



## DRILL STEM TEST REPORT

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

250 N Water STE. 300  
Wichita KS 67202

ATTN: Keith Reavis

### **Ladenburger #1-6**

#### **6-1s-35w Rawlins,KS**

Start Date: 2014.06.22 @ 07:45:00

End Date: 2014.06.22 @ 15:32:00

Job Ticket #: 58798                      DST #: 1

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

Printed: 2014.06.27 @ 10:09:34



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co, Inc  
250 N Water STE. 300  
Wichita KS 67202  
ATTN: Keith Reavis

**6-1s-35w Rawlins,KS**

**Ladenburger #1-6**

Job Ticket: 58798

**DST#: 1**

Test Start: 2014.06.22 @ 07:45:00

## GENERAL INFORMATION:

Formation: **Stotler**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:07:30

Time Test Ended: 15:32:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Robert Zodrow

Unit No: 46

**Interval: 3819.00 ft (KB) To 3926.00 ft (KB) (TVD)**

Reference Elevations: 3210.00 ft (KB)

Total Depth: 3926.00 ft (KB) (TVD)

3205.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 6769 Outside**

Press@RunDepth: 172.53 psig @ 3820.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.06.22

End Date:

2014.06.22

Last Calib.:

2014.06.22

Start Time: 07:45:05

End Time:

15:31:59

Time On Btm:

2014.06.22 @ 10:07:00

Time Off Btm:

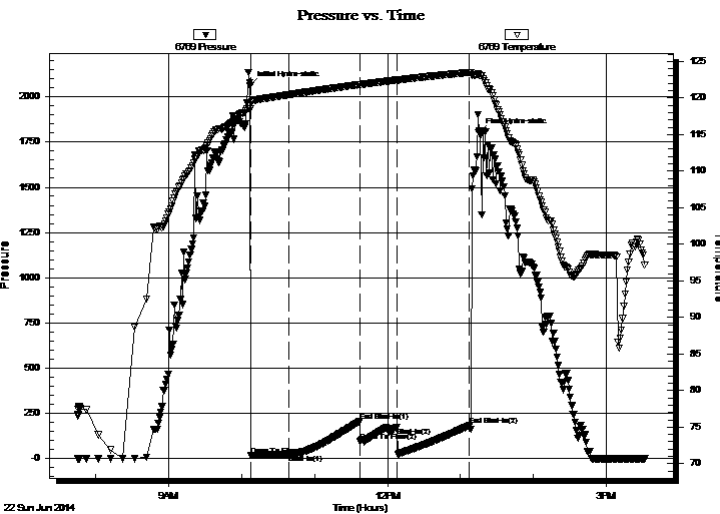
2014.06.22 @ 13:15:00

TEST COMMENT: 30-IF- Blow built to 1/8"

60-ISI- No return

30-FF- No blow

60-FSI- No return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2062.75	118.46	Initial Hydro-static
1	18.78	118.53	Open To Flow (1)
32	21.55	120.44	Shut-In(1)
90	206.40	121.82	End Shut-In(1)
91	93.73	121.80	Open To Flow (2)
121	172.53	122.45	Shut-In(2)
180	182.36	123.48	End Shut-In(2)
188	1803.44	123.17	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
2.00	mud 100%m	0.01

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co, Inc

**6-1s-35w Rawlins,KS**

250 N Water STE. 300  
Wichita KS 67202

**Ladenburger #1-6**

Job Ticket: 58798

**DST#: 1**

ATTN: Keith Reavis

Test Start: 2014.06.22 @ 07:45:00

## Tool Information

Drill Pipe:	Length: 3739.00 ft	Diameter: 3.88 inches	Volume: 54.68 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: 62.00 ft	Diameter: 2.25 inches	Volume: 0.30 bbl	Weight to Pull Loose:	94000.00 lb
			<u>Total Volume: 54.98 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial	66000.00 lb
Depth to Top Packer:	3819.00 ft			Final	68000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	107.00 ft				
Tool Length:	134.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		

Tool Comments: The tool got over rotated 2 turns

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3797.00	
Hydraulic tool	5.00			3802.00	
Jars	5.00			3807.00	
Safety Joint	3.00			3810.00	
Packer	5.00			3815.00	27.00 Bottom Of Top Packer
Packer	4.00			3819.00	
Stubb	1.00			3820.00	
Recorder	0.00	8521	Inside	3820.00	
Recorder	0.00	6769	Outside	3820.00	
Perforations	7.00			3827.00	
Change Over Sub	1.00			3828.00	
Drill Pipe	94.00			3922.00	
Change Over Sub	1.00			3923.00	
Bullnose	3.00			3926.00	107.00 Bottom Packers & Anchor

**Total Tool Length: 134.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co, Inc

**6-1s-35w Rawlins,KS**

250 N Water STE. 300  
Wichita KS 67202

**Ladenburger #1-6**

Job Ticket: 58798

**DST#: 1**

ATTN: Keith Reavis

Test Start: 2014.06.22 @ 07:45:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 500.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	mud 100%m	0.010

Total Length: 2.00 ft      Total Volume: 0.010 bbl

Num Fluid Samples: 0

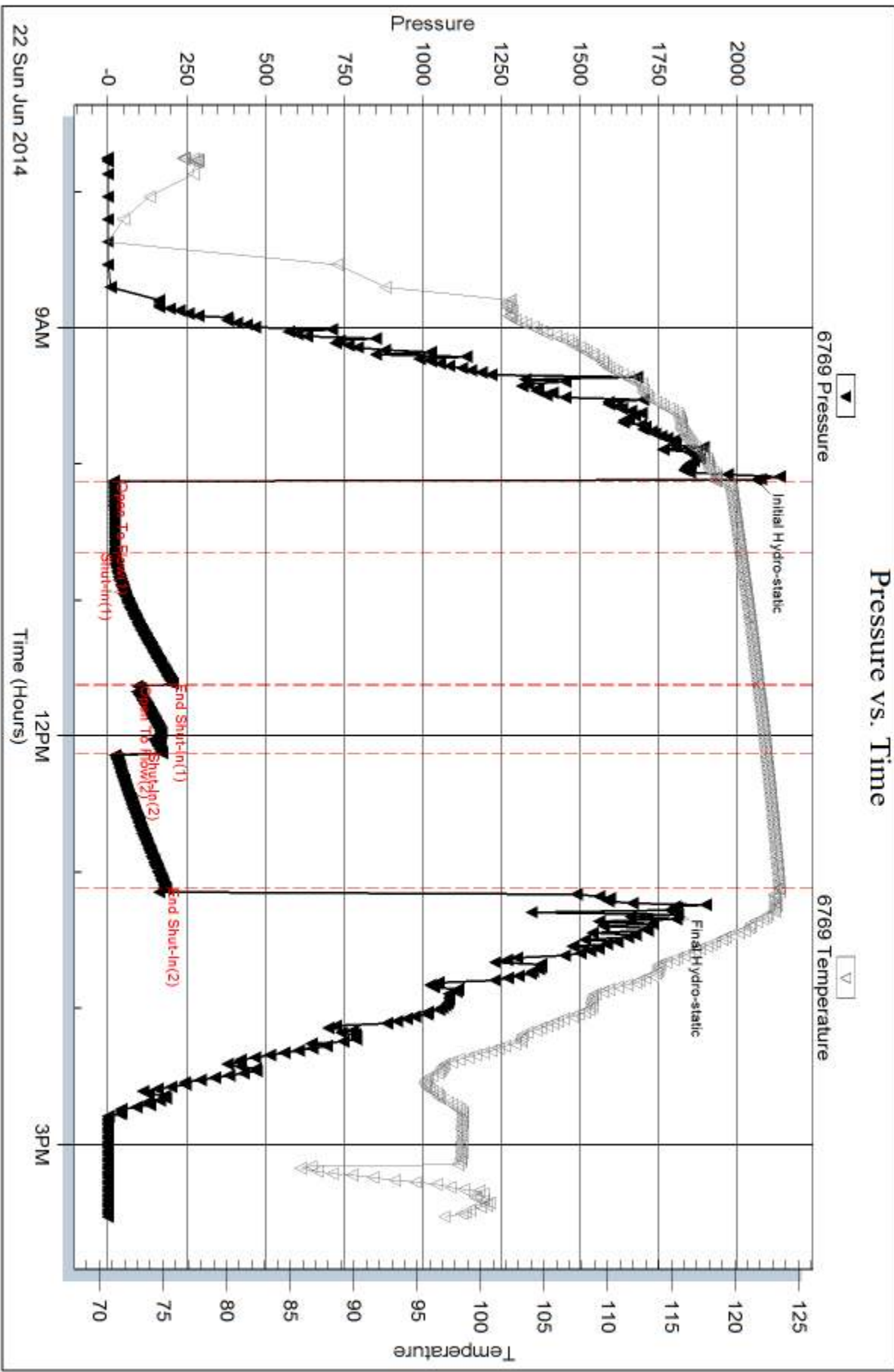
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



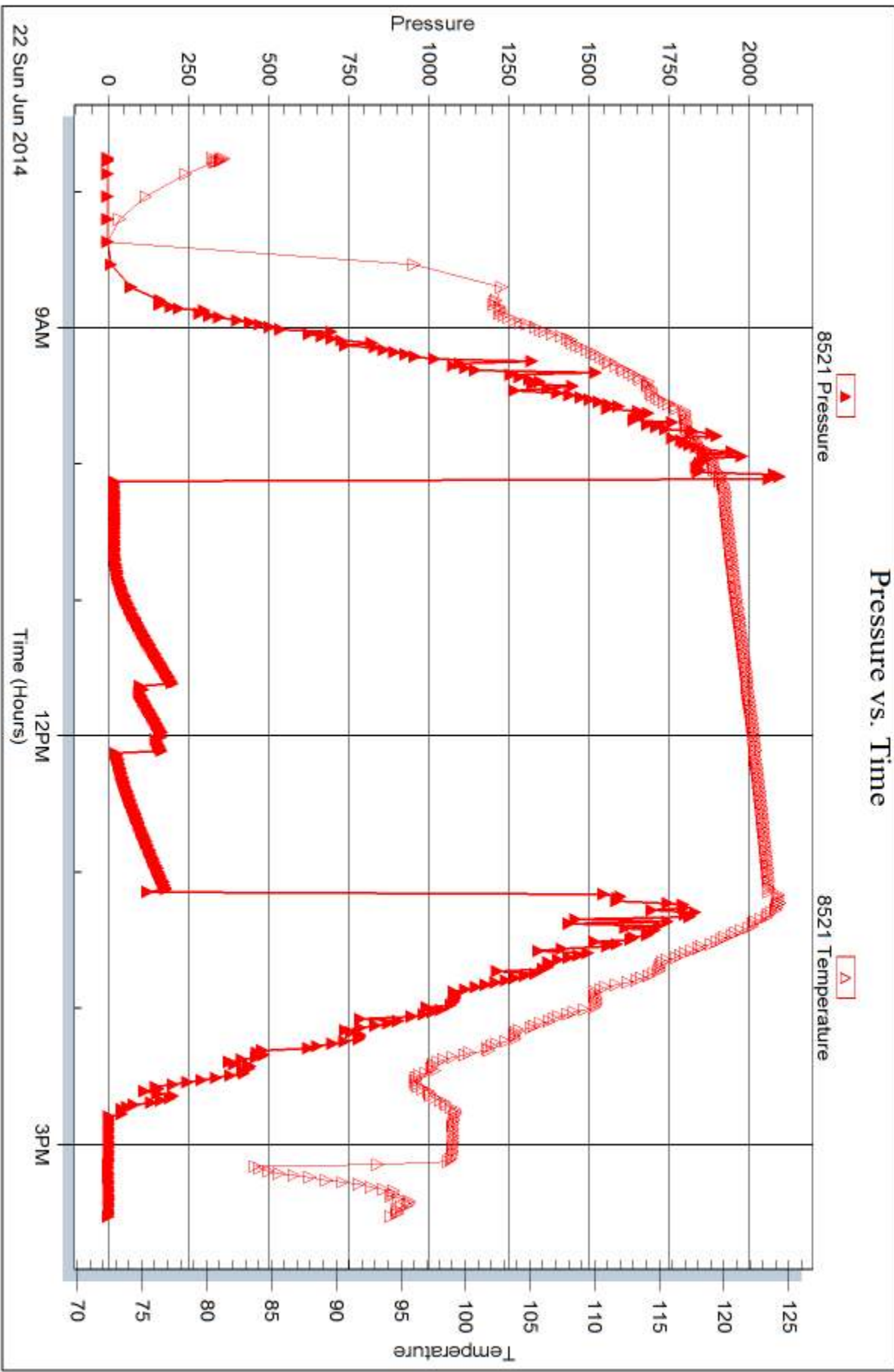
Serial #: 8521

Inside

Murfin Drilling Co, Inc

Ladenburger #1-6

DST Test Number: 1





## DRILL STEM TEST REPORT

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

250 N Water STE. 300  
Wichita KS 67202

ATTN: Keith Reavis

### **Ladenburger #1-6**

#### **6-1s-35w Rawlins,KS**

Start Date: 2014.06.24 @ 01:10:00

End Date: 2014.06.24 @ 09:18:00

Job Ticket #: 58799                      DST #: 2

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

Printed: 2014.06.27 @ 10:09:13

Murfin Drilling Co,Inc  
6-1s-35w Rawlins,KS  
Ladenburger #1-6  
DST # 2  
LKC "A-D"  
2014.06.24





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co, Inc  
250 N Water STE. 300  
Wichita KS 67202  
ATTN: Keith Reavis

**6-1s-35w Rawlins,KS**

**Ladenburger #1-6**

Job Ticket: 58799

**DST#: 2**

Test Start: 2014.06.24 @ 01:10:00

## GENERAL INFORMATION:

Formation: **LKC "A-D"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 03:18:30  
 Time Test Ended: 09:18:00  
 Interval: **4104.00 ft (KB) To 4232.00 ft (KB) (TVD)**  
 Total Depth: 4232.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Robert Zodrow  
 Unit No: 46  
 Reference Elevations: 3210.00 ft (KB)  
 3205.00 ft (CF)  
 KB to GR/CF: 5.00 ft

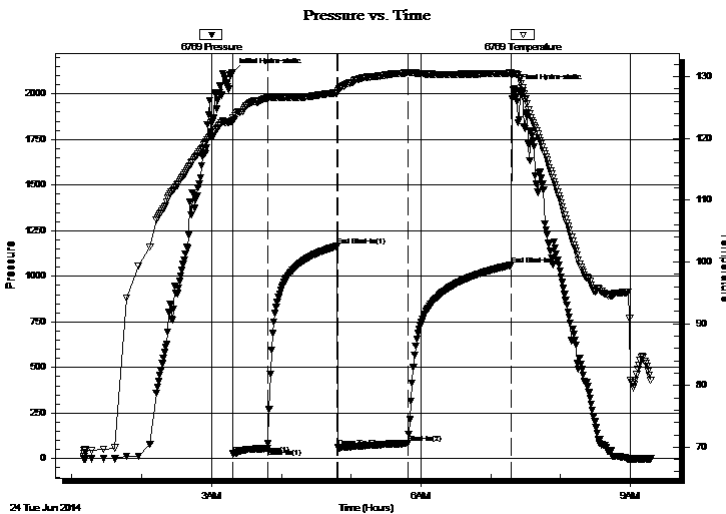
**Serial #: 6769**

**Outside**

Press@RunDepth: 84.56 psig @ 4105.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.06.24 End Date: 2014.06.24 Last Calib.: 2014.06.24  
 Start Time: 01:10:05 End Time: 09:17:59 Time On Btm: 2014.06.24 @ 03:18:00  
 Time Off Btm: 2014.06.24 @ 07:20:00

**TEST COMMENT:** 30-IF-Blow built to 4"  
 60-ISI- No return  
 60-FF-Blow started in 5 min built to 4 1/4"  
 90-FSI- Return built to real weak surface blow died in 38 mins

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2117.85	122.84	Initial Hydro-static
1	26.55	123.40	Open To Flow (1)
30	56.30	126.55	Shut-In(1)
90	1164.27	127.36	End Shut-In(1)
91	61.34	127.76	Open To Flow (2)
151	84.56	130.64	Shut-In(2)
240	1060.92	130.56	End Shut-In(2)
242	2026.89	130.49	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
188.00	WM oil spots 40%w 60%m	2.15
15.00	ocm 35%o 65%m	0.22

\* 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

**6-1s-35w Rawlins, KS**

250 N Water STE. 300  
Wichita KS 67202

**Ladenburger #1-6**

Job Ticket: 58799

**DST#: 2**

ATTN: Keith Reavis

Test Start: 2014.06.24 @ 01:10:00

## Tool Information

Drill Pipe:	Length: 4024.00 ft	Diameter: 3.88 inches	Volume: 58.85 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: 62.00 ft	Diameter: 2.25 inches	Volume: 0.30 bbl	Weight to Pull Loose: 72000.00 lb
			<u>Total Volume: 59.15 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	4104.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	128.00 ft			
Tool Length:	155.00 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			4082.00	
Hydraulic tool	5.00			4087.00	
Jars	5.00			4092.00	
Safety Joint	3.00			4095.00	
Packer	5.00			4100.00	27.00 Bottom Of Top Packer
Packer	4.00			4104.00	
Stubb	1.00			4105.00	
Recorder	0.00	8521	Inside	4105.00	
Recorder	0.00	6769	Outside	4105.00	
Perforations	28.00			4133.00	
Change Over Sub	1.00			4134.00	
Drill Pipe	94.00			4228.00	
Change Over Sub	1.00			4229.00	
Bullnose	3.00			4232.00	128.00 Bottom Packers & Anchor

**Total Tool Length: 155.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co, Inc

**6-1s-35w Rawlins,KS**

250 N Water STE. 300  
Wichita KS 67202

**Ladenburger #1-6**

Job Ticket: 58799

**DST#: 2**

ATTN: Keith Reavis

Test Start: 2014.06.24 @ 01:10:00

### 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:

35000 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
188.00	WM oil spots 40%w 60%m	2.148
15.00	ocm 35%o 65%m	0.219

Total Length: 203.00 ft Total Volume: 2.367 bbl

Num Fluid Samples: 0

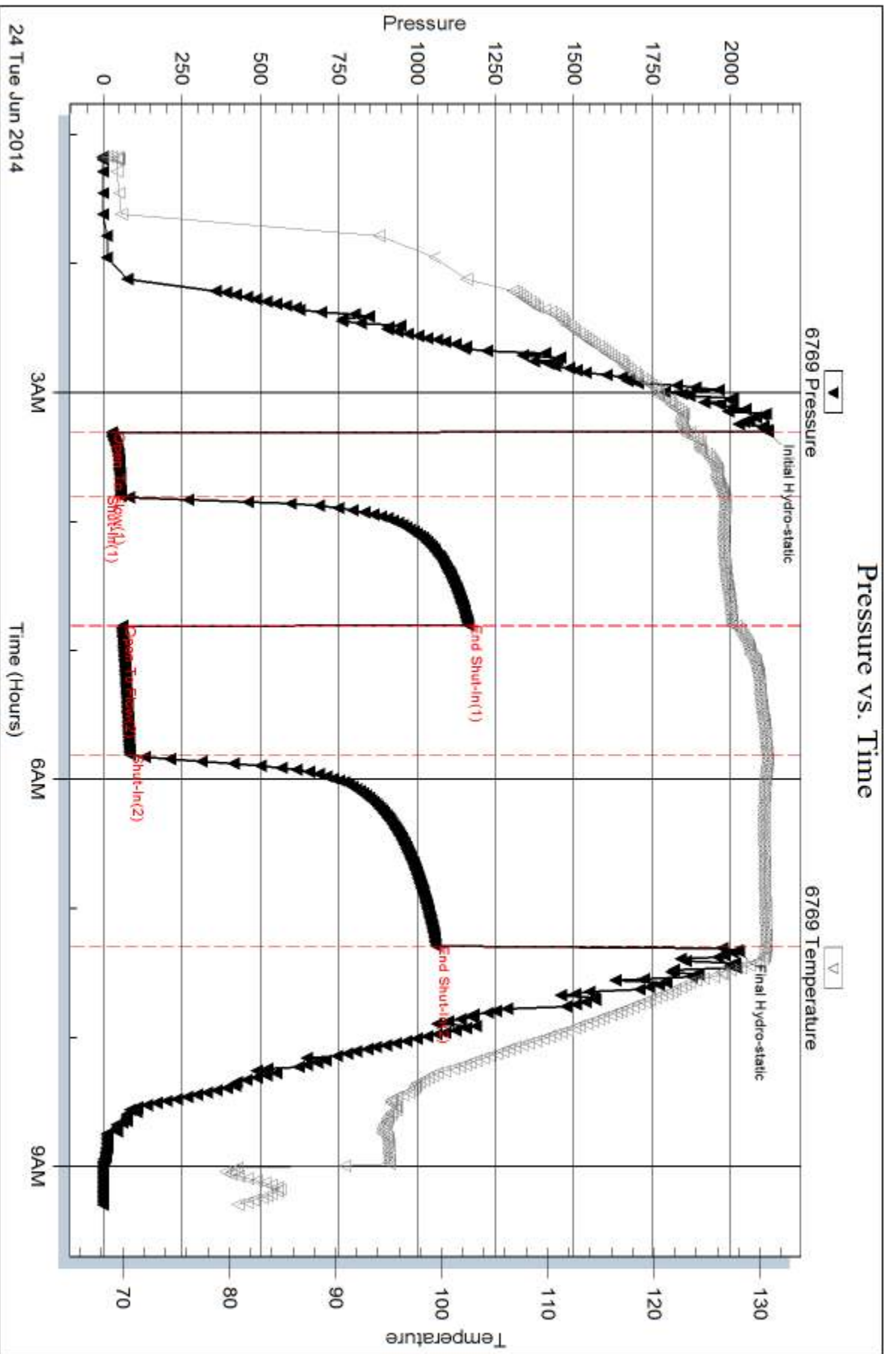
Num Gas Bombs: 0

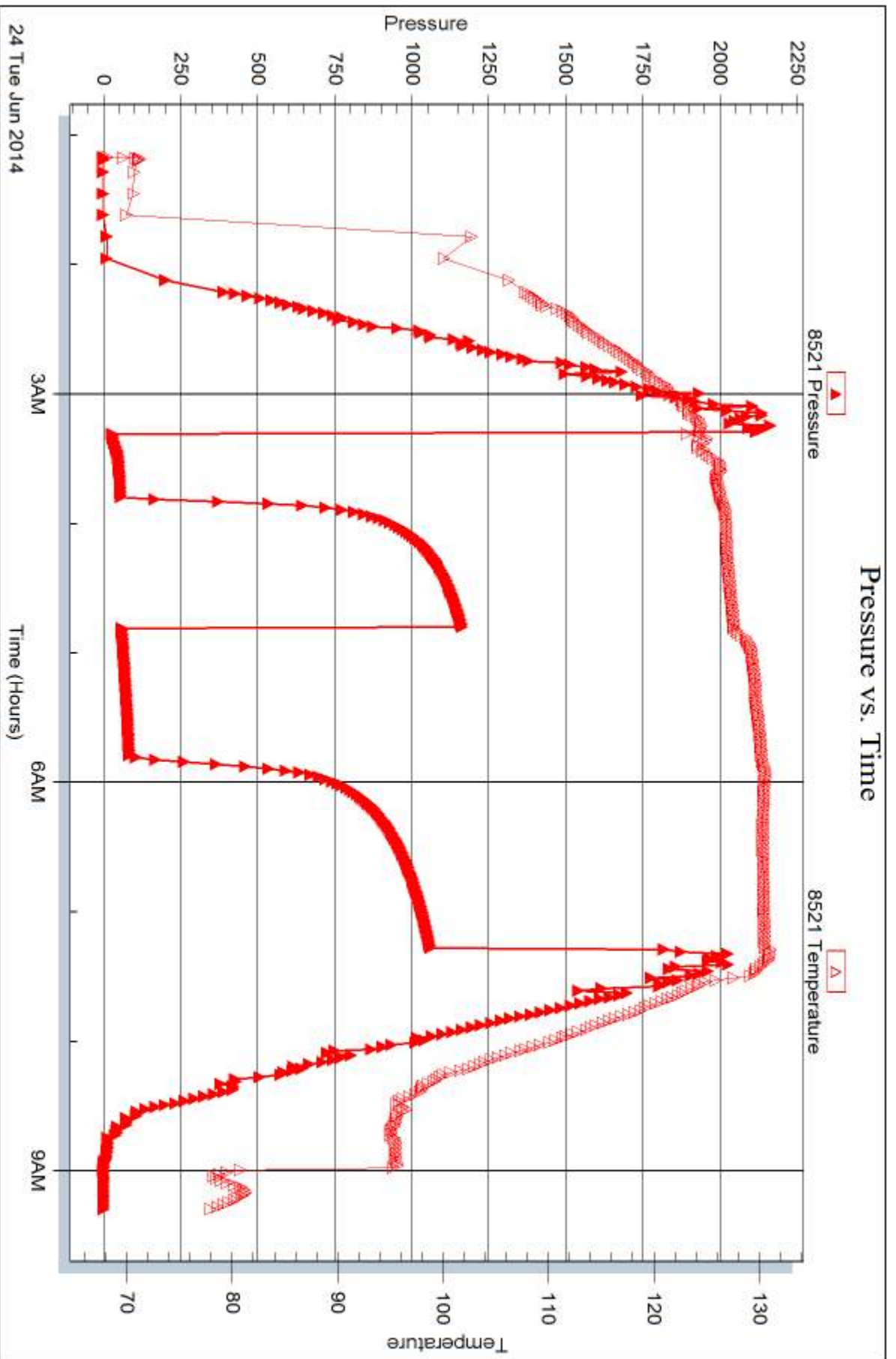
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .223@71 deg F = 35000







## DRILL STEM TEST REPORT

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

250 N Water STE. 300  
Wichita KS 67202

ATTN: Keith Reavis

### **Ladenburger #1-6**

### **6-1s-35w Rawlins,KS**

Start Date: 2014.06.24 @ 23:30:00

End Date: 2014.06.25 @ 07:10:30

Job Ticket #: 58800                      DST #: 3

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

Printed: 2014.06.27 @ 10:08:48

Murfin Drilling Co,Inc  
6-1s-35w Rawlins,KS  
Ladenburger #1-6  
DST # 3  
LKC "G"  
2014.06.24



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co, Inc  
250 N Water STE. 300  
Wichita KS 67202  
ATTN: Keith Reavis

**6-1s-35w Rawlins,KS**

**Ladenburger #1-6**

Job Ticket: 58800      **DST#: 3**  
Test Start: 2014.06.24 @ 23:30:00

## GENERAL INFORMATION:

Formation: **LKC "G"**  
Deviated: No Whipstock:                      ft (KB)  
Time Tool Opened: 01:48:00  
Time Test Ended: 07:10:30  
Interval: **4231.00 ft (KB) To 4320.00 ft (KB) (TVD)**  
Total Depth: 4320.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Reference Elevations: 3210.00 ft (KB)  
3205.00 ft (CF)  
KB to GR/CF: 5.00 ft  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Robert Zodrow  
Unit No: 46

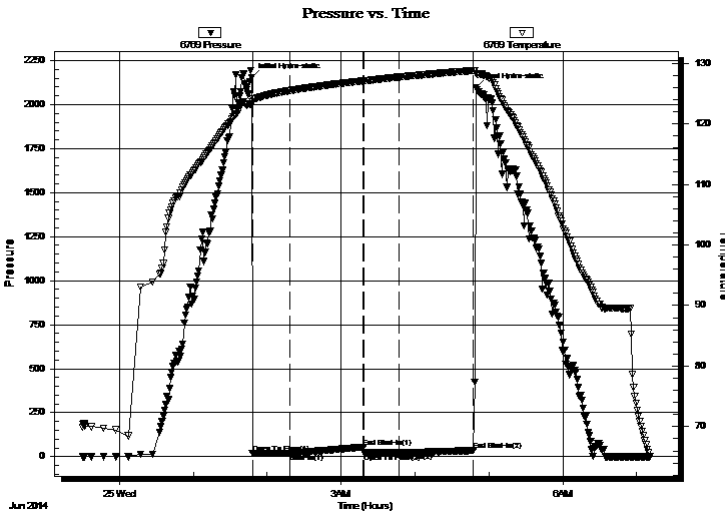
## Serial #: 6769

**Outside**

Press@RunDepth: 22.65 psig @ 4232.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2014.06.24      End Date: 2014.06.25      Last Calib.: 2014.06.25  
Start Time: 23:30:05      End Time: 07:10:29      Time On Btm: 2014.06.25 @ 01:47:30  
Time Off Btm: 2014.06.25 @ 04:49:30

TEST COMMENT: 30-IS- Blow built to 1/2"  
60-IS- No return  
30-FF- No blow  
60-FS- No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2154.51	123.21	Initial Hydro-static
1	19.60	123.57	Open To Flow (1)
31	20.88	125.46	Shut-In(1)
91	52.50	127.07	End Shut-In(1)
91	21.86	127.07	Open To Flow (2)
120	22.65	127.71	Shut-In(2)
180	35.48	128.78	End Shut-In(2)
182	2098.51	128.25	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1.00	mud 100%m	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

**6-1s-35w Rawlins, KS**

250 N Water STE. 300  
Wichita KS 67202

**Ladenburger #1-6**

Job Ticket: 58800

**DST#: 3**

ATTN: Keith Reavis

Test Start: 2014.06.24 @ 23:30:00

## Tool Information

Drill Pipe:	Length: 4152.00 ft	Diameter: 3.88 inches	Volume: 60.72 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: 62.00 ft	Diameter: 2.25 inches	Volume: 0.30 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 61.02 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4231.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	89.00 ft			
Tool Length:	116.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4209.00	
Hydraulic tool	5.00			4214.00	
Jars	5.00			4219.00	
Safety Joint	3.00			4222.00	
Packer	5.00			4227.00	27.00 Bottom Of Top Packer
Packer	4.00			4231.00	
Stubb	1.00			4232.00	
Recorder	0.00	8521	Inside	4232.00	
Recorder	0.00	6769	Outside	4232.00	
Perforations	20.00			4252.00	
Change Over Sub	1.00			4253.00	
Drill Pipe	63.00			4316.00	
Change Over Sub	1.00			4317.00	
Bullnose	3.00			4320.00	89.00 Bottom Packers & Anchor

**Total Tool Length: 116.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co, Inc

**6-1s-35w Rawlins,KS**

250 N Water STE. 300  
Wichita KS 67202

**Ladenburger #1-6**

Job Ticket: 58800

**DST#: 3**

ATTN: Keith Reavis

Test Start: 2014.06.24 @ 23:30:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbl

Water Loss: 9.18 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
1.00	mud 100%m	0.005

Total Length: 1.00 ft      Total Volume: 0.005 bbl

Num Fluid Samples: 0

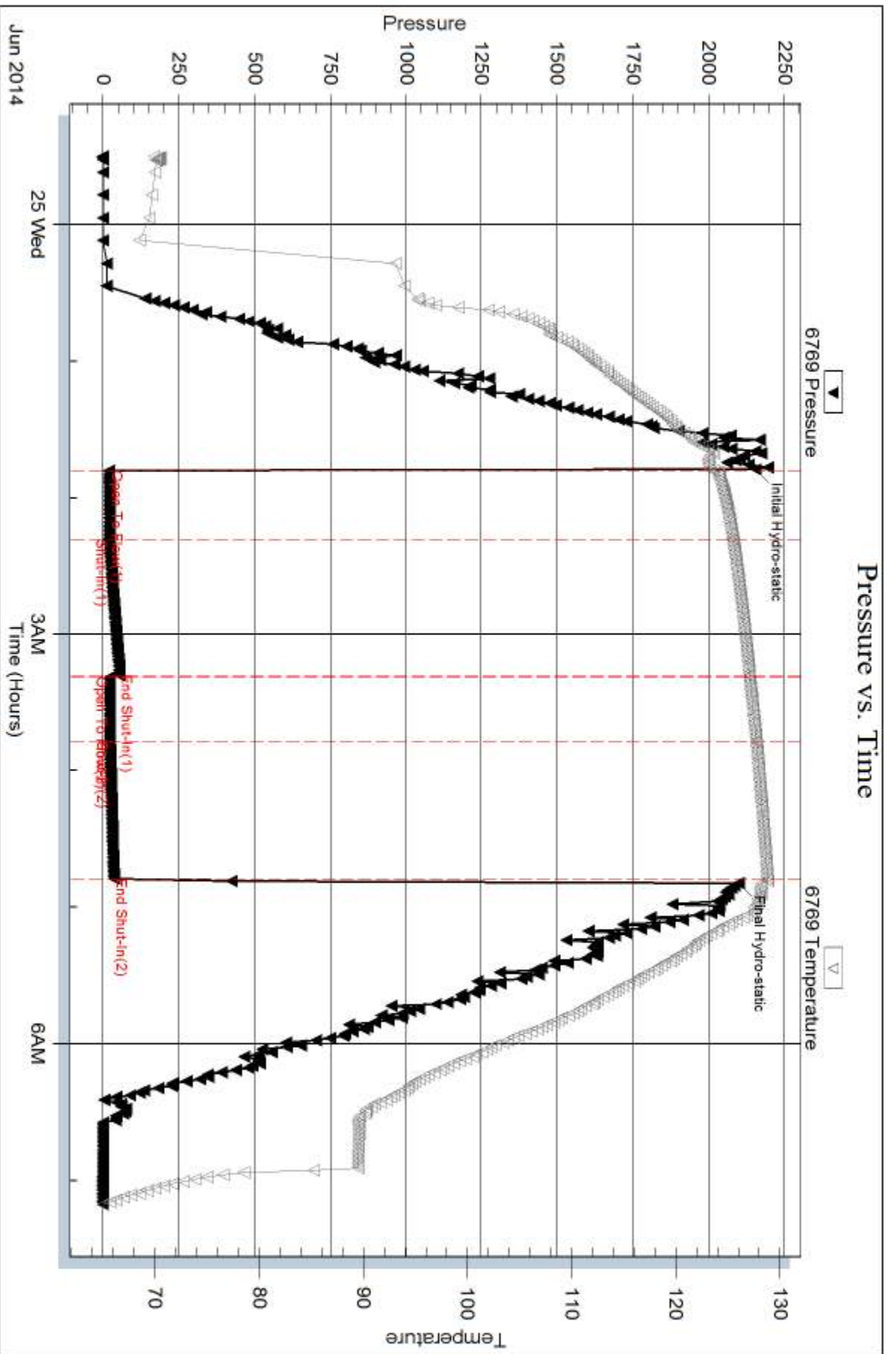
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



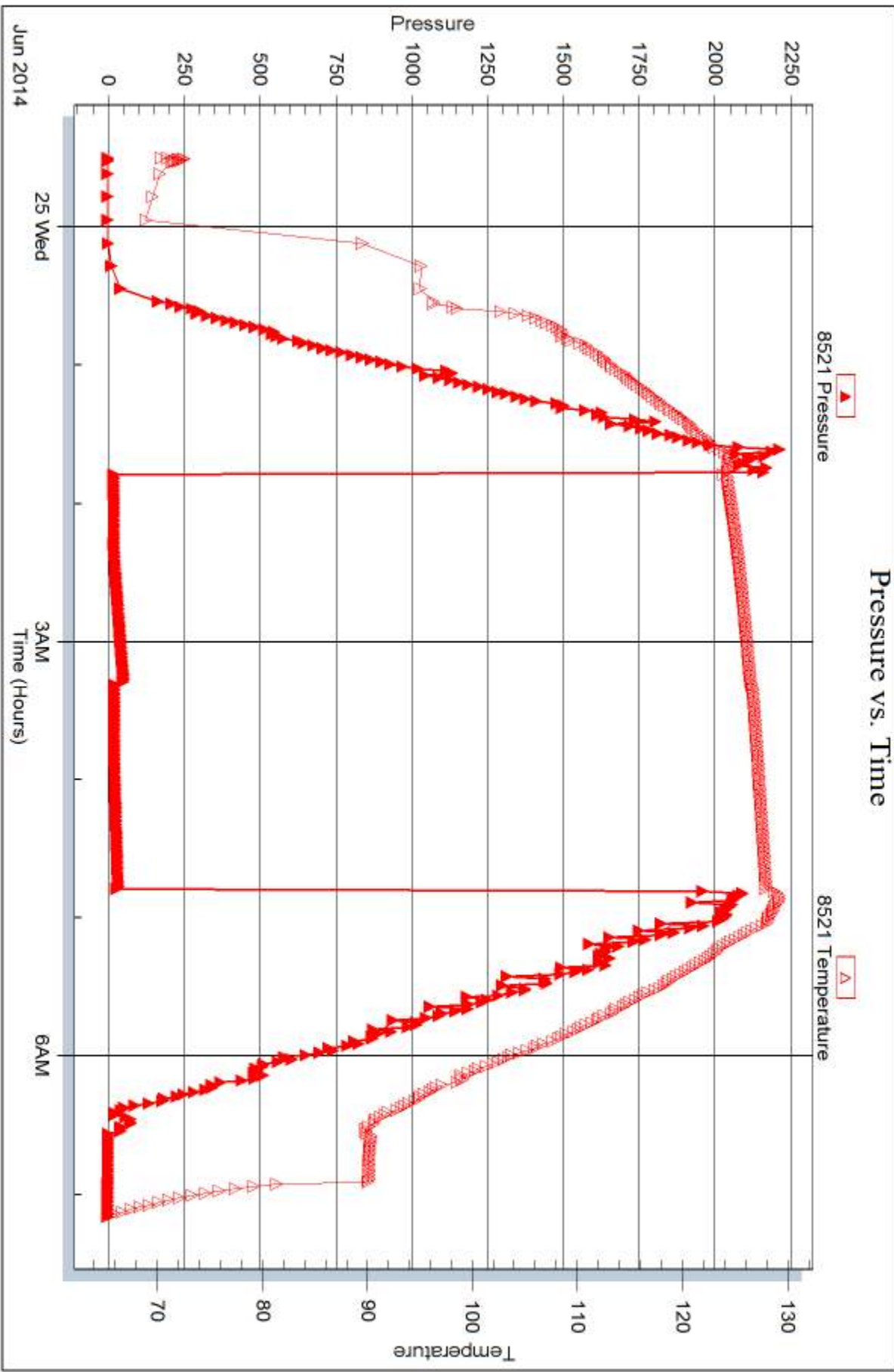
Serial #: 8521

Inside

Murfin Drilling Co, Inc

Ladenburger #1-6

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 59800

Printed: 2014.06.27 @ 10:08:49



## DRILL STEM TEST REPORT

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

250 N Water STE. 300  
Wichita KS 67202

ATTN: Keith Reavis

### **Ladenburger #1-6**

### **6-1s-35w Rawlins,KS**

Start Date: 2014.06.25 @ 17:30:00

End Date: 2014.06.26 @ 02:42:30

Job Ticket #: 53690                      DST #: 4

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

Printed: 2014.06.27 @ 10:08:15

Murfin Drilling Co,Inc  
6-1s-35w Rawlins,KS  
Ladenburger #1-6  
DST # 4  
LKC: "H-J"  
2014.06.25



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co, Inc  
250 N Water STE. 300  
Wichita KS 67202  
ATTN: Keith Reavis

**6-1s-35w Rawlins,KS**

**Ladenburger #1-6**

Job Ticket: 53690 **DST#: 4**  
Test Start: 2014.06.25 @ 17:30:00

## GENERAL INFORMATION:

Formation: **LKC "H-J"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 20:05:00  
 Time Test Ended: 02:42:30  
 Interval: **4286.00 ft (KB) To 4388.00 ft (KB) (TVD)**  
 Total Depth: 4388.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Robert Zodrow  
 Unit No: 46  
 Reference Elevations: 3210.00 ft (KB)  
 3205.00 ft (CF)  
 KB to GR/CF: 5.00 ft

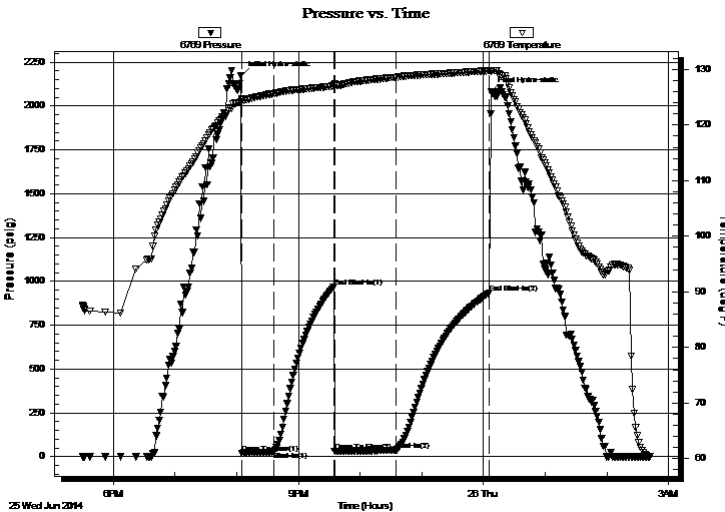
## Serial #: 6769

Outside

Press@RunDepth: 36.55 psig @ 4287.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.06.25 End Date: 2014.06.26 Last Calib.: 2014.06.26  
 Start Time: 17:30:05 End Time: 02:42:30 Time On Btm: 2014.06.25 @ 20:04:30  
 Time Off Btm: 2014.06.26 @ 00:07:30

TEST COMMENT: 30-IF- Blow built to 1/4"  
 60-ISI- No return  
 60-FF- No blow  
 90-FSI- No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2170.99	124.17	Initial Hydro-static
1	21.06	124.49	Open To Flow (1)
31	28.37	125.61	Shut-In(1)
90	969.70	127.03	End Shut-In(1)
91	30.49	127.31	Open To Flow (2)
151	36.55	128.61	Shut-In(2)
241	932.76	129.78	End Shut-In(2)
243	2080.39	129.84	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100%m	0.02

\* 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

**6-1s-35w Rawlins,KS**

250 N Water STE. 300  
Wichita KS 67202

**Ladenburger #1-6**

Job Ticket: 53690

**DST#: 4**

ATTN: Keith Reavis

Test Start: 2014.06.25 @ 17:30:00

## Tool Information

Drill Pipe:	Length: 4215.00 ft	Diameter: 3.88 inches	Volume: 61.64 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 62.00 ft	Diameter: 2.25 inches	Volume: 0.30 bbl	Weight to Pull Loose:	78000.00 lb
			<u>Total Volume: 61.94 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial	68000.00 lb
Depth to Top Packer:	4286.00 ft			Final	68000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	102.00 ft				
Tool Length:	129.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4264.00	
Hydraulic tool	5.00			4269.00	
Jars	5.00			4274.00	
Safety Joint	3.00			4277.00	
Packer	5.00			4282.00	27.00 Bottom Of Top Packer
Packer	4.00			4286.00	
Stubb	1.00			4287.00	
Recorder	0.00	8521	Inside	4287.00	
Recorder	0.00	6769	Outside	4287.00	
Perforations	33.00			4320.00	
Change Over Sub	1.00			4321.00	
Drill Pipe	63.00			4384.00	
Change Over Sub	1.00			4385.00	
Bullnose	3.00			4388.00	102.00 Bottom Packers & Anchor

**Total Tool Length: 129.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co, Inc

**6-1s-35w Rawlins,KS**

250 N Water STE. 300  
Wichita KS 67202

**Ladenburger #1-6**

Job Ticket: 53690

**DST#: 4**

ATTN: Keith Reavis

Test Start: 2014.06.25 @ 17:30:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 116.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.59 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	mud 100%m	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbl

Num Fluid Samples: 0

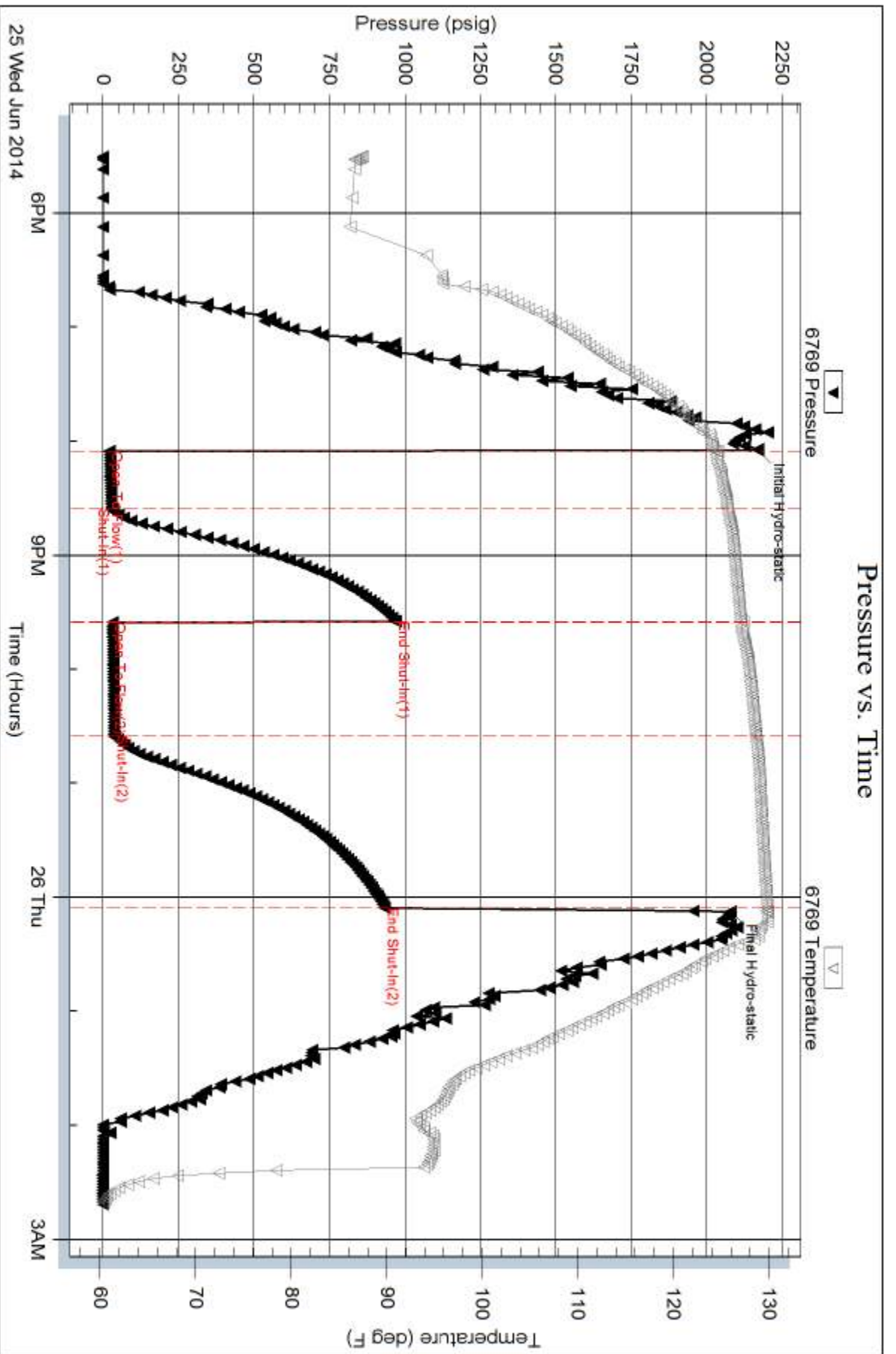
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



Serial #: 8521

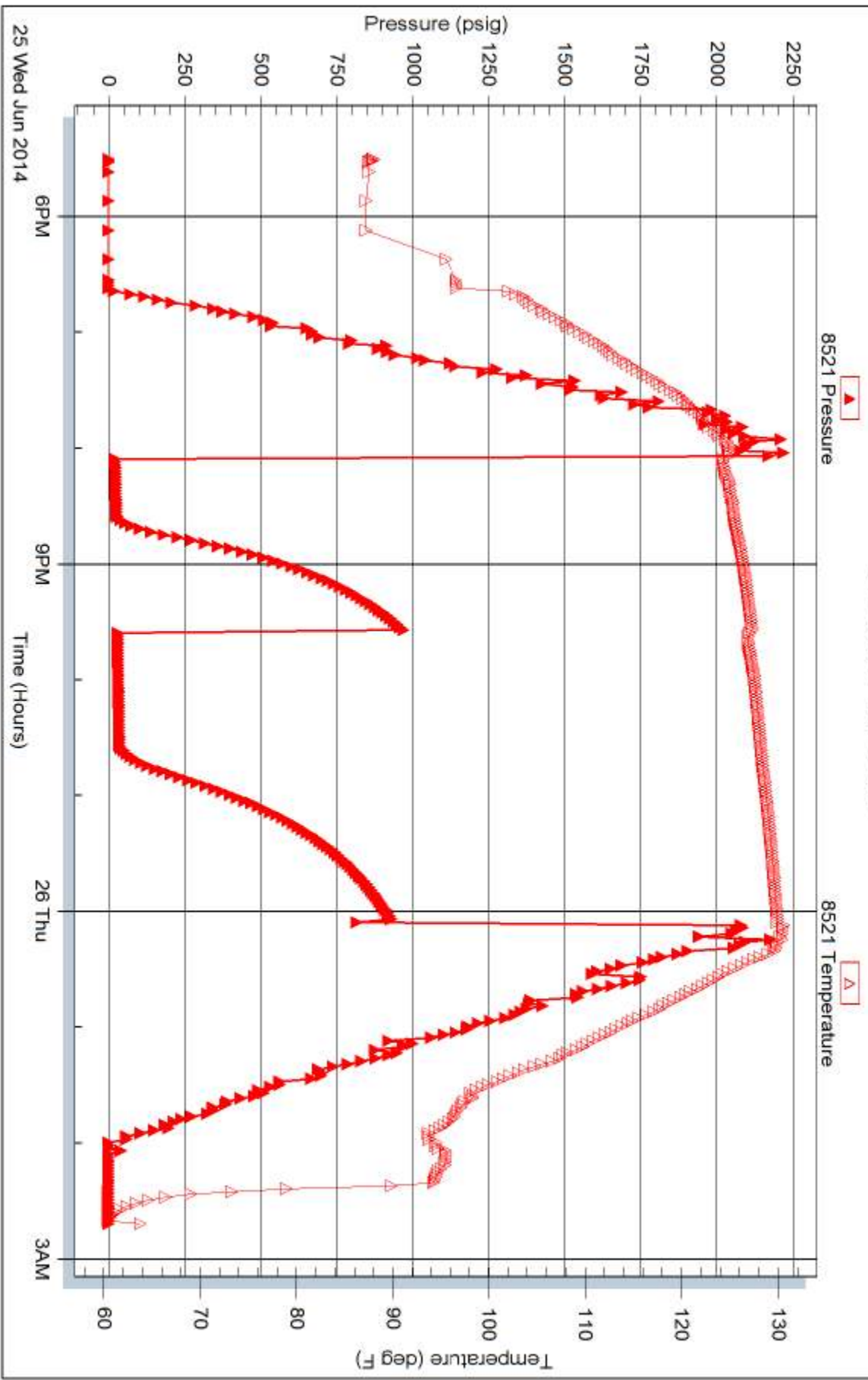
Inside

Murfin Drilling Co, Inc

Ladenburger #1-6

DST Test Number: 4

### Pressure vs. Time





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **58798**

Well Name & No. Ladenburger #1-6 Test No. 1 Date 6-22-2014  
 Company Murfin Drilling CO, Inc Elevation 3210 KB 3205 GL  
 Address 250 N water STE 300 Wichita KS, 67202  
 Co. Rep / Geo. Keith Reavis Rig Murfin #7  
 Location: Sec. 6 Twp. 1 Rge. 35W Co. Rawlins State KS

Interval Tested 3819 - 3926 Zone Tested Stotler  
 Anchor Length 107 Drill Pipe Run 3739 Mud Wt. 9.2  
 Top Packer Depth 3815 Drill Collars Run 62 Vis 57  
 Bottom Packer Depth 3819 Wt. Pipe Run 0 WL 6.0  
 Total Depth 3926 Chlorides 500 ppm System LCM 4.0  
 Blow Description IF - Blow built to 1/8"  
ISI - NO return  
FF - NO blow  
FSI - NO return

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 2 BHT 123 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2063  Test 1150 T-On Location 06:45 6-22  
 (B) First Initial Flow 19  Jars 250 T-Started 07:45 6-22  
 (C) First Final Flow 22  Safety Joint 75 T-Open 10:07 6-22  
 (D) Initial Shut-In 206  Circ Sub \_\_\_\_\_ T-Pulled 13:07 6-22  
 (E) Second Initial Flow 94  Hourly Standby \_\_\_\_\_ T-Out 15:32 6-22  
 (F) Second Final Flow 173  Mileage 106 RT 164.30 Comments Tool got over rotated 2 turns  
 (G) Final Shut-In 182  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1803  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1639.30  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1639.30

Approved By [Signature] Our Representative Robert Zochow

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **58799**

Well Name & No. Ladenburger # 1-6 Test No. 2 Date 6-24-2004  
 Company Marfin Drilling Co, Inc Elevation 3210 KB 3205 GL  
 Address 250 N. water STE 300 Wichita KS, 67202  
 Co. Rep / Geo. Keith Reavis Rig marfin #7  
 Location: Sec. 6 Twp. 1 Rge. 35W Co. Rawlins State KS.

Interval Tested 4104 - 4232 Zone Tested LKC "A-0"  
 Anchor Length 128 Drill Pipe Run 4024 Mud Wt. 9.2  
 Top Packer Depth 4100 Drill Collars Run 62 Vis 52  
 Bottom Packer Depth 4104 Wt. Pipe Run 0 WL 8.8  
 Total Depth 4232 Chlorides 700 ppm System LCM 4.0

Blow Description IF - Blow built to 4"  
ISI - No return  
FI - Blow started in 5 mins built to 4 1/4"  
FSI - Return built to Real weak surface blow died in 38 mins

Rec	Feet of	%gas	%oil	%water	%mu
<u>15</u>	<u>Feet of ocm</u>	<u>35</u>		<u>65</u>	
<u>188</u>	<u>Feet of w/m oil spots</u>	<u>spotted</u>	<u>40</u>	<u>60</u>	
Rec	Feet of	%gas	%oil	%water	%mu
Rec	Feet of	%gas	%oil	%water	%mu
Rec	Feet of	%gas	%oil	%water	%mu

Rec Total 203 BHT 131 Gravity - API RW 1223 @ 71 ° F Chlorides 35,000 ppm

(A) Initial Hydrostatic 2118  Test 1250 T-On Location 12:45 AM 6-24  
 (B) First Initial Flow 27  Jars 250 T-Started 01:10 6-24  
 (C) First Final Flow 56  Safety Joint 75 T-Open 03:18 6-24  
 (D) Initial Shut-In 1164  Circ Sub \_\_\_\_\_ T-Pulled 07:17  
 (E) Second Initial Flow 61  Hourly Standby \_\_\_\_\_ T-Out 09:18 6-24  
 (F) Second Final Flow 85  Mileage 106 RT 164.30  
 (G) Final Shut-In 1061  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2027  Straddle \_\_\_\_\_

Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby 1d 9.25h  
 Accessibility \_\_\_\_\_

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

Sub Total 1739.30  
 Sub Total 308.33  
 Total 2047.63  
 MP/DST Disc't \_\_\_\_\_

Approved By [Signature] Our Representative Robert Zedlow

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **58800**

Well Name & No. Ladenburger #1-6 Test No. 3 Date 6-24-2014  
 Company Murfin Drilling CO, Inc Elevation 3210 KB 3205 GL  
 Address 250 N water STE 300 Wichita KS, 67202  
 Co. Rep / Geo. Keith Reavis Rig Murfin #7  
 Location: Sec. 6 Twp. 1 Rge. 35w Co. Rawlins State KS

Interval Tested 4231 - 4320 Zone Tested LKC "H"  
 Anchor Length 89 Drill Pipe Run 4152 Mud Wt. 9.4  
 Top Packer Depth 4227 Drill Collars Run 62 Vis 52  
 Bottom Packer Depth 4231 Wt. Pipe Run 0 WL 9.2  
 Total Depth 4320 Chlorides 900 ppm System LCM 5.0  
 Blow Description  IP - Blow built to 1/2"  
 TSI - NO return  
 FF - NO blow  
 FSI - NO return

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 1 BHT 129 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ ° F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>2155</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>23:00 6-24</u>
(B) First Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>23:30 6-24</u>
(C) First Final Flow <u>21</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>01:48 6-25</u>
(D) Initial Shut-In <u>53</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>04:47 6-25</u>
(E) Second Initial Flow <u>22</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>07:10 6-25</u>
(F) Second Final Flow <u>23</u>	<input checked="" type="checkbox"/> Mileage <u>1016 RT</u> 164.30	Comments _____
(G) Final Shut-In <u>35</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>2099</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Packer _____
	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
	<input type="checkbox"/> Day Standby _____	Total <u>1739.30</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1739.30</u>	

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

Approved By [Signature] Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 53690

Well Name & No. Ladenburger #1-6 Test No. 4 Date 6-25-2014  
 Company Murfin Drilling Co, Inc Elevation 3210 KB 3205 GL  
 Address 250 N water STE 300 Wichita KS, 67202  
 Co. Rep / Geo. Keith Reavis Rig Murfin #7  
 Location: Sec. 6 Twp. 1 Rge. 35W Co. Rawlins State KS

Interval Tested 4286 - 4388 Zone Tested LKC "H-J"  
 Anchor Length 102 Drill Pipe Run 4215 Mud Wt. 9.4  
 Top Packer Depth 4282 Drill Collars Run 62 Vis 116  
 Bottom Packer Depth 4286 Wt. Pipe Run 0 WL 7.6  
 Total Depth 4388 Chlorides 700 ppm System LCM 4.0

Blow Description IF - Blow built to 1/4"  
ISI - No return  
FF - No blow  
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 130 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2171  Test 1250 T-On Location 17:00 6-25  
 (B) First Initial Flow 21  Jars 250 T-Started 17:30 6-25  
 (C) First Final Flow 28  Safety Joint 75 T-Open 20:05 6-25  
 (D) Initial Shut-In 970  Circ Sub \_\_\_\_\_ T-Pulled 00:05 6-26  
 (E) Second Initial Flow 30  Hourly Standby \_\_\_\_\_ T-Out 02:42 6-26  
 (F) Second Final Flow 37  Mileage 106 RT x 2 328.60 Comments Loaded tool 6-26 - set 12:30  
 (G) Final Shut-In 933  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2080  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1903.60  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1903.60

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

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