



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water Ste 300
Wichita KS 67202

ATTN: Saman Sharifaie

Rankin #1-33

33-13s-20w Ellis,KS

Start Date: 2013.05.08 @ 19:53:10

End Date: 2013.05.09 @ 06:06:10

Job Ticket #: 53662 DST #: 1

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

Printed: 2013.05.20 @ 09:12:06



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
 250 N Water Ste 300
 Wichita KS 67202
 ATTN: Saman Sharifaie

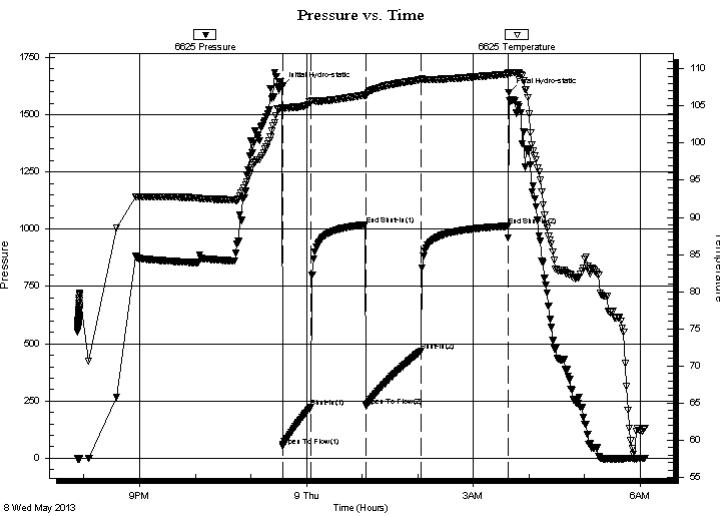
33-13s-20w Ellis,KS
Rankin #1-33
 Job Ticket: 53662 **DST#: 1**
 Test Start: 2013.05.08 @ 19:53:10

GENERAL INFORMATION:

Formation: **Topeka**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 23:34:10
 Time Test Ended: 06:06:10
 Interval: **3324.00 ft (KB) To 3375.00 ft (KB) (TVD)**
 Total Depth: 3375.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Jeff Brown
 Unit No: 67
 Reference Elevations: 2303.00 ft (KB)
 2298.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 6625 Outside
 Press @ Run Depth: 466.76 psig @ 3360.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.05.08 End Date: 2013.05.09 Last Calib.: 2013.05.09
 Start Time: 19:53:11 End Time: 06:05:10 Time On Btm: 2013.05.08 @ 23:33:40
 Time Off Btm: 2013.05.09 @ 03:38:10

TEST COMMENT: IFP=Strong blow BOB in 4 1/2 min
 ISI=Dead no blow back
 FFP=Good blow BOB in 5 1/2 min
 FSI=Dead no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1624.24	104.70	Initial Hydro-static
1	51.59	104.50	Open To Flow (1)
31	221.91	105.57	Shut-In(1)
90	1019.21	106.47	End Shut-In(1)
91	229.17	106.43	Open To Flow (2)
150	466.76	108.52	Shut-In(2)
244	1013.78	109.27	End Shut-In(2)
245	1598.12	109.46	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
787.00	MW 10%M 90%W	10.78
78.00	MW with a scum of oil 30%M 70%W	1.09
29.00	SOCGMW 10%G 5%O 10%M 75%W	0.41
1.00	Oil	0.01

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co Inc

33-13s-20w Ellis,KS

250 N Water Ste 300
Wichita KS 67202

Rankin #1-33

Job Ticket: 53662

DST#: 1

ATTN: Saman Sharifaie

Test Start: 2013.05.08 @ 19:53:10

Tool Information

Drill Pipe:	Length: 3297.00 ft	Diameter: 3.80 inches	Volume: 46.25 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 22000.00 lb
Drill Collar:	Length: 29.00 ft	Diameter: 2.25 inches	Volume: 0.14 bbl	Weight to Pull Loose: 66000.00 lb
			<u>Total Volume: 46.39 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	3324.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	51.00 ft			
Tool Length:	79.00 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			3297.00	
Shut In Tool	5.00			3302.00	
Hydraulic tool	5.00			3307.00	
Jars	5.00			3312.00	
Safety Joint	3.00			3315.00	
Packer	4.00			3319.00	28.00 Bottom Of Top Packer
Packer	5.00			3324.00	
Stubb	1.00			3325.00	
Perforations	2.00			3327.00	
Change Over Sub	1.00			3328.00	
Drill Pipe	31.00			3359.00	
Change Over Sub	1.00			3360.00	
Recorder	0.00	6625	Outside	3360.00	
Recorder	0.00	8679	Inside	3360.00	
Perforations	12.00			3372.00	
Bullnose	3.00			3375.00	51.00 Bottom Packers & Anchor
Total Tool Length:	79.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc

33-13s-20w Ellis,KS

250 N Water Ste 300
Wichita KS 67202

Rankin #1-33

Job Ticket: 53662

DST#: 1

ATTN: Saman Sharifaie

Test Start: 2013.05.08 @ 19:53:10

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: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.76 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1400.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
787.00	MW 10%M 90%W	10.775
78.00	MW with a scum of oil 30%M 70%W	1.094
29.00	SOCGMW 10%G 5%O 10%M 75%W	0.407
1.00	Oil	0.014

Total Length: 895.00 ft

Total Volume: 12.290 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

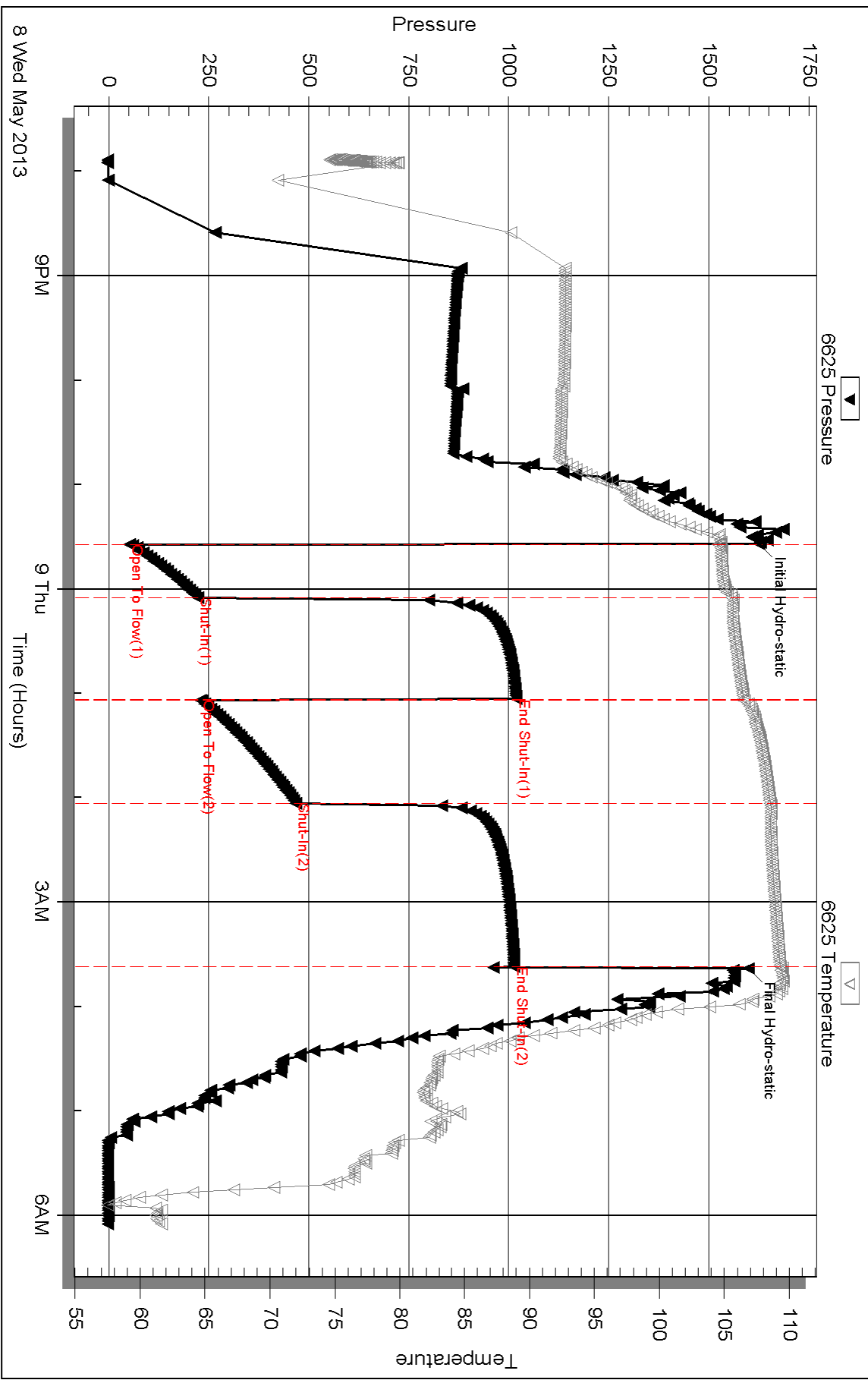
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time



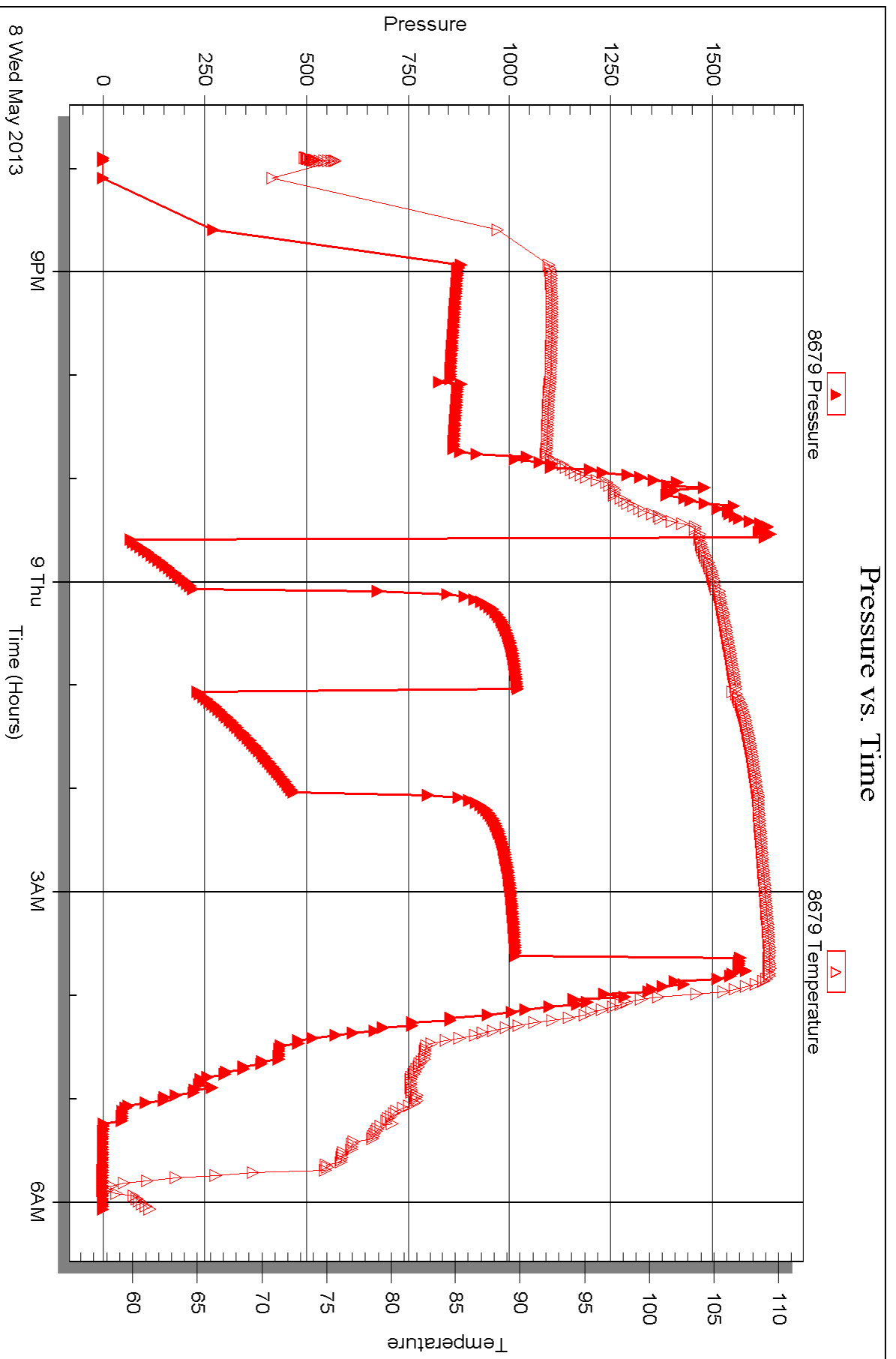
Serial #: 8679

Inside

Murfin Drilling Co Inc

Rankin #1-33

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water Ste 300
Wichita KS 67202

ATTN: Saman Sharifaie

Rankin #1-33

33-13s-20w Ellis,KS

Start Date: 2013.05.09 @ 14:04:18

End Date: 2013.05.09 @ 19:45:18

Job Ticket #: 53663 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.05.20 @ 09:10:53



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co Inc

33-13s-20w Ellis,KS

250 N Water Ste 300
Wichita KS 67202

Rankin #1-33

Job Ticket: 53663

DST#: 2

ATTN: Saman Sharifaie

Test Start: 2013.05.09 @ 14:04:18

GENERAL INFORMATION:

Formation: **Lecompton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:25:18

Time Test Ended: 19:45:18

Test Type: Conventional Bottom Hole (Reset)

Tester: Jeff Brown

Unit No: 67

Interval: 3405.00 ft (KB) To 3460.00 ft (KB) (TVD)

Reference Elevations: 2303.00 ft (KB)

Total Depth: 3460.00 ft (KB) (TVD)

2298.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 6625 Outside

Press @ Run Depth: 47.57 psig @ 3441.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.05.09

End Date:

2013.05.09

Last Calib.:

2013.05.09

Start Time: 14:04:19

End Time:

19:44:18

Time On Btm:

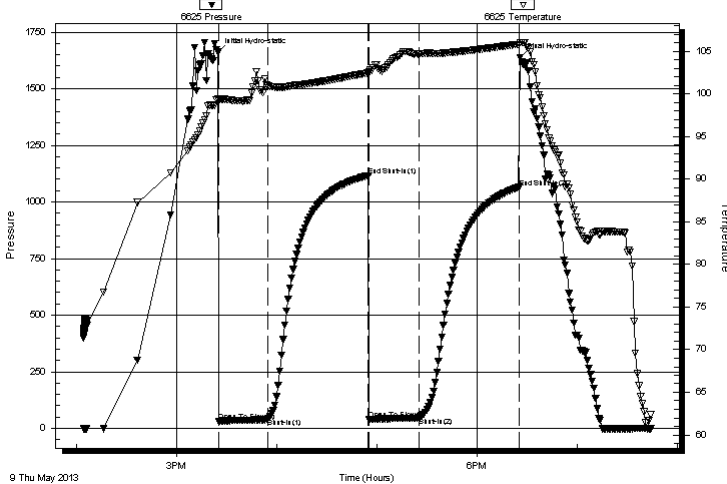
2013.05.09 @ 15:24:48

Time Off Btm:

2013.05.09 @ 18:25:48

TEST COMMENT: IFP=Weak blow built to 1"
ISI=Dead no blow back
FFP=Weak surface blow
FSI=Dead no blow back

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1661.55	99.45	Initial Hydro-static
1	32.17	99.26	Open To Flow (1)
30	45.36	100.94	Shut-In(1)
90	1116.11	102.50	End Shut-In(1)
91	40.24	102.58	Open To Flow (2)
121	47.57	104.69	Shut-In(2)
180	1064.49	105.84	End Shut-In(2)
181	1637.62	106.06	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud w ith oil spots	0.05

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 Inc

33-13s-20w Ellis,KS

250 N Water Ste 300
Wichita KS 67202

Rankin #1-33

Job Ticket: 53663

DST#: 2

ATTN: Saman Sharifaie

Test Start: 2013.05.09 @ 14:04:18

Tool Information

Drill Pipe:	Length: 3361.00 ft	Diameter: 3.80 inches	Volume: 47.15 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 22000.00 lb
Drill Collar:	Length: 29.00 ft	Diameter: 2.25 inches	Volume: 0.14 bbl	Weight to Pull Loose: 64000.00 lb
			<u>Total Volume: 47.29 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	13.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	3405.00 ft			Final 59000.00 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

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3378.00	
Shut In Tool	5.00			3383.00	
Hydraulic tool	5.00			3388.00	
Jars	5.00			3393.00	
Safety Joint	3.00			3396.00	
Packer	4.00			3400.00	28.00 Bottom Of Top Packer
Packer	5.00			3405.00	
Stubb	1.00			3406.00	
Perforations	2.00			3408.00	
Change Over Sub	1.00			3409.00	
Drill Pipe	31.00			3440.00	
Change Over Sub	1.00			3441.00	
Recorder	0.00	6625	Outside	3441.00	
Recorder	0.00	8679	Inside	3441.00	
Perforations	16.00			3457.00	
Bullnose	3.00			3460.00	55.00 Bottom Packers & Anchor
Total Tool Length:	83.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc

33-13s-20w Ellis,KS

250 N Water Ste 300
Wichita KS 67202

Rankin #1-33

Job Ticket: 53663

DST#: 2

ATTN: Saman Sharifaie

Test Start: 2013.05.09 @ 14:04:18

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: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.17 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1400.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	Mud w ith oil spots	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0

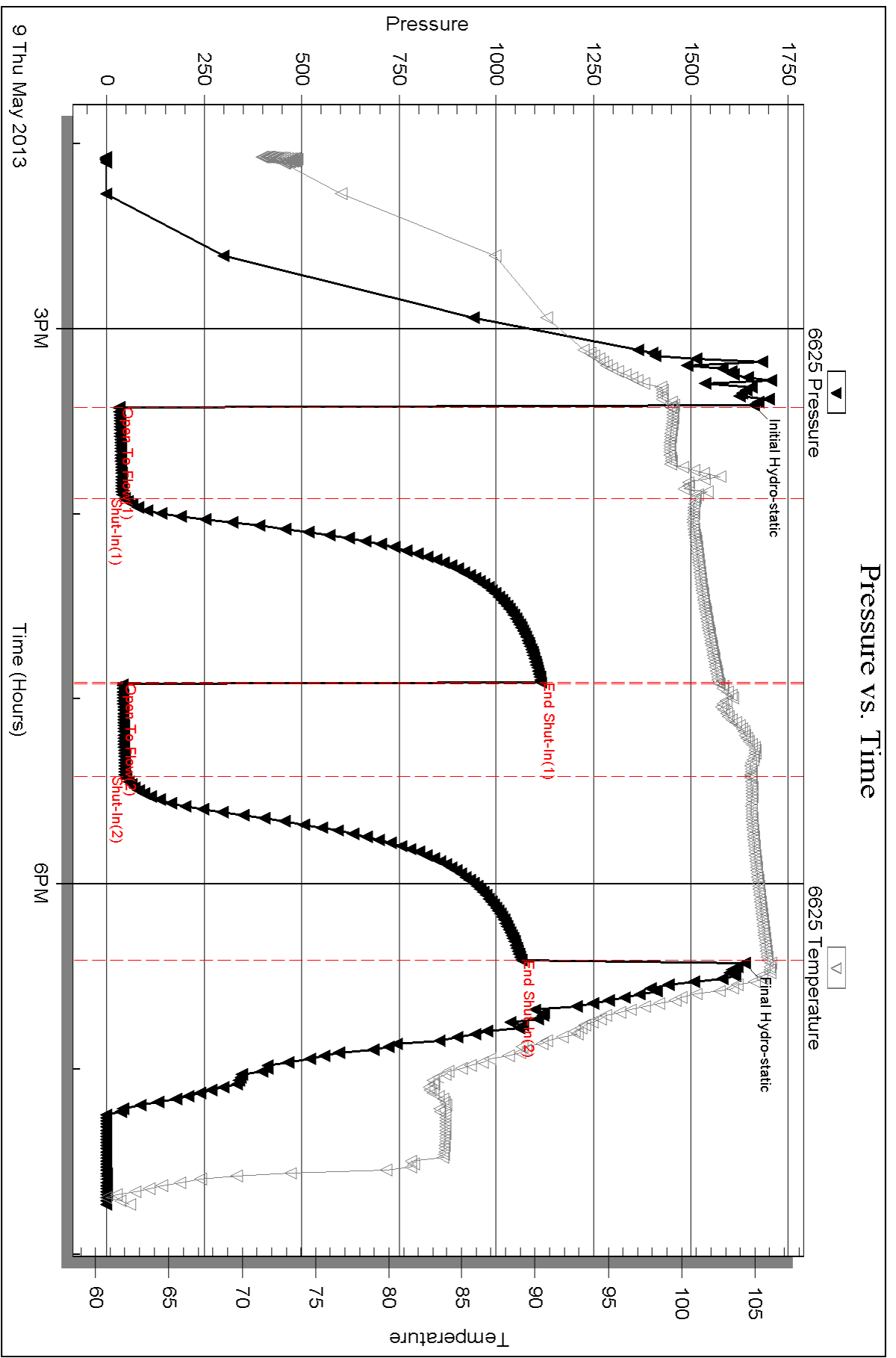
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



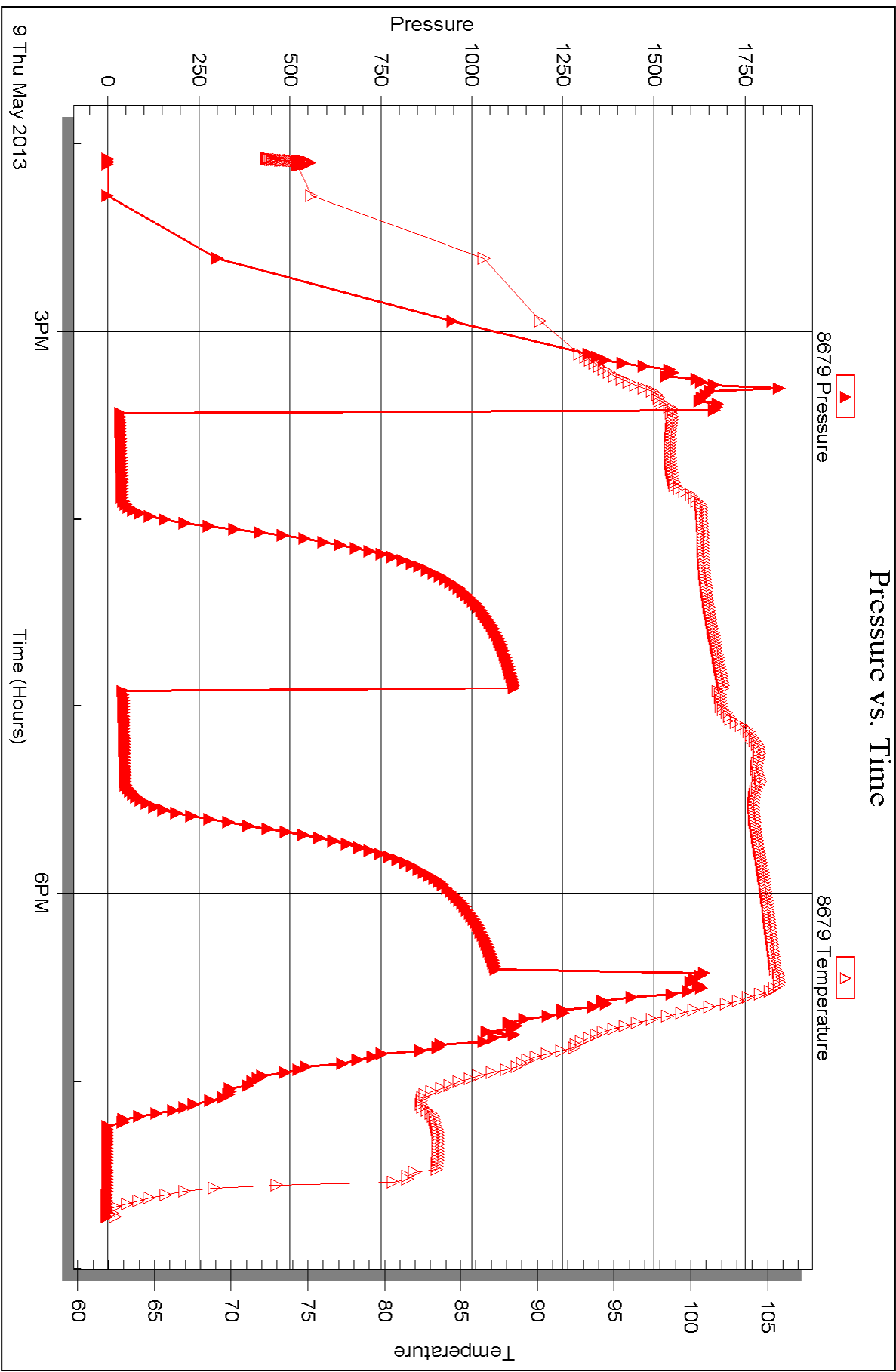
Serial #: 8679

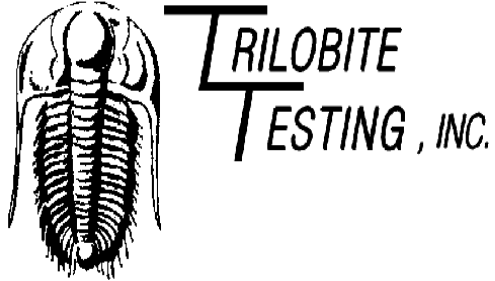
Inside

Murfin Drilling Co Inc

Rankin #1-33

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water Ste 300
Wichita KS 67202

ATTN: Saman Sharifaie

Rankin #1-33

33-13s-20w Ellis,KS

Start Date: 2013.05.10 @ 10:14:27

End Date: 2013.05.10 @ 17:29:57

Job Ticket #: 53664 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.05.20 @ 09:10:07



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
250 N Water Ste 300
Wichita KS 67202
ATTN: Saman Sharifaie

33-13s-20w Ellis,KS
Rankin #1-33
Job Ticket: 53664 **DST#: 3**
Test Start: 2013.05.10 @ 10:14:27

GENERAL INFORMATION:

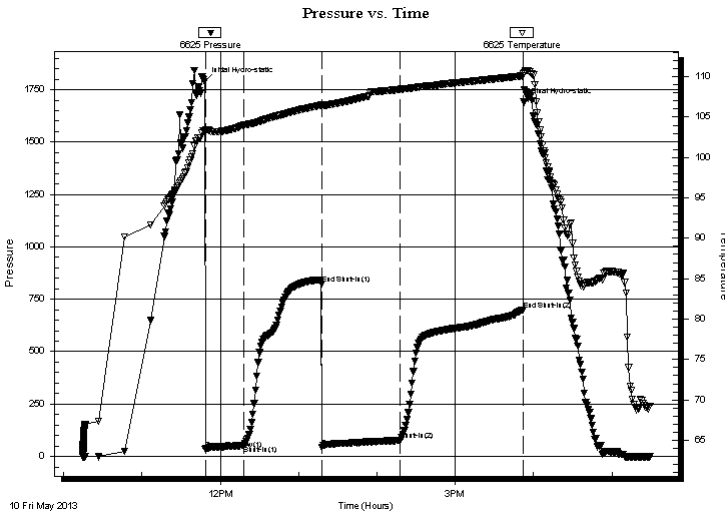
Formation: **Toronto-LKC B**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 11:48:27
Time Test Ended: 17:29:57
Interval: **3551.00 ft (KB) To 3625.00 ft (KB) (TVD)**
Total Depth: 3625.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Reset)
Tester: Jeff Brown
Unit No: 67
Reference Elevations: 2303.00 ft (KB)
2298.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 6625 Outside

Press @ Run Depth: 76.45 psig @ 3591.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2013.05.10 End Date: 2013.05.10 Last Calib.: 2013.05.10
Start Time: 10:14:28 End Time: 17:28:57 Time On Btm: 2013.05.10 @ 11:47:57
Time Off Btm: 2013.05.10 @ 15:52:27

TEST COMMENT: IFP=Good blow BOB in 27 min
ISI=Dead no blow back
FFP=Good blow BOB in 6 1/2 min
FSI=Dead no blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1787.32	103.30	Initial Hydro-static
1	35.35	103.25	Open To Flow (1)
30	51.84	104.00	Shut-In(1)
90	821.54	106.49	End Shut-In(1)
90	44.34	106.41	Open To Flow (2)
150	76.45	108.42	Shut-In(2)
244	698.83	110.11	End Shut-In(2)
245	1690.48	110.40	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
116.00	HOCGM 40%G 30%O 30%M	1.36
0.00	356-GIP	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 Inc

33-13s-20w Ellis,KS

250 N Water Ste 300
Wichita KS 67202

Rankin #1-33

Job Ticket: 53664

DST#: 3

ATTN: Saman Sharifaie

Test Start: 2013.05.10 @ 10:14:27

Tool Information

Drill Pipe:	Length: 3519.00 ft	Diameter: 3.80 inches	Volume: 49.36 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 29.00 ft	Diameter: 2.25 inches	Volume: 0.14 bbl	Weight to Pull Loose: 66000.00 lb
			Total Volume: 49.50 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 59000.00 lb
Depth to Top Packer:	3551.00 ft			Final 59000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	74.00 ft			
Tool Length:	94.00 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			3532.00	
Shut In Tool	5.00			3537.00	
Hydraulic tool	5.00			3542.00	
Packer	4.00			3546.00	20.00 Bottom Of Top Packer
Packer	5.00			3551.00	
Stubb	1.00			3552.00	
Perforations	6.00			3558.00	
Change Over Sub	1.00			3559.00	
Drill Pipe	31.00			3590.00	
Change Over Sub	1.00			3591.00	
Recorder	0.00	6625	Outside	3591.00	
Recorder	0.00	8679	Inside	3591.00	
Perforations	31.00			3622.00	
Bullnose	3.00			3625.00	74.00 Bottom Packers & Anchor

Total Tool Length: 94.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc

33-13s-20w Ellis,KS

250 N Water Ste 300
Wichita KS 67202

Rankin #1-33

Job Ticket: 53664

DST#: 3

ATTN: Saman Sharifaie

Test Start: 2013.05.10 @ 10:14:27

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: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.57 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2700.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
116.00	HOCGM 40%G 30%O 30%M	1.363
0.00	356-GIP	0.000

Total Length: 116.00 ft Total Volume: 1.363 bbl

Num Fluid Samples: 0

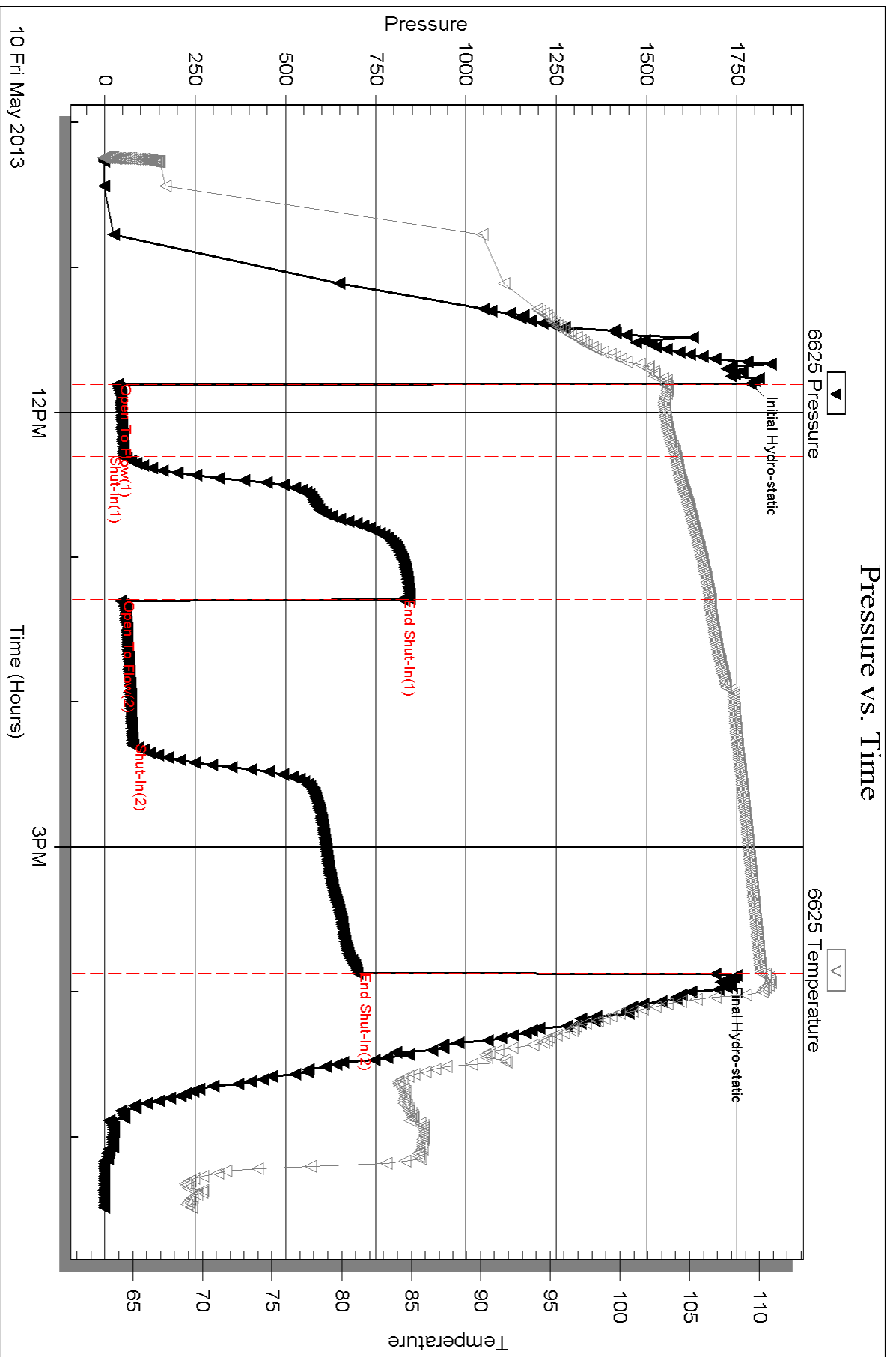
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



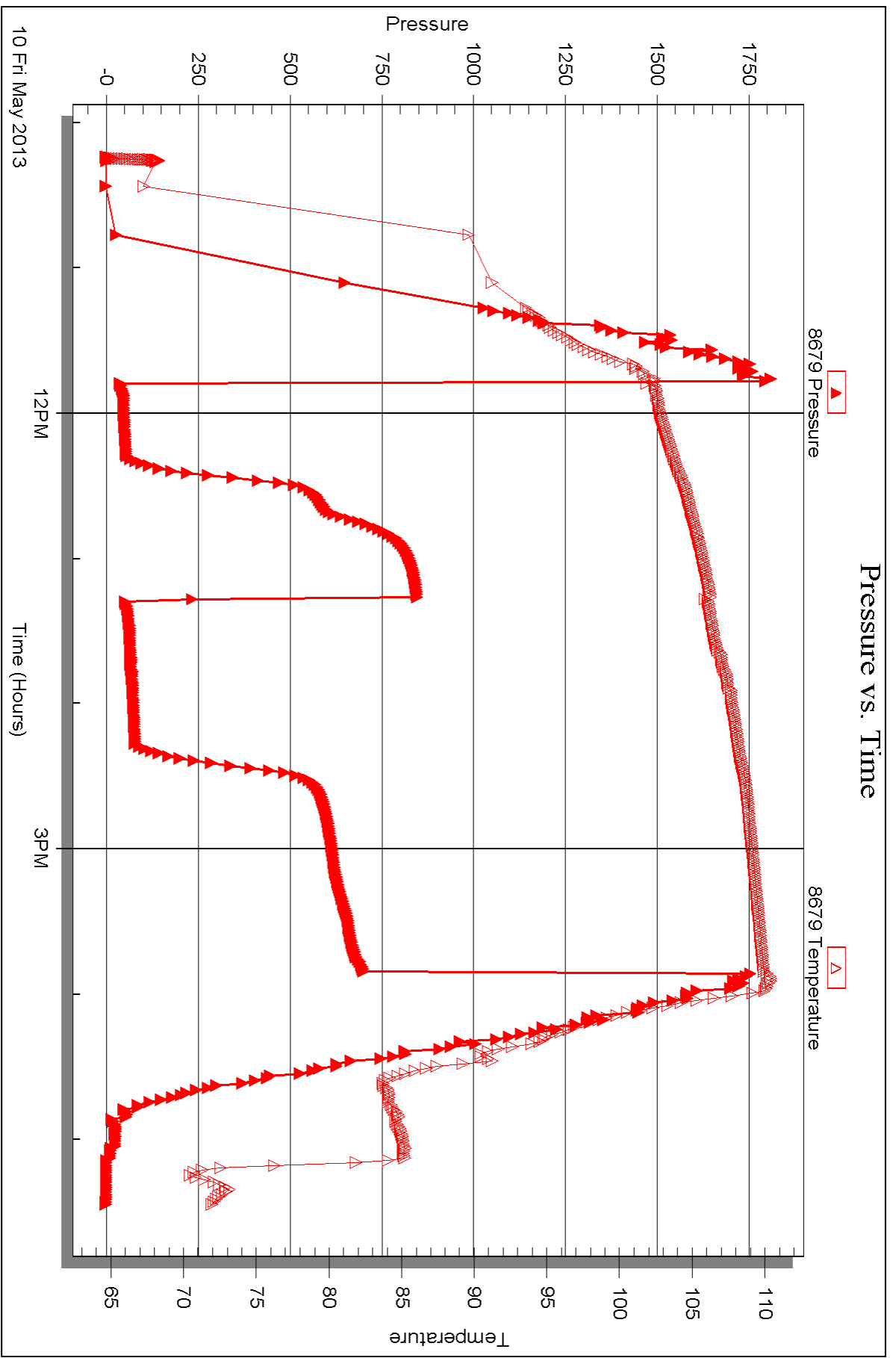
Serial #: 8679

Inside

Murfin Drilling Co Inc

Rankin #1-33

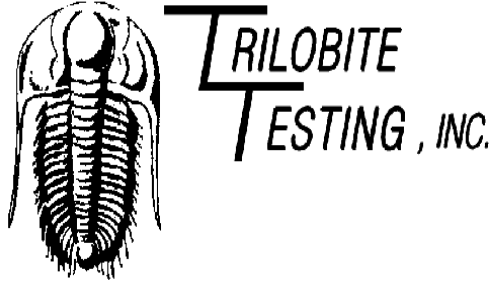
DST Test Number: 3



Triobite Testing, Inc

Ref. No: 53664

Printed: 2013.05.20 @ 09:10:10



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water Ste 300
Wichita KS 67202

ATTN: Saman Sharifaie

Rankin #1-33

33-13s-20w Ellis,KS

Start Date: 2013.05.11 @ 02:20:03

End Date: 2013.05.11 @ 09:48:03

Job Ticket #: 53665 DST #: 4

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

Printed: 2013.05.20 @ 09:09:05



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc

33-13s-20w Ellis,KS

250 N Water Ste 300
Wichita KS 67202

Rankin #1-33

ATTN: Saman Sharifaie

Job Ticket: 53665

DST#: 4

Test Start: 2013.05.11 @ 02:20:03

GENERAL INFORMATION:

Formation: **LKC D-F**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:31:03

Time Test Ended: 09:48:03

Test Type: Conventional Bottom Hole (Reset)

Tester: Jeff Brown

Unit No: 67

Interval: 3620.00 ft (KB) To 3668.00 ft (KB) (TVD)

Reference Elevations: 2303.00 ft (KB)

Total Depth: 3668.00 ft (KB) (TVD)

2298.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 6625 Outside

Press @ RunDepth: 283.18 psig @ 3656.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.05.11

End Date:

2013.05.11

Last Calib.: 2013.05.11

Start Time: 02:20:04

End Time:

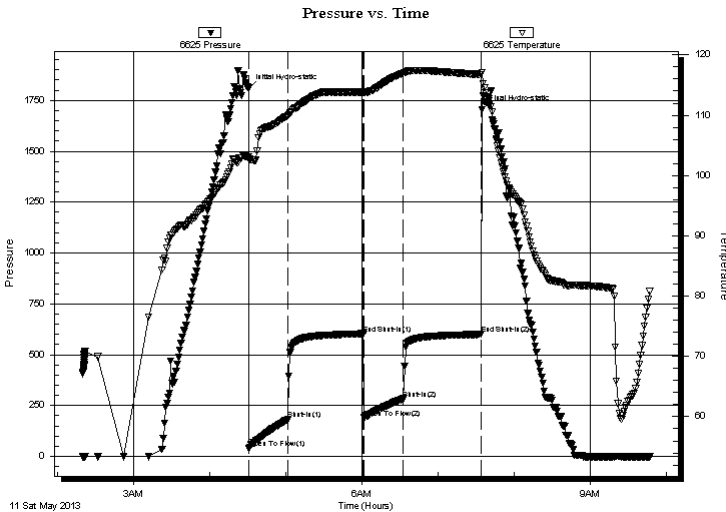
09:47:03

Time On Btm: 2013.05.11 @ 04:30:33

Time Off Btm: 2013.05.11 @ 07:34:33

TEST COMMENT: IFP=Strong blow BOB in 3 1/2 min
ISI=Weak surface blow back built to 1 1/2"
FFP=Good blow BOB in 5 1/2 min
FSI=Good blow back BOB in 44 1/2 min

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1809.88	103.10	Initial Hydro-static
1	41.46	102.79	Open To Flow (1)
31	180.78	109.93	Shut-In(1)
91	600.47	113.83	End Shut-In(1)
91	190.35	113.77	Open To Flow (2)
122	283.18	116.96	Shut-In(2)
184	600.00	116.76	End Shut-In(2)
184	1703.89	117.06	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
325.00	MW 5%M 95%W	4.29
189.00	SOCWM 10%O 15%W 75%M	2.65
63.00	Gassy Oil 20%G 80%O	0.88
0.00	588-GIP	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 Inc

33-13s-20w Ellis,KS

250 N Water Ste 300
Wichita KS 67202

Rankin #1-33

Job Ticket: 53665

DST#: 4

ATTN: Saman Sharifaie

Test Start: 2013.05.11 @ 02:20:03

Tool Information

Drill Pipe:	Length: 3583.00 ft	Diameter: 3.80 inches	Volume: 50.26 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 29.00 ft	Diameter: 2.25 inches	Volume: 0.14 bbl	Weight to Pull Loose:	69000.00 lb
			<u>Total Volume: 50.40 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial	58000.00 lb
Depth to Top Packer:	3620.00 ft			Final	60000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	48.00 ft				
Tool Length:	68.00 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			3601.00	
Shut In Tool	5.00			3606.00	
Hydraulic tool	5.00			3611.00	
Packer	4.00			3615.00	20.00 Bottom Of Top Packer
Packer	5.00			3620.00	
Stubb	1.00			3621.00	
Perforations	2.00			3623.00	
Change Over Sub	1.00			3624.00	
Drill Pipe	31.00			3655.00	
Change Over Sub	1.00			3656.00	
Recorder	0.00	6625	Outside	3656.00	
Recorder	0.00	8679	Inside	3656.00	
Perforations	9.00			3665.00	
Bullnose	3.00			3668.00	48.00 Bottom Packers & Anchor

Total Tool Length: 68.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc

33-13s-20w Ellis,KS

250 N Water Ste 300
Wichita KS 67202

Rankin #1-33

Job Ticket: 53665

DST#: 4

ATTN: Saman Sharifaie

Test Start: 2013.05.11 @ 02:20:03

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

37 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.57 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2700.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
325.00	MW 5%M 95%W	4.295
189.00	SOCWM 10%O 15%W 75%M	2.651
63.00	Gassy Oil 20%G 80%O	0.884
0.00	588-GIP	0.000

Total Length: 577.00 ft

Total Volume: 7.830 bbl

Num Fluid Samples: 0

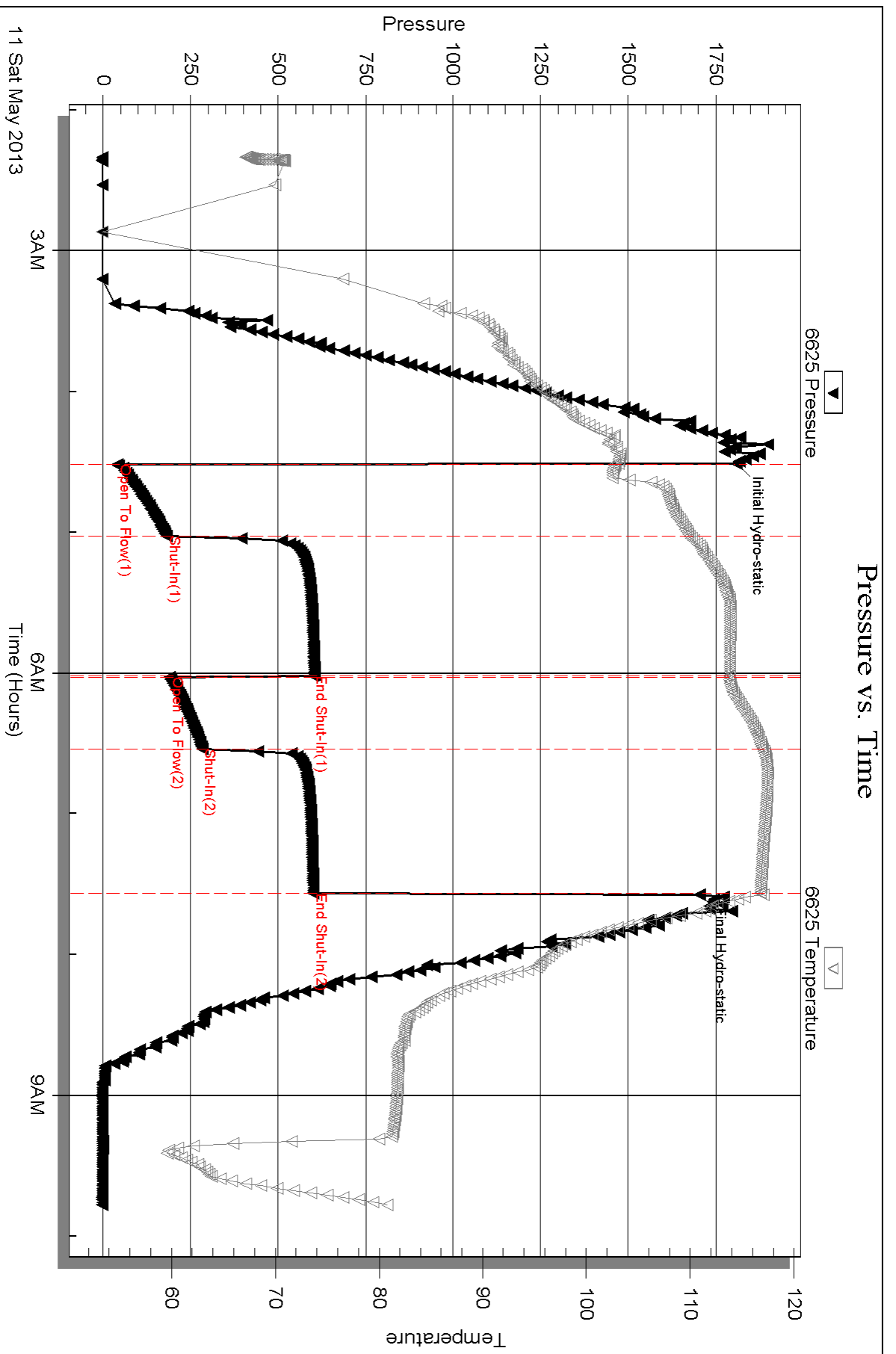
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



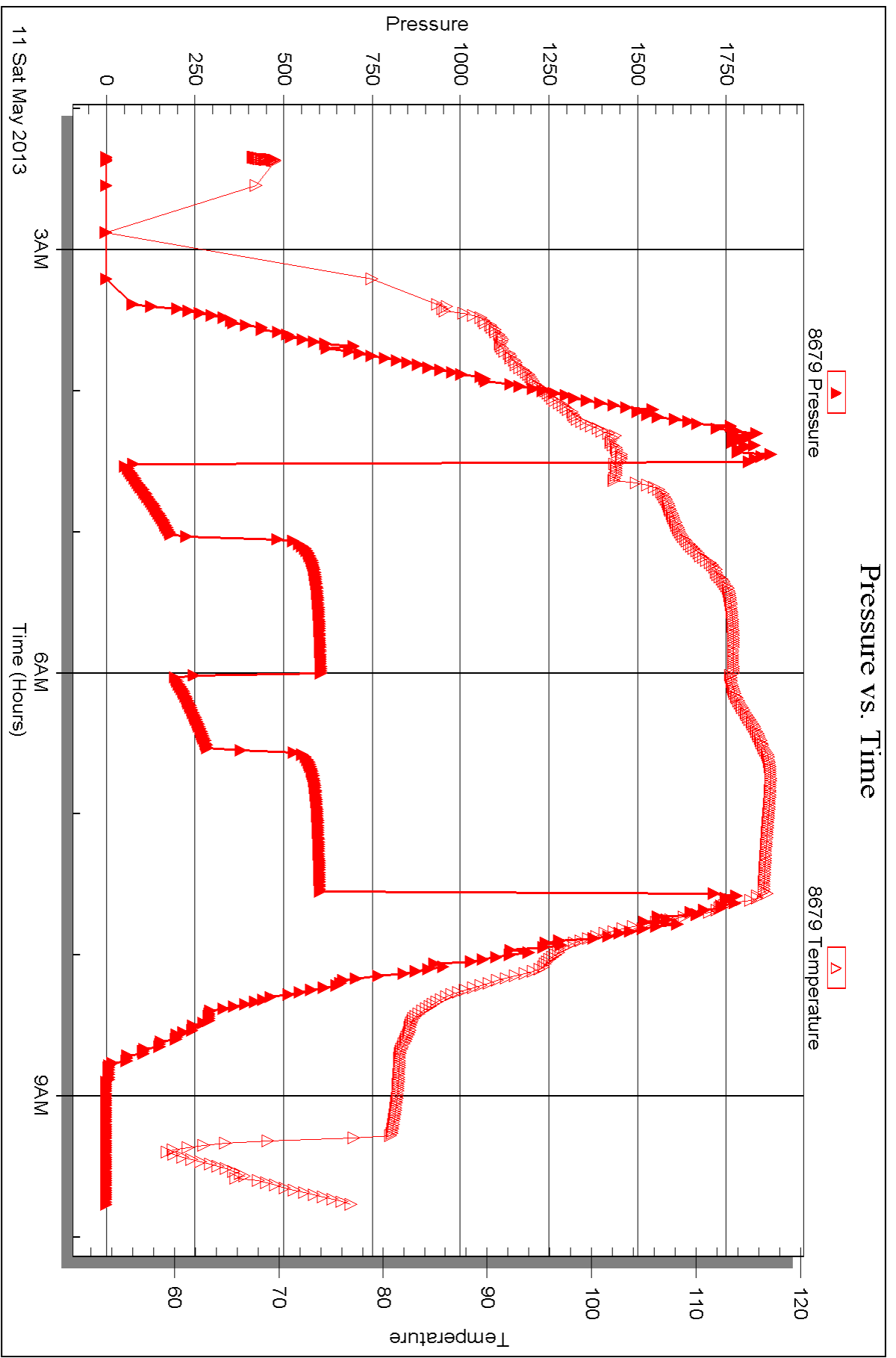
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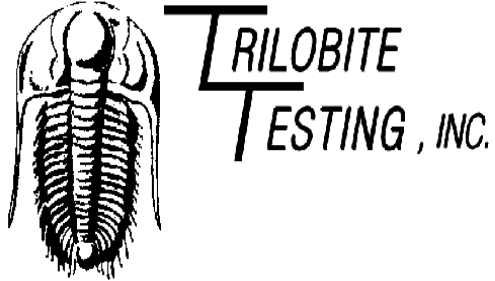
Inside

Murfin Drilling Co Inc

Rankin #1-33

DST Test Number: 4





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water Ste 300
Wichita KS 67202

ATTN: Saman Sharifaie

Rankin #1-33

33-13s-20w Ellis,KS

Start Date: 2013.05.12 @ 00:59:43

End Date: 2013.05.12 @ 05:28:43

Job Ticket #: 53666 DST #: 5

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

Printed: 2013.05.20 @ 09:08:29



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc

33-13s-20w Ellis,KS

250 N Water Ste 300
Wichita KS 67202

Rankin #1-33

ATTN: Saman Sharifaie

Job Ticket: 53666

DST#: 5

Test Start: 2013.05.12 @ 00:59:43

GENERAL INFORMATION:

Formation: **LKC H-K**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:54:43

Time Test Ended: 05:28:43

Test Type: Conventional Bottom Hole (Reset)

Tester: Jeff Brown

Unit No: 67

Interval: 3719.00 ft (KB) To 3804.00 ft (KB) (TVD)

Reference Elevations: 2303.00 ft (KB)

Total Depth: 3804.00 ft (KB) (TVD)

2298.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 6625 Outside

Press @ Run Depth: psig @ 3788.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.05.12 End Date: 2013.05.12

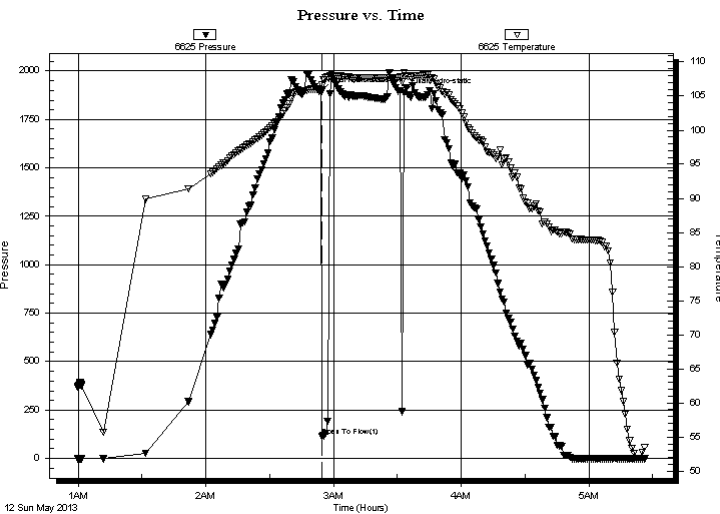
Last Calib.: 2013.05.12

Start Time: 00:59:44 End Time: 05:26:43

Time On Btm: 2013.05.12 @ 02:54:13

Time Off Btm: 2013.05.12 @ 03:33:13

TEST COMMENT: Mis-Run Packer failure



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1892.20	105.99	Initial Hydro-static
1	114.74	106.62	Open To Flow (1)
39	1886.81	108.47	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
250.00	Mud	3.24

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co Inc

33-13s-20w Ellis,KS

250 N Water Ste 300
Wichita KS 67202

Rankin #1-33

Job Ticket: 53666

DST#: 5

ATTN: Saman Sharifaie

Test Start: 2013.05.12 @ 00:59:43

Tool Information

Drill Pipe:	Length: 3678.00 ft	Diameter: 3.80 inches	Volume: 51.59 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 22000.00 lb
Drill Collar:	Length: 29.00 ft	Diameter: 2.25 inches	Volume: 0.14 bbl	Weight to Pull Loose: 68000.00 lb
			<u>Total Volume: 51.73 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3719.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	85.00 ft			
Tool Length:	113.00 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			3692.00	
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	4.00			3714.00	28.00 Bottom Of Top Packer
Packer	5.00			3719.00	
Stubb	1.00			3720.00	
Perforations	3.00			3723.00	
Change Over Sub	1.00			3724.00	
Drill Pipe	63.00			3787.00	
Change Over Sub	1.00			3788.00	
Recorder	0.00	6625	Outside	3788.00	
Recorder	0.00	8679	Inside	3788.00	
Perforations	13.00			3801.00	
Bullnose	3.00			3804.00	85.00 Bottom Packers & Anchor
Total Tool Length:	113.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc

33-13s-20w Ellis,KS

250 N Water Ste 300
Wichita KS 67202

Rankin #1-33

Job Ticket: 53666

DST#: 5

ATTN: Saman Sharifaie

Test Start: 2013.05.12 @ 00:59:43

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: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.58 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2700.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
250.00	Mud	3.243

Total Length: 250.00 ft Total Volume: 3.243 bbl

Num Fluid Samples: 0

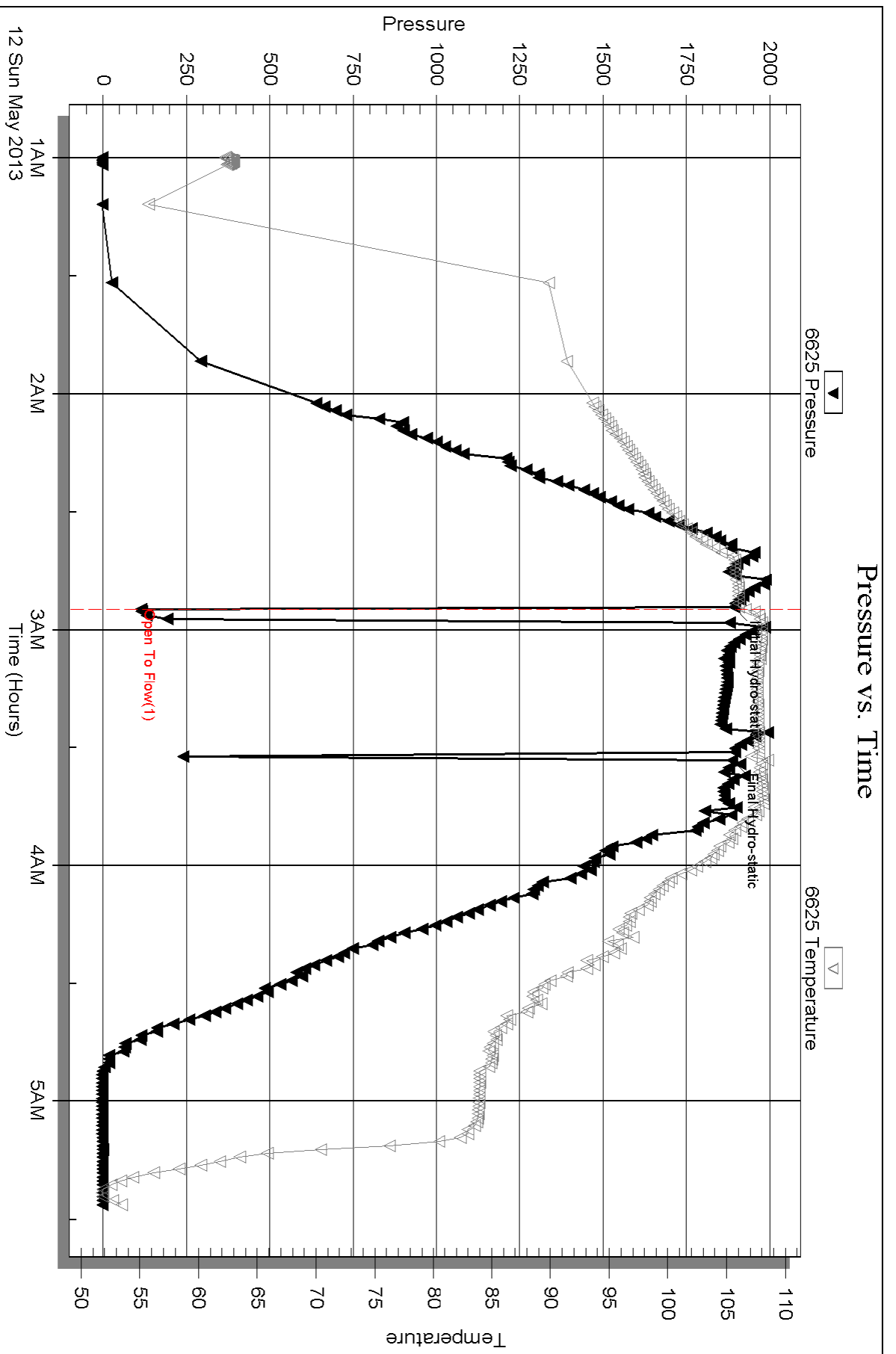
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



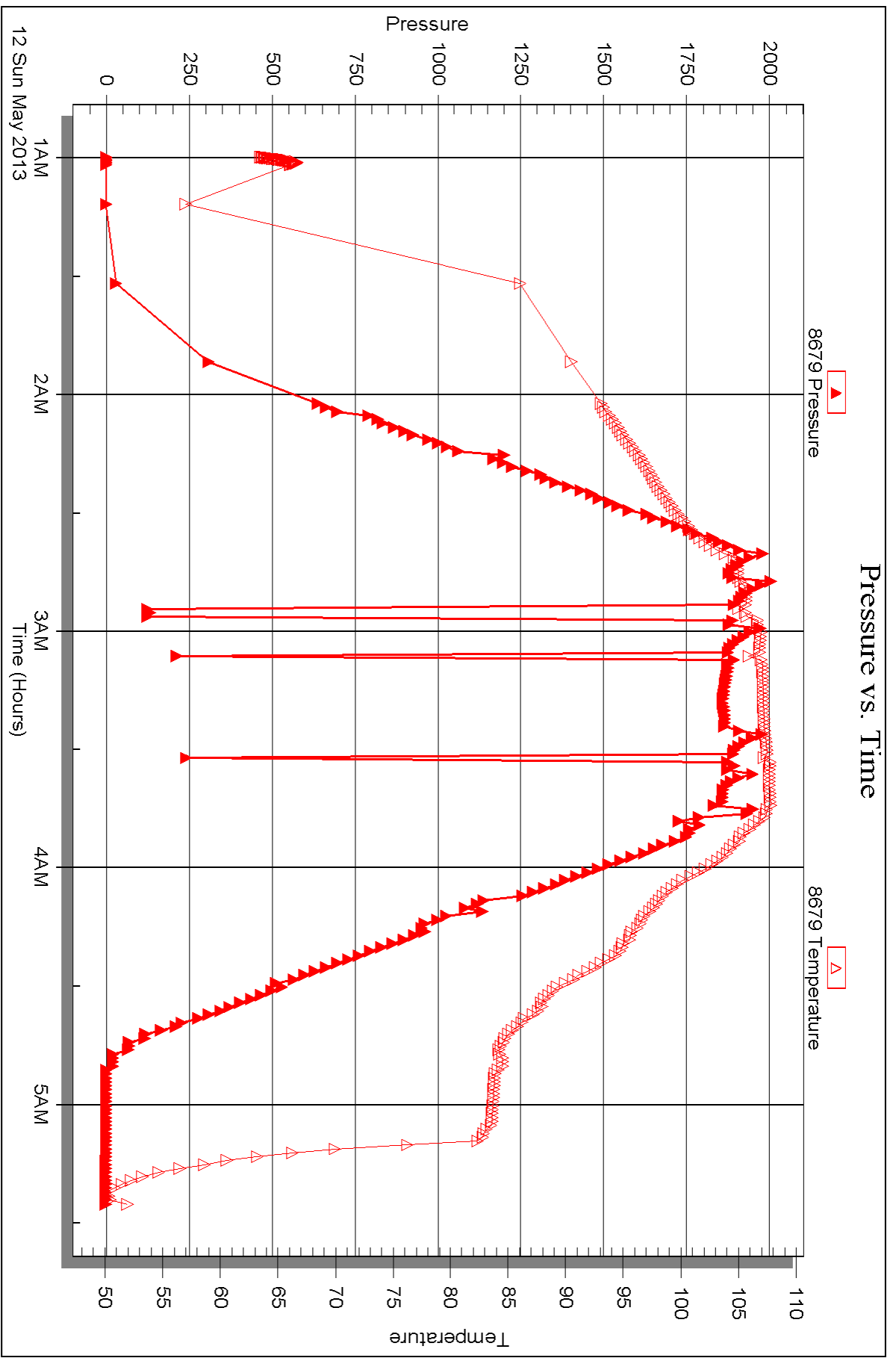
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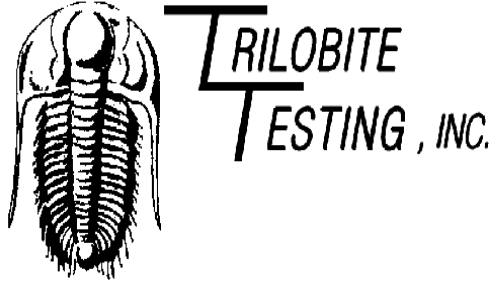
Inside

Murfin Drilling Co Inc

Rankin #1-33

DST Test Number: 5





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water Ste 300
Wichita KS 67202

ATTN: Saman Sharifaie

Rankin #1-33

33-13s-20w Ellis,KS

Start Date: 2013.05.12 @ 05:47:55

End Date: 2013.05.12 @ 13:00:25

Job Ticket #: 53667 DST #: 6

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

Printed: 2013.05.20 @ 09:07:40



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc

33-13s-20w Ellis,KS

250 N Water Ste 300
Wichita KS 67202

Rankin #1-33

Job Ticket: 53667

DST#: 6

ATTN: Saman Sharifaie

Test Start: 2013.05.12 @ 05:47:55

GENERAL INFORMATION:

Formation: **LKC J-K**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:20:25

Time Test Ended: 13:00:25

Test Type: Conventional Bottom Hole (Reset)

Tester: Jeff Brown

Unit No: 67

Interval: 3746.00 ft (KB) To 3804.00 ft (KB) (TVD)

Reference Elevations: 2303.00 ft (KB)

Total Depth: 3804.00 ft (KB) (TVD)

2298.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 6625 Outside

Press @ Run Depth: 62.85 psig @ 3783.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.05.12 End Date: 2013.05.12

Last Calib.: 2013.05.12

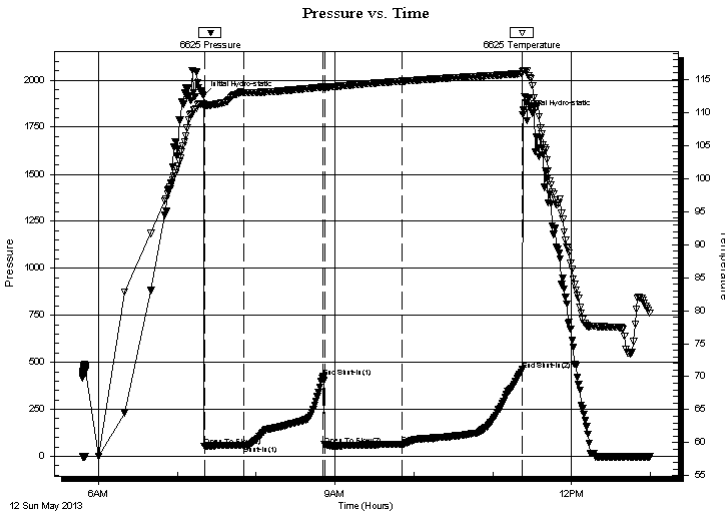
Start Time: 05:47:56 End Time: 12:59:25

Time On Btm: 2013.05.12 @ 07:19:55

Time Off Btm: 2013.05.12 @ 11:22:55

TEST COMMENT: IFP=Weak blow built to 4 3/4"
ISI=Dead no blow back
FFP=Weak blow built to 2 1/2"
FSI=Dead no blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1920.03	111.29	Initial Hydro-static
1	53.84	111.07	Open To Flow (1)
31	59.33	113.04	Shut-In(1)
91	423.04	113.87	End Shut-In(1)
92	60.71	113.85	Open To Flow (2)
151	62.85	114.75	Shut-In(2)
243	460.23	115.91	End Shut-In(2)
243	1816.86	116.26	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	SOCM 5%O 95%M	0.61
4.00	HOCM 25%O 75%M	0.06
1.00	Free Oil	0.01
0.00	31-GIP	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 Inc

33-13s-20w Ellis,KS

250 N Water Ste 300
Wichita KS 67202

Rankin #1-33

Job Ticket: 53667

DST#: 6

ATTN: Saman Sharifaie

Test Start: 2013.05.12 @ 05:47:55

Tool Information

Drill Pipe:	Length: 3710.00 ft	Diameter: 3.80 inches	Volume: 52.04 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 22000.00 lb
Drill Collar:	Length: 29.00 ft	Diameter: 2.25 inches	Volume: 0.14 bbl	Weight to Pull Loose: 78000.00 lb
			<u>Total Volume: 52.18 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3746.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	58.00 ft			
Tool Length:	86.00 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			3719.00	
Shut In Tool	5.00			3724.00	
Hydraulic tool	5.00			3729.00	
Jars	5.00			3734.00	
Safety Joint	3.00			3737.00	
Packer	4.00			3741.00	28.00 Bottom Of Top Packer
Packer	5.00			3746.00	
Stubb	1.00			3747.00	
Perforations	3.00			3750.00	
Change Over Sub	1.00			3751.00	
Drill Pipe	31.00			3782.00	
Change Over Sub	1.00			3783.00	
Recorder	0.00	6625	Outside	3783.00	
Recorder	0.00	8679	Inside	3783.00	
Perforations	18.00			3801.00	
Bullnose	3.00			3804.00	58.00 Bottom Packers & Anchor
Total Tool Length:	86.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc

33-13s-20w Ellis,KS

250 N Water Ste 300
Wichita KS 67202

Rankin #1-33

Job Ticket: 53667

DST#: 6

ATTN: Saman Sharifaie

Test Start: 2013.05.12 @ 05:47:55

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: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.58 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2700.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
62.00	SOCM 5%O 95%M	0.606
4.00	HOCM 25%O 75%M	0.056
1.00	Free Oil	0.014
0.00	31-GIP	0.000

Total Length: 67.00 ft

Total Volume: 0.676 bbl

Num Fluid Samples: 0

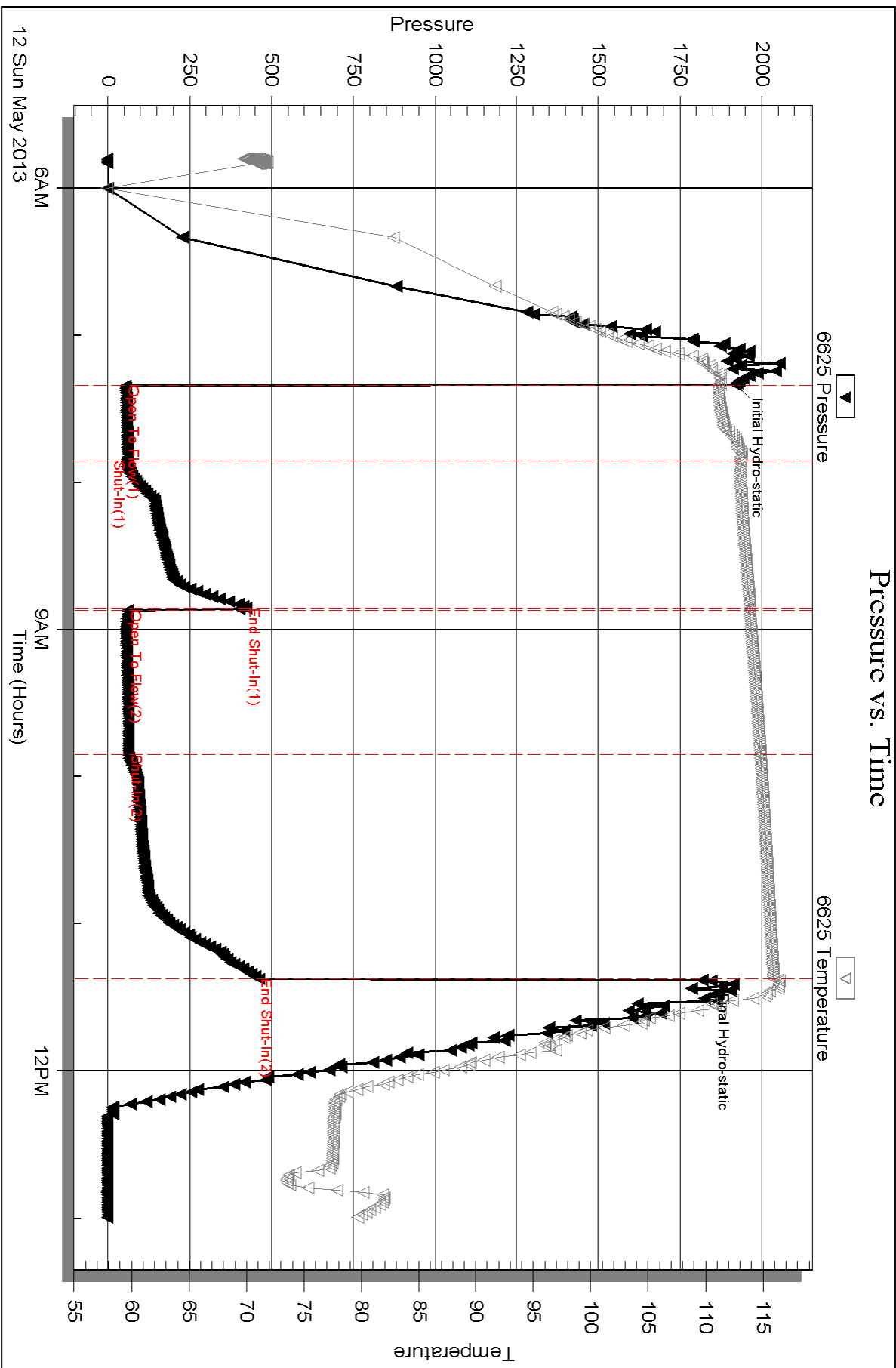
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



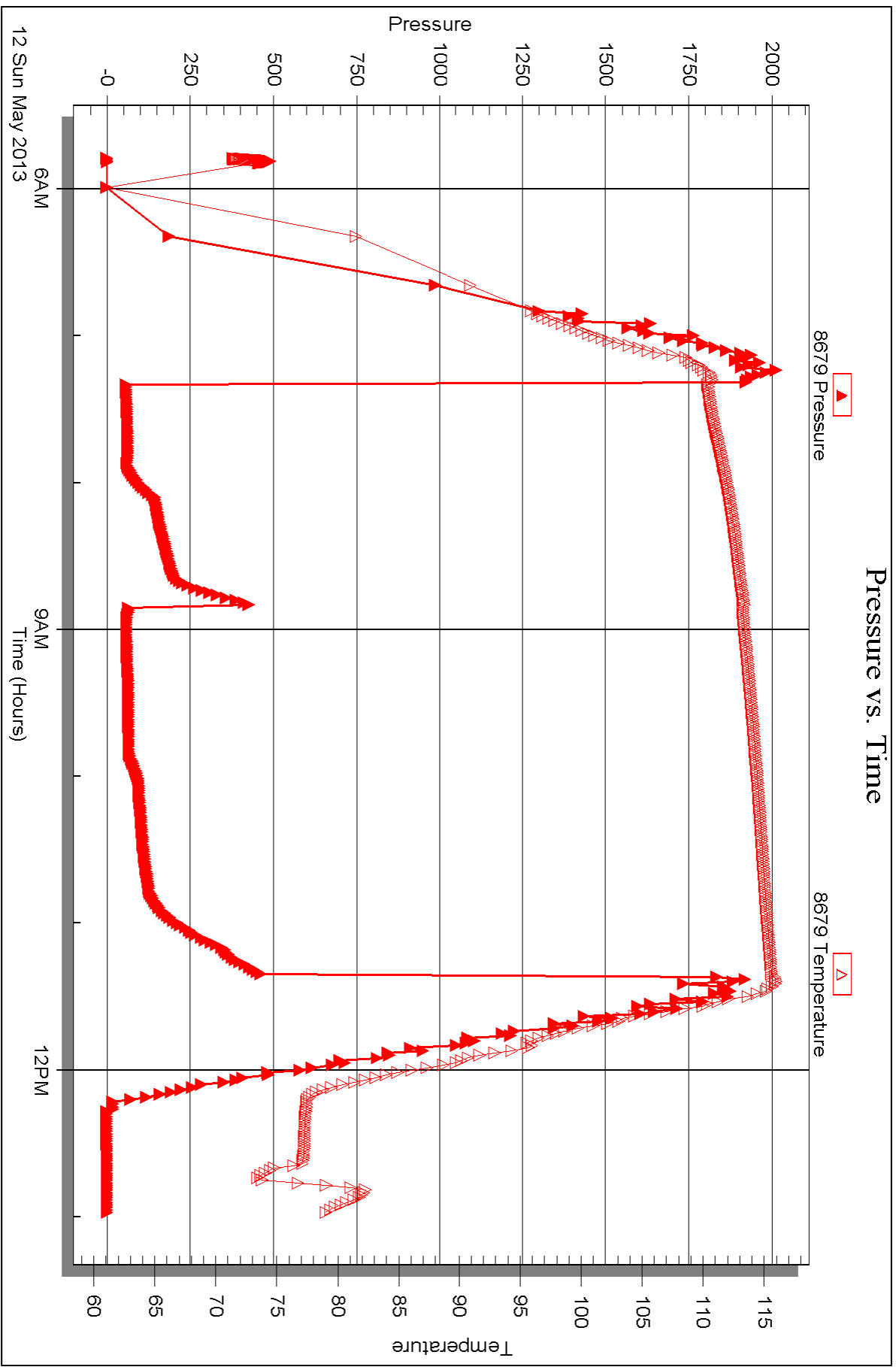
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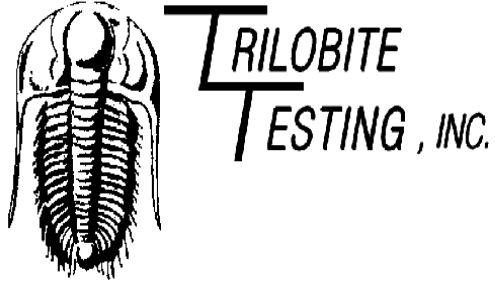
Inside

Murfin Drilling Co Inc

Rankin #1-33

DST Test Number: 6





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water Ste 300
Wichita KS 67202

ATTN: Saman Sharifaie

Rankin #1-33

33-13s-20w Ellis,KS

Start Date: 2013.05.12 @ 23:15:51

End Date: 2013.05.13 @ 07:20:51

Job Ticket #: 53668 DST #: 7

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.05.20 @ 09:06:57



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co Inc

33-13s-20w Ellis,KS

250 N Water Ste 300
Wichita KS 67202

Rankin #1-33

ATTN: Saman Sharifaie

Job Ticket: 53668

DST#: 7

Test Start: 2013.05.12 @ 23:15:51

GENERAL INFORMATION:

Formation: **Cong Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:19:51

Time Test Ended: 07:20:51

Test Type: Conventional Bottom Hole (Reset)

Tester: Jeff Brown

Unit No: 67

Interval: 3900.00 ft (KB) To 3930.00 ft (KB) (TVD)

Reference Elevations: 2303.00 ft (KB)

Total Depth: 3930.00 ft (KB) (TVD)

2298.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 6625 Outside

Press @ Run Depth: 50.44 psig @ 3901.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.05.12

End Date:

2013.05.13

Last Calib.: 2013.05.13

Start Time: 23:15:52

End Time:

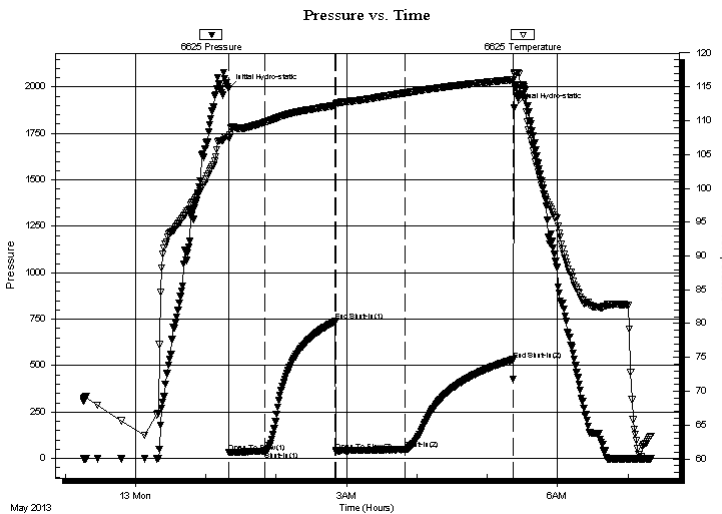
07:19:51

Time On Btm: 2013.05.13 @ 01:19:21

Time Off Btm: 2013.05.13 @ 05:22:51

TEST COMMENT: IFP=Fair blow built to 4 3/4"
ISI=Dead no blow back
FFP=Dead. Flushed tool. Fair blow built to 4"
FSI=Dead no blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1989.74	107.67	Initial Hydro-static
1	31.73	107.42	Open To Flow (1)
31	38.73	109.74	Shut-In(1)
91	737.99	112.24	End Shut-In(1)
92	40.69	112.40	Open To Flow (2)
151	50.44	114.10	Shut-In(2)
243	531.93	116.06	End Shut-In(2)
244	1887.08	116.96	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	HOCM 40%O 60%M	0.61
21.00	MOCO 35%M 65%O	0.29
10.00	Free Oil	0.14

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 Inc

33-13s-20w Ellis,KS

250 N Water Ste 300
Wichita KS 67202

Rankin #1-33

Job Ticket: 53668

DST#: 7

ATTN: Saman Sharifaie

Test Start: 2013.05.12 @ 23:15:51

Tool Information

Drill Pipe:	Length: 3868.00 ft	Diameter: 3.80 inches	Volume: 54.26 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 22000.00 lb
Drill Collar:	Length: 29.00 ft	Diameter: 2.25 inches	Volume: 0.14 bbl	Weight to Pull Loose: 64000.00 lb
			<u>Total Volume: 54.40 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3900.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	58.00 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			3873.00	
Shut In Tool	5.00			3878.00	
Hydraulic tool	5.00			3883.00	
Jars	5.00			3888.00	
Safety Joint	3.00			3891.00	
Packer	4.00			3895.00	28.00 Bottom Of Top Packer
Packer	5.00			3900.00	
Stubb	1.00			3901.00	
Recorder	0.00	6625	Outside	3901.00	
Recorder	0.00	8679	Inside	3901.00	
Perforations	26.00			3927.00	
Bullnose	3.00			3930.00	30.00 Bottom Packers & Anchor

Total Tool Length: 58.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc

33-13s-20w Ellis,KS

250 N Water Ste 300
Wichita KS 67202

Rankin #1-33

Job Ticket: 53668

DST#: 7

ATTN: Saman Sharifaie

Test Start: 2013.05.12 @ 23:15:51

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

36 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.58 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2700.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	HOCM 40%O 60%M	0.606
21.00	MOCO 35%M 65%O	0.295
10.00	Free Oil	0.140

Total Length: 93.00 ft Total Volume: 1.041 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

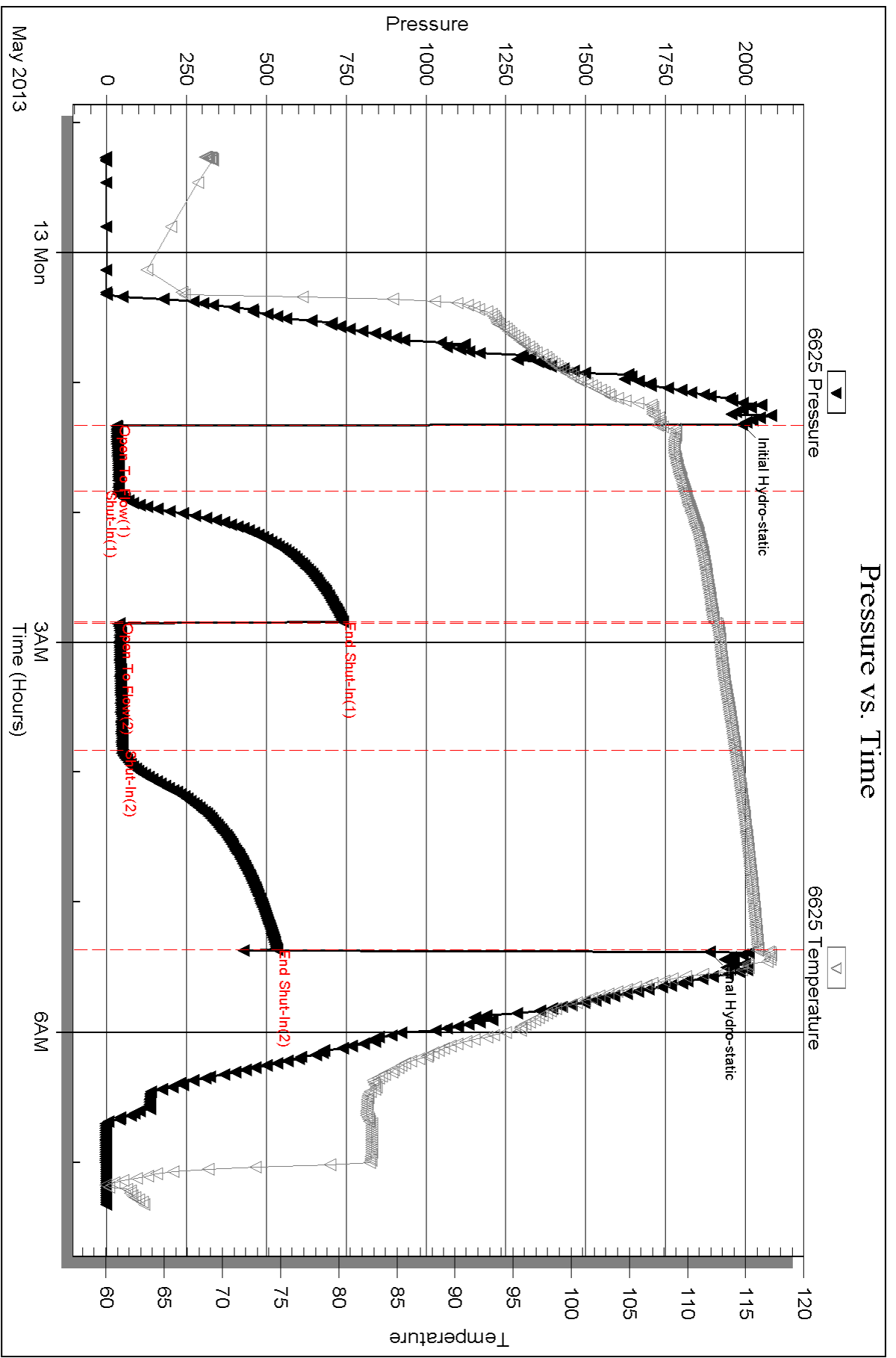
Recovery Comments:

Serial #: 6625

Outside Murfin Drilling Co Inc

Rankin #1-33

DST Test Number: 7



Triobite Testing, Inc

Ref. No: 53668

Printed: 2013.05.20 @ 09:06:59

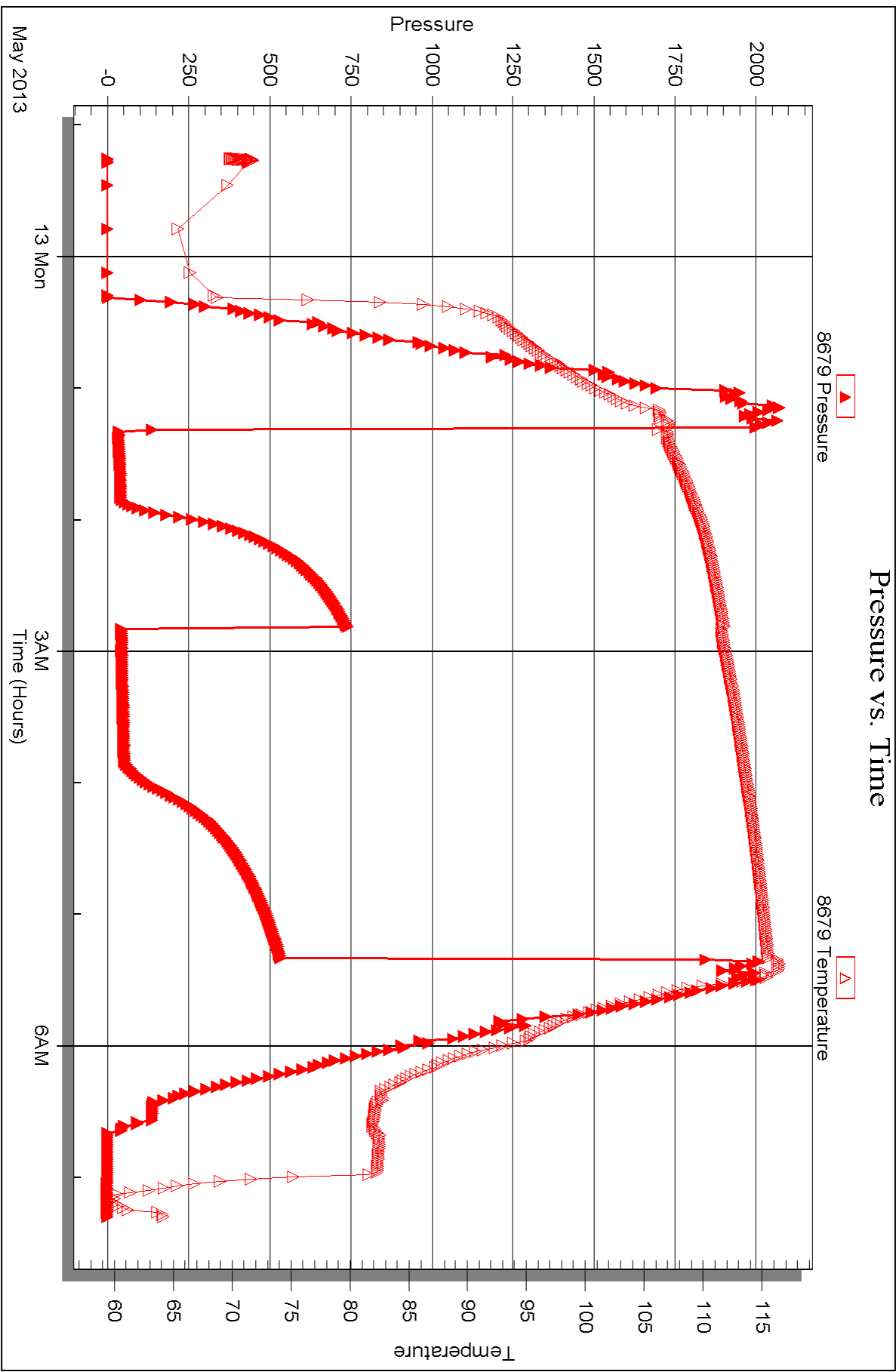
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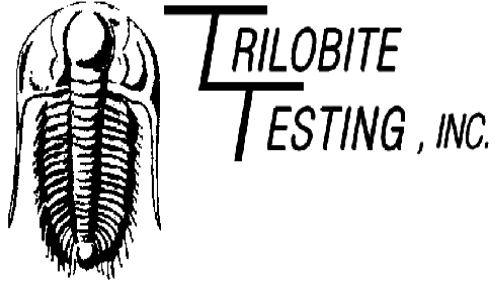
Inside

Murfin Drilling Co Inc

Rankin #1-33

DST Test Number: 7





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water Ste 300
Wichita KS 67202

ATTN: Saman Sharifaie

Rankin #1-33

33-13s-20w Ellis,KS

Start Date: 2013.05.13 @ 13:53:47

End Date: 2013.05.13 @ 20:25:17

Job Ticket #: 53669 DST #: 8

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.05.20 @ 09:06:13

Murfin Drilling Co Inc

33-13s-20w Ellis,KS

Rankin #1-33

DST # 8

Cong Sand / Dol

2013.05.13



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc

33-13s-20w Ellis,KS

250 N Water Ste 300
Wichita KS 67202

Rankin #1-33

Job Ticket: 53669

DST#: 8

ATTN: Saman Sharifaie

Test Start: 2013.05.13 @ 13:53:47

GENERAL INFORMATION:

Formation: **Cong Sand / Dol**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:54:47

Time Test Ended: 20:25:17

Test Type: Conventional Bottom Hole (Reset)

Tester: Jeff Brown

Unit No: 67

Interval: 3930.00 ft (KB) To 3946.00 ft (KB) (TVD)

Reference Elevations: 2303.00 ft (KB)

Total Depth: 3946.00 ft (KB) (TVD)

2298.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 6625 Outside

Press @ RunDepth: 34.28 psig @ 3931.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.05.13

End Date: 2013.05.13

Last Calib.: 2013.05.13

Start Time: 13:53:48

End Time: 20:23:17

Time On Btm: 2013.05.13 @ 15:54:17

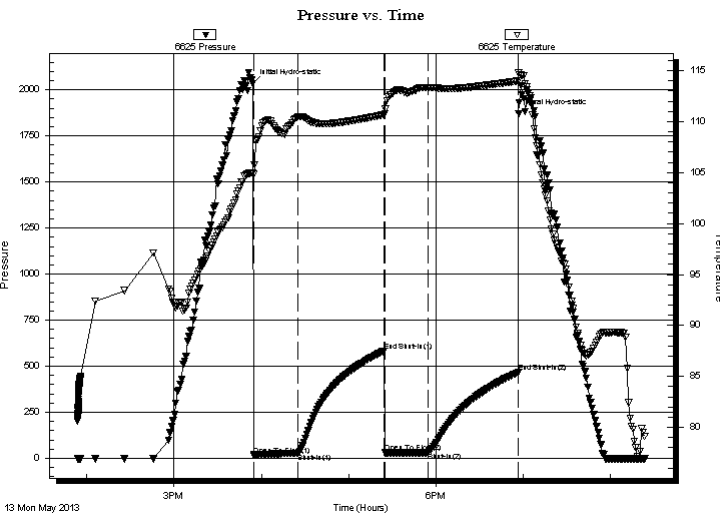
Time Off Btm: 2013.05.13 @ 18:56:47

TEST COMMENT: IFP=Weak blow died out in 1 min. Flushed tool. Weak surface blow built to 1/4"

ISI=Dead no blow back

FFP=Dead no blow

FSI=Dead no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2032.27	105.00	Initial Hydro-static
1	17.97	104.84	Open To Flow (1)
31	27.43	110.51	Shut-In(1)
90	583.26	110.68	End Shut-In(1)
91	31.43	110.77	Open To Flow (2)
121	34.28	113.33	Shut-In(2)
182	466.26	113.99	End Shut-In(2)
183	1871.73	114.82	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
35.00	Mud w with a scum of oil	0.23

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co Inc

33-13s-20w Ellis,KS

250 N Water Ste 300
Wichita KS 67202

Rankin #1-33

Job Ticket: 53669

DST#: 8

ATTN: Saman Sharifaie

Test Start: 2013.05.13 @ 13:53:47

Tool Information

Drill Pipe:	Length: 3900.00 ft	Diameter: 3.80 inches	Volume: 54.71 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 22000.00 lb
Drill Collar:	Length: 29.00 ft	Diameter: 2.25 inches	Volume: 0.14 bbl	Weight to Pull Loose: 66000.00 lb
			<u>Total Volume: 54.85 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3930.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	16.00 ft			
Tool Length:	44.00 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			3903.00	
Shut In Tool	5.00			3908.00	
Hydraulic tool	5.00			3913.00	
Jars	5.00			3918.00	
Safety Joint	3.00			3921.00	
Packer	4.00			3925.00	28.00 Bottom Of Top Packer
Packer	5.00			3930.00	
Stubb	1.00			3931.00	
Recorder	0.00	6625	Outside	3931.00	
Recorder	0.00	8679	Inside	3931.00	
Perforations	12.00			3943.00	
Bullnose	3.00			3946.00	16.00 Bottom Packers & Anchor

Total Tool Length: 44.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc

33-13s-20w Ellis,KS

250 N Water Ste 300
Wichita KS 67202

Rankin #1-33

Job Ticket: 53669

DST#: 8

ATTN: Saman Sharifaie

Test Start: 2013.05.13 @ 13:53:47

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3200.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
35.00	Mud with a scum of oil	0.227

Total Length: 35.00 ft Total Volume: 0.227 bbl

Num Fluid Samples: 0

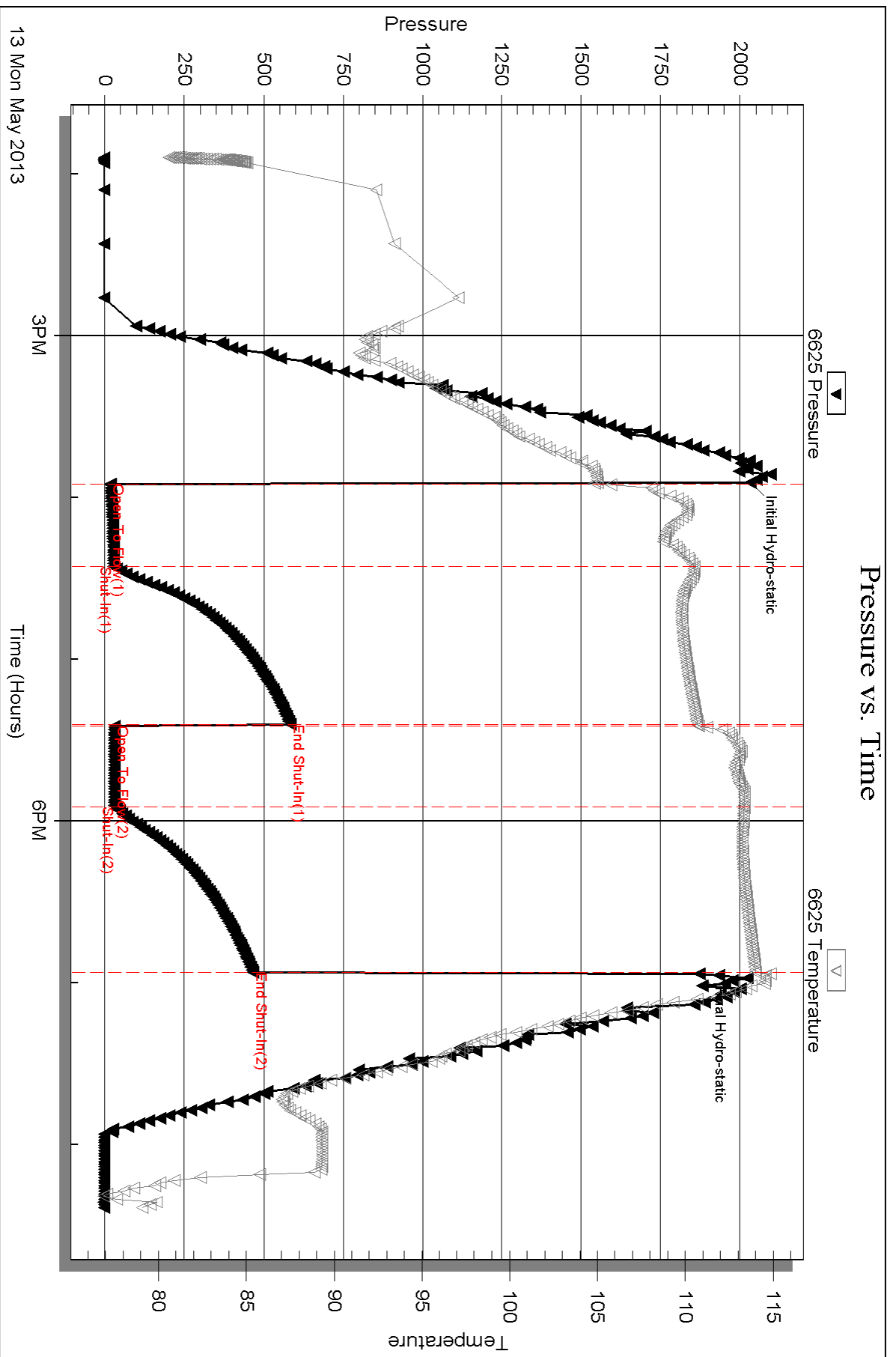
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



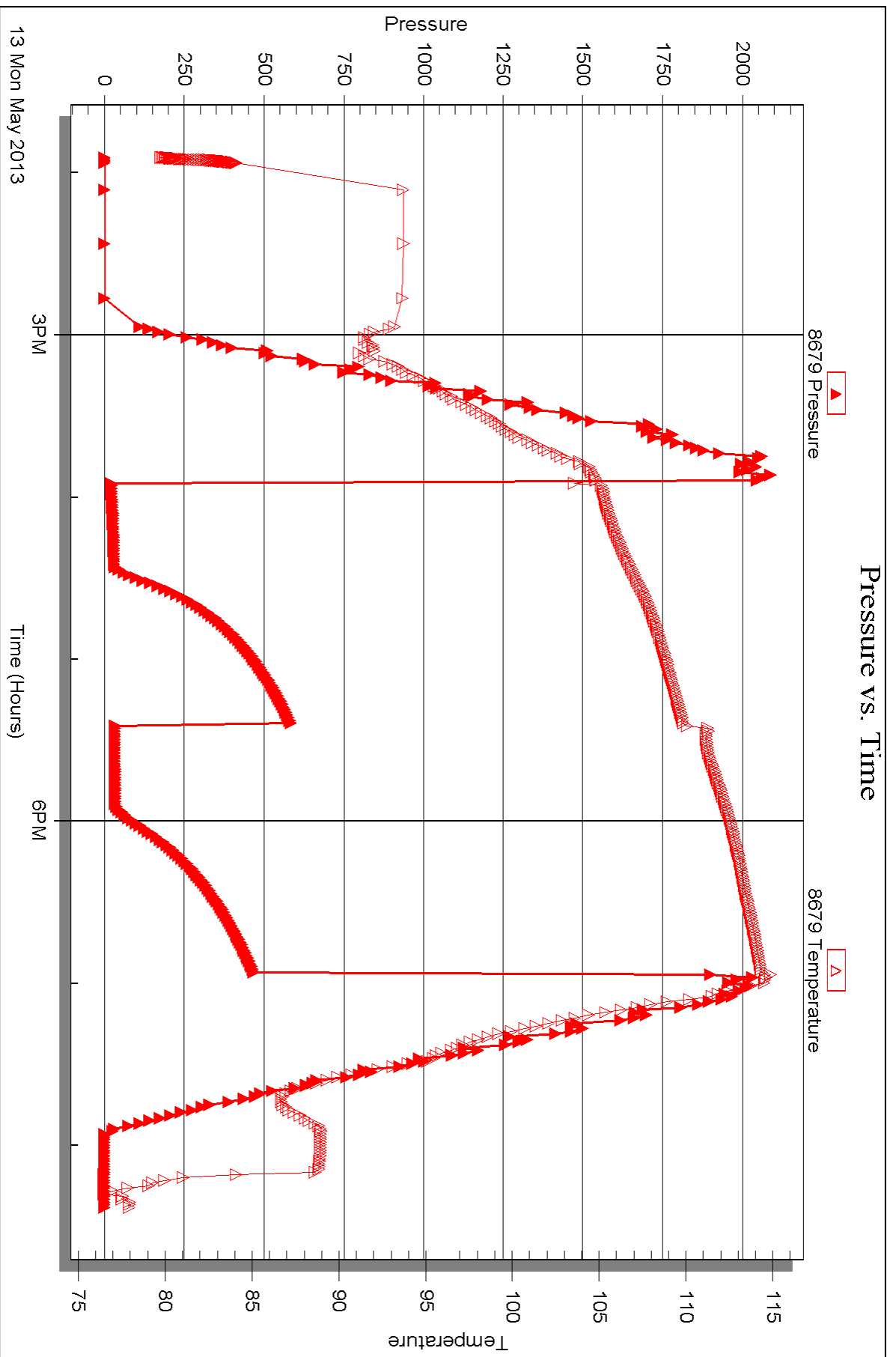
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Inside

Murfin Drilling Co Inc

Rankin #1-33

DST Test Number: 8





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water Ste 300
Wichita KS 67202

ATTN: Saman Sharifaie

Rankin #1-33

33-13s-20w Ellis,KS

Start Date: 2013.05.14 @ 04:11:41

End Date: 2013.05.14 @ 11:48:11

Job Ticket #: 53670 DST #: 9

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

Printed: 2013.05.20 @ 09:05:16



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc

33-13s-20w Ellis,KS

250 N Water Ste 300
Wichita KS 67202

Rankin #1-33

Job Ticket: 53670

DST#: 9

ATTN: Saman Sharifaie

Test Start: 2013.05.14 @ 04:11:41

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:14:11

Time Test Ended: 11:48:11

Test Type: Conventional Bottom Hole (Reset)

Tester: Jeff Brown

Unit No: 67

Interval: 3944.00 ft (KB) To 3976.00 ft (KB) (TVD)

Reference Elevations: 2303.00 ft (KB)

Total Depth: 3976.00 ft (KB) (TVD)

2298.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 6625 Outside

Press @ Run Depth: 1179.84 psig @ 3945.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.05.14

End Date:

2013.05.14

Last Calib.:

2013.05.14

Start Time: 04:11:42

End Time:

11:36:11

Time On Btm:

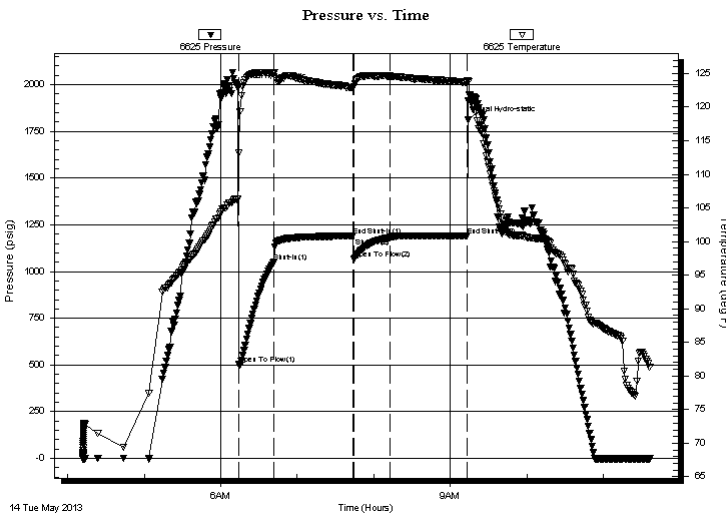
2013.05.14 @ 06:13:11

Time Off Btm:

2013.05.14 @ 09:13:41

TEST COMMENT: IFP=Strong blow BOB in 2 min
ISI=Dead no blow back
FFP=Strong blow BOB in 1 1/2 min
FSI=Dead no blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1982.06	106.29	Initial Hydro-static
1	503.35	113.14	Open To Flow (1)
29	1051.68	125.11	Shut-In(1)
91	1190.29	122.91	End Shut-In(1)
91	1066.67	123.03	Open To Flow (2)
120	1179.84	124.60	Shut-In(2)
180	1192.29	123.65	End Shut-In(2)
181	1809.15	123.96	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2394.00	Water	33.32
189.00	WM 20%W 80%M	2.65

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co Inc

33-13s-20w Ellis,KS

250 N Water Ste 300
Wichita KS 67202

Rankin #1-33

Job Ticket: 53670

DST#: 9

ATTN: Saman Sharifaie

Test Start: 2013.05.14 @ 04:11:41

Tool Information

Drill Pipe:	Length: 3900.00 ft	Diameter: 3.80 inches	Volume: 54.71 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 22000.00 lb
Drill Collar:	Length: 29.00 ft	Diameter: 2.25 inches	Volume: 0.14 bbl	Weight to Pull Loose: 79000.00 lb
			<u>Total Volume: 54.85 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	13.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3944.00 ft			Final 74000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	32.00 ft			
Tool Length:	60.00 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			3917.00	
Shut In Tool	5.00			3922.00	
Hydraulic tool	5.00			3927.00	
Jars	5.00			3932.00	
Safety Joint	3.00			3935.00	
Packer	4.00			3939.00	28.00 Bottom Of Top Packer
Packer	5.00			3944.00	
Stubb	1.00			3945.00	
Recorder	0.00	6625	Outside	3945.00	
Recorder	0.00	8679	Inside	3945.00	
Perforations	28.00			3973.00	
Bullnose	3.00			3976.00	32.00 Bottom Packers & Anchor

Total Tool Length: 60.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc

33-13s-20w Ellis,KS

250 N Water Ste 300
Wichita KS 67202

Rankin #1-33

Job Ticket: 53670

DST#: 9

ATTN: Saman Sharifaie

Test Start: 2013.05.14 @ 04:11:41

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: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3200.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2394.00	Water	33.317
189.00	WM 20%W 80%M	2.651

Total Length: 2583.00 ft Total Volume: 35.968 bbl

Num Fluid Samples: 0

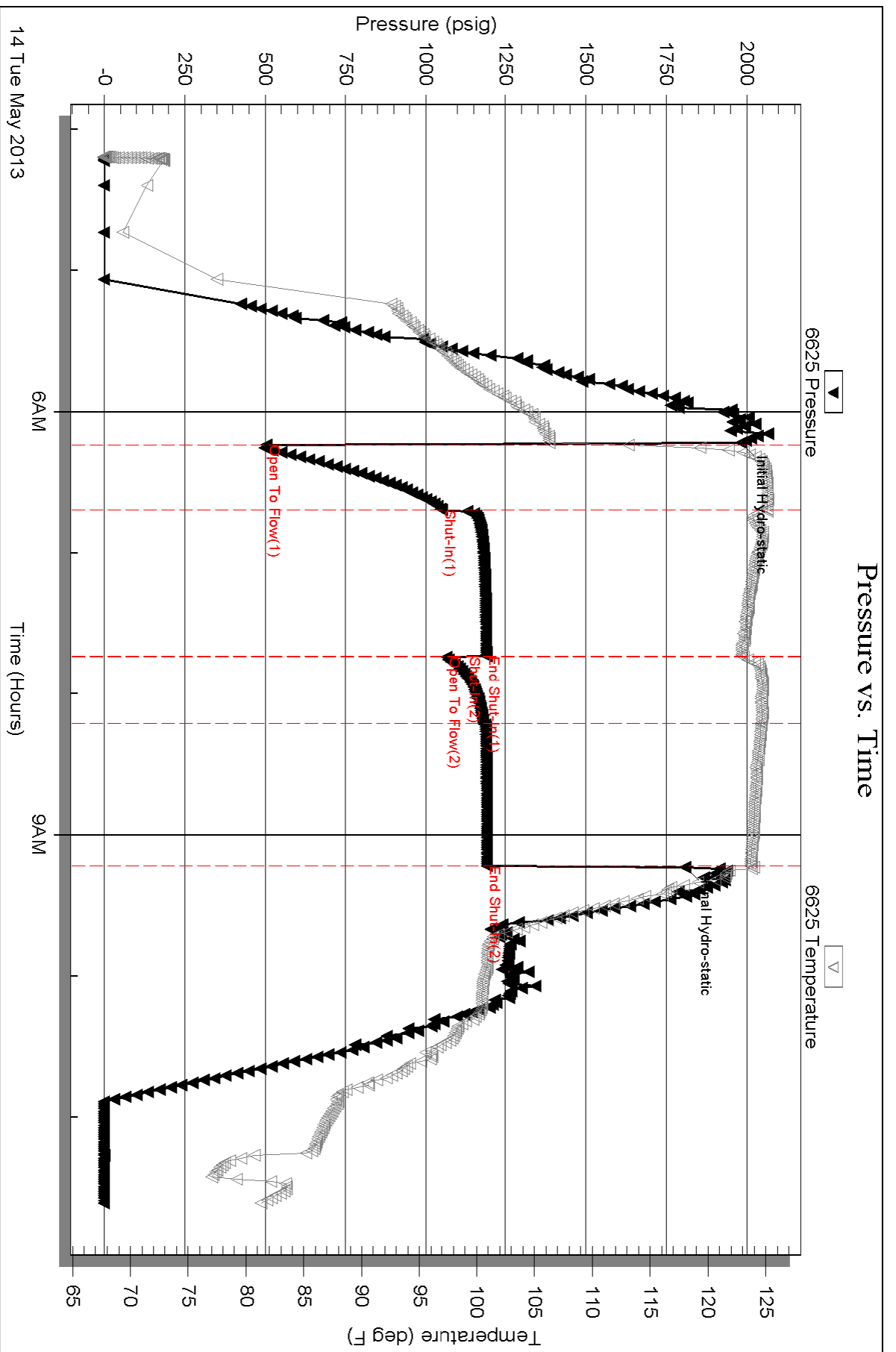
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



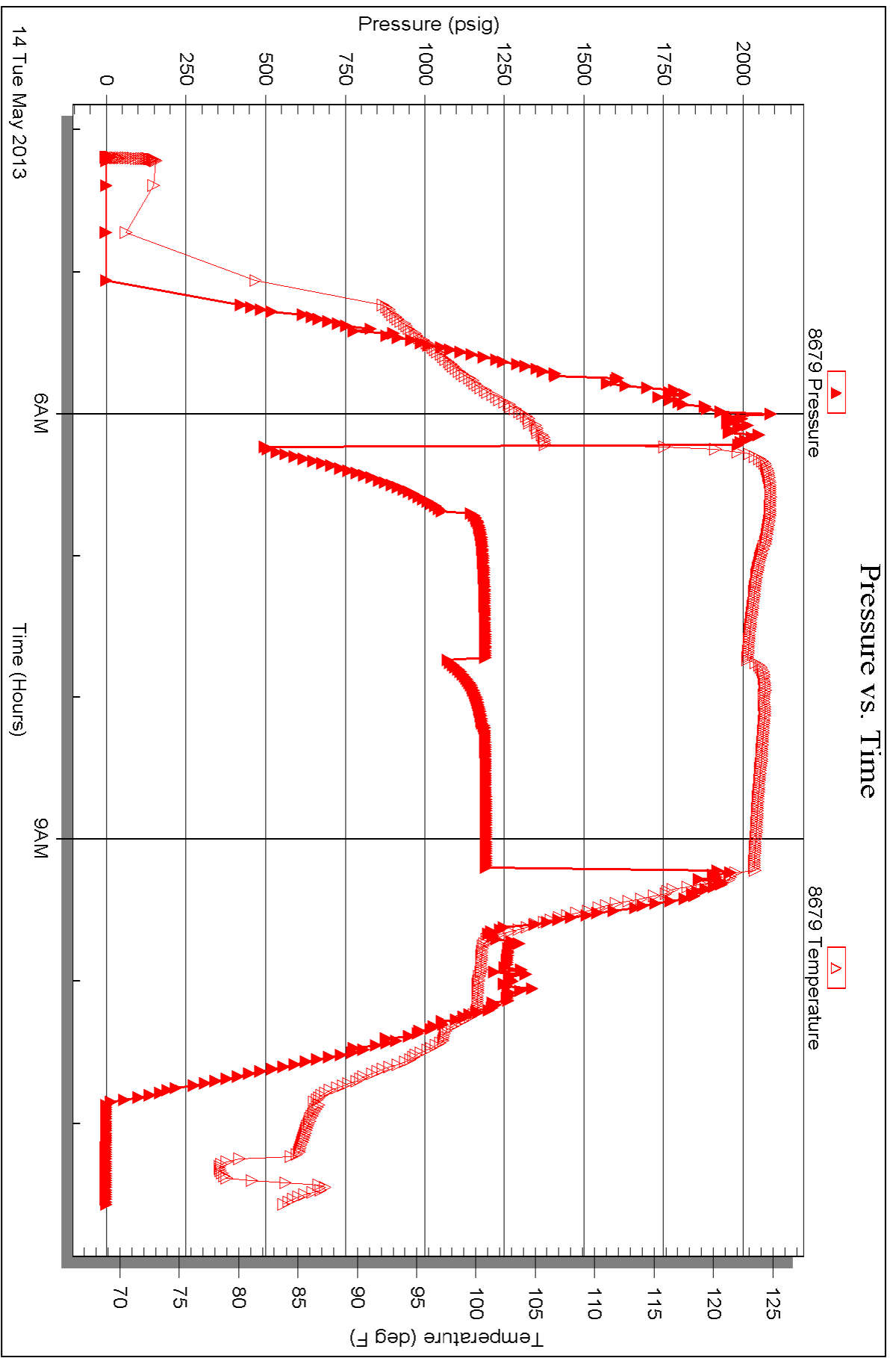
Serial #: 8679

Inside

Murfin Drilling Co Inc

Rankin #1-33

DST Test Number: 9





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 53662

Well Name & No. Rankin #1-33 Test No. 1 Date 5-8-13
 Company MURKIN DRILLING CO INC Elevation 2303 KB 2298 GL
 Address 250 N WATER ST 300 WICHITA KS 67202
 Co. Rep / Geo. Saman Sharifaie Rig MURKIN #14
 Location: Sec. 33 Twp. 13 S Rge. 20 W Co. ELLIS State KS

Interval Tested 3324-3375 Zone Tested Topeka/Deer Creek
 Anchor Length 51 Drill Pipe Run 3297 Mud Wt. 8.9
 Top Packer Depth 3319 Drill Collars Run 29 Vis 60
 Bottom Packer Depth 3324 Wt. Pipe Run 0 WL 6.8
 Total Depth 3375 Chlorides 1400 ppm System LCM 2

Blow Description ff-Strong Blow BOB IN 4 1/2 min
ff-Dead No Blow Back
ff-Good Blow BOB IN 5 1/2 min
ff-Dead No Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>787</u>	<u>mw</u>			<u>90</u>	<u>10</u>
<u>78</u>	<u>MW WITH A SCAN OF OIL</u>			<u>70</u>	<u>30</u>
<u>29</u>	<u>SOCG MW</u>	<u>10</u>	<u>5</u>	<u>75</u>	<u>10</u>
<u>1</u>	<u>oil</u>		<u>100</u>		

Rec Total 895 BHT 109 Gravity _____ API RW 123 @ 58.1° F Chlorides 75,000 ppm

(A) Initial Hydrostatic <u>1624</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>19:17</u>
(B) First Initial Flow <u>52</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>19:53</u>
(C) First Final Flow <u>222</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>23:05</u>
(D) Initial Shut-In <u>1019</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>3:35</u>
(E) Second Initial Flow <u>229</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>6:06</u>
(F) Second Final Flow <u>467</u>	<input checked="" type="checkbox"/> Mileage <u>52</u> 80.60 <u>RT</u>	Comments _____
(G) Final Shut-In <u>1014</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1598</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____

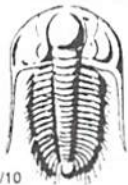
Initial Open 30
 Initial Shut-In 40
 Final Flow 40 90
 Final Shut-In _____

Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Sub Total 1555.60
 Total 1555.60
 MP/DST Disc't _____

Approved By _____ Our Representative Jeff Brown

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 53663

Well Name & No. Rankin #1-33 Test No. 2 Date 5-9-13
 Company Murfin Drilling Co INC Elevation 2303 KB 2298 GL
 Address 250 N Water Ste 300 Wich. Ta KS 67202
 Co. Rep / Geo. Saman Sharifaie Rig Murfin #110
 Location: Sec. 33 Twp. 13 S Rge. 20 W Co. ELLIS State KS

Interval Tested 3405 - 3460 Zone Tested LeCompton
 Anchor Length 55 Drill Pipe Run 3361 Mud Wt. 8.9
 Top Packer Depth 3400 Drill Collars Run 29 Vis 56
 Bottom Packer Depth 3405 Wt. Pipe Run 0 WL 7.2
 Total Depth 3460 Chlorides 1400 ppm System LCM 2

Blow Description IP-Weak Blow Built To 1 IN
IS-Dead No Blow Back
FP-Weak Surface Blow
IS-Dead No Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>Mud with oil spots</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 10 BHT 1060 Gravity _____ API RW _____ @ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic 11662 Test 1150 T-On Location 13:54
 (B) First Initial Flow 32 Jars 250 T-Started 14:04
 (C) First Final Flow 45 Safety Joint 75 T-Open 15:26
 (D) Initial Shut-In 1116 Circ Sub _____ T-Pulled 18:26
 (E) Second Initial Flow 40 Hourly Standby _____ T-Out 19:45
 (F) Second Final Flow 48 Mileage 80.60 Comments _____
 (G) Final Shut-In 1064 Sampler _____
 (H) Final Hydrostatic 11638 Straddle _____
 Shale Packer _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

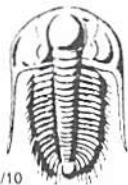
Initial Open 30
 Initial Shut-In 60
 Final Flow 30
 Final Shut-In 60

Sub Total 1555.60

MP/DST Disc't _____

Approved By _____ Our Representative Jeff Brown

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 53664

Well Name & No. Rankin #1-33 Test No. 3 Date 5-10-13
 Company Murfin Drilling Co INC Elevation 2303 KB 2298 GL
 Address 250 N Water Ste 300 Wichita KS 67202
 Co. Rep / Geo. Saman Sharifaie Rig Murfin #16
 Location: Sec. 33 Twp. 13S Rge. 20W Co. ELLIS State KS

Interval Tested 3551-3625 Zone Tested Tolanto LKC-A-B
 Anchor Length 74 Drill Pipe Run 3519 Mud Wt. 9.2
 Top Packer Depth 3546 Drill Collars Run 29 Vis 54
 Bottom Packer Depth 3551 Wt. Pipe Run 0 WL 7.6
 Total Depth 3625 Chlorides 2700 ppm System LCM 2

Blow Description 1st Good Blow BOB IN 27 min
1st Dead No Blow Back
2nd Good Blow BOB IN 6 1/2 min
2nd Dead No Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>116</u>	<u>HOCGM</u>	<u>40</u>	<u>30</u>	<u>30</u>	<u>30</u>
Rec	Feet of <u>356-GIP</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 Total 116 BHT 110 Gravity _____ API RW _____ @ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic 1787 Test 1150 T-On Location 9:55
 (B) First Initial Flow 35 Jars _____ T-Started 10:14
 (C) First Final Flow 52 Safety Joint _____ T-Open 11:48
 (D) Initial Shut-In 822 Circ Sub _____ T-Pulled 15:48
 (E) Second Initial Flow 44 Hourly Standby _____ T-Out 17:29
 (F) Second Final Flow 76 Mileage 80.60 Comments _____
 (G) Final Shut-In 499 Sampler _____
 (H) Final Hydrostatic 1690 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 30 Extra Recorder _____ Sub Total 0
 Initial Shut-In 40 Day Standby _____ Total 1230.60
 Final Flow 60 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 90 Sub Total 1230.60

Approved By _____ Our Representative Jeff Brown

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 53665

Well Name & No. Rankin #1-33 Test No. 4 Date 5-11-13
 Company Murfin Drilling Co INC Elevation 2303 KB 2298 GL
 Address 250 N Water Ste 300 Wichita KS 67202
 Co. Rep / Geo. Saman Sharifaie Rig Murfin #14
 Location: Sec. 33 Twp. 13S Rge. 20 W Co. ELLIS State KS

Interval Tested 3620-3668 Zone Tested LKC-D-E-F
 Anchor Length 48 Drill Pipe Run 3583 Mud Wt. 9.2
 Top Packer Depth 3615 Drill Collars Run 29 Vis 54
 Bottom Packer Depth 3620 Wt. Pipe Run 0 WL 7.6
 Total Depth 3668 Chlorides 2700 ppm System LCM 2

Blow Description PP-Strong Blow BOB IN 3 1/2 min
IS-Weak Blow Back Built to 1 1/2 IN
PP-Good Blow BOB IN 5 1/2 min
IS-Good Blow Back BOB IN 4 1/2 min

Rec	Feet of	%gas	%oil	%water	%mud
<u>325</u>	<u>MW</u>			<u>95</u>	<u>5</u>
<u>189</u>	<u>SOC Wm</u>		<u>10</u>	<u>15</u>	<u>75</u>
<u>63</u>	<u>GASSY oil</u>	<u>20</u>	<u>80</u>		
	<u>588-GIP</u>				

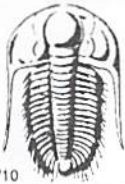
Rec Total 577 BHT 117 Gravity 37 API RW 113 @ 57.1 °F Chlorides 85,000 ppm

(A) Initial Hydrostatic 1810 Test 1150 T-On Location 1:42
 (B) First Initial Flow 41 Jars T-Started 2:20
 (C) First Final Flow 181 Safety Joint T-Open 4:33
 (D) Initial Shut-In 600 Circ Sub T-Pulled 7:33
 (E) Second Initial Flow 190 Hourly Standby T-Out 9:48
 (F) Second Final Flow 283 Mileage 80.60 Comments _____
 (G) Final Shut-In 600 Sampler _____
 (H) Final Hydrostatic 1704 Straddle _____

Initial Open 30 Shale Packer _____
 Initial Shut-In 60 Shale Packer _____
 Final Flow 30 Extra Packer _____
 Final Shut-In 60 Extra Recorder _____
 Sub Total 1230.60 Day Standby _____
 Total 1230.60 Accessibility _____
 MP/DST Disc't _____

Approved By _____ Our Representative Jeff Brown

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 53666

Well Name & No. Rankin #1-33 Test No. 5 Date 5-12-13
 Company Murfin Drilling Co INC Elevation 2303 KB 2298 GL
 Address 250 N Water St 300 Wichita KS 67202
 Co. Rep / Geo. Saman Sharifair Rig Murfin #14
 Location: Sec. 33 Twp. 13s Rge. 20w Co. Ellis State KS

Interval Tested 3719 - 3804 Zone Tested LKC-H-I-J-K
 Anchor Length 85 Drill Pipe Run 3678 Mud Wt. 9.2
 Top Packer Depth 3714 Drill Collars Run 29 Vis 54
 Bottom Packer Depth 3719 Wt. Pipe Run 0 WL 7.4
 Total Depth 3804 Chlorides 2700 ppm System LCM 2

Blow Description EST. MIS Run Packer Failure

Rec	Feet of	%gas	%oil	%water	%mud
<u>250</u>	<u>mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

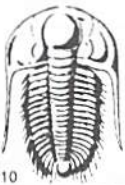
Rec Total 250 BHT 106 Gravity _____ API RW _____ @ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic 1892 Test 950 T-On Location 00:48
 (B) First Initial Flow 115 Jars 250 T-Started 00:59
 (C) First Final Flow _____ Safety Joint 75 T-Open 2:55
 (D) Initial Shut-In _____ Circ Sub _____ T-Pulled _____
 (E) Second Initial Flow _____ Hourly Standby _____ T-Out 5:28
 (F) Second Final Flow _____ Mileage 80.60 Comments Mis-Run
 (G) Final Shut-In _____ Sampler _____
 (H) Final Hydrostatic 1887 Straddle _____

Initial Open _____ Ruined Shale Packer _____
 Initial Shut-In _____ Ruined Packer _____
 Final Flow _____ Extra Copies _____
 Final Shut-In _____ Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1355.60
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1355.60

Approved By _____ Our Representative Jeff Brown

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 53667

4/10

Well Name & No. Rankin #1-33 Test No. 6 Date 5-12-13
 Company Murfin Drilling Co INC Elevation 2303 KB 2298 GL
 Address 250 N Water Ste 300 Wichita KS 67202
 Co. Rep / Geo Saman Sharifaie Rig Murfin #16
 Location: Sec. 33 Twp. 13s Rge. 20W Co. Ellis State KS

Interval Tested 3746-3804 Zone Tested LKC - J+K
 Anchor Length 58 Drill Pipe Run 3710 Mud Wt. 9.3
 Top Packer Depth 3741 Drill Collars Run 29 Vis 52
 Bottom Packer Depth 3746 Wt. Pipe Run 0 WL 7.4
 Total Depth 3804 Chlorides 2700 ppm System LCM 2

Blow Description FF-Weak Blow Built To 3/4 IN
ISE-Dead No Blow Back
FF-Weak Blow Built To 2 1/2 IN
ISE-Dead No Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>62</u>	<u>SOCM</u>		<u>5</u>		<u>95</u>
<u>4</u>	<u>HOCM</u>		<u>25</u>		<u>75</u>
<u>1</u>	<u>Free oil</u>		<u>100</u>		
	<u>31-GIP</u>				

Rec Total 67 BHT 116 Gravity _____ API RW _____ @ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic <u>1920</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>00:48</u>
(B) First Initial Flow <u>54</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>5:47</u>
(C) First Final Flow <u>59</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>7:21</u>
(D) Initial Shut-In <u>423</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>11:21</u>
(E) Second Initial Flow <u>61</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>13:00</u>
(F) Second Final Flow <u>63</u>	<input type="checkbox"/> Mileage _____	Comments _____
(G) Final Shut-In <u>460</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1817</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____

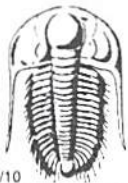
Initial Open 30
 Initial Shut-In 60
 Final Flow 600
 Final Shut-In 90

Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Sub Total 1475
 Total 1475
 MP/DST Disc't _____

Approved By _____ Our Representative Jeff Brown

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 53668

Well Name & No. Rankin #1-33 Test No. #7 Date 5-12-13
 Company Murfin Drilling Co INC Elevation 2303 KB 2298 GL
 Address 250 N Water Ste 300 Wichita KS 67202
 Co. Rep / Geo. Saman Sharifaie Rig Murfin #16
 Location: Sec. 33 Twp. 13S Rge. 20W Co. ELLIS State KS

Interval Tested ~~3900-3900~~ 3930 Zone Tested cong SAND
 Anchor Length ~~30'~~ 30' Drill Pipe Run 3848 Mud Wt. 9.3
 Top Packer Depth 3908 3895 Drill Collars Run 29 Vis 52
 Bottom Packer Depth 3913 3900 Wt. Pipe Run 0 WL 7.6
 Total Depth 3930 Chlorides 2700 ppm System LCM 2

Blow Description FP - fair Blow Built To 4 3/4 IN
IS - Dead No Blow Back
Dead - Flashed Tool FP - fair Blow Built To 4 IN
ES - Dead No Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>62</u>	<u>HOC m</u>	<u>40</u>	<u>60</u>	<u>60</u>	<u>60</u>
<u>21</u>	<u>MCO</u>	<u>65</u>	<u>35</u>	<u>35</u>	<u>35</u>
<u>10</u>	<u>Free oil</u>	<u>100</u>	<u>100</u>		

Rec Total 93 BHT 116 Gravity 36 API RW _____ @ _____ ° F Chlorides _____ ppm

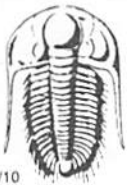
(A) Initial Hydrostatic <u>1990</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>22:48</u>
(B) First Initial Flow <u>32</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>23:15</u>
(C) First Final Flow <u>39</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>1:20</u>
(D) Initial Shut-In <u>738</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>5:20</u>
(E) Second Initial Flow <u>41</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>7:20</u>
(F) Second Final Flow <u>50</u>	<input checked="" type="checkbox"/> Mileage <u>80.60</u>	Comments _____
(G) Final Shut-In <u>532</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1887</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____

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

Sub Total 1555.60

Approved By _____ Our Representative Jeff Brown

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 53669

Well Name & No. Rankin #1-33 Test No. 8 Date 5-13-13
 Company Murfin Drilling Co INC Elevation 2303 KB 2298 GL
 Address 250 N Water Ste 300 Wichita KS 67202
 Co. Rep / Geo. Saman Sharifaie Rig Murfin #16
 Location: Sec. 33 Twp. 13 S Rge. 20 W Co. ELLIS State KS

Interval Tested 3930 - 3946 Zone Tested Cong SAND / Dol
 Anchor Length 16 Drill Pipe Run 3900 Mud Wt. 9.3
 Top Packer Depth 3925 Drill Collars Run 29 Vis 58
 Bottom Packer Depth 3930 Wt. Pipe Run 0 WL 7.2
 Total Depth 3946 Chlorides 3200 ppm System LCM 2

Blow Description 1st-Weak Blow DIED OUT IN 1 min Flushed Tool Weak Surface Blow Built TO 1/4 IN
1st-Dead No Blow Back
fff-Dead No Blow
fff-Dead No Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>35</u>	<u>Mud with A scum of oil</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

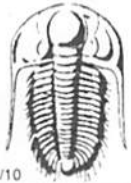
Rec Total 35 BHT 114 Gravity _____ API RW _____ @ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic 2032 Test 1150 T-On Location 13:38
 (B) First Initial Flow 18 Jars 250 T-Started 13:53
 (C) First Final Flow 27 Safety Joint 75 T-Open 15:55
 (D) Initial Shut-In 583 Circ Sub _____ T-Pulled 18:55
 (E) Second Initial Flow 31 Hourly Standby _____ T-Out 20:25
 (F) Second Final Flow 34 Mileage 80.60
 (G) Final Shut-In 466 Sampler _____
 (H) Final Hydrostatic 1872 Straddle _____
 Shale Packer 250 Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Initial Open 30
 Initial Shut-In 40
 Final Flow 30
 Final Shut-In 40
 Sub Total 1805.60
 Total 1805.60
 MP/DST Disc't _____

Approved By _____ Our Representative Jeff Brown

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 53670

Well Name & No. Rankin #1-33 Test No. 9 Date 5-14-13
 Company Murfin Drilling Co INC Elevation 2303 KB 2298 GL
 Address 250 N Water Ste 300 Wichita KS 67202
 Co. Rep / Geo. Saman Sharifair Rig Murfin #116
 Location: Sec. 33 Twp. 13 S Rge. 20 W Co. Ellis State KS

Interval Tested 3944-3976 Zone Tested Albyckle Dol.
 Anchor Length 32 Drill Pipe Run 3900 Mud Wt. 9.3
 Top Packer Depth 3939 Drill Collars Run 29 Vis 52
 Bottom Packer Depth 3944 Wt. Pipe Run 0 WL 7.8
 Total Depth 3976 Chlorides 3100 ppm System LCM 2

Blow Description PP-Strong Blow BOB IN 2min
Is-Dead NO Blow Back
PP-Strong Blow BOB IN 1 1/2 min
Is-Dead NO Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>2394</u>	<u>Water</u>				
<u>189</u>	<u>WM</u>			<u>20</u>	<u>80</u>

Rec Total 2583 BHT 124 Gravity _____ API RW .189 @ 87.1° F Chlorides 30,000 ppm

(A) Initial Hydrostatic <u>1982</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>3:57</u>
(B) First Initial Flow <u>503</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>4:11</u>
(C) First Final Flow <u>1052</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>6:13</u>
(D) Initial Shut-In <u>1190</u>	<input checked="" type="checkbox"/> Circ Sub <u>50</u>	T-Pulled <u>9:13</u>
(E) Second Initial Flow <u>1067</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>11:48</u>
(F) Second Final Flow <u>1180</u>	<input checked="" type="checkbox"/> Mileage <u>80.60</u>	Comments _____
(G) Final Shut-In <u>1192</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1809</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 1605.60

Sub Total 0
 Total 1605.60
 MP/DST Disc't _____

Approved By _____ Our Representative Jeff Brown

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