



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N. Water STE 300
Wichita, KS 67202

ATTN: Robert Hendrix

Burk Trust 'A' #5-23

23-1s-36w Rawlins KS

Start Date: 2014.04.27 @ 22:54:00

End Date: 2014.04.28 @ 07:58:15

Job Ticket #: 58153 DST #: 1

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

Printed: 2014.05.01 @ 13:20:52



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

23-1s-36w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Burk Trust 'A' #5-23

Job Ticket: 58153

DST#: 1

ATTN: Robert Hendrix

Test Start: 2014.04.27 @ 22:54:00

GENERAL INFORMATION:

Formation: **Lans. "D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:14:30

Time Test Ended: 07:58:15

Test Type: Conventional Bottom Hole (Initial)

Tester: James Winder

Unit No: 57

Interval: 4225.00 ft (KB) To 4275.00 ft (KB) (TVD)

Reference Elevations: 3268.00 ft (KB)

Total Depth: 4275.00 ft (KB) (TVD)

3257.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 8671

Inside

Press@RunDepth: 131.58 psig @ 4226.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.04.27

End Date:

2014.04.28

Last Calib.:

2014.04.28

Start Time: 22:54:05

End Time:

07:58:15

Time On Btm:

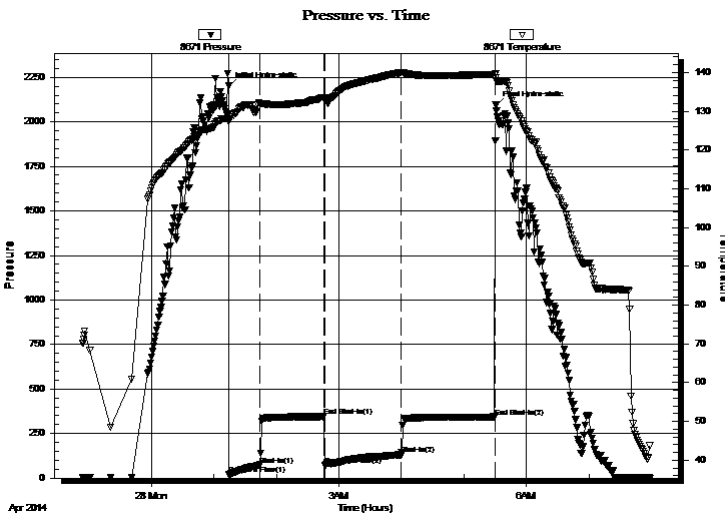
2014.04.28 @ 01:14:15

Time Off Btm:

2014.04.28 @ 05:30:30

TEST COMMENT: 30 - IF: 1/4" Blow at open, built to 4 1/2"
60 - IS: No blow back
75 - FF: Blow started at 7 min., built to 7 3/4"
90 - FS: No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2200.20	128.04	Initial Hydro-static
1	21.22	127.39	Open To Flow (1)
30	74.05	131.87	Shut-In(1)
91	345.35	133.59	End Shut-In(1)
92	72.92	133.37	Open To Flow (2)
166	131.58	140.02	Shut-In(2)
256	343.62	139.54	End Shut-In(2)
257	2093.29	138.76	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
178.00	SOWCM 56% _m , 38% _w , 4% _o , 2% _g	0.88
62.00	SOWCM 80% _m , 13% _w , 7% _o	0.60
7.00	OCM 78% _m , 22% _o	0.10
1.00	Free 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.

23-1s-36w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Burk Trust 'A' #5-23

Job Ticket: 58153

DST#: 1

ATTN: Robert Hendrix

Test Start: 2014.04.27 @ 22:54:00

Tool Information

Drill Pipe:	Length: 4007.00 ft	Diameter: 3.80 inches	Volume: 56.21 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: 208.00 ft	Diameter: 2.25 inches	Volume: 1.02 bbl	Weight to Pull Loose: 100000.0 lb
			<u>Total Volume: 57.23 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 98000.00 lb
Depth to Top Packer:	4225.00 ft			Final 100000.0 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	50.00 ft			
Tool Length:	78.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4202.00	
Hydraulic tool	5.00			4207.00	
Jars	5.00			4212.00	
Safety Joint	3.00			4215.00	
Packer	5.00			4220.00	28.00 Bottom Of Top Packer
Packer	5.00			4225.00	
Stubb	1.00			4226.00	
Recorder	0.00	8671	Inside	4226.00	
Recorder	0.00	8320	Outside	4226.00	
Perforations	13.00			4239.00	
Blank Spacing	33.00			4272.00	
Bullnose	3.00			4275.00	50.00 Bottom Packers & Anchor

Total Tool Length: 78.00



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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

23-1s-36w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Burk Trust 'A' #5-23

Job Ticket: 58153

DST#: 1

ATTN: Robert Hendrix

Test Start: 2014.04.27 @ 22:54:00

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:

14000 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
178.00	SOWCM 56% <i>m</i> , 38% <i>w</i> , 4% <i>o</i> , 2% <i>g</i>	0.875
62.00	SOWCM 80% <i>m</i> , 13% <i>w</i> , 7% <i>o</i>	0.596
7.00	OCM 78% <i>m</i> , 22% <i>o</i>	0.098
1.00	Free Oil	0.014

Total Length: 248.00 ft Total Volume: 1.583 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

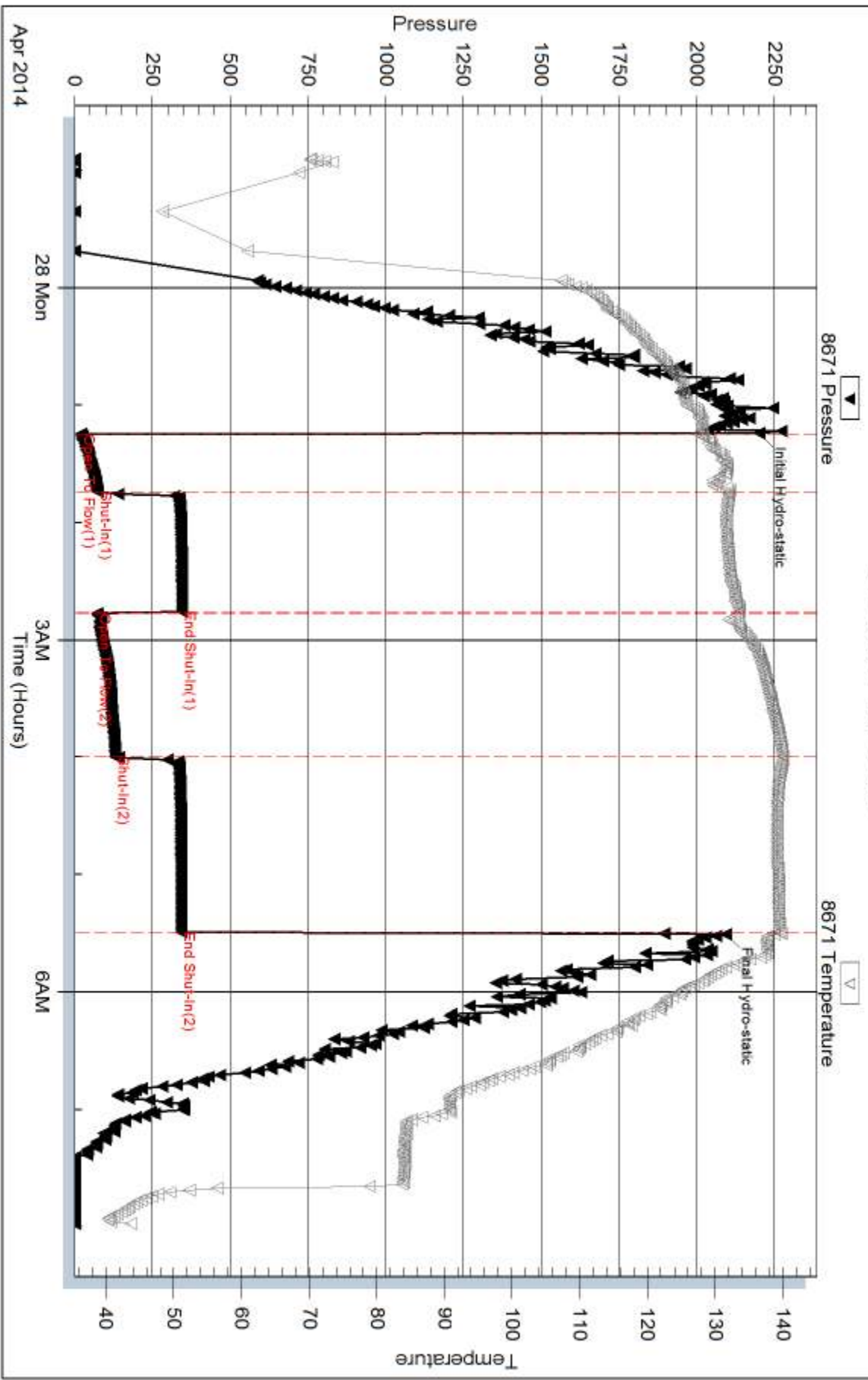
Laboratory Location:

Recovery Comments: LCM 10#

RW = .728 ohms @ 46.5 deg F

Chlorides = 14,000 ppm

Pressure vs. Time

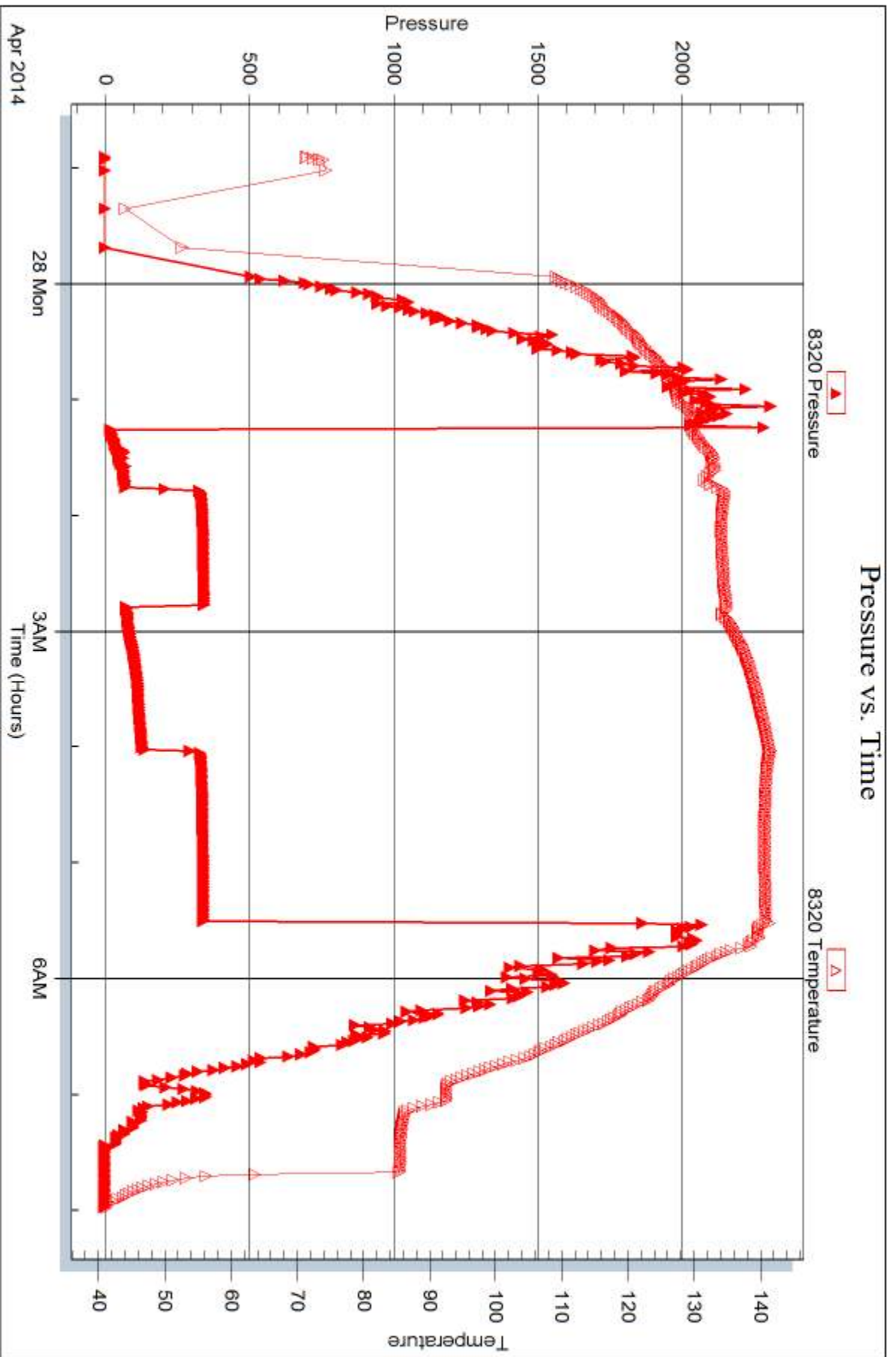


Serial #: 8320

Outside Murfin Drilling Co., Inc.

Burk Trust 'A' #5-23

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 58153

Printed: 2014.05.01 @ 13:20:53



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N. Water STE 300
Wichita, KS 67202

ATTN: Robert Hendrix

Burk Trust 'A' #5-23

23-1s-36w Rawlins KS

Start Date: 2014.04.29 @ 00:13:00

End Date: 2014.04.29 @ 08:23:15

Job Ticket #: 58154 DST #: 2

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

Printed: 2014.05.01 @ 13:20:16



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

23-1s-36w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Burk Trust 'A' #5-23

Job Ticket: 58154

DST#: 2

ATTN: Robert Hendrix

Test Start: 2014.04.29 @ 00:13:00

GENERAL INFORMATION:

Formation: **LKC "G - H"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:19:00

Time Test Ended: 08:23:15

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 57

Interval: 4291.00 ft (KB) To 4380.00 ft (KB) (TVD)

Reference Elevations: 3268.00 ft (KB)

Total Depth: 4380.00 ft (KB) (TVD)

3257.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 8671

Inside

Press@RunDepth: 71.14 psig @ 4292.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.04.29

End Date:

2014.04.29

Last Calib.:

2014.04.29

Start Time: 00:13:05

End Time:

08:23:14

Time On Btm:

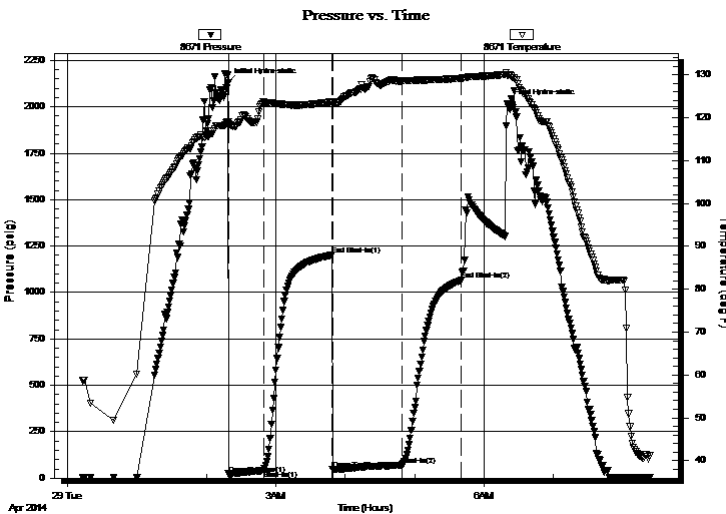
2014.04.29 @ 02:18:45

Time Off Btm:

2014.04.29 @ 06:20:00

TEST COMMENT: 30 - IF: Blow built to 2 3/4"
60 - IS: No blow back
60 - FF: Blow built to 2 1/2"
90 - FS: No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2130.81	119.07	Initial Hydro-static
1	22.06	118.24	Open To Flow (1)
31	41.55	123.57	Shut-In(1)
90	1201.38	123.67	End Shut-In(1)
91	46.27	123.00	Open To Flow (2)
151	71.14	128.54	Shut-In(2)
202	1066.25	129.17	End Shut-In(2)
242	2018.60	129.93	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
110.00	Mud w /Oil spots 98%m, 2%o	0.54

Gas Rates

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

* Recovery from multiple tests



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DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

23-1s-36w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Burk Trust 'A' #5-23

Job Ticket: 58154

DST#: 2

ATTN: Robert Hendrix

Test Start: 2014.04.29 @ 00:13:00

Tool Information

Drill Pipe:	Length: 4070.00 ft	Diameter: 3.80 inches	Volume: 57.09 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: 208.00 ft	Diameter: 2.25 inches	Volume: 1.02 bbl	Weight to Pull Loose: 88000.00 lb
			<u>Total Volume: 58.11 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 82000.00 lb
Depth to Top Packer:	4291.00 ft			Final 82000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	89.00 ft			
Tool Length:	117.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4268.00	
Hydraulic tool	5.00			4273.00	
Jars	5.00			4278.00	
Safety Joint	3.00			4281.00	
Packer	5.00			4286.00	28.00 Bottom Of Top Packer
Packer	5.00			4291.00	
Stubb	1.00			4292.00	
Recorder	0.00	8671	Inside	4292.00	
Recorder	0.00	8320	Outside	4292.00	
Perforations	20.00			4312.00	
Blank Spacing	65.00			4377.00	
Bullnose	3.00			4380.00	89.00 Bottom Packers & Anchor

Total Tool Length: 117.00



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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

23-1s-36w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Burk Trust 'A' #5-23

Job Ticket: 58154

DST#: 2

ATTN: Robert Hendrix

Test Start: 2014.04.29 @ 00:13:00

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: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
110.00	Mud w /Oil spots 98% _m , 2% _o	0.541

Total Length: 110.00 ft Total Volume: 0.541 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

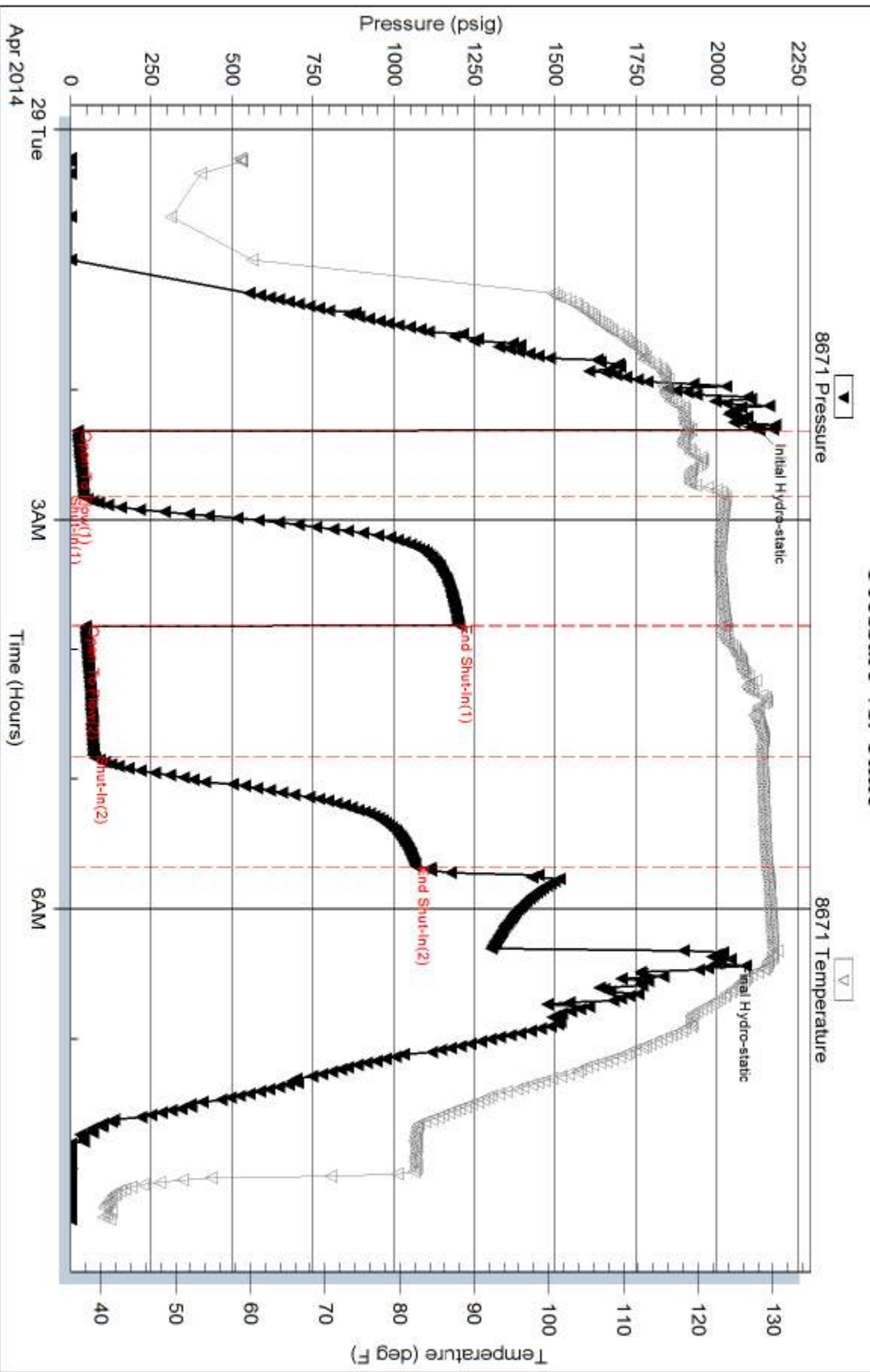
Serial #:

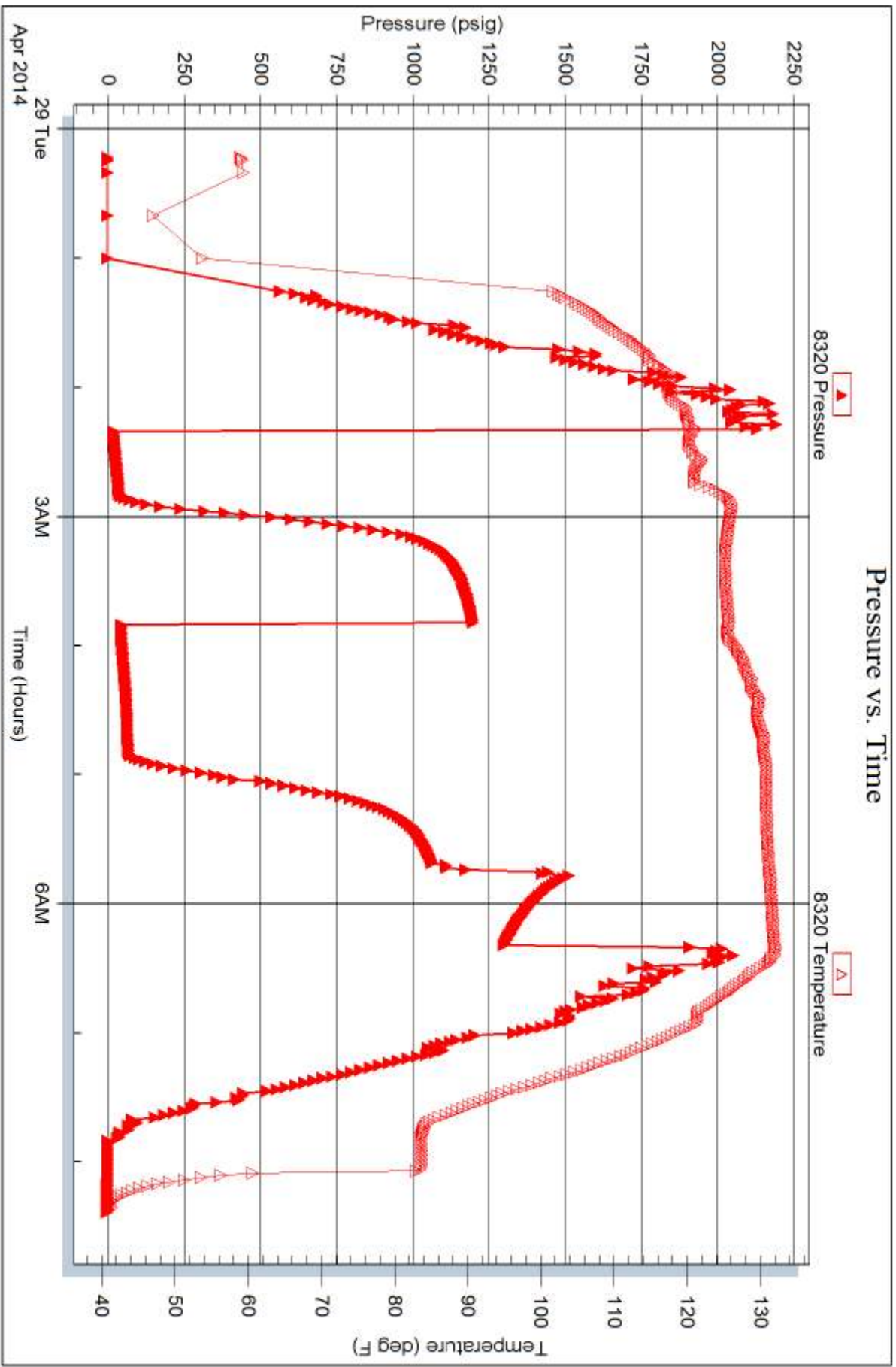
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **58153**

Well Name & No. Burk Trust 'A' # 5-23 Test No. 1 Date 4-27-14
 Company Murfin Drilling Co. Inc Elevation 3268 KB 3257 GL
 Address 250 N. Water Suite 300 Wichita, KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Murfin # 2
 Location: Sec. 23 Twp. 15 Rge. 36W Co. Rawlins State KS

Interval Tested 4225 - 4275 Zone Tested Lans. "D"
 Anchor Length 50 Drill Pipe Run 4007 Mud Wt. 9.1
 Top Packer Depth 4220 Drill Collars Run 208 Vis 58
 Bottom Packer Depth 4225 Wt. Pipe Run - WL 5.6
 Total Depth 4275 Chlorides 600 ppm System LCM 10
 Blow Description IF: 1/4" Blow at open, Built to 4 1/2"
ISI: No blowback
FF: Blow started at 7 min., built to 7 3/4"
FSE: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>Free Oil</u>				
<u>7</u>	<u>OCM</u>		<u>22</u>	<u>-</u>	<u>78</u>
<u>62</u>	<u>50Wcm</u>	<u>-</u>	<u>7</u>	<u>13</u>	<u>80</u>
<u>178</u>	<u>50Wcm</u>	<u>2</u>	<u>4</u>	<u>38</u>	<u>56</u>

Rec Total 248 BHT 140 Gravity API RW .728 @ 46.5 °F Chlorides 14,000 ppm

(A) Initial Hydrostatic 2200 Test 1250 T-On Location 21:00 4/27
 (B) First Initial Flow 21 Jars 250 T-Started 22:54
 (C) First Final Flow 74 Safety Joint 75 T-Open 1:14
 (D) Initial Shut-In 345 Circ Sub _____ T-Pulled 5:29
 (E) Second Initial Flow 73 Hourly Standby _____ T-Out 7:55 4/28
 (F) Second Final Flow 132 Mileage 108RT 167.40 Comments _____
 (G) Final Shut-In 344 Sampler _____
 (H) Final Hydrostatic 2093 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1742.40
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1742.40

Initial Open 30
 Initial Shut-In 60
 Final Flow 60 75
 Final Shut-In 90

Approved By [Signature] Our Representative James Windsor

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. **58154**

Well Name & No. Burk Trust 'A' #5-23 Test No. 2 Date 4-29-14
 Company Murfin Drilling Co Inc Elevation 3268 KB 3257 GL
 Address 250 N. Water Suite 300 Wichita, KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Murfin #2
 Location: Sec. 23 Twp. 1s Rge. 36w Co. Rawlins State KS

Interval Tested 4291 - 4380 Zone Tested Lans. "G - H"
 Anchor Length 89 Drill Pipe Run 4070 Mud Wt. 9.0
 Top Packer Depth 4286 Drill Collars Run 208 Vis 60
 Bottom Packer Depth 4291 Wt. Pipe Run - WL 6.0
 Total Depth 4380 Chlorides 700 ppm System LCM 10
 Blow Description IF: Blow built to 2 3/4"
ISI: No blowback
FF: Blow built to 2 1/2"
FSI: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
110	Mud w/oil spots	-	2	-	98

Rec Total 110 BHT 129 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2131 Test 1250 T-On Location 23:30 4/28
 (B) First Initial Flow 22 Jars 250 T-Started 00:13
 (C) First Final Flow 42 Safety Joint 75 T-Open 2:19
 (D) Initial Shut-In 1201 Circ Sub _____ T-Pulled ~~5:40~~ 6:18
 (E) Second Initial Flow 46 Hourly Standby _____ T-Out 8:20 4/29
 (F) Second Final Flow 71 Mileage 108 RT X2 334.80 Comments Lost Partial Packer
 (G) Final Shut-In 1066 @ 5:40 Sampler _____ seat at 50 min on Final Shut
 (H) Final Hydrostatic 2019 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1909.80
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1909.80

Approved By [Signature] Our Representative James Winder
 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.