



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N Water STE 800
Wichita KS 67202

ATTN: Jeff Christian

Little LLC A '#1-31

31-16s-19w Rush,KS

Start Date: 2014.07.16 @ 09:24:53

End Date: 2014.07.16 @ 16:21:23

Job Ticket #: 58914 DST #: 1

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

Printed: 2014.07.21 @ 09:17:46



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Company
 250 N Water STE 800
 Wichita KS 67202
 ATTN: Jeff Christian

31-16s-19w Rush,KS
Littler LLC A #1-31
 Job Ticket: 58914 **DST#: 1**
 Test Start: 2014.07.16 @ 09:24:53

GENERAL INFORMATION:

Formation: **LKC A**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 11:15:13
 Time Test Ended: 16:21:23
 Interval: **3432.00 ft (KB) To 3462.00 ft (KB) (TVD)**
 Total Depth: 3462.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Tate Lang
 Unit No: 77
 Reference Elevations: 2079.00 ft (KB)
 2074.00 ft (CF)
 KB to GR/CF: 5.00 ft

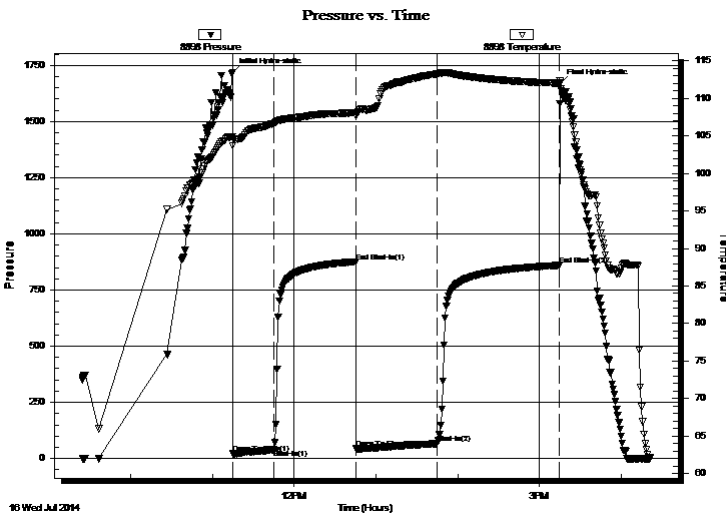
Serial #: 8898

Outside

Press@RunDepth: 66.49 psig @ 3434.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.07.16 End Date: 2014.07.16 Last Calib.: 2014.07.16
 Start Time: 09:24:54 End Time: 16:21:23 Time On Btm: 2014.07.16 @ 11:15:03
 Time Off Btm: 2014.07.16 @ 15:15:23

TEST COMMENT: Fair blow built to 4"
 Dead no blow back
 Fair blow built to 5"
 Dead no blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1718.38	104.90	Initial Hydro-static
1	21.24	103.73	Open To Flow (1)
30	39.85	106.68	Shut-In(1)
90	875.91	108.14	End Shut-In(1)
91	43.59	107.65	Open To Flow (2)
150	66.49	113.27	Shut-In(2)
240	859.84	112.04	End Shut-In(2)
241	1667.61	112.06	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
90.00	MCW 80%W 20%M	0.99

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Company

31-16s-19w Rush,KS

250 N Water STE 800
Wichita KS 67202

Littler LLC A #1-31

ATTN: Jeff Christian

Job Ticket: 58914

DST#: 1

Test Start: 2014.07.16 @ 09:24:53

GENERAL INFORMATION:

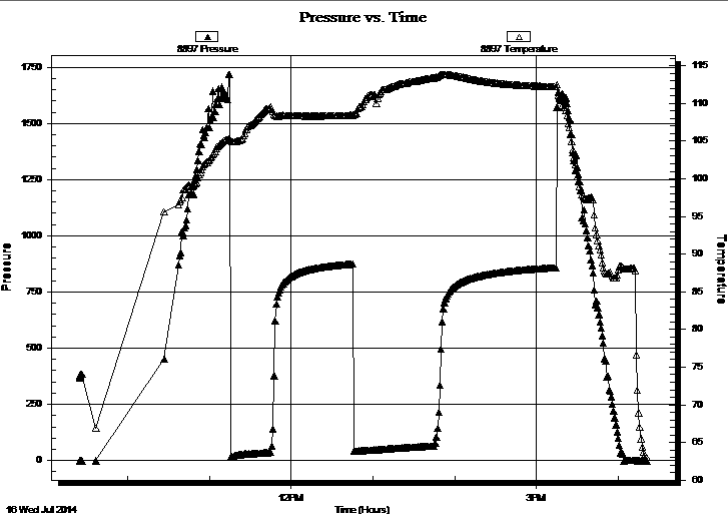
Formation: **LKC A**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 11:15:13 Tester: Tate Lang
 Time Test Ended: 16:21:23 Unit No: 77
Interval: 3432.00 ft (KB) To 3462.00 ft (KB) (TVD)
 Reference Elevations: 2079.00 ft (KB)
 Total Depth: 3462.00 ft (KB) (TVD) 2074.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 5.00 ft

Serial #: 8897

Inside

Press@RunDepth: psig @ 3434.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.07.16 End Date: 2014.07.16 Last Calib.: 2014.07.16
 Start Time: 09:24:51 End Time: 16:21:20 Time On Btm:
 Time Off Btm:

TEST COMMENT: Fair blow built to 4"
 Dead no blow back
 Fair blow built to 5"
 Dead no blow back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
90.00	MCW 80%W 20%M	0.99

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company

31-16s-19w Rush, KS

250 N Water STE 800
Wichita KS 67202

Littler LLC A #1-31

Job Ticket: 58914

DST#: 1

ATTN: Jeff Christian

Test Start: 2014.07.16 @ 09:24:53

Tool Information

Drill Pipe:	Length: 3388.00 ft	Diameter: 3.80 inches	Volume: 47.52 bbl	Tool Weight:	2000.00 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: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	65000.00 lb
			<u>Total Volume: 47.67 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial	50000.00 lb
Depth to Top Packer:	3432.00 ft			Final	51000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	30.00 ft				
Tool Length:	52.00 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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Shut In Tool	5.00			3415.00	
Hydraulic tool	5.00			3420.00	
Safety Joint	2.00			3422.00	
Packer	5.00			3427.00	22.00 Bottom Of Top Packer
Packer	5.00			3432.00	
Stubb	1.00			3433.00	
Perforations	1.00			3434.00	
Recorder	0.00	8897	Inside	3434.00	
Recorder	0.00	8898	Outside	3434.00	
Perforations	25.00			3459.00	
Bullnose	3.00			3462.00	30.00 Bottom Packers & Anchor

Total Tool Length: 52.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company

31-16s-19w Rush,KS

250 N Water STE 800
Wichita KS 67202

Little LLC A #1-31

Job Ticket: 58914

DST#: 1

ATTN: Jeff Christian

Test Start: 2014.07.16 @ 09:24:53

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:

38000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
90.00	MCW 80%W 20%M	0.989

Total Length: 90.00 ft Total Volume: 0.989 bbl

Num Fluid Samples: 0

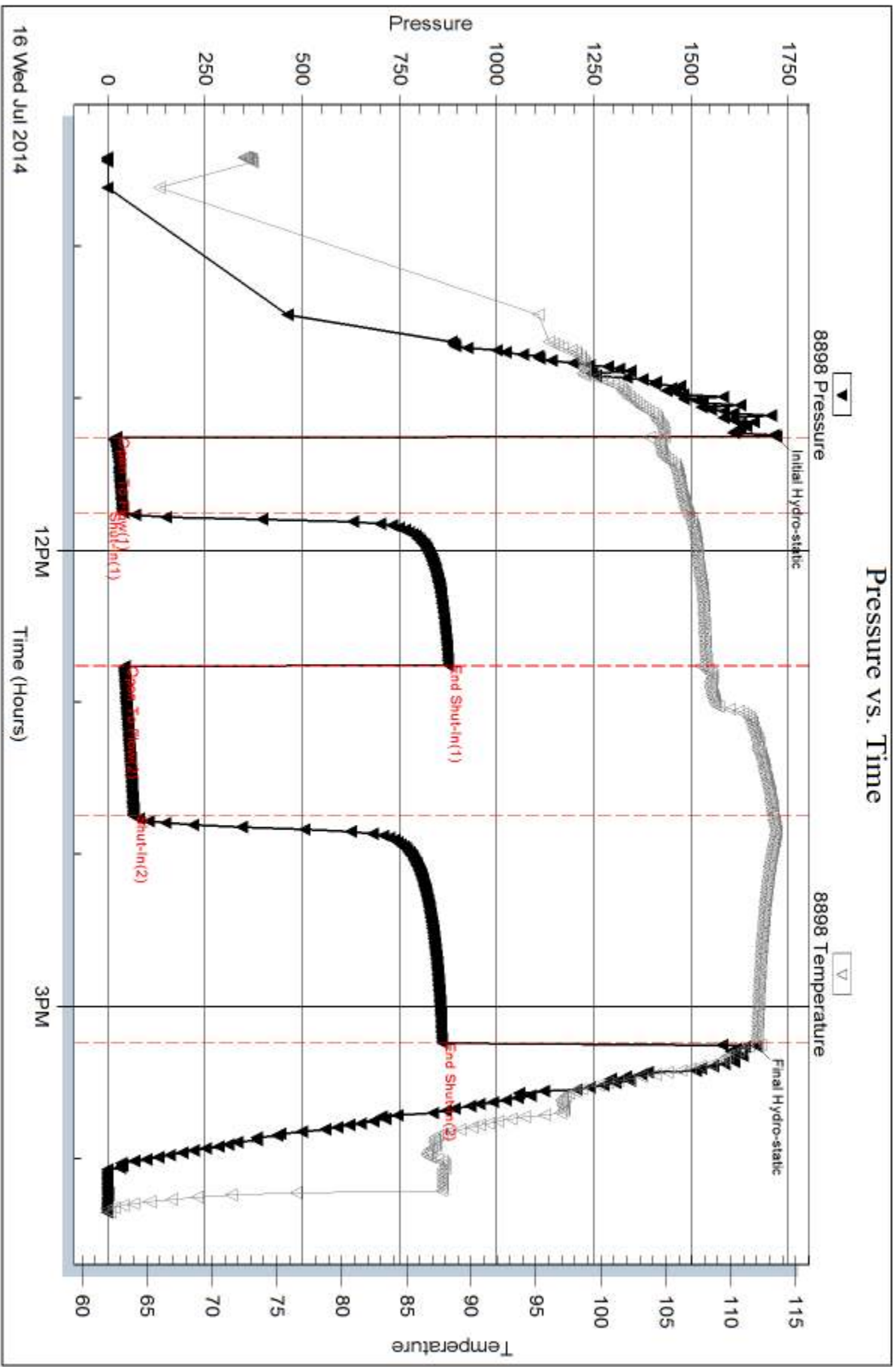
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



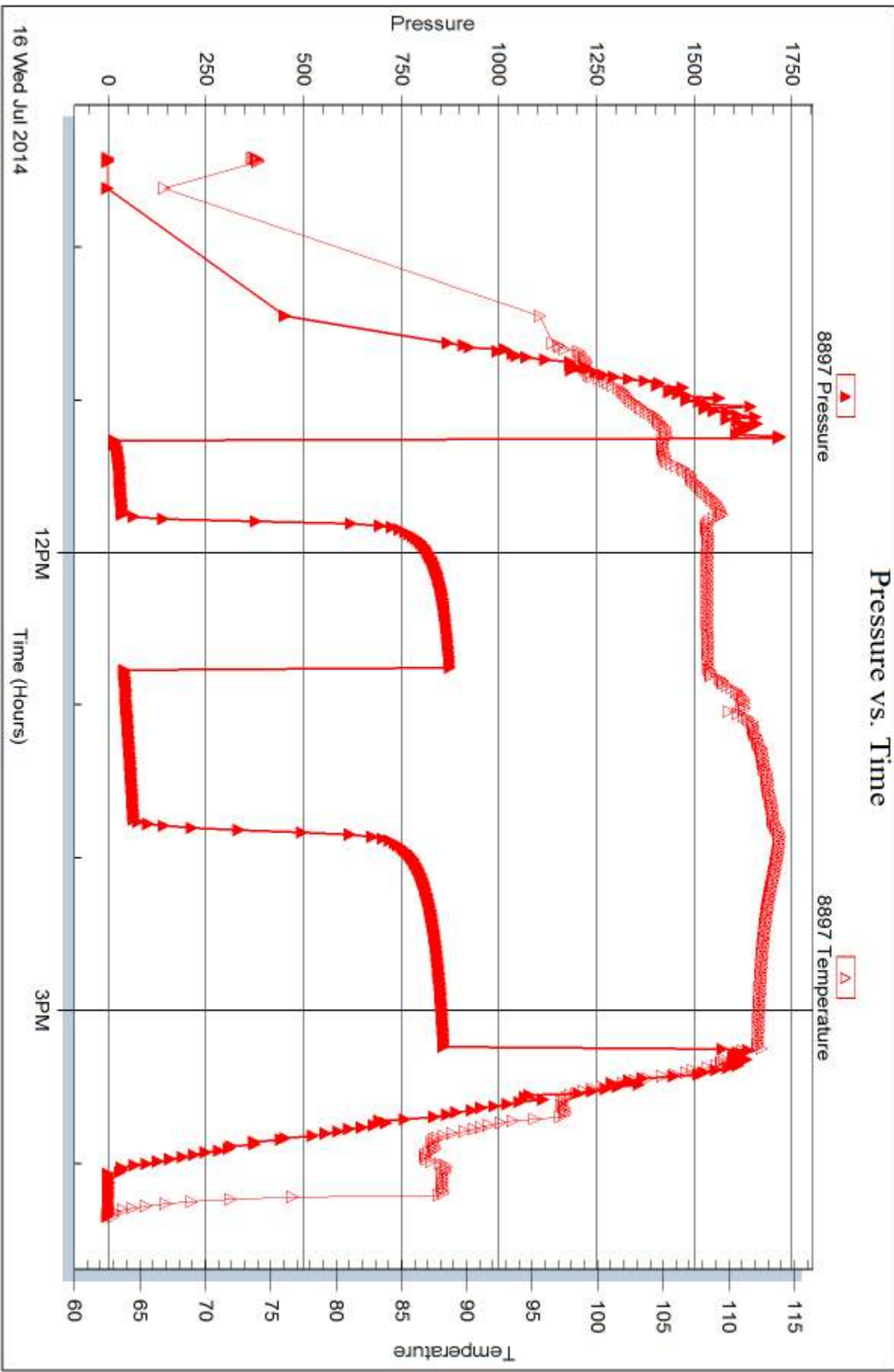
Serial #: 8897

Inside

Murfin Drilling Company

Litter LCA #1-31

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 58914

Printed: 2014.07.21 @ 09:17:47



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N Water STE 800
Wichita KS 67202

ATTN: Jeff Christian

Little LLC A '#1-31

31-16s-19w Rush,KS

Start Date: 2014.07.16 @ 21:33:06

End Date: 2014.07.17 @ 05:43:06

Job Ticket #: 58915 DST #: 2

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

Printed: 2014.07.21 @ 09:17:17



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Company
 250 N Water STE 800
 Wichita KS 67202
 ATTN: Jeff Christian

31-16s-19w Rush,KS

Littler LLC A #1-31

Job Ticket: 58915 **DST#: 2**
 Test Start: 2014.07.16 @ 21:33:06

GENERAL INFORMATION:

Formation: **LKC B**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 23:10:36
 Time Test Ended: 05:43:06
 Interval: **3457.00 ft (KB) To 3484.00 ft (KB) (TVD)**
 Total Depth: 3484.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Tate Lang
 Unit No: 77
 Reference Elevations: 2079.00 ft (KB)
 2074.00 ft (CF)
 KB to GR/CF: 5.00 ft

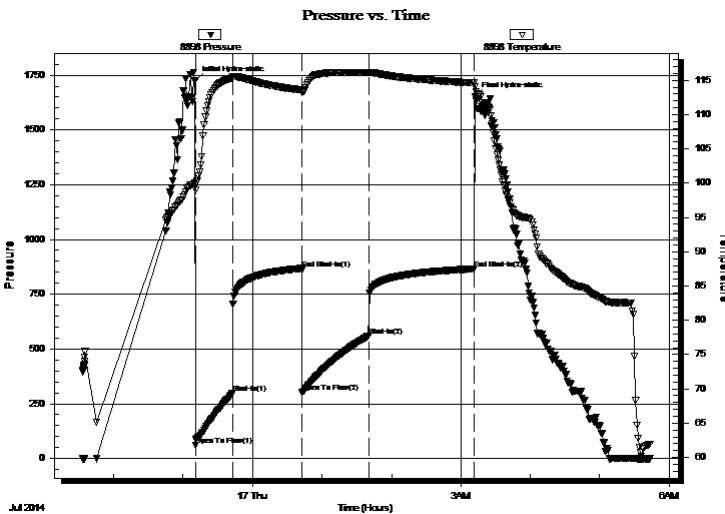
Serial #: 8898

Outside

Press@RunDepth: 560.48 psig @ 3459.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.07.16 End Date: 2014.07.17 Last Calib.: 2014.07.17
 Start Time: 21:33:07 End Time: 05:43:06 Time On Btm: 2014.07.16 @ 23:10:26
 Time Off Btm: 2014.07.17 @ 03:12:06

TEST COMMENT: B.O.B. in 2 mins
 Weak surface blow back built to 2 1/2"
 B.O.B. in 3 mins
 B.O.B. in 55 mins

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1726.50	100.07	Initial Hydro-static
1	59.91	98.98	Open To Flow (1)
32	297.20	115.37	Shut-In(1)
93	863.90	113.61	End Shut-In(1)
93	302.69	113.28	Open To Flow (2)
150	560.48	116.12	Shut-In(2)
241	864.91	114.63	End Shut-In(2)
242	1651.08	114.09	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
600.00	GMCW 5%G 85%W 5%M	8.14
60.00	MCGOW 10%G 30%O 50%W 10%M	0.84
350.00	WCGMO 5%G 80%O 10%W 5%M	4.91
90.00	10%G 60%O 10%W 20%M	1.26
0.00	930 GIP	0.00

* Recovery from multiple tests

Gas Rates

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



DRILL STEM TEST REPORT

Murfin Drilling Company
 250 N Water STE 800
 Wichita KS 67202
 ATTN: Jeff Christian

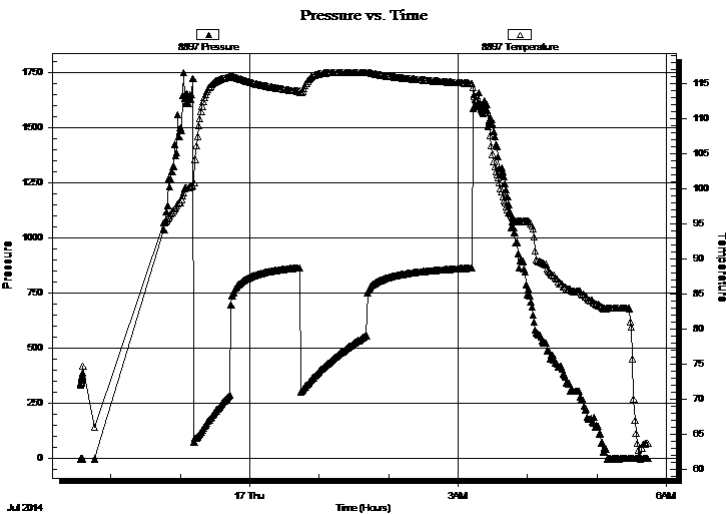
31-16s-19w Rush, KS
Littler LLC A #1-31
 Job Ticket: 58915 **DST#: 2**
 Test Start: 2014.07.16 @ 21:33:06

GENERAL INFORMATION:

Formation: LKC B		
Deviated:	No Whipstock:	ft (KB)
Time Tool Opened:	23:10:36	
Time Test Ended:	05:43:06	
Interval: 3457.00 ft (KB) To 3484.00 ft (KB) (TVD)		
Total Depth:	3484.00 ft (KB) (TVD)	
Hole Diameter:	7.88 inches	Hole Condition: Good
		Reference Elevations: 2079.00 ft (KB)
		2074.00 ft (CF)
		KB to GR/CF: 5.00 ft

Serial #: 8897	Inside			
Press@RunDepth:	psig @	3459.00 ft (KB)	Capacity:	8000.00 psig
Start Date:	2014.07.16	End Date:	2014.07.17	Last Calib.: 2014.07.17
Start Time:	21:33:46	End Time:	05:43:45	Time On Btm:
				Time Off Btm:

TEST COMMENT: B.O.B. in 2 mins
 Weak surface blow back built to 2 1/2"
 B.O.B. in 3 mins
 B.O.B. in 55 mins



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
600.00	GMCW 5%G 85%W 5%M	8.14
60.00	MCGOW 10%G 30%O 50%W 10%M	0.84
350.00	WCGMO 5%G 80%O 10%W 5%M	4.91
90.00	10%G 60%O 10%W 20%M	1.26
0.00	930 GIP	0.00

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 Company

31-16s-19w Rush, KS

250 N Water STE 800
Wichita KS 67202

Little LLC A #1-31

Job Ticket: 58915

DST#: 2

ATTN: Jeff Christian

Test Start: 2014.07.16 @ 21:33:06

Tool Information

Drill Pipe:	Length: 3418.00 ft	Diameter: 3.80 inches	Volume: 47.95 bbl	Tool Weight:	2000.00 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: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume: 48.10 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	13.00 ft			String Weight: Initial	50000.00 lb
Depth to Top Packer:	3457.00 ft			Final	54000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	27.00 ft				
Tool Length:	49.00 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			3440.00	
Hydraulic tool	5.00			3445.00	
Safety Joint	2.00			3447.00	
Packer	5.00			3452.00	22.00 Bottom Of Top Packer
Packer	5.00			3457.00	
Stubb	1.00			3458.00	
Perforations	1.00			3459.00	
Recorder	0.00	8897	Inside	3459.00	
Recorder	0.00	8898	Outside	3459.00	
Perforations	22.00			3481.00	
Bullnose	3.00			3484.00	27.00 Bottom Packers & Anchor

Total Tool Length: 49.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company

31-16s-19w Rush,KS

250 N Water STE 800
Wichita KS 67202

Littler LLC A #1-31

Job Ticket: 58915

DST#: 2

ATTN: Jeff Christian

Test Start: 2014.07.16 @ 21:33:06

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: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
600.00	GMCW 5%G 85%W 5%M	8.143
60.00	MCGOW 10%G 30%O 50%W 10%M	0.842
350.00	WCGMO 5%G 80%O 10%W 5%M	4.910
90.00	10%G 60%O 10%W 20%M	1.262
0.00	930 GIP	0.000

Total Length: 1100.00 ft

Total Volume: 15.157 bbl

Num Fluid Samples: 0

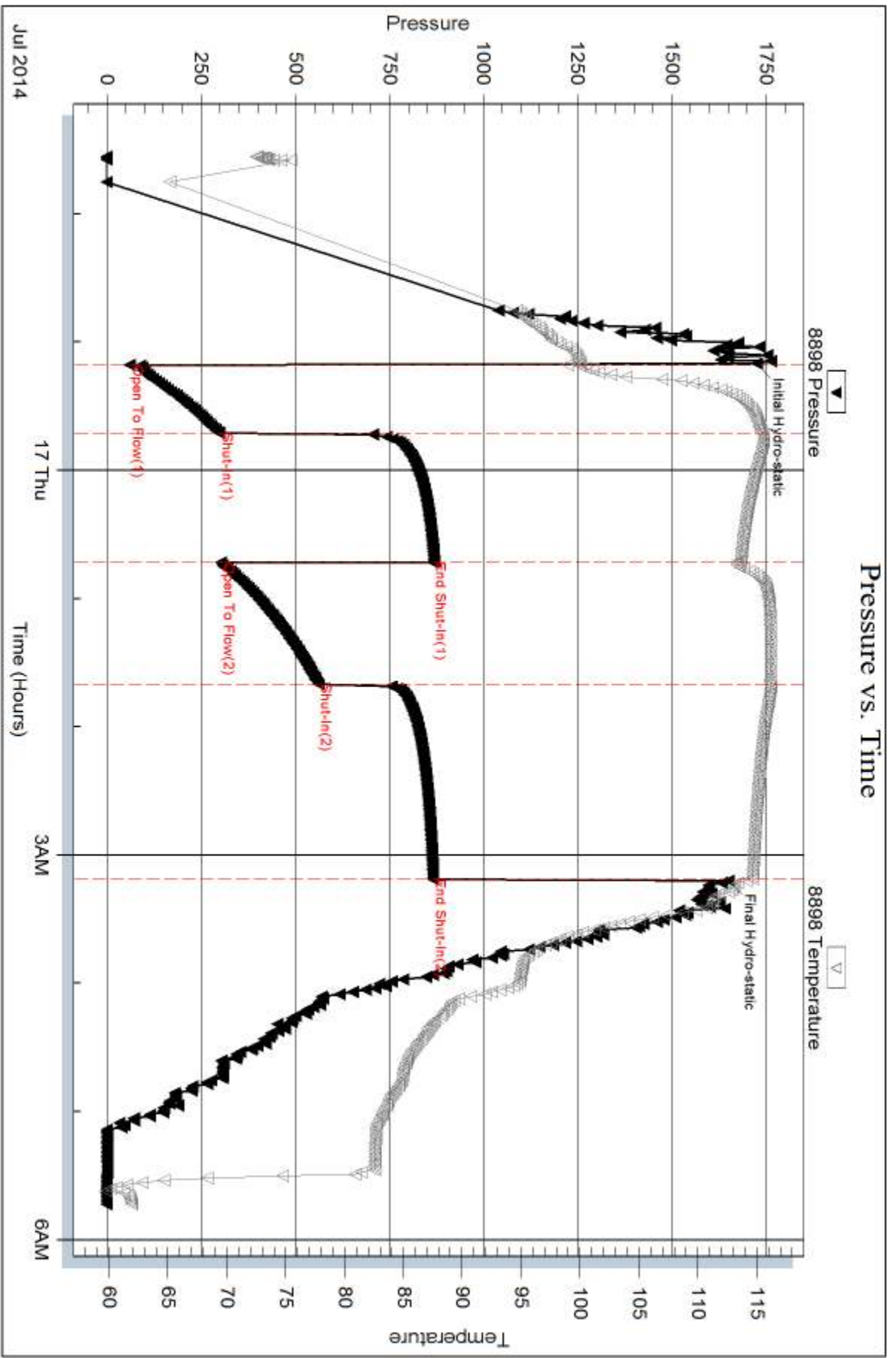
Num Gas Bombs: 0

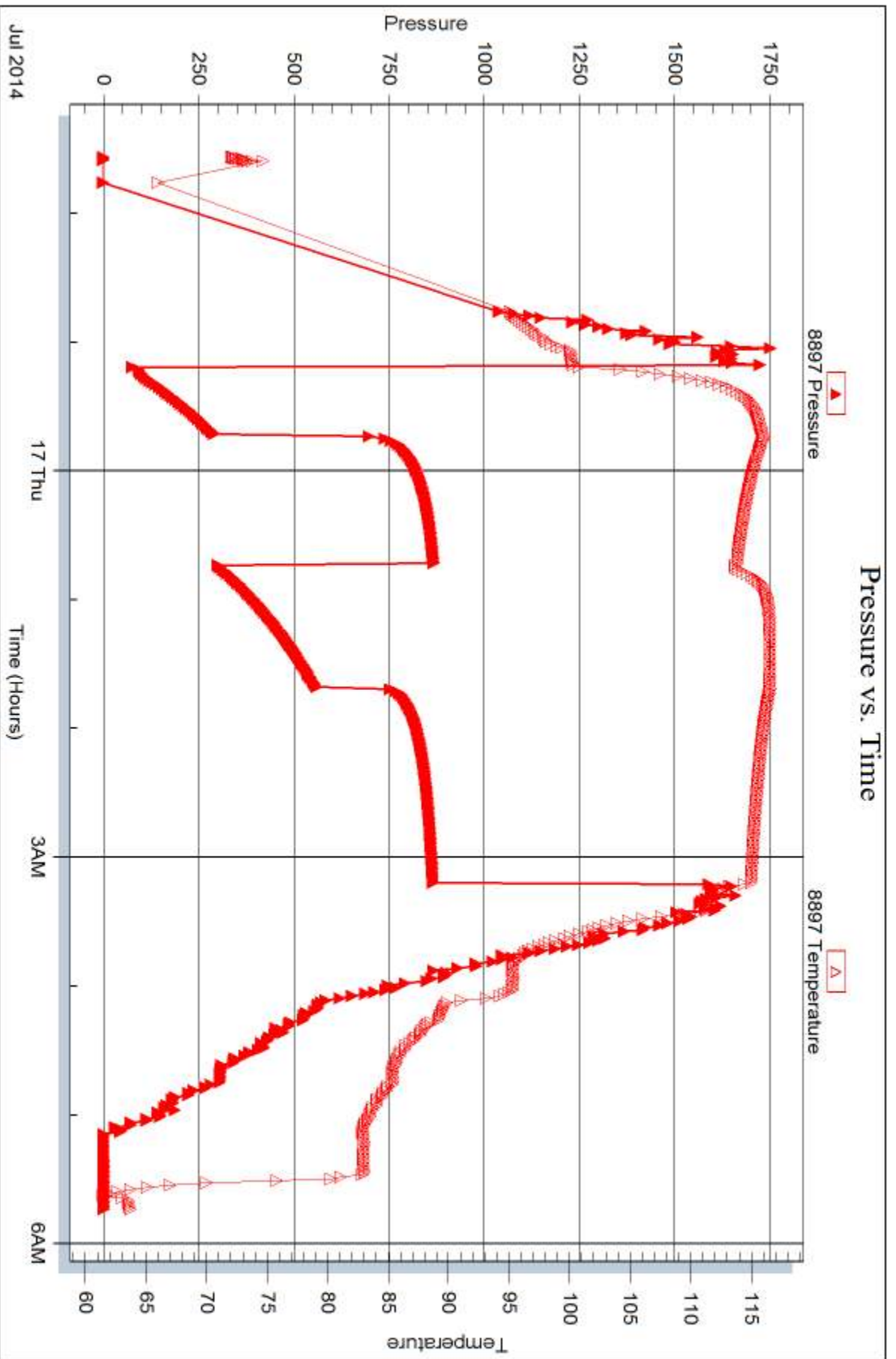
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N Water STE 800
Wichita KS 67202

ATTN: Jeff Christian

Little LLC A '#1-31

31-16s-19w Rush,KS

Start Date: 2014.07.18 @ 10:43:10

End Date: 2014.07.18 @ 17:08:00

Job Ticket #: 58916 DST #: 3

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

Printed: 2014.07.21 @ 09:16:45



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Company
 250 N Water STE 800
 Wichita KS 67202
 ATTN: Jeff Christian

31-16s-19w Rush,KS

Littler LLC A #1-31

Job Ticket: 58916

DST#: 3

Test Start: 2014.07.18 @ 10:43:10

GENERAL INFORMATION:

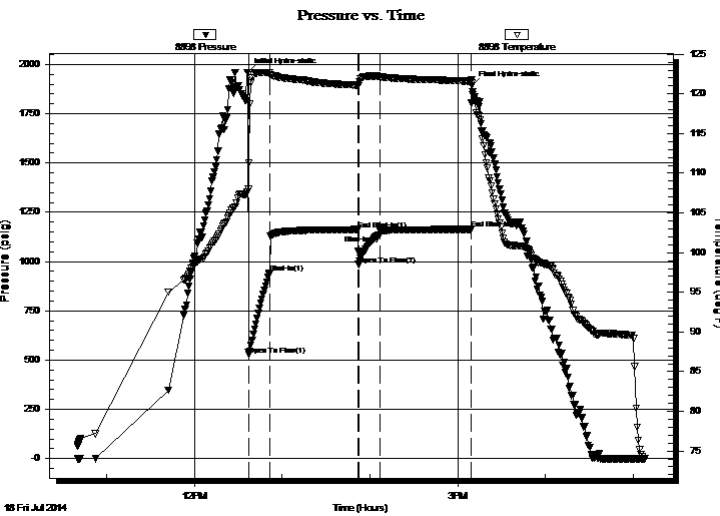
Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 12:37:10
 Time Test Ended: 17:08:00
 Interval: **3818.00 ft (KB) To 3833.00 ft (KB) (TVD)**
 Total Depth: 3833.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Tate Lang
 Unit No: 77
 Reference Elevations: 2079.00 ft (KB)
 2074.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8898

Outside

Press@RunDepth: 1136.28 psig @ 3820.00 ft (KB)
 Start Date: 2014.07.18 End Date: 2014.07.18
 Start Time: 10:40:11 End Time: 17:08:00
 Capacity: 8000.00 psig
 Last Calib.: 2014.07.18
 Time On Btm: 2014.07.18 @ 12:36:40
 Time Off Btm: 2014.07.18 @ 15:09:49

TEST COMMENT: B.O.B. in 1 min
 Weak surface blow back died back in 50 mins
 B.O.B. in 1 min
 Dead no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1958.82	107.64	Initial Hydro-static
1	527.90	111.28	Open To Flow (1)
15	941.19	122.62	Shut-In(1)
76	1162.96	121.10	End Shut-In(1)
76	984.96	121.04	Open To Flow (2)
90	1136.28	122.19	Shut-In(2)
153	1163.68	121.61	End Shut-In(2)
154	1893.18	121.38	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2100.00	VSMCW 98%W 2%M	29.18
270.00	MCW with show of oil on top 60%W 40%	3.79

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Company

31-16s-19w Rush, KS

250 N Water STE 800
Wichita KS 67202

Littler LLC A #1-31

Job Ticket: 58916

DST#: 3

ATTN: Jeff Christian

Test Start: 2014.07.18 @ 10:43:10

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:37:10

Time Test Ended: 17:08:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Tate Lang

Unit No: 77

Interval: 3818.00 ft (KB) To 3833.00 ft (KB) (TVD)

Reference Elevations: 2079.00 ft (KB)

Total Depth: 3833.00 ft (KB) (TVD)

2074.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8897 Inside

Press@RunDepth: psig @ 3820.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.07.18

End Date:

2014.07.18

Last Calib.:

2014.07.18

Start Time: 10:40:57

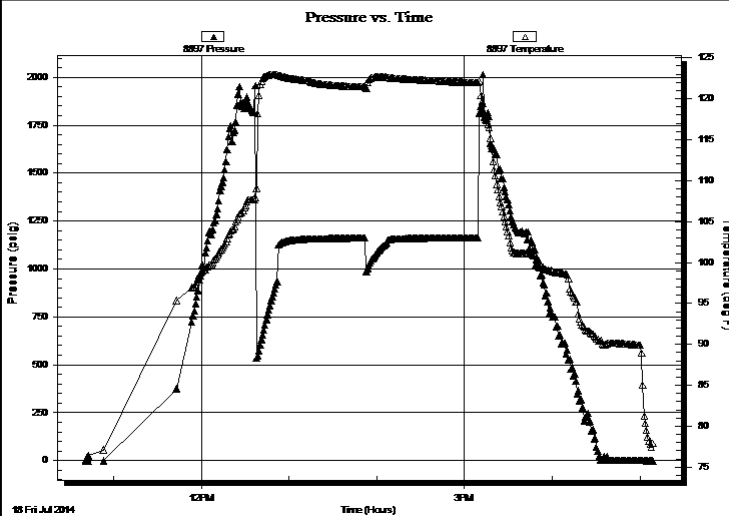
End Time:

17:08:46

Time On Btm:

Time Off Btm:

TEST COMMENT: B.O.B. in 1 min
Weak surface blow back died back in 50 mins
B.O.B. in 1 min
Dead no blow back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
2100.00	VSMCW 98%W 2%M	29.18
270.00	MCW with show of oil on top 60%W 40%	3.79

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 Company

31-16s-19w Rush, KS

250 N Water STE 800
Wichita KS 67202

Littler LLC A #1-31

Job Ticket: 58916

DST#: 3

ATTN: Jeff Christian

Test Start: 2014.07.18 @ 10:43:10

Tool Information

Drill Pipe:	Length: 3798.00 ft	Diameter: 3.80 inches	Volume: 53.28 bbl	Tool Weight:	2000.00 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: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 53.43 bbl</u>	Tool Chased	5.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial	56000.00 lb
Depth to Top Packer:	3818.00 ft			Final	63000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	15.00 ft				
Tool Length:	37.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			3801.00	
Hydraulic tool	5.00			3806.00	
Safety Joint	2.00			3808.00	
Packer	5.00			3813.00	22.00 Bottom Of Top Packer
Packer	5.00			3818.00	
Stubb	1.00			3819.00	
Perforations	1.00			3820.00	
Recorder	0.00	8897	Inside	3820.00	
Recorder	0.00	8898	Outside	3820.00	
Perforations	10.00			3830.00	
Bullnose	3.00			3833.00	15.00 Bottom Packers & Anchor

Total Tool Length: 37.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company

31-16s-19w Rush,KS

250 N Water STE 800
Wichita KS 67202

Little LLC A #1-31

Job Ticket: 58916

DST#: 3

ATTN: Jeff Christian

Test Start: 2014.07.18 @ 10:43:10

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: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 11.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 10000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
2100.00	VSMCW 98%W 2%M	29.184
270.00	MCW w ith show of oil on top 60%W 40%M	3.787

Total Length: 2370.00 ft Total Volume: 32.971 bbl

Num Fluid Samples: 0

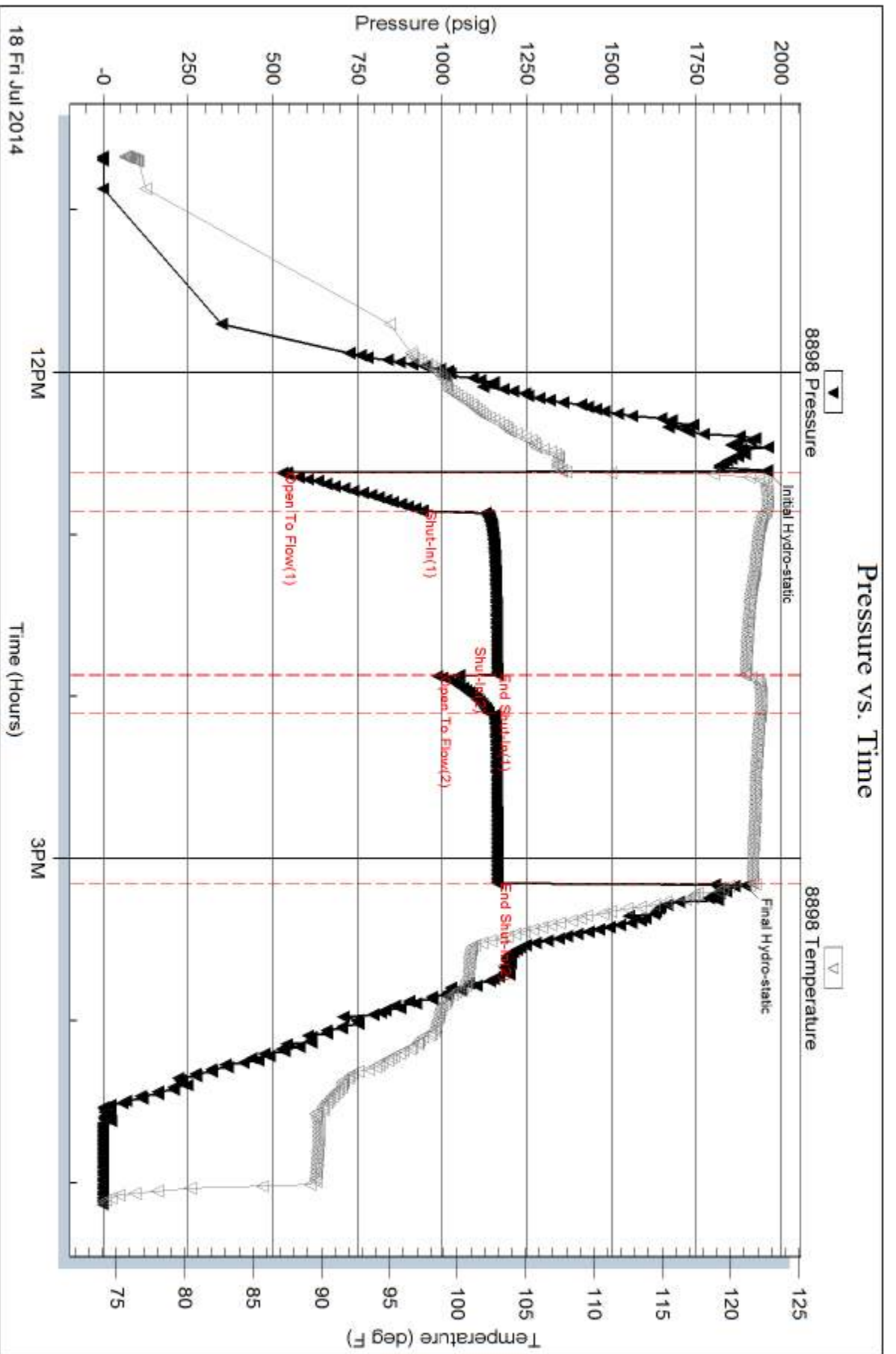
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



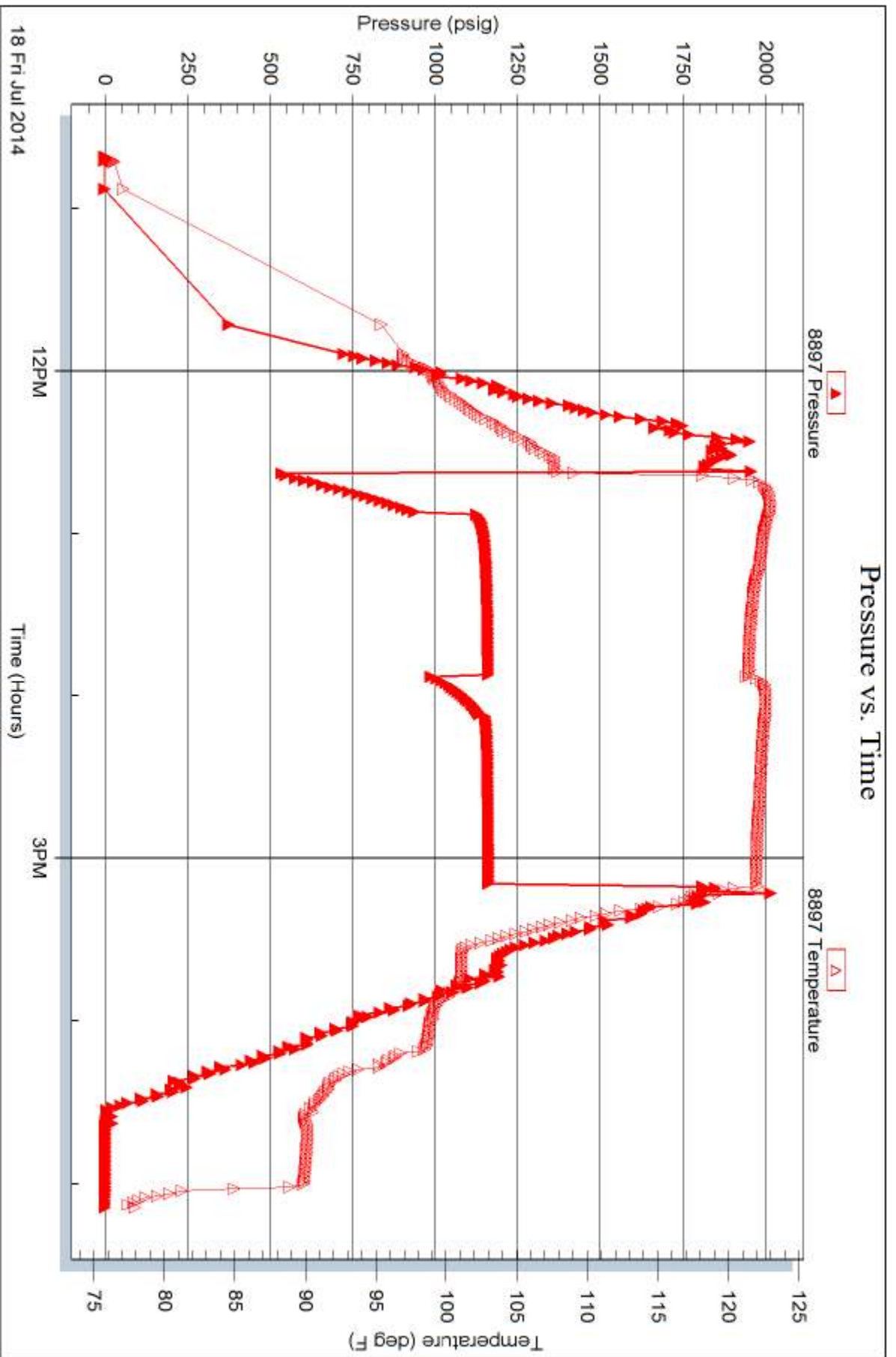
Serial #: 8897

Inside

Murfin Drilling Company

Litter LCA #1-31

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 58916

Printed: 2014.07.21 @ 09:16:46



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 58914

Well Name & No. Little LLC 'A' #1-31 Test No. 1 Date 7-14-14
 Company Murfin Drilling Company Elevation 2079 KB 2674 GL
 Address 250 N Water STE 800 Wichita KS 67202
 Co. Rep / Geo. Jeff Christian Rig Murfin #1C
 Location: Sec. 31 Twp. 16S Rge. 19W Co. Rush State KS

Interval Tested ~~3402~~ 3432 3462 Zone Tested LHC 'A'
 Anchor Length 30 Drill Pipe Run 3388 Mud Wt. 9.0
 Top Packer Depth 3427 Drill Collars Run 30 Vis 57
 Bottom Packer Depth 3432 Wt. Pipe Run 0 WL 8.8
 Total Depth 3462 Chlorides 4000 ppm System LCM 1/2 #

Blow Description Fair blow built to 4 in
Dead no blow built
Fair blow built to 5 in
Dead no blow back

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>90</u>	Feet of <u>MCW</u>			<u>80</u>	<u>20</u>

Rec Total 90 BHT 107 Gravity _____ API RW 241 @ 65 °F Chlorides 4000 ppm
 (A) Initial Hydrostatic 1718 Test 1150 T-On Location 0800
 (B) First Initial Flow 40 21 Jars _____ T-Started 0924
 (C) First Final Flow 40 Safety Joint 75 T-Open 1115
 (D) Initial Shut-In 876 Circ Sub _____ T-Pulled 1515
 (E) Second Initial Flow 44 Hourly Standby _____ T-Out 1627
 (F) Second Final Flow 66 Mileage 54 R/T 83.70 Comments _____
 (G) Final Shut-In 80 Sampler _____
 (H) Final Hydrostatic 1668 Straddle _____ Ruined Shale Packer _____
 Initial Open 30 Shale Packer _____ Ruined Packer _____
 Initial Shut-In 60 Extra Packer _____ Extra Copies _____
 Final Flow 60 90 Extra Recorder _____ Sub Total 0
 Final Shut-In _____ Day Standby _____ Total 1308.70
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1308.70

Approved By _____ Our Representative Jeff Christian

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. 58915

Well Name & No. Littler LLC 'A' #1-31 Test No. 2 Date 7-16-14
 Company Murfin Drilling Company Elevation 2079 KB 2074 GL
 Address _____
 Co. Rep / Geo. Jeff Christian Rig Murfin #16
 Location: Sec. 31 Twp. 16S Rge. 19W Co. Rush State KS

Interval Tested 3457 3484 Zone Tested LMC "B1"
 Anchor Length 27 Drill Pipe Run 3418 Mud Wt. 9.0
 Top Packer Depth 3452 Drill Collars Run 30 Vis 57
 Bottom Packer Depth 3457 Wt. Pipe Run 0 WL 8.8
 Total Depth 3484 Chlorides 4000 ppm System LCM 1/2 #

Blow Description B.O.B. IN 2 mins
Weak surface, blow back built to 2 1/2 in
B.O.B. IN 3 1/2 mins
B.O.B. IN 55 mins

ec	Feet of	%gas	%oil	%water	%mud
<u>600</u>	<u>GMCW</u>	<u>5</u>	<u>85</u>	<u>5</u>	
<u>60</u>	<u>MCGOW</u>	<u>10</u>	<u>30</u>	<u>50</u>	<u>10</u>
<u>350</u>	<u>WCGMO</u>	<u>5</u>	<u>80</u>	<u>10</u>	<u>5</u>
<u>90</u>	<u>WCGMO</u>	<u>10</u>	<u>60</u>	<u>10</u>	<u>20</u>

ec Total 1100 BHT 116 Gravity _____ API RW 091 @ 55 F Chlorides 122000 ppm

- A) Initial Hydrostatic 1727
- B) First Initial Flow 60
- C) First Final Flow 297
- D) Initial Shut-In 864
- E) Second Initial Flow 303
- F) Second Final Flow 560
- G) Final Shut-In 865
- H) Final Hydrostatic 1651

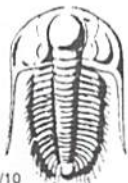
- Test 1150
- Jars _____
- Safety Joint 75
- Circ Sub _____
- Hourly Standby _____
- Mileage 83.70
- Sampler _____
- Straddle _____
- Shale Packer _____
- Extra Packer _____
- Extra Recorder _____
- Day Standby _____
- Accessibility _____
- Sub Total 1308.70

- T-On Location 2110
- T-Started 2133
- T-Open 2311
- T-Pulled 0311
- T-Out 0543

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

- Comments _____
- Ruined Shale Packer _____
- Ruined Packer _____
- Extra Copies _____
- Sub Total 0
- Total 1308.70
- 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. 58916

Well Name & No. Little LLC 'A' #1-31 Test No. 3 Date 7-18-14
 Company Murfin Drilling Company Elevation 2079 KB 2074 GL
 Address _____
 Co. Rep / Geo. Jeff Christian Rig Murfin #16
 Location: Sec. 31 Twp. 16S Rge. 19W Co. Rush State KS

Interval Tested 3818 3833 Zone Tested Arbuckle
 Anchor Length _____ Drill Pipe Run 3798 Mud Wt. 9.4
 Top Packer Depth _____ Drill Collars Run 30 Vis 56
 Bottom Packer Depth _____ Wt. Pipe Run _____ WL 11.2
 Total Depth 3833 Chlorides 10000 ppm System LCM 1#

Blow Description B, O, B, in 1 min
Weight surface slow back died in 50 mins
B, O, B, in 1 min
Dead no blow back

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>2100</u>	Feet of <u>KS mcw</u>			<u>98</u>	<u>2</u>
Rec <u>270</u>	Feet of <u>mcw with show of oil on top</u>			<u>60</u>	<u>40</u>
Rec _____	Feet of _____				
Rec _____	Feet of _____				

Rec Total 2370 BHT _____ Gravity _____ API RW .153 @ 65 ° F Chlorides 5500 ppm
 (A) Initial Hydrostatic 1959 Test 1150 T-On Location 0945
 (B) First Initial Flow 528 Jars _____ T-Started 1033
 (C) First Final Flow 941 Safety Joint 75 T-Open 1264
 (D) Initial Shut-In 1163 Circ Sub _____ T-Pulled 31506
 (E) Second Initial Flow 985 Hourly Standby _____ T-Out 1708
 (F) Second Final Flow 1136 Mileage 83.70 Comments _____
 (G) Final Shut-In 1164 Sampler _____
 (H) Final Hydrostatic 1893 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____

Initial Open 15
 Initial Shut-In 60
 Final Flow 15
 Final Shut-In 60
 Day Standby +4 hrs
 Accessibility _____
 Sub Total 1308.70
 Sub Total 133.33
 Total 1442.03
 MP/DST Disc't _____

Approved By _____ Our Representative [Signature]
 Trilobite Testing Inc. shall not be liable for damaged or 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.