



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

Kacirek #1-8

8-2s-36w Rawlins KS

Start Date: 2015.07.15 @ 01:05:00

End Date: 2015.07.15 @ 09:52:15

Job Ticket #: 62197 DST #: 1

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

Printed: 2015.07.21 @ 08:11:07



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

8-2s-36w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Kacirek #1-8

Job Ticket: 62197

DST#: 1

ATTN: Saman Sharifaie

Test Start: 2015.07.15 @ 01:05:00

GENERAL INFORMATION:

Formation: **Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:23:30

Time Test Ended: 09:52:15

Test Type: Conventional Bottom Hole (Initial)

Tester: James Winder

Unit No: 83

Interval: 4177.00 ft (KB) To 4233.00 ft (KB) (TVD)

Reference Elevations: 3360.00 ft (KB)

Total Depth: 4233.00 ft (KB) (TVD)

3355.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8791

Inside

Press@RunDepth: 509.84 psig @ 4178.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.07.15

End Date:

2015.07.15

Last Calib.:

2015.07.15

Start Time: 01:05:05

End Time:

09:52:15

Time On Btm:

2015.07.15 @ 03:23:15

Time Off Btm:

2015.07.15 @ 07:26:30

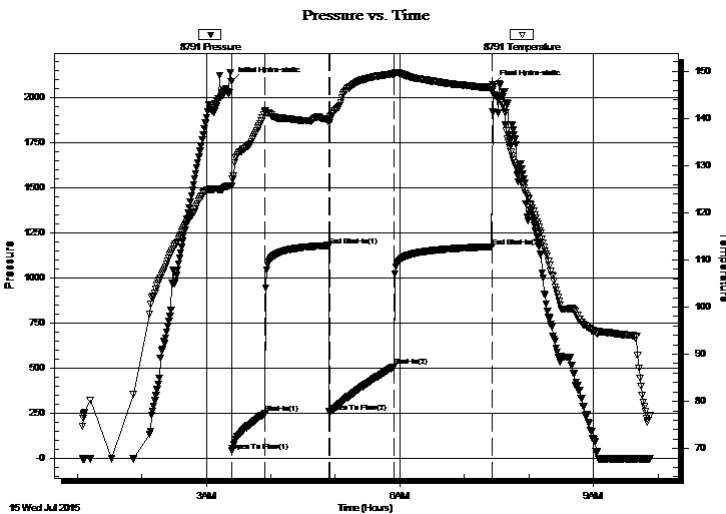
TEST COMMENT: 30 - IF: 1 1/2" Surge blow at open, built to BOB (11") at 8 1/2 min.

60 - IS: No blow back

60 - FF: Blow built to BOB at 11 min.

90 - FS: No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2089.09	125.78	Initial Hydro-static
1	42.05	125.58	Open To Flow (1)
32	252.22	141.61	Shut-In(1)
91	1182.10	139.61	End Shut-In(1)
92	255.34	139.66	Open To Flow (2)
152	509.84	149.42	Shut-In(2)
243	1175.01	146.47	End Shut-In(2)
244	2074.88	146.11	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
500.00	SMCW 96%w, 4%m	5.32
260.00	MCW 85%w, 15%m	3.65
325.00	WM w /trace oil 59%m, 41%w	4.56

Gas Rates

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



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250 N. Water STE 300
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Time Test Ended: 09:52:15

Test Type: Conventional Bottom Hole (Initial)

Tester: James Winder

Unit No: 83

Interval: 4177.00 ft (KB) To 4233.00 ft (KB) (TVD)

Reference Elevations: 3360.00 ft (KB)

Total Depth: 4233.00 ft (KB) (TVD)

3355.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8366 Outside

Press@RunDepth: psig @ 4178.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.07.15 End Date: 2015.07.15

Last Calib.: 2015.07.15

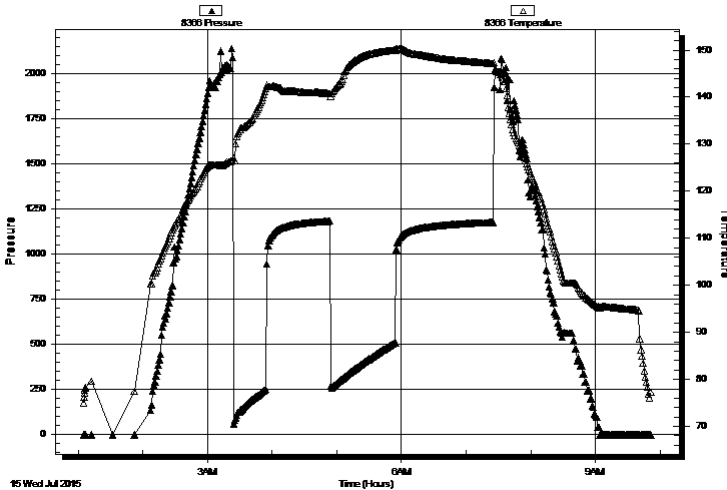
Start Time: 01:05:05 End Time: 09:51:45

Time On Btm:

Time Off Btm:

TEST COMMENT: 30 - IF: 1 1/2" Surge blow at open, built to BOB (11") at 8 1/2 min.
60 - IS: No blow back
60 - FF: Blow built to BOB at 11 min.
90 - FS: No blow back

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
500.00	SMCW 96%w, 4%m	5.32
260.00	MCW 85%w, 15%m	3.65
325.00	WM w /trace oil 59%m, 41%w	4.56

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

8-2s-36w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Kacirek #1-8

Job Ticket: 62197

DST#: 1

ATTN: Saman Sharifaie

Test Start: 2015.07.15 @ 01:05:00

Tool Information

Drill Pipe:	Length: 3980.00 ft	Diameter: 3.80 inches	Volume: 55.83 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: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 64000.00 lb
			<u>Total Volume: 56.74 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4177.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	56.00 ft			
Tool Length:	84.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments: lost 5' of mud at initial open, 1 1/2" surge blow at open

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			4154.00	
Hydraulic tool	5.00			4159.00	
Jars	5.00			4164.00	
Safety Joint	3.00			4167.00	
Packer	5.00			4172.00	28.00 Bottom Of Top Packer
Packer	5.00			4177.00	
Stubb	1.00			4178.00	
Recorder	0.00	8791	Inside	4178.00	
Recorder	0.00	8366	Outside	4178.00	
Perforations	18.00			4196.00	
Blank Spacing	34.00			4230.00	
Bullnose	3.00			4233.00	56.00 Bottom Packers & Anchor

Total Tool Length: 84.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

8-2s-36w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Kacirek #1-8

Job Ticket: 62197

DST#: 1

ATTN: Saman Sharifaie

Test Start: 2015.07.15 @ 01:05:00

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: 64.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.77 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 bbl
500.00	SMCW 96%w , 4%m	5.319
260.00	MCW 85%w , 15%m	3.647
325.00	WMw /trace oil 59%m, 41%w	4.559

Total Length: 1085.00 ft Total Volume: 13.525 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

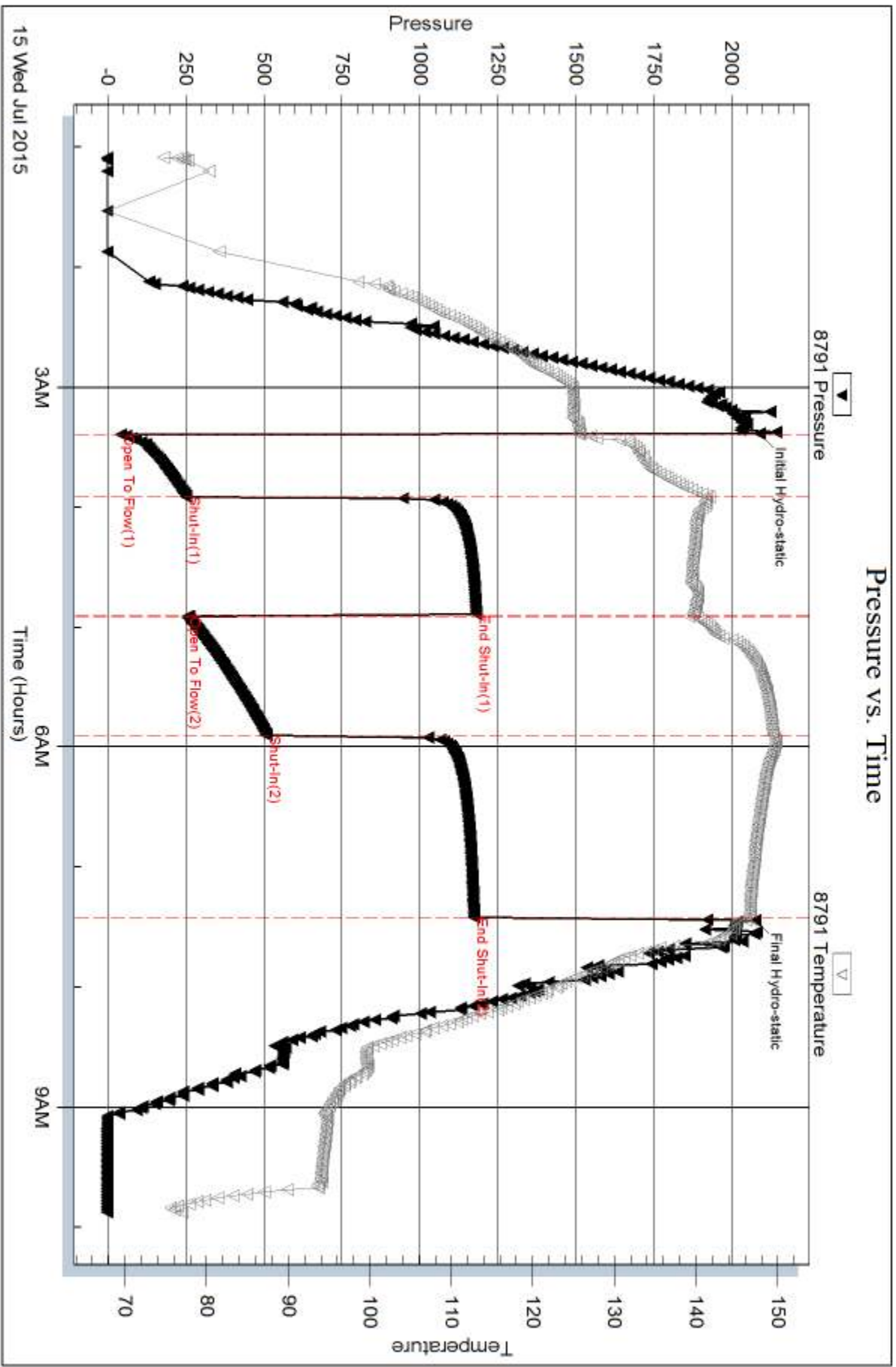
Serial #:

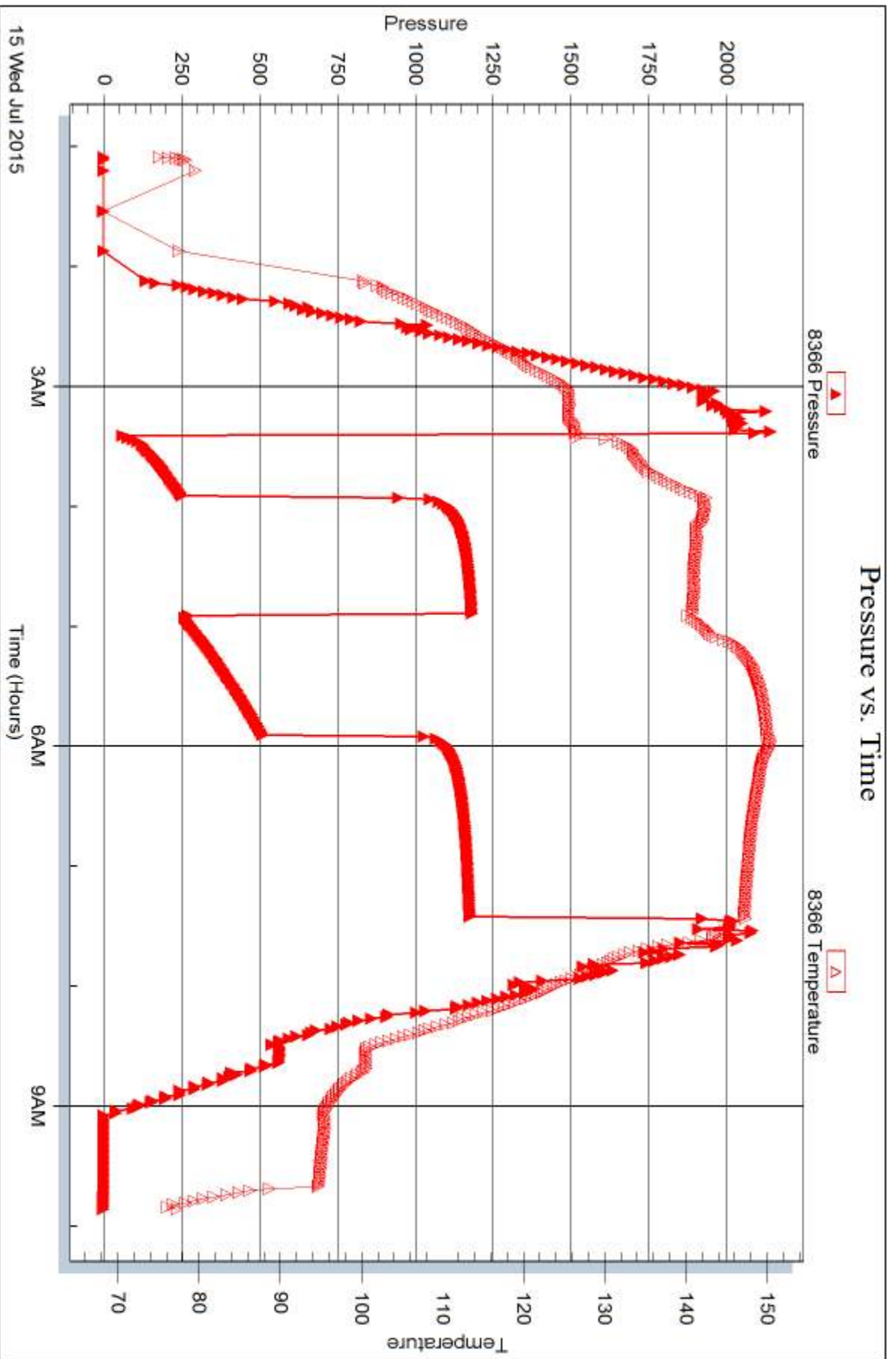
Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .205 ohms @ 77.7 deg F

Chlorides = 31,000 ppm







DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

Kacirek #1-8

8-2s-36w Rawlins KS

Start Date: 2015.07.15 @ 22:37:00

End Date: 2015.07.16 @ 07:13:45

Job Ticket #: 62198 DST #: 2

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

Printed: 2015.07.21 @ 08:10:46



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

8-2s-36w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Kacirek #1-8

Job Ticket: 62198

DST#: 2

ATTN: Saman Sharifaie

Test Start: 2015.07.15 @ 22:37:00

GENERAL INFORMATION:

Formation: **LKC "A"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 00:45:15
 Time Test Ended: 07:13:45
 Interval: **4248.00 ft (KB) To 4330.00 ft (KB) (TVD)**
 Total Depth: 4330.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: James Winder
 Unit No: 83
 Reference Elevations: 3360.00 ft (KB)
 3355.00 ft (CF)
 KB to GR/CF: 5.00 ft

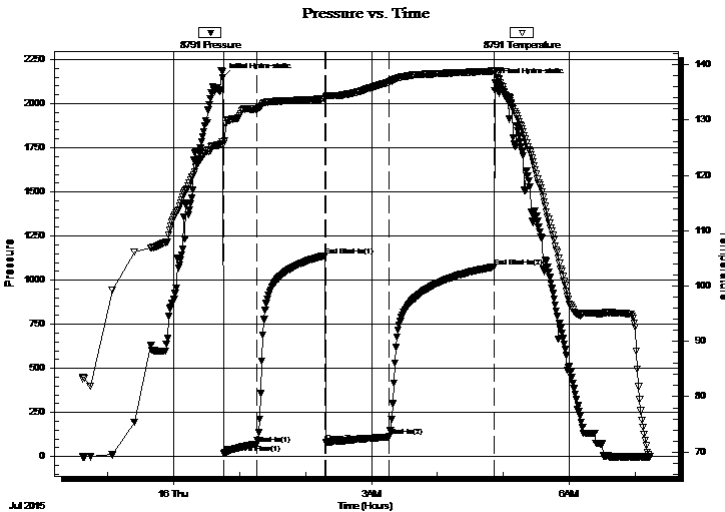
Serial #: 8791

Inside

Press@RunDepth: 111.98 psig @ 4249.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.07.15 End Date: 2015.07.16 Last Calib.: 2015.07.16
 Start Time: 22:37:05 End Time: 07:13:45 Time On Btm: 2015.07.16 @ 00:44:45
 Time Off Btm: 2015.07.16 @ 04:53:00

TEST COMMENT: 30 - IF: Blow built to 9"
 60 - IS: Weak surface blow back
 60 - FF: Blow built to BOB (11") at 27 1/2 min.
 90 - FS: Blow back built to 2 1/2"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2147.26	126.12	Initial Hydro-static
1	18.97	125.73	Open To Flow (1)
31	70.74	131.99	Shut-In(1)
93	1138.29	133.82	End Shut-In(1)
94	79.46	134.22	Open To Flow (2)
152	111.98	136.84	Shut-In(2)
247	1075.24	138.84	End Shut-In(2)
249	2117.20	138.69	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
123.00	GOCM 59% m, 30% o, 11% g	0.60
127.00	SMCGO 76% o, 21% g, 3% m	1.21

* Recovery from multiple tests

Gas Rates

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



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DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

8-2s-36w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Kacirek #1-8

Job Ticket: 62198

DST#: 2

ATTN: Saman Sharifaie

Test Start: 2015.07.15 @ 22:37:00

GENERAL INFORMATION:

Formation: **LKC "A"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:45:15

Time Test Ended: 07:13:45

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

Interval: 4248.00 ft (KB) To 4330.00 ft (KB) (TVD)

Reference Elevations: 3360.00 ft (KB)

Total Depth: 4330.00 ft (KB) (TVD)

3355.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8366 Outside

Press@RunDepth: psig @ 4249.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.07.15

End Date: 2015.07.16

Last Calib.: 2015.07.16

Start Time: 22:37:05

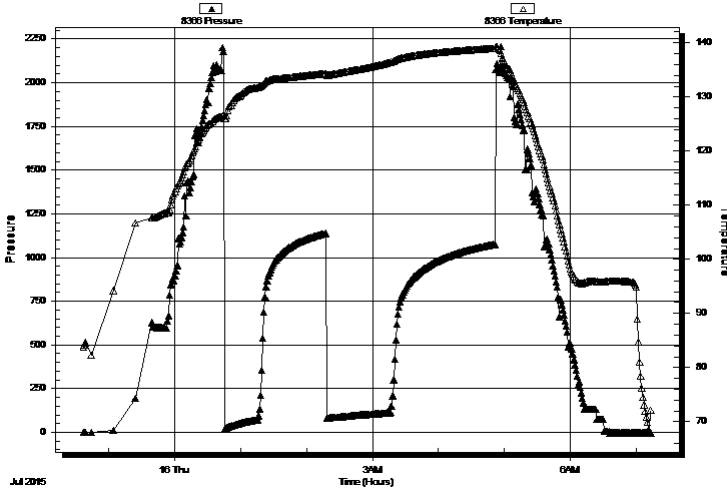
End Time: 07:13:15

Time On Btm:

Time Off Btm:

TEST COMMENT: 30 - IF: Blow built to 9"
60 - IS: Weak surface blow back
60 - FF: Blow built to BOB (11") at 27 1/2 min.
90 - FS: Blow back built to 2 1/2"

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
123.00	GOCM 59% _m , 30% _o , 11% _g	0.60
127.00	SMCGO 76% _o , 21% _g , 3% _m	1.21

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.

8-2s-36w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Kacirek #1-8

Job Ticket: 62198

DST#: 2

ATTN: Saman Sharifaie

Test Start: 2015.07.15 @ 22:37:00

Tool Information

Drill Pipe:	Length: 4043.00 ft	Diameter: 3.80 inches	Volume: 56.71 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: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 57.62 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4248.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	82.00 ft			
Tool Length:	110.00 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			4225.00	
Hydraulic tool	5.00			4230.00	
Jars	5.00			4235.00	
Safety Joint	3.00			4238.00	
Packer	5.00			4243.00	28.00 Bottom Of Top Packer
Packer	5.00			4248.00	
Stubb	1.00			4249.00	
Recorder	0.00	8791	Inside	4249.00	
Recorder	0.00	8366	Outside	4249.00	
Perforations	13.00			4262.00	
Blank Spacing	65.00			4327.00	
Bullnose	3.00			4330.00	82.00 Bottom Packers & Anchor

Total Tool Length: 110.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

8-2s-36w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Kacirek #1-8

Job Ticket: 62198

DST#: 2

ATTN: Saman Sharifaie

Test Start: 2015.07.15 @ 22:37:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 62.00 sec/qt
Water Loss: 6.38 in³
Resistivity: ohm.m
Salinity: 1200.00 ppm
Filter Cake: 2.00 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: 31.4 deg API
Water Salinity: ppm

Recovery Information

Recovery Table

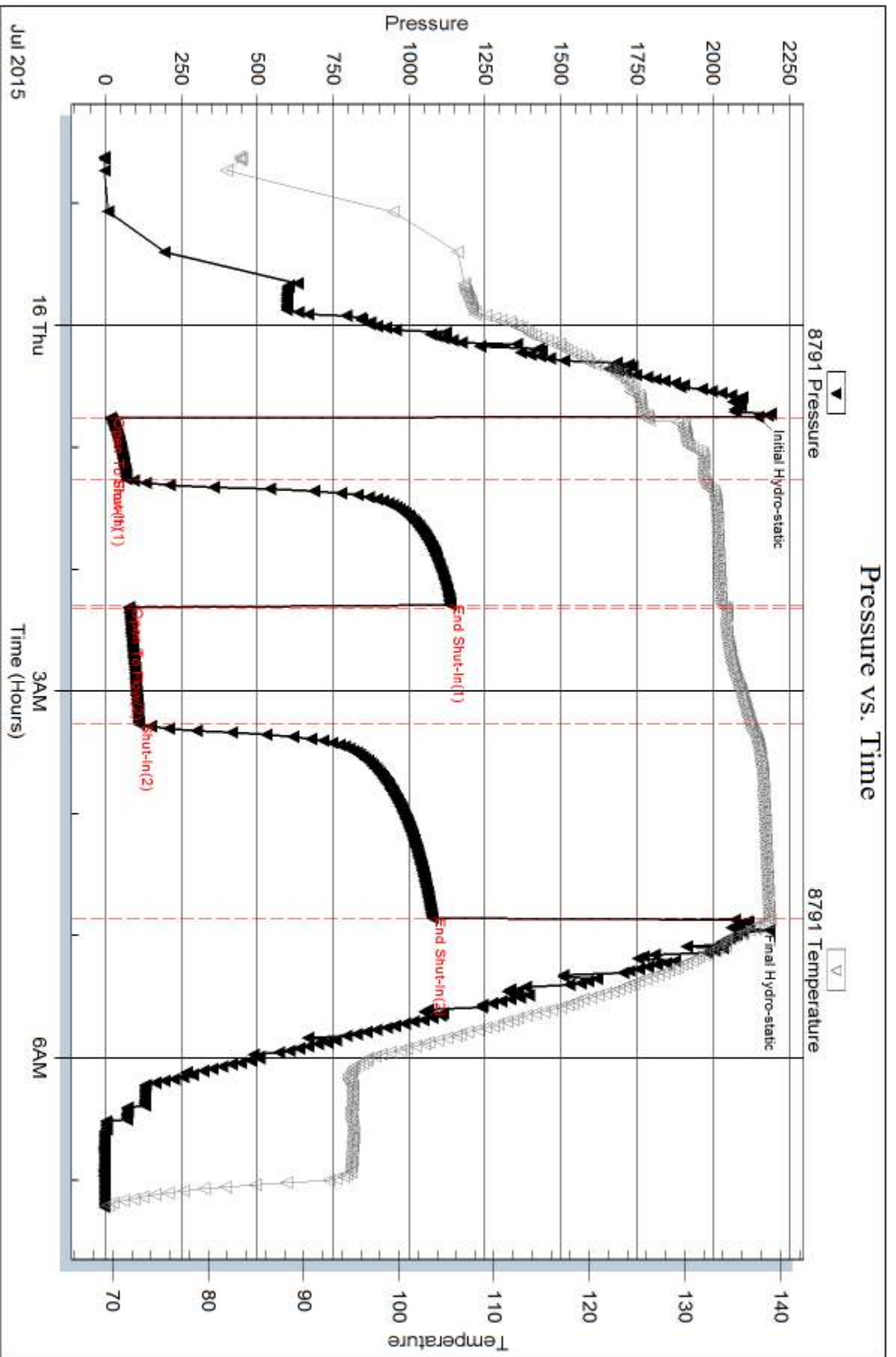
Length ft	Description	Volume bbl
123.00	GOCM 59% <i>m</i> , 30% <i>o</i> , 11% <i>g</i>	0.605
127.00	SMCGO 76% <i>o</i> , 21% <i>g</i> , 3% <i>m</i>	1.208

Total Length: 250.00 ft Total Volume: 1.813 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: Gravity = 32.2 api @ 68 deg F
Corrected Gravity = 31.4 api

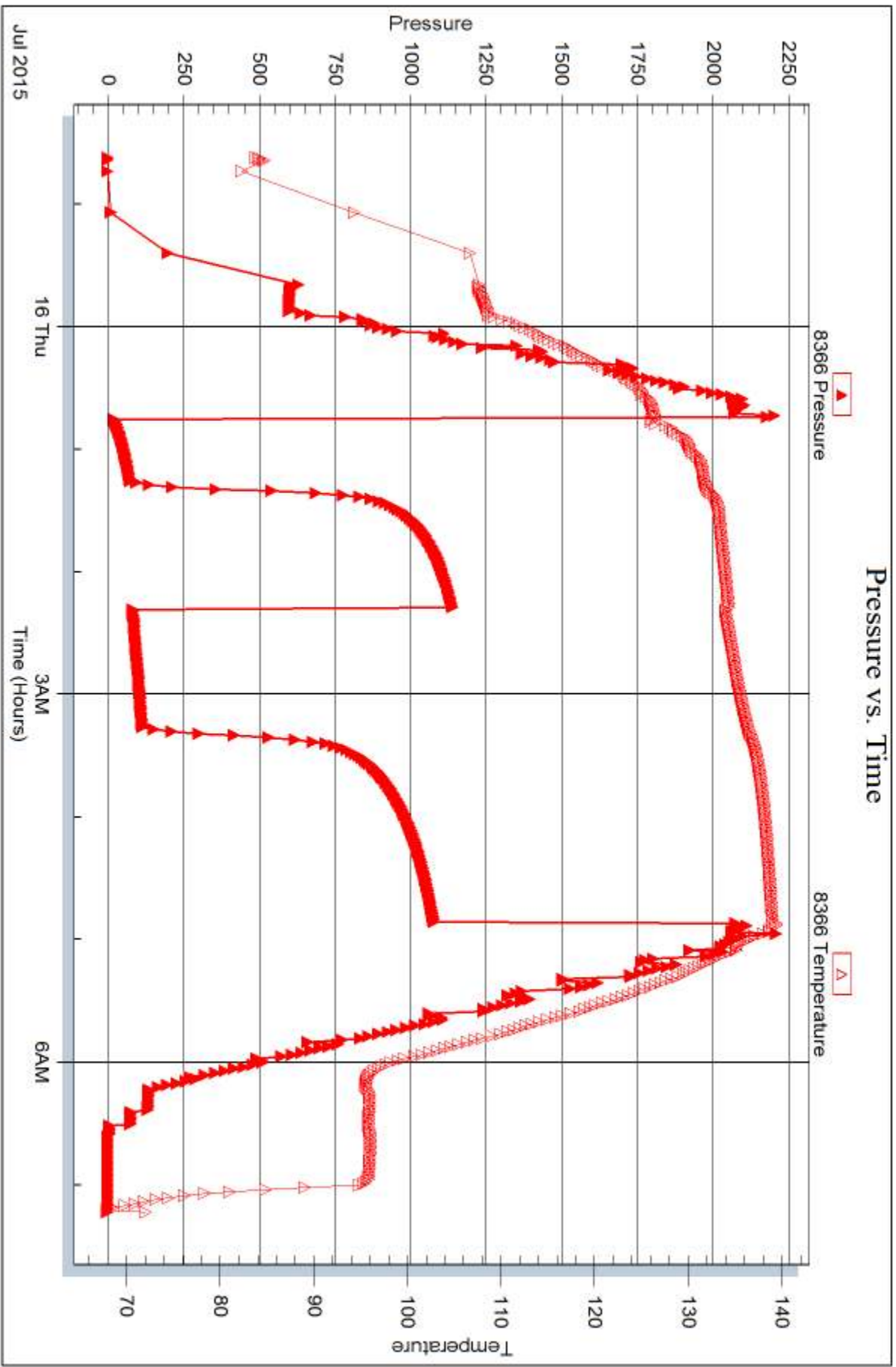


Serial #: 8366

Outside Murfin Drilling Co., Inc.

Kacirek #1-8

DST Test Number: 2





DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

Kacirek #1-8

8-2s-36w Rawlins KS

Start Date: 2015.07.16 @ 16:44:00

End Date: 2015.07.17 @ 00:30:30

Job Ticket #: 62199 DST #: 3

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

Printed: 2015.07.21 @ 08:10:25



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

8-2s-36w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Kacirek #1-8

Job Ticket: 62199

DST#: 3

ATTN: Saman Sharifaie

Test Start: 2015.07.16 @ 16:44:00

GENERAL INFORMATION:

Formation: **LKC "B - D"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 19:35:15
 Tester: James Winder
 Time Test Ended: 00:30:30
 Unit No: 83
 Interval: **4330.00 ft (KB) To 4380.00 ft (KB) (TVD)**
 Reference Elevations: 3360.00 ft (KB)
 Total Depth: 4380.00 ft (KB) (TVD)
 3355.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Fair
 KB to GR/CF: 5.00 ft

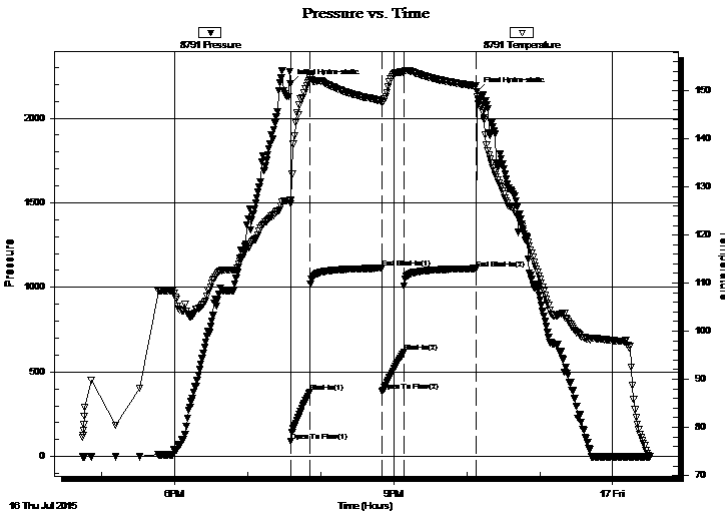
Serial #: 8791

Inside

Press@RunDepth: 615.99 psig @ 4331.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.07.16 End Date: 2015.07.17 Last Calib.: 2015.07.17
 Start Time: 16:44:05 End Time: 00:30:29 Time On Btm: 2015.07.16 @ 19:35:00
 Time Off Btm: 2015.07.16 @ 22:08:15

TEST COMMENT: 15 - IF: Blow built to BOB (11") at 2 3/4 min.
 60 - ISI: No blow back
 15 - FF: Blow built to BOB at 3 3/4 min.
 60 - FS: No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2204.50	127.20	Initial Hydro-static
1	89.94	126.41	Open To Flow (1)
16	379.01	152.34	Shut-In(1)
75	1113.31	147.87	End Shut-In(1)
76	385.52	147.57	Open To Flow (2)
93	615.99	153.88	Shut-In(2)
153	1111.09	151.00	End Shut-In(2)
154	2157.66	148.69	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
700.00	SMCW w/trace oil 95%w, 5%m	8.12
250.00	MCW w/trace oil 74%w, 24%m, 2%g	3.51
315.00	WCM w/trace oil 75%m, 17%w, 8%g	4.42
60.00	Mud 100% w/trace oil	0.84

* Recovery from multiple tests

Gas Rates

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



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TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

8-2s-36w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Kacirek #1-8

Job Ticket: 62199

DST#: 3

ATTN: Saman Sharifaie

Test Start: 2015.07.16 @ 16:44:00

GENERAL INFORMATION:

Formation: **LKC "B - D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:35:15

Time Test Ended: 00:30:30

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

Interval: 4330.00 ft (KB) To 4380.00 ft (KB) (TVD)

Reference Elevations: 3360.00 ft (KB)

Total Depth: 4380.00 ft (KB) (TVD)

3355.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8366 Outside

Press@RunDepth: psig @ 4331.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.07.16 End Date: 2015.07.17

Last Calib.: 2015.07.17

Start Time: 16:44:05 End Time: 00:29:59

Time On Btm:

Time Off Btm:

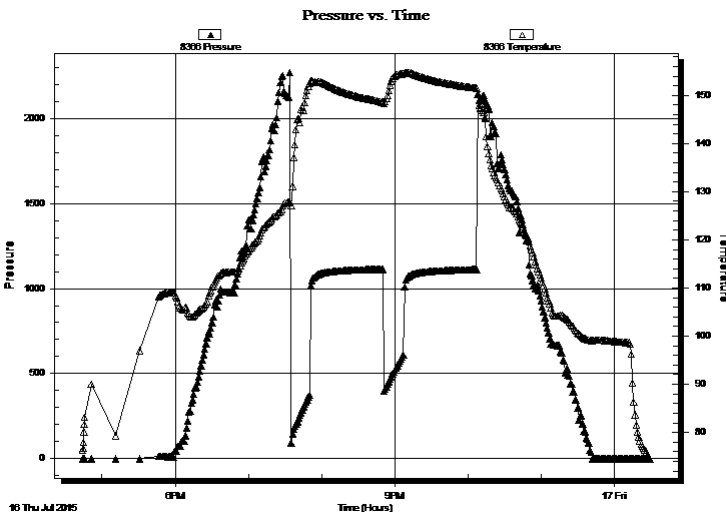
TEST COMMENT: 15 - IF: Blow built to BOB (11") at 2 3/4 min.

60 - IS: No blow back

15 - FF: Blow built to BOB at 3 3/4 min.

60 - FS: No blow back

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
700.00	SMCW w /trace oil 95%w , 5%m	8.12
250.00	MCW w /trace oil 74%w , 24%m, 2%g	3.51
315.00	WCM w /trace oil 75%m, 17%w , 8%g	4.42
60.00	Mud 100% w /trace oil	0.84

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.

8-2s-36w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Kacirek #1-8

Job Ticket: 62199

DST#: 3

ATTN: Saman Sharifaie

Test Start: 2015.07.16 @ 16:44:00

Tool Information

Drill Pipe:	Length: 4138.00 ft	Diameter: 3.80 inches	Volume: 58.05 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: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 58.96 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4330.00 ft			Final 65000.00 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

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4307.00	
Hydraulic tool	5.00			4312.00	
Jars	5.00			4317.00	
Safety Joint	3.00			4320.00	
Packer	5.00			4325.00	28.00 Bottom Of Top Packer
Packer	5.00			4330.00	
Stubb	1.00			4331.00	
Recorder	0.00	8791	Inside	4331.00	
Recorder	0.00	8366	Outside	4331.00	
Perforations	12.00			4343.00	
Blank Spacing	34.00			4377.00	
Bullnose	3.00			4380.00	50.00 Bottom Packers & Anchor

Total Tool Length: 78.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

8-2s-36w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Kacirek #1-8

Job Ticket: 62199

DST#: 3

ATTN: Saman Sharifaie

Test Start: 2015.07.16 @ 16:44:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 55.00 sec/qt
Water Loss: 6.77 in³
Resistivity: ohm.m
Salinity: 1200.00 ppm
Filter Cake: 2.00 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: deg API
Water Salinity: 16000 ppm

Recovery Information

Recovery Table

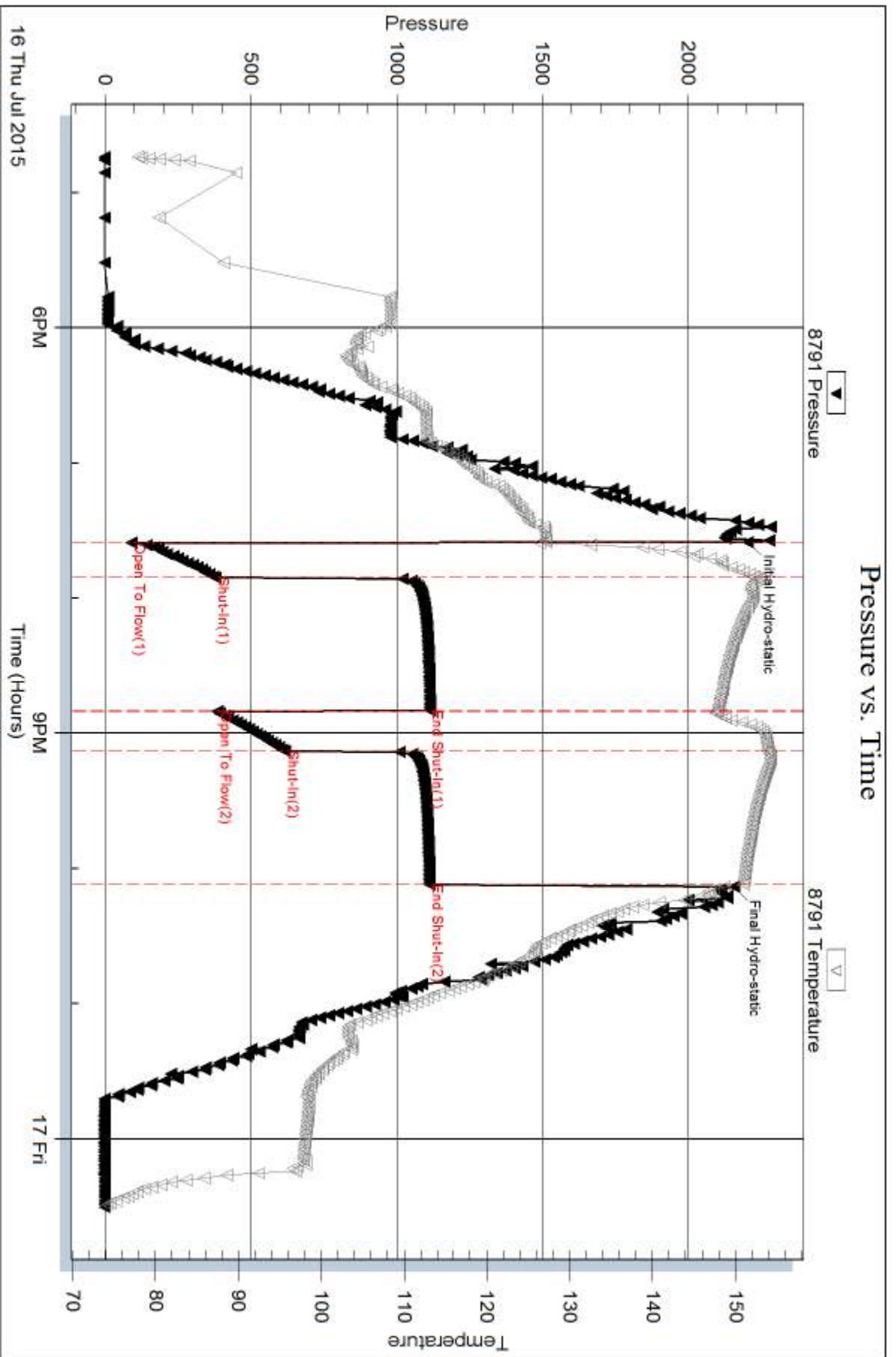
Length ft	Description	Volume bbl
700.00	SMCW w /trace oil 95%w , 5%m	8.125
250.00	MCW w /trace oil 74%w , 24%m, 2%g	3.507
315.00	WCM w /trace oil 75%m, 17%w , 8%g	4.419
60.00	Mud 100% w /trace oil	0.842

Total Length: 1325.00 ft Total Volume: 16.893 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: RW = .419 ohms @ 71.7 deg F
Chlorides = 16,000 ppm

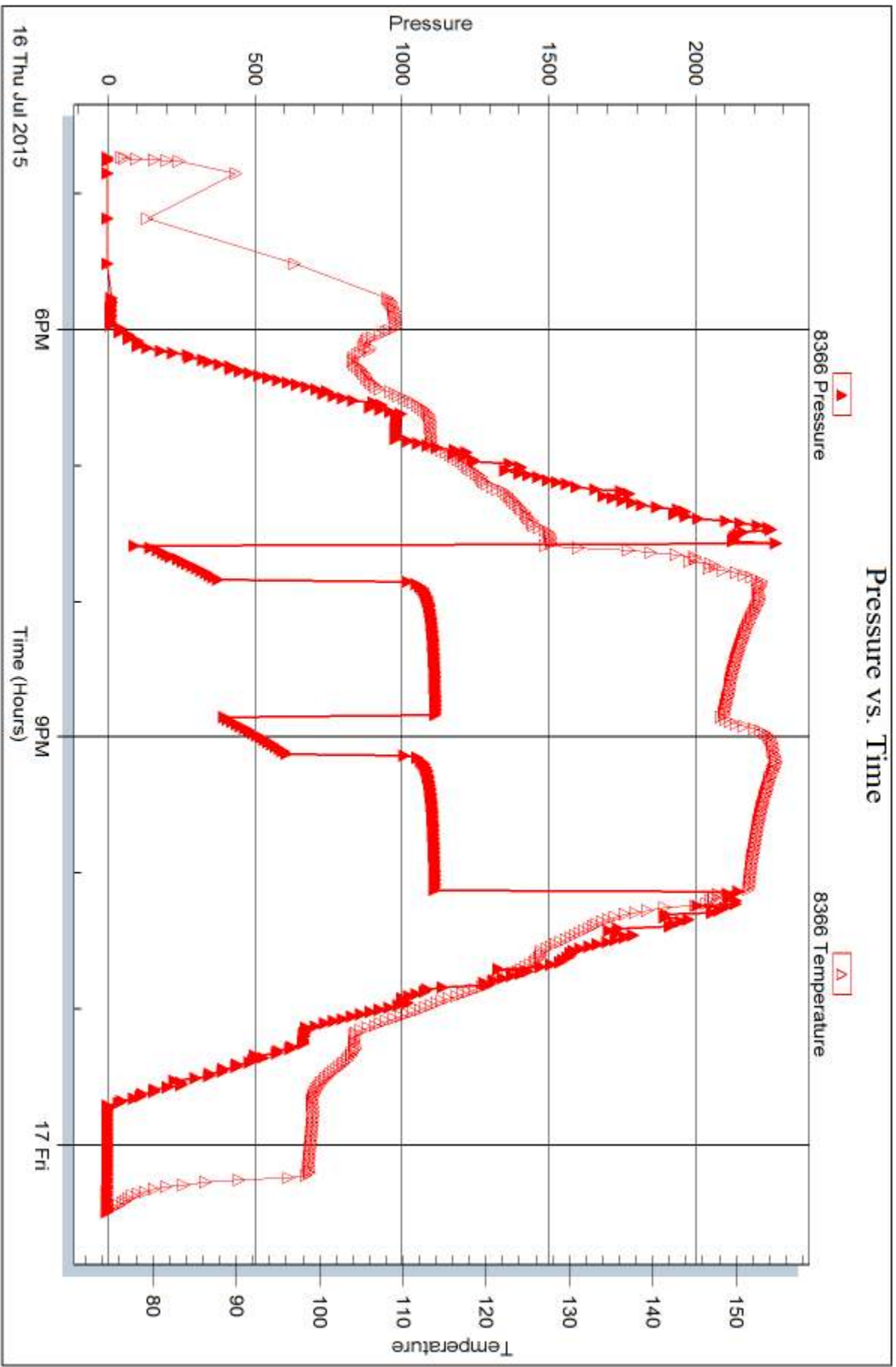


Serial #: 8366

Outside Murfin Drilling Co., Inc.

Kacirek #1-8

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 62199

Printed: 2015.07.21 @ 08:10:27



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

Kacirek #1-8

8-2s-36w Rawlins KS

Start Date: 2015.07.17 @ 13:42:00

End Date: 2015.07.17 @ 21:54:00

Job Ticket #: 62200 DST #: 4

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

Printed: 2015.07.21 @ 08:10:00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

8-2s-36w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Kacirek #1-8

Job Ticket: 62200

DST#: 4

ATTN: Saman Sharifaie

Test Start: 2015.07.17 @ 13:42:00

GENERAL INFORMATION:

Formation: **LKC "G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:13:45

Time Test Ended: 21:54:00

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

Interval: 4380.00 ft (KB) To 4440.00 ft (KB) (TVD)

Reference Elevations: 3360.00 ft (KB)

Total Depth: 4440.00 ft (KB) (TVD)

3355.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8791

Inside

Press@RunDepth: 520.60 psig @ 4381.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.07.17

End Date:

2015.07.17

Last Calib.:

2015.07.17

Start Time:

13:42:05

End Time:

21:53:59

Time On Btm:

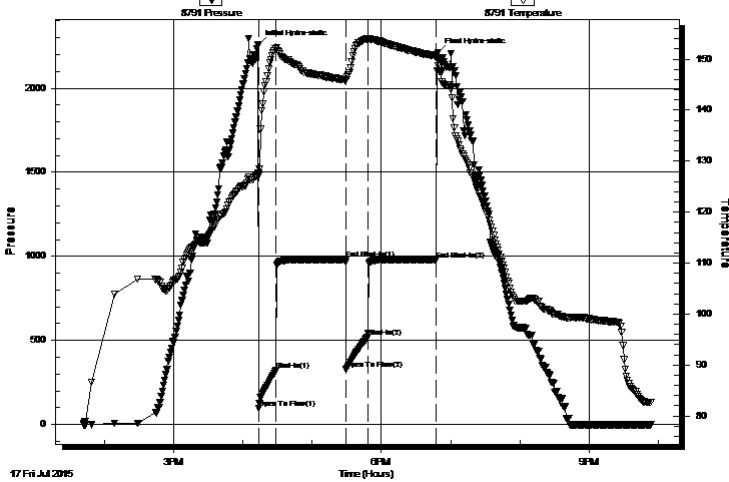
2015.07.17 @ 16:13:30

Time Off Btm:

2015.07.17 @ 18:49:15

TEST COMMENT: 15 - IF: Blow built to BOB (11") at 3 min.
60 - ISI: No blow back
15 - FF: Blow built to BOB at 4 1/4 min.
60 - FS: No blow back

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2258.44	127.70	Initial Hydro-static
1	96.83	127.25	Open To Flow (1)
15	320.76	152.15	Shut-In(1)
76	981.79	145.79	End Shut-In(1)
76	328.62	146.00	Open To Flow (2)
95	520.60	153.99	Shut-In(2)
154	981.26	150.66	End Shut-In(2)
156	2211.49	148.73	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
440.00	SMCW w/oil spots 94%w , 5%m, 1%o	4.48
380.00	OMCW 66%w , 23%m, 6%g, 5%o	5.33
305.00	GOWCM 64%m, 17%w , 12%g, 7%o	4.28

Gas Rates

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

* Recovery from multiple tests



DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

8-2s-36w Rawlins KS

Kacirek #1-8

Job Ticket: 62200

DST#: 4

Test Start: 2015.07.17 @ 13:42:00

GENERAL INFORMATION:

Formation: **LKC "G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:13:45

Time Test Ended: 21:54:00

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

Interval: 4380.00 ft (KB) To 4440.00 ft (KB) (TVD)

Total Depth: 4440.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3360.00 ft (KB)

3355.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8366 Outside

Press@RunDepth: psig @ 4381.00 ft (KB)

Start Date: 2015.07.17

End Date:

2015.07.17

Start Time: 13:42:05

End Time:

21:53:29

Capacity: 8000.00 psig

Last Calib.:

2015.07.17

Time On Btm:

Time Off Btm:

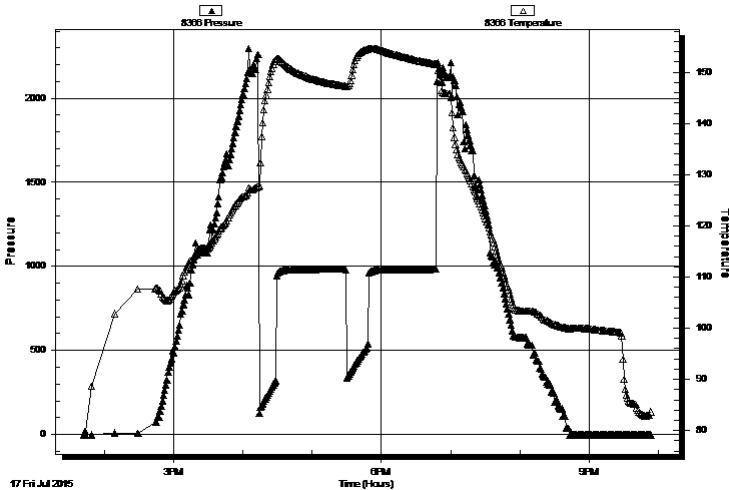
TEST COMMENT: 15 - IF: Blow built to BOB (11") at 3 min.

60 - ISI: No blow back

15 - FF: Blow built to BOB at 4 1/4 min.

60 - FSI: No blow back

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
440.00	SMCW w/oil spots 94%w, 5%m, 1%o	4.48
380.00	OMCW 66%w, 23%m, 6%g, 5%o	5.33
305.00	GOWCM 64%m, 17%w, 12%g, 7%o	4.28

* 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.

8-2s-36w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Kacirek #1-8

Job Ticket: 62200

DST#: 4

ATTN: Saman Sharifaie

Test Start: 2015.07.17 @ 13:42:00

Tool Information

Drill Pipe:	Length: 4173.00 ft	Diameter: 3.80 inches	Volume: 58.54 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: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 59.45 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4380.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	60.00 ft			
Tool Length:	88.00 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			4357.00	
Hydraulic tool	5.00			4362.00	
Jars	5.00			4367.00	
Safety Joint	3.00			4370.00	
Packer	5.00			4375.00	28.00 Bottom Of Top Packer
Packer	5.00			4380.00	
Stubb	1.00			4381.00	
Recorder	0.00	8791	Inside	4381.00	
Recorder	0.00	8366	Outside	4381.00	
Perforations	23.00			4404.00	
Blank Spacing	33.00			4437.00	
Bullnose	3.00			4440.00	60.00 Bottom Packers & Anchor

Total Tool Length: 88.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

8-2s-36w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Kacirek #1-8

Job Ticket: 62200

DST#: 4

ATTN: Saman Sharifaie

Test Start: 2015.07.17 @ 13:42:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 62.00 sec/qt
Water Loss: 7.59 in³
Resistivity: ohm.m
Salinity: 1200.00 ppm
Filter Cake: 2.00 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: deg API
Water Salinity: 12000 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
440.00	SMCW w/oil spots 94%w , 5%m, 1%o	4.478
380.00	OMCW 66%w , 23%m, 6%g, 5%o	5.330
305.00	GOWCM 64%m, 17%w , 12%g, 7%o	4.278

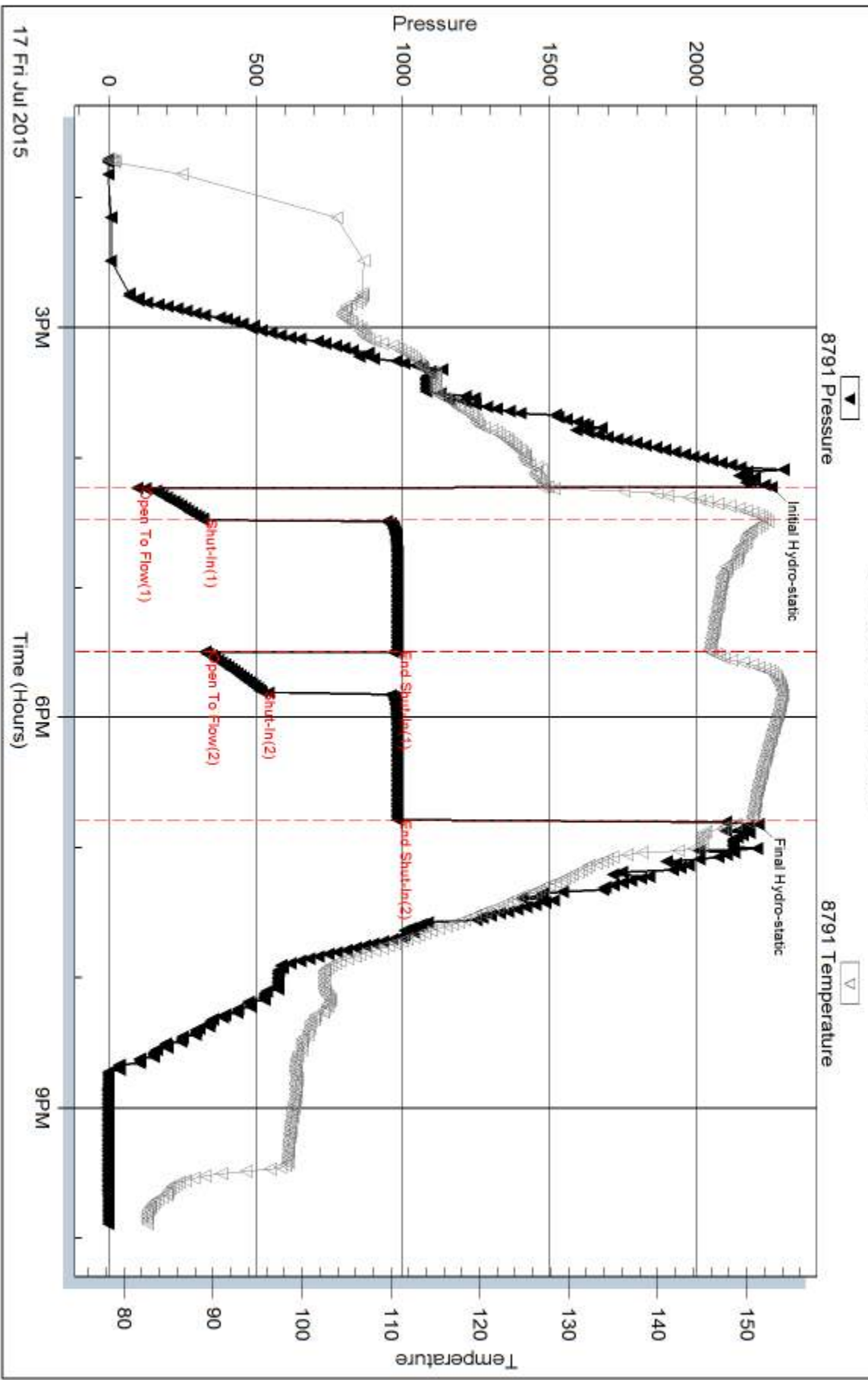
Total Length: 1125.00 ft Total Volume: 14.086 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: RW = .463 ohms @ 83 deg F
Chlorides = 12,000 ppm

Pressure vs. Time

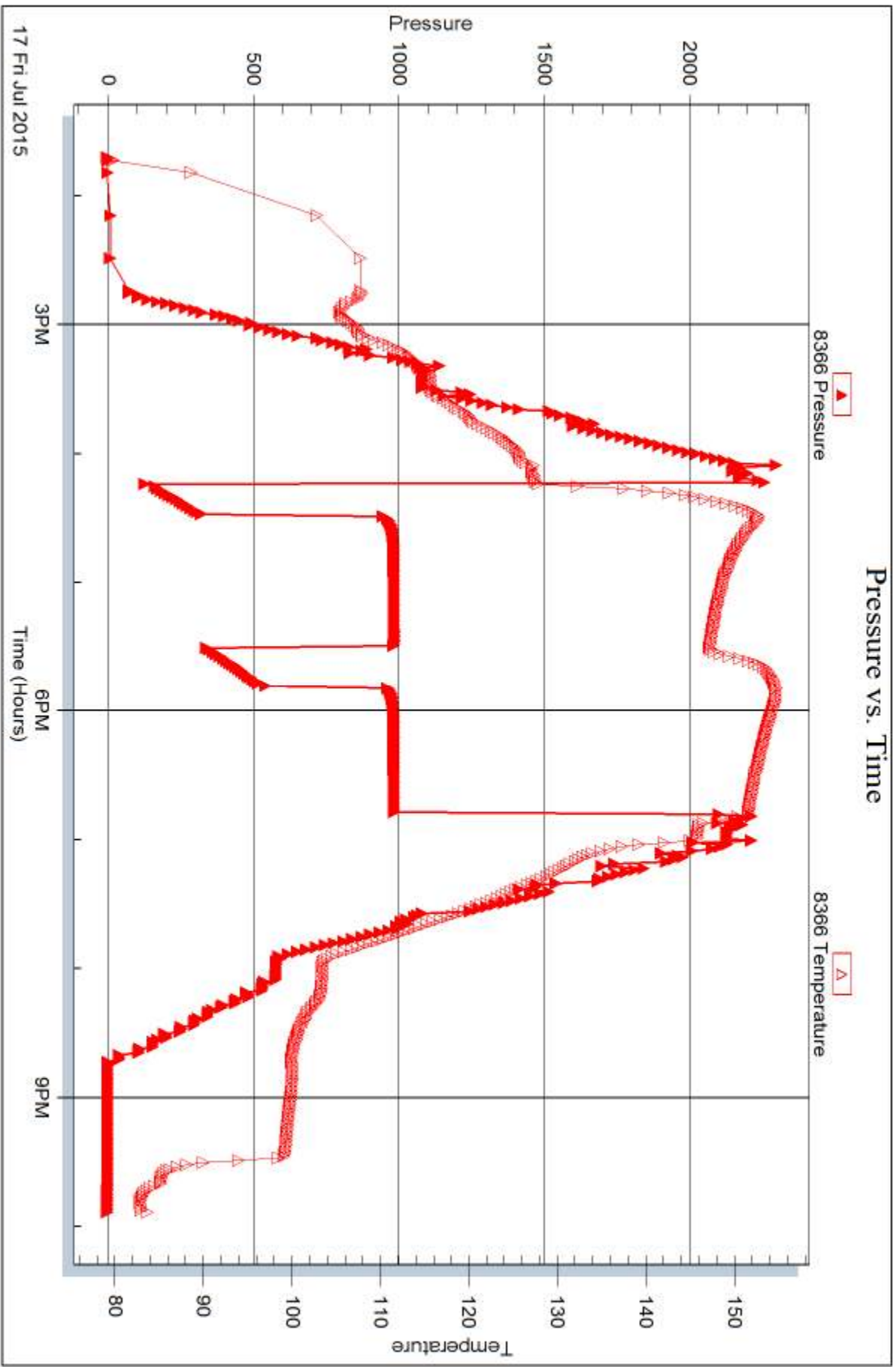


Serial #: 8366

Outside Murfin Drilling Co., Inc.

Kacirek #1-8

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 62200

Printed: 2015.07.21 @ 08:10:01



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

Kacirek #1-8

8-2s-36w Rawlins KS

Start Date: 2015.07.18 @ 12:46:00

End Date: 2015.07.18 @ 21:40:00

Job Ticket #: 62831 DST #: 5

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

Printed: 2015.07.21 @ 08:09:24



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

8-2s-36w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Kacirek #1-8

Job Ticket: 62831

DST#: 5

ATTN: Saman Sharifaie

Test Start: 2015.07.18 @ 12:46:00

GENERAL INFORMATION:

Formation: **LKC "H - J"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 15:10:15
 Time Test Ended: 21:40:00
 Interval: **4438.00 ft (KB) To 4526.00 ft (KB) (TVD)**
 Total Depth: 4526.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: James Winder
 Unit No: 83
 Reference Elevations: 3360.00 ft (KB)
 3355.00 ft (CF)
 KB to GR/CF: 5.00 ft

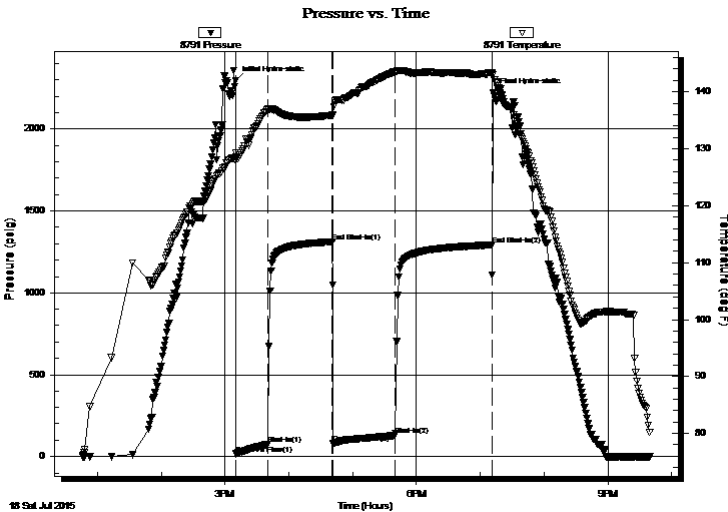
Serial #: 8791

Inside

Press@RunDepth: 128.86 psig @ 4439.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.07.18 End Date: 2015.07.18 Last Calib.: 2015.07.18
 Start Time: 12:46:05 End Time: 21:40:00 Time On Btm: 2015.07.18 @ 15:10:00
 Time Off Btm: 2015.07.18 @ 19:12:15

TEST COMMENT: 30 - IF: Surging blow for 20 min. to 3", then slowly built to 4" at 30 min.
 60 - IS: No blow back
 60 - FF: Blow started at 9 min., built to 5"
 90 - FS: No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2297.09	129.27	Initial Hydro-static
1	16.61	128.61	Open To Flow (1)
31	75.60	136.98	Shut-In(1)
91	1311.68	135.88	End Shut-In(1)
92	80.79	135.99	Open To Flow (2)
150	128.86	143.27	Shut-In(2)
241	1292.52	143.34	End Shut-In(2)
243	2224.92	142.98	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
186.00	WM w/trace oil 56% _m , 41% _w , 3% _g	0.91
63.00	SOWCM 92% _m , 4% _g , 2% _o , 2% _w	0.88
3.00	SOCM 98% _m , 2% _o	0.04

* 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 67202
ATTN: Saman Sharifaie

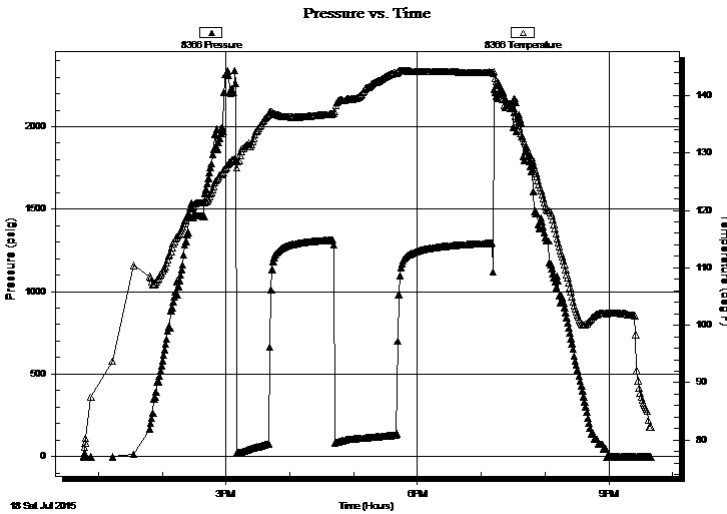
8-2s-36w Rawlins KS
Kacirek #1-8
Job Ticket: 62831 DST#: 5
Test Start: 2015.07.18 @ 12:46:00

GENERAL INFORMATION:

Formation: LKC "H - J"
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:10:15
Time Test Ended: 21:40:00
Interval: 4438.00 ft (KB) To 4526.00 ft (KB) (TVD)
Total Depth: 4526.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Reference Elevations: 3360.00 ft (KB), 3355.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8366 Outside
Press@RunDepth: psig @ 4439.00 ft (KB)
Start Date: 2015.07.18 End Date: 2015.07.18
Start Time: 12:46:05 End Time: 21:39:30
Capacity: 8000.00 psig
Last Calib.: 2015.07.18
Time On Btm:
Time Off Btm:

TEST COMMENT: 30 - IF: Surging blow for 20 min. to 3", then slowly built to 4" at 30 min.
60 - IS: No blow back
60 - FF: Blow started at 9 min., built to 5"
90 - FS: No blow back



PRESSURE SUMMARY

Table with columns: Time (Min.), Pressure (psig), Temp (deg F), Annotation.

Recovery

Table with columns: Length (ft), Description, Volume (bbl). Rows include WM w/trace oil, SOWCM, and SOCM.

Gas Rates

Table with columns: 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.

8-2s-36w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Kacirek #1-8

Job Ticket: 62831

DST#: 5

ATTN: Saman Sharifaie

Test Start: 2015.07.18 @ 12:46:00

Tool Information

Drill Pipe:	Length: 4232.00 ft	Diameter: 3.80 inches	Volume: 59.36 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: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 60.27 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4438.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	88.00 ft			
Tool Length:	116.00 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			4415.00	
Hydraulic tool	5.00			4420.00	
Jars	5.00			4425.00	
Safety Joint	3.00			4428.00	
Packer	5.00			4433.00	28.00 Bottom Of Top Packer
Packer	5.00			4438.00	
Stubb	1.00			4439.00	
Recorder	0.00	8791	Inside	4439.00	
Recorder	0.00	8366	Outside	4439.00	
Perforations	19.00			4458.00	
Blank Spacing	65.00			4523.00	
Bullnose	3.00			4526.00	88.00 Bottom Packers & Anchor

Total Tool Length: 116.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

8-2s-36w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Kacirek #1-8

Job Ticket: 62831

DST#: 5

ATTN: Saman Sharifaie

Test Start: 2015.07.18 @ 12:46:00

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:

10000 ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 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 bbbl
186.00	WMw/trace oil 56%m, 41%w, 3%g	0.915
63.00	SOWCM 92%m, 4%g, 2%o, 2%w	0.884
3.00	SOCM 98%m, 2%o	0.042

Total Length: 252.00 ft Total Volume: 1.841 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

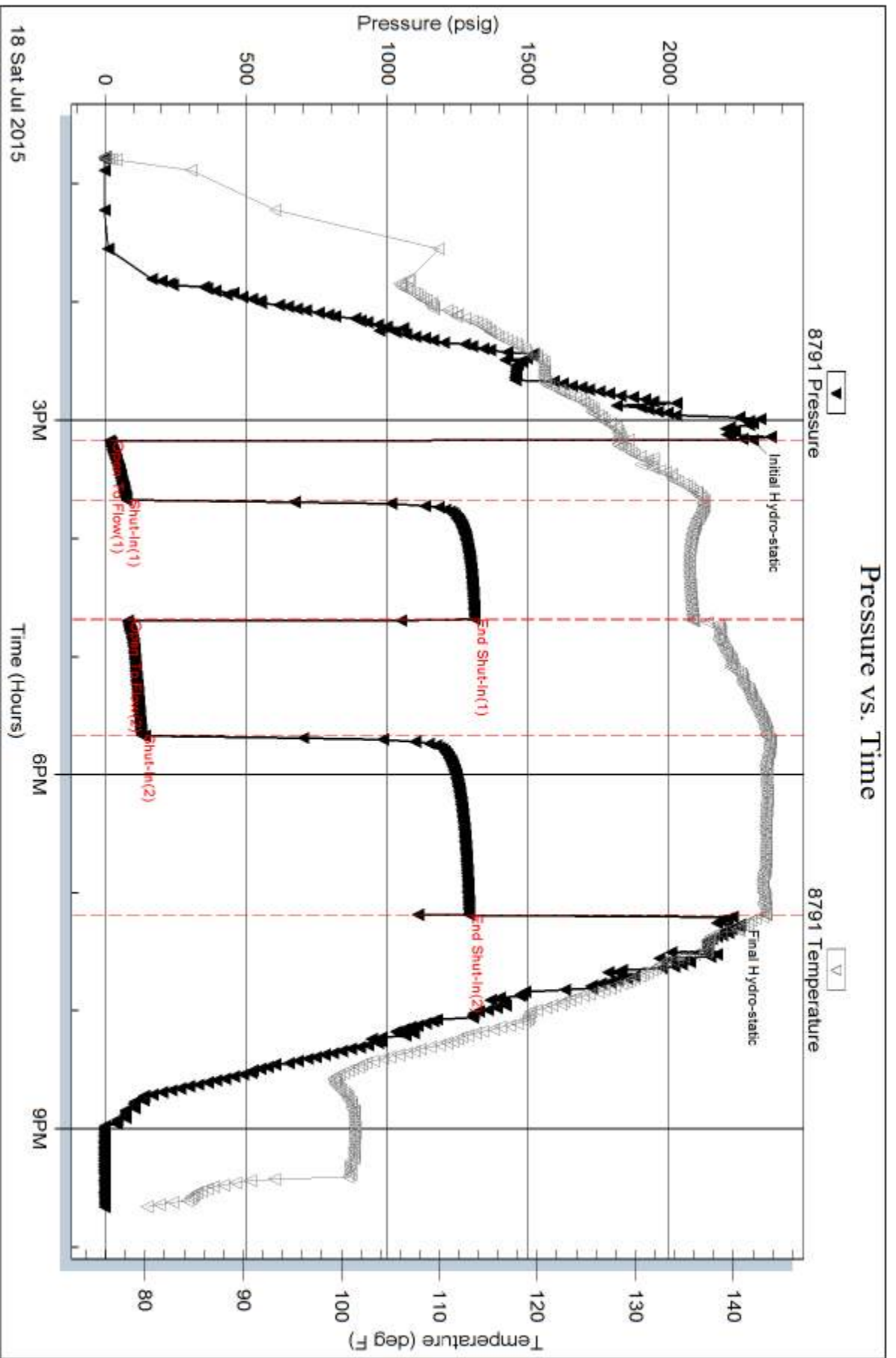
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .540 ohms @ 79 deg F

Chlorides = 10, 000 ppm

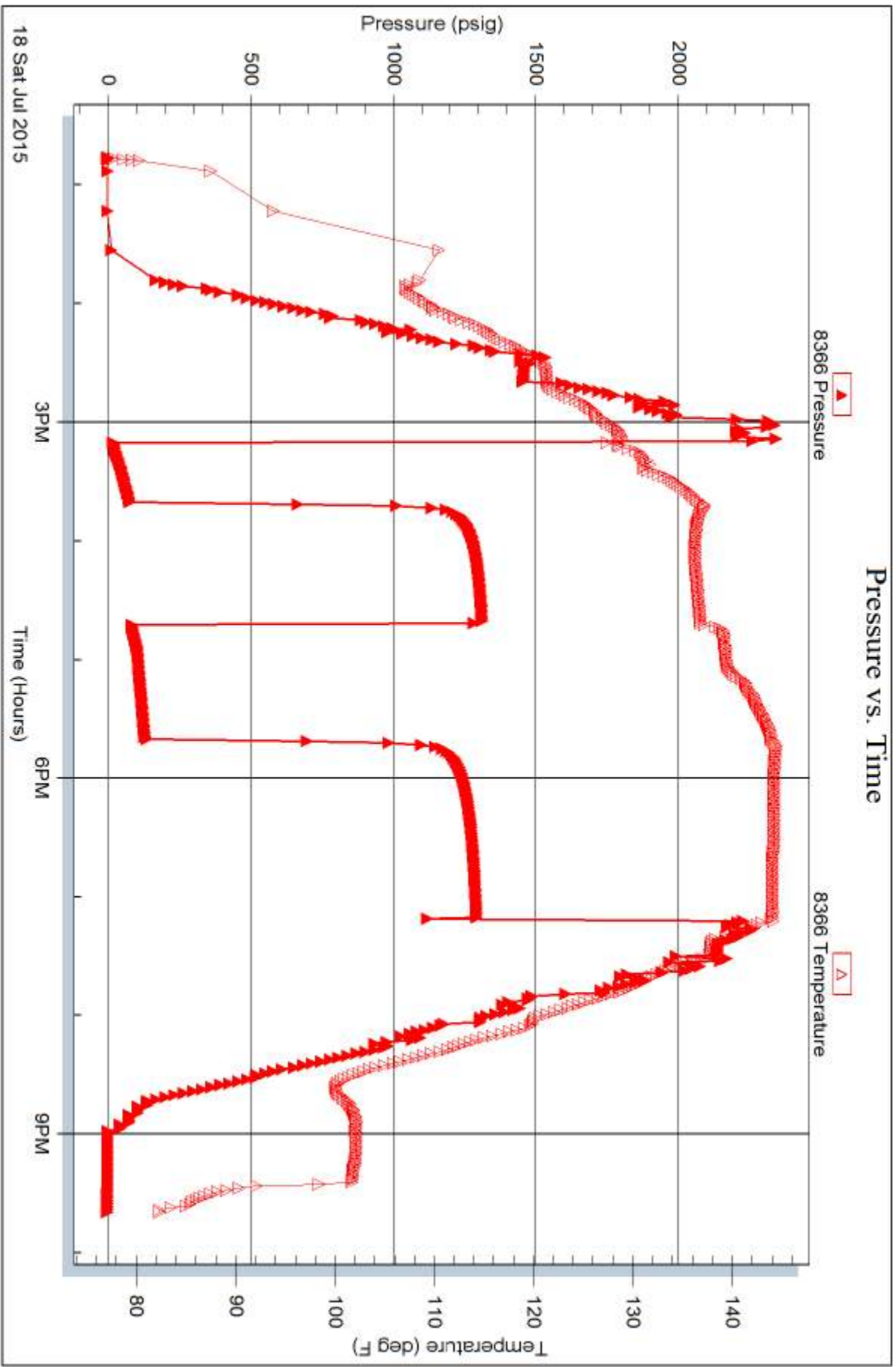


Serial #: 8366

Outside Murfin Drilling Co., Inc.

Kacirek #1-8

DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 62831

Printed: 2015.07.21 @ 08:09:25



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 62197

Well Name & No. Kacirek #1-8 Test No. 1 Date 7-15-15
 Company Murfin Drilling Co. Inc. Elevation 3360 KB 3355 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Saman Sharifaie Rig Murfin #8
 Location: Sec. 8 Twp. 2s Rge. 36w Co. Rawlins State KS

Interval Tested 4177 - 4233 Zone Tested Oread
 Anchor Length 56 Drill Pipe Run 3980 Mud Wt. 9.1
 Top Packer Depth 4172 Drill Collars Run 186 Vis 64
 Bottom Packer Depth 4177 Wt. Pipe Run - WL 6.8
 Total Depth 4233 Chlorides 900 ppm System LCM 8
 Blow Description IF: 1 1/2" surge blow at open, built to BOB (11") at 8 1/2 min.
ISI: No blowback
FF: Blow built to BOB at 11 min.
FSI: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>325</u>	<u>WM w/trace oil</u>	<u>trace</u>	<u>41</u>	<u>59</u>	
<u>300 260</u>	<u>M CW</u>		<u>85</u>	<u>15</u>	
<u>300 500</u>	<u>S MCW</u>		<u>96</u>	<u>4</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 1085 BHT 147 Gravity _____ API RW .205 @ 77.7 °F Chlorides 31,000 ppm
 (A) Initial Hydrostatic 2089 Test 1150 T-On Location 23:00 7/14
 (B) First Initial Flow 42 Jars 250 T-Started 1:05
 (C) First Final Flow 252 Safety Joint 75 T-Open 3:23
 (D) Initial Shut-In 1182 Circ Sub _____ T-Pulled 7:25
 (E) Second Initial Flow 255 Hourly Standby _____ T-Out 9:50
 (F) Second Final Flow 510 Mileage 112 RT 112 Comments told OB at 00:30
 (G) Final Shut-In 1175 Sampler _____ lost 5' mud at open - 1 1/2"
 (H) Final Hydrostatic 2075 Straddle _____ surge blow
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Initial Open 30 Shale Packer _____
 Initial Shut-In 60 Extra Packer _____
 Final Flow 60 Extra Recorder _____
 Final Shut-In 90 Day Standby _____
 Accessibility _____
 Sub Total 1587 Sub Total 1587
 Total 1587
 MP/DST Disc't _____

Approved By _____ Our Representative James Winkler
 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. 62198

Well Name & No. Kacirek #1-8 Test No. 2 Date 7-15-15
 Company Murfin Drilling Co. Inc Elevation 3360 KB 3355 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Saman Sharifaie Rig Murfin #8
 Location: Sec. 8 Twp. 2s Rge. 36w Co. Rawlins State KS

Interval Tested ~~4280~~ 4248 - 4330 Zone Tested LKC "A"
 Anchor Length 82 Drill Pipe Run 4043 Mud Wt. 9.2
 Top Packer Depth 4243 Drill Collars Run 186 Vis 62
 Bottom Packer Depth 4248 Wt. Pipe Run - WL 6.4
 Total Depth 4330 Chlorides 1200 ppm System LCM 8
 Blow Description IF: Blow built to 9"
ISI: Weak surface blowback
FF: Blow built to BOB (11") at 27 1/2 min.
FSI: Blowback built to 2 1/2"

Rec	Feet of	%gas	%oil	%water	%mud
127	SMCGO	21	76	-	3
123	GOCM	11	30	-	59

Rec Total 250 BHT 139 Gravity 31.4 API RW @ °F Chlorides ppm
 (A) Initial Hydrostatic 2147 Test 1150 T-On Location 21:45 7/15
 (B) First Initial Flow 19 Jars 250 T-Started 22:37
 (C) First Final Flow 71 Safety Joint 75 T-Open 00:45
 (D) Initial Shut-In 1138 Circ Sub _____ T-Pulled 4:51
 (E) Second Initial Flow 79 Hourly Standby _____ T-Out 7:10 7/16
 (F) Second Final Flow 112 Mileage 112 RT 112 Comments _____
 (G) Final Shut-In 1075 Sampler _____
 (H) Final Hydrostatic 2117 Straddle _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Initial Open 30 Shale Packer _____
 Initial Shut-In 60 Extra Packer _____
 Final Flow 60 Extra Recorder _____
 Final Shut-In 90 Day Standby _____
 Accessibility _____
 Sub Total 1587 Sub Total 1587 MP/DST Disc't _____

Approved By _____ Our Representative Jean Winkler

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. 62199

Well Name & No. Kacirek #1-8 Test No. 3 Date 7/16/15
 Company Murfin Drilling Co. Inc Elevation 3360 KB 3355 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Saman Sharifaie Rig Murfin #8
 Location: Sec. 8 Twp. 2S Rge. 36W Co. Rawlins State KS

Interval Tested 4330 - 4380 Zone Tested LKC "B-D"
 Anchor Length 50 Drill Pipe Run 4138 Mud Wt. 9.2
 Top Packer Depth 4325 Drill Collars Run 186 Vis 55
 Bottom Packer Depth 4330 Wt. Pipe Run - WL 6.8
 Total Depth 4380 Chlorides 1200 ppm System LCM 8
 Blow Description IF: Blow built to BOB (11") at 2 3/4 min.
ISI: No blowback
FF: Blow built to BOB at 3 3/4 min
FSI: No blowback

Rec	Feet of	%gas	trace	%oil	%water	%mud
<u>60</u>	<u>mud w/trace oil</u>				<u>100</u>	
<u>315</u>	<u>wcm w/trace oil</u>	<u>8</u>			<u>17</u>	<u>75</u>
<u>250</u>	<u>mcw w/trace oil</u>	<u>2</u>			<u>74</u>	<u>24</u>
<u>700</u>	<u>smcw w/trace oil</u>				<u>95</u>	<u>5</u>

Rec Total 1325 BHT 151 Gravity _____ API RW 419 @ 71.7 °F Chlorides 16,000 ppm
 (A) Initial Hydrostatic 2205 Test 1150 T-On Location 16:30 7/16
 (B) First Initial Flow 90 Jars 250 T-Started 16:44
 (C) First Final Flow 379 Safety Joint 75 T-Open 19:35
 (D) Initial Shut-In 1113 Circ Sub _____ T-Pulled 22:07
 (E) Second Initial Flow 386 Hourly Standby _____ T-Out 00:25 7/17
 (F) Second Final Flow 616 Mileage 112 Comments _____
 (G) Final Shut-In 1111 Sampler _____
 (H) Final Hydrostatic 2158 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1587
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1587
 MP/DST Disc't _____

Approved By _____ Our Representative James Winkler
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 62200

Well Name & No. Kacirek #1-8 Test No. 4 Date 7-17-15
 Company Murfin Drilling Co. Inc. Elevation 3360 KB 3355 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Saman Sharifaie Rig Murfin #8
 Location: Sec. 8 Twp. 2s Rge. 36w Co. Rawlins State KS

Interval Tested 4380 - 4440 Zone Tested LKC "G"
 Anchor Length 60 Drill Pipe Run 4173 Mud Wt. 9.3
 Top Packer Depth 4375 Drill Collars Run 186 Vis 62
 Bottom Packer Depth 4380 Wt. Pipe Run - WL 7.6
 Total Depth 4440 Chlorides 1200 ppm System LCM 8
 Blow Description IF: Blow built to BOB at 3 min.
ISI: No blowback
FF: Blow built to BOB at 4 1/4 min.
FSI: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>305</u>	<u>50wcm</u>	<u>12</u>	<u>7</u>	<u>17</u>	<u>64</u>
<u>380</u>	<u>50wcm 0mcw</u>	<u>6</u>	<u>5</u>	<u>66</u>	<u>23</u>
<u>440</u>	<u>5mcw w/oil spots.</u>	<u>-</u>	<u>1</u>	<u>94</u>	<u>5</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 1125 BHT 151 Gravity _____ API RW 463 @ 83 °F Chlorides 12,000 ppm

(A) Initial Hydrostatic 2258 Test 1150 T-On Location 13:05
 (B) First Initial Flow 97 Jars 250 T-Started 13:42
 (C) First Final Flow 321 Safety Joint 75 T-Open 16:13
 (D) Initial Shut-In 982 Circ Sub _____ T-Pulled 18:47
 (E) Second Initial Flow 329 Hourly Standby _____ T-Out 21:35
 (F) Second Final Flow 521 Mileage 112 RT 112 Comments _____
 (G) Final Shut-In 981 Sampler _____
 (H) Final Hydrostatic 2211 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1587

Initial Open 15
 Initial Shut-In 60
 Final Flow 15
 Final Shut-In 60

Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1587
 MP/DST Disc't _____

Approved By _____ Our Representative James Winder
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 62831

Well Name & No. Kacirek #1-8 Test No. 5 Date 7-18-2015
 Company Murfin Drilling Co. Inc Elevation 3360 KB 3355 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Saman Shari faie Rig Murfin #8
 Location: Sec. 8 Twp. 2s Rge. 36w Co. Rawlins State KS

Interval Tested 4438 - 4526 Zone Tested LKC "H-J"
 Anchor Length 88 Drill Pipe Run 4232 Mud Wt. 9.4
 Top Packer Depth 4433 Drill Collars Run 186 Vis 51
 Bottom Packer Depth 4438 Wt. Pipe Run - WL 8.8
 Total Depth 4526 Chlorides 1400 ppm System LCM 6

Blow Description IF: Surging blow for 20 min. to 3" then slow build to 4" at 30 min.
ISI: No blowback
FF: Blow started at 9 min., built to 5"
FSI: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>3</u>	<u>50cm</u>	<u>-</u>	<u>2</u>	<u>-</u>	<u>98</u>
<u>63</u>	<u>50wcm</u>	<u>4</u>	<u>2</u>	<u>2</u>	<u>92</u>
<u>186</u>	<u>WM w/trace oil</u>	<u>3</u>	<u>trace</u>	<u>41</u>	<u>56</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 252 BHT 143 Gravity _____ API RW .540 @ 79 ° F Chlorides 10,000 ppm

(A) Initial Hydrostatic 2297
 (B) First Initial Flow 17
 (C) First Final Flow 76
 (D) Initial Shut-In 1312
 (E) Second Initial Flow 81
 (F) Second Final Flow 129
 (G) Final Shut-In 1293
 (H) Final Hydrostatic 2225

Test 1150
 Jars 250
 Safety Joint 75
 Circ Sub _____
 Hourly Standby _____
 Mileage 112 RTx2 112+112
 Sampler _____
 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1699

T-On Location 11:55
 T-Started 12:46
 T-Open 15:10
 T-Pulled 19:11
 T-Out 21:35

Comments Called to be released @ 8:41 Located @ 11:10

Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1699
 MP/DST Disc't _____

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

Approved By _____

Our Representative James Winder

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