



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita KS 67206

ATTN: Saman Sharifaie

Kacirek Trust #1-5WD

5-2s-36w Rawlins KS

Start Date: 2014.11.24 @ 05:40:00

End Date: 2014.11.24 @ 13:18:50

Job Ticket #: 60047 DST #: 1

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

Printed: 2014.12.02 @ 08:39:08



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

5-2s-36w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

Kacirek Trust #1-5WD

Job Ticket: 60047

DST#: 1

ATTN: Saman Sharifaie

Test Start: 2014.11.24 @ 05:40:00

GENERAL INFORMATION:

Formation: **Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:19:20

Time Test Ended: 13:18:50

Test Type: Conventional Bottom Hole (Initial)

Tester: Ryan Nichols

Unit No: 78

Interval: 4116.00 ft (KB) To 4200.00 ft (KB) (TVD)

Reference Elevations: 3293.00 ft (KB)

Total Depth: 4200.00 ft (KB) (TVD)

3282.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 6752

Inside

Press@RunDepth: 564.30 psig @ 4117.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.24

End Date:

2014.11.24

Last Calib.: 2014.11.24

Start Time: 05:40:01

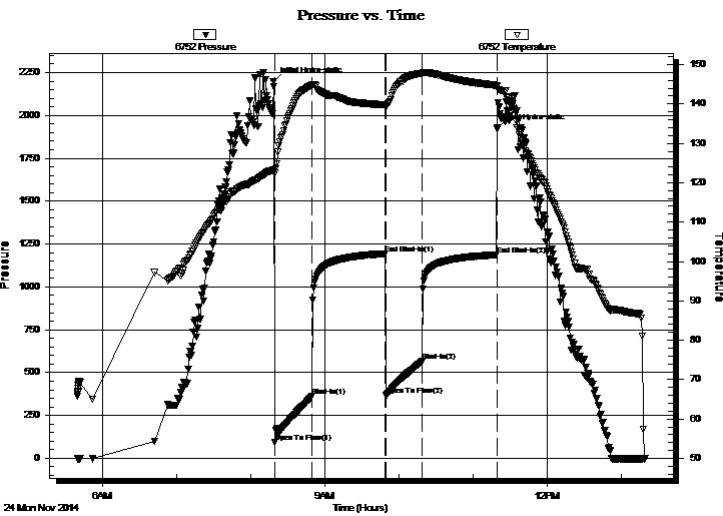
End Time:

13:18:50

Time On Btm: 2014.11.24 @ 08:18:20

Time Off Btm: 2014.11.24 @ 11:19:09

TEST COMMENT: 30 IF - 1" blow built to BoB @ 3 1/2 mins (in diesel)
60 ISI - No return
30 FF - 1/2" blow built to BoB @ 4 mins
60 FSI - No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2198.34	123.37	Initial Hydro-static
1	94.37	122.40	Open To Flow (1)
32	361.88	144.84	Shut-In(1)
91	1194.01	139.77	End Shut-In(1)
91	366.09	139.45	Open To Flow (2)
120	564.30	147.80	Shut-In(2)
181	1186.46	144.70	End Shut-In(2)
181	1920.21	144.64	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
63.00	WCM - 50%W - 50%M	0.31
115.00	MCW - 5%M - 95%W	0.57
126.00	MCW - 15%M - 85%W	1.51
196.00	OSMCW - Oil spots - 40%M - 60%W	2.75

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

5-2s-36w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

Kacirek Trust #1-5WD

Job Ticket: 60047

DST#: 1

ATTN: Saman Sharifaie

Test Start: 2014.11.24 @ 05:40:00

Tool Information

Drill Pipe:	Length: 3913.00 ft	Diameter: 3.80 inches	Volume: 54.89 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: 206.00 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 55.90 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4116.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	84.00 ft			
Tool Length:	111.00 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			4090.00	
Shut In Tool	5.00			4095.00	
Hydraulic tool	5.00			4100.00	
Jars	5.00			4105.00	
Safety Joint	2.00			4107.00	
Packer	5.00			4112.00	27.00 Bottom Of Top Packer
Packer	4.00			4116.00	
Stubb	1.00			4117.00	
Recorder	0.00	6752	Inside	4117.00	
Recorder	0.00	8322	Outside	4117.00	
Perforations	15.00			4132.00	
Change Over Sub	1.00			4133.00	
Drill Pipe	63.00			4196.00	
Change Over Sub	1.00			4197.00	
Bullnose	3.00			4200.00	84.00 Bottom Packers & Anchor

Total Tool Length: 111.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

5-2s-36w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

Kacirek Trust #1-5WD

Job Ticket: 60047

DST#: 1

ATTN: Saman Sharifaie

Test Start: 2014.11.24 @ 05:40:00

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:

31000 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
63.00	WCM - 50%W - 50%M	0.310
115.00	MCW - 5%M - 95%W	0.566
126.00	MCW - 15%M - 85%W	1.512
196.00	OSMCW - Oil spots - 40%M - 60%W	2.749

Total Length: 500.00 ft

Total Volume: 5.137 bbl

Num Fluid Samples: 0

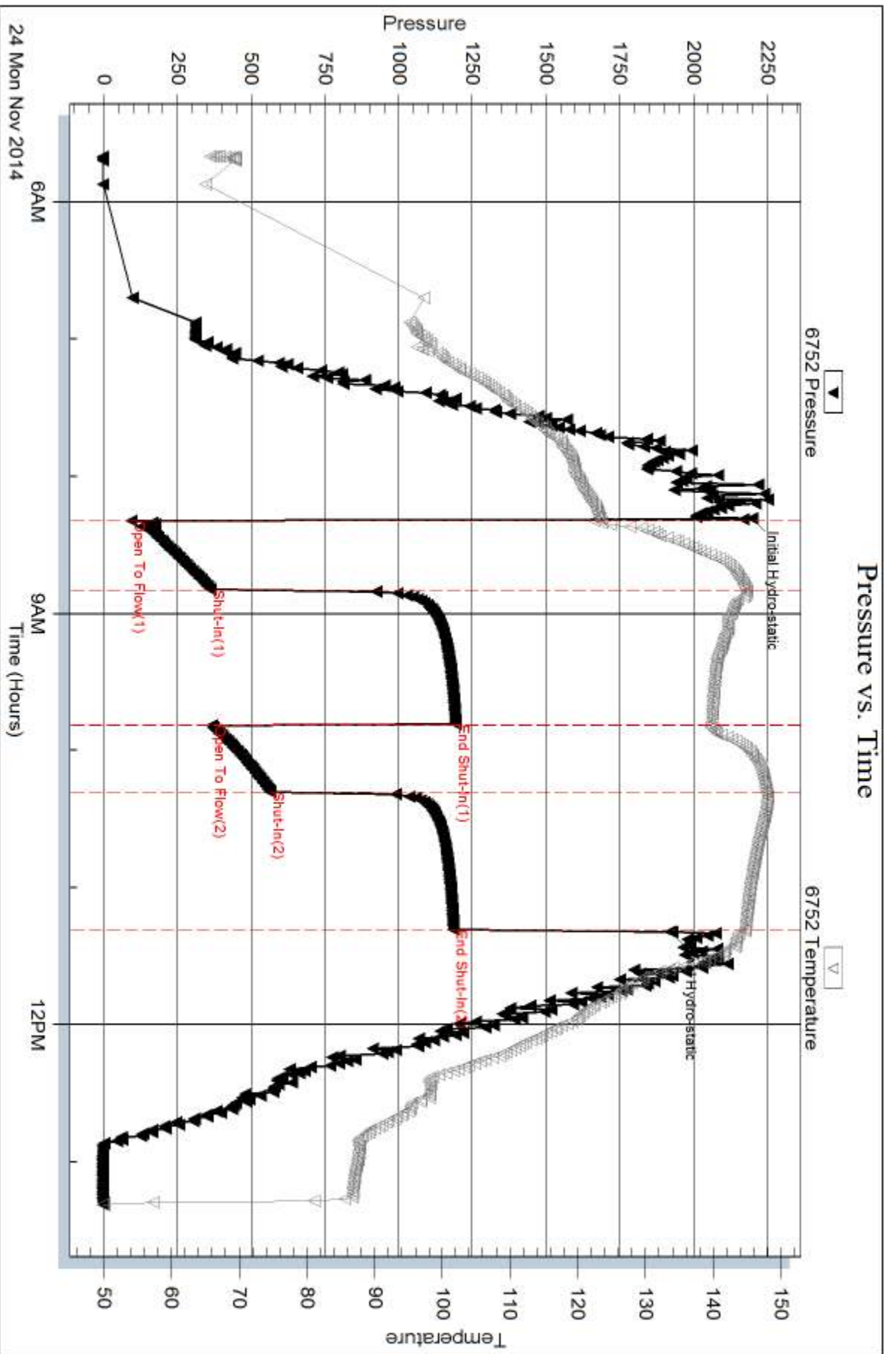
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .316 @ 50 DEG F

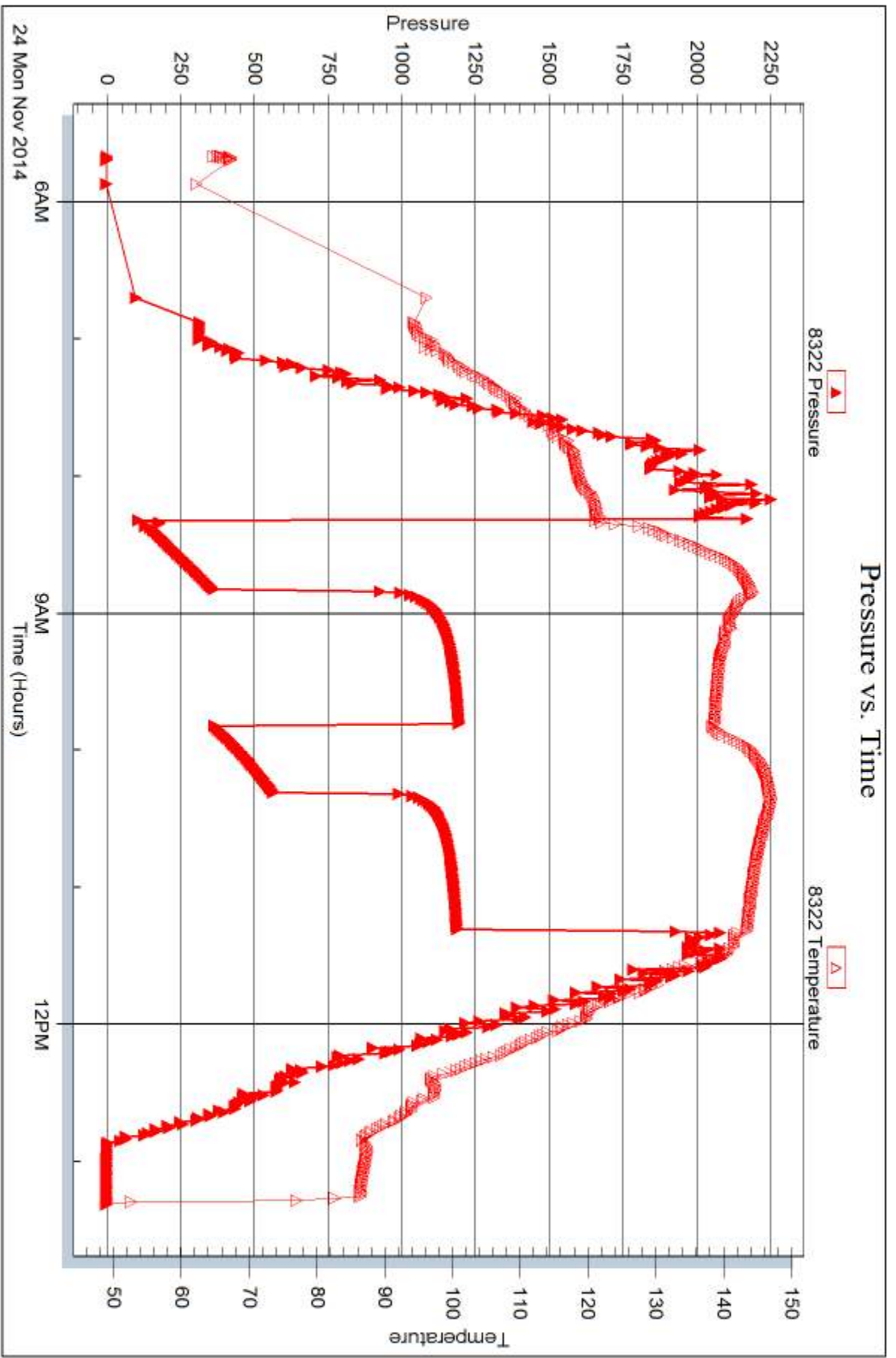


Serial #: 8322

Outside Murfin Drilling Co. Inc.

Kacirek Trust #1-5WD

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 60047

Printed: 2014, 12:02 @ 08:39:09



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita KS 67206

ATTN: Saman Sharifaie

Kacirek Trust #1-5WD

5-2s-36w Rawlins KS

Start Date: 2014.11.24 @ 22:23:00

End Date: 2014.11.25 @ 06:32:39

Job Ticket #: 60048 DST #: 2

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

Printed: 2014.12.02 @ 08:37:40



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

5-2s-36w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

Kacirek Trust #1-5WD

Job Ticket: 60048

DST#: 2

ATTN: Saman Sharifaie

Test Start: 2014.11.24 @ 22:23:00

GENERAL INFORMATION:

Formation: **LKC " A "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:19:20

Time Test Ended: 06:32:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 78

Interval: 4190.00 ft (KB) To 4270.00 ft (KB) (TVD)

Reference Elevations: 3293.00 ft (KB)

Total Depth: 4270.00 ft (KB) (TVD)

3282.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 6752

Inside

Press@RunDepth: 116.76 psig @ 4191.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.24

End Date:

2014.11.25

Last Calib.:

2014.11.25

Start Time: 22:23:01

End Time:

06:32:40

Time On Btm:

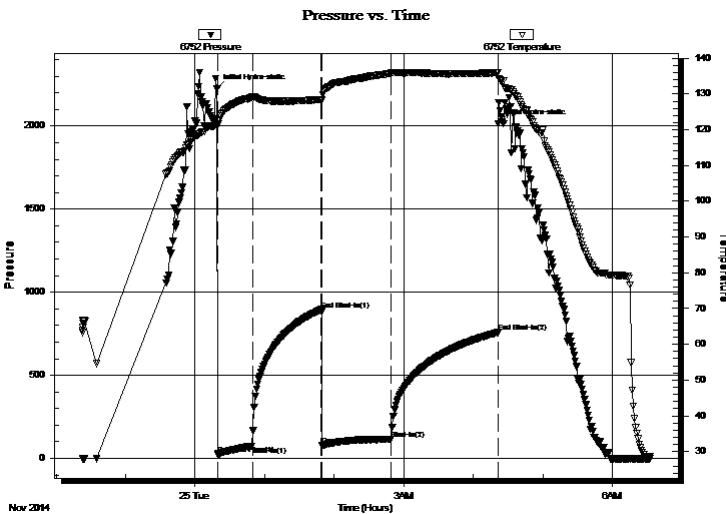
2014.11.25 @ 00:19:00

Time Off Btm:

2014.11.25 @ 04:21:30

TEST COMMENT: 30 IF - 1/2" blow built to 5 1/2" (in diesel)
60 ISI - No return
60 FF - Surface blow built to 4"
90 FSI - No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2227.24	122.59	Initial Hydro-static
1	24.18	121.44	Open To Flow (1)
31	73.33	129.17	Shut-In(1)
90	895.79	128.46	End Shut-In(1)
91	78.11	128.14	Open To Flow (2)
150	116.76	135.83	Shut-In(2)
243	757.76	135.94	End Shut-In(2)
243	2015.94	136.03	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
58.00	MCW - 30%M - 70%W	0.29
58.00	MCW - 20%M - 80%W	0.29
58.00	MCW - 30%M - 70%W	0.29
56.00	Mud - 100%M	0.49

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

5-2s-36w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

Kacirek Trust #1-5WD

Job Ticket: 60048

DST#: 2

ATTN: Saman Sharifaie

Test Start: 2014.11.24 @ 22:23:00

Tool Information

Drill Pipe:	Length: 3978.00 ft	Diameter: 3.80 inches	Volume: 55.80 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: 206.00 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 56.81 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4190.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	80.00 ft			
Tool Length:	107.00 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			4164.00	
Shut In Tool	5.00			4169.00	
Hydraulic tool	5.00			4174.00	
Jars	5.00			4179.00	
Safety Joint	2.00			4181.00	
Packer	5.00			4186.00	27.00 Bottom Of Top Packer
Packer	4.00			4190.00	
Stubb	1.00			4191.00	
Recorder	0.00	6752	Inside	4191.00	
Recorder	0.00	8322	Outside	4191.00	
Perforations	11.00			4202.00	
Change Over Sub	1.00			4203.00	
Drill Pipe	63.00			4266.00	
Change Over Sub	1.00			4267.00	
Bullnose	3.00			4270.00	80.00 Bottom Packers & Anchor

Total Tool Length: 107.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

5-2s-36w Rawlins KS

250 N. Water STE 300
Wichita KS 67206

Kacirek Trust #1-5WD

Job Ticket: 60048

DST#: 2

ATTN: Saman Sharifaie

Test Start: 2014.11.24 @ 22:23:00

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:

25500 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
58.00	MCW - 30%M - 70%W	0.285
58.00	MCW - 20%M - 80%W	0.285
58.00	MCW - 30%M - 70%W	0.285
56.00	Mud - 100%M	0.494

Total Length: 230.00 ft

Total Volume: 1.349 bbl

Num Fluid Samples: 0

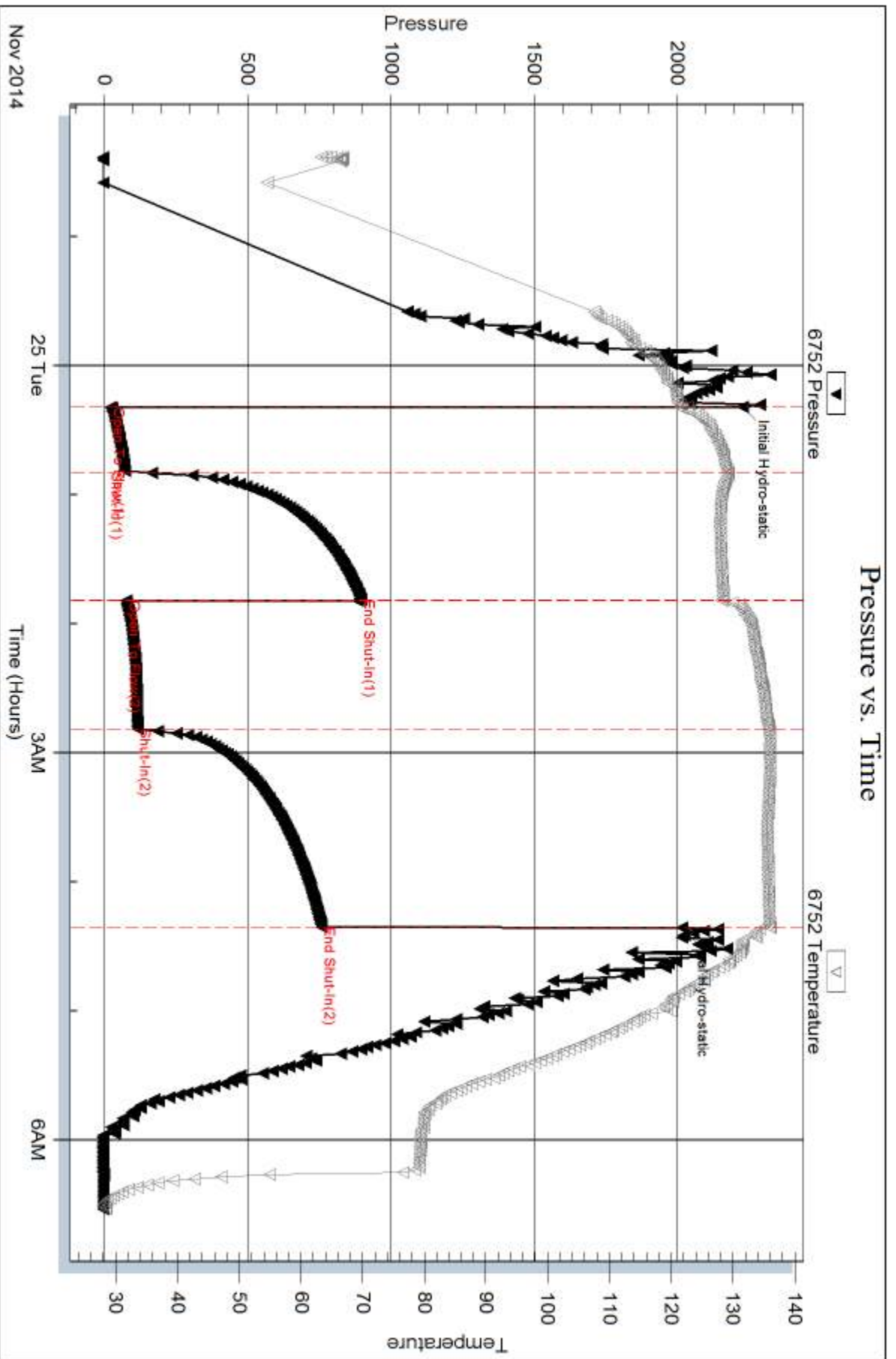
Num Gas Bombs: 0

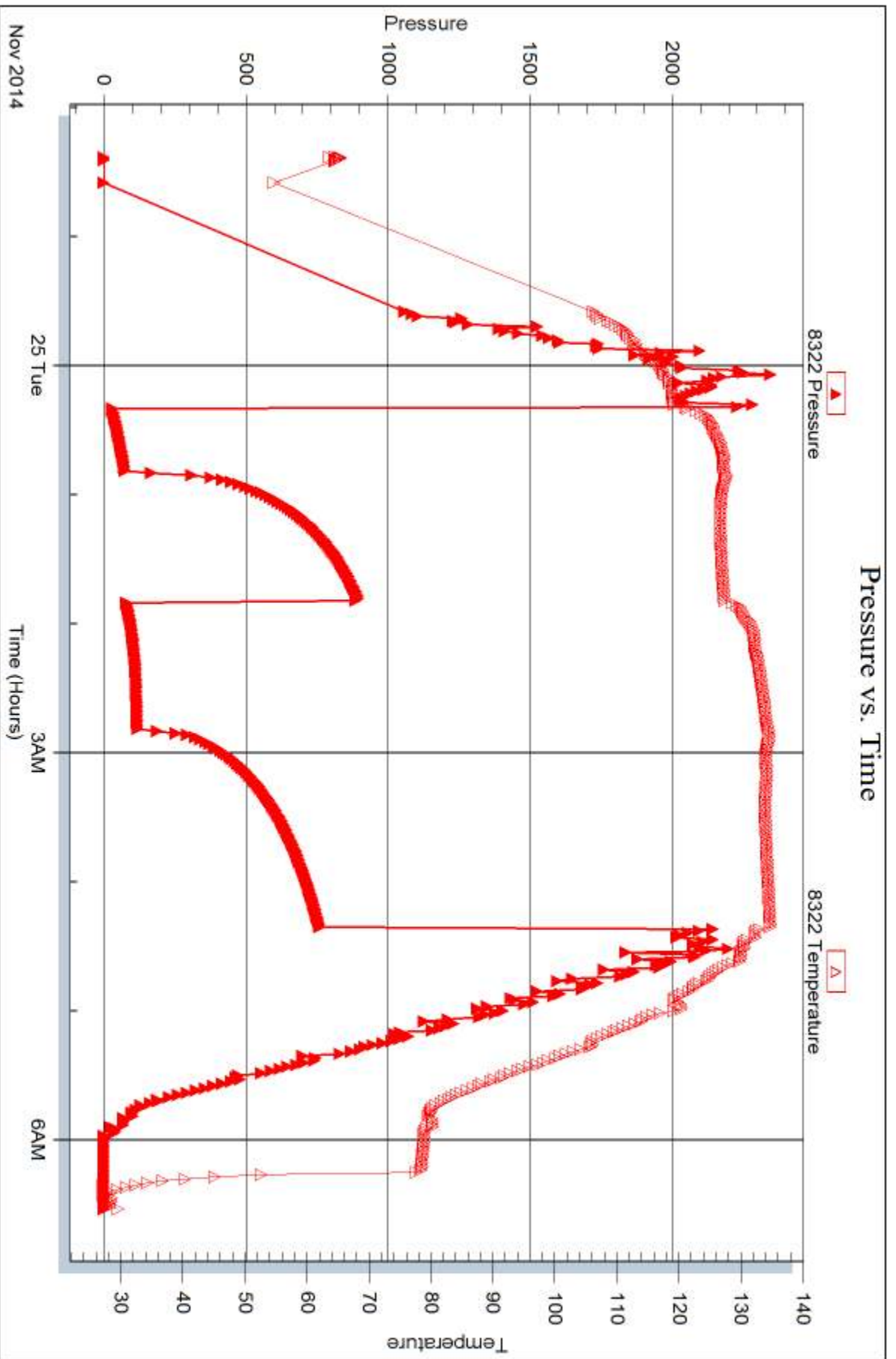
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .867 @ 22 DEG F







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 60047

Well Name & No. Kacirek Trust #1-5WD Test No. 1 Date 11/24/14
 Company Murfin Drilling Co. Inc. Elevation 3293 KB 3282 GL
 Address 250 N. Water STE 300 Wichita KS 67206
 Co. Rep / Geo. Saman Sharifaic Rig Murfin # 2
 Location: Sec. 5 Twp. 2S Rge. 36W Co. Rawlins State KS

Interval Tested 4116 - 4200 Zone Tested Oread
 Anchor Length 84' Drill Pipe Run 3913' Mud Wt. 9.3
 Top Packer Depth 4111 Drill Collars Run 206' Vis 55
 Bottom Packer Depth 4116 Wt. Pipe Run 0' WL 7.2
 Total Depth 4200 Chlorides 900 ppm System LCM 8

Blow Description IF - 1" blow built to BoB @ 3 1/2 mins (in diesel)
ISI - No return
FF - 1/2" blow built to BoB @ 4 mins
FSI - No return

Rec	Feet of	%gas	Spots	%oil	%water	%mud
<u>196'</u>	<u>Oil spots MCW</u>			<u>60</u>	<u>40</u>	
<u>126'</u>	<u>MCW</u>			<u>85</u>	<u>15</u>	
<u>1115'</u>	<u>MCW</u>			<u>95</u>	<u>5</u>	
<u>63'</u>	<u>WCM</u>			<u>50</u>	<u>50</u>	

Rec Total 1500' BHT 145° Gravity — API RW 316 @ 50° F Chlorides 31,000 ppm

(A) Initial Hydrostatic 2198 Test 1250 T-On Location 05:00
 (B) First Initial Flow 94 Jars 250 T-Started 05:40
 (C) First Final Flow 362 Safety Joint 75 T-Open 08:20
 (D) Initial Shut-In 1194 Circ Sub NC T-Pulled 11:20
 (E) Second Initial Flow 366 Hourly Standby _____ T-Out 13:18
 (F) Second Final Flow 564 Mileage 112 RT 173.60
 (G) Final Shut-In 1186 Sampler _____
 (H) Final Hydrostatic 1920 Straddle _____

Initial Open 30 Shale Packer _____ Ruined Shale Packer _____
 Initial Shut-In 60 Extra Packer _____ Ruined Packer _____
 Final Flow 30 Extra Recorder _____ Extra Copies _____
 Final Shut-In 60 Day Standby _____ Sub Total 0
 Accessibility _____ Total 1748.60
 Sub Total 1748.60 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. 60048

4/10

Well Name & No. Kacirek Trust # 1-5 WD Test No. 2 Date 11/24/14
 Company Martin Drilling Co. Inc. Elevation 3293 KB 3282 GL
 Address 250 N. Water STE 300 Wichita KS 67206
 Co. Rep / Geo. Saman Sharifaic Rig Martin # 2
 Location: Sec. 5 Twp. 25 Rge. 36 W Co. Rawlins State KS

Interval Tested 4190-4270 Zone Tested LKC "A"
 Anchor Length 80' Drill Pipe Run 3978' Mud Wt. 9.3
 Top Packer Depth 4185 Drill Collars Run 206' Vis 55
 Bottom Packer Depth 4190 Wt. Pipe Run 0' WL 7.2
 Total Depth 4270 Chlorides 900 ppm System LCM 8
 Blow Description IF - 1/2" blow built to 5 1/2" (in diesel)
ISI - No return
FF - Surface blow built to 4"
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>56'</u>	<u>Mud</u>			<u>100</u>	
<u>58'</u>	<u>MCW</u>		<u>70</u>	<u>30</u>	
<u>58'</u>	<u>MCW</u>		<u>80</u>	<u>20</u>	
<u>58'</u>	<u>MCW</u>		<u>70</u>	<u>30</u>	

Rec Total 230' BHT 136° Gravity — API RW 867@ 22° F Chlorides 25,500 ppm

(A) Initial Hydrostatic 2227 Test 1250 T-On Location 22:00
 (B) First Initial Flow 24 Jars 250 T-Started 22:203
 (C) First Final Flow 73 Safety Joint 75 T-Open 00:19
 (D) Initial Shut-In 896 Circ Sub NC T-Pulled 04:19
 (E) Second Initial Flow 78 Hourly Standby _____ T-Out 06:32
 (F) Second Final Flow 117 Mileage 112 RT 347.20 Comments loaded tools
 (G) Final Shut-In 758 Sampler _____ @ 00:30 on 11/27/14
 (H) Final Hydrostatic 2016 Straddle _____
 Shale Packer _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90
 Day Standby 1.5d 3h
 Accessibility _____
 Sub Total 1922.20
 Sub Total 800
 Total 2722.20
 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.