



DRILL STEM TEST REPORT

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

205 N Water STE 300
Wichita, KS 67202

ATTN: Rocky MilFord

Bash #1-29

29-1s-38w Cheyenne KS

Start Date: 2014.09.09 @ 22:06:00

End Date: 2014.09.10 @ 07:36:30

Job Ticket #: 60139 DST #: 1

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

Printed: 2014.09.16 @ 11:40:07



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.
 205 N Water STE 300
 Wichita, KS 67202
 ATTN: Rocky MilFord

29-1s-38w Cheyenne KS

Bash #1-29

Job Ticket: 60139

DST#: 1

Test Start: 2014.09.09 @ 22:06:00

GENERAL INFORMATION:

Formation: **Oread**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 01:21:00
 Time Test Ended: 07:36:30
 Interval: **4055.00 ft (KB) To 4120.00 ft (KB) (TVD)**
 Total Depth: 4120.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Donovan Baumann
 Unit No: 49
 Reference Elevations: 3216.00 ft (KB)
 3211.00 ft (CF)
 KB to GR/CF: 5.00 ft

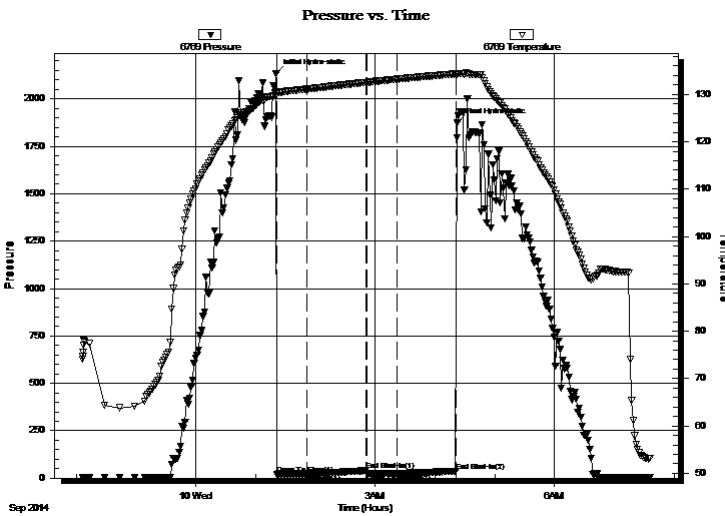
Serial #: 6769

Outside

Press@RunDepth: 24.96 psig @ 4056.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.09.09 End Date: 2014.09.10 Last Calib.: 2014.09.10
 Start Time: 22:06:05 End Time: 07:36:30 Time On Btm: 2014.09.10 @ 01:20:30
 Time Off Btm: 2014.09.10 @ 04:22:30

TEST COMMENT: 30 - IF - No surface blow
 60 - ISI - No return
 30 - FF - No surface blow
 60 - FSI - No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2134.22	129.74	Initial Hydro-static
1	21.13	130.07	Open To Flow (1)
31	22.77	131.12	Shut-In(1)
91	39.87	132.56	End Shut-In(1)
92	23.98	132.56	Open To Flow (2)
122	24.96	133.23	Shut-In(2)
181	36.44	134.35	End Shut-In(2)
182	1872.48	134.33	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud - 100M	0.02

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

29-1s-38w Cheyenne KS

205 N Water STE 300
Wichita, KS 67202

Bash #1-29

Job Ticket: 60139

DST#: 1

ATTN: Rocky MilFord

Test Start: 2014.09.09 @ 22:06:00

GENERAL INFORMATION:

Formation: **Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:21:00

Time Test Ended: 07:36:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Donovan Baumann

Unit No: 49

Interval: **4055.00 ft (KB) To 4120.00 ft (KB) (TVD)**

Total Depth: 4120.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3216.00 ft (KB)

3211.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8521

Press@RunDepth: psig @ ft (KB)

Start Date: 2014.09.09

End Date:

2014.09.10

Start Time: 22:06:05

End Time:

07:36:00

Capacity: 8000.00 psig

Last Calib.:

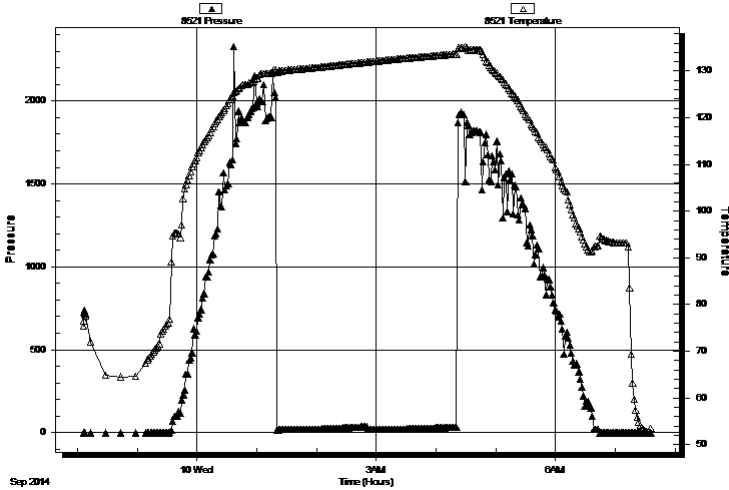
2014.09.10

Time On Btm:

Time Off Btm:

TEST COMMENT: 30 - IF - No surface blow
60 - ISI - No return
30 - FF - No surface blow
60 - FSI - No return

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud - 100M	0.02

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

29-1s-38w Cheyenne KS

205 N Water STE 300
Wichita, KS 67202

Bash #1-29

Job Ticket: 60139

DST#: 1

ATTN: Rocky MilFord

Test Start: 2014.09.09 @ 22:06:00

Tool Information

Drill Pipe:	Length: 3864.00 ft	Diameter: 3.80 inches	Volume: 54.20 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: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 55.11 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4055.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	65.00 ft			
Tool Length:	92.00 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			4033.00	
Hydraulic tool	5.00			4038.00	
Jars	5.00			4043.00	
Safety Joint	3.00			4046.00	
Packer	5.00			4051.00	27.00 Bottom Of Top Packer
Packer	4.00			4055.00	
Stubb	1.00			4056.00	
Recorder	0.00	8521	Inside	4056.00	
Recorder	0.00	6769	Outside	4056.00	
Perforations	28.00			4084.00	
Change Over Sub	1.00			4085.00	
Drill Pipe	31.00			4116.00	
Change Over Sub	1.00			4117.00	
Bullnose	3.00			4120.00	65.00 Bottom Packers & Anchor

Total Tool Length: 92.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

29-1s-38w Cheyenne KS

205 N Water STE 300
Wichita, KS 67202

Bash #1-29

Job Ticket: 60139

DST#: 1

ATTN: Rocky MilFord

Test Start: 2014.09.09 @ 22:06:00

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:

bbbl

Water Loss: 9.17 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
5.00	Mud - 100M	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

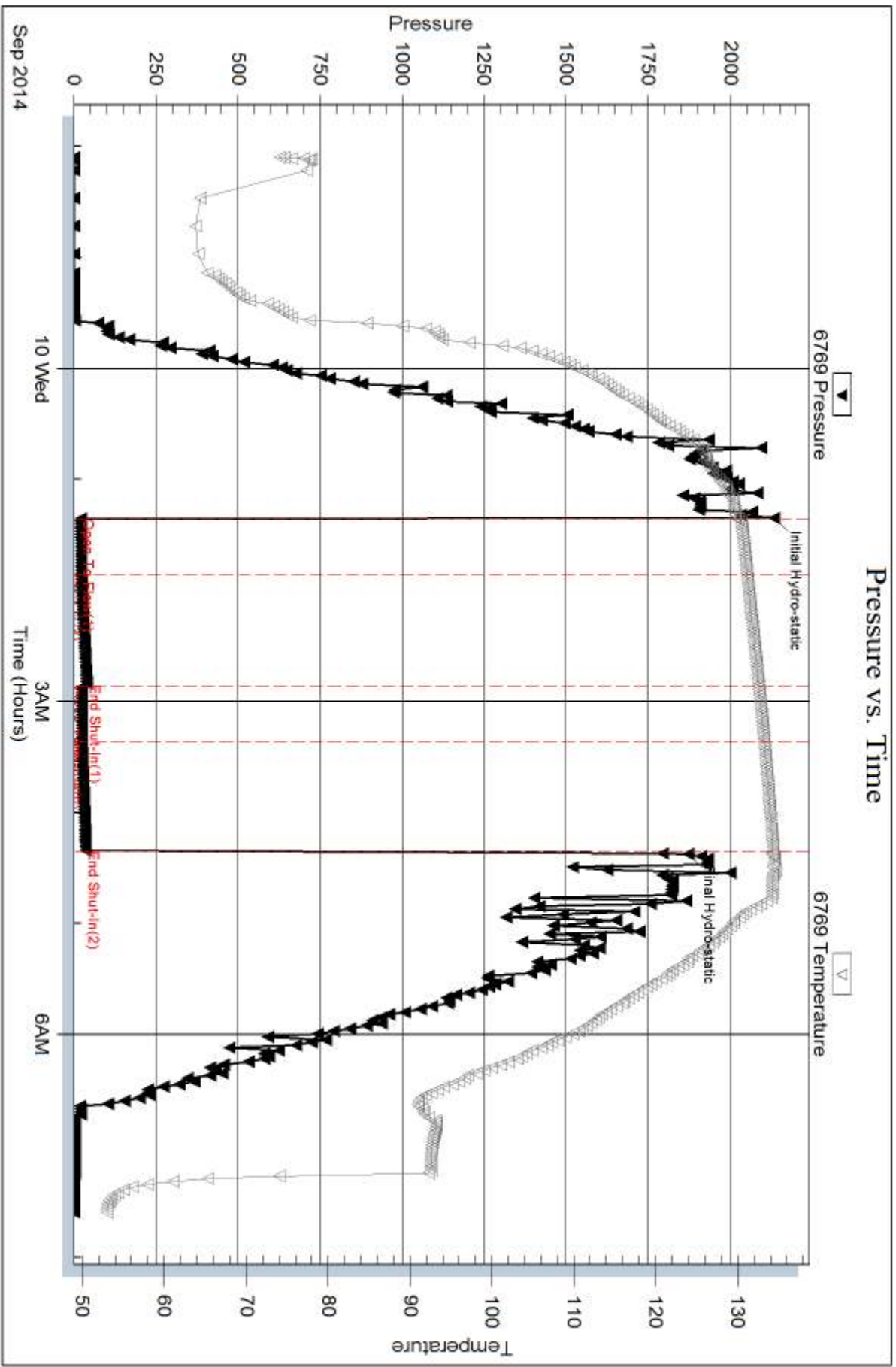
Num Gas Bombs: 0

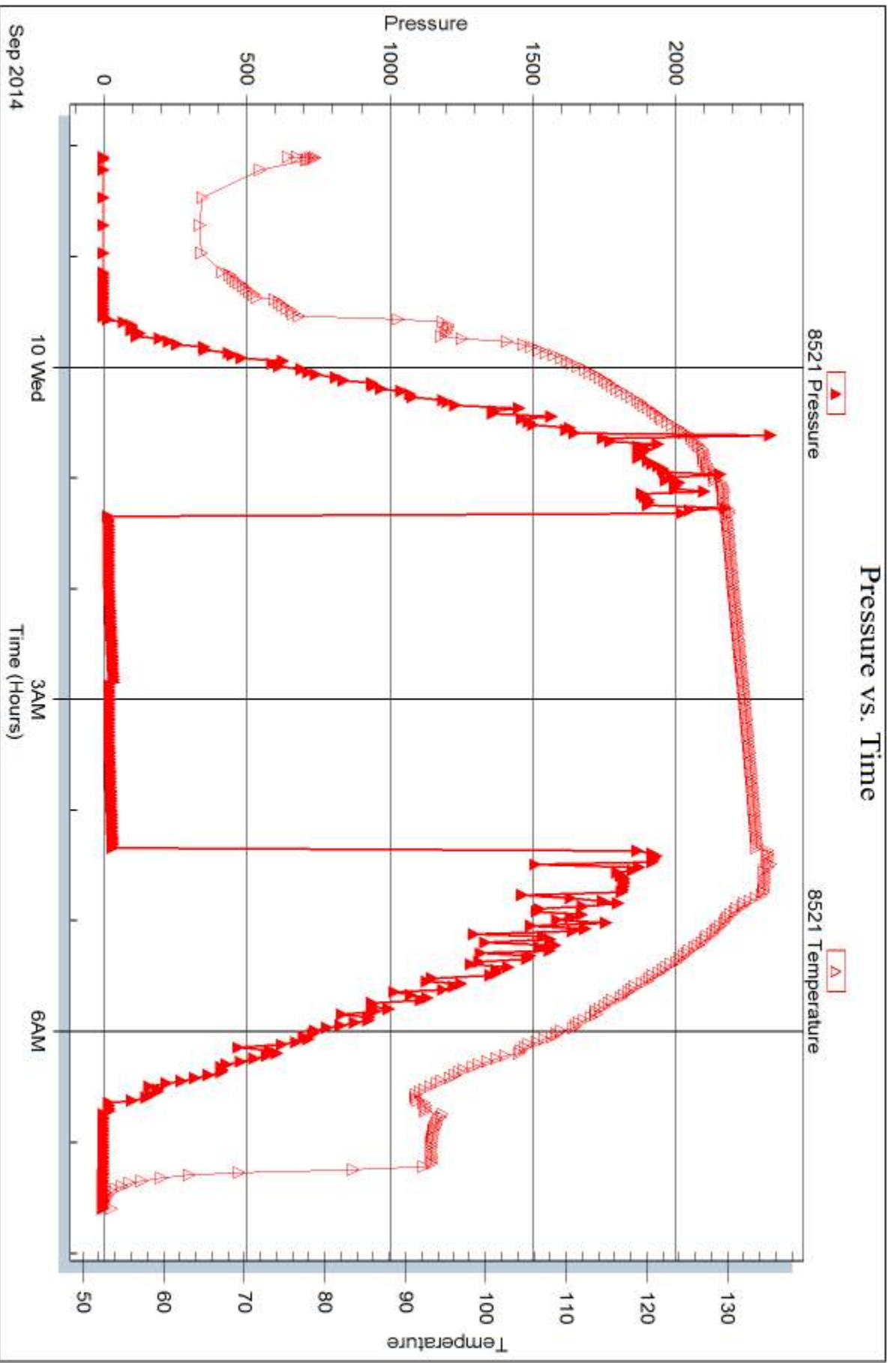
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

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

205 N Water STE 300
Wichita, KS 67202

ATTN: Rocky MilFord

Bash #1-29

29-1s-38w Cheyenne KS

Start Date: 2014.09.10 @ 21:04:00

End Date: 2014.09.11 @ 06:20:00

Job Ticket #: 60140 DST #: 2

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

Printed: 2014.09.16 @ 11:39:35



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.
 205 N Water STE 300
 Wichita, KS 67202
 ATTN: Rocky MilFord

29-1s-38w Cheyenne KS

Bash #1-29

Job Ticket: 60140

DST#: 2

Test Start: 2014.09.10 @ 21:04:00

GENERAL INFORMATION:

Formation: **Douglas sand - LKC "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:59:30

Time Test Ended: 06:20:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Donovan Baumann

Unit No: 49

Interval: 4121.00 ft (KB) To 4209.00 ft (KB) (TVD)

Reference Elevations: 3216.00 ft (KB)

Total Depth: 4209.00 ft (KB) (TVD)

3211.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 6769 Outside

Press@RunDepth: 45.31 psig @ 4122.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.10

End Date:

2014.09.11

Last Calib.: 2014.09.11

Start Time: 21:04:05

End Time:

06:20:00

Time On Btm: 2014.09.10 @ 23:59:00

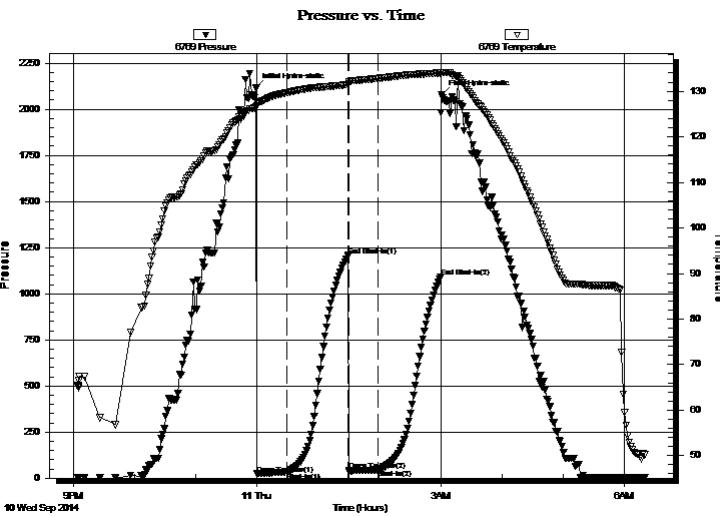
Time Off Btm: 2014.09.11 @ 03:01:00

TEST COMMENT: 30 - IF - Weak surface blow dead in 2 min.

60 - ISI - No return

30 - FF - No surface blow

60 - FSI - No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2115.04	126.51	Initial Hydro-static
1	23.24	126.80	Open To Flow (1)
30	33.49	129.69	Shut-In(1)
91	1207.48	131.49	End Shut-In(1)
91	41.14	131.75	Open To Flow (2)
120	45.31	132.84	Shut-In(2)
181	1090.90	134.05	End Shut-In(2)
182	2080.62	134.11	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	OCM - 65M - 35o	0.30

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

29-1s-38w Cheyenne KS

205 N Water STE 300
Wichita, KS 67202

Bash #1-29

Job Ticket: 60140

DST#: 2

ATTN: Rocky MilFord

Test Start: 2014.09.10 @ 21:04:00

GENERAL INFORMATION:

Formation: **Douglas sand - LKC "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:59:30

Time Test Ended: 06:20:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Donovan Baumann

Unit No: 49

Interval: 4121.00 ft (KB) To 4209.00 ft (KB) (TVD)

Total Depth: 4209.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3216.00 ft (KB)

3211.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8521 Inside

Press@RunDepth: psig @ 4122.00 ft (KB)

Start Date: 2014.09.10

End Date:

2014.09.11

Capacity: 8000.00 psig

Last Calib.:

2014.09.11

Start Time: 21:04:05

End Time:

06:19:30

Time On Btm:

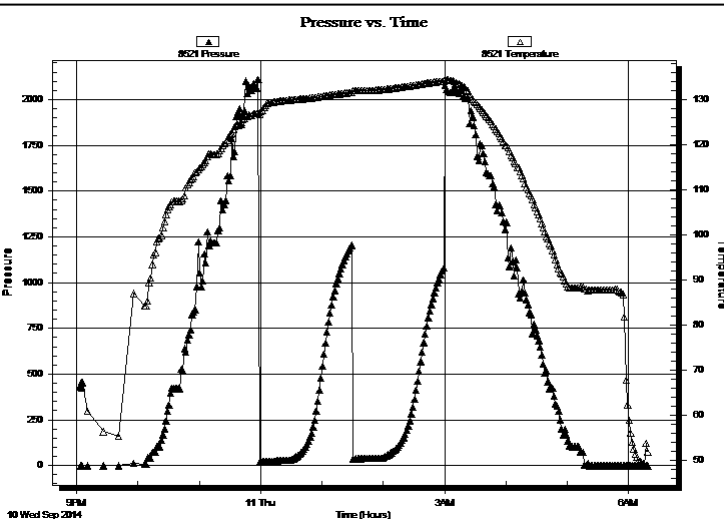
Time Off Btm:

TEST COMMENT: 30 - IF - Weak surface blow dead in 2 min.

60 - ISI - No return

30 - FF - No surface blow

60 - FSI - No return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
60.00	OCM - 65M - 35o	0.30

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

29-1s-38w Cheyenne KS

205 N Water STE 300
Wichita, KS 67202

Bash #1-29

Job Ticket: 60140

DST#: 2

ATTN: Rocky MilFord

Test Start: 2014.09.10 @ 21:04:00

Tool Information

Drill Pipe:	Length: 3928.00 ft	Diameter: 3.80 inches	Volume: 55.10 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: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 56.01 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 63000.00 lb
Depth to Top Packer:	4121.00 ft			Final 63000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	88.00 ft			
Tool Length:	115.00 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			4099.00	
Hydraulic tool	5.00			4104.00	
Jars	5.00			4109.00	
Safety Joint	3.00			4112.00	
Packer	5.00			4117.00	27.00 Bottom Of Top Packer
Packer	4.00			4121.00	
Stubb	1.00			4122.00	
Recorder	0.00	8521	Inside	4122.00	
Recorder	0.00	6769	Outside	4122.00	
Perforations	19.00			4141.00	
Change Over Sub	1.00			4142.00	
Drill Pipe	63.00			4205.00	
Change Over Sub	1.00			4206.00	
Bullnose	3.00			4209.00	88.00 Bottom Packers & Anchor

Total Tool Length: 115.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

29-1s-38w Cheyenne KS

205 N Water STE 300
Wichita, KS 67202

Bash #1-29

Job Ticket: 60140

DST#: 2

ATTN: Rocky MilFord

Test Start: 2014.09.10 @ 21:04:00

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: 111.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	OCM - 65M - 35o	0.295

Total Length: 60.00 ft Total Volume: 0.295 bbl

Num Fluid Samples: 0

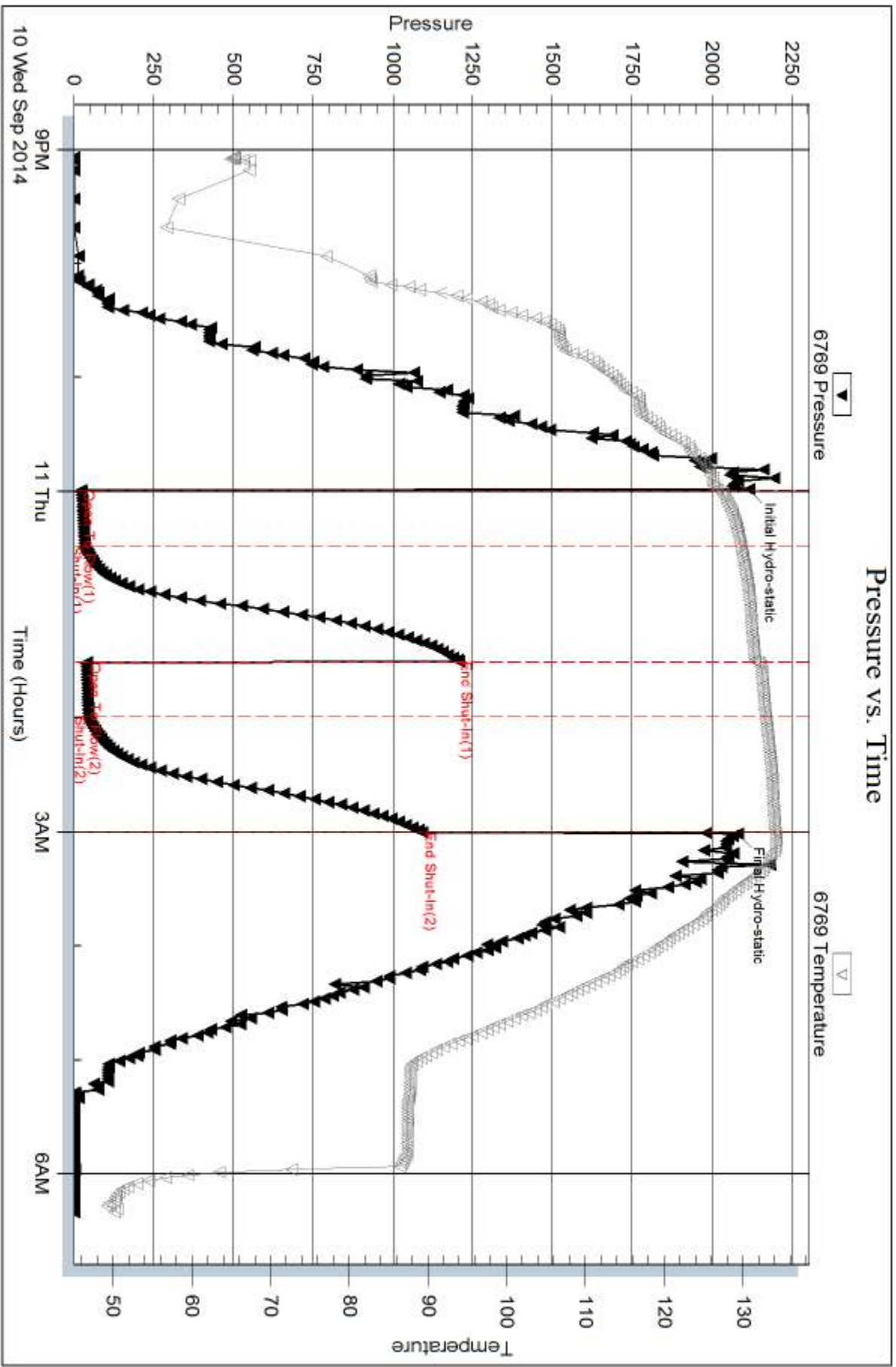
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



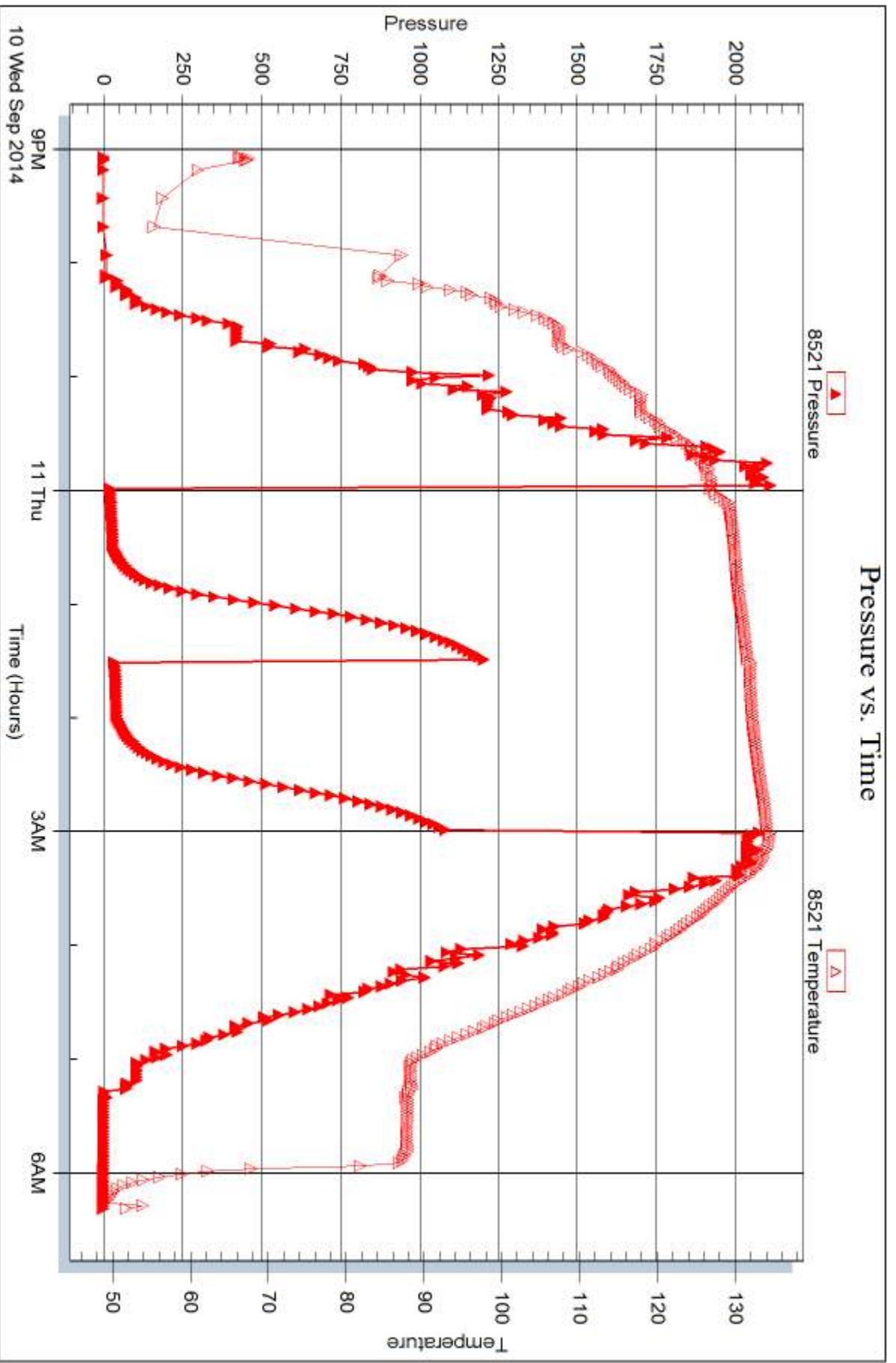
Serial #: 8521

Inside

Murfin Drilling Co., Inc.

Bash #1-29

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 60140

Printed: 2014.09.16 @ 11:39:36



DRILL STEM TEST REPORT

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

205 N Water STE 300
Wichita, KS 67202

ATTN: Rocky MilFord

Bash #1-29

29-1s-38w Cheyenne KS

Start Date: 2014.09.11 @ 14:50:00

End Date: 2014.09.12 @ 00:57:00

Job Ticket #: 60141 DST #: 3

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

Printed: 2014.09.16 @ 11:39:14



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.
 205 N Water STE 300
 Wichita, KS 67202
 ATTN: Rocky MilFord

29-1s-38w Cheyenne KS

Bash #1-29

Job Ticket: 60141

DST#: 3

Test Start: 2014.09.11 @ 14:50:00

GENERAL INFORMATION:

Formation: **LKC "D"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 17:44:30
 Time Test Ended: 00:57:00
 Interval: **4182.00 ft (KB) To 4240.00 ft (KB) (TVD)**
 Total Depth: 4240.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Donovan Baumann
 Unit No: 49
 Reference Elevations: 3216.00 ft (KB)
 3211.00 ft (CF)
 KB to GR/CF: 5.00 ft

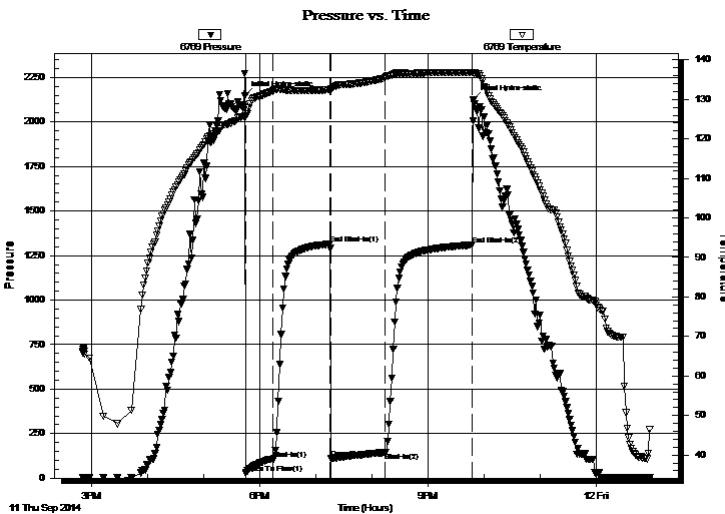
Serial #: 6769

Outside

Press@RunDepth: 145.17 psig @ 4183.00 ft (KB)
 Start Date: 2014.09.11 End Date: 2014.09.12
 Start Time: 14:50:05 End Time: 00:57:00
 Capacity: 8000.00 psig
 Last Calib.: 2014.09.12
 Time On Btm: 2014.09.11 @ 17:44:00
 Time Off Btm: 2014.09.11 @ 21:48:30

TEST COMMENT: 30 - IF - Surface blow built to 8 1/2"
 60 - ISI - Return built to 1/4 in 10 min then stayed
 60 - FF - Surface blow built to BOB in 24 min.
 90 - FSI - Return built to 1/4" in 8 min then stayed

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2146.45	125.73	Initial Hydro-static
1	26.99	125.62	Open To Flow (1)
30	107.67	132.24	Shut-In(1)
91	1315.20	132.43	End Shut-In(1)
92	112.55	132.71	Open To Flow (2)
150	145.17	135.55	Shut-In(2)
243	1309.58	136.84	End Shut-In(2)
245	2126.70	136.72	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
180.00	OCM - 60M - 40o	0.89
63.00	GOCM - 50M - 40o - 10G	0.83
50.00	GO - 90o - 10G	0.70

Gas Rates

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



**TRILOBITE
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DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

205 N Water STE 300
Wichita, KS 67202

ATTN: Rocky MilFord

29-1s-38w Cheyenne KS

Bash #1-29

Job Ticket: 60141

DST#: 3

Test Start: 2014.09.11 @ 14:50:00

GENERAL INFORMATION:

Formation: **LKC "D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:44:30

Time Test Ended: 00:57:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Donovan Baumann

Unit No: 49

Interval: 4182.00 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: Good

KB to GR/CF: 5.00 ft

Serial #: 8521 Inside

Press@RunDepth: psig @ 4183.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.11

End Date:

2014.09.12

Last Calib.:

2014.09.12

Start Time:

14:50:05

End Time:

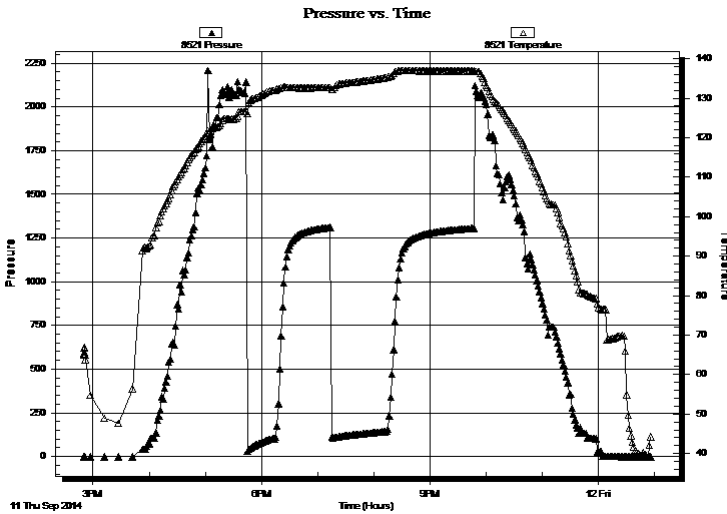
00:56:30

Time On Btm:

Time Off Btm:

TEST COMMENT: 30 - IF - Surface blow built to 8 1/2"
60 - ISI - Return built to 1/4 in 10 min then stayed
60 - FF - Surface blow built to BOB in 24 min.
90 - FSI - Return built to 1/4" in 8 min then stayed

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
180.00	OCM - 60M - 40o	0.89
63.00	GOCM - 50M - 40o - 10G	0.83
50.00	GO - 90o - 10G	0.70

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

29-1s-38w Cheyenne KS

205 N Water STE 300
Wichita, KS 67202

Bash #1-29

Job Ticket: 60141

DST#: 3

ATTN: Rocky MilFord

Test Start: 2014.09.11 @ 14:50:00

Tool Information

Drill Pipe:	Length: 3991.00 ft	Diameter: 3.80 inches	Volume: 55.98 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: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 78000.00 lb
			<u>Total Volume: 56.89 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4182.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	58.00 ft			
Tool Length:	85.00 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			4160.00	
Hydraulic tool	5.00			4165.00	
Jars	5.00			4170.00	
Safety Joint	3.00			4173.00	
Packer	5.00			4178.00	27.00 Bottom Of Top Packer
Packer	4.00			4182.00	
Stubb	1.00			4183.00	
Recorder	0.00	8521	Inside	4183.00	
Recorder	0.00	6769	Outside	4183.00	
Perforations	21.00			4204.00	
Change Over Sub	1.00			4205.00	
Drill Pipe	31.00			4236.00	
Change Over Sub	1.00			4237.00	
Bullnose	3.00			4240.00	58.00 Bottom Packers & Anchor

Total Tool Length: 85.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

29-1s-38w Cheyenne KS

205 N Water STE 300
Wichita, KS 67202

Bash #1-29

Job Ticket: 60141

DST#: 3

ATTN: Rocky MilFord

Test Start: 2014.09.11 @ 14:50:00

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: 76.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	OCM - 60M - 40o	0.885
63.00	GOCM - 50M - 40o - 10G	0.829
50.00	GO - 90o - 10G	0.701

Total Length: 293.00 ft Total Volume: 2.415 bbl

Num Fluid Samples: 0

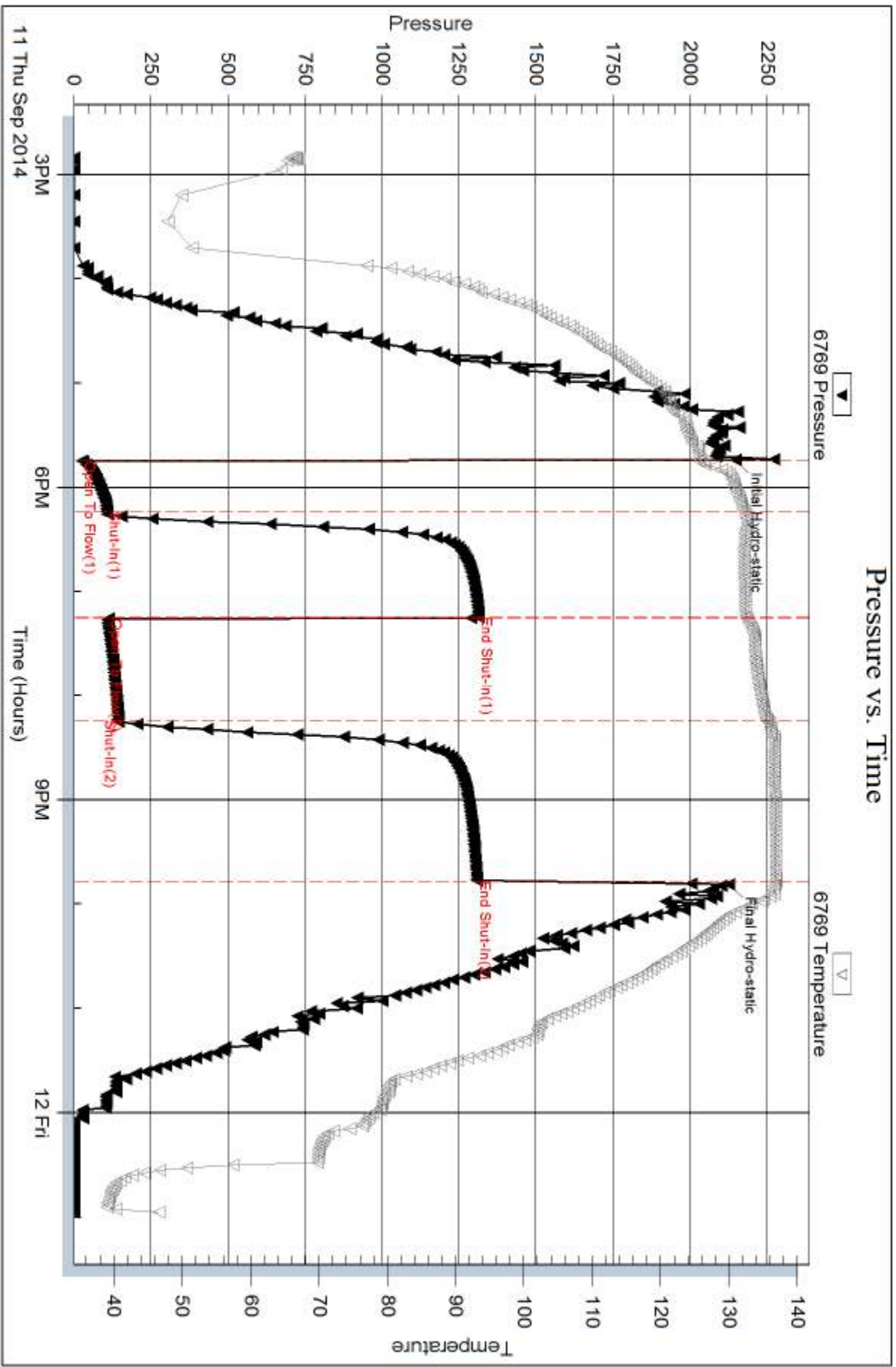
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



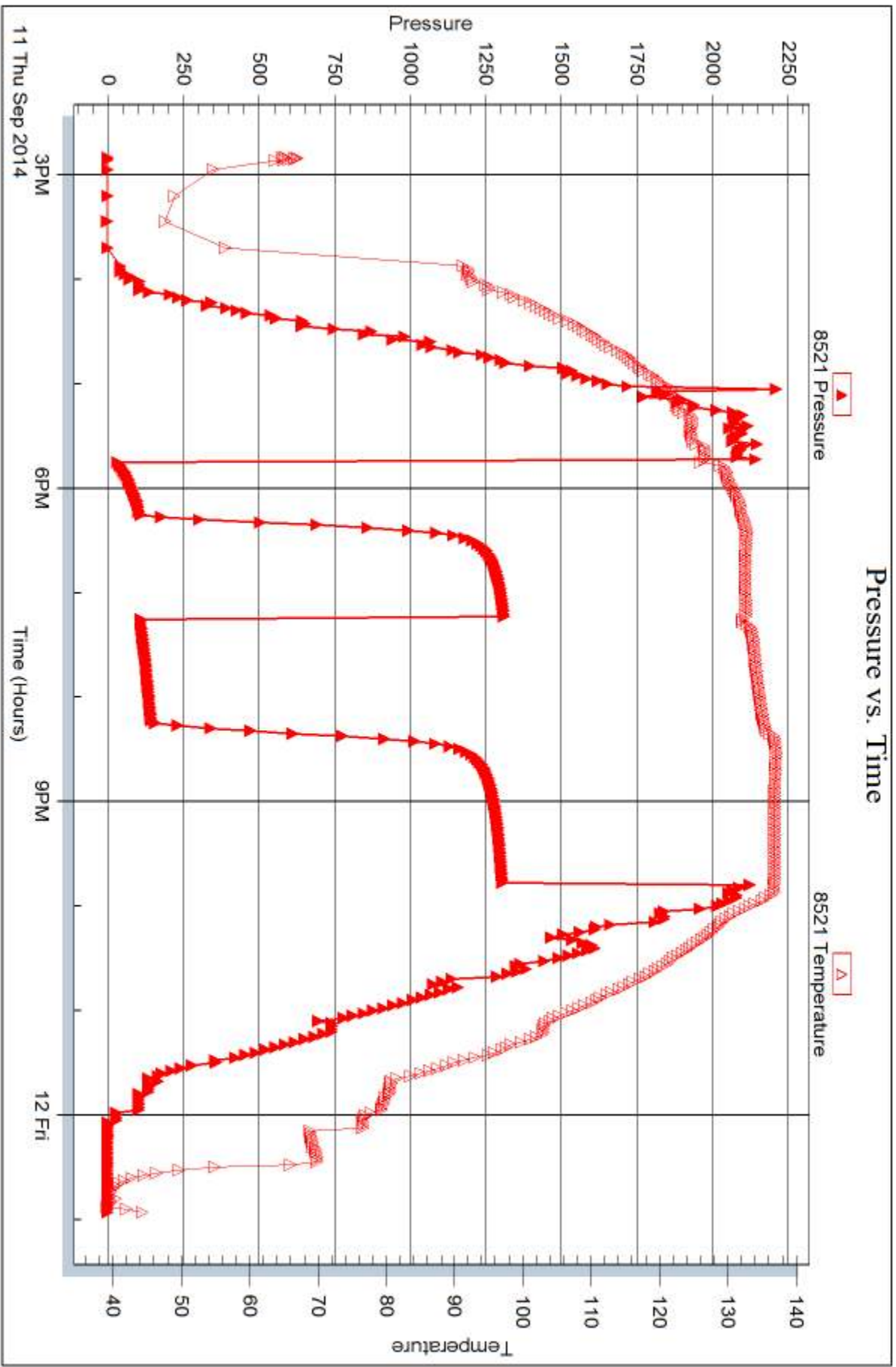
Serial #: 8521

Inside

Murfin Drilling Co., Inc.

Basin #1-29

DST Test Number: 3





DRILL STEM TEST REPORT

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

205 N Water STE 300
Wichita, KS 67202

ATTN: Rocky MilFord

Bash #1-29

29-1s-38w Cheyenne KS

Start Date: 2014.09.12 @ 18:47:00

End Date: 2014.09.13 @ 03:44:00

Job Ticket #: 60142 DST #: 4

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

Printed: 2014.09.16 @ 11:38:51



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

29-1s-38w Cheyenne KS

205 N Water STE 300
Wichita, KS 67202

Bash #1-29

Job Ticket: 60142

DST#: 4

ATTN: Rocky Milford

Test Start: 2014.09.12 @ 18:47:00

GENERAL INFORMATION:

Formation: **LKC "E-H"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:43:00

Time Test Ended: 03:44:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Donovan Baumann

Unit No: 49

Interval: 4238.00 ft (KB) To 4345.00 ft (KB) (TVD)

Reference Elevations: 3216.00 ft (KB)

Total Depth: 4345.00 ft (KB) (TVD)

3211.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 6769 Outside

Press@RunDepth: 34.01 psig @ 4239.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.12

End Date:

2014.09.13

Last Calib.:

2014.09.13

Start Time:

18:47:05

End Time:

03:44:00

Time On Btm:

2014.09.12 @ 21:42:30

Time Off Btm:

2014.09.13 @ 00:44:30

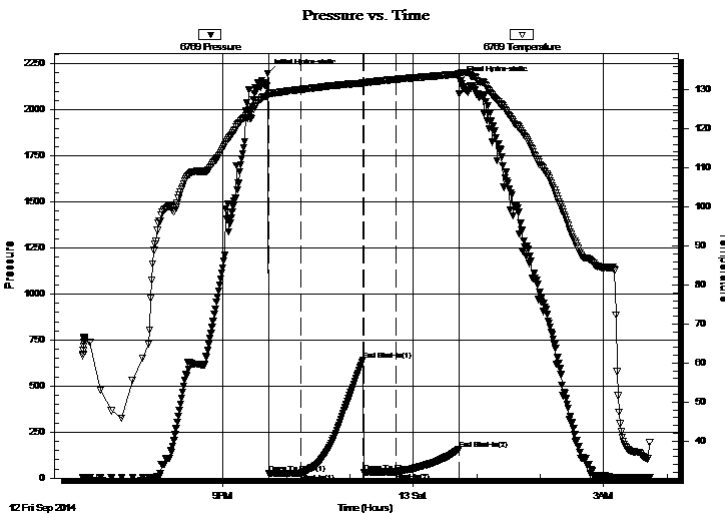
TEST COMMENT: 30 - IF - Weak surface blow built to 1"

60 - ISI - No return

30 - FF - No surface blow

60 - FSI - No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2198.17	128.46	Initial Hydro-static
1	23.90	128.88	Open To Flow (1)
31	26.94	130.01	Shut-In(1)
90	642.54	131.67	End Shut-In(1)
91	32.17	131.61	Open To Flow (2)
121	34.01	132.60	Shut-In(2)
181	157.30	133.95	End Shut-In(2)
182	2156.38	134.11	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	OCM - 65M - 35o	0.05

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

29-1s-38w Cheyenne KS

205 N Water STE 300
Wichita, KS 67202

Bash #1-29

Job Ticket: 60142

DST#: 4

ATTN: Rocky Milford

Test Start: 2014.09.12 @ 18:47:00

GENERAL INFORMATION:

Formation: **LKC "E-H"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:43:00

Time Test Ended: 03:44:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Donovan Baumann

Unit No: 49

Interval: **4238.00 ft (KB) To 4345.00 ft (KB) (TVD)**

Reference Elevations: 3216.00 ft (KB)

Total Depth: 4345.00 ft (KB) (TVD)

3211.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8521 Inside

Press@RunDepth: psig @ 4239.00 ft (KB)

Start Date: 2014.09.12

End Date:

2014.09.13

Capacity: 8000.00 psig

Last Calib.:

2014.09.13

Start Time:

18:47:05

End Time:

03:43:30

Time On Btm:

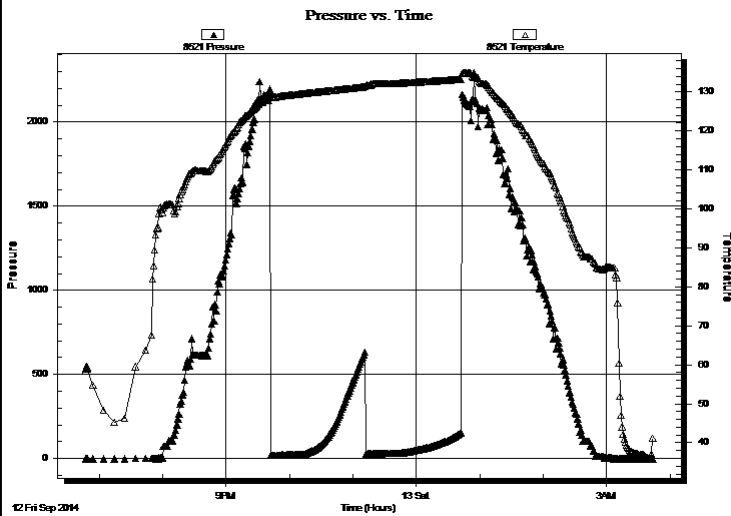
Time Off Btm:

TEST COMMENT: 30 - IF - Weak surface blow built to 1"

60 - ISI - No return

30 - FF - No surface blow

60 - FSI - No return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
10.00	OCM - 65M - 35o	0.05

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

29-1s-38w Cheyenne KS

205 N Water STE 300
Wichita, KS 67202

Bash #1-29

Job Ticket: 60142

DST#: 4

ATTN: Rocky MilFord

Test Start: 2014.09.12 @ 18:47:00

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: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 68000.00 lb
			<u>Total Volume: 57.78 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4238.00 ft			Final 64000.00 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:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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	8521	Inside	4239.00	
Recorder	0.00	6769	Outside	4239.00	
Perforations	38.00			4277.00	
Change Over Sub	1.00			4278.00	
Drill Pipe	63.00			4341.00	
Change Over Sub	1.00			4342.00	
Bullnose	3.00			4345.00	107.00 Bottom Packers & Anchor

Total Tool Length: 134.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

29-1s-38w Cheyenne KS

205 N Water STE 300
Wichita, KS 67202

Bash #1-29

Job Ticket: 60142

DST#: 4

ATTN: Rocky MilFord

Test Start: 2014.09.12 @ 18:47:00

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:

bbbl

Water Loss: 8.38 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 4.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	OCM - 65M - 35o	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0

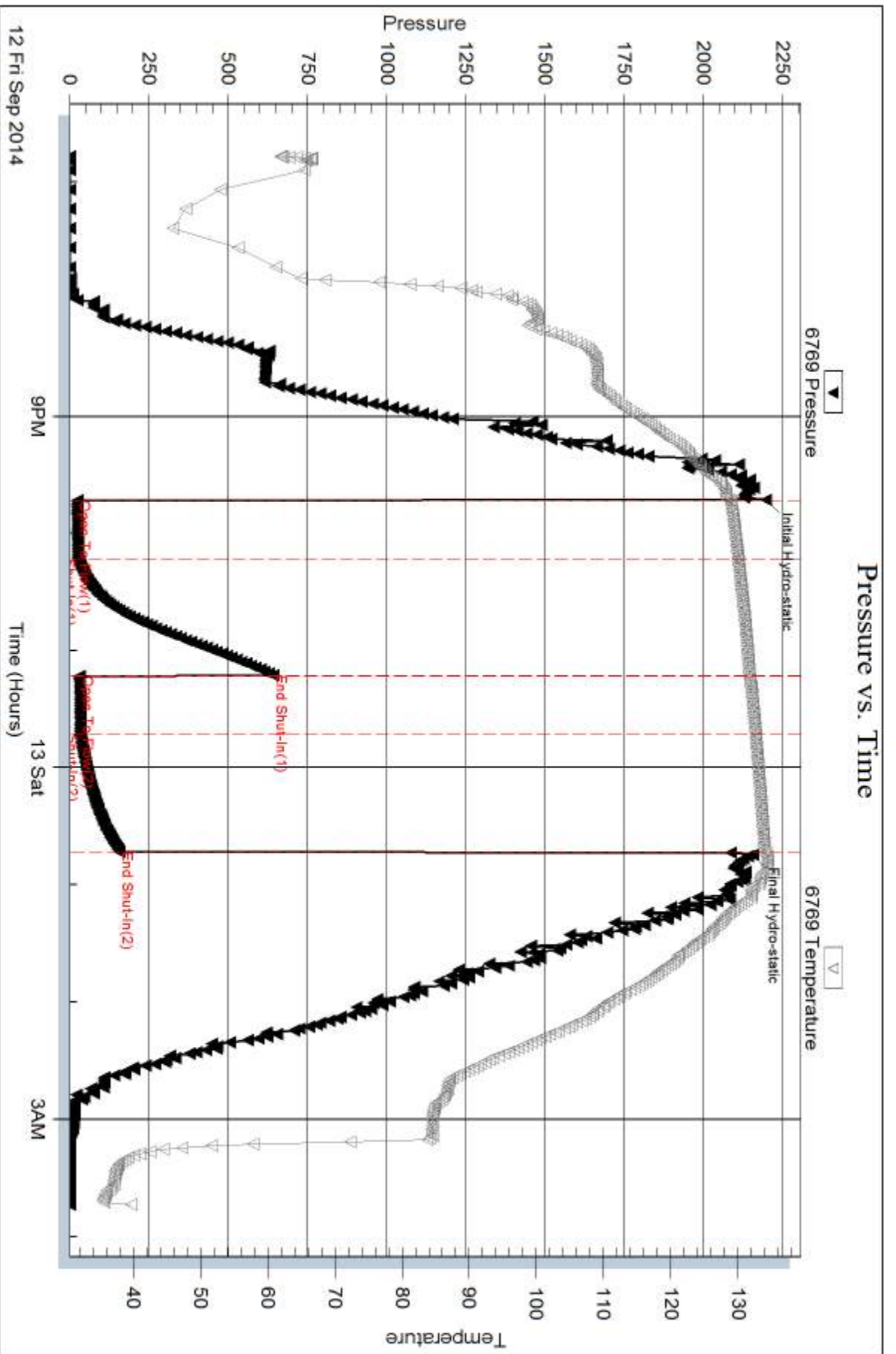
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



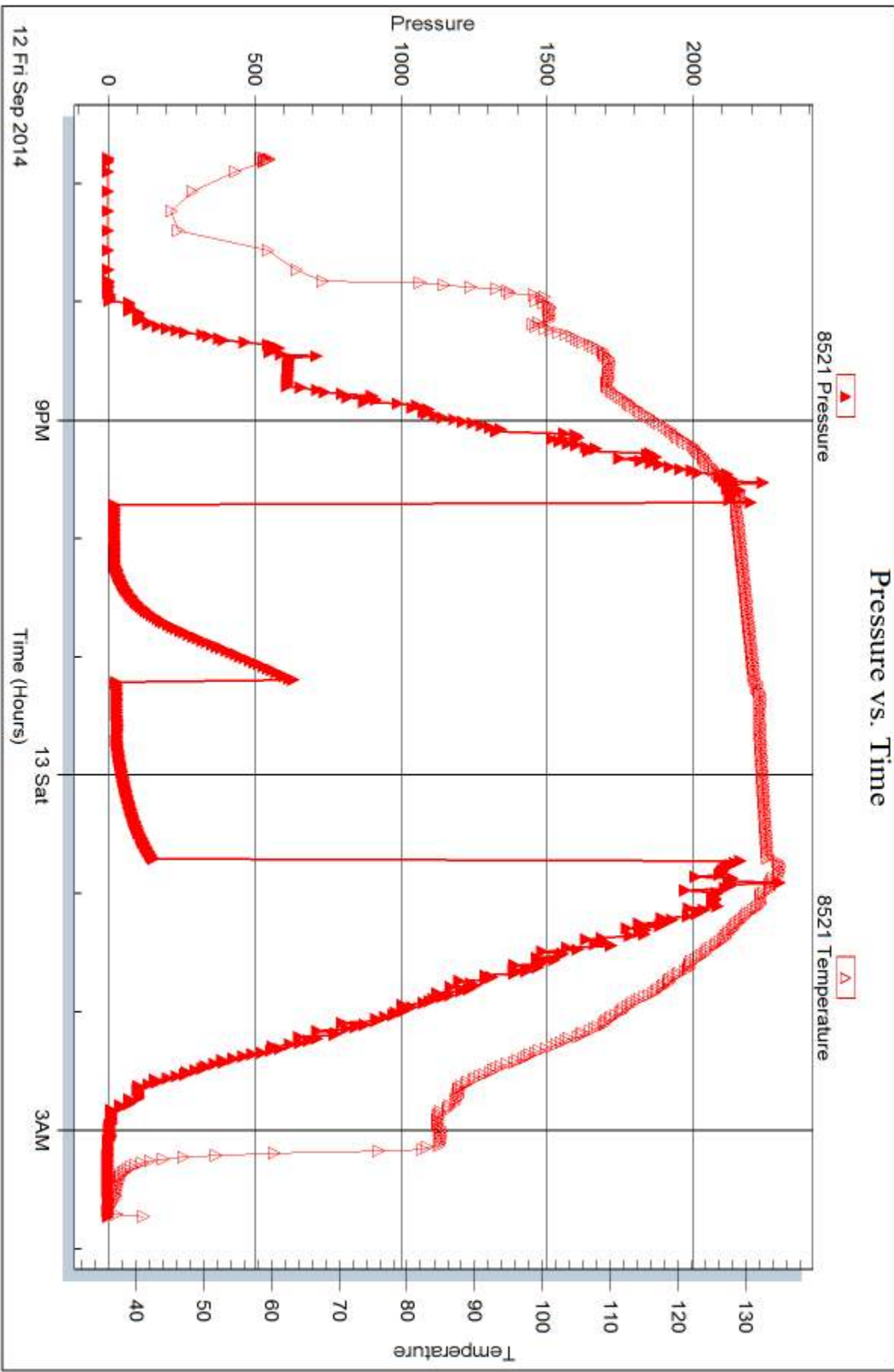
Serial #: 8521

Inside

Murfin Drilling Co., Inc.

Basin #1-29

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 60142

Printed: 2014.09.16 @ 11:38:53



DRILL STEM TEST REPORT

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

205 N Water STE 300
Wichita, KS 67202

ATTN: Rocky MilFord

Bash #1-29

29-1s-38w Cheyenne KS

Start Date: 2014.09.13 @ 17:00:00

End Date: 2014.09.14 @ 01:22:30

Job Ticket #: 60160 DST #: 5

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

Printed: 2014.09.16 @ 11:38:27



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

29-1s-38w Cheyenne KS

205 N Water STE 300
Wichita, KS 67202

Bash #1-29

Job Ticket: 60160

DST#: 5

ATTN: Rocky MilFord

Test Start: 2014.09.13 @ 17:00:00

GENERAL INFORMATION:

Formation: **LKC "J--L"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:53:30

Time Test Ended: 01:22:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Robert Zodrow

Unit No: 49

Interval: 4327.00 ft (KB) To 4448.00 ft (KB) (TVD)

Reference Elevations: 3216.00 ft (KB)

Total Depth: 4448.00 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: 51.41 psig @ 4328.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.13

End Date:

2014.09.14

Last Calib.: 2014.09.14

Start Time: 17:00:05

End Time:

01:22:29

Time On Btm: 2014.09.13 @ 19:53:00

Time Off Btm: 2014.09.13 @ 22:56:30

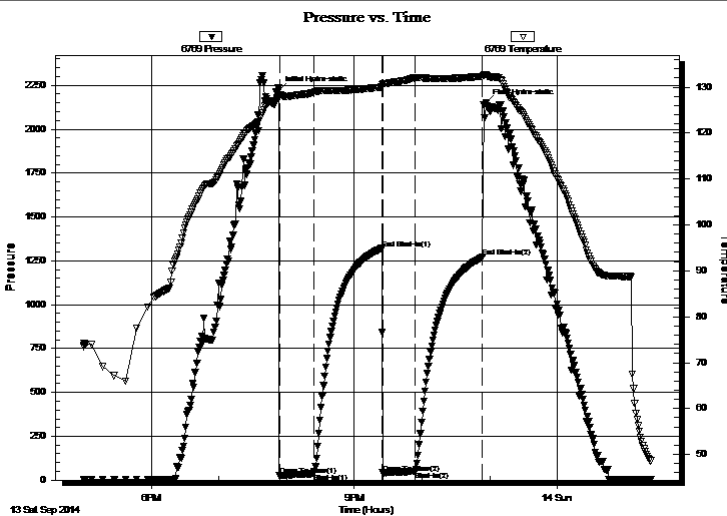
TEST COMMENT: 30-IF- Blow built to 1"

60-IS- No return

30-FF- No blow

60-FS- No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2219.31	128.06	Initial Hydro-static
1	25.04	127.83	Open To Flow (1)
31	37.20	128.85	Shut-In(1)
91	1320.85	129.97	End Shut-In(1)
92	41.13	130.48	Open To Flow (2)
121	51.41	132.00	Shut-In(2)
181	1270.49	132.32	End Shut-In(2)
184	2148.14	132.76	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	mud 100%m	0.05

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

29-1s-38w Cheyenne KS

205 N Water STE 300
Wichita, KS 67202

Bash #1-29

Job Ticket: 60160

DST#: 5

ATTN: Rocky MilFord

Test Start: 2014.09.13 @ 17:00:00

GENERAL INFORMATION:

Formation: **LKC "J--L"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:53:30

Time Test Ended: 01:22:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Robert Zodrow

Unit No: 49

Interval: 4327.00 ft (KB) To 4448.00 ft (KB) (TVD)

Total Depth: 4448.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3216.00 ft (KB)

3211.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8521 Inside

Press@RunDepth: psig @ 4328.00 ft (KB)

Start Date: 2014.09.13

End Date:

2014.09.14

Capacity: 8000.00 psig

Last Calib.:

2014.09.14

Start Time: 17:00:05

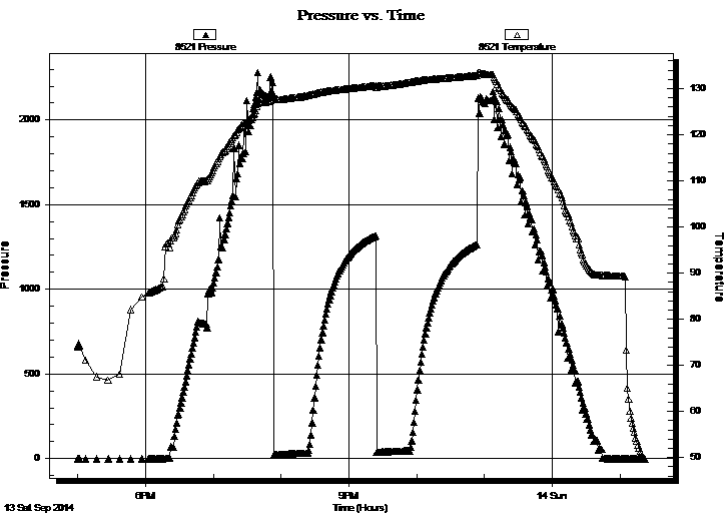
End Time:

01:21:59

Time On Btm:

Time Off Btm:

TEST COMMENT: 30-IF- Blow built to 1"
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)
10.00	mud 100%m	0.05

* 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.

29-1s-38w Cheyenne KS

205 N Water STE 300
Wichita, KS 67202

Bash #1-29

Job Ticket: 60160

DST#: 5

ATTN: Rocky MilFord

Test Start: 2014.09.13 @ 17:00:00

Tool Information

Drill Pipe:	Length: 4116.00 ft	Diameter: 3.80 inches	Volume: 57.74 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: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 74000.00 lb
			<u>Total Volume: 58.65 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	2.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4327.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	121.00 ft			
Tool Length:	148.00 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			4305.00	
Hydraulic tool	5.00			4310.00	
Jars	5.00			4315.00	
Safety Joint	3.00			4318.00	
Packer	5.00			4323.00	27.00 Bottom Of Top Packer
Packer	4.00			4327.00	
Stubb	1.00			4328.00	
Recorder	0.00	8521	Inside	4328.00	
Recorder	0.00	6769	Outside	4328.00	
Perforations	20.00			4348.00	
Change Over Sub	1.00			4349.00	
Drill Pipe	95.00			4444.00	
Change Over Sub	1.00			4445.00	
Bullnose	3.00			4448.00	121.00 Bottom Packers & Anchor

Total Tool Length: 148.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

29-1s-38w Cheyenne KS

205 N Water STE 300
Wichita, KS 67202

Bash #1-29

Job Ticket: 60160

DST#: 5

ATTN: Rocky MilFord

Test Start: 2014.09.13 @ 17:00:00

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: 61.00 sec/qt

Cushion Volume:

bbf

Water Loss: 8.39 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 4.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
10.00	mud 100%m	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbf

Num Fluid Samples: 0

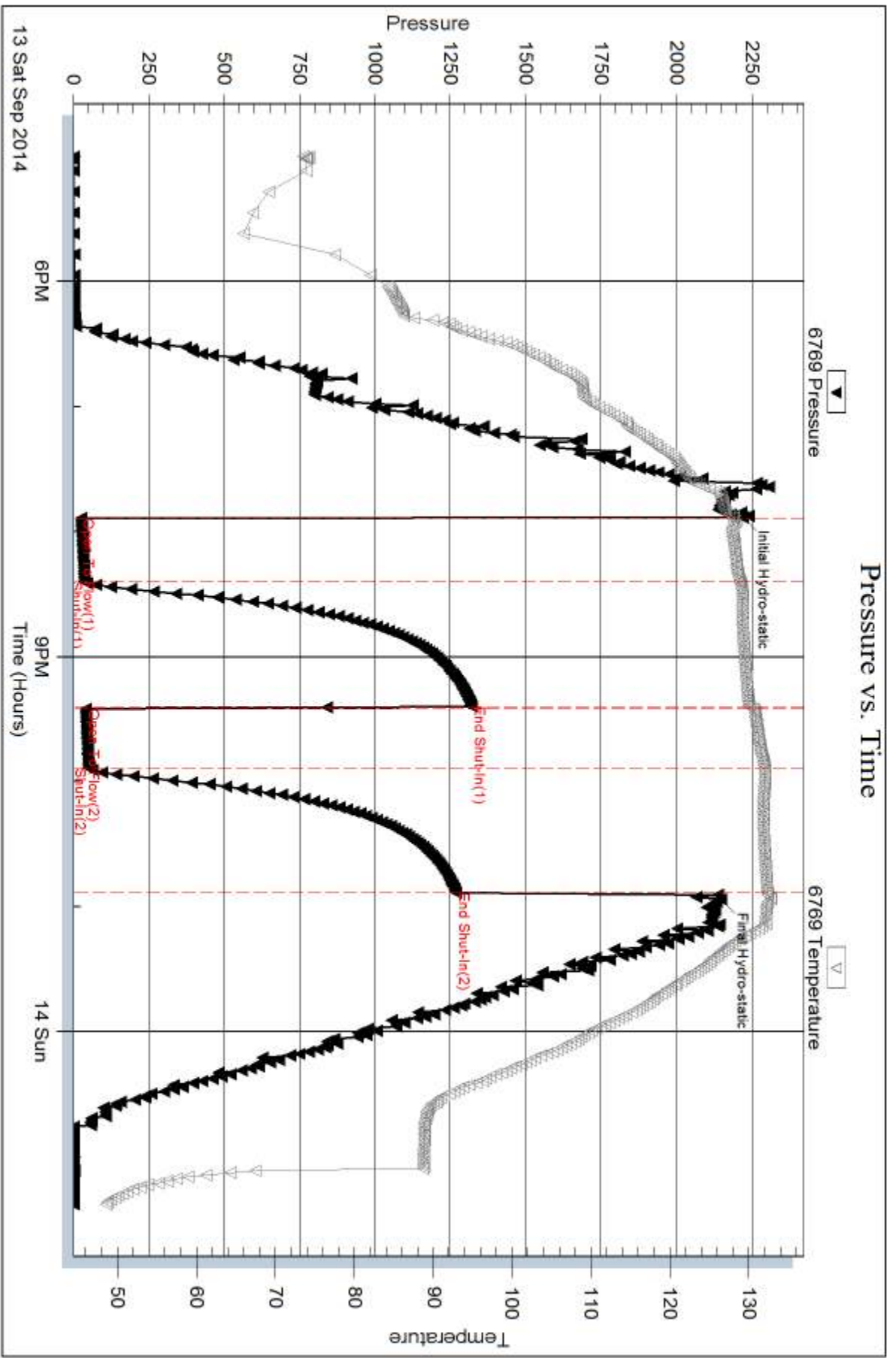
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



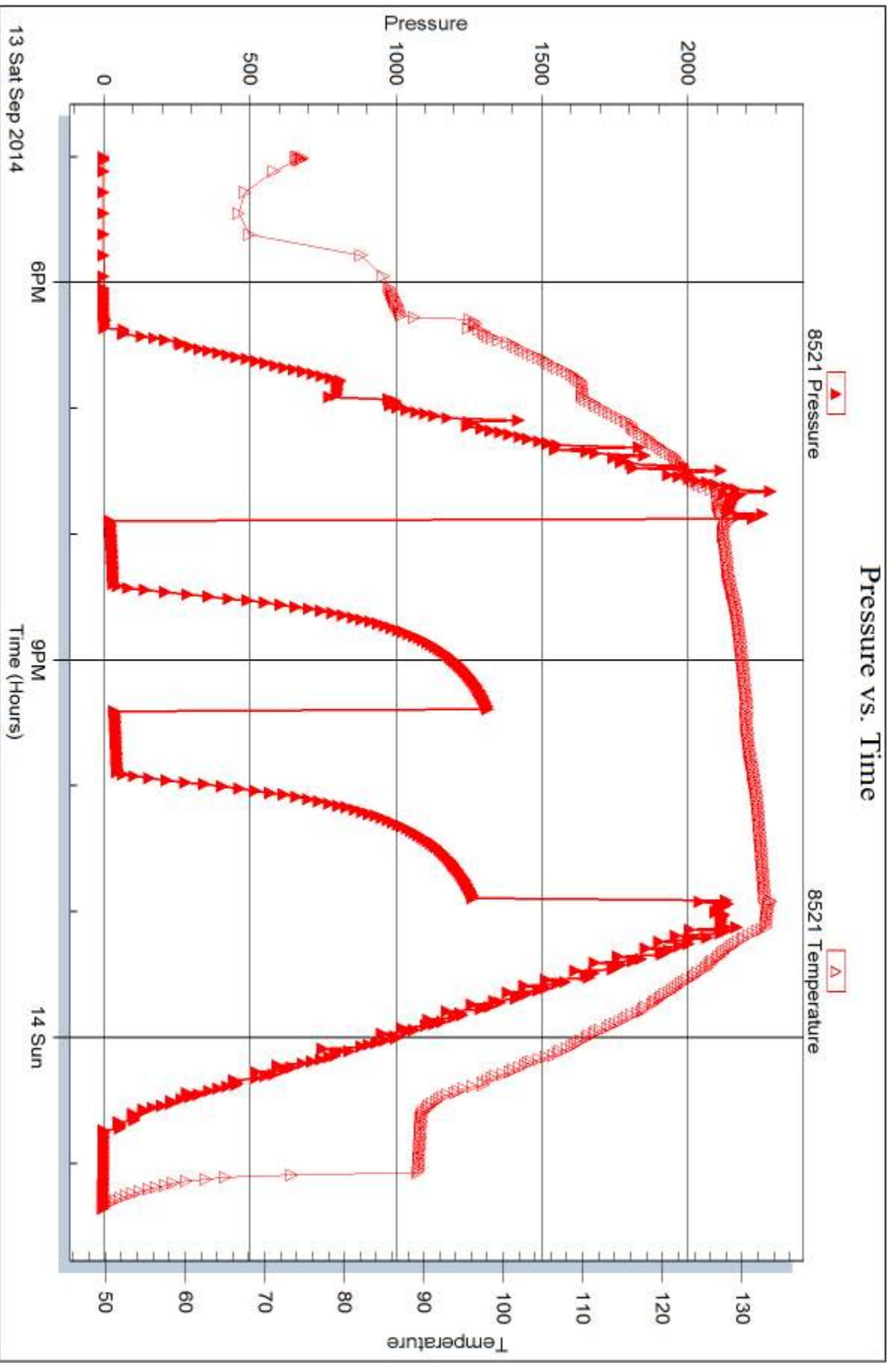
Serial #: 8521

Inside

Murfin Drilling Co., Inc.

Basin #1-29

DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 60160

Printed: 2014.09.16 @ 11:38:28



DRILL STEM TEST REPORT

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

205 N Water STE 300
Wichita, KS 67202

ATTN: Rocky MilFord

Bash #1-29

29-1s-38w Cheyenne KS

Start Date: 2014.09.14 @ 21:00:00

End Date: 2014.09.15 @ 05:14:00

Job Ticket #: 60161 DST #: 6

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

Printed: 2014.09.16 @ 11:37:57



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.
 205 N Water STE 300
 Wichita, KS 67202
 ATTN: Rocky MilFord

29-1s-38w Cheyenne KS

Bash #1-29

Job Ticket: 60161

DST#: 6

Test Start: 2014.09.14 @ 21:00:00

GENERAL INFORMATION:

Formation: **Pawnee**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 23:41:00
 Time Test Ended: 05:14:00
 Interval: **4547.00 ft (KB) To 4596.00 ft (KB) (TVD)**
 Total Depth: 4596.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Robert Zodrow
 Unit No: 49
 Reference Elevations: 3216.00 ft (KB)
 3211.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 6769

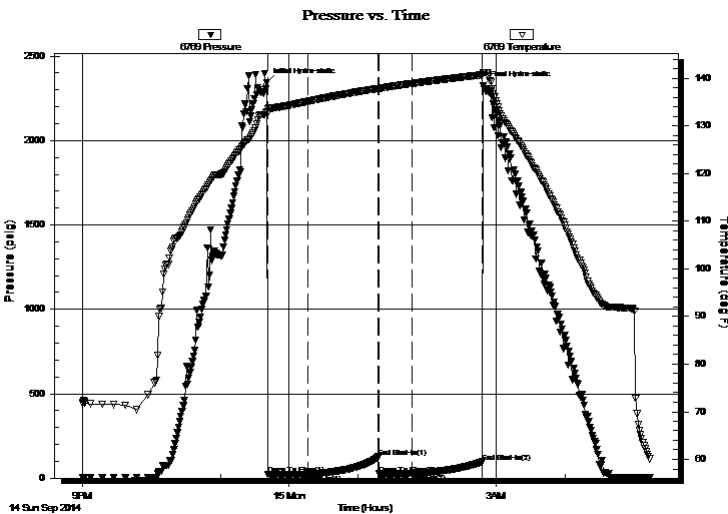
Outside

Press@RunDepth: 26.61 psig @ 4548.00 ft (KB)
 Start Date: 2014.09.14 End Date: 2014.09.15
 Start Time: 21:00:05 End Time: 05:13:59

Capacity: 8000.00 psig
 Last Calib.: 2014.09.15
 Time On Btm: 2014.09.14 @ 23:40:30
 Time Off Btm: 2014.09.15 @ 02:48:30

TEST COMMENT: 30-IF- Blow built to 1" died back 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	2344.54	133.00	Initial Hydro-static
1	21.12	132.72	Open To Flow (1)
36	24.13	135.17	Shut-In(1)
97	125.34	137.90	End Shut-In(1)
98	25.23	137.85	Open To Flow (2)
127	26.61	138.92	Shut-In(2)
187	95.79	140.73	End Shut-In(2)
188	2323.69	141.09	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

Murfin Drilling Co., Inc.
 205 N Water STE 300
 Wichita, KS 67202
 ATTN: Rocky MilFord

29-1s-38w Cheyenne KS

Bash #1-29

Job Ticket: 60161

DST#: 6

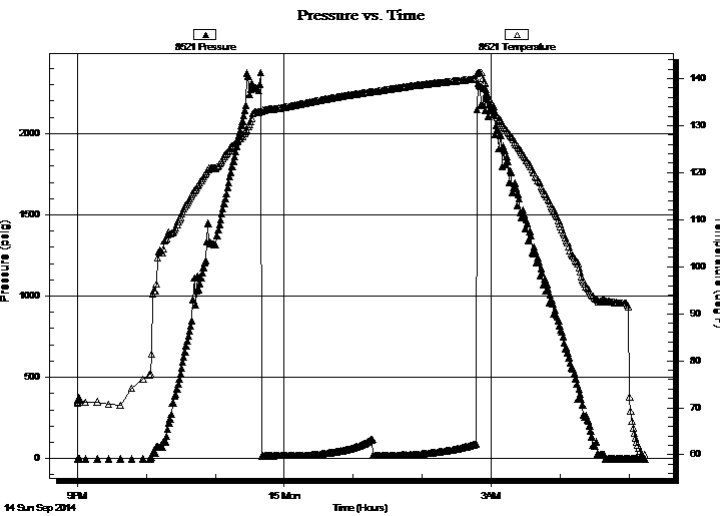
Test Start: 2014.09.14 @ 21:00:00

GENERAL INFORMATION:

Formation: **Pawnee**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 23:41:00
 Time Test Ended: 05:14:00
 Interval: **4547.00 ft (KB) To 4596.00 ft (KB) (TVD)**
 Total Depth: 4596.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches
 Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Robert Zodrow
 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 @ 4548.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.09.14 End Date: 2014.09.15 Last Calib.: 2014.09.15
 Start Time: 21:00:05 End Time: 05:13:29 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30-IF- Blow built to 1" died back 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

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.

29-1s-38w Cheyenne KS

205 N Water STE 300
Wichita, KS 67202

Bash #1-29

Job Ticket: 60161

DST#: 6

ATTN: Rocky MilFord

Test Start: 2014.09.14 @ 21:00:00

Tool Information

Drill Pipe:	Length: 4339.00 ft	Diameter: 3.80 inches	Volume: 60.86 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: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose:	80000.00 lb
			<u>Total Volume: 61.77 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial	64000.00 lb
Depth to Top Packer:	4547.00 ft			Final	64000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	49.00 ft				
Tool Length:	76.00 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			4525.00	
Hydraulic tool	5.00			4530.00	
Jars	5.00			4535.00	
Safety Joint	3.00			4538.00	
Packer	5.00			4543.00	27.00 Bottom Of Top Packer
Packer	4.00			4547.00	
Stubb	1.00			4548.00	
Recorder	0.00	8521	Inside	4548.00	
Recorder	0.00	6769	Outside	4548.00	
Perforations	12.00			4560.00	
Change Over Sub	1.00			4561.00	
Drill Pipe	31.00			4592.00	
Change Over Sub	1.00			4593.00	
Bullnose	3.00			4596.00	49.00 Bottom Packers & Anchor

Total Tool Length: 76.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

29-1s-38w Cheyenne KS

205 N Water STE 300
Wichita, KS 67202

Bash #1-29

Job Ticket: 60161

DST#: 6

ATTN: Rocky MilFord

Test Start: 2014.09.14 @ 21:00:00

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: 78.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.19 in³

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 bbf
5.00	mud 100%m	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

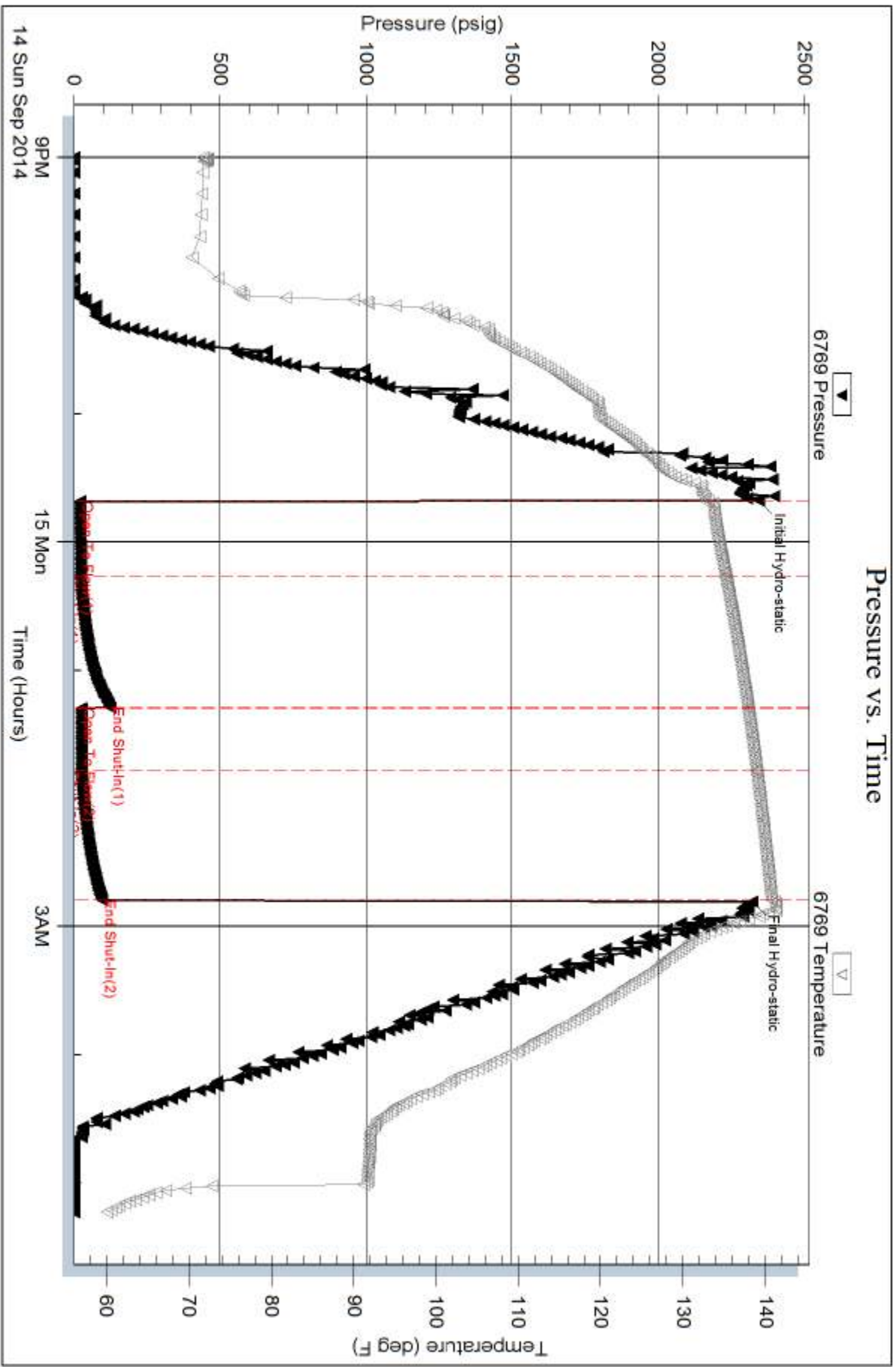
Recovery Comments:

Serial #: 6769

Outside Murfin Drilling Co., Inc.

Bash #1-29

DST Test Number: 6



Trilobite Testing, Inc

Ref. No: 60161

Printed: 2014.09.16 @ 11:37:58

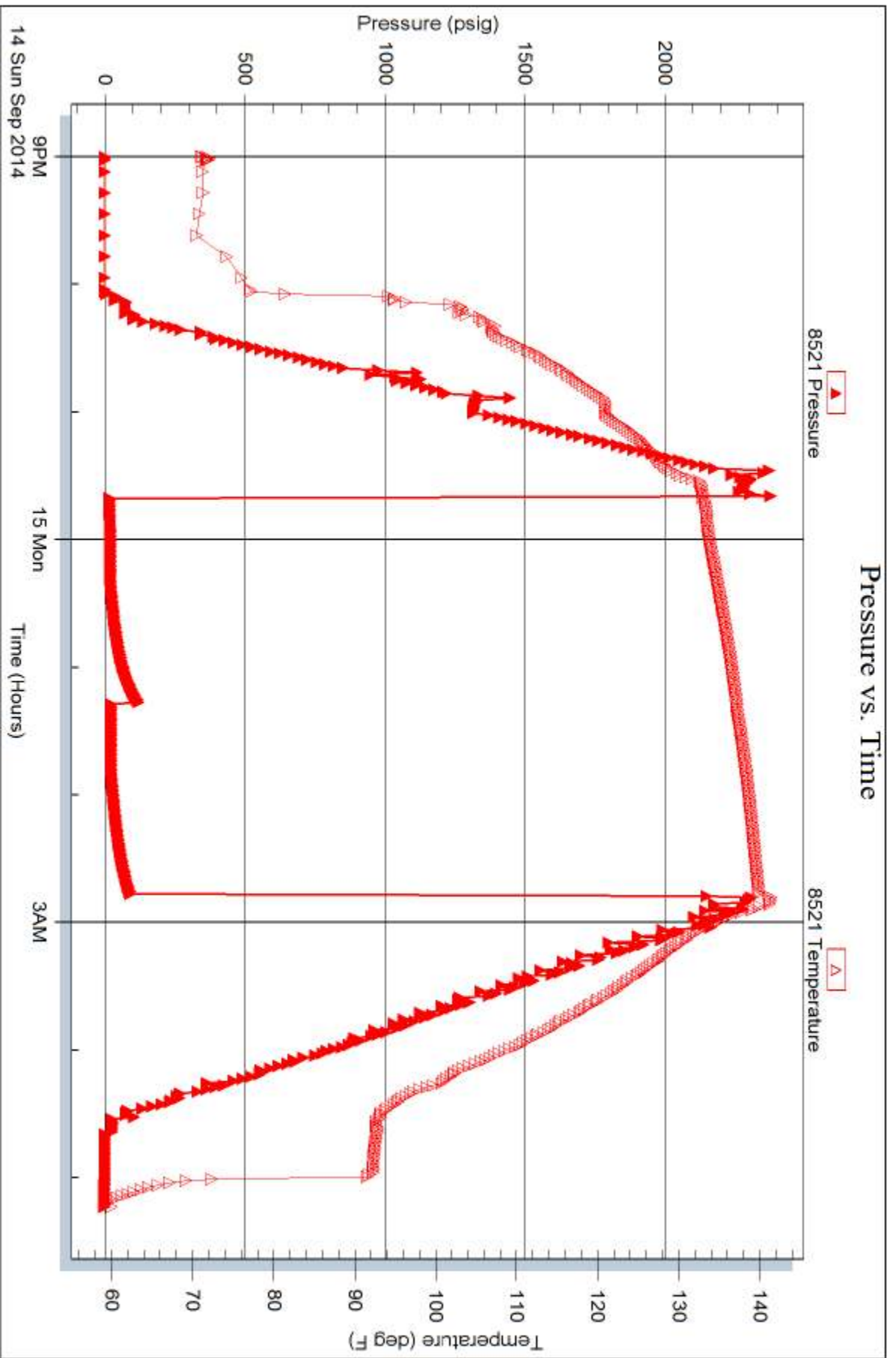
Serial #: 8521

Inside

Murfin Drilling Co., Inc.

Bash #1-29

DST Test Number: 6





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 60139

4/10

Well Name & No. Bash # 1-29 Test No. 1 Date 9-9-14
 Company Murfin Drilling CO., Inc. Elevation 3216 KB 3211 GL
 Address 250 N Water STE 300 Wichita, KS, 67202
 Co. Rep / Geo. Rocky Milford Rig Murfin #7
 Location: Sec. 29 Twp. 1S Rge. 38W Co. Cheyenne State KS

Interval Tested 4055' - 4120' Zone Tested oread
 Anchor Length 65' Drill Pipe Run 3864 Mud Wt. 9.4
 Top Packer Depth 4050' Drill Collars Run 186 Vis 58
 Bottom Packer Depth 4055' Wt. Pipe Run 0 WL 9.2
 Total Depth 4120' Chlorides 600 ppm System LCM 4#

Blow Description IF - No surface blow
ISI - No return
FF - No surface 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 Total 5 BHT 134 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2134 Test 1250 T-On Location 7:15pm
 (B) First Initial Flow 21 Jars 250 T-Started 10:26pm
 (C) First Final Flow 23 Safety Joint 75 T-Open 1:21am
 (D) Initial Shut-In 40 Circ Sub N/C T-Pulled 4:21am
 (E) Second Initial Flow 24 Hourly Standby _____ T-Out 7:36am
 (F) Second Final Flow 25 Mileage 75 150rt 232.50 Comments _____
 (G) Final Shut-In 36 Sampler _____
 (H) Final Hydrostatic 1872 Straddle _____ Ruined Shale Packer _____

Initial Open 30 Shale Packer _____ Ruined Packer _____
 Initial Shut-In 60 Extra Packer _____ Extra Copies _____
 Final Flow 30 Extra Recorder _____ Sub Total 0
 Final Shut-In 60 Day Standby _____ Total 1807.50
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1807.50

Approved By _____ Our Representative Denovan Beumann

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. 60140

Well Name & No. Bash # 1-29 Test No. 2 Date 9-10-14
 Company Murfin Drilling Co., Inc. Elevation 3216 KB 3211 GL
 Address 250 N Water STE 300 Wichita, KS, 67202
 Co. Rep / Geo. Rocky Milford Rig Murfin #7
 Location: Sec. 29 Twp. 1S Rge. 38W Co. Cheyenne State KS

Interval Tested 4121'-4209' Zone Tested Douglas sand - LKC "A"
 Anchor Length 88' Drill Pipe Run 3928' Mud Wt. 8.8
 Top Packer Depth 4116' Drill Collars Run 186 Vis 111
 Bottom Packer Depth 4121' Wt. Pipe Run Ø WL 7.2
 Total Depth 4209' Chlorides 1,000 ppm System LCM #4

Blow Description IF - weak surface blow dead in 2 min.
ISI - NO return
FF - NO surface blow
FSI - NO return

Rec	Feet of	%gas	%oil	%water	%mud
<u>60</u>	<u>0cm</u>		<u>35</u>		<u>65</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 60 BHT 134 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

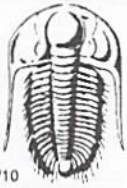
(A) Initial Hydrostatic 2115 Test 1250 T-On Location 7:18p.m.
 (B) First Initial Flow 23 Jars 250 T-Started 9:04p.m.
 (C) First Final Flow 33 Safety Joint 75 T-Open 11:59p.m.
 (D) Initial Shut-In 1207 Circ Sub n/c T-Pulled 2:59am
 (E) Second Initial Flow 41 Hourly Standby _____ T-Out 6:20am
 (F) Second Final Flow 45 Mileage 26 R/T 232.50 Comments _____
 (G) Final Shut-In 1091 Sampler _____
 (H) Final Hydrostatic 2081 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____

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

Sub Total 1807.50
 Total 1807.50
 MP/DST Disc't _____

Approved By _____ Our Representative Bonnie Braun

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. 60141

Well Name & No. Bash # 1-29 Test No. 3 Date 9-11-14
 Company Murfin Drilling Co., Inc. Elevation 3216 KB 3211 GL
 Address 250 N Water STE 300 Wichita, KS, 67202
 Co. Rep / Geo. Rocky Milford Rig Murfin #7
 Location: Sec. 29 Twp. 15 Rge. 38W Co. Cheyenne State KS

Interval Tested 4182' - 4240' Zone Tested LKC "D"
 Anchor Length 58' Drill Pipe Run 3991 Mud Wt. 9.2
 Top Packer Depth 4177' Drill Collars Run 186 Vis 76
 Bottom Packer Depth 4182' Wt. Pipe Run 0 WL 8
 Total Depth 4240' Chlorides 800 ppm System LCM #3

Blow Description IF - Surface blow built to 8 1/2 in 30 min
ISI - Return built to 1/4 in 10 min. then stayed
FF - Surface blow built to BoB in 24 min.
FSI - Return built to 1/4 in 8 min. then stayed

Rec	Feet of	%gas	%oil	%water	%mud
<u>50</u>	<u>gassy oil</u>	<u>10</u>	<u>90</u>		
<u>63</u>	<u>OCM</u>	<u>10</u>	<u>40</u>		<u>50</u>
<u>180</u>	<u>OCM</u>		<u>40</u>		<u>60</u>

Rec Total 293 BHT 137 Gravity 28 API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2146</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>1:03pm</u>
(B) First Initial Flow <u>27</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>2:50pm</u>
(C) First Final Flow <u>108</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>5:44pm</u>
(D) Initial Shut-In <u>1315</u>	<input checked="" type="checkbox"/> Circ Sub <u>n/c</u>	T-Pulled <u>9:44pm</u>
(E) Second Initial Flow <u>113</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>12:57am</u>
(F) Second Final Flow <u>145</u>	<input checked="" type="checkbox"/> Mileage <u>26 R/T</u> 232.50	Comments _____
(G) Final Shut-In <u>1310</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>2127</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>1807.50</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____

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

Sub Total 1807.50

Approved By _____ Our Representative Honore Braun

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 60142

4/10

Well Name & No. Bash #1-29 Test No. 4 Date 9-12-14
 Company Murfin Drilling CO, Inc. Elevation 3216 KB 3211 GL
 Address 250 N Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Rocky Milford Rig Murfin #7
 Location: Sec. 29 Twp. 1S Rge. 39W Co. Cheyenne State KS

Interval Tested 4238' - 4345' Zone Tested LKC "E-H"
 Anchor Length 107' Drill Pipe Run 4054' Mud Wt. ~~8.8~~ 9.2
 Top Packer Depth 4233' Drill Collars Run 186 Vis 58
 Bottom Packer Depth 4238' Wt. Pipe Run Ø WL 8.4
 Total Depth 4345' Chlorides 600 ppm System LCM #2

Blow Description IF - weak surface blow built to 1" in 30 min.
ISI - No return
FF - No surface blow
FSI - NO return

Rec	Feet of	%gas	%oil	%water	%mud
10	OCM	35		65	

Rec Total 10 BHT 157 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2198 Test 1250 T-On Location 4:40pm
 (B) First Initial Flow 24 Jars 250 T-Started 6:47pm
 (C) First Final Flow 27 Safety Joint 75 T-Open 9:42pm
 (D) Initial Shut-In 643 Circ Sub n/c T-Pulled 12:42am
 (E) Second Initial Flow 32 Hourly Standby _____ T-Out 3:44am
 (F) Second Final Flow 34 Mileage 26R/T 232.50 Comments _____
 (G) Final Shut-In 157 Sampler _____
 (H) Final Hydrostatic 2156 Straddle _____ Ruined Shale Packer _____
 Shale Packer 250 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 30 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 60 Sub Total 2057.50

Approved By _____ Our Representative Donovan Newman

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 60160

Well Name & No. Bash #1-29 Test No. 5 Date 9-13-2014
 Company Murfin Drilling Co, Inc. Elevation 3216 KB 3211 GL
 Address 250 N water STE. 300 Wichita KS, 67202
 Co. Rep / Geo. Rocky Milford Rig Murfin #7
 Location: Sec. 29 Twp. 15 Rge. 38 W Co. Cheyenne State KS

Interval Tested 4327 - 4448 Zone Tested LKC "J-L"
 Anchor Length 121 Drill Pipe Run 4116 Mud Wt. 9.2
 Top Packer Depth 4323 Drill Collars Run 186 Vis 61
 Bottom Packer Depth 4327 Wt. Pipe Run 0 WL 8.4
 Total Depth 4448 Chlorides 600 ppm System LCM 2.0

Blow Description IF - Blow burst to 1"
ISF - NO return
FF - NO blow
FSE - NO return

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</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

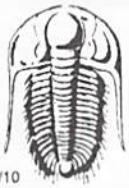
Rec Total 10 BHT 132 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2219 Test 1250 T-On Location 16:30 9-13
 (B) First Initial Flow 25 Jars 250 T-Started 17:00 9-13
 (C) First Final Flow 37 Safety Joint 75 T-Open 19:53 9-13
 (D) Initial Shut-In 1321 Circ Sub _____ T-Pulled 22:53 9-13
 (E) Second Initial Flow 41 Hourly Standby _____ T-Out 01:22 9-14
 (F) Second Final Flow 51 Mileage 148 RT 232.50 Comments _____
 (G) Final Shut-In 1270 Sampler _____
 (H) Final Hydrostatic 2148 Straddle _____ Ruined Shale Packer _____

Initial Open 30 Extra Packer _____ Ruined Packer _____
 Initial Shut-In 60 Extra Recorder _____ Extra Copies _____
 Final Flow 30 Day Standby _____ Sub Total 0
 Final Shut-In 60 Accessibility _____ Total 2057.50
 Sub Total 2057.50 MP/DST Disc't _____

Approved By Rocky Milford Our Representative Robert Zocher

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 60161

Well Name & No. Bash # 1-29 Test No. 6 Date 9-14-2014
 Company Murfin Drilling Co, Inc Elevation 326 KB 3211 GL
 Address 250 A water STE, 300 Wichita KS, 67202
 Co. Rep / Geo. Rocky Milford Rig Murfin #7
 Location: Sec. 29 Twp. 1S Rge. 38W Co. cheyenne State KS

Interval Tested 4547 - 4596 Zone Tested Pawnee
 Anchor Length 49 Drill Pipe Run 4339 Mud Wt. 9.3
 Top Packer Depth 4543 Drill Collars Run 186 Vis 78
 Bottom Packer Depth 4547 Wt. Pipe Run 0 WL 7.2
 Total Depth 4596 Chlorides 700 ppm System LCM 4.0

Blow Description IF - Blow built to 1" died back 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 140 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2344 Test 1250 T-On Location 20:30 9-14
 (B) First Initial Flow 21 Jars 250 T-Started 21:00 9-14
 (C) First Final Flow 24 Safety Joint 75 T-Open 23:41 9-14
 (D) Initial Shut-In 125 Circ Sub _____ T-Pulled 02:47 9-15
 (E) Second Initial Flow 25 Hourly Standby _____ T-Out 05:14 9-15
 (F) Second Final Flow 26 Mileage 148 RT 232.50 Comments _____
 (G) Final Shut-In 96 Sampler _____
 (H) Final Hydrostatic 2323 Straddle _____ Ruined Shale Packer _____
 Shale Packer 250 Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 2057.50
 Accessibility _____ MP/DST Disc't _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 30
 Final Shut-In 60
 Sub Total 2057.50

Approved By Rocky Milford Our Representative Robert Zoolow

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