

## DRILL STEM TEST REPORT

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

250 N. Water Suite 300  
Wichita, KS 67202

ATTN: Rocky Milford

### **Shones Unit #1-5**

#### **5-1s-37w Cheyenne KS**

Start Date: 2012.08.12 @ 16:15:00

End Date: 2012.08.12 @ 22:32:00

Job Ticket #: 46146                      DST #: 1

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2012.08.23 @ 11:28:49



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

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

**5-1s-37w Cheyenne KS**

**Shones Unit #1-5**

Job Ticket: 46146      **DST#: 1**  
Test Start: 2012.08.12 @ 16:15:00

## GENERAL INFORMATION:

Formation: **Permian Sand**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 17:53:00  
Time Test Ended: 22:32:00  
Interval: **3490.00 ft (KB) To 3526.00 ft (KB) (TVD)**  
Total Depth: 3526.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Test Type: Conventional Bottom Hole (Initial)  
Tester: James Winder  
Unit No: 57  
Reference Elevations: 3177.00 ft (KB)  
3172.00 ft (CF)  
KB to GR/CF: 5.00 ft

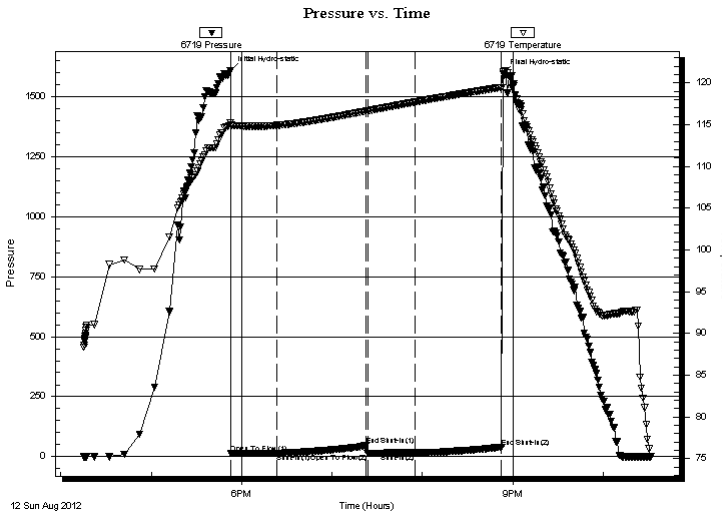
## Serial #: 6719

Inside

Press @ Run Depth: 15.51 psig @ 3491.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2012.08.12 End Date: 2012.08.12 Last Calib.: 2012.08.12  
Start Time: 16:15:05 End Time: 22:31:59 Time On Btm: 2012.08.12 @ 17:52:30  
Time Off Btm: 2012.08.12 @ 20:53:30

TEST COMMENT: 30 - IF: 1/2" Blow at open, died back, dead at 15 min.  
60 - IS: No blow back  
30 - FF: No blow  
60 - FS: No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1610.10	115.21	Initial Hydro-static
1	14.02	115.00	Open To Flow (1)
31	14.58	114.91	Shut-In(1)
90	45.47	116.63	End Shut-In(1)
91	14.52	116.65	Open To Flow (2)
123	15.51	117.71	Shut-In(2)
180	40.08	119.48	End Shut-In(2)
181	1597.34	121.35	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1.00	Mud w /oil spots 98%m, 2%o	0.00

## Gas Rates

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



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## DRILL STEM TEST REPORT

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250 N. Water Suite 300  
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ATTN: Rocky Milford

**5-1s-37w Cheyenne KS**

**Shones Unit #1-5**

Job Ticket: 46146

**DST#: 1**

Test Start: 2012.08.12 @ 16:15:00

### GENERAL INFORMATION:

Formation: **Permian Sand**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 17:53:00  
Time Test Ended: 22:32:00  
**Interval: 3490.00 ft (KB) To 3526.00 ft (KB) (TVD)**  
Total Depth: 3526.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair

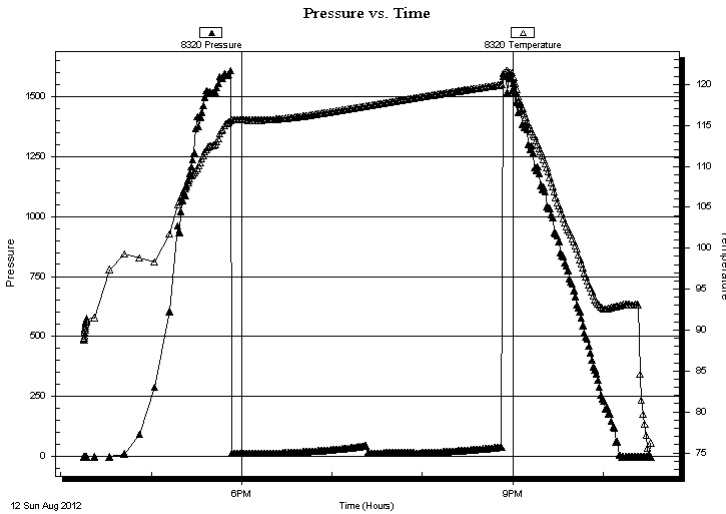
Test Type: Conventional Bottom Hole (Initial)  
Tester: James Winder  
Unit No: 57  
Reference Elevations: 3177.00 ft (KB)  
3172.00 ft (CF)  
KB to GR/CF: 5.00 ft

**Serial #: 8320** Outside

Press @ Run Depth: psig @ 3491.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2012.08.12 End Date: 2012.08.12 Last Calib.: 2012.08.12  
Start Time: 16:15:05 End Time: 22:31:29 Time On Btm:  
Time Off Btm:

TEST COMMENT: 30 - IF: 1/2" Blow at open, died back, dead at 15 min.  
60 - IS: No blow back  
30 - FF: No blow  
60 - FS: No blow back

### PRESSURE SUMMARY



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

### Recovery

Length (ft)	Description	Volume (bbl)
1.00	Mud w /oil spots 98% <sub>m</sub> , 2% <sub>o</sub>	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  
250 N. Water Suite 300  
Wichita, KS 67202  
ATTN: Rocky Milford

**5-1s-37w Cheyenne KS**  
**Shones Unit #1-5**  
Job Ticket: 46146      **DST#: 1**  
Test Start: 2012.08.12 @ 16:15:00

**Tool Information**

Drill Pipe:	Length: 2961.00 ft	Diameter: 3.80 inches	Volume: 41.54 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: 515.00 ft	Diameter: 2.25 inches	Volume: 2.53 bbl	Weight to Pull Loose: 74000.00 lb
			<u>Total Volume: 44.07 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	3490.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	36.00 ft			
Tool Length:	64.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Shut In Tool	5.00			3467.00	
Hydraulic tool	5.00			3472.00	
Jars	5.00			3477.00	
Safety Joint	3.00			3480.00	
Packer	5.00			3485.00	28.00      Bottom Of Top Packer
Packer	5.00			3490.00	
Packer - Shale	0.00			3490.00	
Stubb	1.00			3491.00	
Recorder	0.00	6719	Inside	3491.00	
Recorder	0.00	8320	Outside	3491.00	
Perforations	32.00			3523.00	
Bullnose	3.00			3526.00	36.00      Bottom Packers & Anchor

**Total Tool Length: 64.00**



**TRILOBITE  
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**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

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

**5-1s-37w Cheyenne KS**  
**Shones Unit #1-5**  
Job Ticket: 46146      **DST#: 1**  
Test Start: 2012.08.12 @ 16:15:00

**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: 51.00 sec/qt	Cushion Volume: bbl		
Water Loss: 5.54 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 600.00 ppm			
Filter Cake: 2.00 inches			

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
1.00	Mud w /oil spots 98% <sub>m</sub> , 2% <sub>o</sub>	0.005

Total Length: 1.00 ft      Total Volume: 0.005 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

Serial #: 6719

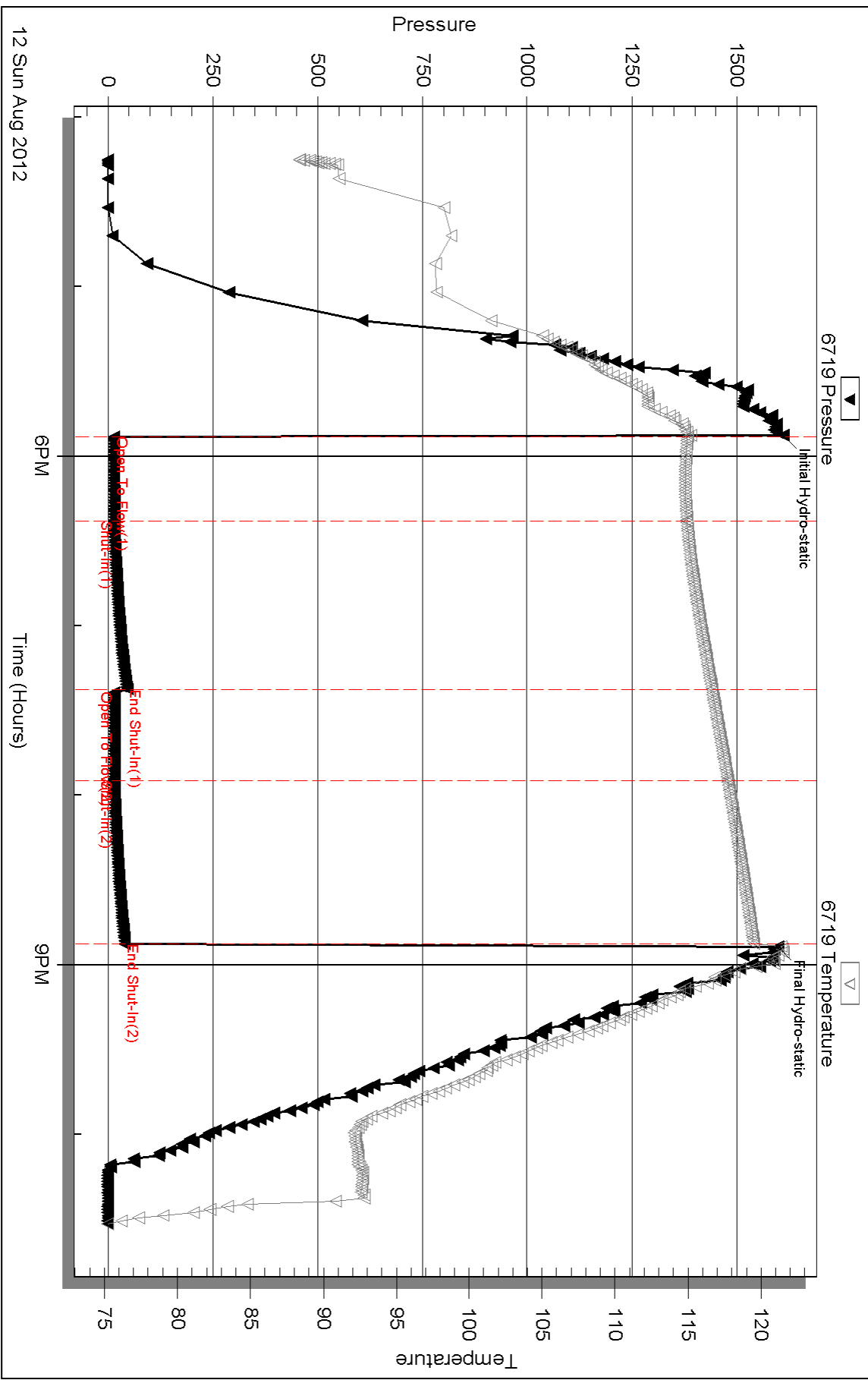
Inside

Murfin Drilling Co., Inc

Shones Unit #1-5

DST Test Number: 1

### Pressure vs. Time



Triobite Testing, Inc

Ref. No: 46146

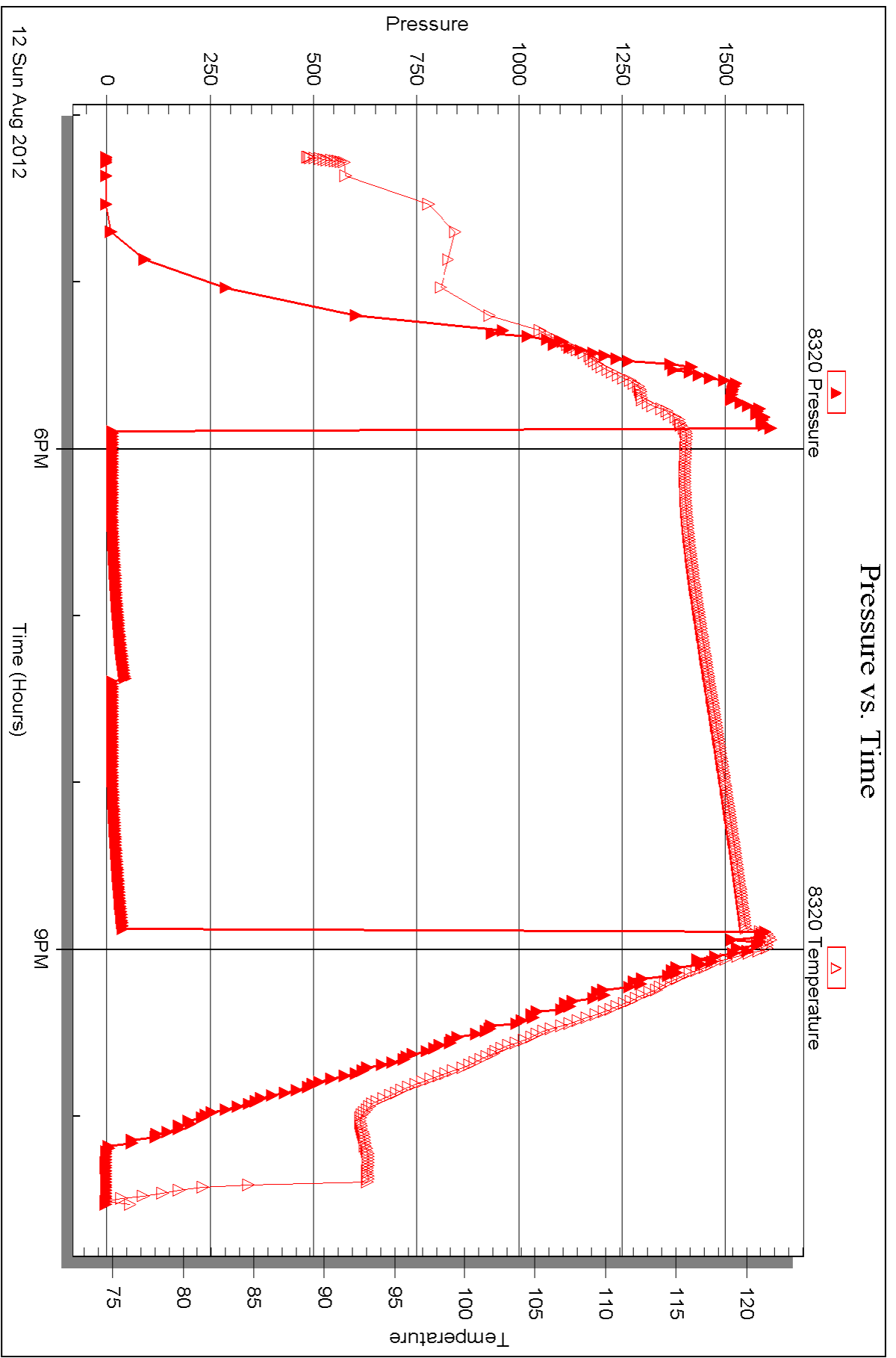
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Serial #: 8320

Outside Murfin Drilling Co., Inc

Shones Unit #1-5

DST Test Number: 1





## DRILL STEM TEST REPORT

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

250 N. Water Suite 300  
Wichita, KS 67202

ATTN: Rocky Milford

### **Shones Unit #1-5**

#### **5-1s-37w Cheyenne KS**

Start Date: 2012.08.13 @ 14:15:00

End Date: 2012.08.13 @ 22:05:00

Job Ticket #: 46147                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2012.08.23 @ 11:28:00





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TESTING, INC.**

# DRILL STEM TEST REPORT

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

**5-1s-37w Cheyenne KS**

**Shones Unit #1-5**

Job Ticket: 46147

**DST#: 2**

Test Start: 2012.08.13 @ 14:15:00

## GENERAL INFORMATION:

Formation: **Foraker**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:02:30

Time Test Ended: 22:05:00

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 57

**Interval: 3669.00 ft (KB) To 3717.00 ft (KB) (TVD)**

Reference Elevations: 3177.00 ft (KB)

Total Depth: 3717.00 ft (KB) (TVD)

3172.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 6719**

**Inside**

Press @ Run Depth: 170.63 psig @ 3670.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.08.13

End Date:

2012.08.13

Last Calib.: 2012.08.13

Start Time: 14:15:05

End Time:

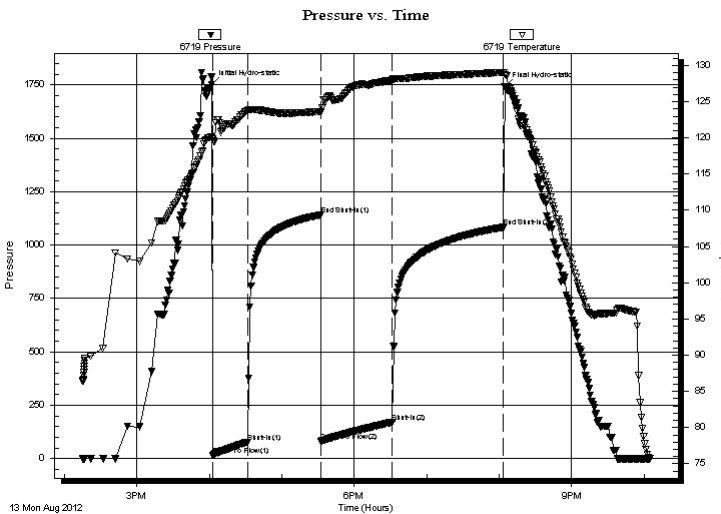
22:04:59

Time On Btm: 2012.08.13 @ 16:02:00

Time Off Btm: 2012.08.13 @ 20:04:30

**TEST COMMENT:** 30 - IF: Blow built to 5 1/2"  
60 - IS: Bled off, No blow back  
60 - FF: Blow started at 3 1/2 min., built to 7 1/4"  
90 - FS: Bled off, No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1752.30	120.18	Initial Hydro-static
1	17.12	119.81	Open To Flow (1)
30	77.46	123.77	Shut-In(1)
90	1140.61	123.67	End Shut-In(1)
91	81.15	123.56	Open To Flow (2)
150	170.63	128.01	Shut-In(2)
242	1083.31	129.05	End Shut-In(2)
243	1742.94	128.72	Final Hydro-static

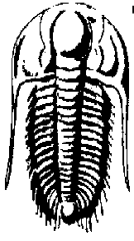
## Recovery

Length (ft)	Description	Volume (bbl)
120.00	MCW 75% <i>m</i> , 25% <i>w</i>	0.59
120.00	SMCW 95% <i>m</i> , 5% <i>w</i>	0.59
90.00	Mud 100%	0.44
0.00	Oil spots in tool	0.00

\* Recovery from multiple tests

## Gas Rates

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



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250 N. Water Suite 300  
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ATTN: Rocky Milford

**5-1s-37w Cheyenne KS**

**Shones Unit #1-5**

Job Ticket: 46147 **DST#: 2**

Test Start: 2012.08.13 @ 14:15:00

**GENERAL INFORMATION:**

Formation: **Foraker**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:02:30

Time Test Ended: 22:05:00

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 57

**Interval: 3669.00 ft (KB) To 3717.00 ft (KB) (TVD)**

Reference Elevations: 3177.00 ft (KB)

Total Depth: 3717.00 ft (KB) (TVD)

3172.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8320 Outside**

Press @ Run Depth: psig @ 3670.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.08.13 End Date: 2012.08.13

Last Calib.: 2012.08.13

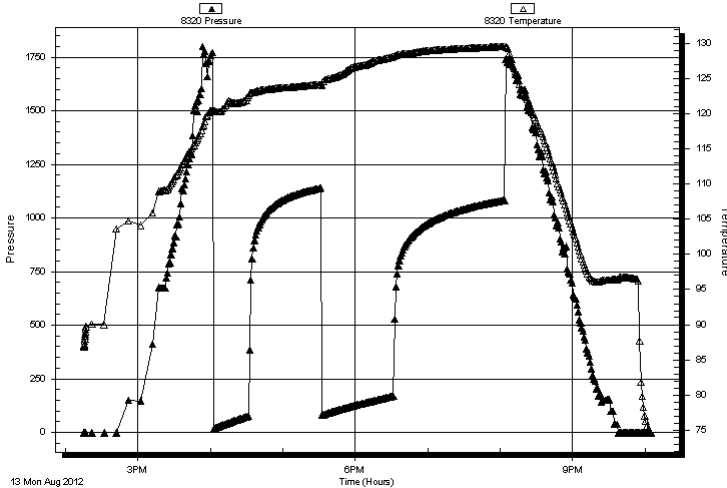
Start Time: 14:15:05 End Time: 22:04:29

Time On Btm:

Time Off Btm:

**TEST COMMENT:** 30 - IF: Blow built to 5 1/2"  
60 - IS: Bled off, No blow back  
60 - FF: Blow started at 3 1/2 min., built to 7 1/4"  
90 - FS: Bled off, No blow back

Pressure vs. Time



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
120.00	MCW 75% <i>m</i> , 25% <i>w</i>	0.59
120.00	SMCW 95% <i>m</i> , 5% <i>w</i>	0.59
90.00	Mud 100%	0.44
0.00	Oil spots in tool	0.00

**Gas Rates**

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

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

**5-1s-37w Cheyenne KS**  
**Shones Unit #1-5**  
Job Ticket: 46147      **DST#: 2**  
Test Start: 2012.08.13 @ 14:15:00

**Tool Information**

Drill Pipe:	Length: 3148.00 ft	Diameter: 3.80 inches	Volume: 44.16 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: 515.00 ft	Diameter: 2.25 inches	Volume: 2.53 bbl	Weight to Pull Loose: 66000.00 lb
			<u>Total Volume: 46.69 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	3669.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	48.00 ft			
Tool Length:	76.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Shut In Tool	5.00			3646.00	
Hydraulic tool	5.00			3651.00	
Jars	5.00			3656.00	
Safety Joint	3.00			3659.00	
Packer	5.00			3664.00	28.00      Bottom Of Top Packer
Packer	5.00			3669.00	
Packer - Shale	0.00			3669.00	
Stubb	1.00			3670.00	
Recorder	0.00	6719	Inside	3670.00	
Recorder	0.00	8320	Outside	3670.00	
Perforations	10.00			3680.00	
Blank Spacing	33.00			3713.00	
Perforations	1.00			3714.00	
Bullnose	3.00			3717.00	48.00      Bottom Packers & Anchor

**Total Tool Length: 76.00**



**TRILOBITE  
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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

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250 N. Water Suite 300  
Wichita, KS 67202  
ATTN: Rocky Milford

**5-1s-37w Cheyenne KS**  
**Shones Unit #1-5**  
Job Ticket: 46147      **DST#: 2**  
Test Start: 2012.08.13 @ 14:15:00

## 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:	31000 ppm
Viscosity: 54.00 sec/qt	Cushion Volume: bbl		
Water Loss: 5.53 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 600.00 ppm			
Filter Cake: 2.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	MCW 75% <i>m</i> , 25% <i>w</i>	0.590
120.00	SMCW 95% <i>m</i> , 5% <i>w</i>	0.590
90.00	Mud 100%	0.443
0.00	Oil spots in tool	0.000

Total Length: 330.00 ft      Total Volume: 1.623 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments: RW = .173 ohms @ 91.7 deg F

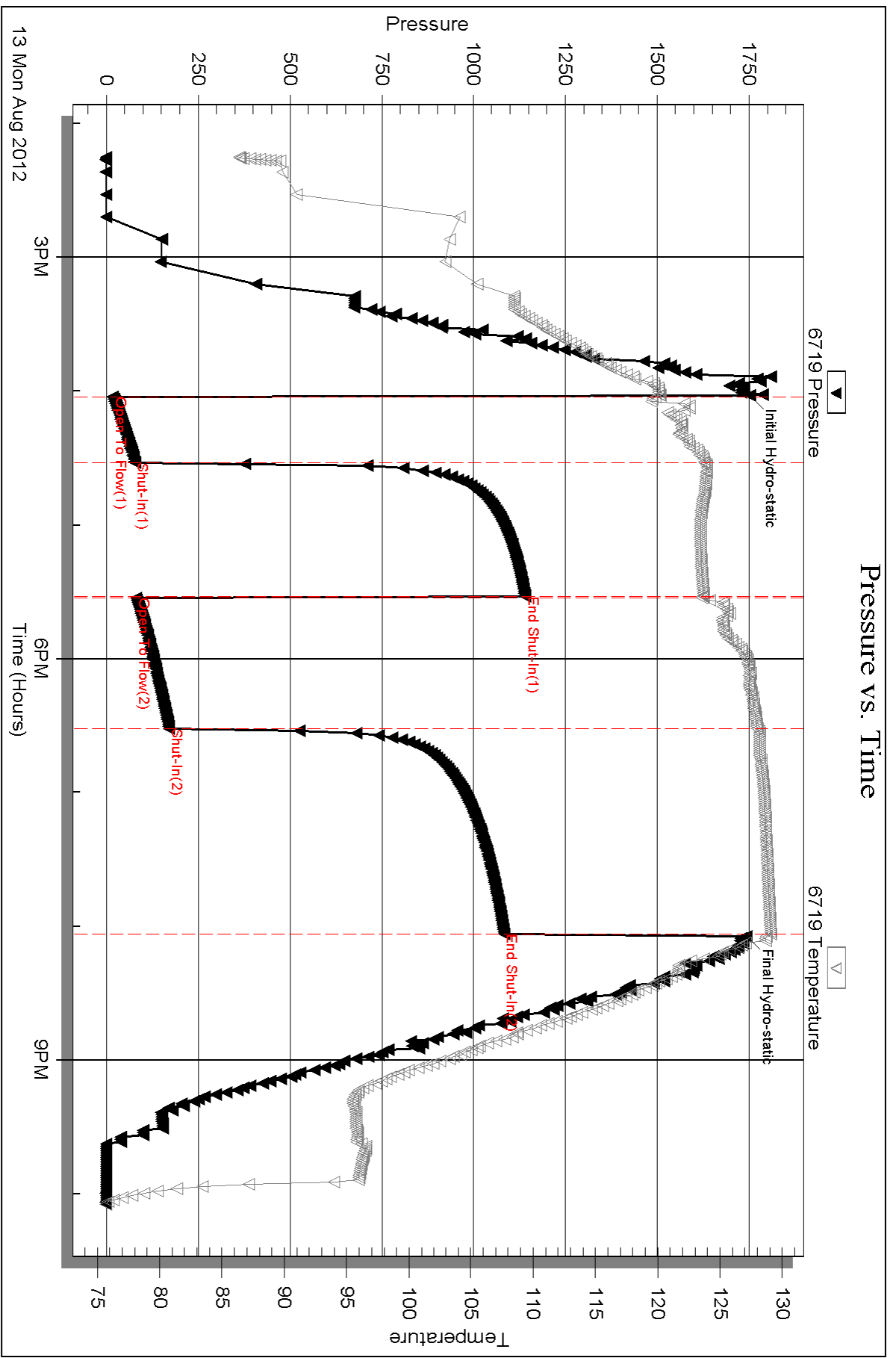
Serial #: 6719

Inside

Murfin Drilling Co., Inc

Shones Unit #1-5

DST Test Number: 2

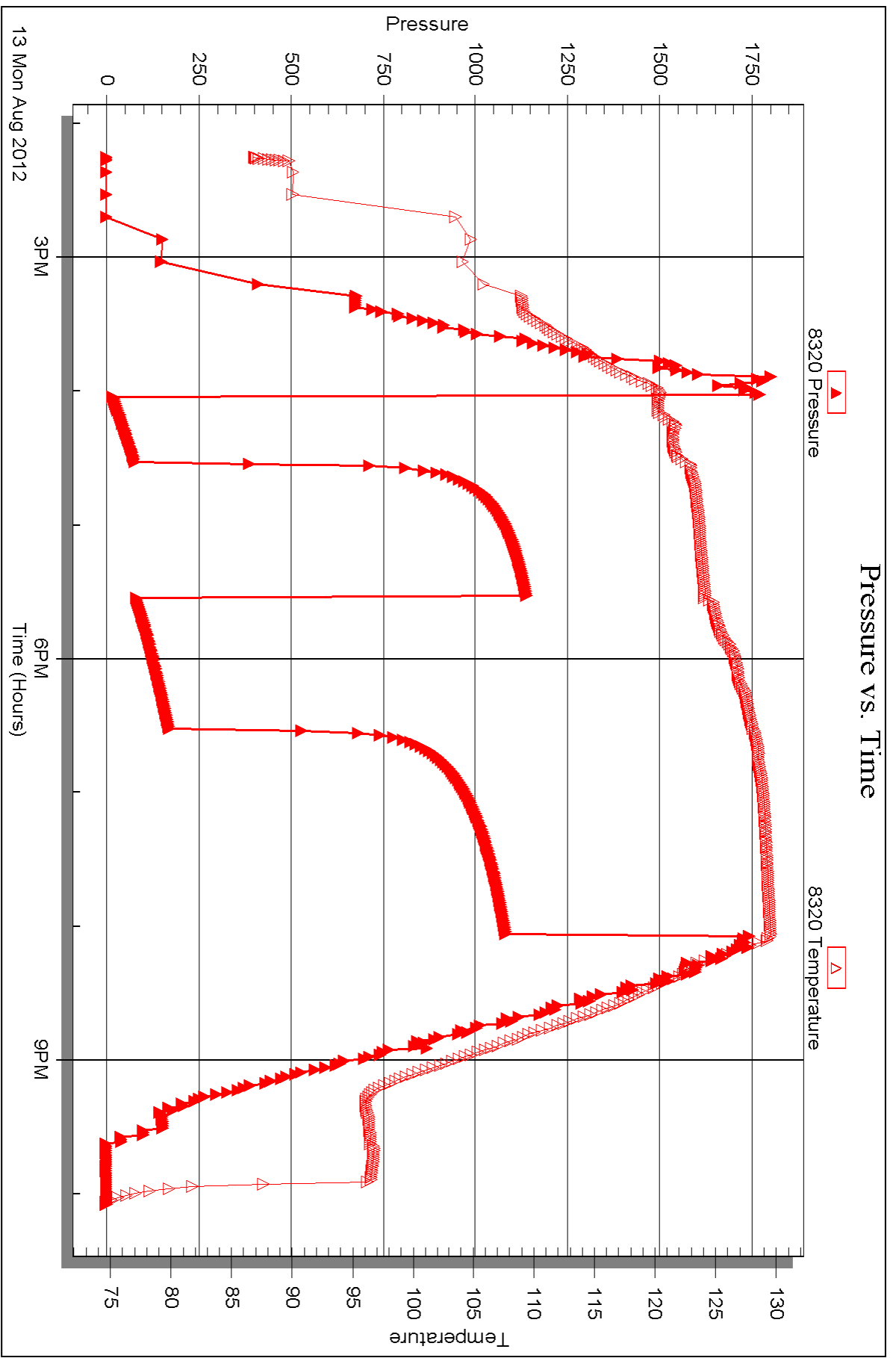


Serial #: 8320

Outside Murfin Drilling Co., Inc

Shones Unit #1-5

DST Test Number: 2





## DRILL STEM TEST REPORT

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

250 N. Water Suite 300  
Wichita, KS 67202

ATTN: Rocky Milford

### **Shones Unit #1-5**

### **5-1s-37w Cheyenne KS**

Start Date: 2012.08.14 @ 13:05:00

End Date: 2012.08.14 @ 21:05:00

Job Ticket #: 46148                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2012.08.23 @ 11:27:01



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

**5-1s-37w Cheyenne KS**

**Shones Unit #1-5**

Job Ticket: 46148

**DST#: 3**

Test Start: 2012.08.14 @ 13:05:00

## GENERAL INFORMATION:

Formation: **Stotler**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 15:02:30 Tester: James Winder  
 Time Test Ended: 21:05:00 Unit No: 57  
 Interval: **3751.00 ft (KB) To 3905.00 ft (KB) (TVD)** Reference Elevations: 3177.00 ft (KB)  
 Total Depth: 3905.00 ft (KB) (TVD) 3172.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

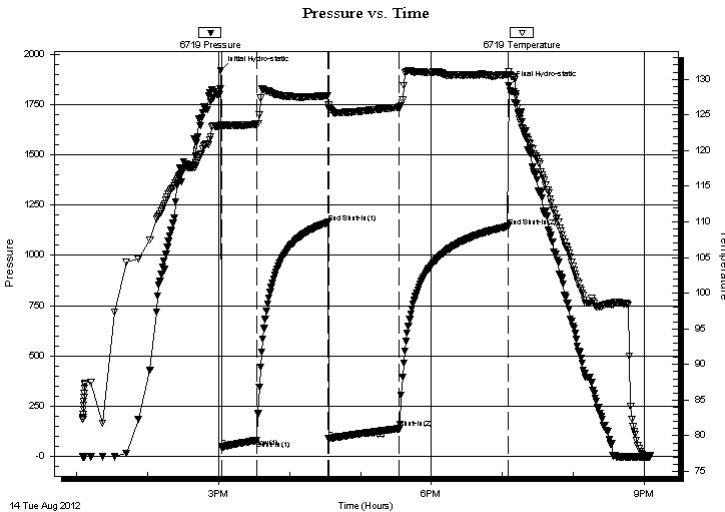
## Serial #: 6719

Inside

Press @ Run Depth: 139.20 psig @ 3752.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.08.14 End Date: 2012.08.14 Last Calib.: 2012.08.14  
 Start Time: 13:05:05 End Time: 21:04:59 Time On Btm: 2012.08.14 @ 15:02:00  
 Time Off Btm: 2012.08.14 @ 19:05:30

**TEST COMMENT:** 30 - IF: 2 1/2" blow at open (surge from slide), built to 5 1/2"  
 60 - IS: Bled off, No blow back  
 60 - FF: Blow started at 4 min., built to 3 1/4"  
 90 - FS: Bled off, No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1919.06	123.62	Initial Hydro-static
1	46.78	123.63	Open To Flow (1)
31	81.15	123.72	Shut-In(1)
91	1163.95	127.68	End Shut-In(1)
91	88.31	126.35	Open To Flow (2)
151	139.20	126.07	Shut-In(2)
243	1143.81	130.66	End Shut-In(2)
244	1845.39	131.07	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	WCM 78% <sub>m</sub> , 22% <sub>w</sub>	0.30
60.00	MCW 83% <sub>w</sub> , 17% <sub>m</sub>	0.30
120.00	WCM 78% <sub>m</sub> , 22% <sub>w</sub>	0.59
30.00	Mud 100%	0.15

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

**5-1s-37w Cheyenne KS**

**Shones Unit #1-5**

Job Ticket: 46148

**DST#: 3**

Test Start: 2012.08.14 @ 13:05:00

## GENERAL INFORMATION:

Formation: **Stotler**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:02:30

Time Test Ended: 21:05:00

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 57

**Interval: 3751.00 ft (KB) To 3905.00 ft (KB) (TVD)**

Reference Elevations: 3177.00 ft (KB)

Total Depth: 3905.00 ft (KB) (TVD)

3172.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8320 Outside**

Press @ Run Depth: psig @ 3752.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.08.14

End Date:

2012.08.14

Last Calib.:

2012.08.14

Start Time: 13:05:05

End Time:

21:04:29

Time On Btm:

Time Off Btm:

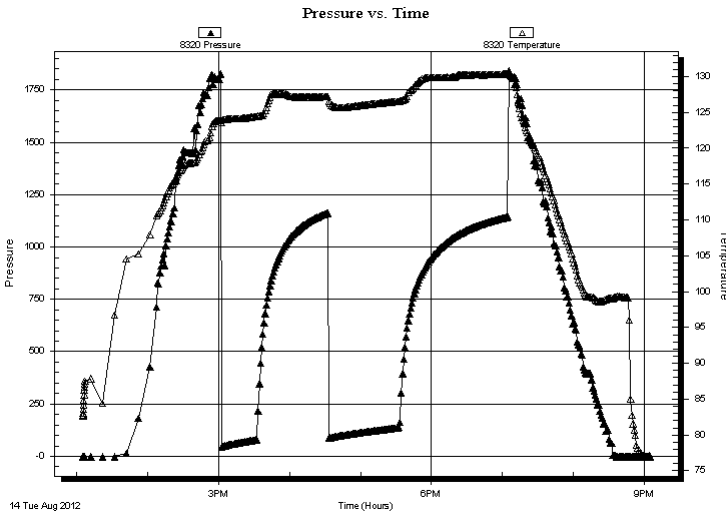
**TEST COMMENT:** 30 - IF: 2 1/2" blow at open (surge from slide), built to 5 1/2"

60 - IS: Bled off, No blow back

60 - FF: Blow started at 4 min., built to 3 1/4"

90 - FS: Bled off, No blow back

## PRESSURE SUMMARY



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

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	WCM 78% <sub>m</sub> , 22% <sub>w</sub>	0.30
60.00	MCW 83% <sub>w</sub> , 17% <sub>m</sub>	0.30
120.00	WCM 78% <sub>m</sub> , 22% <sub>w</sub>	0.59
30.00	Mud 100%	0.15

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

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

**5-1s-37w Cheyenne KS**  
**Shones Unit #1-5**  
Job Ticket: 46148      **DST#: 3**  
Test Start: 2012.08.14 @ 13:05:00

**Tool Information**

Drill Pipe:	Length: 3240.00 ft	Diameter: 3.80 inches	Volume: 45.45 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: 515.00 ft	Diameter: 2.25 inches	Volume: 2.53 bbl	Weight to Pull Loose: 76000.00 lb
			<u>Total Volume: 47.98 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	3751.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	154.00 ft			
Tool Length:	182.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments: Tool slid 4' - 5' before opening and then chased 4' to bottom at open - lost 5' of mud : 2 1/2" surge blow at open

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3728.00	
Hydraulic tool	5.00			3733.00	
Jars	5.00			3738.00	
Safety Joint	3.00			3741.00	
Packer	5.00			3746.00	28.00      Bottom Of Top Packer
Packer	5.00			3751.00	
Packer - Shale	0.00			3751.00	
Stubb	1.00			3752.00	
Recorder	0.00	6719	Inside	3752.00	
Recorder	0.00	8320	Outside	3752.00	
Perforations	22.00			3774.00	
Blank Spacing	126.00			3900.00	
Perforations	2.00			3902.00	
Bullnose	3.00			3905.00	154.00      Bottom Packers & Anchor

**Total Tool Length: 182.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

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

**5-1s-37w Cheyenne KS**  
**Shones Unit #1-5**  
Job Ticket: 46148      **DST#: 3**  
Test Start: 2012.08.14 @ 13:05:00

## Mud and Cushion Information

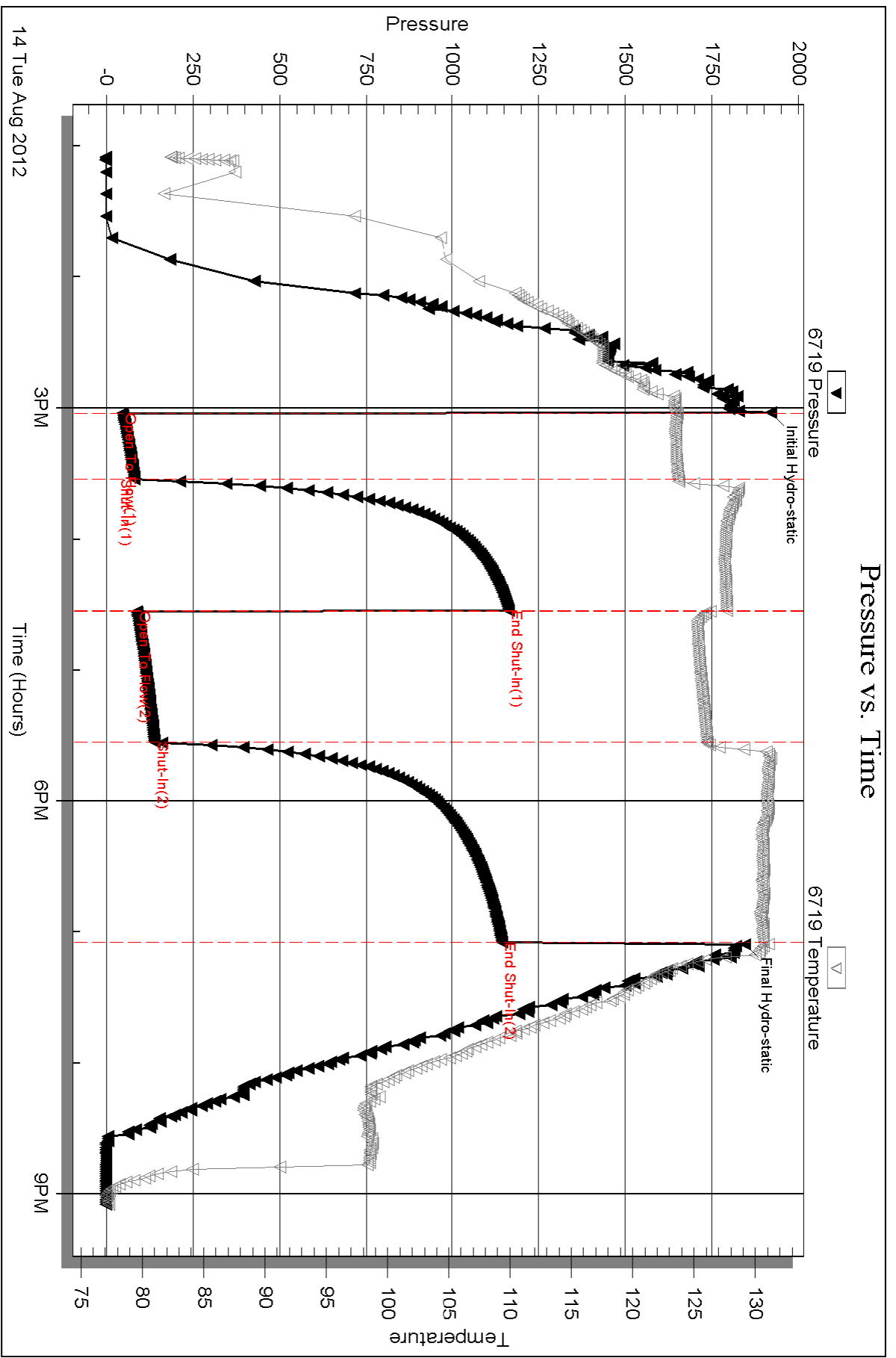
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	46000 ppm
Viscosity: 62.00 sec/qt	Cushion Volume: bbl		
Water Loss: 4.76 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 900.00 ppm			
Filter Cake: 2.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	WCM 78% <i>m</i> , 22% <i>w</i>	0.295
60.00	MCW 83% <i>w</i> , 17% <i>m</i>	0.295
120.00	WCM 78% <i>m</i> , 22% <i>w</i>	0.590
30.00	Mud 100%	0.148

Total Length: 270.00 ft      Total Volume: 1.328 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments: RW = .151 ohms @ 77.7 deg F

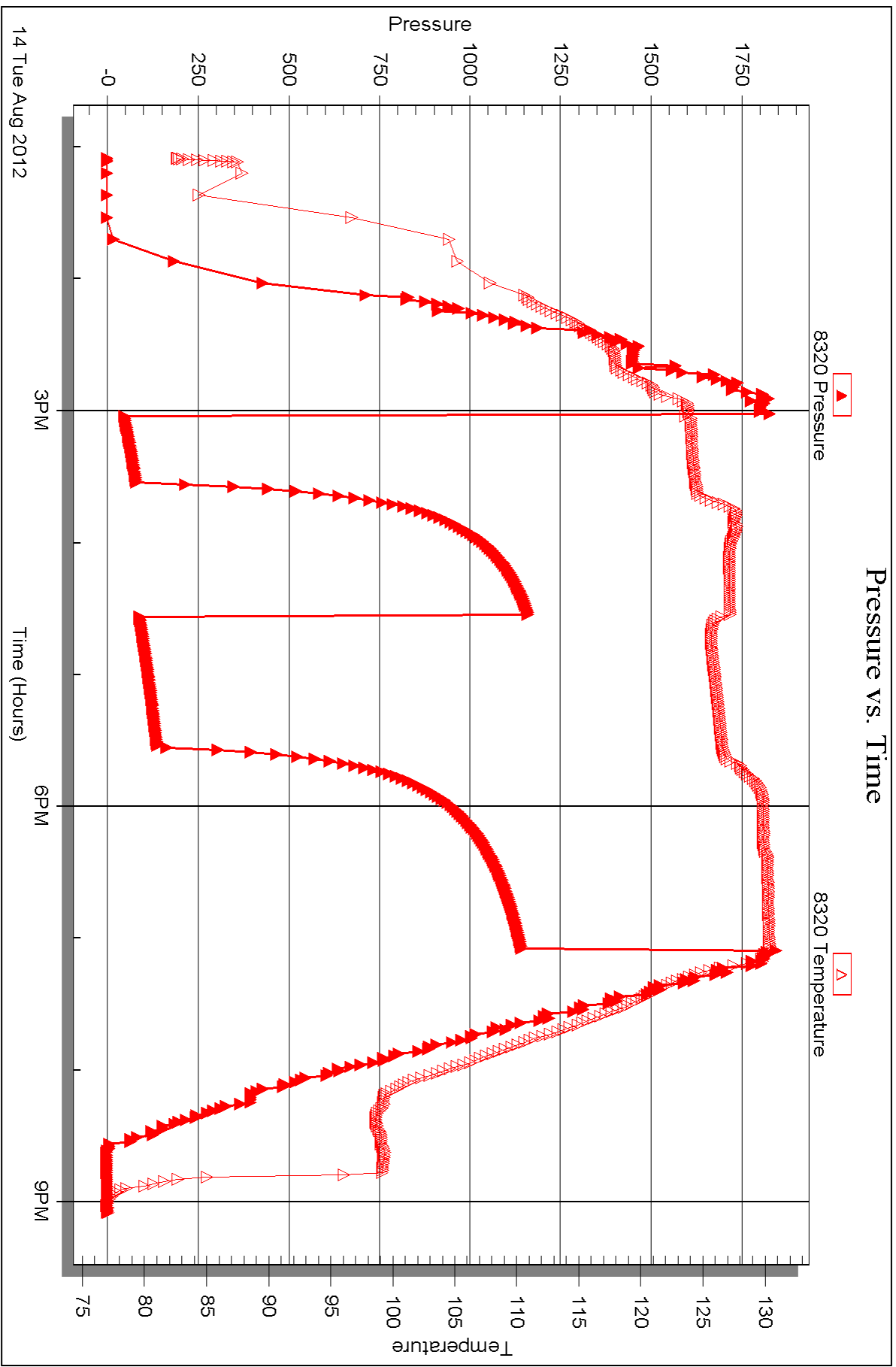


Serial #: 8320

Outside Murfin Drilling Co., Inc

Shones Unit #1-5

DST Test Number: 3





## DRILL STEM TEST REPORT

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

250 N. Water Suite 300  
Wichita, KS 67202

ATTN: Rocky Milford

### **Shones Unit #1-5**

### **5-1s-37w Cheyenne KS**

Start Date: 2012.08.15 @ 11:50:00

End Date: 2012.08.15 @ 18:44:30

Job Ticket #: 46149                      DST #: 4

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2012.08.23 @ 11:26:14



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

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

**5-1s-37w Cheyenne KS**

**Shones Unit #1-5**

Job Ticket: 46149

**DST#: 4**

Test Start: 2012.08.15 @ 11:50:00

## GENERAL INFORMATION:

Formation: **Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:48:00

Time Test Ended: 18:44:30

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 57

**Interval: 4012.00 ft (KB) To 4066.00 ft (KB) (TVD)**

Reference Elevations: 3177.00 ft (KB)

Total Depth: 4066.00 ft (KB) (TVD)

3172.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 6719**

**Inside**

Press @ Run Depth: 18.12 psig @ 4013.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.08.15

End Date:

2012.08.15

Last Calib.:

2012.08.15

Start Time: 11:50:05

End Time:

18:44:29

Time On Btm:

2012.08.15 @ 13:47:30

Time Off Btm:

2012.08.15 @ 16:50:00

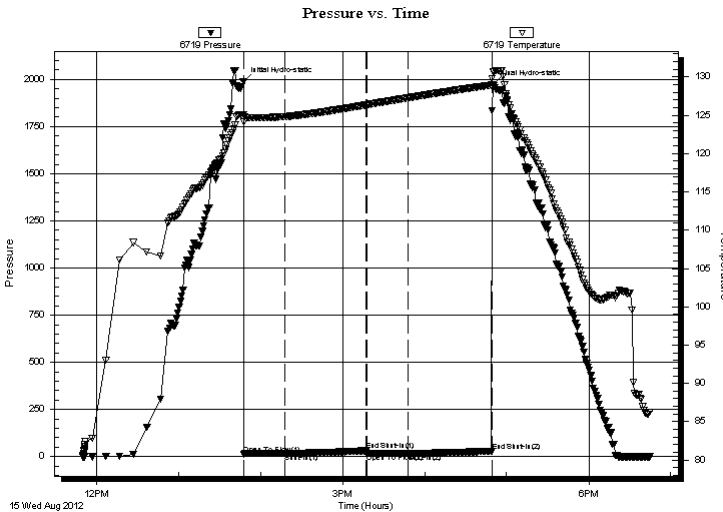
**TEST COMMENT:** 30 - IF: Blow built to 1/8" then died back, dead at 15 min.

60 - IS: No blow back

30 - FF: No blow

60 - FS: No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1987.27	125.08	Initial Hydro-static
1	11.74	124.16	Open To Flow (1)
30	17.58	124.82	Shut-In(1)
90	31.32	126.36	End Shut-In(1)
91	16.36	126.37	Open To Flow (2)
121	18.12	127.28	Shut-In(2)
182	28.93	128.95	End Shut-In(2)
183	1972.48	130.63	Final Hydro-static

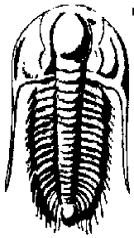
## Recovery

Length (ft)	Description	Volume (bbl)
2.00	Mud 100%	0.01
0.00	Trace of Oil in tool	0.00

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

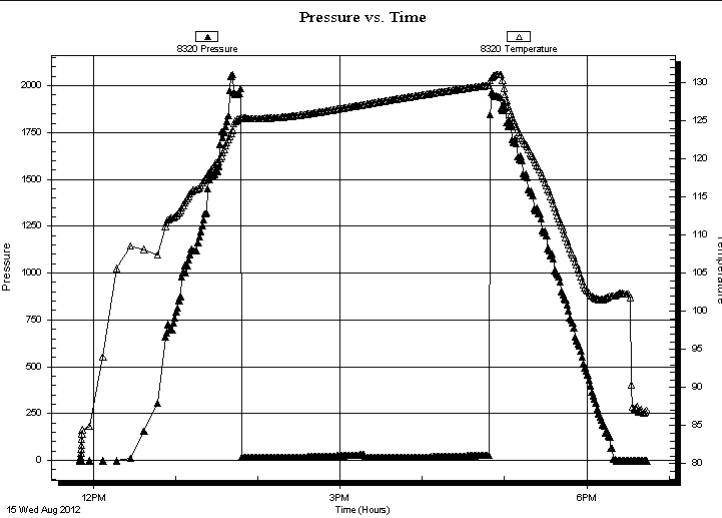
**5-1s-37w Cheyenne KS**  
**Shones Unit #1-5**  
Job Ticket: 46149      **DST#: 4**  
Test Start: 2012.08.15 @ 11:50:00

### GENERAL INFORMATION:

Formation: **Oread**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 13:48:00  
Time Test Ended: 18:44:30  
**Interval: 4012.00 ft (KB) To 4066.00 ft (KB) (TVD)**  
Total Depth: 4066.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Test Type: Conventional Bottom Hole (Reset)  
Tester: James Winder  
Unit No: 57  
Reference Elevations: 3177.00 ft (KB)  
3172.00 ft (CF)  
KB to GR/CF: 5.00 ft

**Serial #: 8320      Outside**  
Press @ Run Depth:      psig @ 4013.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2012.08.15      End Date: 2012.08.15      Last Calib.: 2012.08.15  
Start Time: 11:50:05      End Time: 18:43:59      Time On Btm:  
Time Off Btm:

**TEST COMMENT:** 30 - IF: Blow built to 1/8" then died back, dead at 15 min.  
60 - IS: No blow back  
30 - FF: No blow  
60 - FS: No blow back



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
2.00	Mud 100%	0.01
0.00	Trace of Oil in tool	0.00

### Gas Rates

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

\* Recovery from multiple tests





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

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

**5-1s-37w Cheyenne KS**  
**Shones Unit #1-5**  
Job Ticket: 46149      **DST#: 4**  
Test Start: 2012.08.15 @ 11:50:00

**Tool Information**

Drill Pipe:	Length: 3490.00 ft	Diameter: 3.80 inches	Volume: 48.96 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: 515.00 ft	Diameter: 2.25 inches	Volume: 2.53 bbl	Weight to Pull Loose: 72000.00 lb
			<u>Total Volume: 51.49 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4012.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	54.00 ft			
Tool Length:	82.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Shut In Tool	5.00			3989.00	
Hydraulic tool	5.00			3994.00	
Jars	5.00			3999.00	
Safety Joint	3.00			4002.00	
Packer	5.00			4007.00	28.00      Bottom Of Top Packer
Packer	5.00			4012.00	
Packer - Shale	0.00			4012.00	
Stubb	1.00			4013.00	
Recorder	0.00	6719	Inside	4013.00	
Recorder	0.00	8320	Outside	4013.00	
Perforations	15.00			4028.00	
Blank Spacing	33.00			4061.00	
Perforations	2.00			4063.00	
Bullnose	3.00			4066.00	54.00      Bottom Packers & Anchor

**Total Tool Length: 82.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

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

**5-1s-37w Cheyenne KS**  
**Shones Unit #1-5**  
Job Ticket: 46149      **DST#: 4**  
Test Start: 2012.08.15 @ 11:50:00

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 66.00 sec/qt	Cushion Volume: bbl		
Water Loss: 4.76 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 900.00 ppm			
Filter Cake: 2.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	Mud 100%	0.010
0.00	Trace of Oil in tool	0.000

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:

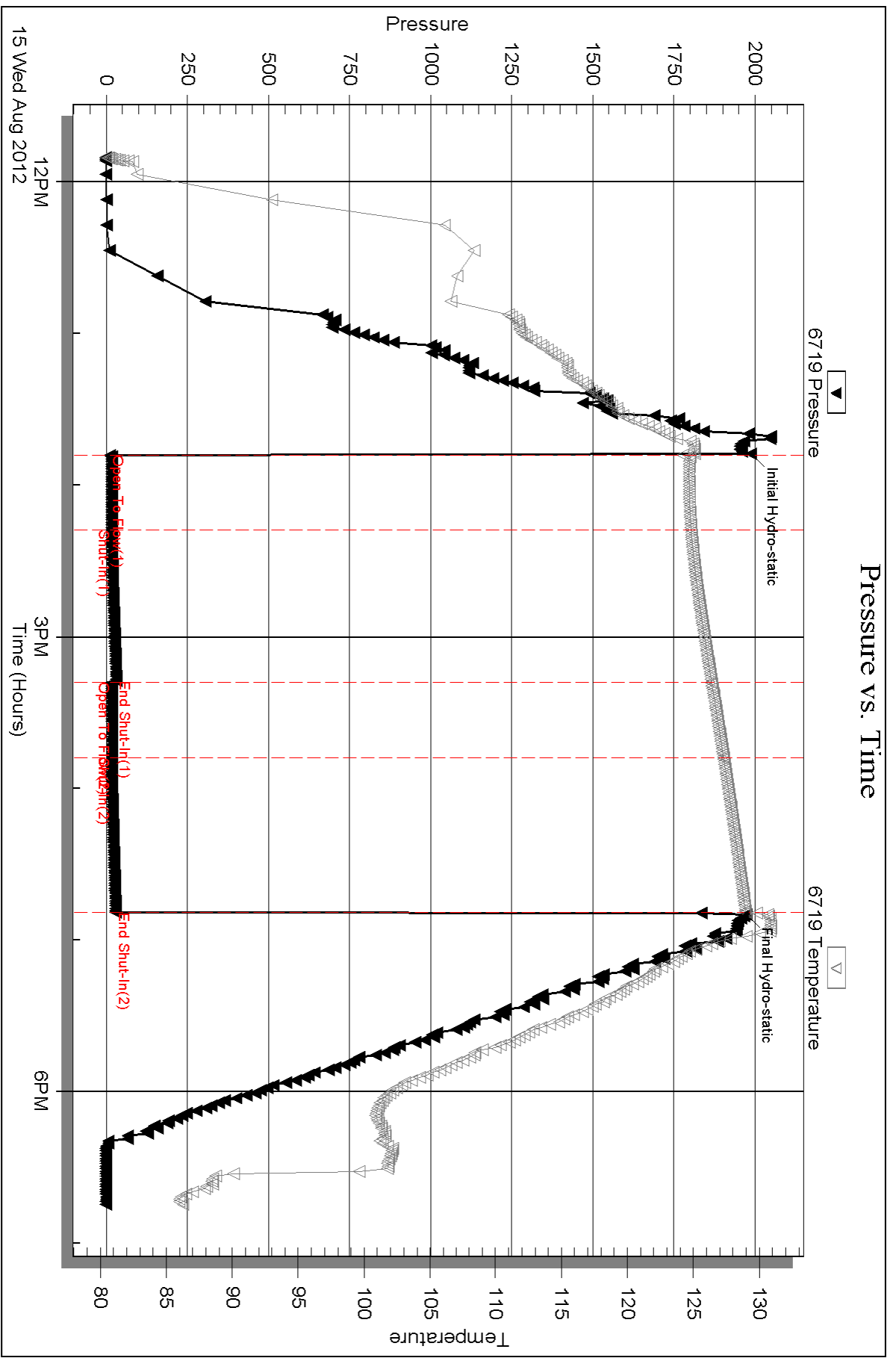
Serial #: 6719

Inside

Murfin Drilling Co., Inc

Shones Unit #1-5

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 46149

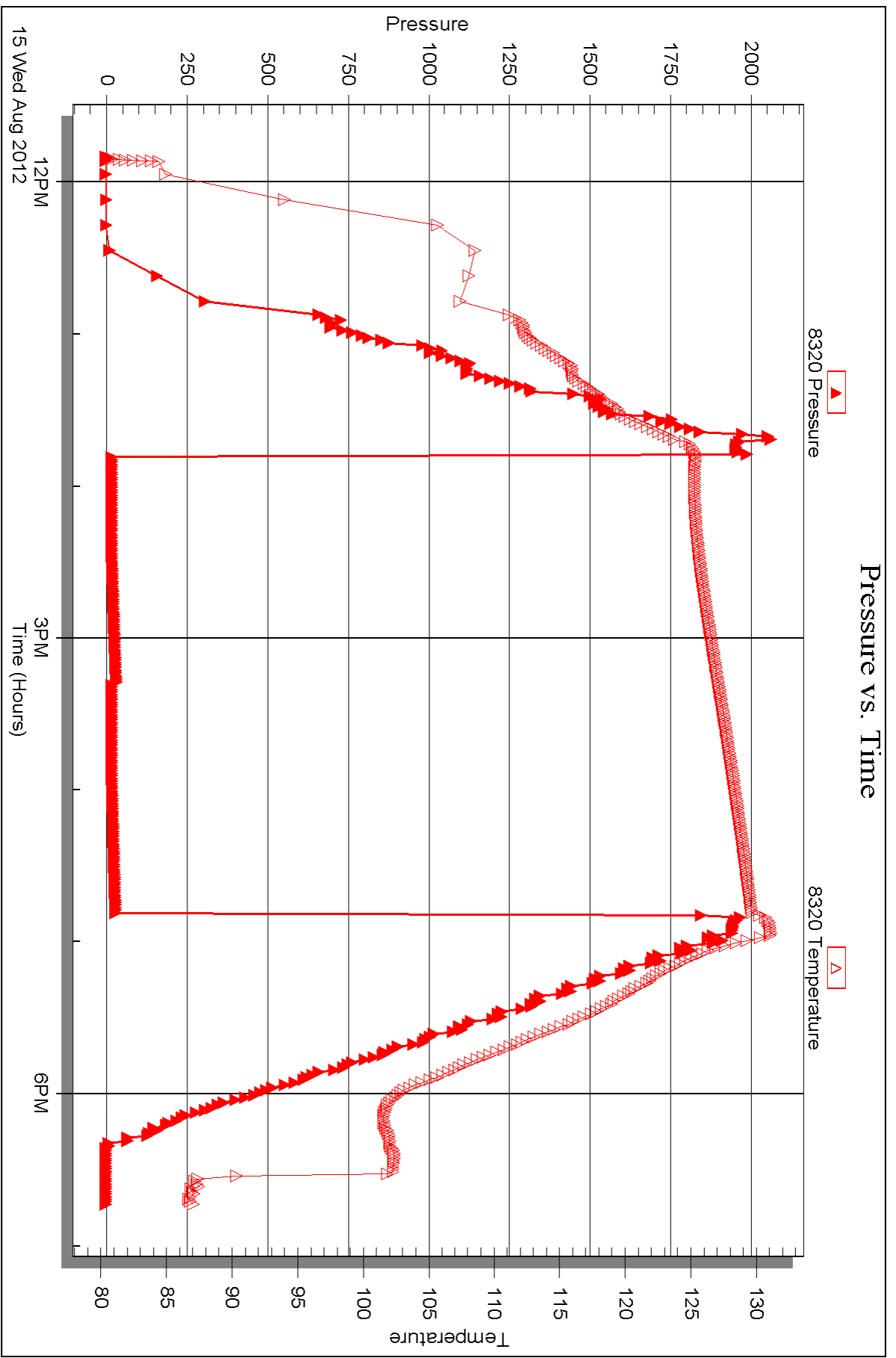
Printed: 2012.08.23 @ 11:26:18

Serial #: 8320

Outside Murfin Drilling Co., Inc

Shones Unit #1-5

DST Test Number: 4





## DRILL STEM TEST REPORT

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

250 N. Water Suite 300  
Wichita, KS 67202

ATTN: Rocky Milford

### **Shones Unit #1-5**

#### **5-1s-37w Cheyenne KS**

Start Date: 2012.08.16 @ 07:10:00

End Date: 2012.08.16 @ 15:53:00

Job Ticket #: 46150                      DST #: 5

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2012.08.23 @ 11:25:03



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

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

**5-1s-37w Cheyenne KS**

**Shones Unit #1-5**

Job Ticket: 46150      **DST#: 5**  
Test Start: 2012.08.16 @ 07:10:00

## GENERAL INFORMATION:

Formation: **Oread - Lans. "A"**  
Deviated: No Whipstock:      ft (KB)  
Time Tool Opened: 09:02:30  
Time Test Ended: 15:53:00  
Interval: **4066.00 ft (KB) To 4170.00 ft (KB) (TVD)**  
Total Depth: 4170.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Reference Elevations: 3177.00 ft (KB)  
3172.00 ft (CF)  
KB to GR/CF: 5.00 ft

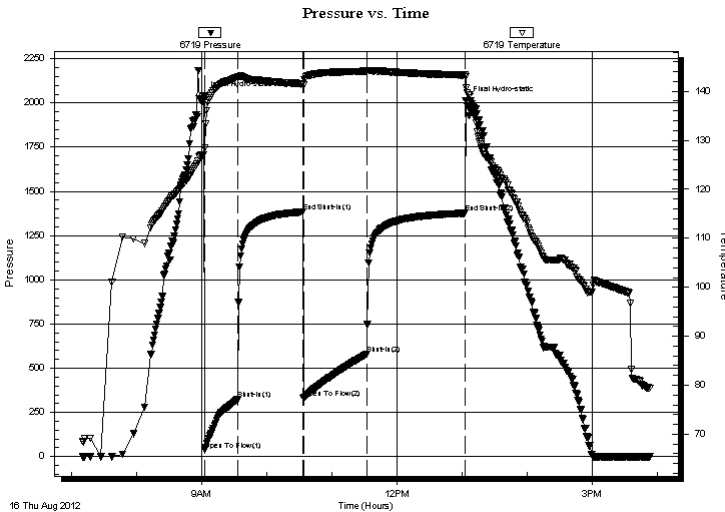
## Serial #: 6719

Inside

Press @ Run Depth: 580.45 psig @ 4067.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2012.08.16      End Date: 2012.08.16      Last Calib.: 2012.08.16  
Start Time: 07:10:05      End Time: 15:53:00      Time On Btm: 2012.08.16 @ 09:02:00  
Time Off Btm: 2012.08.16 @ 13:03:00

**TEST COMMENT:** 30 - IF: Blow built to BOB (11") in 7 min.  
60 - IS: Bled off, Surface blow back, lasted 4 min., then dead  
60 - FF: Blow built to BOB at 8 3/4 min.  
90 - FS: Bled off, No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2039.25	127.09	Initial Hydro-static
1	38.54	128.37	Open To Flow (1)
31	323.66	142.87	Shut-In(1)
91	1384.46	141.58	End Shut-In(1)
92	331.69	141.30	Open To Flow (2)
150	580.45	144.13	Shut-In(2)
241	1377.04	143.33	End Shut-In(2)
241	2012.52	142.95	Final Hydro-static

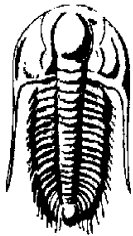
## Recovery

Length (ft)	Description	Volume (bbl)
805.00	Water w/trace oil 97%w , 3%m	6.60
310.00	SMCW w/trace oil 92%w , 8%m	4.35
100.00	SO/MCW 68%w , 27%m, 4%o, 1%g	1.40
15.00	CO 96%o, 2%g, 2%m	0.21
0.00	GIP = 15'	0.00

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

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

**5-1s-37w Cheyenne KS**

**Shones Unit #1-5**

Job Ticket: 46150

**DST#: 5**

Test Start: 2012.08.16 @ 07:10:00

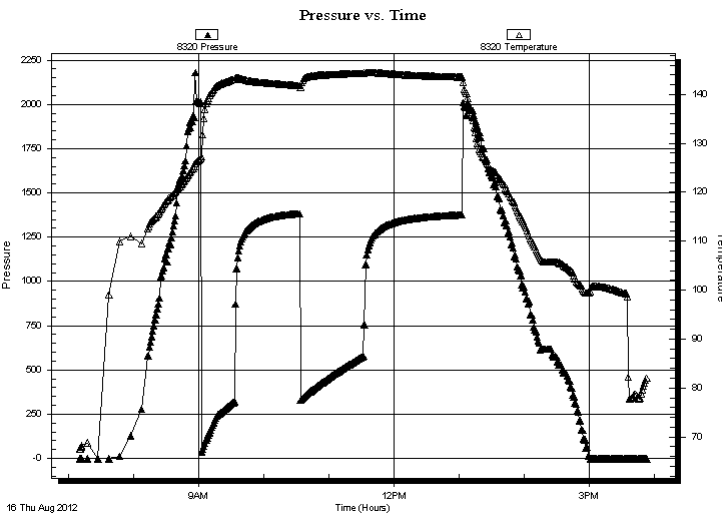
## GENERAL INFORMATION:

Formation:	<b>Oread - Lans. "A"</b>		Test Type:	Conventional Bottom Hole (Reset)
Deviated:	No	Whipstock:	ft (KB)	
Time Tool Opened:	09:02:30		Tester:	James Winder
Time Test Ended:	15:53:00		Unit No:	57
<b>Interval:</b>	<b>4066.00 ft (KB) To 4170.00 ft (KB) (TVD)</b>		Reference Elevations:	3177.00 ft (KB)
Total Depth:	4170.00 ft (KB) (TVD)			3172.00 ft (CF)
Hole Diameter:	7.88 inches	Hole Condition:	Fair	KB to GR/CF: 5.00 ft

## Serial #: 8320      Outside

Press @ Run Depth:	psig @	4067.00 ft (KB)	Capacity:	8000.00 psig	
Start Date:	2012.08.16	End Date:	2012.08.16	Last Calib.:	2012.08.16
Start Time:	07:10:05	End Time:	15:53:00	Time On Btm:	
				Time Off Btm:	

**TEST COMMENT:** 30 - IF: Blow built to BOB (11") in 7 min.  
60 - IS: Bled off, Surface blow back, lasted 4 min., then dead  
60 - FF: Blow built to BOB at 8 3/4 min.  
90 - FS: Bled off, No blow back



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
805.00	Water w/trace oil 97%w, 3%m	6.60
310.00	SMCW w/trace oil 92%w, 8%m	4.35
100.00	SO/MCW 68%w, 27%m, 4%o, 1%g	1.40
15.00	CO 96%o, 2%g, 2%m	0.21
0.00	GIP = 15'	0.00

\* 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  
250 N. Water Suite 300  
Wichita, KS 67202  
ATTN: Rocky Milford

**5-1s-37w Cheyenne KS**  
**Shones Unit #1-5**  
Job Ticket: 46150      **DST#: 5**  
Test Start: 2012.08.16 @ 07:10:00

**Tool Information**

Drill Pipe:	Length: 3552.00 ft	Diameter: 3.80 inches	Volume: 49.83 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: 515.00 ft	Diameter: 2.25 inches	Volume: 2.53 bbl	Weight to Pull Loose: 74000.00 lb
			<u>Total Volume: 52.36 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4066.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	104.00 ft			
Tool Length:	132.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Shut In Tool	5.00			4043.00	
Hydraulic tool	5.00			4048.00	
Jars	5.00			4053.00	
Safety Joint	3.00			4056.00	
Packer	5.00			4061.00	28.00      Bottom Of Top Packer
Packer	5.00			4066.00	
Stubb	1.00			4067.00	
Recorder	0.00	6719	Inside	4067.00	
Recorder	0.00	8320	Outside	4067.00	
Perforations	20.00			4087.00	
Blank Spacing	64.00			4151.00	
Perforations	16.00			4167.00	
Bullnose	3.00			4170.00	104.00      Bottom Packers & Anchor

**Total Tool Length: 132.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

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

**5-1s-37w Cheyenne KS**  
**Shones Unit #1-5**  
Job Ticket: 46150      **DST#: 5**  
Test Start: 2012.08.16 @ 07:10:00

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 32 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 22500 ppm
Viscosity: 58.00 sec/qt	Cushion Volume: bbl	
Water Loss: 5.16 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 900.00 ppm		
Filter Cake: 2.00 inches		

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
805.00	Water w/trace oil 97%w , 3%m	6.601
310.00	SMCW w/trace oil 92%w , 8%m	4.348
100.00	SO/MCW 68%w , 27%m, 4%o, 1%g	1.403
15.00	CO 96%o, 2%g, 2%m	0.210
0.00	GIP = 15'	0.000

Total Length: 1230.00 ft      Total Volume: 12.562 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments: Gravity = 34.0 api @ 80 deg F  
Corrected Gravity = 32 api  
RW = .238 ohms @ 89.4 deg F  
Chlorides = 22,500

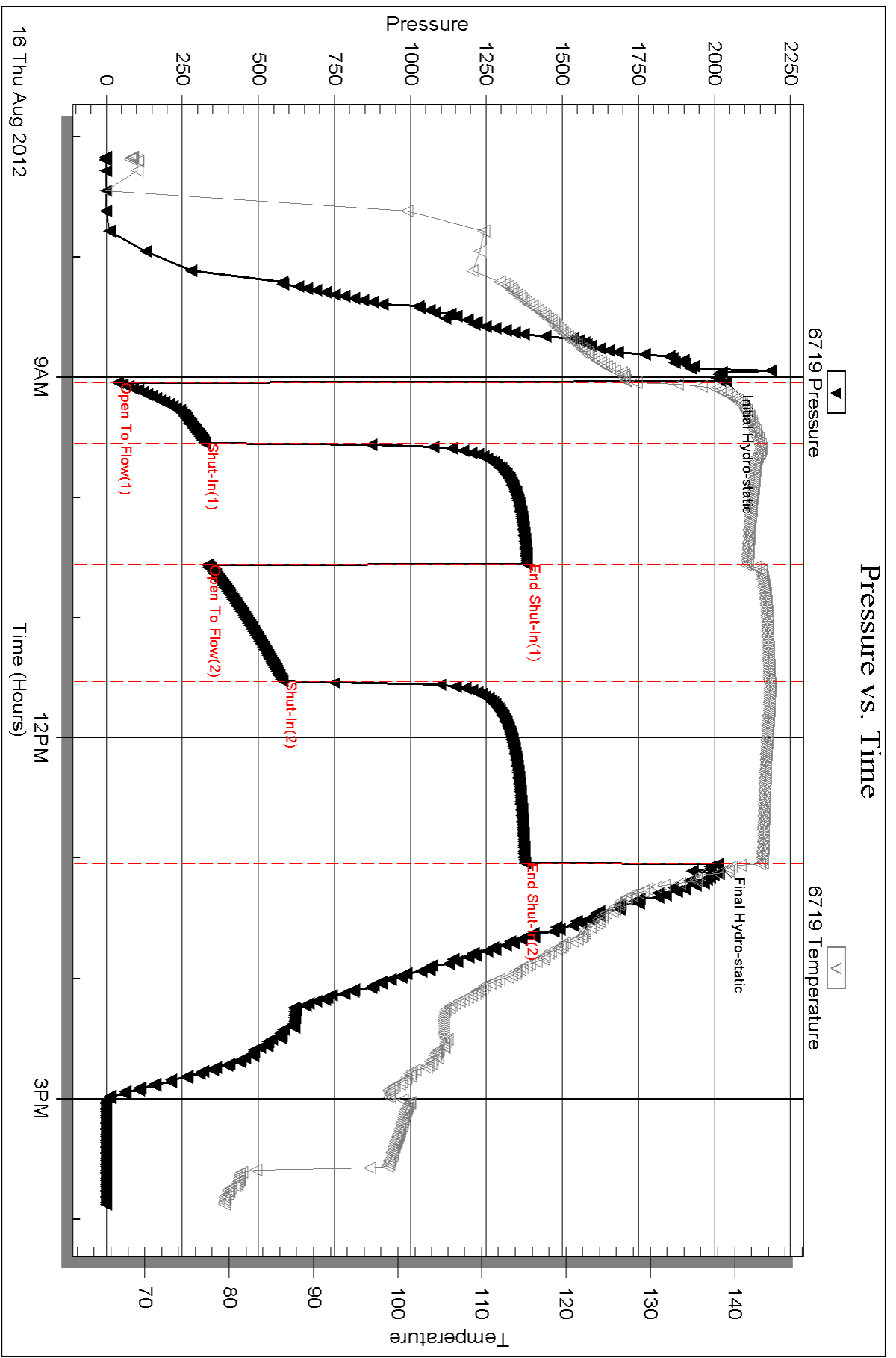
Serial #: 6719

Inside

Murfin Drilling Co., Inc

Shones Unit #1-5

DST Test Number: 5

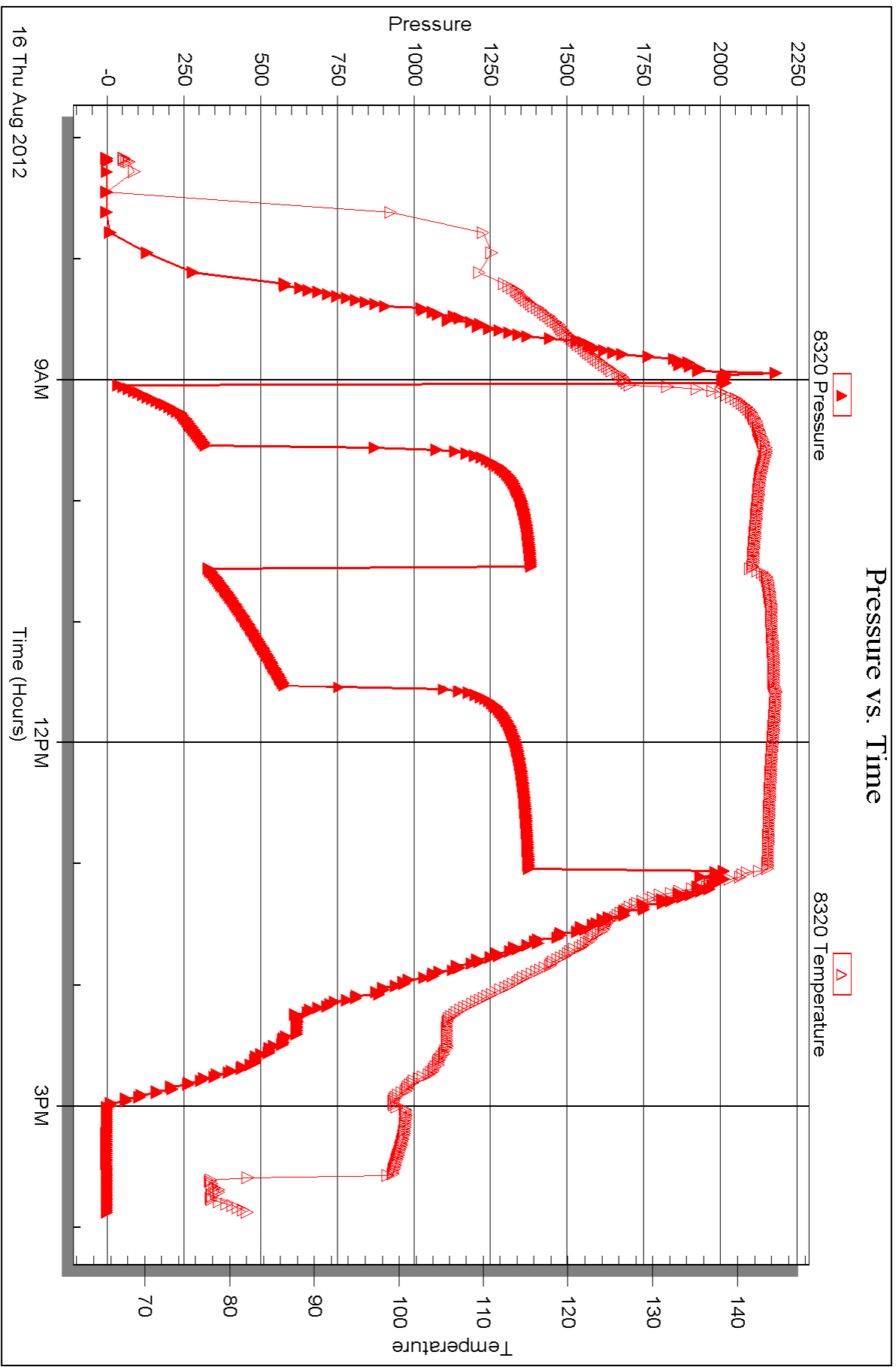


Serial #: 8320

Outside Murfin Drilling Co., Inc

Shones Unit #1-5

DST Test Number: 5





## DRILL STEM TEST REPORT

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

250 N. Water Suite 300  
Wichita, KS 67202

ATTN: Rocky Milford

### **Shones Unit #1-5**

#### **5-1s-37w Cheyenne KS**

Start Date: 2012.08.17 @ 06:10:00

End Date: 2012.08.17 @ 14:48:00

Job Ticket #: 48126                      DST #: 6

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2012.08.23 @ 11:24:09



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

**5-1s-37w Cheyenne KS**

**Shones Unit #1-5**

Job Ticket: 48126      **DST#: 6**  
 Test Start: 2012.08.17 @ 06:10:00

## GENERAL INFORMATION:

Formation: **Lans. "D - G"**  
 Deviated: No Whipstock:      ft (KB)  
 Time Tool Opened: 08:00:30  
 Time Test Ended: 14:48:00  
 Interval: **4153.00 ft (KB) To 4270.00 ft (KB) (TVD)**  
 Total Depth: 4270.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: James Winder  
 Unit No: 57  
 Reference Elevations: 3177.00 ft (KB)  
 3172.00 ft (CF)  
 KB to GR/CF: 5.00 ft

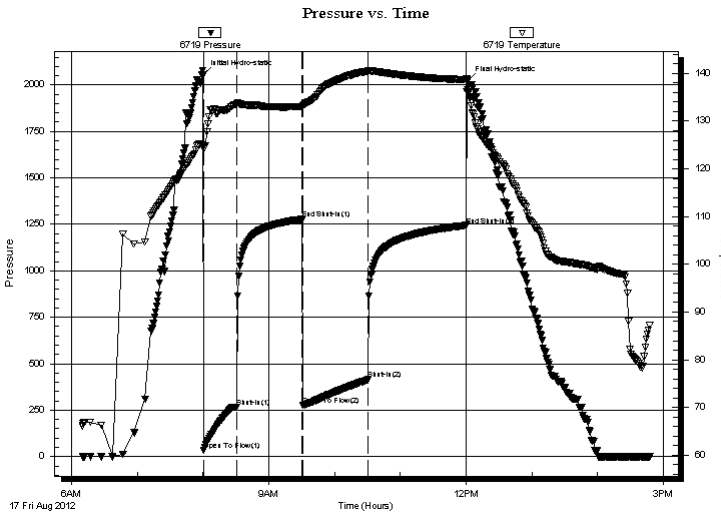
## Serial #: 6719

Inside

Press @ Run Depth: 414.93 psig @ 4154.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2012.08.17      End Date: 2012.08.17      Last Calib.: 2012.08.17  
 Start Time: 06:10:05      End Time: 14:48:00      Time On Btm: 2012.08.17 @ 08:00:00  
 Time Off Btm: 2012.08.17 @ 12:01:30

**TEST COMMENT:** 30 - IF: Blow built to BOB (11") at 10 1/2 min.  
 60 - IS: Bled off, Blow back built to 2 1/4"  
 60 - FF: Blow built to BOB at 12 3/4 min.  
 90 - FS: Bled off, Blow back built to 5 1/4"

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2054.49	124.77	Initial Hydro-static
1	35.16	124.59	Open To Flow (1)
31	267.99	133.62	Shut-In(1)
91	1277.76	133.02	End Shut-In(1)
92	275.53	133.28	Open To Flow (2)
151	414.93	140.49	Shut-In(2)
240	1244.33	138.67	End Shut-In(2)
242	2022.72	136.48	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
485.00	SOMCW 92%w, 7%m, 1%o	2.39
250.00	SO/GWM 47%m, 38%w, 10%g, 5%o	3.23
124.00	GOCM 71%m, 18%g, 11%o	1.74
31.00	MCO 67%o, 31%m, 2%g	0.43
0.00	GIP = 215'	0.00

\* Recovery from multiple tests

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

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

**5-1s-37w Cheyenne KS**  
**Shones Unit #1-5**  
Job Ticket: 48126      **DST#: 6**  
Test Start: 2012.08.17 @ 06:10:00

**Tool Information**

Drill Pipe:	Length: 3615.00 ft	Diameter: 3.80 inches	Volume: 50.71 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: 515.00 ft	Diameter: 2.25 inches	Volume: 2.53 bbl	Weight to Pull Loose: 74000.00 lb
			<u>Total Volume: 53.24 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4153.00 ft			Final 71000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	117.00 ft			
Tool Length:	145.00 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			4130.00	
Hydraulic tool	5.00			4135.00	
Jars	5.00			4140.00	
Safety Joint	3.00			4143.00	
Packer	5.00			4148.00	28.00      Bottom Of Top Packer
Packer	5.00			4153.00	
Stubb	1.00			4154.00	
Recorder	0.00	6719	Inside	4154.00	
Recorder	0.00	8320	Outside	4154.00	
Perforations	15.00			4169.00	
Blank Spacing	95.00			4264.00	
Perforations	3.00			4267.00	
Bullnose	3.00			4270.00	117.00      Bottom Packers & Anchor

**Total Tool Length: 145.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

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

**5-1s-37w Cheyenne KS**  
**Shones Unit #1-5**  
Job Ticket: 48126      **DST#: 6**  
Test Start: 2012.08.17 @ 06:10:00

## 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:	52000 ppm
Viscosity: 72.00 sec/qt	Cushion Volume: bbl		
Water Loss: 4.78 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1000.00 ppm			
Filter Cake: 2.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
485.00	SOMCW 92%w , 7%m, 1%o	2.385
250.00	SO/GWM 47%m, 38%w , 10%g, 5%o	3.234
124.00	GOCM 71%m, 18%g, 11%o	1.739
31.00	MCO 67%o, 31%m, 2%g	0.435
0.00	GIP = 215'	0.000

Total Length: 890.00 ft      Total Volume: 7.793 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments: Not enough clean oil for gravity check  
 RW = .122 ohms @ 84.5 ohms



Serial #: 6719

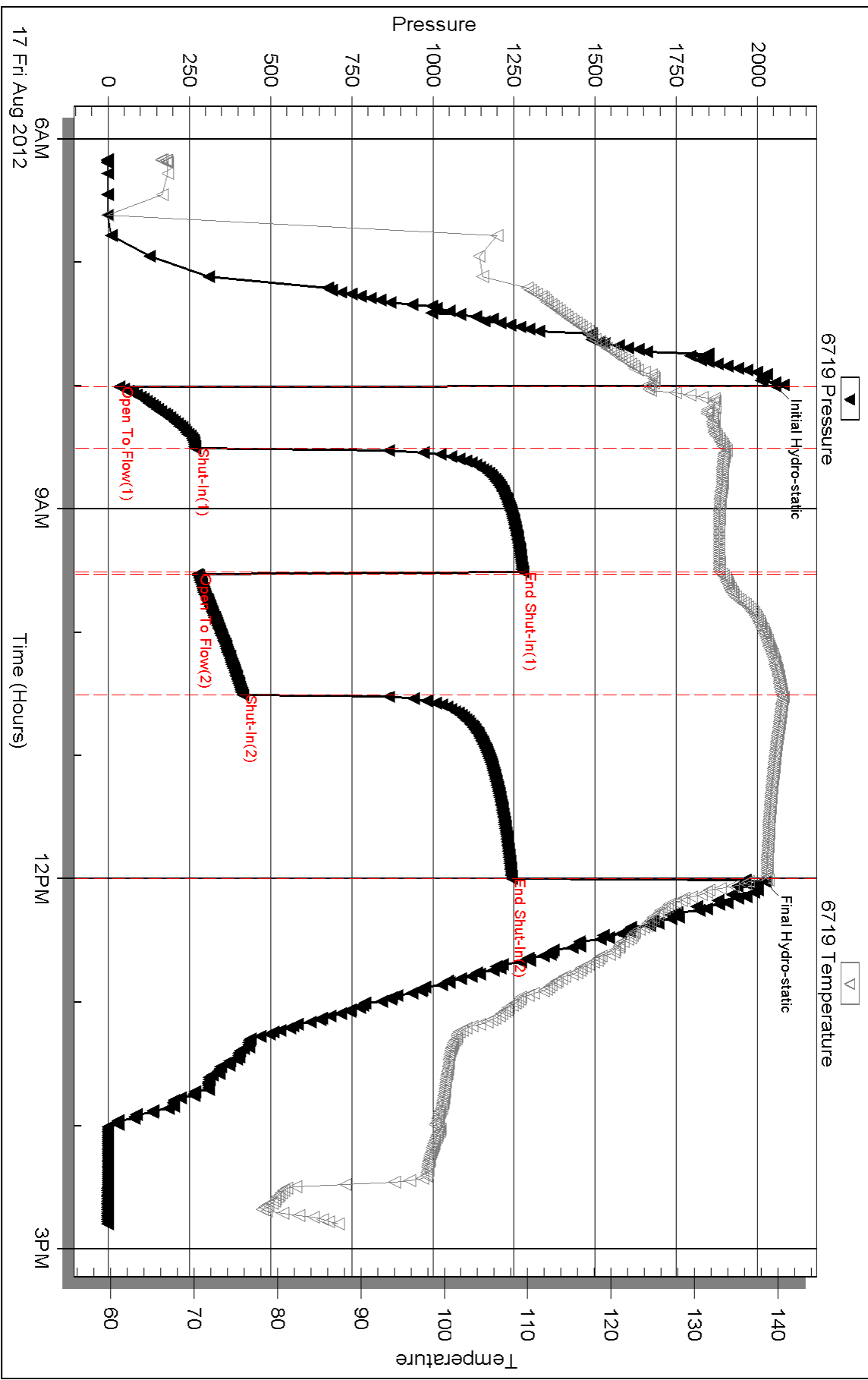
Inside

Murfin Drilling Co., Inc

Shones Unit #1-5

DST Test Number: 6

### Pressure vs. Time

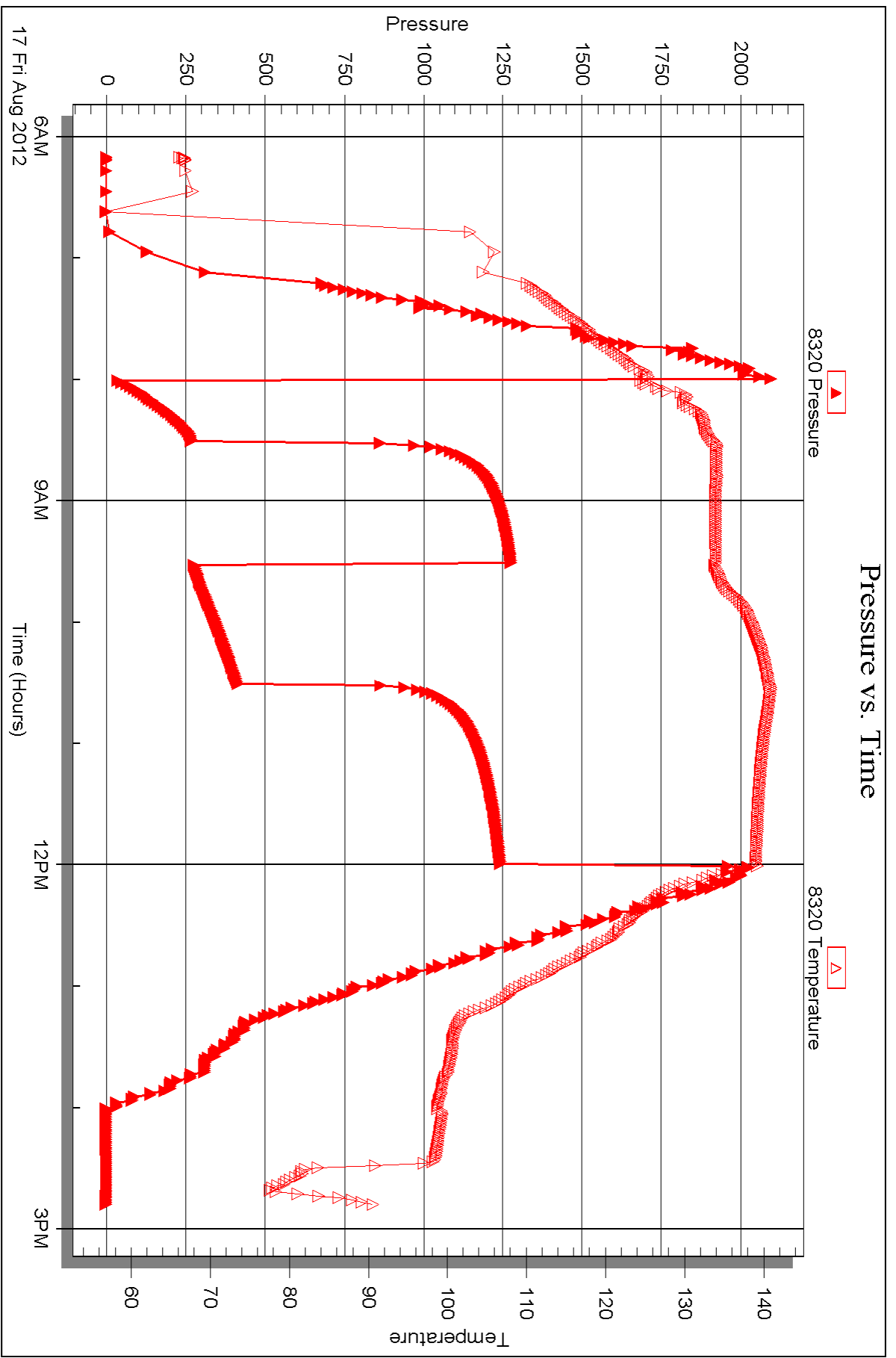


Serial #: 8320

Outside Murfin Drilling Co., Inc

Shones Unit #1-5

DST Test Number: 6





## DRILL STEM TEST REPORT

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

250 N. Water Suite 300  
Wichita, KS 67202

ATTN: Rocky Milford

### **Shones Unit #1-5**

### **5-1s-37w Cheyenne KS**

Start Date: 2012.08.18 @ 00:15:00

End Date: 2012.08.18 @ 09:05:00

Job Ticket #: 48127                      DST #: 7

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2012.08.23 @ 11:23:06



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

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

**5-1s-37w Cheyenne KS**

**Shones Unit #1-5**

Job Ticket: 48127

**DST#: 7**

Test Start: 2012.08.18 @ 00:15:00

## GENERAL INFORMATION:

Formation: **Lans. "H- I"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 02:07:00  
 Time Test Ended: 09:05:00  
 Interval: **4260.00 ft (KB) To 4322.00 ft (KB) (TVD)**  
 Total Depth: 4322.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: James Winder  
 Unit No: 57  
 Reference Elevations: 3177.00 ft (KB)  
 3172.00 ft (CF)  
 KB to GR/CF: 5.00 ft

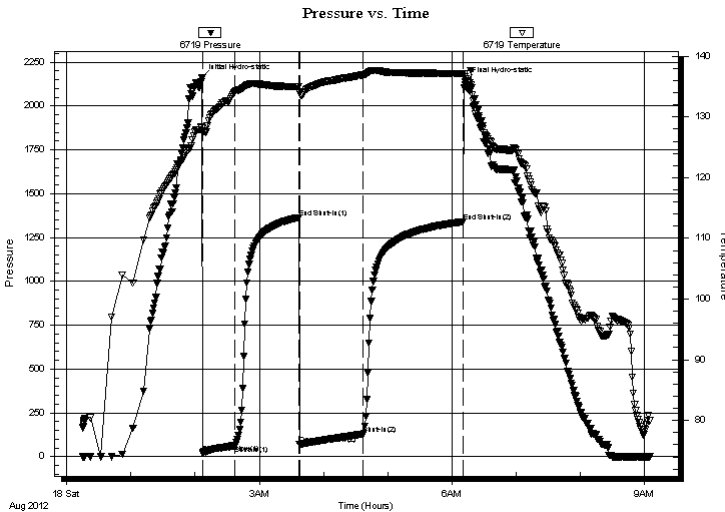
## Serial #: 6719

Inside

Press @ Run Depth: 129.59 psig @ 4261.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.08.18 End Date: 2012.08.18 Last Calib.: 2012.08.18  
 Start Time: 00:15:05 End Time: 09:05:00 Time On Btm: 2012.08.18 @ 02:06:30  
 Time Off Btm: 2012.08.18 @ 06:12:00

**TEST COMMENT:** 30 - IF: 1/2" Blow at open, built to 10 1/2"  
 60 - IS: Bled off, Blow back built to 1 1/4"  
 60 - FF: Blow built to BOB (11") at 25 1/2 min.  
 90 - FS: Bled off, Blow back built to 3 1/2"

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2159.65	128.14	Initial Hydro-static
1	19.11	127.47	Open To Flow (1)
31	63.86	134.04	Shut-In(1)
91	1364.08	134.98	End Shut-In(1)
91	69.39	134.16	Open To Flow (2)
151	129.59	136.93	Shut-In(2)
244	1340.23	137.17	End Shut-In(2)
246	2137.41	136.69	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
180.00	GMO 45%o, 29%g, 26%m	0.89
110.00	CGO 89%o, 9%g, 2%m	0.54
0.00	GIP = 460'	0.00

\* Recovery from multiple tests

## Gas Rates

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



# TRILOBITE TESTING, INC.

## DRILL STEM TEST REPORT

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

**5-1s-37w Cheyenne KS**  
**Shones Unit #1-5**  
 Job Ticket: 48127 **DST#: 7**  
 Test Start: 2012.08.18 @ 00:15:00

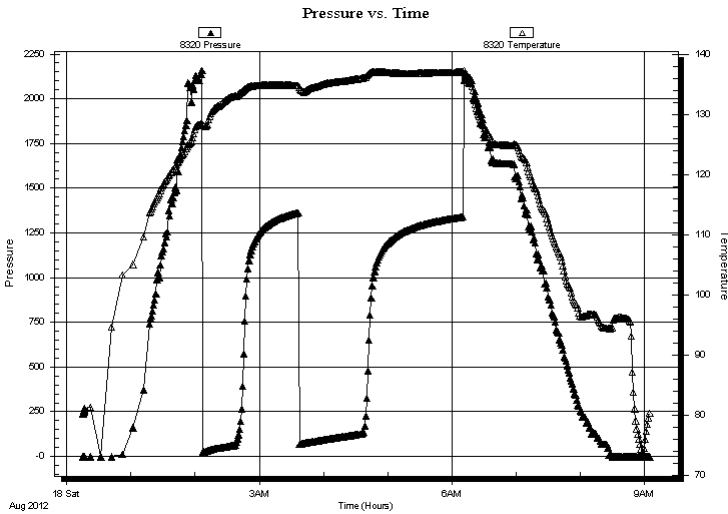
### GENERAL INFORMATION:

Formation: **Lans. "H - I"**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 02:07:00 Tester: James Winder  
 Time Test Ended: 09:05:00 Unit No: 57  
 Interval: **4260.00 ft (KB) To 4322.00 ft (KB) (TVD)** Reference Elevations: 3177.00 ft (KB)  
 Total Depth: 4322.00 ft (KB) (TVD) 3172.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

**Serial #: 8320 Outside**  
 Press @ RunDepth: psig @ 4261.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.08.18 End Date: 2012.08.18 Last Calib.: 2012.08.18  
 Start Time: 00:15:05 End Time: 09:04:30 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** 30 - IF: 1/2" Blow at open, built to 10 1/2"  
 60 - IS: Bled off, Blow back built to 1 1/4"  
 60 - FF: Blow built to BOB (11") at 25 1/2 min.  
 90 - FS: Bled off, Blow back built to 3 1/2"

### PRESSURE SUMMARY



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

### Recovery

Length (ft)	Description	Volume (bbl)
180.00	GMO 45%o, 29%g, 26%m	0.89
110.00	CGO 89%o, 9%g, 2%m	0.54
0.00	GIP = 460'	0.00

\* 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  
250 N. Water Suite 300  
Wichita, KS 67202  
ATTN: Rocky Milford

**5-1s-37w Cheyenne KS**  
**Shones Unit #1-5**  
Job Ticket: 48127      **DST#: 7**  
Test Start: 2012.08.18 @ 00:15:00

**Tool Information**

Drill Pipe:	Length: 3739.00 ft	Diameter: 3.80 inches	Volume: 52.45 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: 515.00 ft	Diameter: 2.25 inches	Volume: 2.53 bbl	Weight to Pull Loose: 78000.00 lb
			<u>Total Volume: 54.98 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4260.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	62.00 ft			
Tool Length:	90.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Shut In Tool	5.00			4237.00	
Hydraulic tool	5.00			4242.00	
Jars	5.00			4247.00	
Safety Joint	3.00			4250.00	
Packer	5.00			4255.00	28.00      Bottom Of Top Packer
Packer	5.00			4260.00	
Stubb	1.00			4261.00	
Recorder	0.00	6719	Inside	4261.00	
Recorder	0.00	8320	Outside	4261.00	
Perforations	20.00			4281.00	
Blank Spacing	33.00			4314.00	
Perforations	5.00			4319.00	
Bullnose	3.00			4322.00	62.00      Bottom Packers & Anchor

**Total Tool Length: 90.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

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

**5-1s-37w Cheyenne KS**  
**Shones Unit #1-5**  
Job Ticket: 48127      **DST#: 7**  
Test Start: 2012.08.18 @ 00:15:00

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 28.4 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 67.00 sec/qt	Cushion Volume: bbl	
Water Loss: 4.78 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 1000.00 ppm		
Filter Cake: 2.00 inches		

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	GMO 45%o, 29%g, 26%m	0.885
110.00	CGO 89%o, 9%g, 2%m	0.541
0.00	GIP = 460'	0.000

Total Length: 290.00 ft      Total Volume: 1.426 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments: Gravity = 30.6 api @ 82 deg F  
Corrected Gravity = 28.4 api

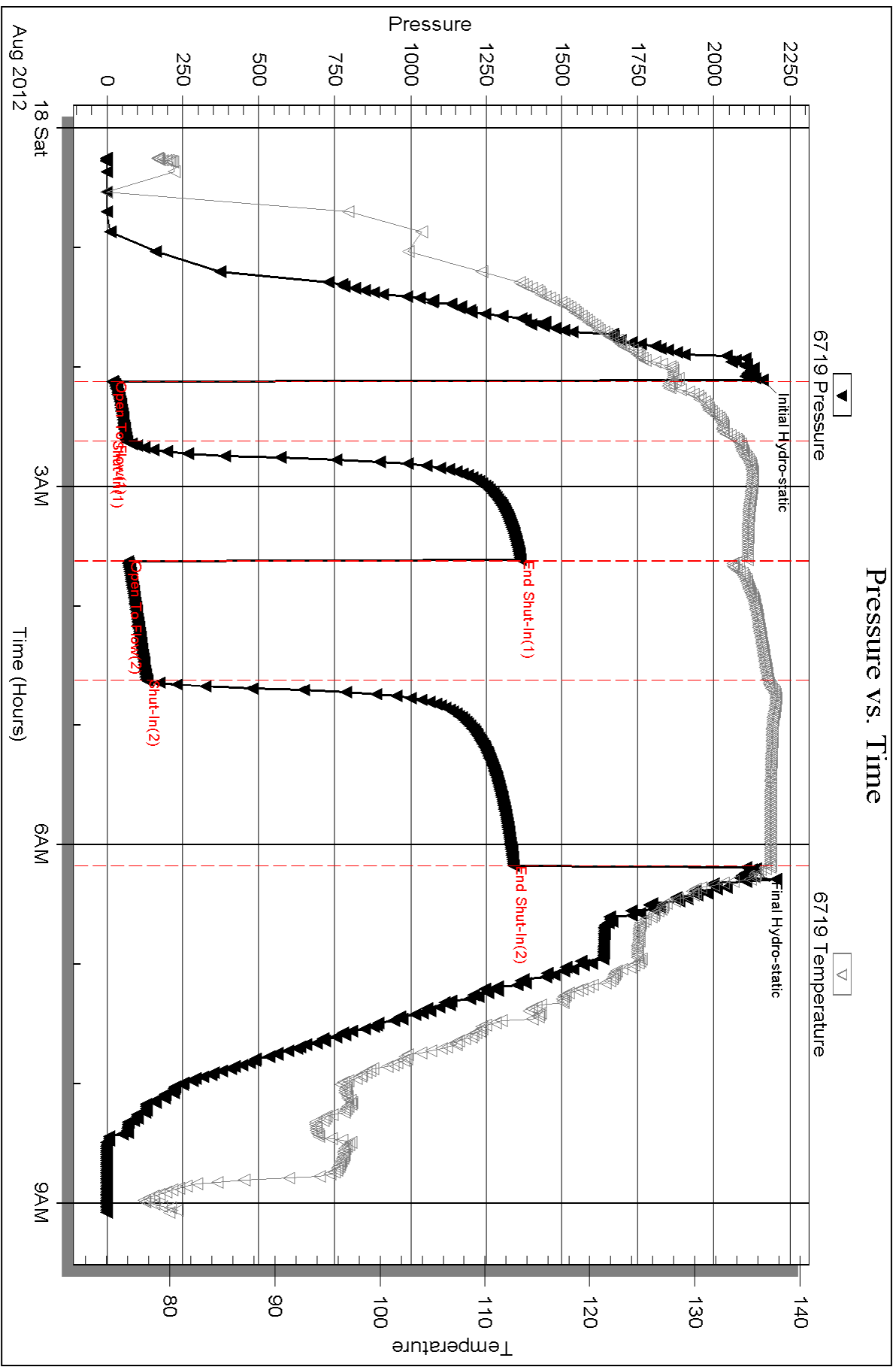
Serial #: 6719

Inside

Murfin Drilling Co., Inc

Shones Unit #1-5

DST Test Number: 7



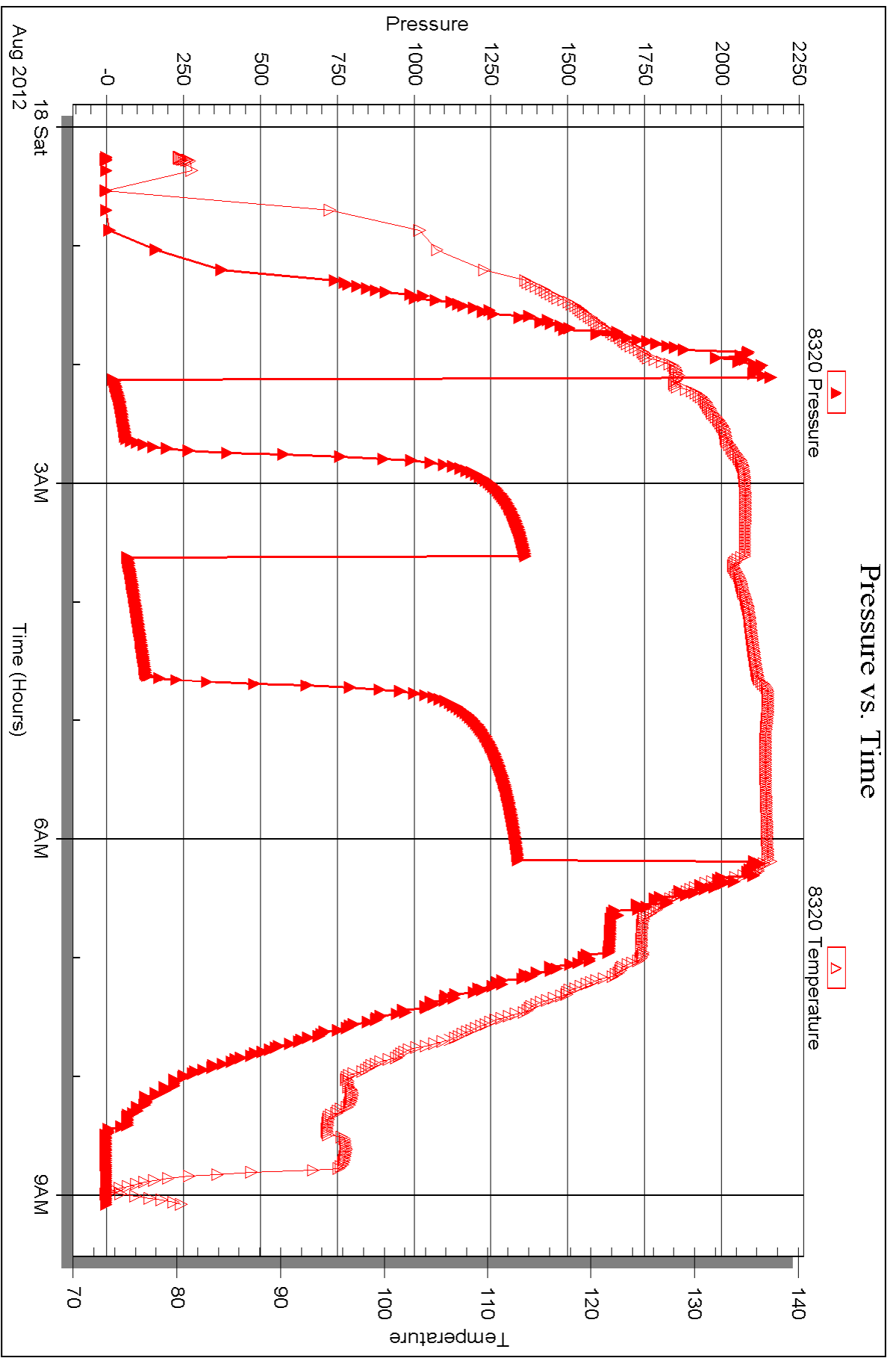


Serial #: 8320

Outside Murfin Drilling Co., Inc

Shones Unit #1-5

DST Test Number: 7





## DRILL STEM TEST REPORT

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

250 N. Water Suite 300  
Wichita, KS 67202

ATTN: Rocky Milford

### **Shones Unit #1-5**

### **5-1s-37w Cheyenne KS**

Start Date: 2012.08.18 @ 17:09:00

End Date: 2012.08.19 @ 00:22:30

Job Ticket #: 48128                      DST #: 8

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2012.08.23 @ 11:22:16



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

**5-1s-37w Cheyenne KS**

**Shones Unit #1-5**

Job Ticket: 48128      **DST#: 8**  
 Test Start: 2012.08.18 @ 17:09:00

## GENERAL INFORMATION:

Formation: **Lans. "J"**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 18:58:00  
 Tester: James Winder  
 Time Test Ended: 00:22:30  
 Unit No: 57  
 Interval: **4341.00 ft (KB) To 4360.00 ft (KB) (TVD)**  
 Reference Elevations: 3177.00 ft (KB)  
 Total Depth: 4360.00 ft (KB) (TVD)      3172.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair      KB to GR/CF: 5.00 ft

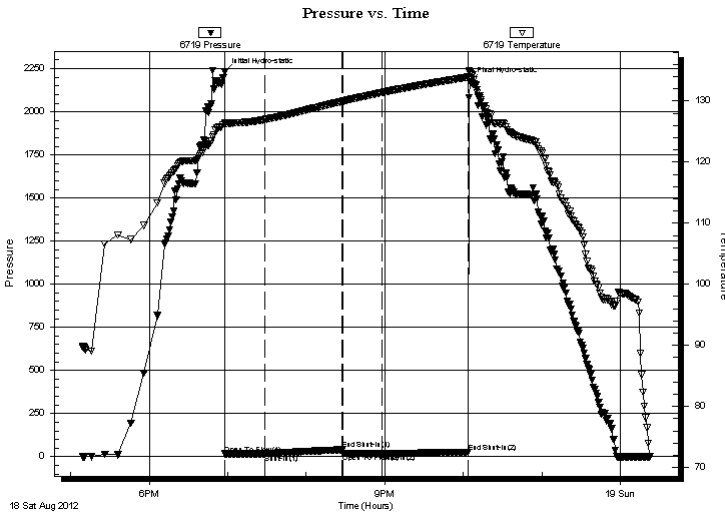
## Serial #: 6719

Inside

Press @ RunDepth: 17.35 psig @ 4342.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2012.08.18      End Date: 2012.08.19      Last Calib.: 2012.08.19  
 Start Time: 17:09:05      End Time: 00:22:29      Time On Btm: 2012.08.18 @ 18:57:30  
 Time Off Btm: 2012.08.18 @ 22:05:00

**TEST COMMENT:** 30 - IF: Blow built to 1/4" then died back, dead at 22 min.  
 60 - IS: No blow back  
 30 - FF: No blow  
 60 - FS: No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2229.90	126.37	Initial Hydro-static
1	16.39	126.22	Open To Flow (1)
31	16.74	126.98	Shut-In(1)
90	40.19	129.95	End Shut-In(1)
91	17.28	129.96	Open To Flow (2)
121	17.35	131.40	Shut-In(2)
186	25.25	133.92	End Shut-In(2)
188	2175.75	134.59	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1.00	Mud w /oil spots 99%m, 1%o	0.00

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

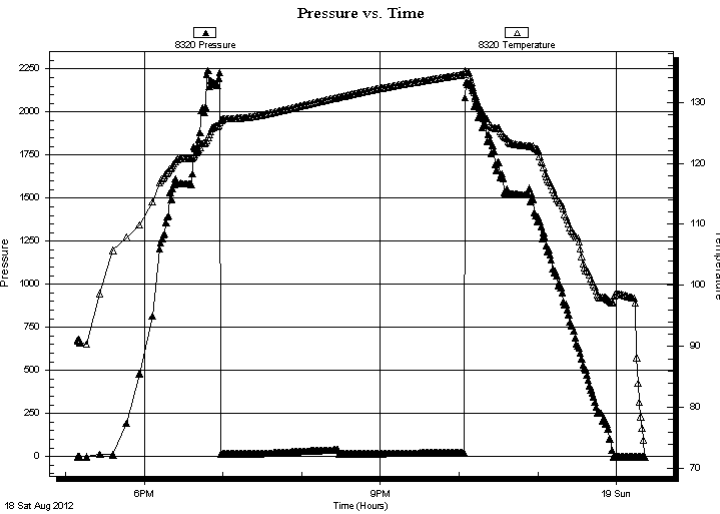
**5-1s-37w Cheyenne KS**  
**Shones Unit #1-5**  
 Job Ticket: 48128 **DST#: 8**  
 Test Start: 2012.08.18 @ 17:09:00

### GENERAL INFORMATION:

Formation: **Lans. "J"**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 18:58:00 Tester: James Winder  
 Time Test Ended: 00:22:30 Unit No: 57  
 Interval: **4341.00 ft (KB) To 4360.00 ft (KB) (TVD)** Reference Elevations: 3177.00 ft (KB)  
 Total Depth: 4360.00 ft (KB) (TVD) 3172.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

**Serial #: 8320 Outside**  
 Press @ Run Depth: psig @ 4342.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.08.18 End Date: 2012.08.19 Last Calib.: 2012.08.19  
 Start Time: 17:09:05 End Time: 00:21:59 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** 30 - IF: Blow built to 1/4" then died back, dead at 22 min.  
 60 - IS: No blow back  
 30 - FF: No blow  
 60 - FS: No blow back



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
1.00	Mud w /oil spots 99% <sub>m</sub> , 1% <sub>o</sub>	0.00

\* 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  
250 N. Water Suite 300  
Wichita, KS 67202  
ATTN: Rocky Milford

**5-1s-37w Cheyenne KS**

**Shones Unit #1-5**

Job Ticket: 48128

**DST#: 8**

Test Start: 2012.08.18 @ 17:09:00

## Tool Information

Drill Pipe:	Length: 3831.00 ft	Diameter: 3.80 inches	Volume: 53.74 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: 515.00 ft	Diameter: 2.25 inches	Volume: 2.53 bbl	Weight to Pull Loose: 72000.00 lb
			<u>Total Volume: 56.27 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	33.00 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	4341.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	19.00 ft			
Tool Length:	47.00 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			4318.00	
Hydraulic tool	5.00			4323.00	
Jars	5.00			4328.00	
Safety Joint	3.00			4331.00	
Packer	5.00			4336.00	28.00 Bottom Of Top Packer
Packer	5.00			4341.00	
Packer - Shale	0.00			4341.00	
Stubb	1.00			4342.00	
Recorder	0.00	6719	Inside	4342.00	
Recorder	0.00	8320	Outside	4342.00	
Perforations	15.00			4357.00	
Bullnose	3.00			4360.00	19.00 Bottom Packers & Anchor

**Total Tool Length: 47.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

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

**5-1s-37w Cheyenne KS**  
**Shones Unit #1-5**  
Job Ticket: 48128      **DST#: 8**  
Test Start: 2012.08.18 @ 17:09:00

## 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: bbl		
Water Loss: 4.78 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1000.00 ppm			
Filter Cake: 2.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1.00	Mud w /oil spots 99% <sub>m</sub> , 1% <sub>o</sub>	0.005

Total Length: 1.00 ft      Total Volume: 0.005 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments:

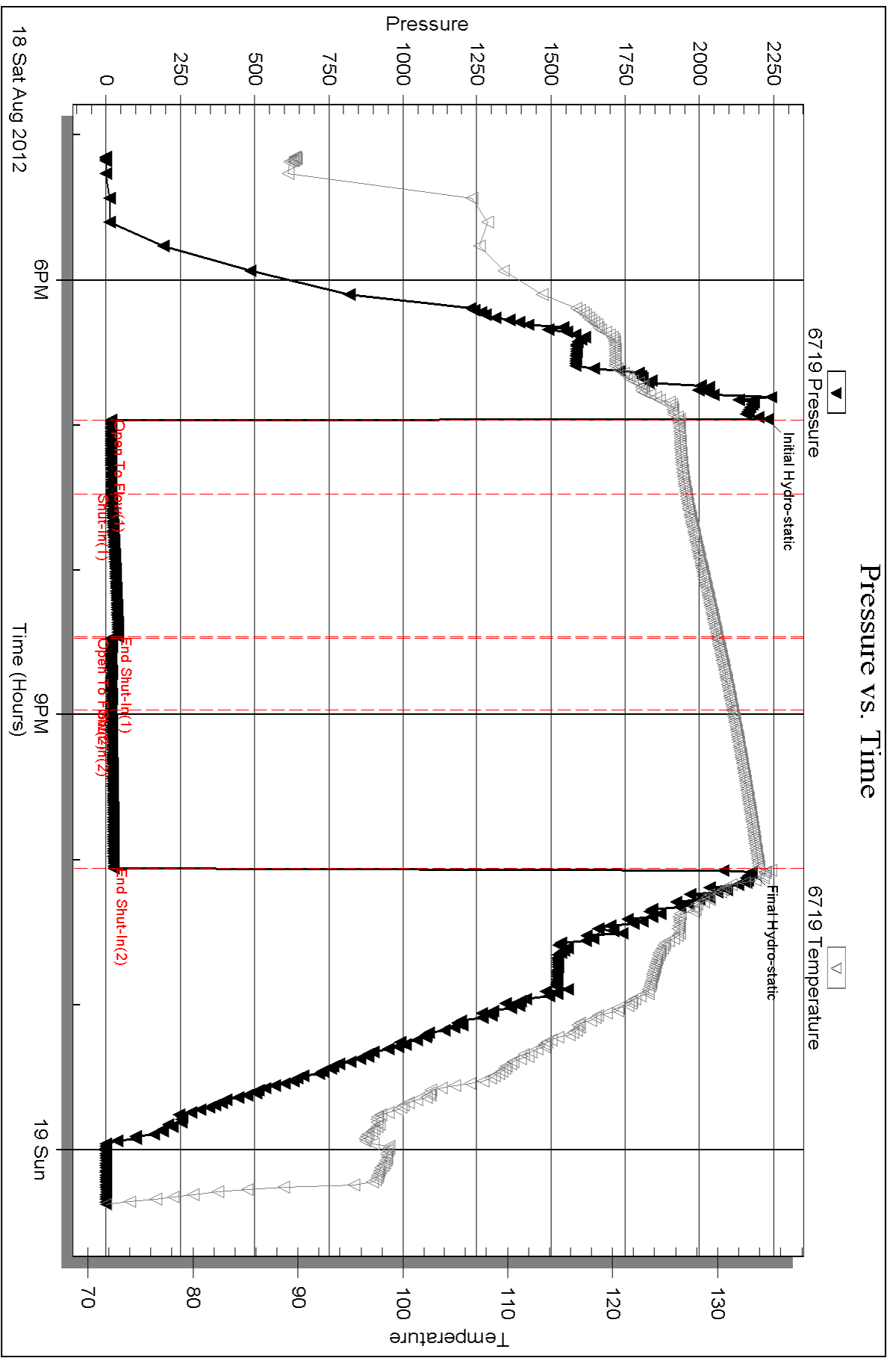
Serial #: 6719

Inside

Murfin Drilling Co., Inc

Shones Unit #1-5

DST Test Number: 8



Triobite Testing, Inc

Ref. No: 48128

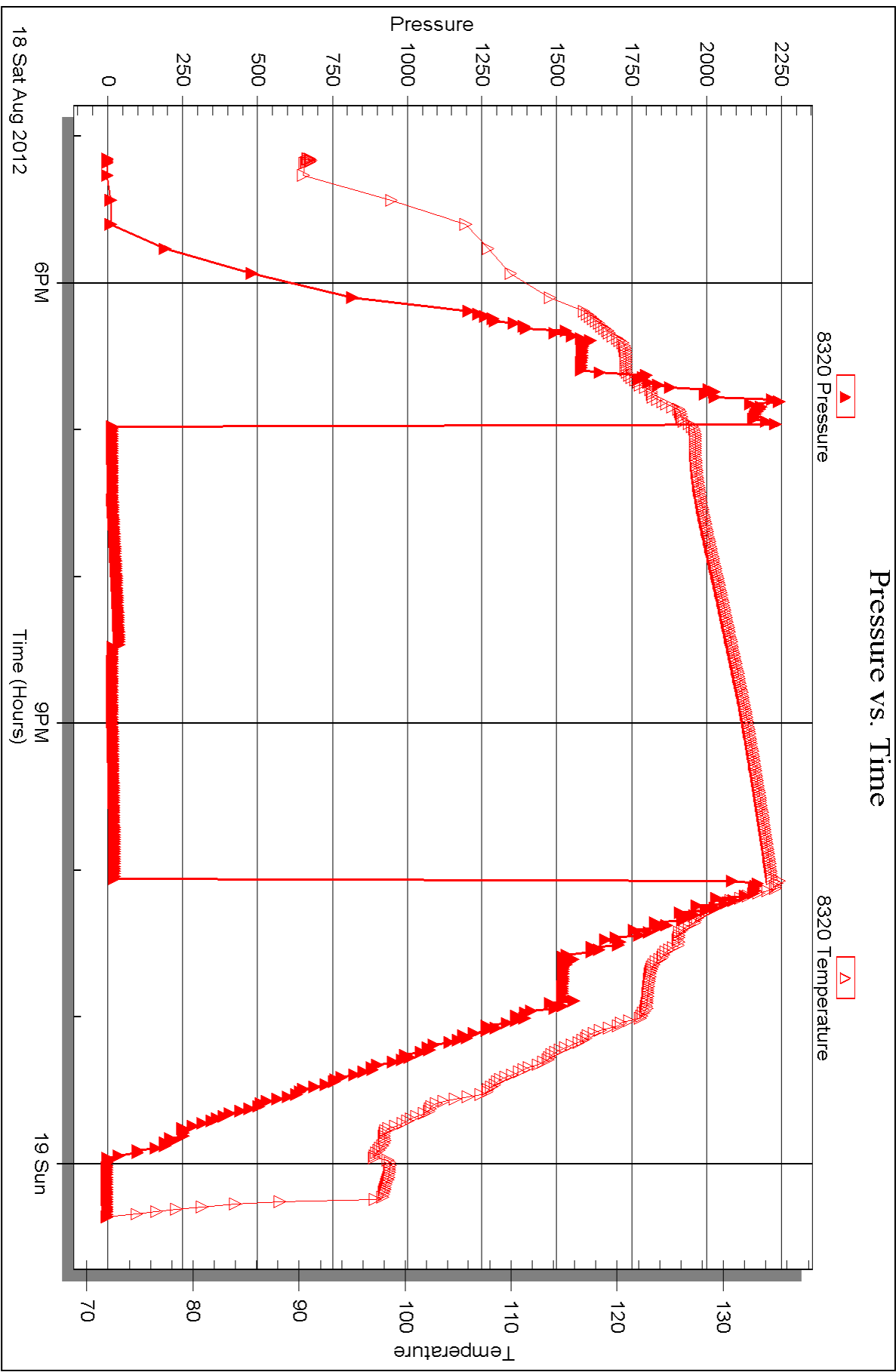
Printed: 2012.08.23 @ 11:22:20

Serial #: 8320

Outside Murfin Drilling Co., Inc

Shones Unit #1-5

DST Test Number: 8



Triobite Testing, Inc

Ref. No: 48128

Printed: 2012.08.23 @ 11:22:21





## DRILL STEM TEST REPORT

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

250 N. Water Suite 300  
Wichita, KS 67202

ATTN: Rocky Milford

### **Shones Unit #1-5**

### **5-1s-37w Cheyenne KS**

Start Date: 2012.08.19 @ 21:50:00

End Date: 2012.08.20 @ 06:04:30

Job Ticket #: 48129                      DST #: 9

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2012.08.23 @ 11:20:56



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

**5-1s-37w Cheyenne KS**

**Shones Unit #1-5**

Job Ticket: 48129 **DST#: 9**

Test Start: 2012.08.19 @ 21:50:00

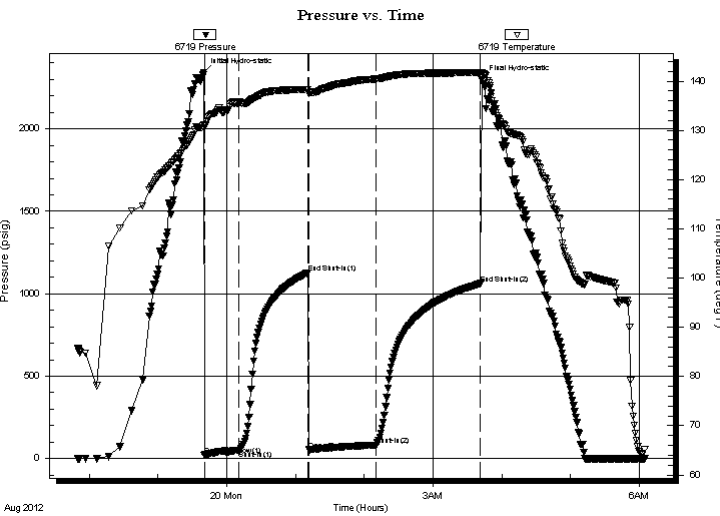
## GENERAL INFORMATION:

Formation: **Pawnee**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 23:40:30  
 Time Test Ended: 06:04:30  
 Interval: **4508.00 ft (KB) To 4554.00 ft (KB) (TVD)**  
 Total Depth: 4554.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: James Winder  
 Unit No: 57  
 Reference Elevations: 3177.00 ft (KB)  
 3172.00 ft (CF)  
 KB to GR/CF: 5.00 ft

## Serial #: 6719 Inside

Press @ Run Depth: 83.06 psig @ 4509.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.08.19 End Date: 2012.08.20 Last Calib.: 2012.08.20  
 Start Time: 21:50:05 End Time: 06:04:29 Time On Btm: 2012.08.19 @ 23:40:00  
 Time Off Btm: 2012.08.20 @ 03:42:30

**TEST COMMENT:** 30 - IF: Blow built to 7"  
 60 - IS: Bled off, No blow back  
 60 - FF: Blow built to BOB (11") at 52 min.  
 90 - FS: Bled off, No blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2342.36	131.08	Initial Hydro-static
1	18.68	130.83	Open To Flow (1)
31	49.96	135.63	Shut-In(1)
91	1125.48	138.33	End Shut-In(1)
92	53.24	137.56	Open To Flow (2)
151	83.06	140.44	Shut-In(2)
242	1061.75	141.75	End Shut-In(2)
243	2297.97	141.77	Final Hydro-static

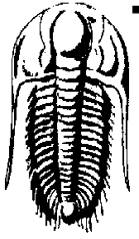
## Recovery

Length (ft)	Description	Volume (bbl)
120.00	GOCM 64% <i>m</i> , 18% <i>o</i> , 18% <i>g</i>	0.59
15.00	SOCM 95% <i>m</i> , 3% <i>o</i> , 2% <i>g</i>	0.07
40.00	CO 96% <i>o</i> , 3% <i>m</i> , 1% <i>g</i>	0.20
0.00	GIP = 240' (weak odor)	0.00

\* Recovery from multiple tests

## Gas Rates

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



# TRILOBITE TESTING, INC.

## DRILL STEM TEST REPORT

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

**5-1s-37w Cheyenne KS**  
**Shones Unit #1-5**  
Job Ticket: 48129      **DST#: 9**  
Test Start: 2012.08.19 @ 21:50:00

### GENERAL INFORMATION:

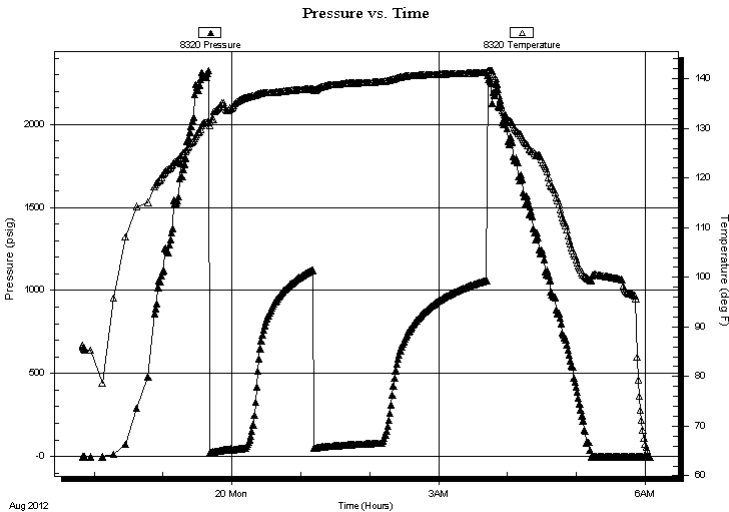
Formation:	<b>Pawnee</b>			Test Type:	Conventional Bottom Hole (Reset)
Deviated:	No Whipstock:	ft (KB)		Tester:	James Winder
Time Tool Opened:	23:40:30			Unit No:	57
Time Test Ended:	06:04:30				
<b>Interval:</b>	<b>4508.00 ft (KB) To 4554.00 ft (KB) (TVD)</b>			Reference Elevations:	3177.00 ft (KB) 3172.00 ft (CF)
Total Depth:	4554.00 ft (KB) (TVD)			KB to GR/CF:	5.00 ft
Hole Diameter:	7.88 inches	Hole Condition: Fair			

### Serial #: 8320      Outside

Press @RunDepth:	psig @	4509.00 ft (KB)	Capacity:	8000.00 psig	
Start Date:	2012.08.19	End Date:	2012.08.20	Last Calib.:	2012.08.20
Start Time:	21:50:05	End Time:	06:03:29	Time On Btm:	
				Time Off Btm:	

**TEST COMMENT:**  
 30 - IF: Blow built to 7"  
 60 - IS: Bled off, No blow back  
 60 - FF: Blow built to BOB (11") at 52 min.  
 90 - FS: Bled off, No blow back

### PRESSURE SUMMARY



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

### Recovery

Length (ft)	Description	Volume (bbl)
120.00	GOCM 64%m, 18%o, 18%g	0.59
15.00	SOCM 95%m, 3%o, 2%g	0.07
40.00	CO 96%o, 3%m, 1%g	0.20
0.00	GIP = 240' (weak odor)	0.00

\* 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  
250 N. Water Suite 300  
Wichita, KS 67202  
ATTN: Rocky Milford

**5-1s-37w Cheyenne KS**  
**Shones Unit #1-5**  
Job Ticket: 48129  
Test Start: 2012.08.19 @ 21:50:00

**DST#: 9**

## Tool Information

Drill Pipe:	Length: 3988.00 ft	Diameter: 3.80 inches	Volume: 55.94 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: 515.00 ft	Diameter: 2.25 inches	Volume: 2.53 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 58.47 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4508.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	46.00 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			4485.00	
Hydraulic tool	5.00			4490.00	
Jars	5.00			4495.00	
Safety Joint	3.00			4498.00	
Packer	5.00			4503.00	28.00 Bottom Of Top Packer
Packer	5.00			4508.00	
Packer - Shale	0.00			4508.00	
Stubb	1.00			4509.00	
Recorder	0.00	6719	Inside	4509.00	
Recorder	0.00	8320	Outside	4509.00	
Perforations	9.00			4518.00	
Blank Spacing	33.00			4551.00	
Bullnose	3.00			4554.00	46.00 Bottom Packers & Anchor

**Total Tool Length: 74.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

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

**5-1s-37w Cheyenne KS**  
**Shones Unit #1-5**  
Job Ticket: 48129      **DST#: 9**  
Test Start: 2012.08.19 @ 21:50:00

## Mud and Cushion Information

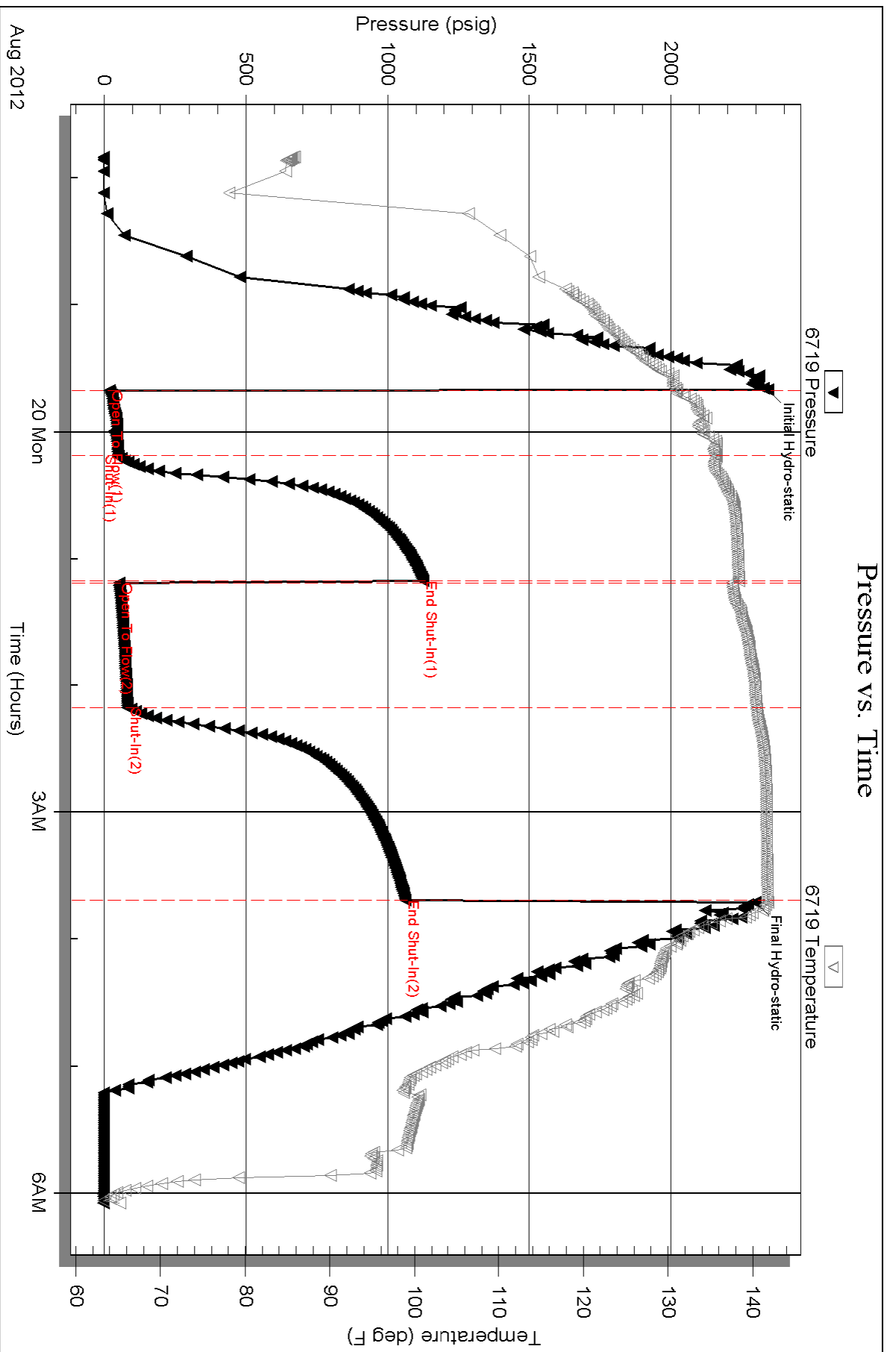
Mud Type: Gel Chem	Cushion Type:	Oil API: 35.6 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 66.00 sec/qt	Cushion Volume: bbl	
Water Loss: 4.79 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 1100.00 ppm		
Filter Cake: 2.00 inches		

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	GOCM 64% <i>m</i> , 18% <i>o</i> , 18% <i>g</i>	0.590
15.00	SOCM 95% <i>m</i> , 3% <i>o</i> , 2% <i>g</i>	0.074
40.00	CO 96% <i>o</i> , 3% <i>m</i> , 1% <i>g</i>	0.197
0.00	GIP = 240' (weak odor)	0.000

Total Length: 175.00 ft      Total Volume: 0.861 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments: Gravity = 35.6 api @ 60 deg F

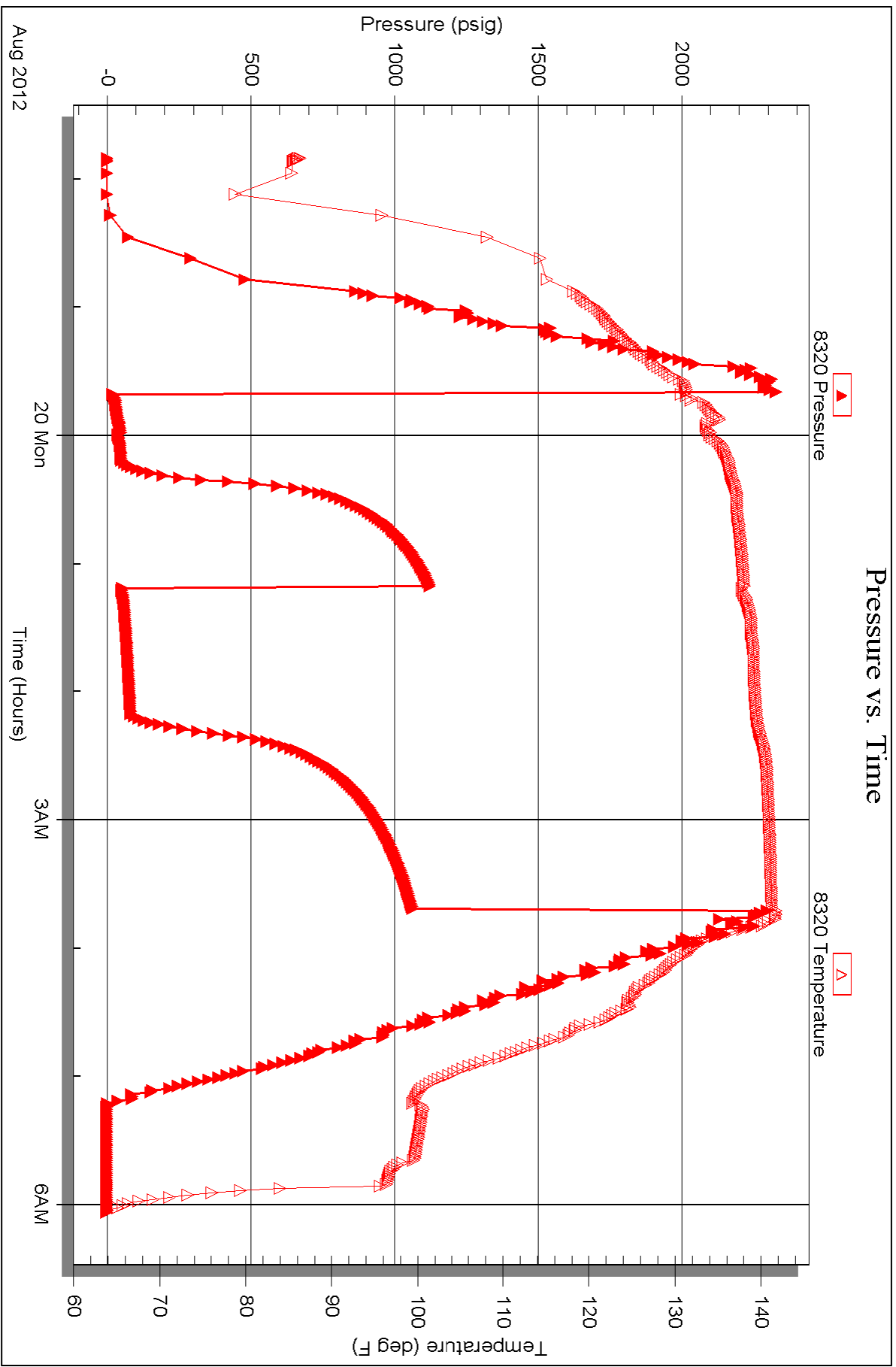


Serial #: 8320

Outside Murfin Drilling Co., Inc

Shones Unit #1-5

DST Test Number: 9





# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 46146

4/10

Well Name & No. Shones Unit #1-5 Test No. 1 Date 8-12-12  
 Company Murfin Drilling Co. Inc. Elevation 3177 KB 3172 GL  
 Address 250 N. Water Suite 300 Wichita KS 67202  
 Co. Rep / Geo. Rocky Milford Rig Murfin #3  
 Location: Sec. 5 Twp. 1s Rge. 37w Co. Cheyenne State KS

Interval Tested 3490 - 3526 Zone Tested Permian Sand  
 Anchor Length 36 Drill Pipe Run 2961 Mud Wt. 8.6  
 Top Packer Depth 3485 Drill Collars Run 515 Vis 51  
 Bottom Packer Depth 3490 (shale) Wt. Pipe Run - WL 5.6  
 Total Depth 3526 Chlorides 600 ppm System LCM 3  
 Blow Description IF: 1/2" Blow at open, died back, dead at 15 min.  
ISI: No Blowback  
FF: No Blow  
FSI: No Blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>mud w/oil spots</u>	<u>-</u>	<u>2</u>	<u>-</u>	<u>98</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 1 BHT 119 Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic <u>1610</u>	<input type="checkbox"/> Test <u>*</u> 1150	T-On Location <u>15:15</u>
(B) First Initial Flow <u>14</u>	<input type="checkbox"/> Jars <u>*</u> 250	T-Started <u>16:15</u>
(C) First Final Flow <u>15</u>	<input type="checkbox"/> Safety Joint <u>*</u> 75	T-Open <u>17:53</u>
(D) Initial Shut-In <u>45</u>	<input checked="" type="checkbox"/> Circ Sub <u>*NA</u>	T-Pulled <u>20:52</u>
(E) Second Initial Flow <u>15</u>	<input checked="" type="checkbox"/> Hourly Standby	T-Out <u>22:25</u>
(F) Second Final Flow <u>16</u>	<input type="checkbox"/> Mileage <u>150RT</u> 232.50	Comments
(G) Final Shut-In <u>40</u>	<input checked="" type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1597</u>	<input checked="" type="checkbox"/> Straddle	<input checked="" type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer <u>*</u> 250	<input checked="" type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input checked="" type="checkbox"/> Extra Packer	<input checked="" type="checkbox"/> Extra Copies
Initial Shut-In <u>60</u>	<input checked="" type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>30</u>	<input checked="" type="checkbox"/> Day Standby	Total <u>1957.50</u>
Final Shut-In <u>60</u>	<input checked="" type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1957.50</u>	

Approved By Rocky Milford Our Representative James Winden  
 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.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 46147

Well Name & No. Shones Unit #1-5 Test No. 2 Date 8-13-12  
 Company Murfin Drilling Co. Inc Elevation 3177 KB 3172 GL  
 Address 250 N. Water Suite 300 Wichita, KS 67202  
 Co. Rep / Geo. Rocky Milford Rig Murfin #3  
 Location: Sec. 5 Twp. 1s Rge. 37w Co. Cheyenne State KS

Interval Tested 3669 - 3717 Zone Tested Foraker  
 Anchor Length 48 Drill Pipe Run 3148 Mud Wt. 8.7  
 Top Packer Depth 3664 Drill Collars Run 515 Vis 54  
 Bottom Packer Depth 3669 (shale) Wt. Pipe Run - WL 5.6  
 Total Depth 3717 Chlorides 600 ppm System LCM 2

Blow Description IF: Blow built to 5 1/2"  
ISI: Bled off, No blowback  
FF: Blow started at 3 1/2 min, built to 7 1/4"  
FSI: Bled off, No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>90</u>	<u>Mud</u>	-	-	-	<u>100</u>
<u>120</u>	<u>swcm</u>	-	-	<u>5</u>	<u>95</u>
<u>120</u>	<u>wcm</u>	-	-	<u>25</u>	<u>75</u>
	<u>Oil spots in tool</u>				

Rec Total 330 BHT 129 Gravity - API RW .173 @ 91.7 °F Chlorides 31000 ppm

(A) Initial Hydrostatic 1752  Test \* 1150 T-On Location 13:45  
 (B) First Initial Flow 17  Jars \* 250 T-Started 14:15  
 (C) First Final Flow 77  Safety Joint \* 75 T-Open 16:02  
 (D) Initial Shut-In 1141  Circ Sub \*NA T-Pulled 20:03  
 (E) Second Initial Flow 81  Hourly Standby \_\_\_\_\_ T-Out 21:55  
 (F) Second Final Flow 171  Mileage 150 RT 232.50 Comments \_\_\_\_\_  
 (G) Final Shut-In 1083  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1743  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \* 250  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1957.50  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1957.50

Approved By Rocky Milford Our Representative James Winkler

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.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 46148

4/10

Well Name & No. Shones Unit # 1-5 Test No. 3 Date 8-14-12  
 Company Murfin Drilling Co. Inc. Elevation 3177 KB 3172 GL  
 Address 250 N. Water Suite 300 Wichita, KS 67202  
 Co. Rep / Geo. Rocky Milford Rig Murfin #3  
 Location: Sec. 5 Twp. 1s Rge. 37w Co. Cheyenne State KS

Interval Tested 3751 - 3905 Zone Tested Stotler  
 Anchor Length 154 Drill Pipe Run 3240 Mud Wt. 8.9  
 Top Packer Depth 3746 Drill Collars Run 515 Vis 62  
 Bottom Packer Depth 3751 (shale) Wt. Pipe Run - WL 4.8  
 Total Depth 3905 Chlorides 900 ppm System LCM 2

Blow Description IF: 2 1/2" Blow at open, built to 5 1/2"  
ISI: Bled off, No blowback  
FF: Blow started at 4min., built to 3 1/4"  
FSI: Bled off, No blowback

Rec	Feet of	%gas	%oil	%water	%mud
30	Mud			-	100
120	WCM		22	78	
60	MCW		83	17	
60	WCM		22	78	

Rec Total 270 BHT 131 Gravity - API RW .151 @ 77.7° F Chlorides 46,000 ppm

(A) Initial Hydrostatic 1919  Test \* 1150 T-On Location 12:15  
 (B) First Initial Flow 47  Jars \* 250 T-Started 13:05  
 (C) First Final Flow 81  Safety Joint \* 75 T-Open 15:02  
 (D) Initial Shut-In 1164  Circ Sub \*NA T-Pulled 19:04  
 (E) Second Initial Flow 88  Hourly Standby T-Out 21:00  
 (F) Second Final Flow 139  Mileage 150 RT 232.50 Comments Tool slid 4'-5' before  
 (G) Final Shut-In 1144  Sampler  open and chased 4' to  
 (H) Final Hydrostatic 1845  Straddle  bottom at open - lost 5' mud  
 Shale Packer \* 250 2 1/2" blow  
 Ruined Shale Packer

Initial Open 30  Ruined Packer   
 Initial Shut-In 60  Extra Copies   
 Final Flow 60  Extra Recorder  Sub Total 0  
 Final Shut-In 90  Day Standby  Total 1957.50  
 Accessibility  MP/DST Disc't   
 Sub Total 1957.50

Approved By Robert Milford Our Representative James Winder  
 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.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 46149

Well Name & No. Stones Unit #1-5 Test No. 4 Date 8-15-12  
 Company Murfin Drilling Co. Inc Elevation 3177 KB 3172 GL  
 Address 250 N. Water Suite 300 Wichita, KS 67202  
 Co. Rep / Geo. Rocky Milford Rig Murfin #3  
 Location: Sec. 5 Twp. 1s Rge. 37w Co. Cheyenne State KS

Interval Tested 4012 - 4066 Zone Tested Oread  
 Anchor Length 54 Drill Pipe Run 3490 Mud Wt. 9.1  
 Top Packer Depth 4007 Drill Collars Run 515 Vis 66  
 Bottom Packer Depth 4012 (shale) Wt. Pipe Run - WL 4.8  
 Total Depth 4066 Chlorides 900 ppm System LCM 2

Blow Description IF: Blow built to 1/8" then died back, dead at 15 min.  
ISI: No blowback  
FF: No blow  
FSI: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>Mud</u>			<u>100</u>	
	<u>Trace of oil in tool</u>				

Rec Total 2 BHT 129 Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic <u>1987</u>	<input type="checkbox"/> Test <u>*</u> 1250	T-On Location <u>11:00</u>
(B) First Initial Flow <u>12</u>	<input type="checkbox"/> Jars <u>*</u> 250	T-Started <u>11:50</u>
(C) First Final Flow <u>18</u>	<input type="checkbox"/> Safety Joint <u>*</u> 75	T-Open <u>13:48</u>
(D) Initial Shut-In <u>31</u>	<input checked="" type="checkbox"/> Circ Sub <u>*NA</u>	T-Pulled <u>16:49</u>
(E) Second Initial Flow <u>16</u>	<input checked="" type="checkbox"/> Hourly Standby	T-Out <u><del>18:35</del></u>
(F) Second Final Flow <u>18</u>	<input type="checkbox"/> Mileage <u>150RT</u> 232.50	Comments
(G) Final Shut-In <u>29</u>	<input checked="" type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1972</u>	<input checked="" type="checkbox"/> Straddle	<input checked="" type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer <u>*</u> 250	<input checked="" type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input checked="" type="checkbox"/> Extra Packer	<input checked="" type="checkbox"/> Extra Copies
Initial Shut-In <u>60</u>	<input checked="" type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>30</u>	<input checked="" type="checkbox"/> Day Standby	Total <u>2057.50</u>
Final Shut-In <u>60</u>	<input checked="" type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>2057.50</u>	

Approved By Rocky Milford Our Representative James Winder  
 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.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 46150

4/10

Well Name & No. Shones Unit #1-5 Test No. 5 Date 8-16-12  
 Company Murfin Drilling Co. Inc Elevation 3177 KB 3172 GL  
 Address 250 N. Water Suite 300 Wichita, KS 67202  
 Co. Rep / Geo. Rocky Milford Rig Murfin #3  
 Location: Sec. 5 Twp. 1s Rge. 37W Co. Cheyenne State KS

Interval Tested 4066 - 4170 Zone Tested Oread - Lans "A"  
 Anchor Length 104 Drill Pipe Run 3552 Mud Wt. 9.1  
 Top Packer Depth 4061 Drill Collars Run 515 Vis 58  
 Bottom Packer Depth 4066 Wt. Pipe Run - WL 5.2  
 Total Depth 4170 Chlorides 900 ppm System LCM 1 1/2

Blow Description IF: Blow built to BOB (11") in 7min.  
ISI: Bled off, surface blowback - lasted 4min., then dead  
FF: Blow built to BOB at 8 3/4 min.  
FSI: Bled off, No blowback

Rec	Feet of	%gas	%oil	%water	%mud
15	CO	2	96	-	2
<del>100</del> 100	50/mcw	1	4	68	27
310	SMCW w/trace of oil	trace	trace	92	8
805	Water w/trace of oil	trace	trace	97	3
	15' GIP				

Rec Total 1230 Fluid GIP: 15' BHT 143 Gravity 32 API RW .238 @ 89.4 °F Chlorides 22,500 ppm

(A) Initial Hydrostatic 2039  Test \* 1250 T-On Location 6:30  
 (B) First Initial Flow 39  Jars \* 250 T-Started 7:10  
 (C) First Final Flow 324  Safety Joint \* 75 T-Open 9:02  
 (D) Initial Shut-In 1384  Circ Sub ANA T-Pulled 13:02  
 (E) Second Initial Flow 332  Hourly Standby T-Out 15:40  
 (F) Second Final Flow 580  Mileage 150 RT 232.50 Comments \_\_\_\_\_  
 (G) Final Shut-In 1377  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2013  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 2057.50  
 Final Flow 60  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 90 Sub Total 2057.50

Approved By Rocky Milford Our Representative James Winder

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 48126

Well Name & No. Shones Unit #1-5 Test No. 6 Date 8-17-12  
 Company Murfin Drilling Co. Inc Elevation 3177 KB 3172 GL  
 Address 250 N. Water Suite 300 Wichita, KS 67202  
 Co. Rep / Geo. Rocky Milford Rig Murfin #3  
 Location: Sec. 5 Twp. 1s Rge. 37w Co. Cheyenne State KS

Interval Tested 4153 - 4270 Zone Tested Lans. "D-6"  
 Anchor Length 117 Drill Pipe Run 3615 Mud Wt. 9.1  
 Top Packer Depth 4148 Drill Collars Run 515 Vis 72  
 Bottom Packer Depth 4153 Wt. Pipe Run - WL 4.8  
 Total Depth 4270 Chlorides 1000 ppm System LCM 4#

Blow Description IF: Blow built to BOB (11") at 10 1/2 min.  
ISI: Bled off, Blowback built to 2 1/4"  
FF: Blow built to BOB at 12 3/4 min.  
FSI: Bled off, Blowback built to 5 1/4"

Rec	Feet of	%gas	%oil	%water	%mud
31	mco	2	67	-	31
124	GOCM	18	11	-	71
250	SO/GWM	10	5	38	47
485	SOMCW	-	1	92	7
	GIP=215'				

Rec Total 890 Fluid 215 OIP BHT 139 Gravity - API RW .122 @ 84.5 °F Chlorides 52,000 ppm

(A) Initial Hydrostatic 2054  Test \* 1250 T-On Location 5:15  
 (B) First Initial Flow 35  Jars \* 250 T-Started 6:10  
 (C) First Final Flow 268  Safety Joint \* 75 T-Open 8:00  
 (D) Initial Shut-In 1278  Circ Sub \*NA T-Pulled 12:00  
 (E) Second Initial Flow 276  Hourly Standby \_\_\_\_\_ T-Out 14:30  
 (F) Second Final Flow 415  Mileage 150RT 232.50 Comments \_\_\_\_\_  
 (G) Final Shut-In 1244  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2023  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 2057.50  
 Final Flow 60  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 90 Sub Total 2057.50

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 48127

Well Name & No. Shones Unit #1-5 Test No. 7 Date 8-18-12  
 Company Murfin Drilling Co. Inc Elevation 3177 KB 3172 GL  
 Address 250 N. Water Suite 300 Wichita, KS 67202  
 Co. Rep / Geo. Rocky Milford Rig Murfin #3  
 Location: Sec. 5 Twp. 1s Rge. 37w Co. Cheyenne State KS

Interval Tested 4260 - 4322 Zone Tested Lans. "H-I"  
 Anchor Length 62 Drill Pipe Run 4322 Mud Wt. 9.2  
 Top Packer Depth 4255 Drill Collars Run 515 Vis 67  
 Bottom Packer Depth 4260 Wt. Pipe Run - WL 4.8  
 Total Depth 4322 Chlorides 1000 ppm System LCM 2  
 Blow Description IF: ~~Blow~~ 1/2" Blow at open, built to 10 1/2"  
ISI: Bled off, Blowback built to 1 1/4"  
FF: Blow built to BOB (11") at 25 1/2 min.  
FSI: Bled off, Blowback built to 3 1/2"

Rec	Feet of	%gas	%oil	%water	%mud
<u>110</u>	<u>CGO</u>	<u>9</u>	<u>89</u>	<u>-</u>	<u>2</u>
<u>180</u>	<u>GMO</u>	<u>29</u>	<u>45</u>	<u>-</u>	<u>26</u>
Rec	Feet of <u>GIP = 460'</u>	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 290 Fluid 460 GIP BHT 137 Gravity 28.4 API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic <u>2160</u>	<input type="checkbox"/> Test <u>*</u> 1250	T-On Location <u>23:15 8/17</u>
(B) First Initial Flow <u>19</u>	<input type="checkbox"/> Jars <u>*</u> 250	T-Started <u>00:15 8/18</u>
(C) First Final Flow <u>64</u>	<input type="checkbox"/> Safety Joint <u>*</u> 75	T-Open <u>2:07</u>
(D) Initial Shut-In <u>1364</u>	<input checked="" type="checkbox"/> Circ Sub <u>*</u>	T-Pulled <u>6:10</u>
(E) Second Initial Flow <u>69</u>	<input checked="" type="checkbox"/> Hourly Standby	T-Out <u>8:50</u>
(F) Second Final Flow <u>130</u>	<input type="checkbox"/> Mileage <u>150 RT</u> 232.50	Comments
(G) Final Shut-In <u>1340</u>	<input checked="" type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2137</u>	<input checked="" type="checkbox"/> Straddle	<input checked="" type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input checked="" type="checkbox"/> Shale Packer	<input checked="" type="checkbox"/> Ruined Packer
Initial Shut-In <u>60</u>	<input checked="" type="checkbox"/> Extra Packer	<input checked="" type="checkbox"/> Extra Copies
Final Flow <u>60</u>	<input checked="" type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>90</u>	<input checked="" type="checkbox"/> Day Standby	Total <u>2057.50</u>
	<input checked="" type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>2057.50</u>	

Approved By Rocky Milford

Our Representative James Winder

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 48128

Well Name & No. Shones Unit #1-5 Test No. 8 Date 8-18-12  
 Company Murfin Drilling Co. Inc. Elevation 3177 KB 3172 GL  
 Address 250 N. Water Suite 300 Wichita, KS 67202  
 Co. Rep / Geo. Rocky Milford Rig Murfin #3  
 Location: Sec. 5 Twp. 1s Rge. 37w Co. Cheyenne State KS

Interval Tested 4341 - 4360 Zone Tested Lans. "J"  
 Anchor Length 19 Drill Pipe Run 3831 Mud Wt. 9.1  
 Top Packer Depth 4336 Drill Collars Run 515 Vis 58  
 Bottom Packer Depth 4341 (shale) Wt. Pipe Run - WL 4.8  
 Total Depth 4360 Chlorides 1000 ppm System LCM 4  
 Blow Description IF: Blow built to 1/4" then died back, dead at 22 min.  
ISI: No blowback  
FF: No blow  
FSI: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>mud w/oil spots</u>	<u>-</u>	<u>1</u>	<u>-</u>	<u>99</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 1 BHT 134 Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic <u>2230</u>	<input type="checkbox"/> Test <u>*</u> 1250	T-On Location <u>16:35</u>
(B) First Initial Flow <u>16</u>	<input type="checkbox"/> Jars <u>*</u> 250	T-Started <u>17:09</u>
(C) First Final Flow <u>17</u>	<input type="checkbox"/> Safety Joint <u>*</u> 75	T-Open <u>18:58</u>
(D) Initial Shut-In <u>40</u>	<input checked="" type="checkbox"/> Circ Sub <u>*NA</u>	T-Pulled <u>22:03</u>
(E) Second Initial Flow <u>17</u>	<input checked="" type="checkbox"/> Hourly Standby	T-Out <u>00:15 8/19</u>
(F) Second Final Flow <u>17</u>	<input type="checkbox"/> Mileage <u>150 RT</u> 232.50	Comments
(G) Final Shut-In <u>25</u>	<input checked="" type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2176</u>	<input checked="" type="checkbox"/> Straddle	<input checked="" type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer <u>*</u> 250	<input checked="" type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input checked="" type="checkbox"/> Extra Packer	<input checked="" type="checkbox"/> Extra Copies
Initial Shut-In <u>60</u>	<input checked="" type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>30</u>	<input checked="" type="checkbox"/> Day Standby	Total <u>2057.50</u>
Final Shut-In <u>60</u>	<input checked="" type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>2057.50</u>	

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 48129

Well Name & No. Shones Unit #1-5 Test No. 9 Date 8-19-12  
 Company Murfin Drilling Co. Inc Elevation 3177 KB 3172 GL  
 Address 250 N. Water Suite 300 Wichita, KS 67202  
 Co. Rep / Geo. Rocky Milford Rig Murfin #3  
 Location: Sec. 5 Twp. 1s Rge. 37w Co. Cheyenne State KS

Interval Tested 4508 - 4554 Zone Tested Pawnee  
 Anchor Length 46 Drill Pipe Run 3988 Mud Wt. 9.2  
 Top Packer Depth 4503 Drill Collars Run 515 Vis 66  
 Bottom Packer Depth 4508 (shale) Wt. Pipe Run - WL 4.8  
 Total Depth 4554 Chlorides 1100 ppm System LCM 2  
 Blow Description IF: Blow built to 7"  
ISI: Bled off, No blowback  
FF: Blow built to BOB (11") at 52 min.  
FSI: Bled off, No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>40</u>	<u>CO</u>	<u>1</u>	<u>96</u>	<u>-</u>	<u>3</u>
<u>15</u>	<u>50cm</u>	<u>2</u>	<u>3</u>	<u>-</u>	<u>95</u>
<u>120</u>	<u>60cm</u>	<u>18</u>	<u>18</u>	<u>-</u>	<u>64</u>
Rec	Feet of <u>GIP= 240' (weak odor)</u>	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 175 BHT 142 Gravity 35.6 API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic <u>2342</u>	<input type="checkbox"/> Test <u>*</u> 1250	T-On Location <u>21:15</u>
(B) First Initial Flow <u>19</u>	<input type="checkbox"/> Jars <u>*</u> 250	T-Started <u>21:50</u>
(C) First Final Flow <u>50</u>	<input type="checkbox"/> Safety Joint <u>*</u> 75	T-Open <u>23:40</u>
(D) Initial Shut-In <u>1125</u>	<input checked="" type="checkbox"/> Circ Sub <u>XNA</u>	T-Pulled <u>3:41</u>
(E) Second Initial Flow <u>53</u>	<input checked="" type="checkbox"/> Hourly Standby	T-Out <u>6:00</u>
(F) Second Final Flow <u>83</u>	<input type="checkbox"/> Mileage <u>150RT</u> 232.50	Comments
(G) Final Shut-In <u>1062</u>	<input checked="" type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2298</u>	<input checked="" type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer <u>*</u> 350
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer <u>*</u> 250	<input checked="" type="checkbox"/> Ruined Packer
Initial Shut-In <u>60</u>	<input checked="" type="checkbox"/> Extra Packer	<input checked="" type="checkbox"/> Extra Copies
Final Flow <u>60</u>	<input checked="" type="checkbox"/> Extra Recorder	Sub Total <u>350</u>
Final Shut-In <u>90</u>	<input checked="" type="checkbox"/> Day Standby	Total <u>2407.50</u>
	<input checked="" type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>2057.50</u>	

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