



DRILL STEM TEST REPORT

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

250 N. Water, STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

Wilkinson A #1-34

34-1s-36w Rawlins,KS

Start Date: 2014.09.02 @ 16:09:00

End Date: 2014.09.03 @ 00:56:00

Job Ticket #: 60757 DST #: 1

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

Printed: 2014.09.10 @ 10:52:46

Murfin Drlg Co., Inc.
34-1s-36w Rawlins,KS
Wilkinson A #1-34
DST # 1
LKC "A-D"
2014.09.02



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drlg Co., Inc.

34-1s-36w Rawlins,KS

250 N. Water, STE 300
Wichita, KS 67202

Wilkinson A #1-34

Job Ticket: 60757

DST#: 1

ATTN: Saman Sharifaie

Test Start: 2014.09.02 @ 16:09:00

GENERAL INFORMATION:

Formation: **LKC "A-D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:32:00

Time Test Ended: 00:56:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Quintana

Unit No: 48

Interval: 4110.00 ft (KB) To 4258.00 ft (KB) (TVD)

Reference Elevations: 3245.00 ft (KB)

Total Depth: 4258.00 ft (KB) (TVD)

3234.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 8647

Inside

Press@RunDepth: 582.34 psig @ 4111.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.02

End Date:

2014.09.03

Last Calib.:

2014.09.03

Start Time: 16:09:01

End Time:

00:56:00

Time On Btm:

2014.09.02 @ 18:27:30

Time Off Btm:

2014.09.02 @ 22:33:30

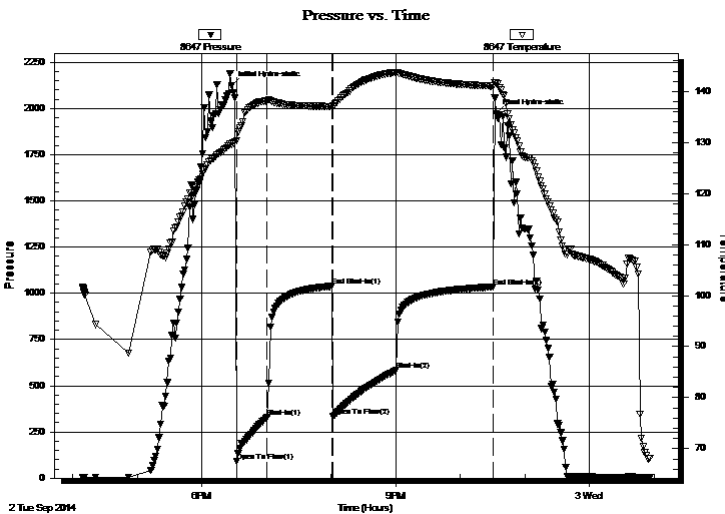
TEST COMMENT: 30 - IF - Opened w/ surface blow , built to B.o.B in 7 min.

60 - ISI - No Return

60 - FF - B.o.B in 10 min.

90 - FSI - No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2122.99	129.64	Initial Hydro-static
5	90.82	130.37	Open To Flow (1)
33	330.01	138.21	Shut-In(1)
93	1038.57	137.09	End Shut-In(1)
95	335.79	137.15	Open To Flow (2)
153	582.34	143.74	Shut-In(2)
243	1034.69	141.05	End Shut-In(2)
246	1970.54	141.67	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
427.00	MW 85%w , 15%m	4.10
434.00	GWM 65%m, 15%w , 20%g	6.09
258.00	100%w w / oil spots	3.62

Gas Rates

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



DRILL STEM TEST REPORT

Murfin Drlg Co., Inc.

34-1s-36w Rawlins,KS

250 N. Water, STE 300
Wichita, KS 67202

Wilkinson A #1-34

Job Ticket: 60757

DST#: 1

ATTN: Saman Sharifaie

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Tester: Brandon Quintana

Unit No: 48

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Reference Elevations: 3245.00 ft (KB)

Total Depth: 4258.00 ft (KB) (TVD)

3234.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 8372 Outside

Press@RunDepth: psig @ 4111.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.02

End Date: 2014.09.03

Last Calib.: 2014.09.03

Start Time: 16:09:01

End Time: 00:58:00

Time On Btm:

Time Off Btm:

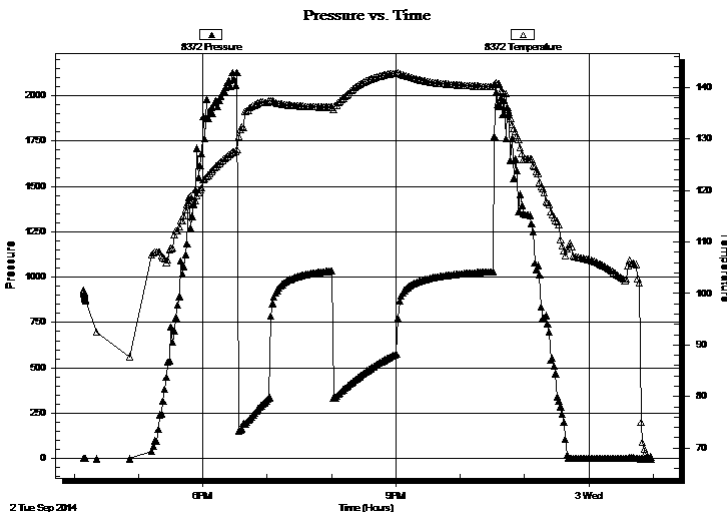
TEST COMMENT: 30 - IF - Opened w/ surface blow , built to B.o.B in 7 min.

60 - ISI - No Return

60 - FF - B.o.B in 10 min.

90 - FSI - No Return

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
427.00	MW 85%w, 15%m	4.10
434.00	GWM 65%m, 15%w, 20%g	6.09
258.00	100%m w / oil spots	3.62

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drlg Co., Inc.

34-1s-36w Rawlins,KS

250 N. Water, STE 300
Wichita, KS 67202

Wilkinson A #1-34

Job Ticket: 60757

DST#: 1

ATTN: Saman Sharifaie

Test Start: 2014.09.02 @ 16:09:00

Tool Information

Drill Pipe:	Length: 3904.00 ft	Diameter: 3.80 inches	Volume: 54.76 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 207.34 ft	Diameter: 2.25 inches	Volume: 1.02 bbl	Weight to Pull Loose: 95000.00 lb
			<u>Total Volume: 55.78 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.34 ft			String Weight: Initial 76000.00 lb
Depth to Top Packer:	4110.00 ft			Final 86000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	148.00 ft			
Tool Length:	176.00 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			4083.00	
Shut In Tool	5.00			4088.00	
Hydraulic tool	5.00		Inside	4093.00	
Jars	5.00			4098.00	
Safety Joint	3.00			4101.00	
Packer	5.00			4106.00	28.00 Bottom Of Top Packer
Packer	4.00			4110.00	
Stubb	1.00			4111.00	
Recorder	0.00	8647	Inside	4111.00	
Recorder	0.00	8372	Outside	4111.00	
Perforations	17.00			4128.00	
Change Over Sub	1.00			4129.00	
Drill Pipe	125.00			4254.00	
Change Over Sub	1.00			4255.00	
Bullnose	3.00			4258.00	148.00 Bottom Packers & Anchor

Total Tool Length: 176.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drlg Co., Inc.

34-1s-36w Rawlins,KS

250 N. Water, STE 300
Wichita, KS 67202

Wilkinson A #1-34

Job Ticket: 60757

DST#: 1

ATTN: Saman Sharifaie

Test Start: 2014.09.02 @ 16:09:00

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: 72.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
427.00	MW 85%w , 15%m	4.101
434.00	GWM 65%m, 15%w , 20%g	6.088
258.00	100%m w / oil spots	3.619

Total Length: 1119.00 ft Total Volume: 13.808 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

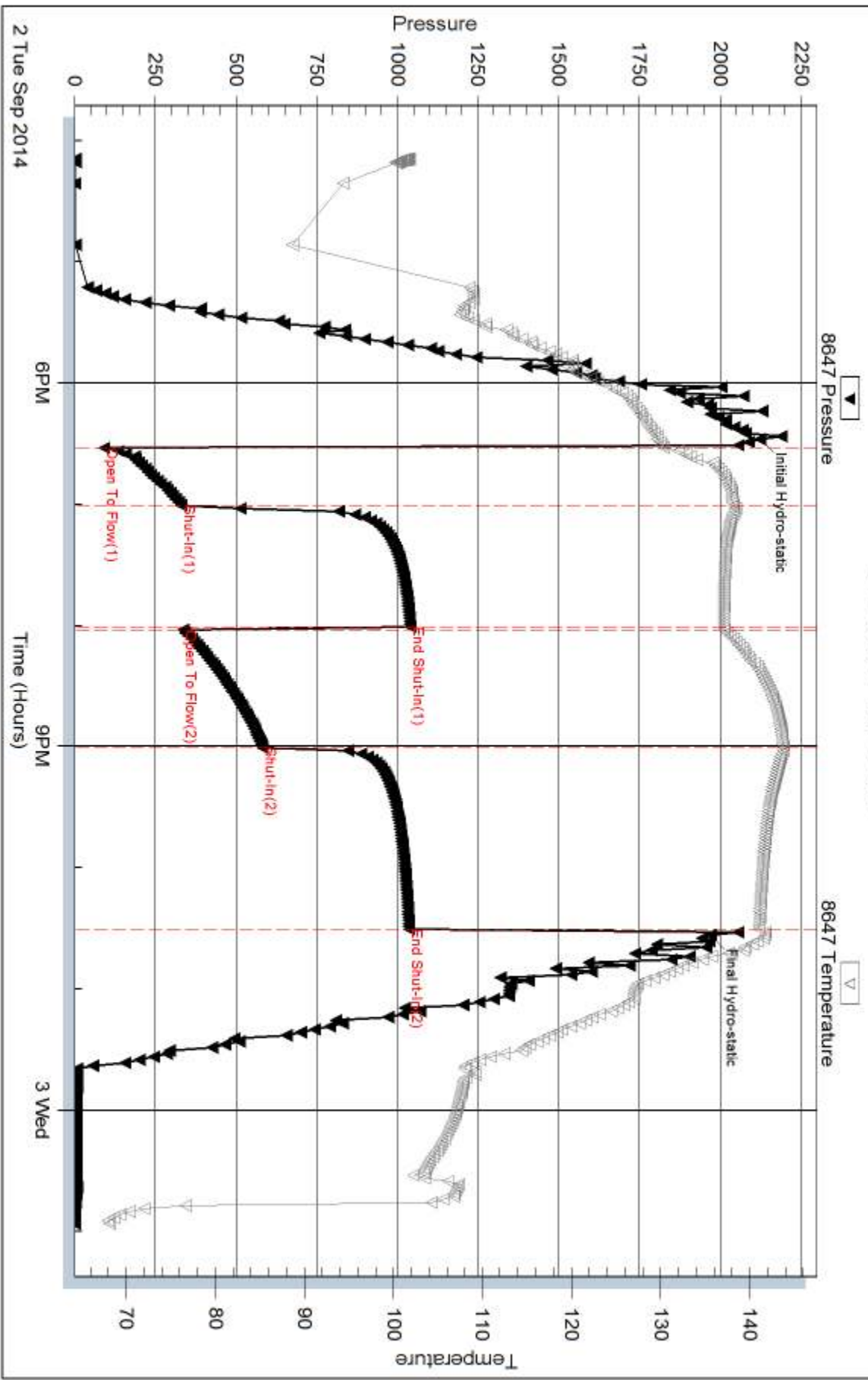
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .174 @ 65F Chlorides 47000ppm

Pressure vs. Time

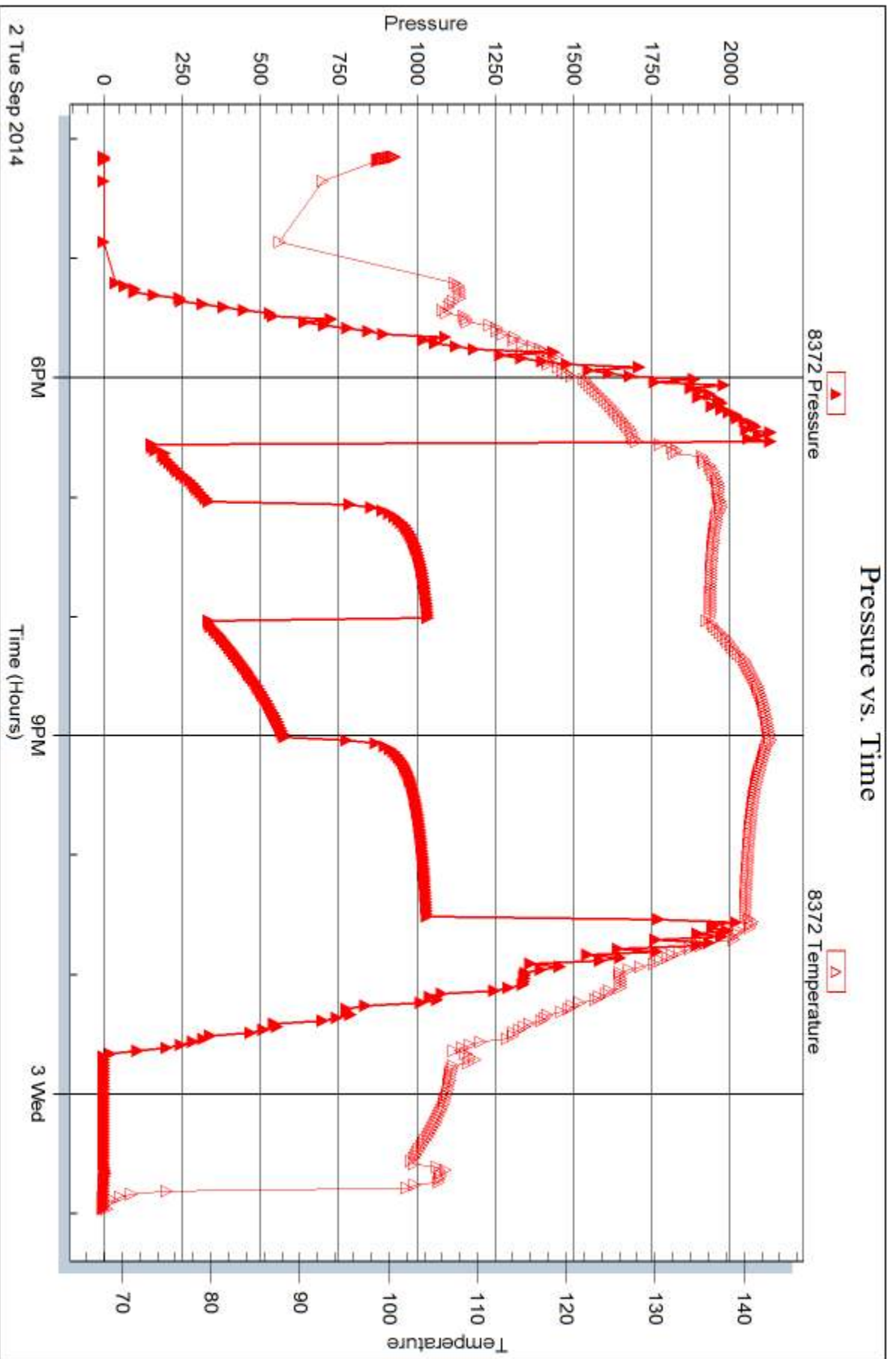


Serial #: 8372

Outside Murfin Dtg Co., Inc.

Wilkinson A #1-34

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 60757

Printed: 2014.09.10 @ 10:52:47



DRILL STEM TEST REPORT

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

250 N. Water, STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

Wilkinson A #1-34

34-1s-36w Rawlins,KS

Start Date: 2014.09.03 @ 17:00:00

End Date: 2014.09.04 @ 00:20:30

Job Ticket #: 60138 DST #: 2

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

Printed: 2014.09.10 @ 10:51:36



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drlg Co., Inc.

34-1s-36w Rawlins,KS

250 N. Water, STE 300
Wichita, KS 67202

Wilkinson A #1-34

Job Ticket: 60138

DST#: 2

ATTN: Saman Sharifaie

Test Start: 2014.09.03 @ 17:00:00

GENERAL INFORMATION:

Formation: **LKC "J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:08:00

Time Test Ended: 00:20:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Donovan Baumann

Unit No: 48

Interval: 4350.00 ft (KB) To 4400.00 ft (KB) (TVD)

Reference Elevations: 3245.00 ft (KB)

Total Depth: 4400.00 ft (KB) (TVD)

3234.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 8647

Inside

Press@RunDepth: 33.21 psig @ 4351.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.03

End Date:

2014.09.04

Last Calib.: 2014.09.04

Start Time: 17:00:01

End Time:

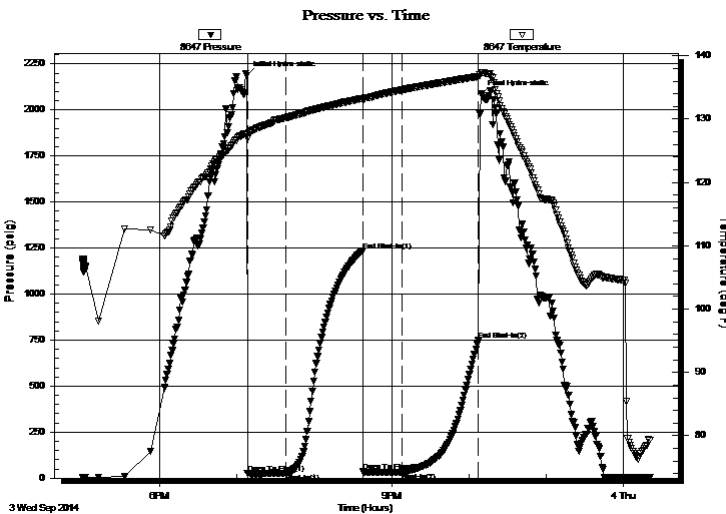
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Time On Btm: 2014.09.03 @ 19:07:30

Time Off Btm: 2014.09.03 @ 22:09:30

TEST COMMENT: 30 - IF - No surface blow
60 - ISI - No return
30 - FF - No surface blow
60 - FSI - No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2185.68	127.65	Initial Hydro-static
1	27.16	127.01	Open To Flow (1)
31	27.28	130.22	Shut-In(1)
90	1233.89	133.28	End Shut-In(1)
91	34.70	133.10	Open To Flow (2)
121	33.21	134.62	Shut-In(2)
180	749.35	136.74	End Shut-In(2)
182	2085.22	137.38	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud - 100M	0.02

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drlg Co., Inc.

34-1s-36w Rawlins,KS

250 N. Water, STE 300
Wichita, KS 67202

Wilkinson A #1-34

Job Ticket: 60138 **DST#: 2**

ATTN: Saman Sharifaie

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Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:08:00

Time Test Ended: 00:20:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Donovan Baumann

Unit No: 48

Interval: 4350.00 ft (KB) To 4400.00 ft (KB) (TVD)

Reference Elevations: 3245.00 ft (KB)

Total Depth: 4400.00 ft (KB) (TVD)

3234.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 8372 Outside

Press@RunDepth: psig @ 4351.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.03

End Date:

2014.09.04

Last Calib.:

2014.09.04

Start Time: 17:00:01

End Time:

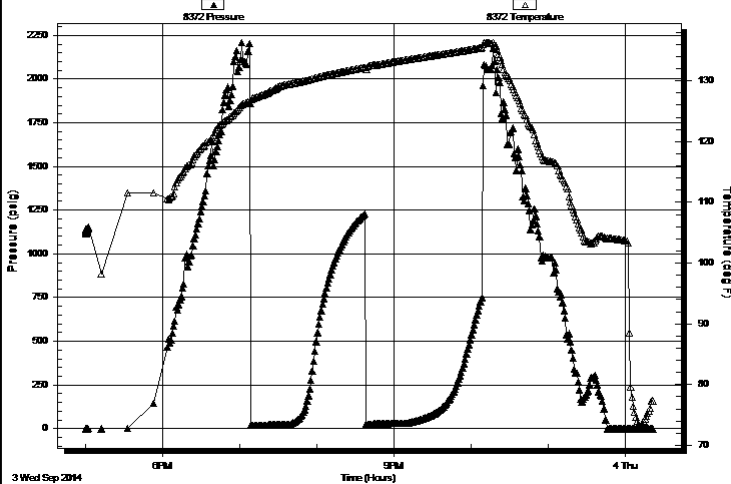
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Time On Btm:

Time Off Btm:

TEST COMMENT: 30 - IF - No surface blow
60 - ISI - No return
30 - FF - No surface blow
60 - FSI - No return

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud - 100M	0.02

Gas Rates

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



**TRILOBITE
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DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drlg Co., Inc.

34-1s-36w Rawlins,KS

250 N. Water, STE 300
Wichita, KS 67202

Wilkinson A #1-34

Job Ticket: 60138

DST#: 2

ATTN: Saman Sharifaie

Test Start: 2014.09.03 @ 17:00:00

Tool Information

Drill Pipe:	Length: 4132.00 ft	Diameter: 3.80 inches	Volume: 57.96 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: 207.00 ft	Diameter: 2.25 inches	Volume: 1.02 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 58.98 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 80000.00 lb
Depth to Top Packer:	4350.00 ft			Final 80000.00 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

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

Change Over Sub	1.00			4323.00	
Shut In Tool	5.00			4328.00	
Hydraulic tool	5.00		Inside	4333.00	
Jars	5.00			4338.00	
Safety Joint	3.00			4341.00	
Packer	5.00			4346.00	28.00 Bottom Of Top Packer
Packer	4.00			4350.00	
Stubb	1.00			4351.00	
Recorder	0.00	8647	Inside	4351.00	
Recorder	0.00	8372	Outside	4351.00	
Perforations	13.00			4364.00	
Change Over Sub	1.00			4365.00	
Drill Pipe	31.00			4396.00	
Change Over Sub	1.00			4397.00	
Bullnose	3.00			4400.00	50.00 Bottom Packers & Anchor

Total Tool Length: 78.00



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34-1s-36w Rawlins,KS

250 N. Water, STE 300
Wichita, KS 67202

Wilkinson A #1-34

Job Ticket: 60138

DST#: 2

ATTN: Saman Sharifaie

Test Start: 2014.09.03 @ 17:00:00

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: 57.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
5.00	Mud - 100M	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

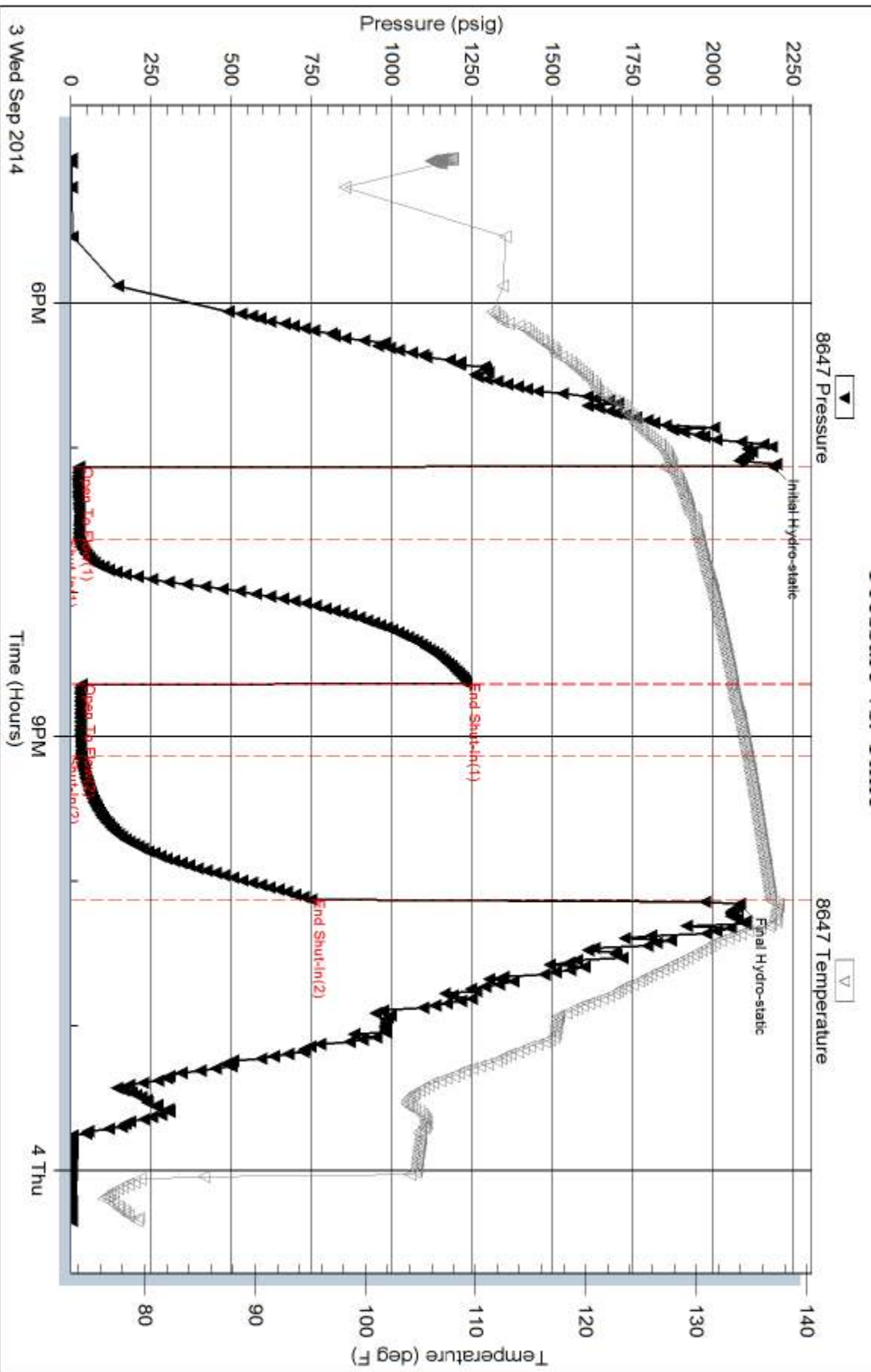
Serial #:

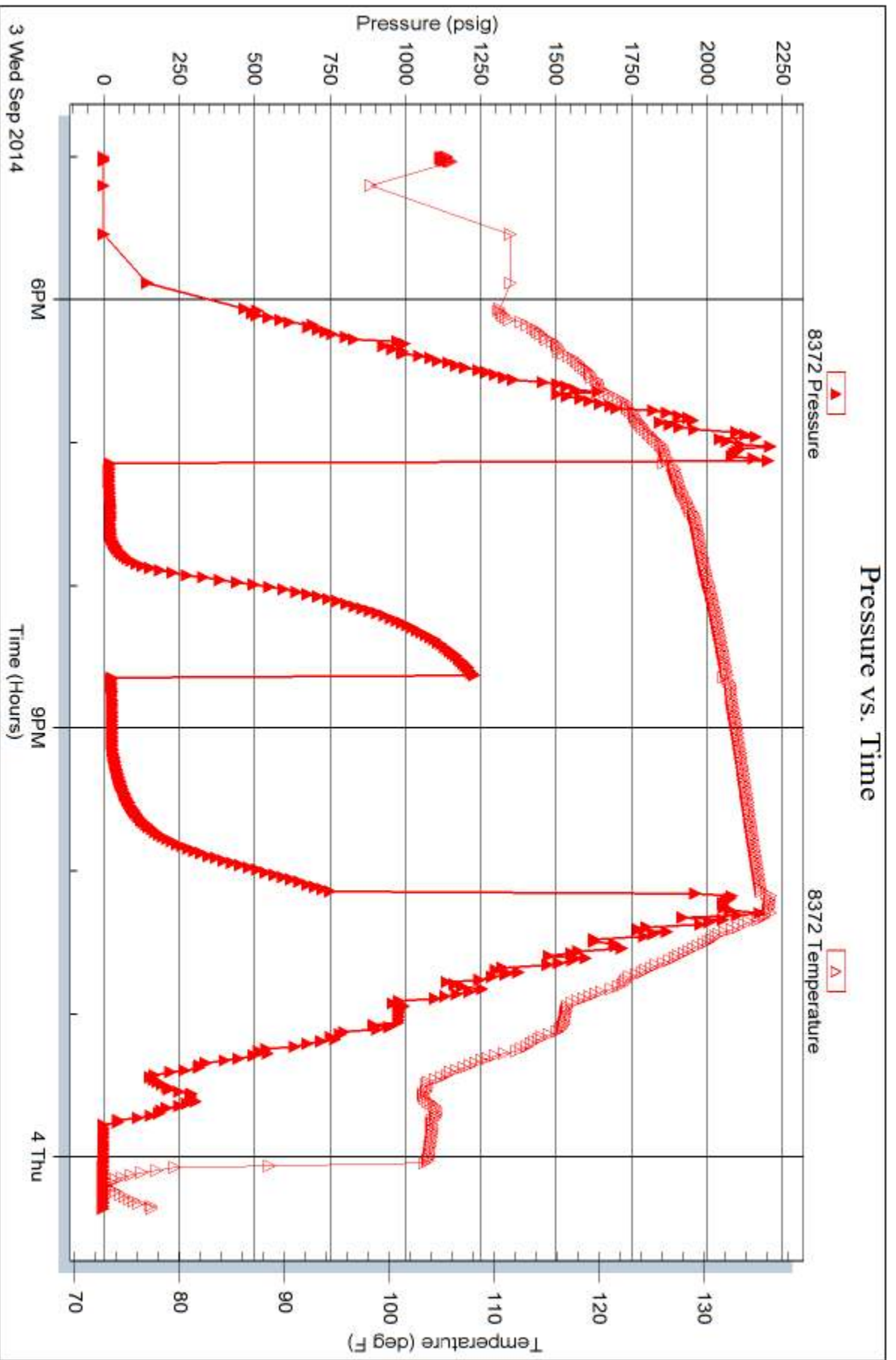
Laboratory Name:

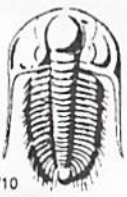
Laboratory Location:

Recovery Comments:

Pressure vs. Time







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 60757

Well Name & No. Wilkinson 'A' #1-34 Test No. 1 Date 9-2-14
 Company Murfin Drilg. Co., Inc. Elevation 3245 KB 3234 GL
 Address 250 N. Water, STE 300 Wichita, KS 67202
 Co. Rep / Geo. Saman Sharifaie Rig Murfin #2
 Location: Sec. 34 Twp. 1S Rge. 36w Co. Rawlins State KS

Interval Tested 4110-4258 Zone Tested LKC "A-D"
 Anchor Length 148' Drill Pipe Run 3904 Mud Wt. 9
 Top Packer Depth 4105 Drill Collars Run 207.34 Vis 72
 Bottom Packer Depth 4110 Wt. Pipe Run — WL 6.4
 Total Depth 4258 Chlorides 600 ppm System LCM 10

Blow Description IF- Opened w/ surface blow, B.o.B in 7 min.
ISI- No Return
FF- B.o.B in 10 min.
FSI- No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>258</u>	<u>mud w/ oil spots</u>			<u>100</u>	
<u>434</u>	<u>GWM</u>	<u>20</u>		<u>15</u>	<u>65</u>
<u>427</u>	<u>MW</u>			<u>85</u>	<u>15</u>

Rec Total 1119 BHT 141 Gravity — API RW .174@ 65 °F Chlorides 47000 ppm

(A) Initial Hydrostatic 222 Test 1250 T-On Location 3:50 PM
 (B) First Initial Flow 90 Jars 250 T-Started 4:09 PM
 (C) First Final Flow 330 Safety Joint 75 T-Open 6:32 PM
 (D) Initial Shut-In 1038 Circ Sub — T-Pulled 10:32 PM
 (E) Second Initial Flow 335 Hourly Standby — T-Out 12:58 AM
 (F) Second Final Flow 582 Mileage 116 R.T. 179.80 Comments —
 (G) Final Shut-In 1034 Sampler —
 (H) Final Hydrostatic 1970 Straddle — Ruined Shale Packer —
 Shale Packer — Ruined Packer —
 Extra Packer — Extra Copies —
 Extra Recorder — Sub Total 0
 Day Standby — Total 1754.80
 Accessibility — MP/DST Disc't —
 Sub Total 1754.80

Approved By _____

Our Representative Burd Q. T.

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. **60138**

4/10

Well Name & No. Wilkinson 'A' # 1-34 Test No. 2 Date 9-3-14
 Company Murfin Drilling Co., Inc Elevation 3245 KB 3234 GL
 Address 250 N. Water, STE 300 ~~Wichita~~ Wichita, KS, 67202
 Co. Rep / Geo. Saman Sharifaie Rig Murfin #2
 Location: Sec. 34 Twp. 1S Rge. 36 W Co. Rawlins State KS

Interval Tested 4350' - 4400' Zone Tested LKC "J"
 Anchor Length 50' Drill Pipe Run 4132' Mud Wt. 9.2
 Top Packer Depth 4345' Drill Collars Run 207.34 Vis 57
 Bottom Packer Depth 4350' Wt. Pipe Run Ø WL 7.2
 Total Depth 4400' Chlorides 900 ppm System LCM 10[#]
 Blow Description IF - No surface blow
ISI - NO return
FF - No surface blow
FSI - NO return

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>mud</u>				<u>100</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 137 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm
 (A) Initial Hydrostatic 2186 Test 1250 T-On Location 4:01pm
 (B) First Initial Flow 27 Jars 250 T-Started 5:00pm
 (C) First Final Flow 27 Safety Joint 75 T-Open 7:08pm
 (D) Initial Shut-In 1234 Circ Sub n/c T-Pulled 10:08pm
 (E) Second Initial Flow 35 Hourly Standby _____ T-Out 12:22am
 (F) Second Final Flow 33 Mileage 116 R/T 179.80 Comments _____
 (G) Final Shut-In 749 Sampler _____
 (H) Final Hydrostatic 2085 Straddle _____ Ruined Shale Packer _____

Initial Open 30 Shale Packer _____ Ruined Packer _____
 Initial Shut-In 60 Extra Packer _____ Extra Copies _____
 Final Flow 30 Extra Recorder _____ Sub Total 0
 Final Shut-In 60 Day Standby _____ Total 1754.80
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1754.80

Approved By _____ Our Representative Gomeran Baumann

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.