



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilg Co Inc**

250 N Water Ste 300
Wichita,KS 67202

ATTN: Tom Funk

ALC LLC #1-33

33-12s-33w Logan,KS

Start Date: 2014.04.02 @ 12:15:47

End Date: 2014.04.02 @ 19:50:02

Job Ticket #: 56330 DST #: 1

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

Printed: 2014.04.10 @ 08:34:28



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilg Co Inc
250 N Water Ste 300
Wichita, KS 67202
ATTN: Tom Funk

33-12s-33w Logan, KS

ALC LLC #1-33

Job Ticket: 56330

DST#: 1

Test Start: 2014.04.02 @ 12:15:47

GENERAL INFORMATION:

Formation: **Altamont - Ft Scott**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:27:02

Time Test Ended: 19:50:02

Test Type: Conventional Bottom Hole (Initial)

Tester: Shane McBride

Unit No: 55

Interval: 4474.00 ft (KB) To 4590.00 ft (KB) (TVD)

Total Depth: 4590.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3140.00 ft (KB)

3130.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 6771

Inside

Press@RunDepth: 48.93 psig @ 4475.00 ft (KB)

Start Date: 2014.04.02

End Date:

2014.04.02

Start Time: 12:15:47

End Time:

19:39:02

Capacity: 8000.00 psig

Last Calib.: 2014.04.02

Time On Btm: 2014.04.02 @ 14:26:32

Time Off Btm: 2014.04.02 @ 17:27:02

TEST COMMENT: 1" blow died back to a surface blow

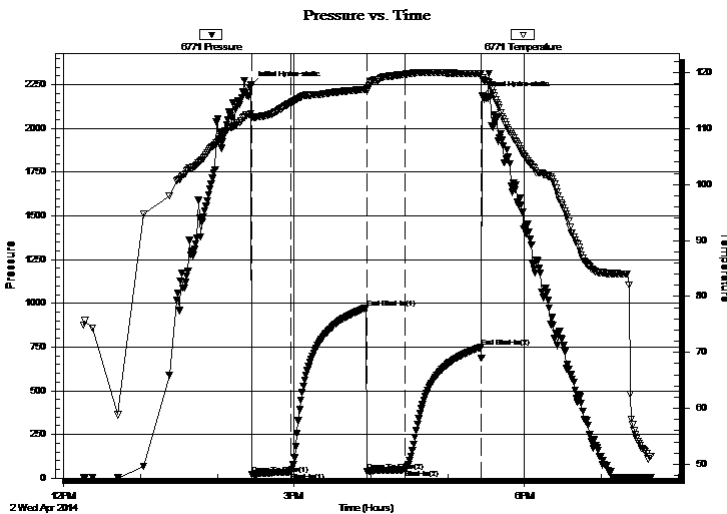
No return

No blow

No return

PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2247.26	112.70	Initial Hydro-static
1	21.82	112.04	Open To Flow (1)
31	35.52	114.59	Shut-In(1)
90	974.96	117.01	End Shut-In(1)
91	39.54	116.71	Open To Flow (2)
120	48.93	119.69	Shut-In(2)
180	749.60	119.78	End Shut-In(2)
181	2185.83	119.00	Final Hydro-static



Recovery

Length (ft)	Description	Volume (bbl)
60.00	mud 100% m	0.30

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilg Co Inc

33-12s-33w Logan,KS

250 N Water Ste 300
Wichita,KS 67202

ALC LLC #1-33

Job Ticket: 56330

DST#: 1

ATTN: Tom Funk

Test Start: 2014.04.02 @ 12:15:47

Tool Information

Drill Pipe:	Length: 4230.00 ft	Diameter: 3.80 inches	Volume: 59.34 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: 239.00 ft	Diameter: 2.25 inches	Volume: 1.18 bbl	Weight to Pull Loose: 98000.00 lb
			<u>Total Volume: 60.52 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 78000.00 lb
Depth to Top Packer:	4474.00 ft			Final 79000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	116.00 ft			
Tool Length:	136.00 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			4455.00	
Shut In Tool	5.00			4460.00	
Hydraulic tool	5.00			4465.00	
Packer	5.00			4470.00	20.00 Bottom Of Top Packer
Packer	4.00			4474.00	
Stubb	1.00			4475.00	
Recorder	0.00	6771	Inside	4475.00	
Recorder	0.00	8844	Outside	4475.00	
Anchor	14.00			4489.00	
Change Over Sub	1.00			4490.00	
Drill Pipe	94.00			4584.00	
Change Over Sub	1.00			4585.00	
Bullnose	5.00			4590.00	116.00 Bottom Packers & Anchor

Total Tool Length: 136.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilg Co Inc

33-12s-33w Logan,KS

250 N Water Ste 300
Wichita,KS 67202

ALC LLC #1-33

Job Ticket: 56330

DST#: 1

ATTN: Tom Funk

Test Start: 2014.04.02 @ 12:15:47

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 69.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.37 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	mud 100%m	0.295

Total Length: 60.00 ft Total Volume: 0.295 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

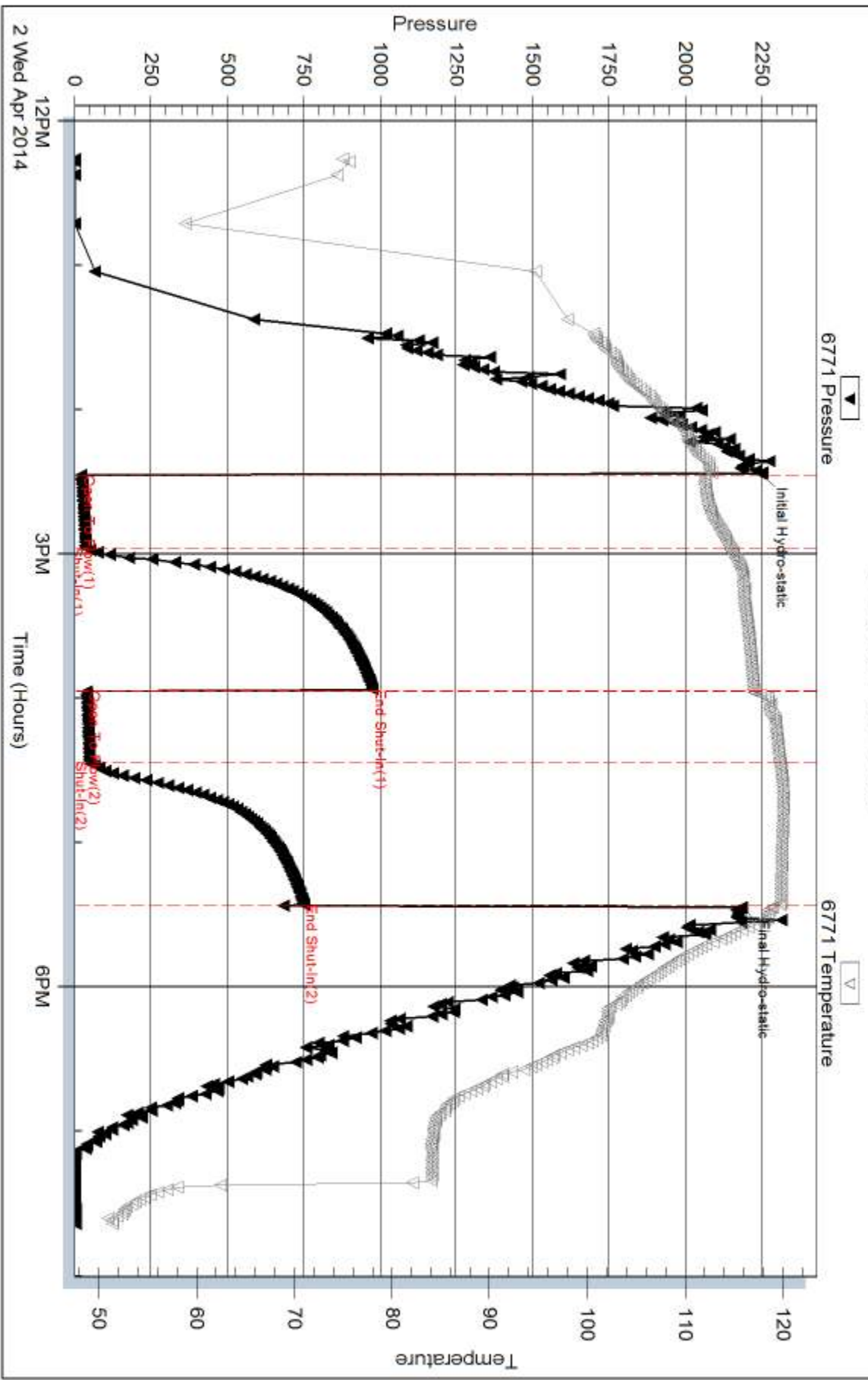
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

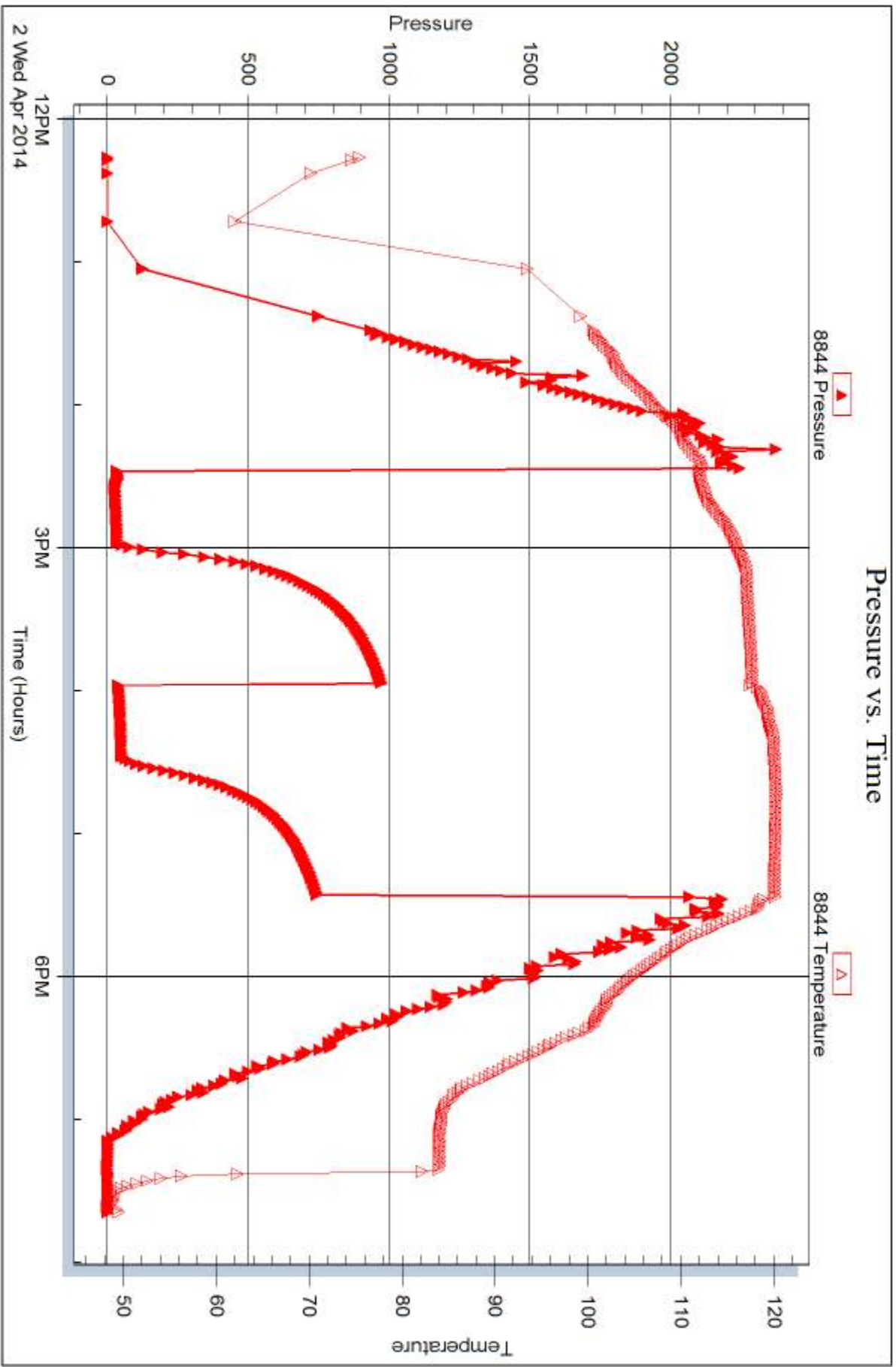


Serial #: 8844

Outside Murfin Drift Co Inc

ALC LLC #1-33

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 56330

Printed: 2014.04.10 @ 08:34:30



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilg Co Inc**

250 N Water Ste 300
Wichita,KS 67202

ATTN: Tom Funk

ALC LLC #1-33

33-12s-33w Logan,KS

Start Date: 2014.04.03 @ 08:15:46

End Date: 2014.04.03 @ 17:10:46

Job Ticket #: 56331 DST #: 2

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

Printed: 2014.04.10 @ 08:33:56

Murfin Drilg Co Inc
33-12s-33w Logan,KS
ALC LLC #1-33
DST # 2
Johnson
2014.04.03



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilg Co Inc
 250 N Water Ste 300
 Wichita, KS 67202
 ATTN: Tom Funk

33-12s-33w Logan, KS

ALC LLC #1-33

Job Ticket: 56331

DST#: 2

Test Start: 2014.04.03 @ 08:15:46

GENERAL INFORMATION:

Formation: **Johnson**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 10:12:31
 Tester: Shane McBride
 Time Test Ended: 17:10:46
 Unit No: 55
 Interval: **4603.00 ft (KB) To 4670.00 ft (KB) (TVD)**
 Reference Elevations: 3140.00 ft (KB)
 Total Depth: 4670.00 ft (KB) (TVD)
 3130.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Fair
 KB to GR/CF: 10.00 ft

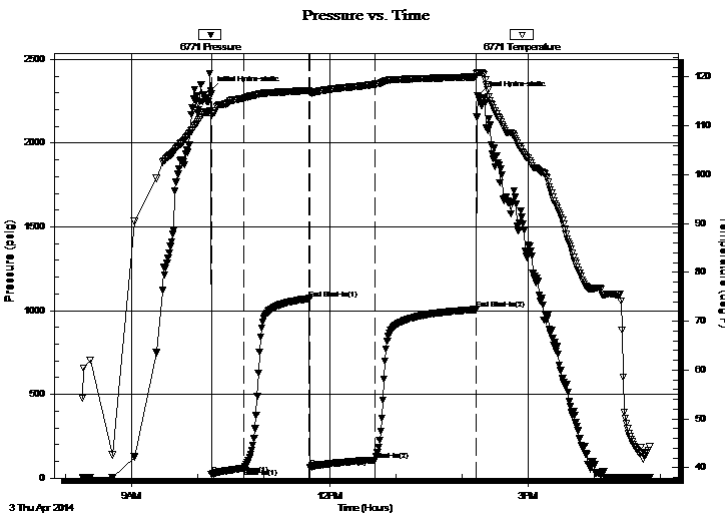
Serial #: 6771

Inside

Press@RunDepth: 107.97 psig @ 4604.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.04.03 End Date: 2014.04.03 Last Calib.: 2014.04.03
 Start Time: 08:15:46 End Time: 16:50:46 Time On Btm: 2014.04.03 @ 10:12:01
 Time Off Btm: 2014.04.03 @ 14:14:16

TEST COMMENT: 10" blow
 No return
 B.O.B. in 29 min.
 Weak surface return in 12 min. died in 32 min.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2313.53	113.15	Initial Hydro-static
1	22.33	112.05	Open To Flow (1)
30	59.84	115.61	Shut-In(1)
89	1071.48	117.19	End Shut-In(1)
90	62.20	116.79	Open To Flow (2)
149	107.97	118.49	Shut-In(2)
241	1006.84	120.00	End Shut-In(2)
243	2280.74	120.88	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
180.00	g m c o 20%g 20%m 60%o	0.89
60.00	g m c o 20%g 30%m 50%o	0.30
0.00	310'gas in pipe	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 Drilg Co Inc

33-12s-33w Logan,KS

250 N Water Ste 300
Wichita,KS 67202

ALC LLC #1-33

Job Ticket: 56331

DST#: 2

ATTN: Tom Funk

Test Start: 2014.04.03 @ 08:15:46

Tool Information

Drill Pipe:	Length: 4355.00 ft	Diameter: 3.80 inches	Volume: 61.09 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: 239.00 ft	Diameter: 2.25 inches	Volume: 1.18 bbl	Weight to Pull Loose:	95000.00 lb
			<u>Total Volume: 62.27 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial	76000.00 lb
Depth to Top Packer:	4603.00 ft			Final	77000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	67.00 ft				
Tool Length:	87.00 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			4584.00	
Shut In Tool	5.00			4589.00	
Hydraulic tool	5.00			4594.00	
Packer	5.00			4599.00	20.00 Bottom Of Top Packer
Packer	4.00			4603.00	
Stubb	1.00			4604.00	
Recorder	0.00	6771	Inside	4604.00	
Recorder	0.00	8844	Outside	4604.00	
Anchor	27.00			4631.00	
Change Over Sub	1.00			4632.00	
Drill Pipe	32.00			4664.00	
Change Over Sub	1.00			4665.00	
Bullnose	5.00			4670.00	67.00 Bottom Packers & Anchor

Total Tool Length: 87.00



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DRILL STEM TEST REPORT

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Murfin Drilg Co Inc

33-12s-33w Logan,KS

250 N Water Ste 300
Wichita,KS 67202

ALC LLC #1-33

Job Ticket: 56331

DST#: 2

ATTN: Tom Funk

Test Start: 2014.04.03 @ 08:15:46

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbf

Water Loss: 6.37 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
180.00	g m c o 20%g 20%m 60%o	0.885
60.00	g m c o 20%g 30%m 50%o	0.304
0.00	310'gas in pipe	0.000

Total Length: 240.00 ft Total Volume: 1.189 bbf

Num Fluid Samples: 0

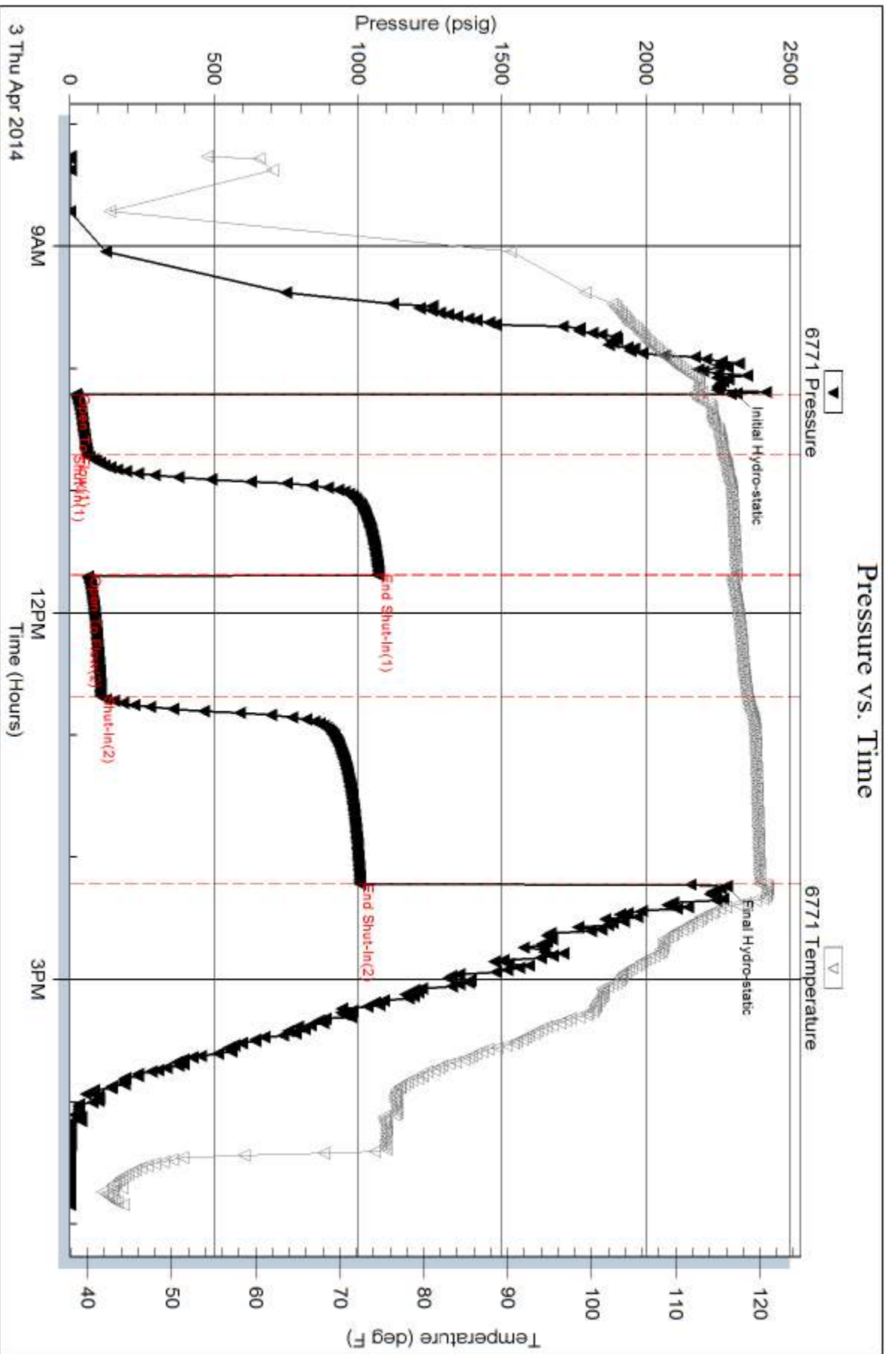
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

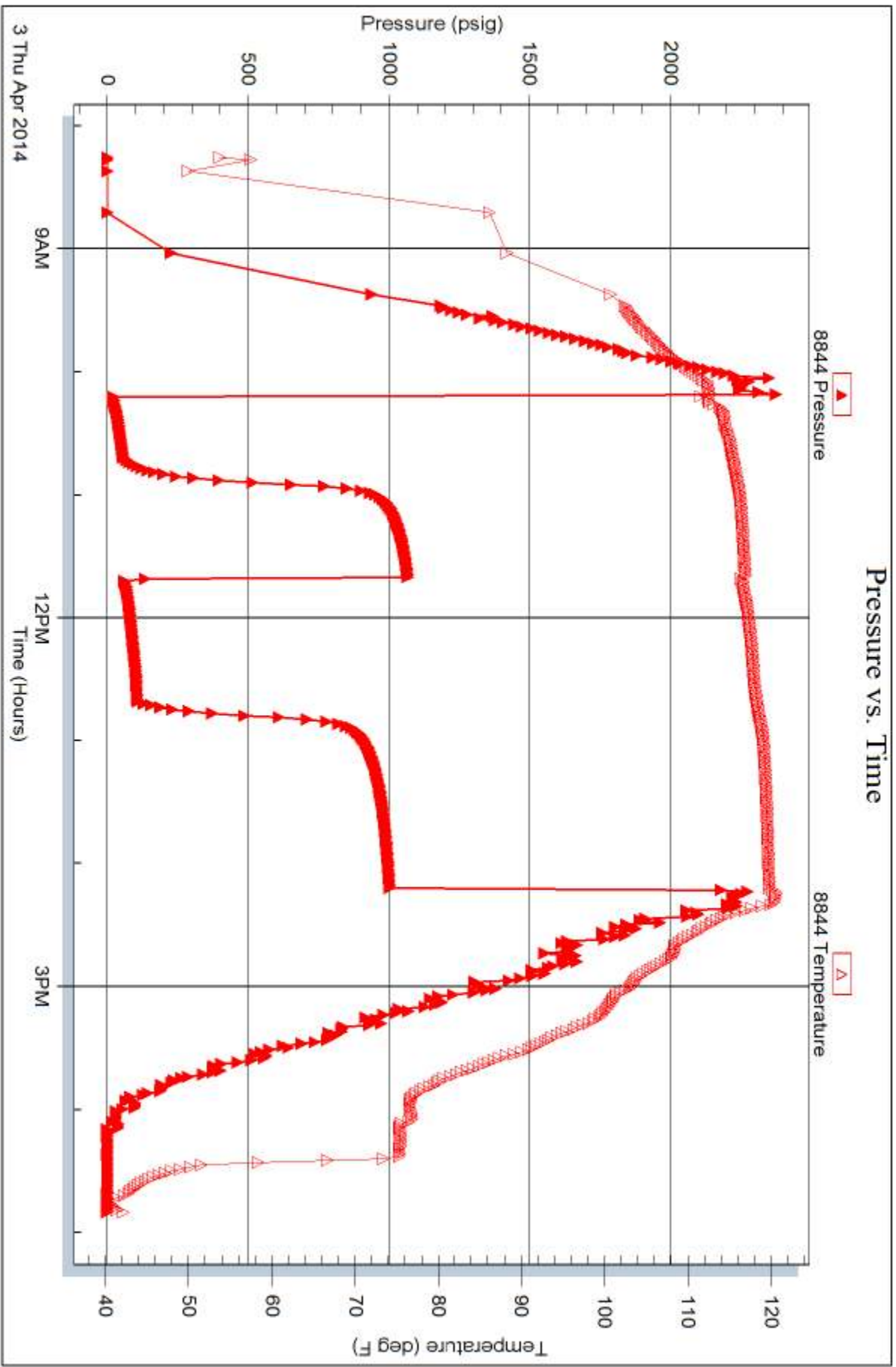


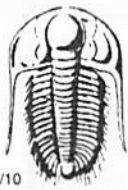
Serial #: 8844

Outside Murfin Drilling Co Inc

ALCLLC#1-33

DST Test Number: 2





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 56330

Well Name & No. AHC LHC #1-33 Test No. #1 Date 4/2/14
 Company Murkin Drilling Co. Inc. Elevation 3140 KB 3130 GL
 Address 250 N. Water St. 300 Wichita, Ks, 67202
 Co. Rep / Geo. Tom Funk Rig Murkin #22
 Location: Sec. 33 Twp. 12s Rge. 33w Co. _____ State Ks

Interval Tested 4474 4590 Zone Tested Altamont - Lawrence - Ft. Scott
 Anchor Length _____ 116 Drill Pipe Run 4230' Mud Wt. 9.2
 Top Packer Depth _____ 4469 Drill Collars Run 239' Vis 69
 Bottom Packer Depth _____ 4474 Wt. Pipe Run _____ WL 414
 Total Depth _____ 4590 Chlorides 5000 ppm System LCM #8
 Blow Description 1" in blow died back to a surface blow
No return
No blow
No return

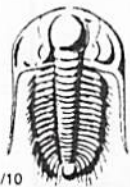
Rec	Feet of	%gas	%oil	%water	%mud
<u>60'</u>	<u>Mad</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 60' BHT 120° Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2247</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>11:05</u>
(B) First Initial Flow <u>21</u>	<input type="checkbox"/> Jars _____	T-Started <u>12:15</u>
(C) First Final Flow <u>35</u>	<input type="checkbox"/> Safety Joint _____	T-Open <u>14:26</u>
(D) Initial Shut-In <u>974</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>17:24</u>
(E) Second Initial Flow <u>39</u>	<input type="checkbox"/> Hourly Standby _____	T-Out _____
(F) Second Final Flow <u>48</u>	<input checked="" type="checkbox"/> Mileage <u>90 RT</u> <u>139.50</u>	Comments _____
(G) Final Shut-In <u>749</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>2185</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Packer _____
Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Day Standby _____	Total <u>1389.50</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1389.50</u>	

Approved By [Signature] 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. **56331**

4/10

Well Name & No. AHC LHC # 1-33 Test No. #2 Date 4/3/14
 Company Mudfox Drilling Co Inc. Elevation 3140 KB 3130 GL
 Address 250 N Water St 300 Wich Falls 67202
 Co. Rep / Geo. Tom Funt Rig Markin #22
 Location: Sec. 33 Twp. 125 Rge. 33W Co. Logan State Ks

Interval Tested 4603 4670 Zone Tested Johnson
 Anchor Length 67 Drill Pipe Run 4355 Mud Wt. 9.3
 Top Packer Depth 4598 Drill Collars Run 239' Vis 54
 Bottom Packer Depth 4603 Wt. Pipe Run --- WL 6.4
 Total Depth 4670 Chlorides 5000 ppm System LCM #6

Blow Description 10" in blow
No return
B.O.B in 29 min

Surface return in 12 min, died in 32 min.

Rec	Feet of	%gas	%oil	%water	%mud
<u>60</u>	<u>gmc</u>	<u>20</u>	<u>50</u>	<u>50</u>	<u>50</u>
<u>180</u>	<u>gmc</u>	<u>20</u>	<u>60</u>	<u>20</u>	<u>20</u>
<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
<u>---</u>	<u>310' Gmc in Pipe</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>

Rec Total 240' BHT 121° Gravity --- API RW --- @ --- F Chlorides --- ppm

(A) Initial Hydrostatic 2313 Test 1250 T-On Location 07:30
 (B) First Initial Flow 22 Jars --- T-Started 08:15
 (C) First Final Flow 59 Safety Joint --- T-Open 10:10
 (D) Initial Shut-In 1071 Circ Sub N/C T-Pulled 14:10
 (E) Second Initial Flow 62 Hourly Standby --- T-Out ---
 (F) Second Final Flow 107 Mileage 90 ft 139.50 Comments ---
 (G) Final Shut-In 1000 Sampler ---
 (H) Final Hydrostatic 2280 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 1389.50
 Final Flow 60 Accessibility --- MP/DST Disc't ---
 Final Shut-In 90

Approved By [Signature] Our Representative [Signature]
 Sub Total 1389.50

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