

Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION

Form ACO-1

January 2018

Form must be Typed

Form must be Signed

All blanks must be Filled

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

New Well  Re-Entry  Workover

Oil  WSW  SWD

Gas  DH  EOR

OG  GSW

CM (Coal Bed Methane)

Cathodic  Other (Core, Expl., etc.): \_\_\_\_\_

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

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

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

Plug Back  Liner  Conv. to GSW  Conv. to Producer

Commingled Permit #: \_\_\_\_\_

Dual Completion Permit #: \_\_\_\_\_

SWD Permit #: \_\_\_\_\_

EOR Permit #: \_\_\_\_\_

GSW Permit #: \_\_\_\_\_

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE  NW  SE  SW

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

Datum:  NAD27  NAD83  WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite:

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

Confidentiality Requested

Date: \_\_\_\_\_

Confidential Release Date: \_\_\_\_\_

Wireline Log Received  Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

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

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

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No  List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

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

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

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

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

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Shelby Resources LLC
Well Name	FRICK FAMILY FARMS 1-18
Doc ID	1327974

All Electric Logs Run

Dual Induction
Compensated Neutron
Micro
Sonic
Radial Bond

Form	ACO1 - Well Completion
Operator	Shelby Resources LLC
Well Name	FRICK FAMILY FARMS 1-18
Doc ID	1327974

Tops

Name	Top	Datum
Heebner	3496	-1470
Toronto	3515	-1489
L-KC	3608	-1582
Stark Shale	3804	-1778
BKC	3860	-1834
Simpson Shale	3988	-1962
Simpson Sand	4014	-1988
Arbuckle	4086	-2060
LTD	4192	-2166



Form	ACO1 - Well Completion
Operator	Shelby Resources LLC
Well Name	FRICK FAMILY FARMS 1-18
Doc ID	1327974

Perforations

Shots Per Foot	Perforation Record	Material Record	Depth
4	4015-25	150 15% INS	





## DRILL STEM TEST REPORT

Prepared For: **SHELBY RESOURCES LLC**

2717 CANAL BLVD SUITE C  
HAYS , KnaA 67601

ATTN: JEREMY SCHWARTZ

**FRICK FAMILY FARMS 1**

**18-22S-16W PAWNEE**

Start Date: 2016.10.04 @ 02:55:00

End Date: 2016.10.04 @ 10:58:00

Job Ticket #: 01131                      DST #: 1

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

Printed: 2016.10.04 @ 11:17:01



# DRILL STEM TEST REPORT

SHELBY RESOURCES LLC

18-22S-16W PAWNEE

2717 CANAL BLVD SUITE C  
HAYS, KnaA 67601

FRICK FAMILY FARMS 1

ATTN: JEREMY SCHWARTZ

Job Ticket: 01131

DST#: 1

Test Start: 2016.10.04 @ 02:55:00

## GENERAL INFORMATION:

Formation: **PENN CHERT**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:05:00

Time Test Ended: 10:58:00

Test Type: Conventional Bottom Hole (Initial)

Tester: GENE BUDIG

Unit No: 1-54

Interval: **3917.00 ft (KB) To 3970.00 ft (KB) (TVD)**

Reference Elevations: 2026.00 ft (KB)

Total Depth: 3970.00 ft (KB) (TVD)

2016.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 9139

Outside

Press@RunDepth: 1348.43 psia @ 3965.34 ft (KB)

Capacity: 5000.00 psia

Start Date: 2016.10.04

End Date: 2016.10.04

Last Calib.: 2016.10.04

Start Time: 02:55:00

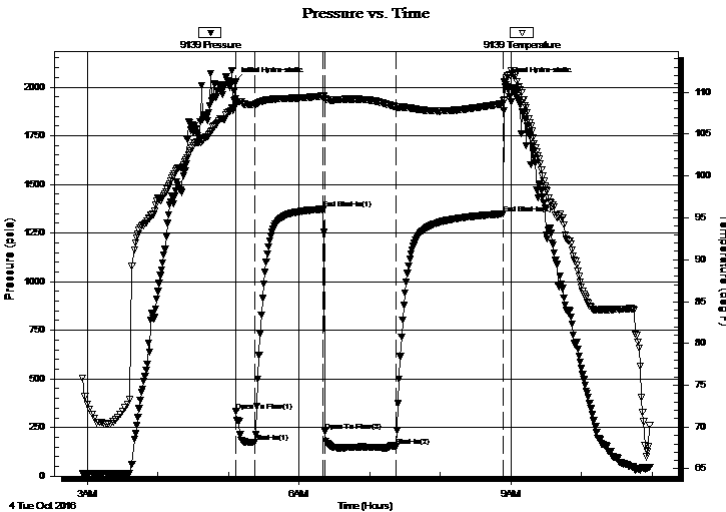
End Time: 10:58:00

Time On Btm: 2016.10.04 @ 05:05:30

Time Off Btm: 2016.10.04 @ 08:54:30

TEST COMMENT: 1ST OPENING 15 MINUTES STRONG BLOW GAS TO SURFACE IN 5 MINUTES  
1ST SHUT-IN 60 MINUTES GOOD BLOW BACK  
2ND OPENING 60 MINUTES STRONG BLOW SEE GAS FLOW REPORT  
2ND SUT-IN 90 MINUTES- GOOD BLOW BACK

## PRESSURE SUMMARY



Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2027.19	109.14	Initial Hydro-static
1	335.60	108.74	Open To Flow (1)
17	173.82	108.55	Shut-In(1)
75	1372.39	109.55	End Shut-In(1)
77	228.66	109.27	Open To Flow (2)
137	151.60	108.23	Shut-In(2)
228	1348.43	108.66	End Shut-In(2)
229	2028.23	109.11	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
250.00	gassy mud	2.69

## Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	1.00	6.47	186.00
Last Gas Rate	1.00	6.47	186.00
Max. Gas Rate	1.00	8.11	233.15



# DRILL STEM TEST REPORT

TOOL DIAGRAM

SHELBY RESOURCES LLC

18-22S-16W PAWNEE

2717 CANAL BLVD SUITE C  
HAYS, KnaA 67601

FRICK FAMILY FARMS 1

ATTN: JEREMY SCHWARTZ

Job Ticket: 01131

DST#: 1

Test Start: 2016.10.04 @ 02:55:00

## Tool Information

Drill Pipe:	Length: 3821.00 ft	Diameter: 3.80 inches	Volume: 53.60 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.76 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 90.00 ft	Diameter: 2.25 inches	Volume: 0.44 bbl	Weight to Pull Loose: 85000.00 lb
			Total Volume: 54.04 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3917.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	53.34 ft			
Tool Length:	82.34 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			3893.00	
Hydraulic tool	5.00			3898.00	
Jars	7.00			3905.00	
Safety Joint	2.00		Fluid	3907.00	
Top Packer	5.00			3912.00	
Packer	5.00			3917.00	29.00 Bottom Of Top Packer
Anchor	5.00			3922.00	
Change Over Sub	0.75			3922.75	
Drill Pipe	31.84			3954.59	
Change Over Sub	0.75			3955.34	
Anchor	10.00			3965.34	
Recorder	0.00	9119	Inside	3965.34	
Recorder	0.00	9139	Outside	3965.34	
Bullnose	5.00			3970.34	53.34 Anchor Tool

**Total Tool Length: 82.34**



# DRILL STEM TEST REPORT

## FLUID SUMMARY

SHELBY RESOURCES LLC

18-22S-16W PAWNEE

2717 CANAL BLVD SUITE C  
HAYS, KnaA 67601

FRICK FAMILY FARMS 1

Job Ticket: 01131

DST#: 1

ATTN: JEREMY SCHWARTZ

Test Start: 2016.10.04 @ 02:55:00

### Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 58.00 sec/qt

Water Loss: 9.20 in<sup>3</sup>

Resistivity: ohm.m

Salinity: 4200.00 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
250.00	gassy mud	2.687

Total Length: 250.00 ft      Total Volume: 2.687 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 2 Gas samples were taken  
gas did burn w ith a blue flame



# DRILL STEM TEST REPORT

GAS RATES

SHELBY RESOURCES LLC

18-22S-16W PAWNEE

2717 CANAL BLVD SUITE C  
HAYS, KnaA 67601

FRICK FAMILY FARMS 1

Job Ticket: 01131

DST#: 1

ATTN: JEREMY SCHWARTZ

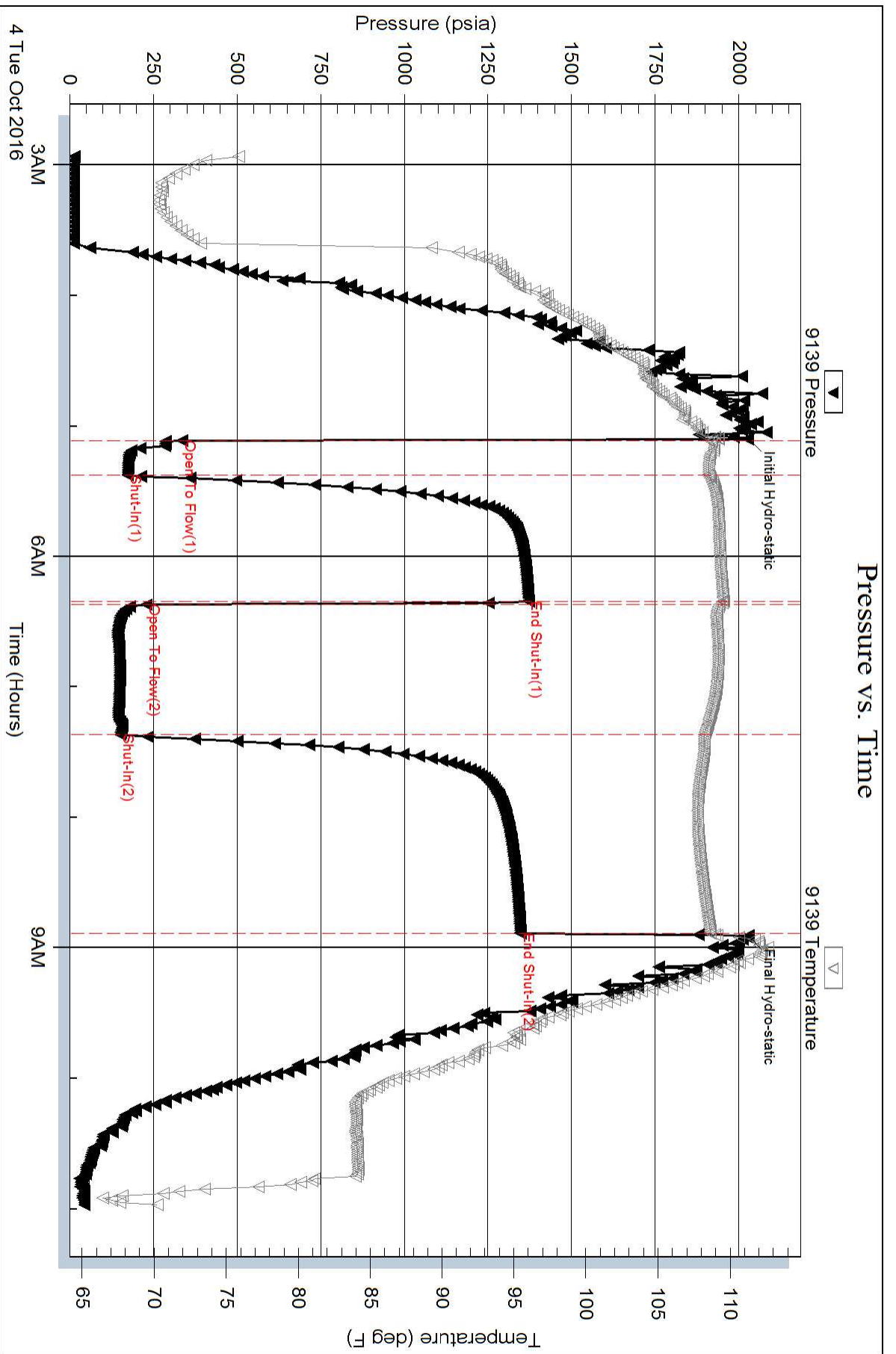
Test Start: 2016.10.04 @ 02:55:00

## Gas Rates Information

Temperature: 59 (deg F)  
Relative Density: 0.65  
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
1	10	1.00	6.47	186.00
1	15	1.00	6.47	186.00
2	10	1.00	8.11	233.15
2	20	1.00	6.47	186.00
2	30	1.00	6.47	186.00
2	40	1.00	6.47	186.00
2	50	1.00	6.47	186.00







## DRILL STEM TEST REPORT

Prepared For: **SHELBY RESOURCES LLC**

2717 CANAL BLVD SUITE C  
HAYS , KnaA 67601

ATTN: JEREMY SCHWARTZ

**FRICK FAMILY FARMS 1**

**18-22S-16W PAWNEE**

Start Date: 2016.10.04 @ 06:45:00

End Date: 2016.10.04 @ 00:00:00

Job Ticket #: 01132                      DST #: 2

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

Printed: 2016.10.05 @ 02:01:02



# DRILL STEM TEST REPORT

SHELBY RESOURCES LLC

18-22S-16W PAWNEE

2717 CANAL BLVD SUITE C  
HAYS, KnaA 67601

FRICK FAMILY FARMS 1

ATTN: JEREMY SCHWARTZ

Job Ticket: 01132

DST#: 2

Test Start: 2016.10.04 @ 06:45:00

## GENERAL INFORMATION:

Formation: **PEN CHERT**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:22:00

Time Test Ended: 00:00:00

Test Type: Conventional Bottom Hole (Initial)

Tester: GENE BUDIG

Unit No: 1-54

Interval: **3970.00 ft (KB) To 3985.00 ft (KB) (TVD)**

Reference Elevations: 2026.00 ft (KB)

Total Depth: 3985.00 ft (KB) (TVD)

2016.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 9139

Inside

Press@RunDepth: 1339.72 psia @ 3980.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2016.10.04

End Date:

2016.10.05

Last Calib.:

2016.10.05

Start Time:

18:55:00

End Time:

01:48:30

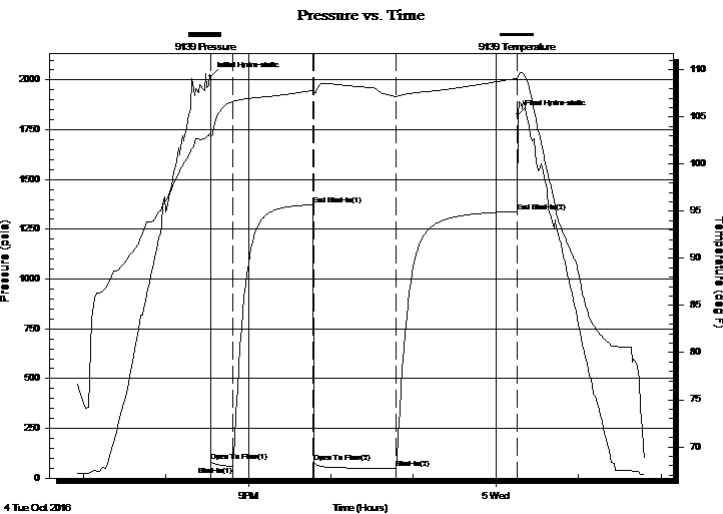
Time On Btm:

2016.10.04 @ 20:32:30

Time Off Btm:

2016.10.05 @ 00:16:00

TEST COMMENT: 1ST OPENING 15 MINUTES GOOD BLOW BUILT TO THE BOTTOM OF THE BUCKET IN 2 MINUTES  
1ST SHUT-IN 60 MINUTES NO BLOW BACK  
2ND OPENING 60 MINUTES-STRONG BLOW GAS TO SURFACE IN 6 MINUTES  
2ND SHUT-IN 90 MINUTES NO BLOW BACK



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2018.33	103.30	Initial Hydro-static
1	82.60	102.91	Open To Flow (1)
16	59.55	106.62	Shut-In(1)
75	1374.12	107.84	End Shut-In(1)
76	79.06	107.49	Open To Flow (2)
135	49.49	107.19	Shut-In(2)
223	1339.72	109.11	End Shut-In(2)
224	1826.50	109.33	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	GASSY MUD	0.05

## Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	0.25	2.10	3.33
Last Gas Rate	0.25	2.80	4.44
Max. Gas Rate	0.25	2.80	4.44



# DRILL STEM TEST REPORT

SHELBY RESOURCES LLC

18-22S-16W PAWNEE

2717 CANAL BLVD SUITE C  
HAYS, KnaA 67601

FRICK FAMILY FARMS 1

ATTN: JEREMY SCHWARTZ

Job Ticket: 01132

DST#: 2

Test Start: 2016.10.04 @ 06:45:00

## GENERAL INFORMATION:

Formation: **PEN CHERT**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:22:00

Time Test Ended: 00:00:00

Test Type: Conventional Bottom Hole (Initial)

Tester: GENE BUDIG

Unit No: 1-54

Interval: **3970.00 ft (KB) To 3985.00 ft (KB) (TVD)**

Reference Elevations: 2026.00 ft (KB)

Total Depth: 3985.00 ft (KB) (TVD)

2016.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: **91716** Outside

Press@RunDepth: 1326.53 psia @ 3980.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2016.10.04

End Date: 2016.10.05

Last Calib.: 2016.10.05

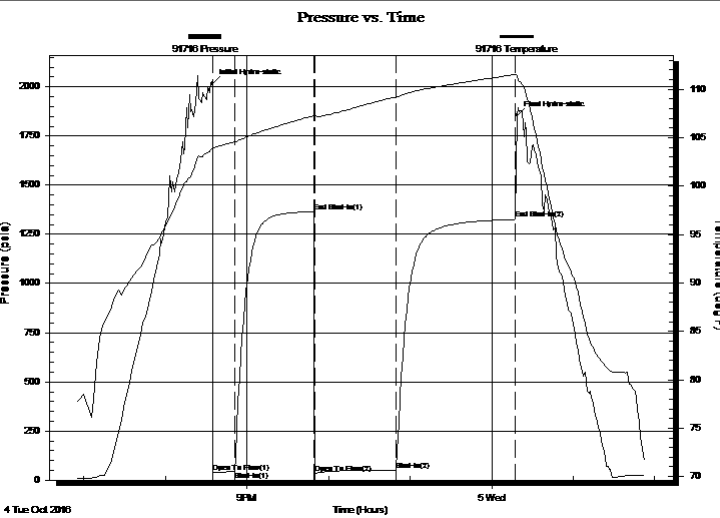
Start Time: 18:55:00

End Time: 01:53:00

Time On Btm: 2016.10.04 @ 20:34:30

Time Off Btm: 2016.10.05 @ 00:18:30

TEST COMMENT: 1ST OPENING 15 MINUTES GOOD BLOW BUILT TO THE BOTTOM OF THE BUCKET IN 2 MINUTES  
1ST SHUT-IN 60 MINUTES NO BLOW BACK  
2ND OPENING 60 MINUTES-STRONG BLOW GAS TO SURFACE IN 6 MINUTES  
2ND SHUT-IN 90 MINUTES NO BLOW BACK



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2016.72	103.92	Initial Hydro-static
1	39.96	103.98	Open To Flow (1)
17	43.05	104.57	Shut-In(1)
75	1366.84	107.28	End Shut-In(1)
76	32.72	107.28	Open To Flow (2)
135	49.61	109.19	Shut-In(2)
223	1326.53	111.54	End Shut-In(2)
224	1854.35	111.40	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	GASSY MUD	0.05

## Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	0.25	2.10	3.33
Last Gas Rate	0.25	2.80	4.44
Max. Gas Rate	0.25	2.80	4.44



# DRILL STEM TEST REPORT

TOOL DIAGRAM

SHELBY RESOURCES LLC

18-22S-16W PAWNEE

2717 CANAL BLVD SUITE C  
HAYS, KnaA 67601

FRICK FAMILY FARMS 1

Job Ticket: 01132

DST#: 2

ATTN: JEREMY SCHWARTZ

Test Start: 2016.10.04 @ 06:45:00

## Tool Information

Drill Pipe:	Length: 3854.00 ft	Diameter: 3.80 inches	Volume: 54.06 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.86 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 90.00 ft	Diameter: 2.25 inches	Volume: 0.44 bbl	Weight to Pull Loose: 84000.00 lb
			Total Volume: 54.50 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	3.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3970.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	15.00 ft			
Tool Length:	44.00 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			3946.00	
Hydraulic tool	5.00			3951.00	
Jars	7.00			3958.00	
Safety Joint	2.00		Fluid	3960.00	
Top Packer	5.00			3965.00	
Packer	5.00			3970.00	29.00 Bottom Of Top Packer
Anchor	10.00			3980.00	
Recorder	0.00	9139	Inside	3980.00	
Recorder	0.00	91716	Outside	3980.00	
Bullnose	5.00			3985.00	15.00 Anchor Tool
<b>Total Tool Length:</b>	<b>44.00</b>				



# DRILL STEM TEST REPORT

**FLUID SUMMARY**

SHELBY RESOURCES LLC

**18-22S-16W PAWNEE**

2717 CANAL BLVD SUITE C  
HAYS , KnaA 67601

**FRICK FAMILY FARMS 1**

Job Ticket: 01132

**DST#: 2**

ATTN: JEREMY SCHWARTZ

Test Start: 2016.10.04 @ 06:45:00

## 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: 62.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.80 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psia		
Salinity: 4100.00 ppm			
Filter Cake: 1.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	GASSY MUD	0.049

Total Length: 10.00 ft      Total Volume: 0.049 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments: 2 GAS SAMPLES TAKEN THE LAST 10 MINUTES OF THE OPENING  
GAS DID BURN BLUE



# DRILL STEM TEST REPORT

GAS RATES

SHELBY RESOURCES LLC

18-22S-16W PAWNEE

2717 CANAL BLVD SUITE C  
HAYS, KnaA 67601

FRICK FAMILY FARMS 1

Job Ticket: 01132

DST#: 2

ATTN: JEREMY SCHWARTZ

Test Start: 2016.10.04 @ 06:45:00

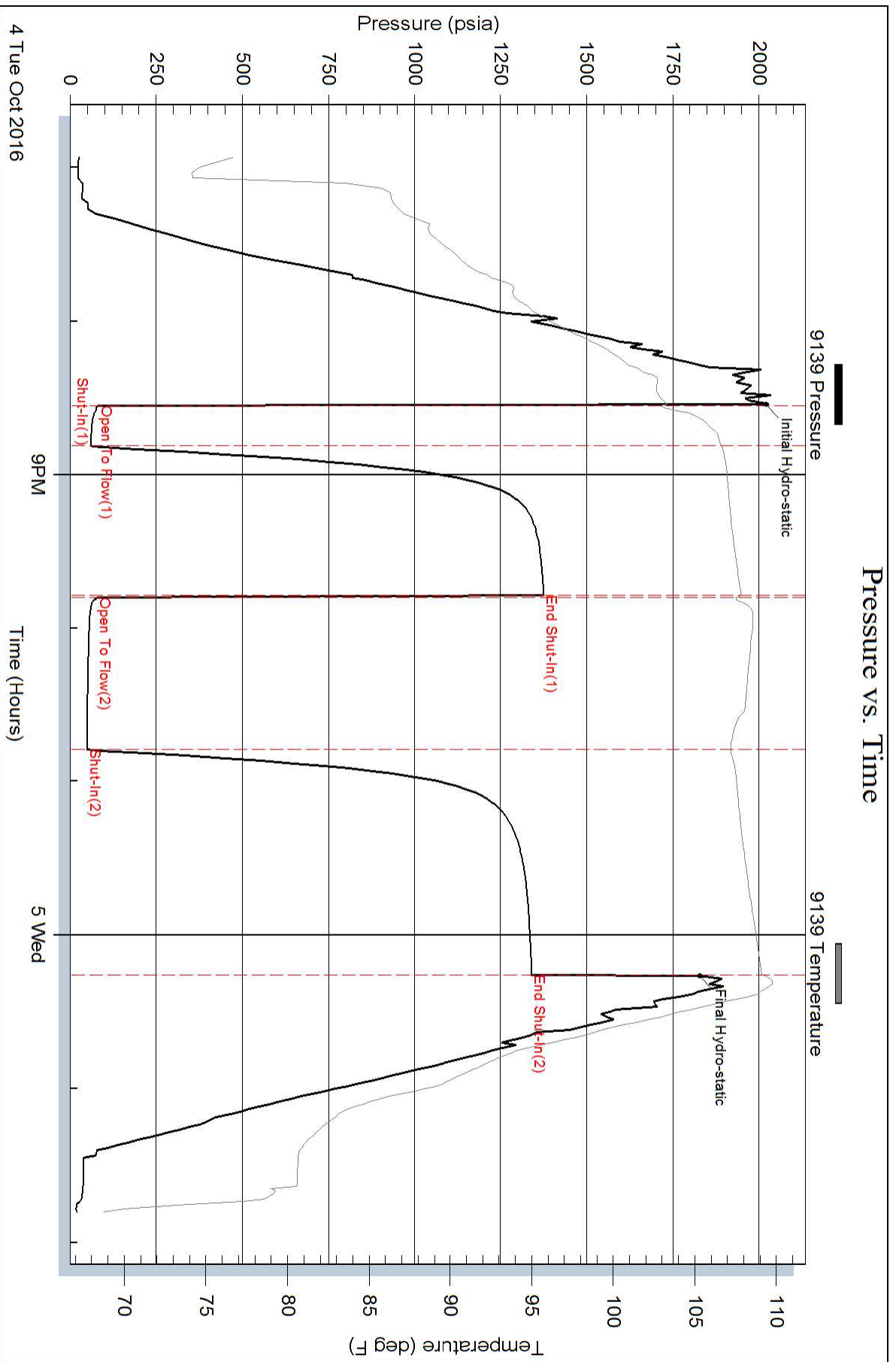
## Gas Rates Information

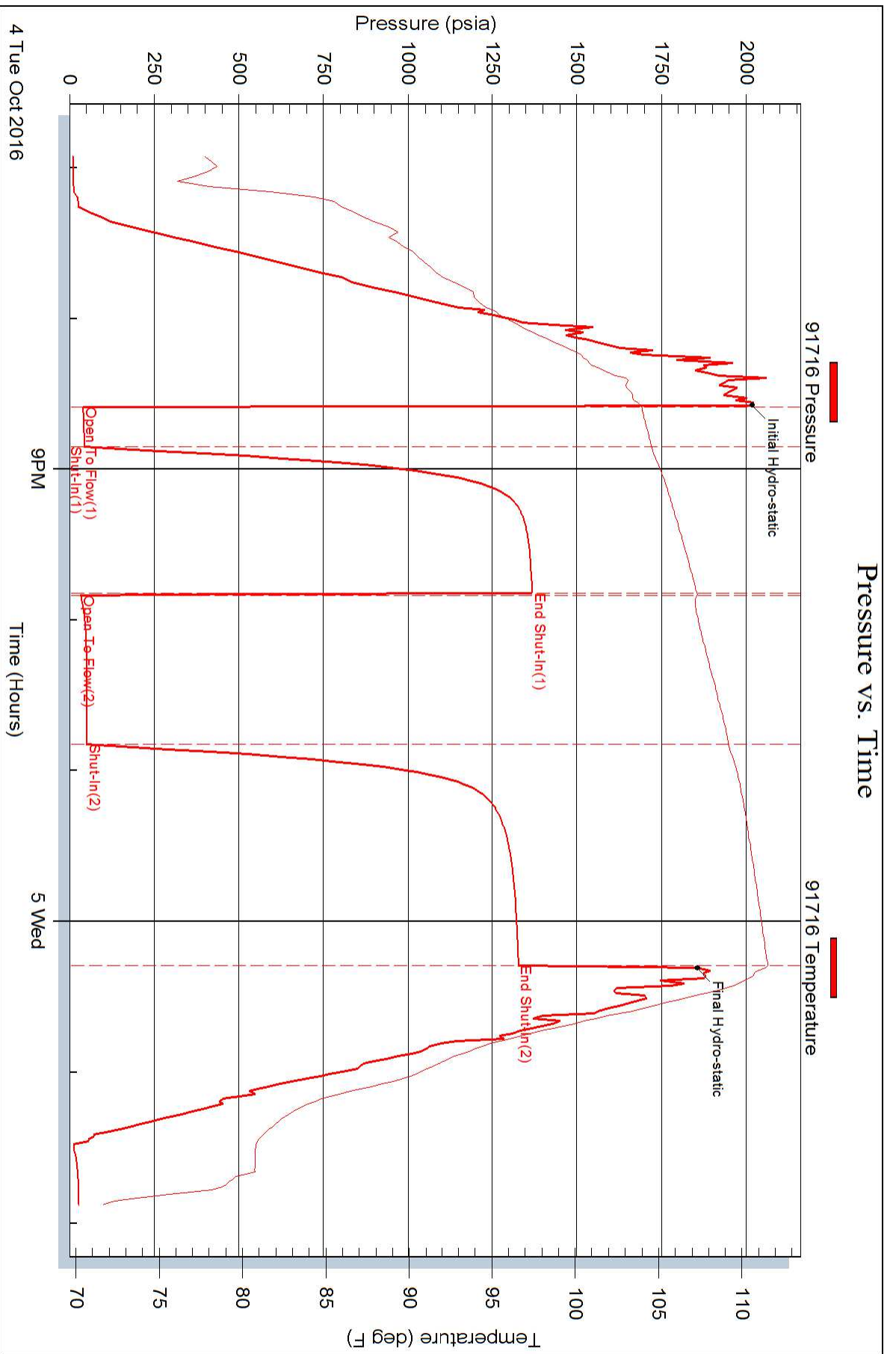
Temperature: 59 (deg F)  
Relative Density: 0.65  
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
2	10	0.25	2.10	3.33
2	20	0.25	2.80	4.44
2	30	0.25	2.80	4.44
2	40	0.25	2.80	4.44
2	50	0.25	2.80	4.44

### Pressure vs. Time









## DRILL STEM TEST REPORT

Prepared For: **SHELBY RESOURCES LLC**

2717 CANAL BLVD SUITE C  
HAYS , KnaA 67601

ATTN: JEREMY SCHWARTZ

**FRICK FAMILY FARMS 1**

**18-22S-16W PAWNEE**

Start Date: 2016.10.05 @ 10:44:00

End Date:

Job Ticket #: 01133

DST #: 3

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

Printed: 2016.10.05 @ 18:22:51



# DRILL STEM TEST REPORT

SHELBY RESOURCES LLC

18-22S-16W PAWNEE

2717 CANAL BLVD SUITE C  
HAYS, KnaA 67601

FRICK FAMILY FARMS 1

ATTN: JEREMY SCHWARTZ

Job Ticket: 01133

DST#: 3

Test Start: 2016.10.05 @ 10:44:00

## GENERAL INFORMATION:

Formation: **SIMPSON SAND**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:20:00

Time Test Ended:

Test Type: Conventional Bottom Hole (Initial)

Tester: GENE BUDIG

Unit No: 1

Interval: **3982.00 ft (KB) To 4034.00 ft (KB) (TVD)**

Reference Elevations: 2026.00 ft (KB)

Total Depth: 4034.00 ft (KB) (TVD)

2016.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 9139

Inside

Press@RunDepth: 1377.22 psia @ 4029.34 ft (KB)

Capacity: 5000.00 psia

Start Date: 2016.10.05

End Date: 2016.10.05

Last Calib.: 1899.12.30

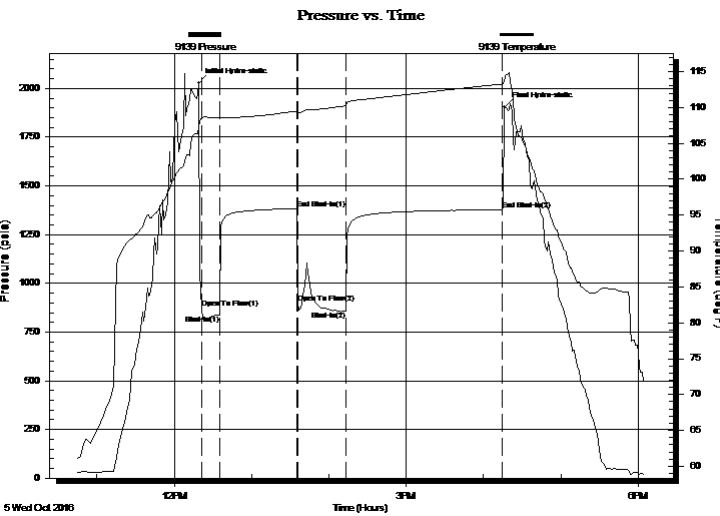
Start Time: 10:44:00

End Time: 18:05:00

Time On Btm: 2016.10.05 @ 12:19:00

Time Off Btm: 2016.10.05 @ 16:16:30

TEST COMMENT: 1ST OPENING 15 MINUTES STRONG BLOW GAS TO SURFACE IN 2 MINUTES  
1ST SHUT-IN 60 MINUTES  
2ND OPENING 40 MINUTES STRONG BLOW  
2ND SHUT-IN 120 MINUTES



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2026.93	107.12	Initial Hydro-static
2	872.80	108.61	Open To Flow (1)
16	838.92	108.57	Shut-In(1)
76	1382.08	109.50	End Shut-In(1)
77	898.65	109.24	Open To Flow (2)
115	859.18	110.23	Shut-In(2)
236	1377.22	113.27	End Shut-In(2)
238	1903.84	114.17	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
150.00	MUD	1.28

## Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	1.00	98.00	2817.38
Last Gas Rate	1.00	113.75	3270.18
Max. Gas Rate	1.00	123.50	3550.48



# DRILL STEM TEST REPORT

SHELBY RESOURCES LLC

18-22S-16W PAWNEE

2717 CANAL BLVD SUITE C  
HAYS, KnaA 67601

FRICK FAMILY FARMS 1

ATTN: JEREMY SCHWARTZ

Job Ticket: 01133

DST#: 3

Test Start: 2016.10.05 @ 10:44:00

## GENERAL INFORMATION:

Formation: **SIMPSON SAND**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:20:00

Time Test Ended:

Test Type: Conventional Bottom Hole (Initial)

Tester: GENE BUDIG

Unit No: 1

Interval: **3982.00 ft (KB) To 4034.00 ft (KB) (TVD)**

Reference Elevations: 2026.00 ft (KB)

Total Depth: 4034.00 ft (KB) (TVD)

2016.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 91716 Outside**

Press@RunDepth: 1369.07 psia @ 4029.34 ft (KB)

Capacity: 5000.00 psia

Start Date: 2016.10.05

End Date: 2016.10.05

Last Calib.: 2016.10.05

Start Time: 10:44:00

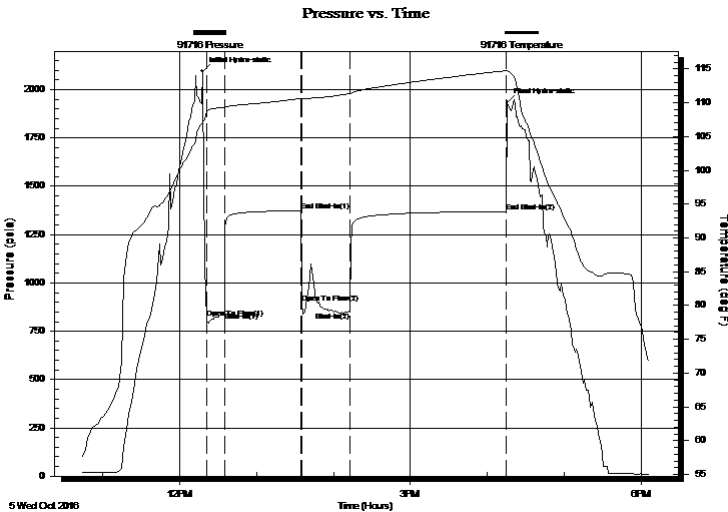
End Time: 18:06:30

Time On Btm: 2016.10.05 @ 12:18:00

Time Off Btm: 2016.10.05 @ 16:15:30

TEST COMMENT: 1ST OPENING 15 MINUTES STRONG BLOW GAS TO SURFACE IN 2 MINUTES  
1ST SHUT-IN 60 MINUTES  
2ND OPENING 40 MINUTES STRONG BLOW  
2ND SHUT-IN 120 MINUTES

## PRESSURE SUMMARY



Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2094.97	106.92	Initial Hydro-static
3	816.65	108.56	Open To Flow (1)
17	847.04	109.22	Shut-In(1)
77	1373.81	110.65	End Shut-In(1)
78	897.33	110.63	Open To Flow (2)
115	850.92	111.36	Shut-In(2)
237	1369.07	114.74	End Shut-In(2)
238	1933.81	114.77	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
150.00	MUD	1.28

## Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	1.00	98.00	2817.38
Last Gas Rate	1.00	113.75	3270.18
Max. Gas Rate	1.00	123.50	3550.48



# DRILL STEM TEST REPORT

TOOL DIAGRAM

SHELBY RESOURCES LLC

18-22S-16W PAWNEE

2717 CANAL BLVD SUITE C  
HAYS, KnaA 67601

FRICK FAMILY FARMS 1

ATTN: JEREMY SCHWARTZ

Job Ticket: 01133

DST#: 3

Test Start: 2016.10.05 @ 10:44:00

## Tool Information

Drill Pipe:	Length: 3886.00 ft	Diameter: 3.80 inches	Volume: 54.51 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.76 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 90.00 ft	Diameter: 2.25 inches	Volume: 0.44 bbl	Weight to Pull Loose: 78000.00 lb
			Total Volume: 54.95 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	3982.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	52.34 ft			
Tool Length:	81.34 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			3958.00	
Hydraulic tool	5.00			3963.00	
Jars	7.00			3970.00	
Safety Joint	2.00		Fluid	3972.00	
Top Packer	5.00			3977.00	
Packer	5.00			3982.00	29.00 Bottom Of Top Packer
Anchor	5.00			3987.00	
Change Over Sub	0.75			3987.75	
Drill Pipe	31.84			4019.59	
Change Over Sub	0.75			4020.34	
Anchor	9.00			4029.34	
Recorder	0.00	9139	Inside	4029.34	
Recorder	0.00	91716	Outside	4029.34	
Bullnose	5.00			4034.34	52.34 Anchor Tool

**Total Tool Length: 81.34**



# DRILL STEM TEST REPORT

**FLUID SUMMARY**

SHELBY RESOURCES LLC

**18-22S-16W PAWNEE**

2717 CANAL BLVD SUITE C  
HAYS, KnaA 67601

**FRICK FAMILY FARMS 1**

Job Ticket: 01133

**DST#: 3**

ATTN: JEREMY SCHWARTZ

Test Start: 2016.10.05 @ 10:44:00

## Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 65.00 sec/qt  
Water Loss: 7.20 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 4200.00 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
150.00	MUD	1.284

Total Length: 150.00 ft      Total Volume: 1.284 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments:



# DRILL STEM TEST REPORT

**GAS RATES**

SHELBY RESOURCES LLC

**18-22S-16W PAWNEE**

2717 CANAL BLVD SUITE C  
HAYS, KnaA 67601

**FRICK FAMILY FARMS 1**

Job Ticket: 01133

**DST#: 3**

ATTN: JEREMY SCHWARTZ

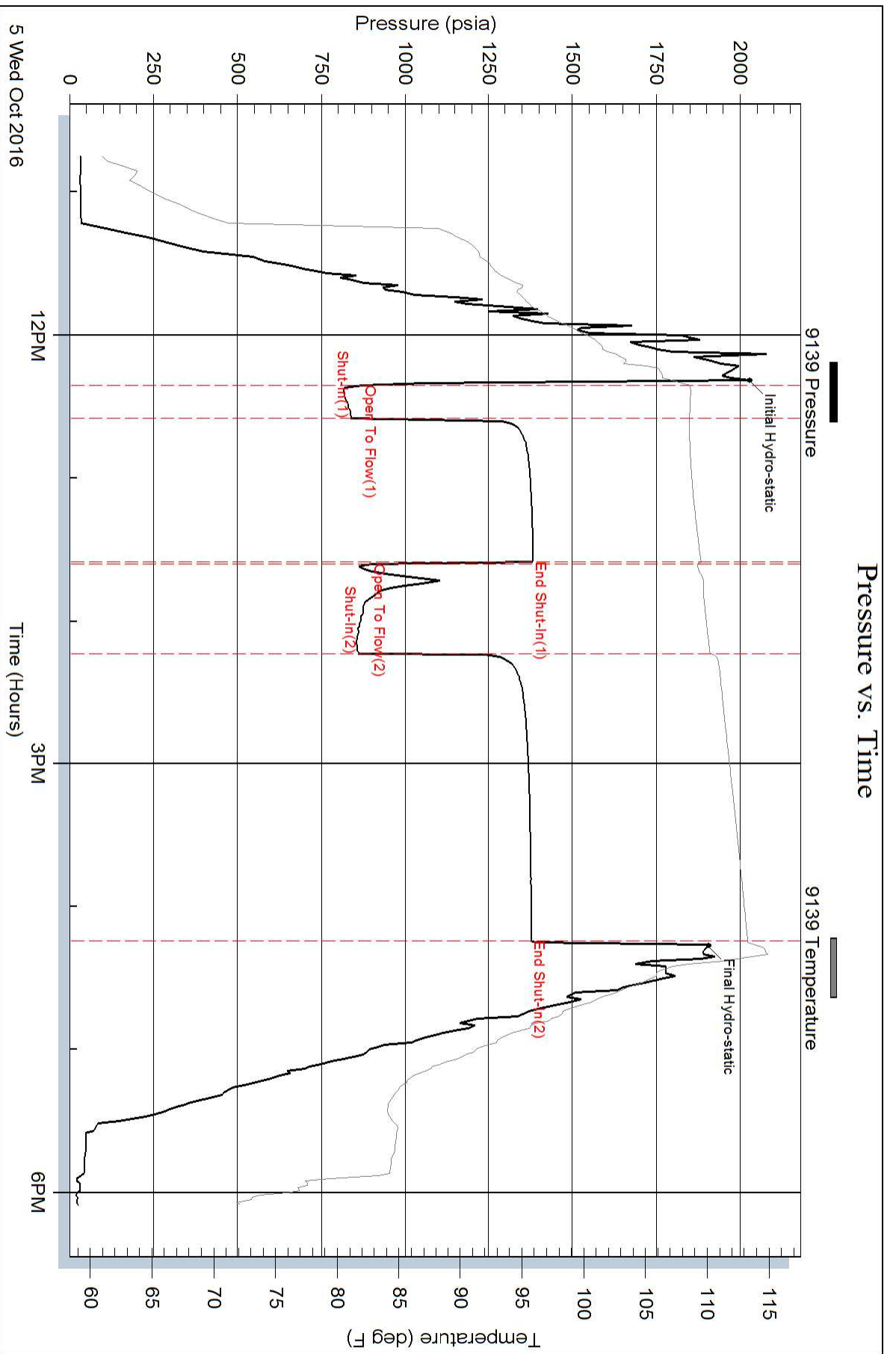
Test Start: 2016.10.05 @ 10:44:00

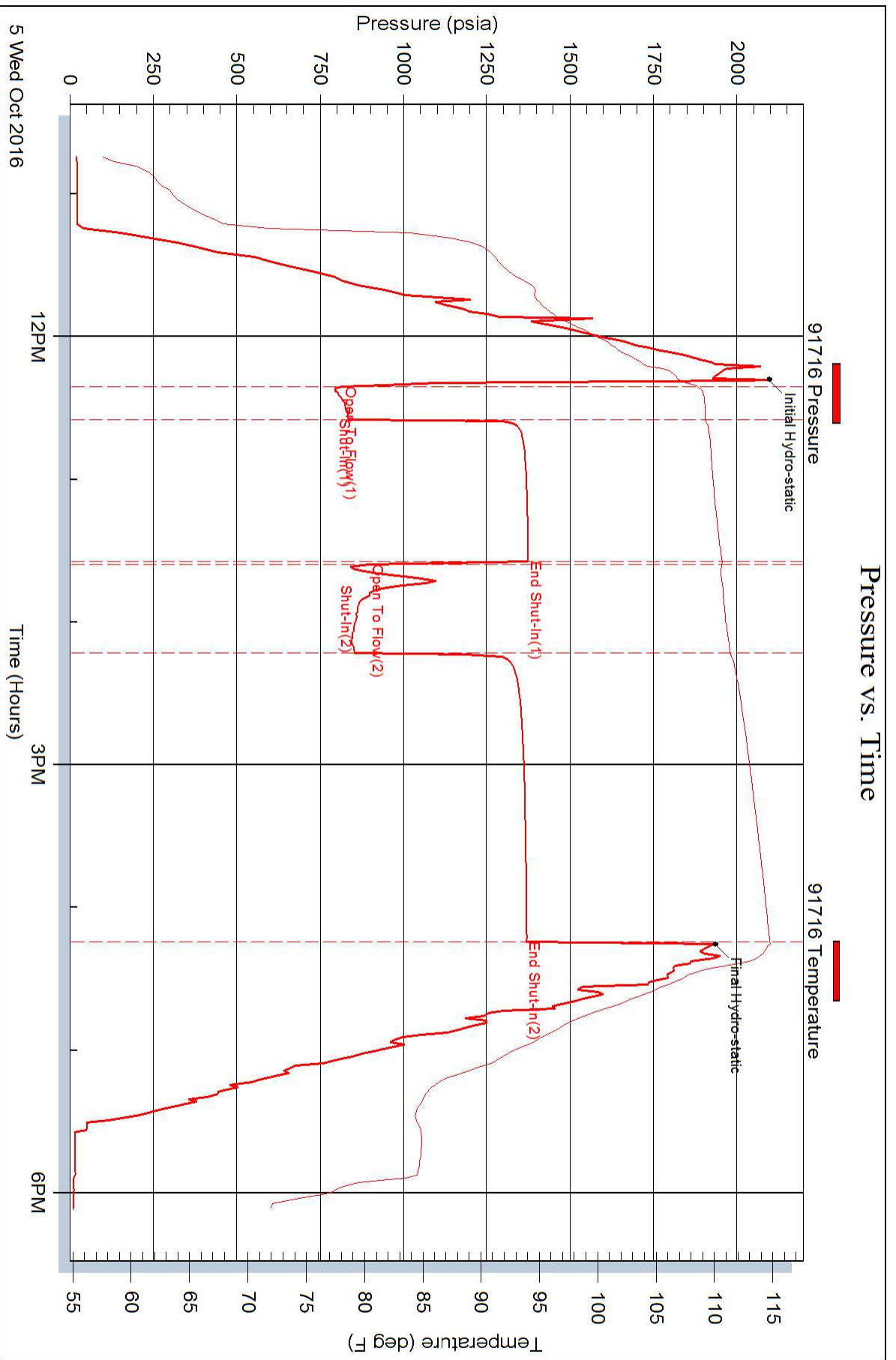
## Gas Rates Information

Temperature: 59 (deg F)  
Relative Density: 0.65  
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
1	5	1.00	98.00	2817.38
1	10	1.00	123.50	3550.48
2	10	1.00	113.75	3270.18
2	20	1.00	113.75	3270.18
2	30	1.00	113.75	3270.18
2	40	1.00	113.75	3270.18









## DRILL STEM TEST REPORT

Prepared For: **SHELBY RESOURCES LLC**

2717 CANAL BLVD SUITE C  
HAYS , KnaA 67601

ATTN: JEREMY SCHWARTZ

**FRICK FAMILY FARMS 1**

**18-22S-16W PAWNEE**

Start Date: 2016.10.06 @ 01:25:00

End Date: 2016.10.06 @ 00:00:00

Job Ticket #: 01134                      DST #: 4

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

Printed: 2016.10.06 @ 09:24:15



# DRILL STEM TEST REPORT

SHELBY RESOURCES LLC

18-22S-16W PAWNEE

2717 CANAL BLVD SUITE C  
HAYS, KnaA 67601

FRICK FAMILY FARMS 1

ATTN: JEREMY SCHWARTZ

Job Ticket: 01134

DST#: 4

Test Start: 2016.10.06 @ 01:25:00

## GENERAL INFORMATION:

Formation: **LOWER SIMPSON SAND**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:00:00

Time Test Ended: 00:00:00

Test Type: Conventional Bottom Hole (Initial)

Tester: GENE BUDIG

Unit No: 1

Interval: **4041.00 ft (KB) To 4049.00 ft (KB) (TVD)**

Reference Elevations: 2026.00 ft (KB)

Total Depth: 4041.00 ft (KB) (TVD)

2016.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 9139

Inside

Press@RunDepth: 1352.11 psia @ 4044.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2016.10.06

End Date:

2016.10.06

Last Calib.:

2016.10.06

Start Time: 01:25:00

End Time:

09:00:00

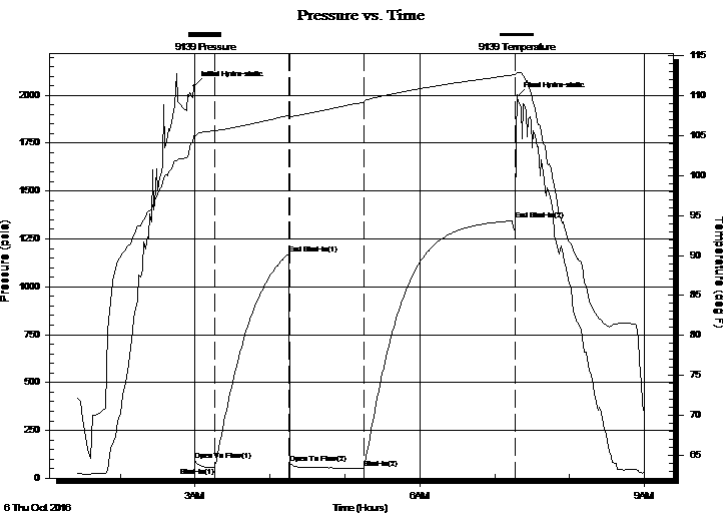
Time On Btm:

2016.10.06 @ 02:59:30

Time Off Btm:

2016.10.06 @ 07:18:00

TEST COMMENT: 1ST OPENING 15 MINUTES FAIR BLOW BUILT TO THE BOTTOM OF A 5 GALLON BUCKET IN 6 MINUTES  
1ST SHUT-IN 60 MINUTES NOP BLOW BACK  
2ND OPENING 60 MINUTES STRONG BLOW DECREASED TO A WEAK STEADY 2 INCH BLOW  
2ND SHUT-IN 120 MINUTES NO BLOW BACK



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2048.14	105.17	Initial Hydro-static
1	91.91	104.87	Open To Flow (1)
16	57.24	105.62	Shut-In(1)
76	1173.78	107.55	End Shut-In(1)
77	78.27	107.32	Open To Flow (2)
136	52.37	109.21	Shut-In(2)
257	1352.11	112.67	End Shut-In(2)
259	1994.99	112.94	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	OIL CUT MUD 20 OIL 80 MUD	0.10
0.00	2150 GAS IN THE PIPE	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

SHELBY RESOURCES LLC

18-22S-16W PAWNEE

2717 CANAL BLVD SUITE C  
HAYS, KnaA 67601

FRICK FAMILY FARMS 1

ATTN: JEREMY SCHWARTZ

Job Ticket: 01134

DST#: 4

Test Start: 2016.10.06 @ 01:25:00

## GENERAL INFORMATION:

Formation: **LOWER SIMPSON SAND**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:00:00

Time Test Ended: 00:00:00

Test Type: Conventional Bottom Hole (Initial)

Tester: GENE BUDIG

Unit No: 1

Interval: **4041.00 ft (KB) To 4049.00 ft (KB) (TVD)**

Reference Elevations: 2026.00 ft (KB)

Total Depth: 4041.00 ft (KB) (TVD)

2016.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: **91716** Outside

Press@RunDepth: 1356.44 psia @ 4044.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2016.10.06

End Date: 2016.10.06

Last Calib.: 2016.10.06

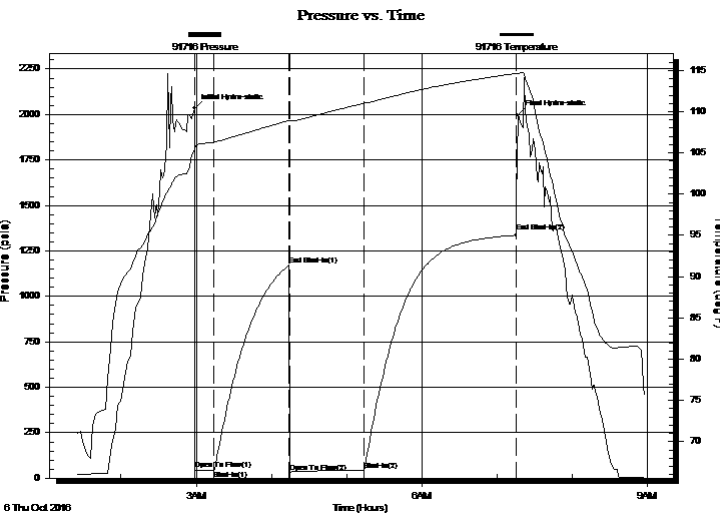
Start Time: 01:25:00

End Time: 08:57:30

Time On Btm: 2016.10.06 @ 02:58:30

Time Off Btm: 2016.10.06 @ 07:16:30

TEST COMMENT: 1ST OPENING 15 MINUTES FAIR BLOW BUILT TO THE BOTTOM OF A 5 GALLON BUCKET IN 6 MINUTES  
1ST SHUT-IN 60 MINUTES NOP BLOW BACK  
2ND OPENING 60 MINUTES STRONG BLOW DECREASED TO A WEAK STEADY 2 INCH BLOW  
2ND SHUT-IN 120 MINUTES NO BLOW BACK



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2033.25	105.42	Initial Hydro-static
1	47.69	105.61	Open To Flow (1)
16	44.74	106.31	Shut-In(1)
76	1172.53	108.95	End Shut-In(1)
76	34.02	108.93	Open To Flow (2)
136	42.26	111.00	Shut-In(2)
257	1356.44	114.63	End Shut-In(2)
258	1996.94	114.66	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	OIL CUT MUD 20 OIL 80 MUD	0.10
0.00	2150 GAS IN THE PIPE	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

TOOL DIAGRAM

SHELBY RESOURCES LLC

18-22S-16W PAWNEE

2717 CANAL BLVD SUITE C  
HAYS, KnaA 67601

FRICK FAMILY FARMS 1

Job Ticket: 01134

DST#: 4

ATTN: JEREMY SCHWARTZ

Test Start: 2016.10.06 @ 01:25:00

## Tool Information

Drill Pipe:	Length: 3949.00 ft	Diameter: 3.80 inches	Volume: 55.39 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.76 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 90.00 ft	Diameter: 2.25 inches	Volume: 0.44 bbl	Weight to Pull Loose: 84000.00 lb
			<u>Total Volume: 55.83 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4041.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	8.00 ft			
Tool Length:	37.00 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			4017.00	
Hydraulic tool	5.00			4022.00	
Jars	7.00			4029.00	
Safety Joint	2.00		Fluid	4031.00	
Top Packer	5.00			4036.00	
Packer	5.00			4041.00	29.00 Bottom Of Top Packer
Anchor	3.00			4044.00	
Recorder	0.00	9139	Inside	4044.00	
Recorder	0.00	91716	Outside	4044.00	
Bullnose	5.00			4049.00	8.00 Anchor Tool
<b>Total Tool Length:</b>	<b>37.00</b>				



# DRILL STEM TEST REPORT

## FLUID SUMMARY

SHELBY RESOURCES LLC

18-22S-16W PAWNEE

2717 CANAL BLVD SUITE C  
HAYS, KnaA 67601

FRICK FAMILY FARMS 1

Job Ticket: 01134

DST#: 4

ATTN: JEREMY SCHWARTZ

Test Start: 2016.10.06 @ 01:25:00

### Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 65.00 sec/qt  
Water Loss: 7.20 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 4200.00 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	OIL CUT MUD 20 OIL 80 MUD	0.098
0.00	2150 GAS IN THE PIPE	0.000

Total Length: 20.00 ft      Total Volume: 0.098 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

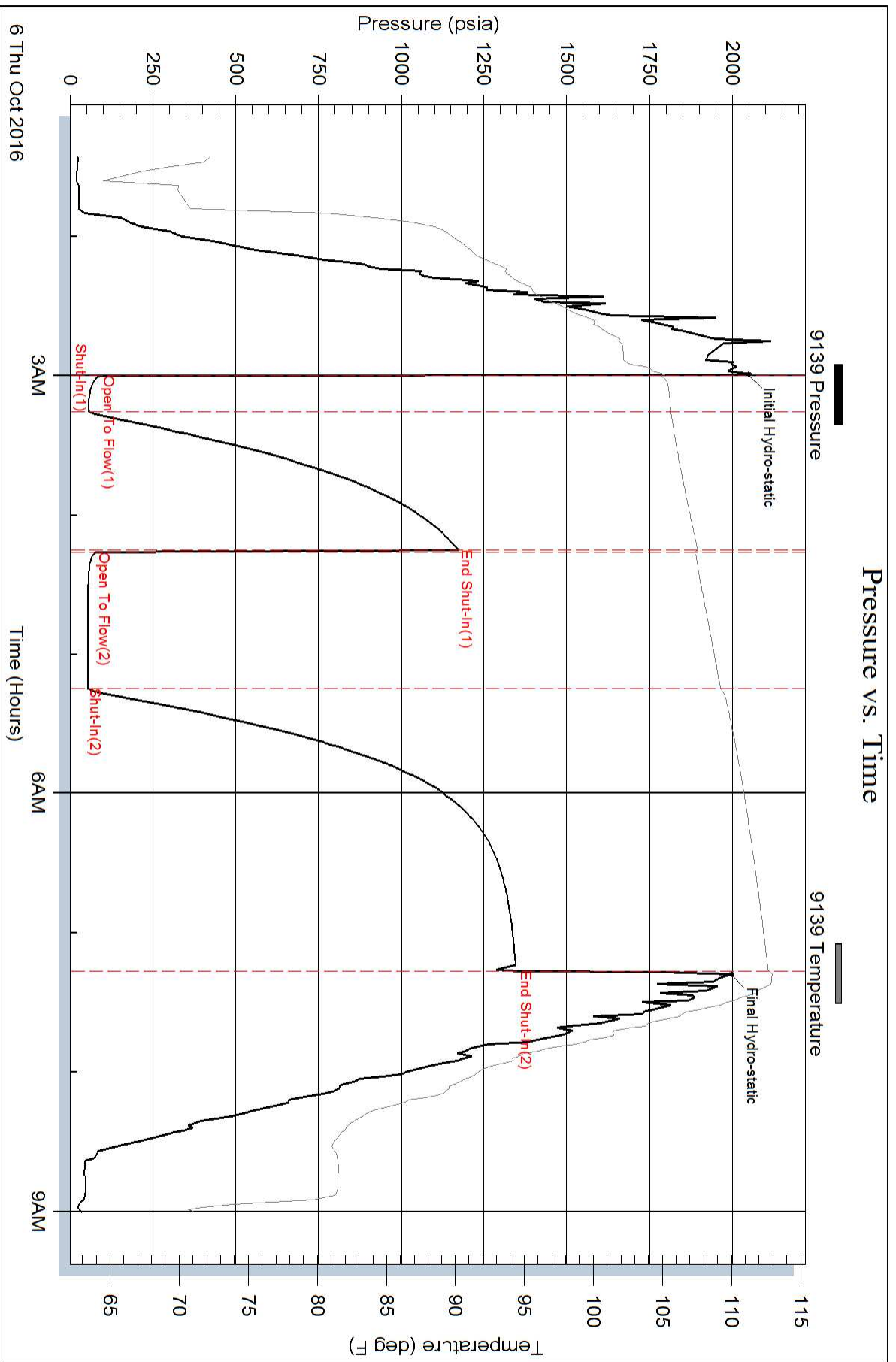
Serial #:

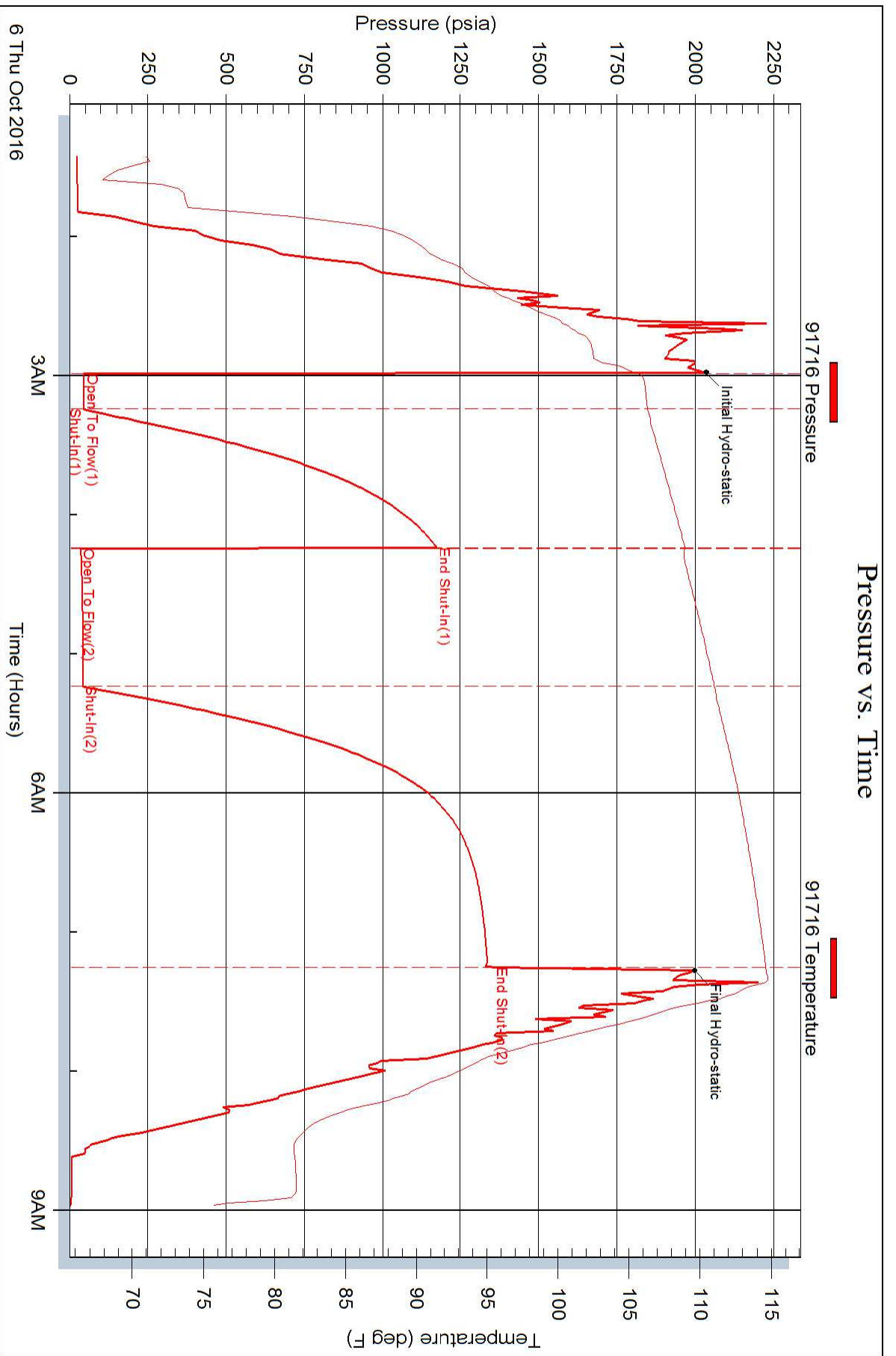
Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time





NATURAL GAS ANALYSIS REPORT  
GPA 2145-09

Sampled by:  
Eagle Testers  
1309 Patton Road  
Great Bend, Kansas 67530  
Phone:  
Fax:

Analyzed by:  
Caraway Analytical, Inc  
P. O. Box 2137  
Liberal, Kansas 67905  
Phone: 620-482-2371  
Fax: 620-626-7108

Lab Number: 20162307  
Sample From: PENN CHERT  
Producer: SHELBY RESOURCES  
Date: 10/04/16  
Time:  
Sampler:  
Source:

Analyzed: 10/04/16  
Pressure:  
Temperature:  
Location: 18-22-16  
County:  
State:  
Formation: PENN CHERT

	Mole %	GPM
Helium	He: 1.656	0.000
Hydrogen	H2: 0.000	0.000
Oxygen	O2: 0.000	0.000
Nitrogen	N2: 11.587	0.000
Carbon Dioxide	CO2: 0.133	0.000
Methane	C1: 80.189	0.000
Ethane	C2: 3.641	1.365
Propane	C3: 1.491	0.559
Iso Butane	iC4: 0.247	0.076
Normal Butane	nC4: 0.488	0.155
Iso Pentane	iC5: 0.126	0.035
Normal Pentane	nC5: 0.163	0.045
Hexanes Plus	C6+: 0.279	0.064

TOTAL: 100.000 2.299  
Z Fact: 0.9999  
SP.GR.: 0.6523  
BTU (SAT): 964.0 @ 14.73 psia  
BTU (DRY): 981.1 @ 14.73 psia  
OCTANE RATING: 110.4

COMMENTS:

0.000



NATURAL GAS ANALYSIS REPORT  
GPA 2145-09

Sampled by:  
Eagle Testers  
1309 Patton Road  
Great Bend, Kansas 67530  
Phone:  
Fax:

Analyzed by:  
Caraway Analytical, Inc  
P. O. Box 2137  
Liberal, Kansas 67905  
Phone: 620-482-2371  
Fax: 620-626-7108

Lab Number: 20162341  
Sample From: SIMPSON SAND  
Producer: SHELBY RESOURCES  
Date: 10/05/16  
Time:  
Sampler:  
Source:

Analyzed: 10/05/16  
Pressure:  
Temperature:  
Location:  
County:  
State:  
Formation: SIMPSON

SAND

	Mole %	GPM
Helium	He: 1.600	0.000
Hydrogen	H2: 0.000	0.000
Oxygen	O2: 0.000	0.000
Nitrogen	N2: 12.455	0.000
Carbon Dioxide	CO2: 0.285	0.000
Methane	C1: 78.823	0.000
Ethane	C2: 3.633	1.362
Propane	C3: 1.554	0.583
Iso Butane	iC4: 0.284	0.087
Normal Butane	nC4: 0.560	0.178
Iso Pentane	iC5: 0.167	0.046
Normal Pentane	nC5: 0.228	0.063
Hexanes Plus	C6+: 0.411	0.094
TOTAL:		100.000 2.413
Z Fact:		0.9999
SP.GR.:		0.6653
BTU (SAT):		966.2 @ 14.73 psia
BTU (DRY):		983.3 @ 14.73 psia
OCTANE RATING:		108.8

COMMENTS: 3987-4034

0.000



Scale 1:240 Imperial

Well Name: Frick Family Farms #1-18  
 Surface Location: 1003' FSL, 2001' FEL, Sec. 18-22S-16W  
 Bottom Location:  
 API: 15-145-21822-00-00  
 License Number:  
 Spud Date: 9/29/2016 Time: 7:15 AM  
 Region: Pawnee County  
 Drilling Completed: 10/6/2016 Time: 7:55 PM  
 Surface Coordinates:  
 Bottom Hole Coordinates:  
 Ground Elevation: 2015.00ft  
 K.B. Elevation: 2026.00ft  
 Logged Interval: 3100.00ft To: 4190.00ft  
 Total Depth: 4190.00ft  
 Formation: Penn Conglomerate  
 Drilling Fluid Type: Chemical/Fresh Water Gel

**OPERATOR**

Company: Shelby Resources, LLC  
 Address: 621 17th St, Suite 1155  
 Denver, CO 80293  
 Contact Geologist: Janine Sturdavant  
 Contact Phone Nbr: 303-907-2209 / 720-274-4682  
 Well Name: Frick Family Farms #1-18  
 Location: 1003' FSL, 2001' FEL, Sec. 18-22S-16W  
 API: 15-145-21822-00-00  
 Pool:  
 State: Kansas Field: Wildcat  
 Country: USA

**LOGGED BY**



Company: Shelby Resources, LLC  
 Address: 621 17th St., Ste 1155  
 Denver, CO 80293  
 Phone Nbr: 203-671-6034  
 Logged By: Geologist Name: Jeremy Schwartz

**NOTES**

The Shelby Resources, LLC Frick Family Farms #1-18 was drilled to a total depth of 4190', bottoming in the Arbuckle. A TookeDaq Gas Detector was employed in the drilling of said well.

4 DST's were conducted throughout the Penn Conglomerate and Simpson Sand. The DST reports can be found at the bottom of this log.

Due to positive DST results, sample shows, and log analysis it was determined by all parties to further test the well through production casing. The dry samples were saved and will be available for further review at the Kansas Geological Society Well Sample Library, located in Wichita, KS.

Respectfully Submitted,  
Jeremy Schwartz  
Geologist

**CONTRACTOR**

Contractor: Sterling Drilling Co  
 Rig #: 4

Rig Type: mud rotary  
 Spud Date: 9/29/2016  
 TD Date: 10/6/2016  
 Rig Release: 10/7/2016

Time: 7:15 AM  
 Time: 7:55 PM  
 Time: 12:00 PM

### ELEVATIONS

K.B. Elevation: 2026.00ft  
 K.B. to Ground: 11.00ft  
 Ground Elevation: 2015.00ft

DATE	DEPTH	ACTIVITY
Sunday, October 02, 2016	3440'	Geologist Jeremy Schwartz on location @ 1230hrs, ~3440', Drlg ahead through Heebner, Toronto, Douglas Shale, Brown Lime, CFS @ 3598', CTCH 1hr, drop survey, strap out, conduct bit trip, swap PDC for button bit, Successful bit trip, resume drlg ahead through Lansing
Monday, October 03, 2016	3622' 3970'	Continue to drill ahead through Lansing, BKC, Marmaton, Penn Chert, CFS @ 3970' Conduct short trip, CTCH 1hr
Tuesday, October 04, 2016	3970' 3985'	Come out of hole to conduct DST #1 in the Penn Chert, successful test, resume drlg, CFS @ 3985', conduct DST #2 in the Penn Chert
Wednesday, October 05, 2016	3985' 4034' 4049'	Successful test, continue drlg ahead through Simpson Shale, Simpson Sand, CFS @ 4034', conduct DST #3 in the Simspson Sand, successful test, resume drlg, CFS @ 4049', conduct DST #4 in Lower Simpson Sand,
Thursday, October 06, 2016	4049' 4190'	Successful test, continue drlg ahead, CFS @ 4095', resume drlg, TD of 4190 reached CTCH 90 minutes, conduct logging operations, logging operations complete @ 0405hrs Geologist Jeremy Schwartz off location @ 0500hrs

FORMATION	D&A										D&A					GAS						
	K-N VOYAGER PET ETAL										VICTORY OPERATING, INC					SHELBY RESOURCES, LLC						
	EWING #1										ILS LAND #1-20					EAKIN 5-7						
	FRICK FAMILY FARMS #1-18					NE-NE-NE 19-T22S-R16W					SW-NE-NW-SW 20-T22S-R16W					SE-NW-SE-SE 7-22S-16W						
	KB		2026		KB		2045		KB		2041		KB		2021							
	LOG TOPS		SAMPLE TOPS		COMP. CARD		LOG		SMPL.		COMP. CARD		LOG		SMPL.		COMP. CARD		LOG		SMPL.	
	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.		
ANHYDRITE TOP	1046	980	1048	978	1058	987	-	7	-	9	1060	981	-	1	-	3	1030	991	-	11	-	13
BASE	1069	957	1075	951	1087	958	-	1	-	7	1082	959	-	2	-	8	1053	968	-	11	-	17
TOPEKA	3224	-1198	3219	-1193	3260	-1215	+	17	+	22	3259	-1218	+	20	+	25	3190	-1169	-	29	-	24
HEEBNER SHALE	3496	-1470	3494	-1468	3534	-1489	+	19	+	21	3535	-1494	+	24	+	26	3458	-1437	-	33	-	31
TORONTO	3515	-1489	3514	-1488	3552	-1507	+	18	+	19	3554	-1513	+	24	+	25	3478	-1457	-	32	-	31
DOUGLAS SHALE	3532	-1506	3530	-1504	3572	-1527	+	21	+	23	3573	-1532	+	26	+	28	3495	-1474	-	32	-	30
BROWN LIME	3600	-1574	3594	-1568	3640	-1595	+	21	+	27	3642	-1601	+	27	+	33	3561	-1540	-	34	-	28
LKC	3608	-1582	3609	-1583	3648	-1603	+	21	+	20	3651	-1610	+	28	+	27	3570	-1549	-	33	-	34
LKC "G" POROSITY	3700	-1674	3696	-1670	3746	-1701	+	27	+	31	3740	-1699	+	25	+	29	3659	-1638	-	36	-	32
STARK SHALE	3804	-1778	3807	-1781	3848	-1803	+	25	+	22	3847	-1806	+	28	+	25	3766	-1745	-	33	-	36
BKC	3860	-1834	3860	-1834	3904	-1859	+	25	+	25	3906	-1865	+	31	+	31	3825	-1804	-	30	-	30
MARMATON	3871	-1845	3869	-1843	3916	-1871	+	26	+	28	3918	-1877	+	32	+	34	3834	-1813	-	32	-	30
PENN SAND/CHERT	3947	-1921	3948	-1922	4020	-1975	+	54	+	53	4026	-1985	+	64	+	63	3887	-1866	-	55	-	56
SIMPSON SHALE	3988	-1962	3984	-1958	4073	-2028	+	66	+	70	4057	-2016	+	54	+	58	3919	-1898	-	64	-	60
SIMPSON SAND	4014	-1988	4014	-1988	4082	-2037	+	49	+	49	4090	-2049	+	61	+	61						
ARBUCKLE	4086	-2060	4085	-2059							4154	-2113	+	53	+	54	3984	-1963	-	97	-	96
RTD			4190	-2164	4105	-2060				104	4260	-2219			+	55	4050	-2029				135
LTD	4192	-2166			4099	-2054	-	112			4260	-2219	+	53			4050	-2029	-	137		

### ROCK TYPES

Cht	Lmst fw < 7	shale, gry	shale, red
Dolprim	shale, grn	Carbon Sh	Ss

### ACCESSORIES

#### MINERAL

Varicolored chert  
 P Pyrite

#### FOSSIL

Bioclastic or Fragmental  
 F Fossils < 20%

#### STRINGER

Chert  
 Sandstone

#### TEXTURE

C Chalky





### OTHER SYMBOLS

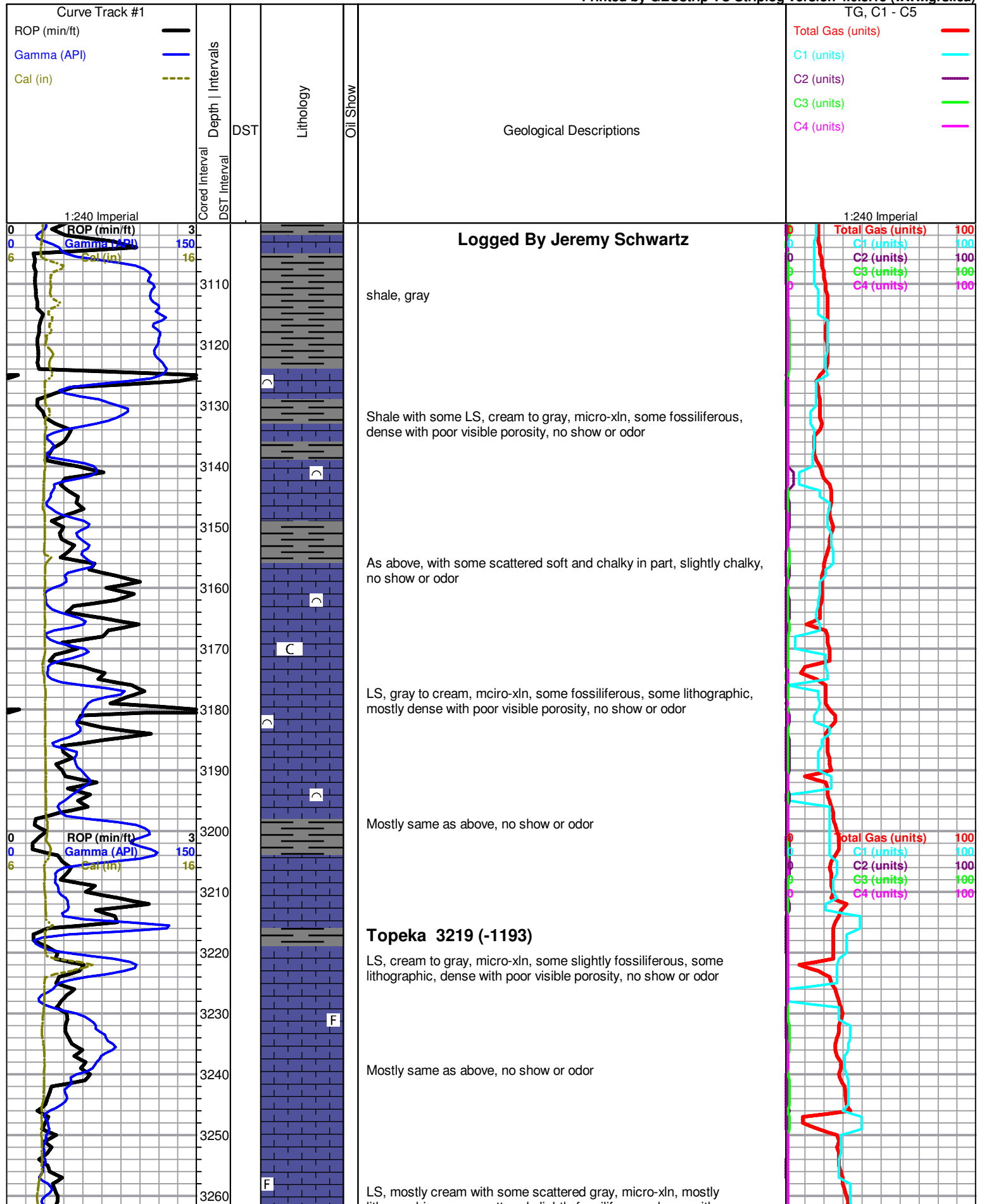
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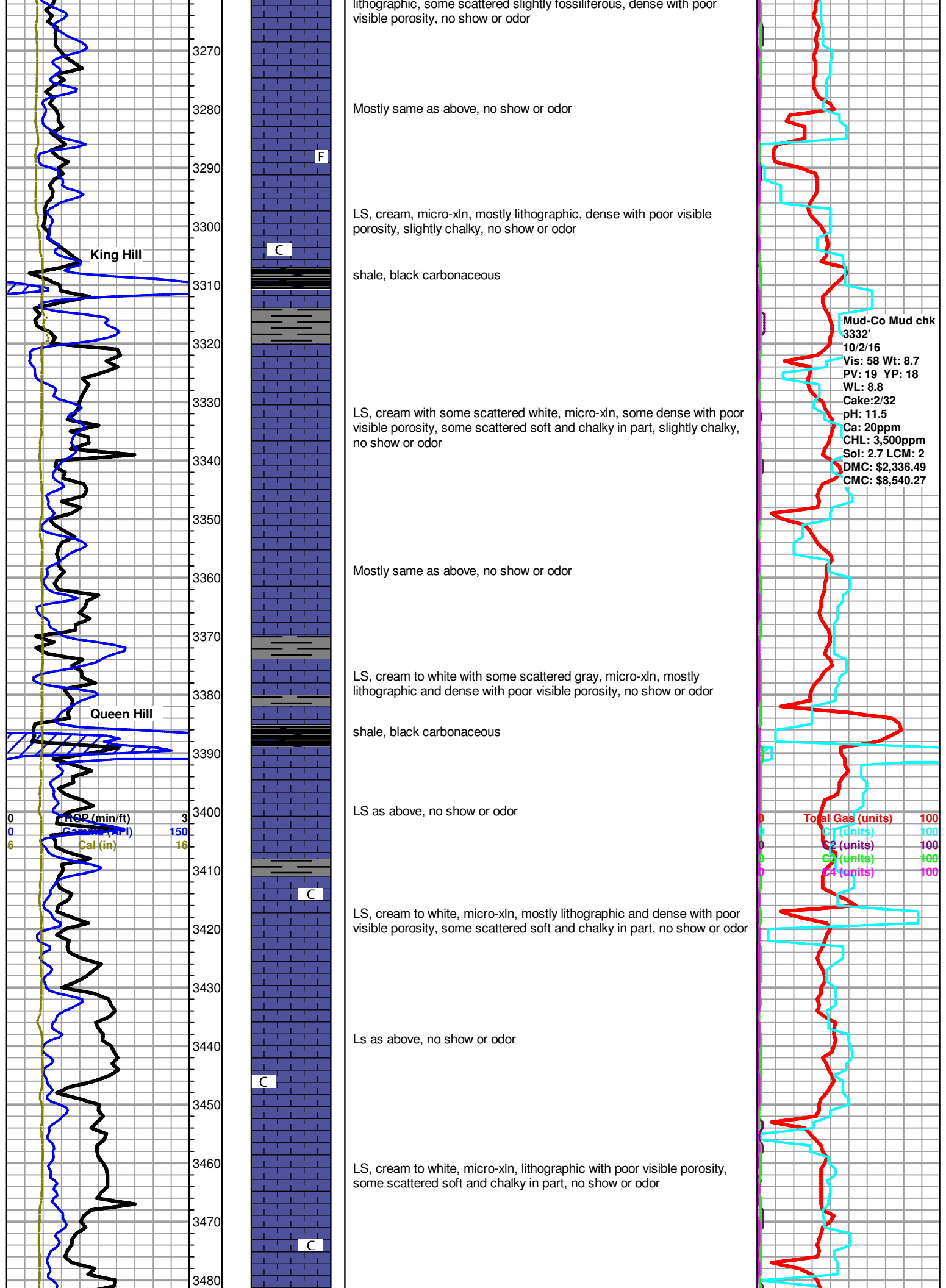
- Daily Report
- Digital Photo
- Document
- Folder
- Link

#### DST

- DST Int
- DST alt

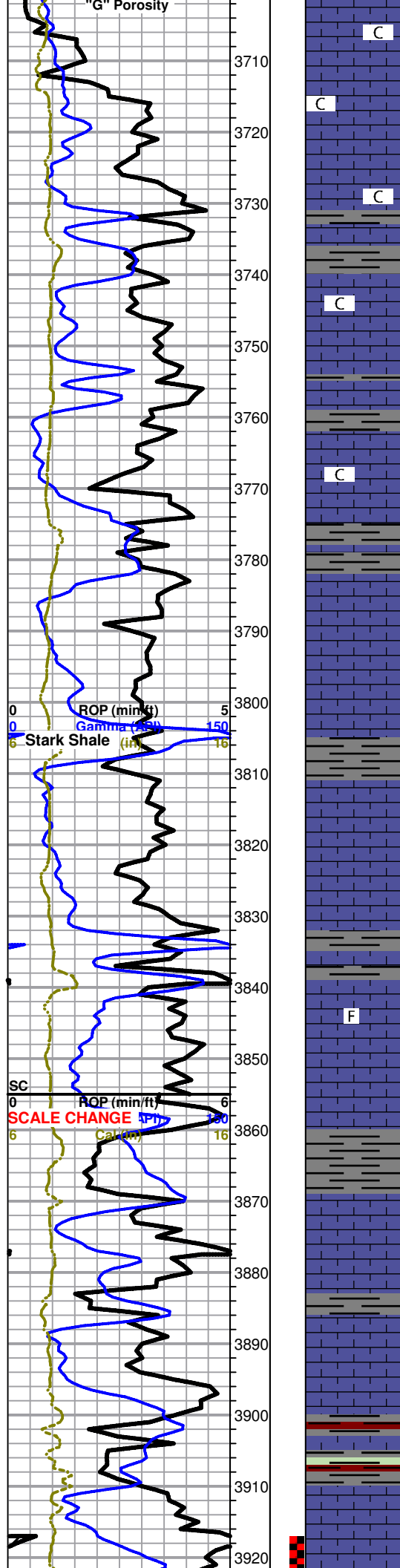
-  Vertical Log File
-  Horizontal Log File
-  Core Log File
-  Drill Cuttings Rpt











chalky, no odor or fluor.

LS as above, with influx cream, micro-xln, lithographic and dense with poor visible porosity, fairly chalky, no show, odor, or fluor.

LS, cream with some scattered gray, micro-xln, lithographic and dense with poor visible porosity, some very scattered oomoldic, slightly chalky, no show, odor, or fluor.

LS as above, no show, odor, or fluor

LS, cream with some scattered gray and very scattered white, micro-xln, mostly lithographic and dense with poor visible porosity, slightly chalky, no show, odor, or fluor

LS, cream, micro-xln with some scattered crypto-xln, lithographic with poor visible porosity, no show, odor, or fluor

LS, cream to gray, micro-xln, mostly lithographic and dense with poor visible porosity, with some scattered soft and chalky in part and very scattered oomoldic, barren and dense with poor visible porosity, no show, odor, or fluor.

LS, cream with some gray and very scattered white, micro-xln, lithographic and dense with poor visible porosity, no show, odor, or fluor.

LS, cream with some very scattered gray, crypto-micro xln, poor visible porosity, no show, odor, or fluor.

LS, cream to gray, micro-crypto xln, lithographic and dense with poor visible porosity, no show, odor, or fluor.

LS as above, no show, odor, or fluor.

LS, cream to gray, micro-xln with some scattered crypto-xln, lithographic and dense with poor visible porosity, no show, odor, or fluor.

LS as above, no show, odor, or fluor.

LS, cream to gray, micro-xln, lithographic and dense with poor visible porosity, some slightly fossiliferous, no show, odor, or fluor.

LS, cream with some scattered gray, micro-xln, lithographic and dense with poor visible porosity, no show, odor, or fluor.

**BKC 3860 (-1834)**  
Shale, gray with some very scattered red

**Marmaton 3869 (-1843)**

LS, cream with some scattered gray, micro-xln, lithographic and dense with poor visible porosity, no show, odor, or fluor

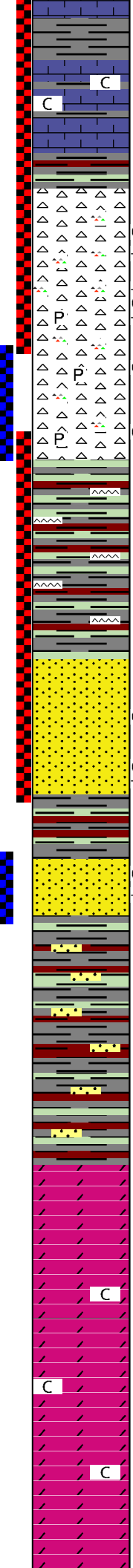
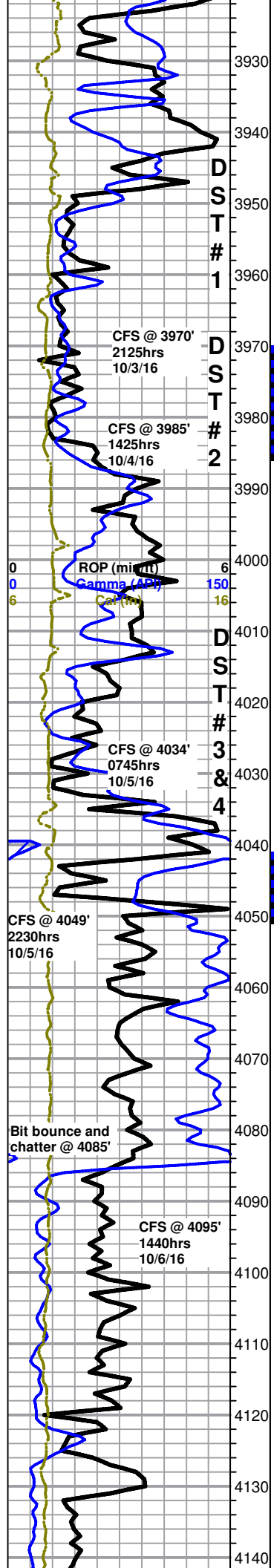
LS, mostly same as above, trace sub-oomoldic, no show, odor, or fluor.

Shale, gray with some scattered red and black and trace green

LS, cream to gray, micro-xln, lithographic and dense with poor visible porosity, no show, odor, or fluor.

Mud-Co Mud chk  
3802'  
10/3/16  
Vis: 58 Wt: 9.3  
PV: 16 YP: 13  
Total WL: 9.2  
Cake: 2/32  
pH: 10.5  
Ca: 20ppm  
CHL: 4,200ppm  
Sol: 6.9 LCM: 2  
DMC: \$970.29  
CMC: \$9,510.56

Mud-Co Mud chk  
3970'  
10/4/16



LS as above, with abundant gray shale with some scattered red and trace green, sample washes red, fairly chalky, no show, odor, or fluor

LS and shale as above, with some scattered reddish orange to brown and opaque cherts, no show, odor, or fluor

**Penn Chert 3948 (-1922)**

FRICK FAMILY FARMS 1-18. DST1.jpg

FRICK FAMILY FARMS 1-18. DST2.jpg

Chert, white to tan and opaque with some yellow to orange, fresh and sharp, some scattered (~15%) with scattered tripolitic edges and stain in tripolitic areas only, some scattered dull yellow fluor., slight to fair show free oil in tray, fair odor

3970' 30" Chert, mostly white to tan with some scattered orange/yellow, fresh and sharp, some scattered with tripolitic edges and mostly poor stain in areas of porosity only, samples gassy, SSFO in tray, trace pyrite, scattered bright to dull yellow fluor., fair fleeting odor in cup

3970' 60" Chert, mostly same as above, gassy, NSFO in tray, scattered fluor., poor fleeting odor in cup

3985' 30" Mixed LS and shale, with chert, mostly white to tan, fresh and sharp, mostly barren, few very scattered chips with slightly tripolitic edges and very scattered poor stain, trace pyrite, NSFO, some very scattered dull fluor., poor fleeting odor

3985' 60" Mostly same as above, with trace pyrite, found 1 small chip tripolitic with fair to good visible pinpoint porosity and saturated balack stain, NSFO, very scattered dull yellow fluor., no odor

Shale, gray to green and pale green/yellow with some scattered red, also with some scattered chert, white to tan, some fossiliferous, some with scattered tripolitic edges to slightly vuggy with scattered poor tarry, wet black stain, NSFO, no odor, some very scattered dull yellow fluor.

**Simpson Sand 4014 (-1988)**

FRICK FAMILY FARMS 1-18. DST3.jpg

FRICK FAMILY FARMS 1-18. DST4.jpg

4034' 30" SS, mostly clear to gray and fine grained, some gray/green, sub-rounded to sub-angular and poorly sorted, fairly well cemented, with some scattered white chert inclusions, also with some clear to light brown, sub-rounded to rounded and well sorted, most fairly friable, some clusters appear barren, some scattered with trace to very scattered stain, upon break some clusters show some scattered staining on grains and slight increase in odor, NSFO or fluor., poor odor

4034' 60" SS, mostly same as above, with influx clear to light brown, fine grained, some clusters appear barren, some with very scattered to scattered stain as above, upon break most clusters have fair to good show free oil, some gassy, with abundant loose sub-rounded to rounded grains in bottom of tray, some with trace stain, poor to fair fleeting odor

4049' 30" Shale, mostly gray with some scattered red and green to pale green/yellow, also with some scattered SS clusters, clear to light brown, fine grained, sub-rounded to sub-angular and well sorted, most fairly well cemented, upon break most clusters have fair to good show free oil and fair show gas bubbles as well as increased odor, some very scattered glauconitic also with shale and chert inclusions, trace pyrite, with abundant vf-f loose grains in bottom of tray, NSFO in tray, no fluor., fair fleeting odor

4049' 45" Shale with SS as above, few clusters slowly bleed oil and gas bubbles under lamp, also with some scattered gray globs of clay with associated SS grains trapped, abundant vf-f loose grains in bottom of tray, SSFO in tray, very scattered dull yellow fluor., fair odor

~4050-4085' Shale, mostly gray with some scattered red and green, waxy, some soft, some very dense, with some very scattered SS clusters as above, poor fleeting odor

**Arbuckle 4085 (-2059)**

~4085' Shale and very scattered SS clusters as above, with trace dolomite, few small chips cream, micro-xln, sub-sucrosic and fairly friable with poor visible porosity, with some very scattered slight sub-rhombic development on edges, barren, SSFO in tray, fair pungent odor in wet cup

Dolomite, cream, micro-xln, some sub-sucrosic to sucrosic and dense, some sub-rhombic and fairly friable, poor visible porosity, barren, upon break few chips with VSSFO, slightly chalky, NSFO in tray, strong pungent odor

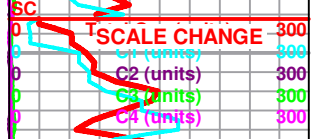
Dolomite as above, no shows, slightly chalky, NSFO, strong pungent odor

Dolomite, cream, micro-xln, mostly sub-sucrosic to sucrosic and dense with poor visible porosity, some sub-rhombic, slightly chalky, no show, poor odor

Dolomite as above, no show or odor

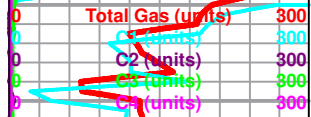
Dolomite, cream, micro-xln, mostly sub-sucrosic to sucrosic and dense with poor visible porosity, some scattered sub-rhombic, with some very scattered

Vis: 62 Wt: 9.4  
PV: 19 YP: 22  
WL: 8.8  
Cake:2/32  
pH: 10.5  
Ca: 30ppm  
CHL: 4,100ppm  
Sol: 7.6 LCM: 1  
DMC: \$579.39  
CMC: \$10,089.95



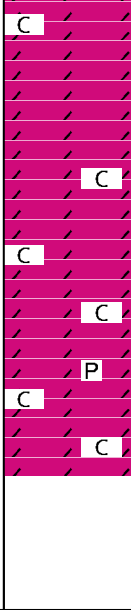
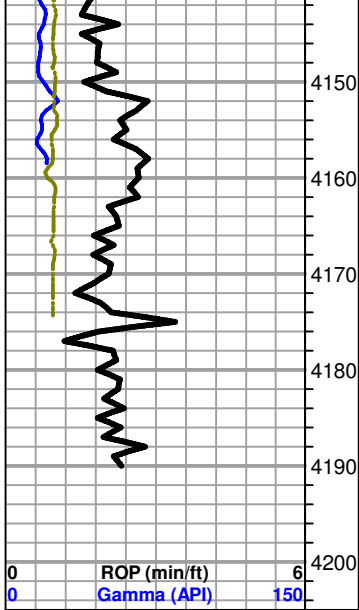
survey @ 3970 = 3/4deg

Mud-Co Mud chk 4034'  
10/5/16  
Vis: 65 Wt: 8.9  
PV: 21 YP: 19  
WL: 7.2  
Cake:2/32  
pH: 11.0  
Ca: 20ppm  
CHL: 4,200ppm  
Sol: 4.1 LCM: 1  
DMC: \$1,849.61  
CMC: \$11,939.56



Mud-Co Mud chk 4049'  
10/6/16  
Vis: 62 Wt: 9.3  
PV: 17 YP: 18  
WL: 8.4  
Cake:2/32  
pH: 10.5  
Ca: 30ppm  
CHL: 5,200ppm  
Sol: 6.8 LCM: 1  
DMC: \$0.00  
CMC: \$11,939.56





lith brown to brown, sucrosic and dense with poor visible porosity, slightly chalky, no show or odor

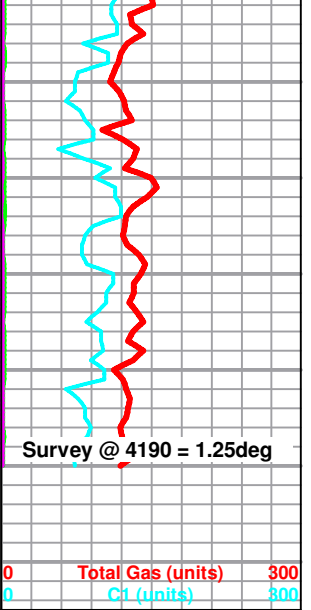
Dolomite as above, slightly chalky, no show or odor

Dolomite, cream with some scattered light brown to brown and very scattered white, micro-xln, mostly sub-sucrosic to sucrosic and dense with poor visible porosity, some scattered sub-rhombic with trace rhombic, fairly chalky, no show or odor

Dolomite as above, no show or odor

Dolomite, cream to white with some scattered brown, mostly sucrosic to sub-rhombic and dense with poor visible porosity, with trace pyrite, fairly chalky, no show or odor

**Rotary TD 4190' @ 1955hrs 10/6/16**  
**Eli Wireline Services Logging TD @ 4192'**  
**Complete Logging Operations @ 0405hrs 10/7/16**  
**Geologist Jeremy Schwartz off location @ 0500hrs 10/7/16**





**DRILL STEM TEST REPORT**

SHELBY RESOURCES LLC

**18-22S-16W PAWNEE**

2717 CANAL BLVD SUITE C  
HAYS, KnaA 67601

**FRICK FAMILY FARMS 1**

Job Ticket: 01131

**DST#: 1**

ATTN: JEREMY SCHWARTZ

Test Start: 2016.10.04 @ 02:55:00

**GENERAL INFORMATION:**

Formation: **PENN CHERT**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:05:00

Time Test Ended: 10:58:00

Test Type: Conventional Bottom Hole (Initial)

Tester: **GENE BUDIG**

Unit No: 1-54

**Interval: 3917.00 ft (KB) To 3970.00 ft (KB) (TVD)**

Reference Elevations: 2026.00 ft (KB)

Total Depth: 3970.00 ft (KB) (TVD)

2016.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 9139**

**Outside**

Press@RunDepth: 1348.43 psia @ 3965.34 ft (KB)

Capacity: 5000.00 psia

Start Date: 2016.10.04 End Date: 2016.10.04

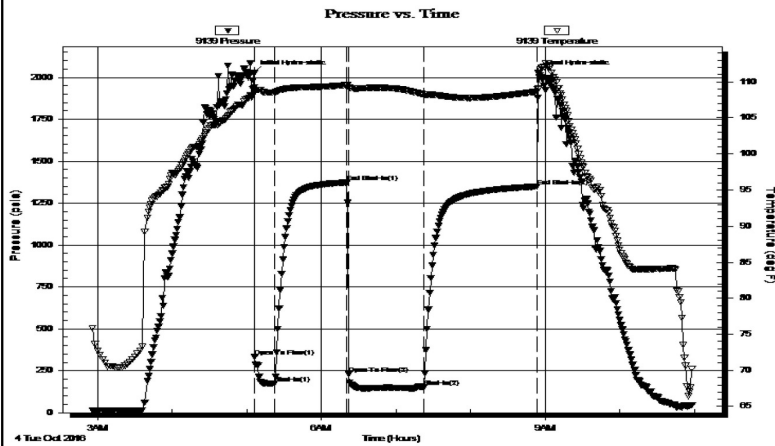
Last Calib.: 2016.10.04

Start Time: 02:55:00 End Time: 10:58:00

Time On Btm: 2016.10.04 @ 05:05:30

Time Off Btm: 2016.10.04 @ 08:54:30

**TEST COMMENT:** 1ST OPENING 15 MINUTES STRONG BLOW GAS TO SURFACE IN 5 MINUTES  
 1ST SHUT-IN 60 MINUTES GOOD BLOW BACK  
 2ND OPENING 60 MINUTES STRONG BLOW SEE GAS FLOW REPORT  
 2ND SUT-IN 90 MINUTES- GOOD BLOW BACK



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2027.19	109.14	Initial Hydro-static
1	335.60	108.74	Open To Flow (1)
17	173.82	108.55	Shut-In(1)
75	1372.39	109.55	End Shut-In(1)
77	228.66	109.27	Open To Flow (2)
137	151.60	108.23	Shut-In(2)
228	1348.43	108.66	End Shut-In(2)
229	2028.23	109.11	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
250.00	gassy mud	2.69

**Gas Rates**

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	1.00	6.47	186.00
Last Gas Rate	1.00	6.47	186.00
Max. Gas Rate	1.00	8.11	233.15



# DRILL STEM TEST REPORT

SHELBY RESOURCES LLC

18-22S-16W PAWNEE

2717 CANAL BLVD SUITE C  
HAYS, KnaA 67601

FRICK FAMILY FARMS 1

Job Ticket: 01132

DST#: 2

ATTN: JEREMY SCHWARTZ

Test Start: 2016.10.04 @ 06:45:00

**GENERAL INFORMATION:**

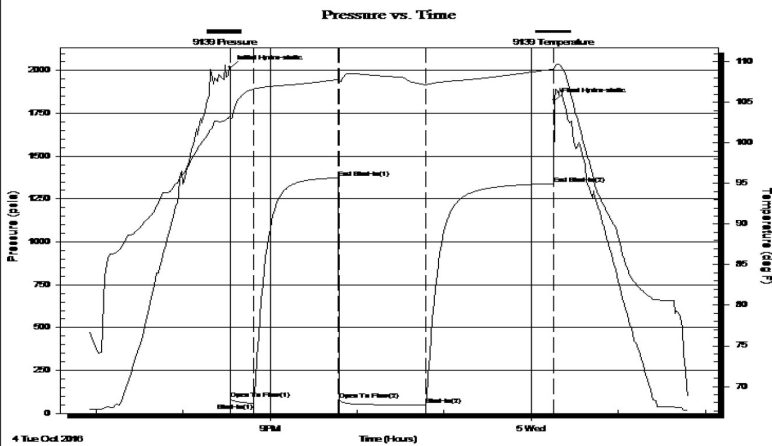
Formation: **PEN CHERT**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 08:22:00  
 Time Test Ended: 00:00:00  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: GENE BUDIG  
 Unit No: 1-54  
 Interval: **3970.00 ft (KB) To 3985.00 ft (KB) (TVD)**  
 Total Depth: 3985.00 ft (KB) (TVD)  
 Reference Elevations: 2026.00 ft (KB)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 2016.00 ft (CF)  
 KB to GR/CF: 10.00 ft

**Serial #: 9139**

**Inside**

Press@RunDepth: 1339.72 psia @ 3980.00 ft (KB) Capacity: 5000.00 psia  
 Start Date: 2016.10.04 End Date: 2016.10.05 Last Calib.: 2016.10.05  
 Start Time: 18:55:00 End Time: 01:48:30 Time On Btm: 2016.10.04 @ 20:32:30  
 Time Off Btm: 2016.10.05 @ 00:16:00

TEST COMMENT: 1ST OPENING 15 MINUTES GOOD BLOW BUILT TO THE BOTTOM OF THE BUCKET IN 2 MINUTES  
 1ST SHUT-IN 60 MINUTES NO BLOW BACK  
 2ND OPENING 60 MINUTES-STRONG BLOW GAS TO SURFACE IN 6 MINUTES  
 2ND SHUT-IN 90 MINUTES NO BLOW BACK



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2018.33	103.30	Initial Hydro-static
1	82.60	102.91	Open To Flow (1)
16	59.55	106.62	Shut-In(1)
75	1374.12	107.84	End Shut-In(1)
76	79.06	107.49	Open To Flow (2)
135	49.49	107.19	Shut-In(2)
223	1339.72	109.11	End Shut-In(2)
224	1826.50	109.33	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
10.00	GASSY MUD	0.05

**Gas Rates**

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	0.25	2.10	3.33
Last Gas Rate	0.25	2.80	4.44
Max. Gas Rate	0.25	2.80	4.44



**DRILL STEM TEST REPORT**

SHELBY RESOURCES LLC

**18-22S-16W PAWNEE**

2717 CANAL BLVD SUITE C  
HAYS, KnaA 67601

**FRICK FAMILY FARMS 1**

Job Ticket: 01133

**DST#: 3**

ATTN: JEREMY SCHWARTZ

Test Start: 2016.10.05 @ 10:44:00

**GENERAL INFORMATION:**

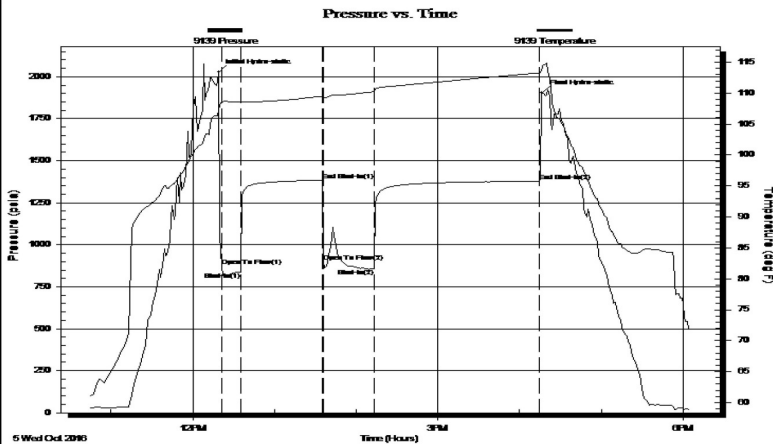
Formation: **SIMPSON SAND**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 12:20:00  
 Time Test Ended:  
**Interval: 3982.00 ft (KB) To 4034.00 ft (KB) (TVD)**  
 Total Depth: 4034.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: GENE BUDIG  
 Unit No: 1  
 Reference Elevations: 2026.00 ft (KB)  
 2016.00 ft (CF)  
 KB to GR/CF: 10.00 ft

**Serial #: 9139**

**Inside**

Press@RunDepth: 1377.22 psia @ 4029.34 ft (KB) Capacity: 5000.00 psia  
 Start Date: 2016.10.05 End Date: 2016.10.05 Last Calib.: 1899.12.30  
 Start Time: 10:44:00 End Time: 18:05:00 Time On Btm: 2016.10.05 @ 12:19:00  
 Time Off Btm: 2016.10.05 @ 16:16:30

**TEST COMMENT:** 1ST OPENING 15 MINUTES STRONG BLOW GAS TO SURFACE IN 2 MINUTES  
 1ST SHUT-IN 60 MINUTES  
 2ND OPENING 40 MINUTES STRONG BLOW  
 2ND SHUT-IN 120 MINUTES



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2026.93	107.12	Initial Hydro-static
2	872.80	108.61	Open To Flow (1)
16	838.92	108.57	Shut-In(1)
76	1382.08	109.50	End Shut-In(1)
77	898.65	109.24	Open To Flow (2)
115	859.18	110.23	Shut-In(2)
236	1377.22	113.27	End Shut-In(2)
238	1903.84	114.17	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
150.00	MUD	1.28

**Gas Rates**

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	1.00	98.00	2817.38
Last Gas Rate	1.00	113.75	3270.18
Max. Gas Rate	1.00	123.50	3550.48

**DRILL STEM TEST REPORT**



SHELBY RESOURCES LLC

**18-22S-16W PAWNEE**

2717 CANAL BLVD SUITE C  
HAYS, KnaA 67601

**FRICK FAMILY FARMS 1**

Job Ticket: 01134

**DST#: 4**

ATTN: JEREMY SCHWARTZ

Test Start: 2016.10.06 @ 01:25:00

**GENERAL INFORMATION:**

Formation: **LOWER SIMPSON SAND**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:00:00

Time Test Ended: 00:00:00

Test Type: Conventional Bottom Hole (Initial)

Tester: **GENE BUDIG**

Unit No: 1

**Interval: 4041.00 ft (KB) To 4049.00 ft (KB) (TVD)**

Reference Elevations: 2026.00 ft (KB)

Total Depth: 4041.00 ft (KB) (TVD)

2016.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 9139**

**Inside**

Press@RunDepth: 1352.11 psia @ 4044.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2016.10.06

End Date: 2016.10.06

Last Calib.: 2016.10.06

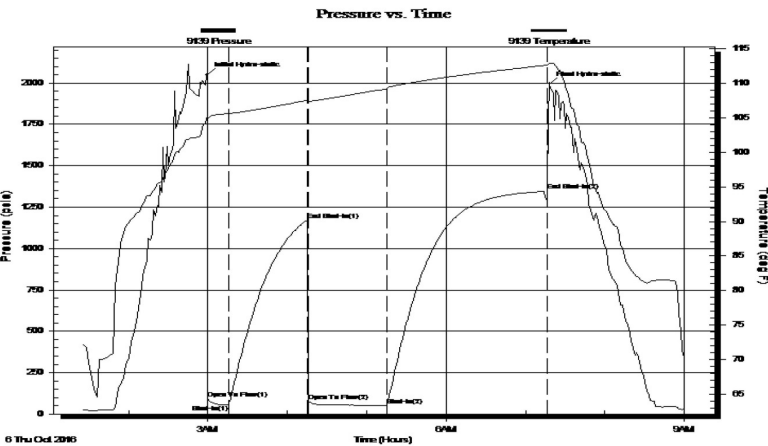
Start Time: 01:25:00

End Time: 09:00:00

Time On Btm: 2016.10.06 @ 02:59:30

Time Off Btm: 2016.10.06 @ 07:18:00

**TEST COMMENT:** 1ST OPENING 15 MINUTES FAIR BLOW BUILT TO THE BOTTOM OF A 5 GALLON BUCKET IN 6 MINUTES  
 1ST SHUT-IN 60 MINUTES NOP BLOW BACK  
 2ND OPENING 60 MINUTES STRONG BLOW DECREASED TO A WEAK STEADY 2 INCH BLOW  
 2ND SHUT-IN 120 MINUTES NO BLOW BACK



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2048.14	105.17	Initial Hydro-static
1	91.91	104.87	Open To Flow (1)
16	57.24	105.62	Shut-In(1)
76	1173.78	107.55	End Shut-In(1)
77	78.27	107.32	Open To Flow (2)
136	52.37	109.21	Shut-In(2)
257	1352.11	112.67	End Shut-In(2)
259	1994.99	112.94	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
20.00	OIL CUT MUD 20 OIL 80 MUD	0.10
0.00	2150 GAS IN THE PIPE	0.00

**Gas Rates**

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



# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025  
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 3016

Date	9-30-16	Sec.	18	Twp.	22	Range	16	County	Pawnee	State	Ks	On Location		Finish	8:15 AM
Lease								Frisk Family Farms		Location Larned, Ks @ 2 1/4 S on K-19 to					
Well No.								1-18		Owner J Rd, 1 1/8 W, N/Int					
Contractor								Sterling 4		To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.					
Type Job								Surface		Charge To Shelby Resources					
Hole Size								12 1/4"		T.D.		1066'			
Csg.								8 5/8"		Depth		1066'			
Tbg. Size										Depth					
Tool										Depth					
Cement Left in Csg.								40'		Shoe Joint		40'			
Meas Line								Displace		65 1/4 BIS		1/2# Flt-seal			
<b>EQUIPMENT</b>															
Pumptrk 18								No.		Cementer		Rick			
Bulktrk 19								No.		Driver		Doug			
Bulktrk								No.		Driver					
										Common		270			
										Poz. Mix		180			
										Gel.		9			
										Calcium		17			
<b>JOB SERVICES &amp; REMARKS</b>															
Remarks:								Cement did		Circulate					
Rat Hole										Flowseal		225#			
Mouse Hole										Kol-Seal					
Centralizers										Mud CLR 48					
Baskets										CFL-117 or CD110 CAF 38					
D/V or Port Collar										Sand					
										Handling		470			
										Mileage					
<b>FLOAT EQUIPMENT</b>															
										Guide Shoe		1 weld-on			
										Centralizer		2			
										Baskets		1			
										AFI Inserts		Rubber plug			
										Float Shoe		Baffle plate			
										Latch Down					
										Pumptrk Charge		Long Surface			
										Mileage		21			
												Tax			
												Discount			
X Signature alan Loftis												Total Charge			



Customer Shelby R. Smith, LLC		Lease No.		Date 10-7-16	
Lease Field Facility 11111		Well # 1-18			
Field Order # 15440	Station Pratt	Casing 5 7/8	Depth 4190	County Pawnee	State KS
Type Job cnw 5 7/8 Long string			Formation	Legal Description 18-23-16	

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size 5 7/8	Tubing Size 4 1/2	Shots/Ft		Acid 100 gal AA	RATE 50-100	PRESS 1000	ISIP	
Depth 4190	Depth	From	To	Pre Pad 100 gal	Max		5 Min.	
Volume 19.2	Volume	From	To	Pad	Min		10 Min.	
Max Press 1500	Max Press	From	To	Frac	Avg		15 Min.	
Well Connection	Annulus Vol.	From	To		HHP Used		Annulus Pressure	
Plug Depth 4190	Packer Depth	From	To	Flush 98.6	Gas Volume		Total Load	

Customer Representative Chris Gottschalk			Station Manager			Treater		
Service Units 37580		27467		84100	19860			
Driver Names MARTIN		MARTIN		MARTIN	2			

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
11:45					ON location / SAFETY meeting
12:05					Run 5 7/8 11' casing
4:30					7:15 AM - 3.6, 5
4:30					Casing annulus
4:44	300		5		Run 5 7/8 casing
5:40	500		11	3.5	Run 5 7/8 casing
5:40	400		24	0	Run 5 7/8 casing
5:50				4	Log string / wash pipe
5:57	200			6	Log string
6:13	300				Log string
6:16	600		89	3	Log string
6:19	1500		98.6		Run 5 7/8 casing + HHP
6:30				7.5	1149 run + clean hole
					Job complete
					THANK YOU!
					MARTIN
					Chris Gottschalk