

Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1247066  
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: \_\_\_\_\_

1247066

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> _____					
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	Pancirni 1-7
Doc ID	1247066

All Electric Logs Run

DIL
DUCP
MEL
BHCS





## DRILL STEM TEST REPORT

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

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Robert Hendrix

### **Pancirni #1-7**

#### **7-2s-36w Rawlins,KS**

Start Date: 2014.12.05 @ 21:13:00

End Date: 2014.12.06 @ 05:17:30

Job Ticket #: 62129                      DST #: 1

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

Printed: 2014.12.12 @ 14:47:26



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling CO., Inc

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirni #1-7**

Job Ticket: 62129

**DST#: 1**

ATTN: Robert Hendrix

Test Start: 2014.12.05 @ 21:13:00

## GENERAL INFORMATION:

Formation: **Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:27:30

Time Test Ended: 05:17:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Donovan Baumann

Unit No: 49

**Interval: 4171.00 ft (KB) To 4228.00 ft (KB) (TVD)**

Reference Elevations: 3381.00 ft (KB)

Total Depth: 4228.00 ft (KB) (TVD)

3370.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 8959 Outside**

Press@RunDepth: 61.51 psig @ 4172.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.12.05 End Date: 2014.12.06

Last Calib.: 2014.12.06

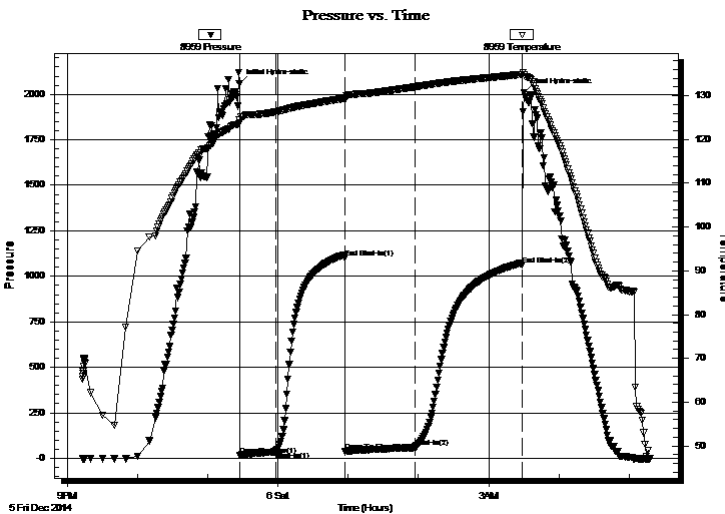
Start Time: 21:13:05 End Time: 05:17:29

Time On Btm: 2014.12.05 @ 23:27:00

Time Off Btm: 2014.12.06 @ 03:30:30

**TEST COMMENT:** 30 - IF - Strong surface blow built to 3". in 30 min. ( In Deisel )  
60 - ISI - No return  
60 - FF - Surface blow started 12 min. in built to 1". in 48 min.  
90 - FSI - No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2057.13	124.42	Initial Hydro-static
1	16.31	123.79	Open To Flow (1)
31	37.64	126.31	Shut-In(1)
90	1102.80	129.38	End Shut-In(1)
91	40.23	129.23	Open To Flow (2)
150	61.51	132.02	Shut-In(2)
242	1063.24	134.83	End Shut-In(2)
244	2008.59	134.67	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
68.00	OCM - 60M - 40o	0.33

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling CO., Inc

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirni #1-7**

Job Ticket: 62129

**DST#: 1**

ATTN: Robert Hendrix

Test Start: 2014.12.05 @ 21:13:00

## Tool Information

Drill Pipe:	Length: 3951.08 ft	Diameter: 3.80 inches	Volume: 55.42 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 205.92 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose: 66000.00 lb
			<u>Total Volume: 56.43 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4171.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	57.00 ft			
Tool Length:	76.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4157.00	
Hydraulic tool	5.00			4162.00	
Packer	5.00			4167.00	19.00 Bottom Of Top Packer
Packer	4.00			4171.00	
Stubb	1.00			4172.00	
Recorder	0.00	8521	Inside	4172.00	
Recorder	0.00	8959	Outside	4172.00	
Perforations	20.00			4192.00	
Change Over Sub	1.00			4193.00	
Drill Pipe	31.00			4224.00	
Change Over Sub	1.00			4225.00	
Bullnose	3.00			4228.00	57.00 Bottom Packers & Anchor

**Total Tool Length: 76.00**





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling CO., Inc

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirni #1-7**

Job Ticket: 62129

**DST#: 1**

ATTN: Robert Hendrix

Test Start: 2014.12.05 @ 21:13:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 0.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.56 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
68.00	OCM - 60M - 40o	0.334

Total Length: 68.00 ft      Total Volume: 0.334 bbl

Num Fluid Samples: 0

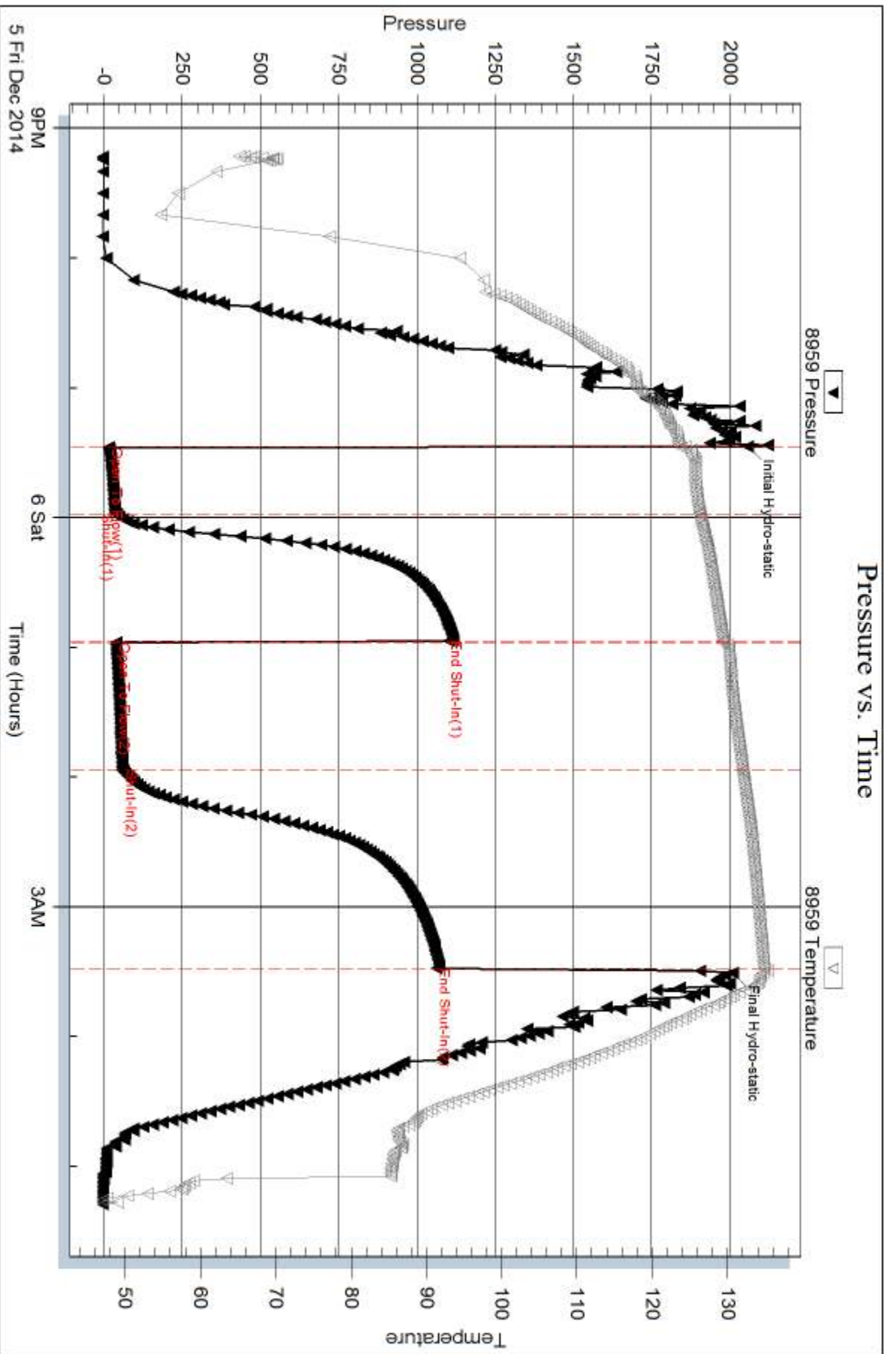
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



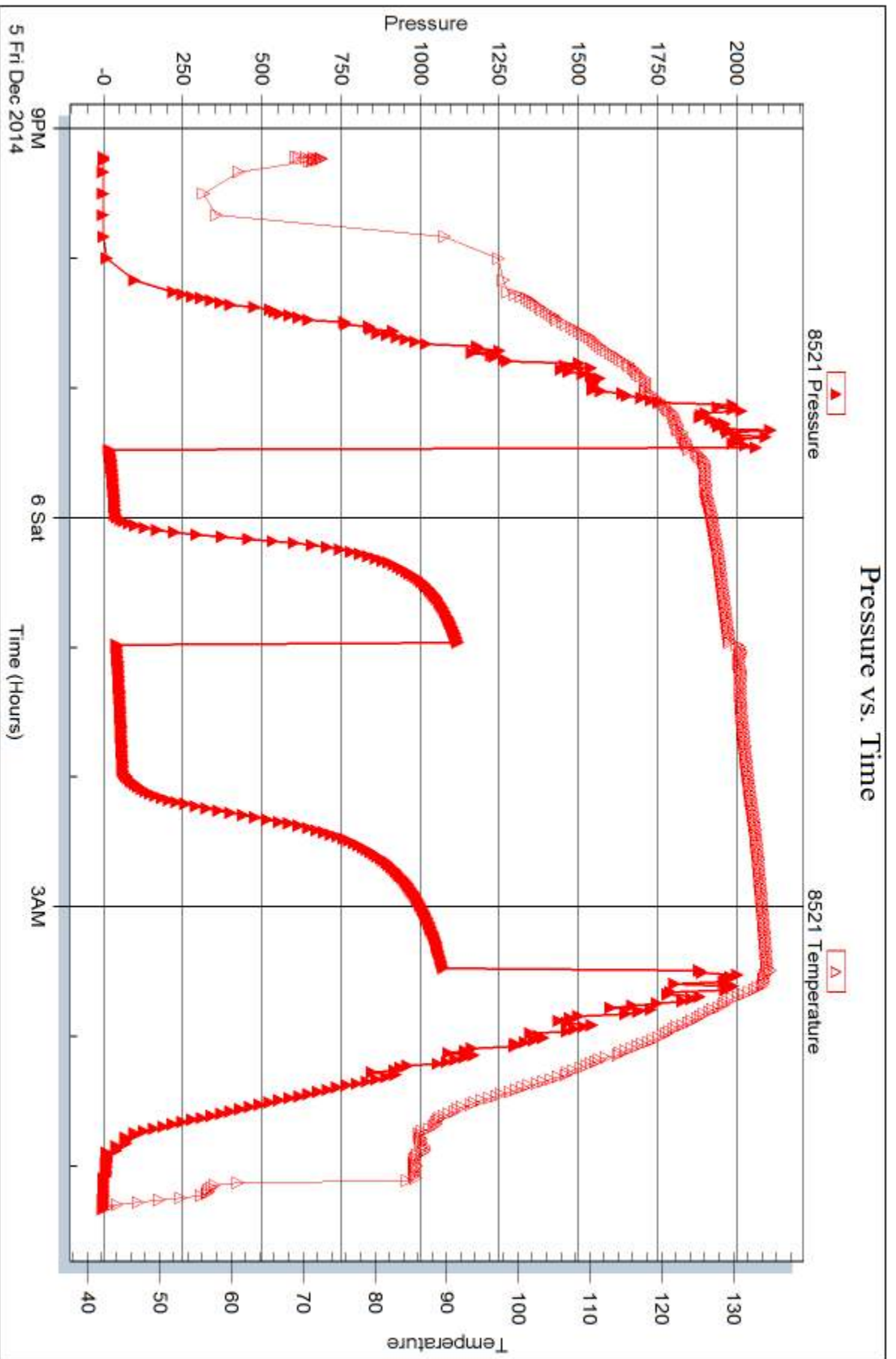
Serial #: 8521

Inside

Murfin Drilling CO., Inc

Pancini #1-7

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 62129

Printed: 2014.12.12 @ 14:47:28



## DRILL STEM TEST REPORT

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

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Robert Hendrix

### **Pancirni #1-7**

#### **7-2s-36w Rawlins,KS**

Start Date: 2014.12.06 @ 16:34:00

End Date: 2014.12.07 @ 00:44:00

Job Ticket #: 62130                      DST #: 2

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

Printed: 2014.12.12 @ 14:46:59



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling CO., Inc

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirni #1-7**

Job Ticket: 62130

**DST#: 2**

ATTN: Robert Hendrix

Test Start: 2014.12.06 @ 16:34:00

## GENERAL INFORMATION:

Formation: **LKC "A"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:51:00

Time Test Ended: 00:44:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Donovan Baumann

Unit No: 49

**Interval: 4247.00 ft (KB) To 4330.00 ft (KB) (TVD)**

Reference Elevations: 3381.00 ft (KB)

Total Depth: 4330.00 ft (KB) (TVD)

3370.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 8959 Outside**

Press@RunDepth: 58.08 psig @ 4248.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.12.06

End Date:

2014.12.07

Last Calib.:

2014.12.07

Start Time: 16:34:05

End Time:

00:43:59

Time On Btm:

2014.12.06 @ 18:50:00

Time Off Btm:

2014.12.06 @ 22:55:30

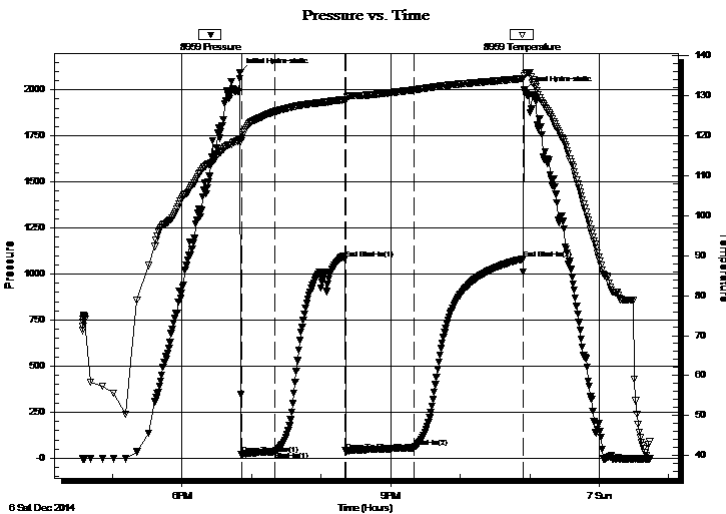
**TEST COMMENT:** 30 - IF - Weak surface blow built to 6". in 30 min. ( In Deisel )

60 - ISI - No return

60 - FF - Weak surface blow built to 7". in 60 min.

90 - FSI - No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2094.19	119.11	Initial Hydro-static
1	20.36	118.76	Open To Flow (1)
30	36.85	125.93	Shut-In(1)
91	1082.43	128.91	End Shut-In(1)
91	41.51	128.64	Open To Flow (2)
150	58.08	131.36	Shut-In(2)
244	1082.80	134.18	End Shut-In(2)
246	1997.44	134.98	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
63.00	OCM - 35o - 65M	0.31

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling CO., Inc

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirni #1-7**

Job Ticket: 62130

**DST#: 2**

ATTN: Robert Hendrix

Test Start: 2014.12.06 @ 16:34:00

## Tool Information

Drill Pipe:	Length: 4045.08 ft	Diameter: 3.80 inches	Volume: 56.74 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 205.92 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose: 86000.00 lb
			<u>Total Volume: 57.75 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	4247.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	83.00 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			4233.00	
Hydraulic tool	5.00			4238.00	
Packer	5.00			4243.00	19.00 Bottom Of Top Packer
Packer	4.00			4247.00	
Stubb	1.00			4248.00	
Recorder	0.00	8521	Inside	4248.00	
Recorder	0.00	8959	Outside	4248.00	
Perforations	14.00			4262.00	
Change Over Sub	1.00			4263.00	
Drill Pipe	63.00			4326.00	
Change Over Sub	1.00			4327.00	
Bullnose	3.00			4330.00	83.00 Bottom Packers & Anchor

**Total Tool Length: 102.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling CO., Inc

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirni #1-7**

Job Ticket: 62130

**DST#: 2**

ATTN: Robert Hendrix

Test Start: 2014.12.06 @ 16:34:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 0.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.37 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
63.00	OCM - 35o - 65M	0.310

Total Length: 63.00 ft      Total Volume: 0.310 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

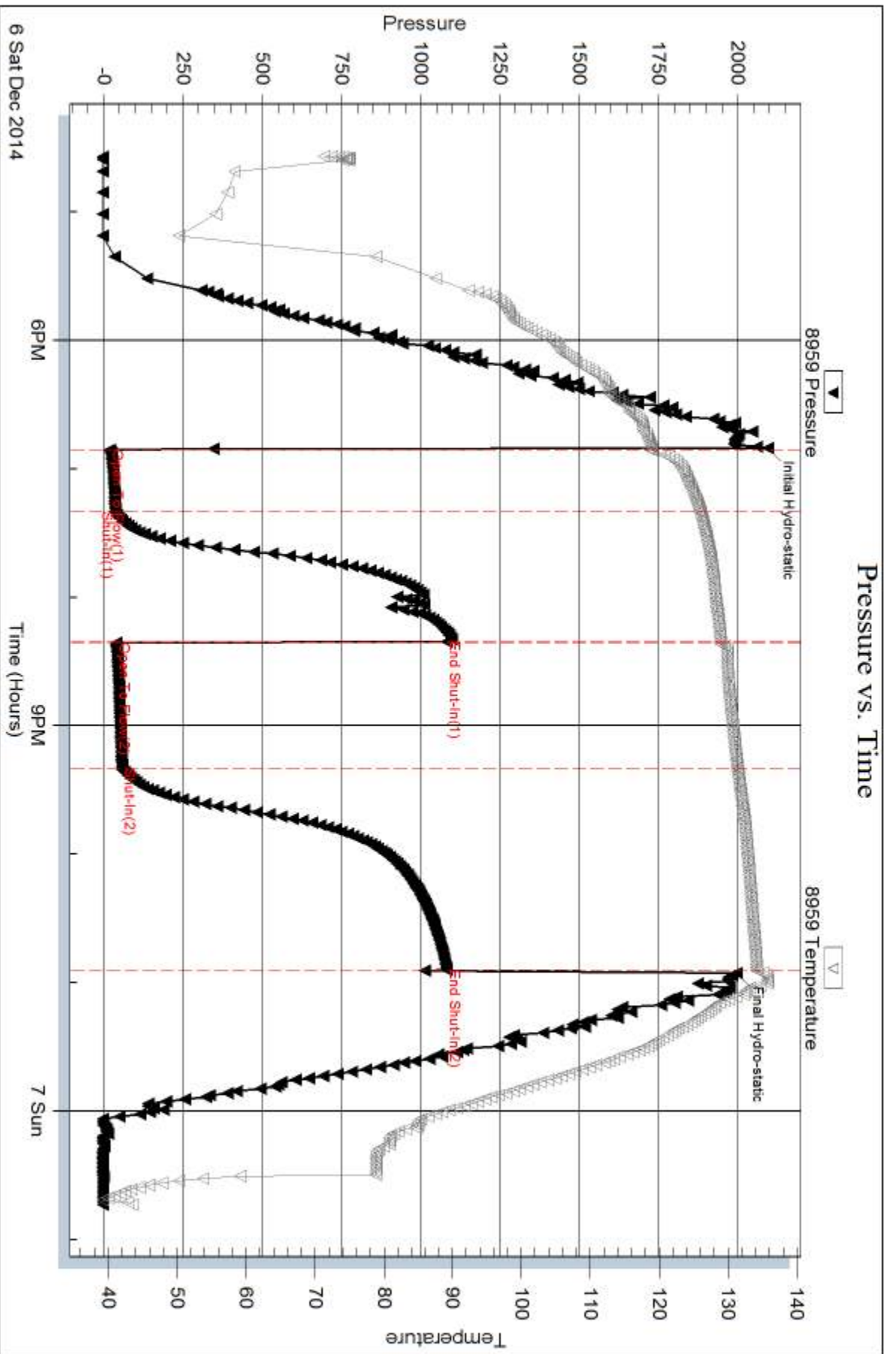
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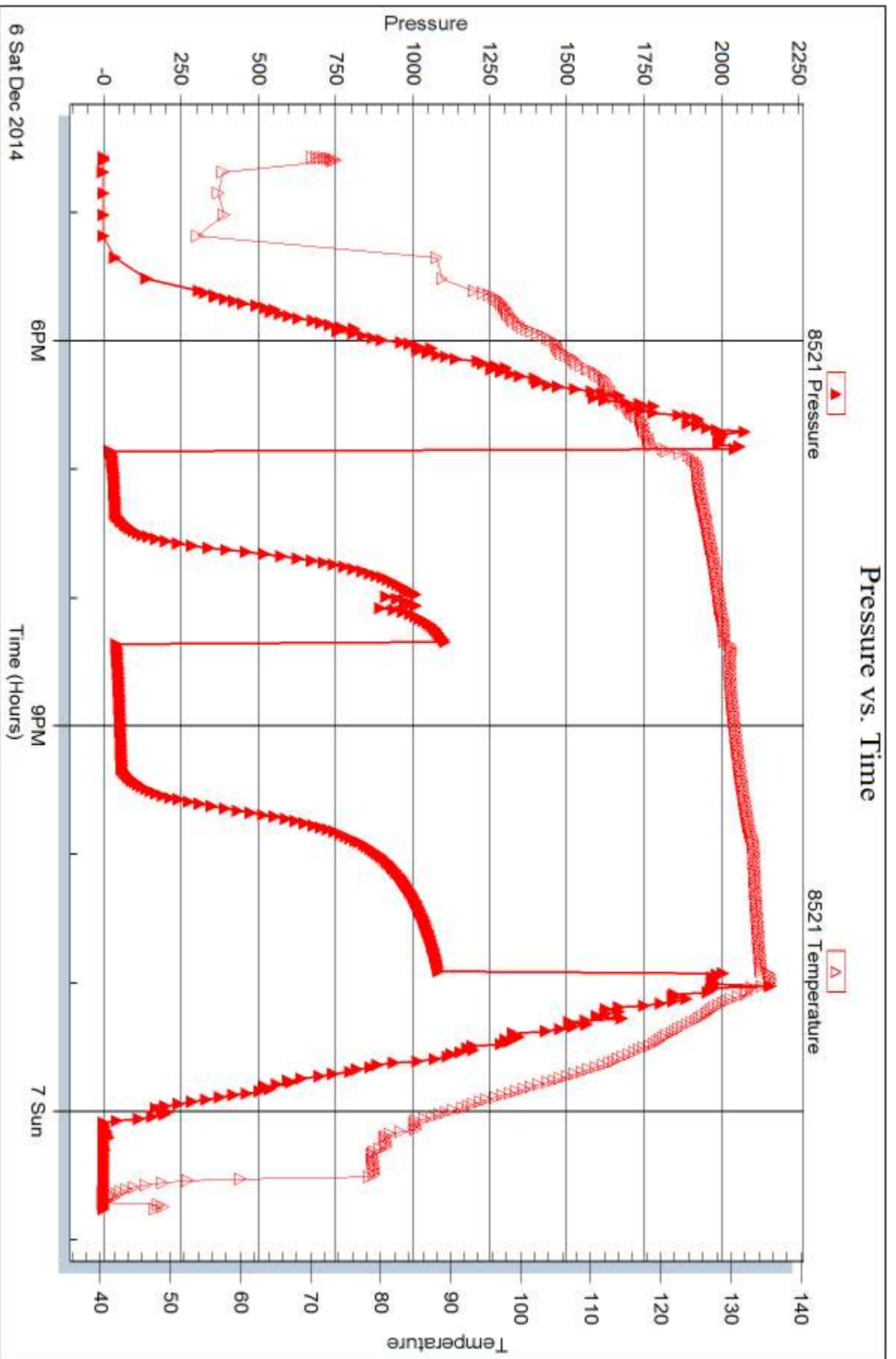
Laboratory Name:

Laboratory Location:

Recovery Comments:









## DRILL STEM TEST REPORT

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

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Robert Hendrix

### **Pancirni #1-7**

#### **7-2s-36w Rawlins,KS**

Start Date: 2014.12.07 @ 09:04:00

End Date: 2014.12.07 @ 16:12:47

Job Ticket #: 62131                      DST #: 3

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

Printed: 2014.12.12 @ 14:46:33



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling CO., Inc

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirni #1-7**

Job Ticket: 62131

**DST#: 3**

ATTN: Robert Hendrix

Test Start: 2014.12.07 @ 09:04:00

## GENERAL INFORMATION:

Formation: **LKC "D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:53:30

Time Test Ended: 16:12:47

Test Type: Conventional Bottom Hole (Initial)

Tester: Donovan Baumann

Unit No: 49

**Interval: 4325.00 ft (KB) To 4380.00 ft (KB) (TVD)**

Reference Elevations: 3381.00 ft (KB)

Total Depth: 4380.00 ft (KB) (TVD)

3370.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 8959 Outside**

Press@RunDepth: 708.21 psig @ 4326.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.12.07 End Date: 2014.12.07

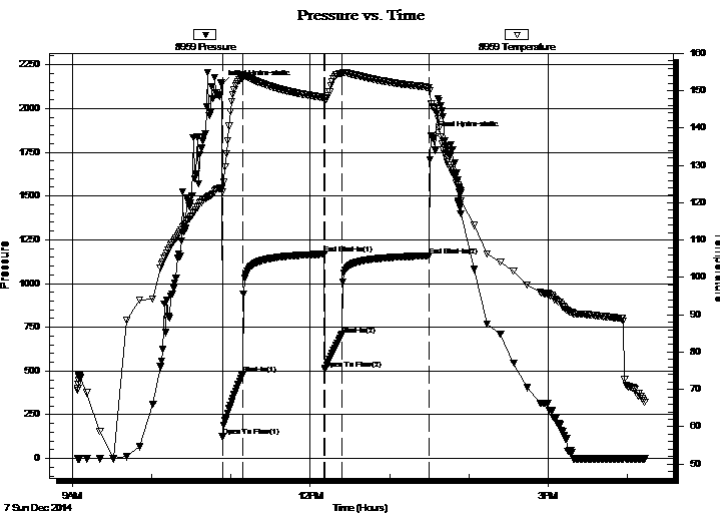
Last Calib.: 2014.12.07

Start Time: 09:04:05 End Time: 16:12:48

Time On Btm: 2014.12.07 @ 10:53:00

Time Off Btm: 2014.12.07 @ 13:31:30

**TEST COMMENT:** 15 - IF - Strong surface blow built to BOB in 1 min. ( In Deisel )  
60 - ISI - No return  
15 - FF - Strong surface blow built to BOB in 1 min. ( In Deisel )  
60 - FSI - No return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2135.58	123.87	Initial Hydro-static
1	124.50	123.02	Open To Flow (1)
16	481.55	153.52	Shut-In(1)
78	1168.25	148.19	End Shut-In(1)
78	511.65	147.87	Open To Flow (2)
91	708.21	154.70	Shut-In(2)
157	1156.36	150.91	End Shut-In(2)
159	1843.83	146.40	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
865.00	OCMW - 5o - 5M - 90W	10.26
315.00	OCM - 30o - 70M	4.42
282.00	MCO - 60o - 40M	3.96
0.00	30 Feet of gas in pipe	0.00

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling CO., Inc

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirni #1-7**

Job Ticket: 62131

**DST#: 3**

ATTN: Robert Hendrix

Test Start: 2014.12.07 @ 09:04:00

## Tool Information

Drill Pipe:	Length: 4108.08 ft	Diameter: 3.80 inches	Volume: 57.63 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 205.92 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose: 100000.0 lb
			<u>Total Volume: 58.64 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4325.00 ft			Final 74000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	55.00 ft			
Tool Length:	74.00 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			4311.00	
Hydraulic tool	5.00			4316.00	
Packer	5.00			4321.00	19.00 Bottom Of Top Packer
Packer	4.00			4325.00	
Stubb	1.00			4326.00	
Recorder	0.00	8521	Inside	4326.00	
Recorder	0.00	8959	Outside	4326.00	
Perforations	18.00			4344.00	
Change Over Sub	1.00			4345.00	
Drill Pipe	31.00			4376.00	
Change Over Sub	1.00			4377.00	
Bullnose	3.00			4380.00	55.00 Bottom Packers & Anchor

**Total Tool Length: 74.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling CO., Inc

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirni #1-7**

Job Ticket: 62131

**DST#: 3**

ATTN: Robert Hendrix

Test Start: 2014.12.07 @ 09:04:00

## 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: 61.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.77 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
865.00	OCMW - 5o - 5M - 90W	10.258
315.00	OCM - 30o - 70M	4.419
282.00	MCO - 60o - 40M	3.956
0.00	30 Feet of gas in pipe	0.000

Total Length: 1462.00 ft      Total Volume: 18.633 bbl

Num Fluid Samples: 0

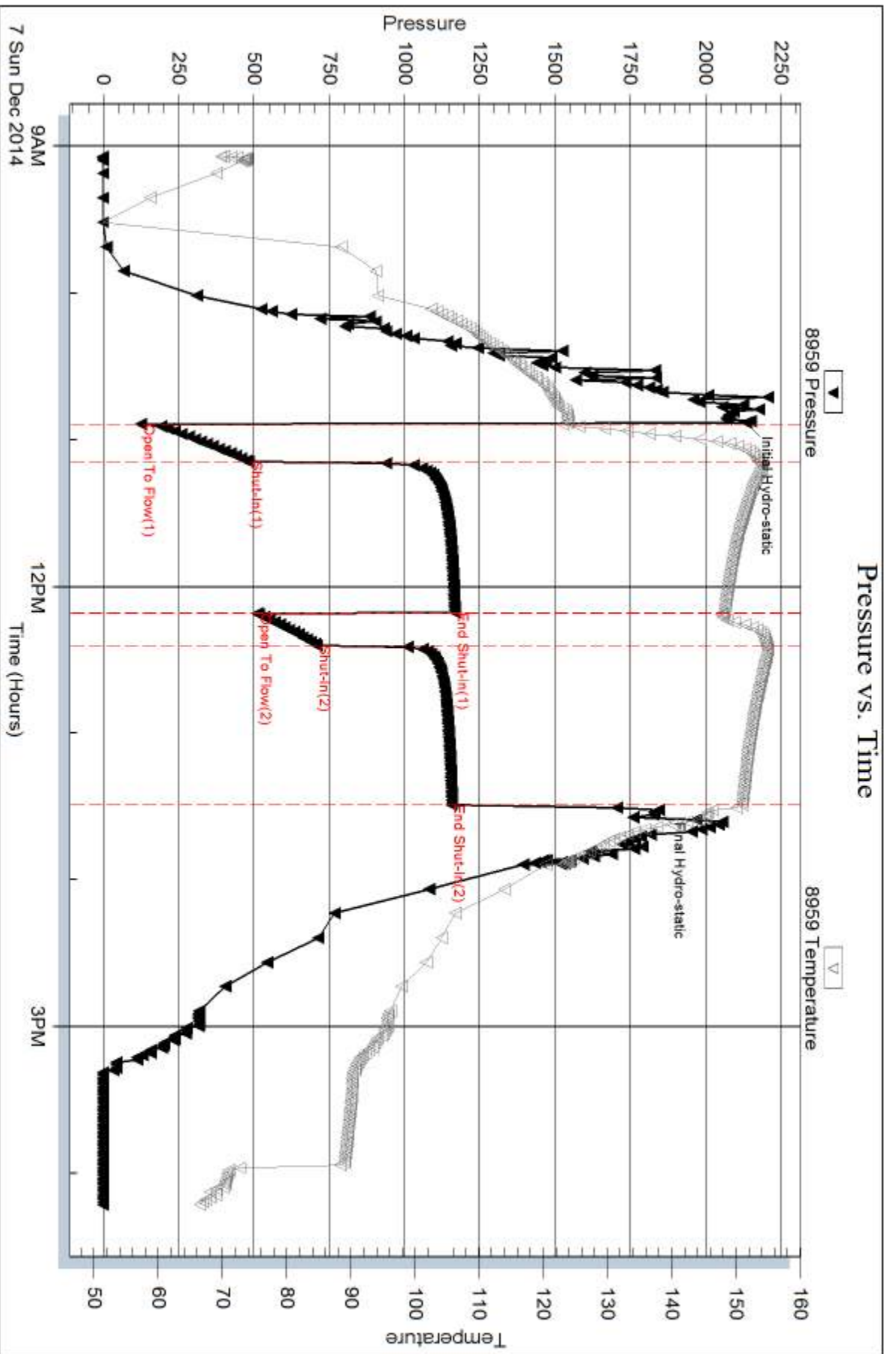
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW - .294 @ 61 deg  
27000 ppm





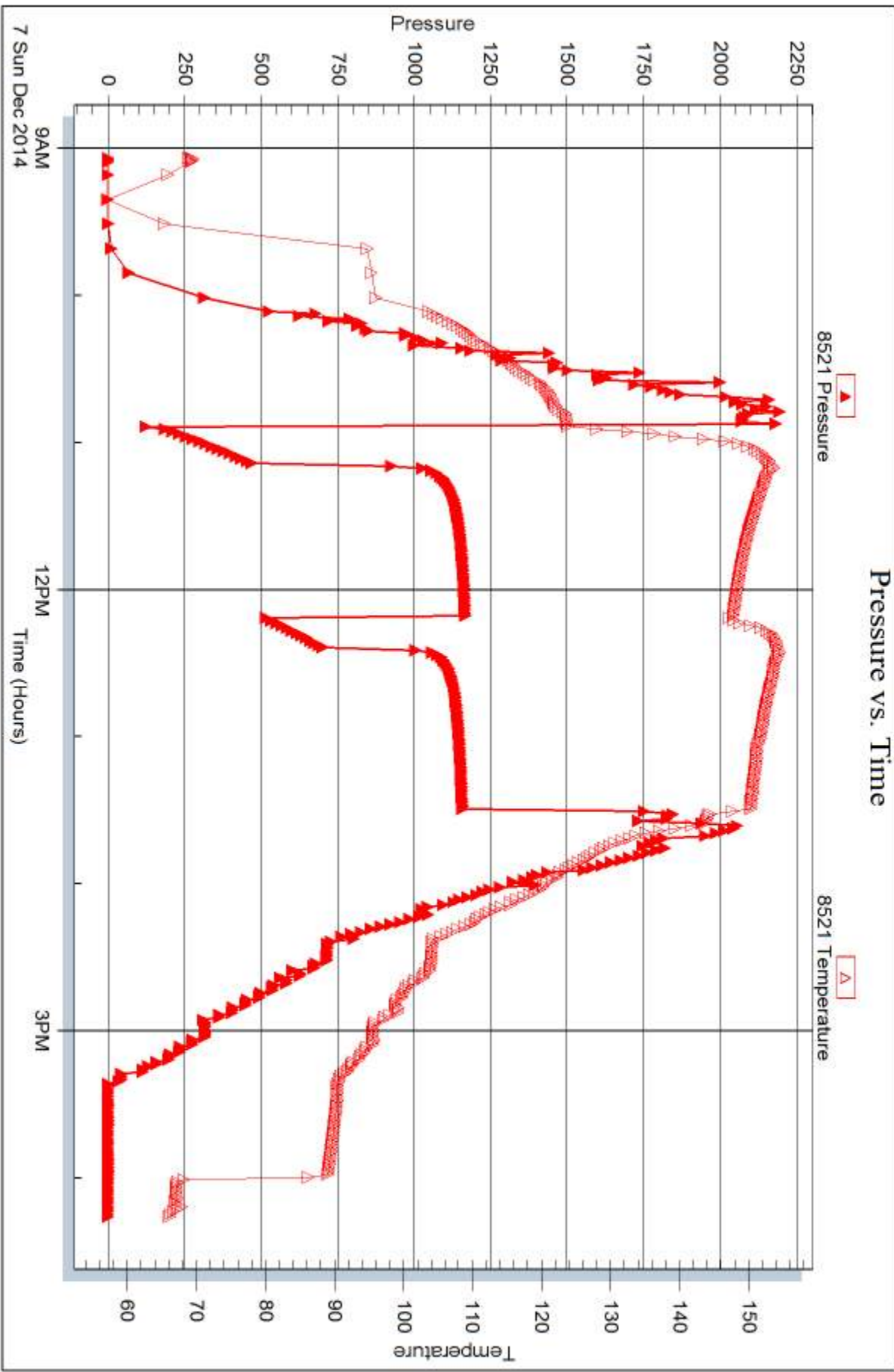
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Inside

Murfin Drilling CO., Inc

Pancini #1-7

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 62131

Printed: 2014.12.12 @ 14:46:35



## DRILL STEM TEST REPORT

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

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Robert Hendrix

### **Pancirni #1-7**

#### **7-2s-36w Rawlins,KS**

Start Date: 2014.12.08 @ 01:25:00

End Date: 2014.12.08 @ 09:14:17

Job Ticket #: 62132                      DST #: 4

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

Printed: 2014.12.12 @ 14:46:10



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling CO., Inc  
 250 N. Water STE 300  
 Wichita, KS 67202  
 ATTN: Robert Hendrix

**7-2s-36w Rawlins,KS**

**Pancirni #1-7**

Job Ticket: 62132

**DST#: 4**

Test Start: 2014.12.08 @ 01:25:00

## GENERAL INFORMATION:

Formation: **LKC "G"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 03:13:00  
 Time Test Ended: 09:14:17  
 Interval: **4395.00 ft (KB) To 4435.00 ft (KB) (TVD)**  
 Total Depth: 4435.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Donovan Baumann  
 Unit No: 49  
 Reference Elevations: 3381.00 ft (KB)  
 3370.00 ft (CF)  
 KB to GR/CF: 11.00 ft

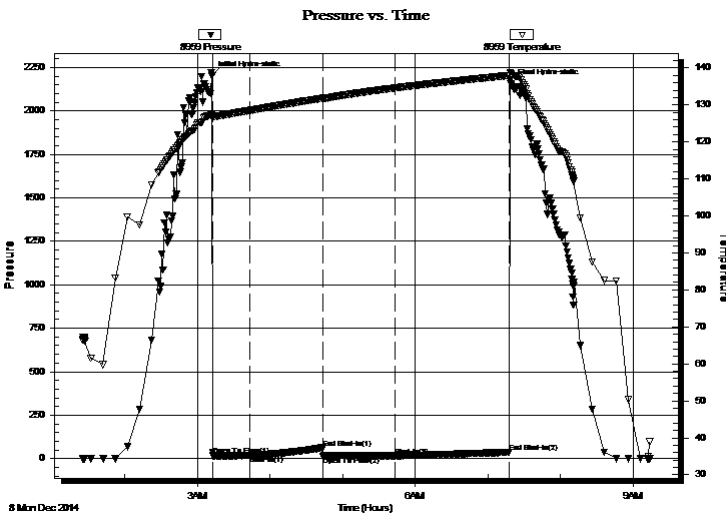
**Serial #: 8959**

**Outside**

Press@RunDepth: 15.29 psig @ 4396.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.12.08 End Date: 2014.12.08 Last Calib.: 2014.12.08  
 Start Time: 01:25:05 End Time: 09:14:18 Time On Btm: 2014.12.08 @ 03:12:00  
 Time Off Btm: 2014.12.08 @ 07:19:00

**TEST COMMENT:** 30 - IF - Weak surface blow built to 1/2 in. in 30 min. ( In Deisel )  
 60 - ISI - No return  
 60 - FF - No surface blow  
 90 - FSI - No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2205.32	127.48	Initial Hydro-static
1	16.01	126.96	Open To Flow (1)
31	16.97	128.48	Shut-In(1)
92	61.04	131.80	End Shut-In(1)
92	14.66	131.81	Open To Flow (2)
151	15.29	134.58	Shut-In(2)
246	36.28	137.95	End Shut-In(2)
247	2155.70	138.31	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
3.00	OCM 30%O 70%M	0.01

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling CO., Inc

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirni #1-7**

Job Ticket: 62132

**DST#: 4**

ATTN: Robert Hendrix

Test Start: 2014.12.08 @ 01:25:00

## Tool Information

Drill Pipe:	Length: 4202.08 ft	Diameter: 3.80 inches	Volume: 58.94 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 205.92 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 59.95 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4395.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	40.00 ft			
Tool Length:	59.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4381.00	
Hydraulic tool	5.00			4386.00	
Packer	5.00			4391.00	19.00 Bottom Of Top Packer
Packer	4.00			4395.00	
Stubb	1.00			4396.00	
Recorder	0.00	8521	Inside	4396.00	
Recorder	0.00	8959	Outside	4396.00	
Perforations	36.00			4432.00	
Bullnose	3.00			4435.00	40.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>59.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling CO., Inc

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirni #1-7**

Job Ticket: 62132

**DST#: 4**

ATTN: Robert Hendrix

Test Start: 2014.12.08 @ 01:25:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 61.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
3.00	OCM 30%O 70%M	0.015

Total Length: 3.00 ft      Total Volume: 0.015 bbl

Num Fluid Samples: 0

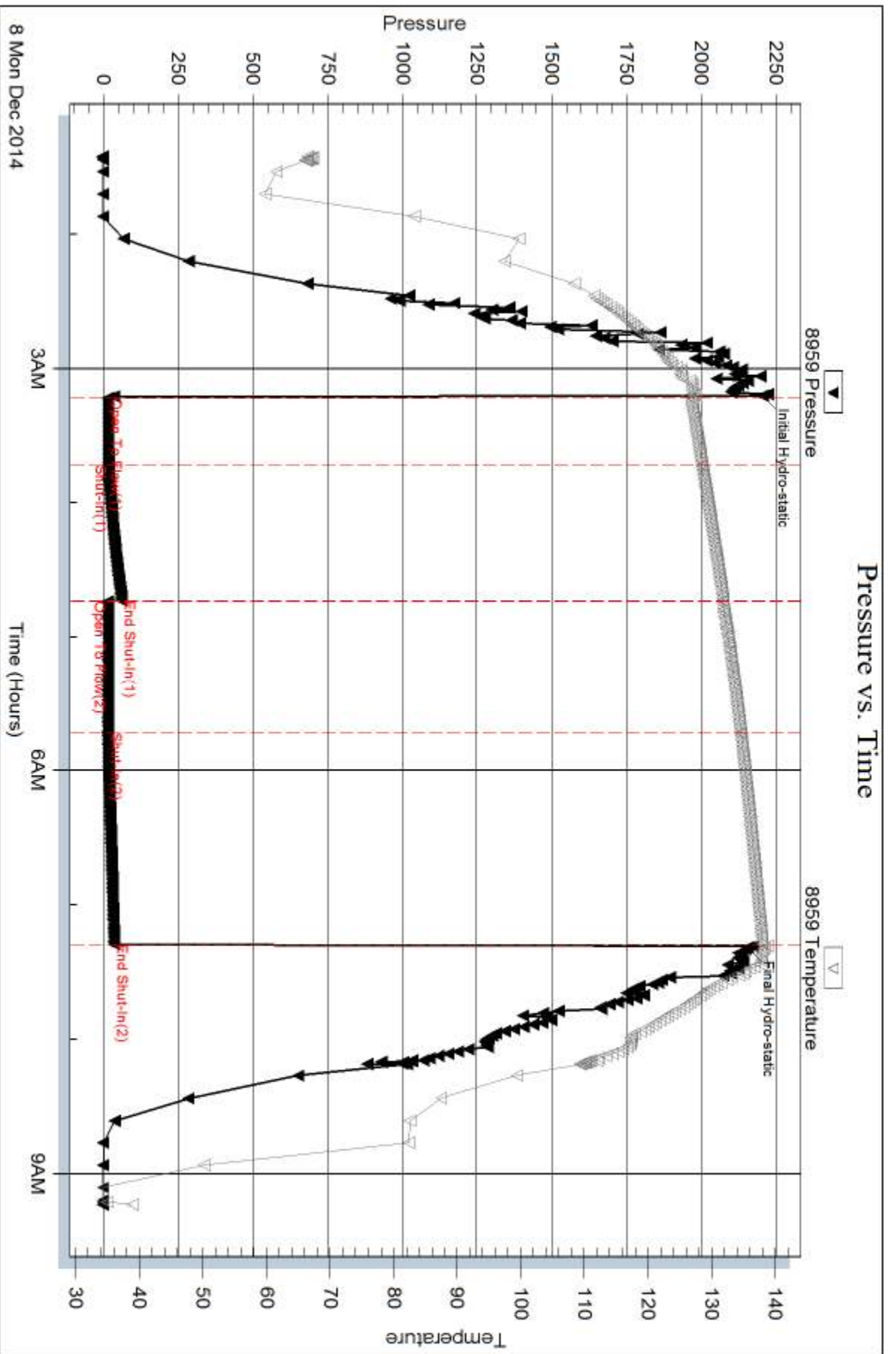
Num Gas Bombs: 0

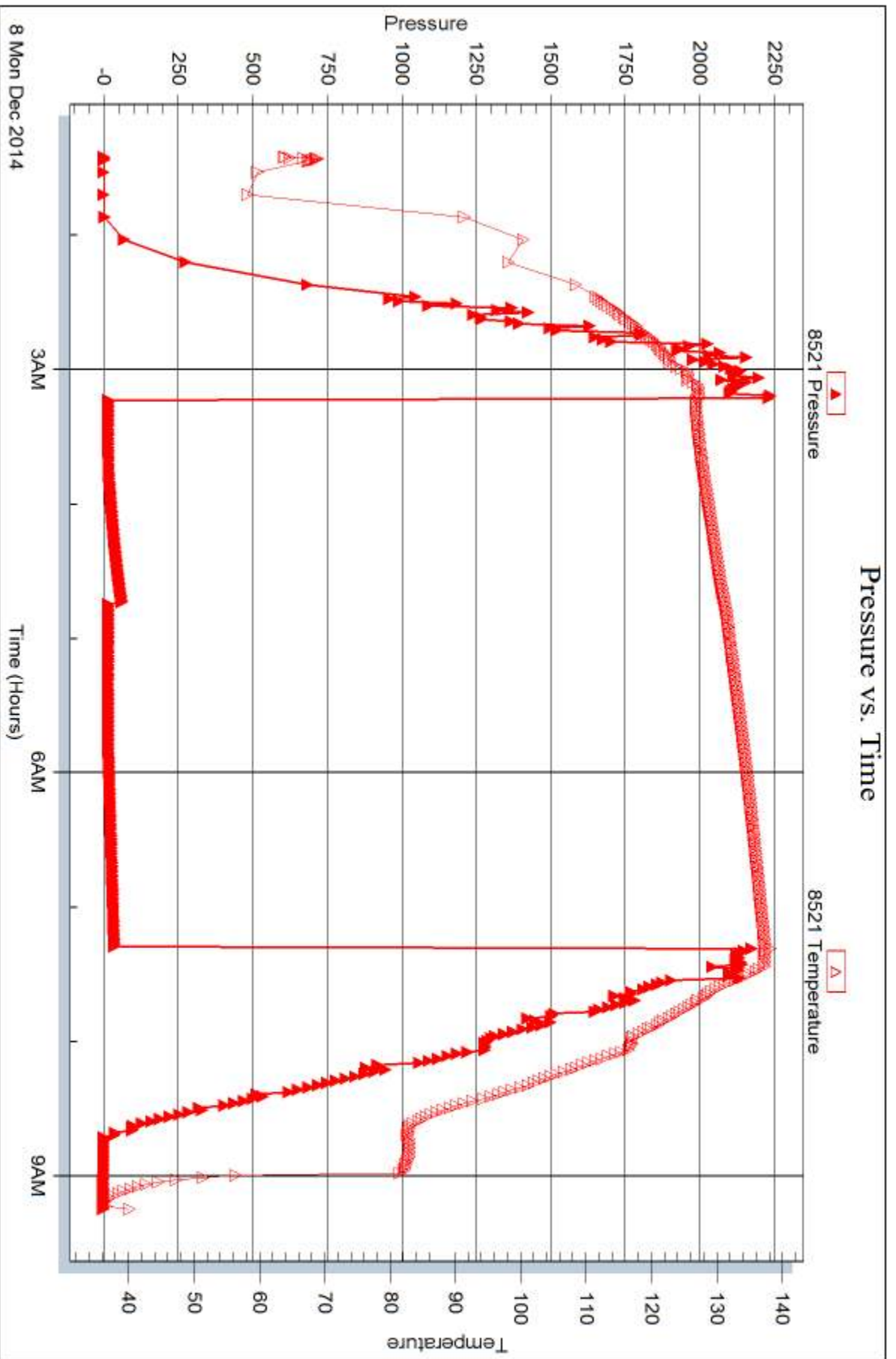
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:









## DRILL STEM TEST REPORT

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

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Robert Hendrix

### **Pancirni #1-7**

#### **7-2s-36w Rawlins,KS**

Start Date: 2014.12.08 @ 22:56:00

End Date: 2014.12.09 @ 07:27:00

Job Ticket #: 62133                      DST #: 5

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

Printed: 2014.12.12 @ 14:45:40



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling CO., Inc

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirni #1-7**

Job Ticket: 62133

**DST#: 5**

ATTN: Robert Hendrix

Test Start: 2014.12.08 @ 22:56:00

## GENERAL INFORMATION:

Formation: **LKC "H - J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:43:30

Time Test Ended: 07:27:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Donovan Baumann

Unit No: 49

**Interval: 4432.00 ft (KB) To 4526.00 ft (KB) (TVD)**

Reference Elevations: 3381.00 ft (KB)

Total Depth: 4526.00 ft (KB) (TVD)

3370.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 8959 Outside**

Press@RunDepth: 183.67 psig @ 4433.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.12.08

End Date:

2014.12.09

Last Calib.:

2014.12.09

Start Time: 22:56:05

End Time:

07:26:59

Time On Btm:

2014.12.09 @ 00:43:00

Time Off Btm:

2014.12.09 @ 04:46:00

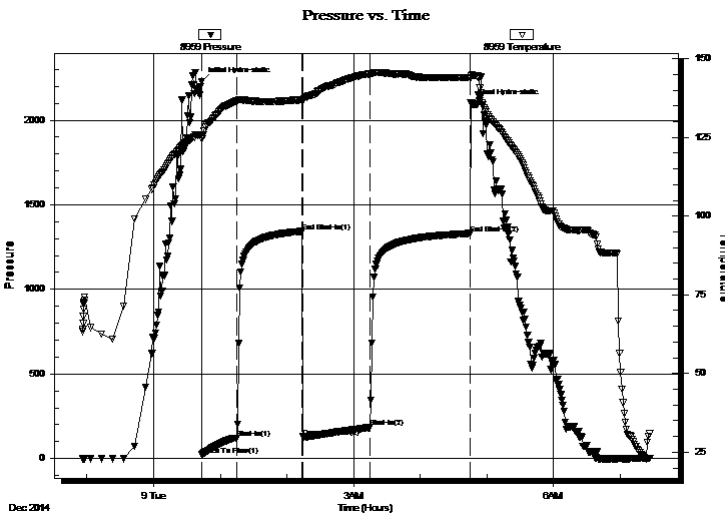
**TEST COMMENT:** 30 - IF - Strong surface blow built to BOB in 17 min. ( In Deisel )

60 - ISI - No return

60 - FF - Weak surface blow built to BOB in 24 min.

90 - FSI - No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2228.43	125.94	Initial Hydro-static
1	21.37	124.60	Open To Flow (1)
32	120.53	136.63	Shut-In(1)
91	1340.01	136.91	End Shut-In(1)
91	128.17	136.39	Open To Flow (2)
152	183.67	145.13	Shut-In(2)
242	1330.35	144.08	End Shut-In(2)
243	2098.36	144.58	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
118.00	MCW - 35M - 65W	0.58
175.00	OCM - 30o - 70M -	1.65
13.00	OIL - 100%O	0.18
0.00	63 Feet gas in pipe	0.00

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling CO., Inc

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirni #1-7**

Job Ticket: 62133

**DST#: 5**

ATTN: Robert Hendrix

Test Start: 2014.12.08 @ 22:56:00

## Tool Information

Drill Pipe:	Length: 4234.08 ft	Diameter: 3.80 inches	Volume: 59.39 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 205.92 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose: 74000.00 lb
			<u>Total Volume: 60.40 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	4432.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	94.00 ft			
Tool Length:	113.00 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			4418.00	
Hydraulic tool	5.00			4423.00	
Packer	5.00			4428.00	19.00 Bottom Of Top Packer
Packer	4.00			4432.00	
Stubb	1.00			4433.00	
Recorder	0.00	8521	Inside	4433.00	
Recorder	0.00	8959	Outside	4433.00	
Perforations	25.00			4458.00	
Change Over Sub	1.00			4459.00	
Drill Pipe	63.00			4522.00	
Change Over Sub	1.00			4523.00	
Bullnose	3.00			4526.00	94.00 Bottom Packers & Anchor

**Total Tool Length: 113.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling CO., Inc

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirni #1-7**

Job Ticket: 62133

**DST#: 5**

ATTN: Robert Hendrix

Test Start: 2014.12.08 @ 22:56:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

28 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
118.00	MCW - 35M - 65W	0.580
175.00	OCM - 30o - 70M -	1.654
13.00	OIL - 100%O	0.182
0.00	63 Feet gas in pipe	0.000

Total Length: 306.00 ft

Total Volume: 2.416 bbl

Num Fluid Samples: 0

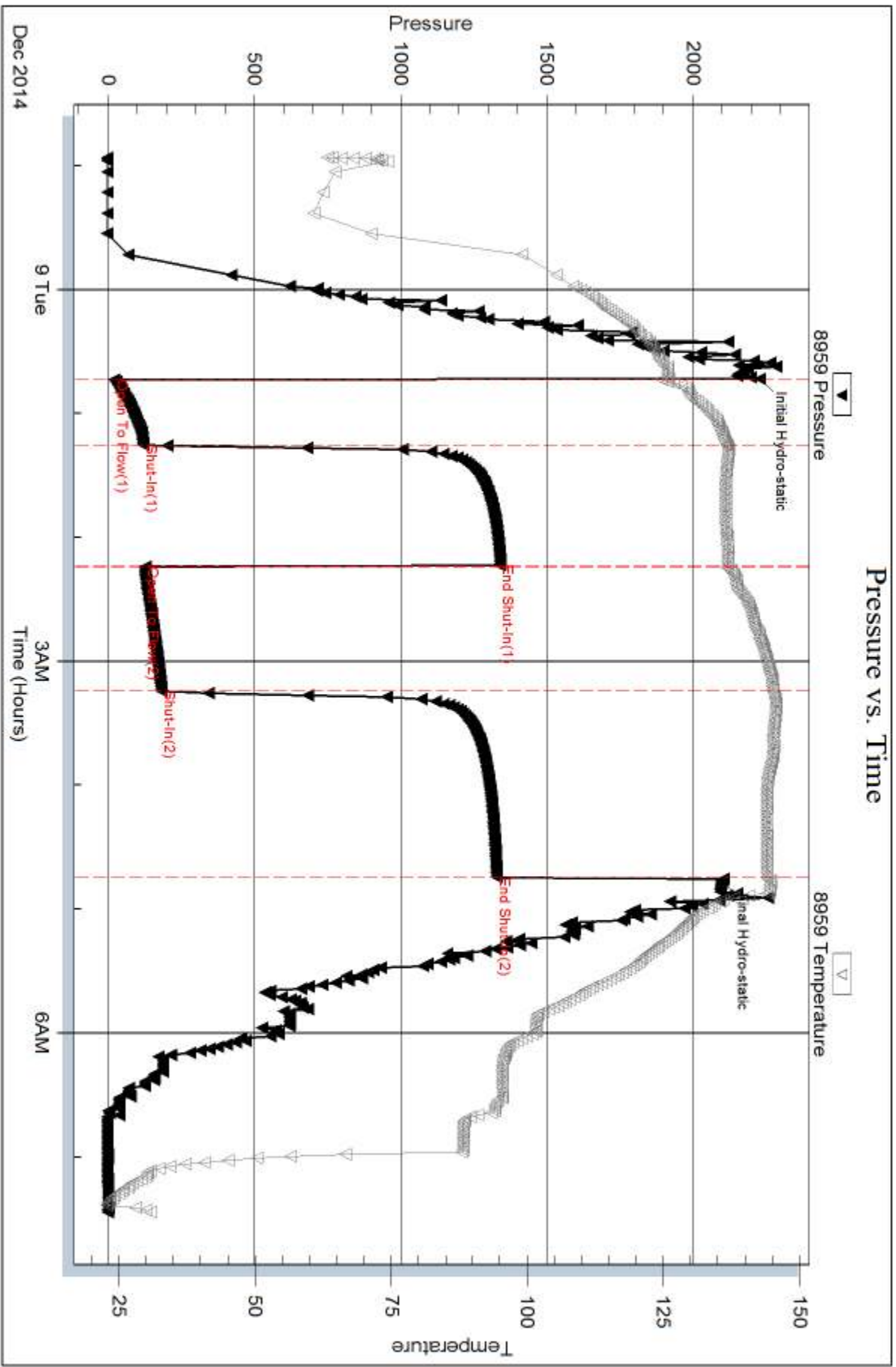
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity - 28



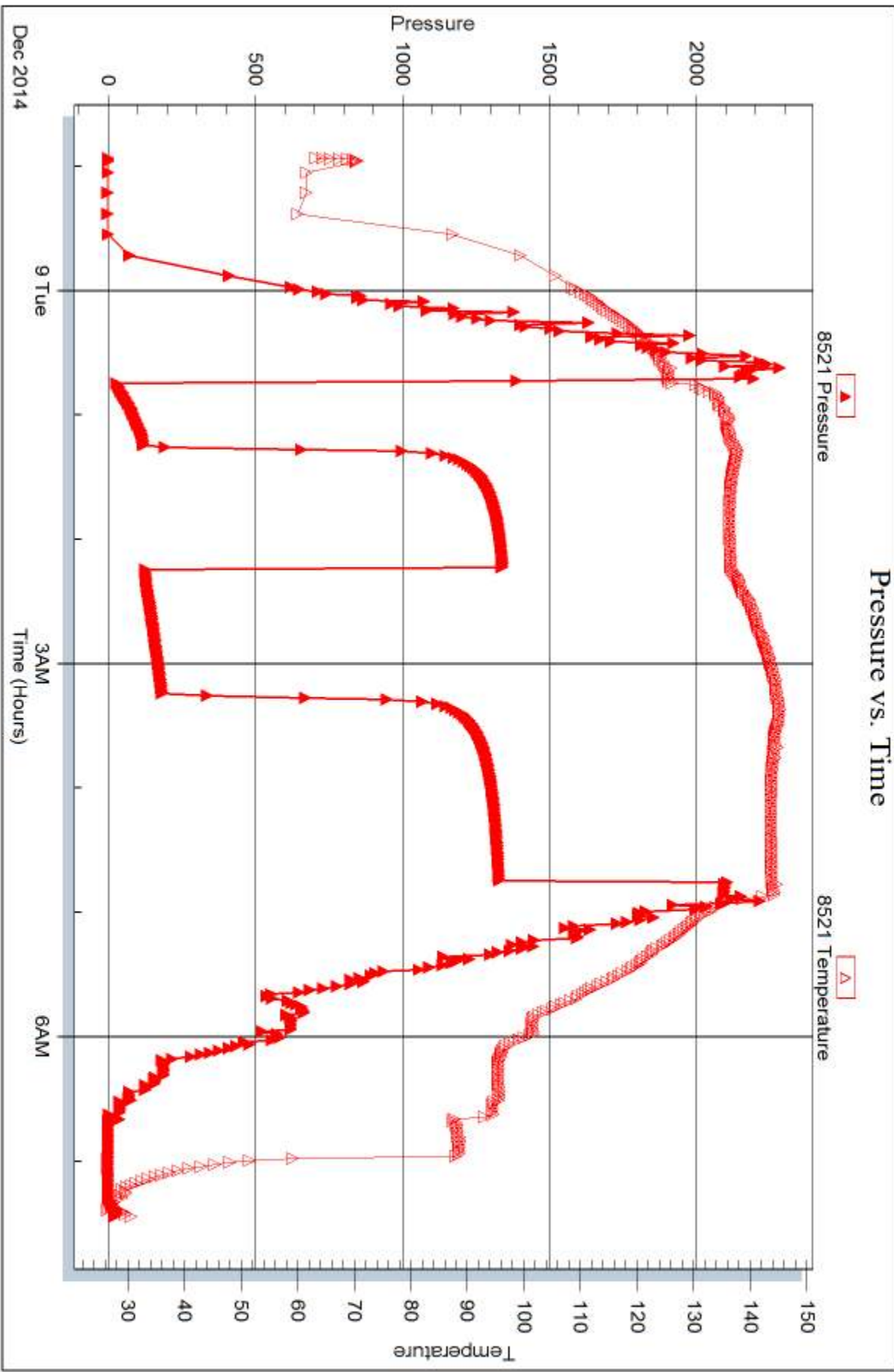
Serial #: 8521

Inside

Murfin Drilling CO., Inc

Pancini #1-7

DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 62133

Printed: 2014.12.12 @ 14:45:41



## DRILL STEM TEST REPORT

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

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Robert Hendrix

### **Pancirni #1-7**

#### **7-2s-36w Rawlins,KS**

Start Date: 2014.12.10 @ 05:45:00

End Date: 2014.12.10 @ 12:46:30

Job Ticket #: 62610                      DST #: 6

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

Printed: 2014.12.12 @ 14:45:10





**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling CO., Inc

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirni #1-7**

Job Ticket: 62610

**DST#: 6**

ATTN: Robert Hendrix

Test Start: 2014.12.10 @ 05:45:00

## GENERAL INFORMATION:

Formation: **Marmaton B-C**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:50:00

Time Test Ended: 12:46:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Robert Zodrow

Unit No: 49

**Interval: 4621.00 ft (KB) To 4700.00 ft (KB) (TVD)**

Reference Elevations: 3381.00 ft (KB)

Total Depth: 4700.00 ft (KB) (TVD)

3370.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 8959 Outside**

Press@RunDepth: 20.67 psig @ 4622.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.12.10

End Date:

2014.12.10

Last Calib.: 2014.12.10

Start Time: 05:45:05

End Time:

12:46:29

Time On Btm: 2014.12.10 @ 07:49:30

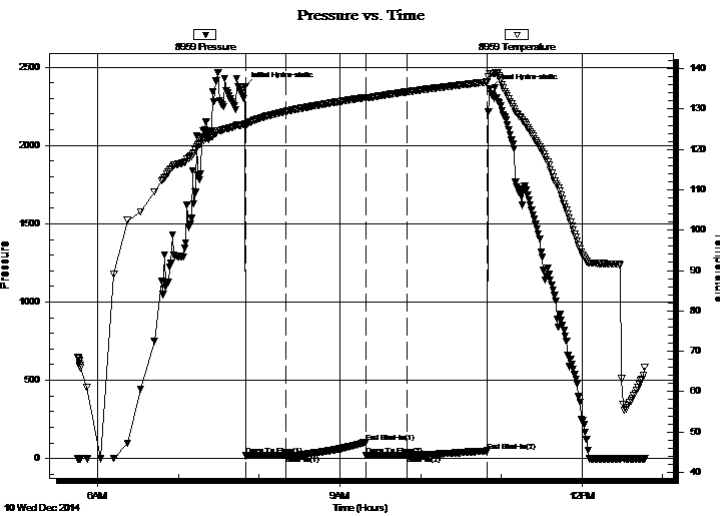
Time Off Btm: 2014.12.10 @ 10:51:30

TEST COMMENT: 30-IS- Blow built to 1/2" died back to 1/4"

60-IS- No return

30-FF- No blow

60-FS- No return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2377.01	126.33	Initial Hydro-static
1	18.38	125.56	Open To Flow (1)
31	19.61	129.41	Shut-In(1)
90	105.32	132.86	End Shut-In(1)
90	20.00	132.82	Open To Flow (2)
120	20.67	134.23	Shut-In(2)
180	48.81	136.69	End Shut-In(2)
182	2365.13	138.63	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
2.00	MUD 100%M	0.01

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling CO., Inc

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirni #1-7**

Job Ticket: 62610

**DST#: 6**

ATTN: Robert Hendrix

Test Start: 2014.12.10 @ 05:45:00

## Tool Information

Drill Pipe:	Length: 4420.00 ft	Diameter: 3.88 inches	Volume: 64.64 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 205.00 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose:	84000.00 lb
			<u>Total Volume: 65.65 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial	70000.00 lb
Depth to Top Packer:	4621.00 ft			Final	70000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	79.00 ft				
Tool Length:	106.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4599.00	
Hydraulic tool	5.00			4604.00	
Jars	5.00			4609.00	
Safety Joint	3.00			4612.00	
Packer	5.00			4617.00	27.00 Bottom Of Top Packer
Packer	4.00			4621.00	
Stubb	1.00			4622.00	
Recorder	0.00	8521	Inside	4622.00	
Recorder	0.00	8959	Outside	4622.00	
Perforations	10.00			4632.00	
Change Over Sub	1.00			4633.00	
Drill Pipe	63.00			4696.00	
Change Over Sub	1.00			4697.00	
Bullnose	3.00			4700.00	79.00 Bottom Packers & Anchor

**Total Tool Length: 106.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling CO., Inc

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirni #1-7**

Job Ticket: 62610

**DST#: 6**

ATTN: Robert Hendrix

Test Start: 2014.12.10 @ 05:45:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	MUD 100%M	0.010

Total Length: 2.00 ft      Total Volume: 0.010 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

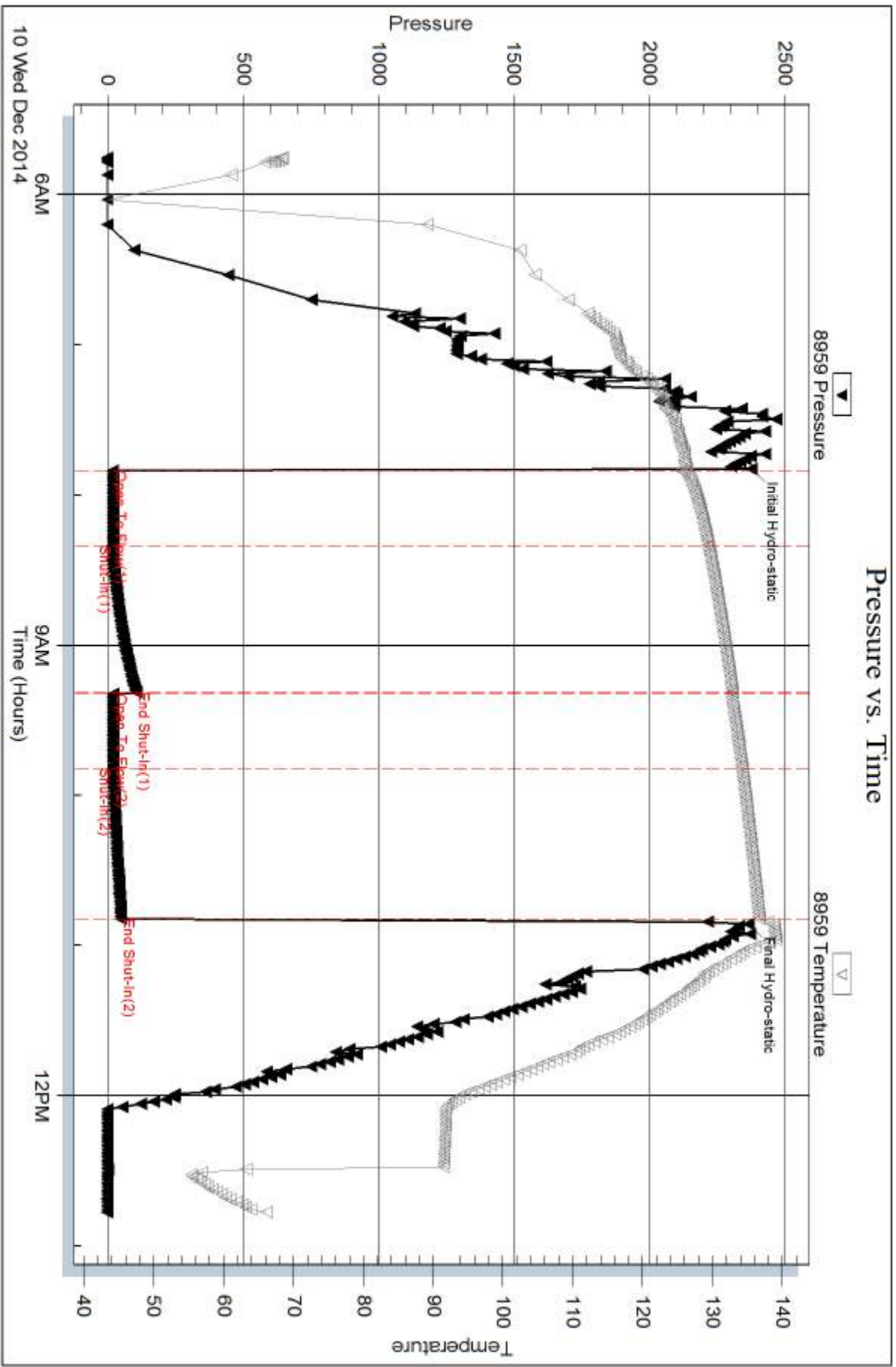
Recovery Comments:

Serial #: 8959

Outside Murfin Drilling CO., Inc

Pancini #1-7

DST Test Number: 6



Trilobite Testing, Inc

Ref. No: 62610

Printed: 2014.12.12 @ 14:45:11

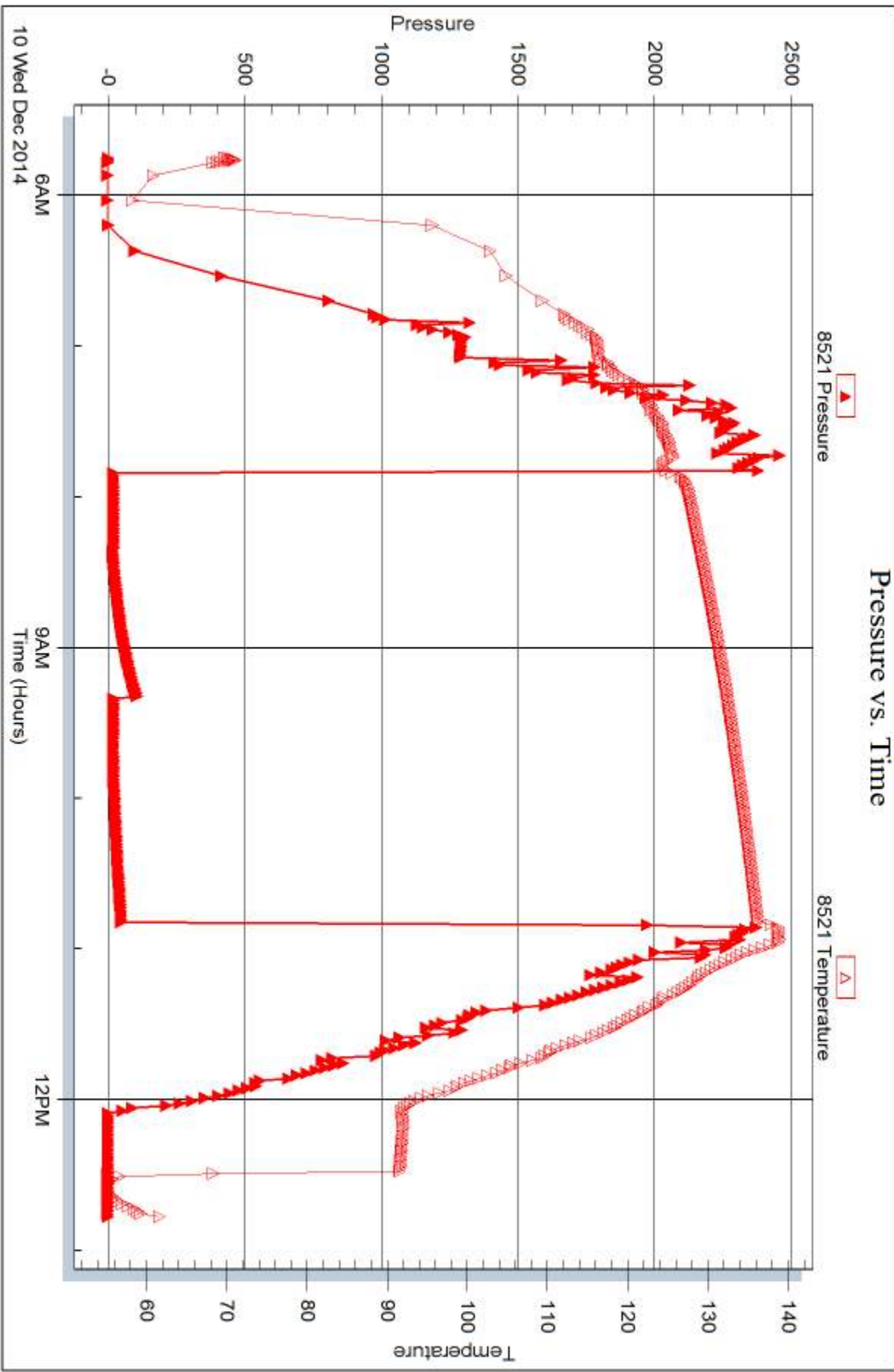
Serial #: 8521

Inside

Murfin Drilling CO., Inc

Pancini #1-7

DST Test Number: 6





## DRILL STEM TEST REPORT

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

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Robert Hendrix

### **Pancirni #1-7**

#### **7-2s-36w Rawlins,KS**

Start Date: 2014.12.11 @ 00:30:00

End Date: 2014.12.11 @ 06:58:17

Job Ticket #: 62611                      DST #: 7

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

Printed: 2014.12.12 @ 14:44:03



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling CO., Inc

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirni #1-7**

Job Ticket: 62611

**DST#: 7**

ATTN: Robert Hendrix

Test Start: 2014.12.11 @ 00:30:00

## GENERAL INFORMATION:

Formation: **Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:58:30

Time Test Ended: 06:58:17

Test Type: Conventional Bottom Hole (Reset)

Tester: Robert Zodrow

Unit No: 49

**Interval: 4687.00 ft (KB) To 4754.00 ft (KB) (TVD)**

Reference Elevations: 3381.00 ft (KB)

Total Depth: 4754.00 ft (KB) (TVD)

3370.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 8959 Outside**

Press@RunDepth: 38.67 psig @ 4688.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.12.11

End Date:

2014.12.11

Last Calib.: 2014.12.11

Start Time: 00:30:05

End Time:

06:58:18

Time On Btm: 2014.12.11 @ 01:58:00

Time Off Btm: 2014.12.11 @ 04:59:30

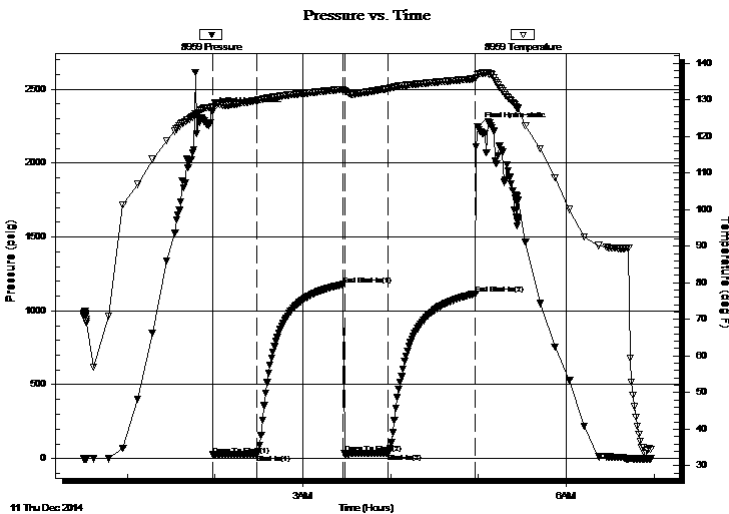
TEST COMMENT: 30-IF- Blow built to 1"

60-ISI- No return

30-FF- No blow

60-ISI- No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2351.56	128.07	Initial Hydro-static
1	25.71	127.72	Open To Flow (1)
31	30.71	129.81	Shut-In(1)
90	1177.84	132.84	End Shut-In(1)
91	32.41	132.41	Open To Flow (2)
120	38.67	133.01	Shut-In(2)
180	1116.04	135.74	End Shut-In(2)
182	2244.38	136.84	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	MUD 100%M	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

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirni #1-7**

Job Ticket: 62611

**DST#: 7**

ATTN: Robert Hendrix

Test Start: 2014.12.11 @ 00:30:00

## Tool Information

Drill Pipe:	Length: 4479.00 ft	Diameter: 3.88 inches	Volume: 65.50 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 205.00 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose: 76000.00 lb
			<u>Total Volume: 66.51 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4687.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	67.00 ft			
Tool Length:	94.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			4665.00	
Hydraulic tool	5.00			4670.00	
Jars	5.00			4675.00	
Safety Joint	3.00			4678.00	
Packer	5.00			4683.00	27.00 Bottom Of Top Packer
Packer	4.00			4687.00	
Stubb	1.00			4688.00	
Recorder	0.00	8521	Inside	4688.00	
Recorder	0.00	8959	Outside	4688.00	
Perforations	30.00			4718.00	
Change Over Sub	1.00			4719.00	
Drill Pipe	31.00			4750.00	
Change Over Sub	1.00			4751.00	
Bullnose	3.00			4754.00	67.00 Bottom Packers & Anchor

**Total Tool Length: 94.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling CO., Inc

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirni #1-7**

Job Ticket: 62611

**DST#: 7**

ATTN: Robert Hendrix

Test Start: 2014.12.11 @ 00:30:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	MUD 100%M	0.049

Total Length: 10.00 ft      Total Volume: 0.049 bbl

Num Fluid Samples: 0

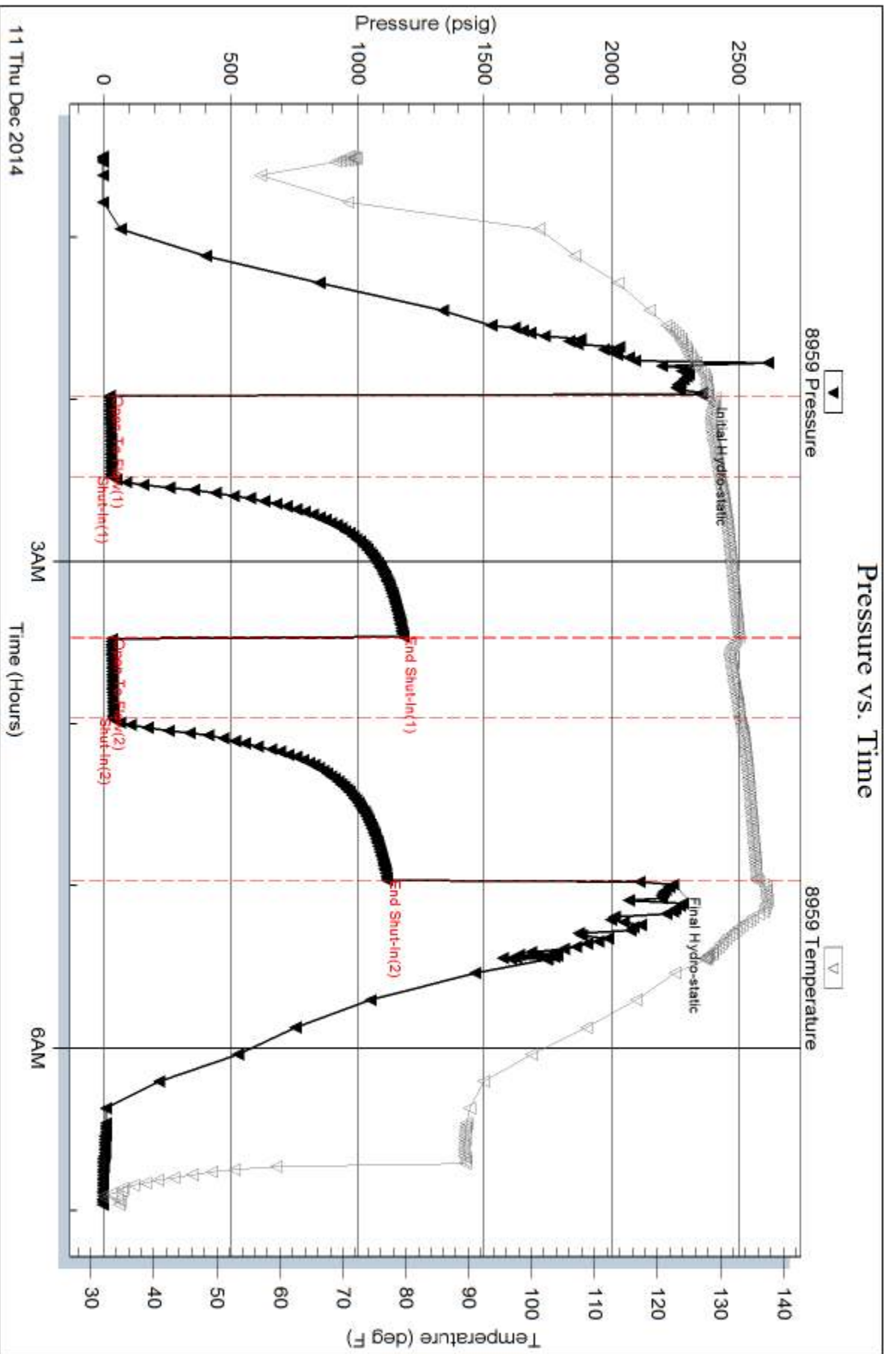
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



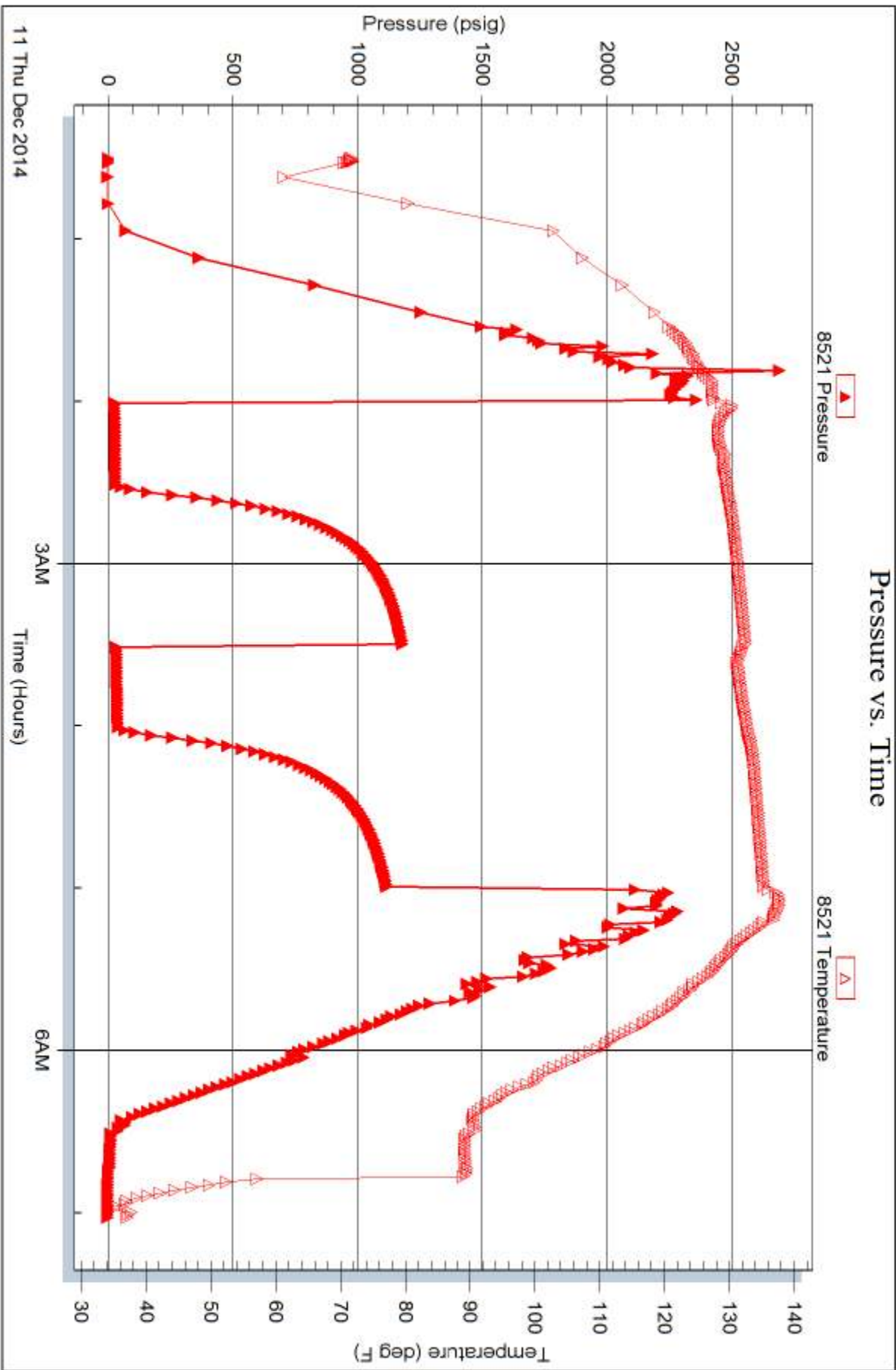
Serial #: 8521

Inside

Murfin Drilling CO., Inc

Pancini #1-7

DST Test Number: 7



Trilobite Testing, Inc

Ref. No: 62611

Printed: 2014.12.12 @ 14:44:04



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 62129

Well Name & No. Panconi #1-7 Test No. 1 Date 12-5-14  
 Company Murfin Drilling Co. Elevation 3381 KB 3370 GL  
 Address 250 N. Water STE 300, Wichita, KS, 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #2  
 Location: Sec. 7 Twp. 2S Rge. 36w Co. Rawlins State KS

Interval Tested 4171' - 4228' Zone Tested Oread  
 Anchor Length 57' Drill Pipe Run 3951.08 Mud Wt. 1.4836  
 Top Packer Depth 4166' Drill Collars Run 205.92 Vis 60  
 Bottom Packer Depth 4171' Wt. Pipe Run Ø WL 7.6  
 Total Depth 4228' Chlorides 600 ppm System LCM #6  
 Blow Description IF - Strong surface blow built to 3 in. in 30 min (IN DEISEL)  
ISI - NO return  
FF - Surface blow started 12 min. in built to 1 in. in 48 min  
FSI - NO return

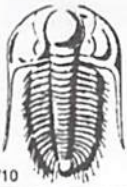
Rec	Feet of	%gas	%oil	%water	%mud
<u>68</u>	<u>OCM</u>		<u>40</u>		<u>60</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 68 BHT 135 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2057  Test 1250 T-On Location 7:30pm  
 (B) First Initial Flow 16  Jars 250 T-Started 9:13pm  
 (C) First Final Flow 38  Safety Joint 75 T-Open 11:28pm  
 (D) Initial Shut-In 1103  Circ Sub N/C T-Pulled 3:28am-12/6  
 (E) Second Initial Flow 40  Hourly Standby \_\_\_\_\_ T-Out 5:20am 12/6  
 (F) Second Final Flow 62  Mileage 108 RIT 167.40 Comments \_\_\_\_\_  
 (G) Final Shut-In 1063  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2009  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 1742.40  
 Final Flow 60  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 90 Sub Total 1742.40

Approved By \_\_\_\_\_ Our Representative Konaran Baumgardner

TriLOBITE TESTING Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 62130

Well Name & No. Pancinni #1-7 Test No. 2 Date 12-6-14  
 Company Murfin Drilling Co., Inc Elevation 3381 KB 3370 GL  
 Address 250 N. Water St #300, Wichita, KS, 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #2  
 Location: Sec. 7 Twp. 2S Rge. 36W Co. Rawlins State KS

Interval Tested 4247'-4330' Zone Tested LKC "A"  
 Anchor Length 83' Drill Pipe Run 4045.08 Mud Wt. 14680  
 Top Packer Depth 4242' Drill Collars Run 205.92 Vis 58  
 Bottom Packer Depth 4247' Wt. Pipe Run 0 WL 6.4  
 Total Depth 4330' Chlorides 600 ppm System LCM #7  
 Blow Description IF-Weak surface blow built to 6 in. in 30 min. CIA Deised  
ISI - NO return  
FF-Weak surface blow built to 7 in. in 60 min.  
FSI - NO return

Rec	Feet of	%gas	%oil	%water	%mud
<u>63</u>	<u>OCM</u>		<u>35</u>		<u>65</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 63 BHT 134 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2094  Test 1250 T-On Location 3:23pm  
 (B) First Initial Flow 20  Jars 250 T-Started 4:34pm  
 (C) First Final Flow 37  Safety Joint 75 T-Open 6:50pm  
 (D) Initial Shut-In 1082  Circ Sub N/C T-Pulled 10:54pm  
 (E) Second Initial Flow 42  Hourly Standby \_\_\_\_\_ T-Out 12:46am 12-7  
 (F) Second Final Flow 58  Mileage 108R/T 167.40 Comments \_\_\_\_\_  
 (G) Final Shut-In 1083  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1997  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 1742.40  
 Final Flow 60  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 90 Sub Total 1742.40

Approved By \_\_\_\_\_ Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 62131

Well Name & No. Pancirni # 1-7 Test No. 3 Date 12-7-14  
 Company Murfin Drilling Co. Inc. Elevation 3381 KB 3370 GL  
 Address 250 N. Water STE 300, Wichita, KS, 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #2  
 Location: Sec. 7 Twp. 25 Rge. 36W Co. Rawlins State KS

Interval Tested 4325' - 4380' Zone Tested LKC "D"  
 Anchor Length 55' Drill Pipe Run 4108.08 Mud Wt. ~~11.6~~ 9.1  
 Top Packer Depth 4320 Drill Collars Run 205.92 Vis ~~5.8~~ 6.1  
 Bottom Packer Depth 4325 Wt. Pipe Run 0 WL ~~6.7~~ 6.8  
 Total Depth 4380 Chlorides 600 ppm System LCM ~~#7~~ #8

Blow Description IF - Strong surface blow built to BOB in 1 min. (In Deisel)  
ISI - NO return  
FF - Strong surface blow built to BOB in 1 min (In Deisel)  
FSI - NO return

Rec	Feet of	%gas	%oil	%water	%mud
<u>282</u>	<u>MCO</u>	<u>60</u>		<u>40</u>	
<u>315</u>	<u>OCM</u>	<u>30</u>		<u>70</u>	
<u>865</u>	<u>OCMW</u>	<u>5</u>	<u>90</u>		<u>5</u>
<u>30</u>	<u>gas in pipe</u>				

Rec Total 1462 BHT 151 Gravity \_\_\_\_\_ API RW .294 @ 61° F Chlorides 27000 ppm

(A) Initial Hydrostatic 2136  Test 1250' T-On Location 8:20am  
 (B) First Initial Flow 125  Jars 250 T-Started 9:04am  
 (C) First Final Flow 482  Safety Joint 75 T-Open 10:54am  
 (D) Initial Shut-In 1168  Circ Sub N/C T-Pulled 1:29pm  
 (E) Second Initial Flow 512  Hourly Standby \_\_\_\_\_ T-Out 4:16pm  
 (F) Second Final Flow 708  Mileage 108 RT 167.40  
 (G) Final Shut-In 1156  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1844  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Initial Open 15  
 Initial Shut-In 60  
 Final Flow 15  
 Final Shut-In 60

Comments \_\_\_\_\_  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total 0  
 Total 1742.40  
 MP/DST Disc't \_\_\_\_\_

Sub Total 1742.40

Approved By \_\_\_\_\_ Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 62132

Well Name & No. Pancirni #1-7 Test No. 4 Date 12-8-14  
 Company Murfin Drilling Co., Inc Elevation 3381 KB 3370 GL  
 Address 250 N. Water STE 300, Wichita, KS, 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #2  
 Location: Sec. 7 Twp. 25 Rge. 36w Co. Rawlins State KS

Interval Tested 4395'-4435' Zone Tested LKC 'G'  
 Anchor Length 40' Drill Pipe Run 4202.08 Mud Wt. 9.1  
 Top Packer Depth 4390' Drill Collars Run 205.92 Vis 61  
 Bottom Packer Depth 4395' Wt. Pipe Run 0 WL 6.8  
 Total Depth 4435' Chlorides 600 ppm System LCM #8  
 Blow Description IF - weak surface blow built to 1/2 in. in 30 min. (In Deisel)  
ISI - No return  
FF - no surface blow  
FSI - No return

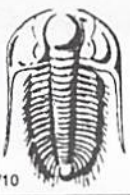
Rec	Feet of	%gas	%oil	%water	%mud
3	OCM		30%		70%

Rec Total 3 BHT 138 Gravity 1250 API RW 167.40 @ 12:40am °F Chlorides 0 ppm

(A) Initial Hydrostatic 22.05  Test 1250 T-On Location 12:40am  
 (B) First Initial Flow 16  Jars 250 T-Started 1:25am  
 (C) First Final Flow 17  Safety Joint 75 T-Open 3:13am  
 (D) Initial Shut-In 61  Circ Sub N/C T-Pulled 7:16am  
 (E) Second Initial Flow 15  Hourly Standby \_\_\_\_\_ T-Out 9:15am  
 (F) Second Final Flow 36.15  Mileage 108 R/T Comments \_\_\_\_\_  
 (G) Final Shut-In 36  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2156  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 1742.40  
 Final Flow 60  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 90 Sub Total 1742.40

Approved By \_\_\_\_\_ Our Representative Robert Hendrix

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 62133

Well Name & No. Pancini #1-7 Test No. 5 Date 12-8-14  
 Company Murfin Drilling Co, Inc. Elevation 3381 KB 3370 GL  
 Address 250 N. Water St #300, Wichita, KS, 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #2  
 Location: Sec. 7 Twp. 2S Rge. 36w Co. Rawlins State KS

Interval Tested 4432'-4526' Zone Tested LKC "H-5"  
 Anchor Length 94' Drill Pipe Run 4234.08 Mud Wt. 9.3  
 Top Packer Depth 4427' Drill Collars Run 205.92 Vis 53  
 Bottom Packer Depth 4432' Wt. Pipe Run 0 WL 6.4  
 Total Depth 4526' Chlorides 700 ppm System LCM #6  
 Blow Description IF - Strong surface blow built to BOB in 17 min. (In Deisel)  
IST - No return  
FF - weak surface blow built to BOB in 24 min.  
FST - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>13</u>	<u>oil</u>		<u>100</u>		
<u>175</u>	<u>OCM</u>		<u>30</u>		<u>70</u>
<u>118</u>	<u>mcw</u>			<u>65</u>	<u>35</u>
<u>63</u>	<u>gas in pipe</u>				

Rec Total 306 BHT 144 Gravity 2.8 API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2228  Test 1250 T-On Location 10:02 pm  
 (B) First Initial Flow 21  Jars 250 T-Started 10:56 pm  
 (C) First Final Flow 121  Safety Joint 75 T-Open 12:44 am 12-9  
 (D) Initial Shut-In 1340  Circ Sub N/C T-Pulled 4:44 am 12-9  
 (E) Second Initial Flow 128  Hourly Standby \_\_\_\_\_ T-Out 7:27 am 12-9  
 (F) Second Final Flow 184  Mileage 108 R/T 167.40 Comments \_\_\_\_\_  
 (G) Final Shut-In 1330  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2098  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 90

Sub Total 1742.40 Total 1742.40 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative [Signature]  
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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 62610

Well Name & No. Panicini #1-7 Test No. 6 Date 12-10-2014  
 Company Murfin Drilling CO Inc Elevation 3381 KB 3370 GL  
 Address 250 N Water STE 300 Wichita KS, 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #2  
 Location: Sec. 7 Twp. 2 Rge. 36W Co. Rawlins State KS

Interval Tested 4621 — 4700 Zone Tested Marmaton B-C  
 Anchor Length 79 Drill Pipe Run 4420 Mud Wt. 9.0  
 Top Packer Depth 4617 Drill Collars Run 205 Vis 58  
 Bottom Packer Depth 4621 Wt. Pipe Run 0 WL 6.0  
 Total Depth 4700 Chlorides 700 ppm System LCM 6.0  
 Blow Description IF - Blow built to 1/2" died back to 1/4"  
ISI - NO return  
FF - NO Blow  
FSI - NO return

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>Mud</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	Feet of	%gas	%oil	%water	%mud

Rec Total 2 BHT 137 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2377</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>05:00 12-10</u>
(B) First Initial Flow <u>18</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>05:45 12-10</u>
(C) First Final Flow <u>19</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>07:50 12-10</u>
(D) Initial Shut-In <u>105</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>10:49 12-10</u>
(E) Second Initial Flow <u>20</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>12:46 12-10</u>
(F) Second Final Flow <u>21</u>	<input checked="" type="checkbox"/> Mileage <u>108 RT</u> 167.40	Comments
(G) Final Shut-In <u>49</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2365</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1742.40</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1742.40</u>	

Approved By [Signature] Our Representative Robert Zelenow  
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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 62611

Well Name & No. Pancirni #1-7 Test No. 7 Date 12-11-2014  
 Company Murfin Drilling CO Inc Elevation 3381 KB 3370 GL  
 Address 250 N water STE 300 Wichita KS, 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #2  
 Location: Sec. 7 Twp. 2 Rge. 36w Co. Rawlins State K5

Interval Tested 4687 — 4754 Zone Tested Pawnee  
 Anchor Length 67 Drill Pipe Run 4479 Mud Wt. 9.2  
 Top Packer Depth 4683 Drill Collars Run 205 Vis 6.2  
 Bottom Packer Depth 4687 Wt. Pipe Run 0 WL 7.2  
 Total Depth 4754 Chlorides 700 ppm System LCM 16  
 Blow Description FF - Blow built 102"  
FSE - No return  
FF - No blow  
FSE - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>mud</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	Feet of	%gas	%oil	%water	%mud

Rec Total 10 BHT 136 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2351</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>00:05 12-11</u>
(B) First Initial Flow <u>26</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>00:30 12-11</u>
(C) First Final Flow <u>31</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>01:58 12-11</u>
(D) Initial Shut-In <u>1178</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>04:58 12-11</u>
(E) Second Initial Flow <u>32</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>06:58 12-11</u>
(F) Second Final Flow <u>39</u>	<input checked="" type="checkbox"/> Mileage <u>108 RT X 2</u>	Comments <u>Loaded 100 L</u>
(G) Final Shut-In <u>1116</u>	<input type="checkbox"/> Sampler <u>334.80</u>	<u>at 19:30 on 12-11-2014</u>
(H) Final Hydrostatic <u>2244</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1909.80</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1909.80</u>	

Approved By R. D. Hays Our Representative Robert Zoznow  
 Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

# Robert D. Hendrix

## Petroleum Geologist

### GEOLOGIST'S REPORT DRILLING TIME AND SAMPLE LOG

COMPANY: **Murfin Drilling Co. Inc.**

LEASE: **Panchni #1-7**

FIELD: **Brummi**

LOCATION: **33078, 8, 19807el**

SEC: **7** TWP: **2** RGE: **36**

COUNTY: **Rawlins** STATE: **Kansas**

CONTRACTOR: **Murfin Drilling Co. Inc. #2**

SPUD: **12/29/2014** COMPLETION: **12/12/2014**

RTD: **5080'** LWD: **5081'**

MUD UP: **3487'** TYPE MUD: **Chemical**

SAMPLES SAVED FROM: **3650' TO TD**

DRILLING TIME KEPT FROM: **3650' TO TD**

SAMPLES EXAMINED FROM: **3650' TO TD**

GEOLOGICAL SUPERVISION FROM: **3760'**

GEOLOGIST ON WELL: **Robert D. Hendrix**

FORMATION TOPS: **3271 (L110)** **3267 (L114)**

NEVA: **3752 (371)** **4085 (704)**

TOPEKA: **4090 (709)** **4281 (340)**

OREAD: **4291 (839)** **4303 (922)**

LANSG: **4324 (922)** **4525 (1144)**

STARK: **4524 (1143)** **4574 (1183)**

BKC: **4574 (1183)** **4784 (1403)**

CHEROKEE SHALE: **4729 (1388)** **5014 (1633)**

ELEVATIONS: **KG 3381'**

DF: **GL 3370'**

Measurements are All From **Kelly Bushing**

CASING: **CONDUCTOR SURFACE: 8.50" @ 252'**

PRODUCTION: **5.112"**

ELECTRICAL SURVEYS

Drilling/Production/Logging/Service

Thomas Weather Services

REMARKS:

API# 15-153-21083

7

5014 (1633)

5014 (1633)

5014 (1633)

5014 (1633)

5014 (1633)

5014 (1633)

5014 (1633)

5014 (1633)

5014 (1633)

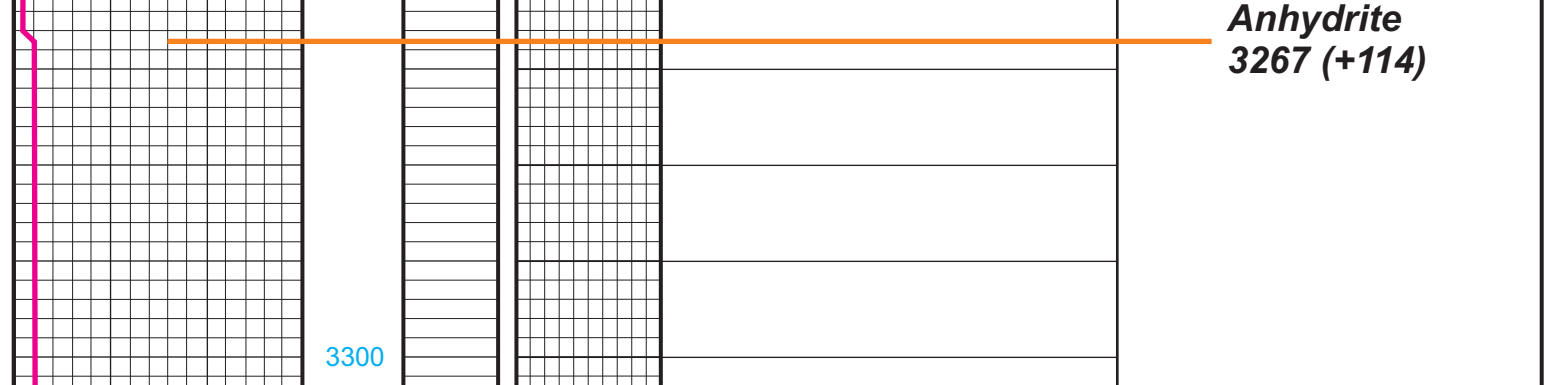
5014 (1633)

5014 (1633)

5014 (1633)

5014 (1633)

### LEGEND



DEPTH	LITHOLOGY	SAMPLE DESCRIPTION	REMARKS
3200	Anhydrite		<b>Anhydrite 3267 (+114)</b>
3300	Anhydrite		<b>Base Anhydrite 3307 (+74)</b>
3600	Shale: red, brown, gray	Shale: red, brown, gray	Bit trip at 3567' change from PDC to biton Strap was 1.7' short to board
3700	Sandstone: white to lt gray, vfn-fr gr, prly sorted, subang, semi-frangible, calcareously cemented, no vis por	Shale: red, brown, gray	
3800	Shale: red, gray, brown, silty, v-sandy, limy in part	Sandstone: gray to white, biotitic, frgm, submd, mod sorted, calcareous, no vis por	
3900	Shale: red, brown, gray, silty	Shale: red, brown, gray, silty	
4000	Limestone: tan, fxdn, granular, chaly, sl fossiliferous, no vis por, ns	Limestone: tan, fxdn, granular, chaly, sl fossiliferous, no vis por, ns	
4100	Shale: red, brown, gray, silty	Shale: red, brown, gray, silty	
4200	Limestone: gray to white, f-mxdn, sl cherty, granular in part, fossiliferous, no vis por, ns	Shale: red, gray	
4300	Limestone: gray, fxdn, granular, fossiliferous, 3 pieces pr interxn por, dark sat stain, glstonite, no odor	Shale: gray, green, silty	
4400	Limestone: tan to white, fxdn, sl chaly, granular, fossiliferous, no vis por	Shale: red, gray, green, silty	
4500	Shale: gray, red, black	Shale: gray, red, black	
4600	Limestone: tan to white, fxdn, sl chaly, granular, no vis por	Shale: gray, brown, red	
4700	Limestone: tan to white, fxdn, sl chaly, fossiliferous, no vis por	Shale: red, gray	
4800	Limestone: gray to brown, fxdn, sl fossiliferous, no vis por	Limestone: tan to white, fxdn, sl chaly, fossiliferous, no vis por	
4900	Shale: red, gray, silty	Shale: red, gray, silty	
5000	Limestone: white to tan, f-mxdn, fossiliferous, sl interxn por, fr dark stain, nfo, no odor	Limestone: white to tan, f-mxdn, fossiliferous, sl interxn por, fr dark stain, nfo, no odor	<b>Stotler 4015 (-634)</b>
5100	Shale: gray, green, red	Shale: gray, green, red	
5200	Limestone: white, f-xln, sl chaly, oolitic, v-fossiliferous, no vis por, fr black stain, nfo, no odor	Limestone: white, f-xln, sl chaly, oolitic, v-fossiliferous, no vis por, fr black stain, nfo, no odor	
5300	Shale: gray, red, silty	Shale: gray, red, silty	
5400	Limestone: white, m-xln, v-fossiliferous, sl interxn por, gd black stain, nfo, no odor	Limestone: white, m-xln, v-fossiliferous, sl interxn por, gd black stain, nfo, no odor	<b>Topeka 4085 (-704)</b>
5500	Limestone: white, f-mxdn, v-fossiliferous, no vis por, ns	Limestone: white, f-mxdn, v-fossiliferous, no vis por, ns	
5600	Shale: gray, red, silty	Shale: gray, red, silty	
5700	Limestone: white, m-xln, sl chaly, oolitic in part, v-fossiliferous, pr interxn por, gd spotty black stain, nfo, no odor	Limestone: white, m-xln, sl chaly, oolitic in part, v-fossiliferous, pr interxn por, gd spotty black stain, nfo, no odor	
5800	Shale: gray, red, silty	Shale: gray, red, silty	
5900	Limestone: white, f-mxdn, sl chaly, pyritic, oolitic in part, v-fossiliferous, pr interxn por, gd lt to dark sat stain, prsfo (heavy), no odor	Limestone: white, f-mxdn, sl chaly, pyritic, oolitic in part, v-fossiliferous, pr interxn por, gd lt to dark sat stain, prsfo (heavy), no odor	
6000	Shale: gray, red, black, silty	Shale: gray, red, black, silty	8:00am, 12/5/2014
6100	Limestone: white, f-mxdn, chaly, oolitic, sl fossiliferous, no vis por	Limestone: white, f-mxdn, chaly, oolitic, sl fossiliferous, no vis por	
6200	Limestone: white, f-mxdn, sl chaly, granular, fossiliferous, no vis por, few pieces black asphaltic stain, nfo, no odor	Limestone: white, f-mxdn, sl chaly, granular, fossiliferous, no vis por, few pieces black asphaltic stain, nfo, no odor	wt 9.3, vis. 60, lcm 6# Morgan Mud, Troy VanPelt
6300	Limestone: white, f-mxdn, v-fossiliferous, no vis por, ns	Limestone: white, f-mxdn, v-fossiliferous, no vis por, ns	
6400	Shale: gray, red, purple, silty	Shale: gray, red, purple, silty	
6500	Shale: gray, silty	Shale: gray, silty	
6600	Dolomite: tan, f-mxdn, granular, gd interxn por, gd dark sat stain, gdsfo, good odor	Dolomite: tan, f-mxdn, granular, gd interxn por, gd dark sat stain, gdsfo, good odor	<b>Oread 4221 (-840)</b>
6700	Limestone: white, fxdn, chaly, fossiliferous, sl fossiliferous, no vis por, fr dark spotty stain, silfo, no odor	Limestone: white, fxdn, chaly, fossiliferous, sl fossiliferous, no vis por, fr dark spotty stain, silfo, no odor	8:00am, 12/6/2014 wt 9.0, vis. 58, lcm 7# Morgan Mud, Troy VanPelt
6800	Limestone: white, fxdn, chaly, fossiliferous, no vis por, ns	Limestone: white, fxdn, chaly, fossiliferous, no vis por, ns	
6900	Shale: red, gray, brown, black	Shale: red, gray, brown, black	
7000	Shale: brown, v-fxdn, dense, sl pyritic, sl fossiliferous, no vis por, ns	Shale: brown, v-fxdn, dense, sl pyritic, sl fossiliferous, no vis por, ns	
7100	Sandstone: black, gray, brown, silty	Sandstone: black, gray, brown, silty	
7200	Sandstone: gray, fr gm, well sorted, submd, pyritic, calcareous, fr intergm por, light sat stain, prsfo, faint odor	Sandstone: gray, fr gm, well sorted, submd, pyritic, calcareous, fr intergm por, light sat stain, prsfo, faint odor	
7300	Shale: black, gray, brown, silty	Shale: black, gray, brown, silty	
7400	Limestone: tan, f-mxdn, oolitic, fossiliferous, gd oolitic sat stain, gdsfo, good odor	Limestone: tan, f-mxdn, oolitic, fossiliferous, gd oolitic sat stain, gdsfo, good odor	<b>Lansing 4303 (-922)</b>
7500	Limestone: tan, fxdn, dense, sl fossiliferous, no vis por	Limestone: tan, fxdn, dense, sl fossiliferous, no vis por	
7600	Sandstone: lt gray, v-fngm, well sorted, md, sl biotitic, calcareous, no vis por, gd dark stain v glstonite, nfo, no odor	Sandstone: lt gray, v-fngm, well sorted, md, sl biotitic, calcareous, no vis por, gd dark stain v glstonite, nfo, no odor	
7700	Shale: red, gray	Shale: red, gray	
7800	Limestone: white, mxdn, sl chaly, oolitic in part, v-fossiliferous, pr interxn por, light sat stain, prsfo, faint odor	Limestone: white, mxdn, sl chaly, oolitic in part, v-fossiliferous, pr interxn por, light sat stain, prsfo, faint odor	
7900	Limestone: white, fxdn, sl chaly, fossiliferous, mostly dense, no vis por	Limestone: white, fxdn, sl chaly, fossiliferous, mostly dense, no vis por	
8000	Shale: gray	Shale: gray	8:00am, 12/7/2014 wt 9.1, vis. 61, lcm 8# Morgan Mud, Troy VanPelt
8100	Limestone: tan, fxdn, dense, fossiliferous, no vis por	Limestone: tan, fxdn, dense, fossiliferous, no vis por	
8200	Shale: gray, red, black	Shale: gray, red, black	
8300	Limestone: white, f-mxdn, sl chaly, fossiliferous, pr interxn por, 10% sample black spotty to sat stain, prsfo, gd odor	Limestone: white, f-mxdn, sl chaly, fossiliferous, pr interxn por, 10% sample black spotty to sat stain, prsfo, gd odor	
8400	Limestone: white to tan, f-mxdn, sl chaly, fossiliferous, no vis por, few pieces black spotty stain, nfo, no odor	Limestone: white to tan, f-mxdn, sl chaly, fossiliferous, no vis por, few pieces black spotty stain, nfo, no odor	8:00am, 12/9/2014 wt 9.2, vis. 62, lcm 8# Morgan Mud, Troy VanPelt
8500	Shale: gray, red, black	Shale: gray, red, black	
8600	Limestone: white, fxdn, sl chaly, fossiliferous, pr pp por, 5% sample dark spotty stain, silfo, faint odor	Limestone: white, fxdn, sl chaly, fossiliferous, pr pp por, 5% sample dark spotty stain, silfo, faint odor	
8700	Limestone: white to lt gray, fxdn, sl chaly, pyritic, fossiliferous, no vis por	Limestone: white to lt gray, fxdn, sl chaly, pyritic, fossiliferous, no vis por	
8800	Shale: gray, red, brown, v-fxdn	Shale: gray, red, brown, v-fxdn	
8900	Limestone: tan to white, f-mxdn, pyritic, fossiliferous, no vis por, 1% sample dark sat stain, silfo, no odor	Limestone: tan to white, f-mxdn, pyritic, fossiliferous, no vis por, 1% sample dark sat stain, silfo, no odor	
9000	Shale: gray, red	Shale: gray, red	
9100	Limestone: white, f-mxdn, sl chaly, pyritic, oolitic in part, fossiliferous, pr interxn por, lt sat stain, silfo on break, no odor	Limestone: white, f-mxdn, sl chaly, pyritic, oolitic in part, fossiliferous, pr interxn por, lt sat stain, silfo on break, no odor	
9200	Shale: gray, black, red	Shale: gray, black, red	<b>Stark 4525 (-1144)</b>
9300	Shale: gray, red, brown	Shale: gray, red, brown	8:00am, 12/9/2014
9400	Limestone: white to lt gray, fxdn, sl chaly, sl oolitic, fossiliferous, no vis por	Limestone: white to lt gray, fxdn, sl chaly, sl oolitic, fossiliferous, no vis por	wt 9.0, vis. 58, lcm 6# Morgan Mud, Troy VanPelt
9500	Shale: red, gray, brown	Shale: red, gray, brown	
9600	Limestone: white, f-mxdn, sl chaly, fossiliferous, no vis por	Limestone: white, f-mxdn, sl chaly, fossiliferous, no vis por	
9700	Shale: red, gray, green, brown	Shale: red, gray, green, brown	
9800	Limestone: tan to white, fxdn, chaly, fossiliferous, no vis por	Limestone: tan to white, fxdn, chaly, fossiliferous, no vis por	
9900	Shale: gray, blocky, silty	Shale: gray, blocky, silty	
10000	Limestone: tan, fxdn, chaly, dense, fossiliferous, no vis por	Limestone: tan, fxdn, chaly, dense, fossiliferous, no vis por	
10100	Shale: gray, red	Shale: gray, red	
10200	Limestone: white, f-mxdn, sl chaly, oolitic, fossiliferous, no vis por, 3 pieces lt sat stain, silfo, no odor	Limestone: white, f-mxdn, sl chaly, oolitic, fossiliferous, no vis por, 3 pieces lt sat stain, silfo, no odor	
10300	Shale: red, gray, green, brown	Shale: red, gray, green, brown	
10400	Limestone: tan to white, fxdn, chaly, fossiliferous, no vis por	Limestone: tan to white, fxdn, chaly, fossiliferous, no vis por	
10500	Shale: gray, blocky, silty	Shale: gray, blocky, silty	
10600	Limestone: tan, fxdn, chaly, dense, fossiliferous, no vis por	Limestone: tan, fxdn, chaly, dense, fossiliferous, no vis por	
10700	Shale: gray, red	Shale: gray, red	
10800	Sandstone: tan to red, mdgrm, sub ang, mod sorted, calcareous, friable, fr intergranular por, ns	Sandstone: tan to red, mdgrm, sub ang, mod sorted, calcareous, friable, fr intergranular por, ns	
10900	Shale: gray, green, red, silty, sandy	Shale: gray, green, red, silty, sandy	
11000	Sandstone: lt green, lt, fr coarse gm, sub md, mod sorted, calcareous, no vis por	Sandstone: lt green, lt, fr coarse gm, sub md, mod sorted, calcareous, no vis por	
11100	Shale: gray, purple, red, sandy	Shale: gray, purple, red, sandy	
11200	Shale: gray, green, red, yellow	Shale: gray, green, red, yellow	
11300	Limestone: gray to tan, fxdn, chaly, fossiliferous, no vis por	Limestone: gray to tan, fxdn, chaly, fossiliferous, no vis por	
11400	Shale: red, silty, sandy	Shale: red, silty, sandy	
11500	Sandstone: white, lt, md gm, sub md, mod sorted, sl calcareous, fr intergranular por	Sandstone: white, lt, md gm, sub md, mod sorted, sl calcareous, fr intergranular por	
11600	Shale: red, brown, silty, sandy	Shale: red, brown, silty, sandy	
11700	Shale: red, purple, yellow, gray	Shale: red, purple, yellow, gray	
11800	Sandstone: clear, lt, v-coarse individual grains sub md to sub ang, poorly sorted, ns	Sandstone: clear, lt, v-coarse individual grains sub md to sub ang, poorly sorted, ns	
11900	Shale: gray, green, red, silty	Shale: gray, green, red, silty	
12000	Sandstone: white/green, lt, md-lq gm, sub md, poorly sorted, sl calcareous, argillaceous, no vis por	Sandstone: white/green, lt, md-lq gm, sub md, poorly sorted, sl calcareous, argillaceous, no vis por	
12100	Sandstone: white/green, lt, md-lq gm, sub md, poorly sorted, sl calcareous, argillaceous, no vis por	Sandstone: white/green, lt, md-lq gm, sub md, poorly sorted, sl calcareous, argillaceous, no vis por	
12200	Shale: red, green, gray, black, brown, purple	Shale: red, green, gray, black, brown, purple	
12300	Shale: gray, black	Shale: gray, black	
12400	Sandstone: clear to white, fr gm, sub md, mod sort, friable, pr to fr intergranular por, ns	Sandstone: clear to white, fr gm, sub md, mod sort, friable, pr to fr intergranular por, ns	
12500	Shale: gray, black	Shale: gray, black	
12600	Sandstone: clear to brown, lt, fr gm, sub md, mod sort, pyritic, friable, pr intergranular por, ns	Sandstone: clear to brown, lt, fr gm, sub md, mod sort, pyritic, friable, pr intergranular por, ns	
12700	Shale: red, green, gray, black, brown, cherty	Shale: red, green, gray, black, brown, cherty	
12800	chert: white to gray to yellow, mostly opaque, weathered in part, no vis por, ns	chert: white to gray to yellow, mostly opaque, weathered in part, no vis por, ns	<b>Mississippian 5014 (-1633)</b>
12900	Dolomite: tan to white, fxdn, cherty, granular, fr interxn por, ns	Dolomite: tan to white, fxdn, cherty, granular, fr interxn por, ns	
13000	Dolomite: tan to white, fxdn, cherty, granular, fr interxn por, ns	Dolomite: tan to white, fxdn, cherty, granular, fr interxn por, ns	
13100	Dolomite: tan, fxdn, v-cherty, granular, pr vug por, ns	Dolomite: tan, fxdn, v-cherty, granular, pr vug por, ns	
13200	Limestone: brown, crypto-fxdn, dense, cherty, no vis por	Limestone: brown, crypto-fxdn, dense, cherty, no vis por	
13300	Limestone: brown to tan, v-fxdn, chaly, dense, no vis por	Limestone: brown to tan, v-fxdn, chaly, dense, no vis por	
13400			<b>RTD 5080 (-1699)</b>
13500			8:00am, 12/12/2014 Geologist off location at 4:30pm, 12/12/2014



*acct. Prod-ing*

# INVOICE

PO Box 93999  
Southlake, TX 76092

Invoice Number: 147507  
Invoice Date: Dec 2, 2014  
Page: 1

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

Federal Tax I.D.#: 20-8651475

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

Customer ID	Field Ticket #	Payment Terms	
Murfin	64830	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	Dec 2, 2014	1/1/15

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	<i>Pancirni</i> Pancimi #1-7		
225.00	CEMENT MATERIALS	Class A Common	17.90	4,027.50
635.00	CEMENT MATERIALS	Chloride	1.10	698.50
236.25	CEMENT SERVICE	Cubic Feet Charge	2.48	585.90
816.74	CEMENT SERVICE	Ton Mileage Charge	2.75	2,246.04
1.00	CEMENT SERVICE	Surface	1,512.25	1,512.25
75.00	CEMENT SERVICE	Pump Truck Mileage	7.70	577.50
1.00	CEMENT SERVICE	Swedge Manifold Rental	275.00	275.00
75.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	330.00
1.00	CEMENT SUPERVISOR	Paul Beaver		
1.00	EQUIPMENT OPERATOR	Tyler Flipse		

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

\$ 3,588.44 *OK 3/5/15*

ONLY IF PAID ON OR BEFORE  
Jan 1, 2015

Subtotal	10,252.69
Sales Tax	373.35
Total Invoice Amount	10,626.04
Payment/Credit Applied	
<b>TOTAL</b>	<b>10,626.04</b>

*OK SR*

*- 3588.44*  
*7037.60*





P. O. Box 466  
Ness City, KS 67560  
Off: 785-798-2300



# Invoice

DATE	INVOICE #
12/12/2014	28131

BILL TO
Murfin Drilling Co Inc PO Box 661 Colby, KS 67701-0661
USED FOR <u>IC 123</u>
APPROVED <u>JF</u> <del>EH</del>

- Acidizing
- Cement
- Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#1-7	Pancimi	Rawlins	Company Tools	Oil	Development	Cement LongStri...	Blaine
PRICE REF.	DESCRIPTION				QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way				150	Miles	6.00	900.00
579D	Pump Charge - Top To Bottom LongString				1	Job	2,000.00	2,000.00
403-5	5 1/2" Cement Basket				3	Each	300.00	900.00T
406-5	5 1/2" Latch Down Plug & Baffle				1	Each	275.00	275.00T
407-5	5 1/2" Insert Float Shoe With Auto Fill				1	Each	375.00	375.00T
409-5	5 1/2" Turbolizer				15	Each	90.00	1,350.00T
413-5	5 1/2" Roto Wall Scratcher				10	Each	40.00	400.00T
419-5	5 1/2" Rotating Head Rental				1	Each	200.00	200.00T
330	Swift Multi-Density Standard (MIDCON II)				300	Sacks	18.50	5,550.00T
325	Standard Cement				200	Sacks	14.50	2,900.00T
284	Calseal				10	Sack(s)	35.00	350.00T
283	Salt				1,000	Lb(s)	0.20	200.00T
285	CFR-1				100	Lb(s)	4.50	450.00T
276	Flocele				125	Lb(s)	2.50	312.50T
281	Mud Flush				500	Gallon(s)	1.25	625.00T
221	Liquid KCL (Clayfix)				4	Gallon(s)	25.00	100.00T
290	D-Air				4	Gallon(s)	42.00	168.00T
581D	Service Charge Cement				500	Sacks	2.00	1,000.00
583D	Drayage				3,810.23	Ton Miles	1.00	3,810.23
	Subtotal							21,865.73
	Sales Tax Rawlins County						7.90%	1,118.28

<p><b>Thank You For Your Business &amp; Best Wishes For A Wonderful Holiday Season!!</b></p>	<p><b>Total</b> \$22,984.01</p>
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CHARGE TO: Mustin Drilling  
 ADDRESS:  
 CITY, STATE, ZIP CODE:

TICKET 28131

PAGE 1 OF 2

SERVICE LOCATIONS  
 1. Smithy KS WELL/PROJECT NO. 1-7 LEASE Rawcinni COUNTY/PARISH Rauilins STATE KS CITY McDonald DATE 12 Dec 14 OWNER  
 2. TICKET TYPE  SERVICE CONTRACTOR CO TRUSS RIG NAME NO. 2 SHIPPED  DELIVERED TO location ORDER NO.  
 3. WELL TYPE 0.1 WELL CATEGORY Development JOB PURPOSE cement long string WELL PERMIT NO.  
 4. REFERRAL LOCATION INVOICE INSTRUCTIONS

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.			UNIT PRICE	AMOUNT	
		LOC	ACCT	DF		QTY.	UM	QTY.			UM
575		1			MILEAGE TRK 110	150	mi		6.00	900.00	
579		1			Pump Charge	1	ea		2000.00	2000.00	
403		1			Cement Basket	5	in	3	ea	300.00	900.00
406		1			Latex drum ply & baggie	5	in	1	ea	875.00	275.00
407		1			Inset flat shoe w/ auto fill	5	in	1	ea	375.00	375.00
409		1			Turbolizer	5	in	15	ea	90.00	1350.00
413		1			Robt well scratcher	5	in	10	ea	40.00	400.00
419		1			Rotating head reamer	5	in	1	ea	200.00	200.00

LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY provisions.

REMIT PAYMENT TO:

SWIFT SERVICES, INC.  
 P.O. BOX 466  
 NESS CITY, KS 67560  
 785-798-2300

SURVEY		AGREE	UN-DECIDED	DIS-AGREE	PAGE TOTAL	AMOUNT
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?					1	6400.00
WE UNDERSTOOD AND MET YOUR NEEDS?					2	15465.73
OUR SERVICE WAS PERFORMED WITHOUT DELAY?						
WE OPERATED THE EQUIPMENT AND PERFORMED JOB SATISFACTORILY?						
ARE YOU SATISFIED WITH OUR SERVICE?						
TOTAL						22,984.01

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS  
 DATE SIGNED: 12/11/14 TIME SIGNED: 8:30 AM/PM  
 SWIFT OPERATOR: B. King APPROVAL: B. King  
 CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES: The customer hereby acknowledges receipt of the materials and services listed on this ticket.  
 Thank You!



JOB LOG

SWIFT Services, Inc.

DATE 12 Dec 14 PAGE NO.

CUSTOMER MURKIN DRILLING WELL NO. 1-7 LEASE Pancirini JOB TYPE Cement long string TICKET NO. 28131

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
								300sk SMD cement w/ 1/4" Floccle, 200sk EA-2 cement w/ 1/4" Floccle, 5 1/2" x 15.5" casing 114 jts = 4870' TD = 5080 shoe jt 2246' Cemt 1-13, 34, 44 Brk 11, 35, 45
	2345							on loc TRK 110
13 DEC	0055							start 5 1/2" x 15.5" casing in well
	8240							Drop ball - circulate - ROTATE
	0355	3 1/2	12			200		Pump 500 gal mid flush
		3 1/2	20			200		Pump 20 bbl KCL flush
	0410	5	110			520		Mix SMD cement 250sk @ 11.8 ppg
		4	47			600		Mix EA-2 cement 200sk @ 15.3 ppg
			7					Plg RH - MH 30sk - 20sk Wash out pump & line
	0508	5	102			1400		Displace plug Cement to surface
	0530	4	115			1700		hand plug
								Release pressure to truck - dnd up
	0540							wash truck
								Rack up
	0620							job complete Flint, Blake, Craig, Isaac

MDCI  
Pancirni #1-7  
330' FSL 1980'FEL  
Sec. 7-2S-36W  
3381' KB

Formation	Sample top	Datum	Ref	Log tops	Datum	Ref
Anhydrite	3267	+114	+2	3270	+111	-1
B/Anhydrite	3307	+74	-7	3305	+76	-5
Neva	3752	-371	-4	3752	-371	-4
Stotler	4014	-634	+1	4020	-640	-5
Topeka	4085	-704	+1	4092	-711	-6
Oread	4221	-840	-5	4220	-839	-4
Lansing	4303	-922	-2	4303	-922	-2
Stark	4525	-1144	-5	4525	-1144	-5
BKC	4574	-1193	-4	4576	-1195	-6
Pawnee	4700	-1319	----	4698	-1317	----
Cherokee	4784	-1403	----	4779	-1398	----
Mississippi	5014	-1633	----	5012	-1631	----
RTD	5080					
LTD				5081		