



DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Company, Inc.**

1700 N Waterfront PKWY
B #1200
Wichita KS 67206 6637

ATTN: Phil Askey

Dickey "A" #1-14

14-16s-45w Cheyenne,CO

Start Date: 2013.12.29 @ 11:35:00

End Date: 2013.12.29 @ 18:54:15

Job Ticket #: 54591 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.01.08 @ 10:38:25



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Mull Drilling Company, Inc.

14-16s-45w Cheyenne, CO

1700 N Waterfront PKWY
B #1200
Wichita KS 67206 6637
ATTN: Phil Askey

Dickey "A" #1-14

Job Ticket: 54591

DST#: 1

Test Start: 2013.12.29 @ 11:35:00

GENERAL INFORMATION:

Formation: **LKC G**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:00:45

Time Test Ended: 18:54:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Jace McKinney

Unit No: 46

Interval: 4423.00 ft (KB) To 4436.00 ft (KB) (TVD)

Total Depth: 4436.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 4379.00 ft (KB)

4368.00 ft (CF)

KB to GR/CF: 11.00 ft

Serial #: 8675 Inside

Press@RunDepth: 128.04 psig @ 4424.00 ft (KB)

Start Date: 2013.12.29

End Date:

2013.12.29

Start Time: 11:35:15

End Time:

18:54:15

Capacity: 8000.00 psig

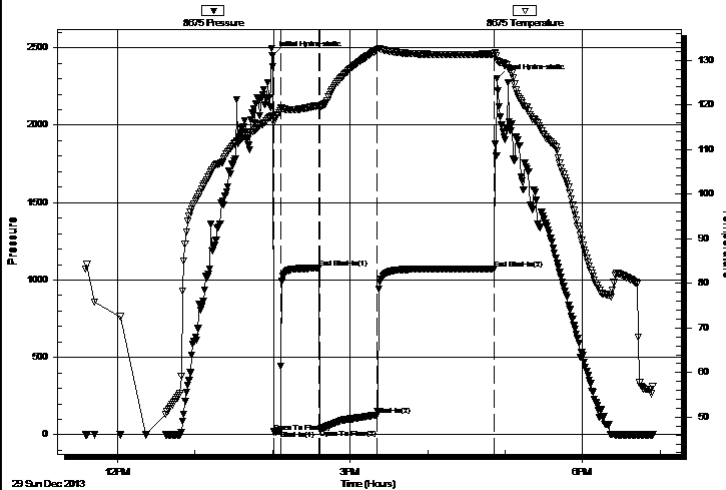
Last Calib.: 2013.12.29

Time On Btm: 2013.12.29 @ 13:59:45

Time Off Btm: 2013.12.29 @ 16:53:45

TEST COMMENT: Built to 2" blow
Bled off for 2 min. No return blow
Built to 10" blow
Bled off for 5 min. No return blow

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2449.42	117.47	Initial Hydro-static
1	18.73	116.12	Open To Flow (1)
7	30.83	118.77	Shut-In(1)
36	1078.17	119.91	End Shut-In(1)
37	34.27	119.53	Open To Flow (2)
82	128.04	132.36	Shut-In(2)
172	1070.97	131.43	End Shut-In(2)
174	2301.34	129.90	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
245.00	100% Water w/ h2o present not enough	1.78
15.00	mcw 10%M 90%W	0.21

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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Mull Drilling Company, Inc.

1700 N Waterfront PKWY
B #1200
Wichita KS 67206 6637
ATTN: Phil Askey

14-16s-45w Cheyenne, CO

Dickey "A" #1-14

Job Ticket: 54591

DST#: 1

Test Start: 2013.12.29 @ 11:35:00

GENERAL INFORMATION:

Formation: **LKC G**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:00:45

Time Test Ended: 18:54:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Jace McKinney

Unit No: 46

Interval: 4423.00 ft (KB) To 4436.00 ft (KB) (TVD)

Total Depth: 4436.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 4379.00 ft (KB)

4368.00 ft (CF)

KB to GR/CF: 11.00 ft

Serial #: 8650 Outside

Press@RunDepth: psig @ 4424.00 ft (KB)

Start Date: 2013.12.29

End Date:

2013.12.29

Start Time: 11:35:15

End Time:

18:54:00

Capacity: 8000.00 psig

Last Calib.:

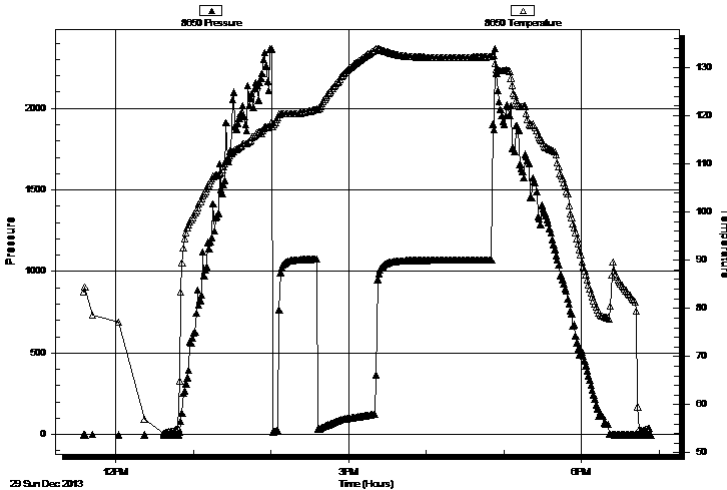
2013.12.29

Time On Btm:

Time Off Btm:

TEST COMMENT: Built to 2" blow
Bled off for 2 min. No return blow
Built to 10" blow
Bled off for 5 min. No return blow

Pressure vs. Time



PRESSURE SUMMARY

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

Length (ft)	Description	Volume (bbl)
245.00	100% Water w ith h2o present not enough	1.78
15.00	mcw 10%M 90%W	0.21

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Company, Inc.

14-16s-45w Cheyenne, CO

1700 N Waterfront PKWY
B #1200
Wichita KS 67206 6637
ATTN: Phil Askey

Dickey "A" #1-14

Job Ticket: 54591

DST#: 1

Test Start: 2013.12.29 @ 11:35:00

Tool Information

Drill Pipe:	Length:	4227.85 ft	Diameter:	3.80 inches	Volume:	59.31 bbl	Tool Weight:	1500.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length:	182.10 ft	Diameter:	2.25 inches	Volume:	0.90 bbl	Weight to Pull Loose:	86000.00 lb
					Total Volume:	60.21 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		6.95 ft					String Weight: Initial	72000.00 lb
Depth to Top Packer:		4423.00 ft					Final	76000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		13.00 ft						
Tool Length:		33.00 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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Change Over Sub	1.00			4404.00	
Shut In Tool	5.00			4409.00	
Hydraulic tool	5.00			4414.00	
Packer	5.00			4419.00	20.00 Bottom Of Top Packer
Packer	4.00			4423.00	
Stubb	1.00			4424.00	
Recorder	0.00	8675	Inside	4424.00	
Recorder	0.00	8650	Outside	4424.00	
Perforations	9.00			4433.00	
Change Over Sub	0.00			4433.00	
Drill Pipe	0.00			4433.00	
Change Over Sub	0.00			4433.00	
Bullnose	3.00			4436.00	13.00 Bottom Packers & Anchor

Total Tool Length: 33.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Company, Inc.

14-16s-45w Cheyenne, CO

1700 N Waterfront PKWY
B #1200
Wichita KS 67206 6637
ATTN: Phil Askey

Dickey "A" #1-14

Job Ticket: 54591

DST#: 1

Test Start: 2013.12.29 @ 11:35:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 71.00 sec/qt

Water Loss: 13.88 in³

Resistivity: ohm.m

Salinity: 15000.00 ppm

Filter Cake: 3.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
245.00	100% Water w ith h2o present not enough	1.778
15.00	mcw 10%M 90%W	0.210

Total Length: 260.00 ft Total Volume: 1.988 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW: .40 @ 47 F = 40,000

Serial #: 8675

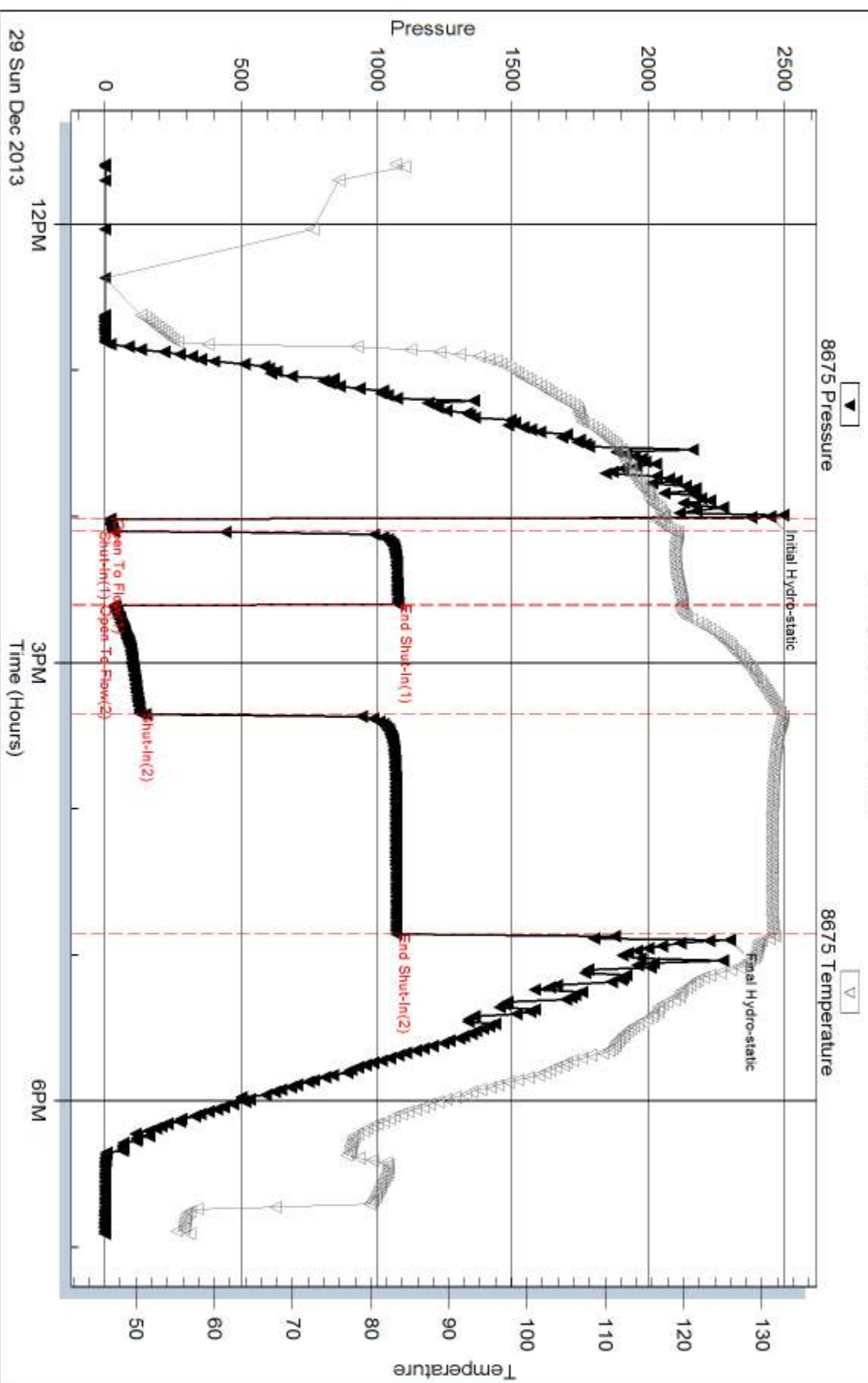
Inside

Mull Drilling Company, Inc.

Dickey "A" #1-14

DST Test Number: 1

Pressure vs. Time

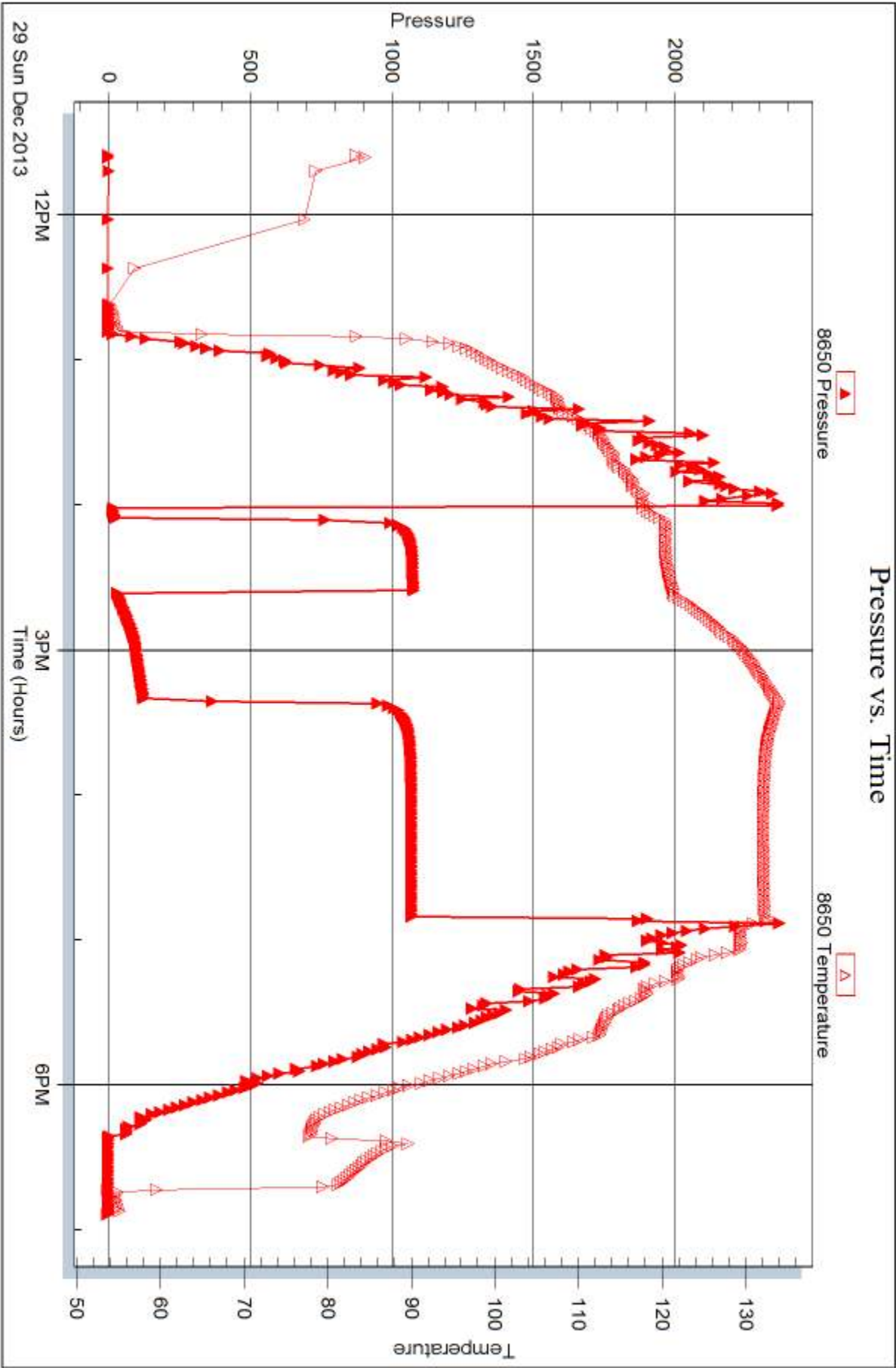


Serial #: 8650

Outside Mull Drilling Company, Inc.

Dickey "A" #1-14

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Company, Inc.**

1700 N Waterfront PKWY
B #1200
Wichita KS 67206 6637

ATTN: Phil Askey

Dickey "A" #1-14

14-16s-45w Cheyenne,CO

Start Date: 2013.12.31 @ 03:55:55

End Date: 2013.12.31 @ 12:52:10

Job Ticket #: 54592 DST #: 2

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

Printed: 2014.01.08 @ 11:17:25



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Mull Drilling Company, Inc.

1700 N Waterfront PKWY
B #1200
Wichita KS 67206 6637
ATTN: Phil Askey

14-16s-45w Cheyenne, CO

Dickey "A" #1-14

Job Ticket: 54592

DST#: 2

Test Start: 2013.12.31 @ 03:55:55

GENERAL INFORMATION:

Formation: **Pleasanton - Marmato**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:42:55

Time Test Ended: 12:52:10

Test Type: Conventional Bottom Hole (Reset)

Tester: Jace McKinney

Unit No: 46

Interval: 4636.00 ft (KB) To 4725.00 ft (KB) (TVD)

Total Depth: 4725.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 4379.00 ft (KB)

4368.00 ft (CF)

KB to GR/CF: 11.00 ft

Serial #: 8675 Inside

Press@RunDepth: 536.78 psig @ 4637.00 ft (KB)

Start Date: 2013.12.31

End Date:

2013.12.31

Start Time: 03:56:10

End Time:

12:52:10

Capacity: 8000.00 psig

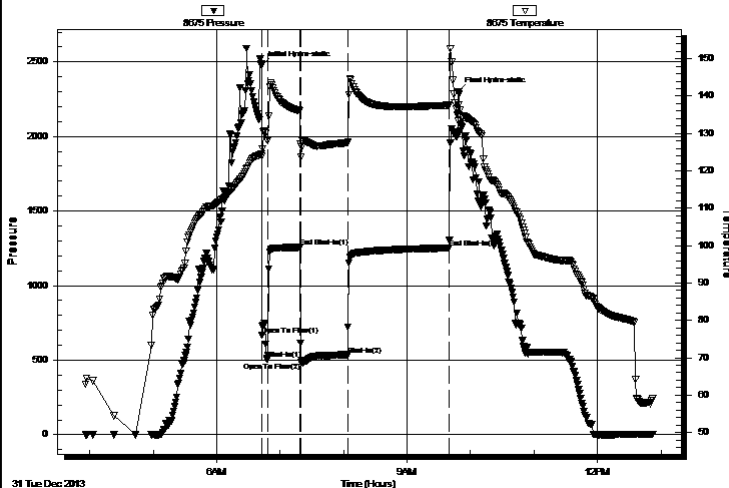
Last Calib.: 2013.12.31

Time On Btm: 2013.12.31 @ 06:42:25

Time Off Btm: 2013.12.31 @ 09:48:40

TEST COMMENT: B.O.B. in 45 sec.
Bled off for 20 min. Built to 1" return blow
B.O.B. in 15 sec.
Bled off for 20 min. Built to 1" return blow

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2476.63	124.58	Initial Hydro-static
1	669.57	123.94	Open To Flow (1)
6	509.55	128.15	Shut-In(1)
37	1256.44	136.13	End Shut-In(1)
38	486.21	123.61	Open To Flow (2)
82	536.78	127.47	Shut-In(2)
178	1250.89	137.57	End Shut-In(2)
187	2302.25	134.89	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
222.00	gcm 5%G 95%M	1.46

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	1.00	70.00	2426.40
Last Gas Rate	1.00	90.00	3001.38
Max. Gas Rate	1.00	90.00	3001.38

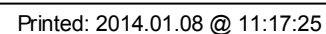
* Recovery from multiple tests



Test Start: 2013.12.31 @ 03:55:55

KB to GR/CF: 11.00 ft

Bled off for 20 min. Built to 1" return blow





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Company, Inc.

14-16s-45w Cheyenne, CO

1700 N Waterfront PKWY
B #1200
Wichita KS 67206 6637
ATTN: Phil Askey

Dickey "A" #1-14

Job Ticket: 54592

DST#: 2

Test Start: 2013.12.31 @ 03:55:55

Tool Information

Drill Pipe:	Length:	4448.66 ft	Diameter:	3.80 inches	Volume:	62.40 bbl	Tool Weight:	1500.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length:	182.10 ft	Diameter:	2.25 inches	Volume:	0.90 bbl	Weight to Pull Loose:	115000.0 lb
					Total Volume:	63.30 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		14.76 ft					String Weight: Initial	76000.00 lb
Depth to Top Packer:		4636.00 ft					Final	800000.0 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		89.00 ft						
Tool Length:		109.00 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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Change Over Sub	1.00			4617.00	
Shut In Tool	5.00			4622.00	
Hydraulic tool	5.00			4627.00	
Packer	5.00			4632.00	20.00 Bottom Of Top Packer
Packer	4.00			4636.00	
Stubb	1.00			4637.00	
Recorder	0.00	8675	Inside	4637.00	
Recorder	0.00	8650	Outside	4637.00	
Perforations	19.00			4656.00	
Change Over Sub	1.00			4657.00	
Drill Pipe	64.00			4721.00	
Change Over Sub	1.00			4722.00	
Bullnose	3.00			4725.00	89.00 Bottom Packers & Anchor

Total Tool Length: 109.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Company, Inc.

14-16s-45w Cheyenne, CO

1700 N Waterfront PKWY
B #1200
Wichita KS 67206 6637
ATTN: Phil Askey

Dickey "A" #1-14

Job Ticket: 54592

DST#: 2

Test Start: 2013.12.31 @ 03:55:55

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 48.00 sec/qt
Water Loss: 13.88 in³
Resistivity: ohm.m
Salinity: 12000.00 ppm
Filter Cake: 2.00 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
222.00	gcm 5%G 95%M	1.455

Total Length: 222.00 ft Total Volume: 1.455 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 30 ppm og H2S



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

GAS RATES

Mull Drilling Company, Inc.

14-16s-45w Cheyenne, CO

1700 N Waterfront PKWY
B #1200
Wichita KS 67206 6637
ATTN: Phil Askey

Dickey "A" #1-14

Job Ticket: 54592

DST#: 2

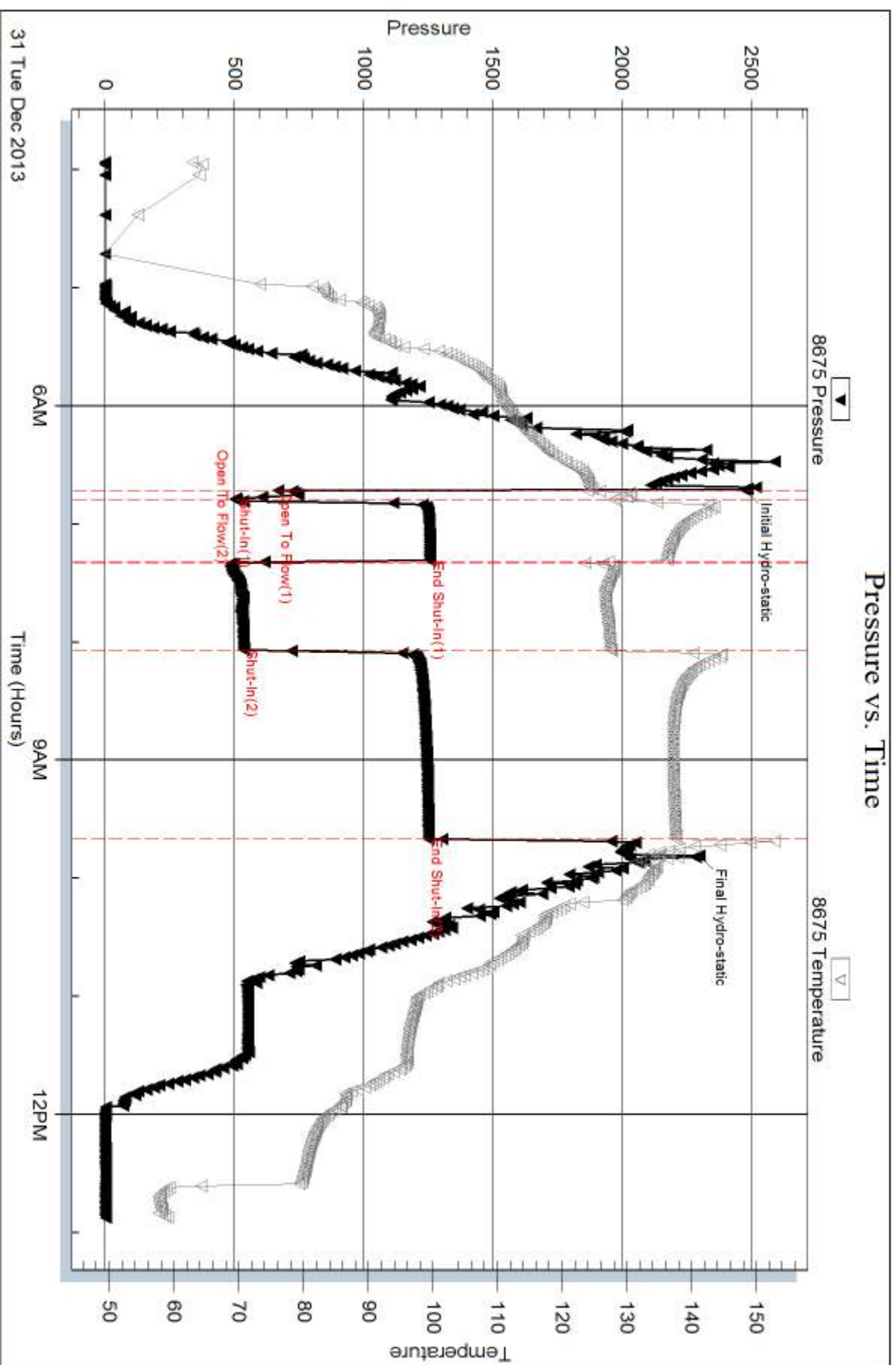
Test Start: 2013.12.31 @ 03:55:55

Gas Rates Information

Temperature: 59 (deg F)
Relative Density: 0.65
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
2	5	1.00	70.00	2426.40
2	10	1.00	90.00	3001.38
2	15	1.00	90.00	3001.38
2	20	1.00	90.00	3001.38
2	25	1.00	90.00	3001.38
2	30	1.00	90.00	3001.38
2	35	1.00	90.00	3001.38
2	40	1.00	90.00	3001.38
2	45	1.00	90.00	3001.38

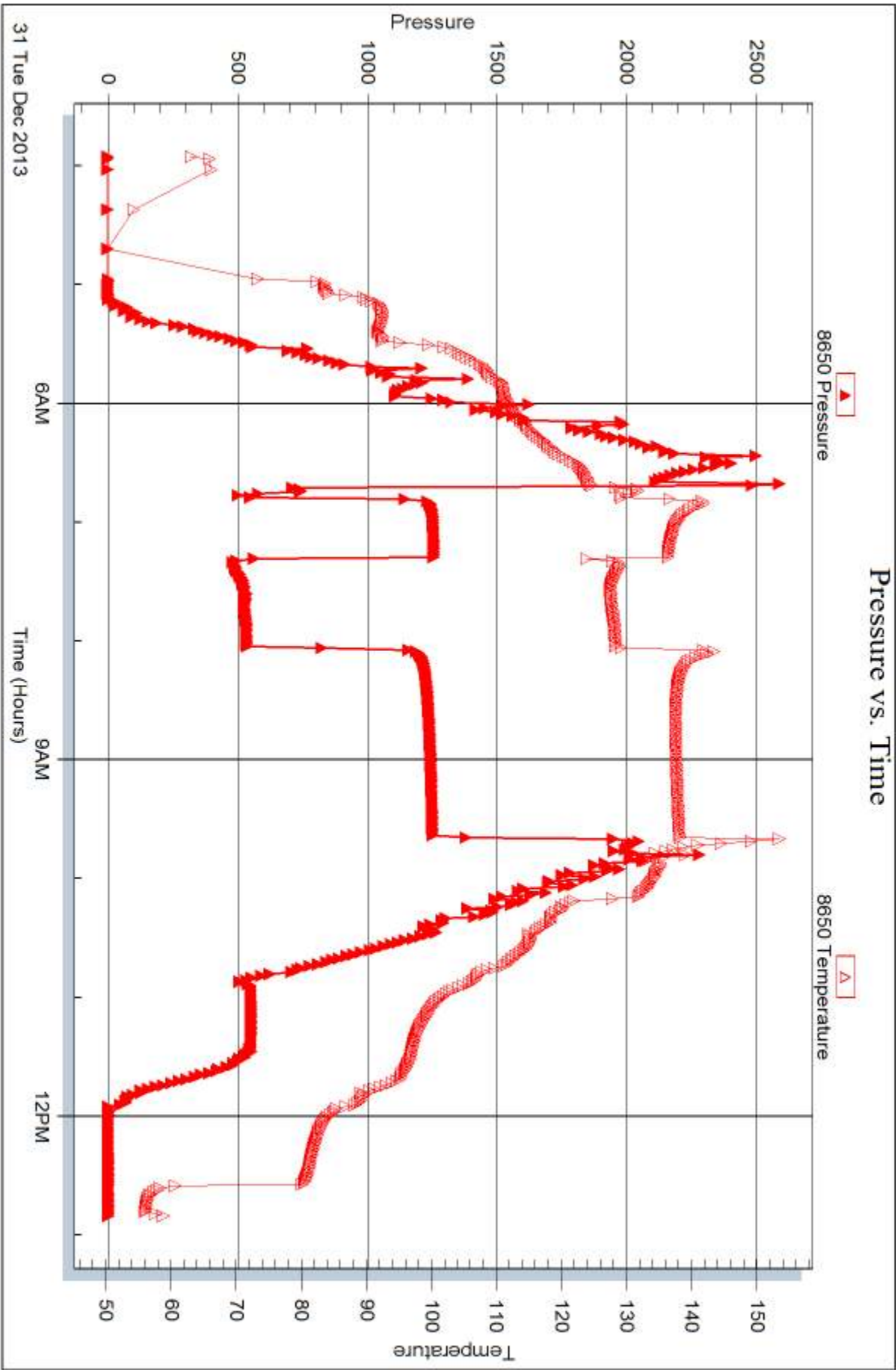


Serial #: 8650

Outside Mull Drilling Company, Inc.

Dickey "A" #1-14

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Company, Inc.**

1700 N Waterfront PKWY
B #1200
Wichita KS 67206 6637

ATTN: Phil Askey

Dickey "A" #1-14

14-16s-45w Cheyenne,CO

Start Date: 2014.01.03 @ 06:37:15

End Date: 2014.01.03 @ 13:12:30

Job Ticket #: 54722 DST #: 3

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

Printed: 2014.01.08 @ 10:37:34



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Mull Drilling Company, Inc.

1700 N Waterfront PKWY
B #1200
Wichita KS 67206 6637
ATTN: Phil Askey

14-16s-45w Cheyenne, CO

Dickey "A" #1-14

Job Ticket: 54722

DST#: 3

Test Start: 2014.01.03 @ 06:37:15

GENERAL INFORMATION:

Formation: **Miss**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:03:00

Time Test Ended: 13:12:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 65

Interval: 5275.00 ft (KB) To 5340.00 ft (KB) (TVD)

Total Depth: 5275.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 4379.00 ft (KB)

4368.00 ft (CF)

KB to GR/CF: 11.00 ft

Serial #: 8846 Outside

Press@RunDepth: 34.48 psig @ 5310.00 ft (KB)

Start Date: 2014.01.03

End Date:

2014.01.03

Start Time: 06:37:15

End Time:

13:12:30

Capacity: 8000.00 psig

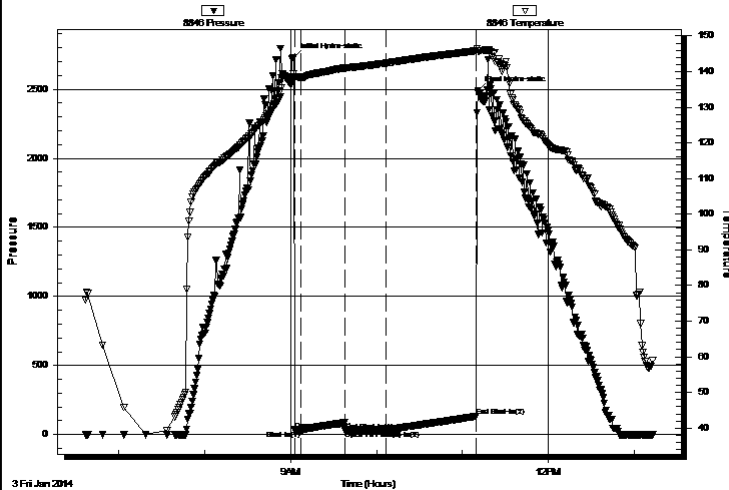
Last Calib.: 2014.01.03

Time On Btm: 2014.01.03 @ 09:02:15

Time Off Btm: 2014.01.03 @ 11:10:45

TEST COMMENT: IF: Built to 1" blow
IS: No return blow
FF: Built to weak surface blow
FS: No return blow

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2727.91	139.45	Initial Hydro-static
1	31.51	138.63	Open To Flow (1)
5	30.66	138.30	Shut-In(1)
36	86.70	141.01	End Shut-In(1)
36	31.90	141.02	Open To Flow (2)
65	34.48	142.41	Shut-In(2)
128	130.52	145.86	End Shut-In(2)
129	2490.04	145.76	Final Hydro-static

Recovery

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

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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* Recovery from multiple tests



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DRILL STEM TEST REPORT

Mull Drilling Company, Inc.

1700 N Waterfront PKWY
B #1200
Wichita KS 67206 6637
ATTN: Phil Askey

14-16s-45w Cheyenne, CO

Dickey "A" #1-14

Job Ticket: 54722

DST#: 3

Test Start: 2014.01.03 @ 06:37:15

GENERAL INFORMATION:

Formation: **Miss**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:03:00

Time Test Ended: 13:12:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 65

Interval: 5275.00 ft (KB) To 5340.00 ft (KB) (TVD)

Total Depth: 5275.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 4379.00 ft (KB)

4368.00 ft (CF)

KB to GR/CF: 11.00 ft

Serial #: 8737 Inside

Press@RunDepth: psig @ 5310.00 ft (KB)

Start Date: 2014.01.03

End Date:

2014.01.03

Start Time: 06:37:15

End Time:

13:12:15

Capacity: 8000.00 psig

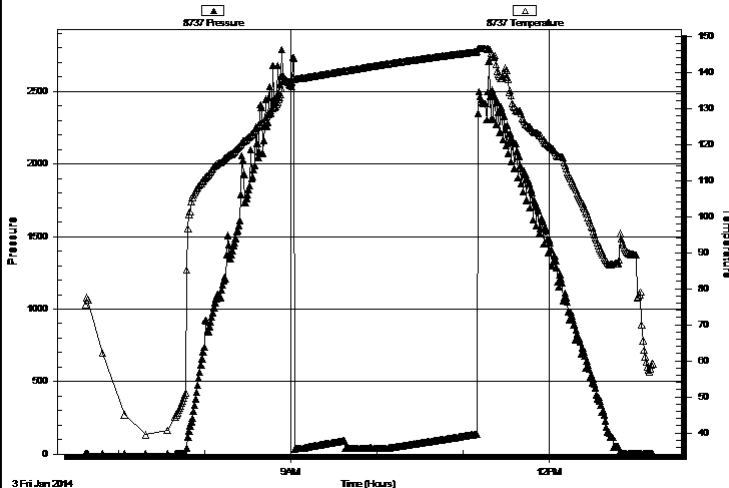
Last Calib.: 2014.01.03

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: Built to 1" blow
IS: No return blow
FF: Built to weak surface blow
FS: No return blow

Pressure vs. Time



PRESSURE SUMMARY

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

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

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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* Recovery from multiple tests



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Company, Inc.

14-16s-45w Cheyenne, CO

1700 N Waterfront PKWY
B #1200
Wichita KS 67206 6637
ATTN: Phil Askey

Dickey "A" #1-14

Job Ticket: 54722

DST#: 3

Test Start: 2014.01.03 @ 06:37:15

Tool Information

Drill Pipe:	Length:	5081.00 ft	Diameter:	3.80 inches	Volume:	71.27 bbl	Tool Weight:	1500.00 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:	182.00 ft	Diameter:	2.25 inches	Volume:	0.90 bbl	Weight to Pull Loose:	90000.00 lb
					Total Volume:	72.17 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		8.00 ft					String Weight: Initial	83000.00 lb
Depth to Top Packer:		5275.00 ft					Final	83000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		65.00 ft						
Tool Length:		85.00 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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Change Over Sub	1.00			5256.00	
Shut In Tool	5.00			5261.00	
Hydraulic tool	5.00			5266.00	
Packer	5.00			5271.00	20.00 Bottom Of Top Packer
Packer	4.00			5275.00	
Stubb	1.00			5276.00	
Perforations	1.00			5277.00	
Change Over Sub	1.00			5278.00	
Drill Pipe	31.00			5309.00	
Change Over Sub	1.00			5310.00	
Recorder	0.00	8737	Inside	5310.00	
Recorder	0.00	8846	Outside	5310.00	
Perforations	25.00			5335.00	
Bullnose	5.00			5340.00	65.00 Bottom Packers & Anchor

Total Tool Length: 85.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Company, Inc.

14-16s-45w Cheyenne, CO

1700 N Waterfront PKWY
B #1200
Wichita KS 67206 6637
ATTN: Phil Askey

Dickey "A" #1-14

Job Ticket: 54722

DST#: 3

Test Start: 2014.01.03 @ 06:37:15

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 55.00 sec/qt

Water Loss: 13.86 in³

Resistivity: 8.80 ohm.m

Salinity: 5000.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

0 deg API

0 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	mud 100% m	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

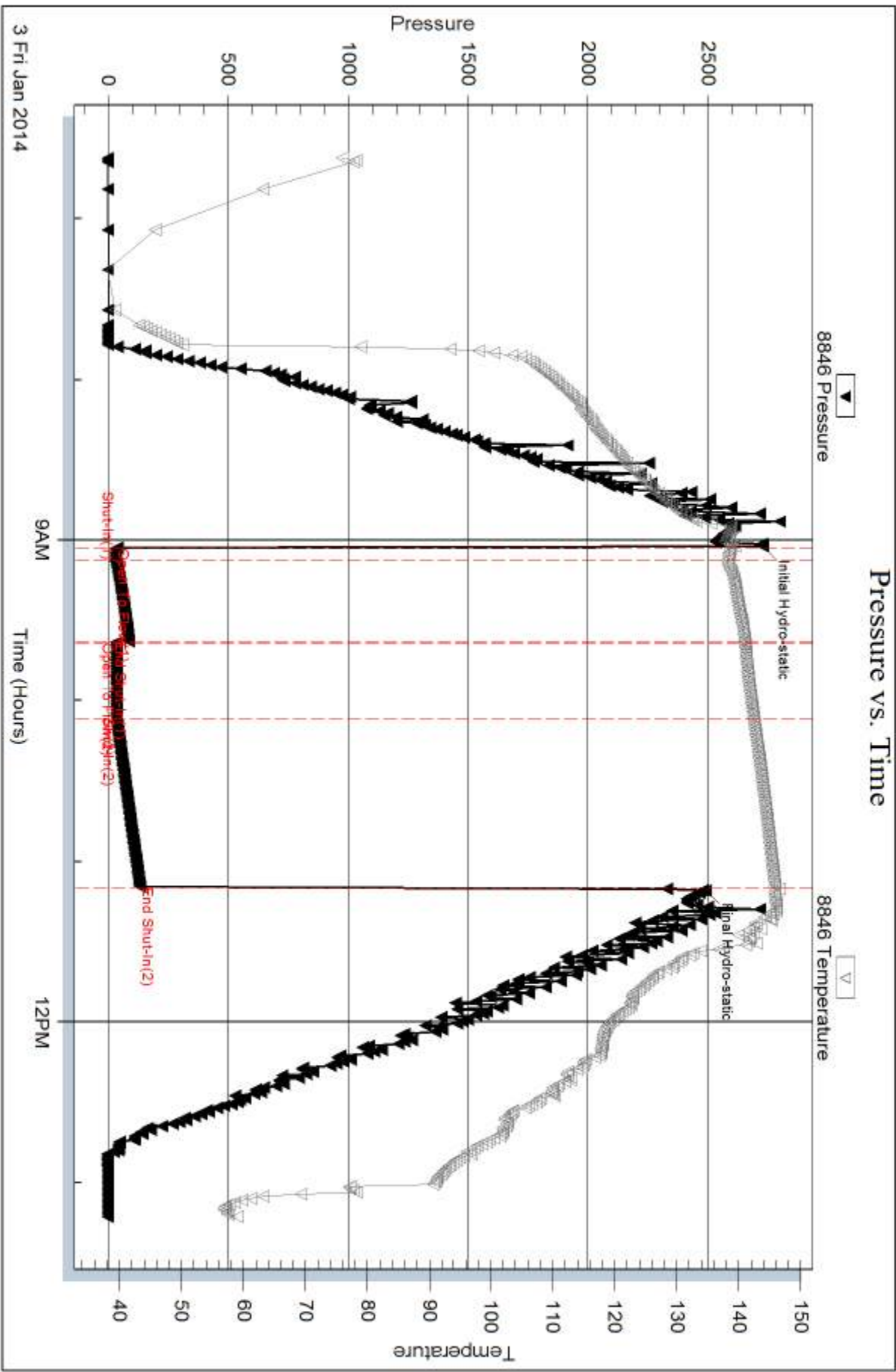
Recovery Comments:

Serial #: 8846

Outside Mull Drilling Company, Inc.

Dickey "A" #1-14

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 54722

Printed: 2014.01.08 @ 10:37:36

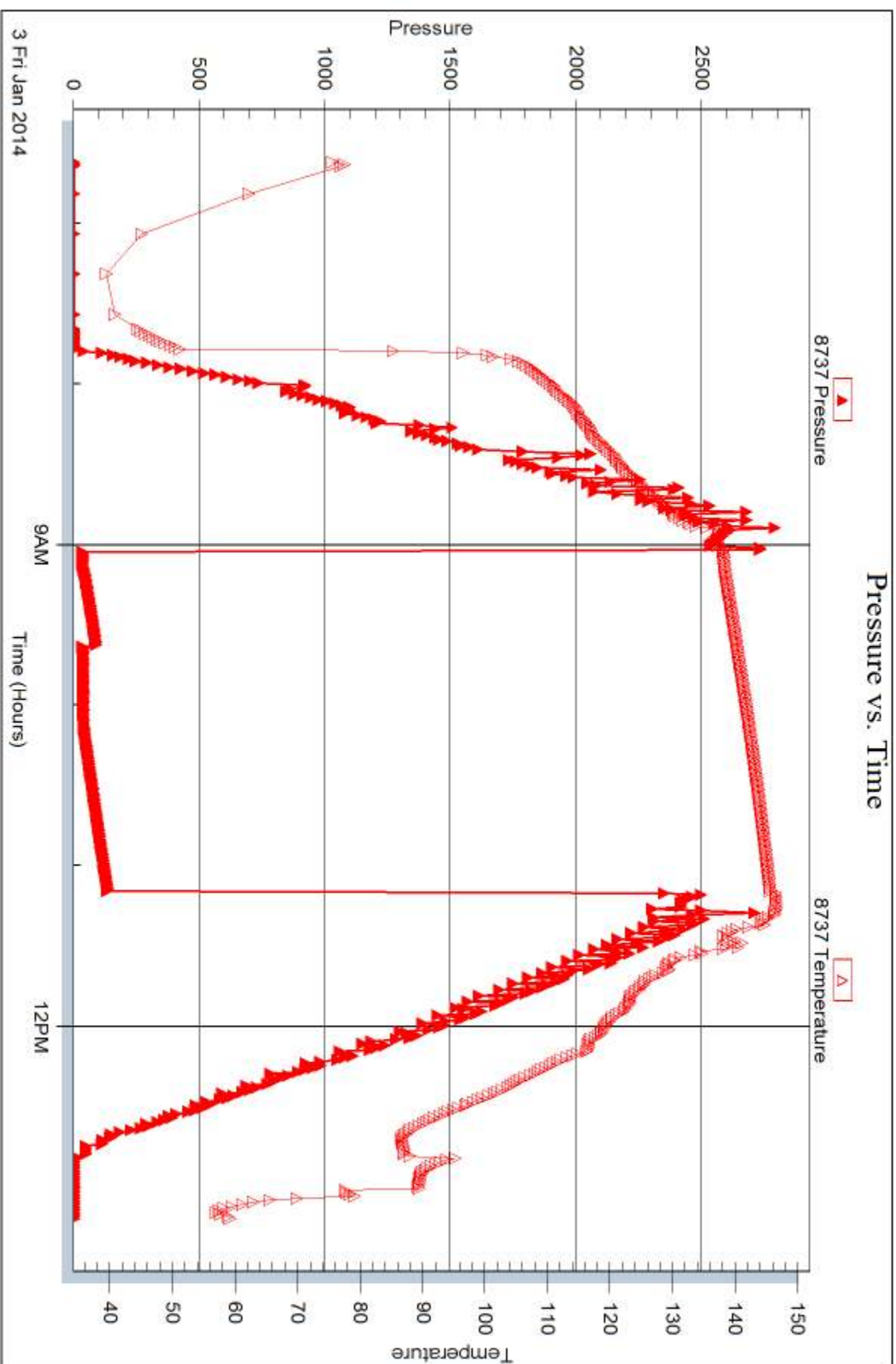
Serial #: 8737

Inside

Mull Drilling Company, Inc.

Dickey "A" #1-14

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 54722

Printed: 2014.01.08 @ 10:37:37



DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Company, Inc.**

1700 N Waterfront PKWY
B #1200
Wichita KS 67206 6637

ATTN: Phil Askey

Dickey "A" #1-14

14-16s-45w Cheyenne,CO

Start Date: 2014.01.04 @ 04:50:15

End Date: 2014.01.04 @ 12:49:30

Job Ticket #: 54723 DST #: 4

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

Printed: 2014.01.08 @ 10:37:06

Mull Drilling Company, Inc.

14-16s-45w Cheyenne,CO

Dickey "A" #1-14

DST # 4

Miss-Spergen

2014.01.04



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Mull Drilling Company, Inc.

1700 N Waterfront PKWY
B #1200
Wichita KS 67206 6637
ATTN: Phil Askey

14-16s-45w Cheyenne, CO

Dickey "A" #1-14

Job Ticket: 54723

DST#: 4

Test Start: 2014.01.04 @ 04:50:15

GENERAL INFORMATION:

Formation: **Miss-Spergen**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:57:45

Time Test Ended: 12:49:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 65

Interval: 5340.00 ft (KB) To 5430.00 ft (KB) (TVD)

Total Depth: 5430.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 4379.00 ft (KB)

4368.00 ft (CF)

KB to GR/CF: 11.00 ft

Serial #: 8846 Outside

Press@RunDepth: 242.62 psig @ 5408.00 ft (KB)

Start Date: 2014.01.04

End Date:

2014.01.04

Start Time: 04:50:15

End Time:

12:49:30

Capacity: 8000.00 psig

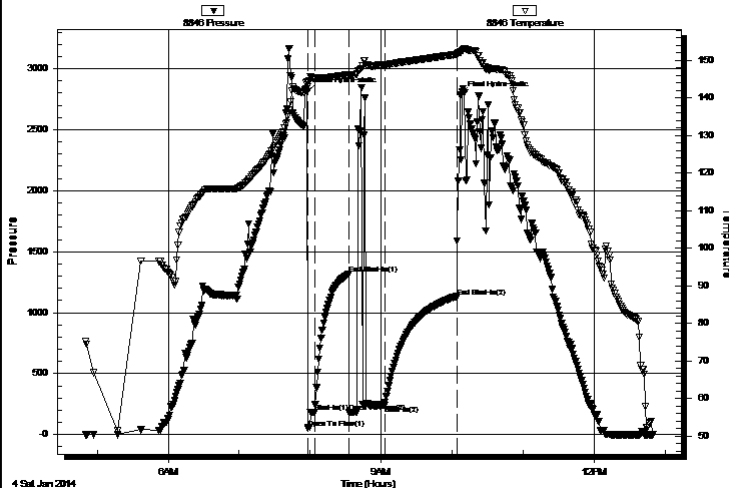
Last Calib.: 2014.01.04

Time On Btm: 2014.01.04 @ 07:57:30

Time Off Btm: 2014.01.04 @ 10:07:00

TEST COMMENT: IF: Built to 6" blow
IS: No return blow
FF: No blow - Flushed tool--3/4" died to weak surface blow
FS: No return blow

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2810.45	144.23	Initial Hydro-static
1	52.62	143.05	Open To Flow (1)
7	182.26	145.22	Shut-In(1)
35	1315.46	146.22	End Shut-In(1)
36	181.88	145.95	Open To Flow (2)
66	242.62	148.80	Shut-In(2)
127	1125.66	151.57	End Shut-In(2)
130	2783.00	152.41	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
430.00	mud 100% m	4.37

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Mull Drilling Company, Inc.

1700 N Waterfront PKWY
B #1200
Wichita KS 67206 6637
ATTN: Phil Askey

14-16s-45w Cheyenne, CO

Dickey "A" #1-14

Job Ticket: 54723

DST#: 4

Test Start: 2014.01.04 @ 04:50:15

GENERAL INFORMATION:

Formation: **Miss-Spergen**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:57:45

Time Test Ended: 12:49:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 65

Interval: 5340.00 ft (KB) To 5430.00 ft (KB) (TVD)

Total Depth: 5430.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 4379.00 ft (KB)

4368.00 ft (CF)

KB to GR/CF: 11.00 ft

Serial #: 8737 Inside

Press@RunDepth: psig @ 5408.00 ft (KB)

Start Date: 2014.01.04

End Date:

2014.01.04

Start Time: 04:50:15

End Time:

12:49:15

Capacity: 8000.00 psig

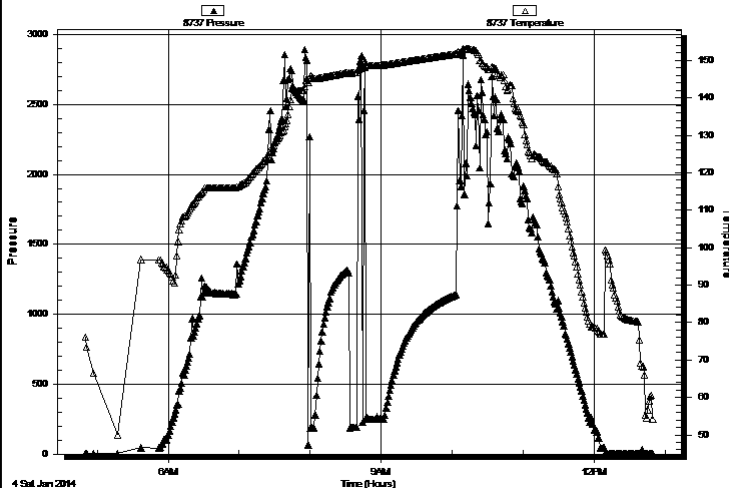
Last Calib.: 2014.01.04

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: Built to 6" blow
IS: No return blow
FF: No blow - Flushed tool--3/4" died to weak surface blow
FS: No return blow

Pressure vs. Time



PRESSURE SUMMARY

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

Length (ft)	Description	Volume (bbl)
430.00	mud 100% m	4.37

Gas Rates

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

* Recovery from multiple tests



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Company, Inc.

14-16s-45w Cheyenne, CO

1700 N Waterfront PKWY
B #1200
Wichita KS 67206 6637
ATTN: Phil Askey

Dickey "A" #1-14

Job Ticket: 54723

DST#: 4

Test Start: 2014.01.04 @ 04:50:15

Tool Information

Drill Pipe:	Length: 5142.00 ft	Diameter: 3.80 inches	Volume: 72.13 bbl	Tool Weight:	1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 182.10 ft	Diameter: 2.25 inches	Volume: 0.90 bbl	Weight to Pull Loose:	110000.0 lb
		Total Volume:	73.03 bbl	Tool Chased	5.00 ft
Drill Pipe Above KB:	4.10 ft			String Weight: Initial	80000.00 lb
Depth to Top Packer:	5340.00 ft			Final	83000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	90.00 ft				
Tool Length:	110.00 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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Change Over Sub	1.00			5321.00	
Shut In Tool	5.00			5326.00	
Hydraulic tool	5.00			5331.00	
Packer	5.00			5336.00	20.00 Bottom Of Top Packer
Packer	4.00			5340.00	
Stubb	1.00			5341.00	
Perforations	1.00			5342.00	
Change Over Sub	1.00			5343.00	
Drill Pipe	64.00			5407.00	
Change Over Sub	1.00			5408.00	
Recorder	0.00	8737	Inside	5408.00	
Recorder	0.00	8846	Outside	5408.00	
Perforations	17.00			5425.00	
Bullnose	5.00			5430.00	90.00 Bottom Packers & Anchor

Total Tool Length: 110.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Company, Inc.

14-16s-45w Cheyenne, CO

1700 N Waterfront PKWY
B #1200
Wichita KS 67206 6637
ATTN: Phil Askey

Dickey "A" #1-14

Job Ticket: 54723

DST#: 4

Test Start: 2014.01.04 @ 04:50:15

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 55.00 sec/qt

Water Loss: 8.75 in³

Resistivity: 0.00 ohm.m

Salinity: 5000.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

0 deg API

0 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
430.00	mud 100%m	4.373

Total Length: 430.00 ft Total Volume: 4.373 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: On 1st. open hole took alot of mud, filled hole mud stayed at the top, 2nd open NO blow Flushed tool hole took on alot of mud again acted like a packer failure ,put tool on bottom and chased tool 5 feet to prevent another packer failure it held no mudlost during 2nd open

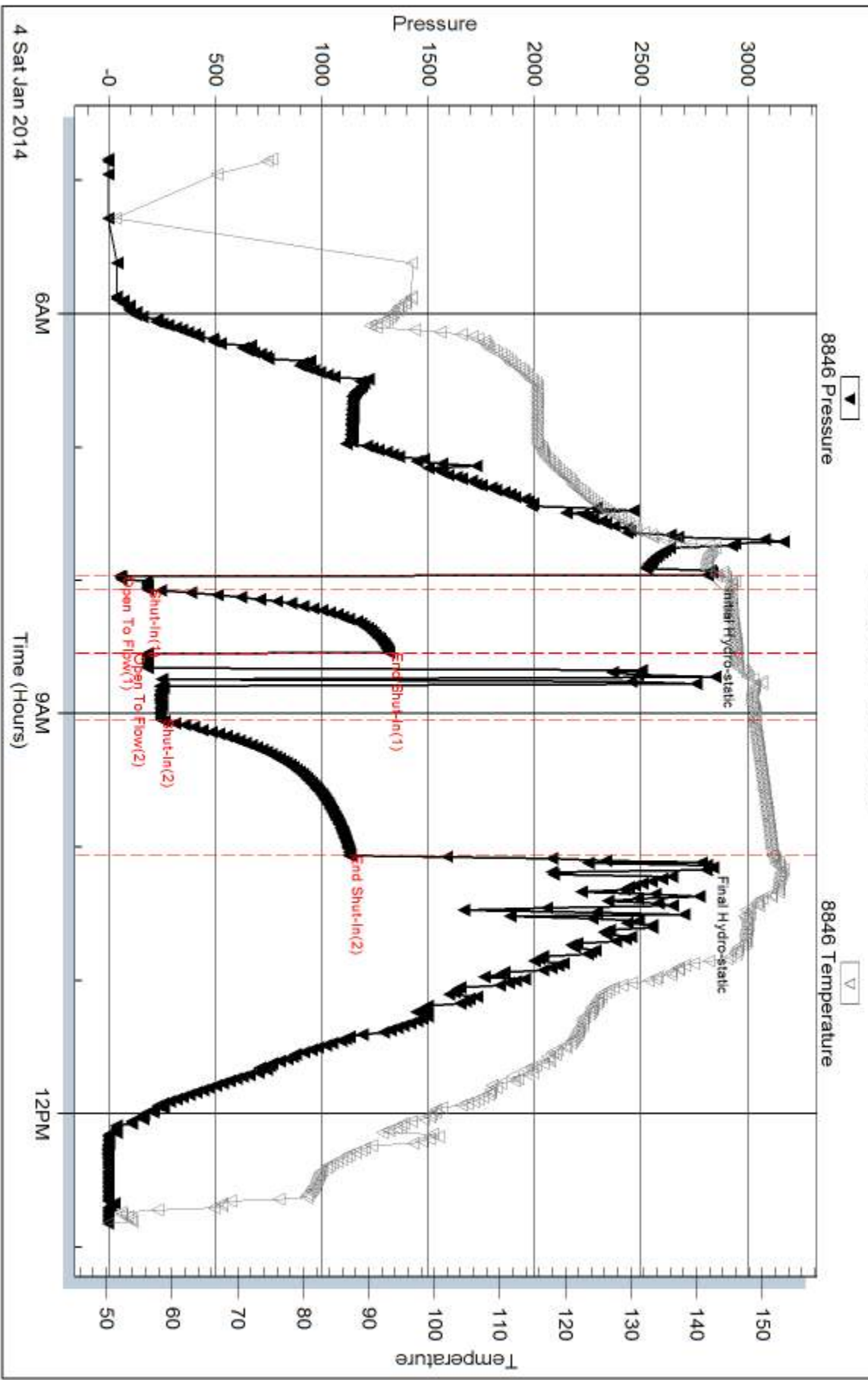
Serial #: 8846

Outside Mull Drilling Company, Inc.

Dickey "A" #1-14

DST Test Number: 4

Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 54723

Printed: 2014.01.08 @ 10:37:08

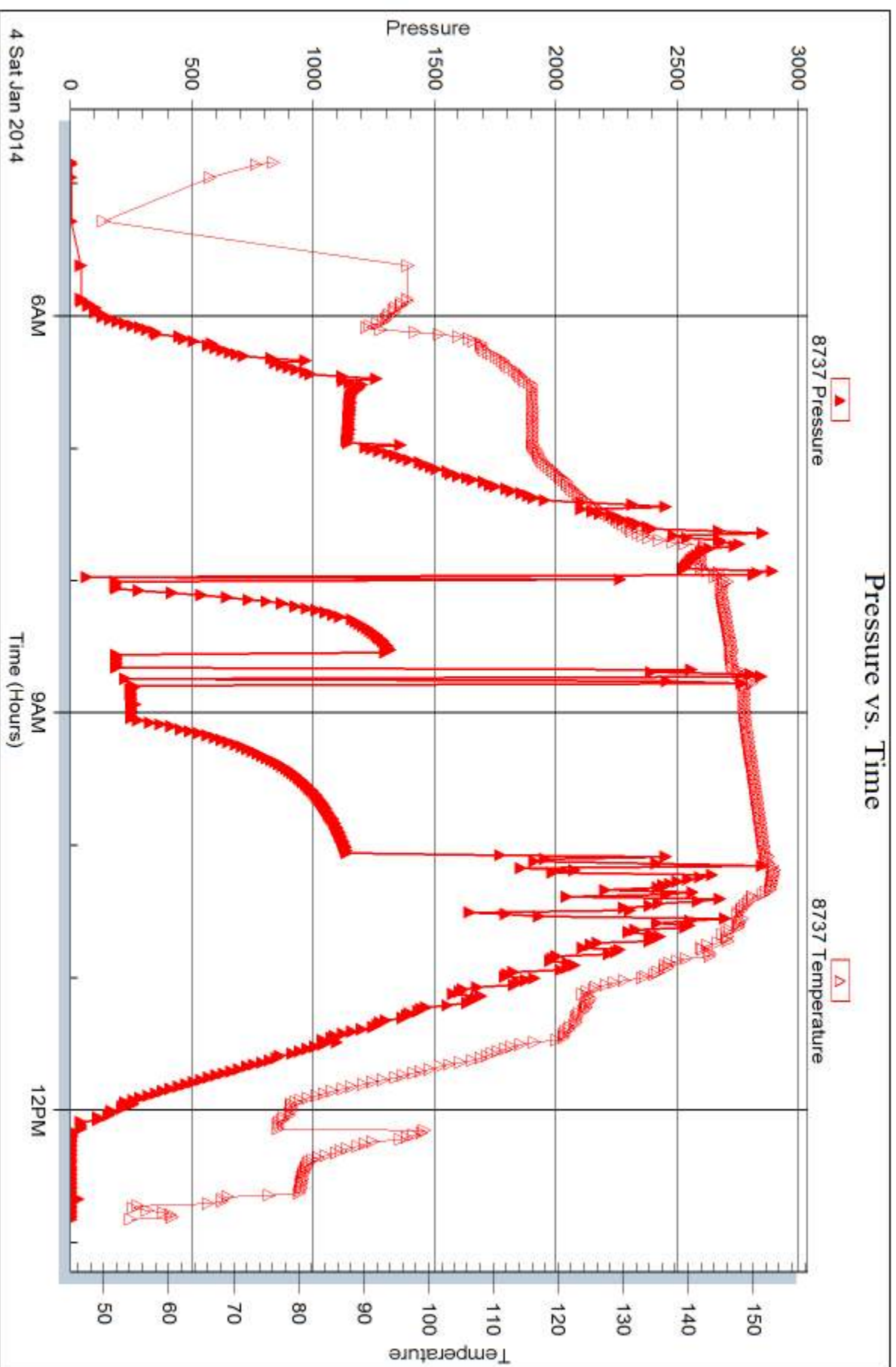
Serial #: 8737

Inside

Mull Drilling Company, Inc.

Dickey "A" #1-14

DST Test Number: 4





DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Company, Inc.**

1700 N Waterfront PKWY
B #1200
Wichita KS 67206 6637

ATTN: Phil Askey

Dickey "A" #1-14

14-16s-45w Cheyenne,CO

Start Date: 2014.01.05 @ 19:06:00

End Date: 2014.01.06 @ 02:54:00

Job Ticket #: 54724 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.01.08 @ 10:36:16

Mull Drilling Company, Inc.

14-16s-45w Cheyenne,CO

Dickey "A" #1-14

DST # 5

Miss-Lower Warsaw

2014.01.05



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Mull Drilling Company, Inc.

14-16s-45w Cheyenne, CO

1700 N Waterfront PKWY
B #1200
Wichita KS 67206 6637
ATTN: Phil Askey

Dickey "A" #1-14

Job Ticket: 54724

DST#: 5

Test Start: 2014.01.05 @ 19:06:00

GENERAL INFORMATION:

Formation: **Miss-Lower Warsaw**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:36:45

Time Test Ended: 02:54:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 65

Interval: 5465.00 ft (KB) To 5510.00 ft (KB) (TVD)

Total Depth: 5562.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 4379.00 ft (KB)

4368.00 ft (CF)

KB to GR/CF: 11.00 ft

Serial #: 8846 Inside

Press@RunDepth: 995.49 psig @ 5466.00 ft (KB)

Start Date: 2014.01.05

End Date:

2014.01.06

Start Time: 19:06:15

End Time:

02:54:00

Capacity: 8000.00 psig

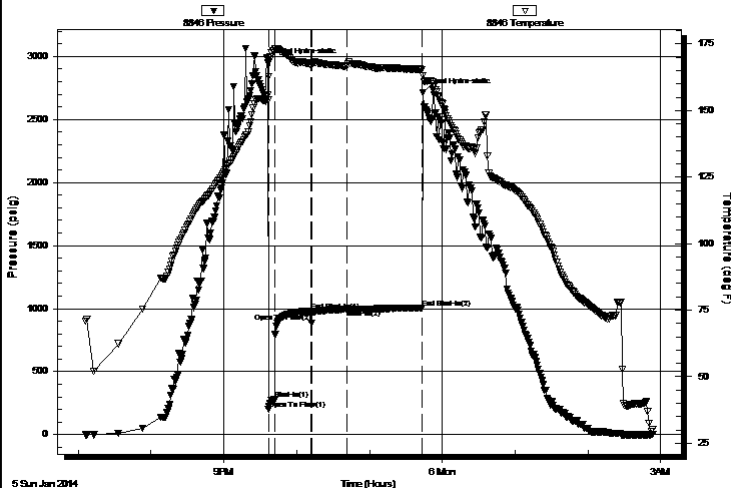
Last Calib.: 2014.01.06

Time On Btm: 2014.01.05 @ 21:36:30

Time Off Btm: 2014.01.05 @ 23:44:15

TEST COMMENT: IF:BOB in 3 min.
IS:No return blow
FF:Built to weak surface blow and died in 10 min.
FS:No return blow

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2949.09	155.81	Initial Hydro-static
1	202.47	154.08	Open To Flow (1)
6	278.51	173.13	Shut-In(1)
35	980.58	167.44	End Shut-In(1)
36	960.98	167.17	Open To Flow (2)
65	995.49	166.61	Shut-In(2)
127	1004.31	165.46	End Shut-In(2)
128	2714.94	163.24	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
92.00	gcmo 5% g 25%m 70%o	0.45
306.00	gcmo 10%g 30%m 60%o	3.47

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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* Recovery from multiple tests



Test Start: 2014.01.05 @ 19:06:00

KB to GR/CF: 11.00 ft



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Mull Drilling Company, Inc.

14-16s-45w Cheyenne, CO

1700 N Waterfront PKWY
B #1200
Wichita KS 67206 6637
ATTN: Phil Askey

Dickey "A" #1-14

Job Ticket: 54724

DST#: 5

Test Start: 2014.01.05 @ 19:06:00

GENERAL INFORMATION:

Formation: **Miss-Lower Warsaw**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:36:45

Time Test Ended: 02:54:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 65

Interval: 5465.00 ft (KB) To 5510.00 ft (KB) (TVD)

Total Depth: 5562.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 4379.00 ft (KB)

4368.00 ft (CF)

KB to GR/CF: 11.00 ft

Serial #: 8737 Outside

Press@RunDepth: psig @ 5466.00 ft (KB)

Start Date: 2014.01.05

End Date:

2014.01.06

Start Time: 19:06:15

End Time:

02:54:00

Capacity: 8000.00 psig

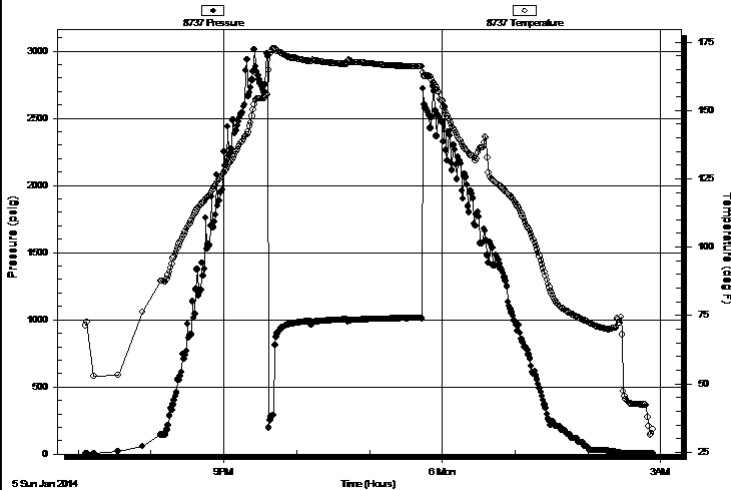
Last Calib.: 2014.01.06

Time On Btm:

Time Off Btm:

TEST COMMENT: IF:BOB in 3 min.
IS:No return blow
FF:Built to weak surface blow and died in 10 min.
FS:No return blow

Pressure vs. Time



PRESSURE SUMMARY

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

Length (ft)	Description	Volume (bbl)
92.00	gcmo 5% g 25%m 70%o	0.45
306.00	gcmo 10%g 30%m 60%o	3.47

Gas Rates

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

* Recovery from multiple tests



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Company, Inc.

14-16s-45w Cheyenne, CO

1700 N Waterfront PKWY
B #1200
Wichita KS 67206 6637
ATTN: Phil Askey

Dickey "A" #1-14

Job Ticket: 54724

DST#: 5

Test Start: 2014.01.05 @ 19:06:00

Tool Information

Drill Pipe:	Length:	5271.00 ft	Diameter:	3.80 inches	Volume:	73.94 bbl	Tool Weight:	1500.00 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:	182.10 ft	Diameter:	2.25 inches	Volume:	0.90 bbl	Weight to Pull Loose:	90000.00 lb
					Total Volume:	74.84 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		9.10 ft					String Weight: Initial	78000.00 lb
Depth to Top Packer:		5465.00 ft					Final	78000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		97.00 ft						
Tool Length:		118.00 ft						
Number of Packers:		2	Diameter:	6.75 inches				
Tool Comments:								

Tool Description

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

Change Over Sub	1.00			5445.00		
Shut In Tool	5.00			5450.00		
Hydraulic tool	5.00			5455.00		
Packer	5.00			5460.00	21.00	Bottom Of Top Packer
Packer	5.00			5465.00		
Stubb	1.00			5466.00		
Recorder	0.00	8846	Inside	5466.00		
Recorder	0.00	8737	Outside	5466.00		
Perforations	1.00			5467.00		
Change Over Sub	1.00			5468.00		
Drill Pipe	32.00			5500.00		
Change Over Sub	1.00			5501.00		
Perforations	5.00			5506.00		
Blank Off Sub	1.00			5507.00	97.00	Tool Interval
Packer	3.00			5510.00		
Stubb	1.00			5511.00		
Perforations	12.00			5523.00		
Change Over Sub	1.00			5524.00		
Drill Pipe	32.00			5556.00		
Recorder	0.00	8646	Below	5556.00		
Change Over Sub	1.00			5557.00		
Bullnose	5.00			5562.00	1000117.00	Bottom Packers & Anchor

Total Tool Length: 118.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Company, Inc.

14-16s-45w Cheyenne, CO

1700 N Waterfront PKWY
B #1200
Wichita KS 67206 6637
ATTN: Phil Askey

Dickey "A" #1-14

Job Ticket: 54724

DST#: 5

Test Start: 2014.01.05 @ 19:06:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 59.00 sec/qt

Water Loss: 9.07 in³

Resistivity: 0.00 ohm.m

Salinity: 5000.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

0 deg API

0 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
92.00	gcmo 5% g 25%m 70%o	0.452
306.00	gcmo 10%g 30%m 60%o	3.472

Total Length: 398.00 ft

Total Volume: 3.924 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8846

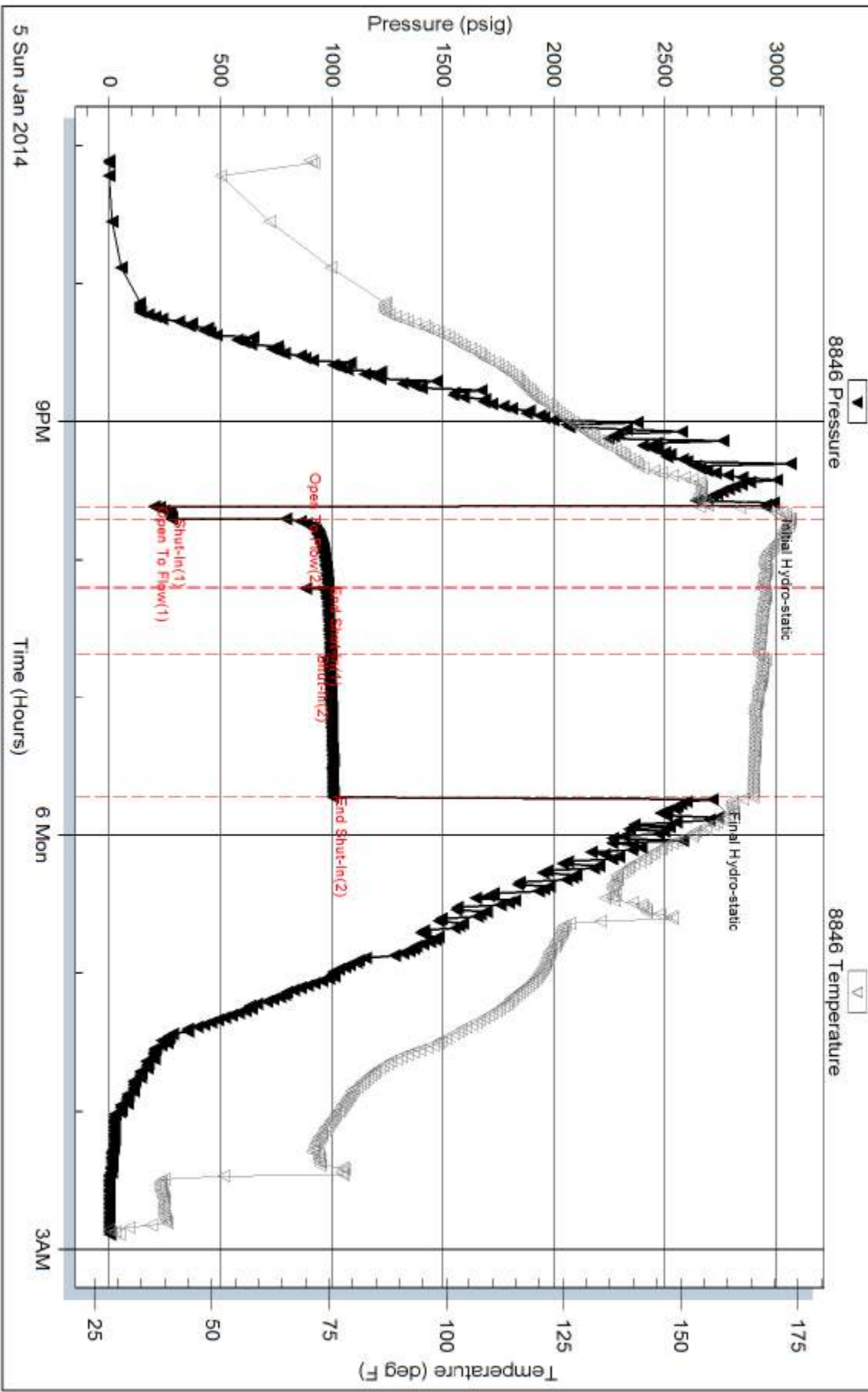
Inside

Mull Drilling Company, Inc.

Dickey "A" #1-14

DST Test Number: 5

Pressure vs. Time

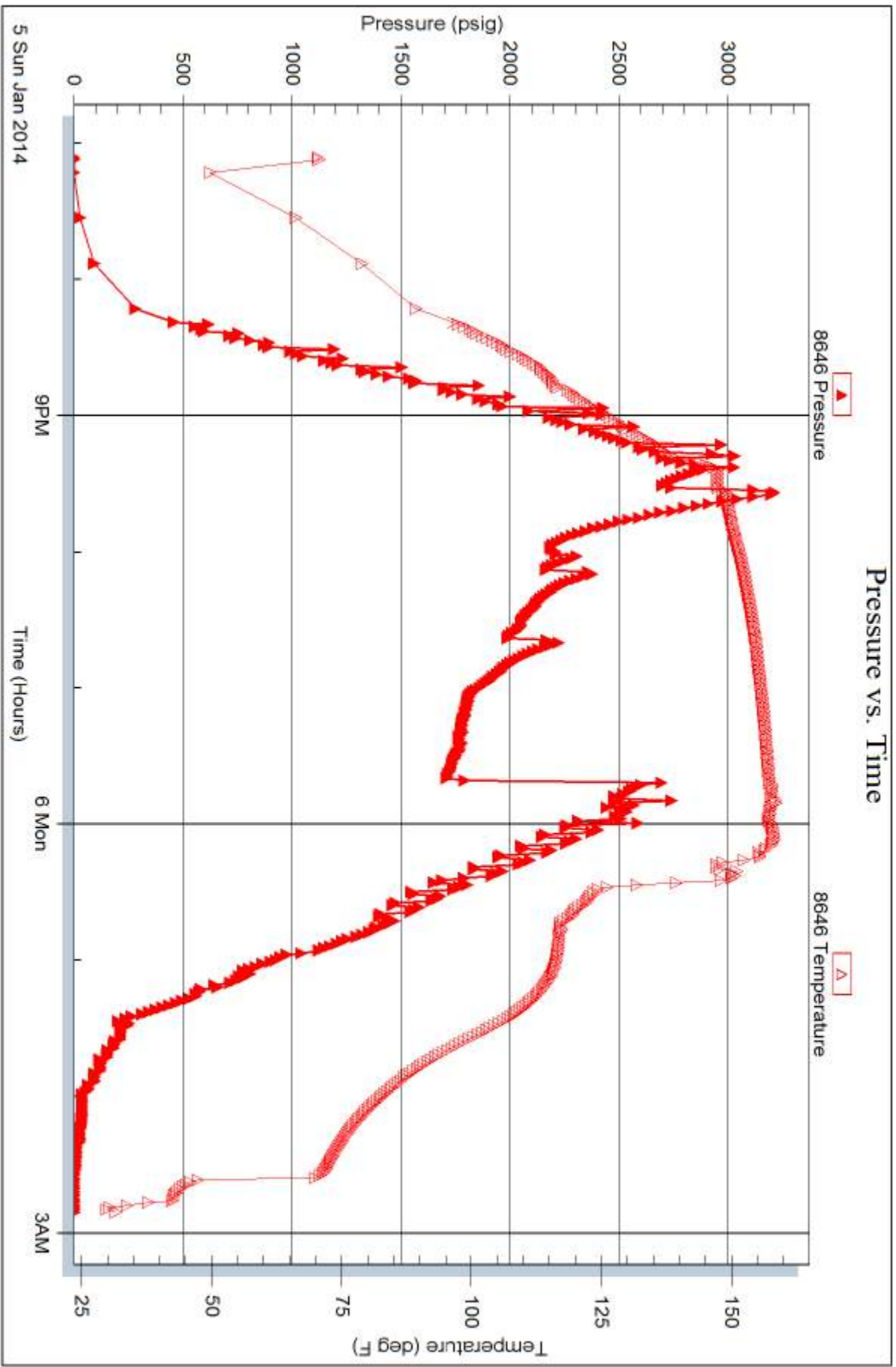


Serial #: 8646

Below (Straddling) Company, Inc.

Dickey "A" #1-14

DST Test Number: 5

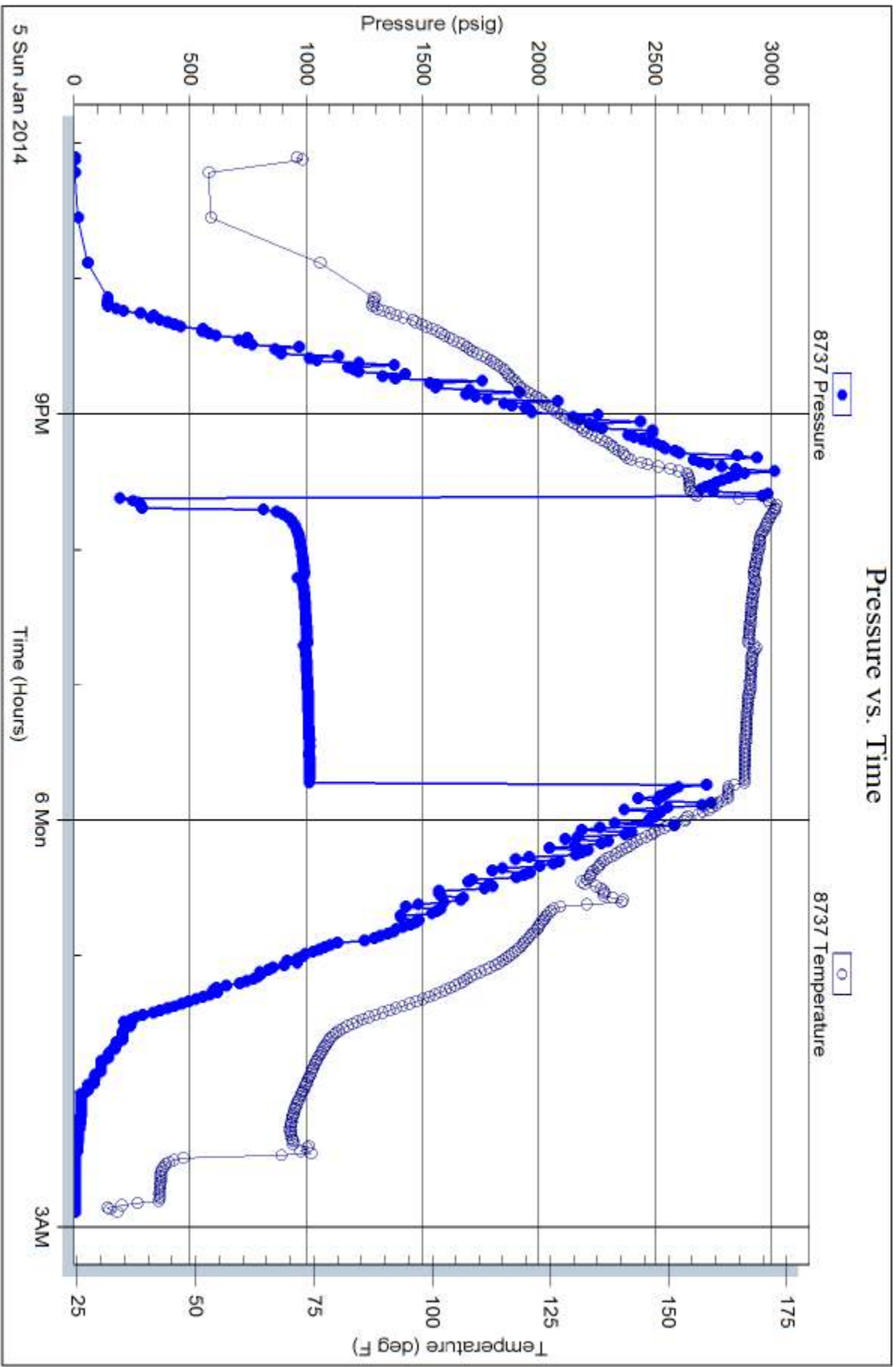


Serial #: 8737

Outside Mull Drilling Company, Inc.

Dickey "A" #1-14

DST Test Number: 5





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 54591

Well Name & No. Dickey "A" #1-14 Test No. 1 Date 12/29/13
 Company Mull Drilling Company Inc. Elevation 4379 KB 4368 GL
 Address 1700 W Waterfront Pkwy B # 1200 Wichita KS, 67206-6637
 Co. Rep / Geo. Phil Askey Rig Martin Drilling Rig 20
 Location: Sec. 14 Twp. 16S Rge. 45W Co. Cheyenne County State CO

Interval Tested 4423 - 4436 Zone Tested Kansas City "G" Zone
 Anchor Length 13 Drill Pipe Run 4227.85 Mud Wt. 9.1
 Top Packer Depth 4419 Drill Collars Run 182.10 Vis 71
 Bottom Packer Depth 4423 Wt. Pipe Run WL 14.0
 Total Depth 4436 Chlorides 15,000 ppm System LCM 8#

Blow Description Built to 2" below
Bled off for 2 min. No return below
Built to 10" below
Bled off for 5 min. No return below

Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>mcw</u>			<u>90%</u>	<u>10%</u>
<u>245</u>	<u>water</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

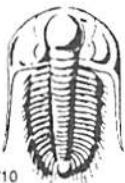
Rec Total 260 BHT 131 Gravity — API RW 40 @ 47 °F Chlorides 40,000 ppm
 (A) Initial Hydrostatic 2,449 ☒ Test 1450 T-On Location 10:15
 (B) First Initial Flow 19 ☐ Jars T-Started 11:35
 (C) First Final Flow 31 ☐ Safety Joint T-Open 14:01
 (D) Initial Shut-In 1,078 ☒ Circ Sub N/C T-Pulled 16:51
 (E) Second Initial Flow 34 ☐ Hourly Standby T-Out 18:54
 (F) Second Final Flow 128 ☒ Mileage 202 RT 310 Comments H₂O present
 (G) Final Shut-In 1,071 ☐ Sampler not enough to get
 (H) Final Hydrostatic 2,301 ☐ Straddle alarms off

☐ Ruined Shale Packer
☐ Ruined Packer
☐ Extra Copies
 Initial Open 5 ☐ Shale Packer Sub Total 0
 Initial Shut-In 30 ☐ Extra Packer Total 1760
 Final Flow 45 ☐ Extra Recorder MP/DST Disc't
 Final Shut-In 90 ☐ Day Standby
☐ Accessibility
 Sub Total 1760

Approved By

Our Representative

Trilobite Testing Inc. shall not be liable for damaged or 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. 54592

Well Name & No. Dickey "A" #1-14 Test No. 2 Date 12/31/13
 Company Mull Drilling Company, Inc. Elevation 4379 KB 4368 GL
 Address 1700 W Water Front B #1200 Wichita KS, 67206-6637
 Co. Rep / Geo. Phil Askey Rig Martin Drilling Rig 20
 Location: Sec. 14 Twp. 16S Rge. 45W Co. Cheyenne County State KS

Interval Tested 4636-4725 Zone Tested Pleasanton - Marmaton
 Anchor Length 89 Drill Pipe Run 4448.66 Mud Wt. 9.1
 Top Packer Depth 4632 Drill Collars Run 182.10 Vis 48
 Bottom Packer Depth 4636 Wt. Pipe Run WL 14.0
 Total Depth 4725 Chlorides 12,000 ppm System LCM 8#

Blow Description B.O.B. in 45 sec.
Bled off for 20 min. Built to 1" return below
B.O.B. in 15 sec.

Bled off for 30 min. Built to 1" return below

Rec	Feet of	%gas	%oil	%water	%mud
<u>222</u>	<u>6cm</u>	<u>5</u>		<u>95</u>	
Rec	Feet of <u>30 ppm of H₂S</u>	%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	Feet of	%gas	%oil	%water	%mud
Rec Total <u>222</u>	BHT <u>137</u>	Gravity	API RW	@	F Chlorides

(A) Initial Hydrostatic	<u>2,477</u>	<input checked="" type="checkbox"/> Test	<u>1450</u>	T-On Location	<u>03:10</u>
(B) First Initial Flow	<u>670</u>	<input type="checkbox"/> Jars		T-Started	<u>03:55</u>
(C) First Final Flow	<u>510</u>	<input type="checkbox"/> Safety Joint		T-Open	<u>06:42</u>
(D) Initial Shut-In	<u>1,256</u>	<input checked="" type="checkbox"/> Circ Sub <u>W/C</u>		T-Pulled	<u>09:32</u>
(E) Second Initial Flow	<u>486</u>	<input checked="" type="checkbox"/> Hourly Standby <u>8 hrs</u>		T-Out	<u>12:52</u>
(F) Second Final Flow	<u>537</u>	<input checked="" type="checkbox"/> Mileage <u>202 RT</u>	<u>310</u>	Comments	
(G) Final Shut-In	<u>1,251</u>	<input type="checkbox"/> Sampler			
(H) Final Hydrostatic	<u>2,302</u>	<input type="checkbox"/> Straddle			

Initial Open	<u>5</u>	<input type="checkbox"/> Shale Packer		<input type="checkbox"/> Ruined Shale Packer	
Initial Shut-In	<u>30</u>	<input type="checkbox"/> Extra Packer		<input type="checkbox"/> Ruined Packer	
Final Flow	<u>45</u>	<input type="checkbox"/> Extra Recorder		Sub Total	<u>266.67</u>
Final Shut-In	<u>90</u>	<input checked="" type="checkbox"/> Day Standby <u>1d 8h</u>		Total	<u>2026.67</u>
		<input type="checkbox"/> Accessibility		MP/DST Disc't	
		Sub Total	<u>1760</u>		

Approved By _____ Our Representative [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.



P.O. Box 1733 • Hays, Kansas 67601

Gas Volume Report

Operator

Well Name and No.

DST No.

Remarks:



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 54722

Well Name & No. Dickey "A" #1-4 Test No. 3 Date 1-3-14
 Company Mull Drilling Co, Inc. Elevation 4329 KB 4368 GL
 Address 1700 N. Wakefront PKWY B#1200 Wichita KS 67206
 Co. Rep / Geo. Phil Askey Rig Murfin 20
 Location: Sec. 14 Twp. 16S Rge. 45W Co. Cheyenne State CO

Interval Tested 5275-5340 Zone Tested Miss
 Anchor Length 65' Drill Pipe Run 5001 Mud Wt. 9.2
 Top Packer Depth 5271 Drill Collars Run 182 Vis 55
 Bottom Packer Depth 5275 Wt. Pipe Run 0 WL 8.8
 Total Depth 5340 Chlorides 5000 ppm System LCM ~~5000~~ 8

Blow Description IF: Built to 1" Blow
IS: No Return Blow
FF: Built to Weak Surface Blow
FS: No Return Blow

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

Rec Total 5 BHT 145 Gravity — API RW — @ — °F Chlorides — ppm
 (A) Initial Hydrostatic 2227 ☒ Test 1550 1350.00/- T-On Location 04:00
 (B) First Initial Flow 31 ☐ Jars — T-Started 06:37 CO time
 (C) First Final Flow 30 ☐ Safety Joint — T-Open 09:02 "
 (D) Initial Shut-In 86 ☒ Circ Sub NC T-Pulled 11:07 "
 (E) Second Initial Flow 31 ☐ Hourly Standby — T-Out 13:12 "
 (F) Second Final Flow 34 ☒ Mileage 200 RT #310.00 Comments —
 (G) Final Shut-In 130 ☐ Sampler —
 (H) Final Hydrostatic 2490 ☐ Straddle —

☐ Ruined Shale Packer —
☐ Ruined Packer —
☐ Extra Copies —
 Initial Open 5 ☐ Shale Packer —
 Initial Shut-In 30 ☐ Extra Packer —
 Final Flow 30 ☐ Extra Recorder —
 Final Shut-In 60 ☐ Day Standby —
 Sub Total 1860 MP/DST Disc't
 Sub Total 1860 MP/DST Disc't

Approved By

Our Representative

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 54723

Well Name & No. Dickey "A" #1-4 Test No. 4 Date 1-4-14
 Company Mull Drilling Co Inc Elevation 4379 KB 4368 GL
 Address 1700 N. Waterfront Pkwy B #1200 Wichita KS 67206
 Co. Rep / Geo. Phil Askey Rig Martin 20
 Location: Sec. 14 Twp. Nes Rge. 45 W Co. Cheyenne State CO

Interval Tested 5340-5430 Zone Tested Miss-Spargen
 Anchor Length 90 Drill Pipe Run 5142 Mud Wt. 9.2
 Top Packer Depth 5336 Drill Collars Run 182 Vis 55
 Bottom Packer Depth 5340 Wt. Pipe Run 4 WL 8.8
 Total Depth 5430 Chlorides 5000 ppm System LCM 8

Blow Description IF: Built to 6" Blow
IS: No Return Blow
EF: No Blow - Flushed tool-3/4" Died to Weak Surface Blow
FS: No Return Blow

Rec <u>430</u>	Feet of <u>MUD</u>	%gas	%oil	%water <u>100</u>	%mud
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 430 BHT 150 Gravity — API RW — @ — °F Chlorides — ppm
 (A) Initial Hydrostatic 2810 ☒ Test 1550 1350.00 T-On Location 03:40 KS
 (B) First Initial Flow 52 ☐ Jars — T-Started 04:50 KS
 (C) First Final Flow 182 ☐ Safety Joint — T-Open 07:56
 (D) Initial Shut-In 1315 ☒ Circ Sub NC T-Pulled ~~09:01~~ 10:01
 (E) Second Initial Flow 181 ☐ Hourly Standby — T-Out 12:49
 (F) Second Final Flow 242 ☒ Mileage 200 RT 310.00 Comments —
 (G) Final Shut-In 1125 ☐ Sampler —
 (H) Final Hydrostatic 2783 ☐ Straddle —

Initial Open 5 ☐ Ruined Shale Packer —
 Initial Shut-In 30 ☐ Ruined Packer —
 Final Flow 30 ☐ Extra Copies —
 Final Shut-In 60 ☐ Extra Recorder —
 Sub Total 0
 Total 1860
 MP/DST Disc't —
 Sub Total 1860 9460.00

Approved By Phil Askey Our Representative Mick Ricketts
 Triobite Testing Inc. shall not be liable for damaged or 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.



TRIBOLITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 54724

Well Name & No. Dickey "A" 1-4 Test No. 5 Date 1-5-14
 Company Mull Drilling Co. Inc. Elevation 4379 KB 4368 GL
 Address 1700 N. Waterfront PKWY #1200 Wichita KS 67206
 Co. Rep / Geo. Phil Askey Rig Murkin 20
 Location: Sec. 14 Twp. 16S Rge. 45W Co. Cheyenne State CO

Interval Tested 5465-5510 Zone Tested Miss + Lower Warsaw
 Anchor Length 45' - Tail 52' Drill Pipe Run 5221 Mud Wt. 9.3
 Top Packer Depth 5461 Drill Collars Run 182 Vis 59
 Bottom Packer Depth 5465 Wt. Pipe Run 8 WL 9.1
 Total Depth 5562 Chlorides 5000 ppm System LCM 8

Blow Description IF: BOB IN 3 MIN
IS: NO Return Blow
FF: Built to Weak Surface Blow & Died in 10 MIN
FS: NO Return Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>92</u>	<u>gcm O</u>	<u>5</u>	<u>70</u>	<u>25</u>	<u></u>
<u>306</u>	<u>gcm O</u>	<u>10</u>	<u>60</u>	<u>30</u>	<u></u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 398 BHT 165 Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic	<u>2949</u>	<input checked="" type="checkbox"/> Test	<u>1350</u>	<u>1350.00</u>	T-On Location	<u>17:00 KST Time</u>
(B) First Initial Flow	<u>202</u>	<input type="checkbox"/> Jars			T-Started	<u>19:06 KS</u>
(C) First Final Flow	<u>278</u>	<input type="checkbox"/> Safety Joint			T-Open	<u>21:35</u>
(D) Initial Shut-In	<u>980</u>	<input checked="" type="checkbox"/> Circ Sub	<u>NO</u>		T-Pulled	<u>23:40</u>
(E) Second Initial Flow	<u>960</u>	<input type="checkbox"/> Hourly Standby			T-Out	<u>02:52</u>
(F) Second Final Flow	<u>995</u>	<input checked="" type="checkbox"/> Mileage	<u>200 RT = \$310.00</u>		Comments	
(G) Final Shut-In	<u>1004</u>	<input type="checkbox"/> Sampler				
(H) Final Hydrostatic	<u>2714</u>	<input checked="" type="checkbox"/> Straddle	<u>600.00</u>			

Initial Open 5
 Initial Shut-In 30
 Final Flow 30
 Final Shut-In 60

Approved By Phil Askey

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Our Representative Mich. Rebot

Sub Total \$2260.00 MP/DST Disc't —