



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita KS 67206

ATTN: Rocky Milford

Franklin #1-16

16-4s-33w Rawlins,KS

Start Date: 2014.11.29 @ 11:45:00

End Date: 2014.11.29 @ 20:23:30

Job Ticket #: 60049 DST #: 1

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

Printed: 2014.12.05 @ 08:57:48

Murfin Drilling Co. Inc.

16-4s-33w Rawlins,KS

Franklin #1-16

DST # 1

Toronto - LKC " A "

2014.11.29



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.
250 N. Water STE 300
Wichita KS 67206
ATTN: Rocky Milford

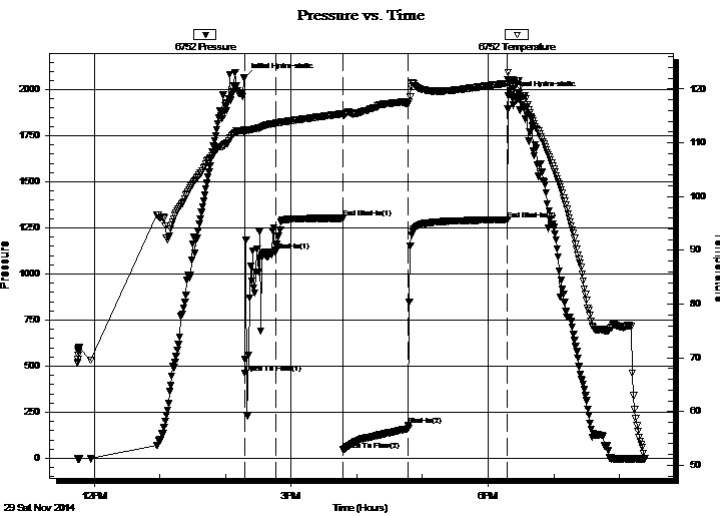
16-4s-33w Rawlins,KS
Franklin #1-16
Job Ticket: 60049 **DST#: 1**
Test Start: 2014.11.29 @ 11:45:00

GENERAL INFORMATION:

Formation: **Toronto - LKC " A "**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 14:17:30
 Time Test Ended: 20:23:30
 Interval: **3983.00 ft (KB) To 4045.00 ft (KB) (TVD)**
 Total Depth: 4045.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ryan Nichols
 Unit No: 78
 Reference Elevations: 3079.00 ft (KB)
 3074.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 6752 Inside
 Press@RunDepth: 177.41 psig @ 3984.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.11.29 End Date: 2014.11.29 Last Calib.: 2014.11.29
 Start Time: 11:45:01 End Time: 20:23:30 Time On Btm: 2014.11.29 @ 14:17:20
 Time Off Btm: 2014.11.29 @ 18:18:09

TEST COMMENT: 30 IF - Surface blow built to 2"
 60 ISI - No return
 60 FF - Surface blow started @ 2 mins built to BoB @ 42 mins
 90 FSI - No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2067.06	112.51	Initial Hydro-static
1	462.33	111.87	Open To Flow (1)
29	1128.29	113.67	Shut-In(1)
90	1302.19	115.42	End Shut-In(1)
90	45.32	115.19	Open To Flow (2)
150	177.41	117.34	Shut-In(2)
241	1294.36	121.09	End Shut-In(2)
241	1966.47	123.11	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
63.00	MCW - 20%M - 80%W	0.31
189.00	MCW - 3%M - 97%W	1.52
62.00	MCW - 25%M - 75%W	0.87

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.
 250 N. Water STE 300
 Wichita KS 67206
 ATTN: Rocky Milford

16-4s-33w Rawlins, KS
Franklin #1-16
 Job Ticket: 60049 **DST#: 1**
 Test Start: 2014.11.29 @ 11:45:00

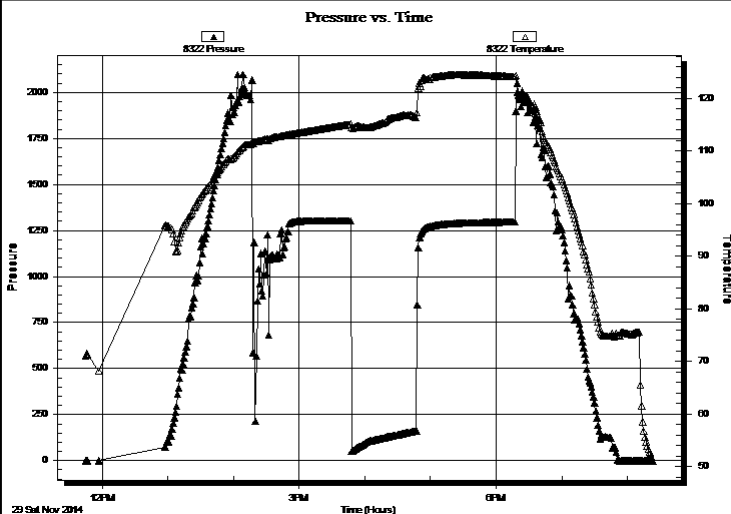
GENERAL INFORMATION:

Formation: **Toronto - LKC " A "**
 Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 14:17:30 Tester: Ryan Nichols
 Time Test Ended: 20:23:30 Unit No: 78
 Interval: **3983.00 ft (KB) To 4045.00 ft (KB) (TVD)** Reference Elevations: 3079.00 ft (KB)
 Total Depth: 4045.00 ft (KB) (TVD) 3074.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 5.00 ft

Serial #: 8322 Outside

Press@RunDepth: psig @ 3984.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.11.29 End Date: 2014.11.29 Last Calib.: 2014.11.29
 Start Time: 11:45:01 End Time: 20:23:30 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30 IF - Surface blow built to 2"
 60 ISI - No return
 60 FF - Surface blow started @ 2 mins built to BoB @ 42 mins
 90 FSI - No return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
63.00	MCW - 20%M - 80%W	0.31
189.00	MCW - 3%M - 97%W	1.52
62.00	MCW - 25%M - 75%W	0.87

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.
250 N. Water STE 300
Wichita KS 67206
ATTN: Rocky Milford

16-4s-33w Rawlins,KS
Franklin #1-16
Job Ticket: 60049 **DST#: 1**
Test Start: 2014.11.29 @ 11:45:00

Tool Information

Drill Pipe:	Length: 3803.00 ft	Diameter: 3.80 inches	Volume: 53.35 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: 187.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 54.27 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	34.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	3983.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	62.00 ft			
Tool Length:	89.00 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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Change Over Sub	1.00			3957.00	
Shut In Tool	5.00			3962.00	
Hydraulic tool	5.00			3967.00	
Jars	5.00			3972.00	
Safety Joint	2.00			3974.00	
Packer	5.00			3979.00	27.00 Bottom Of Top Packer
Packer	4.00			3983.00	
Packer - Shale	0.00			3983.00	
Stubb	1.00			3984.00	
Recorder	0.00	6752	Inside	3984.00	
Recorder	0.00	8322	Outside	3984.00	
Perforations	24.00			4008.00	
Change Over Sub	1.00			4009.00	
Drill Pipe	32.00			4041.00	
Change Over Sub	1.00			4042.00	
Bullnose	3.00			4045.00	62.00 Bottom Packers & Anchor
Total Tool Length:	89.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

16-4s-33w Rawlins,KS

250 N. Water STE 300
Wichita KS 67206

Franklin #1-16

Job Ticket: 60049

DST#: 1

ATTN: Rocky Milford

Test Start: 2014.11.29 @ 11:45:00

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:

24000 ppm

Viscosity: 59.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1400.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
63.00	MCW - 20%M - 80%W	0.310
189.00	MCW - 3%M - 97%W	1.522
62.00	MCW - 25%M - 75%W	0.870

Total Length: 314.00 ft Total Volume: 2.702 bbl

Num Fluid Samples: 0

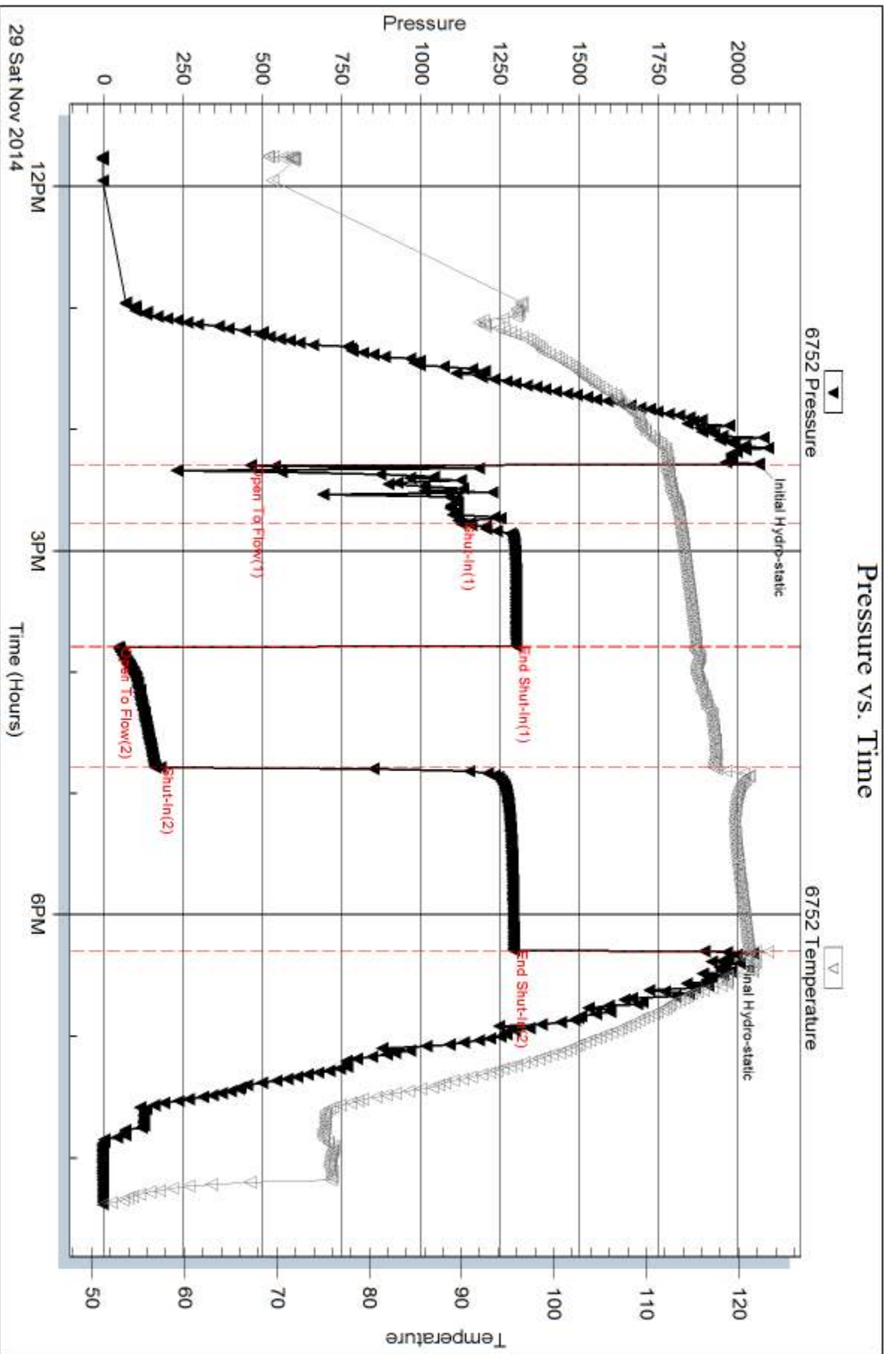
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .417 @ 51 DEG F

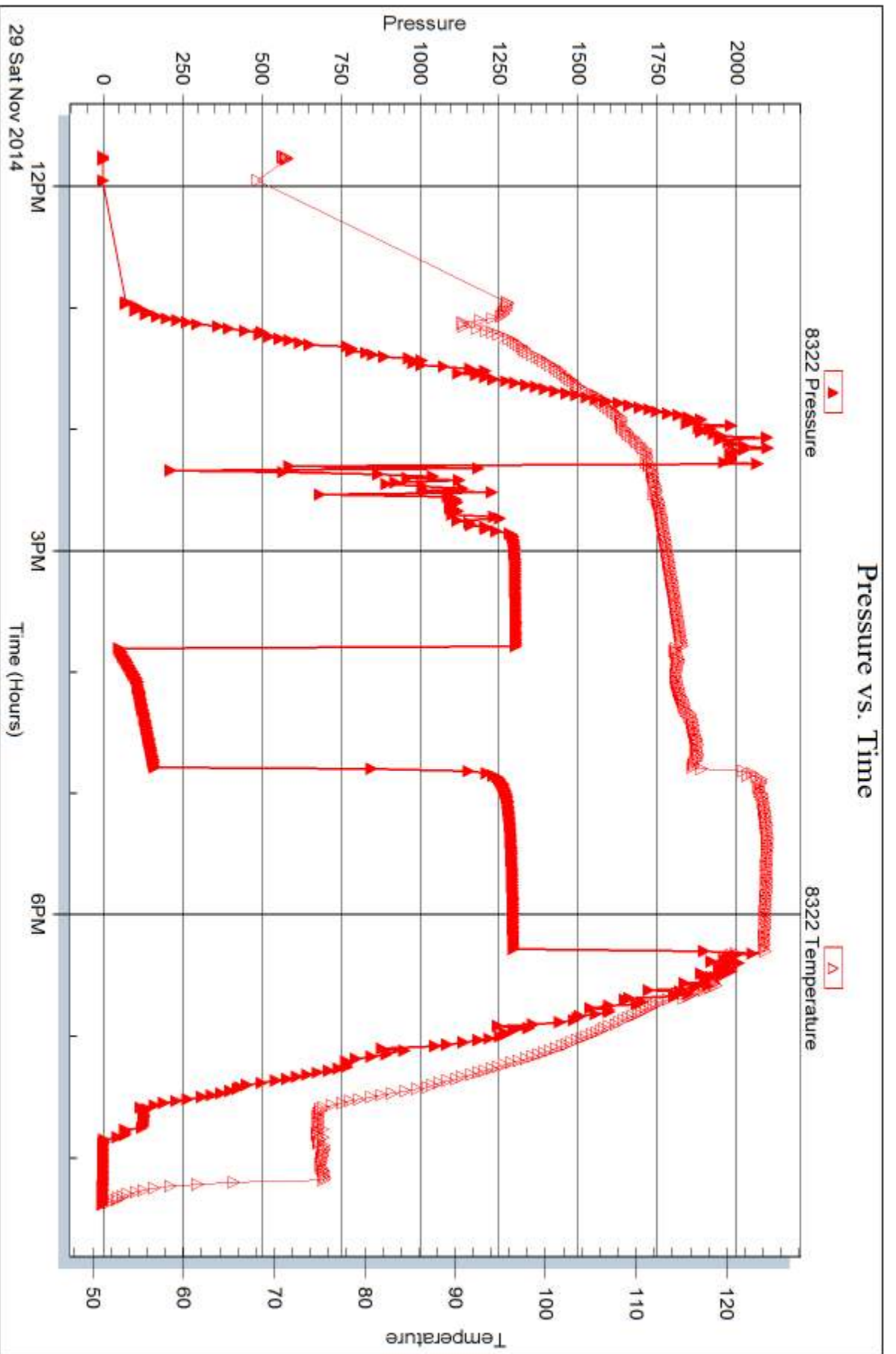


Serial #: 8322

Outside Murfin Drilling Co. Inc.

Franklin #1-16

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 60049

Printed: 2014, 12:05 @ 08:57:50



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita KS 67206

ATTN: Rocky Milford

Franklin #1-16

16-4s-33w Rawlins,KS

Start Date: 2014.11.30 @ 04:59:00

End Date: 2014.11.30 @ 12:59:30

Job Ticket #: 60050 DST #: 2

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

Printed: 2014.12.05 @ 08:57:26

Murfin Drilling Co. Inc.
16-4s-33w Rawlins,KS
Franklin #1-16
DST # 2
LKC " B - D "
2014.11.30



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.
 250 N. Water STE 300
 Wichita KS 67206
 ATTN: Rocky Milford

16-4s-33w Rawlins,KS
Franklin #1-16
 Job Ticket: 60050 **DST#: 2**
 Test Start: 2014.11.30 @ 04:59:00

GENERAL INFORMATION:

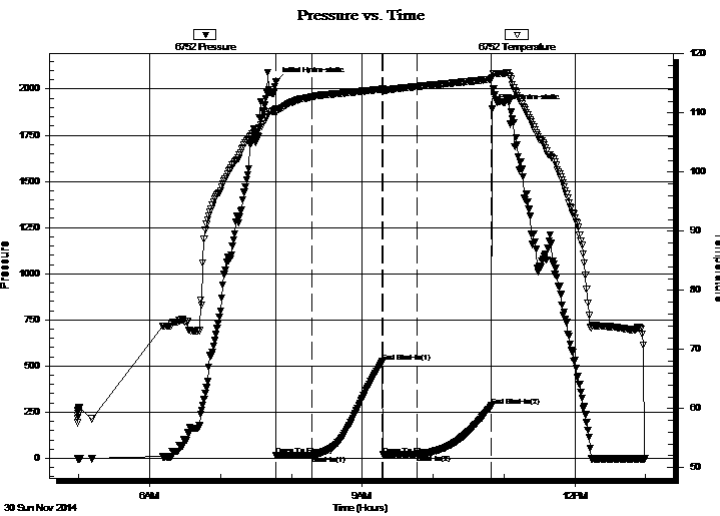
Formation: **LKC " B - D "**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 07:47:10
 Time Test Ended: 12:59:30
 Interval: **4035.00 ft (KB) To 4085.00 ft (KB) (TVD)**
 Total Depth: 4085.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ryan Nichols
 Unit No: 78
 Reference Elevations: 3079.00 ft (KB)
 3074.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 6752

Inside

Press@RunDepth: 20.51 psig @ 4036.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.11.30 End Date: 2014.11.30 Last Calib.: 2014.11.30
 Start Time: 04:59:01 End Time: 12:59:30 Time On Btm: 2014.11.30 @ 07:47:00
 Time Off Btm: 2014.11.30 @ 10:50:00

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



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2041.46	110.64	Initial Hydro-static
1	15.05	110.10	Open To Flow (1)
30	18.24	112.70	Shut-In(1)
90	523.65	114.03	End Shut-In(1)
91	19.21	113.90	Open To Flow (2)
120	20.51	114.49	Shut-In(2)
183	285.00	115.74	End Shut-In(2)
183	1891.70	116.07	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	Oil spots in tool	0.00
3.00	Mud - 100%M	0.01

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.
 250 N. Water STE 300
 Wichita KS 67206
 ATTN: Rocky Milford

16-4s-33w Rawlins, KS

Franklin #1-16

Job Ticket: 60050 **DST#: 2**
 Test Start: 2014.11.30 @ 04:59:00

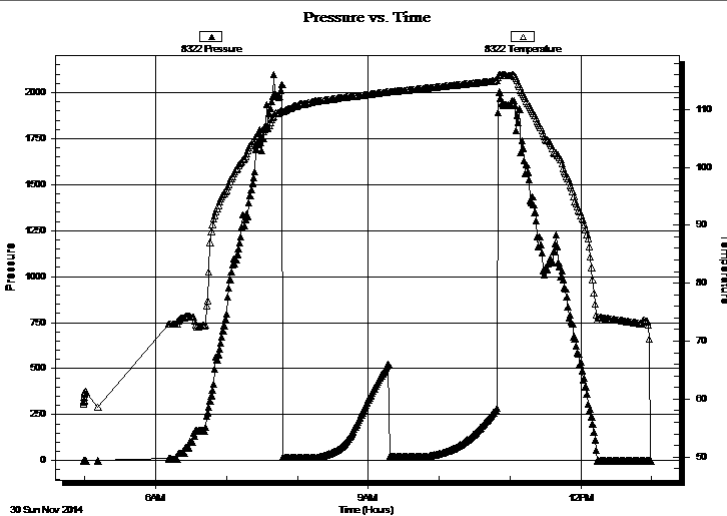
GENERAL INFORMATION:

Formation: **LKC " B - D "**
 Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 07:47:10 Tester: Ryan Nichols
 Time Test Ended: 12:59:30 Unit No: 78
Interval: 4035.00 ft (KB) To 4085.00 ft (KB) (TVD) Reference Elevations: 3079.00 ft (KB)
 Total Depth: 4085.00 ft (KB) (TVD) 3074.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 5.00 ft

Serial #: 8322 Outside

Press@RunDepth: psig @ 4036.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.11.30 End Date: 2014.11.30 Last Calib.: 2014.11.30
 Start Time: 04:59:01 End Time: 12:59:30 Time On Btm:
 Time Off Btm:

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



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
0.00	Oil spots in tool	0.00
3.00	Mud - 100%M	0.01

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 Co. Inc.

16-4s-33w Rawlins,KS

250 N. Water STE 300
Wichita KS 67206

Franklin #1-16

Job Ticket: 60050

DST#: 2

ATTN: Rocky Milford

Test Start: 2014.11.30 @ 04:59:00

Tool Information

Drill Pipe:	Length: 3836.00 ft	Diameter: 3.80 inches	Volume: 53.81 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: 187.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 54.73 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4035.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	50.00 ft			
Tool Length:	77.00 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			4009.00	
Shut In Tool	5.00			4014.00	
Hydraulic tool	5.00			4019.00	
Jars	5.00			4024.00	
Safety Joint	2.00			4026.00	
Packer	5.00			4031.00	27.00 Bottom Of Top Packer
Packer	4.00			4035.00	
Stubb	1.00			4036.00	
Recorder	0.00	6752	Inside	4036.00	
Recorder	0.00	8322	Outside	4036.00	
Perforations	12.00			4048.00	
Change Over Sub	1.00			4049.00	
Drill Pipe	32.00			4081.00	
Change Over Sub	1.00			4082.00	
Bullnose	3.00			4085.00	50.00 Bottom Packers & Anchor

Total Tool Length: 77.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

16-4s-33w Rawlins,KS

250 N. Water STE 300
Wichita KS 67206

Franklin #1-16

Job Ticket: 60050

DST#: 2

ATTN: Rocky Milford

Test Start: 2014.11.30 @ 04:59:00

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: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1700.00 ppm

Filter Cake: 3.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	Oil spots in tool	0.000
3.00	Mud - 100%M	0.015

Total Length: 3.00 ft Total Volume: 0.015 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

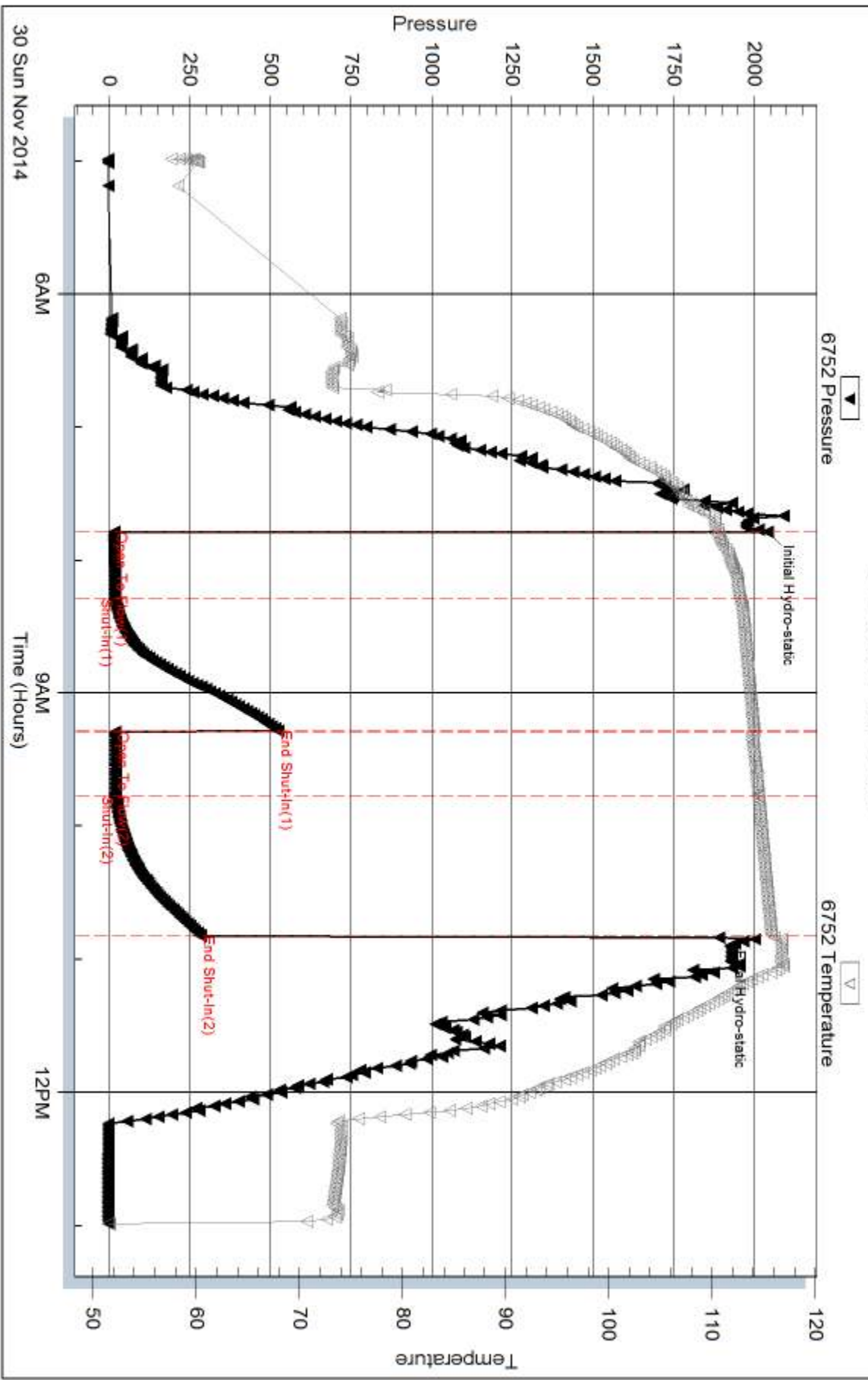
Serial #:

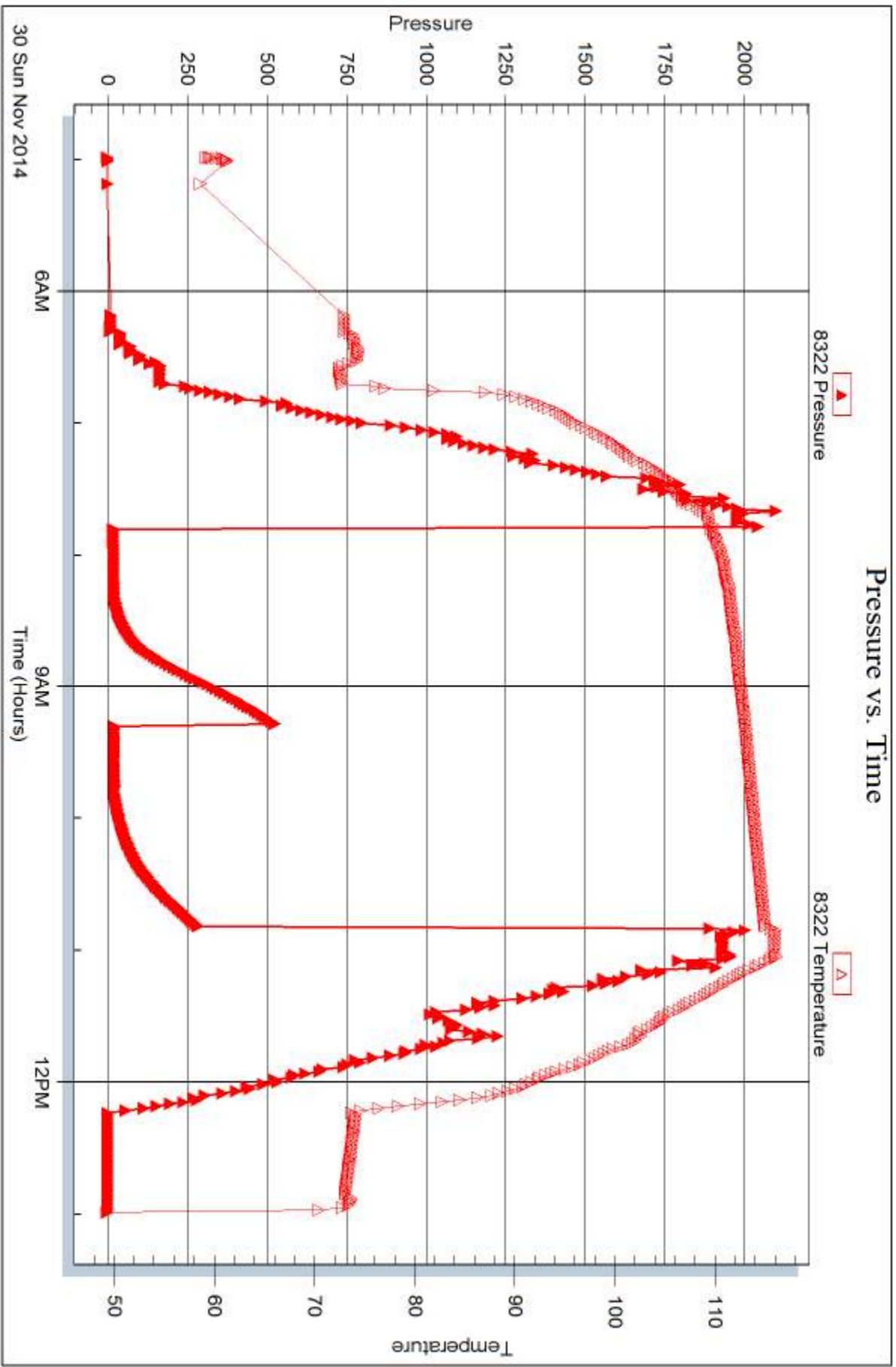
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time







DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita KS 67206

ATTN: Rocky Milford

Franklin #1-16

16-4s-33w Rawlins,KS

Start Date: 2014.11.30 @ 22:35:00

End Date: 2014.12.01 @ 06:49:39

Job Ticket #: DST #: 3

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

Printed: 2014.12.05 @ 08:55:55



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.
 250 N. Water STE 300
 Wichita KS 67206
 ATTN: Rocky Milford

16-4s-33w Rawlins, KS
Franklin #1-16
 Job Ticket: **DST#: 3**
 Test Start: 2014.11.30 @ 22:35:00

GENERAL INFORMATION:

Formation: **LKC "D prime - G "**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 01:15:50
 Time Test Ended: 06:49:39
 Interval: **4082.00 ft (KB) To 4140.00 ft (KB) (TVD)**
 Total Depth: 4140.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ryan Nichols
 Unit No: 78
 Reference Elevations: 3079.00 ft (KB)
 3074.00 ft (CF)
 KB to GR/CF: 5.00 ft

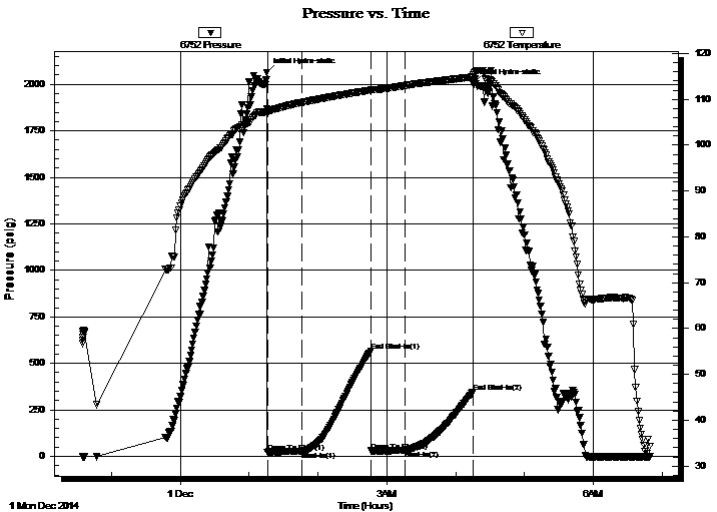
Serial #: 6752

Inside

Press@RunDepth: 30.25 psig @ 4083.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.11.30 End Date: 2014.12.01 Last Calib.: 2014.12.01
 Start Time: 22:35:01 End Time: 06:49:40 Time On Btm: 2014.12.01 @ 01:15:40
 Time Off Btm: 2014.12.01 @ 04:15:30

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

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2062.21	107.94	Initial Hydro-static
1	23.19	107.36	Open To Flow (1)
31	26.60	109.30	Shut-In(1)
91	566.14	111.98	End Shut-In(1)
91	29.53	111.69	Open To Flow (2)
121	30.25	113.00	Shut-In(2)
180	346.15	114.87	End Shut-In(2)
180	2004.46	115.34	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud - 100%M	0.05

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.
250 N. Water STE 300
Wichita KS 67206
ATTN: Rocky Milford

16-4s-33w Rawlins, KS

Franklin #1-16

Job Ticket: **DST#: 3**

Test Start: 2014.11.30 @ 22:35:00

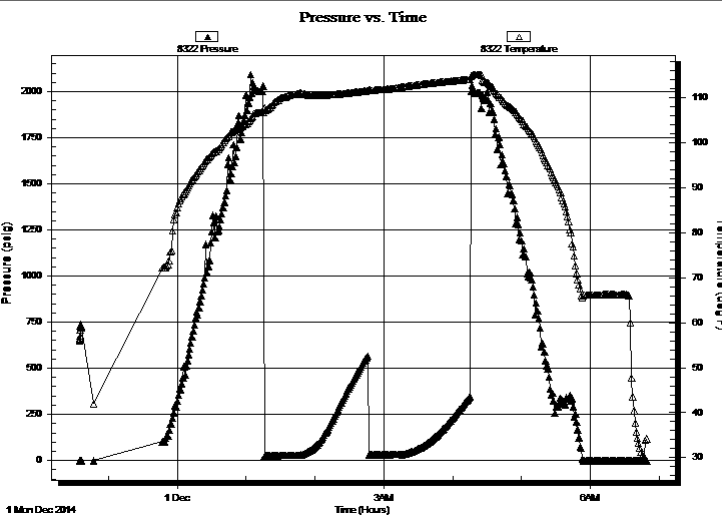
GENERAL INFORMATION:

Formation: **LKC "D prime - G"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 01:15:50
 Time Test Ended: 06:49:39
 Interval: **4082.00 ft (KB) To 4140.00 ft (KB) (TVD)**
 Total Depth: 4140.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ryan Nichols
 Unit No: 78
 Reference Elevations: 3079.00 ft (KB)
 3074.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8322 Outside

Press@RunDepth: psig @ 4083.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.11.30 End Date: 2014.12.01 Last Calib.: 2014.12.01
 Start Time: 22:35:01 End Time: 06:49:50 Time On Btm:
 Time Off Btm:

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



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud - 100%M	0.05

* 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.

16-4s-33w Rawlins,KS

250 N. Water STE 300
Wichita KS 67206

Franklin #1-16

Job Ticket:

DST#: 3

ATTN: Rocky Milford

Test Start: 2014.11.30 @ 22:35:00

Tool Information

Drill Pipe:	Length: 3898.00 ft	Diameter: 3.80 inches	Volume: 54.68 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: 187.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 55.60 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4082.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	58.00 ft			
Tool Length:	85.00 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			4056.00	
Shut In Tool	5.00			4061.00	
Hydraulic tool	5.00			4066.00	
Jars	5.00			4071.00	
Safety Joint	2.00			4073.00	
Packer	5.00			4078.00	27.00 Bottom Of Top Packer
Packer	4.00			4082.00	
Stubb	1.00			4083.00	
Recorder	0.00	6752	Inside	4083.00	
Recorder	0.00	8322	Outside	4083.00	
Perforations	20.00			4103.00	
Change Over Sub	1.00			4104.00	
Drill Pipe	32.00			4136.00	
Change Over Sub	1.00			4137.00	
Bullnose	3.00			4140.00	58.00 Bottom Packers & Anchor

Total Tool Length: 85.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

16-4s-33w Rawlins,KS

250 N. Water STE 300
Wichita KS 67206

Franklin #1-16

Job Ticket: **DST#: 3**

ATTN: Rocky Milford

Test Start: 2014.11.30 @ 22:35:00

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: 59.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.59 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1700.00 ppm			
Filter Cake: 3.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	Mud - 100%M	0.049

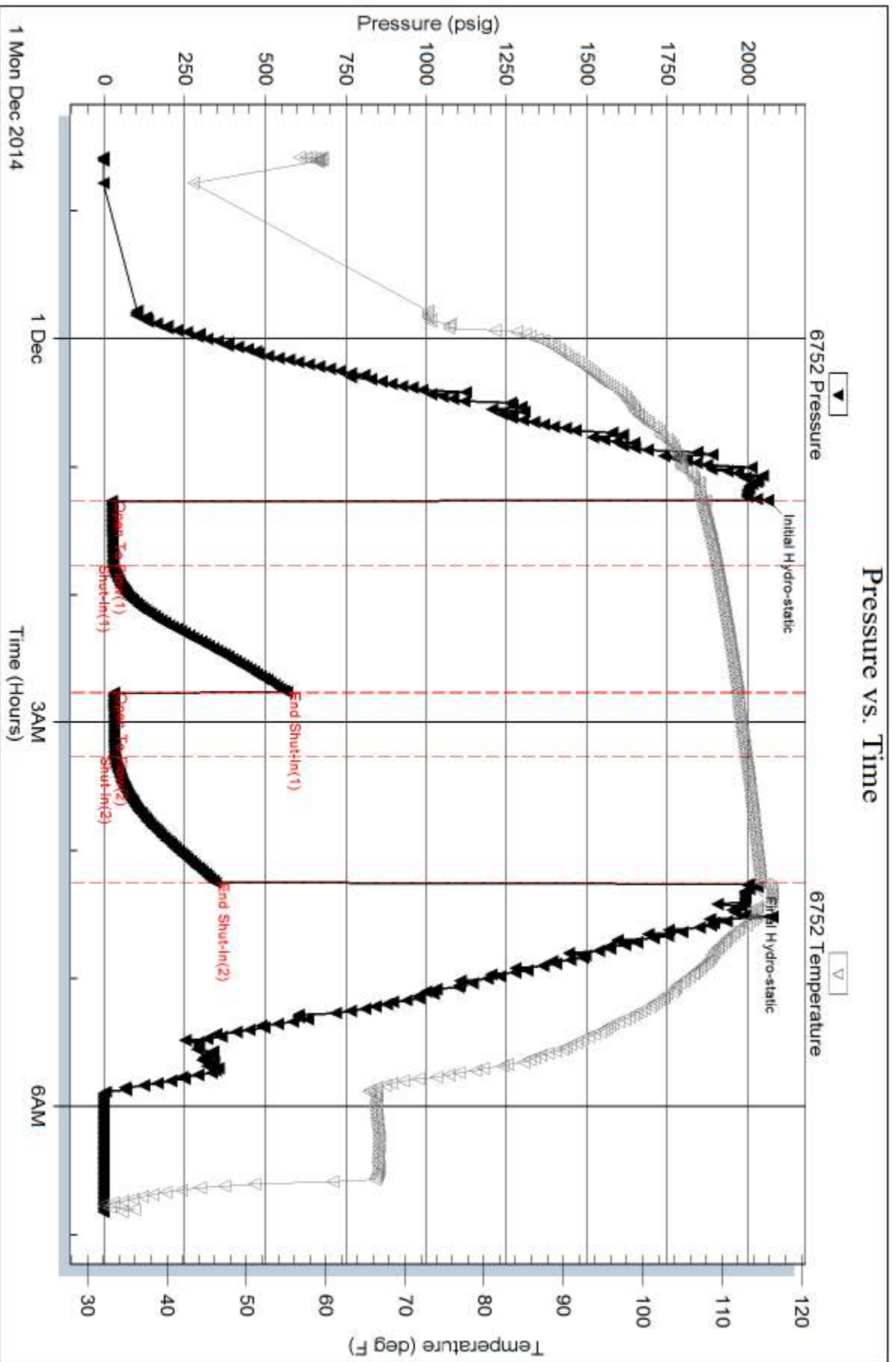
Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:

Pressure vs. Time

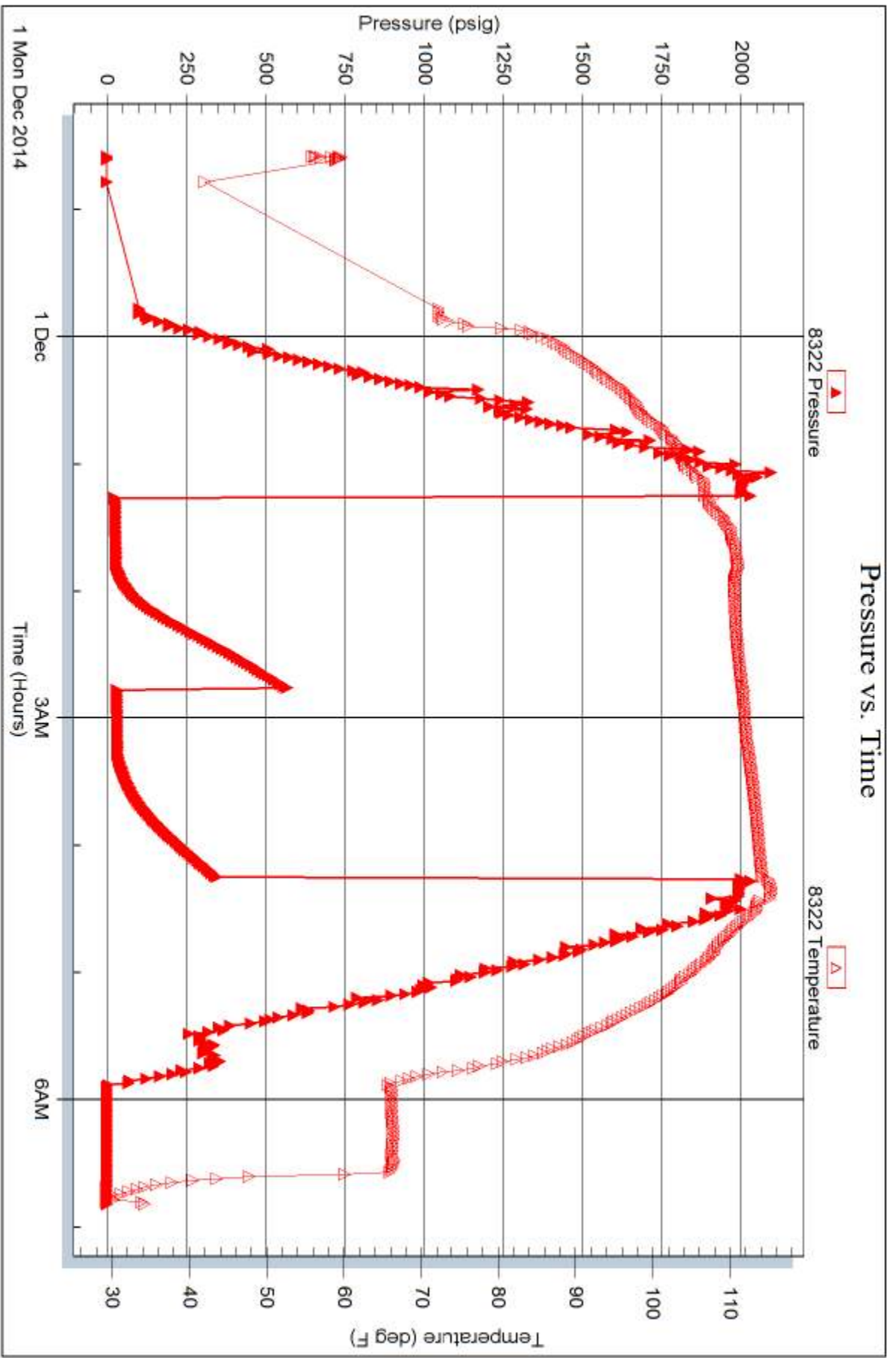


Serial #: 8322

Outside Murfin Drilling Co. Inc.

Franklin #1-16

DST Test Number: 3





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 60049

Well Name & No. Franklin #1-16 Test No. 1 Date 11/29/14
 Company Martin Drilling Co. Inc. Elevation 3079 KB 3074 GL
 Address 250 N. Water STE 300 Wichita KS 67206
 Co. Rep / Geo. Rocky Miford Rig Martin #7
 Location: Sec. 16 Twp. 4S Rge. 33W Co. Rawlins State KS

Interval Tested 3983 - 4045 Zone Tested Toronto - LKC "A"
 Anchor Length 62' Drill Pipe Run 3803 Mud Wt. 9.2
 Top Packer Depth 3978 Drill Collars Run 187' Vis 59
 Bottom Packer Depth 3983 Wt. Pipe Run 0' WL 6.8
 Total Depth 4045 Chlorides 1400 ppm System LCM 2

Blow Description IF - Surface blow built to 2"
ISI - No return
FF - Surface blow started @ 2 mins built to BoB @ 42 mins
FSL - No return

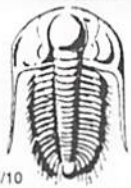
Rec	Feet of	%gas	%oil	%water	%mud
<u>63</u>	<u>MCW</u>		<u>80</u>	<u>20</u>	
<u>189</u>	<u>MCW</u>		<u>97</u>	<u>3</u>	
<u>62</u>	<u>MCW</u>				

Rec Total 314' BHT 1210 Gravity — API RW .417 @ 51 °F Chlorides 24,000 ppm

(A) Initial Hydrostatic 2069 Test 1250 T-On Location 11:00
 (B) First Initial Flow 462 Jars 250 T-Started 11:45
 (C) First Final Flow 1128 Safety Joint 75 T-Open 14:17
 (D) Initial Shut-In 1302 Circ Sub NC T-Pulled 18:17
 (E) Second Initial Flow 45 Hourly Standby _____ T-Out 20:23
 (F) Second Final Flow 177 Mileage 73 RT 113.15 Comments _____
 (G) Final Shut-In 1294 Sampler _____
 (H) Final Hydrostatic 1966 Straddle _____ Ruined Shale Packer _____
 Shale Packer 250 Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 30 Extra Recorder _____ Sub Total 0
 Initial Shut-In 60 Day Standby _____ Total 1938.15
 Final Flow 60 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 90 Sub Total 1938.15

Approved By _____ Our Representative Rocky Miford

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. 60050

Well Name & No. Franklin # 1-16 Test No. 2 Date 11/30/14
 Company Martin Drilling Co. Inc Elevation 3079 KB 3074 GL
 Address 250 N. Water STE 300 Wichita KS 67206
 Co. Rep / Geo. Rocky Milford Rig Martin # 7
 Location: Sec. 16 Twp. 45 Rge. 33W Co. Rawlins State KS

Interval Tested 4035 - 4095 Zone Tested LKC "B-D"
 Anchor Length 50' Drill Pipe Run 3836' Mud Wt. 9.3
 Top Packer Depth 4030 Drill Collars Run 187' Vis 51
 Bottom Packer Depth 4035 Wt. Pipe Run 0" WL 7.6
 Total Depth 4095 Chlorides 1700 ppm System LCM 3
 Blow Description IF - 1/2" blow built to 1 1/4" (in diesel)
ISI - No return
FF - No blow
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>3'</u>	<u>Mud</u>			<u>100</u>	
<u>0'</u>	<u>oil spots in tool</u>				

Rec Total 3' BHT 116" Gravity — API RW — @ — ° F Chlorides — ppm
 (A) Initial Hydrostatic 2041 Test 1250 T-On Location 04:15
 (B) First Initial Flow 15 Jars 250 T-Started 04:59
 (C) First Final Flow 18 Safety Joint 75 T-Open 07:46
 (D) Initial Shut-In 524 Circ Sub NC T-Pulled 10:46
 (E) Second Initial Flow 19 Hourly Standby _____ T-Out 12:59
 (F) Second Final Flow 21 Mileage 73 RT 113.15 Comments _____
 (G) Final Shut-In 285 Sampler _____
 (H) Final Hydrostatic 1892 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 1688.15
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1688.15

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 62551

Well Name & No. Franklin # 1-16 Test No. 3 Date 11/30/14
 Company Martin Drilling Co. Inc. Elevation 3079 KB 3074 GL
 Address 250 N. Water STE 300 Wichita KS 67206
 Co. Rep / Geo. Rocky Milford Rig Martin # 7
 Location: Sec. 16 Twp. 4S Rge. 33W Co. Rawlins State KS

Interval Tested 4042 - 4140 Zone Tested LKC "D prime" - "G"
 Anchor Length 58' Drill Pipe Run 3894' Mud Wt. 9.2
 Top Packer Depth 4077 Drill Collars Run 187' Vis 59
 Bottom Packer Depth 4082 Wt. Pipe Run 0' WL 7.6
 Total Depth 4140 Chlorides 1700 ppm System LCM 3
 Blow Description IF - 3/4" built to 1 1/2" (in @ diesel)
ISI - No return
FF - No blow
FSE - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>10'</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 Total 10' BHT 115° Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2062</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>22:00</u>
(B) First Initial Flow <u>23</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>22:35</u>
(C) First Final Flow <u>27</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>01:16</u>
(D) Initial Shut-In <u>566</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>04:16</u>
(E) Second Initial Flow <u>30</u>	<input type="checkbox"/> Hourly Standby <u>—</u>	T-Out <u>06:49</u>
(F) Second Final Flow <u>30</u>	<input checked="" type="checkbox"/> Mileage <u>73 KT</u> 113.15	Comments <u>Included tools @ 1:30 12/1/14</u>
(G) Final Shut-In <u>346</u>	<input type="checkbox"/> Sampler <u>113.15</u>	
(H) Final Hydrostatic <u>2004</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>1801.30</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't <u>—</u>
	Sub Total <u>1801.30</u>	

Approved By _____ Our Representative [Signature]

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