



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1218675  
OIL & GAS CONSERVATION DIVISION

Form ACO-1  
August 2013

Form must be Typed  
Form must be Signed  
All blanks must be Filled

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

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

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

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

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

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

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

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

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

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

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

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

Designate Type of Completion:

- New Well       Re-Entry       Workover
- Oil       WSW       SWD       SIOW
- Gas       D&A       ENHR       SIGW
- OG       GSW       Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic       Other (Core, Expl., etc.): \_\_\_\_\_

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

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

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

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

- Deepening       Re-perf.       Conv. to ENHR       Conv. to SWD
- Plug Back       Conv. to GSW       Conv. to Producer
- Commingled      Permit #: \_\_\_\_\_
- Dual Completion      Permit #: \_\_\_\_\_
- SWD      Permit #: \_\_\_\_\_
- ENHR      Permit #: \_\_\_\_\_
- GSW      Permit #: \_\_\_\_\_

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

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

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

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

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

Footages Calculated from Nearest Outside Section Corner:

- NE       NW       SE       SW

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

Datum:  NAD27       NAD83       WGS84

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

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

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

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

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

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

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

Multiple Stage Cementing Collar Used?  Yes  No

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

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

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

Drilling Fluid Management Plan

*(Data must be collected from the Reserve Pit)*

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

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

Location of fluid disposal if hauled offsite: \_\_\_\_\_

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

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

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

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

AFFIDAVIT

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

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested  
Date: \_\_\_\_\_
- Confidential Release Date: \_\_\_\_\_
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

1218675

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

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

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

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

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

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

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

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

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

TUBING RECORD:	Size:	Set At:	Packer At:	Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____
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Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

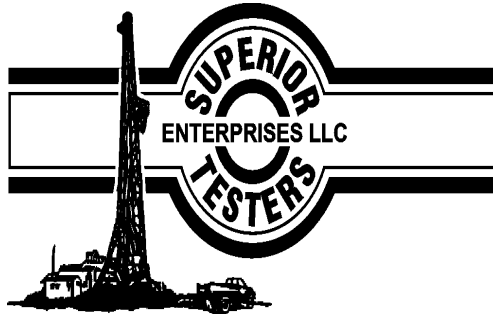
<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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Form	ACO1 - Well Completion
Operator	Shelby Resources LLC
Well Name	Hickey 1-2
Doc ID	1218675

All Electric Logs Run

Dual Induction
Compensated Neutron
Micro
Sonic
Cement Bond





## DRILL STEM TEST REPORT

Prepared For: **Shelby Resources L.L.C**

2117 anal Blvd Hays KS 676601

ATTN: Jeremy Schwartz

### **Hickey 1-2**

#### **2-18-14w Barton**

Start Date: 2014.07.01 @ 08:00:00

End Date: 2014.07.01 @ 14:39:00

Job Ticket #: 18592                      DST #: 1

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

Printed: 2014.07.01 @ 15:58:08







# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Shelby Resources L.L.C  
 2117 anal Blvd Hays KS 676601  
 ATTN: Jeremy Schwartz

**2-18-14w Barton**  
**Hickey 1-2**  
 Job Ticket: 18592      **DST#: 1**  
 Test Start: 2014.07.01 @ 08:00:00

**Tool Information**

Drill Pipe:	Length: 2900.00 ft	Diameter: 3.80 inches	Volume: 40.68 bbl	Tool Weight: 1000.00 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: 80000.00 lb
			<u>Total Volume: 41.71 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 73000.00 lb
Depth to Top Packer:	3126.00 ft			Final 73000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	74.00 ft			
Tool Length:	102.00 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			3103.00	
Hydraulic tool	5.00			3108.00	
Jars	6.00			3114.00	
Safety Joint	2.00			3116.00	
Packer	5.00			3121.00	28.00      Bottom Of Top Packer
Packer	5.00			3126.00	
Anchor	4.00			3130.00	
Change Over Sub	0.75			3130.75	
Drill Pipe	31.50			3162.25	
Change Over Sub	0.75			3163.00	
Anchor	32.00			3195.00	
Recorder	1.00	8159	Inside	3196.00	
Recorder	1.00	8524	Outside	3197.00	
Bulk Plug	3.00			3200.00	74.00      Bottom Packers & Anchor

**Total Tool Length: 102.00**





# DRILL STEM TEST REPORT

## FLUID SUMMARY

Shelby Resources L.L.C  
 2117 anal Blvd Hays KS 676601  
 ATTN: Jeremy Schwartz

**2-18-14w Barton**  
**Hickey 1-2**  
 Job Ticket: 18592      **DST#: 1**  
 Test Start: 2014.07.01 @ 08:00:00

### 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: 50.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.20 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 500.00 ppm			
Filter Cake: 1.00 inches			

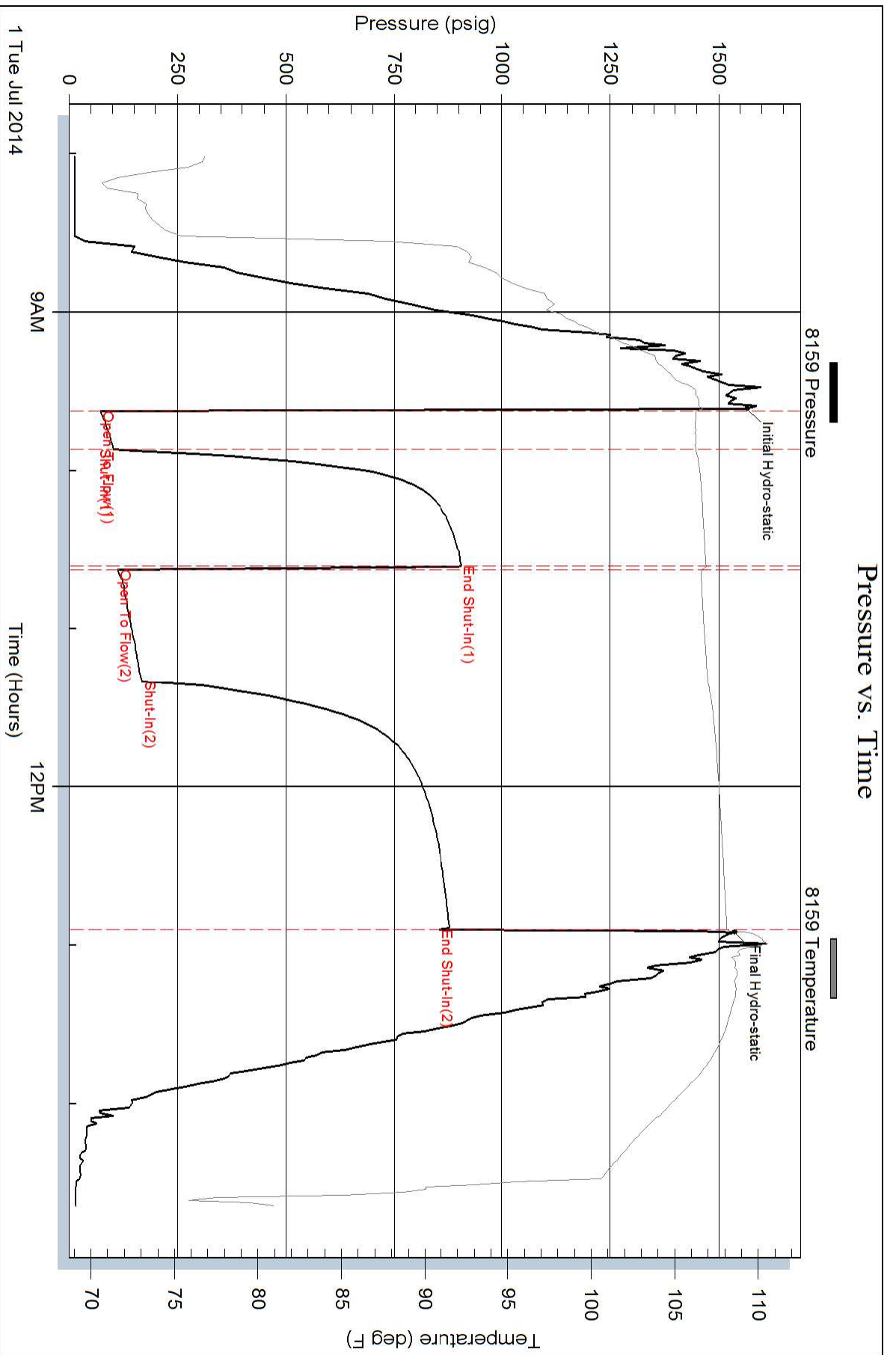
### Recovery Information

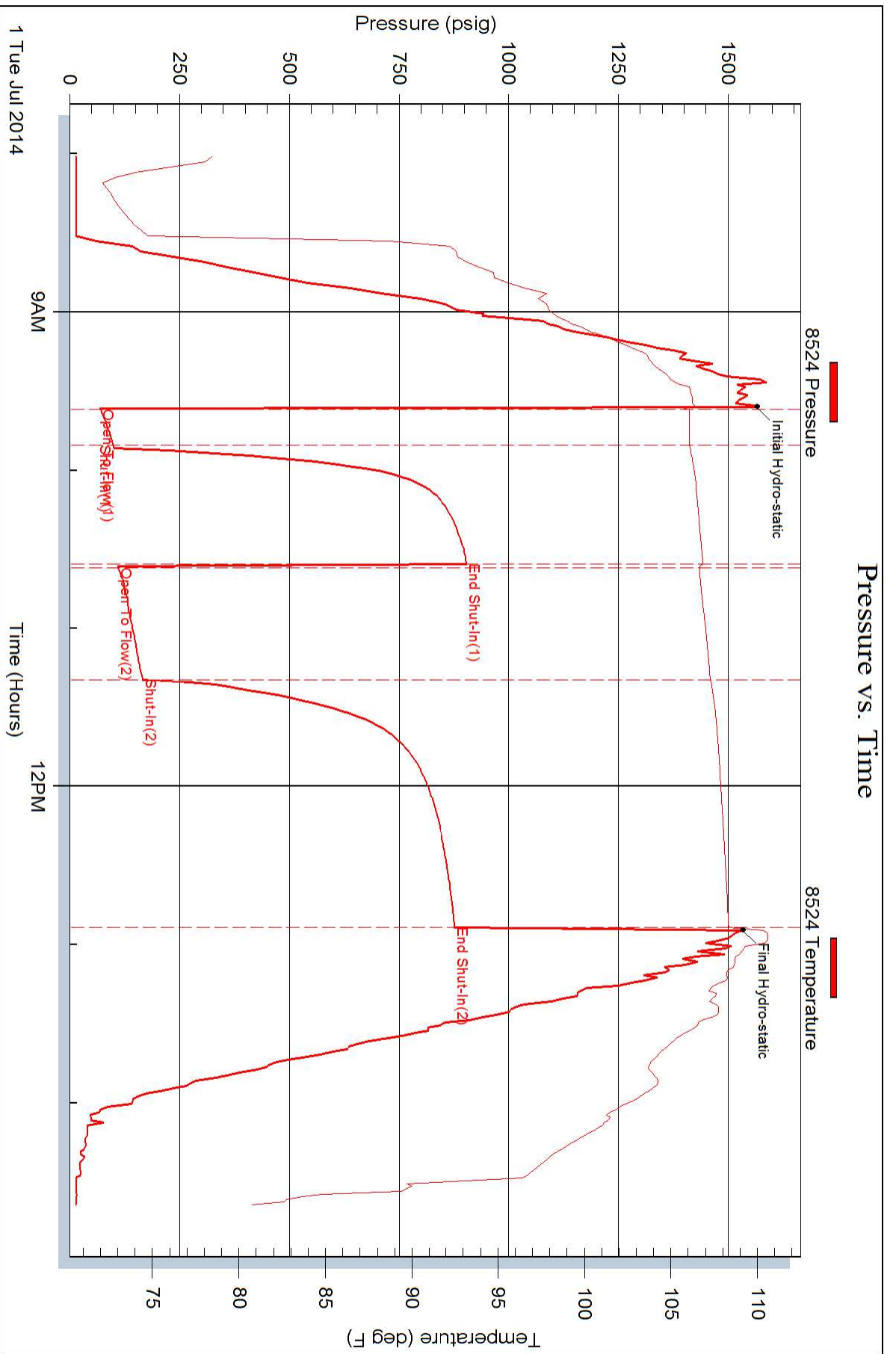
Recovery Table

Length ft	Description	Volume bbl
200.00	water	0.984
0.00	chlorides 30,000	0.000

Total Length: 200.00 ft      Total Volume: 0.984 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 L.L.C**

2117 anal Blvd Hays KS 676601

ATTN: Jeremy Schwartz

### **Hickey 1-2**

#### **2-18-14w Barton**

Start Date: 2014.07.02 @ 05:00:00

End Date: 2014.07.02 @ 11:47:30

Job Ticket #: 18593                      DST #: 2

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

Printed: 2014.07.02 @ 13:01:29







# DRILL STEM TEST REPORT

TOOL DIAGRAM

Shelby Resources L.L.C  
 2117 anal Blvd Hays KS 676601  
 ATTN: Jeremy Schwartz

**2-18-14w Barton**  
**Hickey 1-2**  
 Job Ticket: 18593      **DST#: 2**  
 Test Start: 2014.07.02 @ 05:00:00

## Tool Information

Drill Pipe:	Length: 3030.00 ft	Diameter: 3.80 inches	Volume: 42.50 bbl	Tool Weight: 1000.00 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: 100000.0 lb
			Total Volume: 43.53 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 73000.00 lb
Depth to Top Packer:	3237.00 ft			Final 73000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	98.00 ft			
Tool Length:	126.00 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			3214.00	
Hydraulic tool	5.00			3219.00	
Jars	6.00			3225.00	
Safety Joint	2.00			3227.00	
Packer	5.00			3232.00	28.00      Bottom Of Top Packer
Packer	5.00			3237.00	
Anchor	4.00			3241.00	
Change Over Sub	0.75			3241.75	
Drill Pipe	63.50			3305.25	
Change Over Sub	0.75			3306.00	
Anchor	24.00			3330.00	
Recorder	1.00	8159	Inside	3331.00	
Recorder	1.00	8524	Outside	3332.00	
Bulk Plug	3.00			3335.00	98.00      Bottom Packers & Anchor

**Total Tool Length: 126.00**



# DRILL STEM TEST REPORT

## FLUID SUMMARY

Shelby Resources L.L.C  
2117 anal Blvd Hays KS 676601  
ATTN: Jeremy Schwartz

**2-18-14w Barton**  
**Hickey 1-2**  
Job Ticket: 18593      **DST#: 2**  
Test Start: 2014.07.02 @ 05:00:00

### 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: 44.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.00 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4800.00 ppm			
Filter Cake: 1.00 inches			

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	gas oil cut mud 10%gas 10%oil 80%mud	0.148
0.00	30 gas in pipe	0.000

Total Length: 30.00 ft      Total Volume: 0.148 bbl

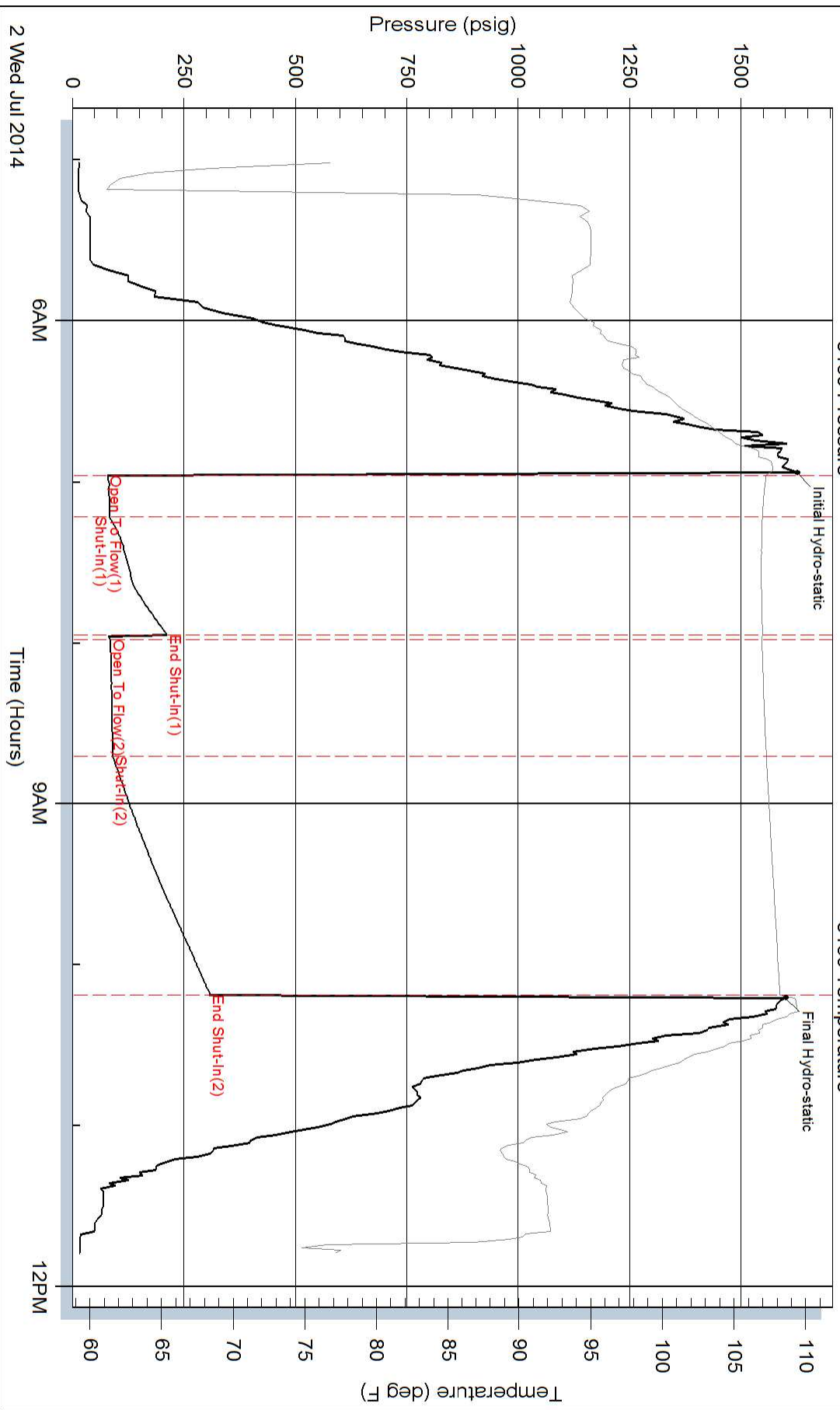
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

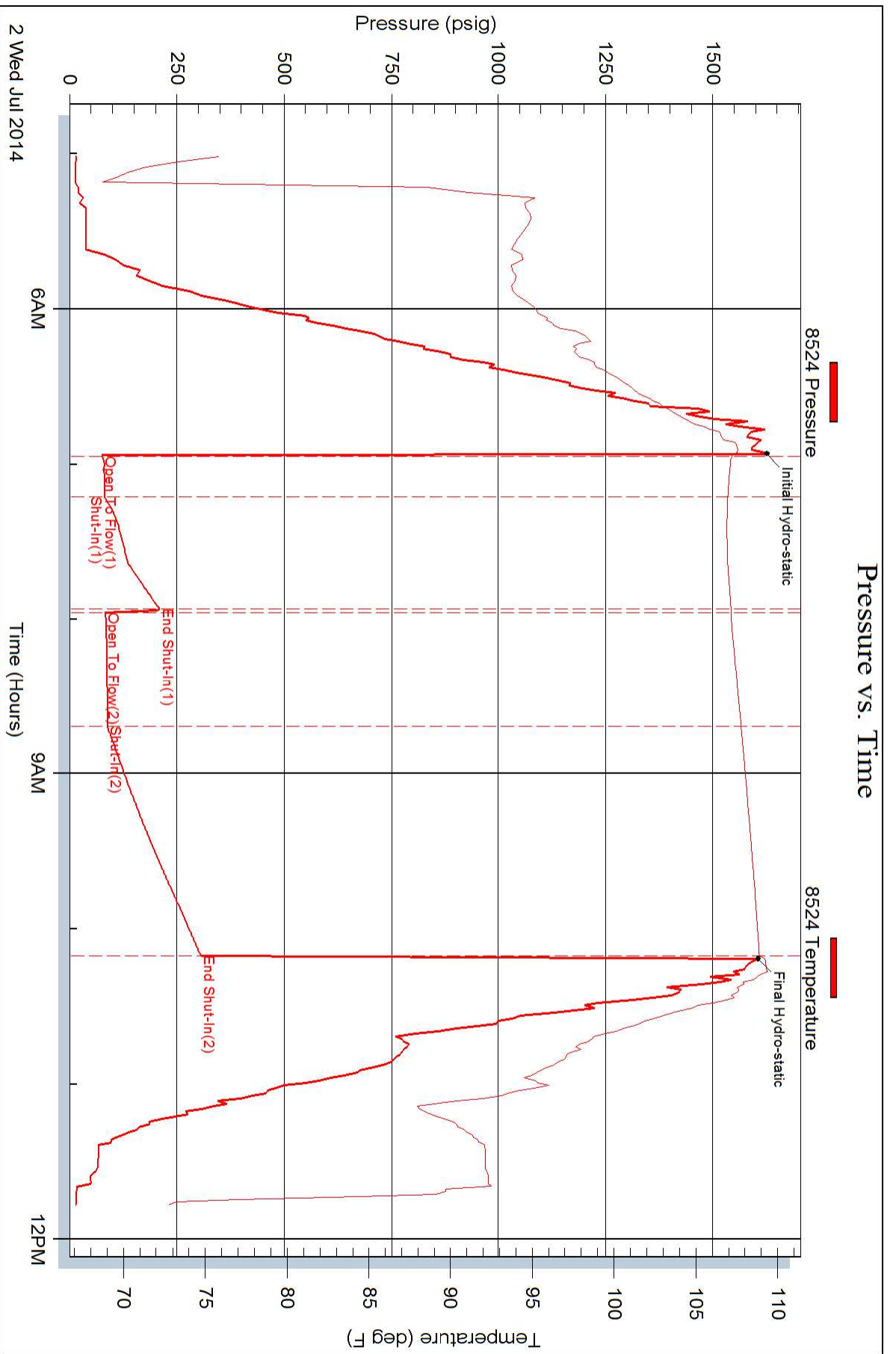
Laboratory Name:      Laboratory Location:

Recovery Comments:



### Pressure vs. Time







## DRILL STEM TEST REPORT

Prepared For: **Shelby Resources L.L.C**

2117 anal Blvd Hays KS 676601

ATTN: Jeremy Schwartz

### **Hickey 1-2**

#### **2-18-14w Barton**

Start Date: 2014.07.02 @ 19:43:00

End Date: 2014.07.03 @ 00:53:00

Job Ticket #: 18594                      DST #: 3

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

Printed: 2014.07.03 @ 02:05:22







# DRILL STEM TEST REPORT

TOOL DIAGRAM

Shelby Resources L.L.C  
 2117 anal Blvd Hays KS 676601  
 ATTN: Jeremy Schwartz

**2-18-14w Barton**  
**Hickey 1-2**  
 Job Ticket: 18594      **DST#: 3**  
 Test Start: 2014.07.02 @ 19:43:00

## Tool Information

Drill Pipe:	Length: 3096.00 ft	Diameter: 3.80 inches	Volume: 43.43 bbl	Tool Weight: 1000.00 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: 110000.0 lb
			<u>Total Volume: 44.46 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	2.00 ft			String Weight: Initial 73000.00 lb
Depth to Top Packer:	3332.00 ft			Final 73000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	18.00 ft			
Tool Length:	46.00 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			3309.00	
Hydraulic tool	5.00			3314.00	
Jars	6.00			3320.00	
Safety Joint	2.00			3322.00	
Top Packer	5.00			3327.00	
Packer	5.00			3332.00	28.00      Bottom Of Top Packer
Anchor	13.00			3345.00	
Recorder	1.00	8159	Inside	3346.00	
Recorder	1.00	8524	Outside	3347.00	
Bull Plug	3.00			3350.00	18.00      Anchor Tool
<b>Total Tool Length:</b>	<b>46.00</b>				



# DRILL STEM TEST REPORT

## FLUID SUMMARY

Shelby Resources L.L.C  
2117 anal Blvd Hays KS 676601  
ATTN: Jeremy Schwartz

**2-18-14w Barton**  
**Hickey 1-2**  
Job Ticket: 18594      **DST#: 3**  
Test Start: 2014.07.02 @ 19:43:00

### Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 44.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.00 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4800.00 ppm			
Filter Cake: 1.00 inches			

### Recovery Information

Recovery Table

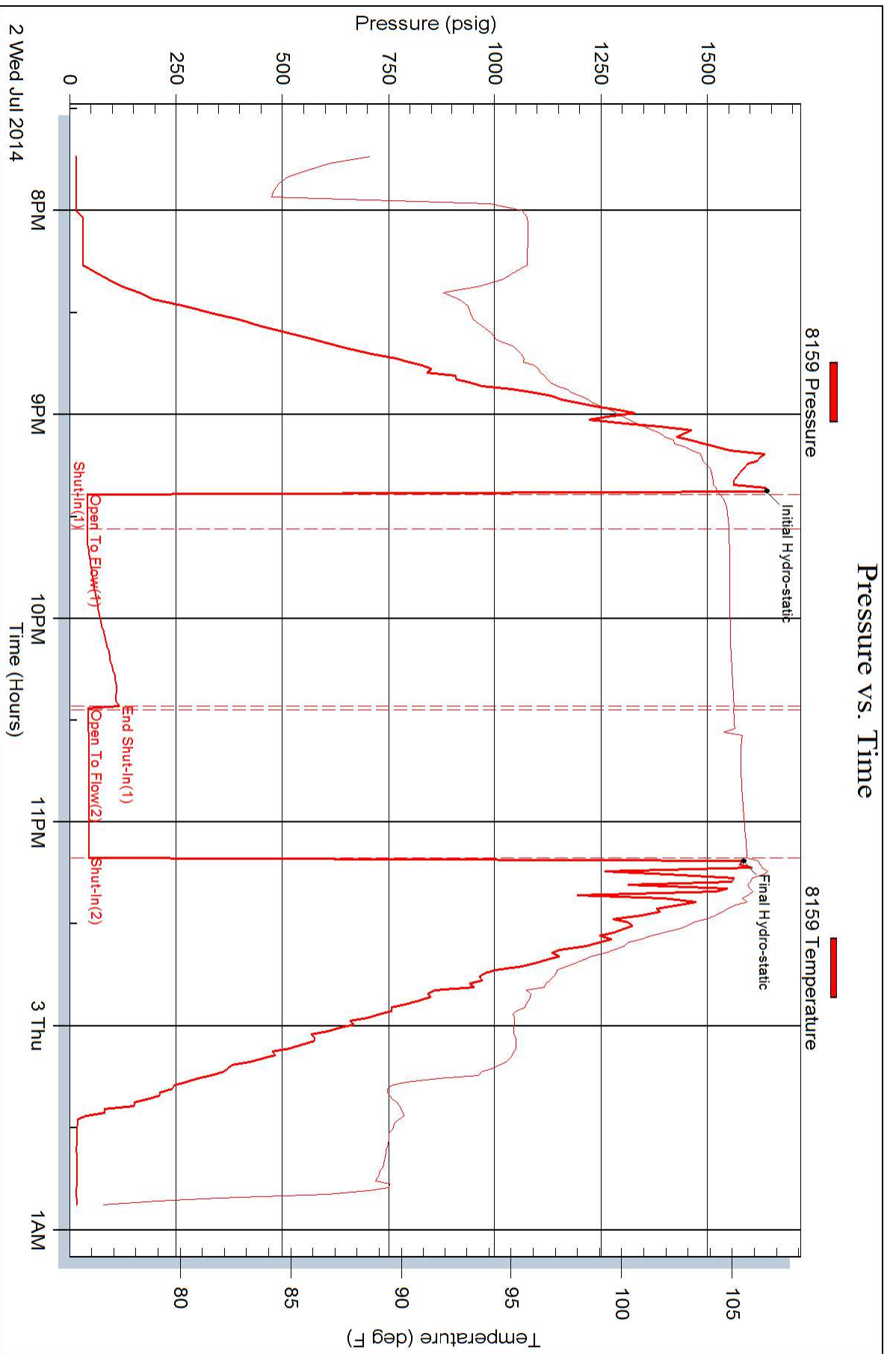
Length ft	Description	Volume bbl
5.00	spot oil cut mud 1%oil99%mud	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbl

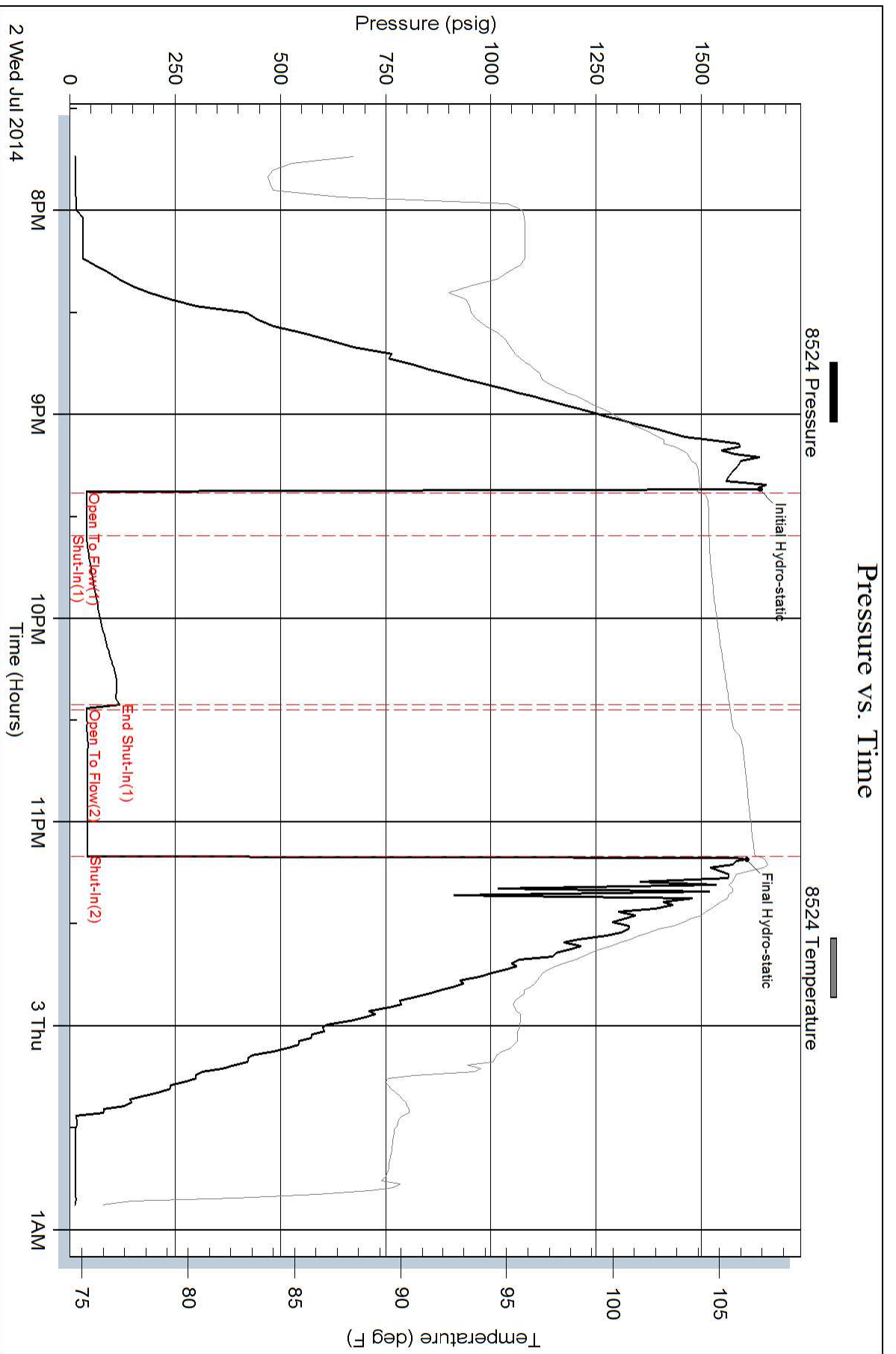
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

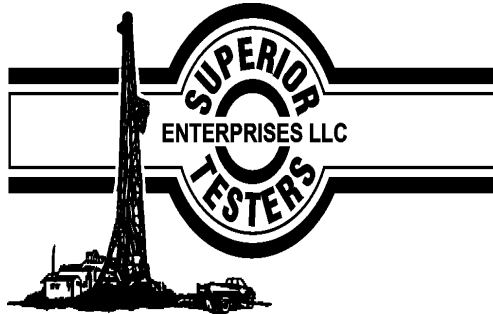
Laboratory Name:      Laboratory Location:

Recovery Comments: ruined packer









## DRILL STEM TEST REPORT

Prepared For: **Shelby Resources L.L.C**

2117 anal Blvd Hays KS 676601

ATTN: Jeremy Schwartz

### **Hickey 1-2**

#### **2-18-14w Barton**

Start Date: 2014.07.03 @ 10:20:00

End Date: 2014.07.03 @ 18:41:00

Job Ticket #: 18595                      DST #: 4

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

Printed: 2014.07.03 @ 20:04:18







# DRILL STEM TEST REPORT

TOOL DIAGRAM

Shelby Resources L.L.C  
 2117 anal Blvd Hays KS 676601  
 ATTN: Jeremy Schwartz

**2-18-14w Barton**  
**Hickey 1-2**  
 Job Ticket: 18595      **DST#: 4**  
 Test Start: 2014.07.03 @ 10:20:00

## Tool Information

Drill Pipe:	Length: 3123.00 ft	Diameter: 3.80 inches	Volume: 43.81 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: 217.00 ft	Diameter: 2.25 inches	Volume: 1.07 bbl	Weight to Pull Loose: 88000.00 lb
			<u>Total Volume: 44.88 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	3352.00 ft			Final 79000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	11.00 ft			
Tool Length:	34.00 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			3334.00	
Hydraulic tool	5.00			3339.00	
Jars	6.00			3345.00	
Safety Joint	2.00			3347.00	
Packer	5.00			3352.00	23.00      Bottom Of Top Packer
Anchor	6.00			3358.00	
Recorder	1.00	8524	Inside	3359.00	
Recorder	1.00	8159	Outside	3360.00	
Bull Plug	3.00			3363.00	11.00      Anchor Tool
<b>Total Tool Length:</b>	<b>34.00</b>				



# DRILL STEM TEST REPORT

## FLUID SUMMARY

Shelby Resources L.L.C  
 2117 anal Blvd Hays KS 676601  
 ATTN: Jeremy Schwartz

**2-18-14w Barton**  
**Hickey 1-2**  
 Job Ticket: 18595      **DST#: 4**  
 Test Start: 2014.07.03 @ 10:20:00

### Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 44.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.00 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4800.00 ppm			
Filter Cake: 1.00 inches			

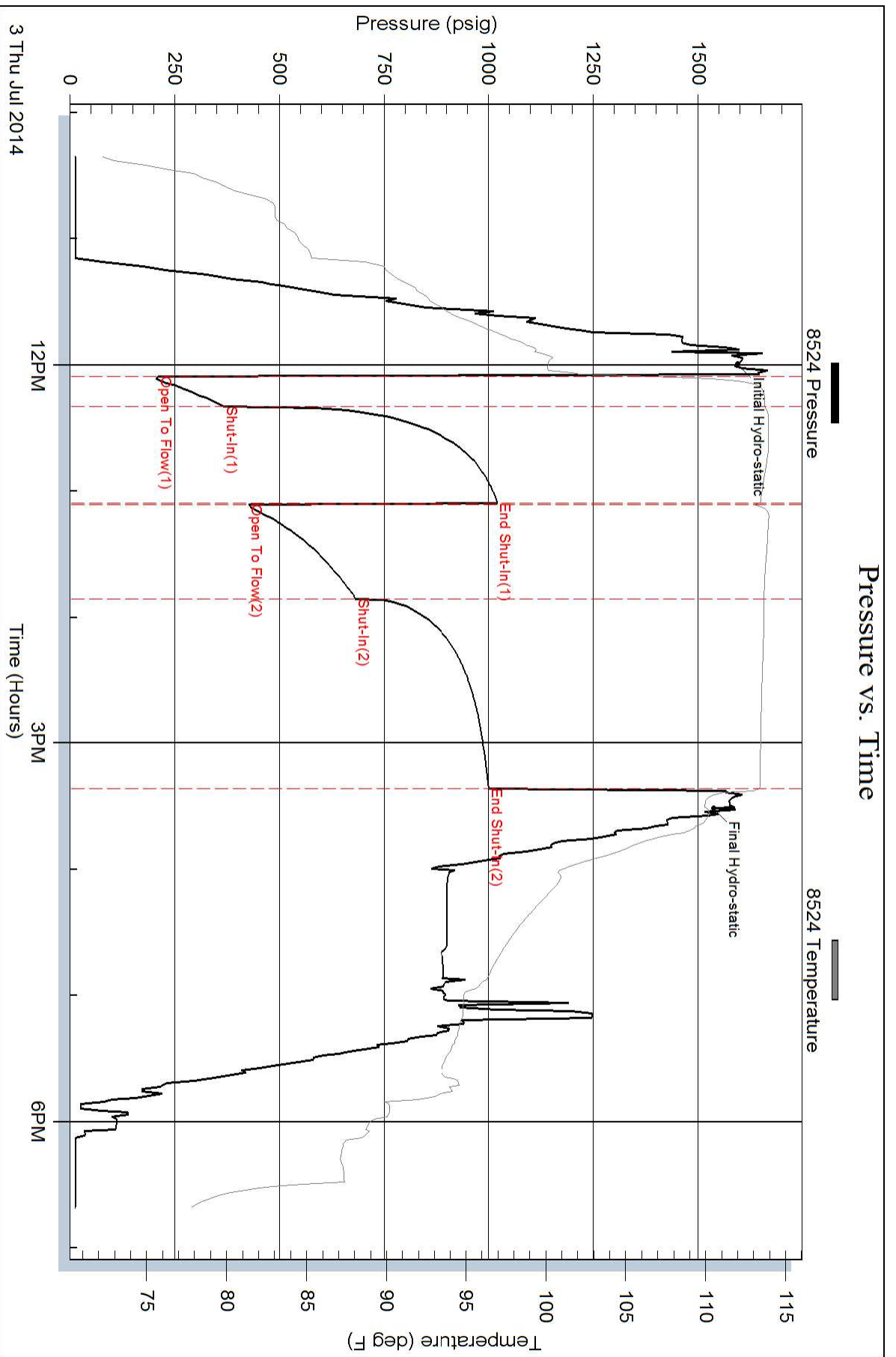
### Recovery Information

Recovery Table

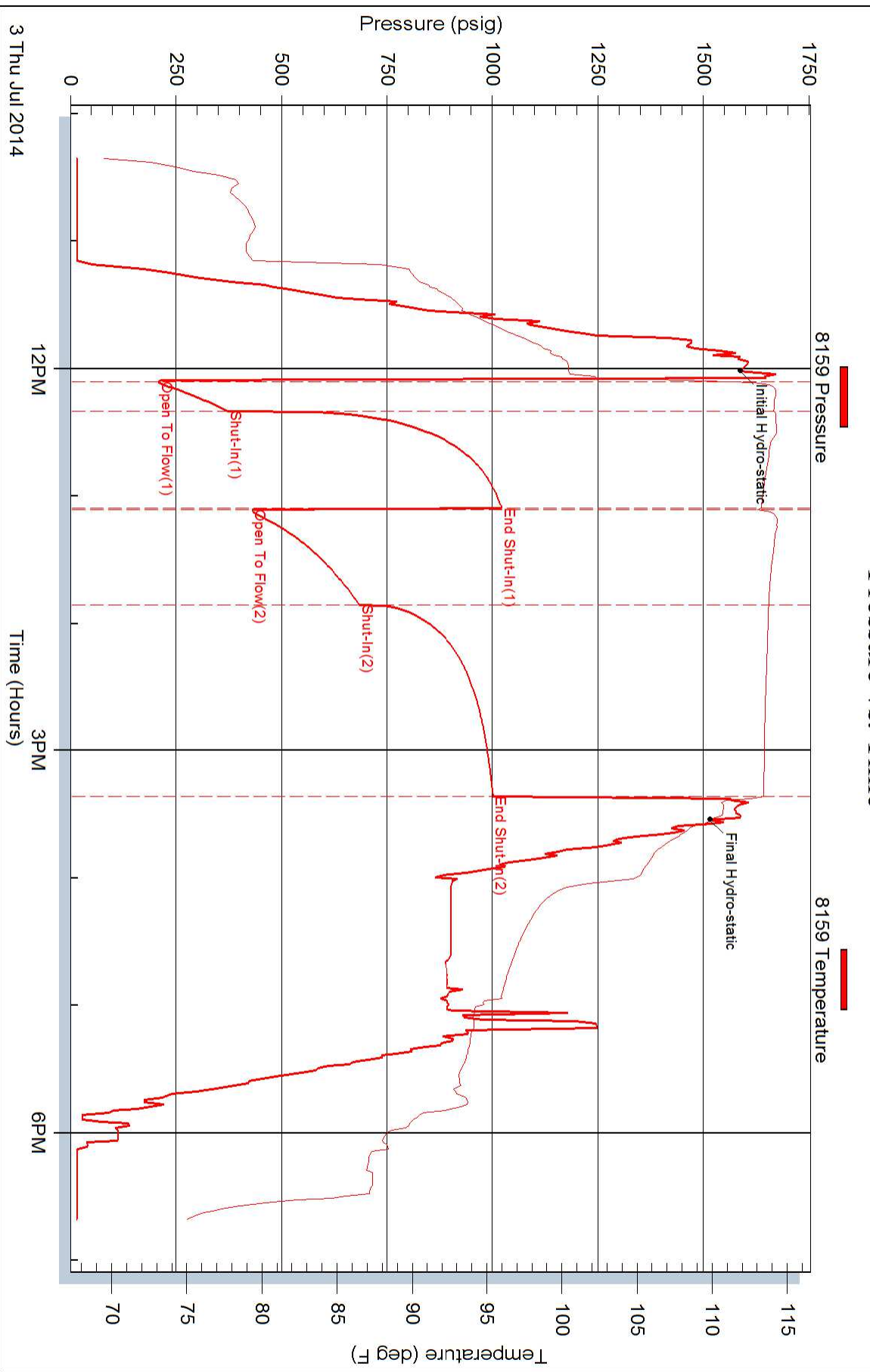
Length ft	Description	Volume bbl
0.00	2296 feet 100% Gas.	0.000
1542.00	100% Oil	19.653
62.00	20% w ater, 20% Gas, 60% oil.	0.870
62.00	40% mud, 30% Water, 15% oil, 15% gas	0.870
62.00	50% mud, 35% w ater, 10% oil, 5% gas	0.870
62.00	30% mud, 65% w ater, 5% oil.	0.870
0.00	Chloride recov 24000 ppm	0.000
0.00	resist recovery .22 ohms at 50 degrees.	0.000
0.00	Gravity of oil w as 40 corrected.	0.000

Total Length: 1790.00 ft      Total Volume: 23.133 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

### Pressure vs. Time



### Pressure vs. Time







Scale 1:240 Imperial

Well Name: Hickey #1-2  
 Surface Location: 436' FSL\_1765' FEL Sec 2-18S-14W  
 Bottom Location:  
 API: 15-009-25995-00-00  
 License Number:  
 Spud Date: 6/26/2014 Time: 9:00 PM  
 Region: Barton County  
 Drilling Completed: 7/4/2014 Time: 2:15 AM  
 Surface Coordinates: Y = 670651 & X = 1903860  
 Bottom Hole Coordinates:  
 Ground Elevation: 1877.00ft  
 K.B. Elevation: 1886.00ft  
 Logged Interval: 2800.00ft To: 3550.00ft  
 Total Depth: 3450.00ft  
 Formation: Arbuckle  
 Drilling Fluid Type: Chemical/Fresh Water Gel

**OPERATOR**

Company: Shelby Resources, LLC  
 Address: 445 Union Blvd, Suite 208  
 Lakewood, CO 80228  
 Contact Geologist: Janine Sturdavant  
 Contact Phone Nbr: 303-907-2209 / 720-274-4682  
 Well Name: Hickey #1-2  
 Location: 436' FSL\_1765' FEL Sec 2-18S-14W API: 15-009-25995-00-00  
 Pool: Boyd Field:  
 State: Kansas Country: USA

**LOGGED BY**



Company: Shelby Resources, LLC  
 Address: 445 UNION BLVD. Suite 208  
 LAKEWOOD, CO. 80228  
 Phone Nbr: 203-671-6034  
 Logged By: Geologist Name: Jeremy Schwartz

**NOTES**

The Shelby Resources, LLC Hickey #1-2 was drilled to a total depth of 3450', bottoming in the Arbuckle. A TookeDaq gas detector was employed in the drilling of said well.

4 DST's were conducted throughout the Lansing Kansas-City and Arbuckle Zones. The DST reports can be found at the bottom of this log.

Due to the DST results, sample shows, gas kicks, and log analysis it was determined by all parties involved to further test the well through production pipe. 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

\*Note: Log tops are 2' lower on the Elog compared to the drill time and sample tops\*

**SURFACE CO-ORDINATES**

Well Type: Vertical

Longitude: N/S Co-ord: Y = 670651  
 E/W Co-ord: X = 1903860

Latitude:

**CONTRACTOR**

Contractor: Sterling Drilling Co  
 Rig #: 4  
 Rig Type: mud rotary  
 Spud Date: 6/26/2014  
 TD Date: 7/4/2014  
 Rig Release:  
 Time: 9:00 PM  
 Time: 2:15 AM  
 Time:

**ELEVATIONS**

K.B. Elevation: 1886.00ft  
 K.B. to Ground: 9.00ft  
 Ground Elevation: 1877.00ft

DATE	DEPTH	ACTIVITY
Monday, June 30, 2014	3000'	Geologist Jeremy Schwartz on location @ 1330hrs, DRLG ahead through Topeka, Heebner Shale, Toronto, Douglas Shale, Brown Lime, CFS @ 3128', Come out of hole for plugged bit, Resume DRLG through LKC,
Tuesday, July 01, 2014	3128' 3150' 3200'	DRLG ahead, CFS @ 3170', Resume DRLG, CFS @ 3185', Resume DRLG, CFS @ 3200' Conduct DST #1 in LKC "A-F", Successful Test, Resume DRLG through LKC "G", CFS @ 3220', Resume DRLG through Muncie Creek, LKC "H", CFS @ 3291' Resume DRLG
Wednesday, July 02, 2014	3300' 3335'	DRLG ahead through Stark Shale, BKC, CFS @ 3335', Conduct DST #2 in LKC "H-K", Successful Test, Resume DRLG, CFS @ 3345', Resume DRLG, CFS @ 3350', Conduct DST #3
Thursday, July 03, 2014	3350' 3363'	Successful Test, Resume DRLG, CFS @ 3360', Resume DRLG, CFS @ 3363', Conduct DST #4 Fluid reversed out into truck, Successful Test, DRLG ahead, CFS @ 3371', Resume DRLG
Friday, July 04, 2014	3450'	TD of 3450' reached at 0215hrs, CTCH 1 hour then OOH, Conduct Logging Operations Logging Operations Complete @ 1000hrs Geologist Jeremy Schwartz off location @ 1030hrs

CLIENT:	SHELBY RESOURCES, LLC
WELL NAME:	HICKEY #1-2
LEGAL:	NW SE SW SE 2-T18S-R14W
COUNTY:	BARTON
API:	15-009-25995-00-00
DRLG CONTRACTOR:	STERLING DRILLING CO.
RIG #:	4
DOGHOUSE #:	620-388-4192
TOOLPUSHER:	LANNY SALOGA
CELL #:	620-388-4193

		MURPHY OIL CO.				SHELBY RESOURCES, LLC				D&A										
		SPIRES #1				SCHLESSIGER CATTLE #1-2				THUNDERBIRD DRILLING, INC										
		CSW SWSE 2-18S-14W				N2 SE SE NE 2-18S-14W				CSW NWSE 2-18S-14W										
		HICKEY #1-2		1891		1842		1863		1886		1891		1842		1863				
		LOG TOPS		SAMPLE TOPS		COMP. CARD		LOG		SMPL.		COMP. CARD		LOG		SMPL.				
FORMATION	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.
ANHYDRITE TOP	826	1060	826	1060	832	1059	+ 1	+ 1	788	1054	+ 6	+ 6	810	1053	+ 7	+ 7				
BASE	850	1036	850	1036	860	1031	+ 5	+ 5	812	1030	+ 6	+ 6								
TOPEKA	2812	-926	2810	-924	2810	-919	- 7	- 5	2772	-930	+ 4	+ 6								
HEEBNER SHALE	3050	-1164	3049	-1163	3050	-1159	- 5	- 4	3010	-1168	+ 4	+ 5	3031	-1168	+ 4	+ 5				
TORONTO	3059	-1173	3060	-1174	3060	-1169	- 4	- 5	3022	-1180	+ 7	+ 6	3041	-1178	+ 5	+ 4				
DOUGLAS SHALE	3071	-1185	3069	-1183	3070	-1179	- 6	- 4	3034	-1192	+ 7	+ 9	3053	-1190	+ 5	+ 7				
BROWN LIME	3126	-1240	3123	-1237	3125	-1234	- 6	- 3	3086	-1244	+ 4	+ 7	3107	-1244	+ 4	+ 7				
LKC	3134	-1248	3135	-1249	3138	-1247	- 1	- 2	3099	-1257	+ 9	+ 8	3120	-1257	+ 9	+ 8				
LKC G	3210	-1324	3208	-1322	3210	-1319	- 5	- 3	3166	-1324	+ 0	+ 2	3188	-1325	+ 1	+ 3				
MUNCIE CREEK	3258	-1372	3255	-1369	3262	-1371	- 1	+ 2	3220	-1378	+ 6	+ 9	3242	-1379	+ 7	+ 10				
LKC H	3265	-1379	3260	-1374	3268	-1377	- 2	+ 3	3226	-1384	+ 5	+ 10	3247	-1384	+ 5	+ 10				
STARK SHALE	3315	-1429	3313	-1427	3318	-1427	- 2	+ 0	3276	-1434	+ 5	+ 7	3297	-1434	+ 5	+ 7				
BKC	3335	-1449	3333	-1447	3340	-1449	+ 0	+ 2	3296	-1454	+ 5	+ 7	3316	-1453	+ 4	+ 6				
CONGLOMERATE	3340	-1454	3335	-1449	3342	-1451	- 3	+ 2					3324	-1461	+ 7	+ 12				
ARBUCKLE	3354	-1468	3352	-1466	3368	-1477	+ 9	+ 11	3306	-1464	- 4	- 2	3339	-1476	+ 8	+ 10				
RTD			3450	-1564	3378	-1487		- 77	3420	-1578		+ 14	3397	-1534		- 30				
LTD	3453	-1567			3378	-1487	- 80		3419	-1577	+ 10		3400	-1537	- 30					

PROGNOSIS	
ANHYDRITE TOP	825 -1061
HEEBNER SHALE	3040 -1154
LKC	3130 -1244
BKC	3330 -1444
ARBUCKLE	3354 -1468
RTD	3450 -1564

**TESTED**

Arbuckle Abandoned Producer  
 IP 203 BOPD  
 Arbuckle Open Hole Completed  
 10' OH (-1477 to -1487)

Cum Prod 143,150 BO  
 1952 -1996

**TESTED**

DST #1 (3093-3154) LKC A-D  
 15-45-45-90  
 IF: BOB 8M  
 FF: STRONG BLOW BOB 1M  
 244' SMCO (050%, G40%, M10%)  
 244' HMC0 (070%, M30%)  
 SIP: 908 - 887#

**TESTED**

DST #1 (3187-3197) LKC G  
 OPEN 30MIN, SHUT IN 15MIN  
 20' ROTARY MUD W/FEW SPECKS OIL

DST #2 (3346-3349) ARBUCKLE  
 OPEN 30MIN, SHUT IN 15MIN  
 9' ROTARY MUD

**DST #2 (3153-3190) LKC F-G**  
 15-45-45-90  
 IF: WEAK BLOW 1"  
 FF: WEAK BLOW 1"  
**61' OCM (O15%, M85%), 61' MW**  
 55.9# - 516#








**DST #3 (3200-3234) LKC H**  
 15-45-45-90  
 IF: STRONG BLO BOB 2M  
 FF: STRONG BLOW BOB <1M  
 BLO BK  
**76' HOCM (O20%, M80%),**  
**427' SMCGO (O70%, G20%, M10%)**  
 98.6# - 897#

**DST #4 (3294-3335) ARBUCKLE**  
 15-45-45-90  
 IF: STRONG BLOW BOB 2M  
 BLO BK  
 FF: STRONG BLOW BOB 3M  
 NO BLO BK  
**1344' CGO, 124' SMCO (O95%, M5%)**

**DST #3 (3347-3353) ARBUCKLE**  
 OPEN 20MIN, SHUT IN 15MIN  
**10' ROTARY MUD**

**DST #4 (3342-3363) ARBUCKLE**  
 OPEN 60MIN, SHUT IN 15MIN  
**62' HEAVILY OIL CUT MUD**

**ROCK TYPES**










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

**ACCESSORIES**

**FOSSIL**  
 ^ Bioclastic or Fragmental  
 F Fossils < 20%

**STRINGER**  
 ~~~ Chert  
 ▨ Dolomite  
 ▨ Shale  
 ▨ green shale  
 ▨ red shale

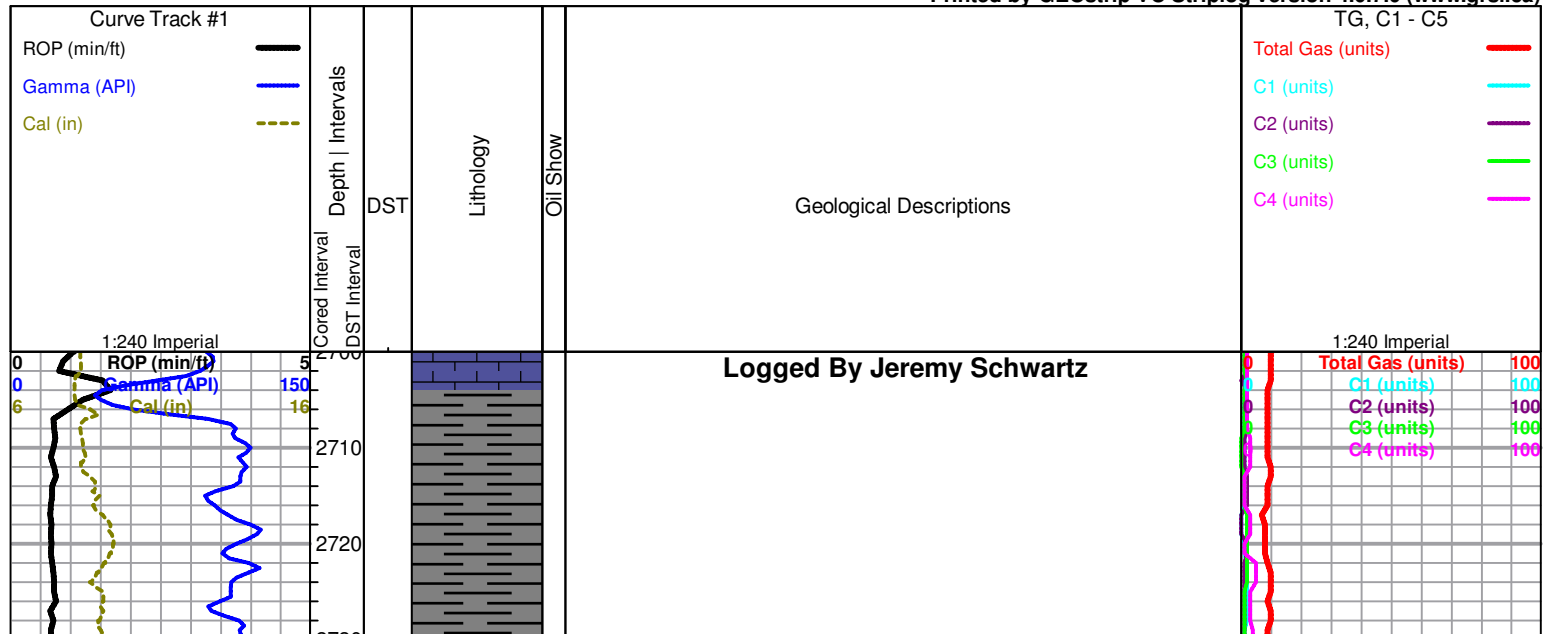
**OTHER SYMBOLS**

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

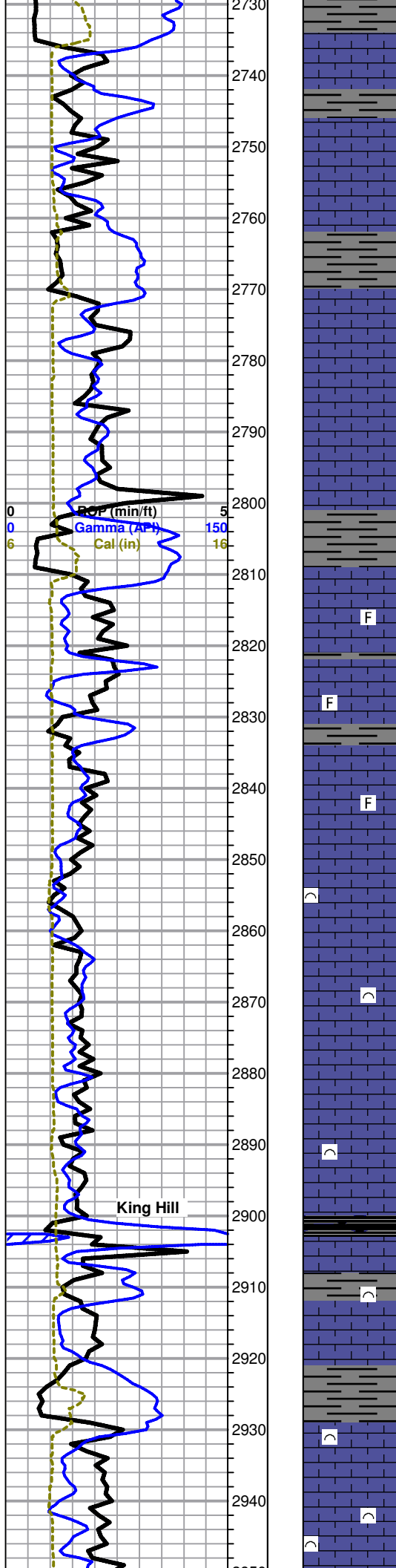
**Oil Show**  
 ● Good Show  
 ● Fair Show 50-75  
 ● Poor Show 25-50  
 ● Spotted or Trace 1-25  
 ○ Questionable Stn  
 D Dead Oil Stn  
 ■ Fluorescence  
 \* Gas

**DST**  
 ■ DST Int  
 ■ DST alt

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



**Howard 2735 (-849)**



Shale, gray, soft and waxy

**Topeka 2810 (-924)**

LS, mostly gray with some scattered cream, micro-xln, some scattered slightly fossiliferous, dense with poor visible porosity, no shows or odor

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

LS, cream to gray, micro-xln, some fossiliferous, hard and dense with poor visible porosity, no shows or odor

LS, cream to gray, micro-xln, mostly fossiliferous, some lithographic, some scattered with slight edge re-crystallization, mostly dense with poor visible porosity, no shows or odor

LS as above, some soft and chalky, in part, with trace gray and black shale, no shows or odor

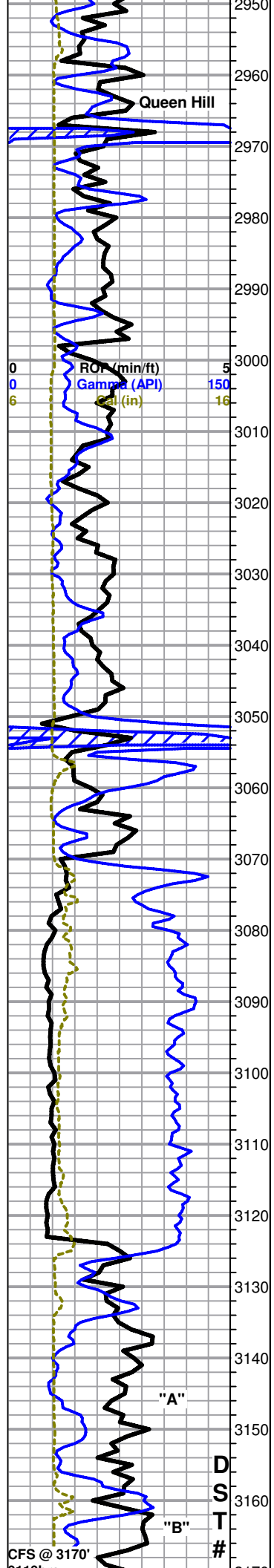
LS, cream with some very scattered white and light gray, fossiliferous, dense with poor visible porosity, no shows or odor

LS as above, no shows or odor

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

Mud-Co Mud chk  
2861'  
6/30/14  
Vis: 49 Wt: 8.7  
PV:14 YP:15  
WL: 8.0  
Cake:2/32  
pH: 11.5  
Ca: 20ppm  
CHL: 3,300ppm  
Sol: 2.7 LCM: 0  
DMC: \$2,674.75  
CMC: \$8,581.35





**Queen Hill**

LS, cream to light gray, micro-xln, fossiliferous, some chips with slight edge re-crystallization, dense with poor visible porosity, also with trace black shale, no shows or odor

LS, cream to light gray, micro-xln, fossiliferous and dense with poor visible porosity, some with slightly re-crystallized edges, some scattered white, lithographic, soft and chalky, no shows or odor

LS as above, no shows or odor

LS, cream with some very scattered light gray and white, micro-xln, mostly fossiliferous, some lithographic, dense with poor visible porosity, no shows or odor

LS as above, no shows or odor

LS, cream, micro-xln, some fossiliferous, some lithographic, few chips with very slight pinpoint porosity on edges only, overall dense with poor visible porosity, no shows or odor

**Heebner 3049 (-1163)**

Shale, black carbonaceous

**Toronto 3060 (-1174)**

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

**Douglas Shale 3069 (-1183)**

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

Shale as above

**Brown Lime 3123 (-1237)**

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

**LKC 3135 (-1249)**

Hickey 1-2dst#1.jpg

LS, cream to light gray, micro-xln, mostly lithographic, some scattered fossiliferous, few chips (<5%) very slight, very scattered brown stain around fossil fragments, upon break chips have slight to fair show free oil and fair show gas bubbles, overall dense with poor visible porosity, poor fleeting odor

LS as above, few chips with very slight brown stain around fossil fragments and very slight show free oil upon break, poor visible porosity, no odor

LS, cream, micro-xln, lithographic and dense with poor visible porosity, few very scattered chips (<5%) with very slight edge pinpoint porosity and one to two very small vugs with very scattered poor brown stain in porosity only, no odor

3170' 30" LS, cream, micro-xln, lithographic and dense with poor visible porosity, few chips (<5%) with very slight edge pinpoint porosity on edges only

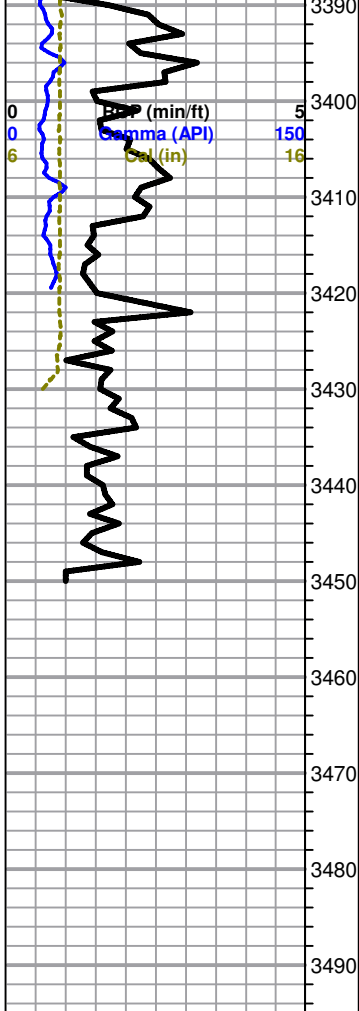
**Total Gas (units)** 100  
**C1 (units)** 100  
**C2 (units)** 100  
**C3 (units)** 100  
**C4 (units)** 100

"A"

"B"

D  
S  
T  
#






3360' 60" Mostly same as above with influx of sucrosic, few chips med-xln with fair visible inter-xln porosity, poor odor

3363' 30" Dolomite, white to cream, micro-med xln, mostly sucrosic with fair rhombic development and scattered brown stain, friable, upon break chips have fair show free oil, stain and free oil and gas bubbles increase when left under lamp, fair odor

3363' 60" Mostly same as above, fair odor

 Hickey 1-2dst#4.jpg

3371' 30" Dolomite, white, micro-xln, mostly dense with poor visible porosity, some scattered sucrosic with fair to good rhombic development and very scattered brown stain, upon break chips have SSFO, poor odor

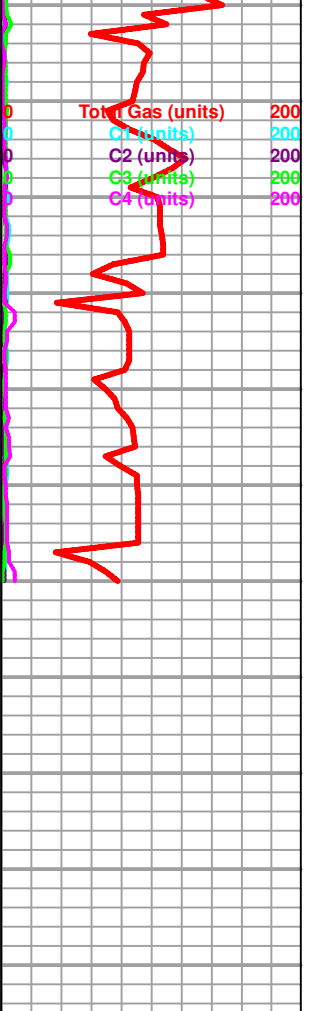
3371' 60" Dolomite, white, micro-xln, poorly developed and dense with poor visible porosity, mostly barren, some with scattered black stain, also with some scattered (~10-15%) white, med-xln, sucrosic with good rhombic development and fair to good visible inter-xln porosity with mostly saturated black stain, some chips also slightly yuggy, fair show free oil in tray, fair fleeting odor

3380' Dolomite, white, micro-med xln, some dense with poor visible porosity, some sucrosic with fair visible porosity and scattered black stain, some gilsonitic, SSFO in tray, poor odor

3390' Dolomite, white, micro-med xln, some dense, some sucrosic, mostly barren, some with scattered black stain, some gilsonitic, few chips with slight show gas bubbles, slight to fair show free oil, fair odor

3400'-3410' Dolomite, white, micro-med xln, some sub-sucrosic and dense with poor visible porosity, some sucrosic, some with scattered black gilsonitic stain, poor odor

3420-3450' Dolomite, white, micro-xln, mostly sub-sucrosic and dense with poor visible porosity, barren, no shows or odor



**Rotary TD 3450' @ 0215hrs 7/4/14**  
**Nabors Well Services Logging TD @ 3453'**  
**Complete Logging Operations @ 1000hrs 7/4/14**  
**Geologist Jeremy Schwartz off location @ 1030hrs 7/4/14**







|                                                                                   |                                                                                       |                                                                                                                          |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
|  | <h2 style="margin:0;">DRILL STEM TEST REPORT</h2>                                     |                                                                                                                          |
|                                                                                   | Shelby Resources L.L.C<br>2117 anal Blvd Hays KS 676601<br><br>ATTN: Jeremy Schw artz | <b>2-18-14w Barton</b><br><br><b>Hickey 1-2</b><br>Job Ticket: 18594 <b>DST#: 3</b><br>Test Start: 2014.07.02 @ 19:43:00 |

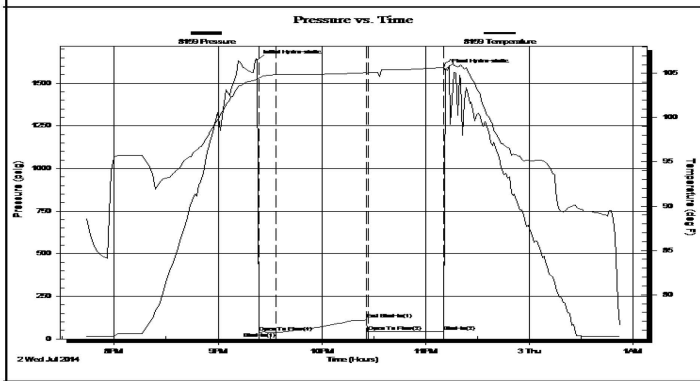
**GENERAL INFORMATION:**

Formation: **Arbuckle**  
 Deviated: No Whipstock:                      ft (KB)  
 Time Tool Opened: 21:23:30  
 Time Test Ended: 00:53:00  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Jared Scheck  
 Unit No: 3330-Great Bend-30  
 Interval: **3332.00 ft (KB) To 3350.00 ft (KB) (TVD)**  
 Total Depth: 3350.00 ft (KB) (TVD)  
 Reference Elevations: 1986.00 ft (KB)  
 Hole Diameter: 7.88 inches Hole Condition: Fair                      1977.00 ft (CF)  
 KB to GR/CF: 9.00 ft

**Serial #: 8159**

Press@RunDepth: 41.34 psig @                      ft (KB)      Capacity: 5000.00 psig  
 Start Date: 2014.07.02      End Date: 2014.07.03      Last Calib.: 2014.07.03  
 Start Time: 19:43:00      End Time: 00:53:00      Time On Btm: 2014.07.02 @ 21:22:30  
 Time Off Btm: 2014.07.02 @ 23:11:30

**TEST COMMENT:** 1st Opening 15 Minutes-Weak surface blow built 1/2 inch  
 1st Shut-in 45 Minutes-No blow back  
 2nd Opening-Weak surface blow did not build flushed tool good surge did not build pull tool



| PRESSURE SUMMARY |                 |              |                      |
|------------------|-----------------|--------------|----------------------|
| Time (Min.)      | Pressure (psig) | Temp (deg F) | Annotation           |
| 0                | 1638.31         | 104.29       | Initial Hydro-static |
| 1                | 41.69           | 104.46       | Open To Flow (1)     |
| 11               | 41.34           | 104.85       | Shut-In(1)           |
| 64               | 116.60          | 105.08       | End Shut-In(1)       |
| 65               | 42.49           | 105.06       | Open To Flow(2)      |
| 108              | 44.08           | 105.67       | Shut-In(2)           |
| 109              | 1583.52         | 106.19       | Final Hydro-static   |

| Recovery    |                              |              |
|-------------|------------------------------|--------------|
| Length (ft) | Description                  | Volume (bbl) |
| 5.00        | spot oil cut mud 1%oil99%mud | 0.02         |
|             |                              |              |
|             |                              |              |
|             |                              |              |
|             |                              |              |

| 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. 504

|      |         |      |   |      |    |       |    |        |        |       |    |             |  |        |         |
|------|---------|------|---|------|----|-------|----|--------|--------|-------|----|-------------|--|--------|---------|
| Date | 6-27-14 | Sec. | 2 | Twp. | 18 | Range | 14 | County | Barton | State | KS | On Location |  | Finish | 6:45 PM |
|------|---------|------|---|------|----|-------|----|--------|--------|-------|----|-------------|--|--------|---------|

Location 281 + 4 Hwy 25 1/2 E N into

|                     |           |            |        |                                                                                  |                                                                                                                                                                                |
|---------------------|-----------|------------|--------|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lease               | Hickey    | Well No.   | 1-2    | Owner                                                                            | To Quality Oilwell Cementing, Inc.<br>You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed. |
| Contractor          | Steele #4 |            |        | Charge To                                                                        | Shelby Resources                                                                                                                                                               |
| Type Job            | Surface   |            |        | Street                                                                           |                                                                                                                                                                                |
| Hole Size           | 12 1/4    | T.D.       | 841'   | City                                                                             |                                                                                                                                                                                |
| Csg.                | 8 5/8     | Depth      | 841'   | State                                                                            |                                                                                                                                                                                |
| Tbg. Size           |           | Depth      |        | The above was done to satisfaction and supervision of owner agent or contractor. |                                                                                                                                                                                |
| Tool                |           | Depth      |        | Cement Amount Ordered                                                            | 350 60/100 3% cc 2% Gel                                                                                                                                                        |
| Cement Left in Csg. | 23.88     | Shoe Joint | 23.88  |                                                                                  |                                                                                                                                                                                |
| Meas Line           |           | Displace   | 52 bbl |                                                                                  |                                                                                                                                                                                |

**EQUIPMENT**

|         |    |     |               |         |          |     |
|---------|----|-----|---------------|---------|----------|-----|
| Pumptrk | 17 | No. | Cement Helper | Matt    | Common   | 210 |
| Bulktrk | 4  | No. | Driver        | Clayton | Poz. Mix | 140 |
| Bulktrk | Pu | No. | Driver        | Brett   | Gel.     | 7   |
|         |    |     | Driver        | Taylor  | Calcium  | 13  |

**JOB SERVICES & REMARKS**

|                    |  |                         |
|--------------------|--|-------------------------|
| Remarks:           |  | Hulls                   |
| Rat Hole           |  | Salt                    |
| Mouse Hole         |  | Flowseal                |
| Centralizers       |  | Kol-Seal                |
| Baskets            |  | Mud CLR 48              |
| D/V or Port Collar |  | CFL-117 or CD110 CAF 38 |
|                    |  | Sand                    |
|                    |  | Handling                |
|                    |  | Mileage                 |
|                    |  | 85/4                    |
|                    |  | <b>Float Equipment</b>  |
|                    |  | Guide Shoe - 1          |
|                    |  | Centralizer             |
|                    |  | Baskets                 |
|                    |  | AFU Inserts             |
|                    |  | Float Shoe              |
|                    |  | Latch Down              |
|                    |  | Baffle Plate - 1        |
|                    |  | Rubber Plug - 1         |
|                    |  | Pumptrk Charge          |
|                    |  | Mileage                 |
|                    |  | 13 Long Surface         |

Cement  
Circulated!

X Signature *Je Burd*

|              |  |
|--------------|--|
| Tax          |  |
| Discount     |  |
| Total Charge |  |



|                                  |                             |                                     |
|----------------------------------|-----------------------------|-------------------------------------|
| Customer<br><i>SHELBY - Rec</i>  | Lease No.                   | Date<br><i>07-04-14</i>             |
| Lease<br><i>Hickey</i>           | Well #<br><i>1-2</i>        |                                     |
| Field Order #<br><i>10895</i>    | Station<br><i>PLA TT KS</i> | Casing<br><i>5 1/2</i>              |
| Type Job<br><i>CNW 5 1/2 L-S</i> | Formation                   | Legal Description<br><i>2-18-14</i> |
|                                  | Depth                       | County<br><i>BARTON</i>             |
|                                  |                             | State<br><i>KS</i>                  |

| PIPE DATA                      |              | PERFORATING DATA |    | FLUID USED |            | TREATMENT RESUME |      |                  |
|--------------------------------|--------------|------------------|----|------------|------------|------------------|------|------------------|
| Casing Size                    | Tubing Size  | Shots/Ft         |    | Acid       | RATE       | PRESS            | ISIP |                  |
| <i>5 1/2</i>                   |              |                  |    |            |            |                  |      | 5 Min.           |
| Depth<br><i>3747</i>           | Depth        | From             | To | Pre Pad    | Max        |                  |      |                  |
| Volume<br><i>8 1/2</i>         | Volume       | From             | To | Pad        | Min        |                  |      | 10 Min.          |
| Max Press<br><i>2,000</i>      | Max Press    | From             | To | Frac       | Avg        |                  |      | 15 Min.          |
| Well Connection<br><i>P.C.</i> | Annulus Vol. | From             | To |            | HHP Used   |                  |      | Annulus Pressure |
| Plug Depth<br><i>3727</i>      | Packer Depth | From             | To | Flush      | Gas Volume |                  |      | Total Load       |

|                         |                                      |                                   |
|-------------------------|--------------------------------------|-----------------------------------|
| Customer Representative | Station Manager<br><i>DAVE SCOTT</i> | Treater<br><i>Robert Sullivan</i> |
|-------------------------|--------------------------------------|-----------------------------------|

|               |                 |              |              |               |              |  |  |  |  |
|---------------|-----------------|--------------|--------------|---------------|--------------|--|--|--|--|
| Service Units | <i>37900</i>    | <i>33708</i> | <i>20920</i> | <i>19959</i>  | <i>73768</i> |  |  |  |  |
| Driver Names  | <i>Sullivan</i> | <i>Eggen</i> |              | <i>Robert</i> | <i>JONES</i> |  |  |  |  |

| Time           | Casing Pressure | Tubing Pressure | Bbls. Pumped  | Rate       | Service Log                                |
|----------------|-----------------|-----------------|---------------|------------|--------------------------------------------|
| <i>4:00 pm</i> |                 |                 |               |            | <i>on loc</i>                              |
|                |                 |                 |               |            | <i>run 5 1/2 15.5 esp.</i>                 |
| <i>7:15</i>    |                 |                 |               |            | <i>CASING ON BOTTOM</i>                    |
| <i>7:25</i>    |                 |                 |               |            | <i>Hook Rig Breakline</i>                  |
| <i>8:15</i>    |                 |                 | <i>5</i>      |            | <i>St spacer</i>                           |
|                |                 |                 | <i>15</i>     | <i>4.5</i> | <i>mix 50 sk Scaevanjan omt</i>            |
|                |                 |                 | <i>24</i>     |            | <i>mix 100 sk AA-2</i>                     |
|                |                 |                 |               |            | <i>omt mixed shut down wash line, pump</i> |
|                |                 |                 |               |            | <i>Release Plug</i>                        |
|                |                 |                 |               | <i>5.5</i> | <i>St Disp</i>                             |
|                | <i>250</i>      |                 |               |            | <i>1st PS</i>                              |
| <i>9:00</i>    | <i>1,500</i>    |                 | <i>83 1/2</i> | <i>3.5</i> | <i>Plug down</i>                           |
|                |                 |                 | <i>7</i>      |            | <i>Plug RH up 30 sk</i>                    |
|                |                 |                 | <i>9</i>      |            | <i>Plug MH up 20</i>                       |
|                |                 |                 |               |            | <i>SOB complete</i>                        |
|                |                 |                 |               |            | <i>THANK YOU</i>                           |