



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Ste 300  
Wichita KS 67202

ATTN: Jeff Christian

### **Jones #1-12**

#### **12-1s-38w Cheyenne,KS**

Start Date: 2013.01.12 @ 02:35:00

End Date: 2013.01.12 @ 09:45:00

Job Ticket #: 48031                      DST #: 1

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

Printed: 2013.01.21 @ 10:15:39



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.

**12-1s-38w Cheyenne, KS**

250 N. Water Ste 300  
Wichita KS 67202

**Jones #1-12**

Job Ticket: 48031

**DST#: 1**

ATTN: Jeff Christian

Test Start: 2013.01.12 @ 02:35:00

## GENERAL INFORMATION:

Formation: **Foraker**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:39:30

Time Test Ended: 09:45:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Charles Kreutzer Jr.

Unit No: 61

**Interval: 3720.00 ft (KB) To 3740.00 ft (KB) (TVD)**

Reference Elevations: 3175.00 ft (KB)

Total Depth: 3740.00 ft (KB) (TVD)

3165.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8791 Inside**

Press @ Run Depth: 24.77 psig @ 3721.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.01.12

End Date:

2013.01.12

Last Calib.:

2013.01.12

Start Time: 02:35:01

End Time:

09:45:00

Time On Btm:

2013.01.12 @ 04:25:30

Time Off Btm:

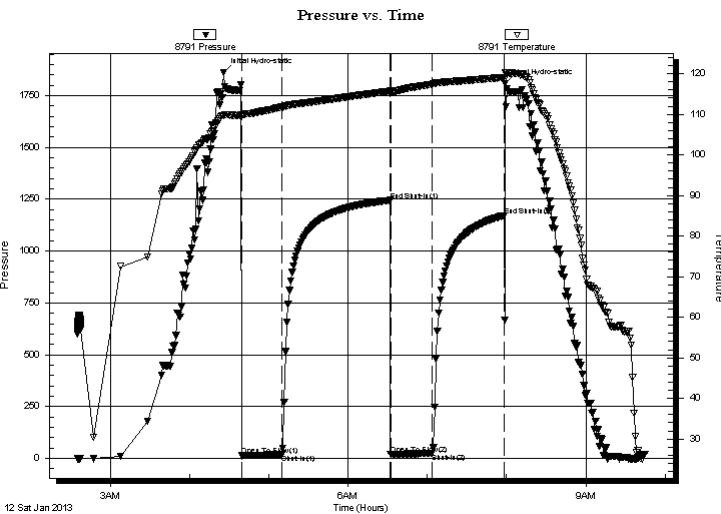
2013.01.12 @ 07:59:00

**TEST COMMENT:** IF: Weak surface blow, Over 30 mins.

IS: No blow back over 60 mins.

FF: No blow over 30 mins.

FS: No blow back over 60 mins.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1862.24	109.62	Initial Hydro-static
14	12.73	109.53	Open To Flow (1)
44	17.99	111.76	Shut-In(1)
126	1244.51	115.71	End Shut-In(1)
127	19.16	115.23	Open To Flow (2)
158	24.77	117.42	Shut-In(2)
213	1171.67	119.10	End Shut-In(2)
214	1809.34	120.18	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	mud w ith oil specs	0.10

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co.

**12-1s-38w Cheyenne,KS**

250 N. Water Ste 300  
Wichita KS 67202

**Jones #1-12**

Job Ticket: 48031

**DST#: 1**

ATTN: Jeff Christian

Test Start: 2013.01.12 @ 02:35:00

## Tool Information

Drill Pipe:	Length: 3172.00 ft	Diameter: 3.80 inches	Volume: 44.49 bbl	Tool Weight: 2400.00 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: 531.00 ft	Diameter: 2.25 inches	Volume: 2.61 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 47.10 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	3720.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	20.00 ft			
Tool Length:	48.00 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			3697.00	
Hydraulic tool	5.00			3702.00	
Jars	5.00			3707.00	
Safety Joint	3.00			3710.00	
Packer	5.00			3715.00	28.00 Bottom Of Top Packer
Packer	5.00			3720.00	
Stubb	1.00			3721.00	
Recorder	0.00	8791	Inside	3721.00	
Recorder	0.00	8651	Outside	3721.00	
Perforations	16.00			3737.00	
Bullnose	3.00			3740.00	20.00 Bottom Packers & Anchor

**Total Tool Length: 48.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co.

**12-1s-38w Cheyenne,KS**

250 N. Water Ste 300  
Wichita KS 67202

**Jones #1-12**

Job Ticket: 48031

**DST#: 1**

ATTN: Jeff Christian

Test Start: 2013.01.12 @ 02:35:00

### 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: 75.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	mud w ith oil specs	0.098

Total Length: 20.00 ft      Total Volume: 0.098 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

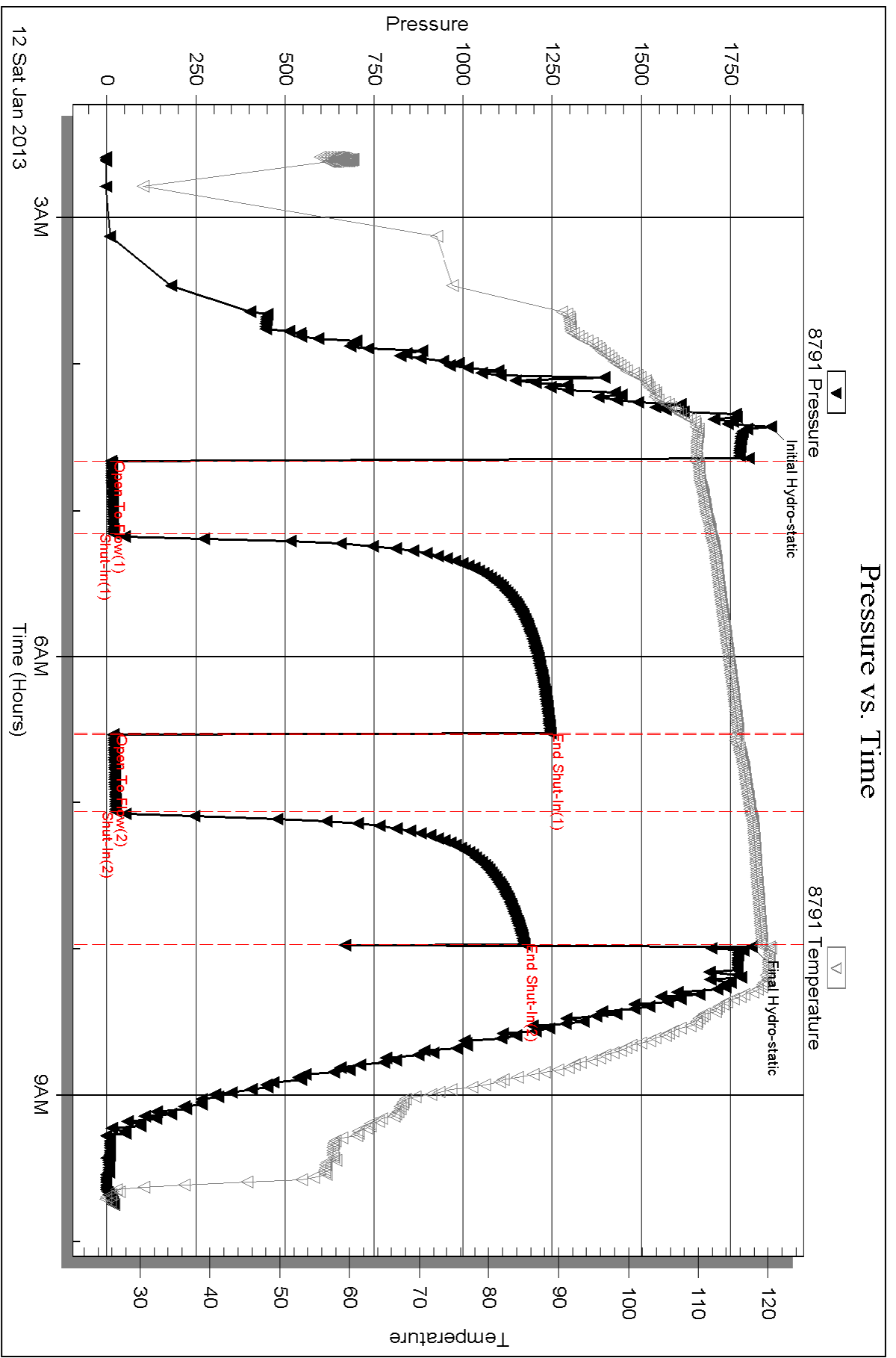
Serial #: 8791

Inside

Murfin Drilling Co.

Jones #1-12

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 48031

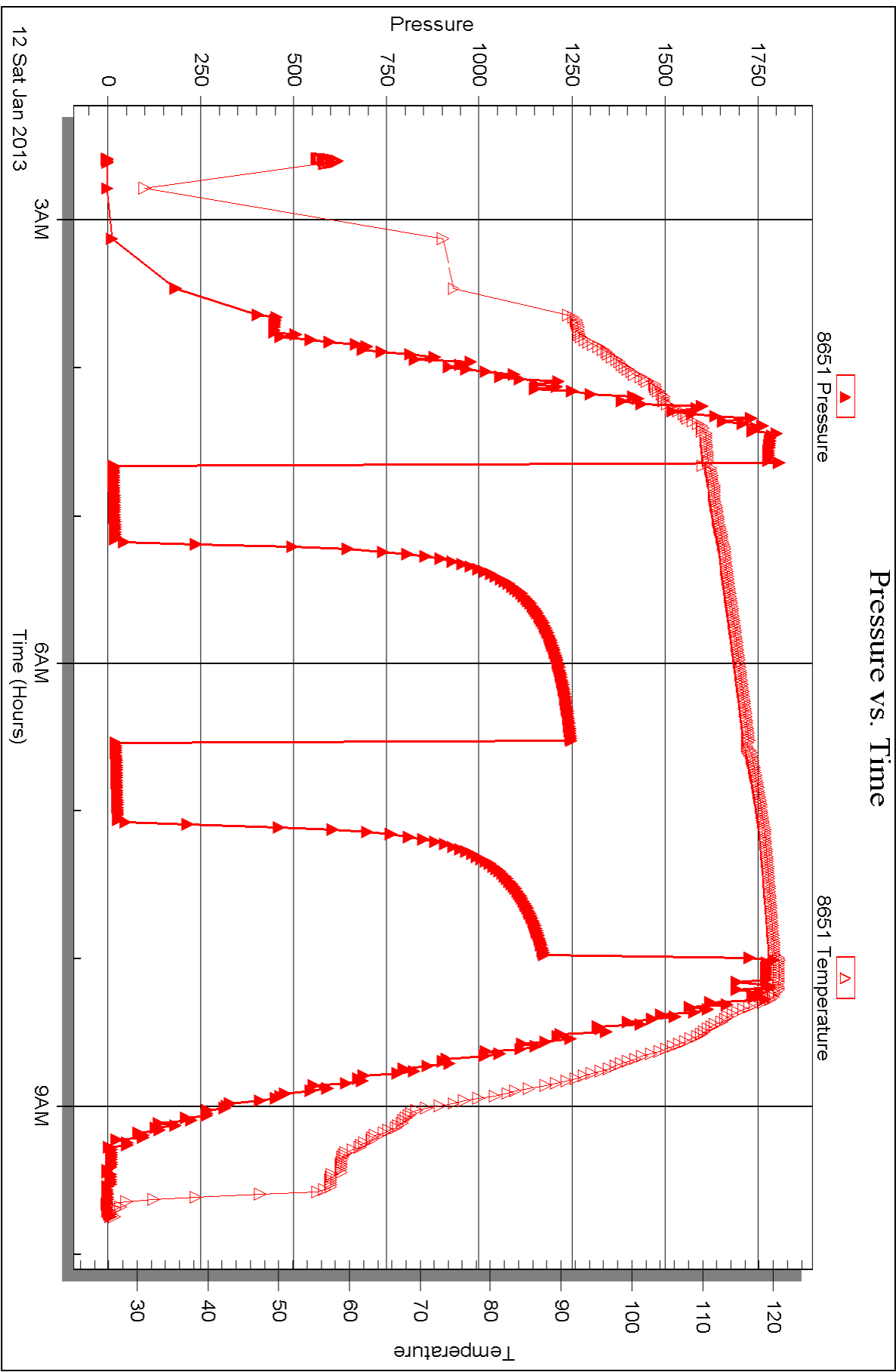
Printed: 2013.01.21 @ 10:15:41

Serial #: 8651

Outside Murfin Drilling Co.

Jones #1-12

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Ste 300  
Wichita KS 67202

ATTN: Jeff Christian

### **Jones #1-12**

#### **12-1s-38w Cheyenne,KS**

Start Date: 2013.01.13 @ 16:45:00

End Date: 2013.01.13 @ 23:38:30

Job Ticket #: 48033                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.01.21 @ 10:14:55





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.

**12-1s-38w Cheyenne, KS**

250 N. Water Ste 300  
Wichita KS 67202

**Jones #1-12**

Job Ticket: 48033

**DST#: 2**

ATTN: Jeff Christian

Test Start: 2013.01.13 @ 16:45:00

## GENERAL INFORMATION:

Formation: **Oread-LKC-A**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:41:30

Time Test Ended: 23:38:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Charles Kreutzer Jr.

Unit No: 61

**Interval: 4092.00 ft (KB) To 4189.00 ft (KB) (TVD)**

Reference Elevations: 3175.00 ft (KB)

Total Depth: 4189.00 ft (KB) (TVD)

3165.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8791**

**Inside**

Press @ Run Depth: 43.53 psig @ 4093.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.01.13

End Date:

2013.01.13

Last Calib.: 2013.01.13

Start Time: 16:45:01

End Time:

23:38:30

Time On Btm: 2013.01.13 @ 18:40:30

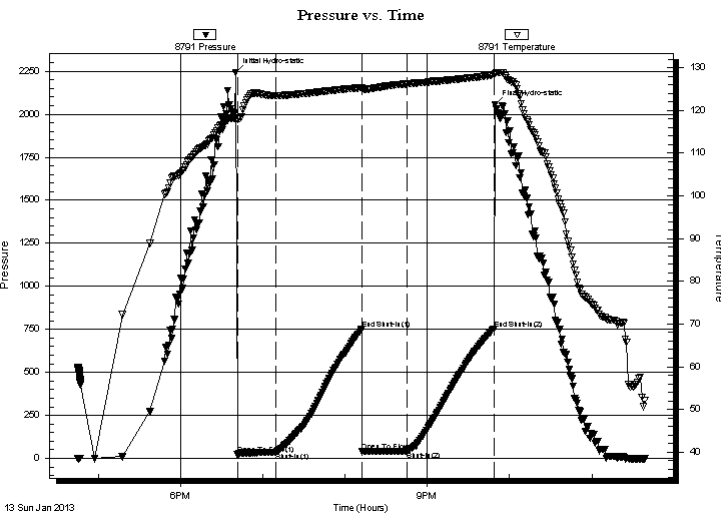
Time Off Btm: 2013.01.13 @ 21:49:30

**TEST COMMENT:** IF: Weak blow, 4" over 30 mins.

ISI: No blow back

FF: No blow.

FSI: No blow back.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2242.90	118.37	Initial Hydro-static
1	21.76	117.94	Open To Flow (1)
29	36.76	123.43	Shut-In(1)
92	751.26	125.35	End Shut-In(1)
92	42.39	125.11	Open To Flow (2)
125	43.53	126.24	Shut-In(2)
188	752.57	128.36	End Shut-In(2)
189	2057.18	128.62	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	ocmw -40%o40%m20%w	0.30

\* 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.

**12-1s-38w Cheyenne,KS**

250 N. Water Ste 300  
Wichita KS 67202

**Jones #1-12**

Job Ticket: 48033

**DST#: 2**

ATTN: Jeff Christian

Test Start: 2013.01.13 @ 16:45:00

## Tool Information

Drill Pipe:	Length: 3553.00 ft	Diameter: 3.80 inches	Volume: 49.84 bbl	Tool Weight: 2400.00 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: 531.00 ft	Diameter: 2.25 inches	Volume: 2.61 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 52.45 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4092.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	97.00 ft			
Tool Length:	125.00 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			4069.00	
Hydraulic tool	5.00			4074.00	
Jars	5.00			4079.00	
Safety Joint	3.00			4082.00	
Packer	5.00			4087.00	28.00 Bottom Of Top Packer
Packer	5.00			4092.00	
Stubb	1.00			4093.00	
Recorder	0.00	8791	Inside	4093.00	
Recorder	0.00	8651	Outside	4093.00	
Perforations	3.00			4096.00	
change Over Sub	1.00			4097.00	
Drill Pipe	63.00			4160.00	
Change Over Sub	1.00			4161.00	
Perforations	25.00			4186.00	
Bullnose	3.00			4189.00	97.00 Bottom Packers & Anchor

**Total Tool Length: 125.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**12-1s-38w Cheyenne,KS**

250 N. Water Ste 300  
Wichita KS 67202

**Jones #1-12**

Job Ticket: 48033

**DST#: 2**

ATTN: Jeff Christian

Test Start: 2013.01.13 @ 16:45:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 69.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	ocmw -40%o40%m20%w	0.295

Total Length: 60.00 ft      Total Volume: 0.295 bbl

Num Fluid Samples: 0

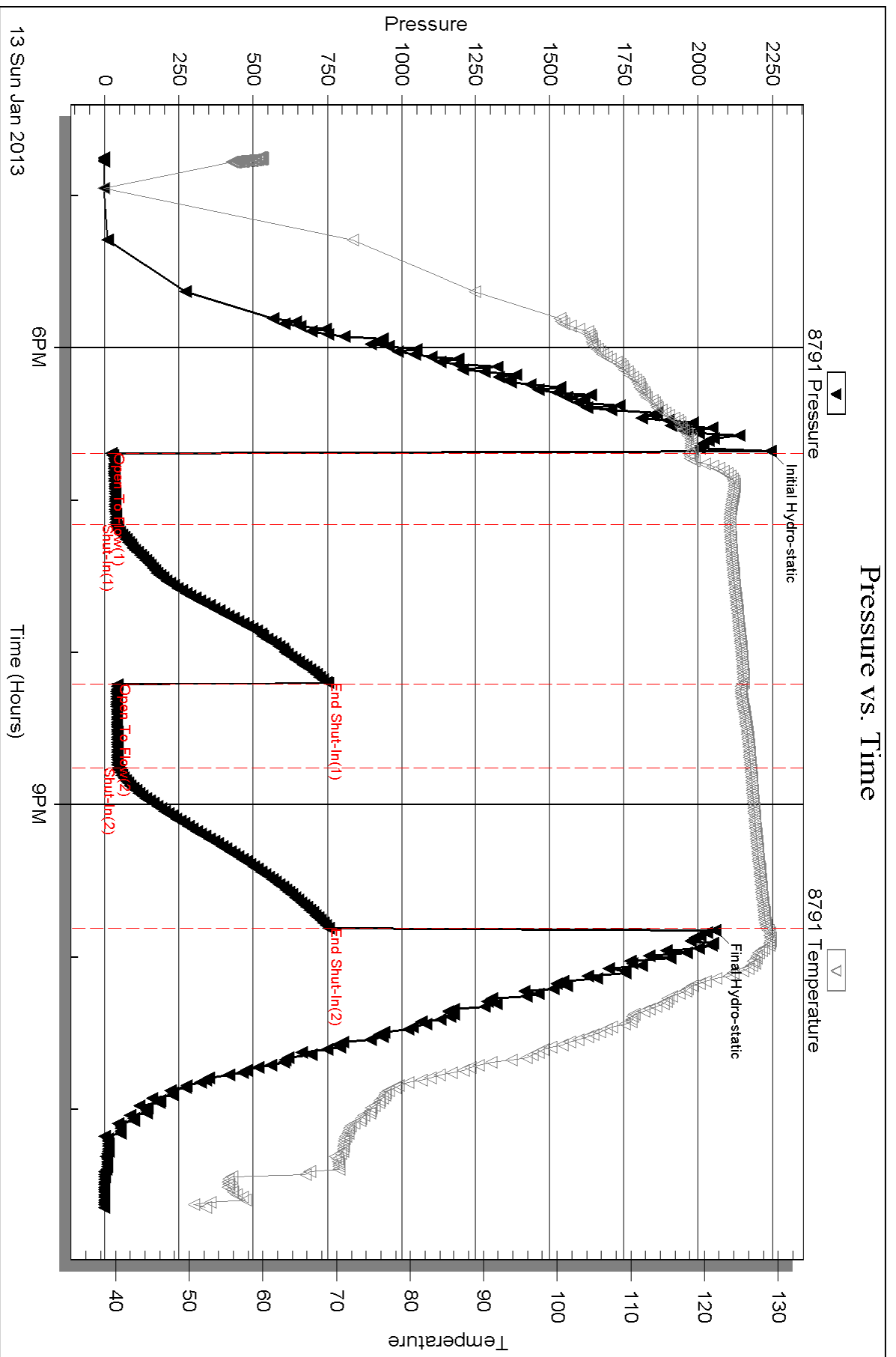
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

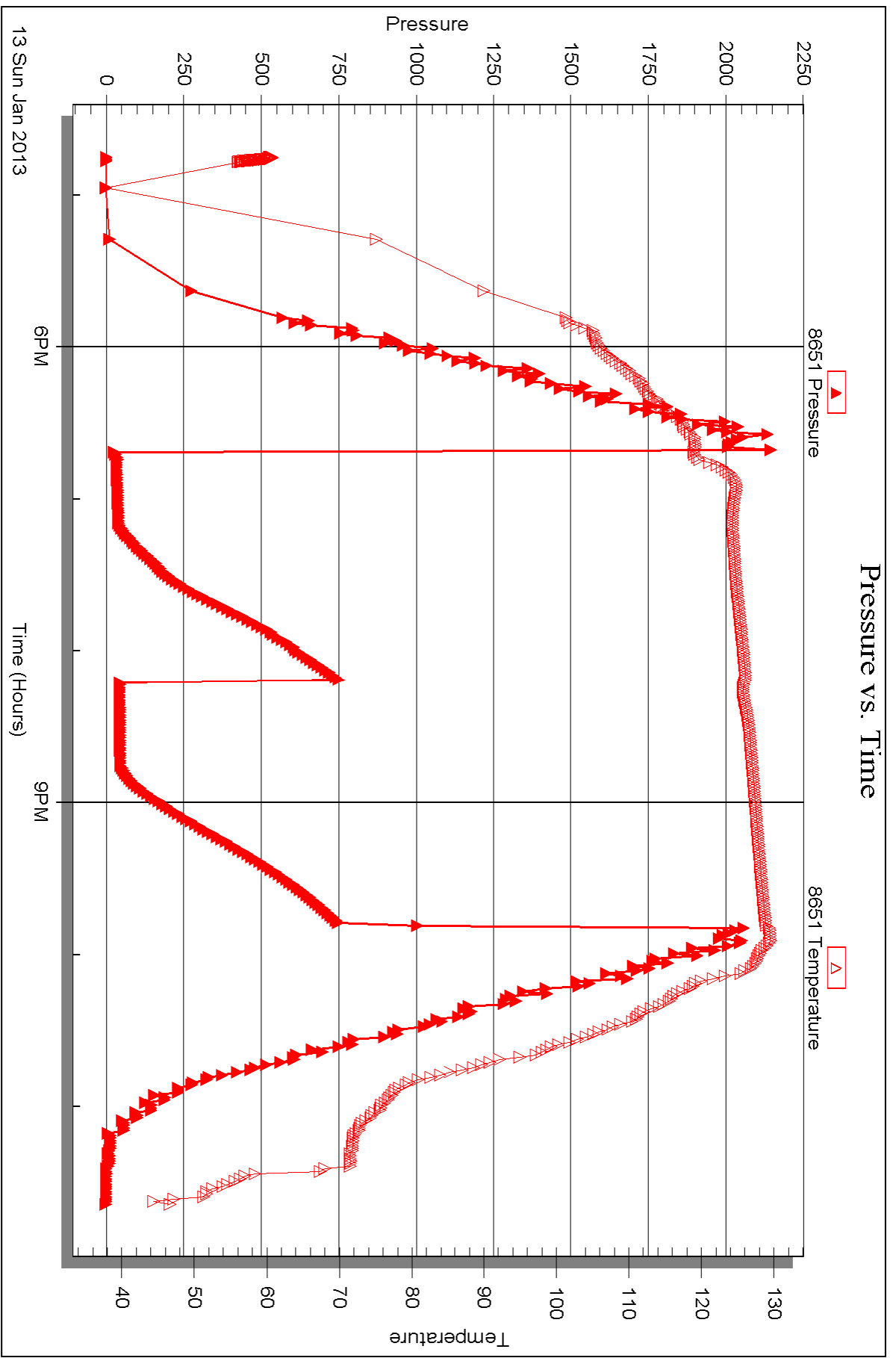


Serial #: 8651

Outside Murfin Drilling Co.

Jones #1-12

DST Test Number: 2





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Ste 300  
Wichita KS 67202

ATTN: Jeff Christian

### **Jones #1-12**

#### **12-1s-38w Cheyenne,KS**

Start Date: 2013.01.14 @ 07:30:00

End Date: 2013.01.14 @ 15:33:00

Job Ticket #: 48033                      DST #: 3

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

Printed: 2013.01.21 @ 10:14:02



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.

**12-1s-38w Cheyenne, KS**

250 N. Water Ste 300  
Wichita KS 67202

**Jones #1-12**

Job Ticket: 48033

**DST#: 3**

ATTN: Jeff Christian

Test Start: 2013.01.14 @ 07:30:00

## GENERAL INFORMATION:

Formation: **LKC-D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:42:00

Time Test Ended: 15:33:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Charles Kreutzer Jr.

Unit No: 61

**Interval: 4166.00 ft (KB) To 4221.00 ft (KB) (TVD)**

Reference Elevations: 3175.00 ft (KB)

Total Depth: 4221.00 ft (KB) (TVD)

3165.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8791**

**Inside**

Press @ Run Depth: 130.39 psig @ 4167.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.01.14

End Date:

2013.01.14

Last Calib.: 2013.01.14

Start Time: 07:30:01

End Time:

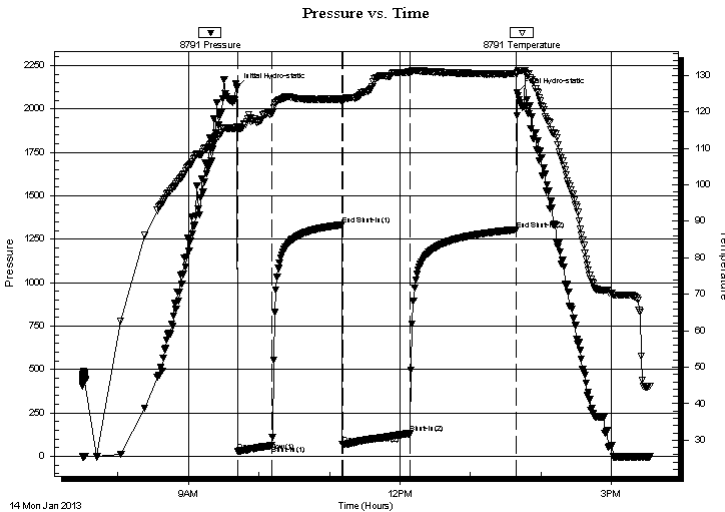
15:33:00

Time On Btm: 2013.01.14 @ 09:41:00

Time Off Btm: 2013.01.14 @ 13:40:00

**TEST COMMENT:** IF: Weak blow, Built to 4 in. over 30 mins.  
IS: Weak blow back, Built to 1/2" over 60 mins.  
FF: Weak blow, Built to 6 in. over 60 mins.  
FS: Weak blow back, Built to 2" over 90 mins.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2121.03	115.78	Initial Hydro-static
1	27.39	115.48	Open To Flow (1)
30	64.14	119.53	Shut-In(1)
90	1332.85	123.53	End Shut-In(1)
90	69.80	122.83	Open To Flow (2)
148	130.39	131.01	Shut-In(2)
238	1305.18	130.45	End Shut-In(2)
239	2093.98	130.87	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
210.00	ocm-5%o95%m	1.03

\* 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.

**12-1s-38w Cheyenne,KS**

250 N. Water Ste 300  
Wichita KS 67202

**Jones #1-12**

Job Ticket: 48033

**DST#: 3**

ATTN: Jeff Christian

Test Start: 2013.01.14 @ 07:30:00

## Tool Information

Drill Pipe:	Length: 3617.00 ft	Diameter: 3.80 inches	Volume: 50.74 bbl	Tool Weight: 2400.00 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: 531.00 ft	Diameter: 2.25 inches	Volume: 2.61 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 53.35 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4166.00 ft			Final 71000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	55.00 ft			
Tool Length:	83.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

**Length (ft) Serial No. Position Depth (ft) Accum. Lengths**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4143.00	
Hydraulic tool	5.00			4148.00	
Jars	5.00			4153.00	
Safety Joint	3.00			4156.00	
Packer	5.00			4161.00	28.00 Bottom Of Top Packer
Packer	5.00			4166.00	
Stubb	1.00			4167.00	
Recorder	0.00	8791	Inside	4167.00	
Recorder	0.00	8651	Outside	4167.00	
Perforations	3.00			4170.00	
change Over Sub	1.00			4171.00	
Drill Pipe	31.00			4202.00	
Change Over Sub	1.00			4203.00	
Perforations	15.00			4218.00	
Bullnose	3.00			4221.00	55.00 Bottom Packers & Anchor

**Total Tool Length: 83.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co.

**12-1s-38w Cheyenne,KS**

250 N. Water Ste 300  
Wichita KS 67202

**Jones #1-12**

Job Ticket: 48033

**DST#: 3**

ATTN: Jeff Christian

Test Start: 2013.01.14 @ 07:30:00

### 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: 69.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
210.00	ocm-5%o95%m	1.033

Total Length: 210.00 ft      Total Volume: 1.033 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

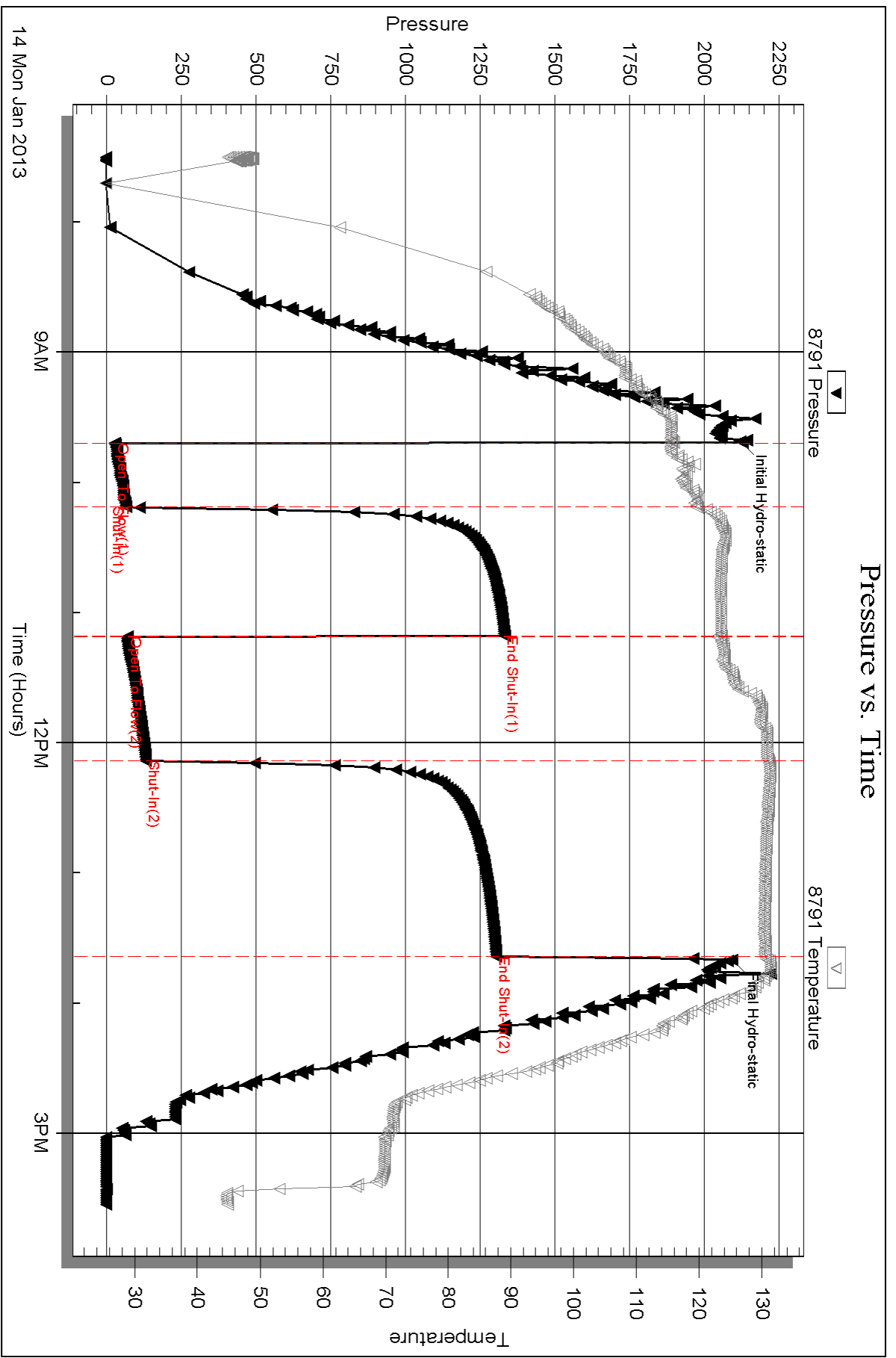
Serial #: 8791

Inside

Murfin Drilling Co.

Jones #1-12

DST Test Number: 3

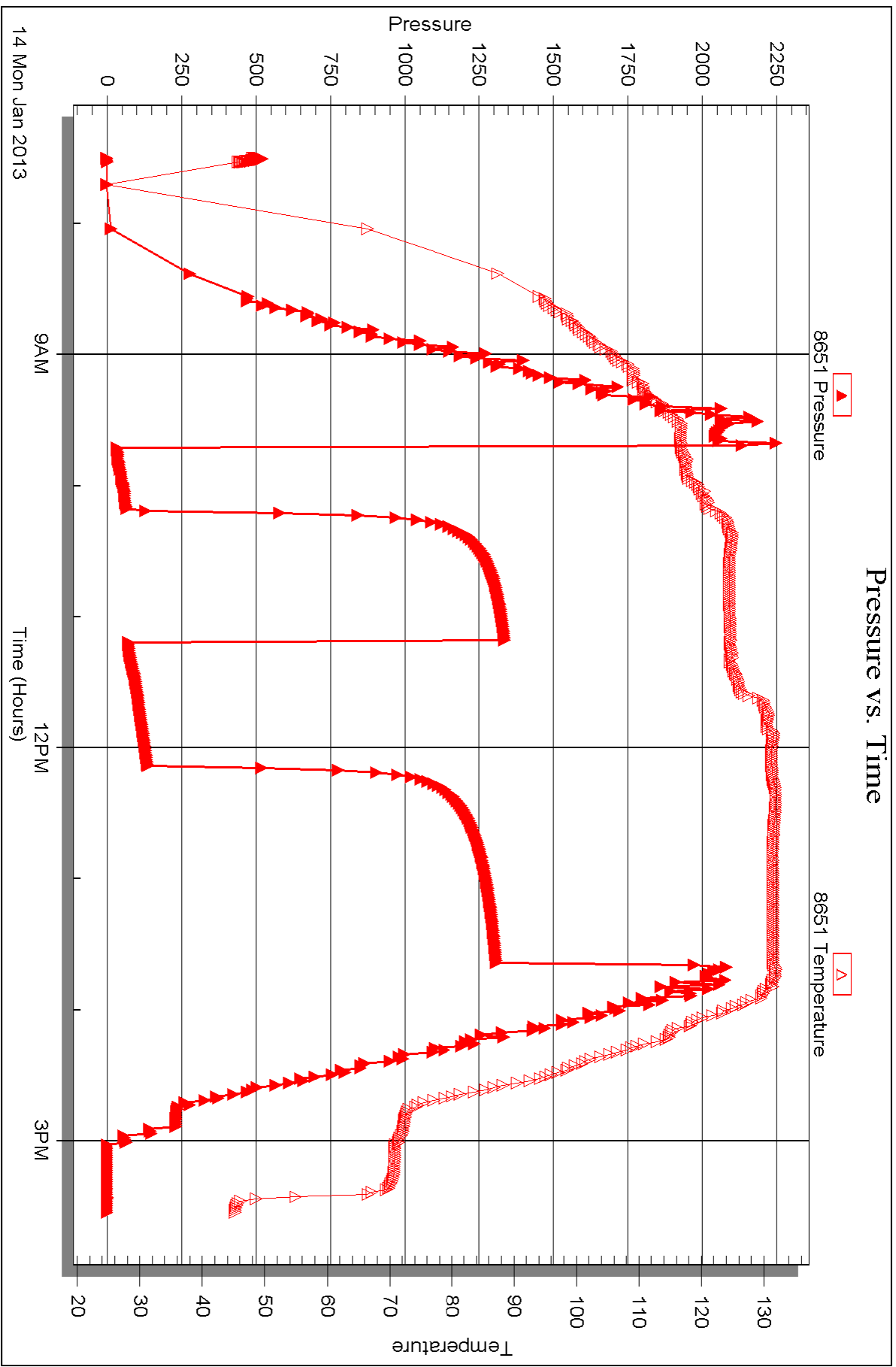


Serial #: 8651

Outside Murfin Drilling Co.

Jones #1-12

DST Test Number: 3





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Ste 300  
Wichita KS 67202

ATTN: Jeff Christian

### **Jones #1-12**

#### **12-1s-38w Cheyenne,KS**

Start Date: 2013.01.15 @ 05:15:00

End Date: 2013.01.15 @ 12:50:00

Job Ticket #: 48034                      DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.01.21 @ 10:13:18



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.

**12-1s-38w Cheyenne, KS**

250 N. Water Ste 300  
Wichita KS 67202

**Jones #1-12**

Job Ticket: 48034

**DST#: 4**

ATTN: Jeff Christian

Test Start: 2013.01.15 @ 05:15:00

## GENERAL INFORMATION:

Formation: **LKC-G,H,I**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:04:00

Time Test Ended: 12:50:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Charles Kreuzer Jr.

Unit No: 61

**Interval: 4229.00 ft (KB) To 4340.00 ft (KB) (TVD)**

Reference Elevations: 3175.00 ft (KB)

Total Depth: 4340.00 ft (KB) (TVD)

3165.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8791**

**Inside**

Press @ Run Depth: 33.46 psig @ 4230.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.01.15

End Date:

2013.01.15

Last Calib.:

2013.01.15

Start Time: 05:15:01

End Time:

12:50:00

Time On Btm:

2013.01.15 @ 08:03:30

Time Off Btm:

2013.01.15 @ 10:56:30

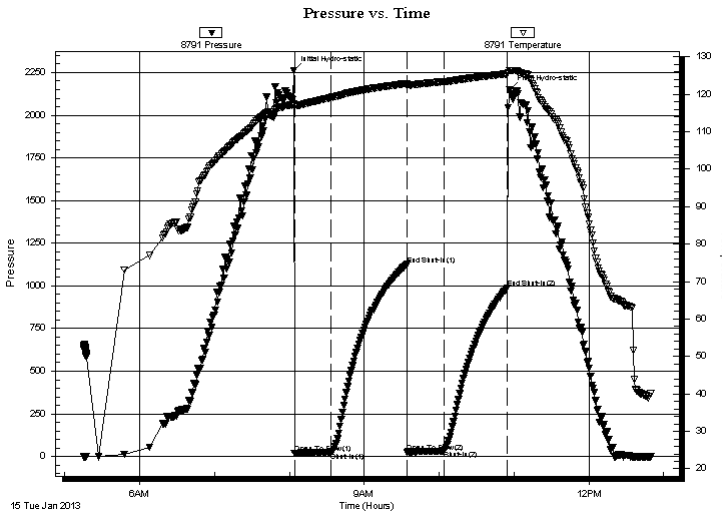
**TEST COMMENT:** IF: Weak blow, Built to 1 1/2" over 30 mins.

IS: No blow back over 60 mins.

FF: No blow over 30 mins.

FS: No blow back over 60 mins.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2262.54	117.47	Initial Hydro-static
1	19.14	116.81	Open To Flow (1)
30	24.49	119.14	Shut-In(1)
91	1125.59	122.86	End Shut-In(1)
91	26.26	122.34	Open To Flow (2)
121	33.46	123.35	Shut-In(2)
171	987.68	125.48	End Shut-In(2)
173	2149.73	126.36	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
30.00	vsocm-2%o98%m	0.15

\* 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.

**12-1s-38w Cheyenne,KS**

250 N. Water Ste 300  
Wichita KS 67202

**Jones #1-12**

Job Ticket: 48034

**DST#: 4**

ATTN: Jeff Christian

Test Start: 2013.01.15 @ 05:15:00

## Tool Information

Drill Pipe:	Length: 3682.00 ft	Diameter: 3.80 inches	Volume: 51.65 bbl	Tool Weight: 2400.00 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: 531.00 ft	Diameter: 2.25 inches	Volume: 2.61 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 54.26 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4229.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	111.00 ft			
Tool Length:	139.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			4206.00	
Hydraulic tool	5.00			4211.00	
Jars	5.00			4216.00	
Safety Joint	3.00			4219.00	
Packer	5.00			4224.00	28.00 Bottom Of Top Packer
Packer	5.00			4229.00	
Stubb	1.00			4230.00	
Recorder	0.00	8791	Inside	4230.00	
Recorder	0.00	8651	Outside	4230.00	
Perforations	3.00			4233.00	
change Over Sub	1.00			4234.00	
Drill Pipe	95.00			4329.00	
Change Over Sub	1.00			4330.00	
Perforations	7.00			4337.00	
Bullnose	3.00			4340.00	111.00 Bottom Packers & Anchor

**Total Tool Length: 139.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co.

**12-1s-38w Cheyenne,KS**

250 N. Water Ste 300  
Wichita KS 67202

**Jones #1-12**

Job Ticket: 48034

**DST#: 4**

ATTN: Jeff Christian

Test Start: 2013.01.15 @ 05:15:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 65.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	vsocm-2%o98%m	0.148

Total Length: 30.00 ft      Total Volume: 0.148 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

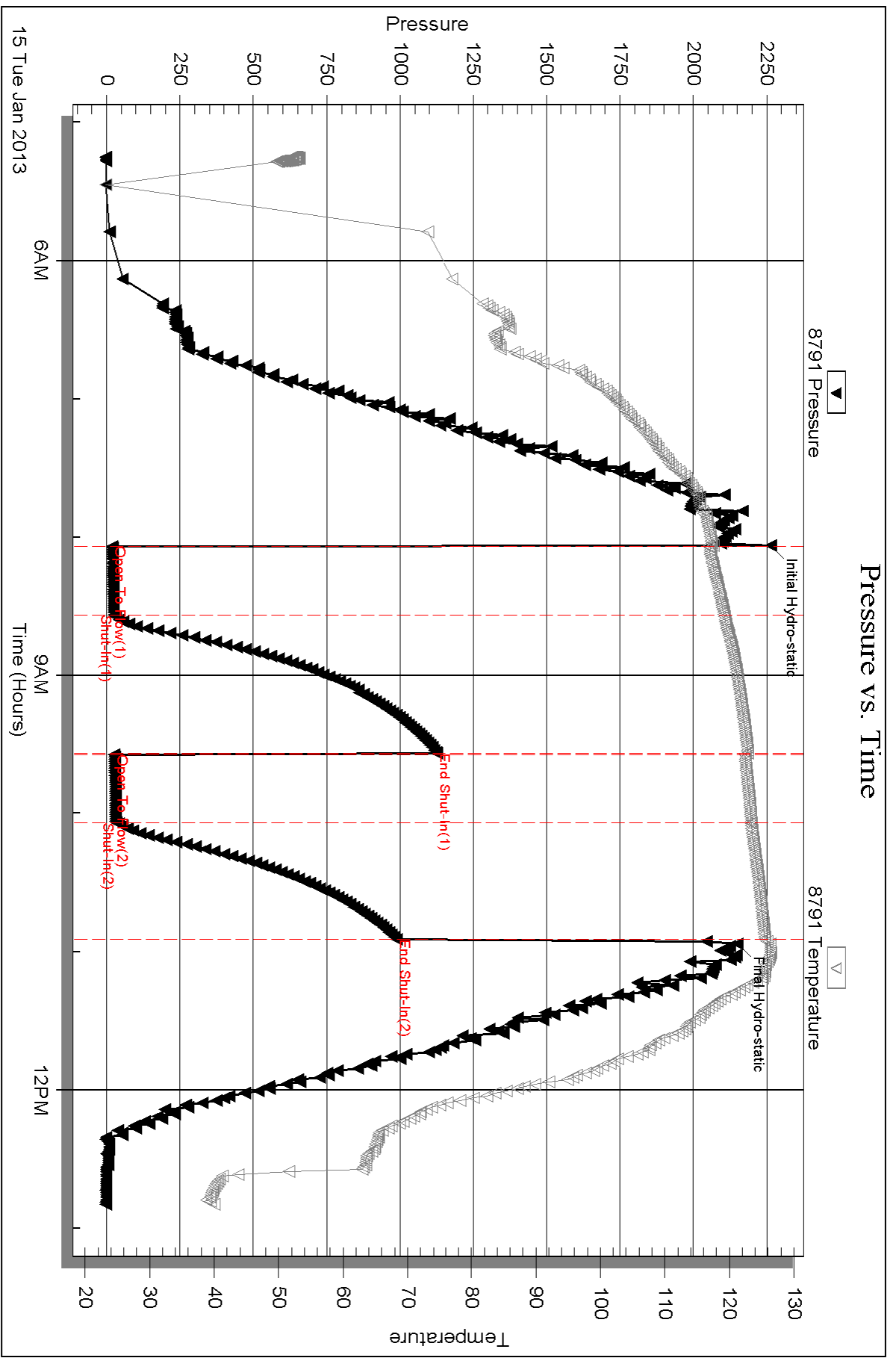
Serial #: 8791

Inside

Murfin Drilling Co.

Jones #1-12

DST Test Number: 4

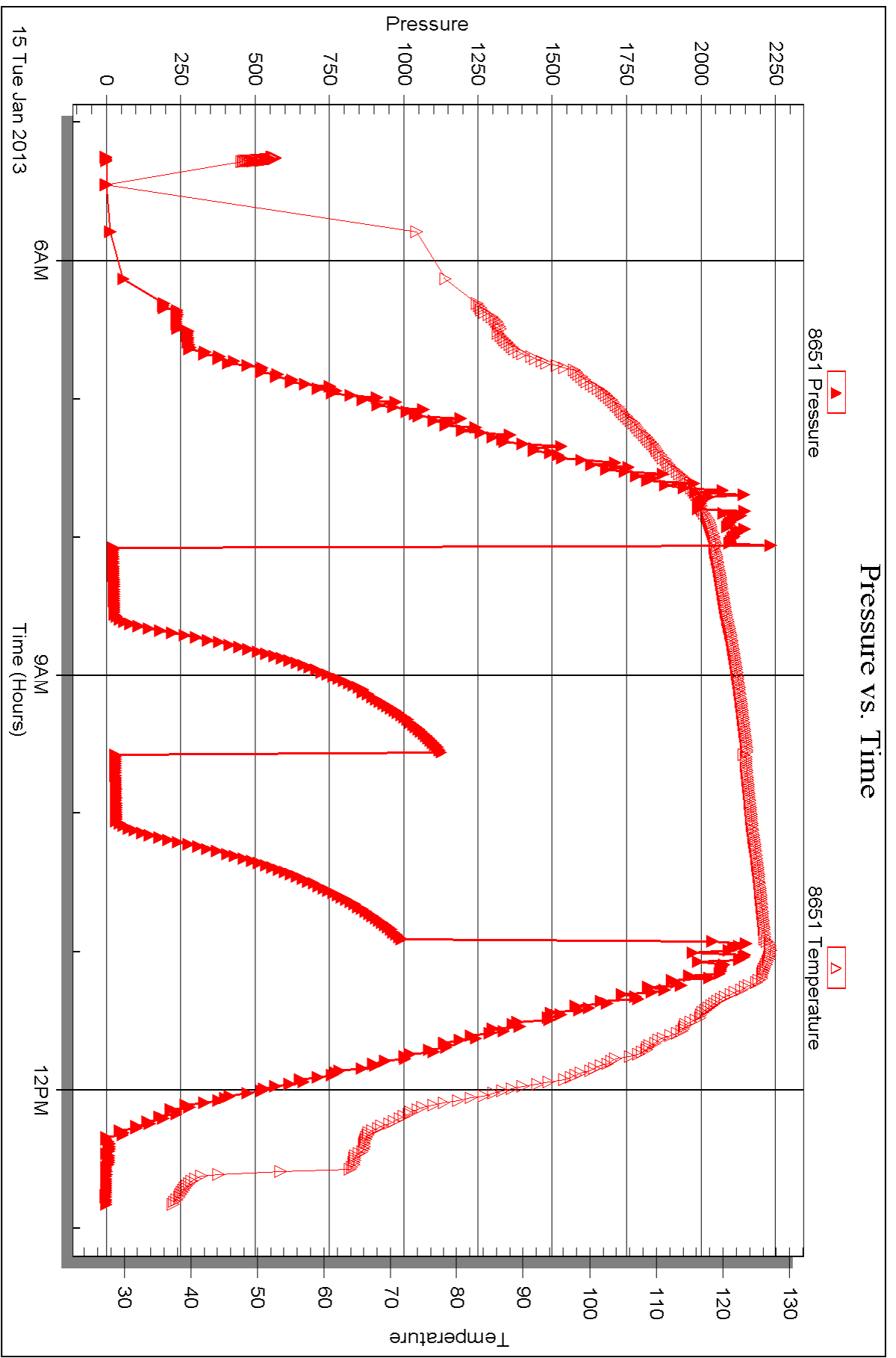


Serial #: 8651

Outside Murfin Drilling Co.

Jones #1-12

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 48034

Printed: 2013.01.21 @ 10:13:21



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Ste 300  
Wichita KS 67202

ATTN: Jeff Christian

### **Jones #1-12**

#### **12-1s-38w Cheyenne,KS**

Start Date: 2013.01.15 @ 21:10:00

End Date: 2013.01.16 @ 04:03:00

Job Ticket #: 48035                      DST #: 5

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

Printed: 2013.01.21 @ 10:12:29



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.

**12-1s-38w Cheyenne, KS**

250 N. Water Ste 300  
Wichita KS 67202

**Jones #1-12**

Job Ticket: 48035

**DST#: 5**

ATTN: Jeff Christian

Test Start: 2013.01.15 @ 21:10:00

## GENERAL INFORMATION:

Formation: **LKC-J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:21:30

Time Test Ended: 04:03:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Charles Kreutzer Jr.

Unit No: 61

**Interval: 4317.00 ft (KB) To 4380.00 ft (KB) (TVD)**

Total Depth: 4380.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3175.00 ft (KB)

3165.00 ft (CF)

KB to GR/CF: 10.00 ft

**Serial #: 8791**

**Inside**

Press @ Run Depth: 23.20 psig @ 4318.00 ft (KB)

Start Date: 2013.01.15

End Date:

2013.01.16

Start Time: 21:10:01

End Time:

04:03:00

Capacity: 8000.00 psig

Last Calib.: 2013.01.16

Time On Btm: 2013.01.15 @ 23:08:00

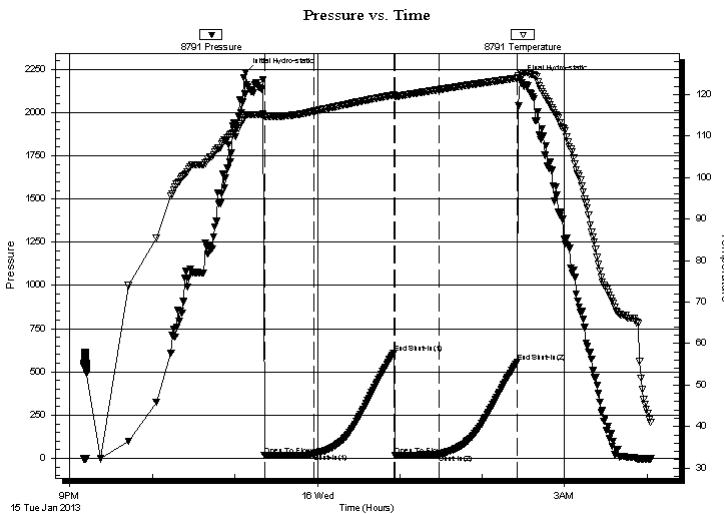
Time Off Btm: 2013.01.16 @ 02:27:30

**TEST COMMENT:** IF: Weak blow, Built to 1/2" in 10 mins. Died to surface over 30 mins.

IS: No blow back

FF: No blow.

FS: No blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2232.17	114.96	Initial Hydro-static
14	16.88	114.72	Open To Flow (1)
50	26.56	115.93	Shut-In(1)
108	609.57	119.84	End Shut-In(1)
109	17.62	119.60	Open To Flow (2)
141	23.20	121.16	Shut-In(2)
198	557.29	123.91	End Shut-In(2)
200	2188.49	125.14	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	ocm-35%o65%m-3ft. free oil	0.10

## 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.

**12-1s-38w Cheyenne,KS**

250 N. Water Ste 300  
Wichita KS 67202

**Jones #1-12**

Job Ticket: 48035

**DST#: 5**

ATTN: Jeff Christian

Test Start: 2013.01.15 @ 21:10:00

## Tool Information

Drill Pipe:	Length: 3775.00 ft	Diameter: 3.80 inches	Volume: 52.95 bbl	Tool Weight: 2400.00 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: 531.00 ft	Diameter: 2.25 inches	Volume: 2.61 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 55.56 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 74000.00 lb
Depth to Top Packer:	4317.00 ft			Final 74000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	63.00 ft			
Tool Length:	91.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			4294.00	
Hydraulic tool	5.00			4299.00	
Jars	5.00			4304.00	
Safety Joint	3.00			4307.00	
Packer	5.00			4312.00	28.00 Bottom Of Top Packer
Packer	5.00			4317.00	
Stubb	1.00			4318.00	
Recorder	0.00	8791	Inside	4318.00	
Recorder	0.00	8651	Outside	4318.00	
Change Over Sub	1.00			4319.00	
Drill Pipe	32.00			4351.00	
Change Over Sub	1.00			4352.00	
Perforations	25.00			4377.00	
Bullnose	3.00			4380.00	63.00 Bottom Packers & Anchor

**Total Tool Length: 91.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co.

**12-1s-38w Cheyenne,KS**

250 N. Water Ste 300  
Wichita KS 67202

**Jones #1-12**

Job Ticket: 48035

**DST#: 5**

ATTN: Jeff Christian

Test Start: 2013.01.15 @ 21:10:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 69.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1400.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	ocm-35%o65% <del>m</del> -3ft. free oil	0.098

Total Length: 20.00 ft      Total Volume: 0.098 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8791

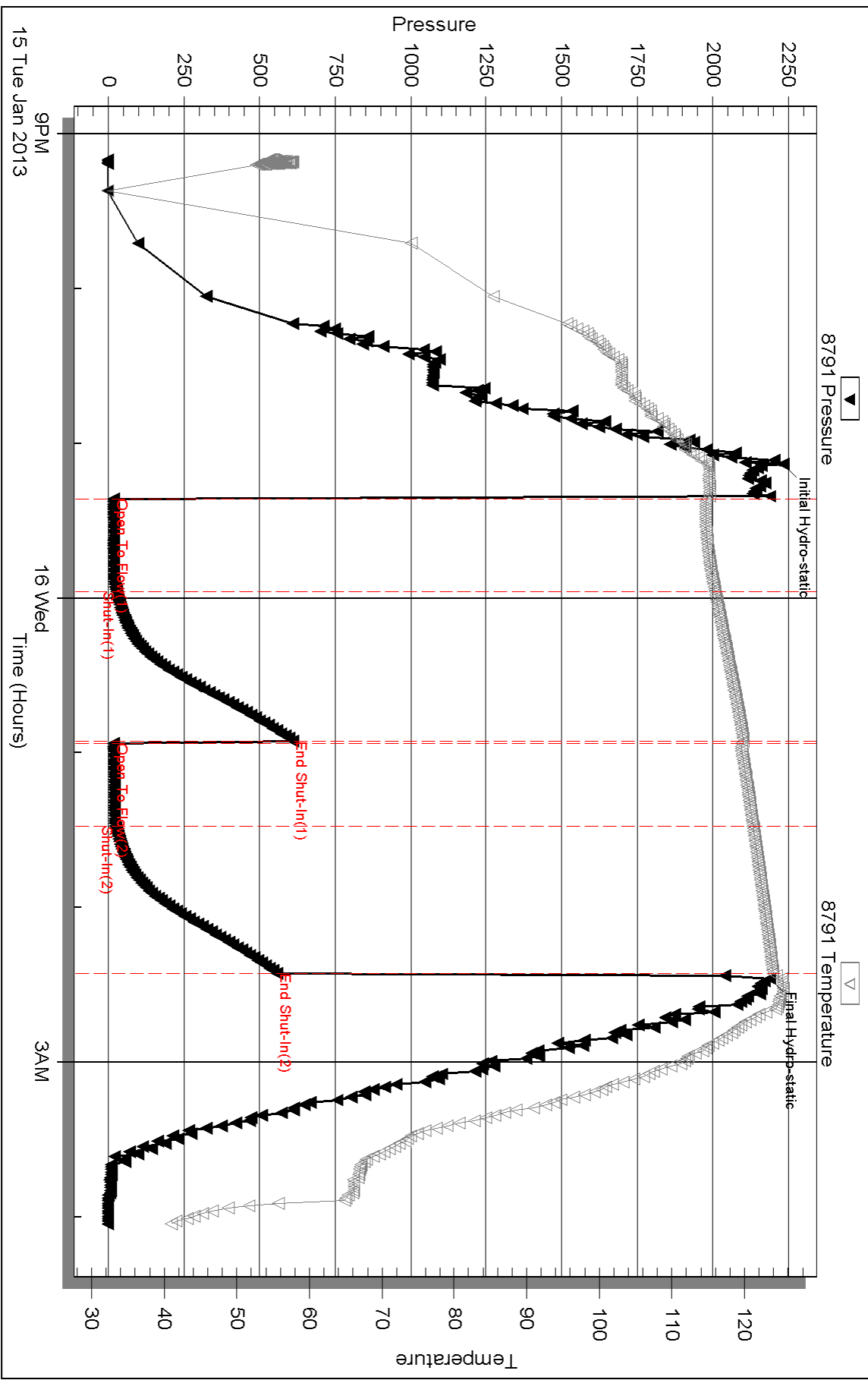
Inside

Murfin Drilling Co.

Jones #1-12

DST Test Number: 5

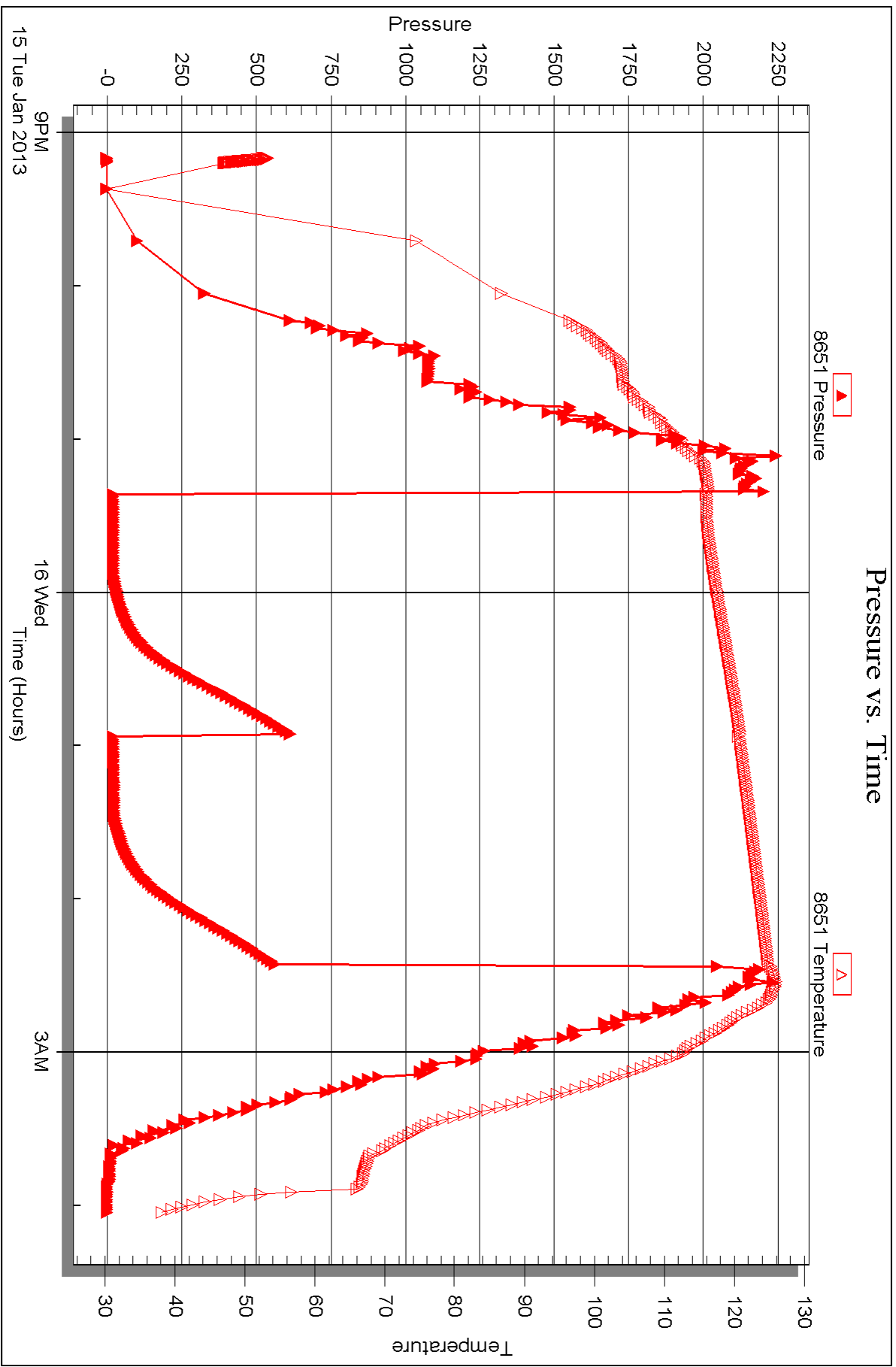
# Pressure vs. Time



Triobite Testing, Inc

Ref. No: 48035

Printed: 2013.01.21 @ 10:12:32





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Ste 300  
Wichita KS 67202

ATTN: Jeff Christian

### **Jones #1-12**

#### **12-1s-38w Cheyenne,KS**

Start Date: 2013.01.16 @ 22:30:00

End Date: 2013.01.17 @ 05:32:30

Job Ticket #: 48036                      DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.01.21 @ 10:10:50



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.

**12-1s-38w Cheyenne, KS**

250 N. Water Ste 300  
Wichita KS 67202

**Jones #1-12**

Job Ticket: 48036

**DST#: 6**

ATTN: Jeff Christian

Test Start: 2013.01.16 @ 22:30:00

## GENERAL INFORMATION:

Formation: **Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:30:30

Time Test Ended: 05:32:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Charles Kreuzer Jr.

Unit No: 61

**Interval: 4524.00 ft (KB) To 4570.00 ft (KB) (TVD)**

Reference Elevations: 3175.00 ft (KB)

Total Depth: 4570.00 ft (KB) (TVD)

3165.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8791**

**Inside**

Press @ Run Depth: 217.10 psig @ 4525.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.01.16

End Date:

2013.01.17

Last Calib.:

2013.01.17

Start Time: 22:30:01

End Time:

05:32:30

Time On Btm:

2013.01.17 @ 00:21:30

Time Off Btm:

2013.01.17 @ 03:45:00

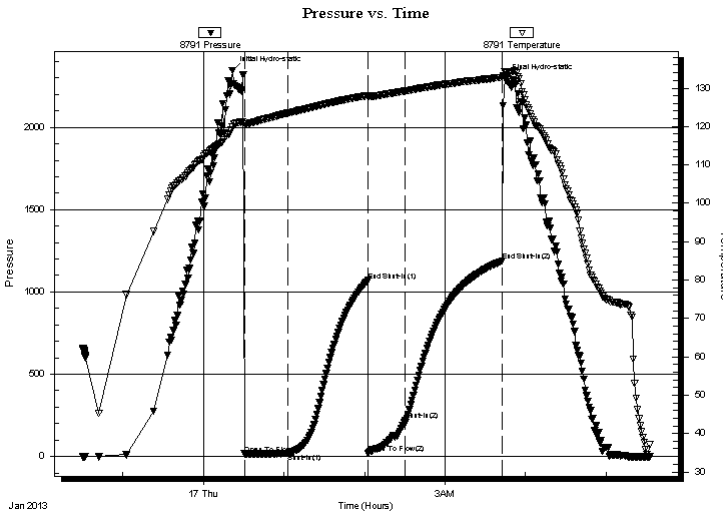
**TEST COMMENT:** IF: Weak surface blow, Died in 25 mins.(30)

IS: No blow back (60)

FF: No blow over(30) mins.

FS: No blow back (60)mins.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2346.43	119.85	Initial Hydro-static
9	16.27	120.63	Open To Flow (1)
42	18.39	123.48	Shut-In(1)
101	1069.44	128.07	End Shut-In(1)
102	20.77	127.75	Open To Flow (2)
129	217.10	129.21	Shut-In(2)
201	1187.24	132.73	End Shut-In(2)
204	2297.08	134.13	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
25.00	vsocm-2%o98%m	0.12

\* 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.

**12-1s-38w Cheyenne,KS**

250 N. Water Ste 300  
Wichita KS 67202

**Jones #1-12**

Job Ticket: 48036

**DST#: 6**

ATTN: Jeff Christian

Test Start: 2013.01.16 @ 22:30:00

## Tool Information

Drill Pipe:	Length: 3998.00 ft	Diameter: 3.80 inches	Volume: 56.08 bbl	Tool Weight: 2400.00 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: 531.00 ft	Diameter: 2.25 inches	Volume: 2.61 bbl	Weight to Pull Loose: 78000.00 lb
			<u>Total Volume: 58.69 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	33.00 ft			String Weight: Initial 74000.00 lb
Depth to Top Packer:	4524.00 ft			Final 74000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	46.00 ft			
Tool Length:	74.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

**Length (ft) Serial No. Position Depth (ft) Accum. Lengths**

Shut In Tool	5.00			4501.00	
Hydraulic tool	5.00			4506.00	
Jars	5.00			4511.00	
Safety Joint	3.00			4514.00	
Packer	5.00			4519.00	28.00 Bottom Of Top Packer
Packer	5.00			4524.00	
Stubb	1.00			4525.00	
Recorder	0.00	8791	Inside	4525.00	
Recorder	0.00	8651	Outside	4525.00	
Perforations	1.00			4526.00	
change Over Sub	1.00			4527.00	
Drill Pipe	31.00			4558.00	
Change Over Sub	1.00			4559.00	
Perforations	8.00			4567.00	
Bullnose	3.00			4570.00	46.00 Bottom Packers & Anchor

**Total Tool Length: 74.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**12-1s-38w Cheyenne,KS**

250 N. Water Ste 300  
Wichita KS 67202

**Jones #1-12**

Job Ticket: 48036

**DST#: 6**

ATTN: Jeff Christian

Test Start: 2013.01.16 @ 22:30:00

## 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: 71.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.89 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1400.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
25.00	vsocm-2%o98%m	0.123

Total Length: 25.00 ft      Total Volume: 0.123 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

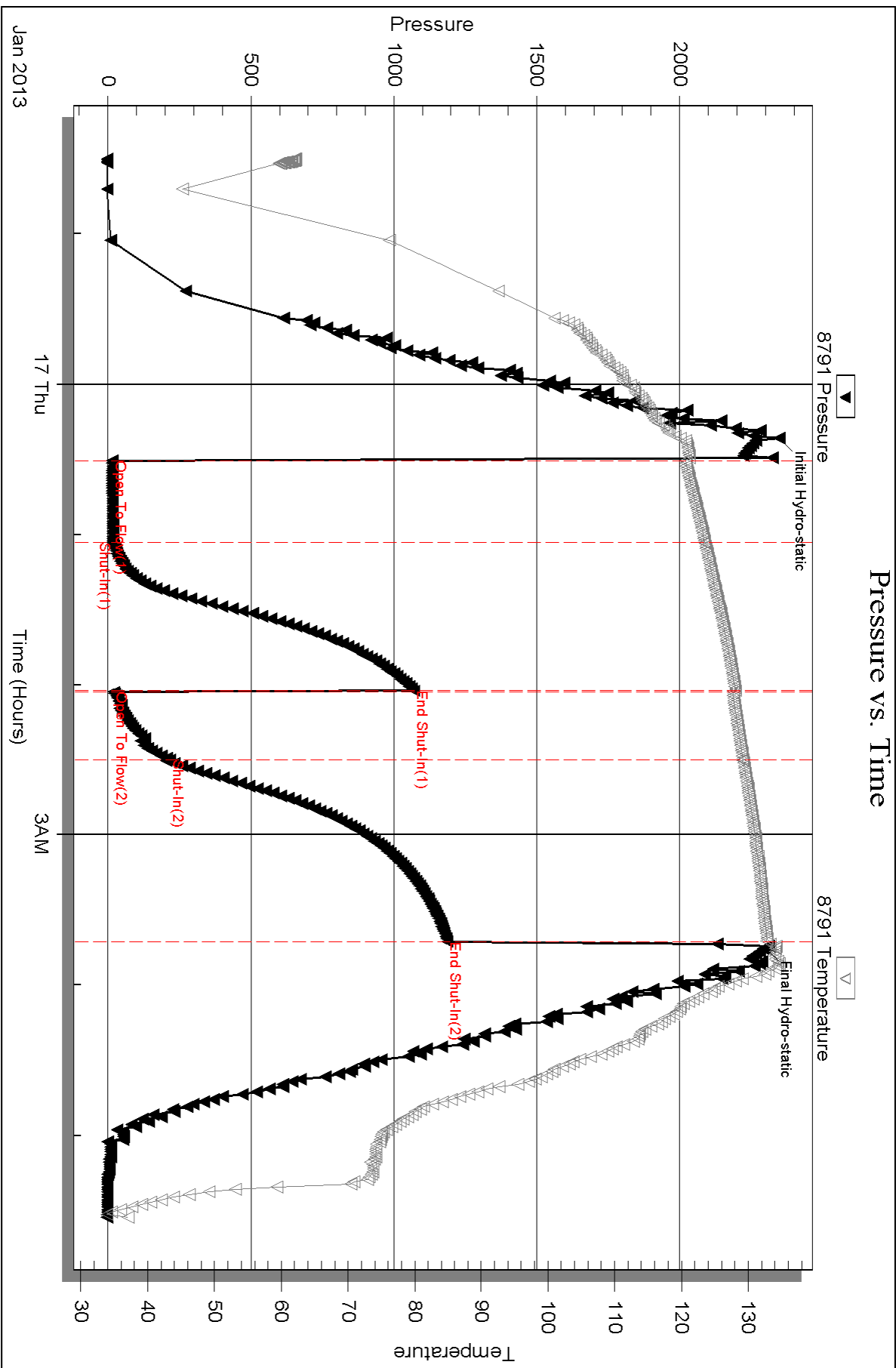
Serial #:

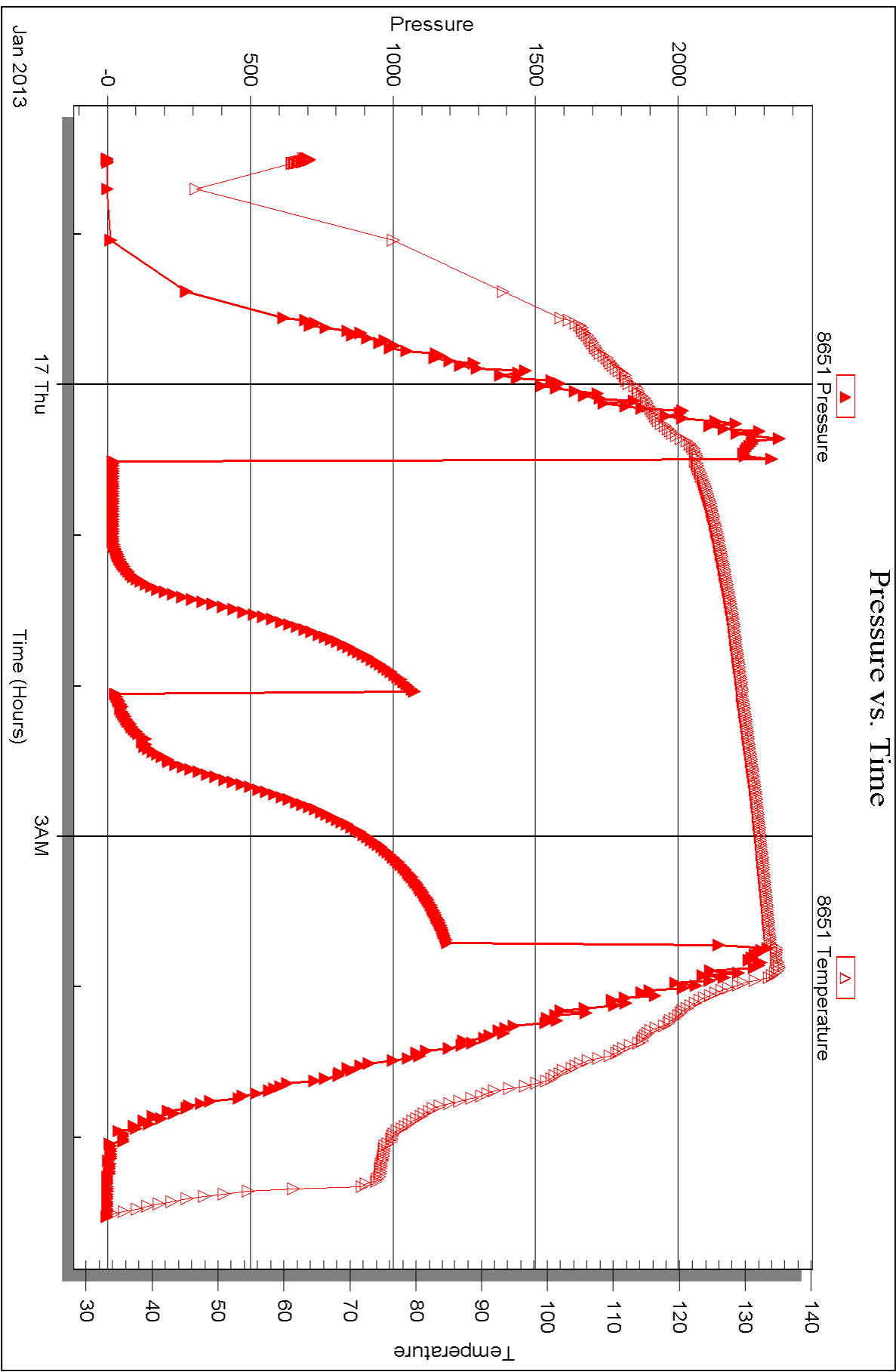
Laboratory Name:

Laboratory Location:

Recovery Comments:









## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Ste 300  
Wichita KS 67202

ATTN: Jeff Christian

### **Jones #1-12**

#### **12-1s-38w Cheyenne,KS**

Start Date: 2013.01.18 @ 06:30:00

End Date: 2013.01.18 @ 15:53:30

Job Ticket #: 48037                      DST #: 7

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

Printed: 2013.01.21 @ 10:04:14



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.

**12-1s-38w Cheyenne, KS**

250 N. Water Ste 300  
Wichita KS 67202

**Jones #1-12**

Job Ticket: 48037

**DST#: 7**

ATTN: Jeff Christian

Test Start: 2013.01.18 @ 06:30:00

## GENERAL INFORMATION:

Formation: **LKC-L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:17:00

Time Test Ended: 15:53:30

Test Type: Conventional Straddle (Reset)

Tester: Charles Kreutzer Jr.

Unit No: 61

**Interval: 4406.00 ft (KB) To 4453.00 ft (KB) (TVD)**

Total Depth: 4725.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3175.00 ft (KB)

3165.00 ft (CF)

KB to GR/CF: 10.00 ft

**Serial #: 8791**

**Inside**

Press @ Run Depth: 95.08 psig @ 4410.00 ft (KB)

Start Date: 2013.01.18

End Date: 2013.01.18

Start Time: 06:30:01

End Time: 15:53:30

Capacity: 8000.00 psig

Last Calib.: 2013.01.18

Time On Btm: 2013.01.18 @ 10:16:00

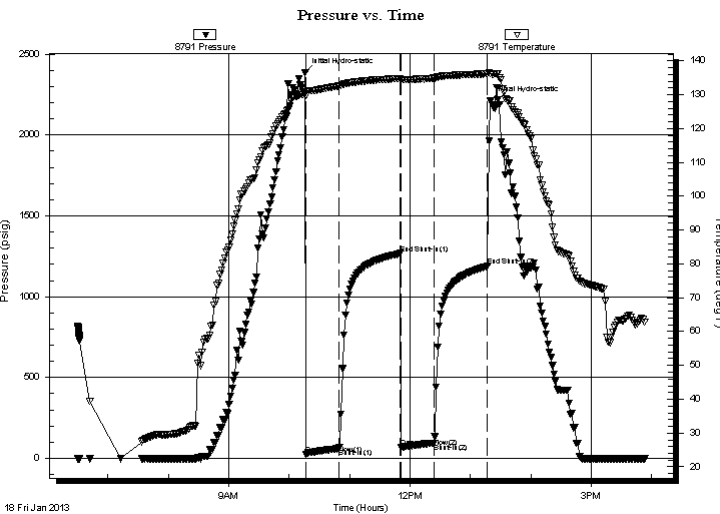
Time Off Btm: 2013.01.18 @ 13:20:00

**TEST COMMENT:** IF: Weak surface blow, Built to 2" over 30 mins.

IS: No blow back over 60 mins.

FF: Weak surface blow after 5 mins. Never built past surface over 30 mins

FS: No blow back over 60 mins.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2386.74	130.23	Initial Hydro-static
1	27.68	129.81	Open To Flow (1)
34	61.25	132.61	Shut-In(1)
94	1266.41	134.77	End Shut-In(1)
96	67.75	134.47	Open To Flow (2)
128	95.08	134.88	Shut-In(2)
181	1187.99	136.15	End Shut-In(2)
184	2209.85	136.24	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
180.00	mud-100%	0.89

\* 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.

**12-1s-38w Cheyenne,KS**

250 N. Water Ste 300  
Wichita KS 67202

**Jones #1-12**

Job Ticket: 48037

**DST#: 7**

ATTN: Jeff Christian

Test Start: 2013.01.18 @ 06:30:00

## Tool Information

Drill Pipe:	Length: 3869.00 ft	Diameter: 3.80 inches	Volume: 54.27 bbl	Tool Weight: 2400.00 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: 531.00 ft	Diameter: 2.25 inches	Volume: 2.61 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 56.88 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 78000.00 lb
Depth to Top Packer:	4406.00 ft			Final 80000.00 lb
Depth to Bottom Packer:	4453.00 ft			
Interval between Packers:	47.00 ft			
Tool Length:	350.00 ft			
Number of Packers:	3	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4381.00	
Sampler	2.00			4383.00	
Hydraulic tool	5.00			4388.00	
Jars	5.00			4393.00	
Safety Joint	3.00			4396.00	
Packer	5.00			4401.00	30.00 Bottom Of Top Packer
Packer	5.00			4406.00	
Stubb	1.00			4407.00	
Perforations	3.00			4410.00	
Recorder	0.00	8791	Inside	4410.00	
Recorder	0.00	8651	Outside	4410.00	
Change Over Sub	1.00			4411.00	
Blank Spacing	31.00			4442.00	
Change Over Sub	1.00			4443.00	
Perforations	5.00			4448.00	
Blank Off Sub	1.00			4449.00	
Blank Spacing	4.00			4453.00	47.00 Tool Interval
Packer	1.00			4454.00	
Packer - Shale	0.00			4454.00	
Recorder	0.00	8673	Below	4454.00	
Change Over Sub	1.00			4455.00	
Blank Spacing	252.00			4707.00	
Change Over Sub	1.00			4708.00	
Perforations	15.00			4723.00	
Bullnose	3.00			4726.00	273.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>350.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**12-1s-38w Cheyenne,KS**

250 N. Water Ste 300  
Wichita KS 67202

**Jones #1-12**

Job Ticket: 48037

**DST#: 7**

ATTN: Jeff Christian

Test Start: 2013.01.18 @ 06:30:00

## 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: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1200.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	mud-100%	0.885

Total Length: 180.00 ft      Total Volume: 0.885 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



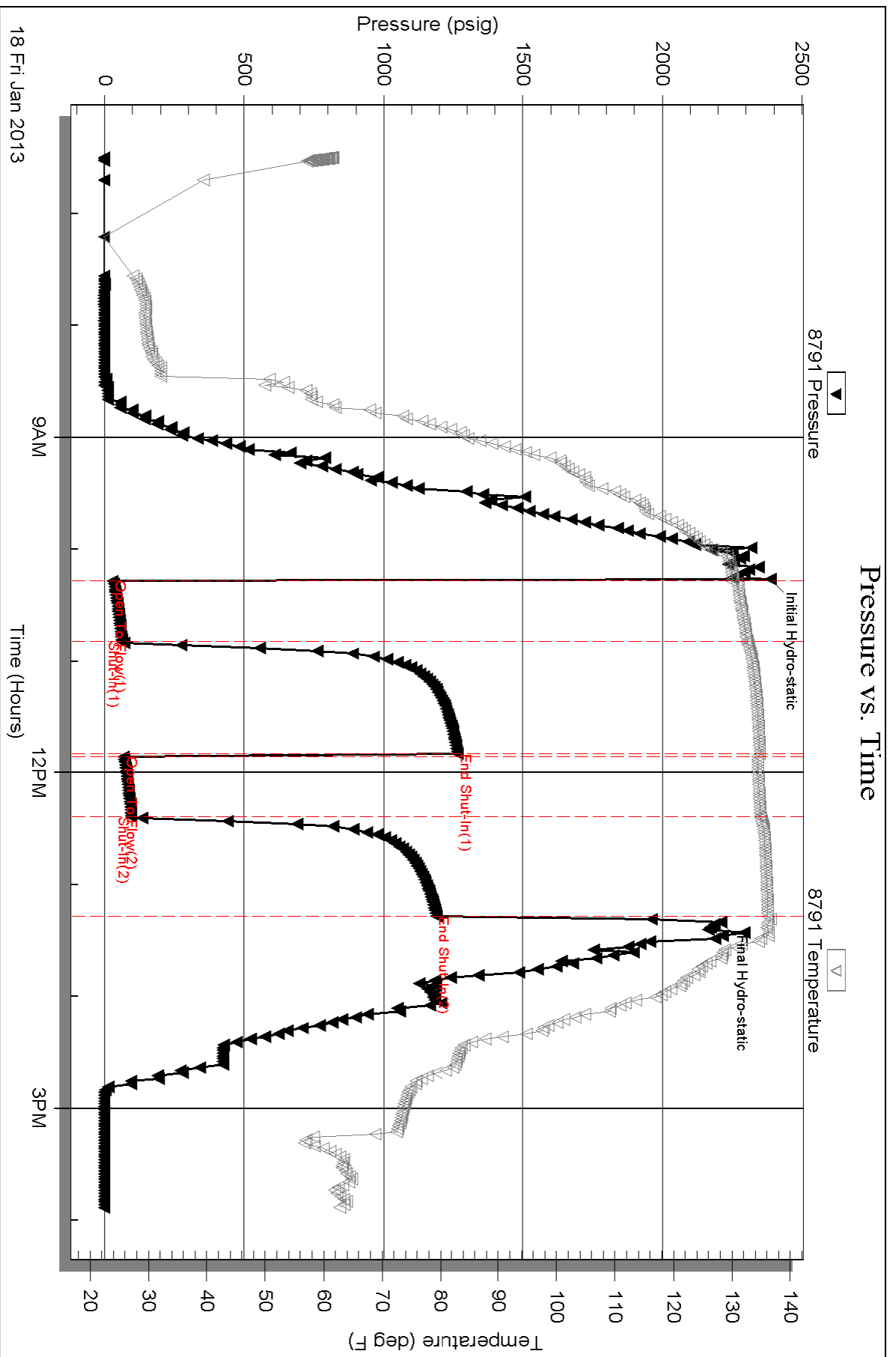
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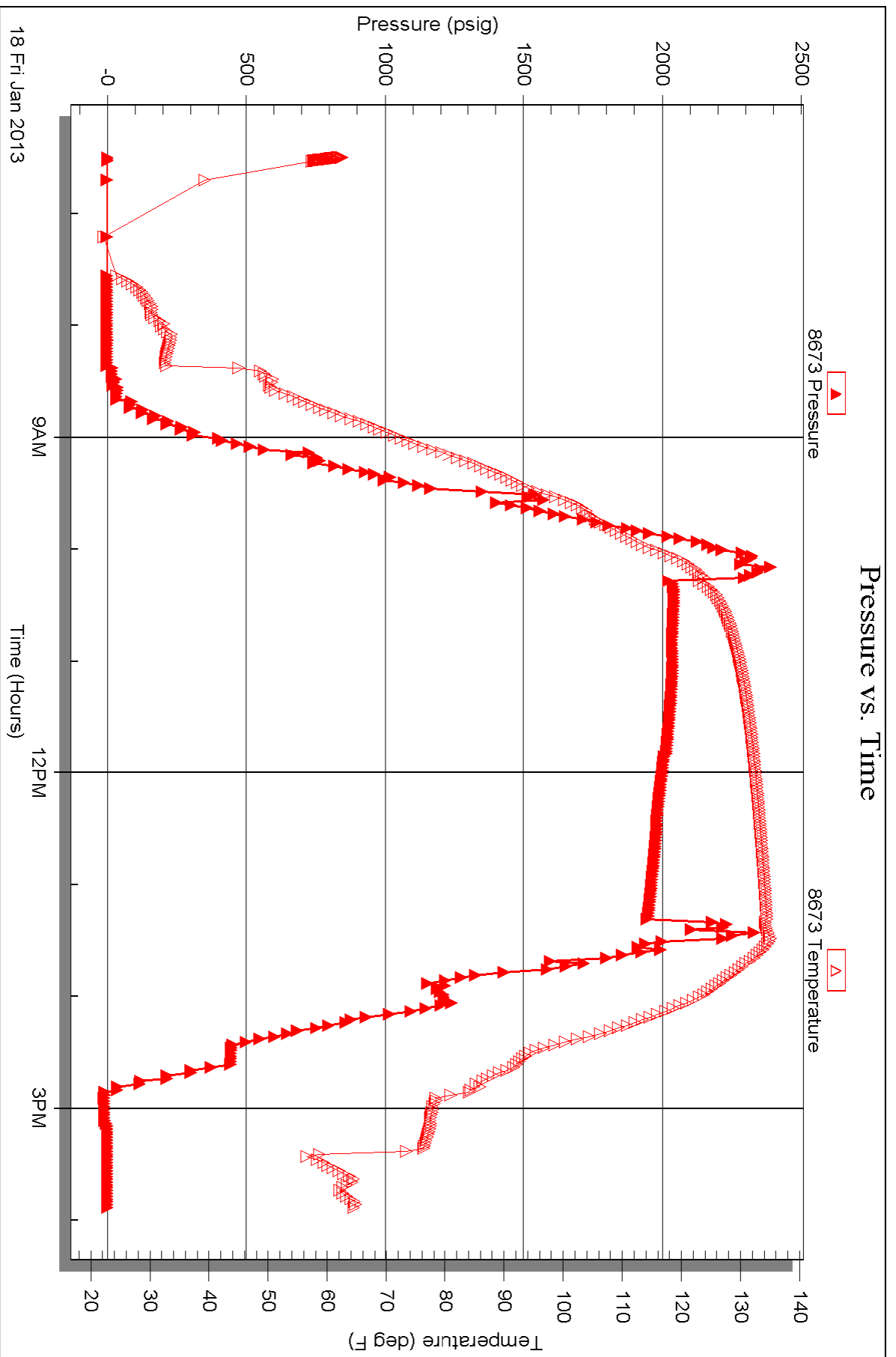
Inside

Murfin Drilling Co.

Jones #1-12

DST Test Number: 7



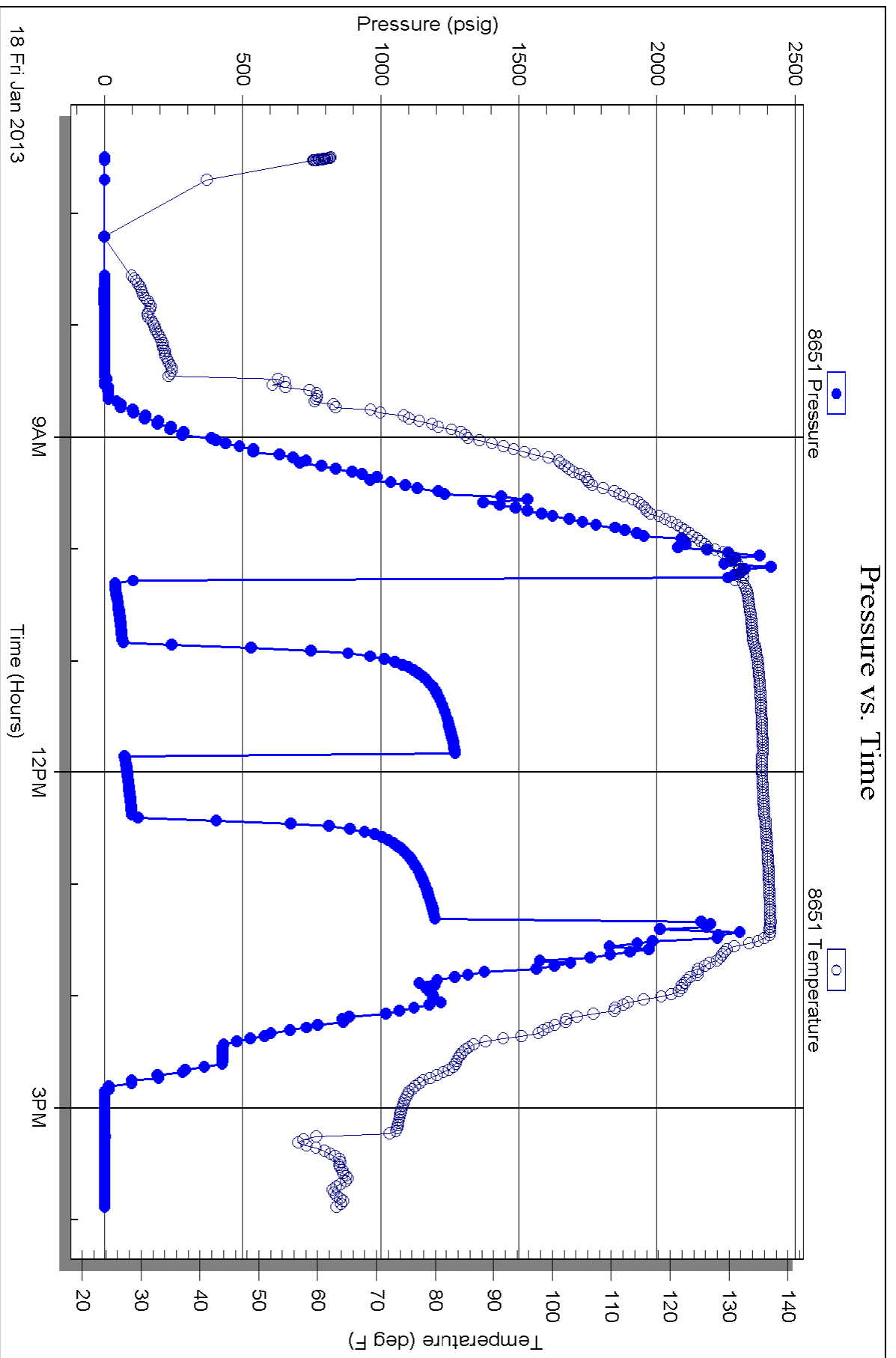


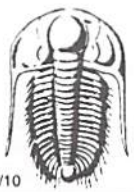
Serial #: 8651

Outside Murfin Drilling Co.

Jones #1-12

DST Test Number: 7





# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 48031

Well Name & No. Jones #1-12 Test No. 1 Date 1-10-2013  
 Company Murfin Drilling Co. Elevation 3175 KB 3165 GL  
 Address 250 N. Water St 300 Wichita KS 67202  
 Co. Rep / Geo. Jeff Christian Rig Murfin #14  
 Location: Sec. 12 Twp. 15 Rge. 38W Co. Cheyenne State Ks.

Interval Tested 3720 3740 Zone Tested Foraker  
 Anchor Length 20 Drill Pipe Run 3172 Mud Wt. 8.6  
 Top Packer Depth 3715 Drill Collars Run 531 Vis 75  
 Bottom Packer Depth 3720 Wt. Pipe Run -0- WL 5.6  
 Total Depth 3740 Chlorides 700 ppm System LCM 6#

Blow Description IF: Weak surface blow over 30 mins.  
ISF: No blow back over 60 mins.  
FF: No blow over 30 mins.  
FSF: No blow back over 60 mins.

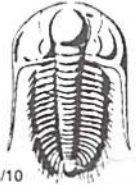
Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>mud with oil specs</u>				

Rec Total 20 BHT 117 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>1862</u>	<input checked="" type="checkbox"/> Test 1150	T-On Location <u>1:15</u>
(B) First Initial Flow <u>13</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>2:35</u>
(C) First Final Flow <u>18</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>4:39</u>
(D) Initial Shut-In <u>1245</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>8:00</u>
(E) Second Initial Flow <u>19</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>9:45</u>
(F) Second Final Flow <u>25</u>	<input checked="" type="checkbox"/> Mileage <u>70x2=140x155=</u> 217	Comments _____
(G) Final Shut-In <u>1172</u>	<input type="checkbox"/> Sampler	_____
(H) Final Hydrostatic <u>1809</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Day Standby	Total <u>1692</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't _____
	Sub Total <u>1692</u>	

Approved By \_\_\_\_\_ Our Representative Chuck Koyner

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.



Well Name & No. Jones # 1-12 Test No. 2 Date 1-13-2013  
 Company Murfin Drilling Co. Elevation 3175 KB 3165 GL  
 Address 250 N. Water Ste. 300 Wichita Ks. 67202  
 Co. Rep / Geo. JEFF Christian Rig Murfin #14  
 Location: Sec. 12 Twp. 15 Rge. 36W Co. Cherokee State Ks

Interval Tested 4092 4189 Zone Tested oread - LKC-A  
 Anchor Length 97 Drill Pipe Run 3553 Mud Wt. 9.2  
 Top Packer Depth 4087 Drill Collars Run 531 Vis 69  
 Bottom Packer Depth 4092 Wt. Pipe Run -0- WL 5.6  
 Total Depth 4189 Chlorides 700 ppm System LCM 4#

Blow Description IF: Weak blow, Built to 4 in. over 30 mins.

ISI: No blow Back over 60 mins.

FF: No blow

FSI: No blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>60</u>	<u>66MW</u>		<u>40%</u>	<u>20%</u>	<u>40%</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

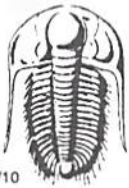
Rec Total 60 BHT 124 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>2243</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>16:30</u>
(B) First Initial Flow <u>22</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>16:45</u>
(C) First Final Flow <u>37</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>18:41</u>
(D) Initial Shut-In <u>751</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>20:45</u>
(E) Second Initial Flow <u>42</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>23:38</u>
(F) Second Final Flow <u>44</u>	<input checked="" type="checkbox"/> Mileage <u>70x2 = 140x1.55 = 217</u>	Comments _____
(G) Final Shut-In <u>753</u>	<input type="checkbox"/> Sampler	<input type="checkbox"/> Ruined Shale Packer
(H) Final Hydrostatic <u>2057</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	Sub Total <u>233.33</u>
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	Total <u>2025.33</u>
Final Shut-In <u>60</u>	<input checked="" type="checkbox"/> Day Standby <u>1 day 7 hours</u>	MP/DST Disc't _____
	<input type="checkbox"/> Accessibility	
	Sub Total <u>1792</u>	

Approved By \_\_\_\_\_

Our Representative Chuck Hays





# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 48033

Well Name & No. Jones # 1-12 Test No. 3 Date 1-14-2013  
 Company Murfin Drilling Co. Elevation 3175 KB 3165 GL  
 Address 250 N. Water Ste-300 Wichita KS. 67202  
 Co. Rep / Geo. Jeff Christen Rig Murfin #14  
 Location: Sec. 12 Twp. 13 Rge. 38W Co. Cheyenne State KS

Interval Tested 4166 4221 Zone Tested CKC-D  
 Anchor Length 55 Drill Pipe Run 3817 Mud Wt. 9.2  
 Top Packer Depth 4161 Drill Collars Run 531 Vis 69  
 Bottom Packer Depth 4166 Wt. Pipe Run -0- WL 5.8  
 Total Depth 4221 Chlorides 700 ppm System LCM #4

Blow Description IF: Weak blow, Built to 4 in. over 30 mins.  
ISF: Weak blow back Built to 2 in. over 60 mins  
FF: Weak blow, Built to 6 in. over 60 mins  
FSF: Weak blow back, Built to 2 in. over 90 mins.

Rec	Feet of	%gas	%oil	%water	%mud
<u>210</u>	<u>OCM</u>		<u>5</u>		<u>95</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 210 BHT 131 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ ° F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>2121</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>6:55</u>
(B) First Initial Flow <u>27</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>7:30</u>
(C) First Final Flow <u>64</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>9:42</u>
(D) Initial Shut-In <u>1333</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>1:45</u>
(E) Second Initial Flow <u>70</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>15:33</u>
(F) Second Final Flow <u>130</u>	<input checked="" type="checkbox"/> Mileage <u>70 x 2 = 140 x 1.55 = 217</u>	Comments _____
(G) Final Shut-In <u>1305</u>	<input type="checkbox"/> Sampler	<input type="checkbox"/> Ruined Shale Packer
(H) Final Hydrostatic <u>2094</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1792</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't _____
	Sub Total <u>1792</u>	

Approved By \_\_\_\_\_ Our Representative Chuck Christen

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



# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 48034

Well Name & No. Jones #1-12 Test No. 4 Date 1-15-2013  
 Company Murfin Drilling Co. Elevation 3175 KB 3165 GL  
 Address 250 N. Water Ste. 300 Wichita Ks. 67202  
 Co. Rep / Geo. Jeff Christian Rig Murfin #14  
 Location: Sec. 12 Twp. 15 Rge. 38W Co. Cherokee State Ks.

Interval Tested 4229 4340 Zone Tested LKC-G, H, I  
 Anchor Length 111 Drill Pipe Run 3682 Mud Wt. 9.5  
 Top Packer Depth 4224 Drill Collars Run 518 Vis 65  
 Bottom Packer Depth 4229 Wt. Pipe Run 0- WL 5.6  
 Total Depth 4340 Chlorides 800 ppm System LCM 2#

Blow Description IF: Weak blow, Built to 1 1/2 in over 30 mins.

ISI: No blow back over 60 mins.

FF: No blow over 30 mins

FSI: No blow back over 60 mins.

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>vsocm</u>		<u>2</u>		<u>98</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 30 BHT 124 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ ° F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>2263</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>5:00</u>
(B) First Initial Flow <u>19</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>5:15</u>
(C) First Final Flow <u>24</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>8:04</u>
(D) Initial Shut-In <u>1126</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>11:00</u>
(E) Second Initial Flow <u>26</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>12:50</u>
(F) Second Final Flow <u>33</u>	<input checked="" type="checkbox"/> Mileage <u>20 x 2 = 140 x 1.56 = 217</u>	Comments _____
(G) Final Shut-In <u>988</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>2150</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>1792</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1792</u>	

Approved By \_\_\_\_\_

Our Representative Chris [Signature]

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.



# TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

NO. 48035

Well Name & No. Jones #1-12 Test No. 5 Date 1-15-2013  
 Company Murfin Drilling Co Elevation 3175 KB 3165 GL  
 Address 250. N. Water Ste. 300 Wichita Ks. 67202  
 Co. Rep / Geo. Jeff Christan Rig Murfin # 14  
 Location: Sec. 12 Twp. 1S Rge. 38W Co. Cheyenne State Ks.

Interval Tested 4317 4380 Zone Tested LKC-J  
 Anchor Length 63 Drill Pipe Run 3775 Mud Wt. 9.3  
 Top Packer Depth 4312 Drill Collars Run 518 Vis 69  
 Bottom Packer Depth 4317 Wt. Pipe Run -0- WL 6.0  
 Total Depth 4380 Chlorides 1,400 ppm System LCM 4#

Blow Description IF: Weak blow 1/2 in in 10 mins. Died to surface OVER 30 mins.

ISI: No blow back

FF: No blow

FSI: No blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>ocm-<del>2</del> with 3ft free oil on top</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 20 BHT 121 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2232  
 (B) First Initial Flow 17  
 (C) First Final Flow 27  
 (D) Initial Shut-In 610  
 (E) Second Initial Flow 18  
 (F) Second Final Flow 23  
 (G) Final Shut-In 557  
 (H) Final Hydrostatic 2188

Test 1250  
 Jars 250  
 Safety Joint 75  
 Circ Sub \_\_\_\_\_  
 Hourly Standby \_\_\_\_\_  
 Mileage 20 x 2 = 140 x 1.55 = 217  
 Sampler \_\_\_\_\_  
 Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1792

T-On Location 8:40  
 T-Started 9:40  
 T-Open 22:21  
 T-Pulled 2:25  
 T-Out 4:03

Comments \_\_\_\_\_  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total 0  
 Total 1792  
 MP/DST Disc't \_\_\_\_\_

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

Approved By \_\_\_\_\_

Our Representative Chris Meyer Jr

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 48036

Well Name & No. Jones #1-12 Test No. 6 Date 1-16-2013  
 Company Murfin Drilling Co. Elevation 3175 KB 3165 GL  
 Address 250 N. Water Ste. 300 Wichita Ks. 67202  
 Co. Rep / Geo. Jeff Christan Rig Murfin #14  
 Location: Sec. 12 Twp. 1S Rge. 38W Co. Cheyenne State Ks

Interval Tested 4524 4570 Zone Tested Pawnee  
 Anchor Length 46 Drill Pipe Run 3998 Mud Wt. 9.3  
 Top Packer Depth 4519 Drill Collars Run 518 Vis 71  
 Bottom Packer Depth 4524 Wt. Pipe Run ~0 WL 6.9  
 Total Depth 4570 Chlorides 1,400 ppm System LCM 4#

Blow Description IF: Weak blow SW face, Died in 25 mins  
ISI: No blow back over 60 mins  
FF: No blow over 30 mins  
FSI: No blow back over 60 mins

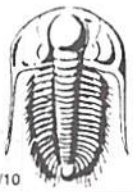
Rec	Feet of	%gas	%oil	%water	%mud
<u>25</u>	<u>USOCM</u>		<u>2</u>		<u>98</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 25 BHT 129 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>2346</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>22:25</u>
(B) First Initial Flow <u>16</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>22:30</u>
(C) First Final Flow <u>18</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>00:30</u>
(D) Initial Shut-In <u>1069</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>3:30</u>
(E) Second Initial Flow <u>21</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>5:32</u>
(F) Second Final Flow <u>217</u>	<input checked="" type="checkbox"/> Mileage <u>70x2 = 140x1.55 = 217</u>	Comments _____
(G) Final Shut-In <u>1187</u>	<input type="checkbox"/> Sampler	_____
(H) Final Hydrostatic <u>2297</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>1792</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't _____
	Sub Total <u>1792</u>	

Approved By \_\_\_\_\_ Our Representative Chuck [Signature]

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 48037

Well Name & No. Jones # 1-12 Test No. 7 Date 1-18-2013  
 Company Murfin Drilling Co. Elevation 3175 KB 3165 GL  
 Address 250 N. Water Ste. 300 Wichita Ks. 67202  
 Co. Rep / Geo. Jeff Christian Rig Murfin #14  
 Location: Sec. 12 Twp. 15 Rge. 35W Co. Cheyenne State Ks.

Interval Tested 4406 4453 Zone Tested LKC-L  
 Anchor Length 47 Drill Pipe Run 3869 Mud Wt. 9.4  
 Top Packer Depth 4401 Drill Collars Run 518 Vis 62  
 Bottom Packer Depth 4453 Wt. Pipe Run -0- WL 6.4  
 Total Depth 4725 Chlorides 1,200 ppm System LCM 4#

Blow Description IF: Weak surface blow, Built to 2 in. over 30 mins.

ISI: No blow back over 60 mins.

FF: Weak surface blow after 5 mins. Never Built Passed surface.

FSI: No blow back over 60 mins.

Rec	Feet of	%gas	%oil	%water	%mud
<u>180</u>	<u>Mud</u>				<u>100</u>

Rec Total 180 BHT 135 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>2387</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>6:00</u>
(B) First Initial Flow <u>28</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>6:30</u>
(C) First Final Flow <u>61</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>10:17</u>
(D) Initial Shut-In <u>1266</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>13:17</u>
(E) Second Initial Flow <u>68</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>15:53</u>
(F) Second Final Flow <u>95</u>	<input checked="" type="checkbox"/> Mileage <u>70x2=140x1.55=217</u>	Comments _____
(G) Final Shut-In <u>1188</u>	<input type="checkbox"/> Sampler _____	<input type="checkbox"/> Ruined Shale Packer _____
(H) Final Hydrostatic <u>2210</u>	<input checked="" type="checkbox"/> Straddle <u>600</u>	<input checked="" type="checkbox"/> Ruined Packer <u>320</u>
Initial Open <u>30</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Extra Copies _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer _____	Sub Total <u>16.67+320</u>
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder _____	Total <u>2978.67</u>
Final Shut-In <u>60</u>	<input checked="" type="checkbox"/> Day Standby <u>1 DAY</u> .5h	MP/DST Disc't _____
	<input type="checkbox"/> Accessibility _____	
	Sub Total <u>2642</u>	

Approved By \_\_\_\_\_

Our Representative Chuck [Signature]

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