End Date: 2018.08.23 Last Calib.: 2018.08.23  
 Start Time: 06:15:00 End Time: 13:25:59 Time On Btm: 2018.08.23 @ 07:41:30  
 Time Off Btm: 2018.08.23 @ 11:08:00

**TEST COMMENT:** 1st Opening 10 Minutes good blow built to the bottom of a 5 gallon bucket in 4 minutes  
 1st Shut-In 60 Minutes weak blow back  
 2nd Opening 45 Minutes good blow built to the bottom of the bucket in 4 minutes  
 2nd Shut-In 90 Minutes weak blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1649.44	102.21	Initial Hydro-static
1	86.28	102.97	Open To Flow (1)
11	147.99	111.14	Shut-In(1)
70	1592.16	110.02	End Shut-In(1)
70	164.26	110.55	Open To Flow (2)
116	368.73	114.35	Shut-In(2)
205	1055.21	114.38	End Shut-In(2)
207	1638.88	113.29	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
0.00	60 feet of Gas in the pipe	0.00
40.00	Clean gassy oil	0.56
120.00	Oil and gas cut muddy w ater	1.68
0.00	5%Gas 45%Oil 25%Mud 25%Water	0.00
180.00	oil and gas cut muddy water	2.52
0.00	2%Gas 28%Oil 35%Mud 35%Water	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

F G Holl Company LLC

**31-18s-13w Barton**

9431 EastCentral Suite 100  
Wichita, Kansas 67206-2663

**Millard Trust #2-31**

ATTN: Ryan Greenbaum

Job Ticket: 01002

**DST#: 7**

Test Start: 2018.08.23 @ 06:15:00

## Tool Information

Drill Pipe:	Length: 3359.00 ft	Diameter: 3.80 inches	Volume: 47.12 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 74000.00 lb
			<u>Total Volume: 47.12 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	3375.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	35.00 ft			
Tool Length:	65.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3350.00	
Hydraulic tool	5.00			3355.00	
Jars	5.00			3360.00	
Safety Joint	5.00			3365.00	
Packer	5.00			3370.00	30.00 Bottom Of Top Packer
Packer	5.00		Fluid	3375.00	
Anchor	30.00			3405.00	
Recorder	0.00	9119	Inside	3405.00	
Recorder	0.00	9139	Outside	3405.00	
Bullnose	5.00			3410.00	35.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>65.00</b>				



# DRILL STEM TEST REPORT

## FLUID SUMMARY

F G Holl Company LLC

**31-18s-13w Barton**

9431 EastCentral Suite 100  
Wichita, Kansas 67206-2663

**Millard Trust #2-31**

Job Ticket: 01002

**DST#:7**

ATTN: Ryan Greenbaum

Test Start: 2018.08.23 @ 06:15:00

### Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 52.00 sec/qt  
Water Loss: 8.00 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 8100.00 ppm  
Filter Cake: 1.00 inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psig

Oil API: deg API  
Water Salinity: ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	60 feet of Gas in the pipe	0.000
40.00	Clean gassy oil	0.561
120.00	Oil and gas cut muddy w ater	1.683
0.00	5%Gas 45%Oil 25%Mud 25%Water	0.000
180.00	oil and gas cut muddy w ater	2.525
0.00	2%Gas 28%Oil 35%Mud 35%Water	0.000
180.00	2%Gas 10%Oil 10%mud 78%Water	2.525
180.00	slightly Gas and mud cut w ater	2.525
0.00	2%Gas 5%Mud 75%Water chlorides 18000	0.000

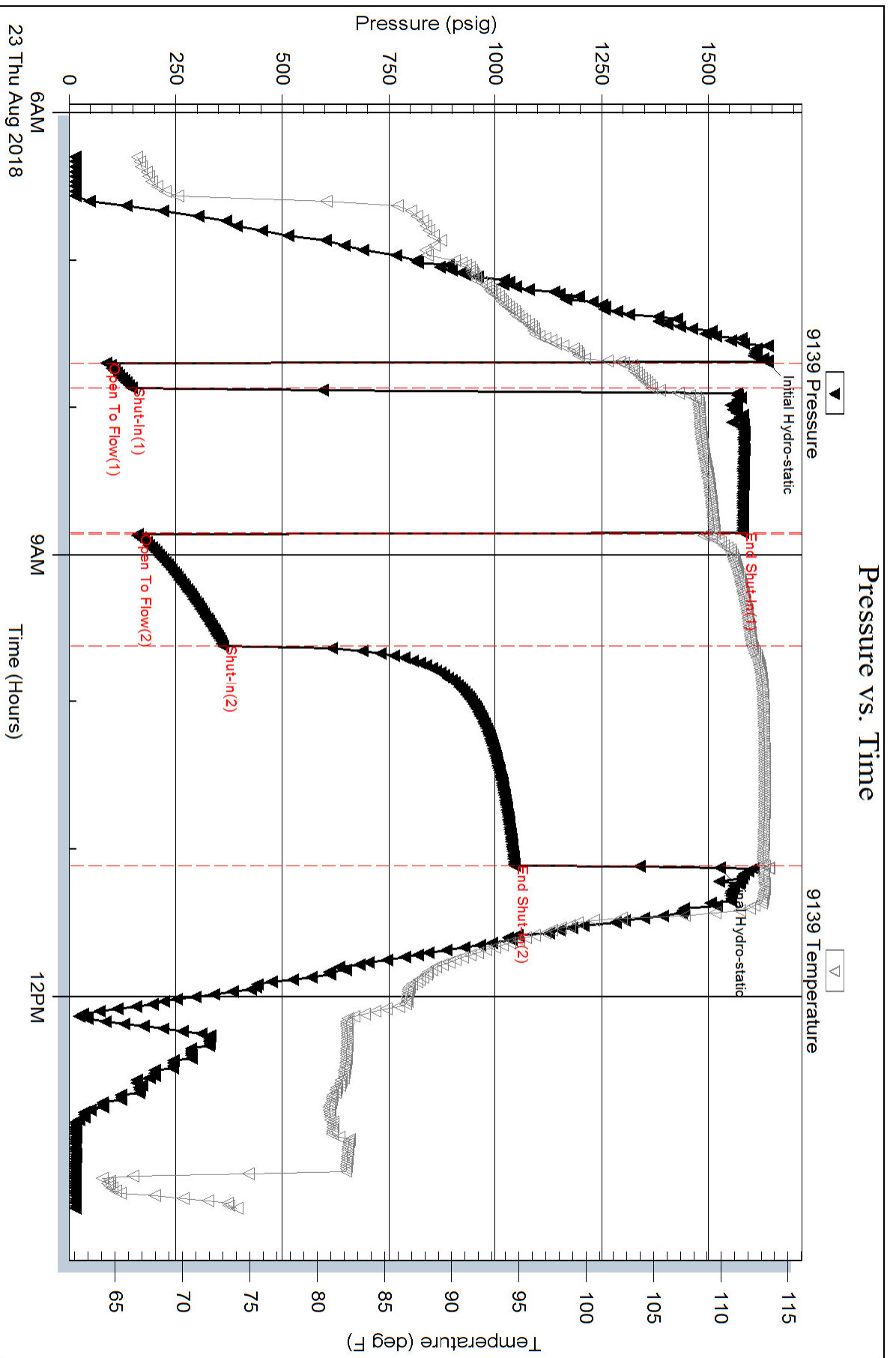
Total Length: 700.00 ft      Total Volume: 9.819 bbl

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

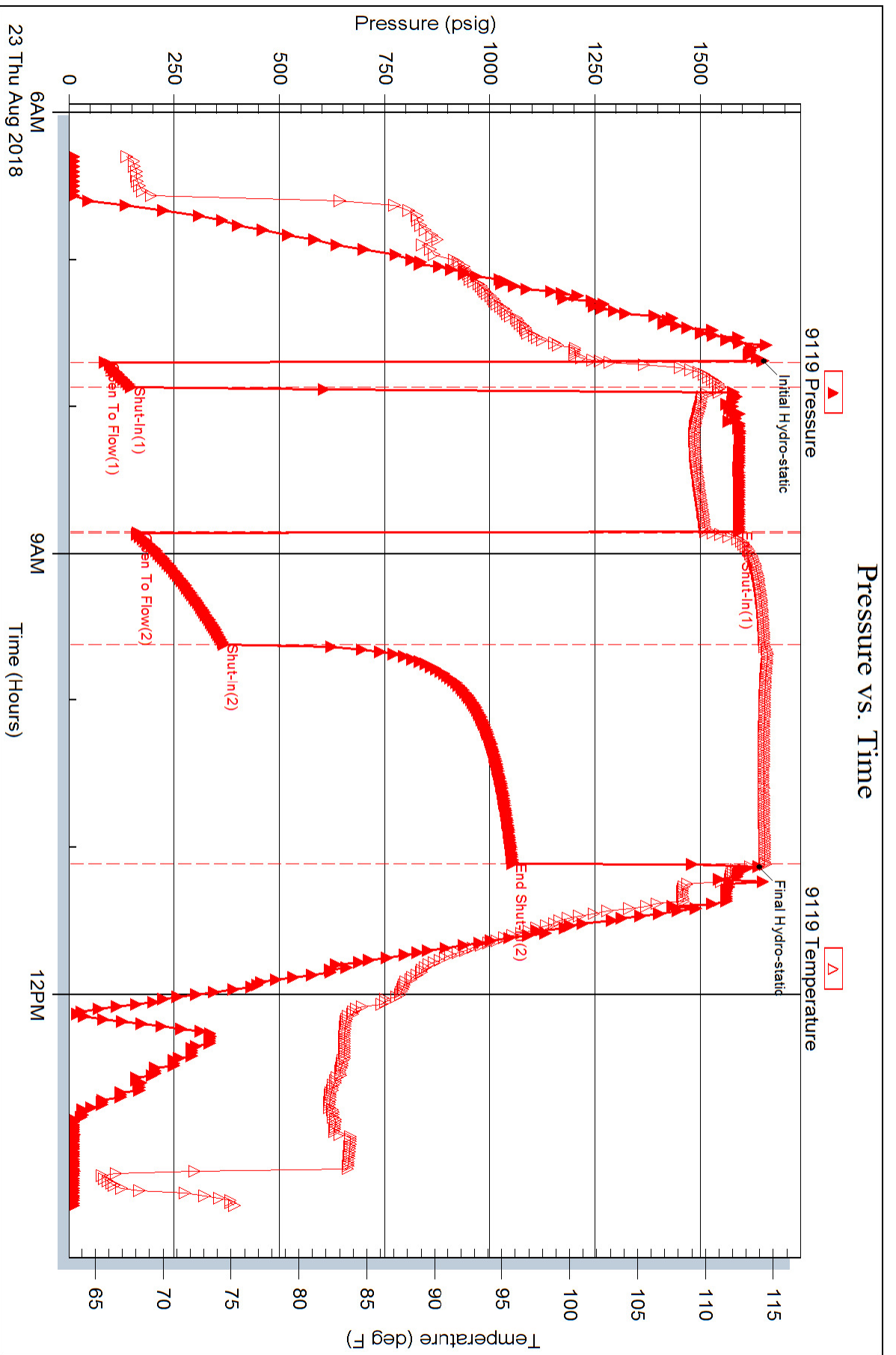
Laboratory Name:      Laboratory Location:

Recovery Comments:

# Pressure vs. Time







# LITHOLOGY STRIP LOG

## WellSight Systems

Scale 1:240 (5"=100') Imperial  
Measured Depth Log

Well Name: MILLARD TRUST #2-31

Well Id:

Location: SEC 31-18S-13W

License Number: 15-009-26226

Spud Date: 8/13/18

Surface Coordinates: 2310' FSL, 150' FEL,  
180' E. of NE NE SE

Region: BARTON, CO

Drilling Completed: 8/24/18

Bottom Hole

Coordinates:

Ground Elevation (ft): 1881'

K.B. Elevation (ft): 1889'

Logged Interval (ft): To:

Total Depth (ft):

Formation:

Type of Drilling Fluid: Starch/Chemical

Printed by WellSight LogViewer from WellSight Systems 1-800-447-1534 www.WellSight.com

### OPERATOR

Company: F. G. Holl Company L.L.C.

Address: 9431 E. Central ST #100  
Wichita, KS 67206

### GEOLOGIST

Name: Ryan Greenbaum

Company: F. G. Holl Company, L.L.C.


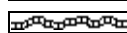
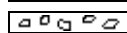

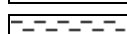

Address:


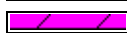




### Cores


### DSTs





### Comments

### ROCK TYPES

 Anhy  
 Bent  
 Brec  
 Cht  
 Clyst  
 Coal

 Congl  
 Dol  
 Gyp  
 Igne  
 Lmst  
 Meta

 Mrlst  
 Salt  
 Shale  
 Shcol  
 Shgy  
 Slst

 Ss  
 Till  
 Blk shale  
 Cng

### ACCESSORIES

#### MINERAL

- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Brecfrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel
- Ferr
- Glau
- Gyp
- Hvymin
- Kaol
- Marl

- Minxl
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff

#### FOSSIL

- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral

- Crin
- Echin
- Fish
- Foram
- Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom

#### STRINGER

- Anhy
- Arg
- Bent
- Coal
- Dol

- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg

#### TEXTURE

- Boundst
- Chalky
- Cryxln
- Earthy
- Finexln
- Grainst
- Lithogr
- Microxln
- Mudst
- Packst
- Wackest

### OTHER SYMBOLS

#### POROSITY

- Earthy
- Fenest
- Fracture
- Inter
- Moldic
- Organic
- Pinpoint
- Vuggy

#### SORTING

- Well
- Moderate
- Poor

#### ROUNDING

- Rounded
- Subrnd
- Subang

- Angular

#### OIL SHOW

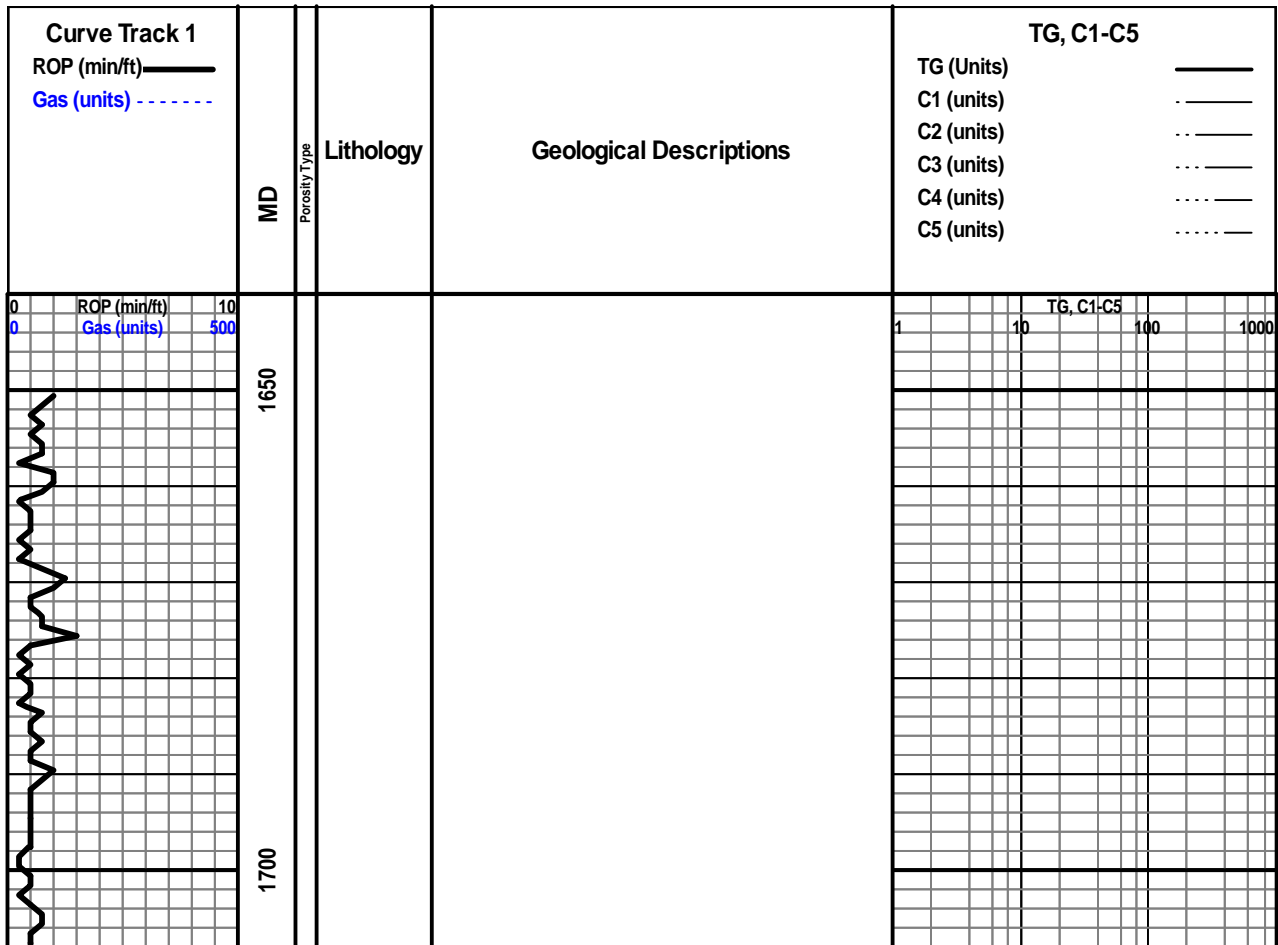
- Even
- Spotted
- Ques
- Dead

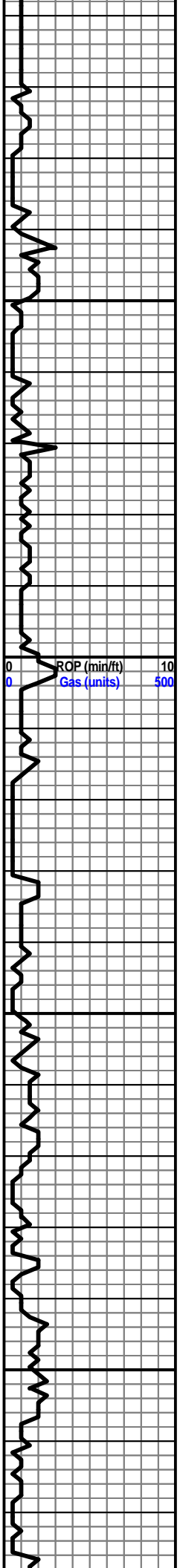
#### INTERVAL

- Core
- Dst

#### EVENT

- Rft
- Sidewall



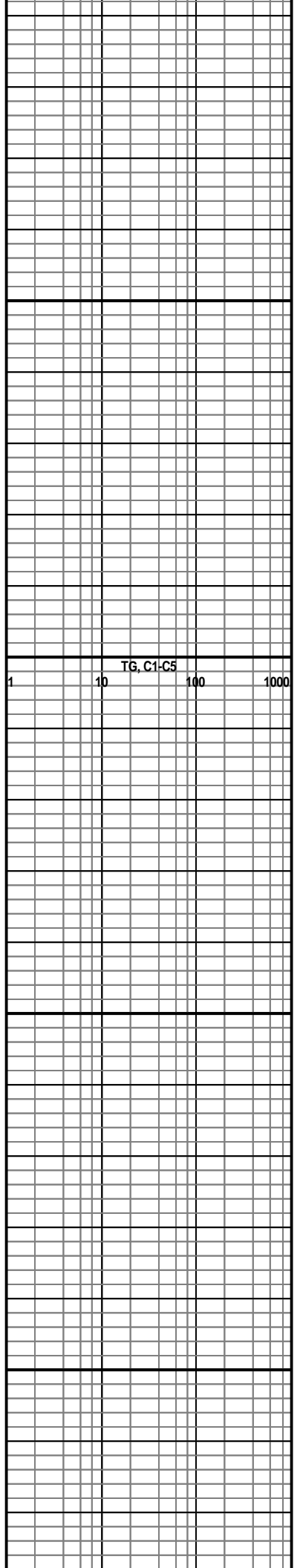


1750

1800

1850

1900



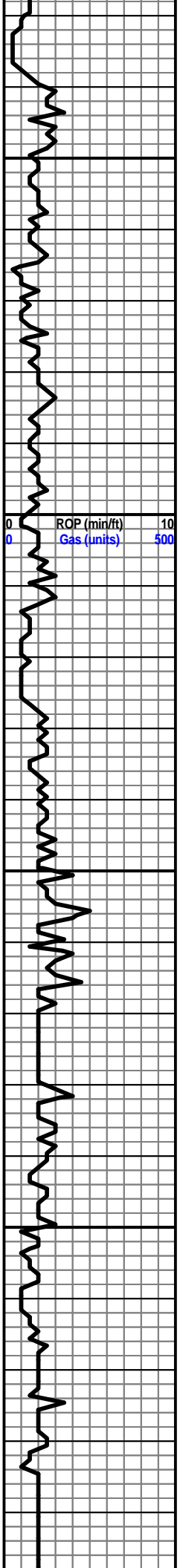
TG, C1-C5

1

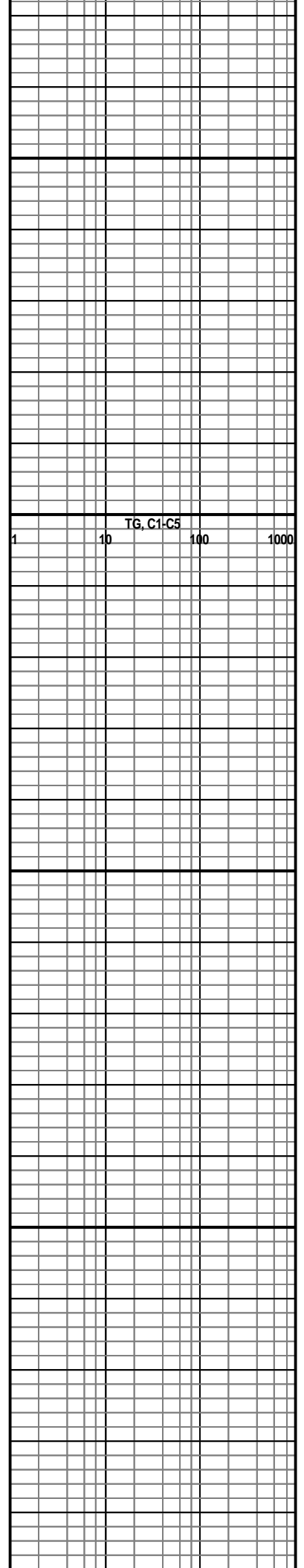
10

100

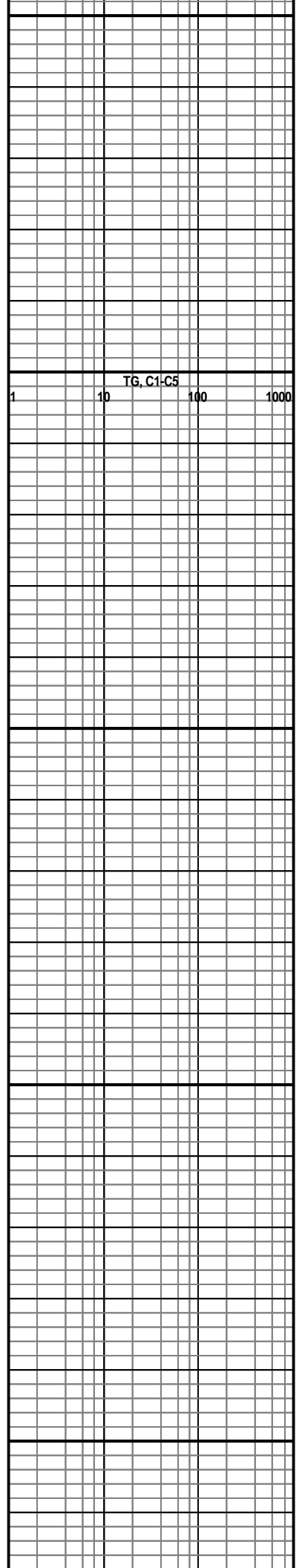
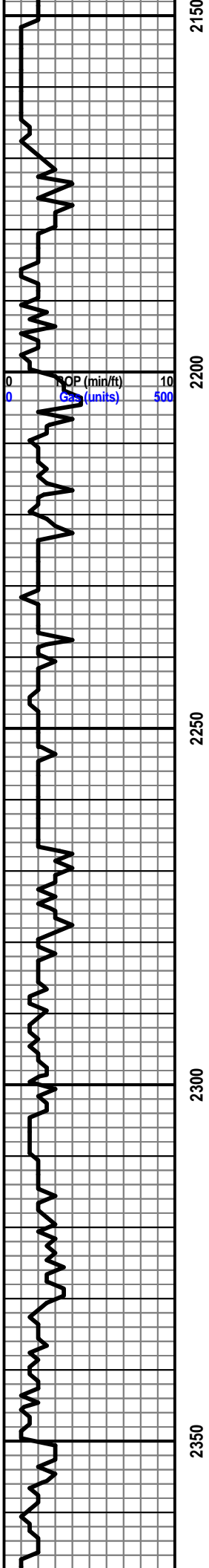
1000

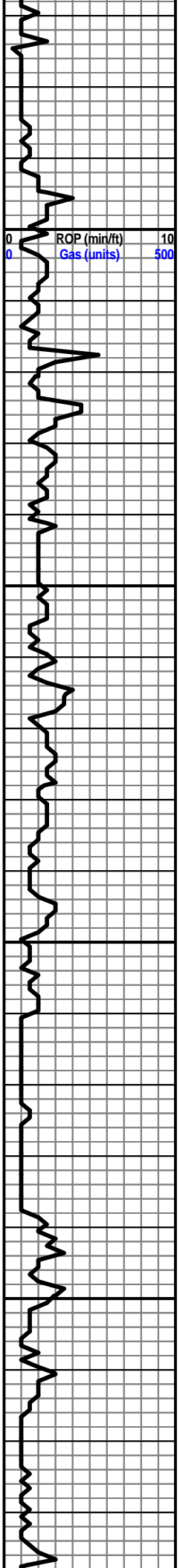


2100 2050 2000 1950



1 10 100 1000





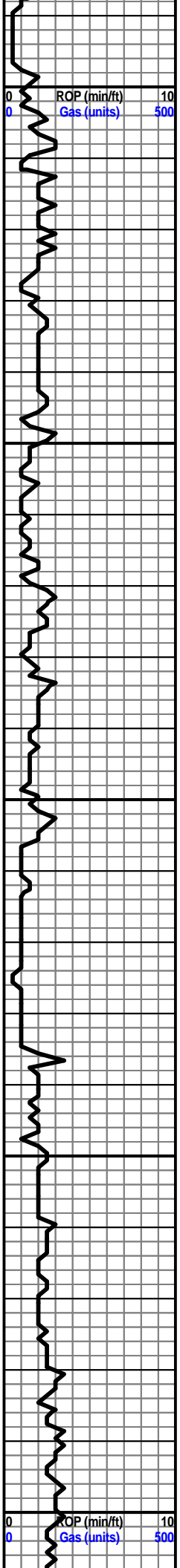
2400

2450

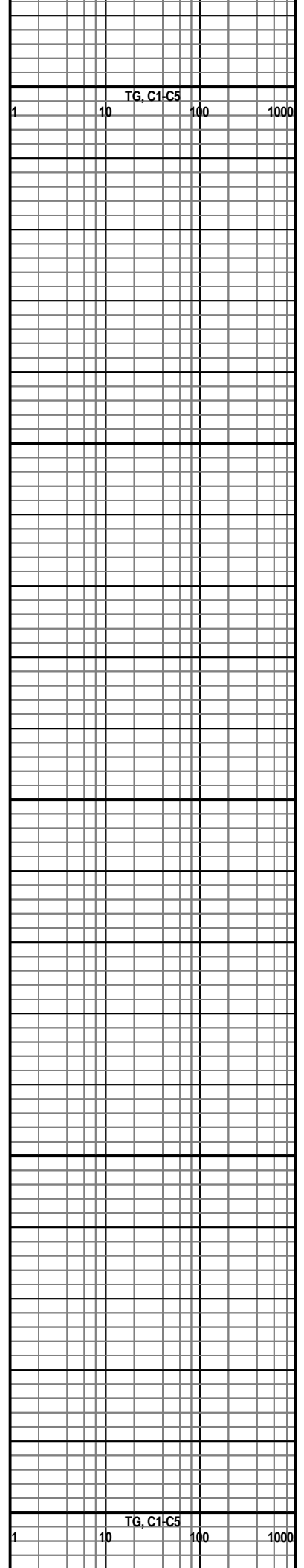
2500

2550

TG, C1-C5  
1 10 100 1000

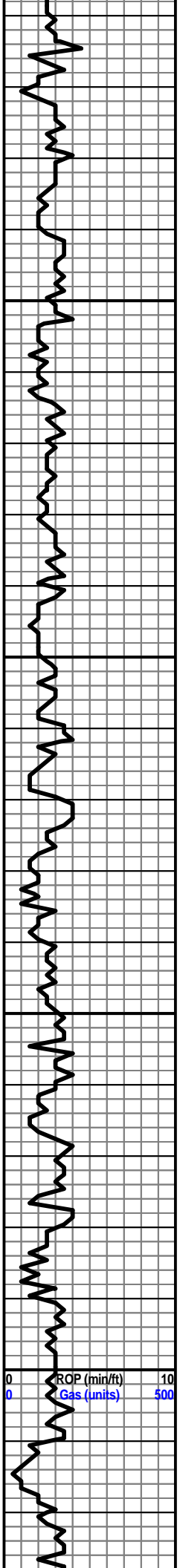


2600  
2650  
2700  
2750  
2800



1 10 TG, C1-C5 100 1000  
1 10 TG, C1-C5 100 1000





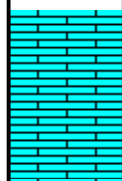
2850

2900

2950

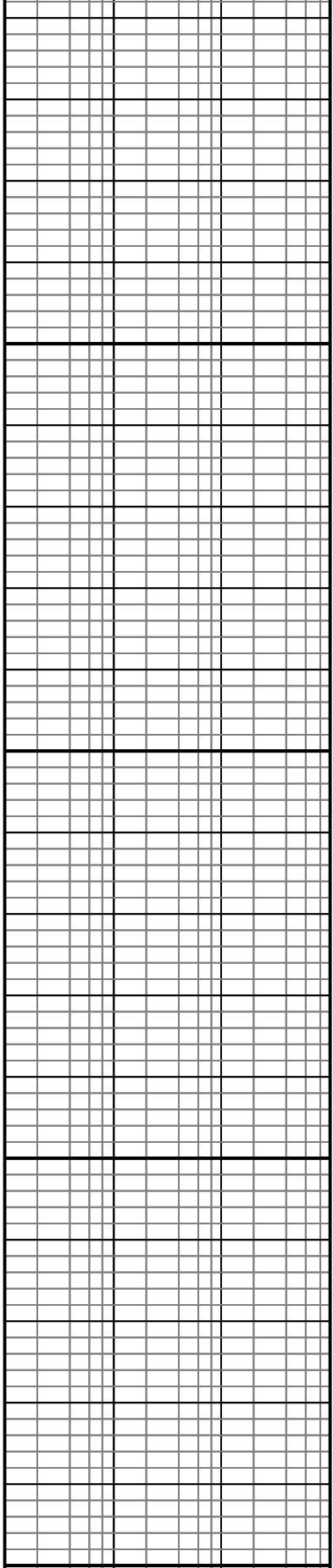
3000

ROP (min/ft) 10  
Gas (units) 500

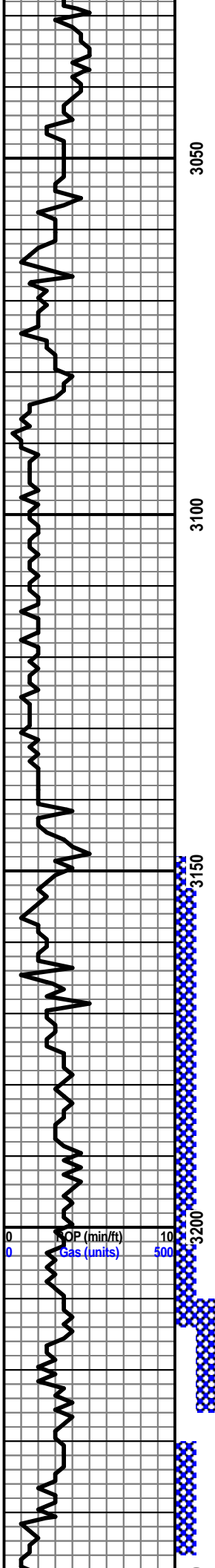


LS-TAN, F GRN, XLN, HD-BRTL, PR-FR OOLM  
POR

LS-TAN-LT TAN, F GRN, XLN-WXY, MSTLY HD,  
SMWT DNS, RDN STAINC



TG, C1-C5  
1 10 100 1000



SMWT DNS, BRN STNING  
 LS-GRY-TAN, F GRN, XLN, HD, FOSS-FUS

**HEEBNER 3061' (-1172')**

SH-BLK

50+ UNIT GAS KICK

**BROWN LS 3145' (-1256')**

LS-GRY/TAN-BRN, F GRN, XLN, HD, DNS

**LKC 3154'(-1265')**

LS-TAN-LT TAN, F GRN, XLN, HD-BRTL, TR-FR  
 INTRXLN/FAC POR, SHW OIL FNT ODR,  
 W/CHRT-LT TAN, FRAC, SHW OIL

50+ UNIT GAS KICK

LS-TAN-LT TAN, F GRN, XLN, HD-BRTL, TR-FR  
 INTRXLN POR, SHW OIL, SHW GAS, FR ODR

DST #1 3148'-3214'  
 20' MUD

LS-TAN-GRY/TAN, F GRN, XLN, MSTLY HD, DNS,  
 SHW FREE OIL

LS-TAN-LT TAN, F GRN, XLN, HD-BRTL, PRTLY  
 DNS, PR-FR INTRXLN POR, SHW OIL, FR ODR

100 UNIT GAS KICK

LS-TAN-LT TAN, F GRN, XLN, HD-BRTL, PR-FR  
 INTRXLN POR, OOL, SHW OIL, SHW GAS, FR  
 ODR

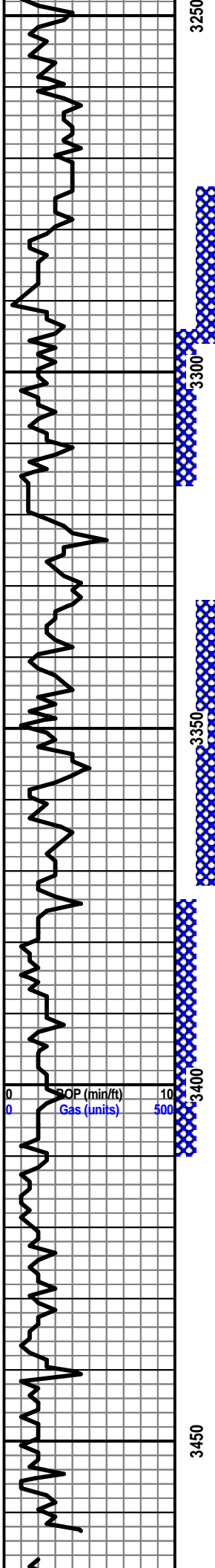
DST #2 3210'-3225'  
 10' MUD

LS-LT TAN, F GRN, XLN-CHLKY, MSTLY BRTL,  
 OOL, BRN STND, FR-GD INTRXLN POR, SHW  
 GAS, SHW OIL, FNT-FR ODR

LS-GRY, F GRN, XLN, MSTLY HD, MSTLY DNS,  
 TR-FR FRAC POR, SHW OIL, SHW GAS, PYR,  
 CHRT W/SHW OIL

DST #3 3231'-3246'  
 300' WATER

LS-LT TAN, F GRN, XLN, HD-BRTL, PR-FR OOLM  
 POR, SHW OIL FRAC FACE



3250

LS-LT TAN, F GRN, XLN, HD-BRTL, TR-FR OOLM POR

LS-LT BRN, F GRN, XLN, HD, DNS

LS-LT BRN-GRY/TAN, F GRN, XLN, MSTLY HD, DNS

LS-V LT TAN, F GRN, XLN, HD-BRTL, OOL, PR-GD OOLM POR, BLK STND, GD SHW LT OIL, SHW GAS, STRNG ODR

LS-LT TAN, F GRN, XLN, HD, DNS

LS-LT TAN, F GRN, XLN-SMWT CHLKY, HD-BRTL, PRTLY DNS, OOL, PR-FR INTRPRT POR, GD SHW OIL, SHW GAS, STRNG ODR

LS-TAN, F GRN, XLN, HD, DNS, TR-FR INTRXLN POR, SHW OIL, SHW GAS

LS-TAN-LT GRY/TAN, F GRN, XLN, HD, DNS

LS-LT TAN, F GRN, XLN-CHLKY, HD-BRTL

LS-LT TAN, F GRN, XLN, HD-BRTL, PR-FR INTRPRT POR, SHW OIL, SHW GAS, FR ODR

LS-LT TAN, F GRN, XLN, MSTLY HD, MSTLY DNS

LS-LT TAN, F GRN, XLN, HD-BRTL, PRTLY DNS, OOL, TR-FR INTRPRT POR, BLK STND, SHW OIL, SHW GAS, FR ODR

LS-LT TAN, F GRN, XLN, HD-BRTL, PRTLY DNS, MSTLY OOL

CNG SH-RED-GRY, BLKY-SFT, W/LS-GRY/TAN-RED, HD

CNG SH-RED-GRY-LT BLU/GRY, BLKY-SFT, W/LS-LT TAN, F GRN, XLN, HD, W/CHRT-OFF WHT-YLW-RED

**ARBUCKLE 3401' (-1512')**

DOL-LT TAN-LT GRY/TAN, F-M GRN, XLN, HD-BRTL, PRTLY DNS, PR-FR INTRXLN POR, SHW OIL, SHW GAS, STRNG ODR

DOL-LT GRY/TAN, M-L GRN, XLN, HD-BRTL, FR INTRXLN POR, GD SHW OIL, SHW GAS, STRNG ODR, PRTLY BLK STND

DOL-V LT GRY, M GRN, XLN, HD-BRTL, PR-FR INTRXLN POR, BLK STND, SHW LT OIL, STRNG ODR

DOL-V LT GRY, M GRN, XLN, HD-BRTL, PR-FR INTRXLN POR, FR SHW OIL, SHW GAS, STRNG ODR, BLK STND

DOL-V LT GRY/TAN, F-M GRN, XLN, HD-BRTL, PR-FR INTRXLN POR, SMWT DNS, SHW DK BRN OIL, FR-STRNG ODR

DOL-V LT TAN, F GRN, XLN, HD-BRTL, SMWT DNS, TR FRAC FACE POR W/SHW OIL & GAS, FR ODR

3400

DOL-V LT GRY/TAN, F-M GRN, XLN, HD-BRTL, TR-FR INTRXLN POR, SMWT DNS, SHW LT FREE OIL, FNT ODR, W/PYR

DOL-V LT GRY/TAN, F-M GRN, XLN, HD-BRTL, TR-FR INTRXLN POR, SMWT DNS, TR SHW LT

3450

DST #4 3275'-3295'  
200' MUD

DST #5 3295'-3315'  
1950' GAS IN PIPE  
200' CLEAN GASSY OIL  
20' MUDDY WATER

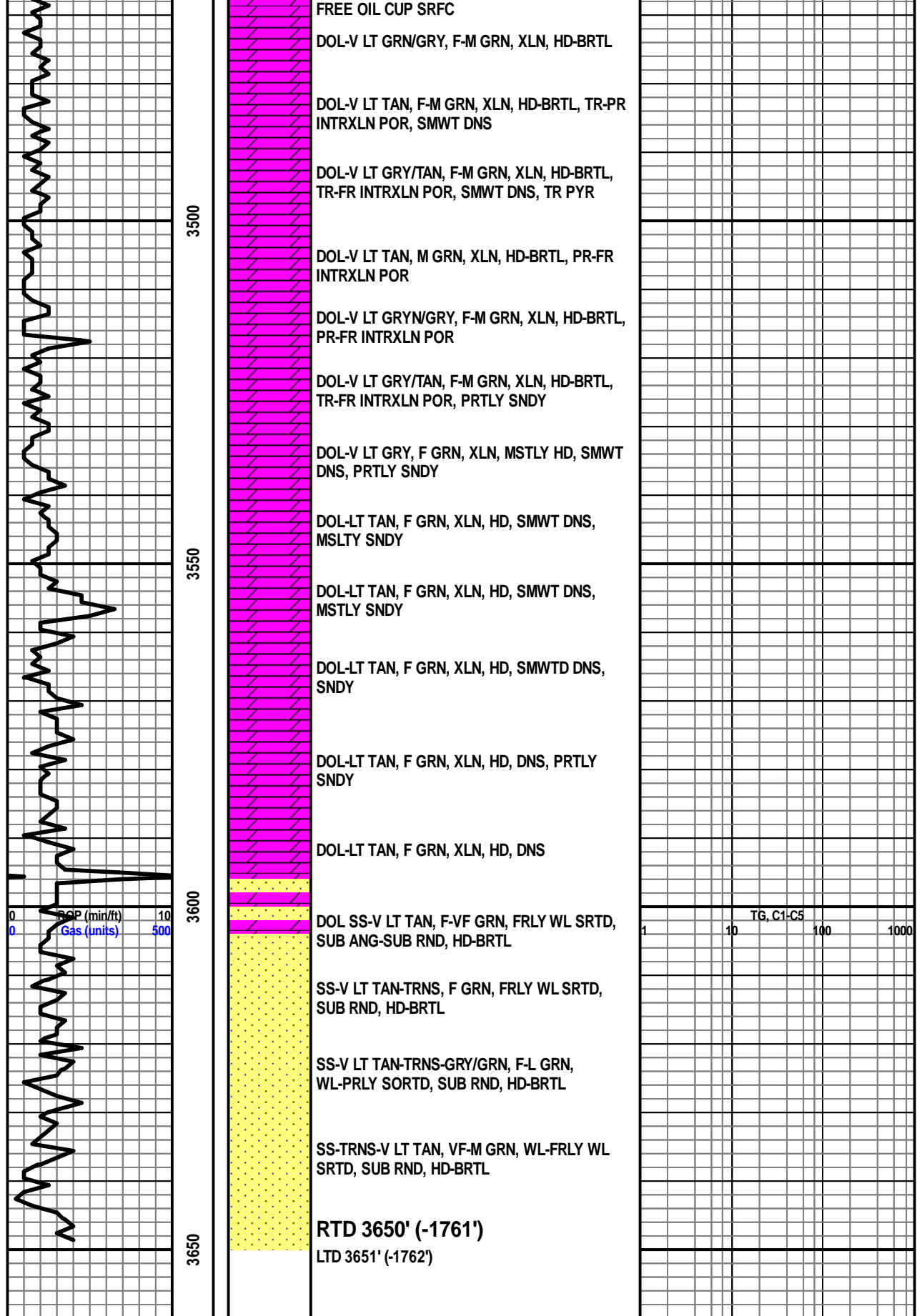
GEOLOGRAPH DOWN  
3316'-3320'

DST #6 3338'-3371'  
GAS TO SURFACE  
720' CLEAN GASSY OIL  
60' OIL & GAS CUT MUD  
60' SLIGHTLY MUD CUT WATER

100 UNIT GAS KICK

DST #7 3375'-3410'  
60' GAS IN THE PIPE  
40' CLEAN OIL  
120' OGCMW  
2%G, 28%O, 35%M, 35%W  
180' SLIGHTLY OGCMW  
2%G, 10%O, 10%M, 78%W  
180' SLIGHTLY GCMW  
2%G, 5%M, 93%W

GEOLOGRAPH  
CORRECTED





**BASIC**<sup>SM</sup>  
ENERGY SERVICES  
PRESSURE PUMPING & WIRELINE

10244 NE Hwy. 61  
P.O. Box 8613  
Pratt, Kansas 67124  
Phone 620-672-1201

*MH-43*

**FIELD SERVICE TICKET**  
1718 17022 A

DATE \_\_\_\_\_ TICKET NO. \_\_\_\_\_

DATE OF JOB: <i>8-25-18</i> DISTRICT: <i>Pratt</i>		NEW WELL <input checked="" type="checkbox"/> OLD WELL <input type="checkbox"/> PROD <input type="checkbox"/> INJ <input type="checkbox"/> WDW <input type="checkbox"/> CUSTOMER ORDER NO.:								
CUSTOMER: <i>F G Holl</i>		LEASE: <i>Millard Trust</i> WELL NO.:								
ADDRESS:		COUNTY: <i>Barton</i> STATE: <i>KS</i>								
CITY: _____ STATE: _____		SERVICE CREW: <i>MATT HARRISON DORR</i>								
AUTHORIZED BY:		JOB TYPE: <i>2-42 5/2" Losses</i>								
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED	DATE	AM	PM	TIME
<i>19843</i>	<i>1</i>						<i>8-24</i>			<i>5:00</i>
						ARRIVED AT JOB				<i>10:00</i>
<i>19862</i>	<i>.5</i>					START OPERATION	<i>8-25</i>			<i>6:15</i>
						FINISH OPERATION				<i>7:00</i>
						RELEASED				<i>8:15</i>
						MILES FROM STATION TO WELL				<i>6.5</i>

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered).

The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only those terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without the written consent of an officer of Basic Energy Services LP.

SIGNED: *[Signature]*  
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
CP105	AA-2	sq	150		
CP103	60/40 P02	sq	50		
CC102	Collorative	lb	38		
CC105	C-41P	lb	71		
CC111	SALL	lb	654		
CC189	MMS Chem 10 cc	lb	423		
CC148	C-17	lb	85		
CC201	Gilsonite	lb	1538		
CF1251	Anchor All Round 5/8"	ea	1		
CF607	LATCH DOWN Plug + buffer 5/8"	ea	1		
CF1901	basest 5/8"	ea	1		
CF1651	fu... 5/8"	ea	8		
CF2002	SCREW ROTATING TYPE	ea	60		
CF151	SUPERFUS	gal	500		

SUB TOTAL

CHEMICAL / ACID DATA:			

SERVICE & EQUIPMENT	%TAX ON \$		
MATERIALS	%TAX ON \$		

TOTAL

*Tot*

SERVICE REPRESENTATIVE: *Minda Mattal*

THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: *[Signature]*

(WELL OWNER OPERATOR CONTRACTOR OR AGENT)

FIELD SERVICE ORDER NO.

TTM 11  
43

Customer <b>F G Holl</b>	Lease No.	Date <b>8-25-18</b>
Lease <b>Millard Trust</b>	Well # <b>2-31</b>	
Field Order # <b>17022</b>	Station <b>AKATT</b>	Casing <b>5 1/2</b> Depth <b>3630</b> County <b>BARTON</b> State <b>MO</b>
Type Job <b>Z-47 5 1/2" Long string</b>	Formation <b>LTD 3651</b>	Legal Description <b>31-185-13W</b>

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME	
Casing Size <b>5 1/2</b>	Tubing Size	Shots/Ft		Acid <b>50 SA 60</b>	<b>40 PATE</b>	PRESS	ISIP
Depth <b>3649</b>	Depth	From	To	Pre Pad <b>290 g 1</b>	Max <b>5 MP</b>	<b>5,150 psi</b>	5 Min.
Volume <b>84.66</b>	Volume	From	To	Pad <b>150 SA</b>	Min <b>1.2</b>		10 Min.
Max Press <b>1,500</b>	Max Press	From	To	Frac <b>600 F fluid</b>	Avg <b>59</b>		15 Min.
Well Connection	Annulus Vol.	From	To	<b>370 mag chert 100</b>	HHP Used <b>10 PPS</b>		Annulus Pressure <b>2.5W 10% SALT</b>
Plug Depth <b>3634</b>	Packer Depth	From	To	Flush <b>84.31</b>	Gas Volume		Total Load

Customer Representative <b>Rob Long</b>	Station Manager <b>Westman</b>	Treater <b>MATTIA</b>
Service Units <b>83353</b>	<b>19843</b>	<b>7059 19862</b>
Driver Names <b>MATTIA</b>	<b>Hanson</b>	<b>Deerick</b>

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
10:05					ON location / SAFETY meeting
1:53					Run 5 1/2" casing 17# 15' shoe
3:33					BASED ON #6 TUBES 1,3,4,5,6,7,8,9
3:45					Casing ON BOTTOM
6:15	100		12	4	HOOD TO casing / BREAK CIRC W. RIG
6:19	100		5	4	PUMP 5 bbl WATER
6:20	150		5.5	5	MIX 25 SK, SCAVING
6:21	150		3.8	5	MIX 25 SK, PATE
6:32			4	3	WASH PUMP LINE / DROP PLUG
6:34	100			6	START DISPLACEMENT
6:44	300		57	5.5	LIFT PRESSURE
6:47	350		74	3	SLOW RATE + STOP ROTATING
6:50	1500		84.3		PLUG DOWN / RELEASED + HOLD
6:55			7		PLUG KAT hole
					CIRC. THRU TOB
					JOB COMPLETE
					THANK YOU!
					MIKE MATTIA
					JOSH + DEERICK



**BASIC**<sup>SM</sup>  
ENERGY SERVICES  
PRESSURE PUMPING & WIRELINE

10244 NE Hwy. 61  
P.O. Box 8613  
Pratt, Kansas 67124  
Phone 620-672-1201

31-185-130

FIELD SERVICE TICKET  
1718 16892 A

DATE \_\_\_\_\_ TICKET NO. \_\_\_\_\_

DATE OF JOB: 8/14/2018		DISTRICT: PISTONIKS		NEW WELL <input checked="" type="checkbox"/> OLD WELL <input type="checkbox"/>		PROD <input type="checkbox"/> INJ <input type="checkbox"/> WDW <input type="checkbox"/>		CUSTOMER ORDER NO.:		
CUSTOMER: FG Hall				LEASE: M. J. Gid Trust				WELL NO. 2-37		
ADDRESS:				COUNTY: Barton		STATE: KS				
CITY:				STATE:		SERVICE CREW: D. G. N., M. McGrew				
AUTHORIZED BY:				JOB TYPE: 242/8 5/4 Soil Proc						
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED	DATE	AM/PM	TIME	
19843	1						8/14	AM	10:15	
19860	1/2						8/14	AM	12:00	
							8/14	AM	2:15	
							8/14	AM	3:15	
							8/14	AM	3:30	
						MILES FROM STATION TO WELL: 56				

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered).

The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only those terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without the written consent of an officer of Basic Energy Services LP.

SIGNED: Hector Torres  
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
CP101	A-Con Blend Common	SK	175		
CP100	Common	SK	175		
CC102	Cellofiske	Lb	88		
CE109	Calcium Chloride	Lb	825		
CF105	TOP Rubber Cement Plus, 8 5/8	ES	1		
CF1773	Cementizer, 8 5/8 x 12 1/4	ES	3		
CF753	Bellie Plastic Alum. num, 8 5/8 (Blue)	ES	1		
E100	Unit mileage Charge - Pickups, small trucks & cars <sup>one way</sup>	m.	65		
E101	Heavy Equipment Mileage	m.	130		
E113	Proppant - one Bulk Delivery, Chassis, per ton	Ton	1073		
CE201	Depos. Charge; 501-1000'	4hr	1		
CE240	Blending & Mixing Service Charge	SK	350		
CE504	Plus Cons. per Utilization Charge	Job	1		
SC03	Service Supervisor, first 8 hrs on loc.	ES	1		

SUB TOTAL

CHEMICAL / ACID DATA:			

SERVICE & EQUIPMENT	%TAX ON \$
MATERIALS	%TAX ON \$

Disc. Torres TOTAL

SERVICE REPRESENTATIVE: Jason K... .. THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: Hector Torres  
(WELL OWNER OPERATOR CONTRACTOR OR AGENT)

FIELD SERVICE ORDER NO.

Customer <b>FG Hall</b>	Lease No.	Date <b>8/14/2018</b>
Lease <b>M, 11912 Trust</b>	Well # <b>2-31</b>	
Field Order # <b>16852</b>	Station <b>Pratt, KS</b>	Casing <b>8 5/8</b>
		Depth <b>856</b>
Type Job <b>242/8 5/8 Sulfate</b>	Formation <b>TD-856</b>	County <b>Barton</b>
		State <b>KS</b>
		Legal Description <b>31-185-13W</b>

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size <b>8 5/8</b>	Tubing Size	Shots/Ft		Acid		RATE	PRESS	ISIP
Depth <b>856</b>	Depth	From	To	Pre Pad	Max			5 Min.
Volume <b>54.5</b>	Volume	From	To	Pad	Min			10 Min.
Max Press	Max Press	From	To	Frac	Avg			15 Min.
Well Connection	Annulus Vol.	From	To		HHP Used			Annulus Pressure
Plug Depth <b>814</b>	Packer Depth	From	To	Flush <b>Water</b>	Gas Volume			Total Load

Customer Representative	Station Manager <b>Justin Westkimen</b>	Treater <b>Darin Franklin</b>
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Service Units	<b>92911</b>	<b>78982</b>	<b>19843</b>	<b>19903</b>	<b>19860</b>				
Driver Names	<b>Darin</b>	<b>McGrew</b>	<b>McGrew</b>						

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
<b>12:00pm</b>					<b>ON LOCATION / Safety meeting</b>
					<b>175SK A-Con Blend Common, 3% CC</b>
					<b>1/4#CF, 12pps, 2.47 vol, 14.45 WSP</b>
					<b>175SK Common, 2%CC, 1/4#CF</b>
					<b>15.6pps, 1.70 vol, 5.23 WSP</b>
<b>2:15pm</b>	<b>200</b>		<b>3</b>	<b>5</b>	<b>Pump 3bbls Water</b>
	<b>200</b>		<b>77</b>	<b>5</b>	<b>mix 175SK Loss Cement</b>
	<b>200</b>		<b>32</b>	<b>5</b>	<b>mix 175SK 79.1 Cement</b>
					<b>Shut down</b>
					<b>Release Plug</b>
	<b>300</b>		<b>0</b>	<b>5</b>	<b>Start displacement</b>
	<b>300</b>		<b>43</b>	<b>3</b>	<b>slow rate</b>
	<b>300</b>		<b>53</b>	<b>3</b>	<b>Bump Plug - Did not bump</b>
<b>3:15pm</b>	<b>300</b>				<b>Shut in</b>
					<b>Cement did circulate 2 bbls</b>
					<b>Job complete / Darin &amp; crew</b>
					<b>Thank you!!</b>