



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1168333  
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

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       SIOW
- Gas       D&A       ENHR       SIGW
- OG       GSW       Temp. Abd.
- 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 ENHR       Conv. to SWD
- Plug Back       Conv. to GSW       Conv. to Producer
- Commingled      Permit #: \_\_\_\_\_
- Dual Completion      Permit #: \_\_\_\_\_
- SWD      Permit #: \_\_\_\_\_
- ENHR      Permit #: \_\_\_\_\_
- GSW      Permit #: \_\_\_\_\_

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - \_\_\_\_\_

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
- Geologist Report Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_



1168333

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  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				

Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 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)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD:      Size: \_\_\_\_\_ Set At: \_\_\_\_\_ Packer At: \_\_\_\_\_ Liner Run:  Yes  No

Date of First, Resumed Production, SWD or ENHR: \_\_\_\_\_ Producing Method:  
 Flowing  Pumping  Gas Lift  Other *(Explain)* \_\_\_\_\_

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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Form	ACO1 - Well Completion
Operator	F. G. Holl Company L.L.C.
Well Name	HANSON 'A' UNIT 1-15
Doc ID	1168333

All Electric Logs Run

DIL
CDL/CNL
Microresistivity log
BHCS
Fracfinder
CPI

Form	ACO1 - Well Completion
Operator	F. G. Holl Company L.L.C.
Well Name	HANSON 'A' UNIT 1-15
Doc ID	1168333

Tops

Name	Top	Datum
Herrington	1993	+40
Winfield	2041	-8
Towanda	2104	-71
Fort Riley	2150	-117
B/Florence	2245	-212
Kinney LS	2261	-228
Wrefold	2291	-258
Council Grove	2311	-278
Crouse	2350	-317
Neva	2484	-451
Red Eagle	2547	-514
Onaga Shale	2701	-668
Wabaunsee	2723	-690
Root Shale	2772	-739
Stotler	2836	-803
Tarkio	2895	-862
Howard	3034	-1001
Severy Shale	3094	-1061
Topeka	3111	-1078
Heebner	3371	-1338
Toronto	3388	-1355
Douglas Shale	3399	-1366
Brown Lime	3452	-1419
LKC	3460	-1427

Form	ACO1 - Well Completion
Operator	F. G. Holl Company L.L.C.
Well Name	HANSON 'A' UNIT 1-15
Doc ID	1168333

Tops

Name	Top	Datum
Drum	3598	-1565
BKC	3699	1666
Arbuckle	3743	-1710

Conservation Division  
Finney State Office Building  
130 S. Market, Rm. 2078  
Wichita, KS 67202-3802



Phone: 316-337-6200  
Fax: 316-337-6211  
<http://kcc.ks.gov/>

Mark Sievers, Chairman  
Thomas E. Wright, Commissioner  
Shari Feist Albrecht, Commissioner

Sam Brownback, Governor

November 14, 2013

Franklin R. Greenbaum  
F. G. Holl Company L.L.C.  
9431 E CENTRAL STE 100  
WICHITA, KS 67206-2563

Re: ACO1  
API 15-145-21734-00-00  
HANSON 'A' UNIT 1-15  
SE/4 Sec.15-20S-16W  
Pawnee County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,  
Franklin R. Greenbaum



## DRILL STEM TEST REPORT

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

9431 East Central Ste 100  
Wichita Ks. 67206

ATTN: Ryan Greenbaum

### **Hanson A Unit 1-15**

### **15-20s-16w Pawnee**

Start Date: 2013.10.23 @ 12:34:00

End Date: 2013.10.23 @ 17:35:00

Job Ticket #: 18572                      DST #: 1

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2013.10.23 @ 03:49:45



# DRILL STEM TEST REPORT

F.G Holl Company LLC.

**15-20s-16w Pawnee**

9431 East Central Ste 100  
Wichita Ks. 67206

**Hanson A Unit 1-15**

Job Ticket: 18572

**DST#: 1**

ATTN: Ryan Greenbaum

Test Start: 2013.10.23 @ 12:34:00

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:16:30

Time Test Ended: 17:35:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Ellis

Unit No: 3315-Great Bend -35

**Interval: 3740.00 ft (KB) To 3750.00 ft (KB) (TVD)**

Reference Elevations: 2033.00 ft (KB)

Total Depth: 3750.00 ft (KB) (TVD)

2025.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 6839 Inside**

Press @ Run Depth: 1232.49 psia @ 3747.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2013.10.23

End Date: 2013.10.23

Last Calib.: 2013.10.23

Start Time: 12:34:00

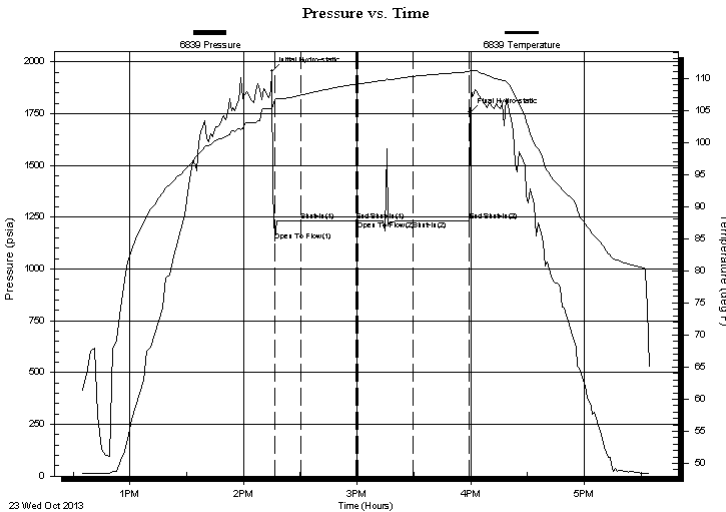
End Time: 17:35:00

Time On Btm: 2013.10.23 @ 14:15:00

Time Off Btm: 2013.10.23 @ 15:59:30

**TEST COMMENT:** 1st Open 15 minutes Weak surface blow that died off after 9 minutes.  
1st Shut in 30 minutes No blow back.  
2nd Open 30 minutes Dead Flushed tool w eak surface blow that died off.  
2nd Shut in 30 minutes No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1954.85	105.21	Initial Hydro-static
2	1137.66	106.65	Open To Flow (1)
15	1233.13	107.32	Shut-In(1)
45	1234.08	109.05	End Shut-In(1)
46	1234.10	109.09	Open To Flow (2)
75	1232.49	110.25	Shut-In(2)
104	1232.95	110.99	End Shut-In(2)
105	1755.29	111.16	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	Mud 100%	0.28

## Gas Rates

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





# DRILL STEM TEST REPORT

F.G Holl Company LLC.

**15-20s-16w Pawnee**

9431 East Central Ste 100  
Wichita Ks. 67206

**Hanson A Unit 1-15**

Job Ticket: 18572

**DST#: 1**

ATTN: Ryan Greenbaum

Test Start: 2013.10.23 @ 12:34:00

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:16:30

Time Test Ended: 17:35:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Ellis

Unit No: 3315-Great Bend -35

**Interval: 3740.00 ft (KB) To 3750.00 ft (KB) (TVD)**

Reference Elevations: 2033.00 ft (KB)

Total Depth: 3750.00 ft (KB) (TVD)

2025.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8524 Outside**

Press @ Run Depth: 1232.23 psia @ 3746.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2013.10.23

End Date: 2013.10.23

Last Calib.: 2013.10.23

Start Time: 12:34:00

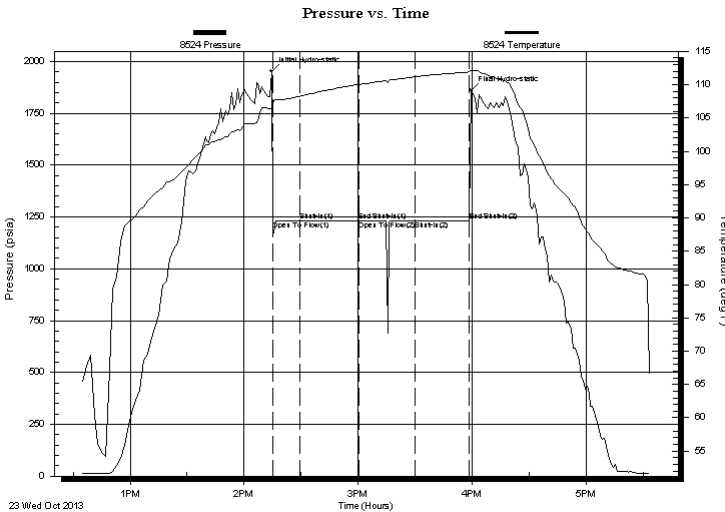
End Time: 17:34:00

Time On Btm: 2013.10.23 @ 14:14:30

Time Off Btm: 2013.10.23 @ 15:59:30

**TEST COMMENT:** 1st Open 15 minutes Weak surface blow that died off after 9 minutes.  
1st Shut in 30 minutes No blow back.  
2nd Open 30 minutes Dead Flushed tool w eak surface blow that died off.  
2nd Shut in 30 minutes No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1952.80	106.38	Initial Hydro-static
1	1188.89	107.01	Open To Flow (1)
15	1232.40	108.25	Shut-In(1)
46	1233.03	110.00	End Shut-In(1)
46	1233.04	110.02	Open To Flow (2)
76	1231.80	111.19	Shut-In(2)
104	1232.23	111.91	End Shut-In(2)
105	1860.35	112.11	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	Mud 100%	0.28

## Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

F.G Holl Company LLC.

**15-20s-16w Pawnee**

9431 East Central Ste 100  
Wichita Ks. 67206

**Hanson A Unit 1-15**

Job Ticket: 18572

**DST#: 1**

ATTN: Ryan Greenbaum

Test Start: 2013.10.23 @ 12:34:00

## Tool Information

Drill Pipe:	Length: 3728.00 ft	Diameter: 3.80 inches	Volume: 52.29 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:	45000.00 lb
			<u>Total Volume: 52.29 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial	42000.00 lb
Depth to Top Packer:	3740.00 ft			Final	42000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	10.00 ft				
Tool Length:	30.00 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			3725.00	
Hydraulic Tool	5.00			3730.00	
Packer	5.00			3735.00	20.00 Bottom Of Top Packer
Packer	5.00			3740.00	
Anchor	5.00			3745.00	
Recorder	1.00	8524	Outside	3746.00	
Recorder	1.00	6839	Inside	3747.00	
Bull Plug	3.00			3750.00	10.00 Bottom Packers & Anchor

**Total Tool Length: 30.00**



# DRILL STEM TEST REPORT

## FLUID SUMMARY

F.G Holl Company LLC.

**15-20s-16w Pawnee**

9431 East Central Ste 100  
Wichita Ks. 67206

**Hanson A Unit 1-15**

Job Ticket: 18572

**DST#: 1**

ATTN: Ryan Greenbaum

Test Start: 2013.10.23 @ 12:34:00

### Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 58.00 sec/qt  
Water Loss: 7.60 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 9200.00 ppm  
Filter Cake: 1.00 inches

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

Oil API: deg API  
Water Salinity: ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	Mud 100%	0.281

Total Length: 20.00 ft      Total Volume: 0.281 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

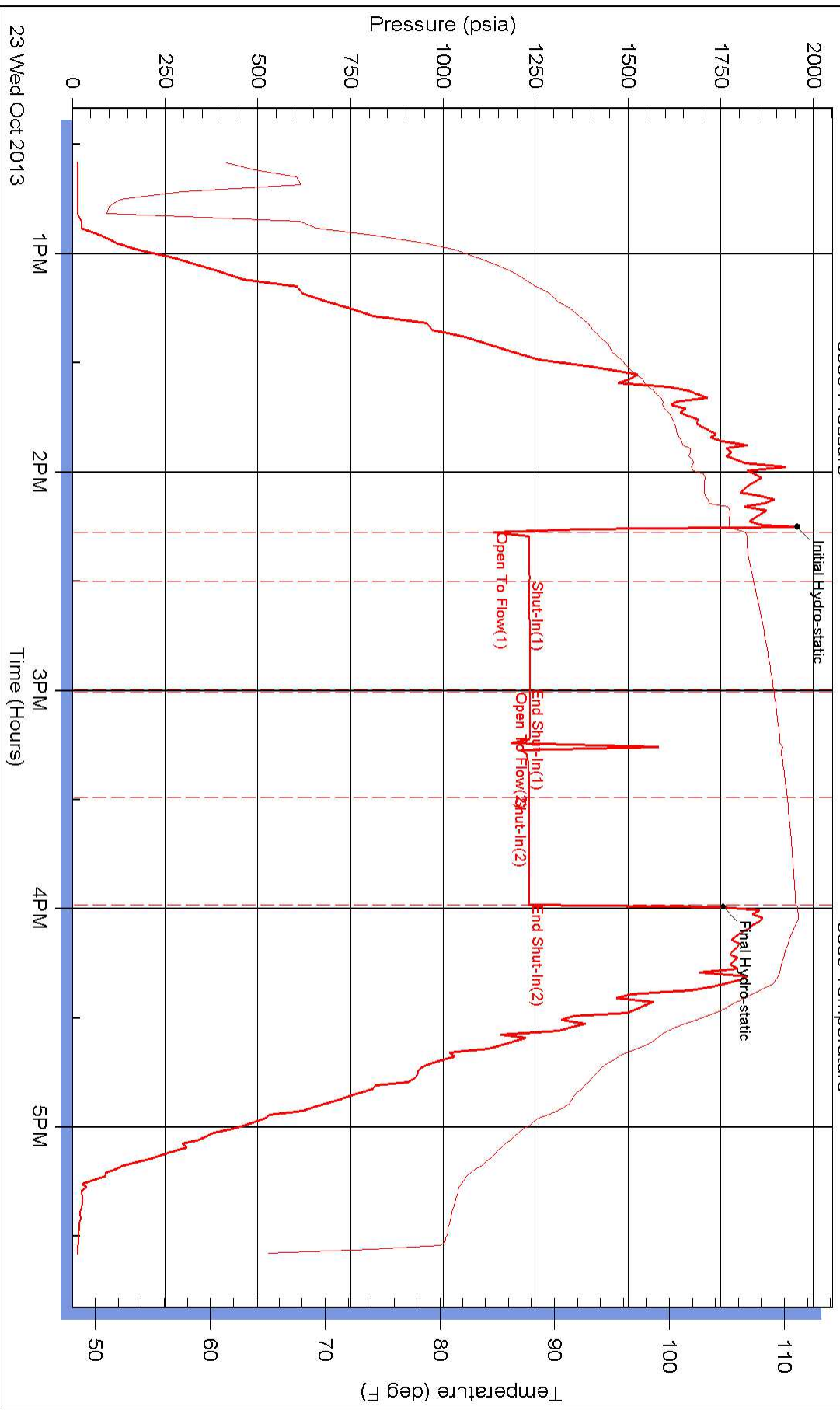
Serial #:

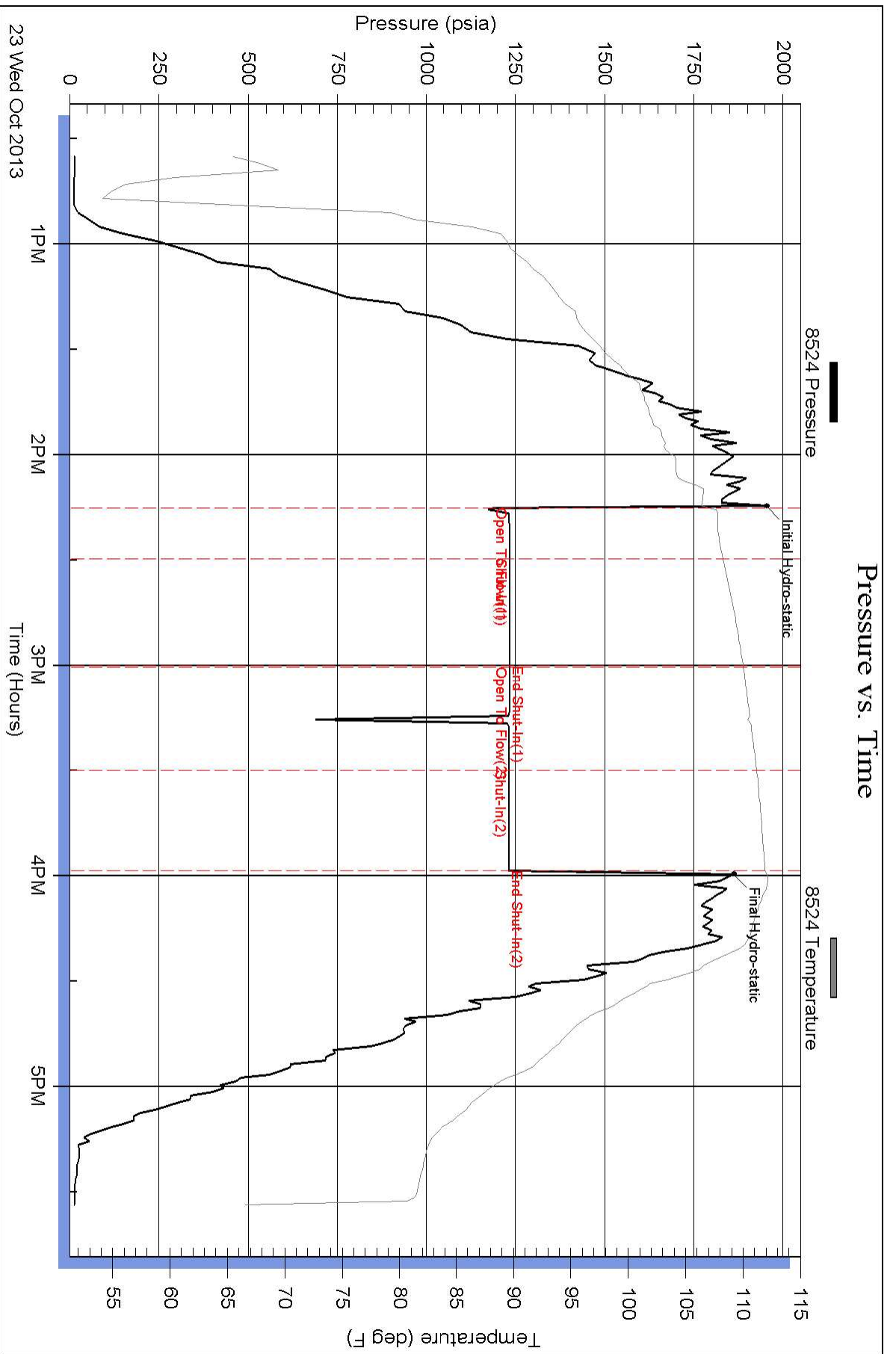
Laboratory Name:

Laboratory Location:

Recovery Comments:

# Pressure vs. Time







## DRILL STEM TEST REPORT

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

9431 East Central Ste 100  
Wichita Ks. 67206

ATTN: Ryan Greenbaum

### **Hanson A Unit 1-15**

### **15-20s-16w Pawnee**

Start Date: 2013.10.24 @ 07:04:00

End Date: 2013.10.24 @ 12:42:00

Job Ticket #: 18574                      DST #: 3

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2013.10.24 @ 10:57:28



# DRILL STEM TEST REPORT

F.G Holl Company LLC.

**15-20s-16w Pawnee**

9431 East Central Ste 100  
Wichita Ks. 67206

**Hanson A Unit 1-15**

Job Ticket: 18574

**DST#: 3**

ATTN: Ryan Greenbaum

Test Start: 2013.10.24 @ 07:04:00

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:50:30

Time Test Ended: 12:42:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Ellis

Unit No: 3315-Great Bend-35

**Interval: 3750.00 ft (KB) To 3765.00 ft (KB) (TVD)**

Reference Elevations: 2033.00 ft (KB)

Total Depth: 3765.00 ft (KB) (TVD)

2025.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

## Serial #: 6839

Press @ Run Depth: 210.92 psia @ ft (KB)

Capacity: 5000.00 psia

Start Date: 2013.10.24

End Date: 2013.10.24

Last Calib.: 2013.10.24

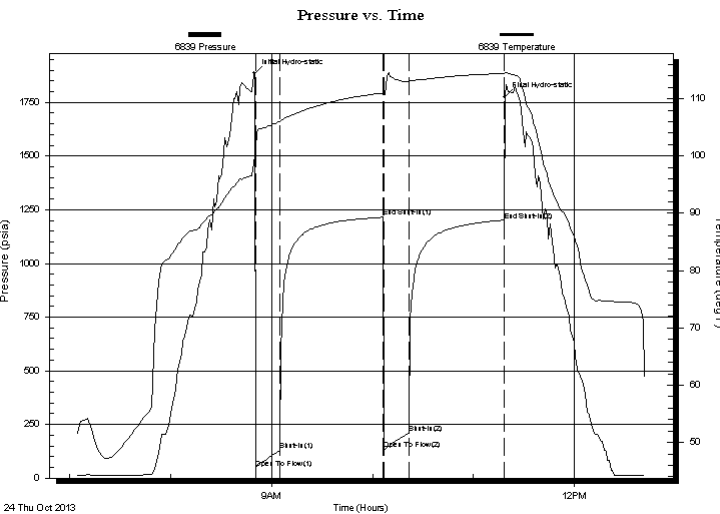
Start Time: 07:04:00

End Time: 12:42:00

Time On Btm: 2013.10.24 @ 08:50:00

Time Off Btm: 2013.10.24 @ 11:18:30

**TEST COMMENT:** 1st Open 15 minutes Strong building blow blew off the bottom of a 5 gallon bucket of water in 7 minutes.  
1st Shut in 60 minutes No blow back  
2nd Open 15 minutes Strong building blow built to bottom bucket in 8 minutes.  
2nd Shut in 60 minutes No blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1886.07	100.23	Initial Hydro-static
1	47.38	101.47	Open To Flow (1)
15	127.72	106.01	Shut-In(1)
77	1215.27	110.99	End Shut-In(1)
77	134.89	110.69	Open To Flow (2)
92	210.92	112.96	Shut-In(2)
148	1199.80	114.39	End Shut-In(2)
149	1774.83	114.55	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
380.00	Water 100%	5.33
0.00	Chlorides 36,000-.2ohms @55degrees	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

F.G Holl Company LLC.

**15-20s-16w Pawnee**

9431 East Central Ste 100  
Wichita Ks. 67206

**Hanson A Unit 1-15**

Job Ticket: 18574

**DST#: 3**

ATTN: Ryan Greenbaum

Test Start: 2013.10.24 @ 07:04:00

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:50:30

Time Test Ended: 12:42:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Ellis

Unit No: 3315-Great Bend-35

**Interval: 3750.00 ft (KB) To 3765.00 ft (KB) (TVD)**

Reference Elevations: 2033.00 ft (KB)

Total Depth: 3765.00 ft (KB) (TVD)

2025.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

## Serial #: 8524

Press @ RunDepth: 1223.03 psia @ ft (KB)

Capacity: 5000.00 psia

Start Date: 2013.10.24

End Date: 2013.10.24

Last Calib.: 2013.10.24

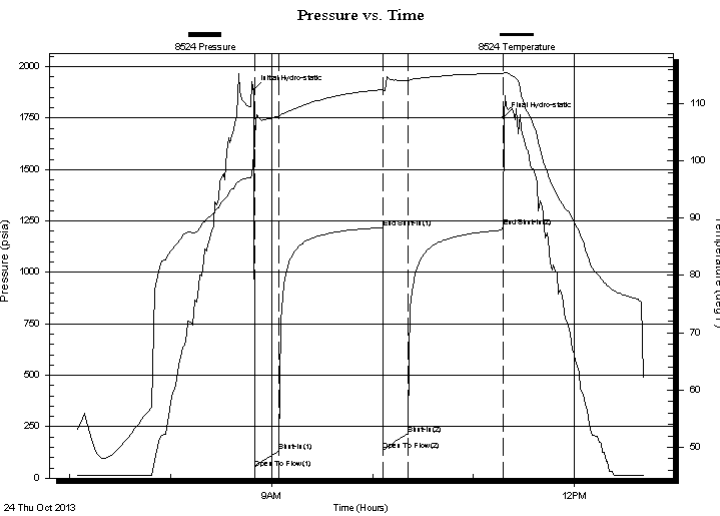
Start Time: 07:04:00

End Time: 12:41:30

Time On Btm: 2013.10.24 @ 08:49:30

Time Off Btm: 2013.10.24 @ 11:18:00

**TEST COMMENT:** 1st Open 15 minutes Strong building blow blew off the bottom of a 5 gallon bucket of water in 7 minutes.  
1st Shut in 60 minutes No blow back  
2nd Open 15 minutes Strong building blow built to bottom bucket in 8 minutes.  
2nd Shut in 60 minutes No blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1890.81	101.07	Initial Hydro-static
1	49.47	103.54	Open To Flow (1)
15	131.94	107.79	Shut-In(1)
77	1218.01	112.40	End Shut-In(1)
77	136.12	112.13	Open To Flow (2)
92	214.66	113.95	Shut-In(2)
148	1223.03	115.24	End Shut-In(2)
149	1755.27	115.39	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
380.00	Water 100%	5.33
0.00	Chlorides 36,000-.2ohms @55degrees	0.00

## Gas Rates

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





# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

F.G Holl Company LLC.

**15-20s-16w Pawnee**

9431 East Central Ste 100  
Wichita Ks. 67206

**Hanson A Unit 1-15**

Job Ticket: 18574

**DST#: 3**

ATTN: Ryan Greenbaum

Test Start: 2013.10.24 @ 07:04:00

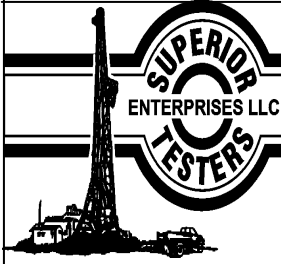
## Tool Information

Drill Pipe:	Length: 3755.00 ft	Diameter: 3.80 inches	Volume: 52.67 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:	62000.00 lb
			<u>Total Volume: 52.67 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial	50000.00 lb
Depth to Top Packer:	3750.00 ft			Final	50000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	15.00 ft				
Tool Length:	35.00 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			3735.00	
Hydraulic Tool	5.00			3740.00	
Packer	5.00			3745.00	20.00 Bottom Of Top Packer
Packer	5.00			3750.00	
Anchor	10.00			3760.00	
Recorder	1.00	8524	Outside	3761.00	
Recorder	1.00	6839	Inside	3762.00	
Bull Plug	3.00			3765.00	15.00 Bottom Packers & Anchor

**Total Tool Length: 35.00**



# DRILL STEM TEST REPORT

## FLUID SUMMARY

F.G Holl Company LLC.

**15-20s-16w Pawnee**

9431 East Central Ste 100  
Wichita Ks. 67206

**Hanson A Unit 1-15**

Job Ticket: 18574

**DST#: 3**

ATTN: Ryan Greenbaum

Test Start: 2013.10.24 @ 07:04:00

### Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 54.00 sec/qt

Water Loss: 7.60 in<sup>3</sup>

Resistivity: ohm.m

Salinity: 8500.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psia

Oil API:

Water Salinity: deg API

ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
380.00	Water 100%	5.330
0.00	Chlorides 36,000-.2ohms@55degrees	0.000

Total Length: 380.00 ft      Total Volume: 5.330 bbl

Num Fluid Samples: 0

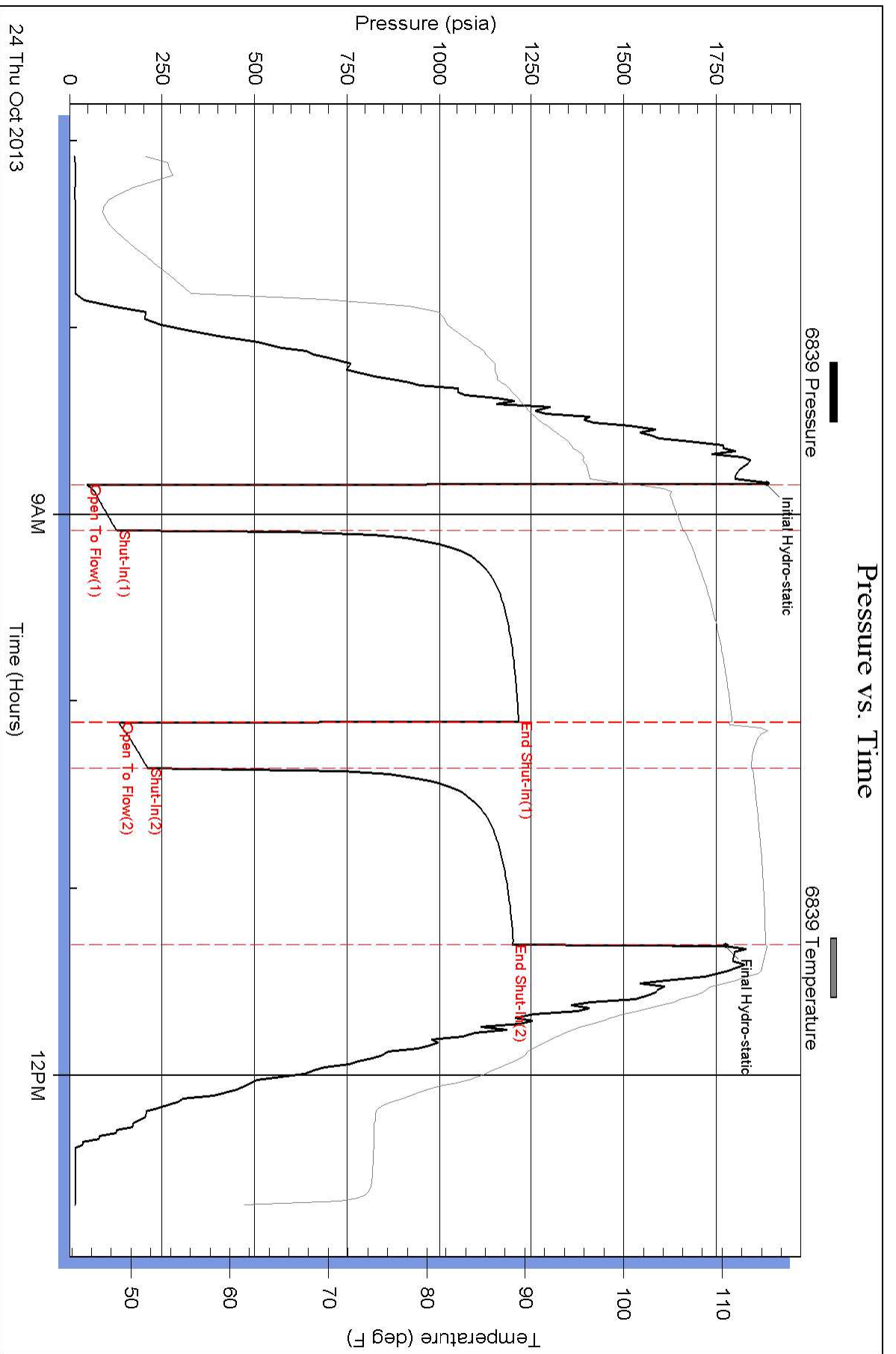
Num Gas Bombs: 0

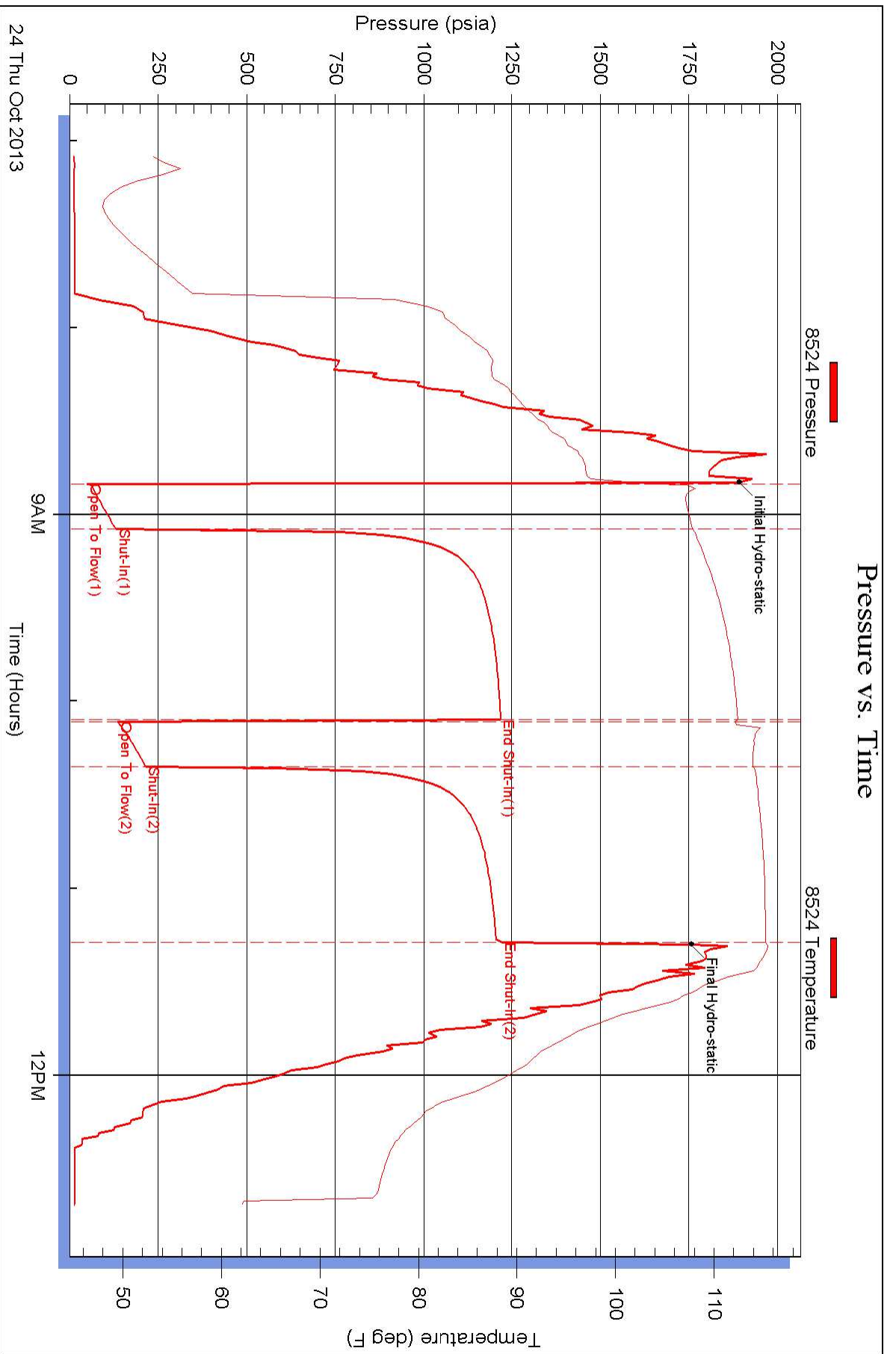
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

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

9431 East Central Ste 100  
Wichita Ks. 67206

ATTN: Ryan Greenbaum

### **Hanson A Unit 1-15**

### **15-20s-16w Pawnee**

Start Date: 2013.10.23 @ 02:08:00

End Date: 2013.10.23 @ 08:45:30

Job Ticket #: 18573                      DST #: 2

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2013.10.23 @ 19:06:25



# DRILL STEM TEST REPORT

F.G Holl Company LLC.

**15-20s-16w Pawnee**

9431 East Central Ste 100  
Wichita Ks. 67206

**Hanson A Unit 1-15**

Job Ticket: 18573

**DST#: 2**

ATTN: Ryan Greenbaum

Test Start: 2013.10.23 @ 02:08:00

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:32:00

Time Test Ended: 08:45:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Ellis

Unit No: 3315-Great Bend-35

**Interval: 3740.00 ft (KB) To 3750.00 ft (KB) (TVD)**

Reference Elevations: 2033.00 ft (KB)

Total Depth: 3750.00 ft (KB) (TVD)

2025.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

## Serial #: 8524

Press @ Run Depth: 601.81 psia @ ft (KB)

Capacity: 5000.00 psia

Start Date: 2013.10.23

End Date: 2013.10.23

Last Calib.: 2013.10.23

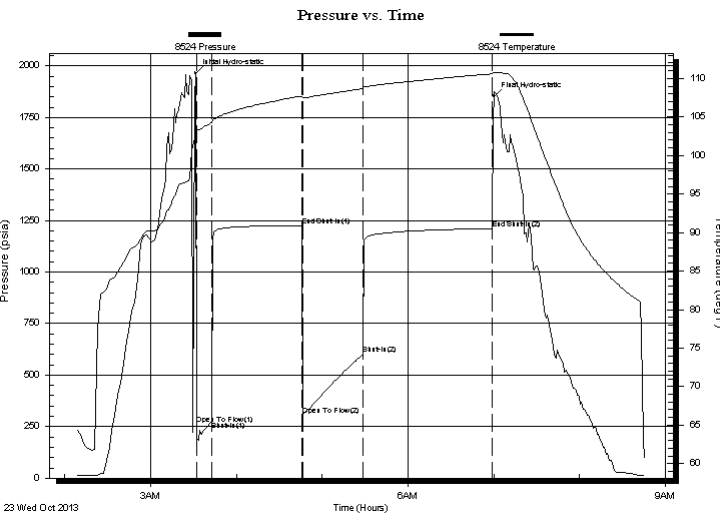
Start Time: 02:08:00

End Time: 08:45:30

Time On Btm: 2013.10.23 @ 03:31:30

Time Off Btm: 2013.10.23 @ 07:00:00

**TEST COMMENT:** 1st Open 15 minutes Good building blow built to the bottom of a 5 gallon bucket of water in 12 minutes.  
1st Shut in 60 minutes No blow back  
2nd Open 45 minutes Good building blow built to the bottom of a 5 gallon bucket of water in 12 minutes.  
2nd Shut in 90 minutes No blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1964.80	102.90	Initial Hydro-static
1	263.98	103.10	Open To Flow (1)
12	275.84	104.31	Shut-In(1)
75	1222.68	107.68	End Shut-In(1)
75	304.60	107.46	Open To Flow (2)
117	601.81	108.69	Shut-In(2)
208	1211.81	110.60	End Shut-In(2)
209	1852.02	110.78	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
244.00	Mud 100%	3.42
976.00	Water 100%	13.69
0.00	Chlorides 46,000 .4ohms @ 57degrees.	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

F.G Holl Company LLC.  
 9431 East Central Ste 100  
 Wichita Ks. 67206  
 ATTN: Ryan Greenbaum

**15-20s-16w Pawnee**  
**Hanson A Unit 1-15**  
 Job Ticket: 18573      **DST#: 2**  
 Test Start: 2013.10.23 @ 02:08:00

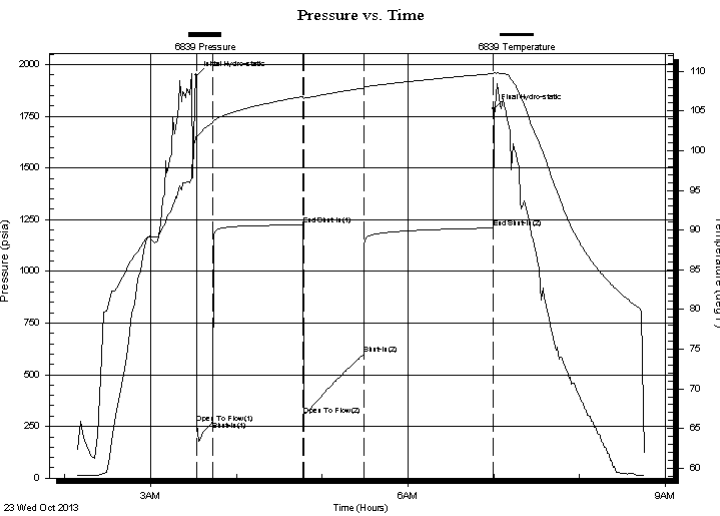
### GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 03:32:00  
 Time Test Ended: 08:45:30  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Dustin Ellis  
 Unit No: 3315-Great Bend-35  
 Interval: **3740.00 ft (KB) To 3750.00 ft (KB) (TVD)**  
 Reference Elevations: 2033.00 ft (KB)  
 Total Depth: 3750.00 ft (KB) (TVD)      2025.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair      KB to GR/CF: 8.00 ft

### Serial #: 6839

Press @ RunDepth: 1209.93 psia @ ft (KB)      Capacity: 5000.00 psia  
 Start Date: 2013.10.23      End Date: 2013.10.23      Last Calib.: 2013.10.23  
 Start Time: 02:08:00      End Time: 08:46:00      Time On Btm: 2013.10.23 @ 03:32:00  
 Time Off Btm: 2013.10.23 @ 07:00:00

**TEST COMMENT:** 1st Open 15 minutes Good building blow built to the bottom of a 5 gallon bucket of water in 12 minutes.  
 1st Shut in 60 minutes No blow back  
 2nd Open 45 minutes Good building blow built to the bottom of a 5 gallon bucket of water in 12 minutes.  
 2nd Shut in 90 minutes No blow back



### PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1947.85	102.00	Initial Hydro-static
1	263.67	101.72	Open To Flow (1)
12	274.66	103.52	Shut-In(1)
75	1224.79	106.83	End Shut-In(1)
75	302.81	106.61	Open To Flow (2)
117	599.32	107.89	Shut-In(2)
208	1209.93	109.72	End Shut-In(2)
208	1786.96	109.87	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
244.00	Mud 100%	3.42
976.00	Water 100%	13.69
0.00	Chlorides 46,000 .4ohms @ 57degrees.	0.00

### Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

F.G Holl Company LLC.

**15-20s-16w Pawnee**

9431 East Central Ste 100  
Wichita Ks. 67206

**Hanson A Unit 1-15**

Job Ticket: 18573

**DST#: 2**

ATTN: Ryan Greenbaum

Test Start: 2013.10.23 @ 02:08:00

## Tool Information

Drill Pipe:	Length: 3728.00 ft	Diameter: 3.80 inches	Volume: 52.29 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: 72000.00 lb
			<u>Total Volume: 52.29 bbl</u>	Tool Chased 3.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 45000.00 lb
Depth to Top Packer:	3740.00 ft			Final 48000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	10.00 ft			
Tool Length:	30.00 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			3725.00	
Hydraulic Tool	5.00			3730.00	
Packer	5.00			3735.00	20.00 Bottom Of Top Packer
Packer	5.00			3740.00	
Anchor	5.00			3745.00	
Recorder	1.00	8524	Outside	3746.00	
Recorder	1.00	6839	Inside	3747.00	
Bull Plug	3.00			3750.00	10.00 Bottom Packers & Anchor

**Total Tool Length: 30.00**





# DRILL STEM TEST REPORT

## FLUID SUMMARY

F.G Holl Company LLC.

**15-20s-16w Pawnee**

9431 East Central Ste 100  
Wichita Ks. 67206

**Hanson A Unit 1-15**

Job Ticket: 18573

**DST#: 2**

ATTN: Ryan Greenbaum

Test Start: 2013.10.23 @ 02:08:00

### Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 54.00 sec/qt  
Water Loss: 7.60 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 8500.00 ppm  
Filter Cake: 1.00 inches

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

Oil API: deg API  
Water Salinity: ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
244.00	Mud 100%	3.423
976.00	Water 100%	13.691
0.00	Chlorides 46,000 .4ohms @ 57degrees.	0.000

Total Length: 1220.00 ft      Total Volume: 17.114 bbl

Num Fluid Samples: 0

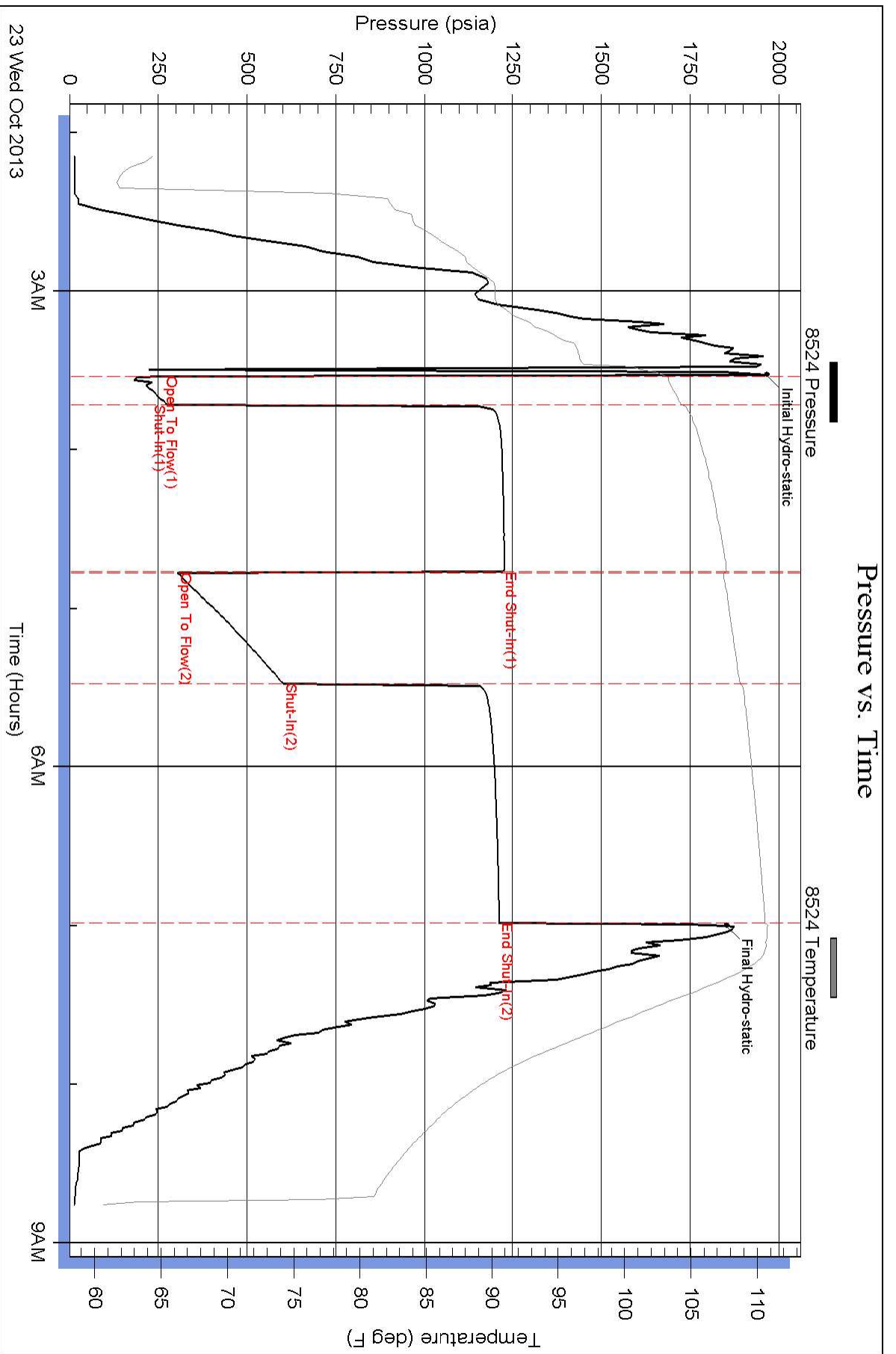
Num Gas Bombs: 0

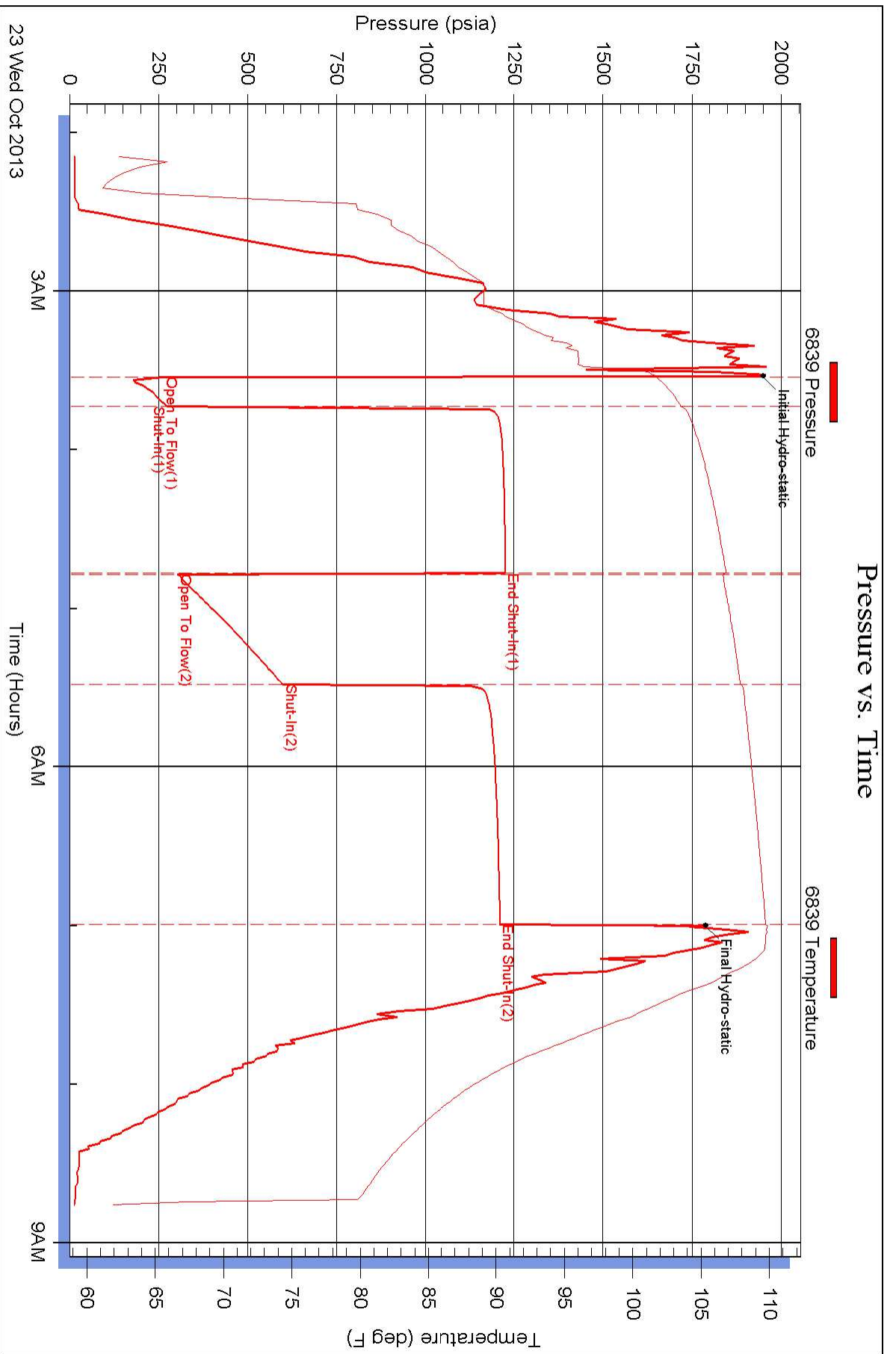
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

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

9431 East Central Ste 100  
Wichita Ks. 67206

ATTN: Ryan Greenbaum

### **Hanson A Unit 1-15**

### **15-20s-16w Pawnee**

Start Date: 2013.10.24 @ 08:59:00

End Date: 2013.10.24 @ 15:06:00

Job Ticket #: 18575                      DST #: 4

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2013.10.25 @ 01:19:22



# DRILL STEM TEST REPORT

F.G Holl Company LLC.

**15-20s-16w Pawnee**

9431 East Central Ste 100  
Wichita Ks. 67206

**Hanson A Unit 1-15**

Job Ticket: 18575

**DST#: 4**

ATTN: Ryan Greenbaum

Test Start: 2013.10.24 @ 08:59:00

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:21:30

Time Test Ended: 15:06:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Ellis

Unit No: 3315-Great Bend-35

**Interval: 3765.00 ft (KB) To 3780.00 ft (KB) (TVD)**

Reference Elevations: 2033.00 ft (KB)

Total Depth: 3780.00 ft (KB) (TVD)

2025.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8524 Outside**

Press @ RunDepth: 548.04 psia @ 3776.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2013.10.24

End Date: 2013.10.24

Last Calib.: 2013.10.25

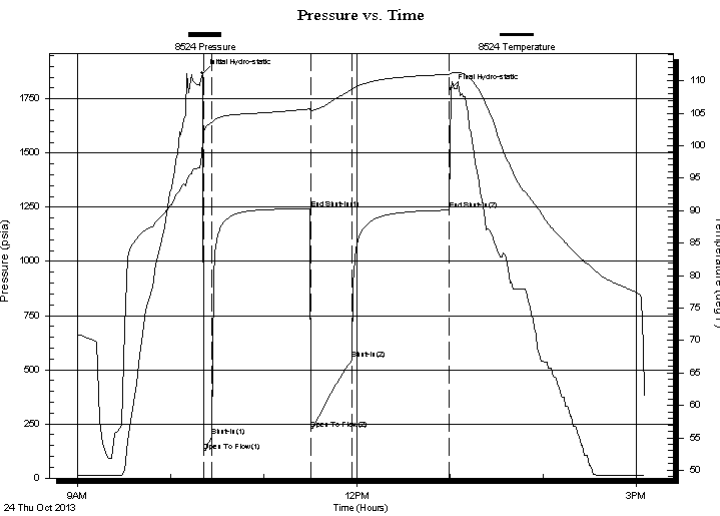
Start Time: 08:59:00

End Time: 15:06:00

Time On Btm: 2013.10.24 @ 10:20:30

Time Off Btm: 2013.10.24 @ 13:00:30

**TEST COMMENT:** 1st Open 15 minutes Strong building blow built to bottom bucket in 4 minutes.  
1st Shut in 60 minutes No blow back  
2nd Open 30 minutes Strong building blow built to bottom bucket in 4 minutes.  
2nd Shut in 60 minutes No blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1868.29	100.65	Initial Hydro-static
1	122.64	102.31	Open To Flow (1)
6	191.41	103.61	Shut-In(1)
70	1242.20	105.68	End Shut-In(1)
70	226.40	105.46	Open To Flow (2)
97	548.04	108.64	Shut-In(2)
159	1236.01	111.00	End Shut-In(2)
160	1796.95	111.16	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1037.00	Water 100%	14.55
0.00	Chlorides 42,000.3ohms @58degrees	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

F.G Holl Company LLC.

**15-20s-16w Pawnee**

9431 East Central Ste 100  
Wichita Ks. 67206

**Hanson A Unit 1-15**

Job Ticket: 18575

**DST#: 4**

ATTN: Ryan Greenbaum

Test Start: 2013.10.24 @ 08:59:00

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 10:21:30  
 Time Test Ended: 15:06:00  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Dustin Ellis  
 Unit No: 3315-Great Bend-35  
 Interval: **3765.00 ft (KB) To 3780.00 ft (KB) (TVD)**  
 Reference Elevations: 2033.00 ft (KB)  
 Total Depth: 3780.00 ft (KB) (TVD)  
 2025.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Fair  
 KB to GR/CF: 8.00 ft

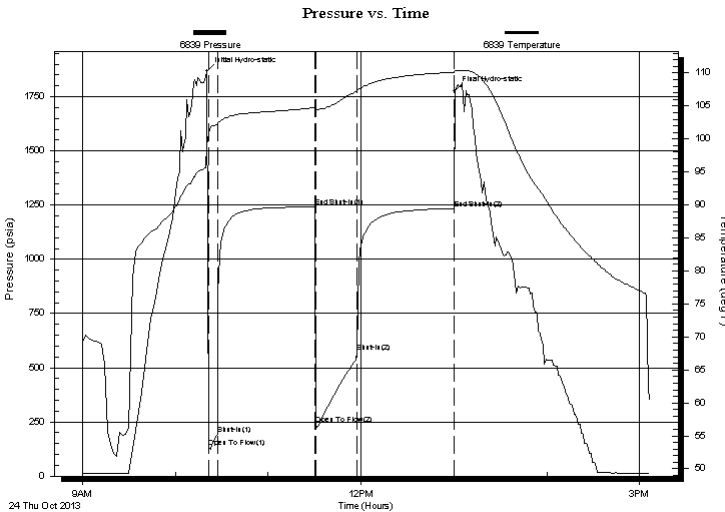
## Serial #: 6839

Inside

Press @ Run Depth: 1234.25 psia @ 3777.00 ft (KB) Capacity: 5000.00 psia  
 Start Date: 2013.10.24 End Date: 2013.10.24 Last Calib.: 2013.10.25  
 Start Time: 08:59:00 End Time: 15:06:30 Time On Btm: 2013.10.24 @ 10:20:30  
 Time Off Btm: 2013.10.24 @ 13:00:30

**TEST COMMENT:** 1st Open 15 minutes Strong building blow built to bottom bucket in 4 minutes.  
 1st Shut in 60 minutes No blow back  
 2nd Open 30 minutes Strong building blow built to bottom bucket in 4 minutes.  
 2nd Shut in 60 minutes No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1867.46	98.93	Initial Hydro-static
1	133.96	100.93	Open To Flow (1)
7	194.10	102.22	Shut-In(1)
70	1241.98	104.75	End Shut-In(1)
70	241.56	104.21	Open To Flow (2)
97	569.99	107.34	Shut-In(2)
160	1234.25	110.14	End Shut-In(2)
160	1777.65	110.29	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1037.00	Water 100%	14.55
0.00	Chlorides 42,000.3ohms @58degrees	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

F.G Holl Company LLC.

**15-20s-16w Pawnee**

9431 East Central Ste 100  
Wichita Ks. 67206

**Hanson A Unit 1-15**

Job Ticket: 18575

**DST#: 4**

ATTN: Ryan Greenbaum

Test Start: 2013.10.24 @ 08:59:00

## Tool Information

Drill Pipe:	Length: 3755.00 ft	Diameter: 3.80 inches	Volume: 52.67 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: 62000.00 lb
			<u>Total Volume: 52.67 bbl</u>	Tool Chased 3.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3765.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	15.00 ft			
Tool Length:	35.00 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			3750.00	
Hydraulic Tool	5.00			3755.00	
Packer	5.00			3760.00	20.00 Bottom Of Top Packer
Packer	5.00			3765.00	
Anchor	10.00			3775.00	
Recorder	1.00	8524	Outside	3776.00	
Recorder	1.00	6839	Inside	3777.00	
Bull Plug	3.00			3780.00	15.00 Bottom Packers & Anchor

**Total Tool Length: 35.00**



# DRILL STEM TEST REPORT

## FLUID SUMMARY

F.G Holl Company LLC.

**15-20s-16w Pawnee**

9431 East Central Ste 100  
Wichita Ks. 67206

**Hanson A Unit 1-15**

Job Ticket: 18575

**DST#: 4**

ATTN: Ryan Greenbaum

Test Start: 2013.10.24 @ 08:59:00

### Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 54.00 sec/qt  
Water Loss: 7.60 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 8500.00 ppm  
Filter Cake: 1.00 inches

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

Oil API: deg API  
Water Salinity: ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1037.00	Water 100%	14.546
0.00	Chlorides 42,000.3ohms@58degrees	0.000

Total Length: 1037.00 ft      Total Volume: 14.546 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

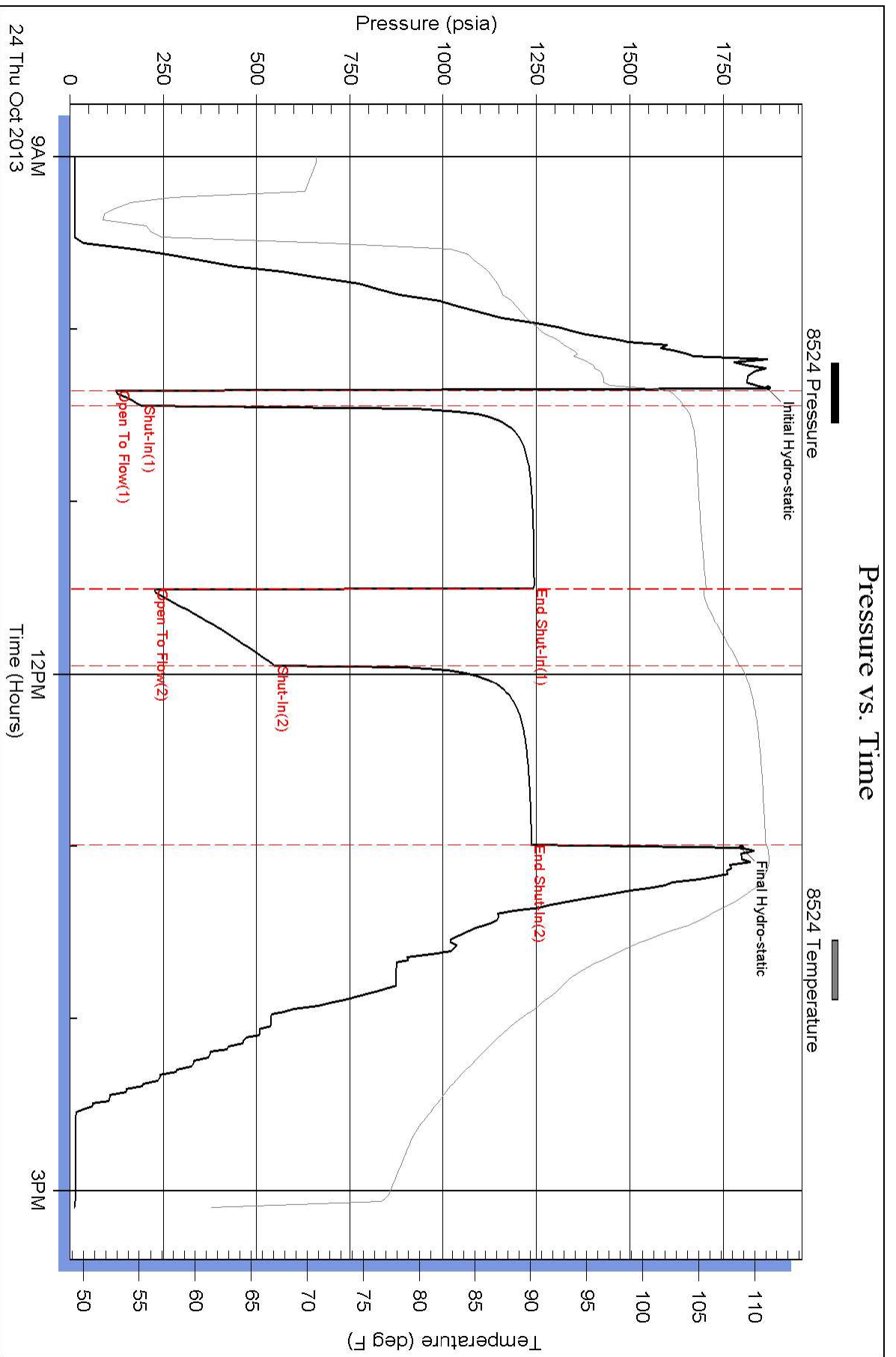
Laboratory Name:

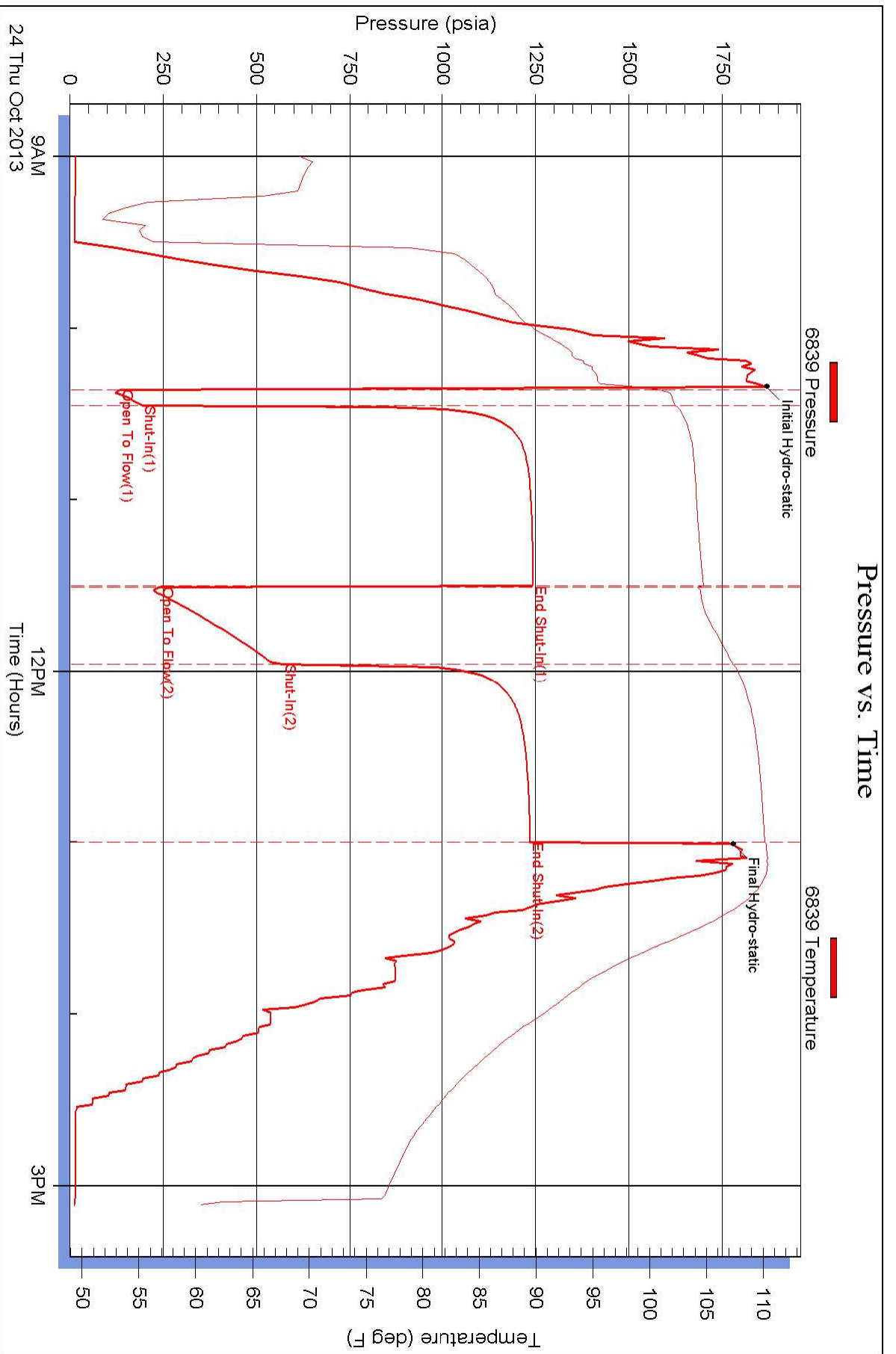
Laboratory Location:

Recovery Comments:



### Pressure vs. Time







## DRILL STEM TEST REPORT

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

9431 East Central Ste 100  
Wichita Ks. 67206

ATTN: Ryan Greenbaum

### **Hanson A Unit 1-15**

### **15-20s-16w Pawnee**

Start Date: 2013.10.25 @ 12:19:00

End Date: 2013.10.25 @ 19:06:00

Job Ticket #: 18526                      DST #: 5

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2013.10.25 @ 17:25:14



# DRILL STEM TEST REPORT

F.G Holl Company LLC.

**15-20s-16w Pawnee**

9431 East Central Ste 100  
Wichita Ks. 67206

**Hanson A Unit 1-15**

Job Ticket: 18526

**DST#: 5**

ATTN: Ryan Greenbaum

Test Start: 2013.10.25 @ 12:19:00

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:54:30

Time Test Ended: 19:06:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Ellis

Unit No: 3315-Great Bend-35

**Interval: 3797.00 ft (KB) To 3805.00 ft (KB) (TVD)**

Reference Elevations: 2033.00 ft (KB)

Total Depth: 3805.00 ft (KB) (TVD)

2025.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 6839 Inside**

Press @ RunDepth: 158.33 psia @ 3802.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2013.10.25

End Date: 2013.10.25

Last Calib.: 2013.10.25

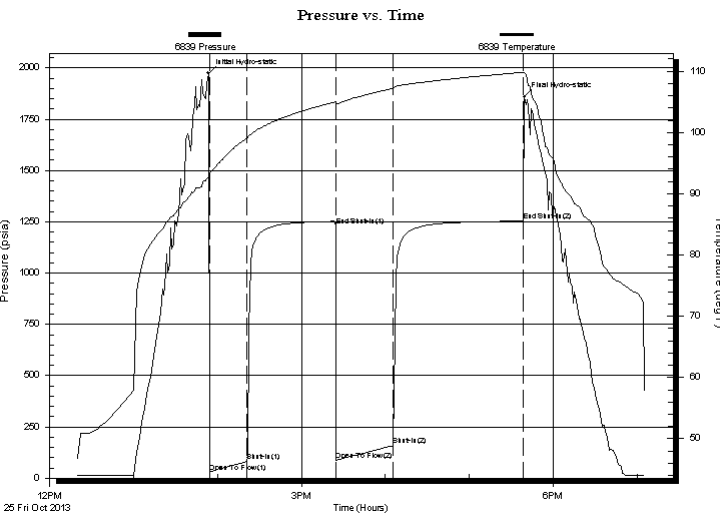
Start Time: 12:19:00

End Time: 19:06:00

Time On Btm: 2013.10.25 @ 13:53:30

Time Off Btm: 2013.10.25 @ 17:39:30

**TEST COMMENT:** 1st Open 30 minutes Fair building blow built to 1.5 inches into a 5 gallon bucket of water.  
1st Shut in 60 minutes No blow back  
2nd Open 45 minutes Fair building blow built to 3.5 inches into the water  
2nd Shut in 90 minutes No blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1974.69	92.72	Initial Hydro-static
1	30.31	93.47	Open To Flow (1)
28	80.34	99.06	Shut-In(1)
91	1230.04	104.97	End Shut-In(1)
92	86.71	104.72	Open To Flow (2)
132	158.33	107.18	Shut-In(2)
225	1252.83	109.80	End Shut-In(2)
226	1858.30	109.76	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
122.00	Oil spotted w ater 1%Oil 99%Water	1.71
198.00	Water 100%	2.78
0.00	Chlorides 43,000 .4ohms @58degrees	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

F.G Holl Company LLC.

**15-20s-16w Pawnee**

9431 East Central Ste 100  
Wichita Ks. 67206

**Hanson A Unit 1-15**

Job Ticket: 18526

**DST#: 5**

ATTN: Ryan Greenbaum

Test Start: 2013.10.25 @ 12:19:00

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:54:30

Time Test Ended: 19:06:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Ellis

Unit No: 3315-Great Bend-35

**Interval: 3797.00 ft (KB) To 3805.00 ft (KB) (TVD)**

Reference Elevations: 2033.00 ft (KB)

Total Depth: 3805.00 ft (KB) (TVD)

2025.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8524 Outside**

Press @ Run Depth: 1255.09 psia @ 3801.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2013.10.25

End Date:

2013.10.25

Last Calib.:

2013.10.25

Start Time: 12:19:00

End Time:

19:05:30

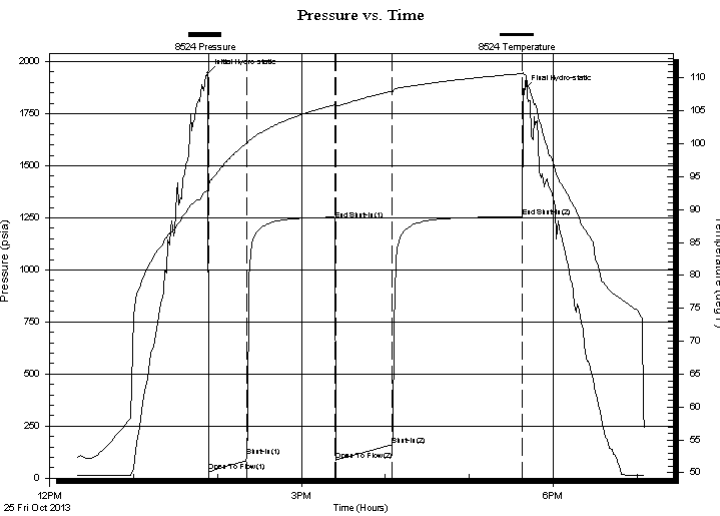
Time On Btm:

2013.10.25 @ 13:53:00

Time Off Btm:

2013.10.25 @ 17:39:00

**TEST COMMENT:** 1st Open 30 minutes Fair building blow built to 1.5 inches into a 5 gallon bucket of water.  
1st Shut in 60 minutes No blow back  
2nd Open 45 minutes Fair building blow built to 3.5 inches into the water  
2nd Shut in 90 minutes No blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1944.13	92.95	Initial Hydro-static
1	31.27	93.59	Open To Flow (1)
28	102.60	100.10	Shut-In(1)
91	1239.30	105.97	End Shut-In(1)
92	86.77	105.77	Open To Flow (2)
132	159.91	107.98	Shut-In(2)
225	1255.09	110.69	End Shut-In(2)
226	1863.51	110.73	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
122.00	Oil spotted w ater 1%Oil 99%Water	1.71
198.00	Water 100%	2.78
0.00	Chlorides 43,000 .4ohms @58degrees	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

F.G Holl Company LLC.

**15-20s-16w Pawnee**

9431 East Central Ste 100  
Wichita Ks. 67206

**Hanson A Unit 1-15**

Job Ticket: 18526

**DST#: 5**

ATTN: Ryan Greenbaum

Test Start: 2013.10.25 @ 12:19:00

## Tool Information

Drill Pipe:	Length: 3784.00 ft	Diameter: 3.80 inches	Volume: 53.08 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: 52000.00 lb
			<u>Total Volume: 53.08 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 47000.00 lb
Depth to Top Packer:	3797.00 ft			Final 47000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	8.00 ft			
Tool Length:	28.00 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			3782.00	
Hydraulic Tool	5.00			3787.00	
Packer	5.00			3792.00	20.00 Bottom Of Top Packer
Packer	5.00			3797.00	
Anchor	3.00			3800.00	
Recorder	1.00	8524	Outside	3801.00	
Recorder	1.00	6839	Inside	3802.00	
Bull Plug	3.00			3805.00	8.00 Bottom Packers & Anchor

**Total Tool Length: 28.00**



# DRILL STEM TEST REPORT

## FLUID SUMMARY

F.G Holl Company LLC.

**15-20s-16w Pawnee**

9431 East Central Ste 100  
Wichita Ks. 67206

**Hanson A Unit 1-15**

Job Ticket: 18526

**DST#: 5**

ATTN: Ryan Greenbaum

Test Start: 2013.10.25 @ 12:19:00

### Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 46.00 sec/qt  
Water Loss: 8.80 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 7900.00 ppm  
Filter Cake: 1.00 inches

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

Oil API: deg API  
Water Salinity: ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
122.00	Oil spotted w ater 1%Oil 99%Water	1.711
198.00	Water 100%	2.777
0.00	Chlorides 43,000 .4ohms @58degrees	0.000

Total Length: 320.00 ft      Total Volume: 4.488 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

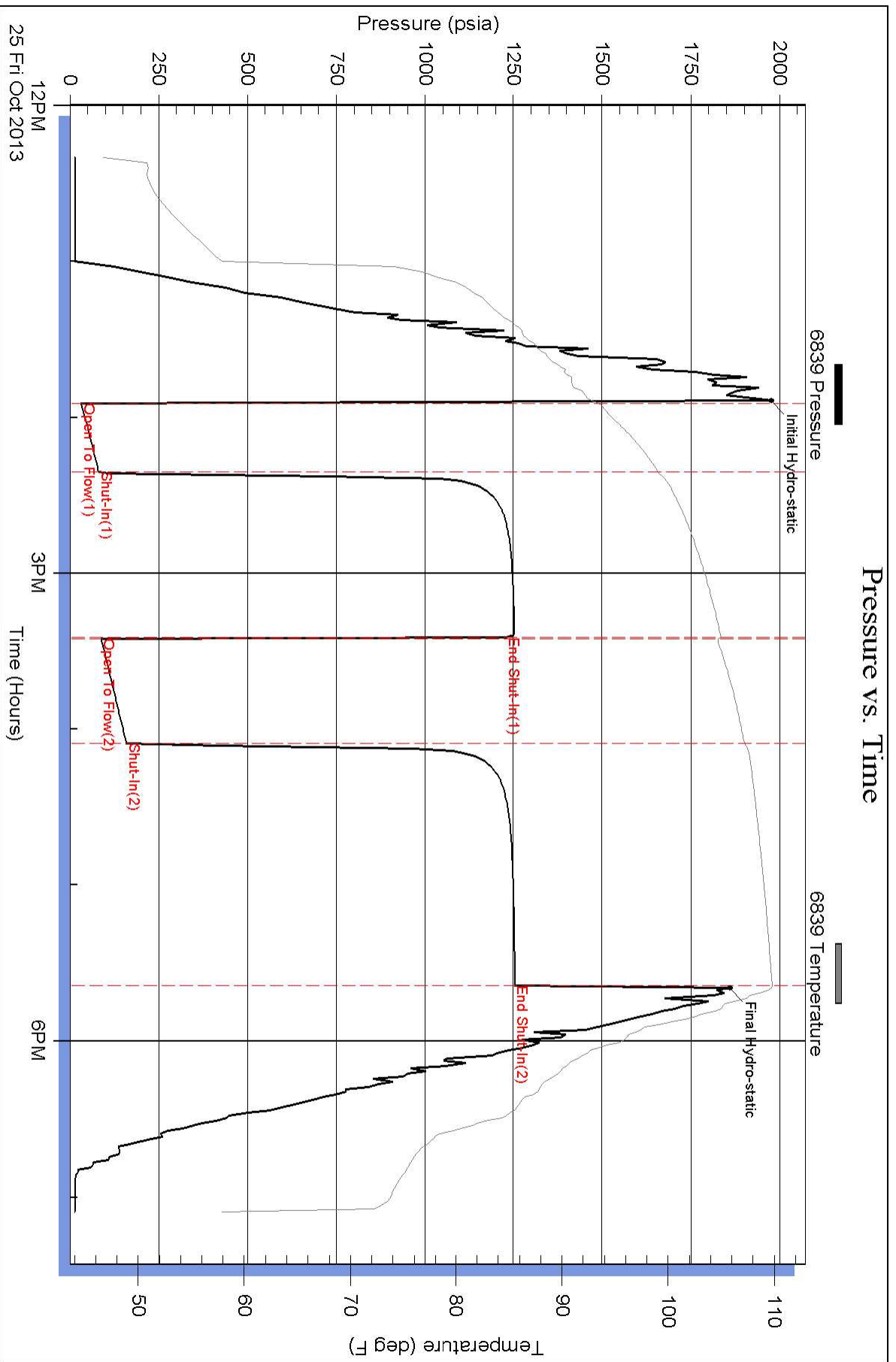
Serial #:

Laboratory Name:

Laboratory Location:

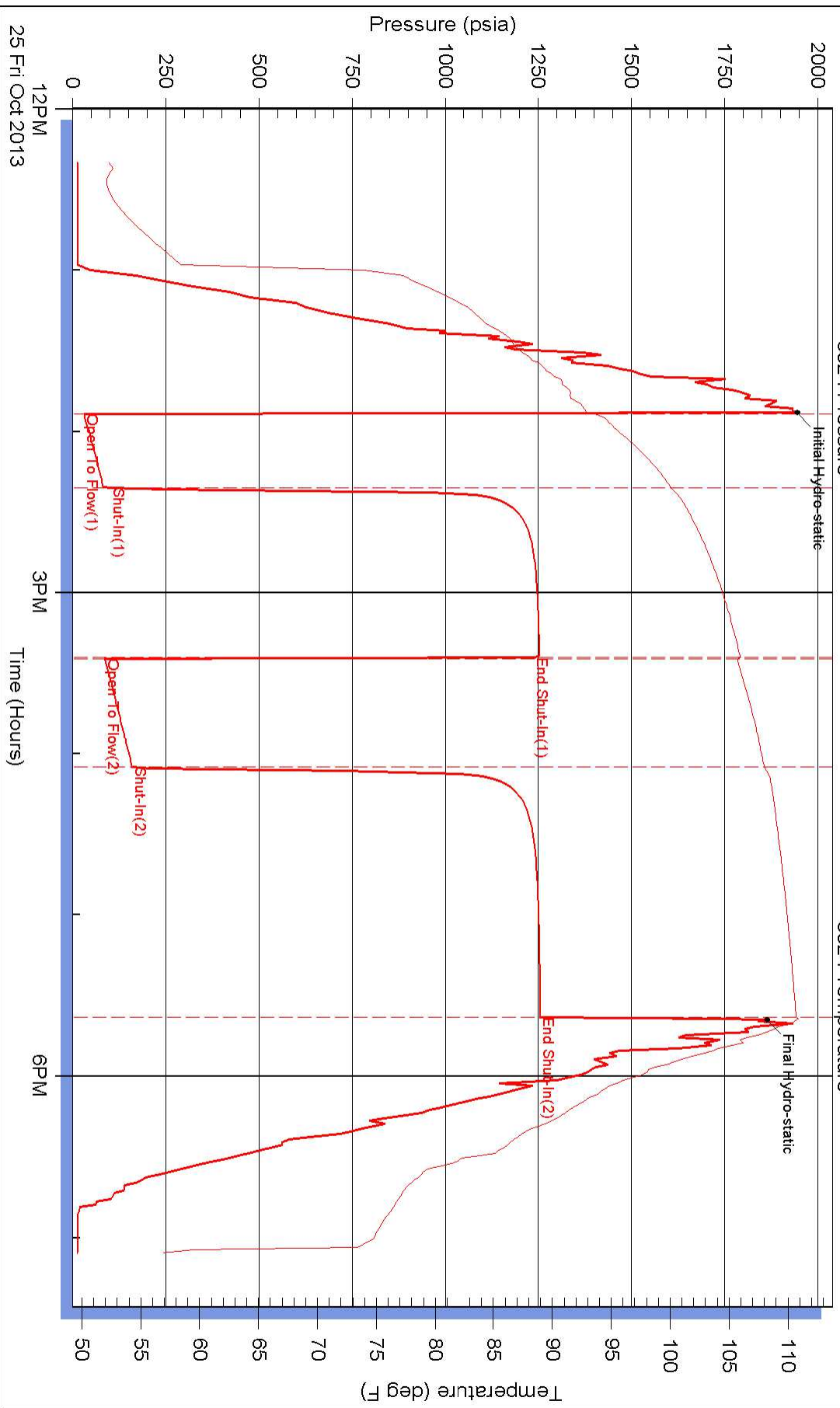
Recovery Comments:

### Pressure vs. Time





# Pressure vs. Time





Customer <b>F.G. HOLL</b>	Lease No.	Date <b>10-17-13</b>
Lease <b>Hanson A UNIT</b>	Well # <b>1-15</b>	
Field Order # <b>9053</b>	Station	Casing <b>8 5/8</b>
		Depth <b>1050</b>
Type Job <b>CNW Surface</b>	Formation	County <b>Pawnee</b>
		State <b>KS</b>
		Legal Description <b>15-20-16</b>

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP	
<b>8 5/8</b>				Pre Pad	Max		5 Min.	
Depth <b>1050</b>	Depth	From	To	Pad	Min		10 Min.	
Volume <b>65</b>	Volume	From	To	Frac	Avg		15 Min.	
Max Press	Max Press	From	To		HHP Used		Annulus Pressure	
Well Connection	Annulus Vol.	From	To	Flush	Gas Volume		Total Load	
Plug Depth <b>1034</b>	Packer Depth	From	To					

Customer Representative <b>Steve</b>	Station Manager <b>Kevin</b>	Treater <b>JOE</b>
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Service Units	<b>19859</b>	<b>19843</b>	<b>19960</b>	<b>21010</b>	<b>28443</b>	<b>33709</b>	<b>20920</b>				
Driver Names	<b>ED</b>		<b>JEFF</b>		<b>JOE</b>		<b>ED</b>				

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
<b>1715</b>					<b>ON LOC / Safety meeting</b>
					<b>Run 25 JTS of 8 5/8 csg @ 24#</b>
<b>1815</b>					<b>Start Running csg</b>
<b>1945</b>					<b>Csg on Bottom</b>
<b>1950</b>					<b>Break Circ with Rig</b>
					<b>START JOB</b>
<b>2045</b>			<b>5</b>	<b>6.5</b>	<b>H2O spacer</b>
			<b>87</b>	<b>6.5</b>	<b>Mix 200 SK A-con @ 12#</b>
			<b>43</b>	<b>6.5</b>	<b>Mix 200 SK common @ 15.6#</b>
			<b>0</b>	<b>0</b>	<b>Shut Down / Release Plug</b>
			<b>0</b>	<b>5</b>	<b>START H2O DISP</b>
			<b>30</b>	<b>5</b>	<b>CEMENT TO SURFACE</b>
<b>2145</b>			<b>65</b>	<b>0</b>	<b>Plug Down</b>
					<b>centr glizer on 1-12-24</b>
					<b>35 BBL cement TO PIT</b>
					<b>JOB COMPLETE</b>
					<b>Thank you</b>
					<b>JOE</b>



# BASIC

energy services, L.P.

## TREATMENT REPORT

Customer F G Hall	Lease No.	Date 10-27-13	
Lease HANSON A UNIT	Well # 1-15		
Field Order # 9353	Station Pratt	Casing D.P.	Depth 3743
Type Job CMT PTP	Formation	County Pawnee	State K
		Legal Description 15-20-16	

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid		RATE	PRESS	ISIP
D.P.				Pre Pad		Max		5 Min.
Depth 3743	Depth	From	To	Pad		Min		10 Min.
Volume	Volume	From	To	Frac		Avg		15 Min.
Max Press 300	Max Press	From	To			HHP Used		Annulus Pressure
Well Connection D.P.	Annulus Vol.	From	To	Flush		Gas Volume		Total Load
Plug Depth 3743	Packer Depth	From	To					

Customer Representative Rob Long	Station Manager Kevin Golobov	Treater Mike Matra
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Service Units	3758L	33708	20920	19950	19918				
Driver Names	MATRA	GIAPES		KEMMAN					

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
2:15P					ON location / Safety meeting
2:43		150	15	4	Pump 15 BBL H <sub>2</sub> O @ 3743' plug 1
2:46		150	12	4	Mix 50 SKS CMT
2:50		100	5	4	Pump 5 BBL H <sub>2</sub> O
2:52		100	44	4	Pump 44 BBL H <sub>2</sub> O
3:05					Pull Drill Pipe
					Plug 2 @ 1080'
4:25		150	30	5	Pump 30 BBL H <sub>2</sub> O
4:31		150	12	4	Mix 50 SKS CMT
4:35		100	7	4	Pump 7 BBL H <sub>2</sub> O
4:37		100	10	4	Pump 10 BBL H <sub>2</sub> O
4:40		100			Pull Drill Pipe
					Plug 3 @ 400'
5:02		100	7	4	Pump 7 WATER
5:05		100	10	4	Mix 40 SKS CMT
5:08		100	3	4	Pump 3 WATER
					Pull Drill Pipe
					Plug 4 @ 60 FT
7:10		100	5	4	Mix 20 SKS CMT
7:15			7.5		Plug RAT hole, mouse hole
					JOB COMPLETE
					THANK YOU Mike Matra

