

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	BORCK UNIT 1-25
Doc ID	1442299

All Electric Logs Run

Dual Induction
Compensated Neutron
Micro
Sonic

Form	ACO1 - Well Completion
Operator	Shelby Resources LLC
Well Name	BORCK UNIT 1-25
Doc ID	1442299

Tops

Name	Top	Datum
HEEBNER SHALE	3371	-1390
TORONTO	3388	-1407
LKC	3488	-1507
STARK SHALE	3668	-1687
BKC	3699	-1718
VIOLA	3782	-1801
SIMP. SAND	3882	-1901
ARBUCKLE	3887	-1906
LTD	3980	-1999





## DRILL STEM TEST REPORT

Prepared For: **Shelby Resources LLC**

13949 W Colfax bldg 1 ste 120

ATTN: Jeremy Schgwasrtz

### **Borck Unit #1-25**

#### **25-21s-16w Pawnee**

Start Date: 2018.12.08 @ 10:17:00

End Date: 2018.12.08 @ 03:48:00

Job Ticket #: 01052                      DST #: 1

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

Printed: 2018.12.08 @ 18:13:44



# DRILL STEM TEST REPORT

Shelby Resources LLC  
 13949 W Colfax bldg 1 ste 120  
 ATTN: Jeremy Schgw arzt

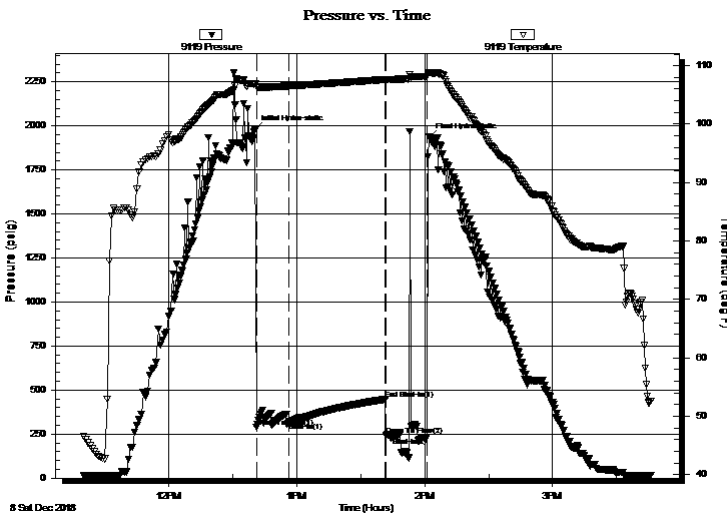
**25-21s-16w Pawnee**  
**Borck Unit #1-25**  
 Job Ticket: 01052 **DST#: 1**  
 Test Start: 2018.12.08 @ 10:17:00

## GENERAL INFORMATION:

Formation: **Conglomerate**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 12:42:00  
 Time Test Ended: 03:48:00  
 Interval: **3742.00 ft (KB) To 3790.00 ft (KB) (TVD)**  
 Total Depth: 3790.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition:  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Gene Budig  
 Unit No: 1  
 Reference Elevations: 1981.00 ft (KB)  
 1970.00 ft (CF)  
 KB to GR/CF: 11.00 ft

**Serial #: 9119 Inside**  
 Press@RunDepth: 447.97 psig @ 3785.00 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2018.12.08 End Date: 2018.12.08 Last Calib.: 2018.12.08  
 Start Time: 11:20:00 End Time: 15:46:00 Time On Btm: 2018.12.08 @ 12:40:30  
 Time Off Btm: 2018.12.08 @ 14:02:00

**TEST COMMENT:** 1st opening 15 Minutes weak surface blow decreasing  
 1st Shut-In 45 minutes  
 2nd opening 23 Minutes no blow flushed tool surging blow died came out of the hole tool took all the string w eight off  
 and on for the last 200 feet except for the last 20 it w as free set on bottom and never slid



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1977.09	106.92	Initial Hydro-static
1	288.13	106.44	Open To Flow (1)
16	316.30	106.53	Shut-In(1)
61	447.97	107.64	End Shut-In(1)
62	243.74	107.60	Open To Flow (2)
81	230.72	108.19	Shut-In(2)
82	1934.75	108.84	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
90.00	Drilling mud	0.44

## Gas Rates

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



# DRILL STEM TEST REPORT

Shelby Resources LLC  
 13949 W Colfax bldg 1 ste 120  
 ATTN: Jeremy Schgw arzt

**25-21s-16w Pawnee**  
**Borck Unit #1-25**  
 Job Ticket: 01052 **DST#: 1**  
 Test Start: 2018.12.08 @ 10:17:00

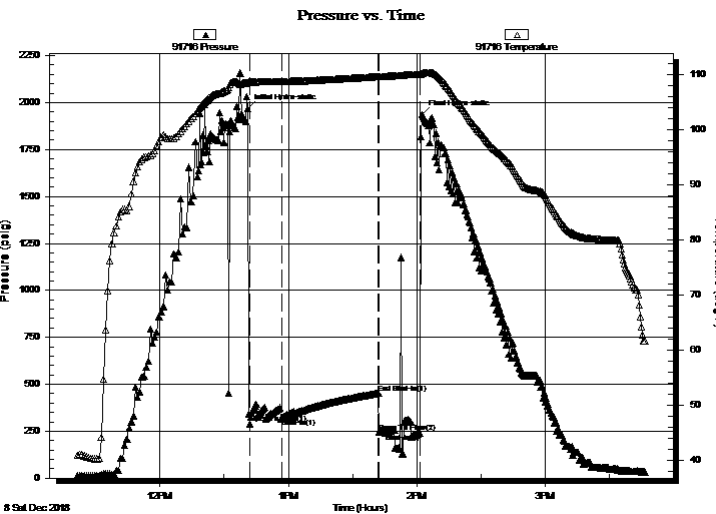
## GENERAL INFORMATION:

Formation: **Conglomerate**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 12:42:00  
 Time Test Ended: 03:48:00  
 Interval: **3742.00 ft (KB) To 3790.00 ft (KB) (TVD)**  
 Total Depth: 3790.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition:  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Gene Budig  
 Unit No: 1  
 Reference Elevations: 1981.00 ft (KB)  
 1970.00 ft (CF)  
 KB to GR/CF: 11.00 ft

## Serial #: 91716 Outside

Press@RunDepth: 452.22 psig @ 3785.00 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2018.12.08 End Date: 2018.12.08 Last Calib.: 2018.12.08  
 Start Time: 11:21:30 End Time: 15:46:30 Time On Btm: 2018.12.08 @ 12:41:00  
 Time Off Btm: 2018.12.08 @ 14:02:30

TEST COMMENT: 1st opening 15 Minutes weak surface blow decreasing  
 1st Shut-In 45 minutes  
 2nd opening 23 Minutes no blow flushed tool surging blow died came out of the hole tool took all the string w eight off  
 and on for the last 200 feet except for the last 20 it w as free set on bottom and never slid



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1967.21	108.56	Initial Hydro-static
1	290.22	108.66	Open To Flow (1)
16	320.11	108.77	Shut-In(1)
61	452.22	109.67	End Shut-In(1)
62	242.83	109.68	Open To Flow (2)
81	239.01	110.09	Shut-In(2)
82	1934.73	110.22	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
90.00	Drilling mud	0.44

## Gas Rates

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





# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Shelby Resources LLC  
 13949 W Colfax bldg 1 ste 120  
 ATTN: Jeremy Schgw asrtz

**25-21s-16w Pawnee**  
**Borck Unit #1-25**  
 Job Ticket: 01052 **DST#: 1**  
 Test Start: 2018.12.08 @ 10:17:00

## Tool Information

Drill Pipe:	Length: 3511.00 ft	Diameter: 3.80 inches	Volume: 49.25 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: 210.00 ft	Diameter: 2.25 inches	Volume: 1.03 bbl	Weight to Pull Loose:	94000.00 lb
			<u>Total Volume: 50.28 bbl</u>	Tool Chased	200.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial	68000.00 lb
Depth to Top Packer:	3742.00 ft			Final	68000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	48.00 ft				
Tool Length:	78.00 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			3717.00	
Hydraulic tool	5.00			3722.00	
Jars	5.00			3727.00	
Safety Joint	5.00			3732.00	
Packer	5.00			3737.00	30.00 Bottom Of Top Packer
Packer	5.00		Fluid	3742.00	
Anchor	43.00			3785.00	
Recorder	0.00	9119	Inside	3785.00	
Recorder	0.00	91716	Outside	3785.00	
Bullnose	5.00			3790.00	48.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>78.00</b>				



# DRILL STEM TEST REPORT

## FLUID SUMMARY

Shelby Resources LLC  
 13949 W Colfax bldg 1 ste 120  
 ATTN: Jeremy Schgw asrtz

**25-21s-16w Pawnee**  
**Borck Unit #1-25**  
 Job Ticket: 01052      **DST#: 1**  
 Test Start: 2018.12.08 @ 10:17:00

### 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: 8.78 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4500.00 ppm			
Filter Cake: 1.00 inches			

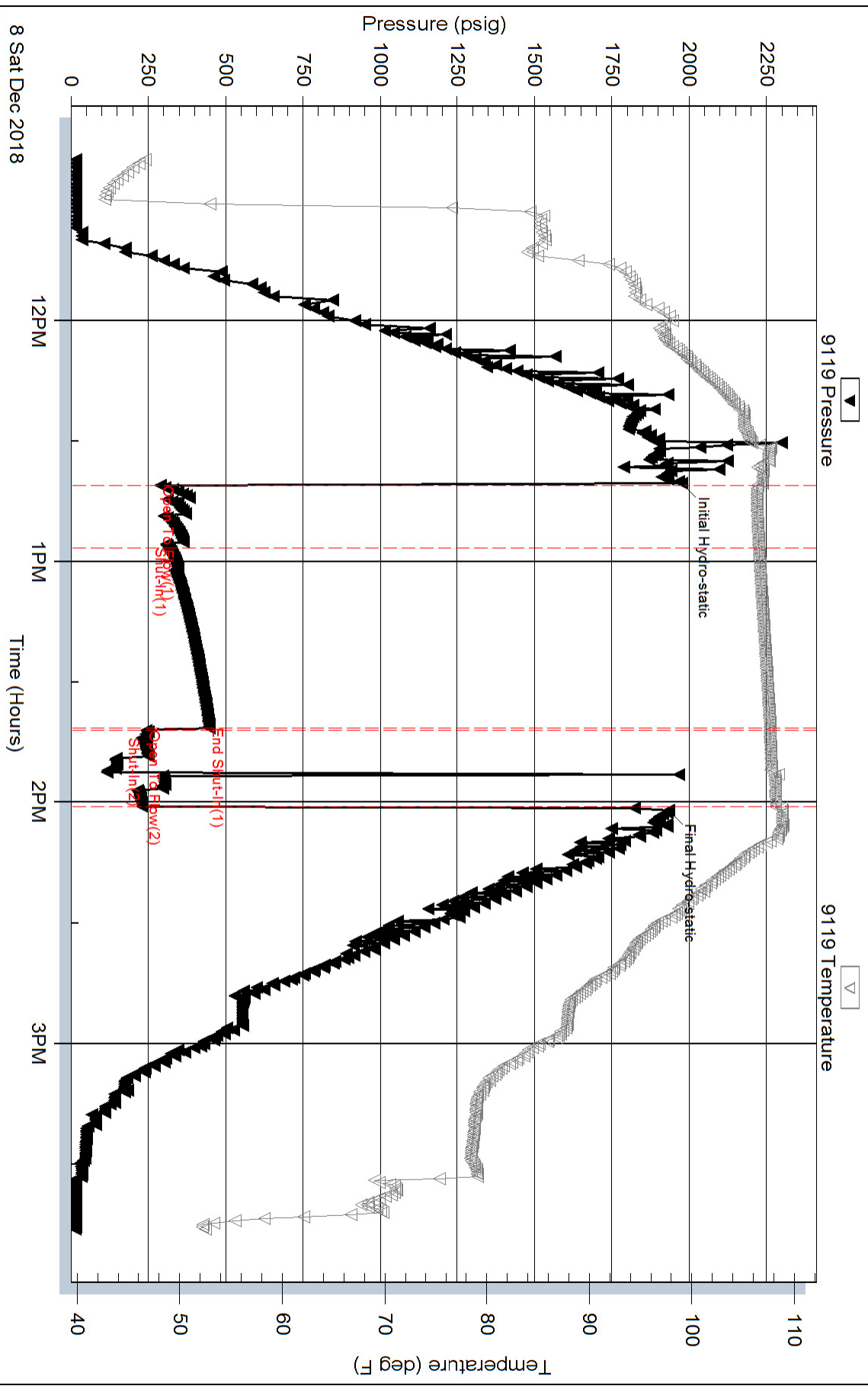
### Recovery Information

Recovery Table

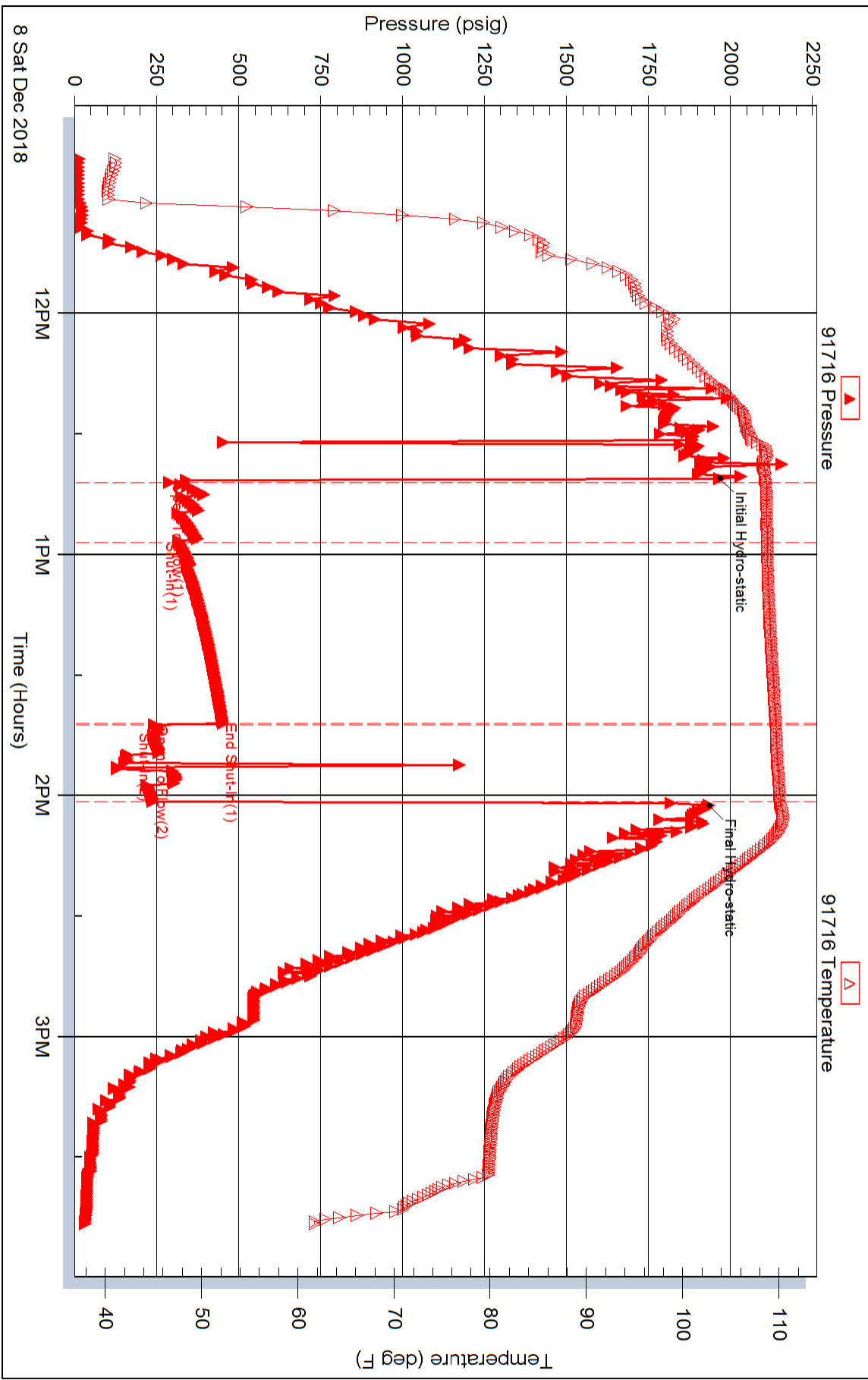
Length ft	Description	Volume bbl
90.00	Drilling mud	0.443

Total Length: 90.00 ft      Total Volume: 0.443 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

# Pressure vs. Time



# Pressure vs. Time





## DRILL STEM TEST REPORT

Prepared For: **Shelby Resources LLC**

13949 W Colfax bldg 1 ste 120

ATTN: Jeremy Schgwasrtz

### **Borck Unit #1-25**

### **25-21s-16w Pawnee**

Start Date: 2018.12.09 @ 01:30:00

End Date: 2018.12.09 @ 09:26:00

Job Ticket #: 01053                      DST #: 2

Eagle Testers

1309 Patton Road    Great Bend, Kansas 67530

620-791-7394

Printed: 2018.12.09 @ 09:51:02



# DRILL STEM TEST REPORT

Shelby Resources LLC  
 13949 W Colfax bldg 1 ste 120  
 ATTN: Jeremy Schgw arzt

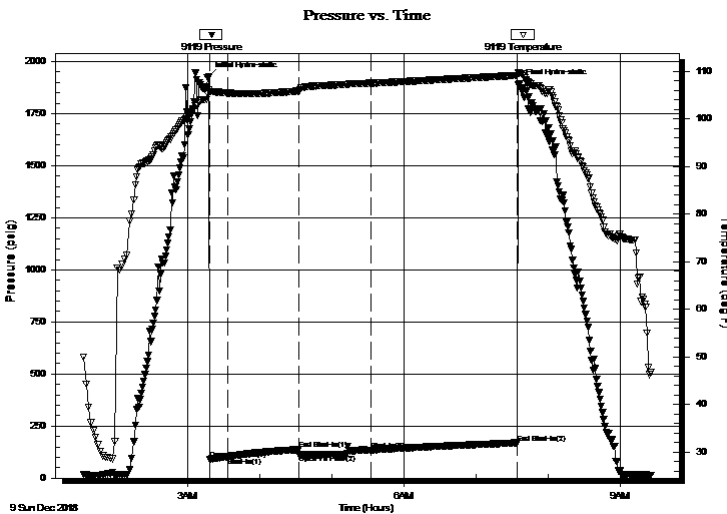
**25-21s-16w Pawnee**  
**Borck Unit #1-25**  
 Job Ticket: 01053 **DST#:2**  
 Test Start: 2018.12.09 @ 01:30:00

## GENERAL INFORMATION:

Formation: **Conglomerate & Viola**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 03:19:00  
 Time Test Ended: 09:26:00  
 Interval: **3749.00 ft (KB) To 3820.00 ft (KB) (TVD)**  
 Total Depth: 3820.00 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: 1981.00 ft (KB)  
 1970.00 ft (CF)  
 KB to GR/CF: 11.00 ft

**Serial #: 9119 Inside**  
 Press@RunDepth: 169.29 psig @ 3815.06 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2018.12.09 End Date: 2018.12.09 Last Calib.: 2018.12.09  
 Start Time: 01:33:00 End Time: 09:25:00 Time On Btm: 2018.12.09 @ 03:16:59  
 Time Off Btm: 2018.12.09 @ 07:35:30

**TEST COMMENT:** 1st Opening 15 Minutes w eak blow build to 5 inches into the w ater  
 1st Shut-In 60 Minutes no blow back  
 2nd nopening 60 Minutes w eak blow died in 37 mminutes flushed tool w eak surface blow  
 2nd Shut 120 minutes no blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1926.43	106.00	Initial Hydro-static
2	90.18	105.69	Open To Flow (1)
17	101.75	105.42	Shut-In(1)
76	137.43	105.83	End Shut-In(1)
76	114.57	105.83	Open To Flow (2)
136	134.92	107.50	Shut-In(2)
258	169.29	109.12	End Shut-In(2)
259	1895.80	109.69	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	Drilling Mud no show s	0.59

## Gas Rates

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



# DRILL STEM TEST REPORT

Shelby Resources LLC  
 13949 W Colfax bldg 1 ste 120  
 ATTN: Jeremy Schgw arzt

**25-21s-16w Pawnee**  
**Borck Unit #1-25**  
 Job Ticket: 01053 **DST#:2**  
 Test Start: 2018.12.09 @ 01:30:00

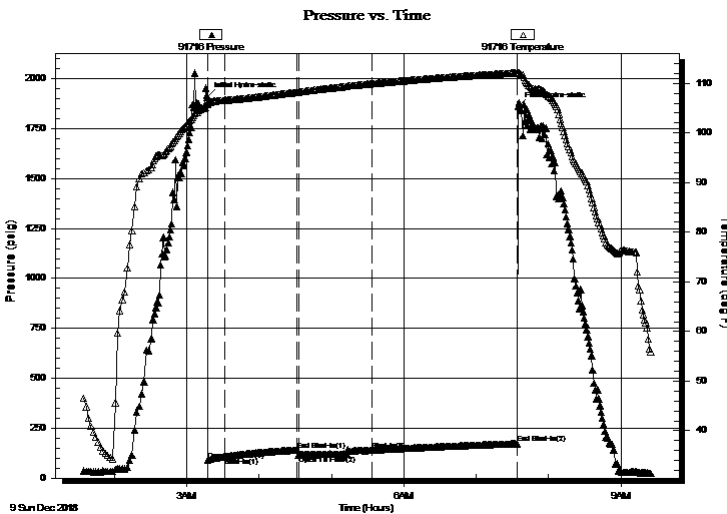
## GENERAL INFORMATION:

Formation: **Conglomerate & Viola**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 03:19:00  
 Time Test Ended: 09:26:00  
 Interval: **3749.00 ft (KB) To 3820.00 ft (KB) (TVD)**  
 Total Depth: 3820.00 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: 1981.00 ft (KB)  
 1970.00 ft (CF)  
 KB to GR/CF: 11.00 ft

## Serial #: 91716 Outside

Press@RunDepth: 172.47 psig @ 3815.06 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2018.12.09 End Date: 2018.12.09 Last Calib.: 2018.12.09  
 Start Time: 01:34:30 End Time: 09:24:30 Time On Btm: 2018.12.09 @ 03:17:00  
 Time Off Btm: 2018.12.09 @ 07:34:30

TEST COMMENT: 1st Opening 15 Minutes w eak blow build to 5 inches into the w ater  
 1st Shut-In 60 Minutes no blow back  
 2nd nopening 60 Minutes w eak blow died in 37 mminutes flushed tool w eak surface blow  
 2nd Shut 120 minutes no blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1908.39	105.83	Initial Hydro-static
1	90.27	105.94	Open To Flow (1)
15	106.86	106.59	Shut-In(1)
75	140.91	108.21	End Shut-In(1)
76	116.40	108.25	Open To Flow (2)
137	139.81	109.92	Shut-In(2)
257	172.47	112.11	End Shut-In(2)
258	1860.31	112.16	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	Drilling Mud no show s	0.59

## Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Shelby Resources LLC  
 13949 W Colfax bldg 1 ste 120  
 ATTN: Jeremy Schgw arzt

**25-21s-16w Pawnee**  
**Borck Unit #1-25**  
 Job Ticket: 01053 **DST#: 2**  
 Test Start: 2018.12.09 @ 01:30:00

## Tool Information

Drill Pipe:	Length: 3511.00 ft	Diameter: 3.80 inches	Volume: 49.25 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: 210.00 ft	Diameter: 2.25 inches	Volume: 1.03 bbl	Weight to Pull Loose:	86000.00 lb
			<u>Total Volume: 50.28 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial	70000.00 lb
Depth to Top Packer:	3740.00 ft			Final	70000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	80.06 ft				
Tool Length:	110.06 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3715.00	
Hydraulic tool	5.00			3720.00	
Jars	5.00			3725.00	
Safety Joint	5.00			3730.00	
Packer	5.00			3735.00	30.00 Bottom Of Top Packer
Packer	5.00		Fluid	3740.00	
Anchor	5.00			3745.00	
Change Over Sub	0.75			3745.75	
Drill Pipe	63.56			3809.31	
Change Over Sub	0.75		Inside	3810.06	
Anchor	5.00			3815.06	
Recorder	0.00	9119	Inside	3815.06	
Recorder	0.00	91716	Outside	3815.06	
Bullnose	5.00			3820.06	80.06 Bottom Packers & Anchor

**Total Tool Length: 110.06**





# DRILL STEM TEST REPORT

## FLUID SUMMARY

Shelby Resources LLC  
 13949 W Colfax bldg 1 ste 120  
 ATTN: Jeremy Schgwartz

**25-21s-16w Pawnee**  
**Borck Unit #1-25**  
 Job Ticket: 01053      **DST#:2**  
 Test Start: 2018.12.09 @ 01:30:00

### 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: 8.79 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4500.00 ppm			
Filter Cake: 1.00 inches			

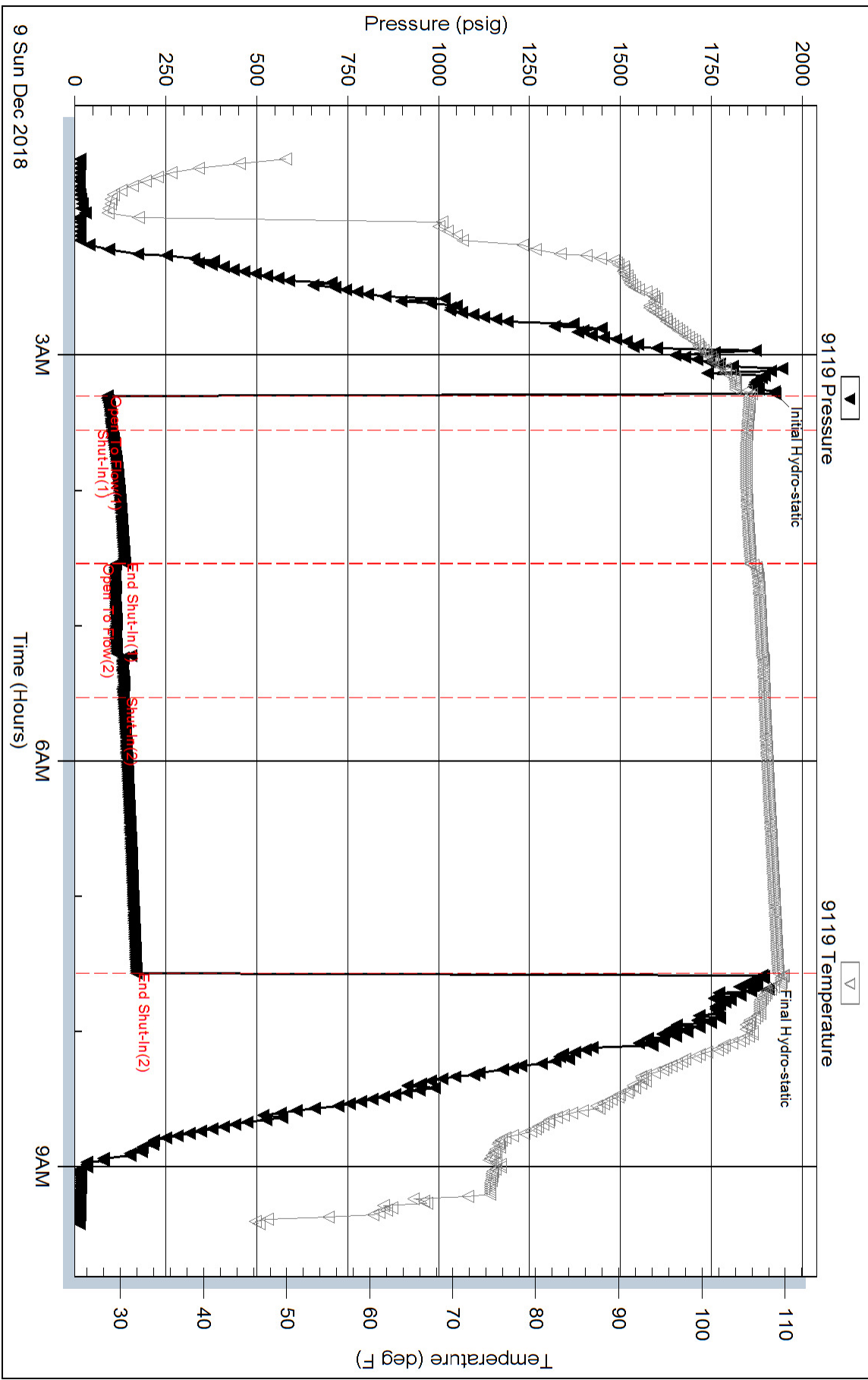
### Recovery Information

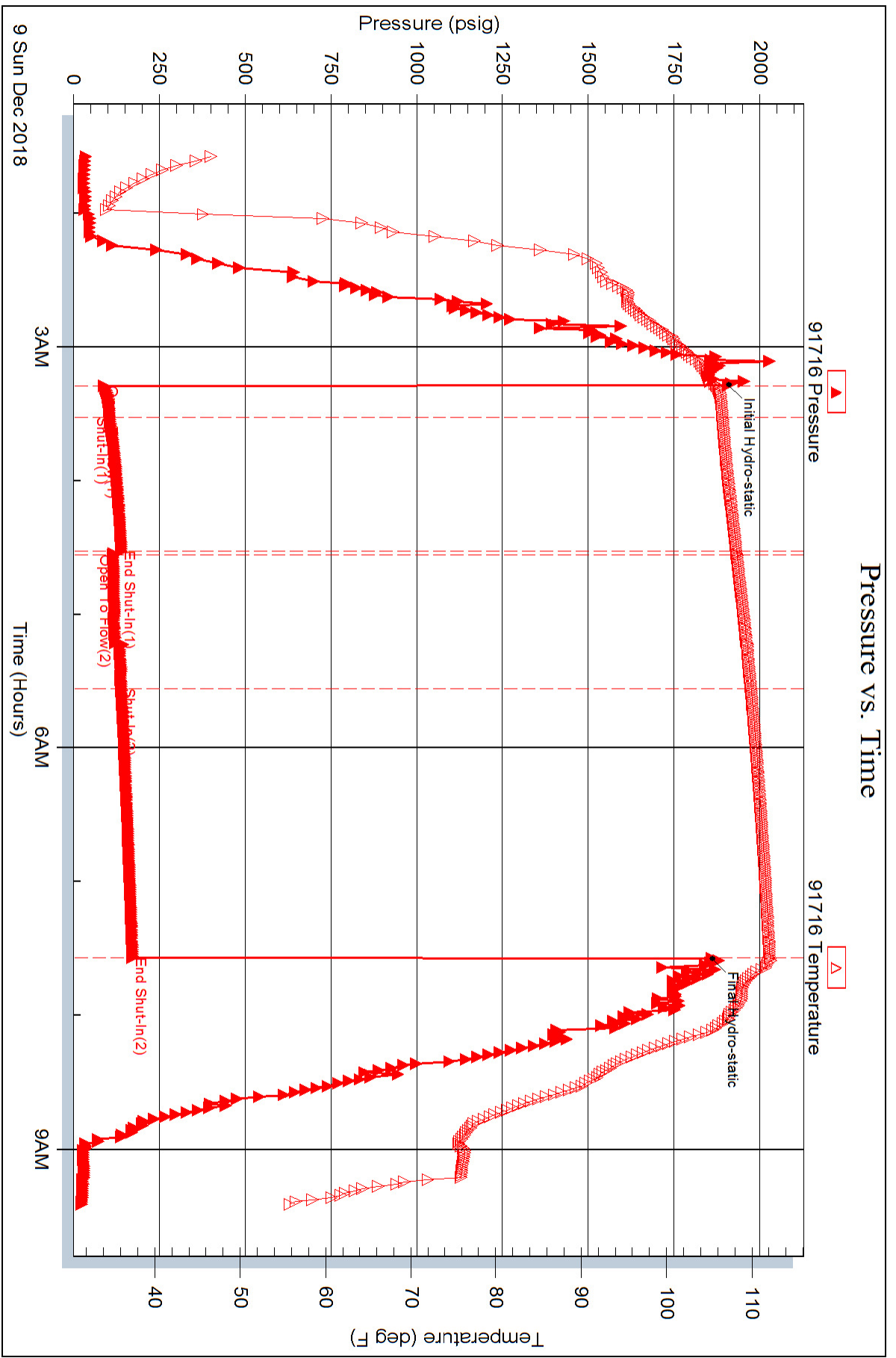
Recovery Table

Length ft	Description	Volume bbl
120.00	Drilling Mud no show s	0.590

Total Length: 120.00 ft      Total Volume: 0.590 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: **Shelby Resources LLC**

13949 W Colfax bldg 1 ste 120

ATTN: Jeremy Schwartz

### **Borck Unit #1-25**

#### **25-21s-16w Pawnee**

Start Date: 2018.12.10 @ 18:13:00

End Date: 2018.12.10 @ 22:30:00

Job Ticket #: 01054                      DST #: 3

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

Printed: 2018.12.10 @ 05:50:04



# DRILL STEM TEST REPORT

Shelby Resources LLC  
 13949 W Colfax bldg 1 ste 120  
 ATTN: Jeremy Schwartz

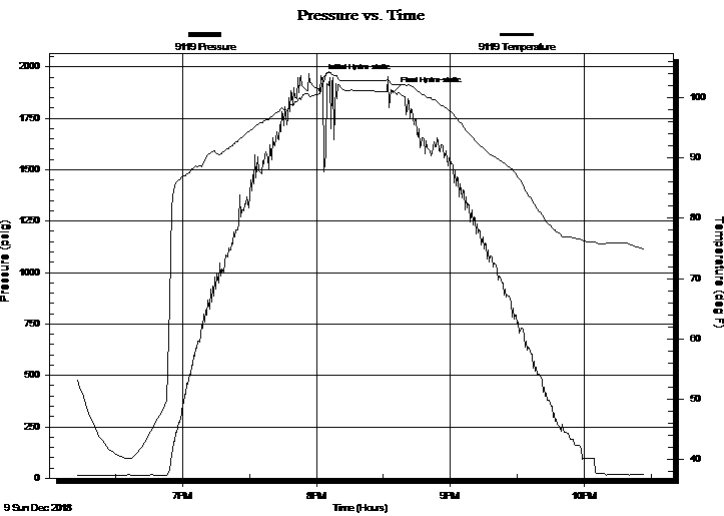
**25-21s-16w Pawnee**  
**Borck Unit #1-25**  
 Job Ticket: 01054 **DST#: 3**  
 Test Start: 2018.12.10 @ 18:13:00

## GENERAL INFORMATION:

Formation: **Viola**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 20:30:00 Tester: Gene Bujdig  
 Time Test Ended: 22:30:00 Unit No: 1  
 Interval: **3818.00 ft (KB) To 3842.00 ft (KB) (TVD)** Reference Elevations: 1981.00 ft (KB)  
 Total Depth: 3842.00 ft (KB) (TVD) 1970.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 11.00 ft

**Serial #: 9119 Inside**  
 Press@RunDepth: psig @ 3837.00 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2018.12.09 End Date: 2018.12.09 Last Calib.: 2018.12.10  
 Start Time: 18:13:00 End Time: 20:30:00 Time On Btm: 2018.12.09 @ 20:02:30  
 Time Off Btm: 2018.12.09 @ 20:34:29

TEST COMMENT: missrun packer failure



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1942.60	102.19	Initial Hydro-static
32	1878.62	102.14	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
400.00		3.70

## Gas Rates

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



# DRILL STEM TEST REPORT

Shelby Resources LLC  
 13949 W Colfax bldg 1 ste 120  
 ATTN: Jeremy Schwartz

**25-21s-16w Pawnee**  
**Borck Unit #1-25**  
 Job Ticket: 01054      **DST#: 3**  
 Test Start: 2018.12.10 @ 18:13:00

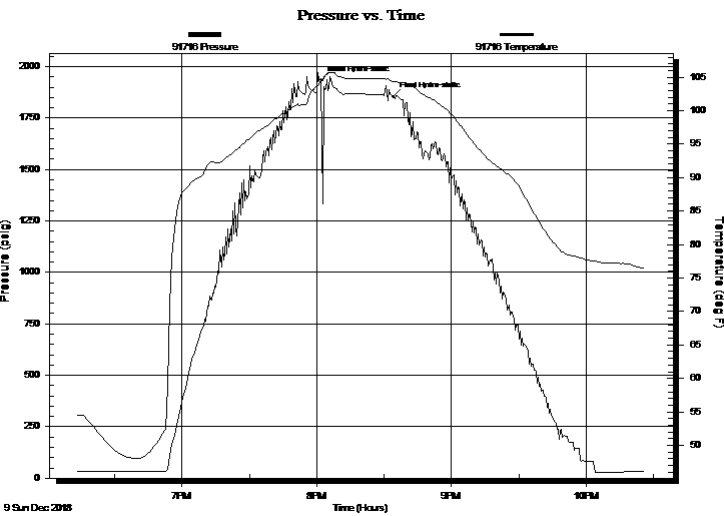
## GENERAL INFORMATION:

Formation: **Viola**  
 Deviated: No      Whipstock:      ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 20:30:00      Tester: Gene Bujdig  
 Time Test Ended: 22:30:00      Unit No: 1  
 Interval: **3818.00 ft (KB) To 3842.00 ft (KB) (TVD)**      Reference Elevations: 1981.00 ft (KB)  
 Total Depth: 3842.00 ft (KB) (TVD)      1970.00 ft (CF)  
 Hole Diameter: 7.88 inches      Hole Condition: Fair      KB to GR/CF: 11.00 ft

## Serial #: 91716      Outside

Press@RunDepth:      psig @      3837.00 ft (KB)      Capacity: 5000.00 psig  
 Start Date: 2018.12.09      End Date: 2018.12.09      Last Calib.: 2018.12.10  
 Start Time: 18:13:30      End Time: 22:25:59      Time On Btm: 2018.12.09 @ 20:02:00  
 Time Off Btm: 2018.12.09 @ 20:34:00

TEST COMMENT: missrun packer failure



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1934.61	104.37	Initial Hydro-static
32	1852.30	104.35	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
400.00		3.70

## Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Shelby Resources LLC  
 13949 W Colfax bldg 1 ste 120  
 ATTN: Jeremy Schwartz

**25-21s-16w Pawnee**  
**Borck Unit #1-25**  
 Job Ticket: 01054 **DST#: 3**  
 Test Start: 2018.12.10 @ 18:13:00

## Tool Information

Drill Pipe:	Length: 3590.00 ft	Diameter: 3.80 inches	Volume: 50.36 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: 210.00 ft	Diameter: 2.25 inches	Volume: 1.03 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 51.39 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial	70000.00 lb
Depth to Top Packer:	3818.00 ft			Final	70000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	24.00 ft				
Tool Length:	54.00 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			3793.00	
Hydraulic tool	5.00			3798.00	
Jars	5.00			3803.00	
Safety Joint	5.00			3808.00	
Packer	5.00			3813.00	30.00 Bottom Of Top Packer
Packer	5.00		Fluid	3818.00	
Anchor	19.00			3837.00	
Recorder	0.00	9119	Inside	3837.00	
Recorder	0.00	91716	Outside	3837.00	
Bullnose	5.00			3842.00	24.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>54.00</b>				



# DRILL STEM TEST REPORT

## FLUID SUMMARY

Shelby Resources LLC  
 13949 W Colfax bldg 1 ste 120  
 ATTN: Jeremy Schwartz

**25-21s-16w Pawnee**  
**Borck Unit #1-25**  
 Job Ticket: 01054      **DST#: 3**  
 Test Start: 2018.12.10 @ 18:13:00

### 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: 61.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.78 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5000.00 ppm			
Filter Cake: 1.00 inches			

### Recovery Information

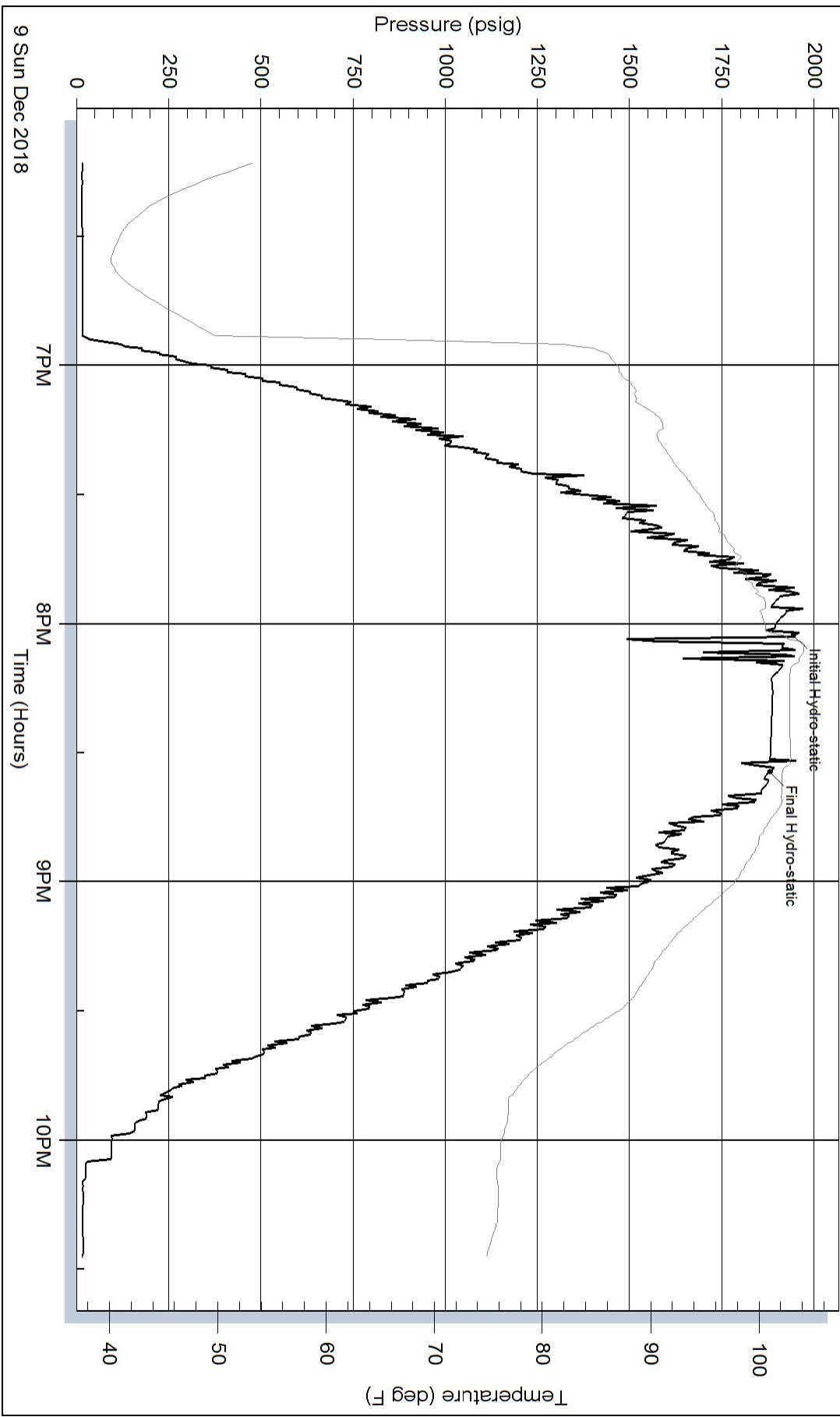
Recovery Table

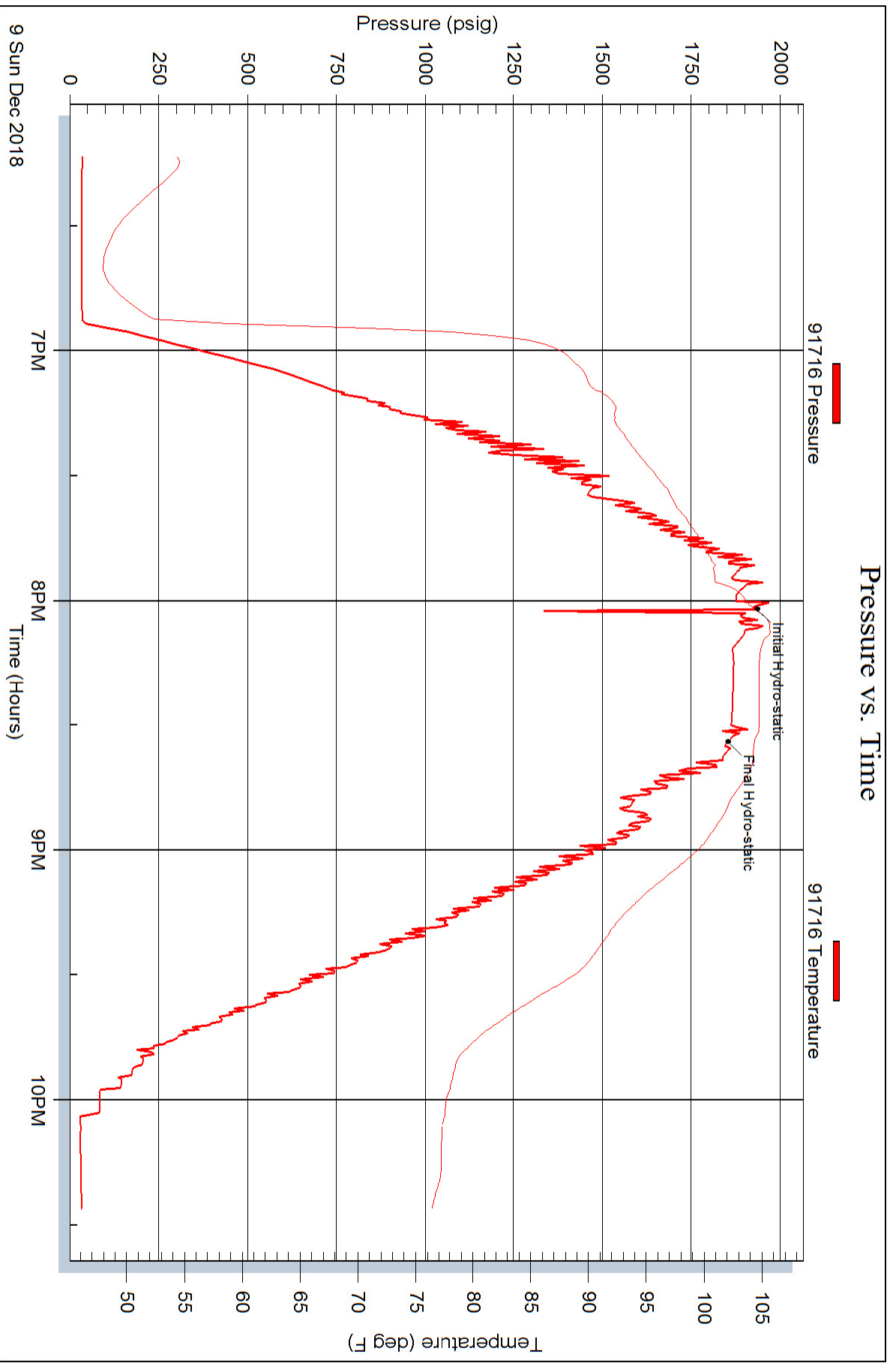
Length ft	Description	Volume bbl
400.00		3.698

Total Length: 400.00 ft      Total Volume: 3.698 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: **Shelby Resources LLC**

13949 W Colfax bldg 1 ste 120

ATTN: Jeremy Schwartz

### **Borck Unit #1-25**

#### **25-21s-16w Pawnee**

Start Date: 2018.12.10 @ 22:30:00

End Date: 2018.12.10 @ 05:20:00

Job Ticket #: 01055                      DST #: 4

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

Printed: 2018.12.10 @ 05:36:28



# DRILL STEM TEST REPORT

Shelby Resources LLC  
 13949 W Colfax bldg 1 ste 120  
 ATTN: Jeremy Schwartz

**25-21s-16w Pawnee**  
**Borck Unit #1-25**  
 Job Ticket: 01055 **DST#: 4**  
 Test Start: 2018.12.10 @ 22:30:00

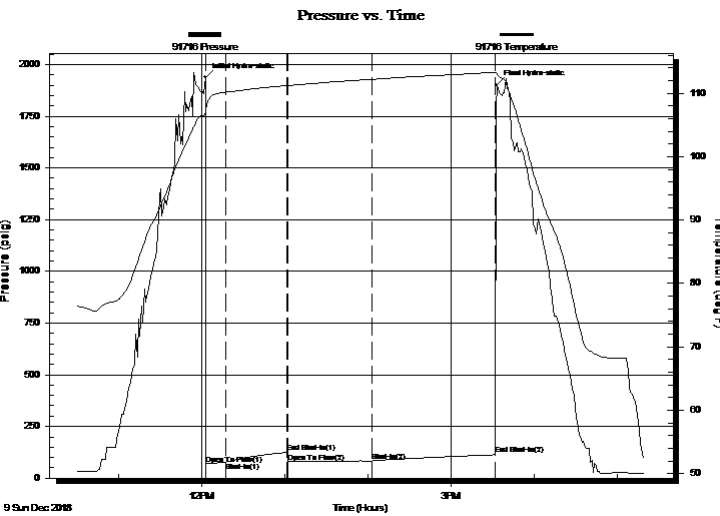
## GENERAL INFORMATION:

Formation: **Viola**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Real-Time)  
 Time Tool Opened: 12:03:00 Tester: Gene Budig  
 Time Test Ended: 05:20:00 Unit No: 1  
 Interval: **3802.00 ft (KB) To 3842.00 ft (KB) (TVD)** Reference Elevations: 1981.00 ft (KB)  
 Total Depth: 3842.00 ft (KB) (TVD) 1970.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 11.00 ft

## Serial #: 91716 Outside

Press@RunDepth: 113.27 psig @ 3837.00 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2018.12.09 End Date: 2018.12.09 Last Calib.: 2018.12.10  
 Start Time: 06:24:30 End Time: 17:19:29 Time On Btm: 2018.12.09 @ 12:02:29  
 Time Off Btm: 2018.12.09 @ 15:33:00

TEST COMMENT: 1st Opening 15 minutes weak blow built to 6 inches into the water  
 1st Shut-In 45 Minutes  
 2nd Opening 60 Minutes 5 1/2 inch steady blow through out  
 2nd Shut-In 90 Mminutes



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1937.53	107.01	Initial Hydro-static
1	67.44	107.59	Open To Flow (1)
15	75.60	110.14	Shut-In(1)
60	124.95	111.23	End Shut-In(1)
60	76.66	111.24	Open To Flow (2)
120	83.25	112.22	Shut-In(2)
210	113.27	113.29	End Shut-In(2)
211	1902.11	113.17	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	drilling mud	0.10
120.00	faint odor of gas	0.59

## Gas Rates

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



# DRILL STEM TEST REPORT

Shelby Resources LLC  
 13949 W Colfax bldg 1 ste 120  
 ATTN: Jeremy Schwartz

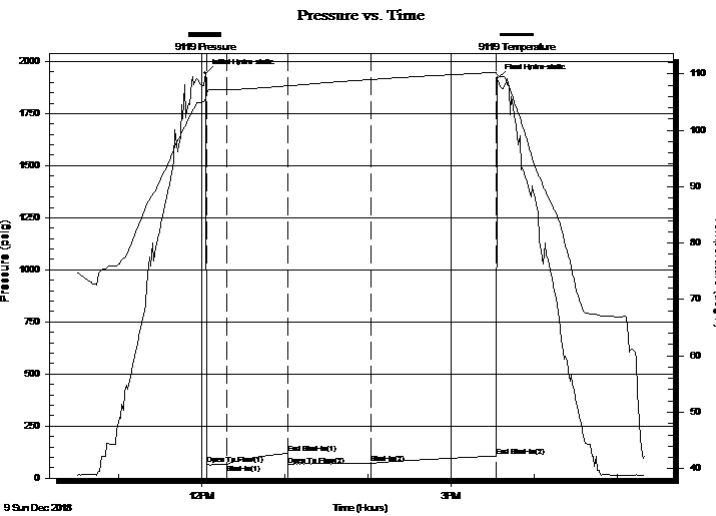
**25-21s-16w Pawnee**  
**Borck Unit #1-25**  
 Job Ticket: 01055 **DST#: 4**  
 Test Start: 2018.12.10 @ 22:30:00

## GENERAL INFORMATION:

Formation: **Viola**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 12:03:00  
 Time Test Ended: 05:20:00  
 Interval: **3802.00 ft (KB) To 3842.00 ft (KB) (TVD)**  
 Total Depth: 3842.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Real-Time)  
 Tester: Gene Budig  
 Unit No: 1  
 Reference Elevations: 1981.00 ft (KB)  
 1970.00 ft (CF)  
 KB to GR/CF: 11.00 ft

**Serial #: 9119 Inside**  
 Press@RunDepth: 105.89 psig @ 3837.00 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2018.12.09 End Date: 2018.12.09 Last Calib.: 2018.12.10  
 Start Time: 06:16:00 End Time: 17:20:00 Time On Btm: 2018.12.09 @ 12:02:30  
 Time Off Btm: 2018.12.09 @ 15:33:30

**TEST COMMENT:** 1st Opening 15 minutes weak blow built to 6 inches into the water  
 1st Shut-In 45 Minutes  
 2nd Opening 60 Minutes 5 1/2 inch steady blow through out  
 2nd Shut-In 90 Mminutes



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1944.10	105.63	Initial Hydro-static
1	64.41	106.54	Open To Flow (1)
16	65.51	107.22	Shut-In(1)
60	119.86	107.89	End Shut-In(1)
60	63.65	107.89	Open To Flow (2)
120	71.21	109.01	Shut-In(2)
210	105.89	110.26	End Shut-In(2)
211	1920.30	109.96	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	drilling mud	0.10
120.00	faint odor of gas	0.59

## Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Shelby Resources LLC  
 13949 W Colfax bldg 1 ste 120  
 ATTN: Jeremy Schwartz

**25-21s-16w Pawnee**  
**Borck Unit #1-25**  
 Job Ticket: 01055 **DST#: 4**  
 Test Start: 2018.12.10 @ 22:30:00

## Tool Information

Drill Pipe:	Length: 3573.00 ft	Diameter: 3.80 inches	Volume: 50.12 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 210.00 ft	Diameter: 2.25 inches	Volume: 1.03 bbl	Weight to Pull Loose:	85000.00 lb
			<u>Total Volume: 51.15 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial	70000.00 lb
Depth to Top Packer:	3802.00 ft			Final	70000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	40.00 ft				
Tool Length:	70.00 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			3777.00	
Hydraulic tool	5.00			3782.00	
Jars	5.00			3787.00	
Safety Joint	5.00			3792.00	
Packer	5.00			3797.00	30.00 Bottom Of Top Packer
Packer	5.00		Fluid	3802.00	
Anchor	35.00			3837.00	
Recorder	0.00	9119	Inside	3837.00	
Recorder	0.00	91716	Outside	3837.00	
Bullnose	5.00			3842.00	40.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>70.00</b>				



# DRILL STEM TEST REPORT

## FLUID SUMMARY

Shelby Resources LLC  
 13949 W Colfax bldg 1 ste 120  
 ATTN: Jeremy Schwartz

**25-21s-16w Pawnee**  
**Borck Unit #1-25**  
 Job Ticket: 01055      **DST#: 4**  
 Test Start: 2018.12.10 @ 22:30:00

### 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: psig		
Salinity: 5000.00 ppm			
Filter Cake: 1.00 inches			

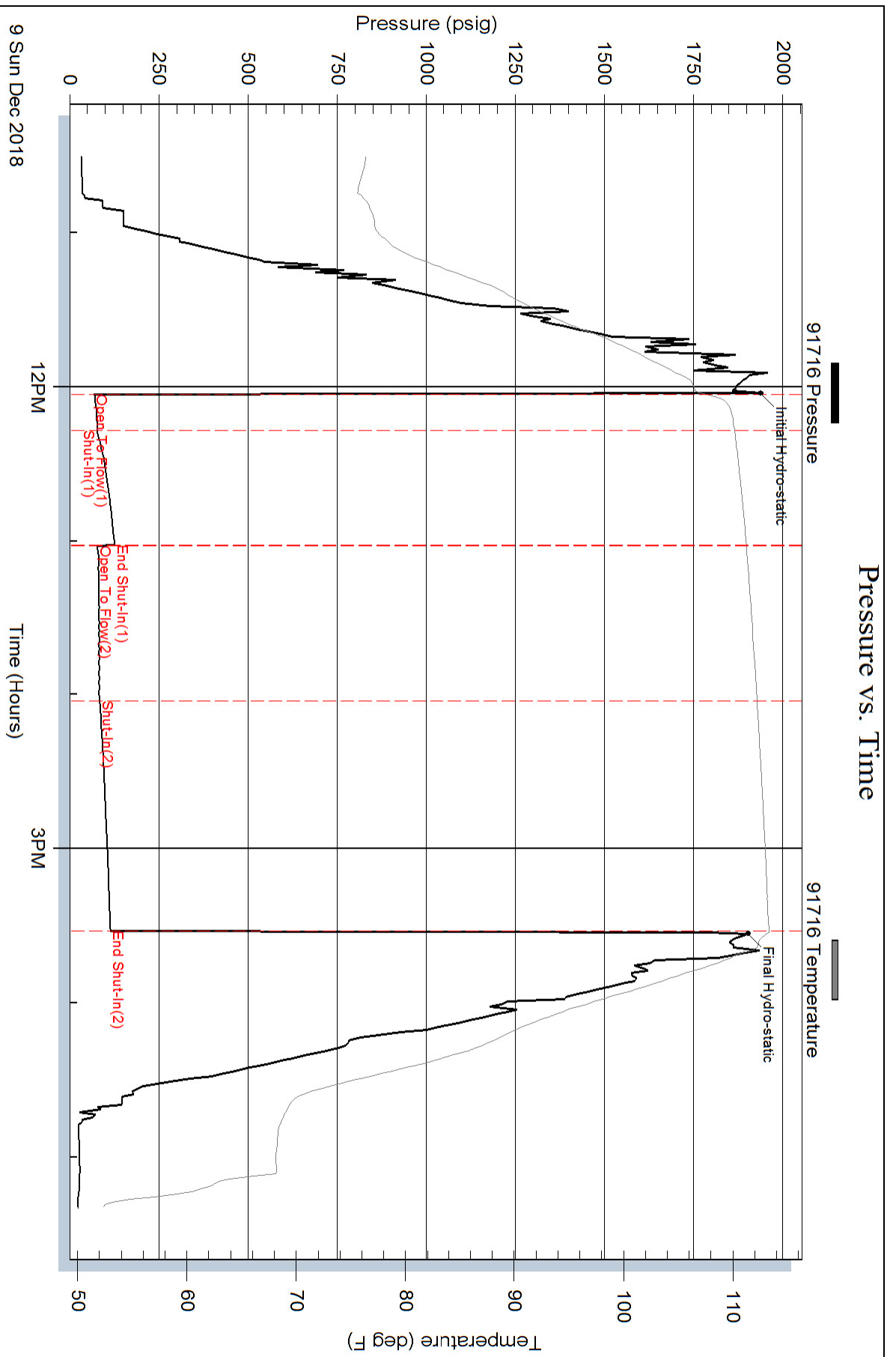
### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	drilling mud	0.098
120.00	faint odor of gas	0.590

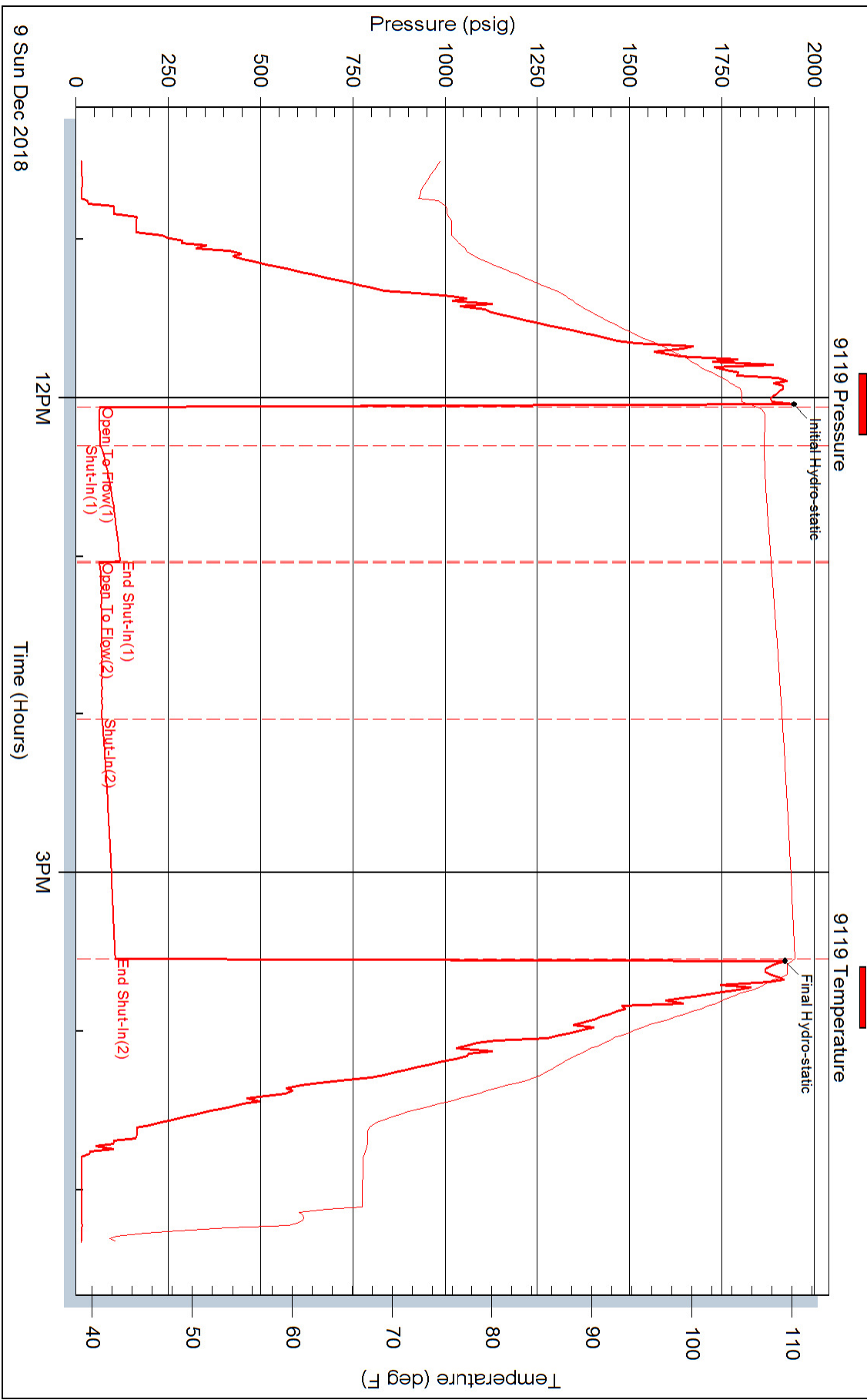
Total Length: 140.00 ft      Total Volume: 0.688 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

### Pressure vs. Time





### Pressure vs. Time





## DRILL STEM TEST REPORT

Prepared For: **Shelby Resources LLC**

13949 W Colfax bldg 1 ste 120

ATTN: Jeremy Schwartz

### **Borck Unit #1-25**

### **25-21s-16w Pawnee**

Start Date: 2018.12.11 @ 14:51:00

End Date: 2018.12.11 @ 19:10:00

Job Ticket #: 01056                      DST #: 5

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

Printed: 2018.12.11 @ 02:35:59



# DRILL STEM TEST REPORT

Shelby Resources LLC  
 13949 W Colfax bldg 1 ste 120  
 ATTN: Jeremy Schwartz

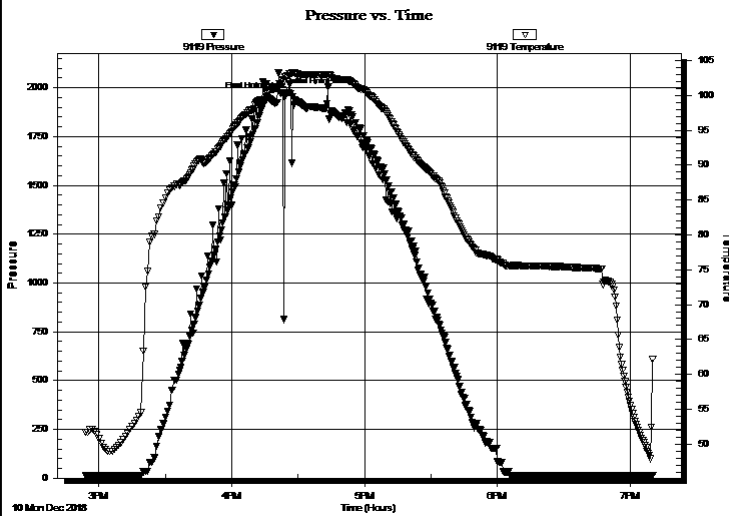
**25-21s-16w Pawnee**  
**Borck Unit #1-25**  
 Job Ticket: 01056 **DST#: 5**  
 Test Start: 2018.12.11 @ 14:51:00

## GENERAL INFORMATION:

Formation: **simpson**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 16:45:00  
 Time Test Ended: 19:10:00  
**Interval: 3205.00 ft (KB) To 3276.00 ft (KB) (TVD)**  
 Total Depth: 3276.00 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: 1981.00 ft (KB)  
 1970.00 ft (CF)  
 KB to GR/CF: 11.00 ft

**Serial #: 9119 Inside**  
 Press@RunDepth: psig @ 3271.33 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2018.12.10 End Date: 2018.12.10 Last Calib.: 1899.12.30  
 Start Time: 14:54:06 End Time: 19:10:06 Time On Btm: 2018.12.10 @ 16:23:05  
 Time Off Btm: 2018.12.10 @ 16:27:36

TEST COMMENT: miss run packer failure



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1975.04	102.28	Initial Hydro-static
5	1953.58	103.28	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
320.00	drilling mud	2.58

## Gas Rates

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



# DRILL STEM TEST REPORT

Shelby Resources LLC  
 13949 W Colfax bldg 1 ste 120  
 ATTN: Jeremy Schwartz

**25-21s-16w Pawnee**  
**Borck Unit #1-25**  
 Job Ticket: 01056      **DST#: 5**  
 Test Start: 2018.12.11 @ 14:51:00

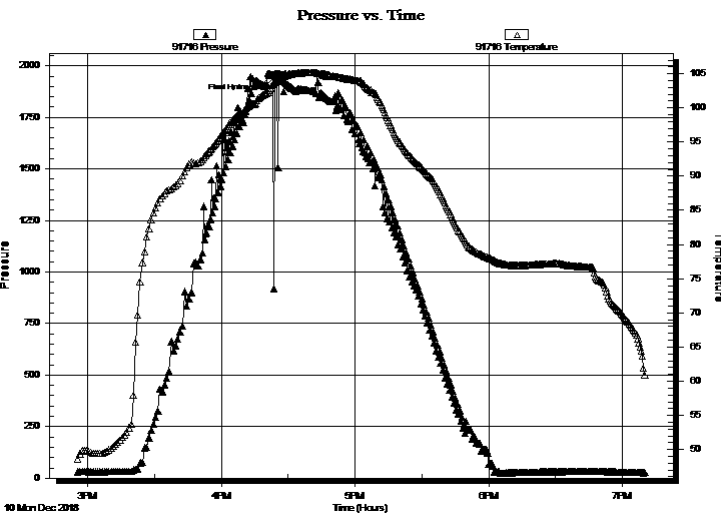
## GENERAL INFORMATION:

Formation: **simpson**  
 Deviated: No      Whipstock:      ft (KB)  
 Time Tool Opened: 16:45:00  
 Time Test Ended: 19:10:00  
**Interval: 3205.00 ft (KB) To 3276.00 ft (KB) (TVD)**  
 Total Depth: 3276.00 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: 1981.00 ft (KB)  
 1970.00 ft (CF)  
 KB to GR/CF: 11.00 ft

## Serial #: 91716      Outside

Press@RunDepth:      psig @      3271.33 ft (KB)      Capacity: 5000.00 psig  
 Start Date: 2018.12.10      End Date: 2018.12.10      Last Calib.: 1899.12.30  
 Start Time: 14:55:30      End Time: 19:10:00      Time On Btm: 2018.12.10 @ 16:18:00  
 Time Off Btm: 2018.12.10 @ 16:24:30

TEST COMMENT: miss run packer failure



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1910.28	101.77	Initial Hydro-static
7	1952.65	103.88	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
320.00	drilling mud	2.58

## Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Shelby Resources LLC  
 13949 W Colfax bldg 1 ste 120  
 ATTN: Jeremy Schwartz

**25-21s-16w Pawnee**  
**Borck Unit #1-25**  
 Job Ticket: 01056 **DST#: 5**  
 Test Start: 2018.12.11 @ 14:51:00

**Tool Information**

Drill Pipe:	Length: 2972.00 ft	Diameter: 3.80 inches	Volume: 41.69 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: 210.00 ft	Diameter: 2.25 inches	Volume: 1.03 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 42.72 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial	70000.00 lb
Depth to Top Packer:	3205.00 ft			Final	70000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	71.33 ft				
Tool Length:	101.33 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			3180.00	
Hydraulic tool	5.00			3185.00	
Jars	5.00			3190.00	
Safety Joint	5.00			3195.00	
Packer	5.00			3200.00	30.00 Bottom Of Top Packer
Packer	5.00		Fluid	3205.00	
Anchor	5.00			3210.00	
Change Over Sub	0.75			3210.75	
Drill Pipe	31.83			3242.58	
Change Over Sub	0.75		Inside	3243.33	
Anchor	28.00			3271.33	
Recorder	0.00	9119	Inside	3271.33	
Recorder	0.00	91716	Outside	3271.33	
Bullnose	5.00			3276.33	71.33 Bottom Packers & Anchor

**Total Tool Length: 101.33**



# DRILL STEM TEST REPORT

## FLUID SUMMARY

Shelby Resources LLC  
 13949 W Colfax bldg 1 ste 120  
 ATTN: Jeremy Schwartz

**25-21s-16w Pawnee**  
**Borck Unit #1-25**  
 Job Ticket: 01056      **DST#: 5**  
 Test Start: 2018.12.11 @ 14:51:00

### Mud and Cushion Information

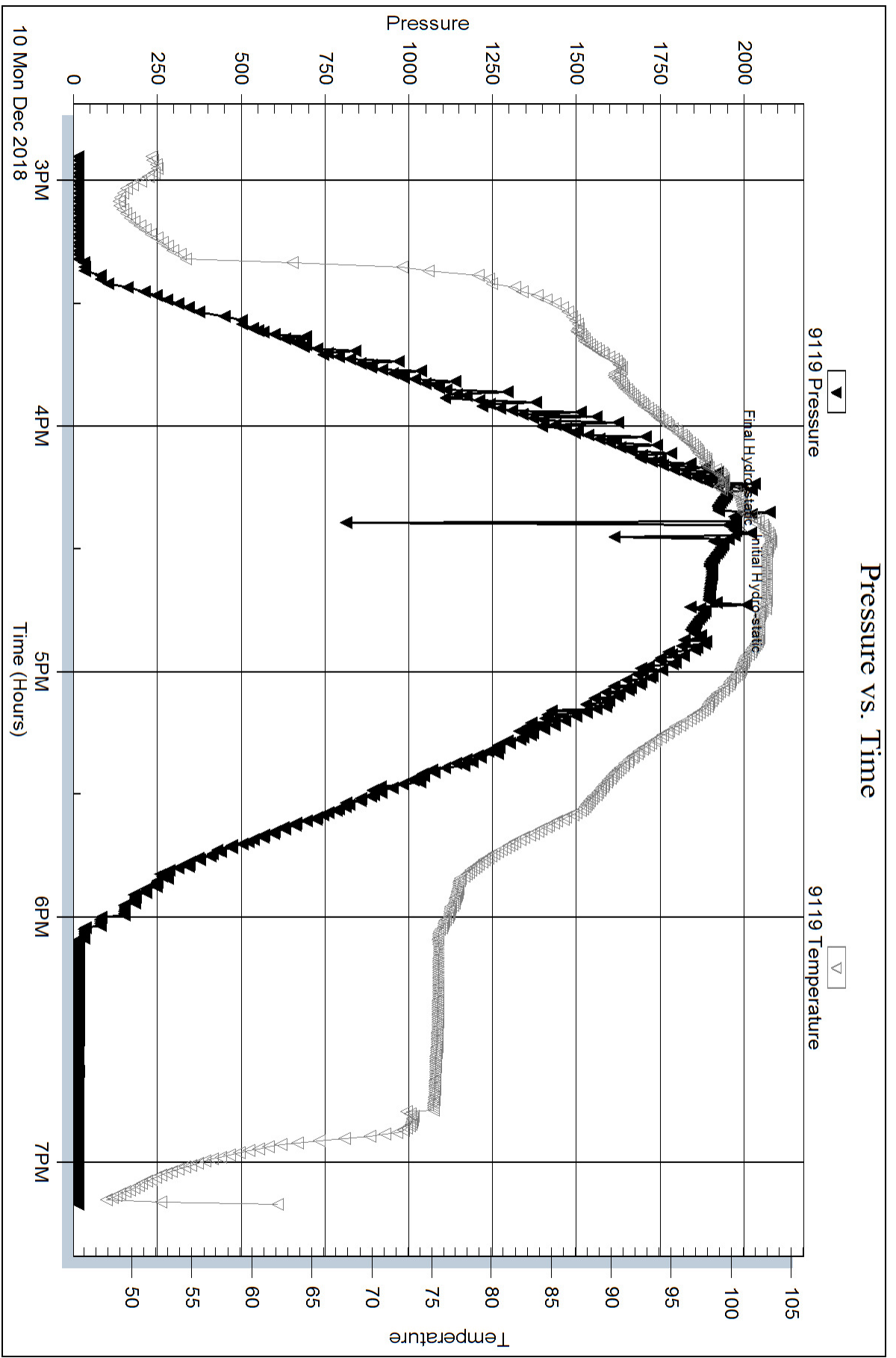
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 0.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 59.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.19 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5100.00 ppm			
Filter Cake: 1.00 inches			

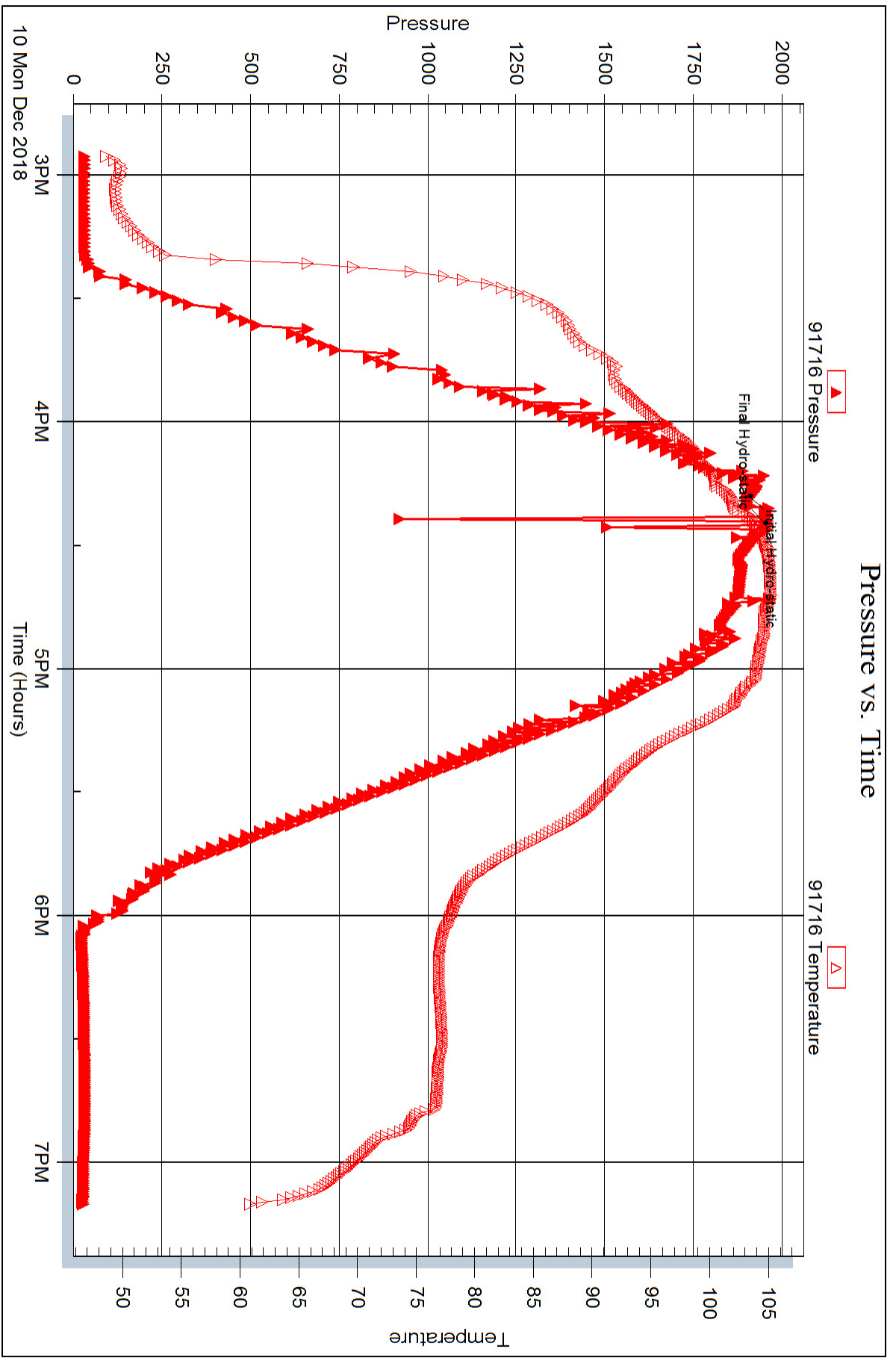
### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
320.00	drilling mud	2.576

Total Length: 320.00 ft      Total Volume: 2.576 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:









## DRILL STEM TEST REPORT

Prepared For: **Shelby Resources LLC**

13949 W Colfax bldg 1 ste 120

ATTN: Jeremy Schwartz

### **Borck Unit #1-25**

#### **25-21s-16w Pawnee**

Start Date: 2018.12.11 @ 18:00:00

End Date: 2018.12.11 @ 01:57:00

Job Ticket #: 01057                      DST #: 6

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

Printed: 2018.12.11 @ 02:36:44



# DRILL STEM TEST REPORT

Shelby Resources LLC  
 13949 W Colfax bldg 1 ste 120  
 ATTN: Jeremy Schwartz

**25-21s-16w Pawnee**  
**Borck Unit #1-25**  
 Job Ticket: 01057 **DST#: 6**  
 Test Start: 2018.12.11 @ 18:00:00

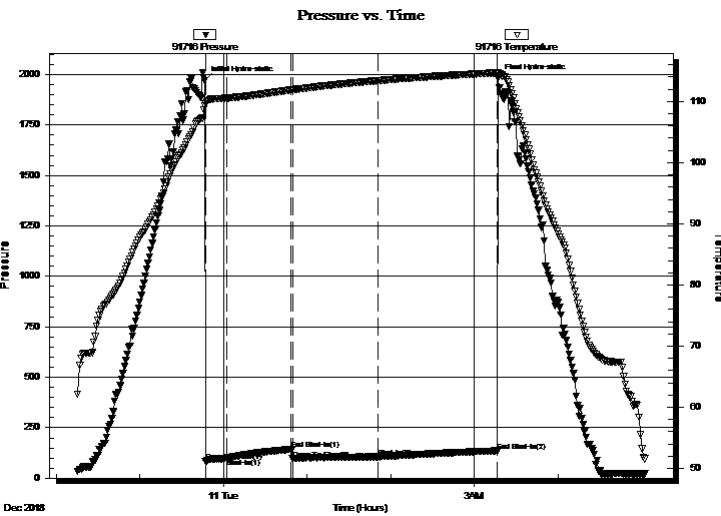
## GENERAL INFORMATION:

Formation: **Simpson**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 20:42:00  
 Time Test Ended: 01:57:00  
 Interval: **3796.00 ft (KB) To 3876.00 ft (KB) (TVD)**  
 Total Depth: 3876.00 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: 1981.00 ft (KB)  
 1970.00 ft (CF)  
 KB to GR/CF: 11.00 ft

## Serial #: 91716 Outside

Press@RunDepth: 135.24 psig @ 3871.29 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2018.12.10 End Date: 2018.12.11 Last Calib.: 2018.12.11  
 Start Time: 22:15:30 End Time: 05:02:00 Time On Btm: 2018.12.10 @ 23:46:30  
 Time Off Btm: 2018.12.11 @ 03:17:00

TEST COMMENT: 1st Opening 15 Minutes weak blow built to 4 inches into the water  
 1st Shut In 45 Minutes no blow back  
 2nd Opening 60 Minutes weak blow built to 7 inches into the water  
 2nd Shut-In 90 Minutes no blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1971.09	109.26	Initial Hydro-static
1	84.75	109.62	Open To Flow (1)
16	98.12	110.57	Shut-In(1)
62	142.86	111.89	End Shut-In(1)
63	95.39	111.92	Open To Flow (2)
125	105.76	113.42	Shut-In(2)
210	135.24	114.70	End Shut-In(2)
211	1980.90	114.76	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	drilling Mud	0.10

## Gas Rates

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



# DRILL STEM TEST REPORT

Shelby Resources LLC  
 13949 W Colfax bldg 1 ste 120  
 ATTN: Jeremy Schwartz

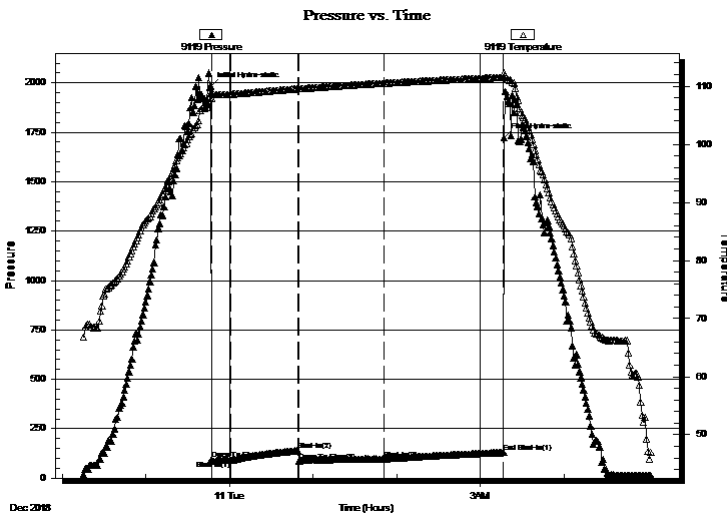
**25-21s-16w Pawnee**  
**Borck Unit #1-25**  
 Job Ticket: 01057 **DST#: 6**  
 Test Start: 2018.12.11 @ 18:00:00

## GENERAL INFORMATION:

Formation: **Simpson**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 20:42:00  
 Time Test Ended: 01:57:00  
 Interval: **3796.00 ft (KB) To 3876.00 ft (KB) (TVD)**  
 Total Depth: 3876.00 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: 1981.00 ft (KB)  
 1970.00 ft (CF)  
 KB to GR/CF: 11.00 ft

**Serial #: 9119 Inside**  
 Press@RunDepth: 129.82 psig @ 3871.29 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2018.12.10 End Date: 2018.12.11 Last Calib.: 2018.12.11  
 Start Time: 22:15:30 End Time: 05:02:30 Time On Btm: 2018.12.10 @ 23:46:30  
 Time Off Btm: 2018.12.11 @ 03:17:00

**TEST COMMENT:** 1st Opening 15 Minutes w eak blow built to 4 inches into the w ater  
 1st Shut In 45 Minutes no blow back  
 2nd Opening 60 Minutes w eak blow built to 7 inches into the w ater  
 2nd Shut-In 90 Minutes no blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1983.46	108.67	Initial Hydro-static
1	96.44	107.93	Open To Flow (1)
15	90.61	108.62	Shut-In(1)
63	138.87	109.55	Shut-In(2)
64	87.73	109.56	Open To Flow (2)
124	97.55	110.52	Shut-In(3)
210	129.82	111.52	End Shut-In(1)
211	1724.56	112.38	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	drilling Mud	0.10

## Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Shelby Resources LLC  
 13949 W Colfax bldg 1 ste 120  
 ATTN: Jeremy Schwartz

**25-21s-16w Pawnee**  
**Borck Unit #1-25**  
 Job Ticket: 01057 **DST#: 6**  
 Test Start: 2018.12.11 @ 18:00:00

**Tool Information**

Drill Pipe:	Length: 3573.00 ft	Diameter: 3.80 inches	Volume: 50.12 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 210.00 ft	Diameter: 2.25 inches	Volume: 1.03 bbl	Weight to Pull Loose:	96000.00 lb
			<u>Total Volume: 51.15 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial	70000.00 lb
Depth to Top Packer:	3796.00 ft			Final	70000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	80.29 ft				
Tool Length:	110.29 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
-------------------------	--------------------	-------------------	-----------------	-------------------	-----------------------

Shut In Tool	5.00			3771.00	
Hydraulic tool	5.00			3776.00	
Jars	5.00			3781.00	
Safety Joint	5.00			3786.00	
Packer	5.00			3791.00	30.00 Bottom Of Top Packer
Packer	5.00		Fluid	3796.00	
Anchor	5.00			3801.00	
Change Over Sub	0.75			3801.75	
Drill Pipe	63.79			3865.54	
Change Over Sub	0.75		Inside	3866.29	
Anchor	5.00			3871.29	
Recorder	0.00	9119	Inside	3871.29	
Recorder	0.00	91716	Outside	3871.29	
Bullnose	5.00			3876.29	80.29 Bottom Packers & Anchor

**Total Tool Length: 110.29**



# DRILL STEM TEST REPORT

## FLUID SUMMARY

Shelby Resources LLC  
 13949 W Colfax bldg 1 ste 120  
 ATTN: Jeremy Schwartz

**25-21s-16w Pawnee**  
**Borck Unit #1-25**  
 Job Ticket: 01057      **DST#: 6**  
 Test Start: 2018.12.11 @ 18:00:00

### Mud and Cushion Information

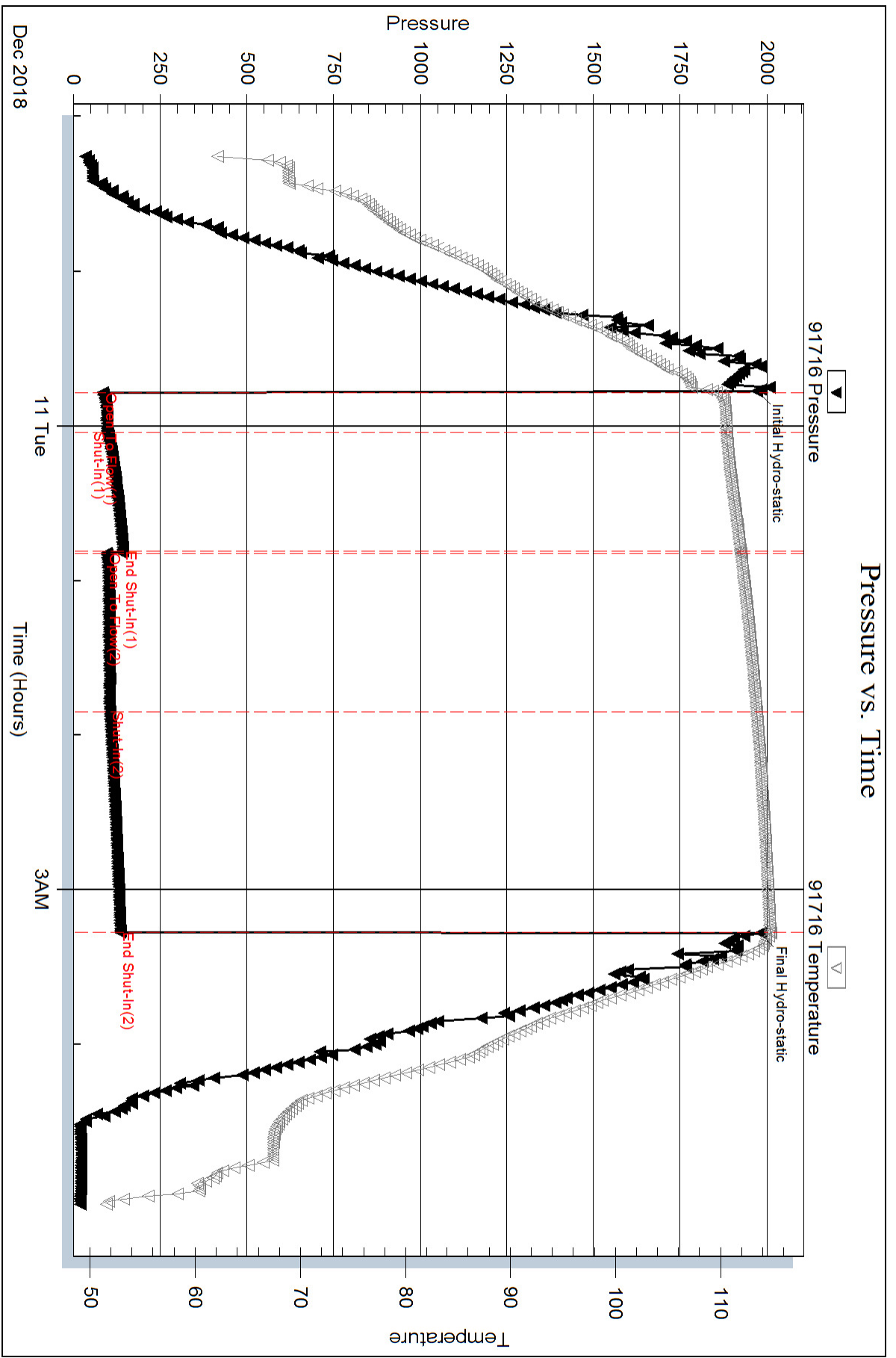
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 59.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.19 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5000.00 ppm			
Filter Cake: 1.00 inches			

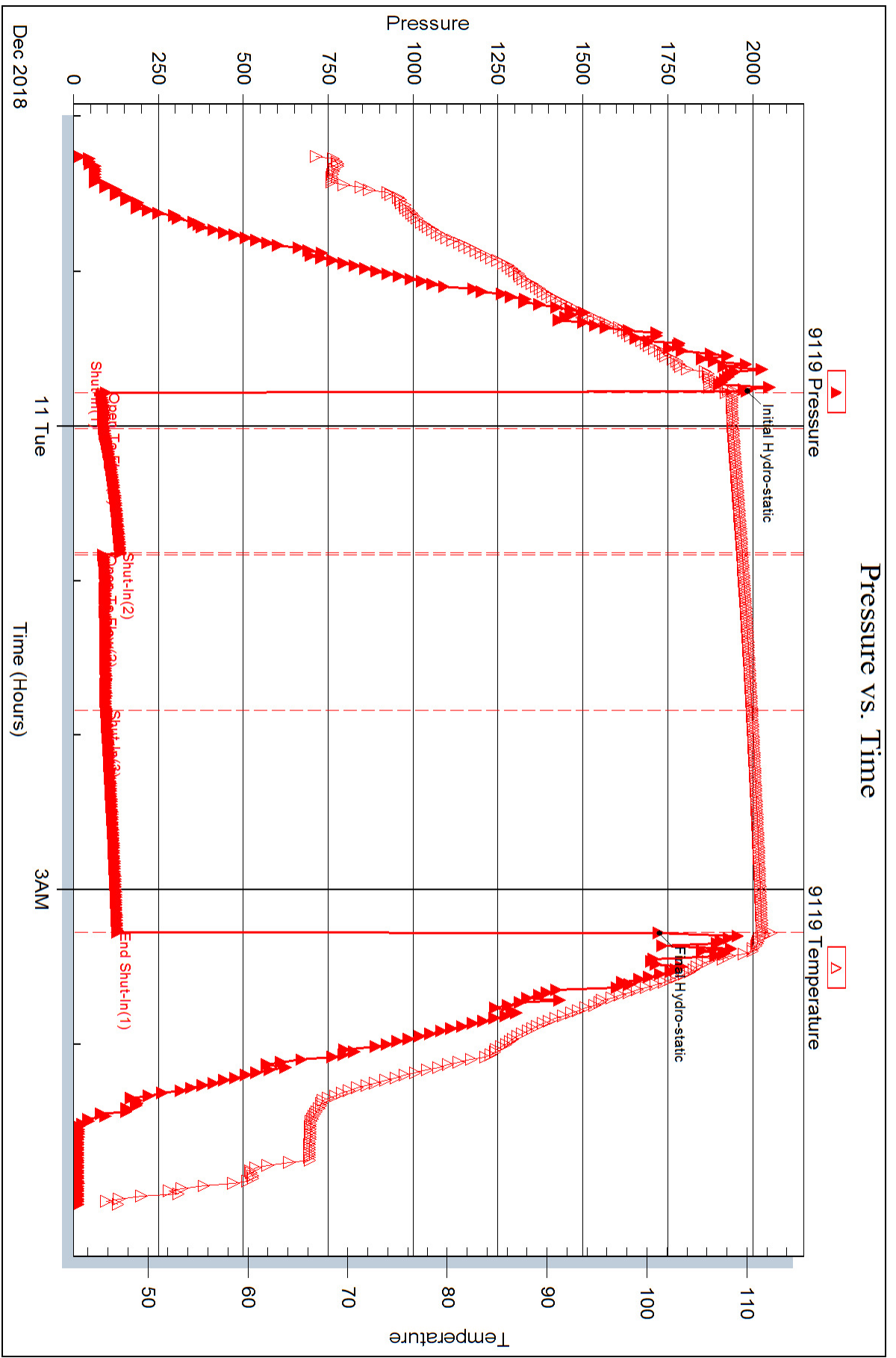
### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	drilling Mud	0.098

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:





7700160

# BASIC

energy services, L.P.

## TREATMENT REPORT

Customer <i>Shelby Resources</i>	Lease No.	Date <i>12/12/2018</i>	
Lease <i>BORCK UNIT</i>	Well # <i>1-5</i>		
Field Order # <i>17500</i>	Station <i>PRG+11CS</i>	Casing	Depth
Type Job <i>242/PTA</i>	Formation	County <i>Pawnee</i>	State <i>KS</i>
		Legal Description <i>25-21S-16W</i>	

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP	
<i>4 1/2</i>				Pre Pad	Max		5 Min.	
Depth <i>3887</i>	Depth	From	To	Pad	Min		10 Min.	
Volume <i>55</i>	Volume	From	To	Frac	Avg		15 Min.	
Max Press	Max Press	From	To		HHP Used		Annulus Pressure	
Well Connection	Annulus Vol.	From	To	Flush <i>Water, mud</i>	Gas Volume		Total Load	
Plug Depth <i>3655</i>	Packer Depth	From	To					

Customer Representative <i>Lenny Seloss</i>	Station Manager <i>Justin Westerman</i>	Treater <i>Darin Franklin</i>
--	--	----------------------------------

Service Units	<i>92911</i>	<i>78982</i>	<i>19843</i>	<i>19959</i>	<i>21010</i>				
Driver Names	<i>Darin</i>	<i>Brett</i>	<i>Brett</i>	<i>Darin</i>	<i>Darin</i>				

1/4 Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
<i>10:30 pm</i>					<i>on location / 550017 meeting</i>
					<i>220SK 60/40 P02 40% Gel</i>
					<i>13,78 pps, 1,43 vol% , 6,92 W910, 247</i>
					<i>3887 - 50SK 523</i>
<i>3:00 am</i>	<i>400</i>		<i>8</i>	<i>4</i>	<i>Pump 8 bbls W910</i>
	<i>400</i>		<i>13</i>	<i>4</i>	<i>mix 50SK cement</i>
	<i>400</i>		<i>3</i>	<i>4</i>	<i>Displace 3 bbls W910</i>
	<i>400</i>		<i>44</i>	<i>4</i>	<i>46 bbls mud</i>
					<i>990'</i>
	<i>200</i>		<i>21</i>	<i>4</i>	<i>Pump 21 bbls W910</i>
	<i>200</i>		<i>13</i>	<i>4</i>	<i>mix 50SK cement</i>
	<i>200</i>		<i>7</i>	<i>4</i>	<i>Displace 7 bbls W910</i>
					<i>400'</i>
	<i>200</i>		<i>3</i>	<i>4</i>	<i>Pump 3 bbls W910</i>
	<i>200</i>		<i>13</i>	<i>4</i>	<i>mix 50SK cement</i>
	<i>200</i>		<i>1</i>	<i>4</i>	<i>Displace 1 bbl W910</i>
	<i>100</i>		<i>5</i>	<i>3</i>	<i>601 - 20SK 20SK</i>
	<i>50</i>		<i>7</i>	<i>3</i>	<i>PH - 20SK 30SK</i>
	<i>50</i>		<i>5</i>	<i>3</i>	<i>PH - 20SK</i>

10244 NE Hiway 61 • P.O. Box 8613 • Pratt, KS 67124-8613 • (620) 672-1201 • Fax (620) 672-5383





Scale 1:240 Imperial

Well Name: Borck Unit #1-25  
 Surface Location: 1024' FSL, 2521' FEL, Sec. 25-T21s-R16w  
 Bottom Location:  
 API: 15-145-21843-00-00  
 License Number:  
 Spud Date: 12/4/2018 Time: 7:30 PM  
 Region: Pawnee County  
 Drilling Completed: 12/11/2018 Time: 12:50 PM  
 Surface Coordinates:  
 Bottom Hole Coordinates:  
 Ground Elevation: 1970.00ft  
 K.B. Elevation: 1981.00ft  
 Logged Interval: 3000.00ft To: 3980.00ft  
 Total Depth: 3980.00ft  
 Formation: Penn Conglomerate  
 Drilling Fluid Type: Chemical/Fresh Water Gel

**OPERATOR**

Company: Shelby Resources, LLC  
 Address: 13949 W Colfax Ave., Bldg 1, Ste 120  
 Lakewood, CO 80401  
 Contact Geologist: Janine Sturdavant  
 Contact Phone Nbr: 303-907-2209 / 720-274-4682  
 Well Name: Borck Unit #1-25  
 Location: 1024' FSL, 2521' FEL, Sec. 25-T21s-R16w  
 API: 15-145-21843-00-00  
 Pool: Field: Sweeney Southwest  
 State: Kansas Country: USA

**LOGGED BY**



Company: Shelby Resources, LLC  
 Address: 13949 W Colfax Ave., Bldg 1, Ste 120  
 Lakewood, CO 80401  
 Phone Nbr: 203-671-6034  
 Logged By: Geologist Name: Jeremy Schwartz

**NOTES**

The Shelby Resources, LLC Borck Unit #1-25 was drilled to a total depth of 3980', bottoming in the Arbuckle. A TookeDaq gas detector was employed in the drilling of said well.

Six DST's were conducted during the drilling of this well. DST's #3 & 5 were misruns due to packer failures and were subsequently re-tested as DST's #4 & 6 respectively. The DST reports can be found at the bottom of this log.

Due to neagative DST results, lack of sample shows, gas kicks, and log analysis it was determined by all parties involved to plug and abandon the well. The dry samples were saved and will be available for furthur 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: 12/4/2018  
 TD Date: 12/11/2018  
 Rig Release:

Time: 7:30 PM  
 Time: 12:50 PM  
 Time:

### ELEVATIONS

K.B. Elevation: 1981.00ft      Ground Elevation: 1970.00ft  
 K.B. to Ground: 11.00ft

DATE	DEPTH	ACTIVITY
Friday, December 07, 2018	3280'	Geologist Jeremy Schwartz on location @ 0900hrs, ~3280', drlg ahead through Heebner,
	3720'	Lansing, BKC, CFS @ 3717', CTCH 1.5hrs, drop survey, strap out for Bit Trip
Saturday, December 08, 2018	3790'	Successful Bit Trip, CTCH 1hr, resume drlg, CFS @ 3785', resume drlg, CFS @ 3790'
	3790'	Show in conglomerate warrants test, trip out for DST #1 in the conglomerate,
		While tripping in hole with test tool, bridge encountered ~200' off bottom, pushed through and tool slid most of the way to bottom, DST #2 invalid test due to plugging, Trip back in hole and had to ream the bottom ~200' of the hole, CTCH 1.5hrs,
Sunday, December 09, 2018	3820'	Resume drlg, drill 30' then CFS 1.5hrs, trip out for DST #2 in the Conglomerate/Viola
	3842'	Successful test, resume drlg, CFS @ 3842', trip out for DST #3 in the Viola, Initial attempt to test misrun due to packer failure, trip out, trip back in and reset
Monday, December 10, 2018	3876'	packer seat uphole 16', packer held, successful test, resume drlg, CFS @ 3876', Show in Simpson warrants DST, trip out for DST #5, misrun due to packer failure, trip out and swap test tool, trip back in and reset packer, packer held,
Tuesday, December 11, 2018	3897'	Successful test, resume drlg, CFS @ 3887', resume drlg, CFS @ 3897',
	3980'	Resume drlg ahead to TD, TD of 3980' reached @ 1250hrs, CTCH 1hr, trip out to Conduct logging opeartions, logging operations complete @ 1900hrs
		Geologist Jeremy Schwartz off location @ 2030hrs

	SHELBY RESOURCES, LLC										OIL - P&A						SHELBY RESOURCES, LLC											
	LEE #1-25										DUNNE-GARDNER DRLG CD						HARMS #1						WFY 1-36					
	Borck Unit #1-25										NW-SE-SE-SW Sec. 25-T215-R16W						NE-NE-NW 36-215-16W						NE-SE-NW 36-215-16W					
	KB		1981		KB		1983		KB		1978		KB		1984		KB		1984									
FORMATION	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	954	1027	954	1027	962	1021	+	6	+	6	954	1024	+	3	+	3	966	1018	+	9	+	9						
BASE	980	1001	981	1000	988	995	+	6	+	5	980	998	+	3	+	2	994	990	+	11	+	10						
TOPEKA	3110	-1129	3109	-1128	3110	-1127	-	2	-	1	3112	-1134	+	5	+	6	3122	-1138	+	9	+	10						
HEEBNER SHALE	3371	-1390	3369	-1388	3371	-1388	-	2	+	0	3377	-1399	+	9	+	11	3387	-1403	+	13	+	15						
TORONTO	3388	-1407	3389	-1408	3388	-1405	-	2	-	3	3394	-1416	+	9	+	8	3405	-1421	+	14	+	13						
DOUGLAS SHALE	3406	-1425	3405	-1424	3407	-1424	-	1	+	0	3412	-1434	+	9	+	10	3423	-1439	+	14	+	15						
BROWN LIME	3474	-1493	3473	-1492	3475	-1492	-	1	+	0	3482	-1504	+	11	+	12	3491	-1507	+	14	+	15						
LKC	3488	-1507	3487	-1506	3486	-1503	-	4	-	3	3492	-1514	+	7	+	8	3498	-1514	+	7	+	8						
LKC G POROSITY	3568	-1587	3568	-1587	3568	-1585	-	2	-	2	3582	-1604	+	17	+	17	3585	-1601	+	14	+	14						
MUNCIE CREEK	3601	-1620	3599	-1618	3599	-1616	-	4	-	2	3609	-1631	+	11	+	13	3617	-1633	+	13	+	15						
LKC H	3608	-1627	3608	-1627	3607	-1624	-	3	-	3	3618	-1640	+	13	+	13	3626	-1642	+	15	+	15						
STARK SHALE	3668	-1687	3668	-1687	3671	-1688	+	1	+	1	3681	-1703	+	16	+	16	3688	-1704	+	17	+	17						
BKC	3699	-1718	3698	-1717	3702	-1719	+	1	+	2	3708	-1730	+	12	+	13	3721	-1737	+	19	+	20						
CONG. SAND/CHERT					3774	-1791					3788	-1810					3794	-1810										
VIOLA	3782	-1801			3784	-1801	+	0			3800	-1822	+	21			3809	-1825	+	24								
SIMP. SHALE	3837	-1856	3840	-1859	3842	-1859	+	3	+	0	3853	-1875	+	19	+	16	3858	-1874	+	18	+	15						
SIMP. SAND	3882	-1901	3882	-1901	3886	-1903	+	2	+	2	3912	-1934	+	33	+	33												
ARBuckle	3887	-1906	3887	-1906	3890	-1907	+	1	+	1	3920	-1942	+	36	+	36	3926	-1942	+	36	+	36						
RTD			3980	-1999	3991	-2008			+	9	3940	-1962			-	37	4040	-2056			+	57						
LTD	3980	-1999			3991	-2008	+	9			3966						4040	-2056	+	57								

### ROCK TYPES










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

### ACCESSORIES

<b>MINERAL</b>	<b>FOSSIL</b>	<b>STRINGER</b>	<b>TEXTURE</b>
Chert, tripolitic	Bioclastic or Fragmental	Chert	Chalky
Varicolored chert	Fossils < 20%	Limestone	
	Oolite	Sandstone	
	Oolites	Siltstone	
	Oomoldic	Shale	
		green shale	
		red shale	

# OTHER SYMBOLS

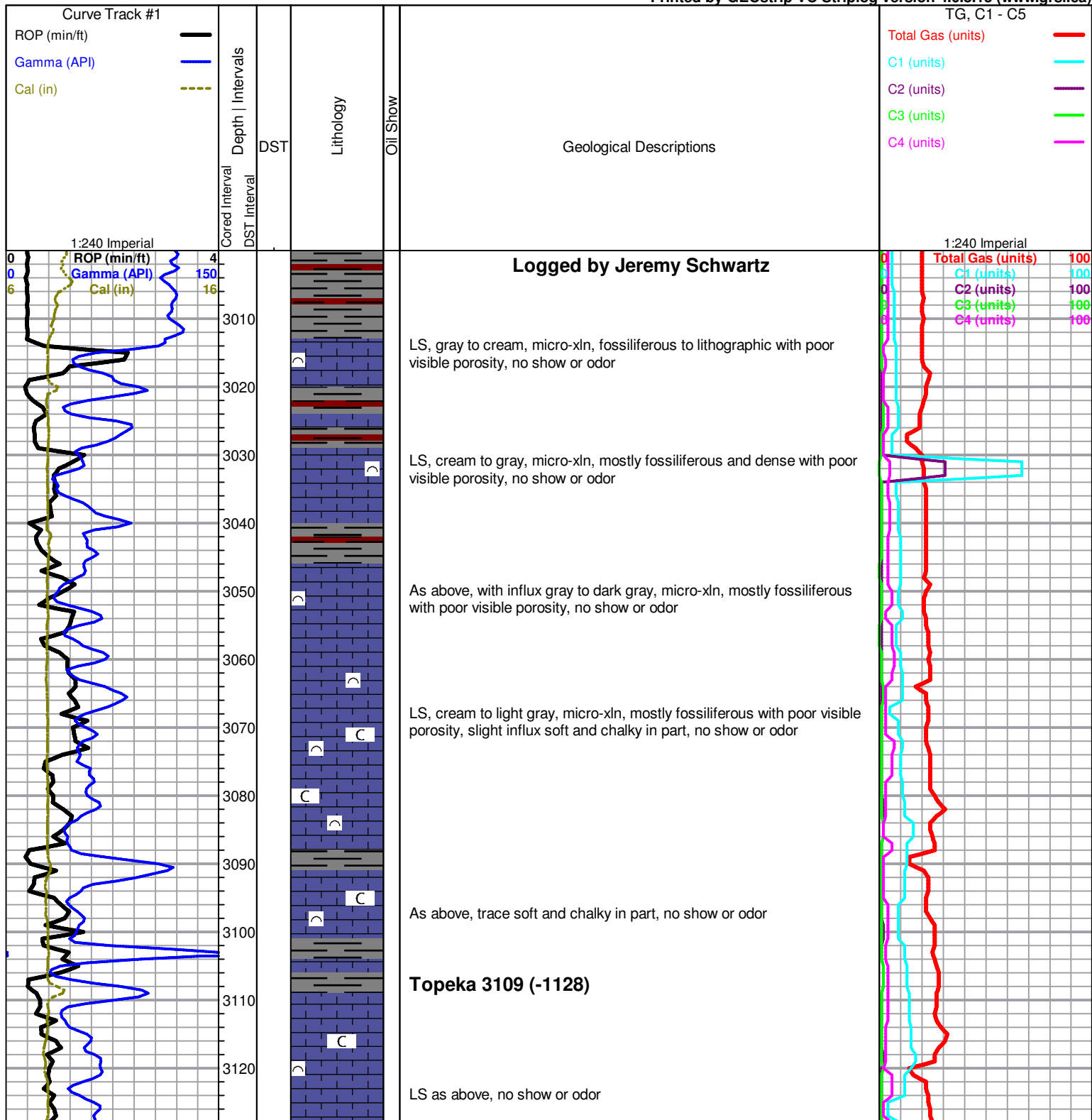
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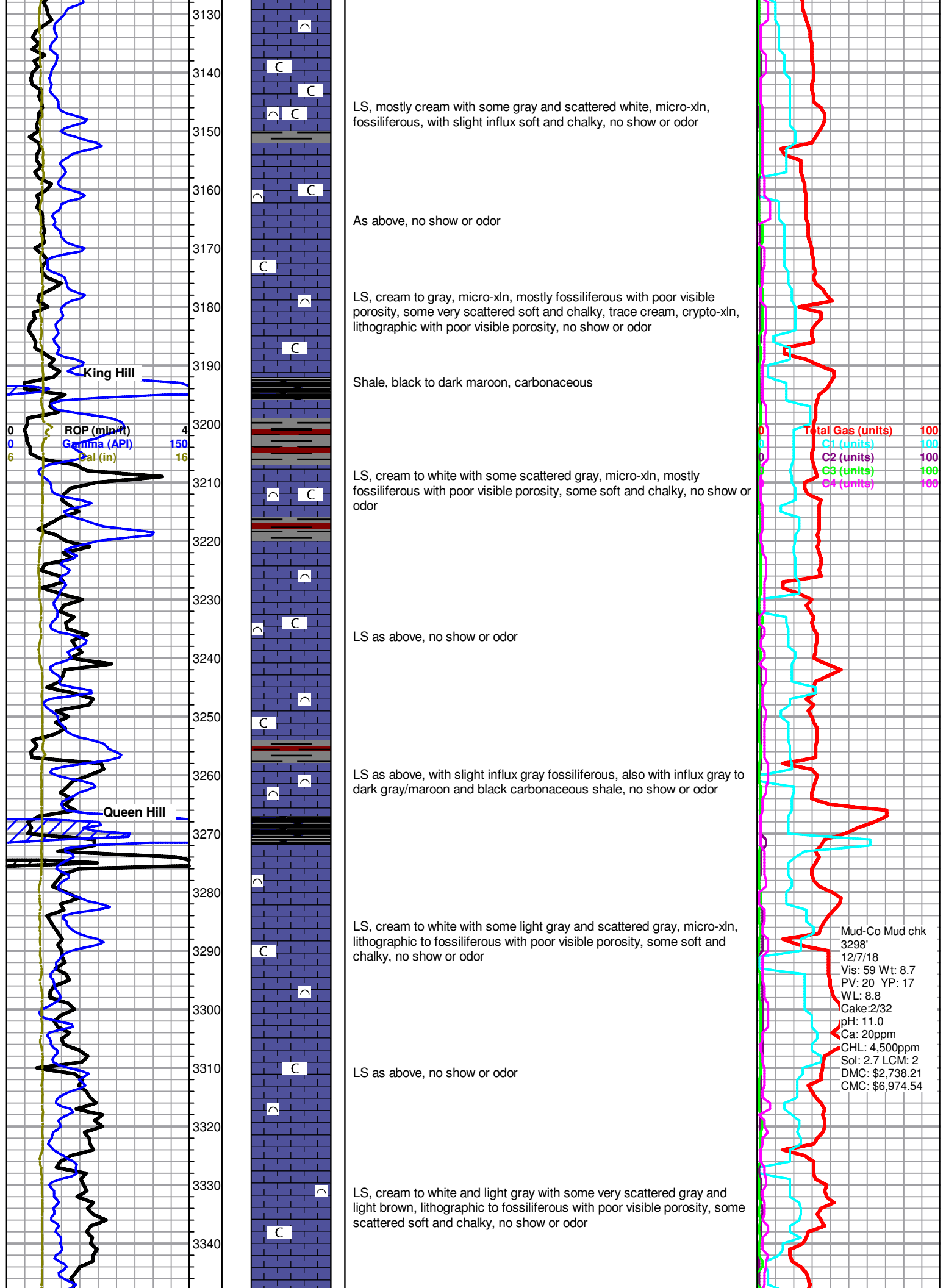
-  Daily Report
-  Digital Photo
-  Document
-  Folder
-  Link
-  Vertical Log File
-  Horizontal Log File
-  Core Log File
-  Drill Cuttings Rpt

## DST

-  DST Int
-  DST alt

Printed by GEOstrip VC Striplog version 4.0.8.15 (www.grsi.ca)





LS, mostly cream with some gray and scattered white, micro-xln, fossiliferous, with slight influx soft and chalky, no show or odor

As above, no show or odor

LS, cream to gray, micro-xln, mostly fossiliferous with poor visible porosity, some very scattered soft and chalky, trace cream, crypto-xln, lithographic with poor visible porosity, no show or odor

Shale, black to dark maroon, carbonaceous

LS, cream to white with some scattered gray, micro-xln, mostly fossiliferous with poor visible porosity, some soft and chalky, no show or odor

LS as above, no show or odor

LS as above, with slight influx gray fossiliferous, also with influx gray to dark gray/maroon and black carbonaceous shale, no show or odor

LS, cream to white with some light gray and scattered gray, micro-xln, lithographic to fossiliferous with poor visible porosity, some soft and chalky, no show or odor

LS as above, no show or odor

LS, cream to white and light gray with some very scattered gray and light brown, lithographic to fossiliferous with poor visible porosity, some scattered soft and chalky, no show or odor

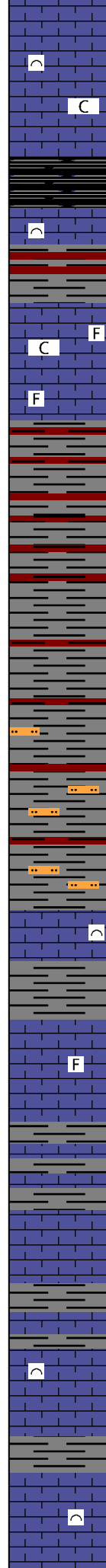
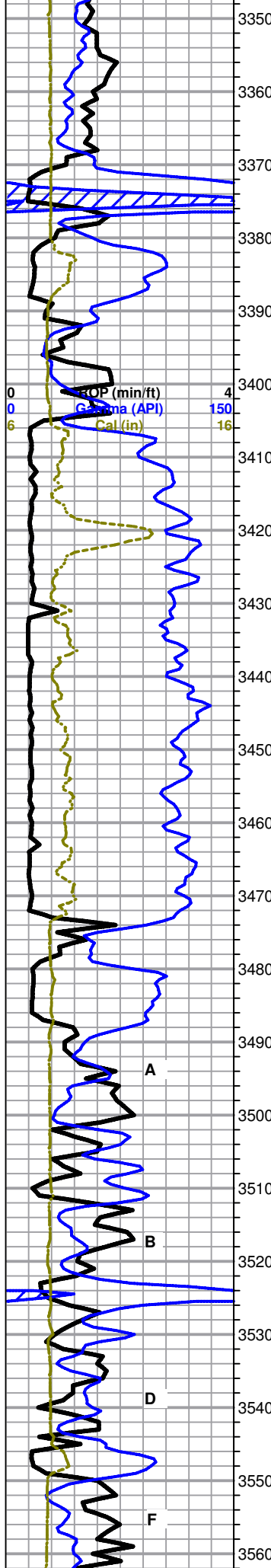
Total Gas (units) 100  
 C1 (units) 100  
 C2 (units) 100  
 C3 (units) 100  
 C4 (units) 100

Mud-Co Mud chk  
 3298'  
 12/7/18  
 Vis: 59 Wt: 8.7  
 PV: 20 YP: 17  
 WL: 8.8  
 Cake: 2/32  
 pH: 11.0  
 Ca: 20ppm  
 CHL: 4,500ppm  
 Sol: 2.7 LCM: 2  
 DMC: \$2,738.21  
 CMC: \$6,974.54

King Hill

Queen Hill

ROP (min/ft) 4  
 Gamma (API) 150  
 Cal (in) 16



As above, no show or odor

**Heebner 3369 (-1388)**

LS, cream to white and gray, micro-xln, with influx dark gray/maroon and black carbonaceous shale, no show or odor

**Toronto 3389 (-1408)**

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

**Douglas Shale 3405 (-1424)**

As above, with influx gray and red shale, some soft and waxy, some blocky and dense

Shale, gray with some scattered red, mostly soft and waxy

Shale, gray, mostly soft and waxy, some scattered silty/sandy, with some very scattered salt and pepper siltstone

**Brown Lime 3473 (-1492)**

LS, brown, micro-xln, lithographic to fossiliferous and dense with poor visible porosity, no show or odor

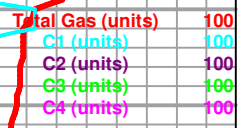
**Lansing 3487 (-1506)**

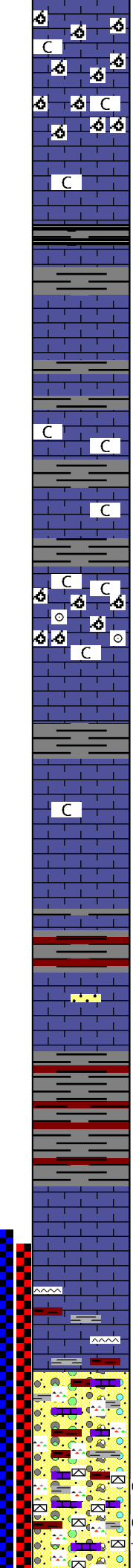
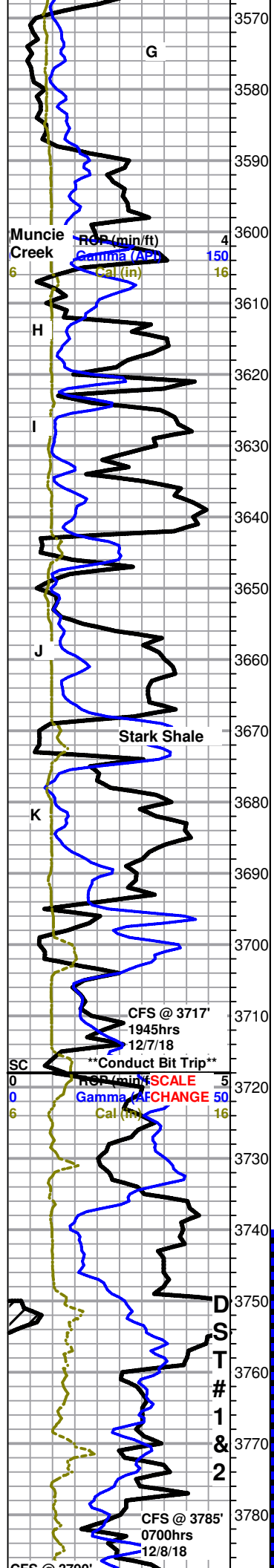
LS, cream to white with some gray, micro-xln, mostly lithographic with poor visible porosity, some scattered slightly fossiliferous, no show or odor

LS, mostly same as above, with few very scattered chips with some very scattered mostly poor visible pinpoint porosity on edges, some with very scattered poor stain and/or few scattered gas bubbles, upon break few chips with VSSFO, slow weak cut, some very scattered dull flour. in tray, fair odor

LS, cream to gray, micro-xln, lithographic to fossiliferous with poor visible porosity, no show or odor

LS, mostly cream with some gray, micro-xln, lithographic to fossiliferous with poor visible porosity, no show or odor





LS, mostly cream with some scattered gray and light brown, micro-xln, oomoldic with poor oomold porosity, barren, slightly chalky, no show, fluor., or odor

LS as above, oomoldic mostly dropping out, mostly lithographic and dense with poor visible porosity, slightly chalky, no show or odor

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

LS as above, with fair influx white soft and chalky, fairly chalky sample, no show or odor

LS, mostly cream, micro-xln, oomoldic to oolitic with poor visible oomold porosity, with some white chalky, fairly chalky sample, no show, fluor., or odor

LS, cream with some scattered white and gray, micro-xln, lithographic with poor visible porosity, some scattered soft and chalky, no show or odor

**BKC 3698 (-1717)**  
Shale, gray and red, soft and waxy

3717' 30" LS, cream to gray, micro-xln, lithographic with poor visible porosity, also with trace SS, gray to light gray, fine grained, angular to sub-angular and fairly well sorted, barren, no show or odor

3717' 60" LS as above, no show or odor

Gray and red shale, soft and waxy

- Borck Unit #1-25 DST #1.jpg
- Borck Unit #1-25 DST #2.jpg
- Borck Unit #1-25 DST #4.jpg
- Borck Unit #1-25 DST #6.jpg

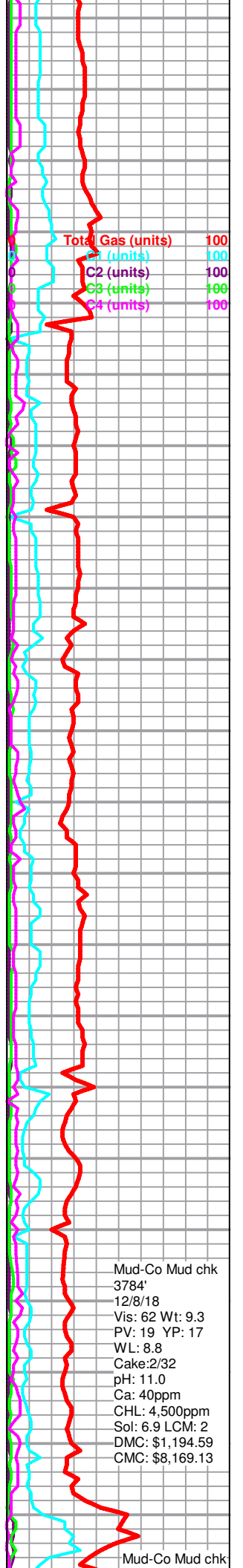
LS, cream to gray with some scattered brown, micro-xln, fossiliferous to lithographic and very dense with no visible porosity, slight influx tan to light gray chert, no show or odor

LS with very scattered chert as above, with influx gray and red shale, no show or odor

Mixed cream to gray LS, red and gray shale, and varicolored cream to tan, gray, burnt orange to orange and opaque chert, with trace pyrite, slightly chalky, heavy red wash, no show or odor

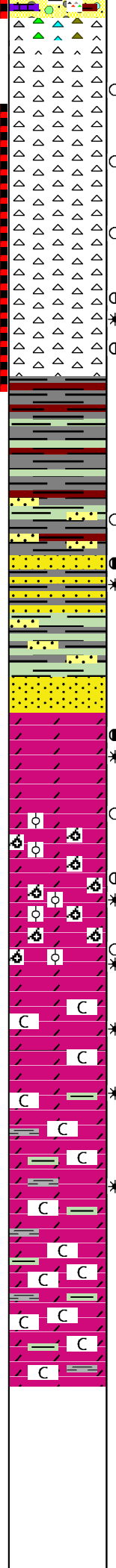
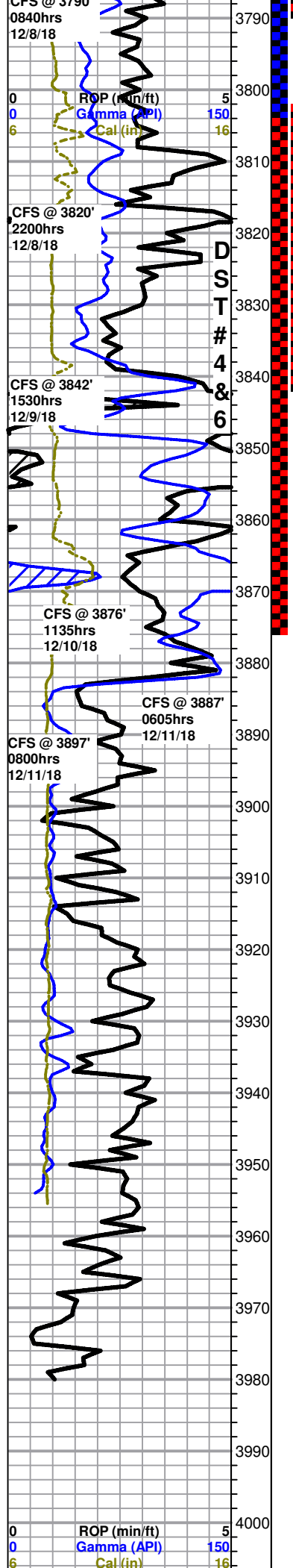
3785' 30" Conglomerate as above, with scattered chert with tripolitic areas and scattered black stain mostly confined to tripolitic areas, few very scattered chips tripolitic to very slightly vuggy with scattered to mostly saturated stain, upon break S-FSFO and slight show gas bubbles, mostly very slow weak cut, SSFO in tray, no fluor. or odor

3785' 60" Mostly same as above, with slight increase in tripolitic chert

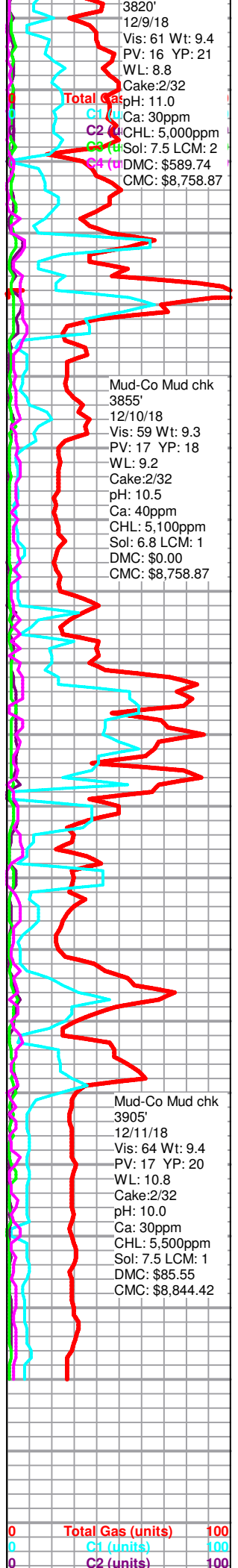


Mud-Co Mud chk  
3784'  
12/8/18  
Vis: 62 Wt: 9.3  
PV: 19 YP: 17  
WL: 8.8  
Cake: 2/32  
pH: 11.0  
Ca: 40ppm  
CHL: 4,500ppm  
Sol: 6.9 LCM: 2  
DMC: \$1,194.59  
CMC: \$8,169.13

Mud-Co Mud chk




3790' 30" & 60" conglomerate as above with noticeable decrease in tripolitic chert with stain as well as influx cream to tan with some scattered white, barren, fresh and sharp, SSFO in 30" tray, no odor  
 ~3800' Influx cream to tan and white chert, fresh and sharp, some barren, some with scattered poor stain and poor visible porosity, NSFO, no fluor., poor fleeting odor  
 ~3810' Chert as above, with some very scattered chips with very scattered tripolitic edges and lighter brown stain, NSFO, very slow weak cut in some chips, no fluor., poor fleeting odor  
 3820' 30" & 60" Chert, white to tan and cream, fresh and sharp, most barren, some scattered with scattered to very scattered stain, few very scattered chips with a large vug or two, mostly poor visible porosity, NSFO, no fluor., poor odor  
 ~3830' Chert, mostly cream to white with some tan and light gray, some barren, some with scattered to very scattered stain, mostly poor visible porosity, few chips with some very scattered tripolitic to very slightly vuggy areas and lighter brown stain with slow streaming cut, most with no to very slow weak cut, NSFO, no fluor., fair fleeting odor  
 3842' 20" Mostly same as above, few scattered chips have slight show gas bubbles in areas of porosity/stain, NSFO, no fluor., poor odor  
 3842' 40" Chert as above, with overall decrease in shows, few chips with areas of slight vuggy porosity and mostly saturated black to tarry black stain with slight to fair show gas bubbles in porosity, most too dense to break but when agitated few have VSSFO, NSFO in tray, poor fleeting odor  
 3842' 60" Chert with shows mostly dropped out, influx gray and red with trace green shale, NSFO, no odor  
 ~3850' gray and red with scattered waxy green shale, no show or odor  
 ~3860' shale as above, with some very scattered SS, clear to light gray/green, f-grained with some scattered medium grains, fairly well sorted, sub-rounded, with scattered shale inclusions, some slightly chalky, few have scattered black stain, upon break NSFO, few clusters medium grained, light brown, sub-rounded and well sorted, upon break NSFO, appears barren, NSFO in tray, poor fleeting odor  
 3876' 30" Shale with some scattered SS as above, with slight influx medium grained, light brown, sub-rounded and well sorted, fairly friable, upon break fair to good show free oil in some (light brown to opaque droplets), and increase in odor, occasional slight show gas bubbles, some scattered vf-f and medium sub-rounded SS grains in bottom of tray, trace pyrite, SSFO in tray, good odor  
 3876' 60" mostly same as above, with influx green and turquoise shales and noticeable decrease in SS and shows, fair odor  
 3887' 30" Mostly shale with some very scattered SS, clear, f-medium grained, fairly well sorted and rounded to sub-rounded, appears barren, NSFO, fair odor  
 3887' 60" Mostly same as above, with slight influx very scattered SS, clear to light brown, f-grained, sub-rounded and fairly well sorted, friable, some chalky, upon break VSSFO and good show gas bubbles, VSSFO in tray, fair odor  
**Arbuckle 3887 (-1906)**  
 3897' 30" Dolomite, cream to brown, micro-xln, some sub-sucrosic and dense with poor visible porosity, most appear barren, chips not too dense to break have SSFO and fair show gas bubbles upon break, with some brown, sucrosic and friable, some with scattered to very scattered stain, upon break some show some scattered inter-xln staining and F-GSFO, gassy, SSFO in tray, strong pungent odor  
 3897' 60" Mostly same as above, with slightly less sucrosic and slightly more sub-sucrosic and dense, most appear barren and are too dense to break, NSFO in tray, fair pungent odor  
 ~3910' Dolomite as above, with noticeable less sub-sucrosic to sucrosic and large influx oomoldic to oolitic, most very dense, some scattered fair oomoldic porosity, most chips have scattered black stain and slight show gas bubbles mostly confined to oomolds, upon break NSFO, strong pungent odor  
 ~3920' Oomoldic to oolitic mostly dropping out, with influx cream, mostly sub-sucrosic and dense with poor visible porosity with some scattered sucrosic, most appear barren, some with scattered black stain, upon break S-FSO in some chips and slight to fair show gas bubbles, FSFO in tray, strong odor  
 ~3930' Dolomite, cream with some scattered brown, micro-xln, mostly sub-sucrosic and dense with poor visible porosity, most too dense to break, trace sucrosic and fairly friable, most barren, fairly chalky, NSFO, strong odor  
 ~3940'-3960' As above, mostly sub-sucrosic and dense with poor visible porosity, barren, some scattered gas bubbles, with some very scattered white to tan and opaque chert as well as green and gray shale, fairly chalky, NSFO, decrease in odor to fair  
 ~3970' As above, slight influx fairly friable sucrosic, barren, chalky with scattered green and gray shale and very scattered chert, NSFO, poor odor



4010		~3980' Dolomite, cream to brown with some scattered white, micro-xln, sub-sucrosic and dense with poor visible porosity to sucrosic and fairly friable, barren, with scattered shale and very scattered chert, chalky, NSFO, poor odor	0	0	100
4020			0	0	100
4030			0	0	100

**Rotary TD 3980' @ 1250hrs 12/11/18**  
**Eli Wireline Services Logging TD @ 3980'**  
**Complete Logging Operations @ 1900hrs 12/11/18**  
**Geologist Jeremy Schwartz off location @ 2030hrs 10/2/18**

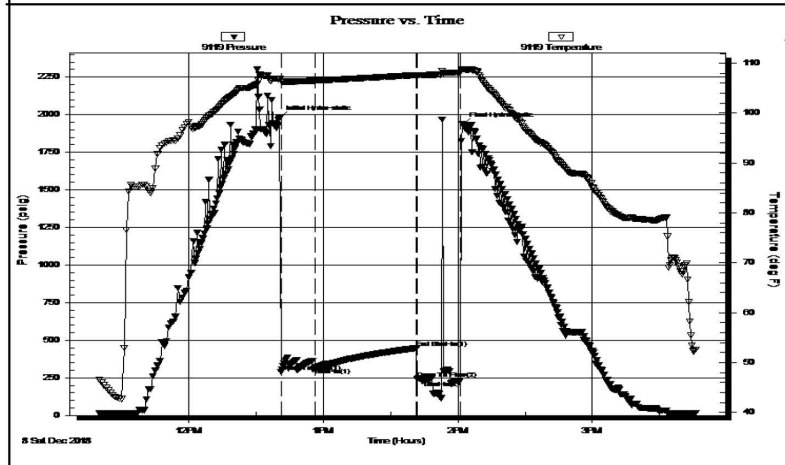
### Borck Unit #1-25 DST #1.jpg

	<b>DRILL STEM TEST REPORT</b>	
	Shelby Resources LLC	<b>25-21s-16w Pawnee</b>
	13949 W Colfax bldg 1 ste 120	<b>Borck Unit #1-25</b>
ATTN: Jeremy Schgw asrtz	Job Ticket: 01052	DST#: 1
	Test Start: 2018.12.08 @ 10:17:00	

<b>GENERAL INFORMATION:</b>			
Formation:	<b>Conglomerate</b>		
Deviated:	No Whipstock:	ft (KB)	Test Type: Conventional Bottom Hole (Initial)
Time Tool Opened:	12:42:00		Tester: Gene Budig
Time Test Ended:	03:48:00		Unit No: 1
Interval:	<b>3742.00 ft (KB) To 3790.00 ft (KB) (TVD)</b>		Reference Elevations: 1981.00 ft (KB)
Total Depth:	3790.00 ft (KB) (TVD)		1970.00 ft (CF)
Hole Diameter:	7.88 inches	Hole Condition:	KB to GR/CF: 11.00 ft

<b>Serial #: 9119</b>	<b>Inside</b>			
Press@RunDepth:	447.97 psig @	3785.00 ft (KB)	Capacity:	5000.00 psig
Start Date:	2018.12.08	End Date:	2018.12.08	
Start Time:	11:20:00	End Time:	15:46:00	Time On Btm: 2018.12.08 @ 12:40:30
				Time Off Btm: 2018.12.08 @ 14:02:00

**TEST COMMENT:** 1st opening 15 Minutes weak surface blow decreasing  
 1st Shut-In 45 minutes  
 2nd opening 23 Minutes no blow flushed tool surging blow died came out of the hole tool took all the string weight off and on for the last 200 feet except for the last 20 it was free set on bottom and never slid



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1977.09	106.92	Initial Hydro-static
1	288.13	106.44	Open To Flow (1)
16	316.30	106.53	Shut-In(1)
61	447.97	107.64	End Shut-In(1)
62	243.74	107.60	Open To Flow (2)
81	230.72	108.19	Shut-In(2)
82	1934.75	108.84	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
90.00	Drilling mud	0.44

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





# DRILL STEM TEST REPORT

Shelby Resources LLC  
 13949 W Colfax bldg 1 ste 120  
 ATTN: Jeremy Schgw asrtz

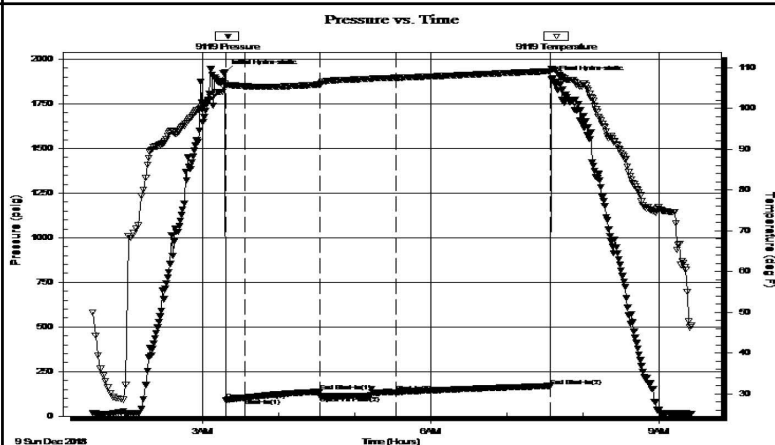
**25-21s-16w Pawnee**  
**Borck Unit #1-25**  
 Job Ticket: 01053 **DST#:2**  
 Test Start: 2018.12.09 @ 01:30:00

**GENERAL INFORMATION:**

Formation: **Conglomerate & Viola**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 03:19:00 Tester: Gene Budig  
 Time Test Ended: 09:26:00 Unit No: 1  
**Interval: 3749.00 ft (KB) To 3820.00 ft (KB) (TVD)**  
 Total Depth: 3820.00 ft (KB) (TVD) Reference Elevations: 1981.00 ft (KB)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 1970.00 ft (CF)  
 KB to GR/CF: 11.00 ft

**Serial #: 9119 Inside**  
 Press@RunDepth: 169.29 psig @ 3815.06 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2018.12.09 End Date: 2018.12.09 Last Calib.: 2018.12.09  
 Start Time: 01:33:00 End Time: 09:25:00 Time On Btm: 2018.12.09 @ 03:16:59  
 Time Off Btm: 2018.12.09 @ 07:35:30

**TEST COMMENT:** 1st Opening 15 Minutes w eak blow build to 5 inches into the w ater  
 1st Shut-In 60 Minutes no blow back  
 2nd nopening 60 Minutes w eak blow died in 37 mminutes flushed tool w eak surface blow  
 2nd Shut 120 minutes no blow back



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1926.43	106.00	Initial Hydro-static
2	90.18	105.69	Open To Flow (1)
17	101.75	105.42	Shut-In(1)
76	137.43	105.83	End Shut-In(1)
76	114.57	105.83	Open To Flow (2)
136	134.92	107.50	Shut-In(2)
258	169.29	109.12	End Shut-In(2)
259	1895.80	109.69	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
120.00	Drilling Mud no show s	0.59

**Gas Rates**

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



# DRILL STEM TEST REPORT

Shelby Resources LLC  
 13949 W Colfax bldg 1 ste 120  
 ATTN: Jeremy Schw artz

25-21s-16w Pawnee

**Borck Unit #1-25**

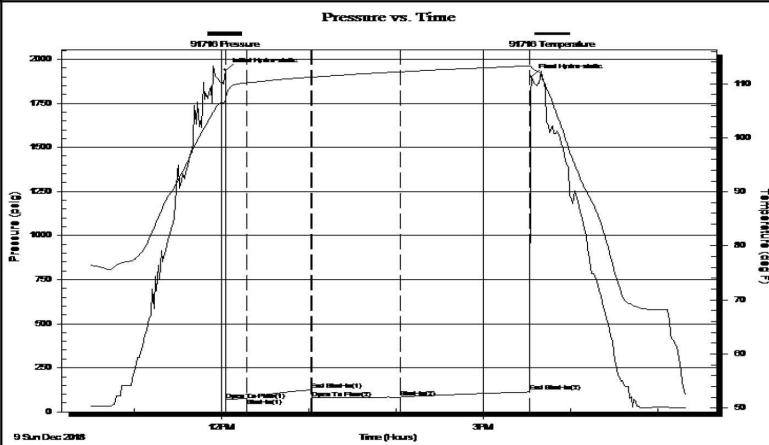
Job Ticket: 01055      **DST#: 4**  
 Test Start: 2018.12.10 @ 22:30:00

**GENERAL INFORMATION:**

Formation: **Viola**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Real-Time)  
 Time Tool Opened: 12:03:00 Tester: Gene Budig  
 Time Test Ended: 05:20:00 Unit No: 1  
 Interval: **3802.00 ft (KB) To 3842.00 ft (KB) (TVD)** Reference Elevations: 1981.00 ft (KB)  
 Total Depth: 3842.00 ft (KB) (TVD) 1970.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 11.00 ft

**Serial #: 91716 Outside**  
 Press@RunDepth: 113.27 psig @ 3837.00 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2018.12.09 End Date: 2018.12.09 Last Calib.: 2018.12.10  
 Start Time: 06:24:30 End Time: 17:19:29 Time On Btm: 2018.12.09 @ 12:02:29  
 Time Off Btm: 2018.12.09 @ 15:33:00

**TEST COMMENT:** 1st Opening 15 minutes weak blow built to 6 inches into the water  
 1st Shut-In 45 Minutes  
 2nd Opening 60 Minutes 5 1/2 inch steady blow through out  
 2nd Shut-In 90 Mdinutes



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1937.53	107.01	Initial Hydro-static
1	67.44	107.59	Open To Flow (1)
15	75.60	110.14	Shut-In(1)
60	124.95	111.23	End Shut-In(1)
60	76.66	111.24	Open To Flow (2)
120	83.25	112.22	Shut-In(2)
210	113.27	113.29	End Shut-In(2)
211	1902.11	113.17	Final Hydro-static

Length (ft)	Description	Volume (bbl)
20.00	drilling mud	0.10
120.00	faint odor of gas	0.59

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



# DRILL STEM TEST REPORT

Shelby Resources LLC  
 13949 W Colfax bldg 1 ste 120  
 ATTN: Jeremy Schwartz

**25-21s-16w Pawnee**  
**Borck Unit #1-25**  
 Job Ticket: 01057      **DST#: 6**  
 Test Start: 2018.12.11 @ 18:00:00

## GENERAL INFORMATION:

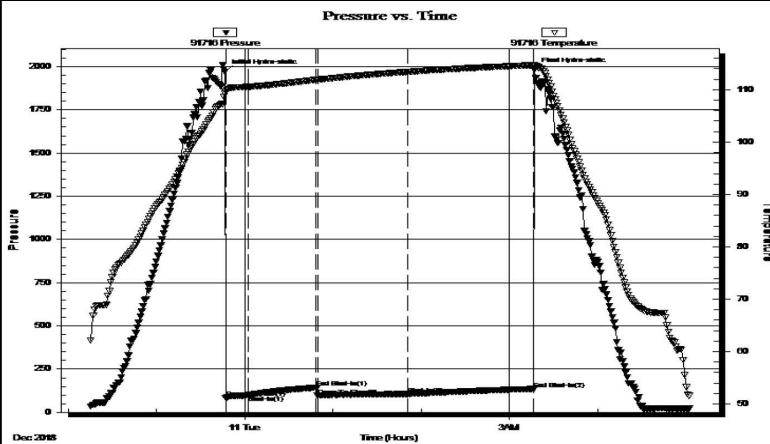
Formation: **Simpson**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 20:42:00 Tester: Gene Budig  
 Time Test Ended: 01:57:00 Unit No: 1  
**Interval: 3796.00 ft (KB) To 3876.00 ft (KB) (TVD)** Reference Elevations: 1981.00 ft (KB)  
 Total Depth: 3876.00 ft (KB) (TVD) 1970.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 11.00 ft

## Serial #: 91716

## Outside

Press@RunDepth: 135.24 psig @ 3871.29 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2018.12.10 End Date: 2018.12.11 Last Calib.: 2018.12.11  
 Start Time: 22:15:30 End Time: 05:02:00 Time On Btm: 2018.12.10 @ 23:46:30  
 Time Off Btm: 2018.12.11 @ 03:17:00

**TEST COMMENT:** 1st Opening 15 Minutes w eak blow built to 4 inches into the w ater  
 1st Shut In 45 Minutes no blow back  
 2nd Opening 60 Minutes w eak blow built to 7 inches into the w ater  
 2nd Shut-In 90 Minutes no blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1971.09	109.26	Initial Hydro-static
1	84.75	109.62	Open To Flow (1)
16	98.12	110.57	Shut-In(1)
62	142.86	111.89	End Shut-In(1)
63	95.39	111.92	Open To Flow (2)
125	105.76	113.42	Shut-In(2)
210	135.24	114.70	End Shut-In(2)
211	1980.90	114.76	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	drilling Mud	0.10

## Gas Rates

Choke (inches)	Pressure (psig)	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. 1153

Date	12-5-18	Sec.	25	Twp.	21	Range	16	County	Rawnee	State	KS	On Location		Finish	3:30 PM
------	---------	------	----	------	----	-------	----	--------	--------	-------	----	-------------	--	--------	---------

Lease Borek unit Well No. 1-25 Location Larned - 1.2 NE to Old, E to 80th Ave

Contractor Sterling # 4 Owner IS, Elinto  
 Type Job Surface 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.

Hole Size 12 1/4" T.D. 978' Charge To Shelby Resources

Csg. 8 5/8" Depth 975' Street \_\_\_\_\_

Tbg. Size \_\_\_\_\_ Depth \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_

Tool \_\_\_\_\_ Depth \_\_\_\_\_ The above was done to satisfaction and supervision of owner agent or contractor.

Cement Left in Csg. 22.38' Shoe Joint 22.38' Cement Amount Ordered 450 60/40 4 1/2 cc 2% @

Meas Line \_\_\_\_\_ Displace Bcs 1/2 # Flow seal

**EQUIPMENT**

Pumptrk 20 No. \_\_\_\_\_ Cementer \_\_\_\_\_ Helper Glenn Common 270

Bulktrk 19 No. \_\_\_\_\_ Driver \_\_\_\_\_ Driver Jack Poz. Mix 180

Bulktrk D.V. No. \_\_\_\_\_ Driver Rick Gel. 9

Calcium 20

**JOB SERVICES & REMARKS**

Remarks: \_\_\_\_\_ Hulls \_\_\_\_\_

Rat Hole Cement did Circulate Salt \_\_\_\_\_

Mouse Hole \_\_\_\_\_ Flowseal 275#

Centralizers SHUT IN @ 300# Kol-Seal \_\_\_\_\_

Baskets \_\_\_\_\_ Mud CLR 48 \_\_\_\_\_

D/V or Port Collar \_\_\_\_\_ CFL-117 or CD110 CAF 38 \_\_\_\_\_

\_\_\_\_\_ Sand \_\_\_\_\_

\_\_\_\_\_ Handling 179 \_\_\_\_\_

\_\_\_\_\_ Mileage \_\_\_\_\_

**FLOAT EQUIPMENT**

Guide Shoe 1 Slip on

Centralizer Rubber plug

Baskets Baffle plate

AFU Inserts \_\_\_\_\_

Float Shoe \_\_\_\_\_

Latch Down \_\_\_\_\_

Pumptrk Charge \_\_\_\_\_

Mileage 26 Long Surface

Tax \_\_\_\_\_

Discount \_\_\_\_\_

Total Charge \_\_\_\_\_

X Signature [Signature]