



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co**

250 N Water STE 300  
Wichita KS 67202

ATTN: Saman Sharifaie

### **Frisbie A #4-6**

#### **6-2s-36w Rawlins,KS**

Start Date: 2015.06.21 @ 16:25:00

End Date: 2015.06.22 @ 01:25:00

Job Ticket #: 65062                      DST #: 1

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

Printed: 2015.06.26 @ 09:21:43



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co  
 250 N Water STE 300  
 Wichita KS 67202  
 ATTN: Saman Sharifaie

**6-2s-36w Rawlins,KS**  
**Frisbie A #4-6**  
 Job Ticket: 65062 **DST#: 1**  
 Test Start: 2015.06.21 @ 16:25:00

## GENERAL INFORMATION:

Formation: **LKC "A-D"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 19:23:30  
 Time Test Ended: 01:25:00  
 Interval: **4238.00 ft (KB) To 4360.00 ft (KB) (TVD)**  
 Total Depth: 4360.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Robert Zodrow  
 Unit No: 66  
 Reference Elevations: 3362.00 ft (KB)  
 3357.00 ft (CF)  
 KB to GR/CF: 5.00 ft

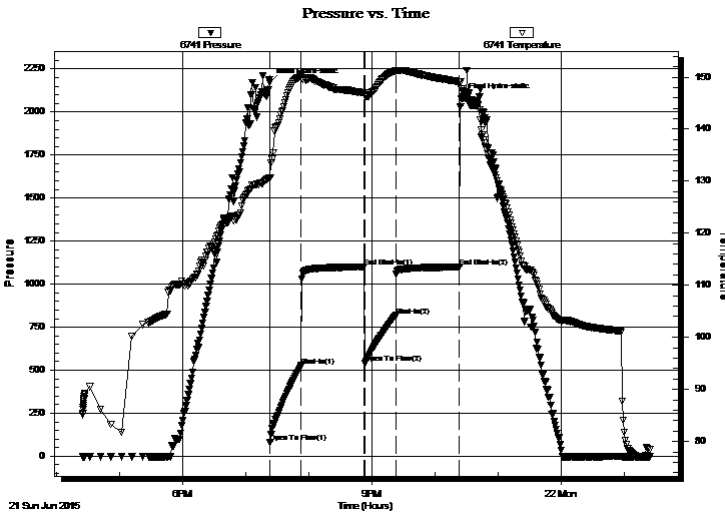
## Serial #: 6741

Inside

Press@RunDepth: 817.21 psig @ 4239.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2015.06.21 End Date: 2015.06.22 Last Calib.: 2015.06.22  
 Start Time: 16:25:05 End Time: 01:25:00 Time On Btm: 2015.06.21 @ 19:23:00  
 Time Off Btm: 2015.06.21 @ 22:26:00

TEST COMMENT: 30-IF- Bob in 4 mins  
 60-ISI- No return  
 30-FF- Bob in 5 mins  
 60-FSI- No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2171.15	130.61	Initial Hydro-static
1	81.21	130.67	Open To Flow (1)
30	526.33	150.26	Shut-In(1)
90	1100.12	146.95	End Shut-In(1)
91	540.77	146.45	Open To Flow (2)
120	817.21	151.17	Shut-In(2)
181	1099.25	149.14	End Shut-In(2)
183	2086.23	147.40	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
815.00	MW 15%M 85%W	9.75
950.00	WM 20%W 80%M	13.33

## Gas Rates

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



# TRILOBITE TESTING, INC

## DRILL STEM TEST REPORT

Murfin Drilling Co

6-2s-36w Rawlins, KS

250 N Water STE 300  
Wichita KS 67202

Frisbie A #4-6

ATTN: Saman Sharifaie

Job Ticket: 65062

DST#: 1

Test Start: 2015.06.21 @ 16:25:00

### GENERAL INFORMATION:

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

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:23:30

Time Test Ended: 01:25:00

**Interval: 4238.00 ft (KB) To 4360.00 ft (KB) (TVD)**

Total Depth: 4360.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole (Initial)

Tester: Robert Zodrow

Unit No: 66

Reference Elevations: 3362.00 ft (KB)  
3357.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 8521**

**Outside**

Press@RunDepth: psig @ 4239.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.06.21 End Date: 2015.06.22

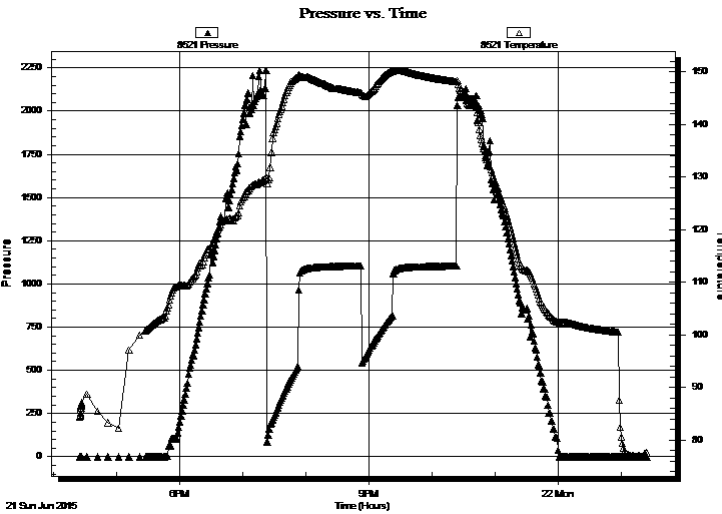
Last Calib.: 2015.06.22

Start Time: 16:25:05 End Time: 01:25:00

Time On Btm:

Time Off Btm:

TEST COMMENT: 30-IF- Bob in 4 mins  
60-ISI- No return  
30-FF- Bob in 5 mins  
60-FSI- No return



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
815.00	MW 15%M 85%W	9.75
950.00	WM 20%W 80%M	13.33

### Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co

**6-2s-36w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Frisbie A #4-6**

Job Ticket: 65062

**DST#: 1**

ATTN: Saman Sharifaie

Test Start: 2015.06.21 @ 16:25:00

## Tool Information

Drill Pipe:	Length: 4045.00 ft	Diameter: 3.80 inches	Volume: 56.74 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 185.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 76000.00 lb
			<u>Total Volume: 57.65 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4238.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	122.00 ft			
Tool Length:	149.00 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			4216.00	
Hydraulic tool	5.00			4221.00	
Jars	5.00			4226.00	
Safety Joint	3.00			4229.00	
Packer	5.00			4234.00	27.00 Bottom Of Top Packer
Packer	4.00			4238.00	
Stubb	1.00			4239.00	
Recorder	0.00	6741	Inside	4239.00	
Recorder	0.00	8521	Outside	4239.00	
Perforations	22.00			4261.00	
Change Over Sub	1.00			4262.00	
Drill Pipe	94.00			4356.00	
Change Over Sub	1.00			4357.00	
Bullnose	3.00			4360.00	122.00 Bottom Packers & Anchor

**Total Tool Length: 149.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co

**6-2s-36w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Frisbie A #4-6**

Job Ticket: 65062

**DST#: 1**

ATTN: Saman Sharifaie

Test Start: 2015.06.21 @ 16:25:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

15000 ppm

Viscosity: 68.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1100.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
815.00	MW 15%M 85%W	9.747
950.00	WM 20%W 80%M	13.326

Total Length: 1765.00 ft      Total Volume: 23.073 bbl

Num Fluid Samples: 0

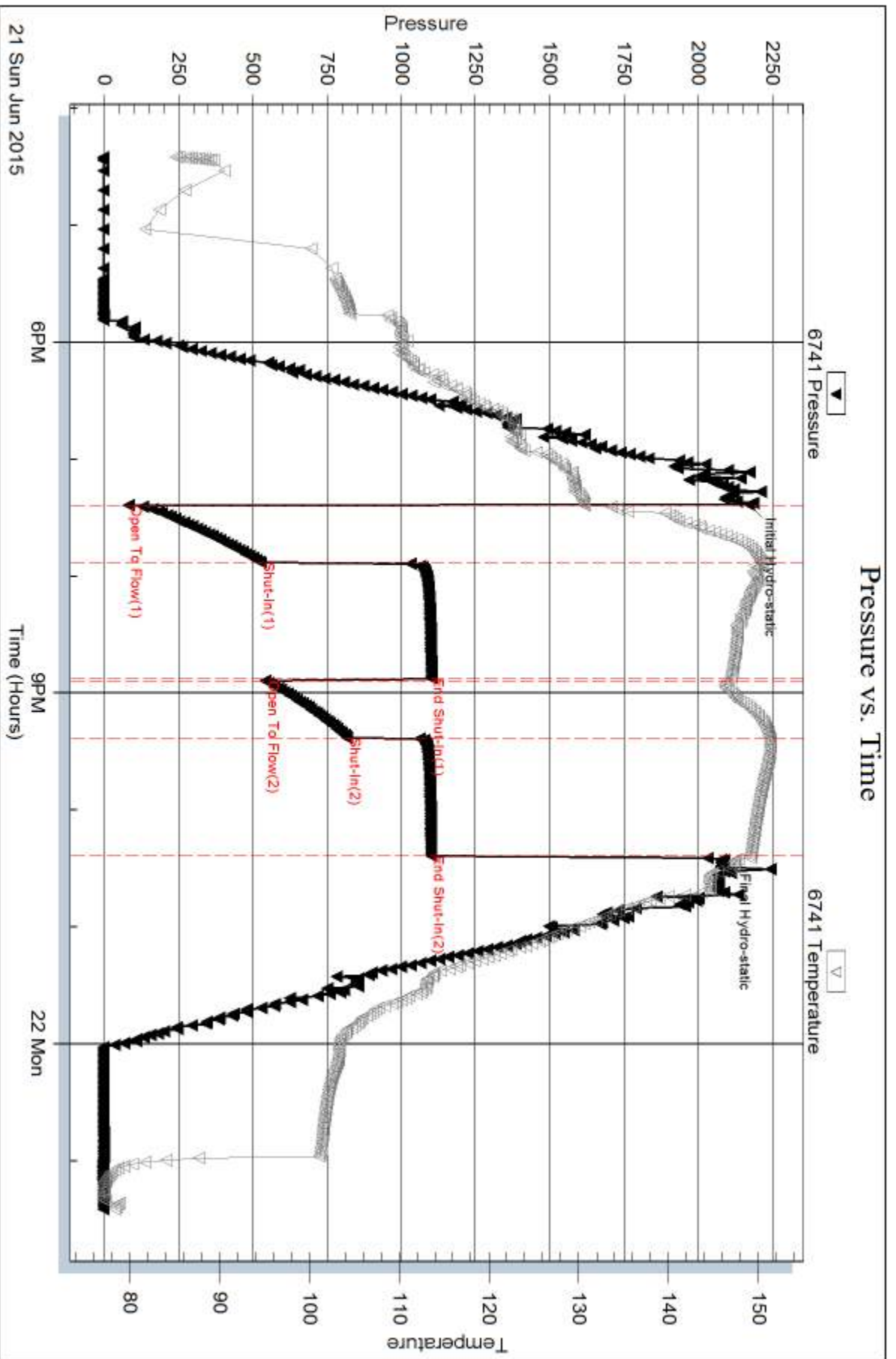
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .425 @ 78 Deg = 15000

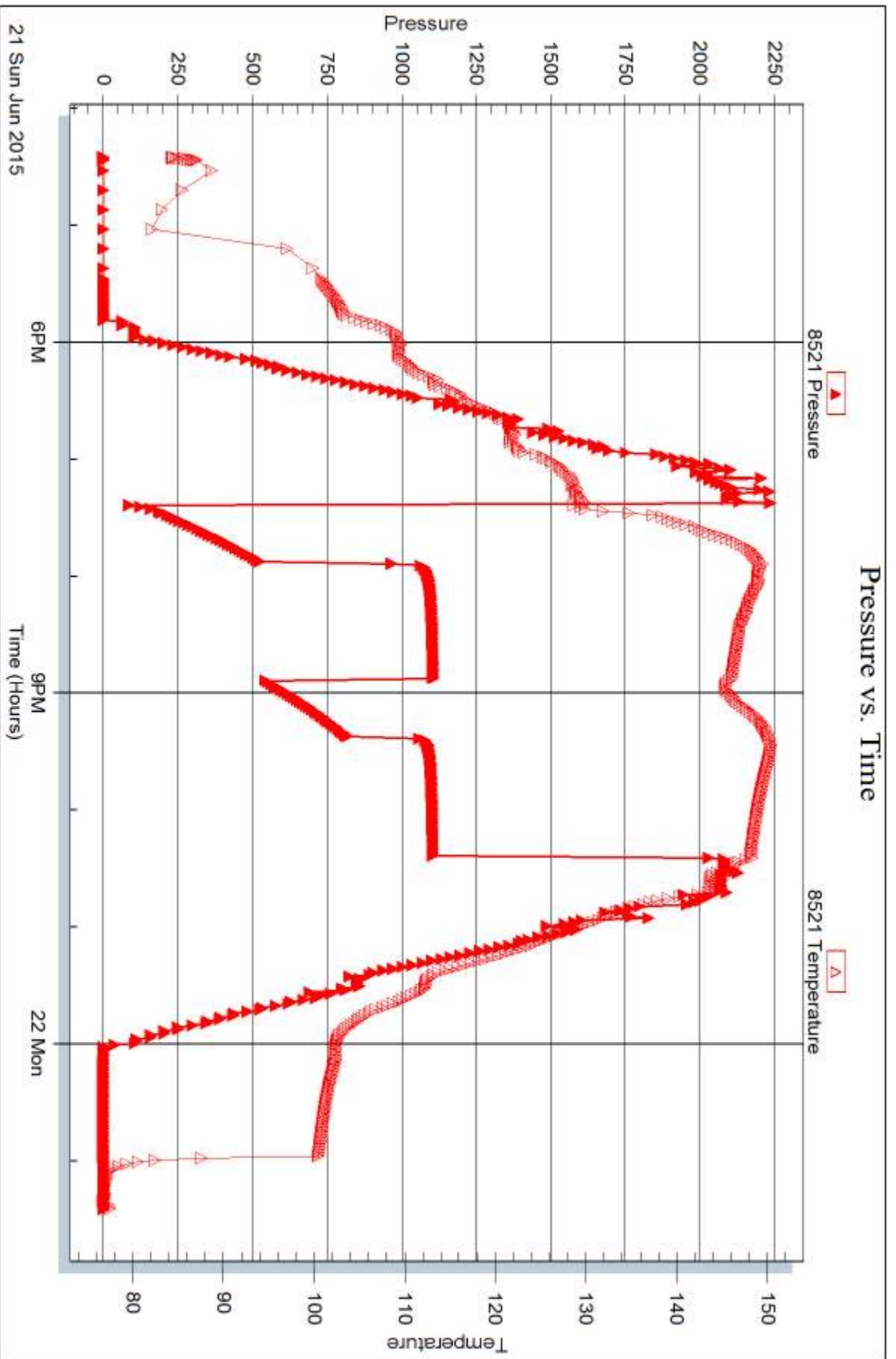


Serial #: 8521

Outside Murfin Drilling Co

Frisbie A #4-6

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co**

250 N Water STE 300  
Wichita KS 67202

ATTN: Saman Sharifaie

### **Frisbie A #4-6**

#### **6-2s-36w Rawlins,KS**

Start Date: 2015.06.22 @ 11:17:00

End Date: 2015.06.22 @ 20:38:00

Job Ticket #: 65063                      DST #: 2

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

Printed: 2015.06.26 @ 09:21:28

Murfin Drilling Co  
6-2s-36w Rawlins,KS  
Frisbie A #4-6  
DST # 2  
LKC "G"  
2015.06.22





**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co  
 250 N Water STE 300  
 Wichita KS 67202  
 ATTN: Saman Sharifaie

**6-2s-36w Rawlins,KS**  
**Frisbie A #4-6**  
 Job Ticket: 65063 **DST#: 2**  
 Test Start: 2015.06.22 @ 11:17:00

## GENERAL INFORMATION:

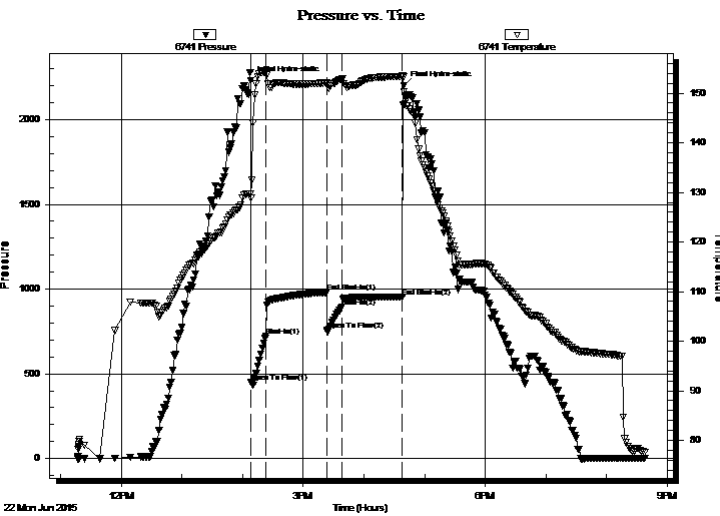
Formation: **LKC "G"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 14:08:30  
 Time Test Ended: 20:38:00  
 Interval: **4360.00 ft (KB) To 4420.00 ft (KB) (TVD)**  
 Total Depth: 4420.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Robert Zodrow  
 Unit No: 66  
 Reference Elevations: 3362.00 ft (KB)  
 3357.00 ft (CF)  
 KB to GR/CF: 5.00 ft

## Serial #: 6741

Inside

Press@RunDepth: 892.82 psig @ 4361.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2015.06.22 End Date: 2015.06.22 Last Calib.: 2015.06.22  
 Start Time: 11:17:05 End Time: 20:38:00 Time On Btm: 2015.06.22 @ 14:08:00  
 Time Off Btm: 2015.06.22 @ 16:39:30

TEST COMMENT: 15-IF- Bob in 1 min  
 60-IS- Surface blow on return died in 40 mins  
 15-FF- Bob in 2 mins  
 60-FS- No return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2232.04	129.63	Initial Hydro-static
1	450.33	128.89	Open To Flow (1)
15	720.96	154.18	Shut-In(1)
75	980.96	152.07	End Shut-In(1)
76	757.18	151.96	Open To Flow (2)
91	892.82	152.81	Shut-In(2)
150	953.68	153.41	End Shut-In(2)
152	2202.70	150.28	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
630.00	OCW 5%O 95%W	7.15
750.00	MCWGO 15%M 25%W 30%G 30%O	10.52
660.00	GOCM 5%G 25%O 70%M	9.26

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co  
 250 N Water STE 300  
 Wichita KS 67202  
 ATTN: Saman Sharifaie

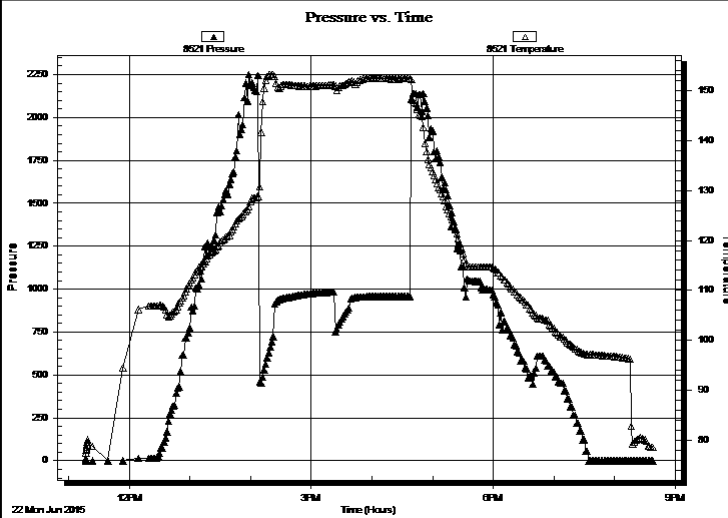
**6-2s-36w Rawlins,KS**  
**Frisbie A #4-6**  
 Job Ticket: 65063 **DST#: 2**  
 Test Start: 2015.06.22 @ 11:17:00

## GENERAL INFORMATION:

Formation: **LKC "G"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 14:08:30  
 Time Test Ended: 20:38:00  
 Interval: **4360.00 ft (KB) To 4420.00 ft (KB) (TVD)**  
 Total Depth: 4420.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Robert Zodrow  
 Unit No: 66  
 Reference Elevations: 3362.00 ft (KB)  
 3357.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8521 Outside**  
 Press@RunDepth: psig @ 4361.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2015.06.22 End Date: 2015.06.22 Last Calib.: 2015.06.22  
 Start Time: 11:17:05 End Time: 20:37:30 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** 15-IF- Bob in 1 min  
 60-IS- Surface blow on return died in 40 mins  
 15-FF- Bob in 2 mins  
 60-FS- No return



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

Recovery		
Length (ft)	Description	Volume (bbl)
630.00	OCW 5%O 95%W	7.15
750.00	MCWGO 15%M 25%W 30%G 30%O	10.52
660.00	GOCM 5%G 25%O 70%M	9.26

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

**6-2s-36w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Frisbie A #4-6**

Job Ticket: 65063

**DST#: 2**

ATTN: Saman Sharifaie

Test Start: 2015.06.22 @ 11:17:00

## Tool Information

Drill Pipe:	Length: 4170.00 ft	Diameter: 3.80 inches	Volume: 58.49 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: 185.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose:	78000.00 lb
			<u>Total Volume: 59.40 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial	60000.00 lb
Depth to Top Packer:	4360.00 ft			Final	66000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	60.00 ft				
Tool Length:	87.00 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			4338.00	
Hydraulic tool	5.00			4343.00	
Jars	5.00			4348.00	
Safety Joint	3.00			4351.00	
Packer	5.00			4356.00	27.00 Bottom Of Top Packer
Packer	4.00			4360.00	
Stubb	1.00			4361.00	
Recorder	0.00	6741	Inside	4361.00	
Recorder	0.00	8521	Outside	4361.00	
Perforations	22.00			4383.00	
Change Over Sub	1.00			4384.00	
Drill Pipe	32.00			4416.00	
Change Over Sub	1.00			4417.00	
Bullnose	3.00			4420.00	60.00 Bottom Packers & Anchor

**Total Tool Length: 87.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co

**6-2s-36w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Frisbie A #4-6**

Job Ticket: 65063

**DST#: 2**

ATTN: Saman Sharifaie

Test Start: 2015.06.22 @ 11:17:00

### 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:

17000 ppm

Viscosity: 69.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1100.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
630.00	OCW 5%O 95%W	7.152
750.00	MCWGO 15%M 25%W 30%G 30%O	10.521
660.00	GOCM 5%G 25%O 70%M	9.258

Total Length: 2040.00 ft      Total Volume: 26.931 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .380 @ 82 Deg F = 17000

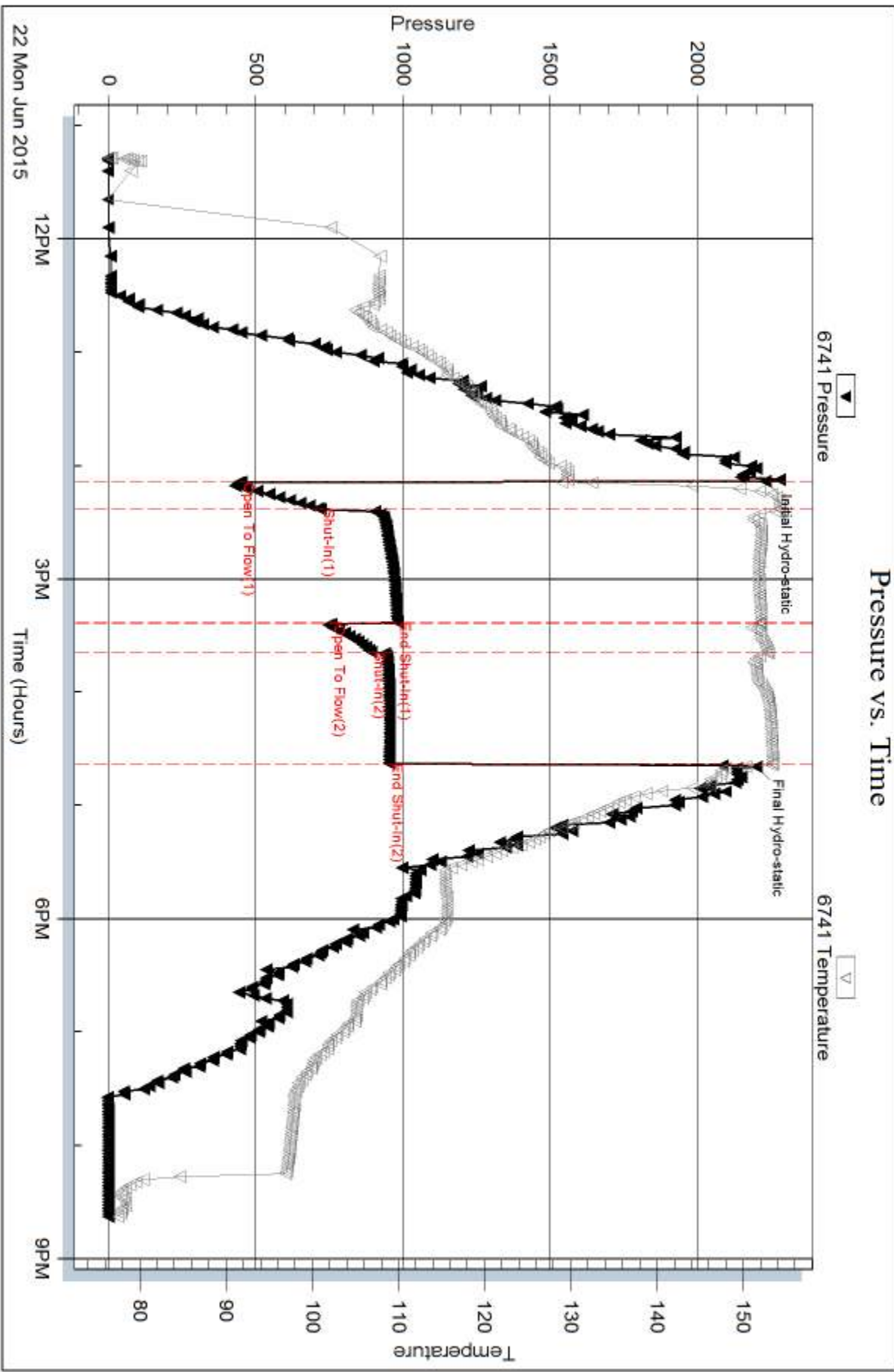
Serial #: 6741

Inside

Murfin Drilling Co

Frisbie A #4-6

DST Test Number: 2

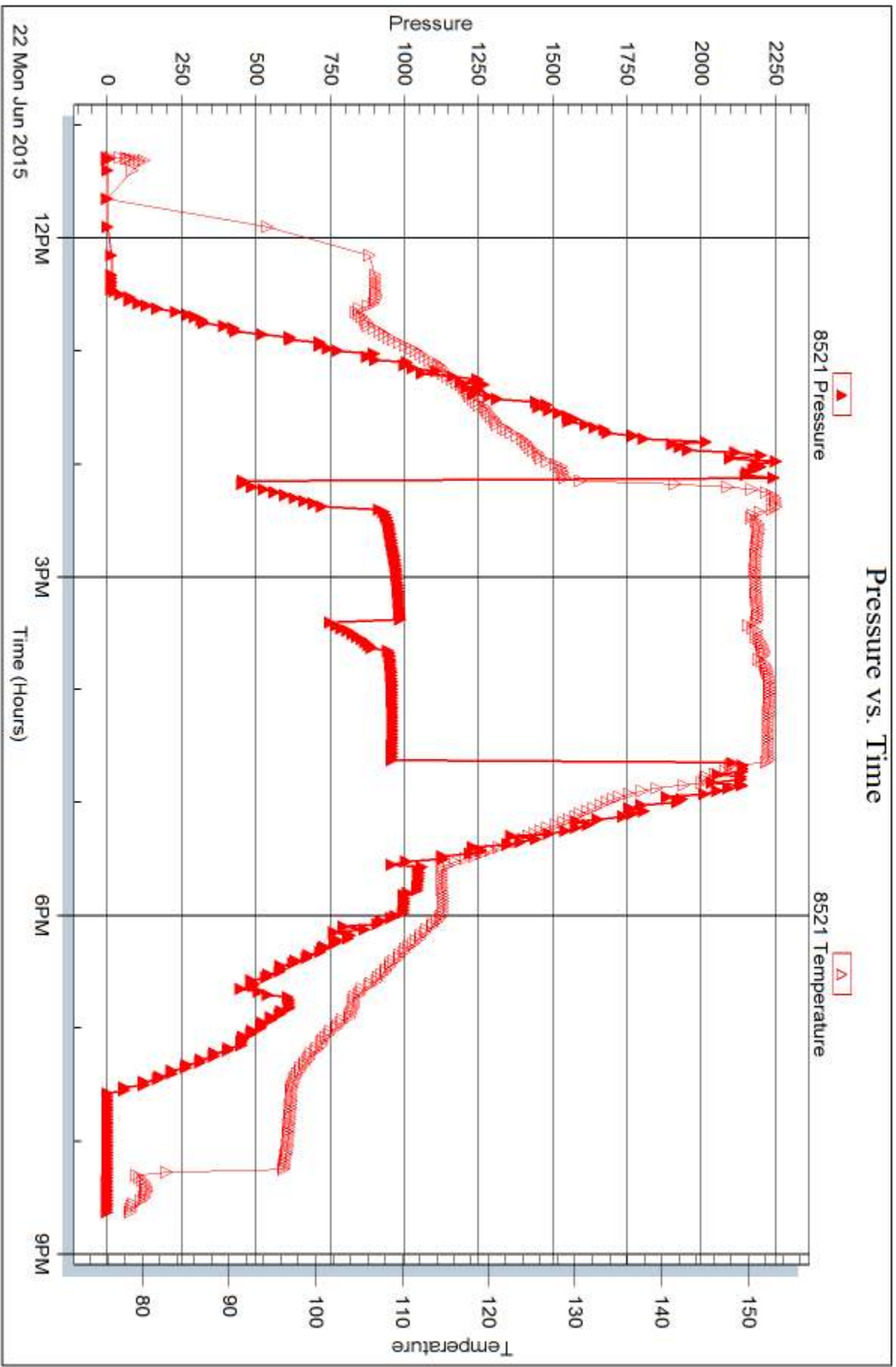


Serial #: 8521

Outside Murfin Drilling Co

Frisbie A #4-6

DST Test Number: 2



Tribble Testing, Inc

Ref. No: 65063

Printed: 2015.06.26 @ 09:21:30



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co**

250 N Water STE 300  
Wichita KS 67202

ATTN: Saman Sharifaie

### **Frisbie A #4-6**

#### **6-2s-36w Rawlins,KS**

Start Date: 2015.06.23 @ 11:30:00

End Date: 2015.06.23 @ 20:36:30

Job Ticket #: 65064                      DST #: 3

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

Printed: 2015.06.26 @ 09:21:05



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co  
 250 N Water STE 300  
 Wichita KS 67202  
 ATTN: Saman Sharifaie

**6-2s-36w Rawlins,KS**  
**Frisbie A #4-6**  
 Job Ticket: 65064 **DST#: 3**  
 Test Start: 2015.06.23 @ 11:30:00

## GENERAL INFORMATION:

Formation: **LKC "H-J"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 13:46:30  
 Time Test Ended: 20:36:30  
 Interval: **4420.00 ft (KB) To 4510.00 ft (KB) (TVD)**  
 Total Depth: 4510.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Robert Zodrow  
 Unit No: 66  
 Reference Elevations: 3362.00 ft (KB)  
 3357.00 ft (CF)  
 KB to GR/CF: 5.00 ft

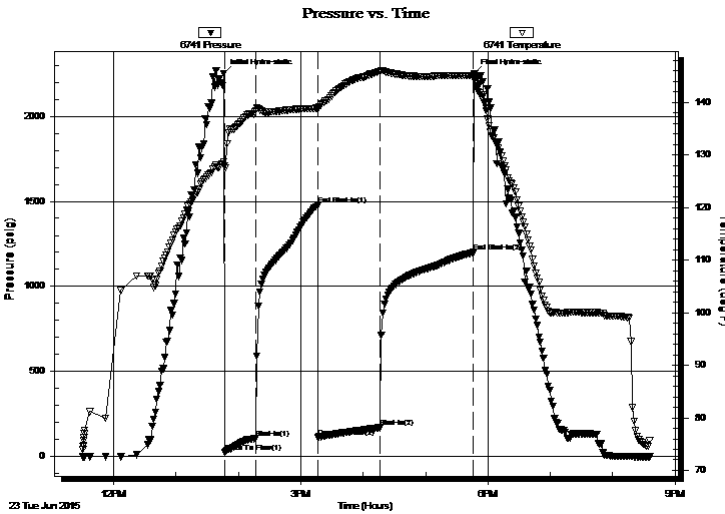
## Serial #: 6741

Inside

Press@RunDepth: 168.41 psig @ 4421.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2015.06.23 End Date: 2015.06.23 Last Calib.: 2015.06.23  
 Start Time: 11:30:05 End Time: 20:36:30 Time On Btm: 2015.06.23 @ 13:46:00  
 Time Off Btm: 2015.06.23 @ 17:47:00

TEST COMMENT: 30-IF- Blow built to 8 3/4"  
 60-ISI- No return  
 60-FF- Bob in 57 mins  
 90-FSI- No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2253.71	128.68	Initial Hydro-static
1	22.92	127.95	Open To Flow (1)
31	106.44	138.50	Shut-In(1)
90	1477.68	138.92	End Shut-In(1)
91	113.66	138.70	Open To Flow (2)
150	168.41	145.93	Shut-In(2)
240	1200.32	144.95	End Shut-In(2)
241	2249.49	144.71	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
320.00	OCWM 5%O 10%W 85%M	2.80
40.00	OCM 30%O 70%M	0.56

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co

**6-2s-36w Rawlins, KS**

250 N Water STE 300  
Wichita KS 67202

**Frisbie A #4-6**

Job Ticket: 65064

**DST#: 3**

ATTN: Saman Sharifaie

Test Start: 2015.06.23 @ 11:30:00

## GENERAL INFORMATION:

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

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:46:30

Time Test Ended: 20:36:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Robert Zodrow

Unit No: 66

Interval: **4420.00 ft (KB) To 4510.00 ft (KB) (TVD)**

Total Depth: 4510.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3362.00 ft (KB)

3357.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 8521 Outside**

Press@RunDepth: psig @ 4421.00 ft (KB)

Start Date: 2015.06.23

End Date: 2015.06.23

Capacity: 8000.00 psig

Last Calib.: 2015.06.23

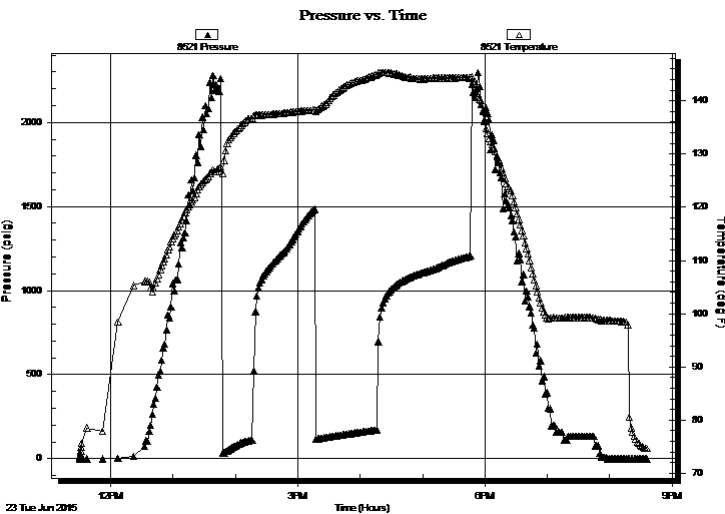
Start Time: 11:30:05

End Time: 20:36:30

Time On Btm:

Time Off Btm:

TEST COMMENT: 30-IF- Blow built to 8 3/4"  
60-ISI- No return  
60-FF- Bob in 57 mins  
90-FSI- No return



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
320.00	OCWM 5%O 10%W 85%M	2.80
40.00	OCM 30%O 70%M	0.56

## 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

**6-2s-36w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Frisbie A #4-6**

Job Ticket: 65064

**DST#: 3**

ATTN: Saman Sharifaie

Test Start: 2015.06.23 @ 11:30:00

## Tool Information

Drill Pipe:	Length: 4232.00 ft	Diameter: 3.80 inches	Volume: 59.36 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: 185.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 60.27 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4420.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	90.00 ft			
Tool Length:	117.00 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			4398.00	
Hydraulic tool	5.00			4403.00	
Jars	5.00			4408.00	
Safety Joint	3.00			4411.00	
Packer	5.00			4416.00	27.00 Bottom Of Top Packer
Packer	4.00			4420.00	
Stubb	1.00			4421.00	
Recorder	0.00	6741	Inside	4421.00	
Recorder	0.00	8521	Outside	4421.00	
Perforations	21.00			4442.00	
Change Over Sub	1.00			4443.00	
Drill Pipe	63.00			4506.00	
Change Over Sub	1.00			4507.00	
Bullnose	3.00			4510.00	90.00 Bottom Packers & Anchor

**Total Tool Length: 117.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co

**6-2s-36w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Frisbie A #4-6**

Job Ticket: 65064

**DST#: 3**

ATTN: Saman Sharifaie

Test Start: 2015.06.23 @ 11:30:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1100.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
320.00	OCWM 5%O 10%W 85%M	2.803
40.00	OCM 30%O 70%M	0.561

Total Length: 360.00 ft      Total Volume: 3.364 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

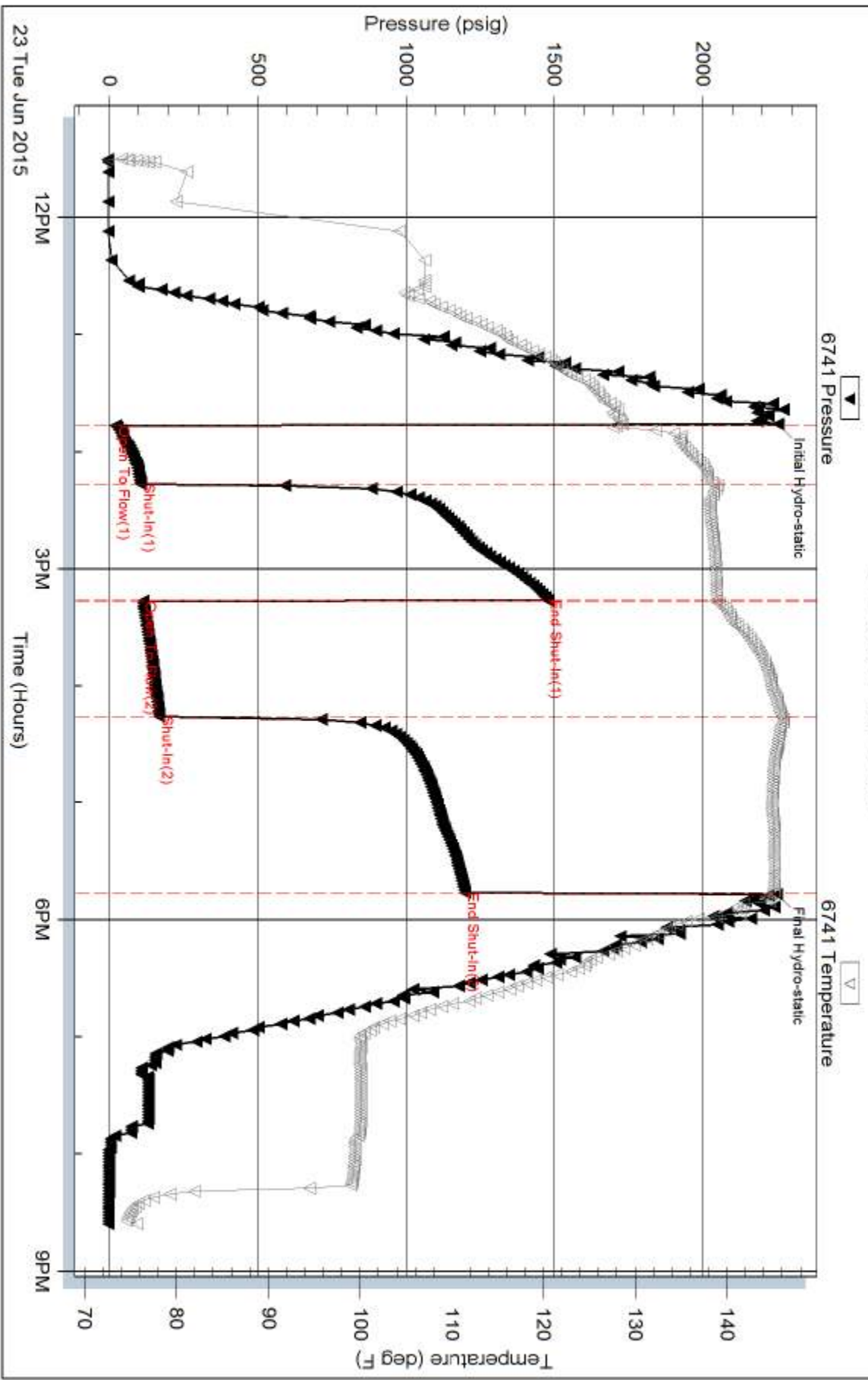
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time

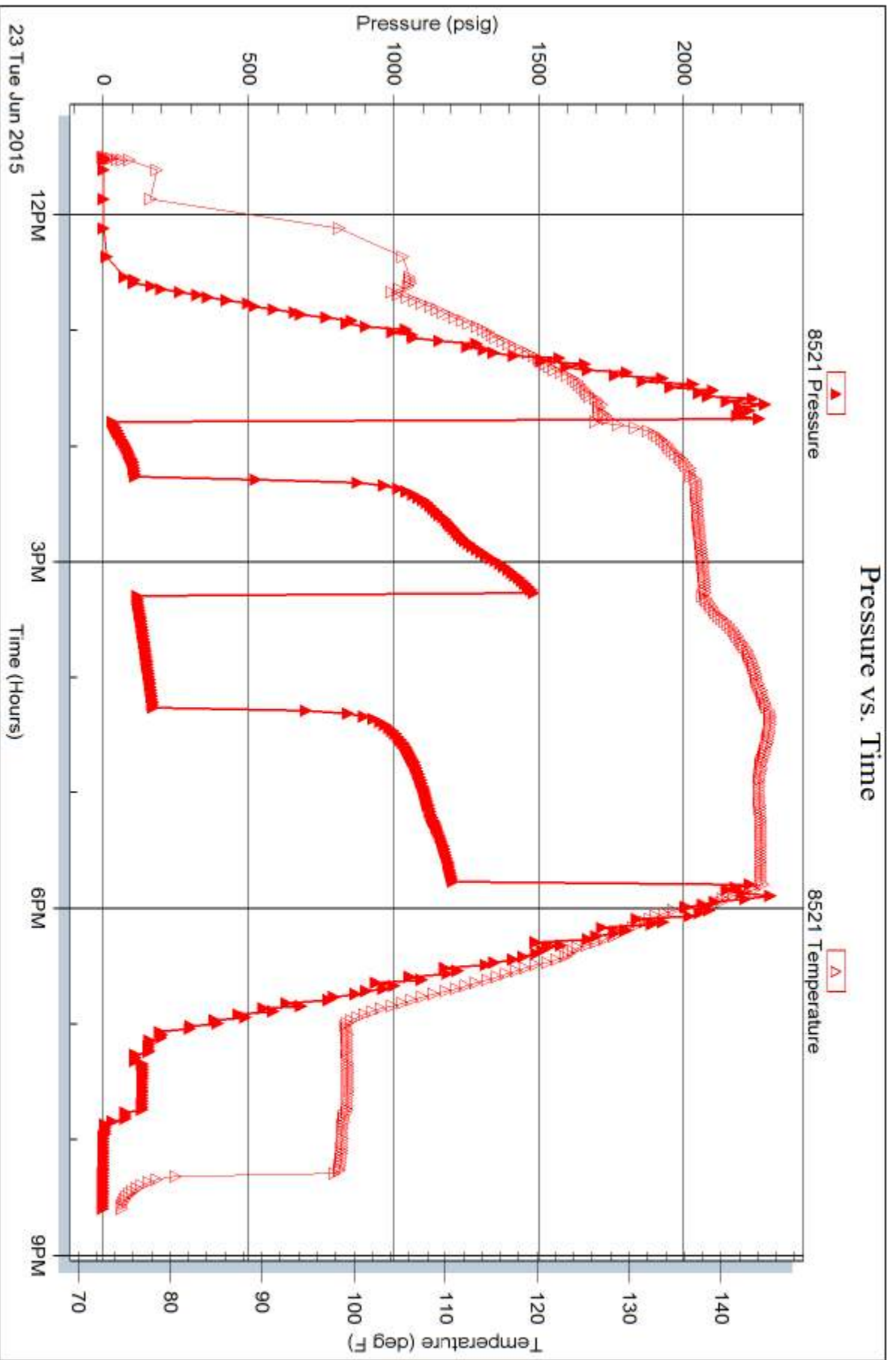


Serial #: 8521

Outside Murfin Drilling Co

Frisbie A #4-6

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 65064

Printed: 2015.06.26 @ 09:21:07



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 65062

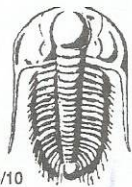
Well Name & No. Frisbie "A" #4-6 Test No. 1 Date 6-21-2015  
 Company Murfin Drilling CO Inc Elevation 3362 KB 3357 GL  
 Address 250 N Water STE 300 Wichita KS, 67202  
 Co. Rep / Geo. Saman Sharifaie Rig Murfin #8  
 Location: Sec. 6 Twp. 25 Rge. 36W Co. Rawlins State KS

Interval Tested 4238 — 4360 Zone Tested LKC "A-0"  
 Anchor Length 122 Drill Pipe Run 4045 Mud Wt. 9.1  
 Top Packer Depth 4234 Drill Collars Run 185 Vis 68  
 Bottom Packer Depth 4238 Wt. Pipe Run 0 WL 7.6  
 Total Depth 4360 Chlorides 1,100 ppm System LCM 4  
 Blow Description IF - Bob in 4mins  
ISI - NO return  
FF - Bob in 5mins  
FSI - NO return

Rec	Feet of	%gas	%oil	%water	%mud
<u>950</u>	<u>WM</u>		<u>20</u>	<u>80</u>	
<u>815</u>			<u>85</u>	<u>15</u>	

Rec Total 1765 BHT 149 Gravity — API RW .425 @ 78 °F Chlorides 15,000 ppm  
 (A) Initial Hydrostatic 2171  Test 1150 T-On Location 15:20 6-21  
 (B) First Initial Flow 81  Jars 250 T-Started 16:25 6-21  
 (C) First Final Flow 526  Safety Joint 75 T-Open 19:23 6-21  
 (D) Initial Shut-In 1100  Circ Sub \_\_\_\_\_ T-Pulled 22:23 6-21  
 (E) Second Initial Flow 540  Hourly Standby \_\_\_\_\_ T-Out 01:25 6-22  
 (F) Second Final Flow 817  Mileage 124 RT 116  
 (G) Final Shut-In 1099  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2086  Straddle \_\_\_\_\_  
 Initial Open 30  Shale Packer \_\_\_\_\_  
 Initial Shut-In 60  Extra Packer \_\_\_\_\_  
 Final Flow 30  Extra Recorder \_\_\_\_\_  
 Final Shut-In 60  Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1591 MP/DST Disc't \_\_\_\_\_

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



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **65063**

Well Name & No. Frisbie "A" # 4-6 Test No. 2 Date 6-22-2015  
 Company Murfin Drilling Co Inc Elevation 3362 KB 3357 GL  
 Address 250 N water STE. 300 Wichita KS, 67202  
 Co. Rep / Geo. Suman SharifAie Rig Murfin #8  
 Location: Sec. 6 Twp. 25 Rge. 36W Co. Rawlins State K5

Interval Tested 4360 — 4420 Zone Tested LKC "A"  
 Anchor Length 60 Drill Pipe Run 4170 Mud Wt. 9.4  
 Top Packer Depth 4356 Drill Collars Run 185 Vis 69  
 Bottom Packer Depth 4360 Wt. Pipe Run 0 WL 7.2  
 Total Depth 4420 Chlorides 1,100 ppm System LCM 4.0

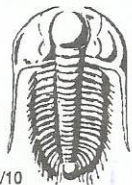
Blow Description IF - Bob in 1 min  
ISF - surface blow on return died in 40 mins  
FF - Bob in 2 mins  
FST - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>660</u>	<u>90cm</u>	<u>5</u>	<u>25</u>	<u>70</u>	
<u>750</u>	<u>mcwgo</u>	<u>30</u>	<u>30</u>	<u>25</u>	<u>15</u>
<u>630</u>	<u>OCW</u>		<u>5</u>	<u>95</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 2040 BHT 153 Gravity — API RW .380 @ 82 °F Chlorides 17000 ppm  
 (A) Initial Hydrostatic 2232  Test 1150 T-On Location 10:45 6-22  
 (B) First Initial Flow 450  Jars 250 T-Started 11:17 6-22  
 (C) First Final Flow 720  Safety Joint 75 T-Open 14:08 6-22  
 (D) Initial Shut-In 980  Circ Sub \_\_\_\_\_ T-Pulled 16:38 6-22  
 (E) Second Initial Flow 757  Hourly Standby \_\_\_\_\_ T-Out 20:38 6-22  
 (F) Second Final Flow 892  Mileage 124 RT 116 Comments \_\_\_\_\_  
 (G) Final Shut-In 953  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2202  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1591  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1591

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

Approved By \_\_\_\_\_ Our Representative Robert Zichow  
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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **65064**

Well Name & No. Frisbie "A" # 4-6 Test No. 3 Date 6-23-2015  
 Company Murfin Drilling CO Inc Elevation 3362 KB 3357 GL  
 Address 250 N Water STB 300 Wichita KS, 67202  
 Co. Rep / Geo. Saman ShariFaic Rig murfin #8  
 Location: Sec. 6 Twp. 25 Rge. 36W Co. Rawlins State KS

Interval Tested 4420 — 4510 Zone Tested LKC "H-J"  
 Anchor Length 90 Drill Pipe Run 4232 Mud Wt. 9.2  
 Top Packer Depth 4416 Drill Collars Run 185 Vis 62  
 Bottom Packer Depth 4420 Wt. Pipe Run 0 WL 6.4  
 Total Depth 4510 Chlorides 1100 ppm System LCM 4  
 Blow Description IF - Blow built to 8 3/4"  
ISI - No return  
FF - Bob in 57 mins  
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>90</u>	<u>0CM</u>	<u>30</u>		<u>70</u>	
<u>320</u>		<u>5</u>	<u>10</u>	<u>85</u>	

Rec Total 360 BHT 145 Gravity 1150 API RW 116+116 @ 1707 °F Chlorides 1100 ppm

(A) Initial Hydrostatic 2253  Test 1150 T-On Location 11:00 6-23  
 (B) First Initial Flow 23  Jars 250 T-Started 11:30 6-23  
 (C) First Final Flow 106  Safety Joint 75 T-Open 13:46 6-23  
 (D) Initial Shut-In 1477  Circ Sub \_\_\_\_\_ T-Pulled 17:46 6-23  
 (E) Second Initial Flow 114  Hourly Standby \_\_\_\_\_ T-Out 20:36 6-23  
 (F) Second Final Flow 168  Mileage 124 RT X2 Comments Drove out loaded tool on 6-25-2015 at 19:30  
 (G) Final Shut-In 1200  Sampler \_\_\_\_\_ ~~\_\_\_\_\_~~  
 (H) Final Hydrostatic 2249  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 800  
 Day Standby 1.5d 11h Total 2507  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1707

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