



DRILL STEM TEST REPORT

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

250 N. Water, Ste 300
Wichita, KS 67202

ATTN: Keith Reavis

Ladenburger 'B' #1-6

6-1s-35w Rawlins,KS

Start Date: 2014.08.04 @ 09:02:00

End Date: 2014.08.04 @ 16:30:00

Job Ticket #: 51621 DST #: 1

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

Printed: 2014.08.08 @ 10:38:48



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drlg Co., Inc.

6-1s-35w Rawlins,KS

250 N. Water, Ste 300
Wichita, KS 67202

Ladenburger 'B' #1-6

ATTN: Keith Reavis

Job Ticket: 51621

DST#: 1

Test Start: 2014.08.04 @ 09:02:00

GENERAL INFORMATION:

Formation: **Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:03:30

Time Test Ended: 16:30:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Quintana

Unit No: 49

Interval: 4019.00 ft (KB) To 4095.00 ft (KB) (TVD)

Reference Elevations: 3216.00 ft (KB)

Total Depth: 4095.00 ft (KB) (TVD)

3211.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6769 Outside

Press@RunDepth: 28.46 psig @ 4020.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.08.04 End Date: 2014.08.04

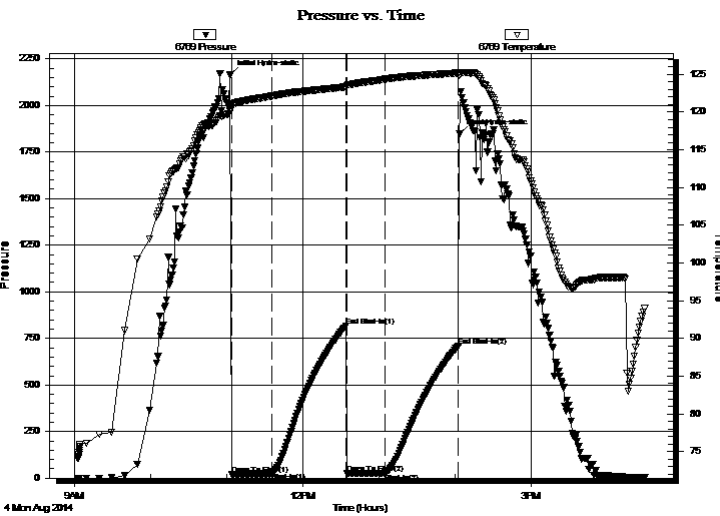
Last Calib.: 2014.08.04

Start Time: 09:02:05 End Time: 16:29:59

Time On Btm: 2014.08.04 @ 11:02:30

Time Off Btm: 2014.08.04 @ 14:03:30

TEST COMMENT: 30 - IF - Opened w/ surface blow , died back to nothing
60 - ISI - No Return
30 - FF - No Blow
60 - FSI - No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2163.62	120.14	Initial Hydro-static
1	20.48	120.98	Open To Flow (1)
33	29.03	122.13	Shut-In(1)
91	814.60	123.34	End Shut-In(1)
92	24.96	123.55	Open To Flow (2)
122	28.46	124.36	Shut-In(2)
180	710.05	125.19	End Shut-In(2)
181	1849.18	124.90	Final Hydro-static

Recovery

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

Gas Rates

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



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6-1s-35w Rawlins,KS

250 N. Water, Ste 300
Wichita, KS 67202

Ladenburger 'B' #1-6

ATTN: Keith Reavis

Job Ticket: 51621

DST#: 1

Test Start: 2014.08.04 @ 09:02:00

GENERAL INFORMATION:

Formation: **Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:03:30

Time Test Ended: 16:30:00

Interval: 4019.00 ft (KB) To 4095.00 ft (KB) (TVD)

Total Depth: 4095.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Quintana

Unit No: 49

Reference Elevations: 3216.00 ft (KB)

3211.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8521

Inside

Press@RunDepth: psig @ 4020.00 ft (KB)

Start Date: 2014.08.04

End Date:

2014.08.04

Start Time: 09:02:05

End Time:

16:29:29

Capacity: 8000.00 psig

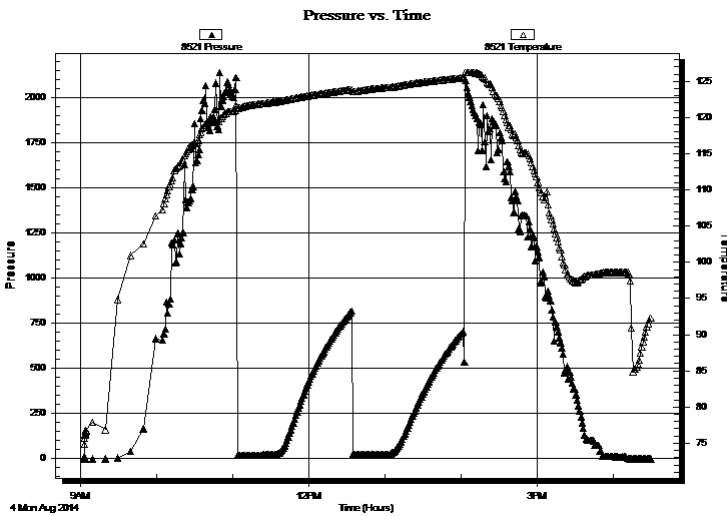
Last Calib.:

2014.08.04

Time On Btm:

Time Off Btm:

TEST COMMENT: 30 - IF - Opened w/ surface blow , died back to nothing
60 - ISI - No Return
30 - FF - No Blow
60 - FSI - No Return



PRESSURE SUMMARY

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

Recovery

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

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drlg Co., Inc.

6-1s-35w Rawlins,KS

250 N. Water, Ste 300
Wichita, KS 67202

Ladenburger 'B' #1-6

Job Ticket: 51621

DST#: 1

ATTN: Keith Reavis

Test Start: 2014.08.04 @ 09:02:00

Tool Information

Drill Pipe:	Length: 3834.84 ft	Diameter: 3.80 inches	Volume: 53.79 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 186.60 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 54.71 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.44 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4019.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	76.00 ft			
Tool Length:	103.00 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			3997.00	
Hydraulic tool	5.00			4002.00	
Jars	5.00			4007.00	
Safety Joint	3.00			4010.00	
Packer	5.00			4015.00	27.00 Bottom Of Top Packer
Packer	4.00			4019.00	
Stubb	1.00			4020.00	
Recorder	0.00	8521	Inside	4020.00	
Recorder	0.00	6769	Outside	4020.00	
Perforations	7.00			4027.00	
Change Over Sub	1.00			4028.00	
Drill Pipe	63.00			4091.00	
Change Over Sub	1.00			4092.00	
Bullnose	3.00			4095.00	76.00 Bottom Packers & Anchor

Total Tool Length: 103.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drlg Co., Inc.

6-1s-35w Rawlins,KS

250 N. Water, Ste 300
Wichita, KS 67202

Ladenburger 'B' #1-6

Job Ticket: 51621

DST#: 1

ATTN: Keith Reavis

Test Start: 2014.08.04 @ 09:02:00

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: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.96 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 400.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	100%mud	0.010

Total Length: 2.00 ft Total Volume: 0.010 bbl

Num Fluid Samples: 0

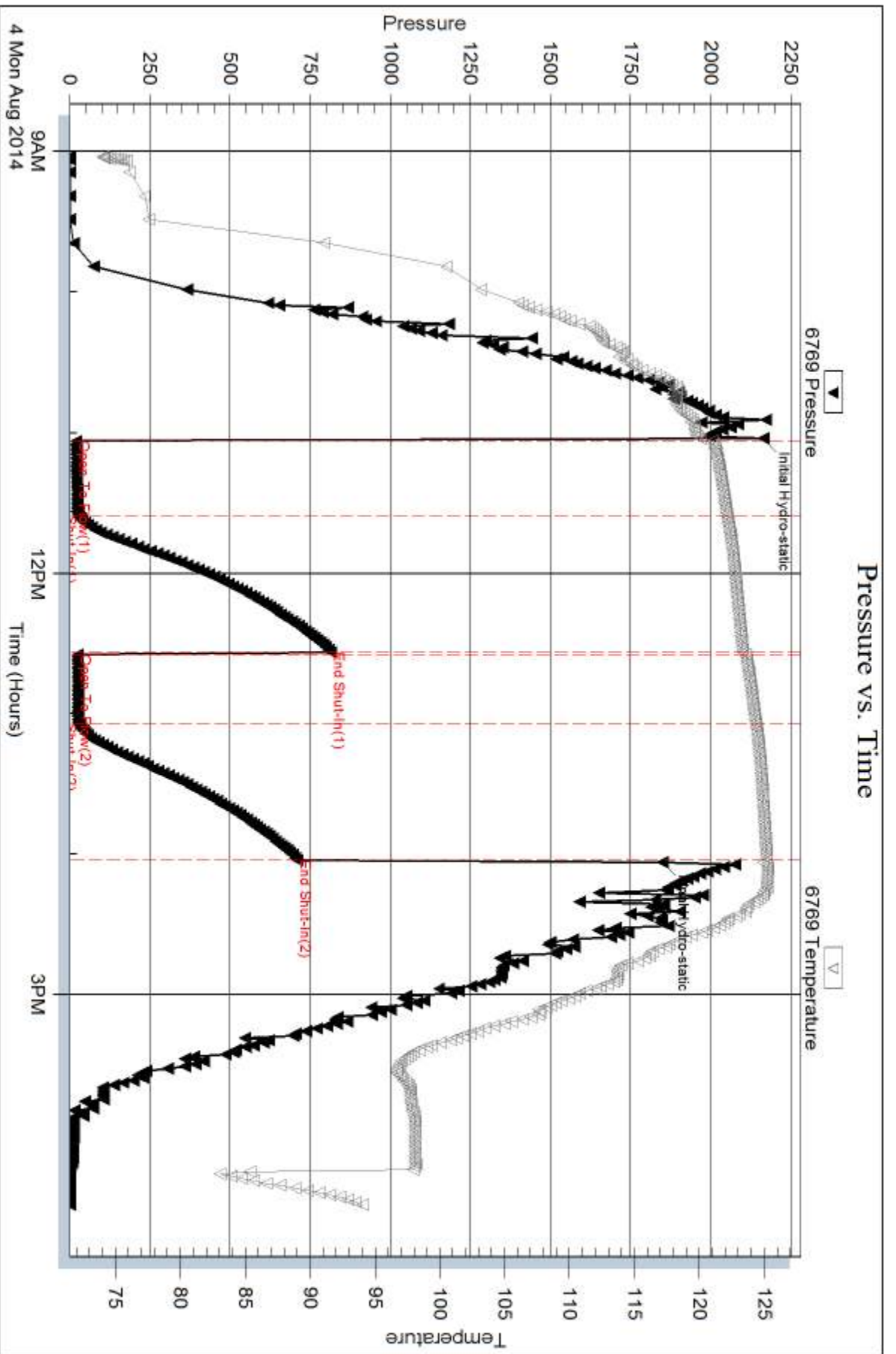
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



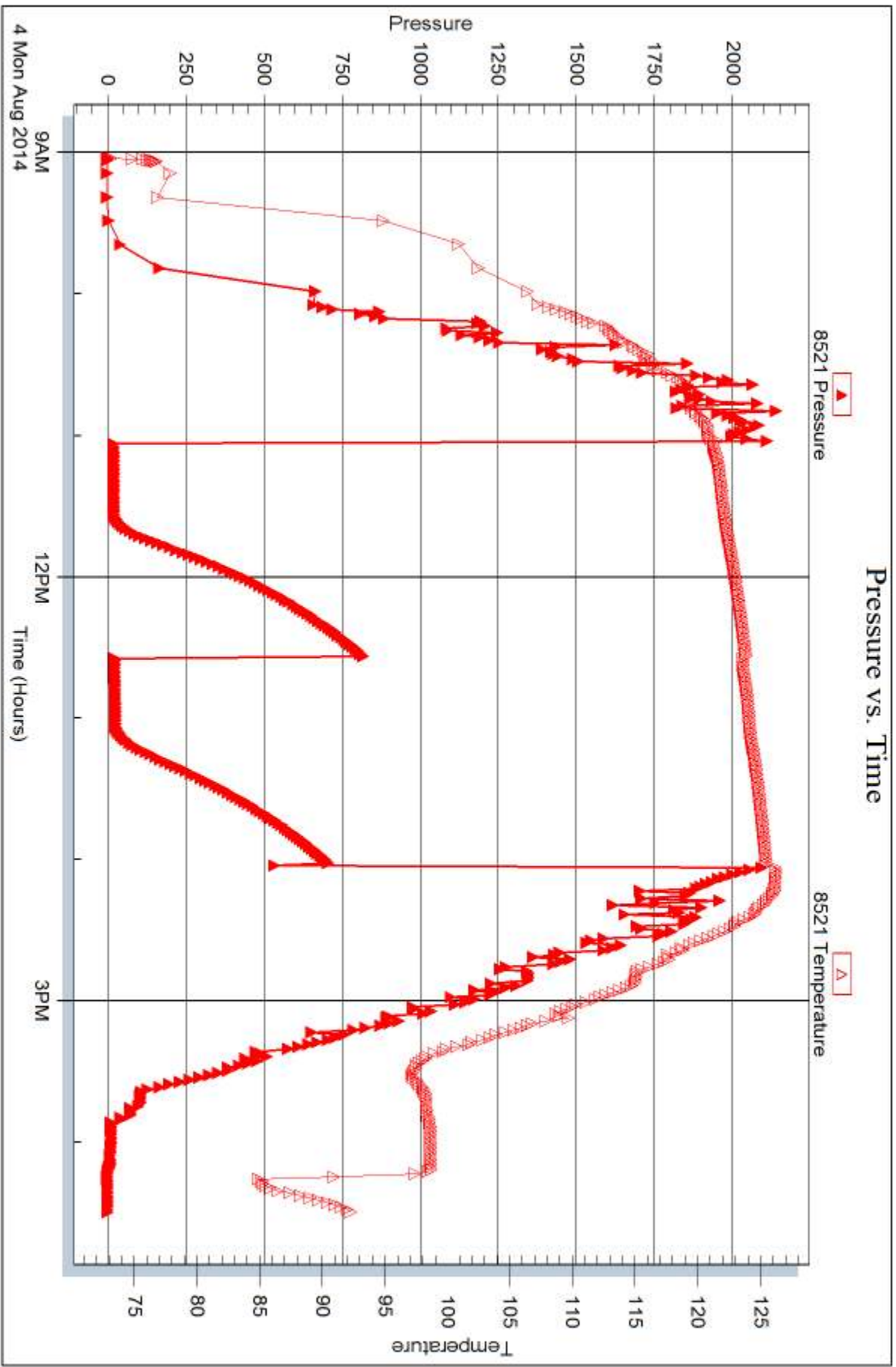
Serial #: 8521

Inside

Murfin Dtg Co., Inc.

Ladenburger 'B' #1-6

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 51621

Printed: 2014.08.08 @ 10:38:49



DRILL STEM TEST REPORT

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

250 N. Water, Ste 300
Wichita, KS 67202

ATTN: Keith Reavis

Ladenburger 'B' #1-6

6-1s-35w Rawlins,KS

Start Date: 2014.08.05 @ 08:13:00

End Date: 2014.08.05 @ 17:14:30

Job Ticket #: 51622 DST #: 2

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

Printed: 2014.08.08 @ 10:38:25



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drlg Co., Inc.

6-1s-35w Rawlins,KS

250 N. Water, Ste 300
Wichita, KS 67202

Ladenburger 'B' #1-6

ATTN: Keith Reavis

Job Ticket: 51622

DST#: 2

Test Start: 2014.08.05 @ 08:13:00

GENERAL INFORMATION:

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

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:25:30

Time Test Ended: 17:14:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Quintana

Unit No: 49

Interval: 4116.00 ft (KB) To 4240.00 ft (KB) (TVD)

Reference Elevations: 3216.00 ft (KB)

Total Depth: 4240.00 ft (KB) (TVD)

3211.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6769 Outside

Press@RunDepth: 186.02 psig @ 4117.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.08.05

End Date:

2014.08.05

Last Calib.:

2014.08.05

Start Time:

08:13:05

End Time:

17:14:30

Time On Btm:

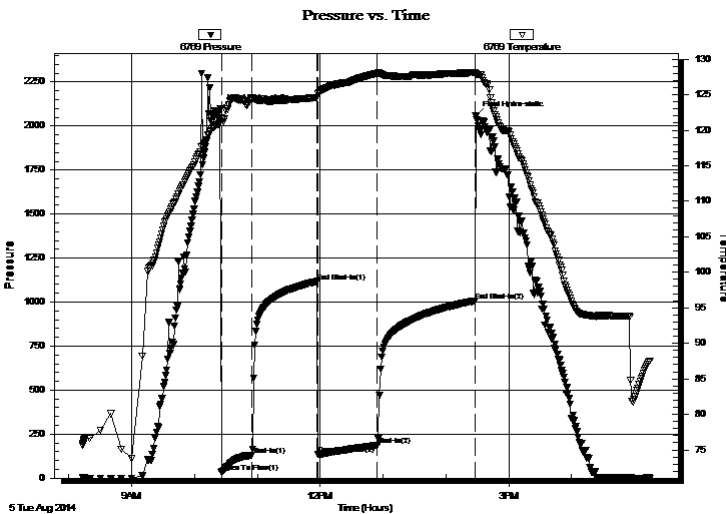
2014.08.05 @ 10:24:30

Time Off Btm:

2014.08.05 @ 14:28:30

TEST COMMENT: 30 - IF - Opened w/ surface blow , built to 9"
60 - ISI - No Return
60 - FF - Opened w/ surface blow , built to 9 3/4"
90 - FSI - No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2096.42	121.05	Initial Hydro-static
1	31.59	121.76	Open To Flow (1)
30	131.21	124.37	Shut-In(1)
92	1116.47	124.58	End Shut-In(1)
93	134.35	125.10	Open To Flow (2)
150	186.02	128.01	Shut-In(2)
243	1007.15	128.13	End Shut-In(2)
244	2056.53	127.88	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
183.00	MW 67%w , 33%m	0.90
174.00	100%m w / oil spots	2.41

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

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

6-1s-35w Rawlins,KS
Ladenburger 'B' #1-6
 Job Ticket: 51622 **DST#: 2**
 Test Start: 2014.08.05 @ 08:13:00

GENERAL INFORMATION:

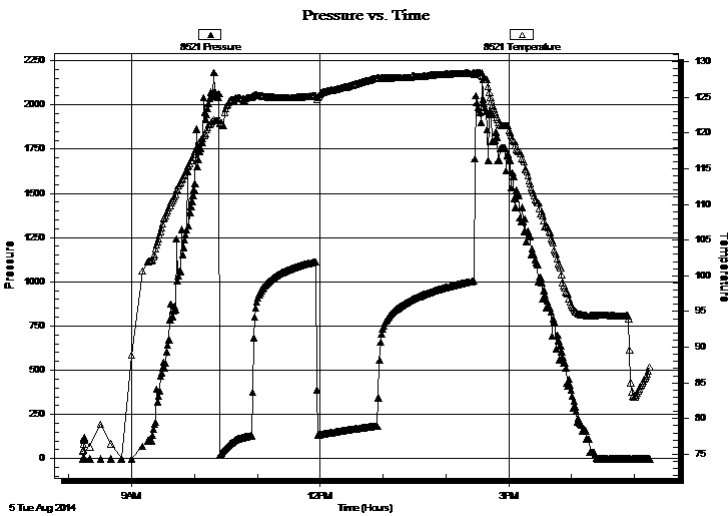
Formation: **LKC "A-D"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 10:25:30
 Time Test Ended: 17:14:30
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Brandon Quintana
 Unit No: 49
 Interval: **4116.00 ft (KB) To 4240.00 ft (KB) (TVD)**
 Reference Elevations: 3216.00 ft (KB)
 Total Depth: 4240.00 ft (KB) (TVD) 3211.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

Serial #: 8521 Inside

Press@RunDepth: psig @ 4117.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.08.05 End Date: 2014.08.05 Last Calib.: 2014.08.05
 Start Time: 08:13:05 End Time: 17:14:30 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30 - IF - Opened w/ surface blow , built to 9"
 60 - ISI - No Return
 60 - FF - Opened w/ surface blow , built to 9 3/4"
 90 - FSI - No Return

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
183.00	MW 67%w, 33%m	0.90
174.00	100%m w / oil spots	2.41

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drlg Co., Inc.

6-1s-35w Rawlins,KS

250 N. Water, Ste 300
Wichita, KS 67202

Ladenburger 'B' #1-6

Job Ticket: 51622

DST#: 2

ATTN: Keith Reavis

Test Start: 2014.08.05 @ 08:13:00

Tool Information

Drill Pipe:	Length: 3929.40 ft	Diameter: 3.80 inches	Volume: 55.12 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 186.60 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 56.04 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4116.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	124.00 ft			
Tool Length:	151.00 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			4094.00	
Hydraulic tool	5.00			4099.00	
Jars	5.00			4104.00	
Safety Joint	3.00			4107.00	
Packer	5.00			4112.00	27.00 Bottom Of Top Packer
Packer	4.00			4116.00	
Stubb	1.00			4117.00	
Recorder	0.00	8521	Inside	4117.00	
Recorder	0.00	6769	Outside	4117.00	
Perforations	23.00			4140.00	
Change Over Sub	1.00			4141.00	
Drill Pipe	95.00			4236.00	
Change Over Sub	1.00			4237.00	
Bullnose	3.00			4240.00	124.00 Bottom Packers & Anchor

Total Tool Length: 151.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drlg Co., Inc.

6-1s-35w Rawlins,KS

250 N. Water, Ste 300
Wichita, KS 67202

Ladenburger 'B' #1-6

Job Ticket: 51622

DST#: 2

ATTN: Keith Reavis

Test Start: 2014.08.05 @ 08:13:00

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: 48.00 sec/qt

Cushion Volume:

bbf

Water Loss: 8.38 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
183.00	MW 67%w , 33%m	0.900
174.00	100%m w / oil spots	2.408

Total Length: 357.00 ft

Total Volume: 3.308 bbf

Num Fluid Samples: 0

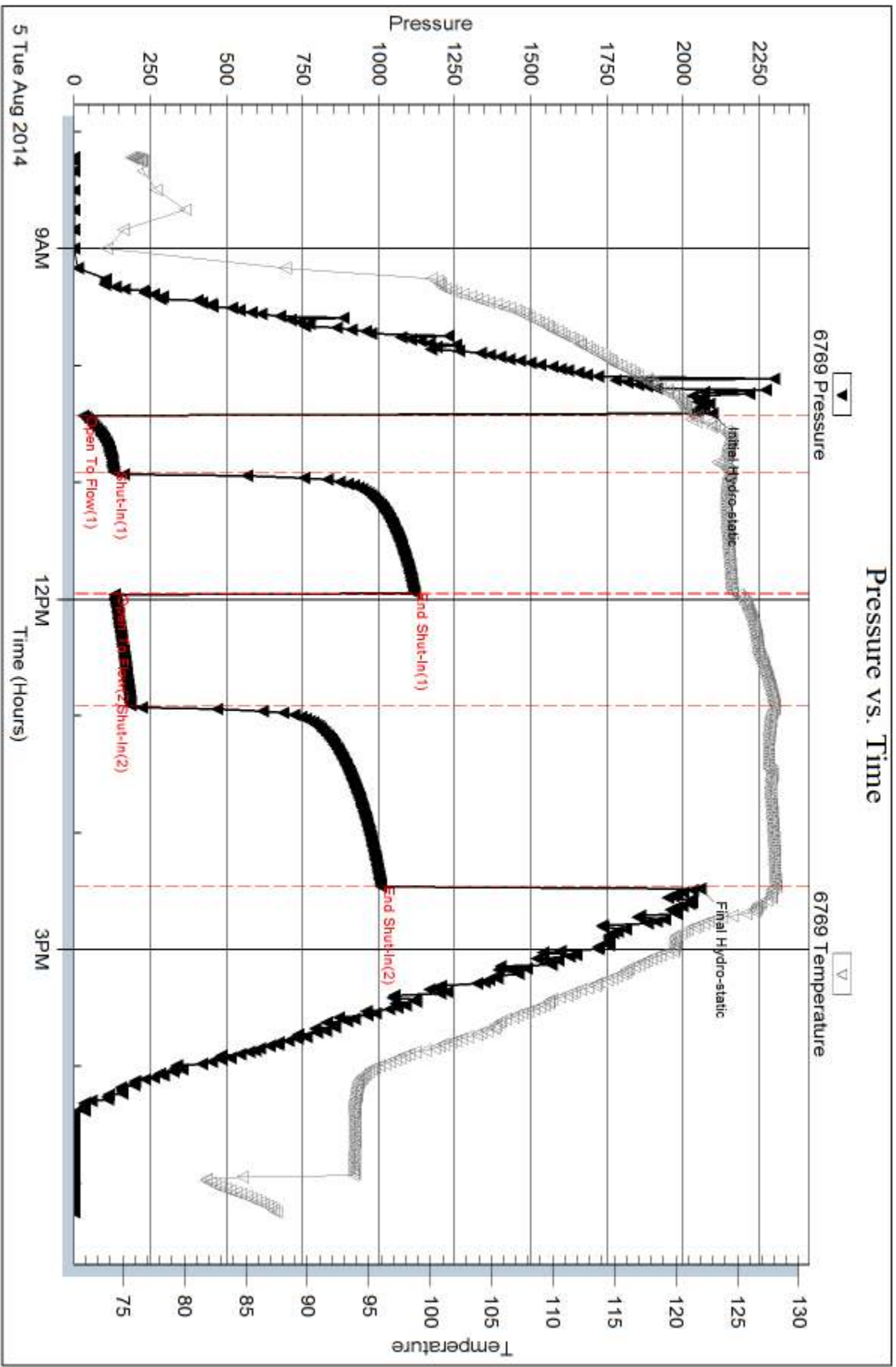
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



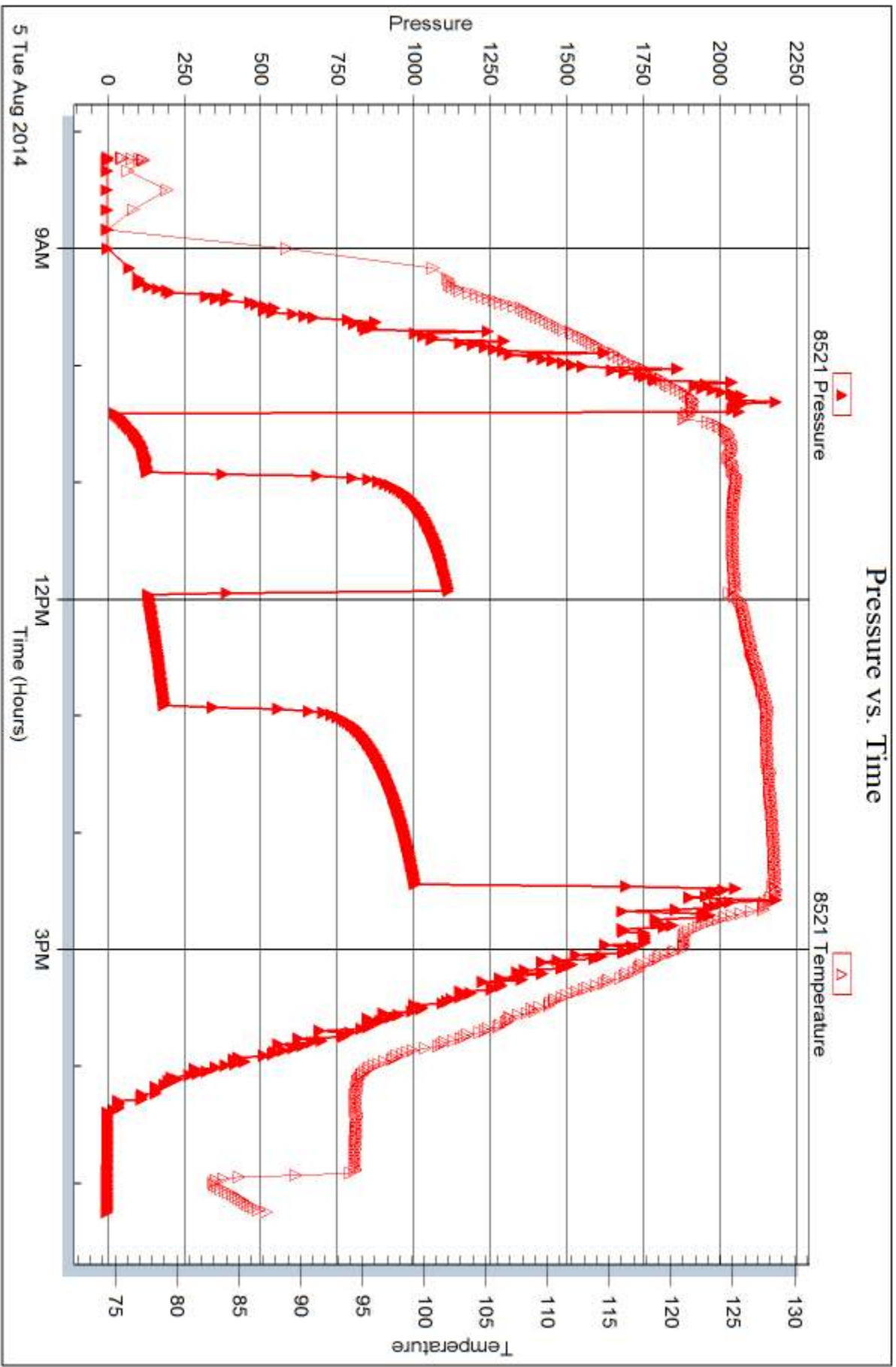
Serial #: 8521

Inside

Murfin Dtg Co., Inc.

Ladenburger 'B' #1-6

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 51622

Printed: 2014.08.08 @ 10:38:27



DRILL STEM TEST REPORT

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

250 N. Water, Ste 300
Wichita, KS 67202

ATTN: Keith Reavis

Ladenburger 'B' #1-6

6-1s-35w Rawlins,KS

Start Date: 2014.08.06 @ 08:20:00

End Date: 2014.08.06 @ 15:57:30

Job Ticket #: 51623 DST #: 3

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

Printed: 2014.08.08 @ 10:37:49

Murfin Drlg Co., Inc.
6-1s-35w Rawlins,KS
Ladenburger 'B' #1-6
DST # 3
LKC "G-I"
2014.08.06



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

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

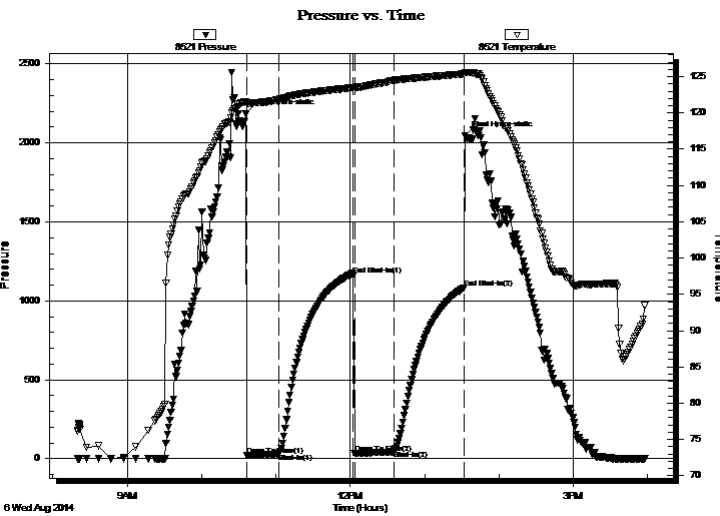
6-1s-35w Rawlins,KS
Ladenburger 'B' #1-6
Job Ticket: 51623 **DST#: 3**
Test Start: 2014.08.06 @ 08:20:00

GENERAL INFORMATION:

Formation: **LKC "G-I"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 10:36:30
Time Test Ended: 15:57:30
Interval: **4236.00 ft (KB) To 4365.00 ft (KB) (TVD)**
Total Depth: 4365.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Initial)
Tester: Brandon Quintana
Unit No: 49
Reference Elevations: 3216.00 ft (KB)
3211.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8521 Inside
Press@RunDepth: 50.65 psig @ 4237.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.08.06 End Date: 2014.08.06 Last Calib.: 2014.08.06
Start Time: 08:20:05 End Time: 15:57:29 Time On Btm: 2014.08.06 @ 10:35:30
Time Off Btm: 2014.08.06 @ 13:32:30

TEST COMMENT: 30 - IF - Opened w/ surface blow , built to 1" in 20 min.
60 - ISI - No Return
30 - FF - No Blow
60 - FSI - No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2182.85	121.52	Initial Hydro-static
1	21.29	121.36	Open To Flow (1)
27	32.10	121.87	Shut-In(1)
87	1163.53	123.48	End Shut-In(1)
88	34.32	123.52	Open To Flow (2)
120	50.65	124.49	Shut-In(2)
176	1081.63	125.37	End Shut-In(2)
177	2046.95	125.58	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
40.00	100% m w / oil spots	0.20

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drlg Co., Inc.

6-1s-35w Rawlins,KS

250 N. Water, Ste 300
Wichita, KS 67202

Ladenburger 'B' #1-6

Job Ticket: 51623

DST#: 3

ATTN: Keith Reavis

Test Start: 2014.08.06 @ 08:20:00

Tool Information

Drill Pipe:	Length: 4054.00 ft	Diameter: 3.80 inches	Volume: 56.87 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 186.60 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 57.79 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.60 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4236.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	129.00 ft			
Tool Length:	156.00 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			4214.00	
Hydraulic tool	5.00			4219.00	
Jars	5.00			4224.00	
Safety Joint	3.00			4227.00	
Packer	5.00			4232.00	27.00 Bottom Of Top Packer
Packer	4.00			4236.00	
Stubb	1.00			4237.00	
Recorder	0.00	8521	Inside	4237.00	
Recorder	0.00	6769	Outside	4237.00	
Perforations	28.00			4265.00	
Change Over Sub	1.00			4266.00	
Drill Pipe	95.00			4361.00	
Change Over Sub	1.00			4362.00	
Bullnose	3.00			4365.00	129.00 Bottom Packers & Anchor

Total Tool Length: 156.00



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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drlg Co., Inc.

6-1s-35w Rawlins,KS

250 N. Water, Ste 300
Wichita, KS 67202

Ladenburger 'B' #1-6

Job Ticket: 51623

DST#: 3

ATTN: Keith Reavis

Test Start: 2014.08.06 @ 08:20:00

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: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.38 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
40.00	100% m w / oil spots	0.197

Total Length: 40.00 ft Total Volume: 0.197 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8521

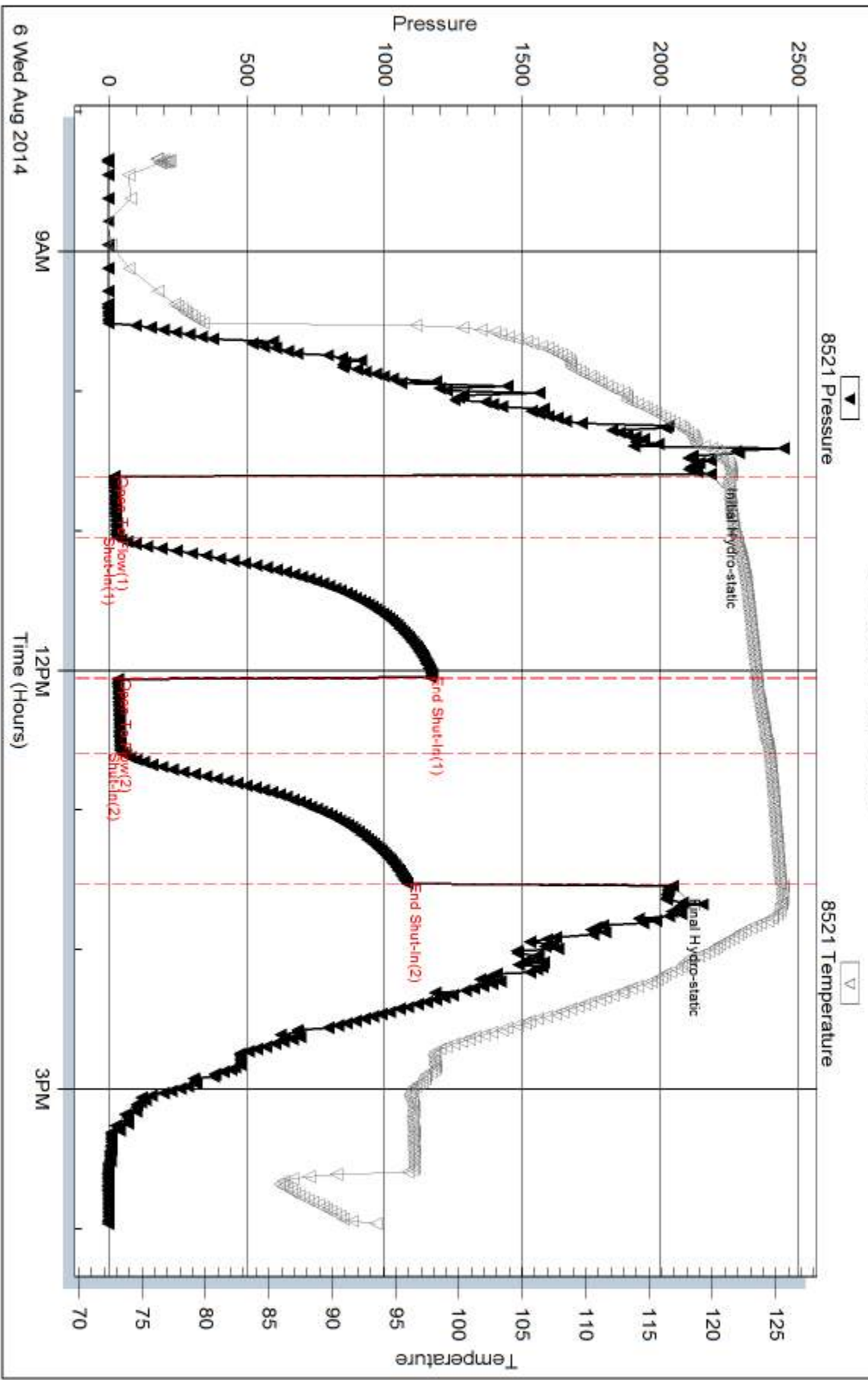
Inside

Murfin Drtg Co., Inc.

Ladenburger 'B' #1-6

DST Test Number: 3

Pressure vs. Time





DRILL STEM TEST REPORT

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

250 N. Water, Ste 300
Wichita, KS 67202

ATTN: Keith Reavis

Ladenburger 'B' #1-6

6-1s-35w Rawlins,KS

Start Date: 2014.08.06 @ 23:44:00

End Date: 2014.08.07 @ 08:15:00

Job Ticket #: 58366 DST #: 4

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

Printed: 2014.08.08 @ 10:30:52



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drlg Co., Inc.

6-1s-35w Rawlins,KS

250 N. Water, Ste 300
Wichita, KS 67202

Ladenburger 'B' #1-6

Job Ticket: 58366

DST#: 4

ATTN: Keith Reavis

Test Start: 2014.08.06 @ 23:44:00

GENERAL INFORMATION:

Formation: **LKC "J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:59:30

Time Test Ended: 08:15:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Quintana

Unit No: 49

Interval: 4340.00 ft (KB) To 4395.00 ft (KB) (TVD)

Reference Elevations: 3216.00 ft (KB)

Total Depth: 4395.00 ft (KB) (TVD)

3211.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8521

Inside

Press@RunDepth: 22.04 psig @ 4341.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.08.06

End Date:

2014.08.07

Last Calib.:

2014.08.07

Start Time:

23:44:05

End Time:

08:14:59

Time On Btm:

2014.08.07 @ 02:58:30

Time Off Btm:

2014.08.07 @ 05:59:30

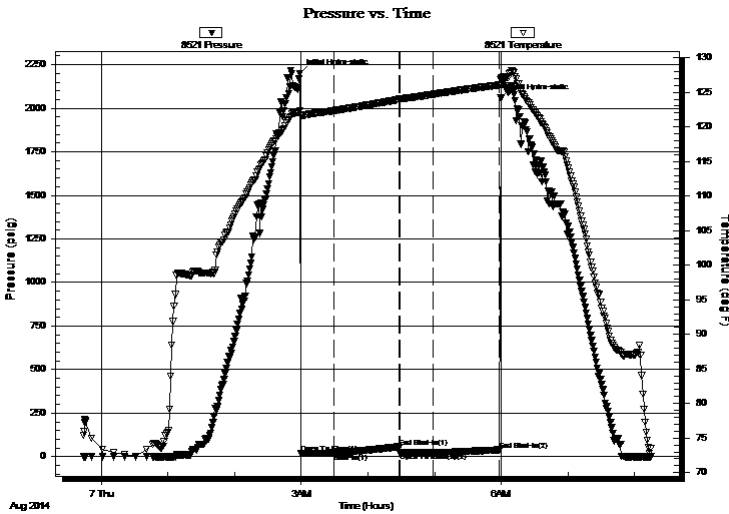
TEST COMMENT: 30 - IF - Opened w/ surface blow , built to 1/4"

60 - ISI - No Return

30 - FF - No Blow

60 - FSI - No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2199.46	122.36	Initial Hydro-static
1	19.56	121.74	Open To Flow (1)
31	20.30	122.35	Shut-In(1)
89	51.36	123.93	End Shut-In(1)
90	21.78	124.00	Open To Flow (2)
120	22.04	124.70	Shut-In(2)
180	39.09	126.05	End Shut-In(2)
181	2057.74	126.88	Final Hydro-static

Recovery

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

Gas Rates

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



**TRILOBITE
TESTING, INC.**

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TOOL DIAGRAM

Murfin Drlg Co., Inc.

6-1s-35w Rawlins,KS

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Wichita, KS 67202

Ladenburger 'B' #1-6

Job Ticket: 58366

DST#: 4

ATTN: Keith Reavis

Test Start: 2014.08.06 @ 23:44:00

Tool Information

Drill Pipe:	Length: 4149.00 ft	Diameter: 3.80 inches	Volume: 58.20 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 186.60 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 59.12 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	22.60 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4340.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	55.00 ft			
Tool Length:	82.00 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			4318.00	
Hydraulic tool	5.00			4323.00	
Jars	5.00			4328.00	
Safety Joint	3.00			4331.00	
Packer	5.00			4336.00	27.00 Bottom Of Top Packer
Packer	4.00			4340.00	
Stubb	1.00			4341.00	
Recorder	0.00	8521	Inside	4341.00	
Recorder	0.00	6769	Outside	4341.00	
Perforations	17.00			4358.00	
Change Over Sub	1.00			4359.00	
Drill Pipe	32.00			4391.00	
Change Over Sub	1.00			4392.00	
Bullnose	3.00			4395.00	55.00 Bottom Packers & Anchor

Total Tool Length: 82.00



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TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drlg Co., Inc.

6-1s-35w Rawlins,KS

250 N. Water, Ste 300
Wichita, KS 67202

Ladenburger 'B' #1-6

Job Ticket: 58366

DST#: 4

ATTN: Keith Reavis

Test Start: 2014.08.06 @ 23:44:00

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: 69.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	100%mud	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:

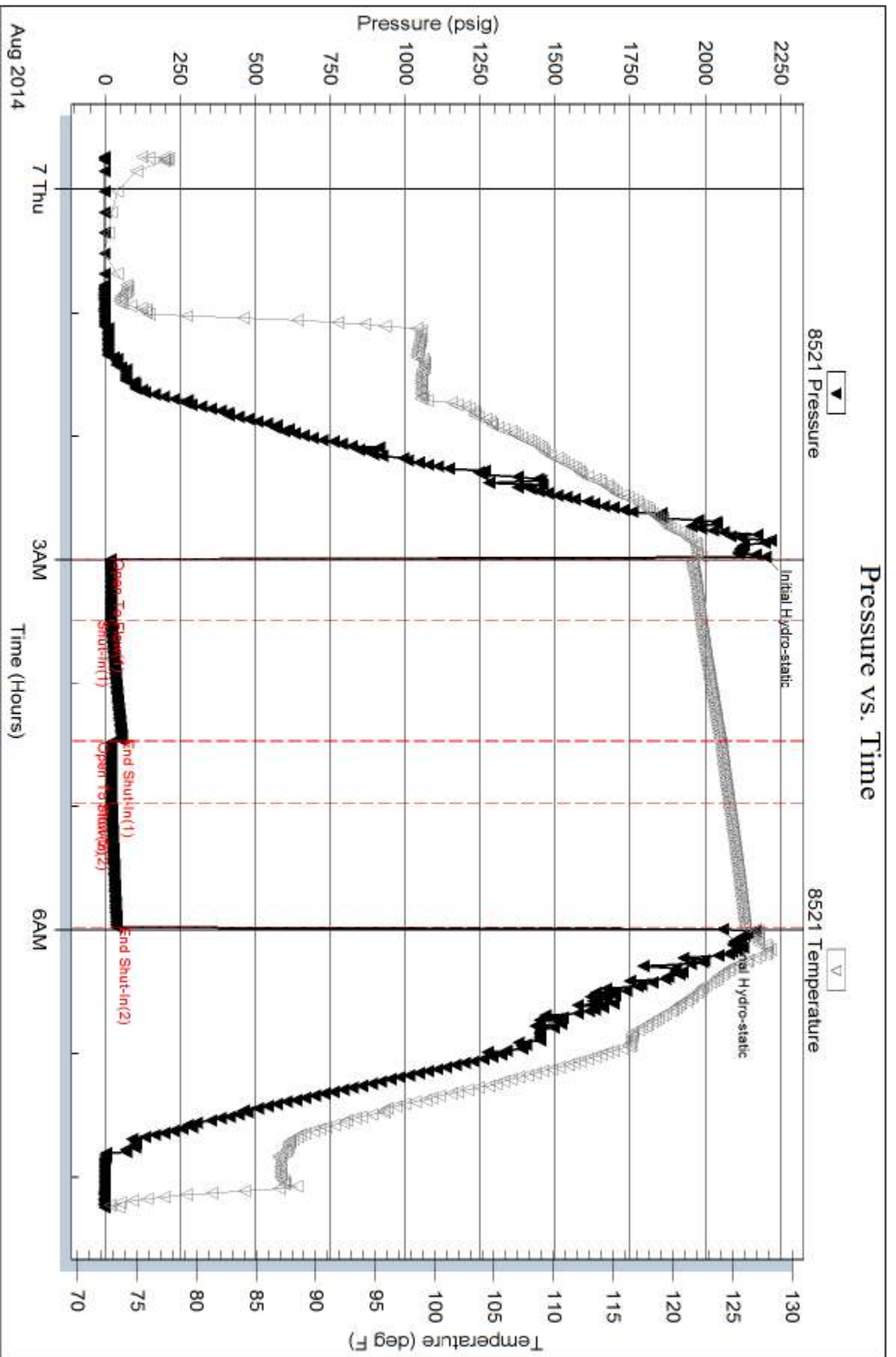
Serial #: 8521

Inside

Murfin Drtg Co., Inc.

Ladenburger 'B' #1-6

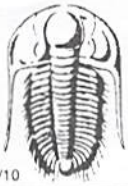
DST Test Number: 4



Tribble Testing, Inc

Ref. No: 58366

Printed: 2014.08.08 @ 10:30:53



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 51621

Well Name & No. Ladenburger 'B' #1-6 Test No. 1 Date 8-4-14
 Company Murfin Drilg Co., Inc. Elevation 3216 KB 3211 GL
 Address 250 N. Water, STE 300 Wichita, KS 67202
 Co. Rep / Geo. Keith Reavis Rig Murfin #7
 Location: Sec. 6 Twp. 1N Rge. 35W Co. Rawlins State KS

Interval Tested 4019 - 4095 Zone Tested Oread
 Anchor Length 76' Drill Pipe Run 3834.84 Mud Wt. 9.1
 Top Packer Depth 4014 Drill Collars Run 186.6 Vis 55
 Bottom Packer Depth 4019 Wt. Pipe Run — WL 8
 Total Depth 4095 Chlorides 400 ppm System LCM 4
 Blow Description IF - Opened w/ surface blow, died back to nothing
ISI - No Return
FF - No Blow
FSI - No Return

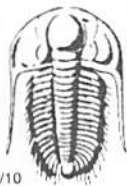
Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>Mud</u>			<u>100</u>	

Rec Total 2 BHT 125 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2163</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>7:45 AM</u>
(B) First Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>9:02 AM</u>
(C) First Final Flow <u>29</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>11:04 AM</u>
(D) Initial Shut-In <u>814</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>2:04 PM</u>
(E) Second Initial Flow <u>24</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>4:30 PM</u>
(F) Second Final Flow <u>28</u>	<input checked="" type="checkbox"/> Mileage <u>113 R.T. 175.15</u>	Comments _____
(G) Final Shut-In <u>710</u>	<input type="checkbox"/> Sampler _____	_____
(H) Final Hydrostatic <u>1849</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Packer _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby _____	Total <u>1750.15</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1750.15</u>	

Approved By _____ Our Representative Burdie Quire

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. 51622

Well Name & No. Ladenburger 'B' #1-6 Test No. 2 Date 8-5-14
 Company Murfin Drly Co., Inc. Elevation 3216 KB 3211 GL
 Address 250 N. Water, STE 300 Wichita, KS 67202
 Co. Rep / Geo. Keith Reavis Rig Murfin #7
 Location: Sec. 6 Twp. 1N Rge. 35W Co. Rawlins State KS

Interval Tested 4116-4240 Zone Tested LKC "A-D"
 Anchor Length 124' Drill Pipe Run 3929.4 Mud Wt. 9.4
 Top Packer Depth 4111 Drill Collars Run 186.6 Vis 48
 Bottom Packer Depth 4116 Wt. Pipe Run — WL 8.4
 Total Depth 4240 Chlorides 600 ppm System LCM 5

Blow Description IF-Opened w/ surface blow, built to 9"
ISI- No Return
FF-Opened w/ surface blow, built to 9 3/4"
FSI- No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>174</u>	<u>Mud w/ oil spots</u>			<u>100</u>	
<u>183</u>	<u>MW</u>			<u>67</u>	<u>33</u>

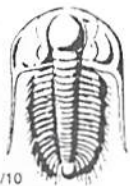
Rec Total 351 BHT 128 Gravity _____ API RW .125 @ 96.2 °F Chlorides 45,000 ppm

(A) Initial Hydrostatic 2096 Test 1250 T-On Location 8:00 AM
 (B) First Initial Flow 31 Jars 250 T-Started 8:13 AM
 (C) First Final Flow 131 Safety Joint 75 T-Open 10:26 AM
 (D) Initial Shut-In _____ Circ Sub _____ T-Pulled 2:26 PM
 (E) Second Initial Flow 134 Hourly Standby _____ T-Out 5:15 PM
 (F) Second Final Flow 186 Mileage 113 R.T. 175.15 Comments _____
 (G) Final Shut-In 1007 Sampler _____
 (H) Final Hydrostatic 2056 Straddle _____

Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1750.15
 Total 1750.15
 MP/DST Disc't _____

Approved By _____ Our Representative Bud Ott

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. 51623

Well Name & No. Ladenburger 'B' #1-6 Test No. 3 Date 8-6-14
 Company Murfin Drilg. Co., Inc. Elevation 3216 - KB 3211 GL
 Address 250 N. Water, STE 300 Wichita, KS 67202
 Co. Rep / Geo. Keith Reavis Rig Murfin #7
 Location: Sec. 6 Twp. 1N Rge. 35W Co. Rawlins State KS

Interval Tested 4236 - 4365 Zone Tested LKC "G-I"
 Anchor Length 129' Drill Pipe Run 4054 Mud Wt. 9.3
 Top Packer Depth 4231 Drill Collars Run 186.6 Vis 48
 Bottom Packer Depth 4236 Wt. Pipe Run — WL 8.4
 Total Depth 4365 Chlorides 600 ppm System LCM 6
 Blow Description IF - Opened w/ surface blow, built to 1" in 20"
ISI - No Return
FF - No Blow
FST - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>40</u>	<u>Mud w/ oil spots</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 40 BHT 125 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2182 Test 1250 T-On Location 8:15 AM
 (B) First Initial Flow 21 Jars 250 T-Started 8:20 AM
 (C) First Final Flow 32 Safety Joint 75 T-Open 10:37 AM
 (D) Initial Shut-In 1163 Circ Sub _____ T-Pulled 1:37 PM
 (E) Second Initial Flow 34 Hourly Standby _____ T-Out 3:58 PM
 (F) Second Final Flow 50 Mileage 113 R.T. 175.15 Comments _____
 (G) Final Shut-In 1081 Sampler _____
 (H) Final Hydrostatic 2046 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1750.15

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

Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1750.15
 MP/DST Disc't _____

Approved By _____

Our Representative Burd Oitz

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **58366**

Well Name & No. Ladenburger 'B' #1-6 Test No. 4 Date 8-6-14
 Company Murfin Drly Co., Inc. Elevation 3216 KB 3211 GL
 Address 250 N. Water, STE 300 Wichita, KS 67202
 Co. Rep / Geo. Keith Reavis Rig Murfin #7
 Location: Sec. 6 Twp. 1N Rge. 35W Co. Rawlins State KS

Interval Tested 4340-4395 Zone Tested LKC "J"
 Anchor Length 55' Drill Pipe Run 4149 Mud Wt. 9.1
 Top Packer Depth 4335 Drill Collars Run 186.6 Vis 69
 Bottom Packer Depth 4340 Wt. Pipe Run — WL 8
 Total Depth 4395 Chlorides 700 ppm System LCM 3
 Blow Description IF-Opened w/ surface blow, built to '14"
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 126 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2199</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>11:00 PM</u>
(B) First Initial Flow <u>19</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>11:44 PM</u>
(C) First Final Flow <u>20</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>3:00 AM</u>
(D) Initial Shut-In <u>51</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>6:00 AM</u>
(E) Second Initial Flow <u>21</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>8:15 AM</u>
(F) Second Final Flow <u>22</u>	<input checked="" type="checkbox"/> Mileage <u>113 P.T. 175.15</u>	Comments <u>Picked up tool</u>
(G) Final Shut-In <u>39</u>	<input type="checkbox"/> Sampler <u>175.15</u>	<u>@ 6:11 PM on</u>
(H) Final Hydrostatic <u>2057</u>	<input type="checkbox"/> Straddle _____	<u>8:00 AM 8-6-14</u>
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Ruined Packer _____
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder _____	<input type="checkbox"/> Extra Copies _____
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby _____	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility _____	Total <u>1925.30</u>
	Sub Total <u>1925.30</u>	MP/DST Disc't _____

Approved By _____

Our Representative B. De Oit