

Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1248500  
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: \_\_\_\_\_

1248500

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
--	---

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	Murfin Drilling Co., Inc.
Well Name	Abell Ranch 'B' 2-31
Doc ID	1248500

All Electric Logs Run

DIL
DUCP
MEL
BHCS





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N Water Suite 300  
Wichita, KS 67202

ATTN: Larry Nicholson

### **Abell Ranch B #2-31**

### **S31-12s-30w Gove,KS**

Start Date: 2014.12.15 @ 18:13:00

End Date: 2014.12.15 @ 23:01:50

Job Ticket #: 58484                      DST #: 1

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.12.23 @ 11:30:33

Murfin Drilling Co., Inc.

S31-12s-30w Gove,KS

Abell Ranch B #2-31

DST # 1

Lansing 'B-D'

2014.12.15



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

**S31-12s-30w Gove, KS**

250 N Water Suite 300  
Wichita, KS 67202

**Abell Ranch B #2-31**

Job Ticket: 58484

**DST#: 1**

ATTN: Larry Nicholson

Test Start: 2014.12.15 @ 18:13:00

## GENERAL INFORMATION:

Formation: **Lansing 'B-D'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:40:00

Time Test Ended: 23:01:50

Test Type: Conventional Bottom Hole (Initial)

Tester: Chuck Smith

Unit No: 62

**Interval: 3970.00 ft (KB) To 4017.00 ft (KB) (TVD)**

Reference Elevations: 2881.00 ft (KB)

Total Depth: 4017.00 ft (KB) (TVD)

2870.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 8357**

**Inside**

Press@RunDepth: 963.07 psig @ 3971.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.12.15

End Date:

2014.12.15

Last Calib.:

2014.12.15

Start Time:

18:13:02

End Time:

23:01:49

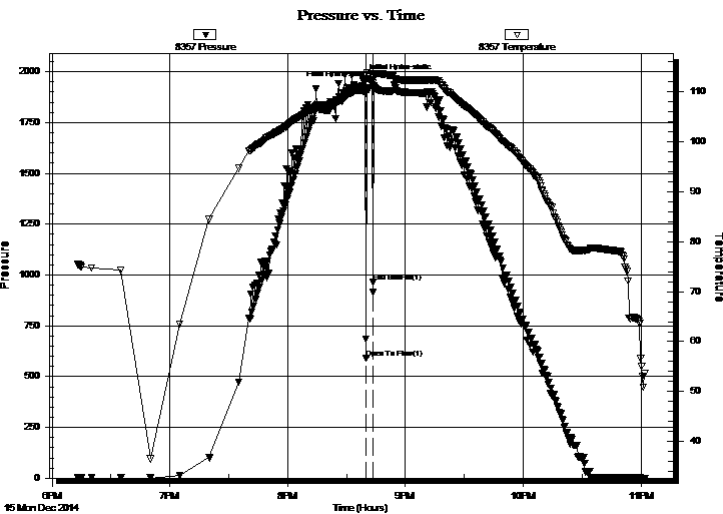
Time On Btm:

2014.12.15 @ 20:38:30

Time Off Btm:

2014.12.15 @ 20:43:50

TEST COMMENT: Packer seat failed during two attempts to land the tool, pulled tool out.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1964.40	110.14	Initial Hydro-static
2	591.05	110.77	Open To Flow (1)
5	963.07	112.20	End Shut-In(1)
6	1929.89	113.62	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
350.00	M 100m	2.40

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co., Inc.

**S31-12s-30w Gove,KS**

250 N Water Suite 300  
Wichita, KS 67202

**Abell Ranch B #2-31**

Job Ticket: 58484

**DST#: 1**

ATTN: Larry Nicholson

Test Start: 2014.12.15 @ 18:13:00

## Tool Information

Drill Pipe:	Length: 3698.00 ft	Diameter: 3.80 inches	Volume: 51.87 bbl	Tool Weight: 2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 276.00 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose: 73000.00 lb
			<u>Total Volume: 53.23 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.50 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	3970.00 ft			Final 71000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	47.00 ft			
Tool Length:	74.50 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

**Length (ft) Serial No. Position Depth (ft) Accum. Lengths**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3943.50	
Shut In Tool	5.00			3948.50	
Hydraulic tool	5.00			3953.50	
Jars	5.00			3958.50	
Safety Joint	2.50			3961.00	
Packer	5.00			3966.00	27.50 Bottom Of Top Packer
Packer	4.00			3970.00	
Stubb	1.00			3971.00	
Recorder	0.00	8357	Inside	3971.00	
Recorder	0.00	8645	Outside	3971.00	
Perforations	10.00			3981.00	
Change Over Sub	1.00			3982.00	
Drill Pipe	31.00			4013.00	
Change Over Sub	1.00			4014.00	
Bullnose	3.00			4017.00	47.00 Bottom Packers & Anchor

**Total Tool Length: 74.50**





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co., Inc.

**S31-12s-30w Gove,KS**

250 N Water Suite 300  
Wichita, KS 67202

**Abell Ranch B #2-31**

Job Ticket: 58484

**DST#: 1**

ATTN: Larry Nicholson

Test Start: 2014.12.15 @ 18:13:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

31 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3200.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
350.00	M 100m	2.395

Total Length: 350.00 ft      Total Volume: 2.395 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

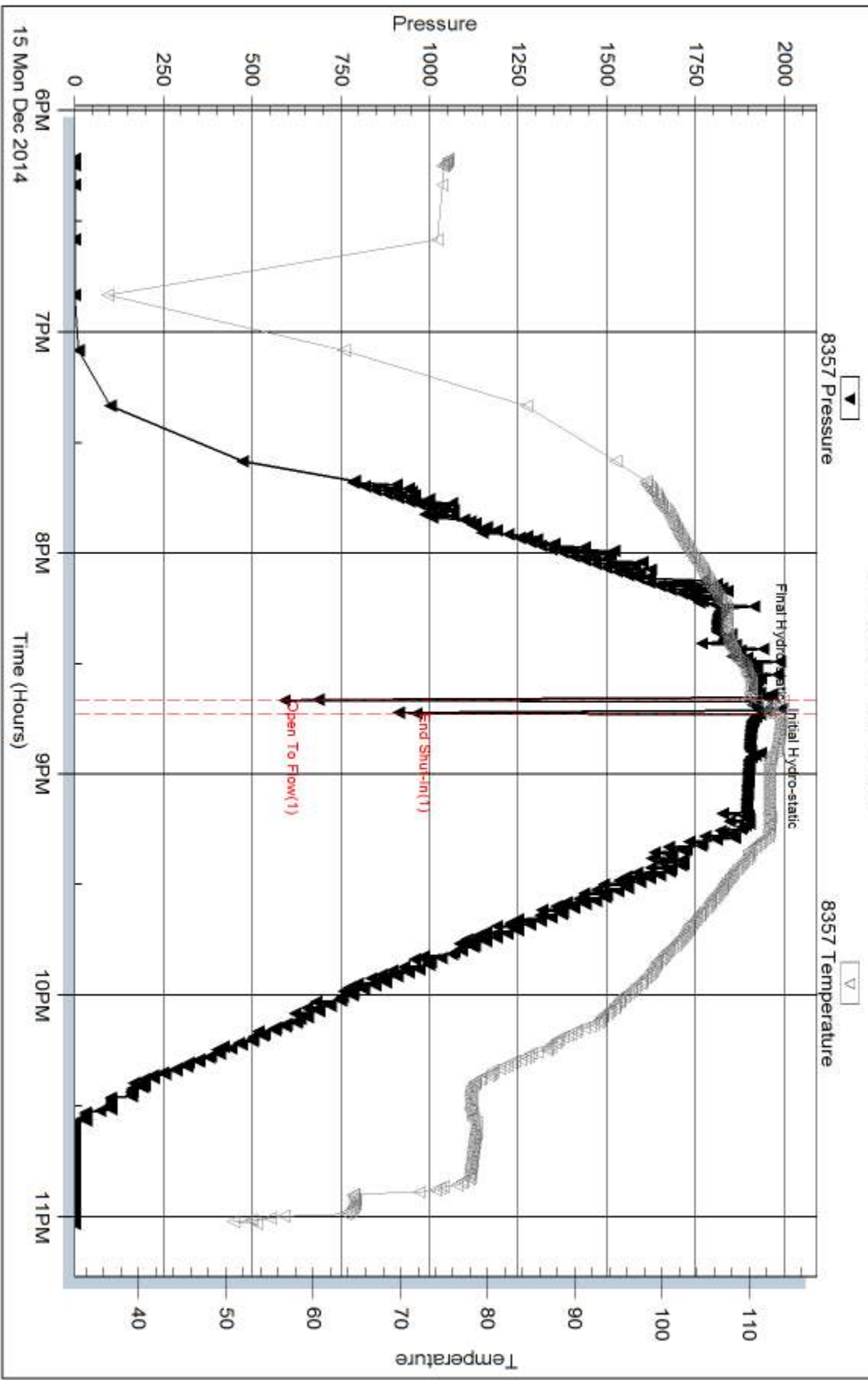
Serial #:

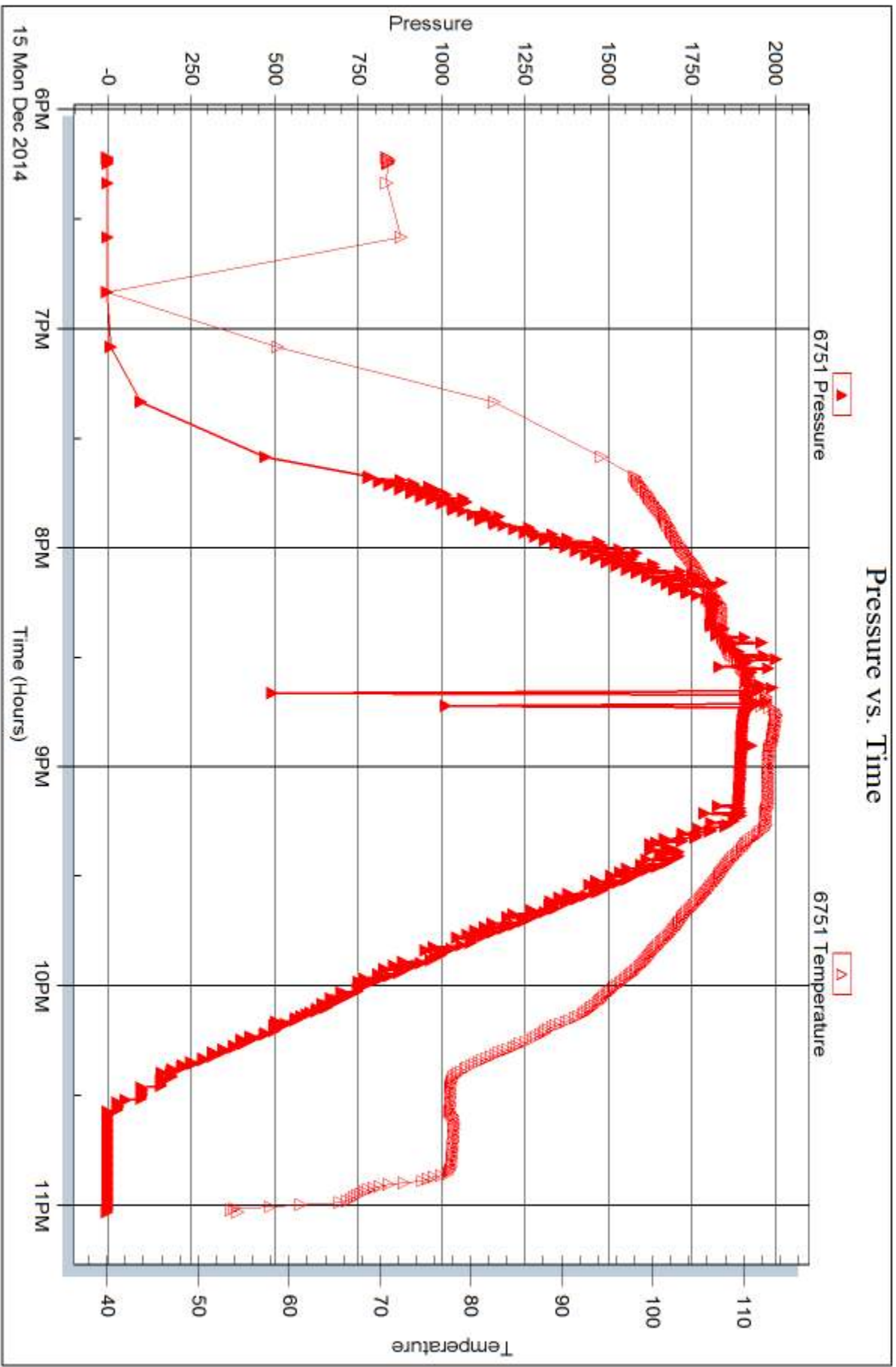
Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time







## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N Water Suite 300  
Wichita, KS 67202

ATTN: Larry Nicholson

### **Abell Ranch B #2-31**

### **S31-12s-30w Gove,KS**

Start Date: 2014.12.15 @ 23:21:00

End Date: 2014.12.16 @ 06:57:20

Job Ticket #: 58485                      DST #: 2

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.12.23 @ 11:30:10



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

**S31-12s-30w Gove,KS**

250 N Water Suite 300  
Wichita, KS 67202

**Abell Ranch B #2-31**

ATTN: Larry Nicholson

Job Ticket: 58485

**DST#: 2**

Test Start: 2014.12.15 @ 23:21:00

## GENERAL INFORMATION:

Formation: **LKC 'B-D'**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 00:56:00  
 Time Test Ended: 06:57:20  
 Interval: **3964.00 ft (KB) To 4017.00 ft (KB) (TVD)**  
 Total Depth: 4017.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Chuck Smith  
 Unit No: 62  
 Reference Elevations: 2881.00 ft (KB)  
 2870.00 ft (CF)  
 KB to GR/CF: 11.00 ft

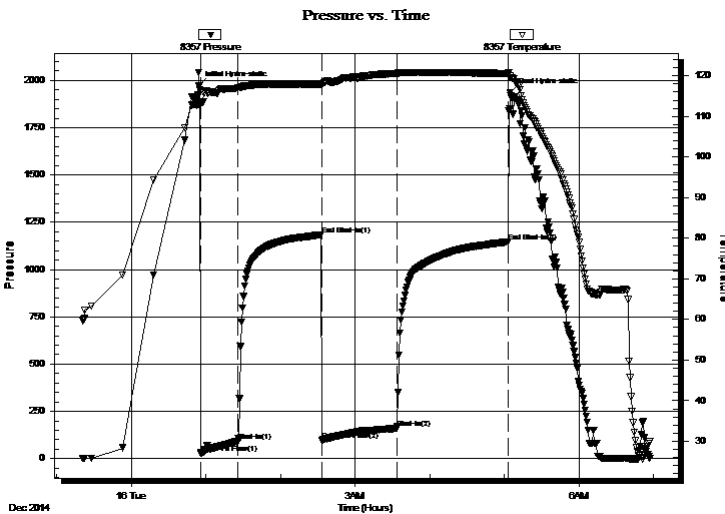
## Serial #: 8357

Inside

Press@RunDepth: 159.37 psig @ 3965.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.12.15 End Date: 2014.12.16 Last Calib.: 2014.12.16  
 Start Time: 23:21:02 End Time: 06:57:19 Time On Btm: 2014.12.16 @ 00:54:40  
 Time Off Btm: 2014.12.16 @ 05:04:50

TEST COMMENT: 30- 6" Blow .  
 66- No return.  
 60- 5" Blow .  
 90- No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1970.82	113.07	Initial Hydro-static
2	29.40	113.13	Open To Flow (1)
32	91.22	116.93	Shut-In(1)
99	1183.97	117.97	End Shut-In(1)
99	98.61	117.63	Open To Flow (2)
159	159.37	120.60	Shut-In(2)
249	1146.00	120.58	End Shut-In(2)
251	1933.84	119.63	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
300.00	OSWM 40w 60m	1.69

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

**S31-12s-30w Gove,KS**

250 N Water Suite 300  
Wichita, KS 67202

**Abell Ranch B #2-31**

ATTN: Larry Nicholson

Job Ticket: 58485

**DST#: 2**

Test Start: 2014.12.15 @ 23:21:00

## GENERAL INFORMATION:

Formation: **LKC 'B-D'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:56:00

Time Test Ended: 06:57:20

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Smith

Unit No: 62

**Interval: 3964.00 ft (KB) To 4017.00 ft (KB) (TVD)**

Reference Elevations: 2881.00 ft (KB)

Total Depth: 4017.00 ft (KB) (TVD)

2870.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

## Serial #: 6751

Press@RunDepth: psig @ ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.12.15

End Date:

2014.12.16

Last Calib.:

2014.12.16

Start Time: 23:21:02

End Time:

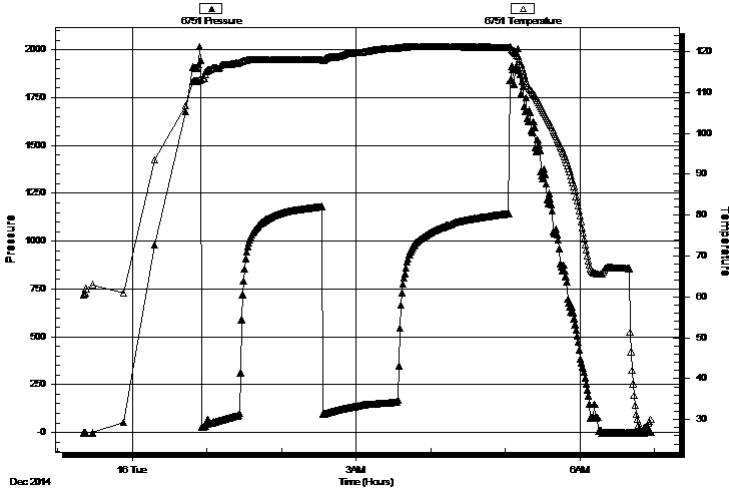
06:57:19

Time On Btm:

Time Off Btm:

TEST COMMENT: 30- 6" Blow .  
66- No return.  
60- 5" Blow .  
90- No return.

Pressure vs. Time



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

## Recovery

Length (ft)	Description	Volume (bbl)
300.00	OSWM 40w 60m	1.69

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co., Inc.

**S31-12s-30w Gove,KS**

250 N Water Suite 300  
Wichita, KS 67202

**Abell Ranch B #2-31**

Job Ticket: 58485

**DST#: 2**

ATTN: Larry Nicholson

Test Start: 2014.12.15 @ 23:21:00

## Tool Information

Drill Pipe:	Length: 3666.00 ft	Diameter: 3.80 inches	Volume: 51.42 bbl	Tool Weight: 2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 276.00 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 52.78 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.50 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	3964.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	53.00 ft			
Tool Length:	80.50 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

**Length (ft) Serial No. Position Depth (ft) Accum. Lengths**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3937.50	
Shut In Tool	5.00			3942.50	
Hydraulic tool	5.00			3947.50	
Jars	5.00			3952.50	
Safety Joint	2.50			3955.00	
Packer	5.00			3960.00	27.50 Bottom Of Top Packer
Packer	4.00			3964.00	
Stubb	1.00			3965.00	
Recorder	0.00	8357	Inside	3965.00	
Recorder	0.00	8645	Outside	3965.00	
Perforations	16.00			3981.00	
Change Over Sub	1.00			3982.00	
Drill Pipe	31.00			4013.00	
Change Over Sub	1.00			4014.00	
Bullnose	3.00			4017.00	53.00 Bottom Packers & Anchor

**Total Tool Length: 80.50**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co., Inc.

**S31-12s-30w Gove,KS**

250 N Water Suite 300  
Wichita, KS 67202

**Abell Ranch B #2-31**

Job Ticket: 58485

**DST#: 2**

ATTN: Larry Nicholson

Test Start: 2014.12.15 @ 23:21:00

## 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:

61000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3200.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
300.00	OSWM 40w 60m	1.694

Total Length: 300.00 ft      Total Volume: 1.694 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

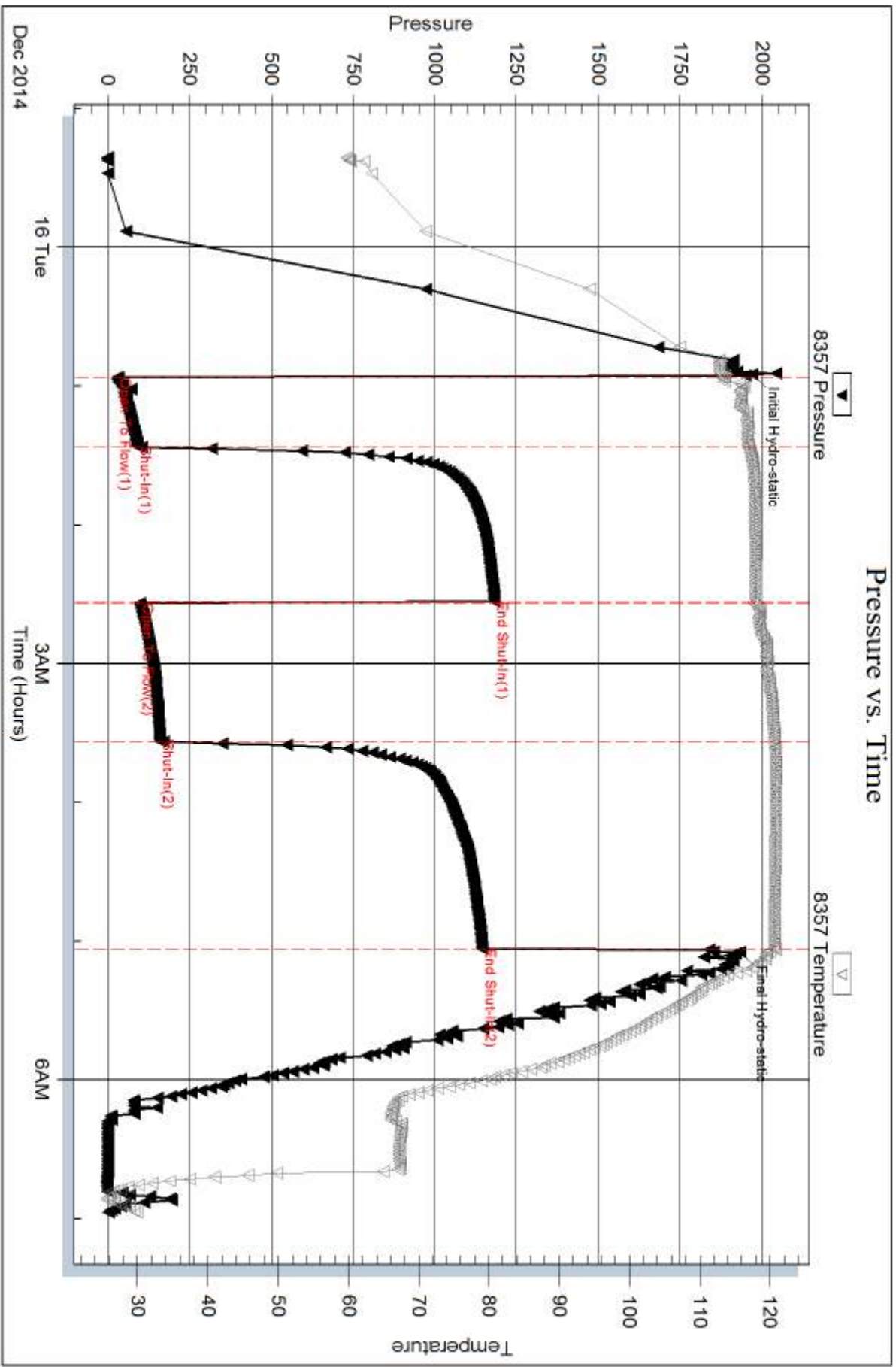
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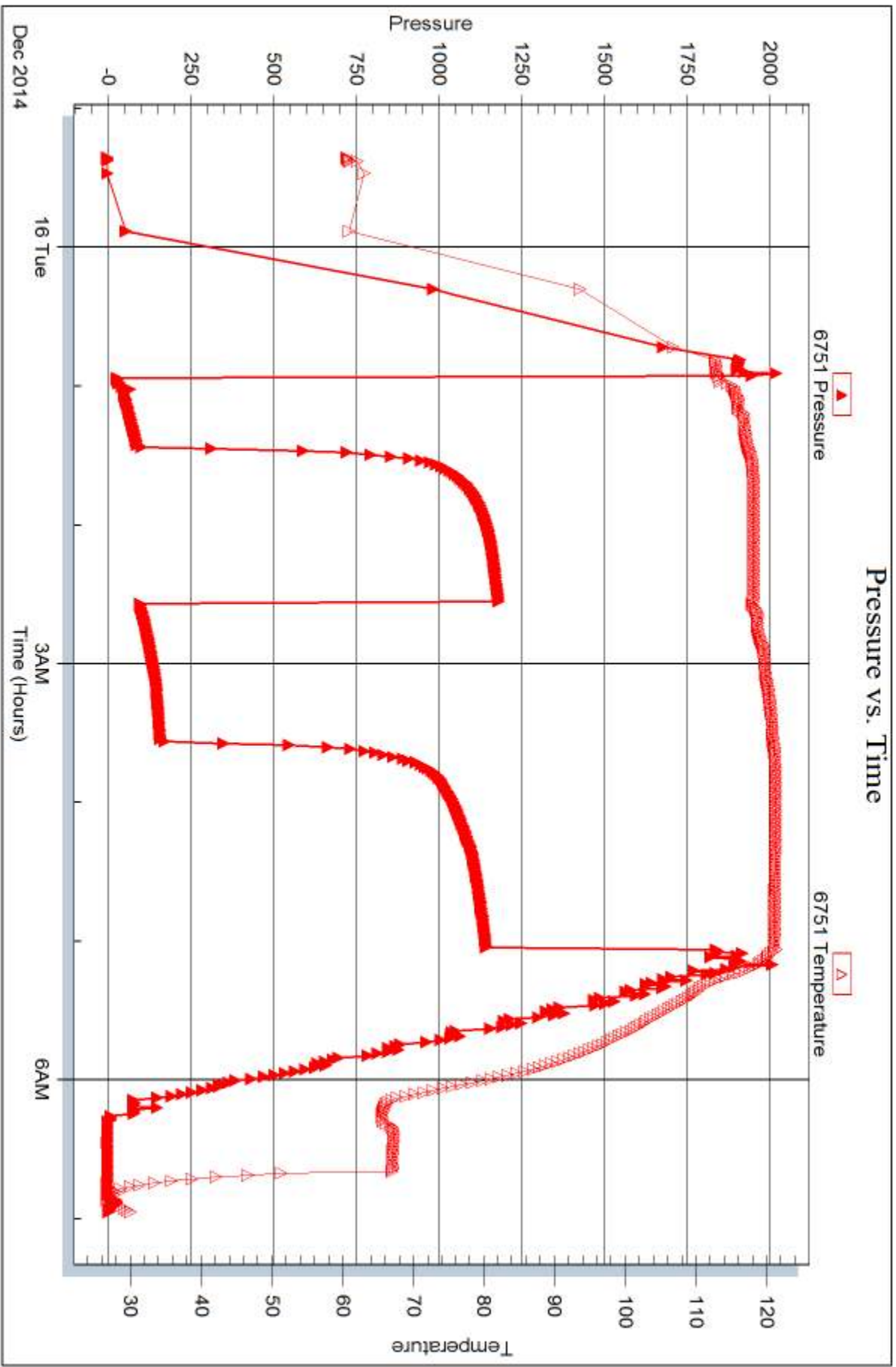
Laboratory Name:

Laboratory Location:

Recovery Comments: RW: .260 @ 34 Degrees F = 61000 PPM









## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N Water Suite 300  
Wichita, KS 67202

ATTN: Larry Nicholson

### **Abell Ranch B #2-31**

### **S31-12s-30w Gove,KS**

Start Date: 2014.12.16 @ 13:08:00

End Date: 2014.12.16 @ 20:45:39

Job Ticket #: 58486                      DST #: 3

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.12.23 @ 11:29:46

Murfin Drilling Co., Inc.

S31-12s-30w Gove,KS

Abell Ranch B #2-31

DST # 3

LKC:EF

2014.12.16



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

**S31-12s-30w Gove, KS**

250 N Water Suite 300  
Wichita, KS 67202

**Abell Ranch B #2-31**

Job Ticket: 58486

**DST#: 3**

ATTN: Larry Nicholson

Test Start: 2014.12.16 @ 13:08:00

## GENERAL INFORMATION:

Formation: **LKC 'E-F'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:44:10

Time Test Ended: 20:45:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Smith

Unit No: 62

**Interval: 4011.00 ft (KB) To 4041.00 ft (KB) (TVD)**

Reference Elevations: 2881.00 ft (KB)

Total Depth: 4041.00 ft (KB) (TVD)

2870.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 8357**

**Inside**

Press@RunDepth: 85.13 psig @ 4012.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.12.16

End Date:

2014.12.16

Last Calib.:

2014.12.16

Start Time: 13:08:02

End Time:

20:45:40

Time On Btm:

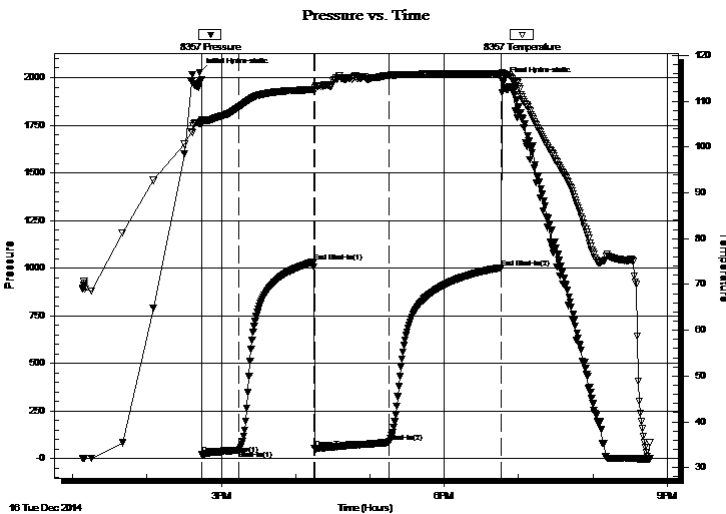
2014.12.16 @ 14:42:40

Time Off Btm:

2014.12.16 @ 18:47:09

**TEST COMMENT:** 30- 3" Blow .  
60- No return.  
60- 2 1/2" Blow .  
90- No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2027.42	105.13	Initial Hydro-static
2	20.99	104.90	Open To Flow (1)
32	46.13	108.71	Shut-In(1)
92	1034.29	112.52	End Shut-In(1)
93	53.68	112.43	Open To Flow (2)
153	85.13	115.62	Shut-In(2)
244	1002.89	115.97	End Shut-In(2)
245	1977.00	116.03	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
125.00	OSMW 50m 50w	0.61
10.00	OCWM 5o 30w 65m	0.05

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co., Inc.

**S31-12s-30w Gove,KS**

250 N Water Suite 300  
Wichita, KS 67202

**Abell Ranch B #2-31**

Job Ticket: 58486

**DST#: 3**

ATTN: Larry Nicholson

Test Start: 2014.12.16 @ 13:08:00

## Tool Information

Drill Pipe:	Length: 3729.00 ft	Diameter: 3.80 inches	Volume: 52.31 bbl	Tool Weight: 2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 276.00 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 53.67 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	21.50 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4011.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	57.50 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Change Over Sub	1.00			3984.50	
Shut In Tool	5.00			3989.50	
Hydraulic tool	5.00			3994.50	
Jars	5.00			3999.50	
Safety Joint	2.50			4002.00	
Packer	5.00			4007.00	27.50 Bottom Of Top Packer
Packer	4.00			4011.00	
Stubb	1.00			4012.00	
Recorder	0.00	8357	Inside	4012.00	
Recorder	0.00	8645	Outside	4012.00	
Perforations	26.00			4038.00	
Bullnose	3.00			4041.00	30.00 Bottom Packers & Anchor

**Total Tool Length: 57.50**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co., Inc.

**S31-12s-30w Gove,KS**

250 N Water Suite 300  
Wichita, KS 67202

**Abell Ranch B #2-31**

Job Ticket: 58486

**DST#: 3**

ATTN: Larry Nicholson

Test Start: 2014.12.16 @ 13:08:00

### 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:

75000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbf

Water Loss: 5.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1600.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbf
125.00	OSMW 50m 50w	0.615
10.00	OCWM 5o 30w 65m	0.049

Total Length: 135.00 ft      Total Volume: 0.664 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

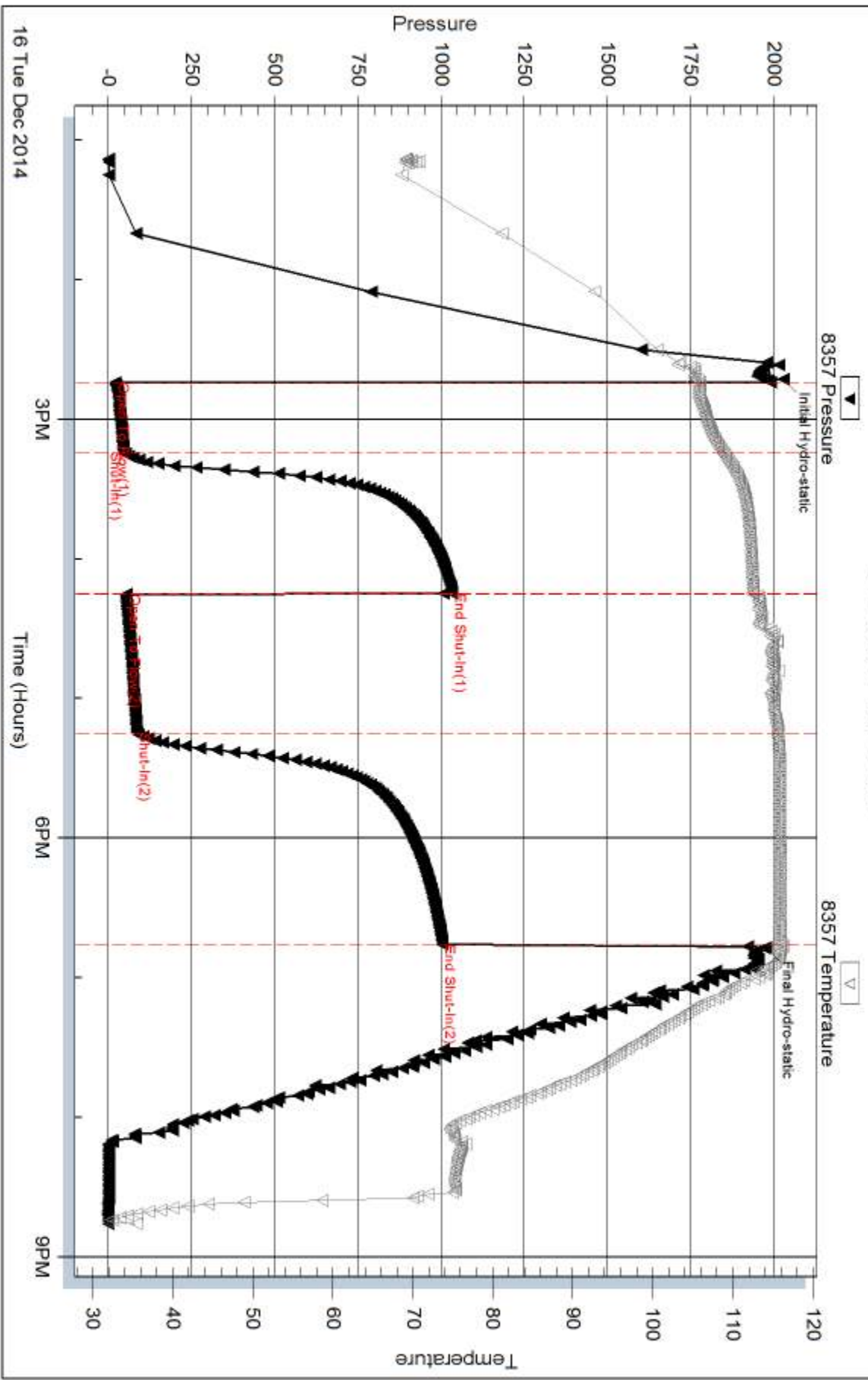
Serial #:

Laboratory Name:

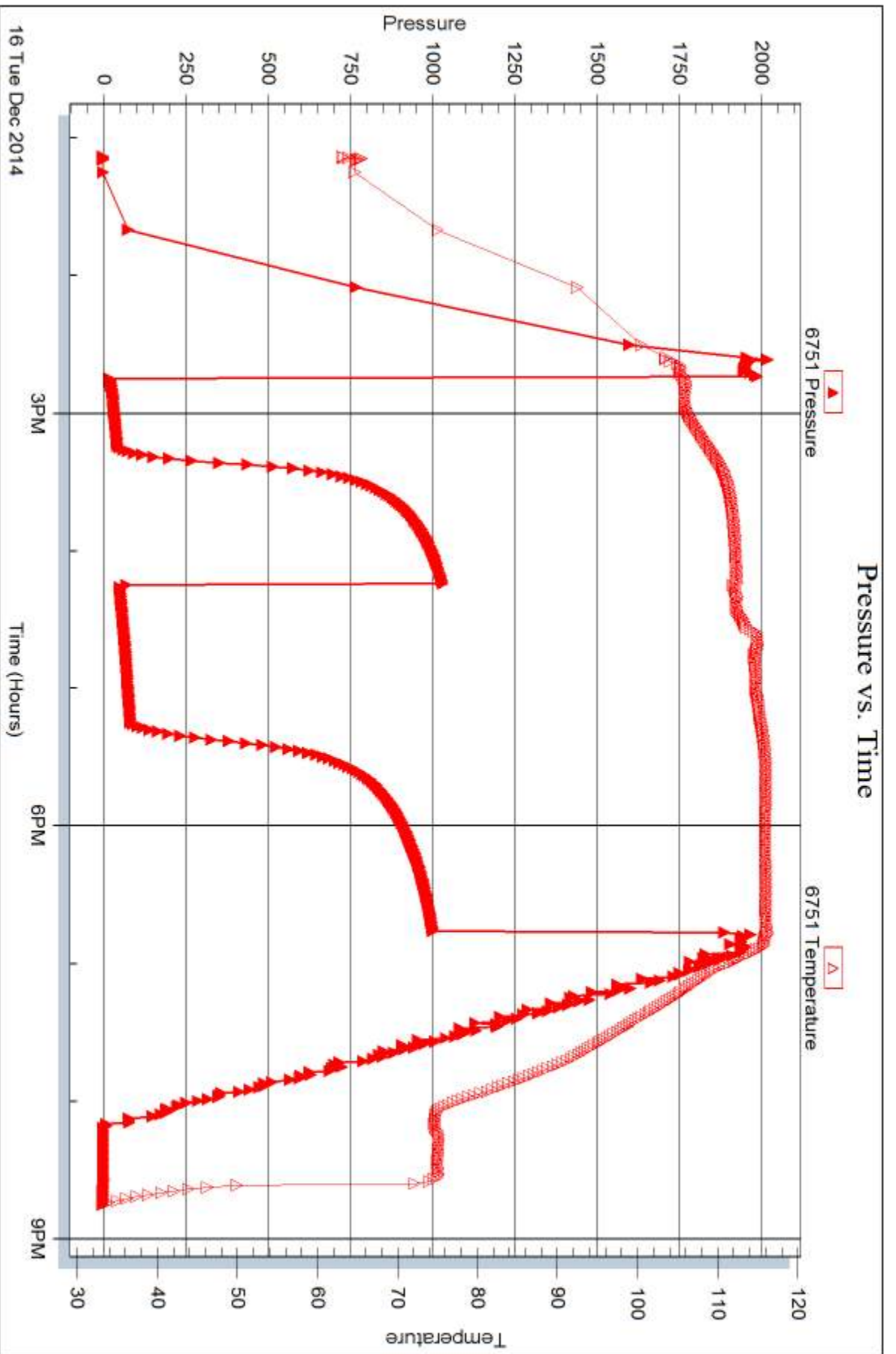
Laboratory Location:

Recovery Comments: RW: .130 @ 55 Degrees F = 75000 PPM

### Pressure vs. Time









## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N Water Suite 300  
Wichita, KS 67202

ATTN: Larry Nicholson

### **Abell Ranch B #2-31**

### **S31-12s-30w Gove,KS**

Start Date: 2014.12.17 @ 14:50:00

End Date: 2014.12.17 @ 22:58:30

Job Ticket #: 58487                      DST #: 4

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.12.23 @ 11:29:19

Murfin Drilling Co., Inc.

S31-12s-30w Gove,KS

Abell Ranch B #2-31

DST # 4

LKC 'H,K'

2014.12.17



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

**S31-12s-30w Gove, KS**

250 N Water Suite 300  
Wichita, KS 67202

**Abell Ranch B #2-31**

ATTN: Larry Nicholson

Job Ticket: 58487

**DST#: 4**

Test Start: 2014.12.17 @ 14:50:00

## GENERAL INFORMATION:

Formation: **LKC 'H-K'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:59:20

Time Test Ended: 22:58:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Smith

Unit No: 62

**Interval: 4076.00 ft (KB) To 4203.00 ft (KB) (TVD)**

Reference Elevations: 2881.00 ft (KB)

Total Depth: 4203.00 ft (KB) (TVD)

2870.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 8357**

**Inside**

Press@RunDepth: 197.88 psig @ 4077.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.12.17

End Date:

2014.12.17

Last Calib.: 2014.12.17

Start Time: 14:50:02

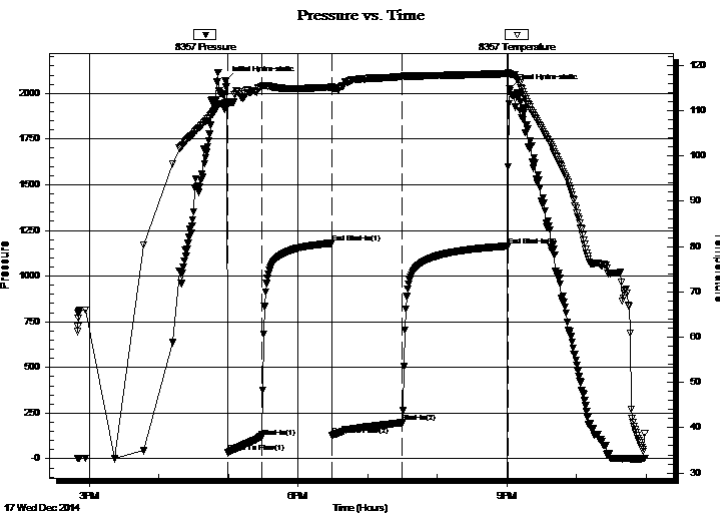
End Time:

22:58:30

Time On Btm: 2014.12.17 @ 16:57:20

Time Off Btm: 2014.12.17 @ 21:02:20

TEST COMMENT: 30- 7" Blow .  
60- No return.  
60- 10" Blow .  
90- No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2067.75	111.67	Initial Hydro-static
2	32.52	111.39	Open To Flow (1)
32	120.20	115.33	Shut-In(1)
92	1180.26	115.16	End Shut-In(1)
92	125.93	114.73	Open To Flow (2)
153	197.88	117.52	Shut-In(2)
244	1164.36	118.19	End Shut-In(2)
245	2026.53	118.04	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
184.00	OSWM 20w 80m	0.90
116.00	OSM 100m	0.79

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co., Inc.

**S31-12s-30w Gove,KS**

250 N Water Suite 300  
Wichita, KS 67202

**Abell Ranch B #2-31**

Job Ticket: 58487

**DST#: 4**

ATTN: Larry Nicholson

Test Start: 2014.12.17 @ 14:50:00

## Tool Information

Drill Pipe:	Length: 3790.00 ft	Diameter: 3.80 inches	Volume: 53.16 bbl	Tool Weight: 2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 276.00 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 54.52 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.50 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4076.00 ft			Final 73000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	127.00 ft			
Tool Length:	154.50 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

**Length (ft) Serial No. Position Depth (ft) Accum. Lengths**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4049.50	
Shut In Tool	5.00			4054.50	
Hydraulic tool	5.00			4059.50	
Jars	5.00			4064.50	
Safety Joint	2.50			4067.00	
Packer	5.00			4072.00	27.50 Bottom Of Top Packer
Packer	4.00			4076.00	
Stubb	1.00			4077.00	
Recorder	0.00	8357	Inside	4077.00	
Recorder	0.00	8645	Outside	4077.00	
Perforations	27.00			4104.00	
Change Over Sub	1.00			4105.00	
Drill Pipe	94.00			4199.00	
Change Over Sub	1.00			4200.00	
Bullnose	3.00			4203.00	127.00 Bottom Packers & Anchor

**Total Tool Length: 154.50**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co., Inc.

**S31-12s-30w Gove,KS**

250 N Water Suite 300  
Wichita, KS 67202

**Abell Ranch B #2-31**

Job Ticket: 58487

**DST#: 4**

ATTN: Larry Nicholson

Test Start: 2014.12.17 @ 14:50:00

### 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:

77000 ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbf

Water Loss: 5.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2200.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbf
184.00	OSWM 20w 80m	0.905
116.00	OSM 100m	0.789

Total Length: 300.00 ft      Total Volume: 1.694 bbf

Num Fluid Samples: 0

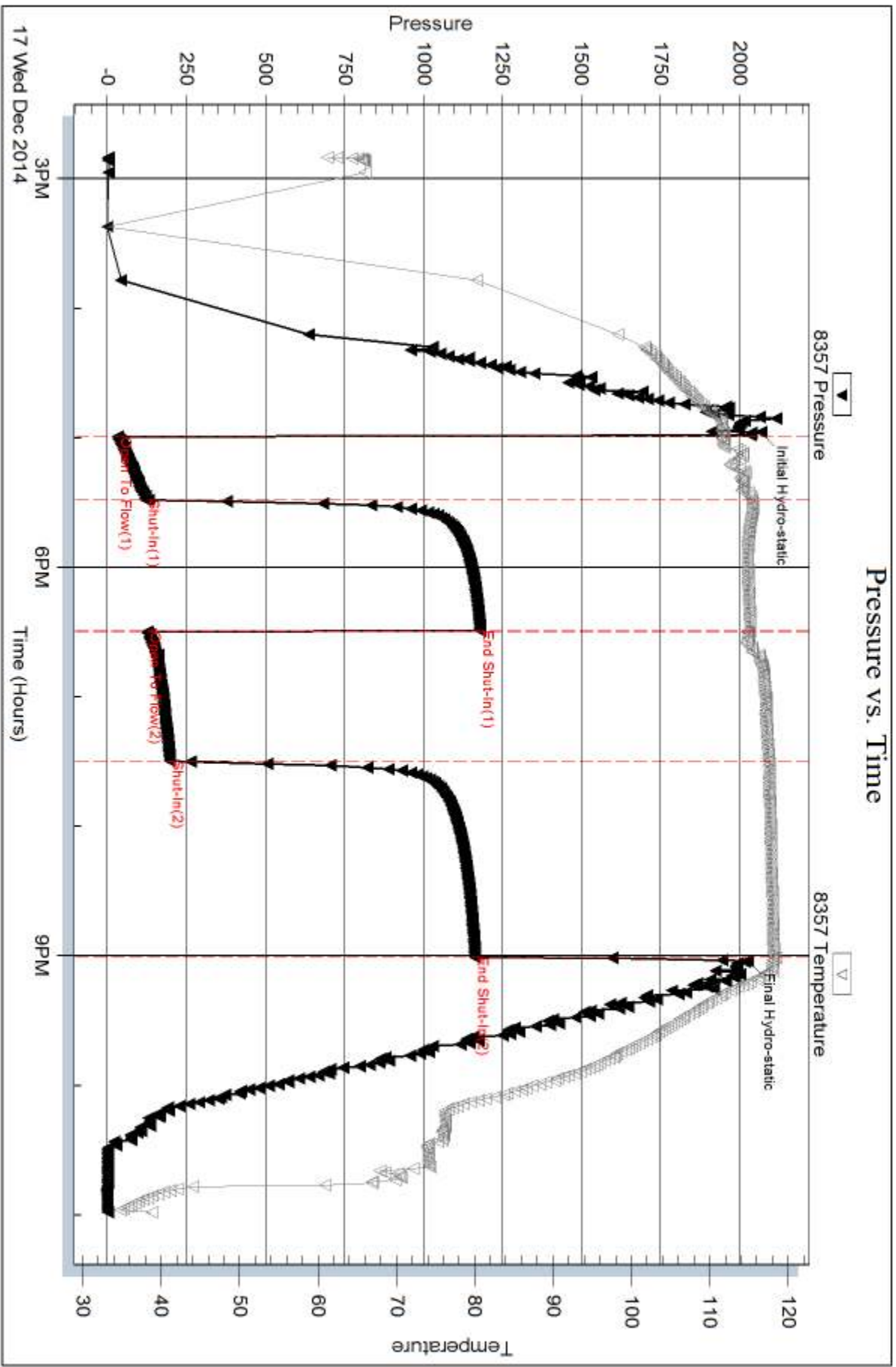
Num Gas Bombs: 0

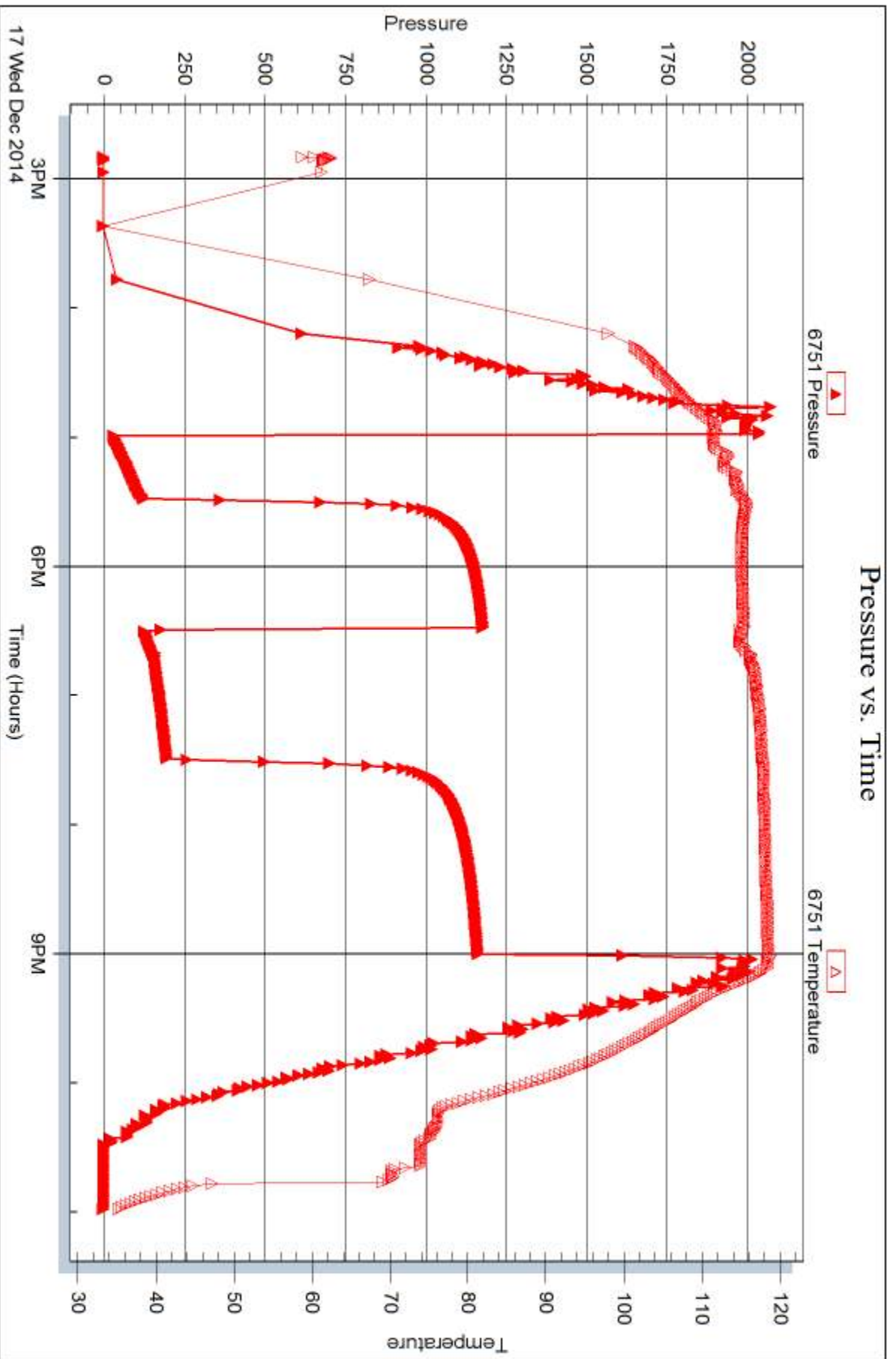
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW: .140 @ 50 Degrees F = 77000 PPM









## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N Water Suite 300  
Wichita, KS 67202

ATTN: Larry Nicholson

### **Abell Ranch B #2-31**

### **S31-12s-30w Gove,KS**

Start Date: 2014.12.19 @ 02:04:00

End Date: 2014.12.19 @ 10:27:39

Job Ticket #: 58488                      DST #: 5

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.12.23 @ 11:28:35



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

**S31-12s-30w Gove,KS**

250 N Water Suite 300  
Wichita, KS 67202

**Abell Ranch B #2-31**

Job Ticket: 58488

**DST#: 5**

ATTN: Larry Nicholson

Test Start: 2014.12.19 @ 02:04:00

## GENERAL INFORMATION:

Formation: **Pawnee - Johnson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:27:20

Time Test Ended: 10:27:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Smith

Unit No: 62

**Interval: 4377.00 ft (KB) To 4504.00 ft (KB) (TVD)**

Reference Elevations: 2881.00 ft (KB)

Total Depth: 4504.00 ft (KB) (TVD)

2870.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 8357**

**Inside**

Press@RunDepth: 54.51 psig @ 4378.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.12.19

End Date:

2014.12.19

Last Calib.:

2014.12.19

Start Time: 02:04:02

End Time:

10:27:40

Time On Btm:

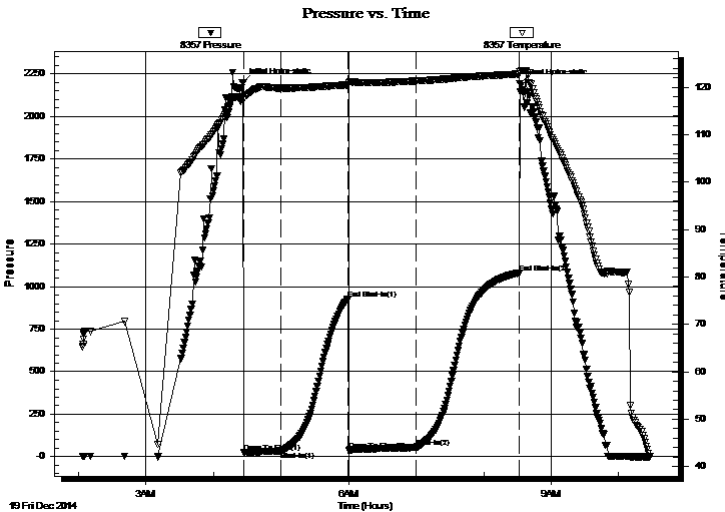
2014.12.19 @ 04:25:50

Time Off Btm:

2014.12.19 @ 08:32:00

**TEST COMMENT:** 30- 1/2" Steady blow .  
60- No return.  
60- 3" Building blow .  
90- No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2200.19	118.02	Initial Hydro-static
2	23.63	117.58	Open To Flow (1)
34	34.26	119.84	Shut-In(1)
94	926.18	120.53	End Shut-In(1)
95	36.71	121.04	Open To Flow (2)
155	54.51	121.35	Shut-In(2)
246	1080.09	122.80	End Shut-In(2)
247	2191.79	123.31	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
65.00	OCM 20o 80m	0.32

## Gas Rates

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

\* Recovery from multiple tests





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co., Inc.

**S31-12s-30w Gove,KS**

250 N Water Suite 300  
Wichita, KS 67202

**Abell Ranch B #2-31**

Job Ticket: 58488

**DST#: 5**

ATTN: Larry Nicholson

Test Start: 2014.12.19 @ 02:04:00

## Tool Information

Drill Pipe:	Length: 4105.00 ft	Diameter: 3.80 inches	Volume: 57.58 bbl	Tool Weight: 2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 276.00 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 58.94 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.50 ft			String Weight: Initial 75000.00 lb
Depth to Top Packer:	4377.00 ft			Final 75000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	127.00 ft			
Tool Length:	154.50 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

**Length (ft) Serial No. Position Depth (ft) Accum. Lengths**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4350.50	
Shut In Tool	5.00			4355.50	
Hydraulic tool	5.00			4360.50	
Jars	5.00			4365.50	
Safety Joint	2.50			4368.00	
Packer	5.00			4373.00	27.50 Bottom Of Top Packer
Packer	4.00			4377.00	
Stubb	1.00			4378.00	
Recorder	0.00	8357	Inside	4378.00	
Recorder	0.00	8645	Outside	4378.00	
Perforations	27.00			4405.00	
Change Over Sub	1.00			4406.00	
Drill Pipe	94.00			4500.00	
Change Over Sub	1.00			4501.00	
Bullnose	3.00			4504.00	127.00 Bottom Packers & Anchor

**Total Tool Length: 154.50**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co., Inc.

**S31-12s-30w Gove,KS**

250 N Water Suite 300  
Wichita, KS 67202

**Abell Ranch B #2-31**

Job Ticket: 58488

**DST#: 5**

ATTN: Larry Nicholson

Test Start: 2014.12.19 @ 02:04:00

### 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: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
65.00	OCM 20o 80m	0.320

Total Length: 65.00 ft      Total Volume: 0.320 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

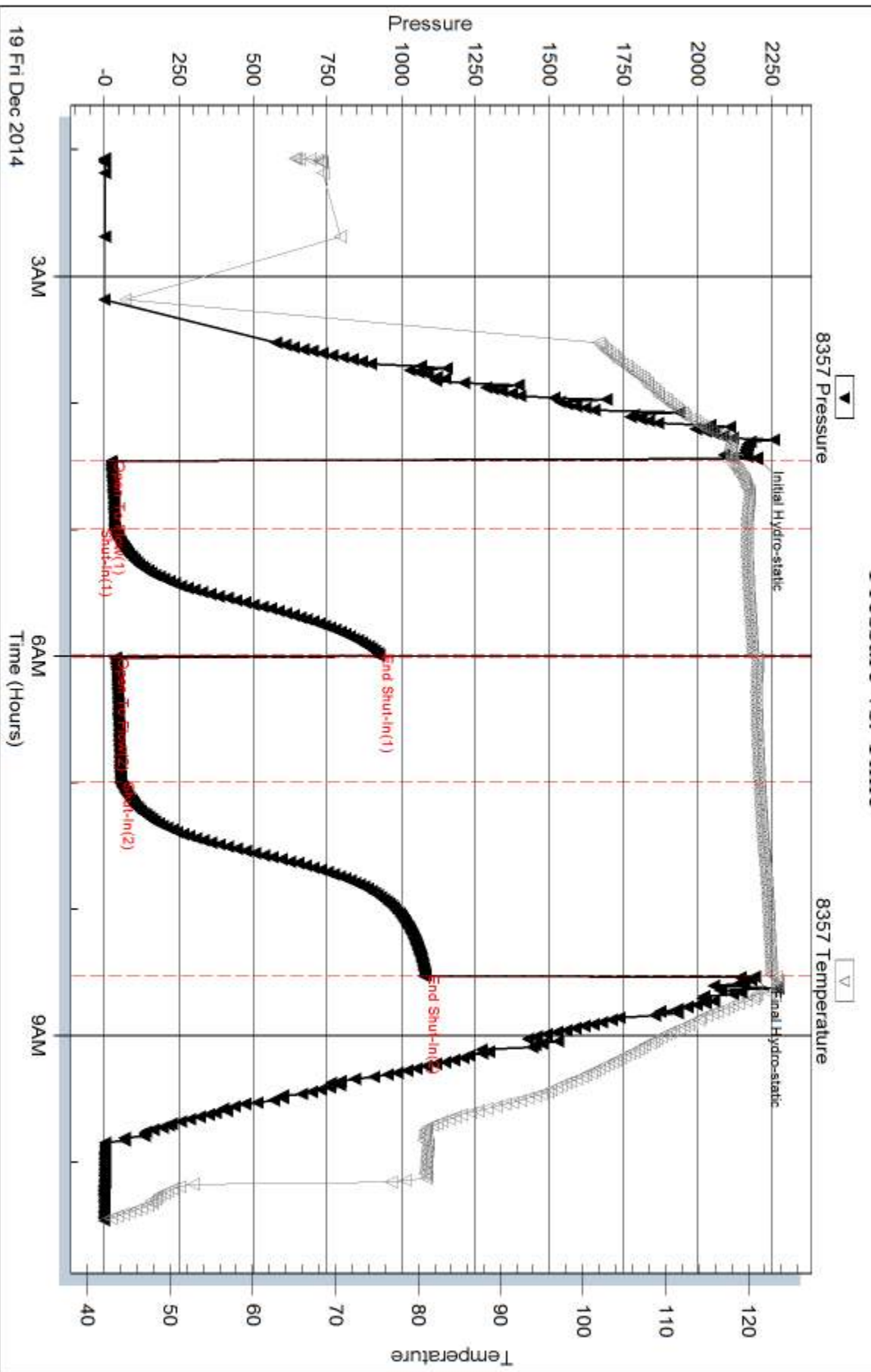
Serial #:

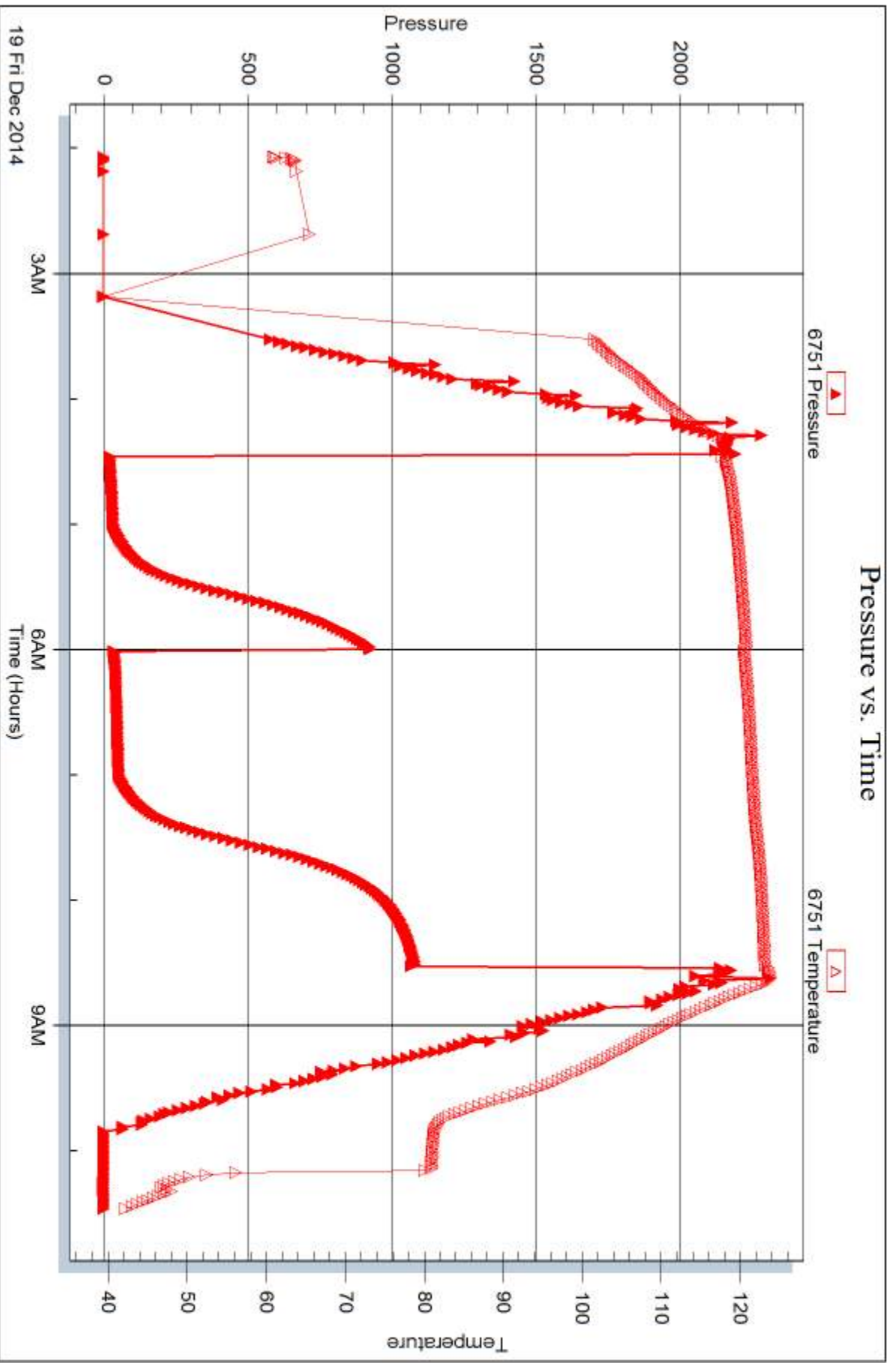
Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time







## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N Water Suite 300  
Wichita, KS 67202

ATTN: Larry Nicholson

### **Abell Ranch B #2-31**

### **S31-12s-30w Gove,KS**

Start Date: 2014.12.19 @ 16:44:00

End Date: 2014.12.20 @ 01:13:39

Job Ticket #: 58489                      DST #: 6

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.12.23 @ 11:26:27





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

**S31-12s-30w Gove, KS**

250 N Water Suite 300  
Wichita, KS 67202

**Abell Ranch B #2-31**

ATTN: Larry Nicholson

Job Ticket: 58489

**DST#: 6**

Test Start: 2014.12.19 @ 16:44:00

## GENERAL INFORMATION:

Formation: **Mississippian**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:53:50

Time Test Ended: 01:13:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Smith

Unit No: 62

**Interval: 4513.00 ft (KB) To 4525.00 ft (KB) (TVD)**

Reference Elevations: 2881.00 ft (KB)

Total Depth: 4525.00 ft (KB) (TVD)

2870.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 8357**

**Inside**

Press@RunDepth: 121.10 psig @ 4514.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.12.19

End Date:

2014.12.20

Last Calib.: 2014.12.20

Start Time: 16:44:02

End Time:

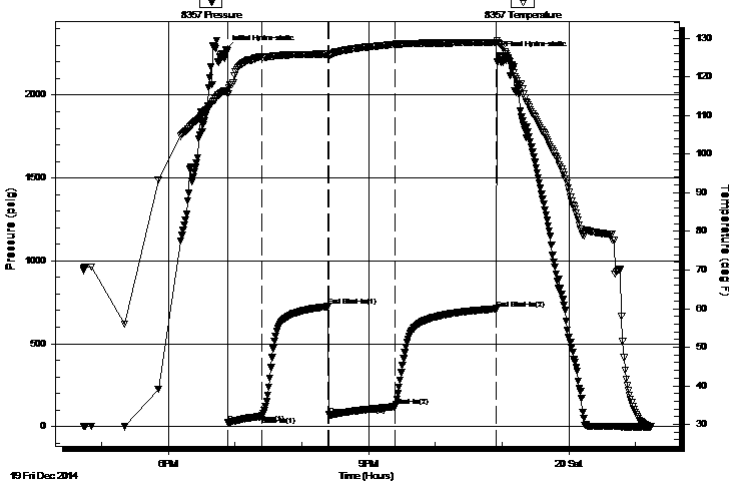
01:13:40

Time On Btm: 2014.12.19 @ 18:52:00

Time Off Btm: 2014.12.19 @ 22:57:20

**TEST COMMENT:** 30- 5" Blow .  
60- Weak return died @ 25 min.  
60- B.O.B. @ 35 min.  
90- 1" Return.

Pressure vs. Time



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2276.20	116.28	Initial Hydro-static
2	22.77	115.68	Open To Flow (1)
32	63.90	125.24	Shut-In(1)
92	724.64	125.91	End Shut-In(1)
93	70.87	125.35	Open To Flow (2)
152	121.10	128.40	Shut-In(2)
243	711.07	128.93	End Shut-In(2)
246	2236.76	128.55	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
62.00	OSMW 50m 50w	0.30
62.00	GMCO 10g 30m 60o	0.30
124.00	GO 40g 60o	0.61
0.00	62' GIP	0.00

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.  
 250 N Water Suite 300  
 Wichita, KS 67202  
 ATTN: Larry Nicholson

**S31-12s-30w Gove, KS**  
**Abell Ranch B #2-31**  
 Job Ticket: 58489 **DST#: 6**  
 Test Start: 2014.12.19 @ 16:44:00

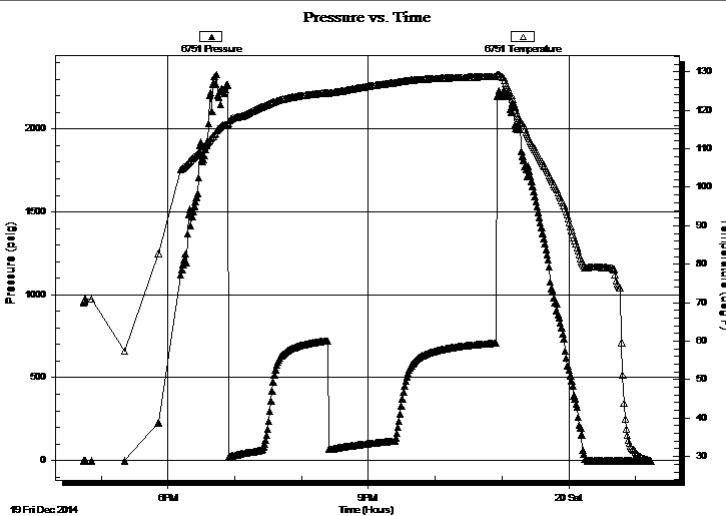
## GENERAL INFORMATION:

Formation: **Mississippian**  
 Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 18:53:50 Tester: Chuck Smith  
 Time Test Ended: 01:13:39 Unit No: 62  
**Interval: 4513.00 ft (KB) To 4525.00 ft (KB) (TVD)** Reference Elevations: 2881.00 ft (KB)  
 Total Depth: 4525.00 ft (KB) (TVD) 2870.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 11.00 ft

### Serial #: 6751

Press@RunDepth: psig @ ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.12.19 End Date: 2014.12.20 Last Calib.: 2014.12.20  
 Start Time: 16:44:10 End Time: 01:13:38 Time On Btm:  
 Time Off Btm:

TEST COMMENT: 30- 5" Blow .  
 60- Weak return died @ 25 min.  
 60- B.O.B. @ 35 min.  
 90- 1" Return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

## Recovery

Length (ft)	Description	Volume (bbl)
62.00	OSMW 50m 50w	0.30
62.00	GMCO 10g 30m 60o	0.30
124.00	GO 40g 60o	0.61
0.00	62' GIP	0.00

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co., Inc.

**S31-12s-30w Gove,KS**

250 N Water Suite 300  
Wichita, KS 67202

**Abell Ranch B #2-31**

Job Ticket: 58489

**DST#: 6**

ATTN: Larry Nicholson

Test Start: 2014.12.19 @ 16:44:00

## Tool Information

Drill Pipe:	Length: 4233.00 ft	Diameter: 3.80 inches	Volume: 59.38 bbl	Tool Weight: 2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 276.00 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose: 100000.0 lb
			<u>Total Volume: 60.74 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.50 ft			String Weight: Initial 76000.00 lb
Depth to Top Packer:	4513.00 ft			Final 77000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	12.00 ft			
Tool Length:	39.50 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Change Over Sub	1.00			4486.50	
Shut In Tool	5.00			4491.50	
Hydraulic tool	5.00			4496.50	
Jars	5.00			4501.50	
Safety Joint	2.50			4504.00	
Packer	5.00			4509.00	27.50 Bottom Of Top Packer
Packer	4.00			4513.00	
Stubb	1.00			4514.00	
Recorder	0.00	8357	Inside	4514.00	
Recorder	0.00	8645	Outside	4514.00	
Perforations	8.00			4522.00	
Bullnose	3.00			4525.00	12.00 Bottom Packers & Anchor

**Total Tool Length: 39.50**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co., Inc.

**S31-12s-30w Gove,KS**

250 N Water Suite 300  
Wichita, KS 67202

**Abell Ranch B #2-31**

Job Ticket: 58489

**DST#: 6**

ATTN: Larry Nicholson

Test Start: 2014.12.19 @ 16:44:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

31 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

26000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.40 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1700.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
62.00	OSMW 50m 50w	0.305
62.00	GMCO 10g 30m 60o	0.305
124.00	GO 40g 60o	0.610
0.00	62' GIP	0.000

Total Length: 248.00 ft      Total Volume: 1.220 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

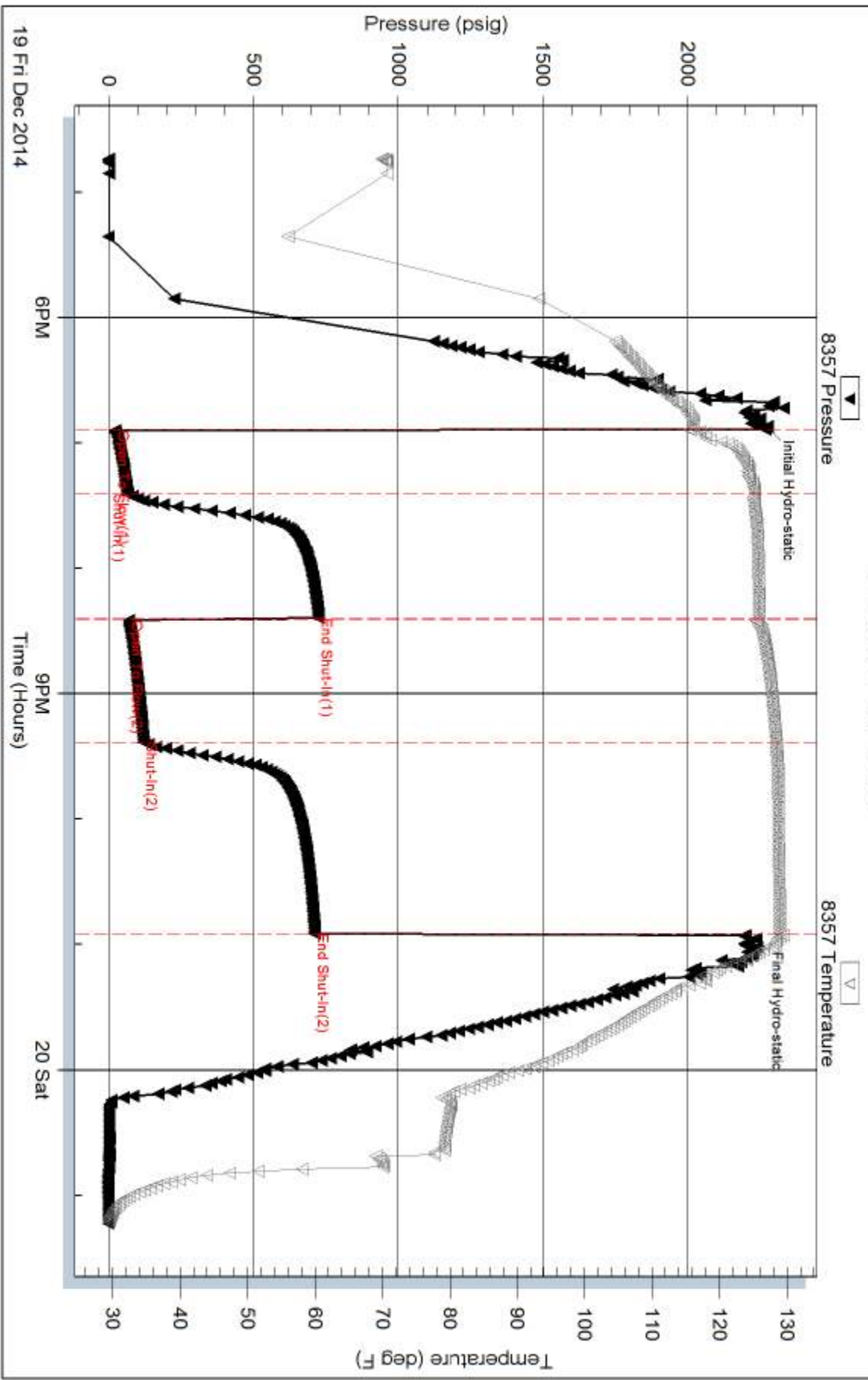
Serial #:

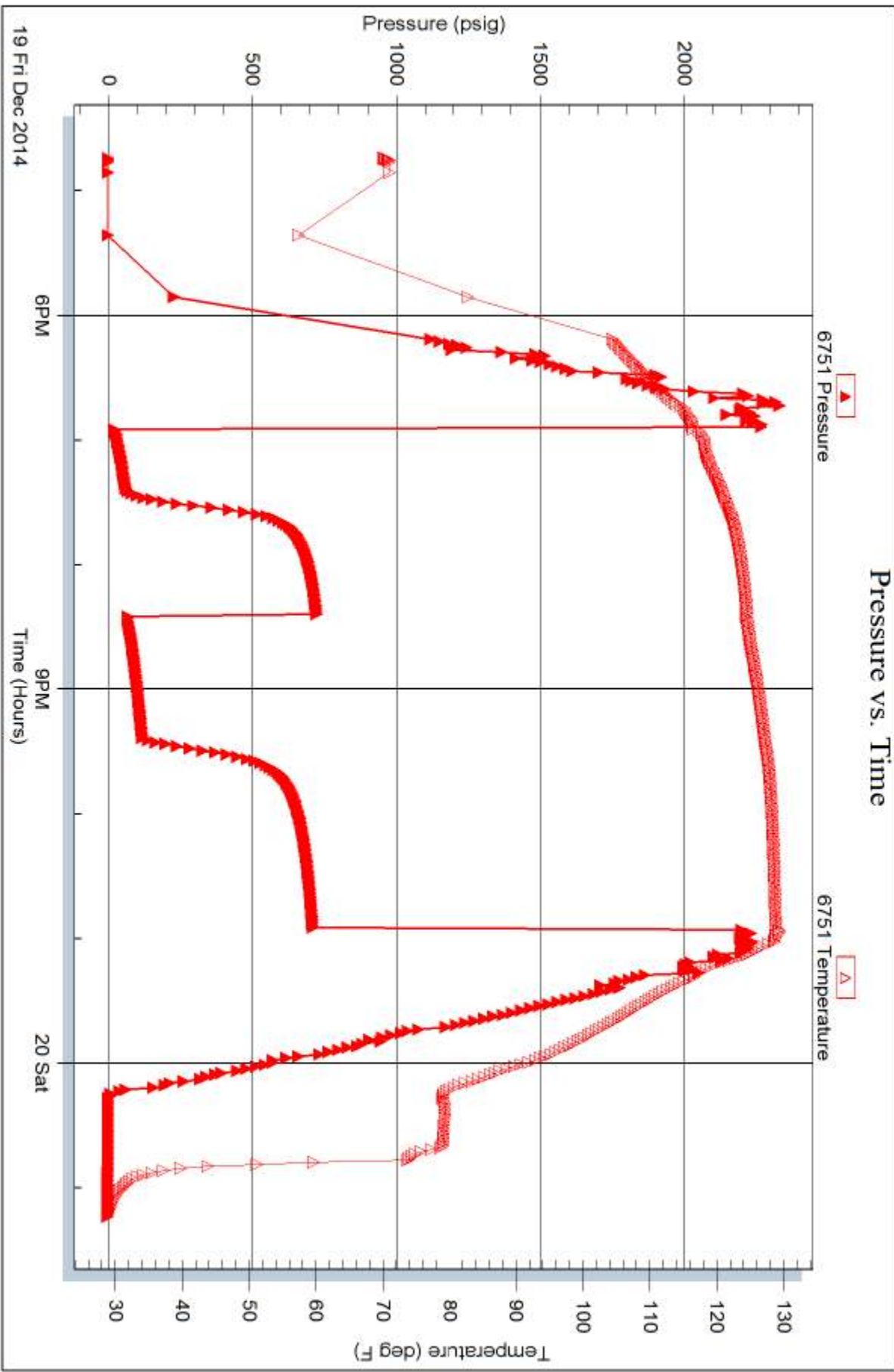
Laboratory Name:

Laboratory Location:

Recovery Comments: API: 28 @ 30 Degrees F = 31. RW: .340 @ 55 Degrees F = 26000 PPM

### Pressure vs. Time







# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58484

4/10

Well Name & No. Abell Ranch B # 2-31 Test No. 1 Date 12-15-14  
 Company Musfin Drilling Co, Inc. Elevation 2881 KB 2870 GL  
 Address 250 N. Water Ste. 300 Wichita, KS 67202  
 Co. Rep / Geo. Larry Nicholson Rig MDC #21  
 Location: Sec. 31 Twp. 12s Rge. 30w Co. Gove State KS

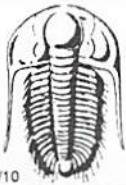
Interval Tested 3970-4017 Zone Tested Lansing B-D  
 Anchor Length 47 Drill Pipe Run 3698 Mud Wt. 9.0  
 Top Packer Depth 3966 Drill Collars Run 276 Vis 60  
 Bottom Packer Depth 3970 Wt. Pipe Run 0 WL 5.6  
 Total Depth 4017 Chlorides 3200 ppm System LCM 4"  
 Blow Description Packer seat failed during two attempts to land the tool, pulled tool out.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>350</u>	Feet of <u>M</u>				<u>100</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 350 BHT 112 Gravity — API RW — @ — °F Chlorides — ppm  
 (A) Initial Hydrostatic 1964  Test 1050 1150 T-On Location 18:10  
 (B) First Initial Flow 591  Jars 250 T-Started 18:13  
 (C) First Final Flow —  Safety Joint 75 T-Open 20:40  
 (D) Initial Shut-In —  Circ Sub NIC T-Pulled 20:44  
 (E) Second Initial Flow —  Hourly Standby — T-Out 23:02  
 (F) Second Final Flow 963  Mileage 92RT 142.60 Comments Left to get shale packer for DST #2  
 (G) Final Shut-In —  Sampler —  Ruined Shale Packer —  
 (H) Final Hydrostatic 1930  Straddle —  Ruined Packer —  
 Initial Open Misrun  Shale Packer —  Extra Copies —  
 Initial Shut-In —  Extra Packer — Sub Total 0  
 Final Flow —  Extra Recorder — Total 1517.60  
 Final Shut-In —  Day Standby — MP/DST Disc't —  
 Sub Total 1517.60

Approved By \_\_\_\_\_ Our Representative Chuck Amis

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58485

Well Name & No. Abell Ranch B #2-31 Test No. 2 Date 12-15-14  
 Company Murfin Drilling Co, Inc. Elevation 2881 KB 2870 GL  
 Address 250 N. Water STE 300 Wichita, KS 67202  
 Co. Rep / Geo. Larry Nicholson Rig M.D.C. #21  
 Location: Sec. 31 Twp. 12s Rge. 30w Co. Gove State KS

Interval Tested 3964-4017 Zone Tested Lansing B-D  
 Anchor Length 53 Drill Pipe Run 3664 Mud Wt. 9.0  
 Top Packer Depth 3960 Drill Collars Run 276 Vis 60  
 Bottom Packer Depth 3964 Wt. Pipe Run 0 WL 5.6  
 Total Depth 4017 Chlorides 3200 ppm System LCM 4"  
 Blow Description 6" Blow.  
No return.  
5" Blow.  
No return.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>300</u>	Feet of <u>OSWM</u>	%gas	%oil	<u>40</u> %water	<u>60</u> %mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

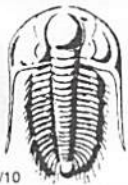
Rec Total 300 BHT 121 Gravity — API RW 260 @ 34 ° F Chlorides 61000 ppm

(A) Initial Hydrostatic <u>1971</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>23:05</u>
(B) First Initial Flow <u>29</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>23:21</u>
(C) First Final Flow <u>91</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>00:56</u>
(D) Initial Shut-In <u>1184</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIC</u>	T-Pulled <u>5:03</u>
(E) Second Initial Flow <u>99</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>6:57</u>
(F) Second Final Flow <u>159</u>	<input checked="" type="checkbox"/> Mileage <u>92RT</u>	Comments
(G) Final Shut-In <u>1146</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1934</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>36 30</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby	Total <u>1825</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1825</u>	

Approved By [Signature] Our Representative Chuck Smith

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58486

Well Name & No. Abell Ranch B #2-31 Test No. 3 Date 12-16-14  
 Company Murfin Drilling Co., Inc. Elevation 2881 KB 2870 GL  
 Address 250 N. Water STE 300 Wichita, KS 67202  
 Co. Rep / Geo. Larry Nicholson Rig M.D.C. #21  
 Location: Sec. 31 Twp. 12s Rge. 30W Co. Gove State KS

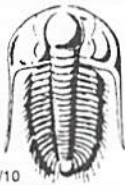
Interval Tested 4011 - 4041 Zone Tested Lansing 'E-F'  
 Anchor Length 30 Drill Pipe Run 3729 Mud Wt. 9.1  
 Top Packer Depth 4007 Drill Collars Run 276 Vis 60  
 Bottom Packer Depth 4011 Wt. Pipe Run 0 WL 5.6  
 Total Depth 4041 Chlorides 1600 ppm System LCM 4\*  
 Blow Description 3" Blow  
No return.  
2 1/2" Blow  
No return.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>10</u>	Feet of <u>CCWM</u>	%gas <u>5</u>	%oil <u>100</u>	%water <u>30</u>	%mud <u>65</u>
Rec <u>125</u>	Feet of <u>OSMW</u>	%gas	%oil	%water <u>50</u>	%mud <u>50</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 135 BHT 116 Gravity — API RW .130 @ 55 °F Chlorides 75000 ppm  
 (A) Initial Hydrostatic 2027  Test 1250 T-On Location 13:05  
 (B) First Initial Flow 21  Jars 250 T-Started 13:08  
 (C) First Final Flow 46  Safety Joint 75 T-Open 14:44  
 (D) Initial Shut-In 1034  Circ Sub NIC T-Pulled 18:46  
 (E) Second Initial Flow 54  Hourly Standby \_\_\_\_\_ T-Out 20:45  
 (F) Second Final Flow 85  Mileage 142.60 Comments \_\_\_\_\_  
 (G) Final Shut-In 1003  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1977  Straddle \_\_\_\_\_  
 Shale Packer 250  Ruined Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1967.60  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1967.60

Approved By [Signature] Our Representative Chuck Smith

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58487

Well Name & No. Abell Ranch B# 2-31 Test No. 4 Date 12-17-14  
 Company Murfin Drilling Co., Inc. Elevation 2881 KB 2870 GL  
 Address 250 N. Water STE 300 Wichita, KS 67202  
 Co. Rep / Geo. Larry Nicholson Rig M.D.C. #21  
 Location: Sec. 31 Twp. 12s Rge. 30w Co. Gove State KS

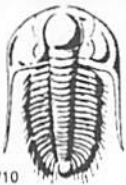
Interval Tested 4076-4203 Zone Tested Lansing 'H-K'  
 Anchor Length 127 Drill Pipe Run 3790 Mud Wt. 9.0  
 Top Packer Depth 4072 Drill Collars Run 276 Vis 53  
 Bottom Packer Depth 4076 Wt. Pipe Run 0 WL 5.6  
 Total Depth 4203 Chlorides 2200 ppm System LCM 4"  
 Blow Description 7" Blow  
No return.  
10" Blow  
No return.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>116</u>	Feet of <u>OSM</u>			<u>100</u>	%mud
Rec <u>184</u>	Feet of <u>OSW.M</u>		<u>20</u>	<u>80</u>	%mud
Rec _____	Feet of _____	%gas	%oil	%water	%mud
Rec _____	Feet of _____	%gas	%oil	%water	%mud

Rec Total 300 BHT 118 Gravity - API RW 140 @ 50 ° F Chlorides 77000 ppm  
 (A) Initial Hydrostatic 2068  Test 1250 T-On Location 14:50  
 (B) First Initial Flow 33  Jars 250 T-Started 14:50  
 (C) First Final Flow 120  Safety Joint 75 T-Open 16:59  
 (D) Initial Shut-In 1180  Circ Sub NIC T-Pulled 21:01  
 (E) Second Initial Flow 126  Hourly Standby \_\_\_\_\_ T-Out 22:59  
 (F) Second Final Flow 198  Mileage 92RT 142.60 Comments \_\_\_\_\_  
 (G) Final Shut-In 1164  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2027  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1717.60

Approved By \_\_\_\_\_ Our Representative Chuck Smith

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58488

4/10

Well Name & No. Abell Ranch B #2-31 Test No. 5 Date 12-19-14  
 Company Murfin Drilling Co., Inc. Elevation 2881 KB 2870 GL  
 Address 250 N. Water STE 300 Wichita KS 67202  
 Co. Rep / Geo. Larry Nicholson Rig M.D.C. #21  
 Location: Sec. 36 Twp. 12s Rge. 30w Co. Gove State KS

Interval Tested 4377-4504 Zone Tested Pawnee-Johnson  
 Anchor Length 127 Drill Pipe Run 4105 Mud Wt. 9.3  
 Top Packer Depth 4373 Drill Collars Run 276 Vis 52  
 Bottom Packer Depth 4377 Wt. Pipe Run 0 WL 6.4  
 Total Depth 4504 Chlorides 2000 ppm System LCM 4<sup>#</sup>  
 Blow Description 1/2" Steady blow.  
No return  
3" Bubbling blow.  
No return.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>65</u>	Feet of <u>OCM</u>	%gas <u>20</u>	%oil	%water <u>80</u>	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 65 BHT 123 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 2200  Test 1250 T-On Location 2:00  
 (B) First Initial Flow 24  Jars 250 T-Started 2:04  
 (C) First Final Flow 34  Safety Joint 75 T-Open 4:27  
 (D) Initial Shut-In 926  Circ Sub N/C T-Pulled 8:31  
 (E) Second Initial Flow 37  Hourly Standby 3x N/A T-Out 10:28  
 (F) Second Final Flow 55  Mileage 92RT 142.60  
 (G) Final Shut-In 1080  Sampler  
 (H) Final Hydrostatic 2192  Straddle  Ruined Shale Packer  
 Shale Packer  Ruined Packer  
 Extra Packer  Extra Copies  
 Extra Recorder  
 Day Standby 3x 1d 3h Sub Total 100  
 Accessibility Total 1817.60  
 Sub Total 1717.60 MP/DST Disc't

Approved By [Signature] Our Representative Chuck Smith

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58489

4/10

Well Name & No. Abell Ranch B #2-31 Test No. 6 Date 12-19-14  
 Company Martin Drilling Co., Inc. Elevation 2881 KB 2870 GL  
 Address 250 N. Water STE 300 Wichita, KS 67202  
 Co. Rep / Geo. Larry Nicholson Rig MDC #21  
 Location: Sec. 31 Twp. 12s Rge. 30w Co. Gove State Ks

Interval Tested 4513-4525 Zone Tested Mississippian  
 Anchor Length 12 Drill Pipe Run 4233 Mud Wt. 9.0  
 Top Packer Depth 4509 Drill Collars Run 276 Vis 50  
 Bottom Packer Depth 4513 Wt. Pipe Run 0 WL 6.4  
 Total Depth 4525 Chlorides 1700 ppm System LCM 3#  
 Blow Description 5" Blow.  
Weak return died @ 25 min.  
B.O.B. @ 35 min.  
1" Return.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>124</u>	Feet of <u>GO</u>	<u>40</u>	<u>60</u>		
Rec <u>62</u>	Feet of <u>GMC0</u>	<u>10</u>	<u>60</u>		<u>30</u>
Rec <u>62</u>	Feet of <u>OSMW</u>			<u>50</u>	<u>50</u>
Rec	Feet of <u>62' GIP</u>				

Rec Total 240 BHT 129 Gravity 31 API RW .340 @ 55 °F Chlorides 26000 ppm

(A) Initial Hydrostatic 2274  Test 1250 T-On Location 16:40  
 (B) First Initial Flow 23  Jars 250 T-Started 16:44  
 (C) First Final Flow 64  Safety Joint 75 T-Open 18:54  
 (D) Initial Shut-In 725  Circ Sub NIC T-Pulled 22:55  
 (E) Second Initial Flow 71  Hourly Standby \_\_\_\_\_ T-Out 1:14  
 (F) Second Final Flow 121  Mileage 142.60 Comments \_\_\_\_\_  
 (G) Final Shut-In 711  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2237  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Open 30  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Initial Shut-In 60  Day Standby \_\_\_\_\_ Total 1717.60  
 Final Flow 60  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 90 Sub Total 1717.60

Approved By \_\_\_\_\_ Our Representative Chuck Smith

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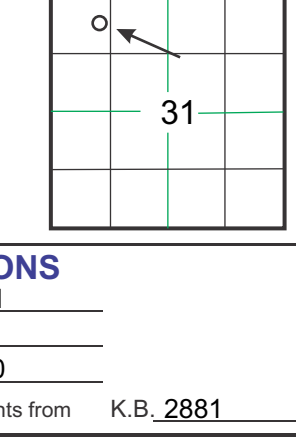
# GEOLOGICAL REPORT

## Larry A. Nicholson

NAD 83  
38.97353624  
-100.6969751

COMPANY & WELL **Murfin Drilling - Abell Ranch 'B' #2-31**  
LOCATION **660 FNL 1169 FWL SE NE NW NW**  
SEC **31** TWP **12S** RGE **30W**  
COUNTY **Gove** STATE **Ks**

COMPANY **Murfin Drilling Company, Inc.**  
API # **15-063-22238** FIELD **Gaeland West**  
LEASE **Abell Ranch 'B'** WELL # **#2-31**  
LOCATION **SE NE NW NW**  
SURVEY **660 FNL 1169 FWL**  
SECTION **31** TWP **12S** RGE **30W**  
COUNTY **Gove** STATE **Kansas**



CONTRACTOR **Murfin Drilling Company, Inc. Rig # 21**  
SPUD **9:00 pm 12-12-14** COMP. **K.B. 2881**  
RTD **4:59A** LTD **4:59T**  
MUD UP AT **3300'**  
MUD TYPE **Chemical Morgan Mud**

**ELEVATIONS**  
K.B. **2881**  
D.F. \_\_\_\_\_  
G.L. **2870**  
All measurements from **K.B. 2881**

**FORMATIONS SURVEYS** Pioneer, Den, Neu, Dual, Micro, Sonic

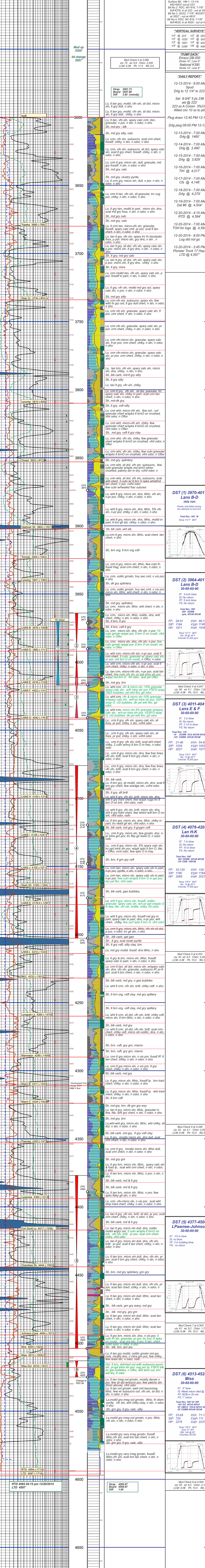
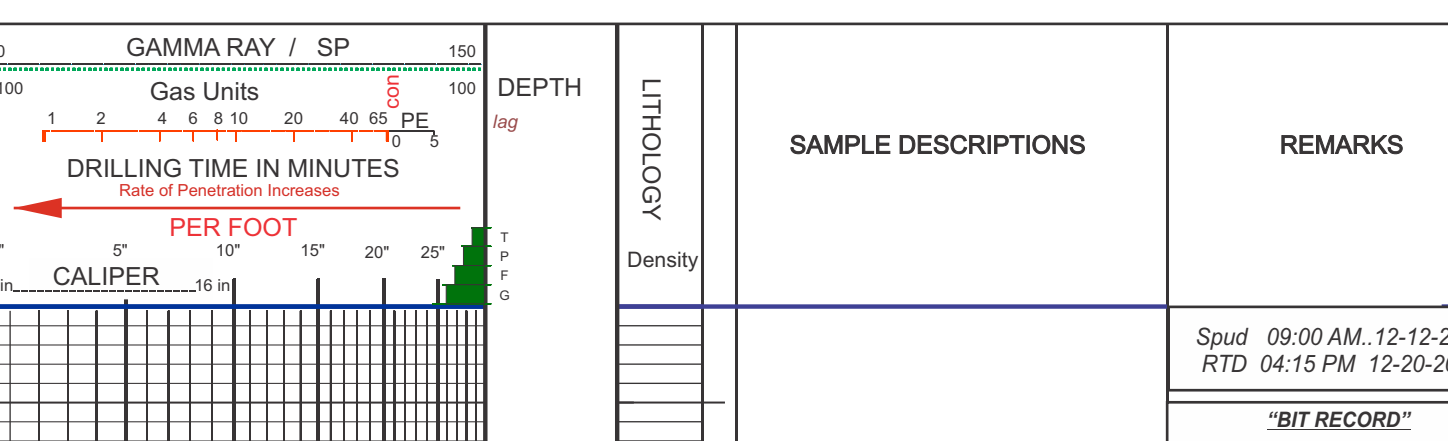
FORMATION	SAMPLE TOPS	SUBSEA DATUM	ELEC LOG TOPS	SUBSEA DATUM	REFERENCE WELL
Anhydrite	2363	+518	2370	+511	2395 +512 -1
Bi/anhydrite	2393	+488	2396	+485	2421 +486 -1
Topeka	3682	-801	3680	-799	3703 -796 -3
Heebner Sh	3902	-1021	3902	-1021	3923 -1016 -5
Lansing	3943	-1062	3941	-1060	3964 -1057 -3
Stark Sh	4165	-1284	4165	-1284	4188 -1281 +3
Pawnee	4363	-1482	4353	-1472	4386 -1479 +7
Fort Scott Ls	4421	-1540	4417	-1536	4444 -1537 +1
Johnson Zone	4493	-1642	4494	-1613	4514 -1607 -6
Miss	4508	-1627	4510	-1629	4531 -1624 -5
RSS Dol	4516	-1635	4518	-1637	4546 -1639 +2
Mud	4594	-1713	4597	-1716	4625 -1718 +5
LTD			4597	-1716	4627 -1720 +4

REFERENCE WELLS **A: Murfin Drilling Abell Ranch 'B' #1-3, 330' FNL 330' FWL, Sec 31 T12S R30W KB 2907'**  
**B: \_\_\_\_\_**

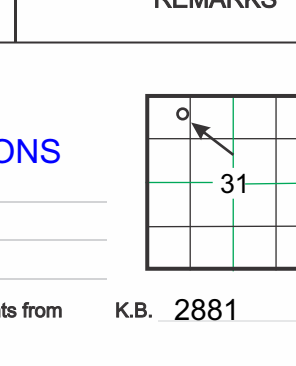
**REMARKS & RECOMMENDATIONS:**  
Based on sample shows and dst results csg was set.  
\*NOTE: ROP curve is roughly 1' high to elog curves.  
Formation tops have been corrected to Log tops

LAN 7/92, Modified 5/05, 1/11, 4/12 Hanover, KS 66845 1inch = 25.4mm 8.5 x 9.7.5 216 mm x 2460 mm

### LEGEND



COMPANY **Murfin Drilling Company, Inc.** ELEVATIONS **K.B. 2881**  
LEASE **Abell Ranch 'B' #2-31 SE NE NW NW** D.F. \_\_\_\_\_  
LOCATION **660 FNL 1169 FWL** SEC. **31** TWP **12S** RGE **30W** G.L. **2870**  
COUNTY **Gove** STATE **Ks** All measurements from **K.B. 2881**





*ucll  
Prod-ONG*

# INVOICE

PO Box 93999  
Southlake, TX 76092

Invoice Number: 147616  
Invoice Date: Dec 12, 2014  
Page: 1

Voice: (817) 546-7282  
Fax: (817) 246-3361

Federal Tax I.D.#: 20-8651475

<b>Bill To:</b>
Murfin Drig. Co., Inc. 250 N. Water STE #300 Wichita, KS 67202

Customer ID	Field Ticket #	Payment Terms	
Murfin	64840	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	Dec 12, 2014	1/11/15

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Abell Ranch B #2-31		
170.00	CEMENT MATERIALS	Class A Common	17.90	3,043.00
479.00	CEMENT MATERIALS	Chloride	1.10	526.90
178.50	CEMENT SERVICE	Cubic Feet Charge	2.48	442.68
164.60	CEMENT SERVICE	Ton Mileage Charge	2.75	452.65
1.00	CEMENT SERVICE	Surface	1,512.25	1,512.25
20.00	CEMENT SERVICE	Pump Truck Mileage	7.70	154.00
1.00	CEMENT SERVICE	Swedge Manifold Rental	275.00	275.00
20.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	88.00
1.00	CEMENT SUPERVISOR	Paul Beaver		
1.00	EQUIPMENT OPERATOR	Tyler Flipse		

Subtotal	6,494.48
Sales Tax	282.02
Total Invoice Amount	6,776.50
Payment/Credit Applied	
<b>TOTAL</b>	<b>6,776.50</b>

ALL PRICES ARE NET, PAYABLE  
30 DAYS FOLLOWING DATE OF  
INVOICE. 1 1/2% CHARGED  
THEREAFTER. IF ACCOUNT IS  
CURRENT, TAKE DISCOUNT OF

\$ 2,273.06

ONLY IF PAID ON OR BEFORE  
Jan 11, 2015

*- 2273.06  
4503.44  
MJR*

# ALLIED OIL & GAS SERVICES, LLC 064840

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999  
SOUTHLAKE, TEXAS 76092

SERVICE POINT:  
Oakley, LS

DATE <u>12-12-14</u>	SEC. <u>31</u>	TWP. <u>12</u>	RANGE <u>30</u>	CALLED OUT	ON LOCATION <u>11:30 a.m.</u>	JOB START <u>12:00 a.m.</u>	JOB FINISH <u>12:30 p.m.</u>
LEASE <u>Abell Ranch</u>	WELL # <u>2-31</u>	LOCATION <u>Orion 1 N, E, S, SE into</u>		COUNTY <u>Gove</u>	STATE <u>KS</u>		
OLD OR <u>NEW</u> (Circle one)							

CONTRACTOR Murfin 21  
 TYPE OF JOB Surface  
 HOLE SIZE 12 1/4 T.D. 223'  
 CASING SIZE 8 5/8 DEPTH 223'  
 TUBING SIZE DEPTH  
 DRILL PIPE DEPTH  
 TOOL DEPTH  
 PRES. MAX MINIMUM  
 MEAS. LINE SHOE JOINT  
 CEMENT LEFT IN CSG. 1.5  
 PERFS.  
 DISPLACEMENT 13 bbl @ 400  
 EQUIPMENT  
 PUMP TRUCK CEMENTER Paul Bennett  
 # 120 HELPER Tyler Flipse / Anthony  
 BULK TRUCK  
 # 600 DRIVER Juan  
 BULK TRUCK  
 # DRIVER

OWNER Same  
 CEMENT AMOUNT ORDERED 170 sks Com  
3' L.C.C.  
 COMMON 170 sks @ 17.90 3043.00  
 POZMIX @  
 GEL @  
 CHLORIDE 479<sup>4</sup> @ 1.10 526.90  
 ASC @  
 @  
Material Total @ 3,569.90  
 @  
(1289.46 / 35%)  
 @  
 @  
 @  
 @  
 @  
 HANDLING 178.5 @ 2.78 492.68  
 MILEAGE 8.23 tons x 20mi x 2.75 452.65  
 TOTAL \_\_\_\_\_

REMARKS:  
inv 170 sks  
Displace w/ water  
cement did circ  
(.5 bbl to pit)

Thank You!  
Paul + Crew

SERVICE  
 DEPTH OF JOB 223'  
 PUMP TRUCK CHARGE 1512.25  
 EXTRA FOOTAGE @  
 MILEAGE MLV 20 @ 7.70 154.00  
 MANIFOLD swedge @ 275.00  
MLV 20 @ 4.40 88.00  
 @  
(1033.60 / 35%) TOTAL 2924.58

PLUG & FLOAT EQUIPMENT  
 @ \_\_\_\_\_  
 @ \_\_\_\_\_  
 @ \_\_\_\_\_  
 @ \_\_\_\_\_  
 @ \_\_\_\_\_  
 TOTAL \_\_\_\_\_

CHARGE TO: Murfin Drlg  
 STREET \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

To: Allied Oil & Gas Services, LLC.  
 You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME Juan Tinoco  
 SIGNATURE Juan Tinoco

SALES TAX (If Any) \_\_\_\_\_  
 TOTAL CHARGES 6,494.48  
 DISCOUNT (2,273.06 / 35%) IF PAID IN 30 DAYS  
4,221.42 Net.



*acct*  
*Prod-m*

# INVOICE

PO Box 93999  
Southlake, TX 76092

Invoice Number: 147892  
Invoice Date: Dec 21, 2014  
Page: 1

Voice: (817) 546-7282  
Fax: (817) 246-3361

Federal Tax I.D.#: 20-8651475

Bill To:
Murfin Drlg. Co., Inc. 250 N. Water STE #300 Wichita, KS 67202

Customer ID	Field Ticket #	Payment Terms	
Murfin	64846	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-02	Oakley	Dec 21, 2014	1/20/15

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Abell Ranch B #2-31		
225.00	CEMENT MATERIALS	ASC	23.50	5,287.50
1,125.00	CEMENT MATERIALS	Gilsonite	0.98	1,102.50
12.00	CEMENT MATERIALS	Mud Flush	41.09	493.08
4.00	CEMENT MATERIALS	KCL	34.40	137.60
287.95	CEMENT SERVICE	Cubic Feet Charge	2.48	714.12
251.40	CEMENT SERVICE	Ton Mileage Charge	2.75	691.35
1.00	CEMENT SERVICE	Production Casing	2,765.75	2,765.75
20.00	CEMENT SERVICE	Pump Truck Mileage	7.70	154.00
1.00	CEMENT SERVICE	Manifold Head/Rotating Rental	475.00	475.00
20.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	88.00
1.00	EQUIPMENT SALES	5-1/2 AFU Float Shoe	545.00	545.00
1.00	EQUIPMENT SALES	5-1/2 Latch Down Plug Assembly	660.00	660.00
1.00	EQUIPMENT SALES	5-1/2 Port Collar	3,590.00	3,590.00
1.00	EQUIPMENT SALES	5-1/2 Basket	395.00	395.00
10.00	EQUIPMENT SALES	5-1/2 Centralizer	57.00	570.00
10.00	EQUIPMENT SALES	5-1/2 Rotating Scratcher	120.00	1,200.00
1.00	CEMENT SUPERVISOR	Paul Beaver		
1.00	EQUIPMENT OPERATOR	Tyler Flipse		
1.00	OPERATOR ASSISTANT	George Grant		

Subtotal	18,868.90
Sales Tax	1,104.47
Total Invoice Amount	19,973.37
Payment/Credit Applied	
<b>TOTAL</b>	<b>19,973.37</b>

ALL PRICES ARE NET, PAYABLE  
30 DAYS FOLLOWING DATE OF  
INVOICE. 1 1/2% CHARGED  
THEREAFTER. IF ACCOUNT IS  
CURRENT, TAKE DISCOUNT OF

\$ 6,604.11 *ok 5/16*

ONLY IF PAID ON OR BEFORE

Jan 20, 2015

*-6604.11*  
*13,369.26*

*ok jr*







*uvc  
Prod - mg*

# INVOICE

PO Box 93999  
Southlake, TX 76092

Invoice Number: 1480 84  
Invoice Date: Jan 2, 2015  
Page: 1

Voice: (817) 546-7282  
Fax: (817) 246-3361

Federal Tax I.D.#: 20-8651475

<b>Bill To:</b>
Murfin Drig. Co., Inc. 250 N. Water STE #300 Wichita, KS 67202

Customer ID	Field Ticket #	Payment Terms	
Murfin	64850	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-04	Oakley	Jan 2, 2015	2/1/15

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Abell Ranch B #2-31		
600.00	CEMENT MATERIALS	Gel	0.50	300.00
190.00	CEMENT MATERIALS	AMD	31.00	5,890.00
372.50	CEMENT SERVICE	Cubic Feet Charge	2.48	923.80
336.00	CEMENT SERVICE	Ton Mileage Charge	2.75	924.00
1.00	CEMENT SERVICE	Port Collar	2,483.59	2,483.59
20.00	CEMENT SERVICE	Pump Truck Mileage	7.70	154.00
20.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	88.00
1.00	CEMENT SUPERVISOR	Paul Beaver		
1.00	EQUIPMENT OPERATOR	Tyler Flipse		
1.00	OPERATOR ASSISTANT	George Grant		

ALL PRICES ARE NET, PAYABLE  
30 DAYS FOLLOWING DATE OF  
INVOICE. 1 1/2% CHARGED  
THEREAFTER. IF ACCOUNT IS  
CURRENT, TAKE DISCOUNT OF

\$ 3,767.18 *35%*

ONLY IF PAID ON OR BEFORE  
Feb 1, 2015

Subtotal	10,763.39
Sales Tax	489.01
Total Invoice Amount	11,252.40
Payment/Credit Applied	
<b>TOTAL</b>	<b>11,252.40</b>

*-3767.18*  
*7485.22*

*OK JA*



MDCI  
 Abell Ranch 'B' #2-31  
 650 FNL 1160' FWL  
 Sec. 31-T12S-R30W  
 2881' KB

Formation	Sample tops	Datum	Ref	Log Tops	Datum	Ref
Anhydrite	2363	+518	+6	2371	+510	-2
B/Anhydrite	2393	+488	+2	2396	+485	-1
Topeka	3682	-801	-5	3678	-797	-1
Heebner	3902	-1021	-5	3899	-1018	-2
Lansing	3943	-1062	-5	3940	-1059	-2
Stark	4165	-1284	-3	4167	-1286	-5
Marmaton	4295	-1414	-5	4290	-1409	Flat
Fort Scott	4421	-1540	-3	4417	-1536	+1
Cherokee	4448	-1567	-4	4444	-1563	Flat
Mississippi	4508	-1627	-3	4510	-1629	-5
RTD	4594					
LTD				4597		