



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water STE #300
Wichita, KS 67202

ATTN: Robert Hendrix

Walter Bros. #1-6

6-1s-35w Rawlins KS

Start Date: 2013.10.28 @ 22:10:00

End Date: 2013.10.29 @ 04:26:00

Job Ticket #: 55188 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.10.31 @ 14:00:51

Murfin Drilling Co. 6-1s-35w Rawlins KS Walter Bros. #1-6 DST # 1 LKC "D" 2013.10.28



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co.
 250 N Water STE #300
 Wichita, KS 67202
 ATTN: Robert Hendrix

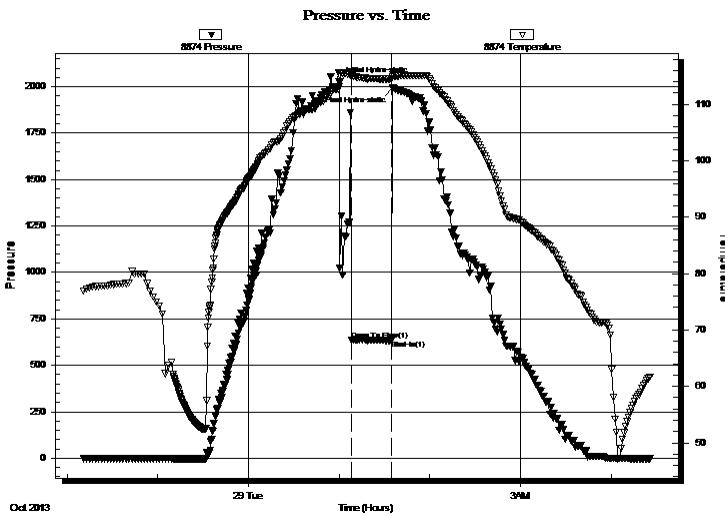
6-1s-35w Rawlins KS
Walter Bros. #1-6
 Job Ticket: 55188 **DST#: 1**
 Test Start: 2013.10.28 @ 22:10:00

GENERAL INFORMATION:

Formation: **LKC "D"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 01:08:00 Tester: Kevin Mack
 Time Test Ended: 04:26:00 Unit No: 66
 Interval: **4198.00 ft (KB) To 4243.00 ft (KB) (TVD)** Reference Elevations: 3229.00 ft (KB)
 Total Depth: 4243.00 ft (KB) (TVD) 3218.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 11.00 ft

Serial #: 8874 Inside
 Press @ Run Depth: psig @ 4199.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.10.28 End Date: 2013.10.29 Last Calib.: 2013.10.29
 Start Time: 22:11:00 End Time: 04:26:00 Time On Btm: 2013.10.29 @ 01:00:00
 Time Off Btm: 2013.10.29 @ 01:35:30

TEST COMMENT: IF - No Blow - Pulled tools to condition hole.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2025.31	113.13	Initial Hydro-static
8	633.81	114.93	Open To Flow (1)
35	634.42	114.46	Shut-In(1)
36	1992.99	114.90	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1100.00	Mud 100M	13.23

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co.
250 N Water STE #300
Wichita, KS 67202
ATTN: Robert Hendrix

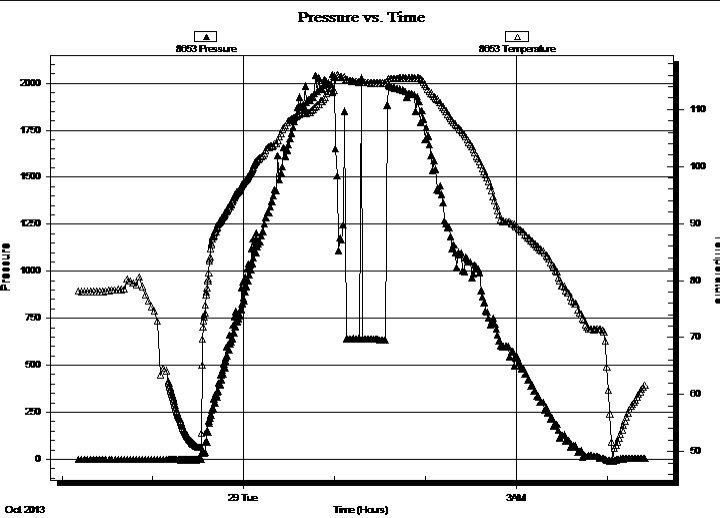
6-1s-35w Rawlins KS
Walter Bros. #1-6
Job Ticket: 55188 **DST#: 1**
Test Start: 2013.10.28 @ 22:10:00

GENERAL INFORMATION:

Formation:	LKC "D"		Test Type:	Conventional Bottom Hole (Initial)
Deviated:	No Whipstock:	ft (KB)	Tester:	Kevin Mack
Time Tool Opened:	01:08:00		Unit No:	66
Time Test Ended:	04:26:00		Reference Elevations:	3229.00 ft (KB)
Interval:	4198.00 ft (KB) To 4243.00 ft (KB) (TVD)			3218.00 ft (CF)
Total Depth:	4243.00 ft (KB) (TVD)		KB to GR/CF:	11.00 ft
Hole Diameter:	7.88 inches		Hole Condition:	Good

Serial #: 8653	Outside		
Press @ Run Depth:	psig @	4199.00 ft (KB)	Capacity:
Start Date:	2013.10.28	End Date:	2013.10.29
Start Time:	22:11:00	End Time:	04:24:30
			Time On Btm:
			Time Off Btm:
			Capacity:
			8000.00 psig
			Last Calib.:
			2013.10.29

TEST COMMENT: IF - No Blow - Pulled tools to condition hole.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
1100.00	Mud 100M	13.23

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

6-1s-35w Rawlins KS

250 N Water STE #300
Wichita, KS 67202

Walter Bros. #1-6

Job Ticket: 55188

DST#: 1

ATTN: Robert Hendrix

Test Start: 2013.10.28 @ 22:10:00

Tool Information

Drill Pipe:	Length: 3962.00 ft	Diameter: 3.80 inches	Volume: 55.58 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 242.00 ft	Diameter: 2.25 inches	Volume: 1.19 bbl	Weight to Pull Loose: 80000.00 lb
			Total Volume: 56.77 bbl	Tool Chased 15.00 ft
Drill Pipe Above KB:	34.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4198.00 ft			Final 73000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	45.00 ft			
Tool Length:	73.00 ft			
Number of Packers:	2	Diameter:	6.75 inches	

Tool Comments: Hit bridge approx 15' above bottom. Chased tool to bottom and added a single joint of pipe to make bottom... Opened tool - no bow - pulled tool to condition hole.

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4171.00	
Shut In Tool	5.00			4176.00	
Hydraulic tool	5.00			4181.00	
Jars	5.00			4186.00	
Safety Joint	3.00			4189.00	
Packer	5.00			4194.00	28.00 Bottom Of Top Packer
Packer	4.00			4198.00	
Stubb	1.00			4199.00	
Recorder	0.00	8653	Outside	4199.00	
Recorder	0.00	8874	Inside	4199.00	
Perforations	6.00			4205.00	
Change Over Sub	1.00			4206.00	
Drill Pipe	31.00			4237.00	
Change Over Sub	1.00			4238.00	
Bullnose	5.00			4243.00	45.00 Bottom Packers & Anchor

Total Tool Length: 73.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

6-1s-35w Rawlins KS

250 N Water STE #300
Wichita, KS 67202

Walter Bros. #1-6

Job Ticket: 55188

DST#: 1

ATTN: Robert Hendrix

Test Start: 2013.10.28 @ 22:10:00

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: 47.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.58 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1100.00	Mud 100M	13.226

Total Length: 1100.00 ft Total Volume: 13.226 bbl

Num Fluid Samples: 0

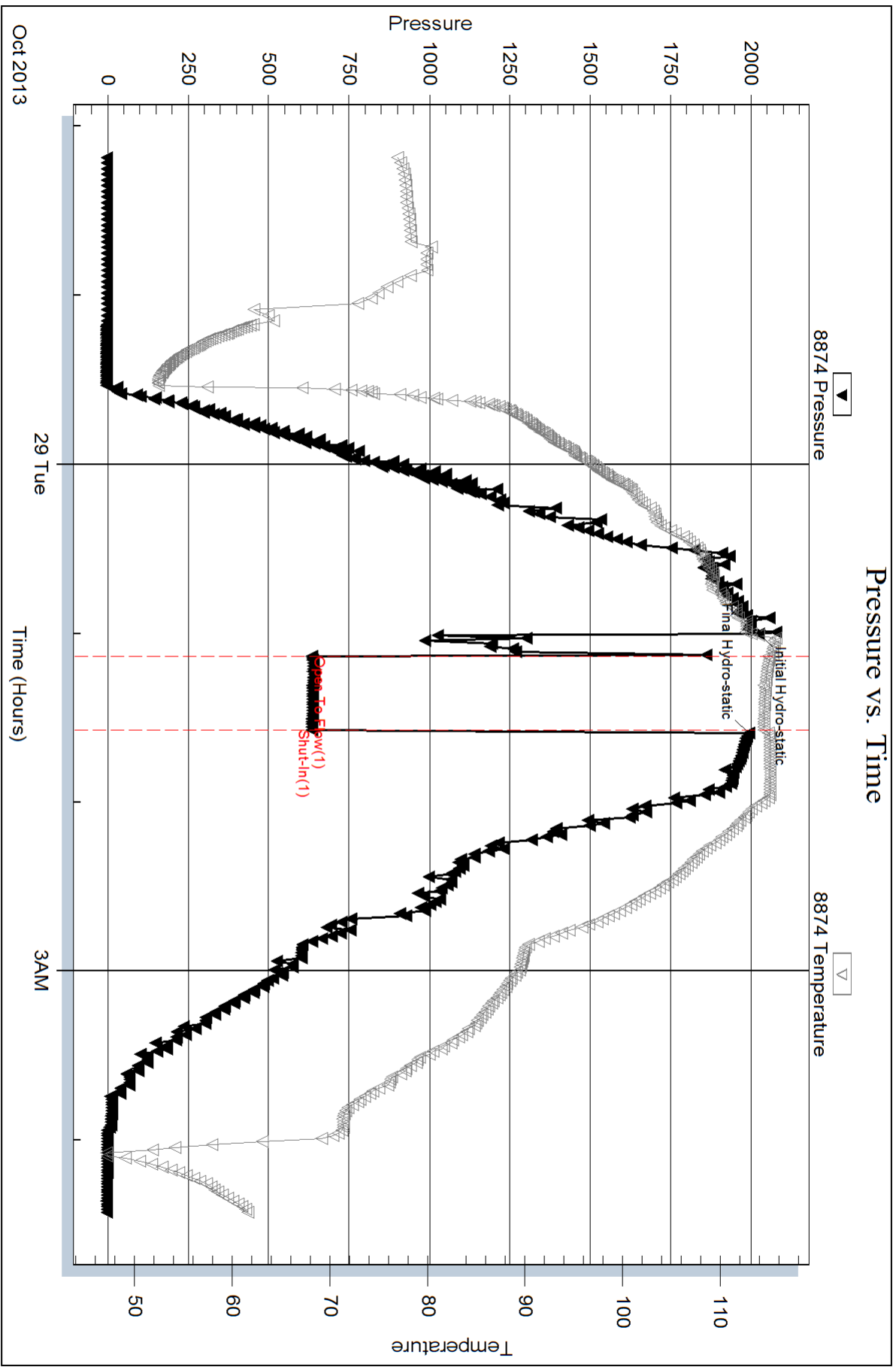
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

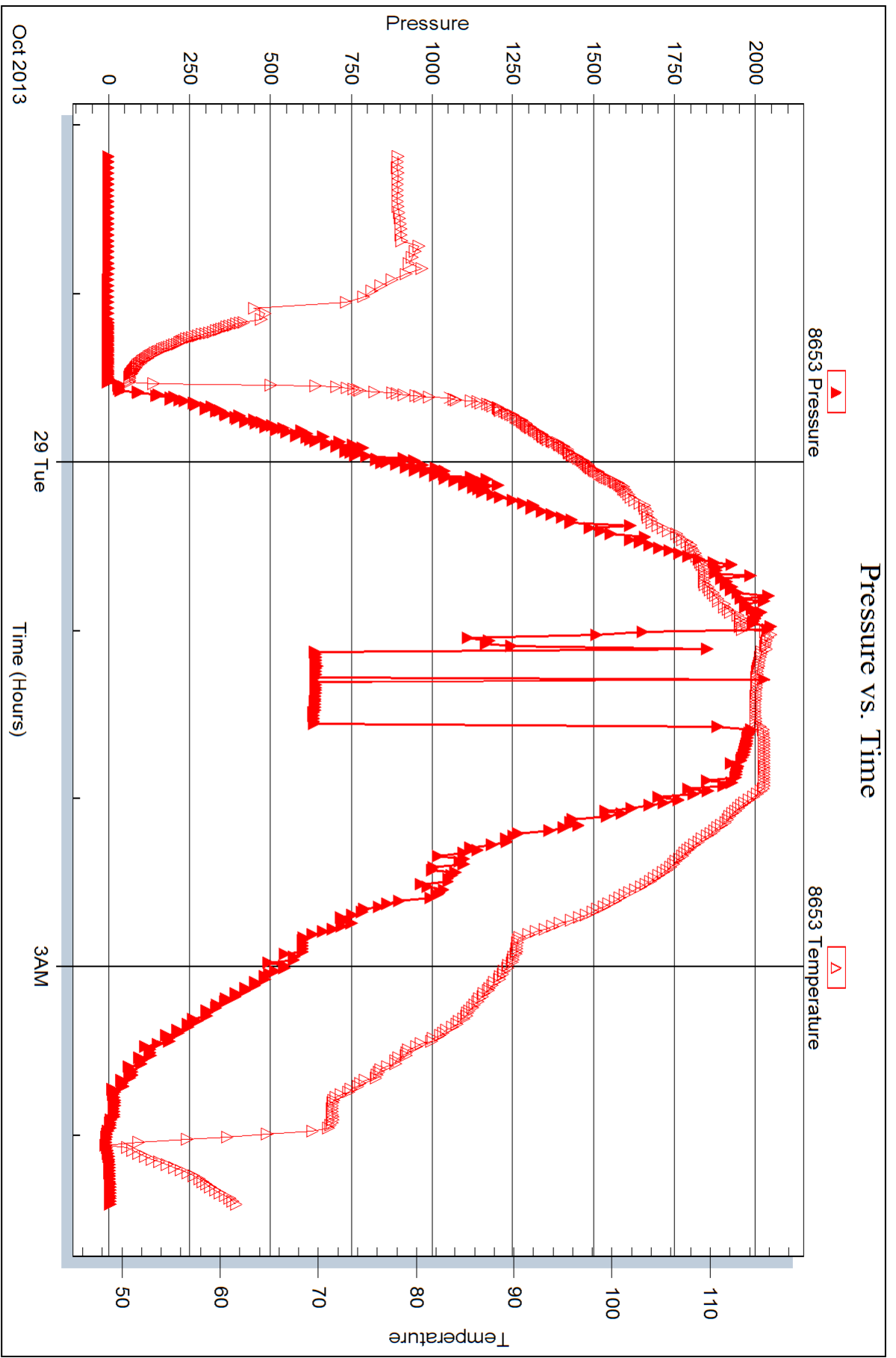


Serial #: 8653

Outside Murfin Drilling Co.

Walter Bros. #1-6

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 55188

Printed: 2013.10.31 @ 14:00:54



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water STE #300
Wichita, KS 67202

ATTN: Robert Hendrix

Walter Bros. #1-6

6-1s-35w Rawlins KS

Start Date: 2013.10.29 @ 09:56:00

End Date: 2013.10.29 @ 17:51:30

Job Ticket #: 55189 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.10.31 @ 14:00:23

Murfin Drilling Co. 6-1s-35w Rawlins KS Walter Bros. #1-6 DST # 2 LKC "D" 2013.10.29



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co.
 250 N Water STE #300
 Wichita, KS 67202
 ATTN: Robert Hendrix

6-1s-35w Rawlins KS
Walter Bros. #1-6
 Job Ticket: 55189 **DST#: 2**
 Test Start: 2013.10.29 @ 09:56:00

GENERAL INFORMATION:

Formation: **LKC "D"**
 Deviated: **No Whipstock:** ft (KB)
 Time Tool Opened: 11:44:30
 Time Test Ended: 17:51:30
 Test Type: **Conventional Bottom Hole (Initial)**
 Tester: **Kevin Mack**
 Unit No: **66**
 Interval: **4189.00 ft (KB) To 4243.00 ft (KB) (TVD)**
 Reference Elevations: 3229.00 ft (KB)
 Total Depth: 4243.00 ft (KB) (TVD) 3218.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: **Good** KB to GR/CF: 11.00 ft

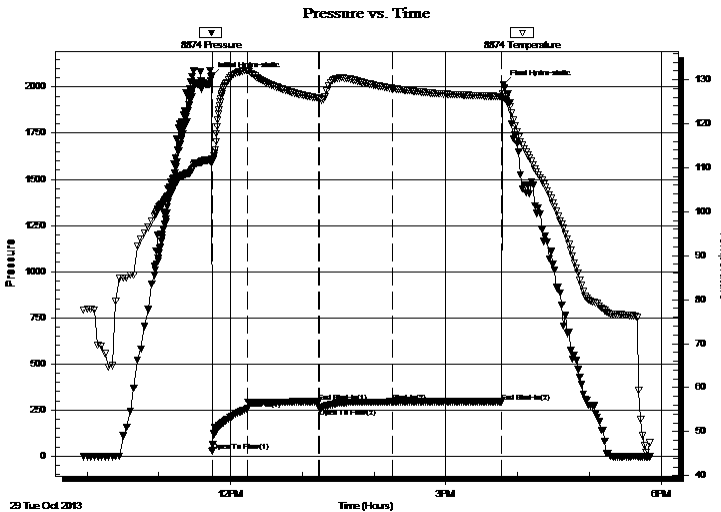
Serial #: 8874

Inside

Press @ Run Depth: 294.67 psig @ 4199.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.10.29 End Date: 2013.10.29 Last Calib.: 2013.10.29
 Start Time: 09:57:00 End Time: 17:51:30 Time On Btm: 2013.10.29 @ 11:44:10
 Time Off Btm: 2013.10.29 @ 15:48:00

TEST COMMENT: 30 - IF- BoB in 5 min.
 60 - IS- Weak Surface Return built to 1 1/2"
 60 - FF- Surface Blow built to 9"
 90 - FS- Weak surface Return did not build or die.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2058.46	111.97	Initial Hydro-static
1	25.42	111.61	Open To Flow (1)
30	257.02	132.09	Shut-In(1)
90	294.81	125.78	End Shut-In(1)
91	259.09	125.68	Open To Flow (2)
151	294.67	128.01	Shut-In(2)
243	294.91	126.21	End Shut-In(2)
244	2012.39	126.15	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud (heavy) 100M	0.02
235.00	MW 5M 95W	1.16
124.00	MW 10M 90W	1.72
124.00	OSMW 10M 90W (oil spots)	1.74
114.00	OSMW 50M 50W (oil spots)	1.60
0.00	30' GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

6-1s-35w Rawlins KS

250 N Water STE #300
Wichita, KS 67202

Walter Bros. #1-6

Job Ticket: 55189

DST#: 2

ATTN: Robert Hendrix

Test Start: 2013.10.29 @ 09:56:00

Tool Information

Drill Pipe:	Length: 3962.00 ft	Diameter: 3.80 inches	Volume: 55.58 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 242.00 ft	Diameter: 2.25 inches	Volume: 1.19 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 56.77 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	34.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4198.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	45.00 ft			
Tool Length:	73.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4171.00	
Shut In Tool	5.00			4176.00	
Hydraulic tool	5.00			4181.00	
Jars	5.00			4186.00	
Safety Joint	3.00			4189.00	
Packer	5.00			4194.00	28.00 Bottom Of Top Packer
Packer	4.00			4198.00	
Stubb	1.00			4199.00	
Recorder	0.00	8653	Outside	4199.00	
Recorder	0.00	8874	Inside	4199.00	
Perforations	6.00			4205.00	
Change Over Sub	1.00			4206.00	
Drill Pipe	31.00			4237.00	
Change Over Sub	1.00			4238.00	
Bullnose	5.00			4243.00	45.00 Bottom Packers & Anchor

Total Tool Length: 73.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

6-1s-35w Rawlins KS

250 N Water STE #300
Wichita, KS 67202

Walter Bros. #1-6

Job Ticket: 55189

DST#: 2

ATTN: Robert Hendrix

Test Start: 2013.10.29 @ 09:56:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

65000 ppm

Viscosity: 47.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.59 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
5.00	Mud (heavy) 100M	0.025
235.00	MW 5M 95W	1.156
124.00	MW 10M 90W	1.721
124.00	OSMW 10M 90W (oil spots)	1.739
114.00	OSMW 50M 50W (oil spots)	1.599
0.00	30' GIP	0.000

Total Length: 602.00 ft Total Volume: 6.240 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .142 @ 57 deg = 65000ppm

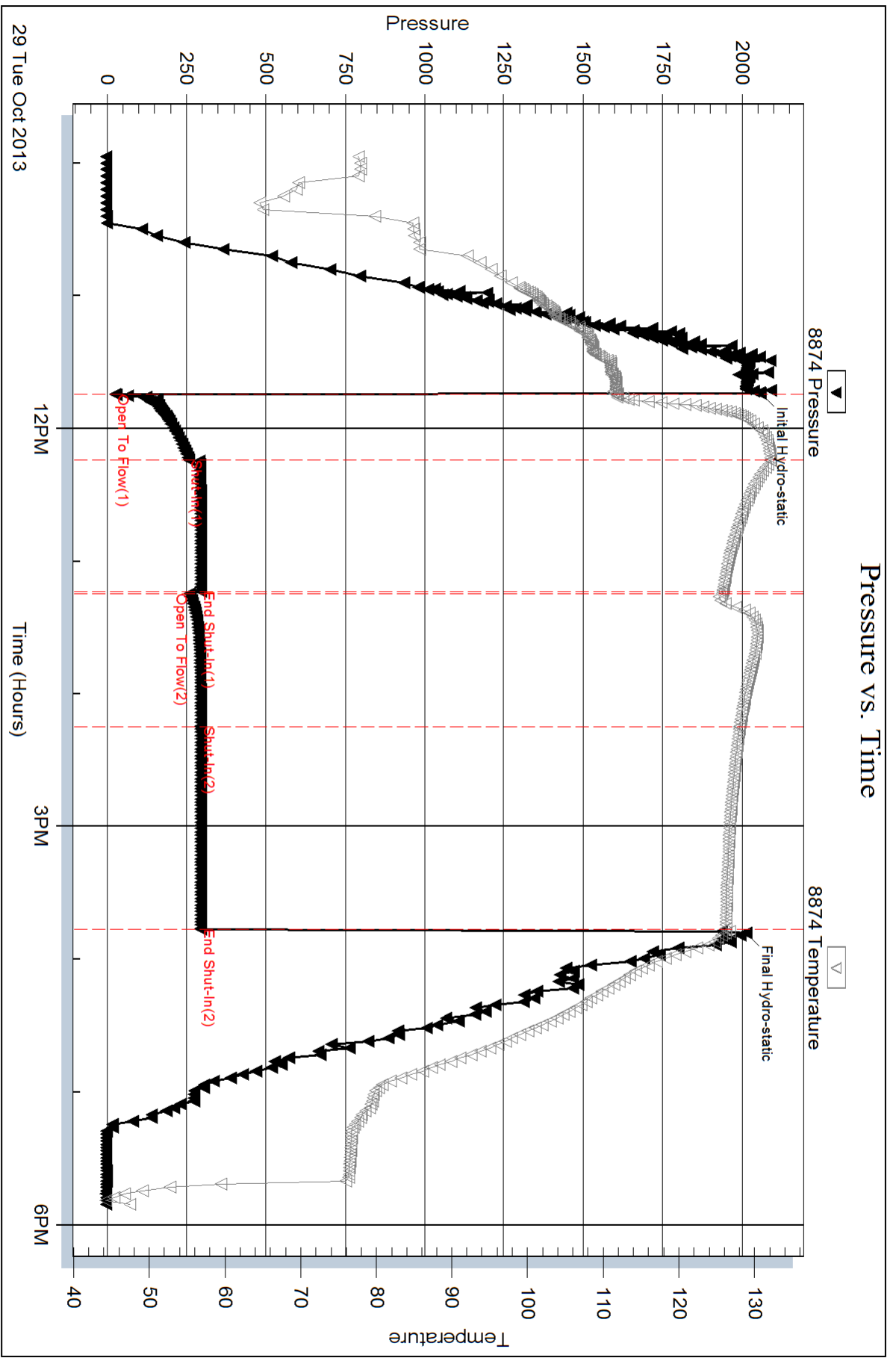
Serial #: 8874

Inside

Murfin Drilling Co.

Walter Bros. #1-6

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 55189

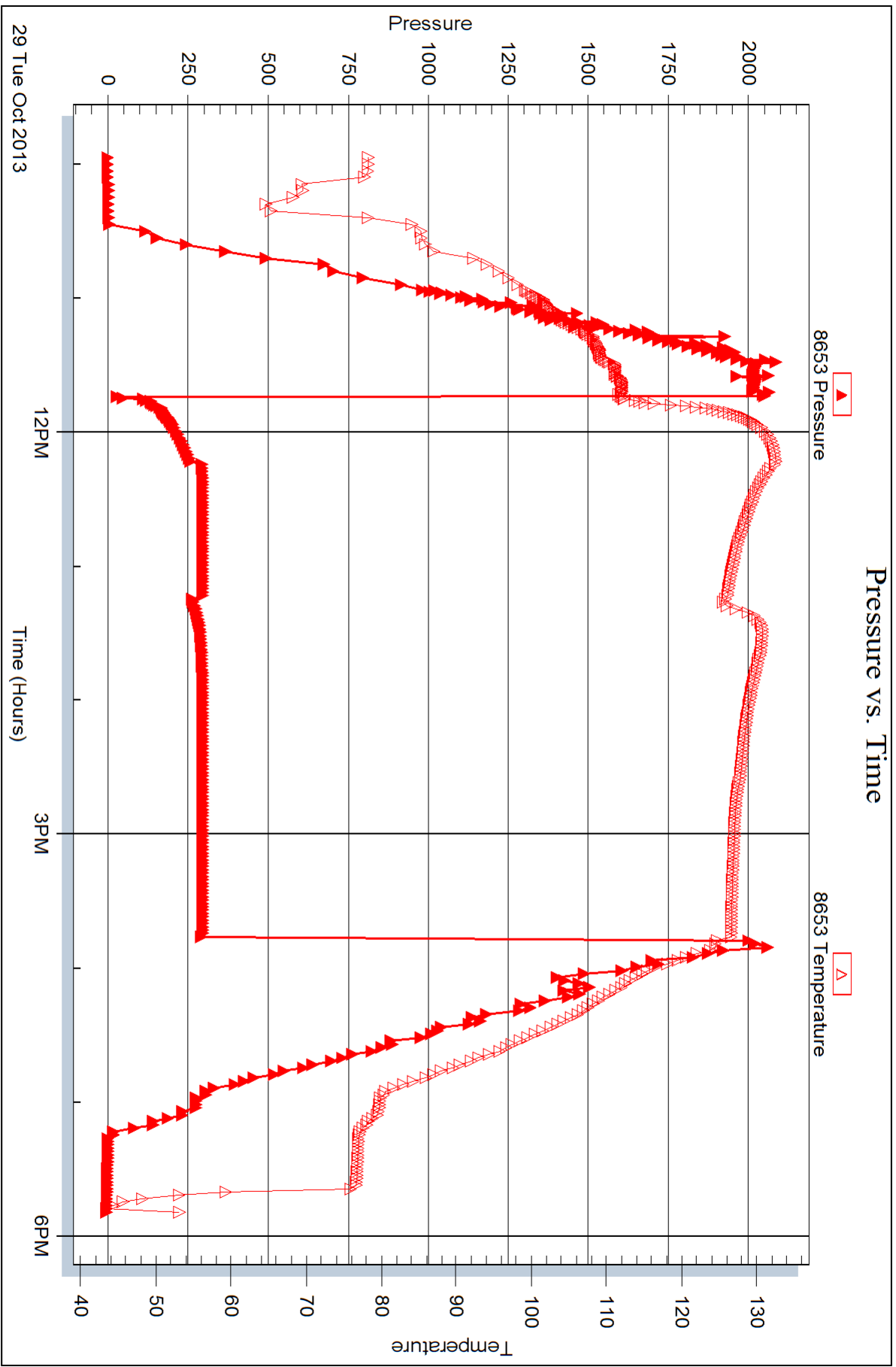
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Serial #: 8653

Outside Murfin Drilling Co.

Walter Bros. #1-6

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 55189

Printed: 2013.10.31 @ 14:00:25



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water STE #300
Wichita, KS 67202

ATTN: Robert Hendrix

Walter Bros. #1-6

6-1s-35w Rawlins KS

Start Date: 2013.10.30 @ 22:33:00

End Date: 2013.10.31 @ 05:36:30

Job Ticket #: 54873 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.10.31 @ 13:59:44

Murfin Drilling Co. 6-1s-35w Rawlins KS Walter Bros. #1-6 DST # 3 LKC "H - I" 2013.10.30



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co.
 250 N Water STE #300
 Wichita, KS 67202
 ATTN: Robert Hendrix

6-1s-35w Rawlins KS
Walter Bros. #1-6
 Job Ticket: 54873 **DST#: 3**
 Test Start: 2013.10.30 @ 22:33:00

GENERAL INFORMATION:

Formation: **LKC "H - I"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 00:29:10
 Tester: Bob Hamel
 Time Test Ended: 05:36:30
 Unit No: 66
Interval: 4297.00 ft (KB) To 4364.00 ft (KB) (TVD)
 Reference Elevations: 3229.00 ft (KB)
 Total Depth: 4243.00 ft (KB) (TVD) 3218.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 11.00 ft

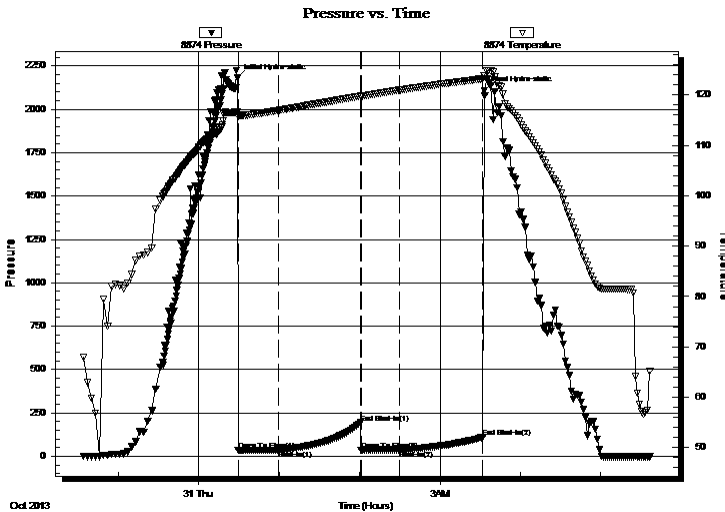
Serial #: 8874

Inside

Press @ Run Depth: 36.62 psig @ 4301.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.10.30 End Date: 2013.10.31 Last Calib.: 2013.10.30
 Start Time: 22:34:00 End Time: 05:36:30 Time On Btm: 2013.10.31 @ 00:28:50
 Time Off Btm: 2013.10.31 @ 03:33:00

TEST COMMENT: IF - 30 - 1/4" Initial blow died in 21 min
 ISI - 60 - No blow back
 FF - 30 - No blow
 FSI - 60 - No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2180.74	116.72	Initial Hydro-static
1	33.13	115.72	Open To Flow (1)
31	34.25	116.91	Shut-In(1)
92	192.29	119.78	End Shut-In(1)
93	35.75	119.72	Open To Flow (2)
122	36.62	120.96	Shut-In(2)
184	109.33	123.21	End Shut-In(2)
185	2107.70	123.77	Final Hydro-static

Recovery

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

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

6-1s-35w Rawlins KS

250 N Water STE #300
Wichita, KS 67202

Walter Bros. #1-6

Job Ticket: 54873

DST#: 3

ATTN: Robert Hendrix

Test Start: 2013.10.30 @ 22:33:00

Tool Information

Drill Pipe:	Length: 4052.00 ft	Diameter: 3.80 inches	Volume: 56.84 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 242.00 ft	Diameter: 2.25 inches	Volume: 1.19 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 58.03 bbl</u>	Tool Chased 4.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	4297.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	67.00 ft			
Tool Length:	95.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4270.00	
Shut In Tool	5.00			4275.00	
Hydraulic tool	5.00			4280.00	
Jars	5.00			4285.00	
Safety Joint	3.00			4288.00	
Packer	5.00			4293.00	28.00 Bottom Of Top Packer
Packer	4.00			4297.00	
Stubb	1.00			4298.00	
Perforations	2.00			4300.00	
Change Over Sub	1.00			4301.00	
Recorder	0.00	8653	Outside	4301.00	
Recorder	0.00	8874	Inside	4301.00	
Drill Pipe	32.00			4333.00	
Change Over Sub	1.00			4334.00	
Perforations	25.00			4359.00	
Bullnose	5.00			4364.00	67.00 Bottom Packers & Anchor
Total Tool Length:	95.00				



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

6-1s-35w Rawlins KS

250 N Water STE #300
Wichita, KS 67202

Walter Bros. #1-6

Job Ticket: 54873

DST#: 3

ATTN: Robert Hendrix

Test Start: 2013.10.30 @ 22:33:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	MUD 100%	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

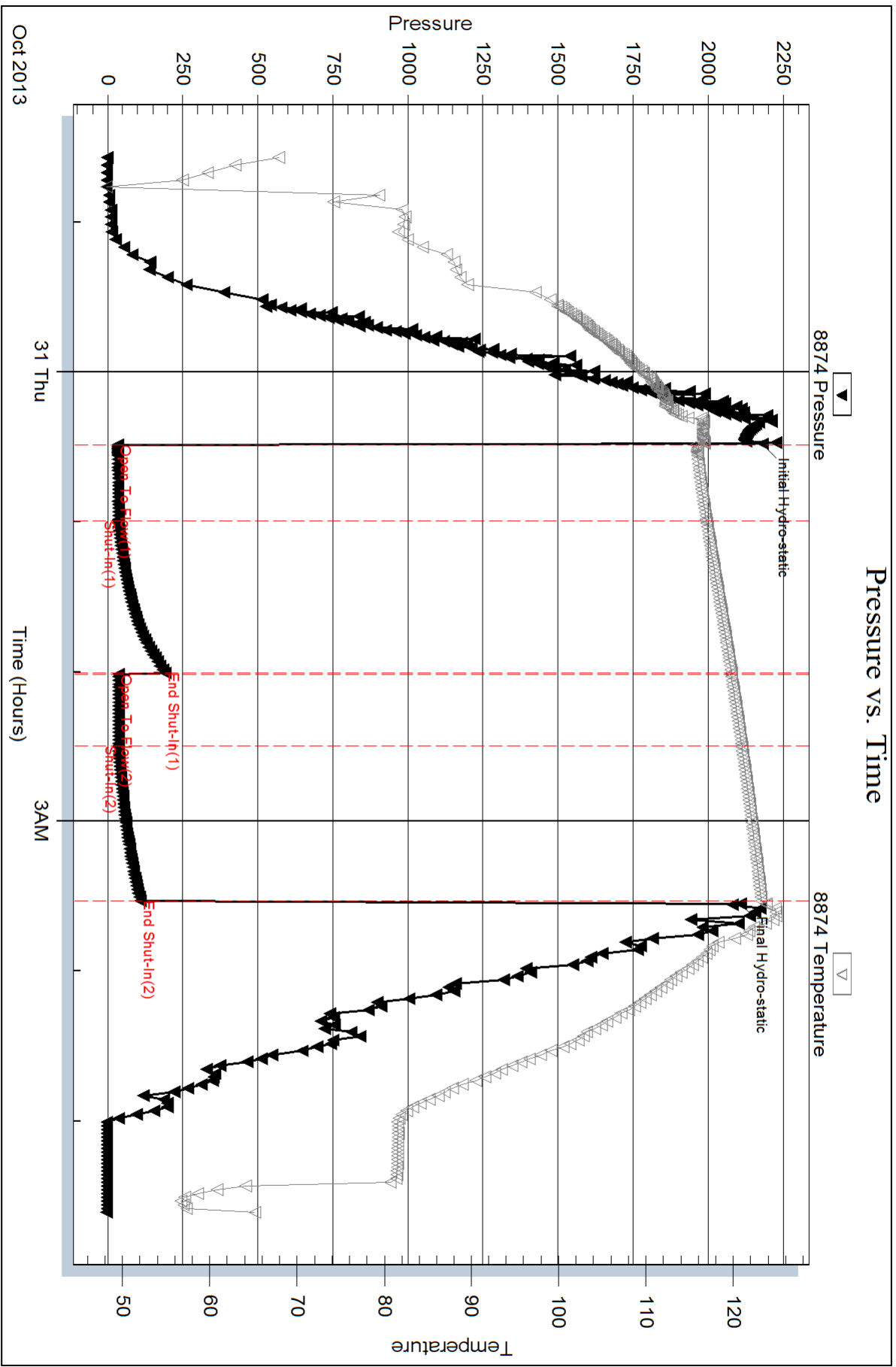
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

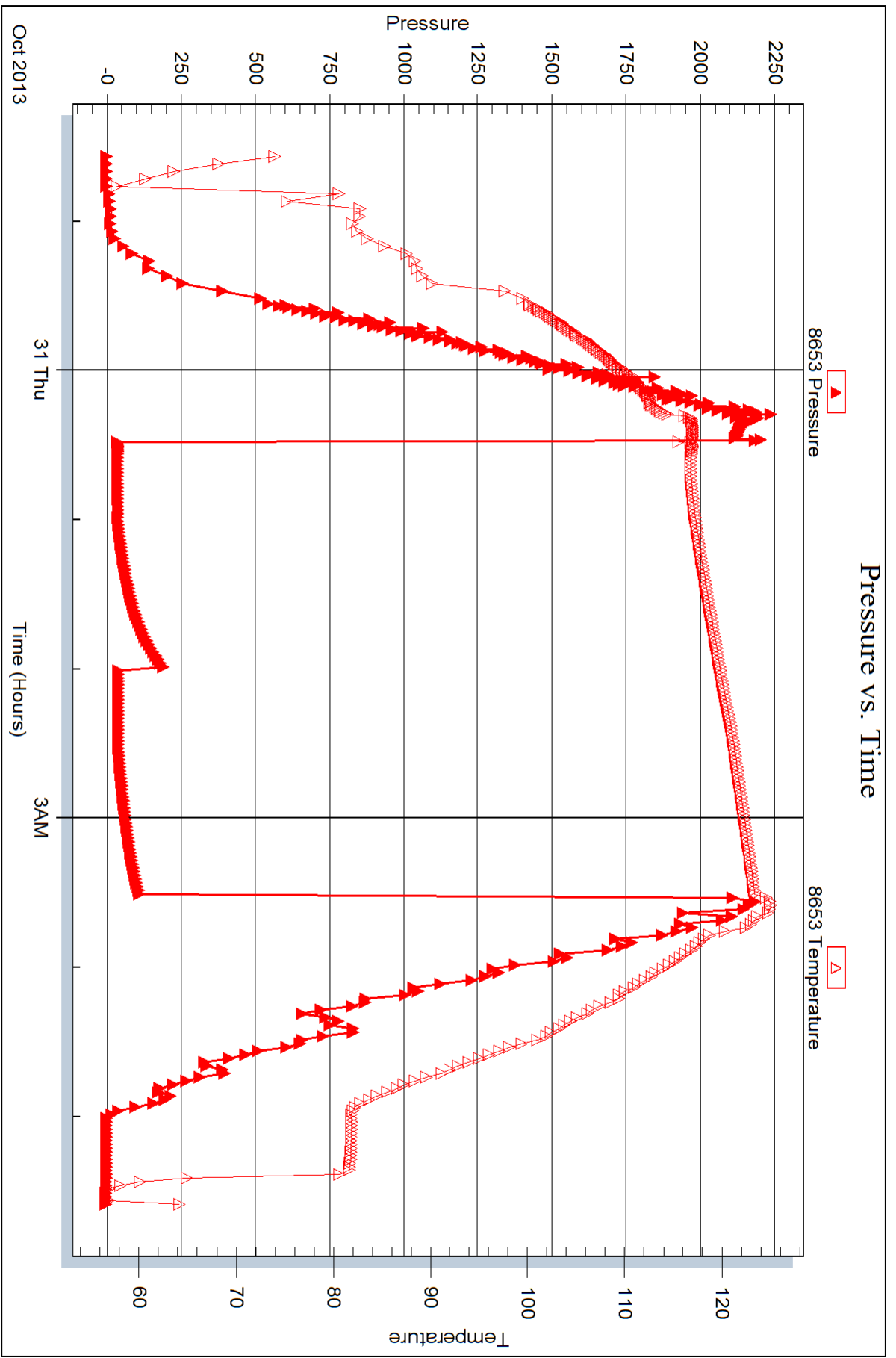


Serial #: 8653

Outside Murfin Drilling Co.

Walter Bros. #1-6

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 54873

Printed: 2013.10.31 @ 13:59:46



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water STE #300
Wichita, KS 67202

ATTN: Robert Hendrix

Walter Bros. #1-6

6-1s-35w Rawlins KS

Start Date: 2013.10.31 @ 01:20:00

End Date: 2013.10.31 @ 08:32:00

Job Ticket #: 54874 DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.10.31 @ 13:59:09



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co.

6-1s-35w Rawlins KS

250 N Water STE #300
Wichita, KS 67202

Walter Bros. #1-6

ATTN: Robert Hendrix

Job Ticket: 54874

DST#: 4

Test Start: 2013.10.31 @ 01:20:00

GENERAL INFORMATION:

Formation: **L.K.C. " J "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:41:30

Time Test Ended: 08:32:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Bob Hamel

Unit No: 66

Interval: 4361.00 ft (KB) To 4398.00 ft (KB) (TVD)

Reference Elevations: 3229.00 ft (KB)

Total Depth: 4243.00 ft (KB) (TVD)

3218.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 8874

Inside

Press @ Run Depth: 18.65 psig @ 4364.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.10.31

End Date:

2013.10.31

Last Calib.: 2013.10.31

Start Time: 01:21:00

End Time:

08:32:00

Time On Btm: 2013.10.31 @ 03:40:00

Time Off Btm: 2013.10.31 @ 06:37:00

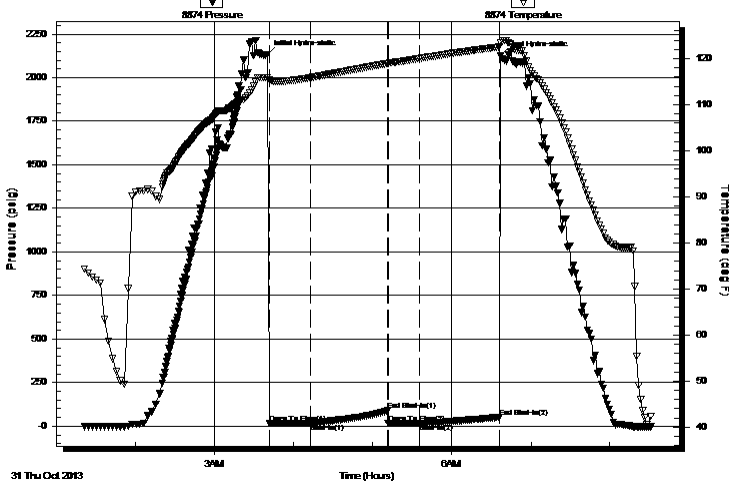
TEST COMMENT: IF - 30 - 1/4" Initial blow died in 10 min

ISI - 60 - No blow back

FF - 30 - No blow

FSI - 60 - No blow back

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2132.63	115.85	Initial Hydro-static
2	16.23	115.34	Open To Flow (1)
33	17.42	115.87	Shut-In(1)
91	89.90	118.95	End Shut-In(1)
92	17.75	118.93	Open To Flow (2)
116	18.65	120.04	Shut-In(2)
176	51.97	122.55	End Shut-In(2)
177	2123.78	123.52	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1.00	MUD 100% / W FEW OIL SPECS	0.00

Gas Rates

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

* Recovery from multiple tests



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co.

6-1s-35w Rawlins KS

250 N Water STE #300
Wichita, KS 67202

Walter Bros. #1-6

ATTN: Robert Hendrix

Job Ticket: 54874

DST#: 4

Test Start: 2013.10.31 @ 01:20:00

GENERAL INFORMATION:

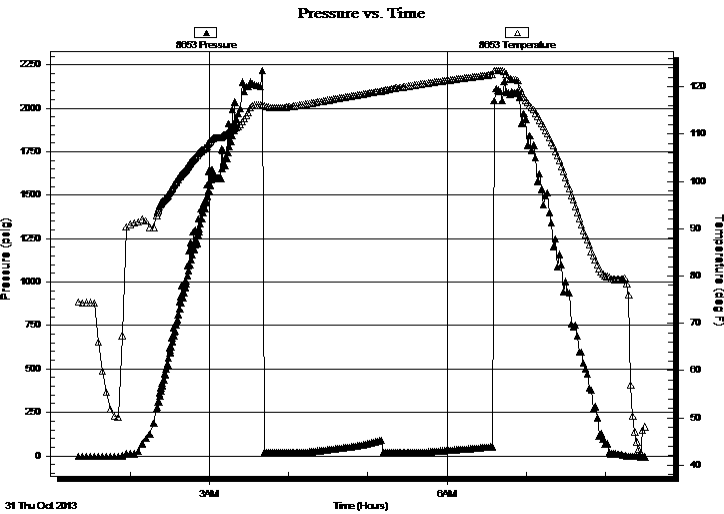
Formation: **L.K.C. " J "**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 03:41:30
 Time Test Ended: 08:32:00
 Interval: **4361.00 ft (KB) To 4398.00 ft (KB) (TVD)**
 Total Depth: 4243.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Bob Hamel
 Unit No: 66
 Reference Elevations: 3229.00 ft (KB)
 3218.00 ft (CF)
 KB to GR/CF: 11.00 ft

Serial #: 8653

Outside

Press @ Run Depth: psig @ 4364.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.10.31 End Date: 2013.10.31 Last Calib.: 2013.10.31
 Start Time: 01:21:00 End Time: 08:30:30 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF - 30 - 1/4" Initial blow died in 10 min
 ISI - 60 - No blow back
 FF - 30 - No blow
 FSI - 60 - No blow back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
1.00	MUD 100% / W FEW OIL SPECS	0.00

* 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.

6-1s-35w Rawlins KS

250 N Water STE #300
Wichita, KS 67202

Walter Bros. #1-6

Job Ticket: 54874

DST#: 4

ATTN: Robert Hendrix

Test Start: 2013.10.31 @ 01:20:00

Tool Information

Drill Pipe:	Length: 4122.00 ft	Diameter: 3.80 inches	Volume: 57.82 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 242.00 ft	Diameter: 2.25 inches	Volume: 1.19 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 59.01 bbl</u>	Tool Chased 3.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	4361.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	37.00 ft			
Tool Length:	65.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4334.00	
Shut In Tool	5.00			4339.00	
Hydraulic tool	5.00			4344.00	
Jars	5.00			4349.00	
Safety Joint	3.00			4352.00	
Packer	5.00			4357.00	28.00 Bottom Of Top Packer
Packer	4.00			4361.00	
Stubb	1.00			4362.00	
Perforations	2.00			4364.00	
Recorder	0.00	8653	Outside	4364.00	
Recorder	0.00	8874	Inside	4364.00	
Perforations	29.00			4393.00	
Bullnose	5.00			4398.00	37.00 Bottom Packers & Anchor

Total Tool Length: 65.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

6-1s-35w Rawlins KS

250 N Water STE #300
Wichita, KS 67202

Walter Bros. #1-6

Job Ticket: 54874

DST#: 4

ATTN: Robert Hendrix

Test Start: 2013.10.31 @ 01:20:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1.00	MUD 100% / W FEW OIL SPECS	0.005

Total Length: 1.00 ft Total Volume: 0.005 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8874

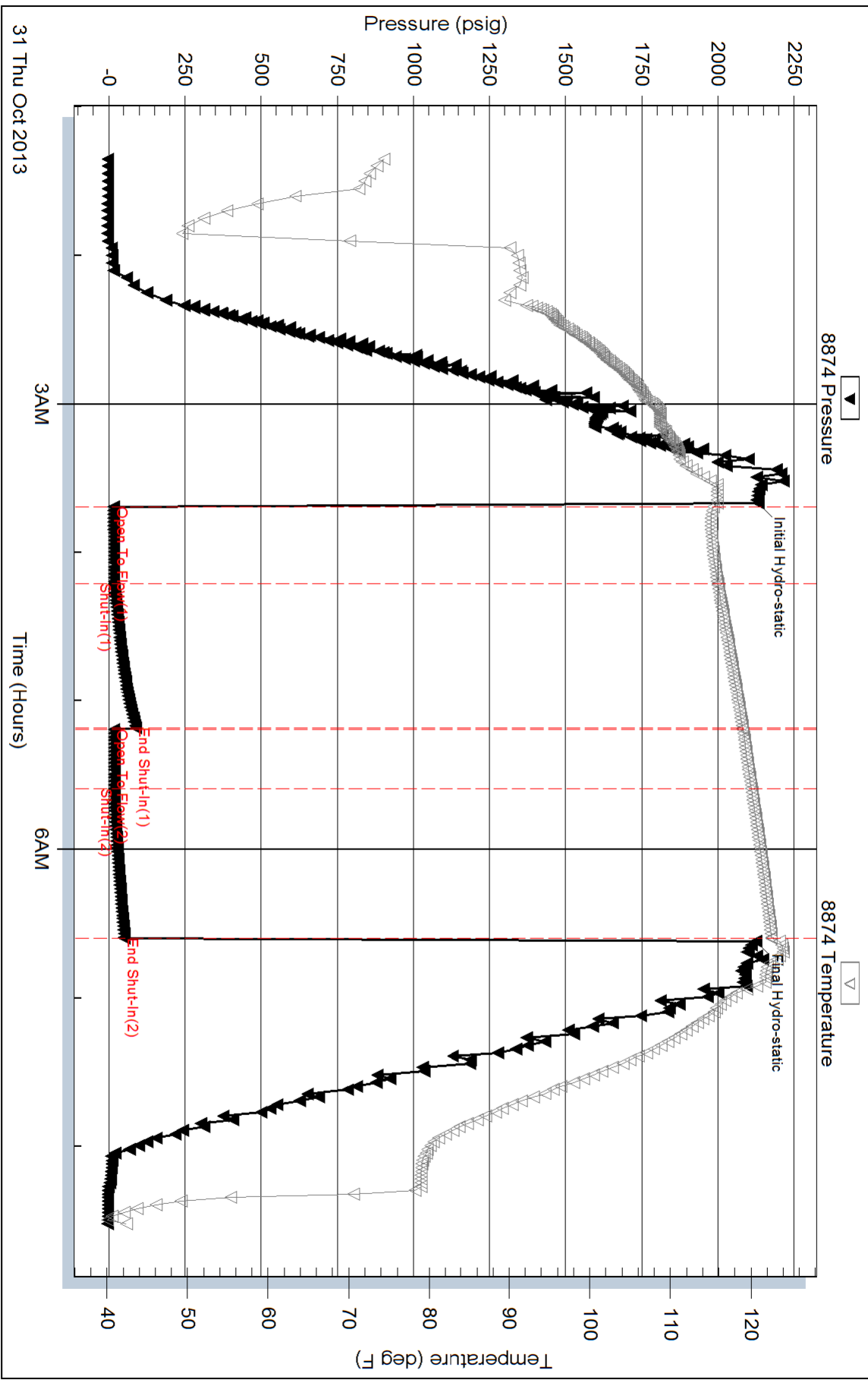
Inside

Murfin Drilling Co.

Walter Bros. #1-6

DST Test Number: 4

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 54874

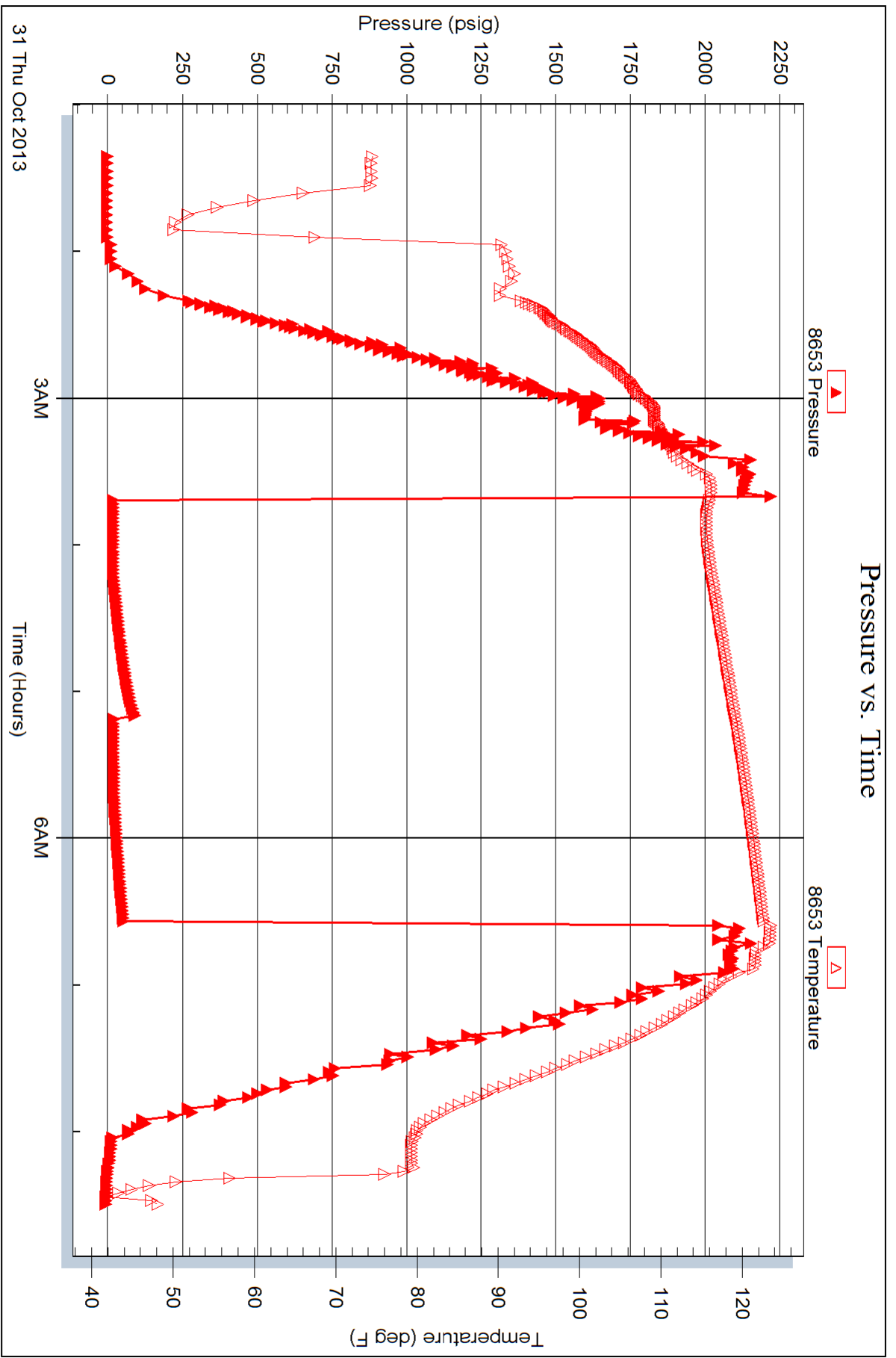
Printed: 2013.10.31 @ 13:59:11

Serial #: 8653

Outside Murfin Drilling Co.

Walter Bros. #1-6

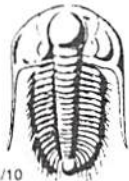
DST Test Number: 4



Triobite Testing, Inc

Ref. No: 54874

Printed: 2013.10.31 @ 13:59:12



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **55188**

Well Name & No. Walter Brus # 1-6 Test No. 1 Date 10-28-13
 Company Murfin Drilling Co. Elevation 3229 KB 3218 GL
 Address 250 N Water STE # 300 Wichita, KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Murfin #2
 Location: Sec. 6 Twp. 1S Rge. 35 W Co. Rawlins State KS

Interval Tested 4198-4243 Zone Tested LKC "D"
 Anchor Length 45' Drill Pipe Run 3962' ~~2000'~~ Mud Wt. 8.7
 Top Packer Depth 4194 Drill Collars Run 242' Vis 47
 Bottom Packer Depth 4192 Wt. Pipe Run 0 WL 6.6
 Total Depth 4243 Chlorides 500 ppm System LCM 3#

Blow Description IF- Pulled tool to recompletion hole.
ISI-
FF-
FSI-

Rec	Feet of	%gas	%oil	%water	%mud
<u>1000</u>	<u>Mud</u>			<u>1000</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 1000 BHT 115 Gravity - API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic 2025 Test 1050 T-On Location 7:50 PM
 (B) First Initial Flow 633 Jars 250 T-Started 10:10 PM
 (C) First Final Flow 634 Safety Joint 75 T-Open 1:00 AM
 (D) Initial Shut-In - Circ Sub N/C T-Pulled 1:30 AM
 (E) Second Initial Flow - Hourly Standby T-Out 4:26 AM
 (F) Second Final Flow - Mileage 114 RT 176.70
 (G) Final Shut-In - Sampler
 (H) Final Hydrostatic 1992 Straddle
 Shale Packer
 Ruined Shale Packer
 Ruined Packer
 Extra Copies

Comments tool had to be
chased approx 15' to bottom
had to pick up an extra Jnt to
make bottom.
 Sub Total 0
 Total 1551.70
 MP/DST Disc't _____

Initial Open -
 Initial Shut-In -
 Final Flow -
 Final Shut-In -
 Extra Recorder
 Day Standby
 Accessibility
 Sub Total 1551.70

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 55189

Well Name & No. Walter Bros. #1-6 Test No. 2 Date 10-29-13
 Company Murkin Drilling Co. Elevation 3229 KB 3218 GL
 Address 258 N Water STE # 300 Wichita, KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Murkin #2
 Location: Sec. 6 Twp. 15 Rge. 35W Co. Rawlins State KS

Interval Tested 4198-4243 Zone Tested LKC "D"
 Anchor Length 45' Drill Pipe Run 3962 Mud Wt. 8.7
 Top Packer Depth 4194 Drill Collars Run 242 Vis 47
 Bottom Packer Depth 4198 Wt. Pipe Run 0 WL 6.6
 Total Depth 4243 Chlorides 500 ppm System LCM 3#

Blow Description IF-BOB in 5 min.
ISL-Weak Surface Return built to 1 1/2"
FF-Surface Blow built to 9"
FSL-Weak Surface Return did not build or die.

Rec	Feet of	%gas	Spots	%oil	%water	%mud
114	OSMW			50	50	
124	OSMW			90	10	
124	MW			90	10	
235	MW			95	5	
5	Mud (heavy)				1000	

Rec Total 602 BHT 126 Gravity - API RW 0.142 @ 57 °F Chlorides 65,000 ppm

(A) Initial Hydrostatic 2058 Test 1250 T-On Location 7:50 PM 10-28-13
 (B) First Initial Flow 25 Jars 250 T-Started 9:56 AM 10-29-13
 (C) First Final Flow 257 Safety Joint 75 T-Open 11:45 AM
 (D) Initial Shut-In 294 Circ Sub N/C T-Pulled 3:45 PM
 (E) Second Initial Flow 259 Hourly Standby T-Out 5:55 PM
 (F) Second Final Flow 294 Mileage Comments 30' GIP
 (G) Final Shut-In 294 Sampler
 (H) Final Hydrostatic 2012 Straddle Ruined Shale Packer

Initial Open 30 Shale Packer Ruined Packer
 Initial Shut-In 60 Extra Packer Extra Copies
 Final Flow 60 Extra Recorder Sub Total 0
 Final Shut-In 90 Day Standby Total 1575
 Accessibility MP/DST Disc't
 Sub Total 1575

Approved By _____ Our Representative

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **54873**

Well Name & No. Walter Boos #1-16 Test No. 3 Date 10-30-17
 Company Murfin Drilling Co. Elevation 3,229 KB 3,218 GL
 Address 250 N. Water Suite 250 Wichita KS. 67202
 Co. Rep / Geo. Robert Hendrix Rig Murfin #2
 Location: Sec. 6 Twp. 15 Rge. 35 W Co. Rawlins State KS.

Interval Tested 4,297 - 4,364 Zone Tested hans. "H-I"
 Anchor Length 67 Drill Pipe Run 4,052 Mud Wt. 9.0
 Top Packer Depth 4,292 Drill Collars Run 242 Vis 55
 Bottom Packer Depth 4,297 Wt. Pipe Run _____ WL 6.0
 Total Depth 4,364 Chlorides 600 ppm System LCM 2.0

Blow Description I-F; 30-1/4 INT. Blow Died in 21 min.
I.S.I-60-No B.B.
F.F-3; No Blow
F.S.I-60-No B.B.

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

Rec Total 5 BHT 124 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2,181 Test 1250 T-On Location 10:05:00
 (B) First Initial Flow 33 Jars 250 T-Started 10:33:00
 (C) First Final Flow 34 Safety Joint 75 T-Open 12:35:00
 (D) Initial Shut-In 192 Circ Sub _____ T-Pulled 15:35:00
 (E) Second Initial Flow 36 Hourly Standby _____ T-Out 17:40:00
 (F) Second Final Flow 37 Mileage 114 176.70 Comments _____
 (G) Final Shut-In 109 Sampler _____ thank-You
 (H) Final Hydrostatic 2,108 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1751.70
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1751.70

Approved By _____ Our Representative [Signature]
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **54874**

Well Name & No. Walter Bros. #1-16 Test No. 4 Date 10-31-13
 Company Murfin Drilling Co. Elevation 3229 KB 3,218 GL
 Address 250 N. Water Suite 300 Wichita KS. 67202
 Co. Rep / Geo. Robert Hendrix Rig Murfin #2
 Location: Sec. 6 Twp. 1 S. Rge. 35 W Co. Rawlins State KS.

Interval Tested 4361-4398 Zone Tested A.K.C. "J"
 Anchor Length 37 Drill Pipe Run 4,122 Mud Wt. 9.0
 Top Packer Depth 4356 Drill Collars Run 242 Vis SS
 Bottom Packer Depth 4361 Wt. Pipe Run _____ WL 6.0
 Total Depth 4398 Chlorides 600 ppm System LCM 2.0

Blow Description I.F.-30-1/4 INT. Blow Dies in 10min
I.S.I-60-No B.B.
F.F.-30-No Blow
F.S.I-60-No B.B.

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>mud / w few oil specs</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 1 BHT 123 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2,133</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>01:00:00</u>
(B) First Initial Flow <u>16</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>01:20:00</u>
(C) First Final Flow <u>17</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>03:45:00</u>
(D) Initial Shut-In <u>119</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>06:45:00</u>
(E) Second Initial Flow <u>18</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>08:33:00</u>
(F) Second Final Flow <u>19</u>	<input checked="" type="checkbox"/> Mileage <u>114 R.T</u> 176.70	Comments <u>Thank-you</u>
(G) Final Shut-In <u>52</u>	<input type="checkbox"/> Sampler	<u>Loaded tool 10:00AM</u>
(H) Final Hydrostatic <u>2,124</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer

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

Shale Packer
 Extra Packer
 Extra Recorder
 Day Standby
 Accessibility

Sub Total 1751.70
 Total 1751.70
 MP/DST Disc't _____

Approved By _____ Our Representative [Signature]

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