



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

**1/8S/15W-Osborne**

250 N. Water Ste. #300  
Wichita, KS 67202

**Peterson #1-1**

Job Ticket: 45250

**DST#: 1**

ATTN: Paul Gunzelman

Test Start: 2011.09.26 @ 05:59:15

## GENERAL INFORMATION:

Formation: **Topeka**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:54:35

Time Test Ended: 13:30:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

**Interval: 2770.00 ft (KB) To 2789.00 ft (KB) (TVD)**

Reference Elevations: 1832.00 ft (KB)

Total Depth: 2789.00 ft (KB) (TVD)

1827.00 ft (CF)

Hole Diameter: 7.85 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8354 Inside**

Press @ Run Depth: 32.09 psig @ 2772.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.09.26

End Date: 2011.09.26

Last Calib.: 2011.09.26

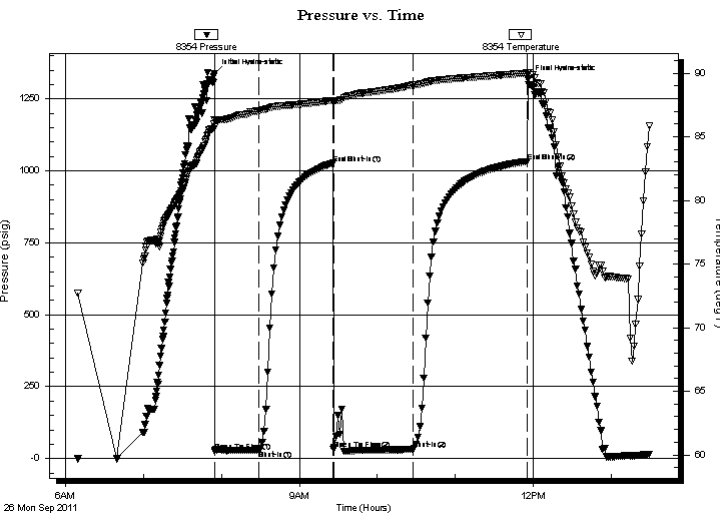
Start Time: 06:09:15

End Time: 13:30:15

Time On Btm: 2011.09.26 @ 07:54:25

Time Off Btm: 2011.09.26 @ 11:56:15

**TEST COMMENT:** IF-Weak building blow . Built to 1&1/4 inches.  
ISI-No Return.  
FF-Weak building blow . Built to 2 inches.  
FSI-No Return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1337.52	86.32	Initial Hydro-static
1	25.85	85.74	Open To Flow (1)
35	29.52	87.05	Shut-In(1)
92	1026.70	87.86	End Shut-In(1)
92	33.49	87.70	Open To Flow (2)
153	32.09	89.06	Shut-In(2)
241	1032.72	90.00	End Shut-In(2)
242	1318.09	90.06	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
15.00	10%Oil/90%Mud	0.07
5.00	10%Gas/90%Oil	0.02

## Gas Rates

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



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**FLUID SUMMARY**

Murfin Drilling Co., Inc.

**1/8S/15W-Osborne**

250 N. Water Ste. #300  
Wichita, KS 67202

**Peterson #1-1**

Job Ticket: 45250

**DST#: 1**

ATTN: Paul Gunzelman

Test Start: 2011.09.26 @ 05:59:15

## 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: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.80 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
15.00	10%Oil/90%Mud	0.074
5.00	10%Gas/90%Oil	0.025

Total Length: 20.00 ft      Total Volume: 0.099 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8354

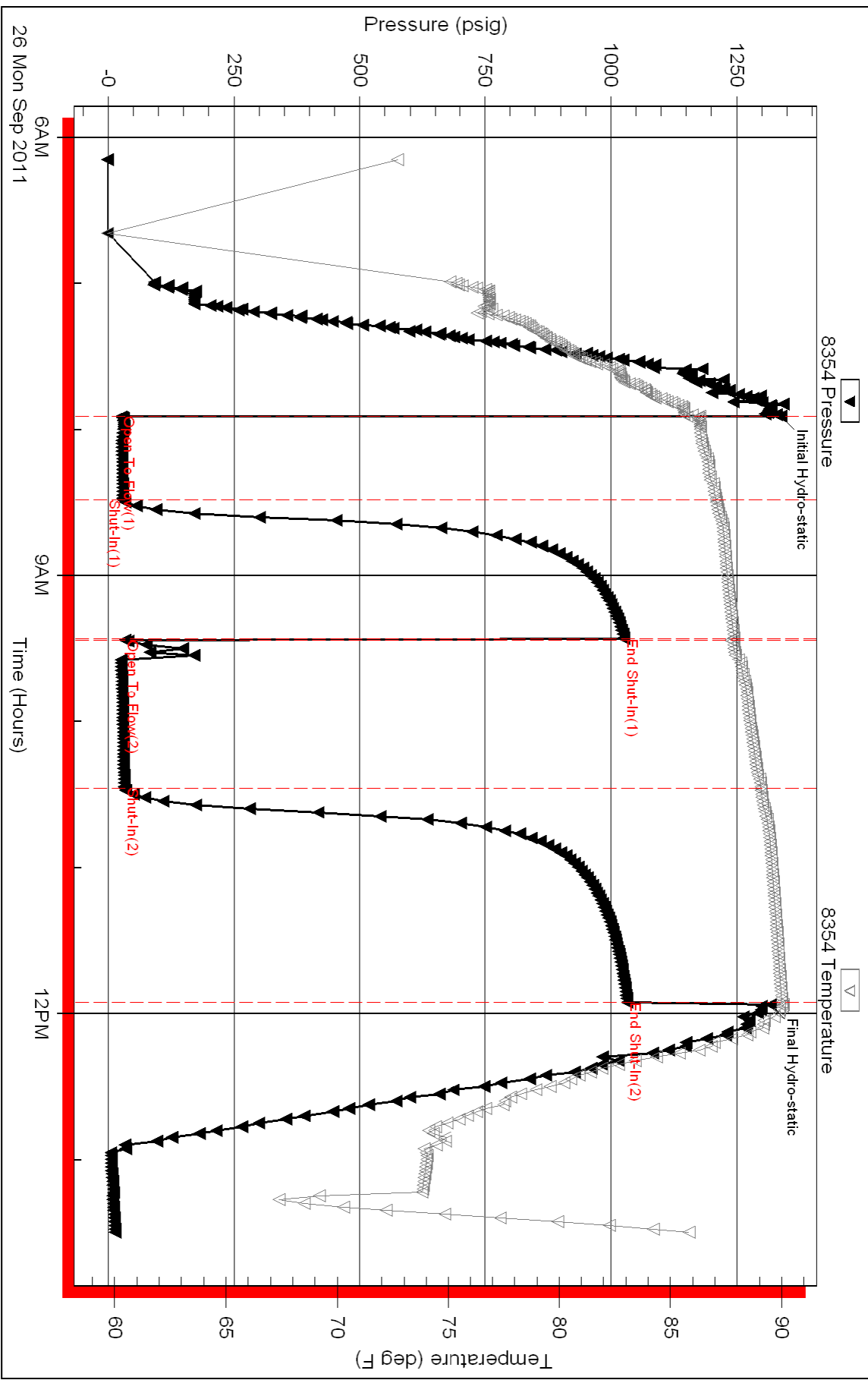
Inside

Murfin Drilling Co., Inc.

Peterson #1-1

DST Test Number: 1

# Pressure vs. Time



26 Mon Sep 2011

9AM

Time (Hours)

12PM

Triobite Testing, Inc

Ref. No: 45250

Printed: 2011.09.26 @ 14:05:21



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

**1/8S/15W-Osborne**

250 N. Water Ste. #300  
Wichita, KS 67202

**Peterson #1-1**

Job Ticket: 45251

**DST#: 2**

ATTN: Paul Gunzelman

Test Start: 2011.09.27 @ 12:10:30

## GENERAL INFORMATION:

Formation: **LKC "A-D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:50:00

Time Test Ended: 18:27:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

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

Reference Elevations: 1832.00 ft (KB)

Total Depth: 3099.00 ft (KB) (TVD)

1827.00 ft (CF)

Hole Diameter: 7.85 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8354**

**Inside**

Press @ Run Depth: 50.11 psig @ 3079.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.09.27 End Date: 2011.09.27

Last Calib.: 2011.09.27

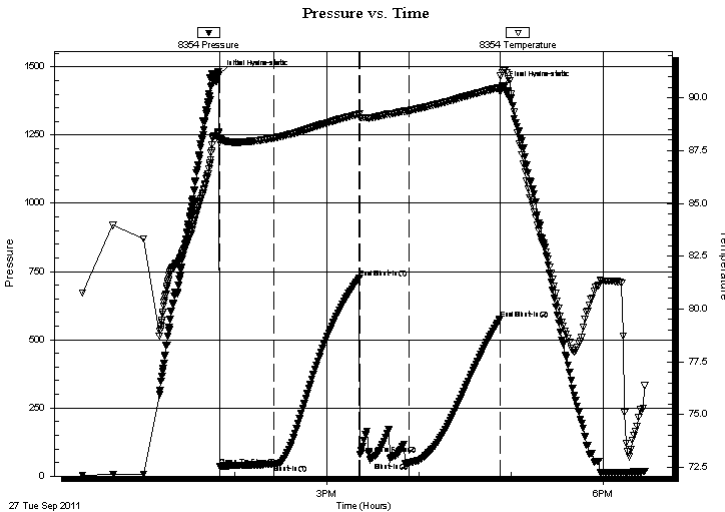
Start Time: 12:20:30 End Time: 18:27:30

Time On Btm: 2011.09.27 @ 13:49:40

Time Off Btm: 2011.09.27 @ 16:54:00

**TEST COMMENT:** IF-Weak surface blow . Died @ 21 minutes.  
IS- No Return.  
FF-Weak surging surface blow . Never died.  
FS- No Return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1470.51	88.32	Initial Hydro-static
1	36.81	87.89	Open To Flow (1)
36	43.80	88.09	Shut-In(1)
92	725.89	89.24	End Shut-In(1)
92	81.23	89.06	Open To Flow (2)
124	50.11	89.40	Shut-In(2)
183	574.84	90.49	End Shut-In(2)
185	1431.06	91.20	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	1%Oil/99%Mud	0.05

## Gas Rates

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



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**FLUID SUMMARY**

Murfin Drilling Co., Inc.

**1/8S/15W-Osborne**

250 N. Water Ste. #300  
Wichita, KS 67202

**Peterson #1-1**

Job Ticket: 45251

**DST#: 2**

ATTN: Paul Gunzelman

Test Start: 2011.09.27 @ 12:10:30

## 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: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	1%Oil/99%Mud	0.049

Total Length: 10.00 ft      Total Volume: 0.049 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

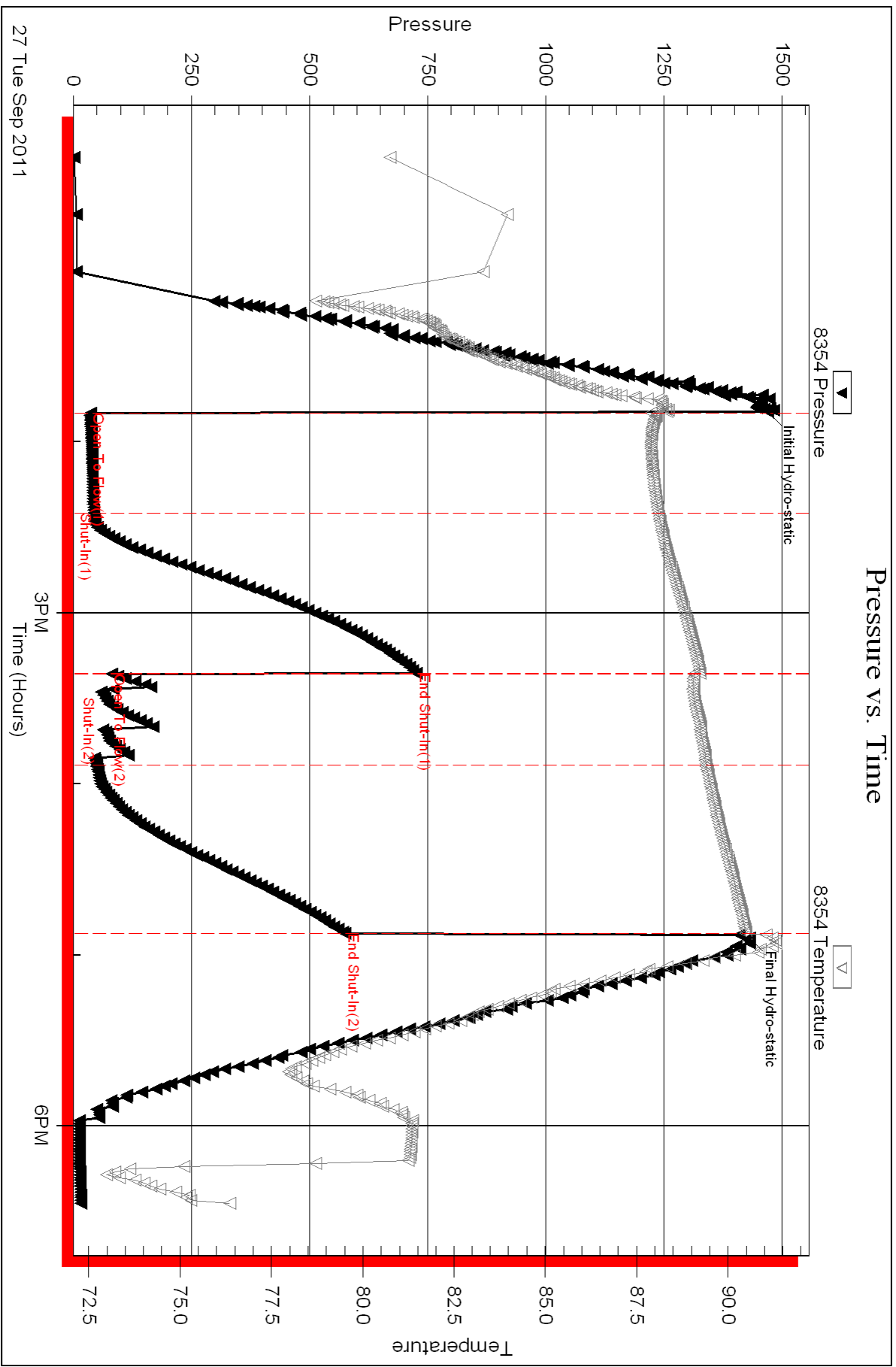
Serial #: 8354

Inside

Murfin Drilling Co., Inc.

Peterson #1-1

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 45251

Printed: 2011.09.29 @ 11:23:56



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

**1/8S/15W-Osborne**

250 N. Water Ste. #300  
Wichita, KS 67202

**Peterson #1-1**

Job Ticket: 45252

**DST#: 3**

ATTN: Paul Gunzelman

Test Start: 2011.09.28 @ 04:34:15

## GENERAL INFORMATION:

Formation: **LKC "E-G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:24:55

Time Test Ended: 12:15:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

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

Reference Elevations: 1832.00 ft (KB)

Total Depth: 3162.00 ft (KB) (TVD)

1827.00 ft (CF)

Hole Diameter: 7.85 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8354**

**Inside**

Press @ Run Depth: 111.20 psig @ 3138.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.09.28

End Date:

2011.09.28

Last Calib.:

2011.09.28

Start Time: 04:44:16

End Time:

12:15:16

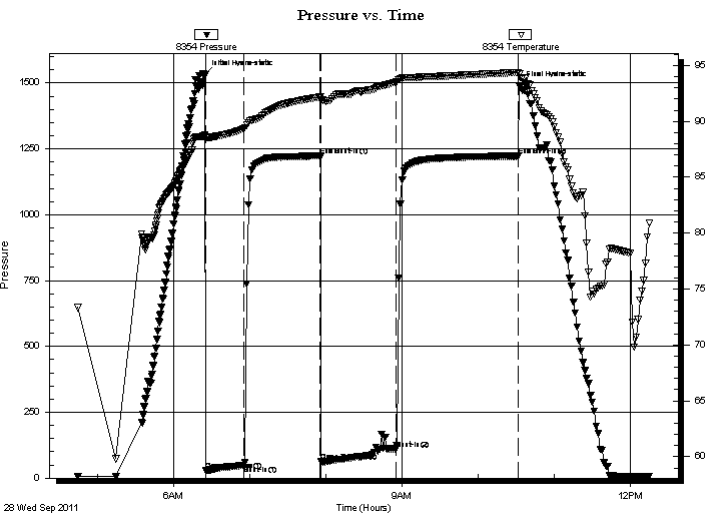
Time On Btm:

2011.09.28 @ 06:24:36

Time Off Btm:

2011.09.28 @ 10:32:46

**TEST COMMENT:** IF-Weak building blow . Built to 3&1/2 inches.  
ISI-No Return.  
FF-Weak building blow . Built to 5&1/2 inches.  
FSI-No Return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1531.27	88.76	Initial Hydro-static
1	29.77	88.35	Open To Flow (1)
31	48.53	89.37	Shut-In(1)
91	1224.89	92.19	End Shut-In(1)
92	62.58	91.96	Open To Flow (2)
151	111.20	93.52	Shut-In(2)
248	1222.66	94.38	End Shut-In(2)
249	1489.18	94.21	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	80%Water/20%Mud	0.59
60.00	20%Water/80%Mud	0.31

## Gas Rates

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



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**FLUID SUMMARY**

Murfin Drilling Co., Inc.

**1/8S/15W-Osborne**

250 N. Water Ste. #300  
Wichita, KS 67202

**Peterson #1-1**

Job Ticket: 45252

**DST#: 3**

ATTN: Paul Gunzelman

Test Start: 2011.09.28 @ 04:34:15

## 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:

16000 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.35 ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
120.00	80%Water/20%Mud	0.590
60.00	20%Water/80%Mud	0.313

Total Length: 180.00 ft

Total Volume: 0.903 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



Serial #: 8354

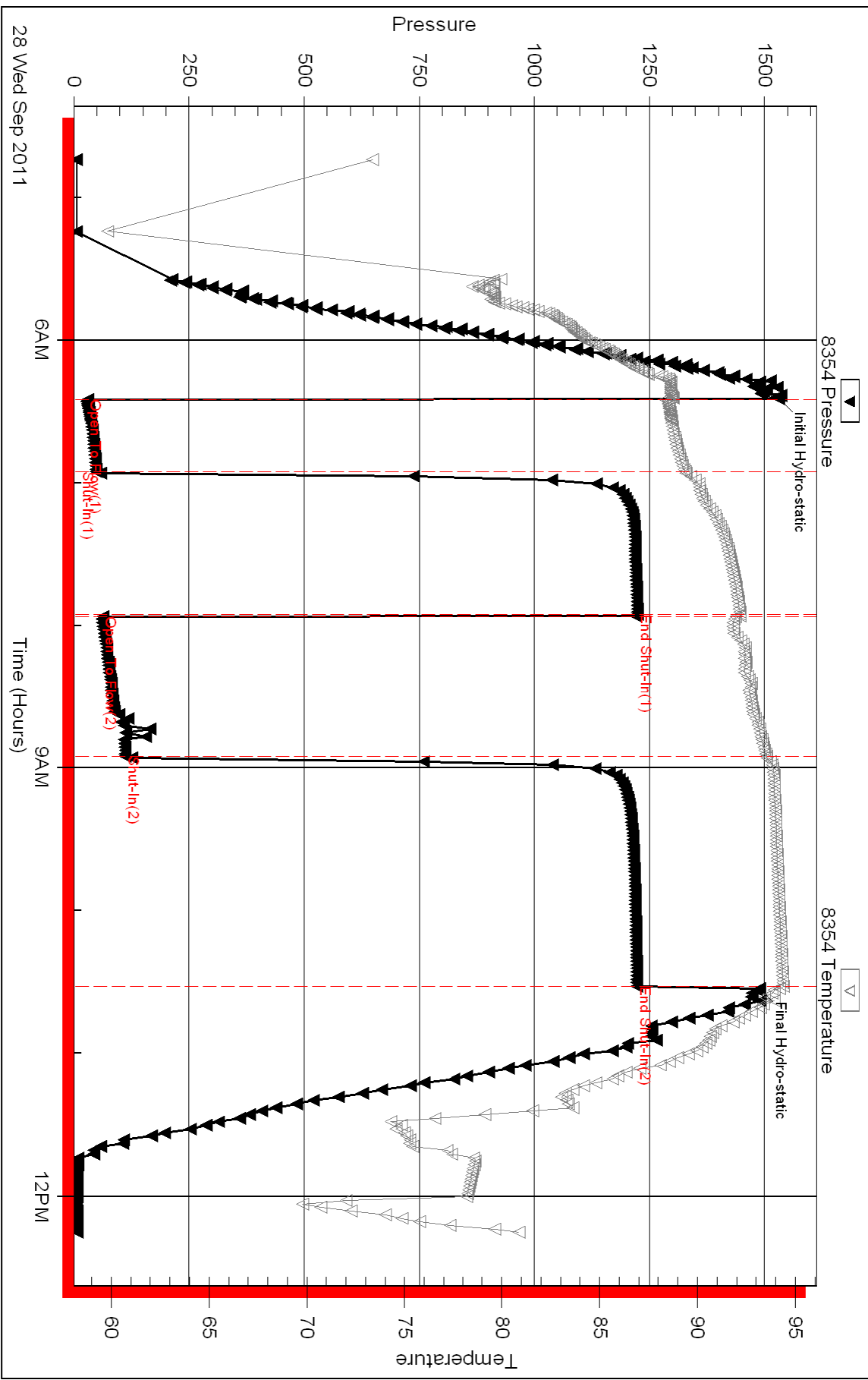
Inside

Murfin Drilling Co., Inc.

Peterson #1-1

DST Test Number: 3

# Pressure vs. Time



Triobite Testing, Inc

Ref. No: 45252

Printed: 2011.09.29 @ 11:23:14



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

**1/8S/15W-Osborne**

250 N. Water Ste. #300  
Wichita, KS 67202

**Peterson #1-1**

Job Ticket: 45243

**DST#: 4**

ATTN: Paul Gunzelman

Test Start: 2011.09.29 @ 01:57:10

## GENERAL INFORMATION:

Formation: **LKC "H-K"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:40:20

Time Test Ended: 08:22:40

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

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

Reference Elevations: 1832.00 ft (KB)

Total Depth: 3270.00 ft (KB) (TVD)

1827.00 ft (CF)

Hole Diameter: 7.85 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8354**

**Inside**

Press @ Run Depth: 37.85 psig @ 3263.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.09.29 End Date: 2011.09.29

Last Calib.: 2011.09.29

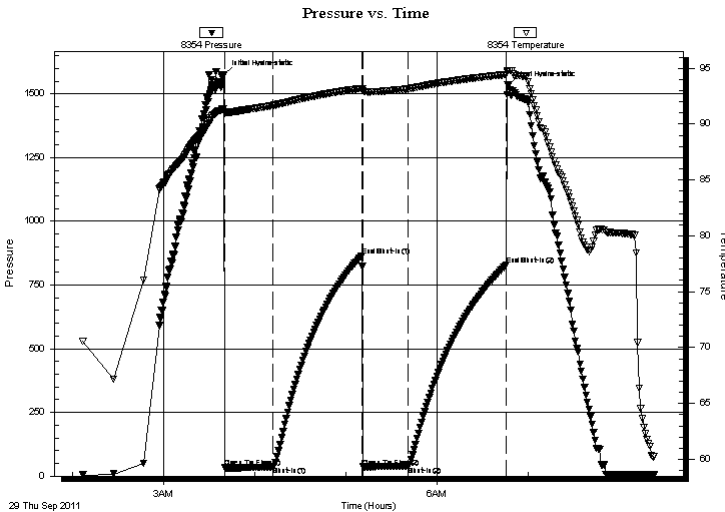
Start Time: 02:07:10 End Time: 08:22:40

Time On Btm: 2011.09.29 @ 03:40:00

Time Off Btm: 2011.09.29 @ 06:46:10

**TEST COMMENT:** IF-Weak blow . Built to 1/2 inch. Died to surface.  
ISI-No Return.  
FF-Few bubbles. Died @ 40 seconds.  
FSI-No Return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1574.97	91.36	Initial Hydro-static
1	34.32	90.99	Open To Flow (1)
33	36.52	91.66	Shut-In(1)
91	864.24	93.19	End Shut-In(1)
92	36.42	92.98	Open To Flow (2)
121	37.85	93.15	Shut-In(2)
186	827.75	94.43	End Shut-In(2)
187	1534.16	94.77	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
15.00	100%Mud	0.07

## Gas Rates

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



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Wichita, KS 67202

**Peterson #1-1**

Job Ticket: 45243

**DST#: 4**

ATTN: Paul Gunzelman

Test Start: 2011.09.29 @ 01:57:10

## 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: 5.60 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	100%Mud	0.074

Total Length: 15.00 ft      Total Volume: 0.074 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

