



DRILL STEM TEST REPORT

Prepared For: **Murfin Driling Co. Inc.**

250 N. Water STE 300
Wichita KS 67206

ATTN: Rocky Milford

Samson #1-24

24-4s-33w Rawlins KS

Start Date: 2014.11.18 @ 04:35:00

End Date: 2014.11.18 @ 14:27:15

Job Ticket #: 60046 DST #: 1

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

Printed: 2014.11.26 @ 09:36:43



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

24-4s-33w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

Samson #1-24

Job Ticket: 60046

DST#: 1

ATTN: Rocky Milford

Test Start: 2014.11.18 @ 04:35:00

GENERAL INFORMATION:

Formation: **Deer Creek**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:16:00

Time Test Ended: 14:27:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Ryan Nichols

Unit No: 78

Interval: 3748.00 ft (KB) To 3820.00 ft (KB) (TVD)

Reference Elevations: 3024.00 ft (KB)

Total Depth: 3820.00 ft (KB) (TVD)

3019.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 6752 Inside

Press@RunDepth: 196.02 psig @ 3749.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.18

End Date:

2014.11.18

Last Calib.: 2014.11.18

Start Time: 04:35:05

End Time:

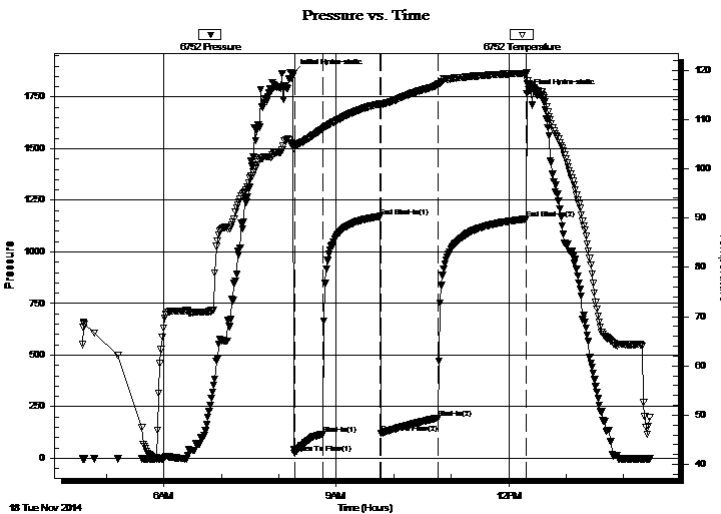
14:27:15

Time On Btm: 2014.11.18 @ 08:15:00

Time Off Btm: 2014.11.18 @ 12:18:45

TEST COMMENT: 30 IF - 1/2" blow built to BoB @ 19 mins (in diesel)
60 ISI - No return
60 FF - Surface blow built to BoB @ 27 mins
90 FSI - Surface blow started @ 6 mins built to 1"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1862.43	105.05	Initial Hydro-static
1	23.91	104.94	Open To Flow (1)
31	117.40	108.06	Shut-In(1)
91	1172.07	113.17	End Shut-In(1)
92	121.59	113.02	Open To Flow (2)
152	196.02	117.17	Shut-In(2)
244	1159.78	119.34	End Shut-In(2)
244	1768.22	119.54	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
63.00	MCW - 20%M - 80%W	0.31
313.00	MCW - 15%M - 85%W	3.26
15.00	OSMCW - Heavy oil spots - 45%M - 55%W	0.21

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

24-4s-33w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

Samson #1-24

Job Ticket: 60046

DST#: 1

ATTN: Rocky Milford

Test Start: 2014.11.18 @ 04:35:00

Tool Information

Drill Pipe:	Length: 3551.00 ft	Diameter: 3.80 inches	Volume: 49.81 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: 187.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose:	65000.00 lb
			<u>Total Volume: 50.73 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial	62000.00 lb
Depth to Top Packer:	3748.00 ft			Final	64000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	72.00 ft				
Tool Length:	99.00 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			3722.00	
Shut In Tool	5.00			3727.00	
Hydraulic tool	5.00			3732.00	
Jars	5.00			3737.00	
Safety Joint	2.00			3739.00	
Packer	5.00			3744.00	27.00 Bottom Of Top Packer
Packer	4.00			3748.00	
Stubb	1.00			3749.00	
Recorder	0.00	6752	Inside	3749.00	
Recorder	0.00	8322	Outside	3749.00	
Perforations	3.00			3752.00	
Change Over Sub	1.00			3753.00	
Drill Pipe	63.00			3816.00	
Change Over Sub	1.00			3817.00	
Bullnose	3.00			3820.00	72.00 Bottom Packers & Anchor

Total Tool Length: 99.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

24-4s-33w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

Samson #1-24

Job Ticket: 60046

DST#: 1

ATTN: Rocky Milford

Test Start: 2014.11.18 @ 04:35:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

34000 ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2800.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
63.00	MCW - 20%M - 80%W	0.310
313.00	MCW - 15%M - 85%W	3.261
15.00	OSMCW - Heavy oil spots - 45%M - 55%W	0.210

Total Length: 391.00 ft Total Volume: 3.781 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

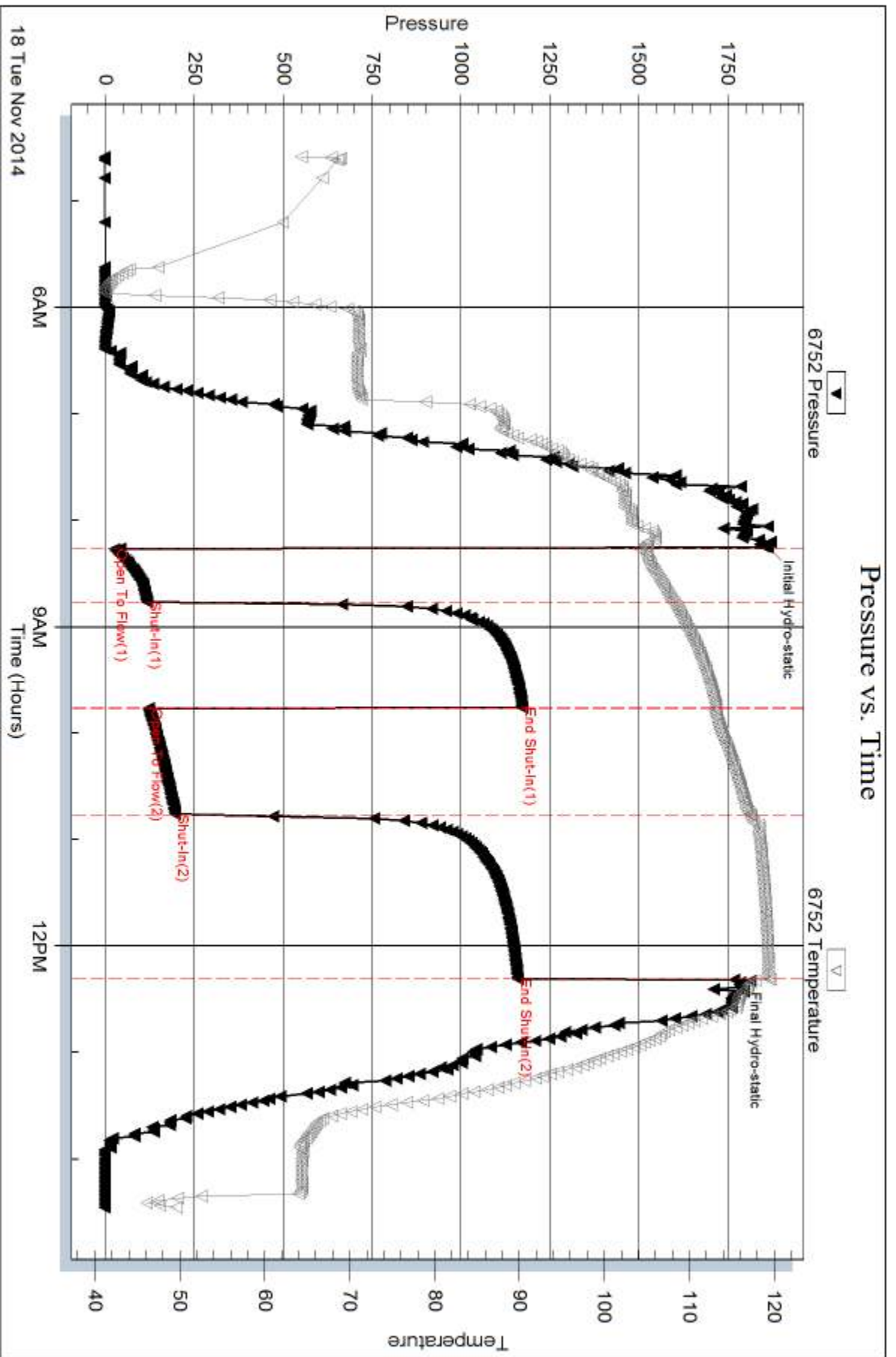
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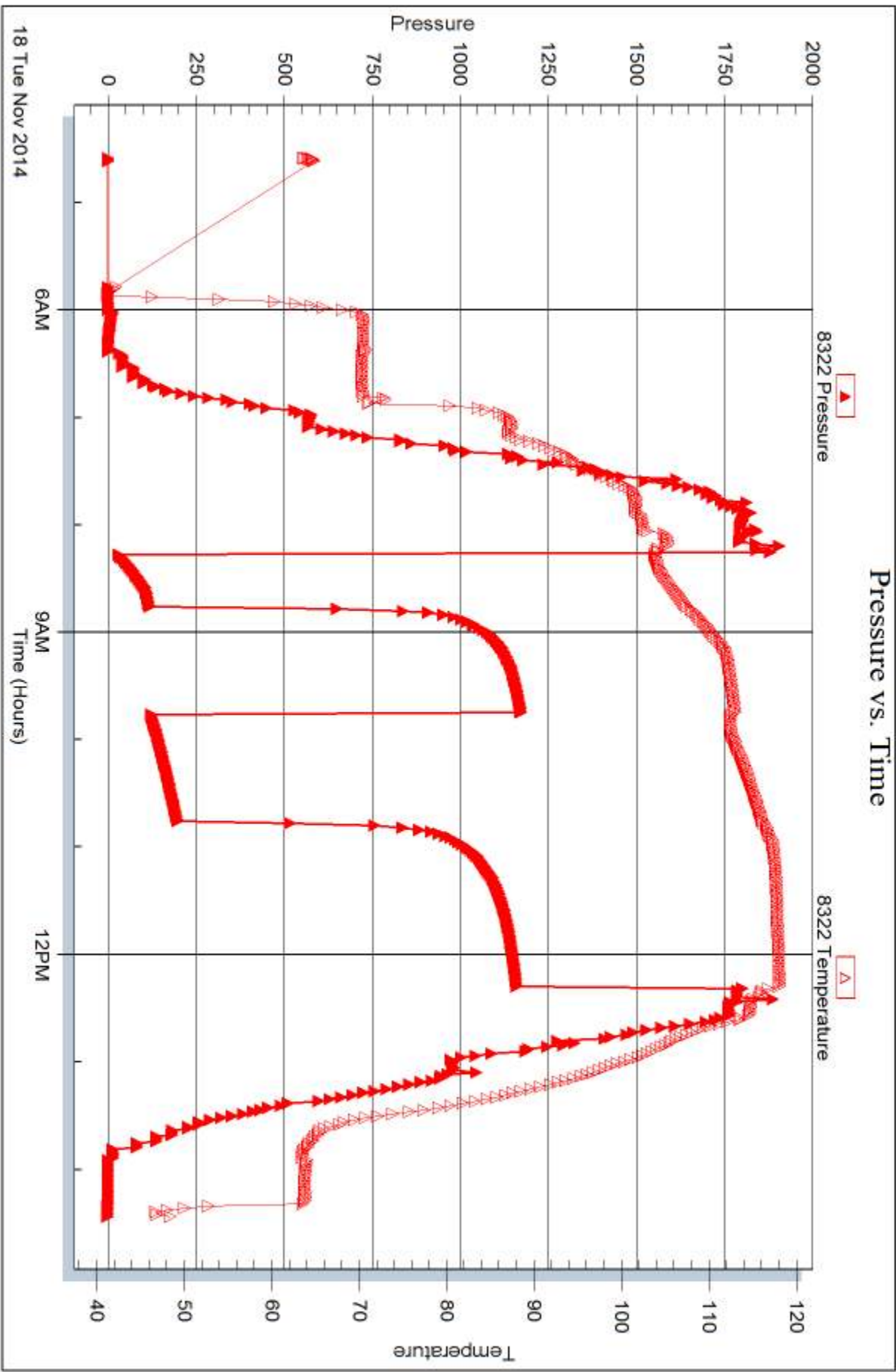
Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .250 @ 59 DEG F

CHLORIDES = 34,000 PPM







DRILL STEM TEST REPORT

Prepared For: **Murfin Driling Co. Inc.**

250 N. Water STE 300
Wichita KS 67206

ATTN: Rocky Milford

Samson #1-24

24-4s-33w Rawlins KS

Start Date: 2014.11.19 @ 04:21:00

End Date: 2014.11.19 @ 13:59:40

Job Ticket #: 60868 DST #: 2

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

Printed: 2014.11.26 @ 09:36:16



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

24-4s-33w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

Samson #1-24

Job Ticket: 60868

DST#: 2

ATTN: Rocky Milford

Test Start: 2014.11.19 @ 04:21:00

GENERAL INFORMATION:

Formation: **Toronto - LKC"A"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:10:40

Time Test Ended: 13:59:40

Test Type: Conventional Bottom Hole (Initial)

Tester: Donovan Baumann

Unit No: 78

Interval: 3898.00 ft (KB) To 3960.00 ft (KB) (TVD)

Reference Elevations: 3024.00 ft (KB)

Total Depth: 3960.00 ft (KB) (TVD)

3019.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 6752

Inside

Press@RunDepth: 204.13 psig @ 3899.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.19

End Date: 2014.11.19

Last Calib.: 2014.11.19

Start Time: 04:21:01

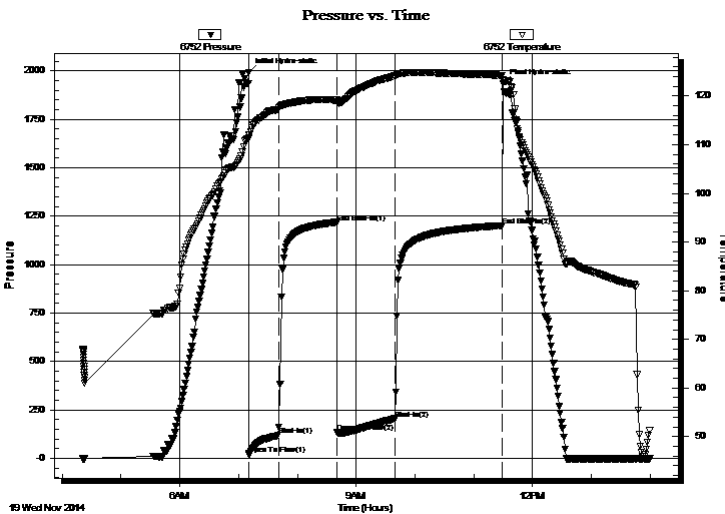
End Time: 13:59:40

Time On Btm: 2014.11.19 @ 07:10:30

Time Off Btm: 2014.11.19 @ 11:29:50

TEST COMMENT: 30 - IF - Strong surface blow built to BOB in 12 min. (In Deisel)
60 - ISI - Return built to 6 in. in 50 min.
60 - FF - Strong surface blow built to BOB in 7 min.
90 - FSI - Return built to BOB in 38 min.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1992.65	112.09	Initial Hydro-static
1	21.74	111.36	Open To Flow (1)
30	118.04	117.28	Shut-In(1)
90	1214.98	119.19	End Shut-In(1)
91	132.88	118.88	Open To Flow (2)
149	204.13	124.17	Shut-In(2)
259	1201.28	124.24	End Shut-In(2)
260	1934.54	123.40	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	597' GIP	0.00
250.00	MCGO - 25M - 30G - 45o	1.80
126.00	MCGO - 5M - 30G - 65o	1.77
156.00	GCO - 35G - 65o	2.19

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

24-4s-33w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

Samson #1-24

Job Ticket: 60868

DST#: 2

ATTN: Rocky Milford

Test Start: 2014.11.19 @ 04:21:00

Tool Information

Drill Pipe:	Length: 3709.00 ft	Diameter: 3.80 inches	Volume: 52.03 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: 187.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose: 66000.00 lb
			<u>Total Volume: 52.95 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	3898.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	62.00 ft			
Tool Length:	89.00 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			3872.00	
Shut In Tool	5.00			3877.00	
Hydraulic tool	5.00			3882.00	
Jars	5.00			3887.00	
Safety Joint	2.00			3889.00	
Packer	5.00			3894.00	27.00 Bottom Of Top Packer
Packer	4.00			3898.00	
Stubb	1.00			3899.00	
Recorder	0.00	6752	Inside	3899.00	
Recorder	0.00	8322	Outside	3899.00	
Perforations	25.00			3924.00	
Change Over Sub	1.00			3925.00	
Drill Pipe	31.00			3956.00	
Change Over Sub	1.00			3957.00	
Bullnose	3.00			3960.00	62.00 Bottom Packers & Anchor

Total Tool Length: 89.00



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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

24-4s-33w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

Samson #1-24

Job Ticket: 60868

DST#: 2

ATTN: Rocky Milford

Test Start: 2014.11.19 @ 04:21:00

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: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.58 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
0.00	597' GIP	0.000
250.00	MCGO - 25M - 30G - 45o	1.803
126.00	MCGO - 5M - 30G - 65o	1.767
156.00	GCO - 35G - 65o	2.188

Total Length: 532.00 ft

Total Volume: 5.758 bbl

Num Fluid Samples: 0

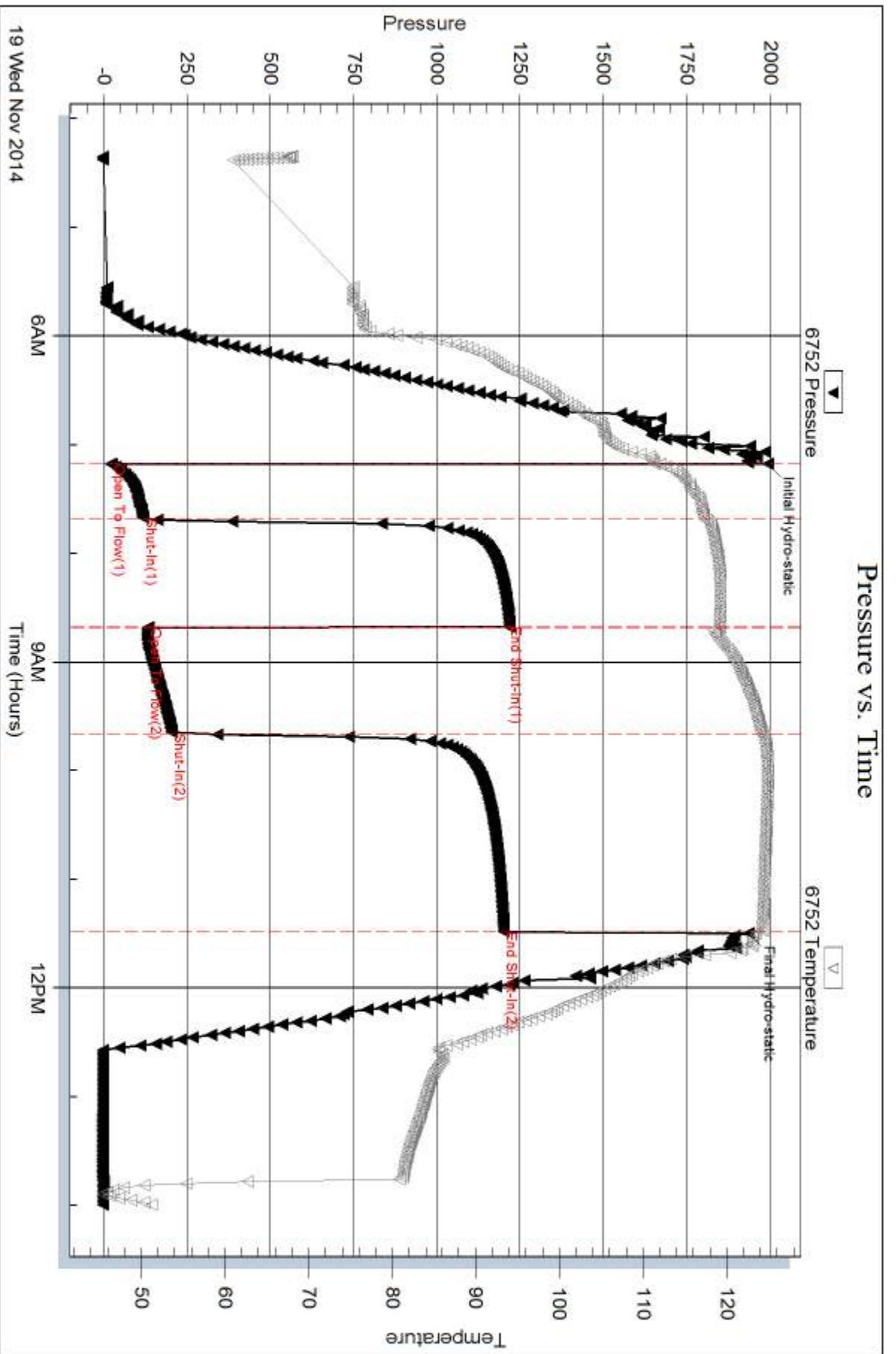
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

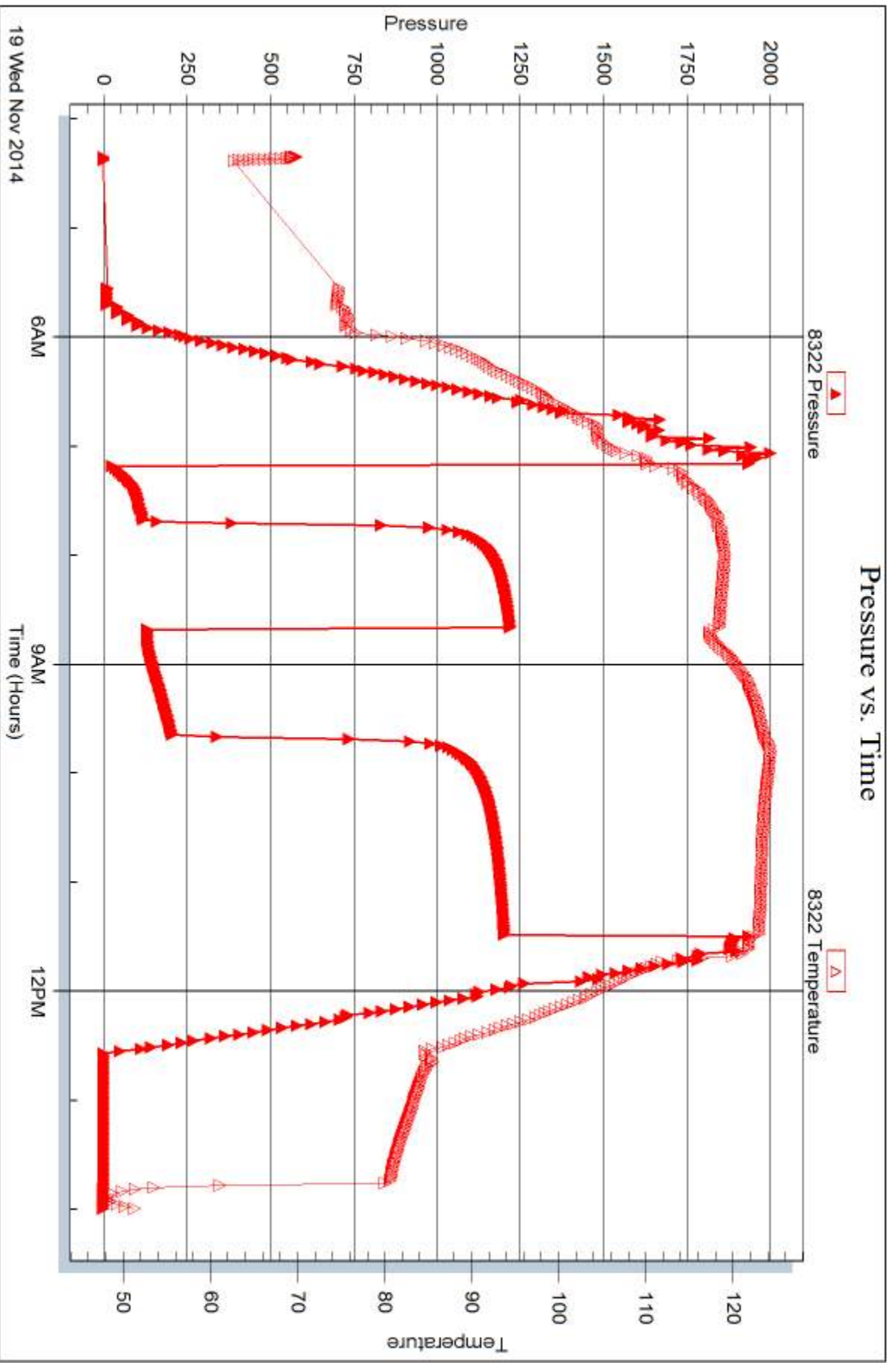


Serial #: 8322

Outside Murfin Drilling Co. Inc.

Sanison #1-24

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 60868

Printed: 2014.11.26 @ 09:36:18



DRILL STEM TEST REPORT

Prepared For: **Murfin Driling Co. Inc.**

250 N. Water STE 300
Wichita KS 67206

ATTN: Rocky Milford

Samson #1-24

24-4s-33w Rawlins KS

Start Date: 2014.11.19 @ 23:27:00

End Date: 2014.11.20 @ 09:32:40

Job Ticket #: 60869 DST #: 3

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

Printed: 2014.11.26 @ 09:35:55

Murfin Driling Co. Inc.
24-4s-33w Rawlins KS
Samson #1-24
DST # 3
LKC "B - D"
2014.11.19



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

24-4s-33w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

Samson #1-24

Job Ticket: 60869

DST#: 3

ATTN: Rocky Milford

Test Start: 2014.11.19 @ 23:27:00

GENERAL INFORMATION:

Formation: **LKC "B - D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:17:20

Time Test Ended: 09:32:40

Test Type: Conventional Bottom Hole (Initial)

Tester: Donovan Baumann

Unit No: 78

Interval: 3955.00 ft (KB) To 4003.00 ft (KB) (TVD)

Reference Elevations: 3024.00 ft (KB)

Total Depth: 4003.00 ft (KB) (TVD)

3019.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 6752 Inside

Press@RunDepth: 461.79 psig @ 3956.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.19 End Date: 2014.11.20

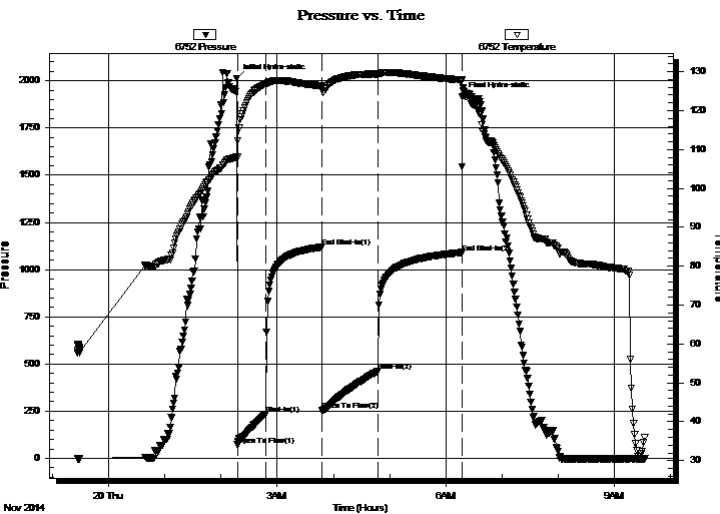
Last Calib.: 2014.11.20

Start Time: 23:27:01 End Time: 09:32:40

Time On Btm: 2014.11.20 @ 02:17:00

Time Off Btm: 2014.11.20 @ 06:17:39

TEST COMMENT: 30 - IF - Strong surface blow built to BOB in 3 min. (In Deisel)
60 - ISI - Return built to BOB in 13 min.
60 - FF - Strong surface blow built to BOB in 5 min. (In Deisel)
90 - FSI - Return built to BOB in 20 min.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2012.72	108.19	Initial Hydro-static
1	71.53	107.97	Open To Flow (1)
31	235.34	126.79	Shut-In(1)
91	1118.96	126.26	End Shut-In(1)
91	253.45	125.63	Open To Flow (2)
151	461.79	129.41	Shut-In(2)
241	1087.31	127.83	End Shut-In(2)
241	1917.54	127.78	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
250.00	GOCM - 10G - 40o - 50M	1.80
960.00	GCO - 10G - 90o	13.47
0.00	804' 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. Inc.

24-4s-33w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

Samson #1-24

Job Ticket: 60869

DST#: 3

ATTN: Rocky Milford

Test Start: 2014.11.19 @ 23:27:00

Tool Information

Drill Pipe:	Length: 3772.00 ft	Diameter: 3.80 inches	Volume: 52.91 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: 187.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose: 78000.00 lb
			<u>Total Volume: 53.83 bbl</u>	Tool Chased 4.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	3955.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	48.00 ft			
Tool Length:	75.00 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			3929.00	
Shut In Tool	5.00			3934.00	
Hydraulic tool	5.00			3939.00	
Jars	5.00			3944.00	
Safety Joint	2.00			3946.00	
Packer	5.00			3951.00	27.00 Bottom Of Top Packer
Packer	4.00			3955.00	
Stubb	1.00			3956.00	
Recorder	0.00	6752	Inside	3956.00	
Recorder	0.00	8322	Outside	3956.00	
Perforations	11.00			3967.00	
Change Over Sub	1.00			3968.00	
Drill Pipe	31.00			3999.00	
Change Over Sub	1.00			4000.00	
Bullnose	3.00			4003.00	48.00 Bottom Packers & Anchor

Total Tool Length: 75.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

24-4s-33w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

Samson #1-24

Job Ticket: 60869

DST#: 3

ATTN: Rocky Milford

Test Start: 2014.11.19 @ 23:27:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 50.00 sec/qt

Water Loss: 7.58 in³

Resistivity: 0.00 ohm.m

Salinity: 3600.00 ppm

Filter Cake: 2.00 inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
250.00	GOCM - 10G - 40o - 50M	1.803
960.00	GCO - 10G - 90o	13.466
0.00	804' GIP	0.000

Total Length: 1210.00 ft Total Volume: 15.269 bbl

Num Fluid Samples: 0

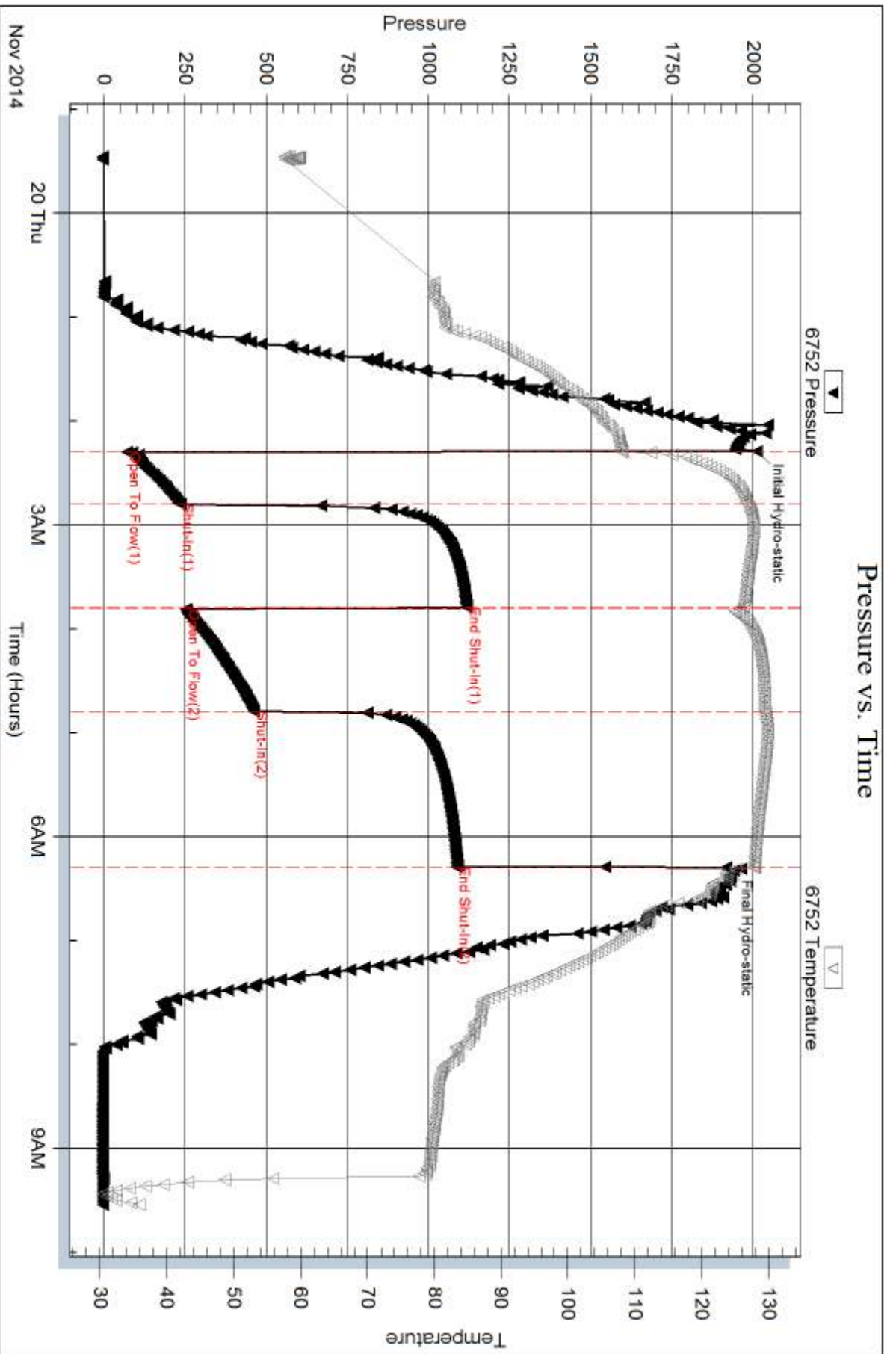
Num Gas Bombs: 0

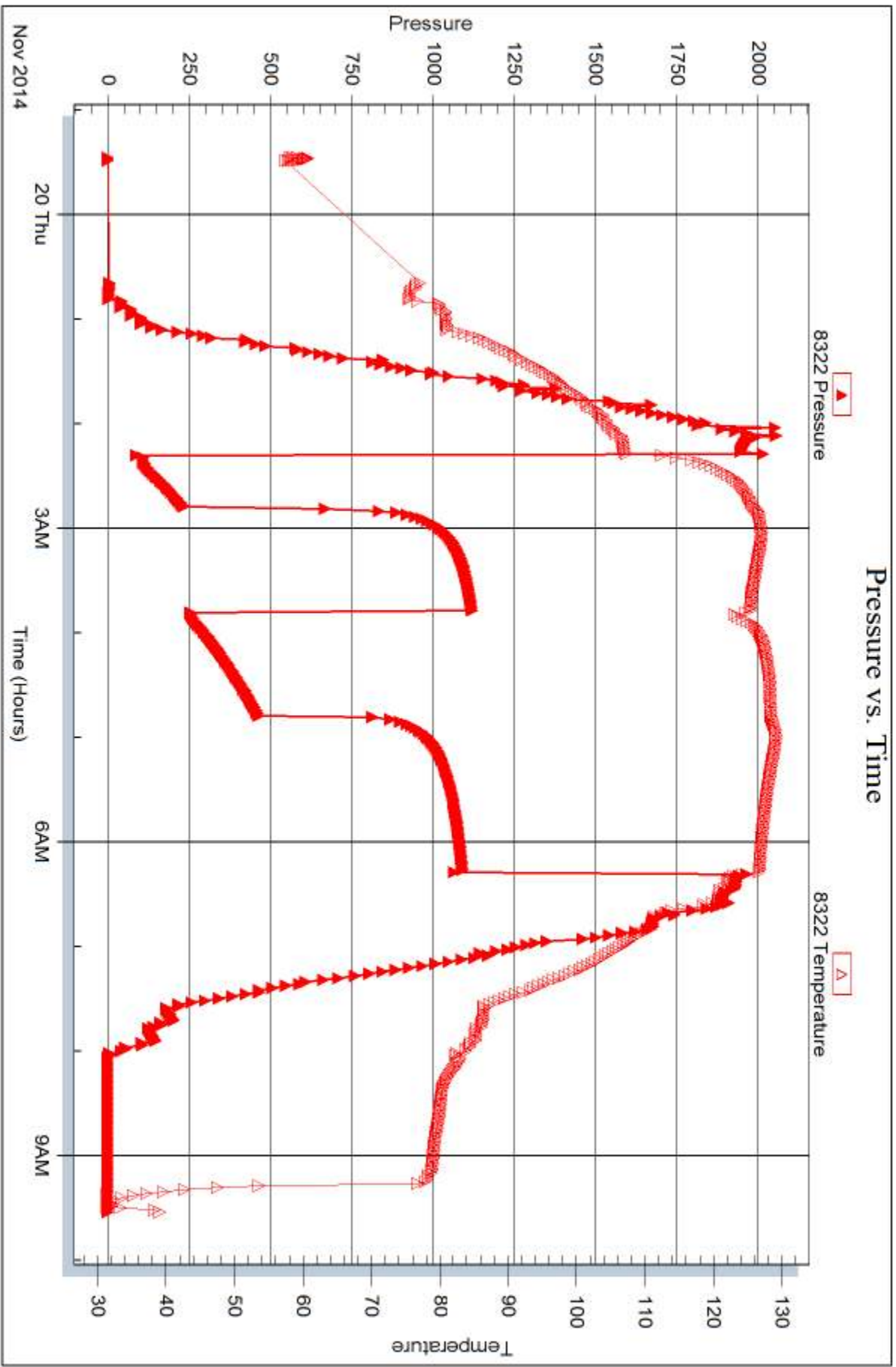
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Murfin Driling Co. Inc.**

250 N. Water STE 300
Wichita KS 67206

ATTN: Rocky Milford

Samson #1-24

24-4s-33w Rawlins KS

Start Date: 2014.11.20 @ 18:20:00

End Date: 2014.11.21 @ 05:27:00

Job Ticket #: 60870 DST #: 4

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

Printed: 2014.11.26 @ 09:35:32

Murfin Driling Co. Inc. 24-4s-33w Rawlins KS Samson #1-24 DST # 4 LKC "F - G" 2014.11.20



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

24-4s-33w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

Samson #1-24

Job Ticket: 60870

DST#: 4

ATTN: Rocky Milford

Test Start: 2014.11.20 @ 18:20:00

GENERAL INFORMATION:

Formation: **LKC "F - G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:46:20

Time Test Ended: 05:27:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Donovan Baumann

Unit No: 78

Interval: 3997.00 ft (KB) To 4052.00 ft (KB) (TVD)

Reference Elevations: 3024.00 ft (KB)

Total Depth: 4052.00 ft (KB) (TVD)

3019.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 6752

Inside

Press@RunDepth: 505.79 psig @ 3998.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.20

End Date: 2014.11.21

Last Calib.: 2014.11.21

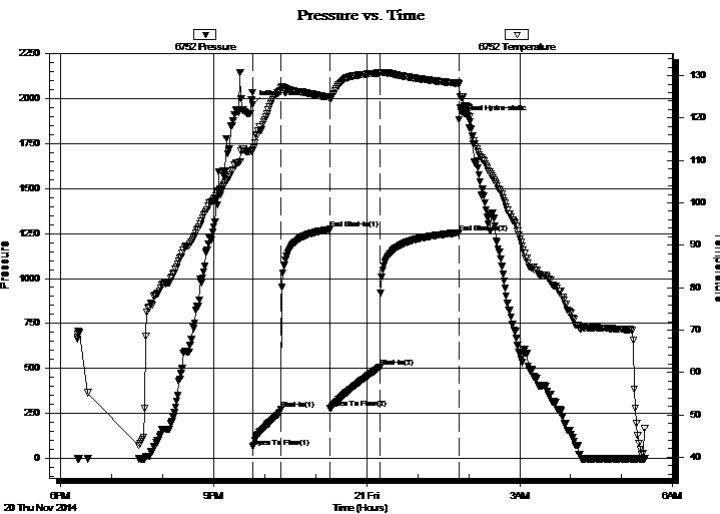
Start Time: 18:20:01

End Time: 05:27:00

Time On Btm: 2014.11.20 @ 21:46:00

Time Off Btm: 2014.11.21 @ 01:49:00

TEST COMMENT: 30 - IF - Strong surface blow built to BOB in 4 min. (In Deisel)
60 - ISI - Return built to 1 1/2" in 8 min and stayed for the rest of the shut-in
60 - FF - Strong surface blow built to BOB in 7 min.
90 - FSI - Return built to 1/4" in 10 min. and stayed there



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1965.98	112.60	Initial Hydro-static
1	64.03	112.50	Open To Flow (1)
34	272.22	127.15	Shut-In(1)
91	1273.04	125.00	End Shut-In(1)
91	278.94	124.57	Open To Flow (2)
150	505.79	130.67	Shut-In(2)
243	1254.75	128.21	End Shut-In(2)
243	1883.05	127.82	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
691.00	MCW - 5M - 95W	7.99
189.00	OCWM - 10o - 20W - 70M	2.65
126.00	OCM - 10o - 90M	1.77

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

24-4s-33w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

Samson #1-24

Job Ticket: 60870

DST#: 4

ATTN: Rocky Milford

Test Start: 2014.11.20 @ 18:20:00

Tool Information

Drill Pipe:	Length: 3804.00 ft	Diameter: 3.80 inches	Volume: 53.36 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: 187.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose:	82000.00 lb
			<u>Total Volume: 54.28 bbl</u>	Tool Chased	10.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial	64000.00 lb
Depth to Top Packer:	3997.00 ft			Final	68000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	55.00 ft				
Tool Length:	82.00 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			3971.00	
Shut In Tool	5.00			3976.00	
Hydraulic tool	5.00			3981.00	
Jars	5.00			3986.00	
Safety Joint	2.00			3988.00	
Packer	5.00			3993.00	27.00 Bottom Of Top Packer
Packer	4.00			3997.00	
Stubb	1.00			3998.00	
Recorder	0.00	6752	Inside	3998.00	
Recorder	0.00	8322	Outside	3998.00	
Perforations	18.00			4016.00	
Change Over Sub	1.00			4017.00	
Drill Pipe	31.00			4048.00	
Change Over Sub	1.00			4049.00	
Bullnose	3.00			4052.00	55.00 Bottom Packers & Anchor

Total Tool Length: 82.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

24-4s-33w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

Samson #1-24

Job Ticket: 60870

DST#: 4

ATTN: Rocky Milford

Test Start: 2014.11.20 @ 18:20:00

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:

17000 ppm

Viscosity: 47.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.97 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
691.00	MCW - 5M - 95W	7.989
189.00	OCWM - 10o - 20W - 70M	2.651
126.00	OCM - 10o - 90M	1.767

Total Length: 1006.00 ft Total Volume: 12.407 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

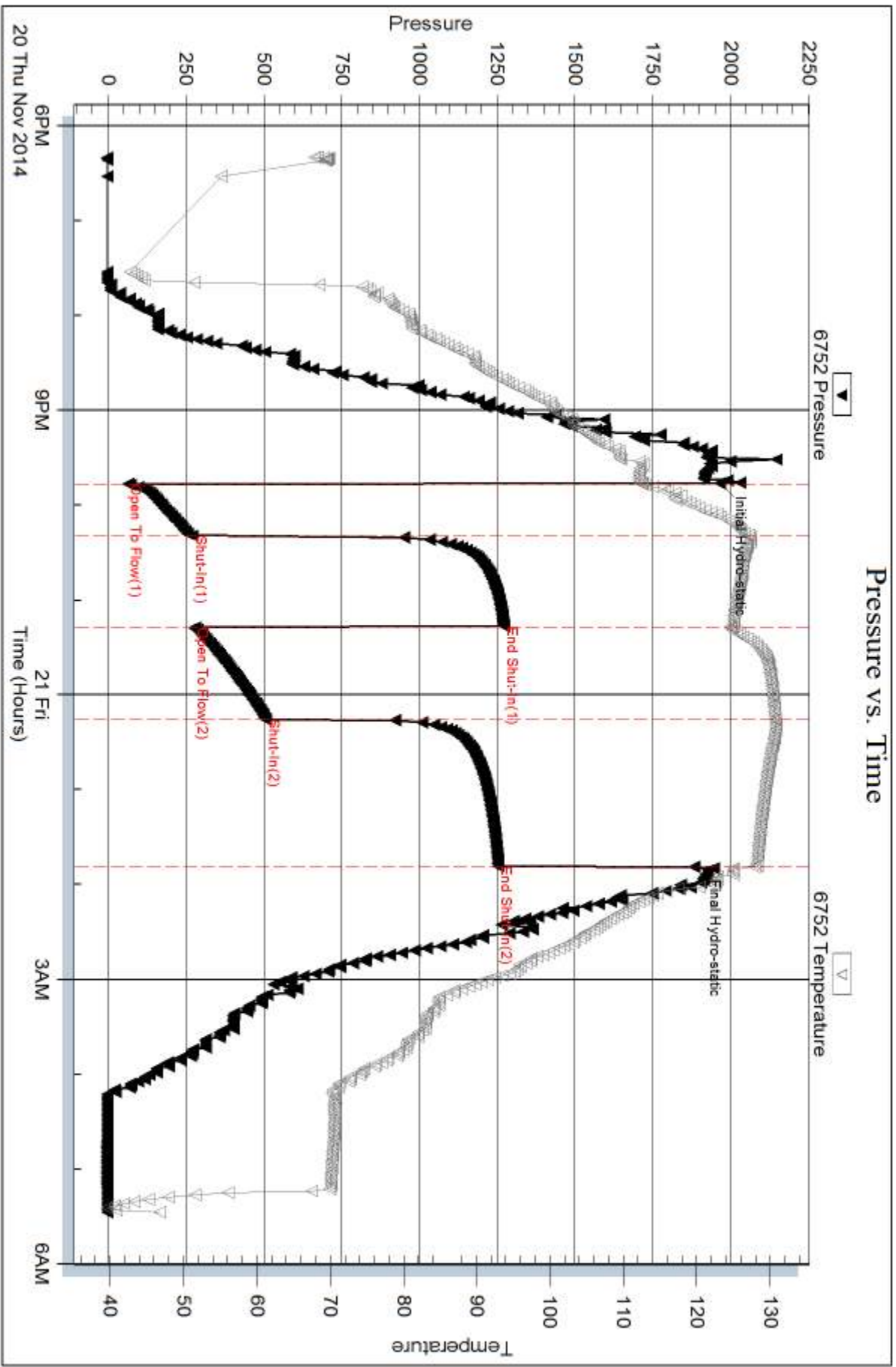
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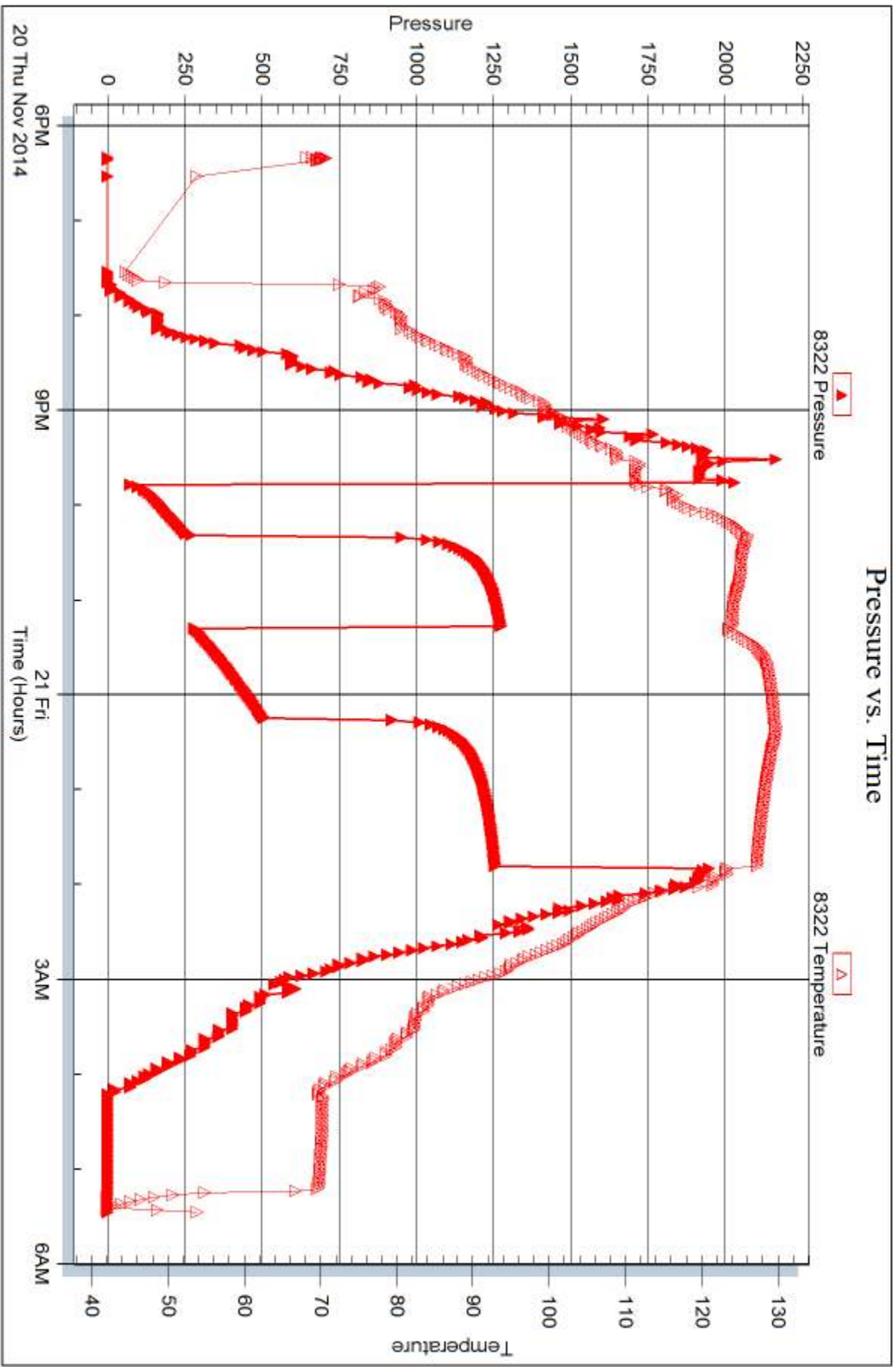
Laboratory Name:

Laboratory Location:

Recovery Comments: API RW .79 @ 35 deg

Chlorides 17000 ppm







DRILL STEM TEST REPORT

Prepared For: **Murfin Driling Co. Inc.**

250 N. Water STE 300
Wichita KS 67206

ATTN: Rocky Milford

Samson #1-24

24-4s-33w Rawlins KS

Start Date: 2014.11.21 @ 15:40:00

End Date: 2014.11.22 @ 00:11:39

Job Ticket #: 60871 DST #: 5

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

Printed: 2014.11.26 @ 09:35:08

Murfin Driling Co. Inc. 24-4s-33w Rawlins KS Samson #1-24 DST # 5 LKC "H - J" 2014.11.21



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

24-4s-33w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

Samson #1-24

Job Ticket: 60871

DST#: 5

ATTN: Rocky Milford

Test Start: 2014.11.21 @ 15:40:00

GENERAL INFORMATION:

Formation: **LKC "H - J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:14:50

Time Test Ended: 00:11:39

Test Type: Conventional Bottom Hole (Initial)

Tester: Donovan Baumann

Unit No: 78

Interval: 4046.00 ft (KB) To 4125.00 ft (KB) (TVD)

Reference Elevations: 3024.00 ft (KB)

Total Depth: 4125.00 ft (KB) (TVD)

3019.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 6752

Inside

Press@RunDepth: 437.16 psig @ 4047.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.21

End Date: 2014.11.22

Last Calib.: 2014.11.22

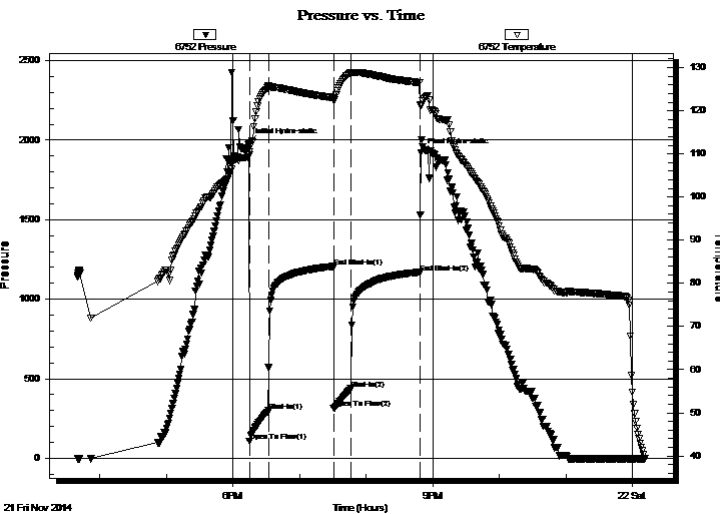
Start Time: 15:40:01

End Time: 00:11:40

Time On Btm: 2014.11.21 @ 18:14:30

Time Off Btm: 2014.11.21 @ 20:49:30

TEST COMMENT: 15 - IF - Strong surface blow built to BOB in 2 min. (In Deisel)
60 - ISI - No return
15 - FF - Strong surface blow built to BOB in 3 min. (In Deisel)
60 - FSI - No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1984.00	109.40	Initial Hydro-static
1	104.89	109.76	Open To Flow (1)
18	298.67	125.54	Shut-In(1)
76	1205.08	123.04	End Shut-In(1)
77	315.82	122.71	Open To Flow (2)
92	437.16	128.74	Shut-In(2)
154	1168.01	126.50	End Shut-In(2)
155	1920.64	121.12	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
502.00	MCW - 40M - 60W	5.34
332.00	OSM - Oil Spots - 100M	4.66

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

24-4s-33w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

Samson #1-24

Job Ticket: 60871

DST#: 5

ATTN: Rocky Milford

Test Start: 2014.11.21 @ 15:40:00

Tool Information

Drill Pipe:	Length: 3835.00 ft	Diameter: 3.80 inches	Volume: 53.79 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: 187.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose: 84000.00 lb
			<u>Total Volume: 54.71 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	3.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4046.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	79.00 ft			
Tool Length:	106.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

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

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4020.00	
Shut In Tool	5.00			4025.00	
Hydraulic tool	5.00			4030.00	
Jars	5.00			4035.00	
Safety Joint	2.00			4037.00	
Packer	5.00			4042.00	27.00 Bottom Of Top Packer
Packer	4.00			4046.00	
Stubb	1.00			4047.00	
Recorder	0.00	6752	Inside	4047.00	
Recorder	0.00	8322	Outside	4047.00	
Perforations	10.00			4057.00	
Change Over Sub	1.00			4058.00	
Drill Pipe	63.00			4121.00	
Change Over Sub	1.00			4122.00	
Bullnose	3.00			4125.00	79.00 Bottom Packers & Anchor

Total Tool Length: 106.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

24-4s-33w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

Samson #1-24

Job Ticket: 60871

DST#: 5

ATTN: Rocky Milford

Test Start: 2014.11.21 @ 15:40:00

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: 52.00 sec/qt

Cushion Volume: bbl

Water Loss: 6.79 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure: psig

Salinity: 4000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
502.00	MCW - 40M - 60W	5.338
332.00	OSM - Oil Spots - 100M	4.657

Total Length: 834.00 ft Total Volume: 9.995 bbl

Num Fluid Samples: 0

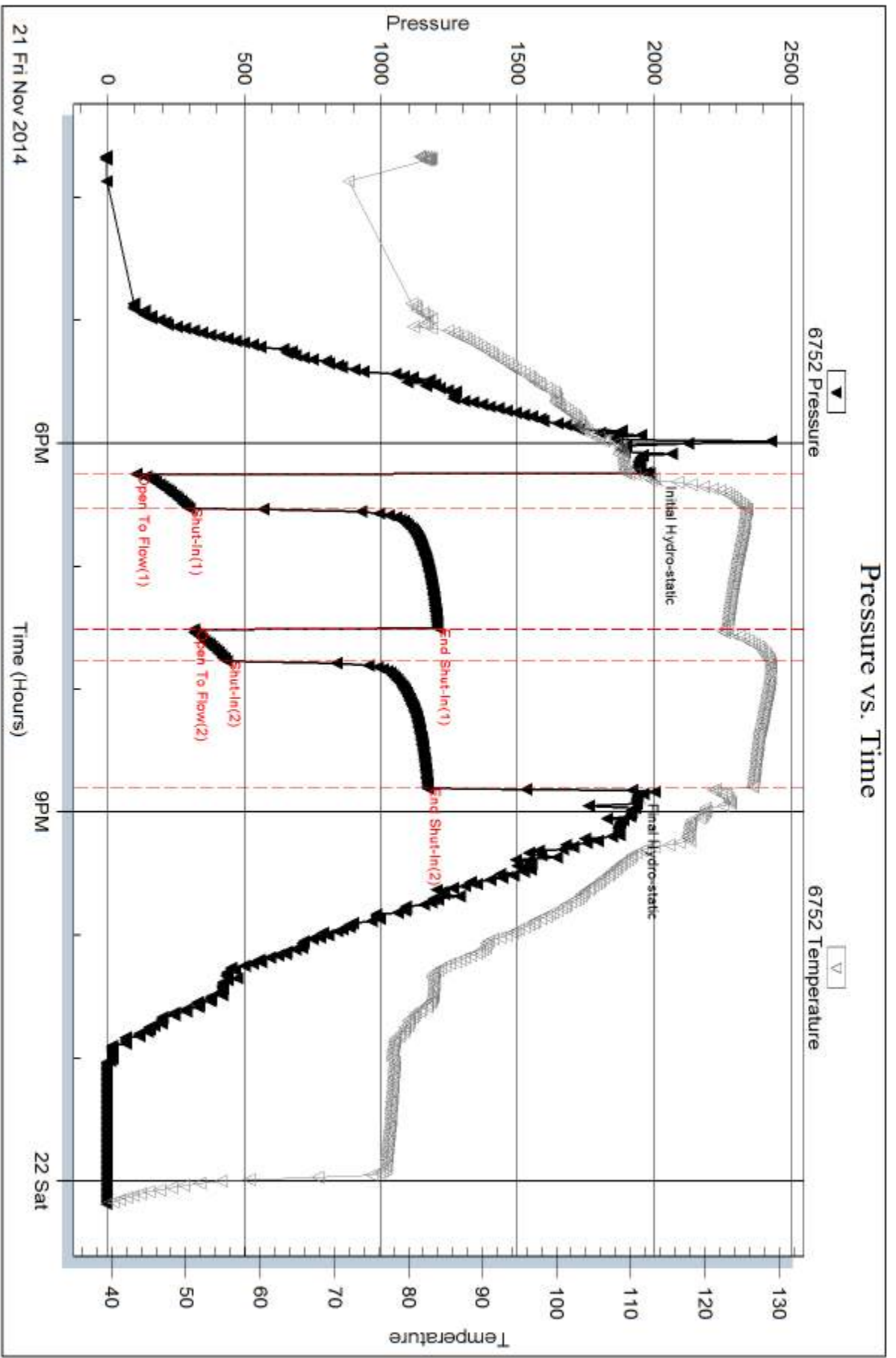
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

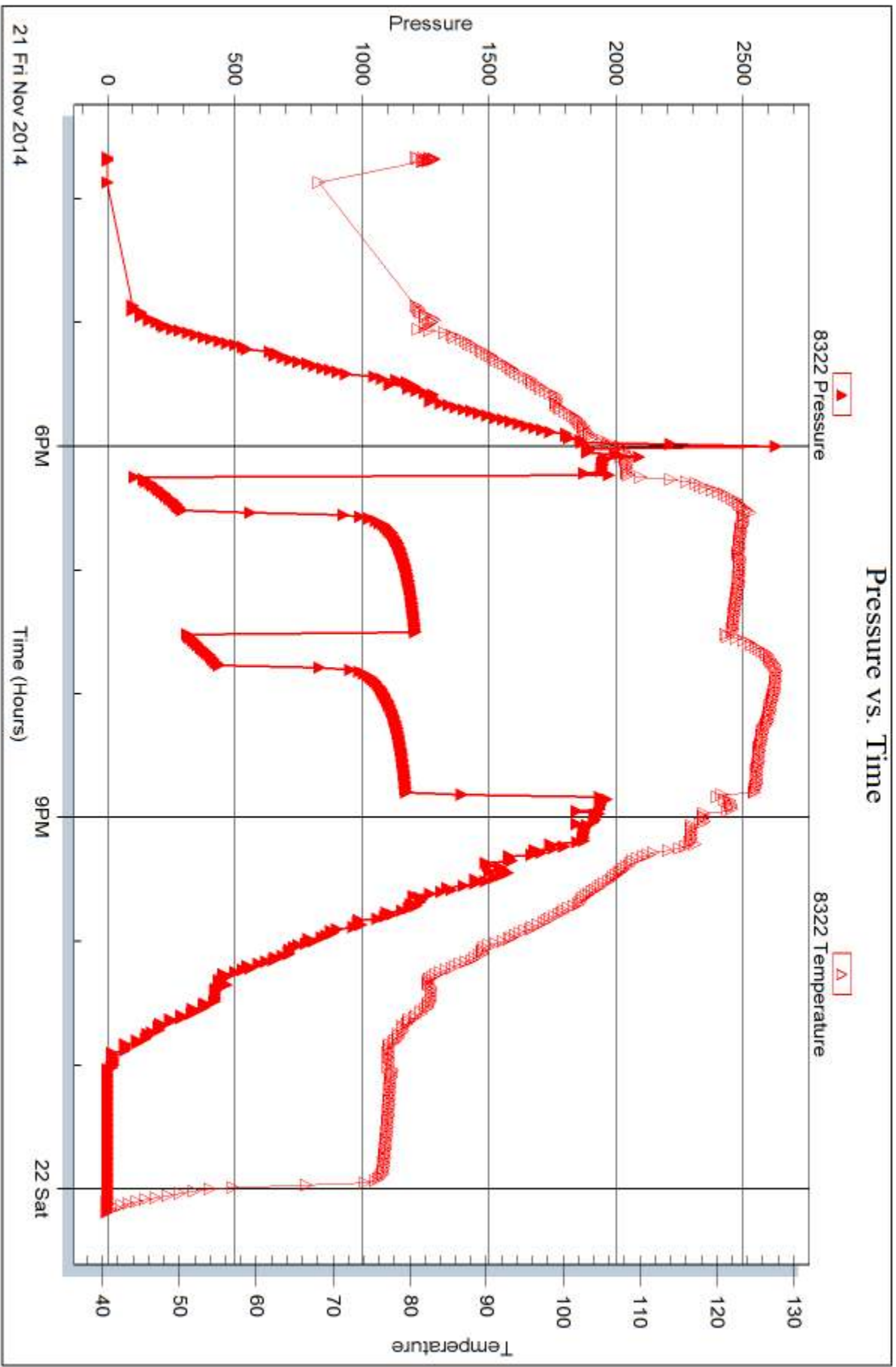


Serial #: 8322

Outside Murfin Drilling Co. Inc.

Sanson #1-24

DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 60871

Printed: 2014.11.26 @ 09:35:09



DRILL STEM TEST REPORT

Prepared For: **Murfin Driling Co. Inc.**

250 N. Water STE 300
Wichita KS 67206

ATTN: Rocky Milford

Samson #1-24

24-4s-33w Rawlins KS

Start Date: 2014.11.22 @ 23:44:00

End Date: 2014.11.23 @ 09:35:49

Job Ticket #: 60872 DST #: 6

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

Printed: 2014.11.26 @ 09:34:33



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

24-4s-33w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

Samson #1-24

Job Ticket: 60872

DST#: 6

ATTN: Rocky Milford

Test Start: 2014.11.22 @ 23:44:00

GENERAL INFORMATION:

Formation: **Lower Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:56:20

Time Test Ended: 09:35:49

Test Type: Conventional Bottom Hole (Initial)

Tester: Donovan Baumann

Unit No: 78

Interval: 4307.00 ft (KB) To 4347.00 ft (KB) (TVD)

Reference Elevations: 3024.00 ft (KB)

Total Depth: 4347.00 ft (KB) (TVD)

3019.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 6752 Inside

Press@RunDepth: 218.18 psig @ 4308.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.22

End Date: 2014.11.23

Last Calib.: 2014.11.23

Start Time: 23:44:01

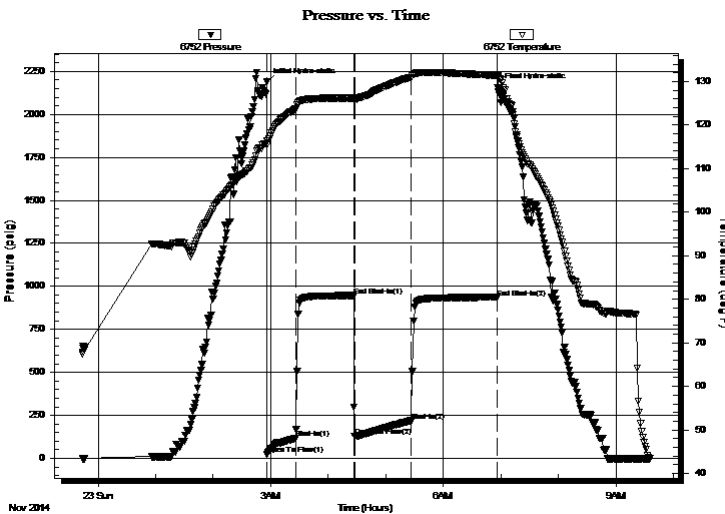
End Time: 09:35:49

Time On Btm: 2014.11.23 @ 02:56:10

Time Off Btm: 2014.11.23 @ 06:56:39

TEST COMMENT: 30 - IF - Strong surface blow built to BOB in 10 min. (In Diesel)
60 - ISI - Return built to 9" in 32 min. and stayed there
60 - FF - Weak surface blow built to BOB in 14 min. (In Diesel)
90 - FSI - Return built to 9" in 30 min and stayed there

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2187.10	116.29	Initial Hydro-static
1	22.41	115.55	Open To Flow (1)
30	116.18	123.67	Shut-In(1)
91	946.07	126.22	End Shut-In(1)
92	129.99	126.00	Open To Flow (2)
151	218.18	130.99	Shut-In(2)
240	934.86	131.37	End Shut-In(2)
241	2152.80	131.02	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
235.00	GMOC - 20G - 40M - 40o	1.59
141.00	GCO - 20G - 80o	1.98
157.00	GCO - 5G - 95o	2.20
0.00	535' 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. Inc.

24-4s-33w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

Samson #1-24

Job Ticket: 60872

DST#: 6

ATTN: Rocky Milford

Test Start: 2014.11.22 @ 23:44:00

Tool Information

Drill Pipe:	Length: 4120.00 ft	Diameter: 3.80 inches	Volume: 57.79 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: 187.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 58.71 bbl</u>	Tool Chased	1.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial	64000.00 lb
Depth to Top Packer:	4307.00 ft			Final	66000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	40.00 ft				
Tool Length:	67.00 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			4281.00	
Shut In Tool	5.00			4286.00	
Hydraulic tool	5.00			4291.00	
Jars	5.00			4296.00	
Safety Joint	2.00			4298.00	
Packer	5.00			4303.00	27.00 Bottom Of Top Packer
Packer	4.00			4307.00	
Stubb	1.00			4308.00	
Recorder	0.00	6752	Inside	4308.00	
Recorder	0.00	8322	Outside	4308.00	
Perforations	36.00			4344.00	
Bullnose	3.00			4347.00	40.00 Bottom Packers & Anchor

Total Tool Length: 67.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

24-4s-33w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

Samson #1-24

Job Ticket: 60872

DST#: 6

ATTN: Rocky Milford

Test Start: 2014.11.22 @ 23:44:00

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: 6000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
235.00	GMOC - 20G - 40M - 40o	1.593
141.00	GCO - 20G - 80o	1.978
157.00	GCO - 5G - 95o	2.202
0.00	535' GIP	0.000

Total Length: 533.00 ft

Total Volume: 5.773 bbl

Num Fluid Samples: 0

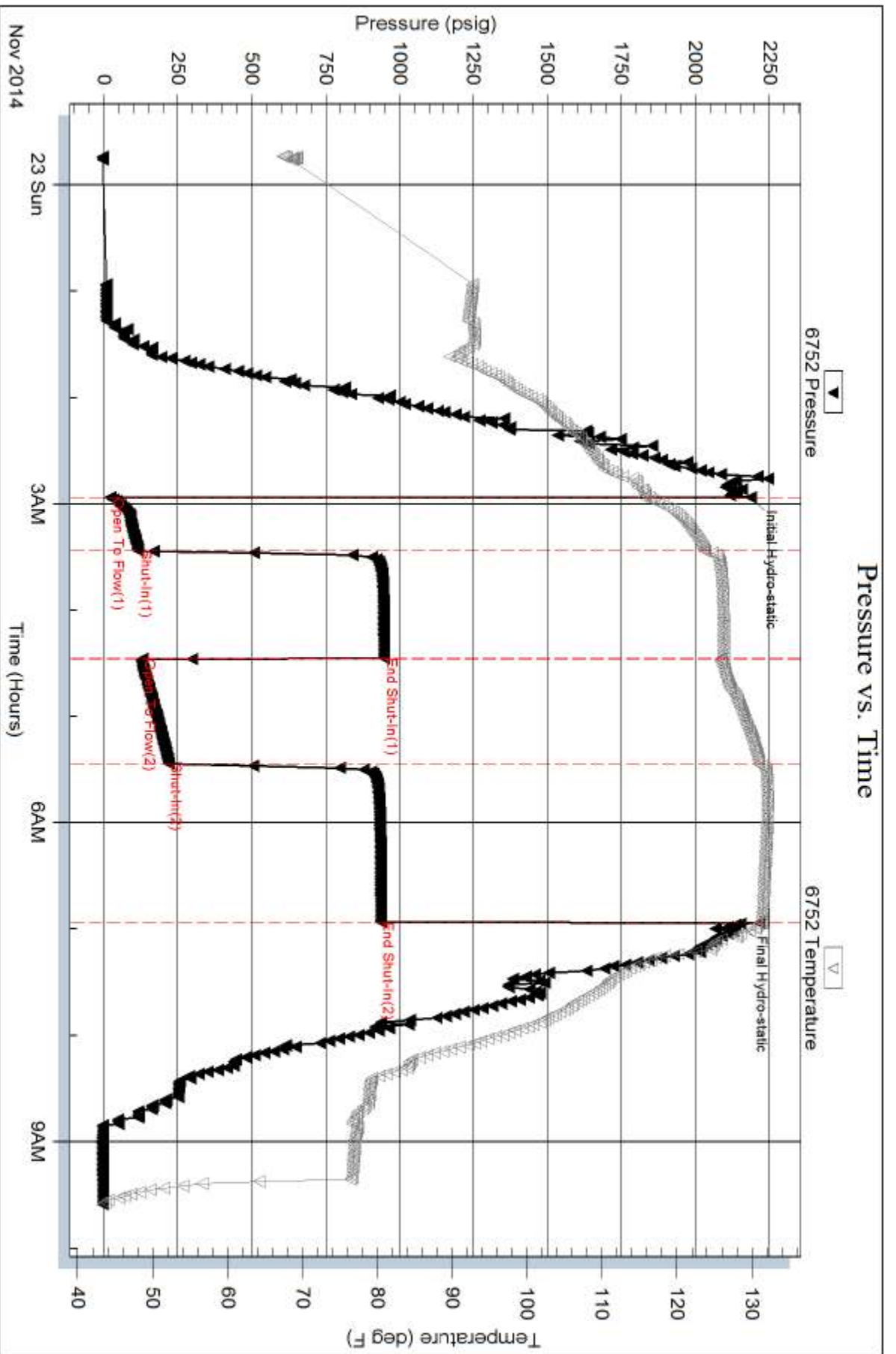
Num Gas Bombs: 0

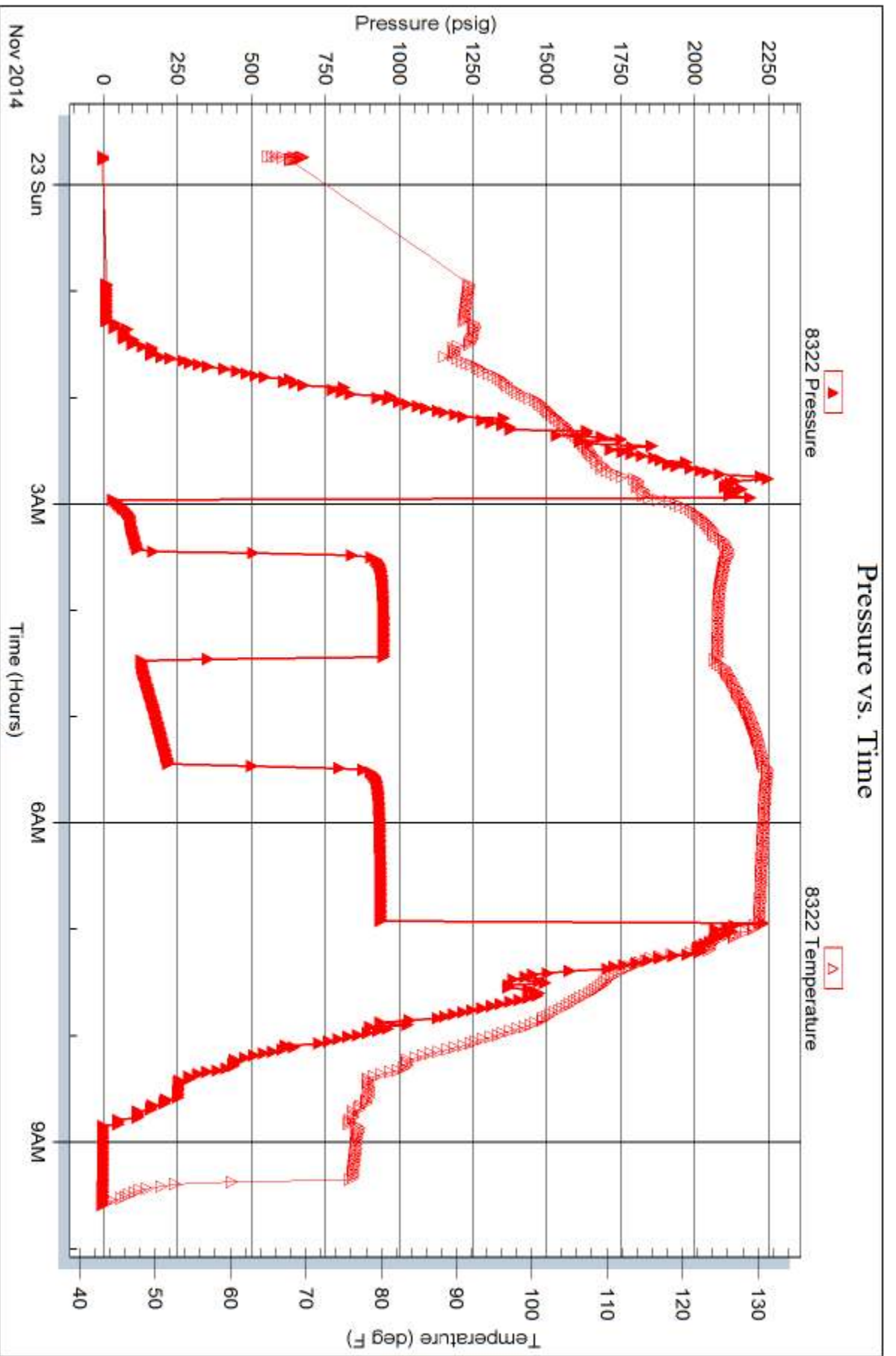
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 60046

4/10

Well Name & No. Samson #1-24 Test No. 1 Date 11/18/14
 Company Murfin Drilling Co. Inc. Elevation 3024 KB 3019 GL
 Address 250 N. Water STE 300 Wichita KS 67206
 Co. Rep / Geo. Rocky Milford Rig Murfin # 7
 Location: Sec. 24 Twp. 4S Rge. 33W Co. Kawlin State KS

Interval Tested 3748 - 3820 Zone Tested Deer Creek
 Anchor Length 72' Drill Pipe Run 3551' Mud Wt. 9.0
 Top Packer Depth 3743 Drill Collars Run 187' Vis 48
 Bottom Packer Depth 3748 Wt. Pipe Run 0' WL 7.2
 Total Depth 3820 Chlorides 2900 ppm System LCM 1 1/2
 Blow Description IF - 1/2" built to Bob @ 19 mins (in diesel)
ISI - No return

FF - Surface blow built to Bob @ 27 mins
FSI - Surface blow started @ 6 mins built to 1"

Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>OSMCW</u>	<u>Spots</u>	<u>55</u>	<u>45</u>	
<u>313'</u>	<u>MCW</u>		<u>85</u>	<u>15</u>	
<u>63</u>	<u>MCW</u>		<u>80</u>	<u>20</u>	

Rec Total 391' BHT 119° Gravity — API RW .250 @ 59° F Chlorides 34000 ppm
 (A) Initial Hydrostatic 1862 Test 1150 T-On Location 03:30
 (B) First Initial Flow 24 Jars 250 T-Started 04:35
 (C) First Final Flow 117 Safety Joint 75 T-Open 08:15
 (D) Initial Shut-In 1172 Circ Sub NC T-Pulled 12:15
 (E) Second Initial Flow 122 Hourly Standby T-Out 14:27
 (F) Second Final Flow 196 Mileage 68 RT 105.40 Comments _____
 (G) Final Shut-In 1160 Sampler _____
 (H) Final Hydrostatic 1768 Straddle _____
 Shale Packer 250 Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Extra Copies _____
 Initial Open 30 Day Standby _____ Sub Total 0
 Initial Shut-In 60 Accessibility _____ Total 1830.40
 Final Flow 60 Sub Total 1830.40 MP/DST Disc't _____
 Final Shut-In 90

Approved By _____ Our Representative Rocky Milford

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **60868**

D

Well Name & No. Samson # 1-24 Test No. 2 Date 11-19-14
 Company Murfin Drilling Co., Inc Elevation 3024 KB 3019 GL
 Address 250 N. water STE 300, Wichita, KS, 67206
 Co. Rep / Geo. Rocky Milford Rig Murfin #7
 Location: Sec. 24 Twp. 4S Rge. 33W Co. Rawlins State KS

Interval Tested 3898' - 3960' Zone Tested Toronto-LKC "A"
 Anchor Length 62' Drill Pipe Run 370q' Mud Wt. 9.4
 Top Packer Depth 3893' Drill Collars Run 187 Vis 48 50
 Bottom Packer Depth 3898' Wt. Pipe Run 0 WL 7.6
 Total Depth 3960 Chlorides 2800 3600 ppm System LCM #1.5 #1

Blow Description IF - Strong surface blow built to BOB in 12 min. (In Deisel)
ISI - return built to 6 in. in 50 min. & stayed (In Deisel)
FK - Strong surface blow built to BOB in 7 min. (In Deisel)
FSE - Return built to BOB in 38 min. (In Deisel)

Rec	Feet of	%gas	%oil	%water	%mud
<u>156</u>	<u>GCO</u>	<u>35</u>	<u>65</u>		
<u>126</u>	<u>MCGO</u>	<u>30</u>	<u>65</u>		<u>5</u>
<u>250</u>	<u>MCGO</u>	<u>30</u>	<u>45</u>		<u>25</u>
<u>597</u>	<u>gas in pipe</u>				
1129					

Rec Total 1129 BHT 124 Gravity 26 API RW @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1993 Test 1150 T-On Location 3:00am
 (B) First Initial Flow 22 Jars 250 T-Started 4:21am
 (C) First Final Flow 118 Safety Joint 75 T-Open 7:10am
 (D) Initial Shut-In 1215 Circ Sub n/c T-Pulled 11:29am
 (E) Second Initial Flow 133 Hourly Standby _____ T-Out 2:00pm
 (F) Second Final Flow 204 Mileage 68R/T 105.40 Comments _____
 (G) Final Shut-In 1201 Sampler _____
 (H) Final Hydrostatic 1935 Straddle _____

Initial Open 30 Ruined Shale Packer _____
 Initial Shut-In 60 Ruined Packer _____
 Final Flow 60 Extra Copies _____
 Final Shut-In 90 Extra Recorder _____
 Sub Total 0
 Total 1580.40
 MP/DST Disc't _____
 Sub Total 1580.40

Approved By _____ Our Representative [Signature]

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 60869

Well Name & No. Samson #1-24 Test No. 3 Date 11-19-14
 Company Murfin Drilling Co., Inc. Elevation 3024 KB 3019 GL
 Address 250 N. Water STE 300, Wichita, KS, 67206
 Co. Rep / Geo. Rocky Milford Rig Murfin #7
 Location: Sec. 24 Twp. 4S Rge. 33W Co. Rawlins State KS

Interval Tested 3955'-4003' Zone Tested LKC "B-D"
 Anchor Length 48' Drill Pipe Run 3772 Mud Wt. 9.4
 Top Packer Depth 3950' Drill Collars Run 187 Vis 50
 Bottom Packer Depth 3955' Wt. Pipe Run Ø WL 7.6
 Total Depth 4003' Chlorides 3600 ppm System LCM #1
 Blow Description IF - Strong surface blow built to BOB in 3 min. (In Deisel)
ISF - return built to BOB in 13 min.
FF - Strong surface blow built to BOB in 5 min (In Deisel)
FSI - return built to BOB in 20 min.

Rec	Feet of	%gas	%oil	%water	%mud
960	600	10	90		
250	60cm	10	40		50
	804 gas in pipe				

Rec Total 1210 BHT 128 Gravity 29 API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2013 Test 1250 T-On Location 10:16 pm
 (B) First Initial Flow 72 Jars 250 T-Started 11:27 pm
 (C) First Final Flow 235 Safety Joint 75 T-Open 2:17 am 11-20
 (D) Initial Shut-In 1119 Circ Sub n/c T-Pulled 6:17 am 11-20
 (E) Second Initial Flow 253 Hourly Standby _____ T-Out 9:33 am 11-20
 (F) Second Final Flow 462 Mileage 68 RIT 105.40 Comments _____
 (G) Final Shut-In 1087 Sampler _____
 (H) Final Hydrostatic 1918 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 30 Extra Recorder _____ Sub Total 0
 Initial Shut-In 60 Day Standby _____ Total 1680.40
 Final Flow 60 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 90 Sub Total 1680.40

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **60870**

Well Name & No. Samson # 1-24 Test No. 4 Date 11-20-14
 Company Murfin Drilling Co., Inc. Elevation 3024 KB 3019 GL
 Address 250 N. Water STE 300, Wichita, KS, 67206
 Co. Rep / Geo. Rocky Milford Rig Murfin #7
 Location: Sec. 24 Twp. 4S Rge. 33w Co. Rawlins State KS

Interval Tested 3997'-4052' Zone Tested LKC 'F-G'
 Anchor Length 53' Drill Pipe Run 3804 Mud Wt. 9.4
 Top Packer Depth 3992' Drill Collars Run 187 Vis 47
 Bottom Packer Depth 3997' Wt. Pipe Run Ø WL 8
 Total Depth 4052' Chlorides 3600 ppm System LCM #.5

Blow Description IF-Strong surface blow built to BOB in 4 min. (In Diesel)
ISI-Return built to 1 1/2 in. in 8 min & stayed for the rest of the shut-in
FF-Strong surface blow built to BOB in 7 min.
FSI-Return built to 1/4 in. in 10 min. & stayed there

Rec	Feet of	%gas	%oil	%water	%mud
<u>126</u>	<u>0cm</u>	<u>10</u>	<u>10</u>	<u>90</u>	<u>90</u>
<u>189</u>	<u>0cwm</u>	<u>10</u>	<u>20</u>	<u>70</u>	<u>70</u>
<u>691</u>	<u>mcw</u>	<u>95</u>	<u>5</u>	<u>5</u>	<u>5</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 1006 BHT 128 Gravity _____ API RW 179 @ 35 ° F Chlorides 17000 ppm

(A) Initial Hydrostatic <u>1966</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>4:40pm</u>
(B) First Initial Flow <u>64</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>6:20pm</u>
(C) First Final Flow <u>272</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>9:46pm</u>
(D) Initial Shut-In <u>1273</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>11:48am 11-21</u>
(E) Second Initial Flow <u>279</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>5:27am 11-21</u>
(F) Second Final Flow <u>506</u>	<input checked="" type="checkbox"/> Mileage <u>68R/T</u> 105.40	Comments _____
(G) Final Shut-In <u>1255</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1883</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

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

Sub Total 1680.40

Total 1680.40
 MP/DST Disc't _____

Approved By _____ Our Representative [Signature]

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **60871**

Well Name & No. Samson # 1-24 Test No. 5 Date 11-21-14
 Company Murfin Drilling Co., Inc Elevation 3024 KB 3019 GL
 Address 250 N. water STE 300, wichita, KS, 67206
 Co. Rep / Geo. Rocky Milford Rig Murfin #7
 Location: Sec. 24 Twp. 4S Rge. 33w Co. Rawlins State KS

Interval Tested 4046'-4125' Zone Tested LKC "H-J"
 Anchor Length 79 Drill Pipe Run 3635 Mud Wt. 9.2
 Top Packer Depth 4041' Drill Collars Run 187 Vis 52
 Bottom Packer Depth 4046' Wt. Pipe Run Ø WL 6.8
 Total Depth 4125' Chlorides 4000 ppm System LCM #5
 Blow Description FF - Strong surface blow built to BOB in 2 min. (In Deized)
FSI - No return
FF - Strong surface blow built to BOB in 3 min.
FSI - No return

Rec	Feet of	%gas	SPOTS	%oil	%water	%mud
<u>332</u>	<u>OSM</u>				<u>100</u>	
<u>502</u>	<u>MCW</u>				<u>60</u>	<u>40</u>
Rec	Feet of	%gas		%oil	%water	%mud
Rec	Feet of	%gas		%oil	%water	%mud
Rec	Feet of	%gas		%oil	%water	%mud

Rec Total 834 BHT 127 Gravity _____ API RW .8 @ 41 °F Chlorides 14000 ppm
 (A) Initial Hydrostatic 1984 Test 1250 T-On Location 2:39 pm
 (B) First Initial Flow 105 Jars 250 T-Started 3:40 pm
 (C) First Final Flow 299 Safety Joint 75 T-Open 6:15 pm
 (D) Initial Shut-In 1205 Circ Sub _____ T-Pulled 8:48 pm
 (E) Second Initial Flow 316 Hourly Standby _____ T-Out 12:12 am 11-22
 (F) Second Final Flow ~~468~~ 437 Mileage 68 R/T 105.40 Comments _____
 (G) Final Shut-In 1168 Sampler _____
 (H) Final Hydrostatic 1921 Straddle _____

Ruined Shale Packer
 Ruined Packer X2 640
 Extra Copies _____
 Sub Total 640
 Total 2320.40
 MP/DST Disc't _____
 Sub Total 1680.40

Approved By _____ Our Representative Karora Bannan

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **60872**

Well Name & No. Samson #1-24 Test No. 6 Date 11-22-14
 Company Murfin Drilling Co., Inc. Elevation 3024 KB 3019 GL
 Address 250 N. Water STE 300, Wichita, KS, 67206
 Co. Rep / Geo. Rocky Milford Rig Murfin #7
 Location: Sec. 24 Twp. 4S Rge. 33W Co. Rawlins State KS

Interval Tested 4307' - 4347 Zone Tested Lower Pawnee
 Anchor Length 40' Drill Pipe Run 4120 Mud Wt. 9M
 Top Packer Depth 4302' Drill Collars Run 187 Vis 55
 Bottom Packer Depth 4307' Wt. Pipe Run Ø WL 6
 Total Depth 4347' Chlorides 6,000 ppm System LCM #2

Blow Description IF - Strong surface blow built to BOB in 10 min. (In Diesel)
IS - Return built to 9 in. in 32 min + stayed there
FF - Weas surface blow built to BOB in 14 min. (In Diesel)
FSI - Return built to 9 in. in 30 min. + stayed there

Rec	Feet of	%gas	%oil	%water	%mud
<u>157</u>	<u>GCO</u>	<u>5</u>	<u>95</u>		
<u>141</u>	<u>GCO</u>	<u>20</u>	<u>80</u>		
<u>235</u>	<u>GMC0</u>	<u>20</u>	<u>40</u>		<u>40</u>
<u> </u>	<u>535 gas in pipe</u>				
<u> </u>	<u> </u>				

Rec Total 533 BHT 131 Gravity 30 API RW @ ° F Chlorides ppm

(A) Initial Hydrostatic <u>2187</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>10:18 pm</u>
(B) First Initial Flow <u>22</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>11:44 pm</u>
(C) First Final Flow <u>116</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>2:56 am 11-23</u>
(D) Initial Shut-In <u>946</u>	<input checked="" type="checkbox"/> Circ Sub <u>n/c</u>	T-Pulled <u>6:56 am 11-23</u>
(E) Second Initial Flow <u>130</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>9:36 am 11-23</u>
(F) Second Final Flow <u>218</u>	<input checked="" type="checkbox"/> Mileage <u>68 RT</u> 105.40	Comments <u> </u>
(G) Final Shut-In <u>935</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2153</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

Shale Packer
 Extra Packer
 Extra Recorder
 Day Standby
 Accessibility
 Ruined Packer
 Extra Copies
 Sub Total 0
 Total 1680.40
 MP/DST Disc't
 Sub Total 1680.40

Approved By _____

Our Representative General Humand

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