



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Rocky Milford

Schmidt-Vap'A' #1-26

26-4s-31w Rawlins,KS

Start Date: 2015.02.20 @ 14:12:00

End Date: 2015.02.20 @ 23:09:45

Job Ticket #: 62156 DST #: 1

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

Printed: 2015.02.25 @ 13:27:51



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

26-4s-31w Rawlins,KS

250 N. Water STE 300
Wichita, KS 67202

Schmidt-Vap'A' #1-26

Job Ticket: 62156

DST#: 1

ATTN: Rocky Milford

Test Start: 2015.02.20 @ 14:12:00

GENERAL INFORMATION:

Formation: **Toronto - LKC "B"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:27:45

Time Test Ended: 23:09:45

Test Type: Conventional Bottom Hole (Initial)

Tester: James Winder

Unit No: 83

Interval: 3922.00 ft (KB) To 4007.00 ft (KB) (TVD)

Reference Elevations: 2939.00 ft (KB)

Total Depth: 4007.00 ft (KB) (TVD)

2934.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8791 Inside

Press@RunDepth: 471.09 psig @ 3923.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.02.20

End Date:

2015.02.20

Last Calib.: 2015.02.20

Start Time: 14:12:05

End Time:

23:09:45

Time On Btm: 2015.02.20 @ 16:27:30

Time Off Btm: 2015.02.20 @ 20:32:00

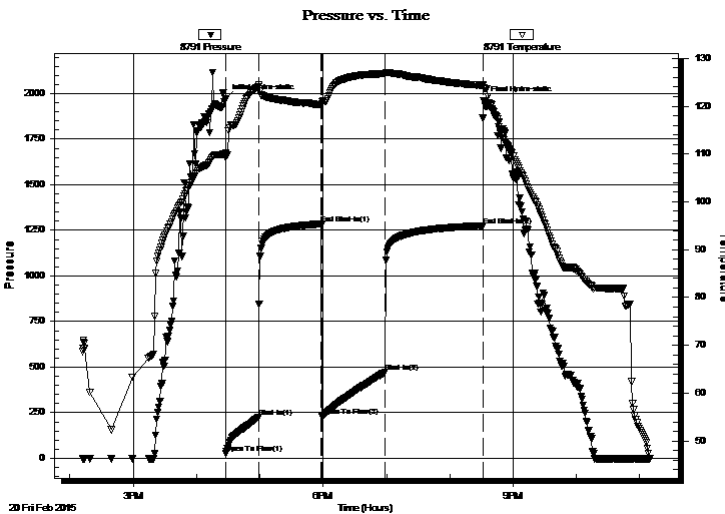
TEST COMMENT: 30 - IF: Blow built to BOB (11") at 9 min.

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	1973.55	110.12	Initial Hydro-static
1	24.93	109.22	Open To Flow (1)
32	226.61	124.13	Shut-In(1)
91	1285.50	120.28	End Shut-In(1)
92	231.67	120.46	Open To Flow (2)
151	471.09	126.82	Shut-In(2)
244	1275.31	124.31	End Shut-In(2)
245	1963.08	123.79	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
757.00	SMCW 96%w, 4%m	8.92
220.00	MW 50%m, 50%w	3.09

Gas Rates

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



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ATTN: Rocky Milford

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Schmidt-Vap'A' #1-26

Job Ticket: 62156

DST#: 1

Test Start: 2015.02.20 @ 14:12:00

GENERAL INFORMATION:

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Deviated: No Whipstock: ft (KB)

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Test Type: Conventional Bottom Hole (Initial)

Tester: James Winder

Unit No: 83

Interval: 3922.00 ft (KB) To 4007.00 ft (KB) (TVD)

Total Depth: 4007.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2939.00 ft (KB)

2934.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8366 Outside

Press@RunDepth: psig @ 3923.00 ft (KB)

Start Date: 2015.02.20

End Date:

2015.02.20

Start Time: 14:12:05

End Time:

23:09:15

Capacity: 8000.00 psig

Last Calib.:

2015.02.20

Time On Btm:

Time Off Btm:

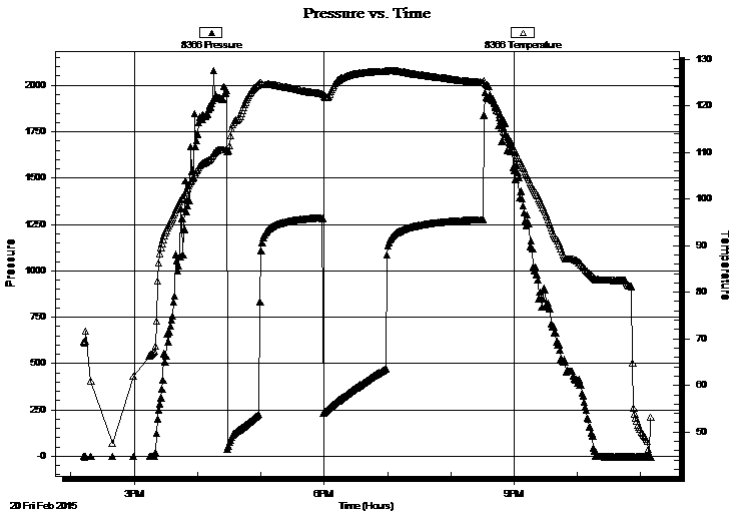
TEST COMMENT: 30 - IF: Blow built to BOB (11") at 9 min.

60 - IS!: No blow back

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90 - FS!: No blow back

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
757.00	SMCW 96%w, 4%m	8.92
220.00	MW 50%m, 50%w	3.09

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

26-4s-31w Rawlins,KS

250 N. Water STE 300
Wichita, KS 67202

Schmidt-Vap'A' #1-26

Job Ticket: 62156

DST#: 1

ATTN: Rocky Milford

Test Start: 2015.02.20 @ 14:12:00

Tool Information

Drill Pipe:	Length: 3737.00 ft	Diameter: 3.80 inches	Volume: 52.42 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: 65000.00 lb
			<u>Total Volume: 53.34 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	3922.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	85.00 ft			
Tool Length:	113.00 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			3899.00	
Hydraulic tool	5.00			3904.00	
Jars	5.00			3909.00	
Safety Joint	3.00			3912.00	
Packer	5.00			3917.00	28.00 Bottom Of Top Packer
Packer	5.00			3922.00	
Stubb	1.00			3923.00	
Recorder	0.00	8791	Inside	3923.00	
Recorder	0.00	8366	Outside	3923.00	
Perforations	15.00			3938.00	
Blank Spacing	65.00			4003.00	
Perforations	1.00			4004.00	
Bullnose	3.00			4007.00	85.00 Bottom Packers & Anchor

Total Tool Length: 113.00



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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

26-4s-31w Rawlins,KS

250 N. Water STE 300
Wichita, KS 67202

Schmidt-Vap'A' #1-26

Job Ticket: 62156

DST#: 1

ATTN: Rocky Milford

Test Start: 2015.02.20 @ 14:12:00

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:

29000 ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.37 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
757.00	SMCW 96%w , 4%m	8.915
220.00	MW 50%m, 50%w	3.086

Total Length: 977.00 ft Total Volume: 12.001 bbl

Num Fluid Samples: 0

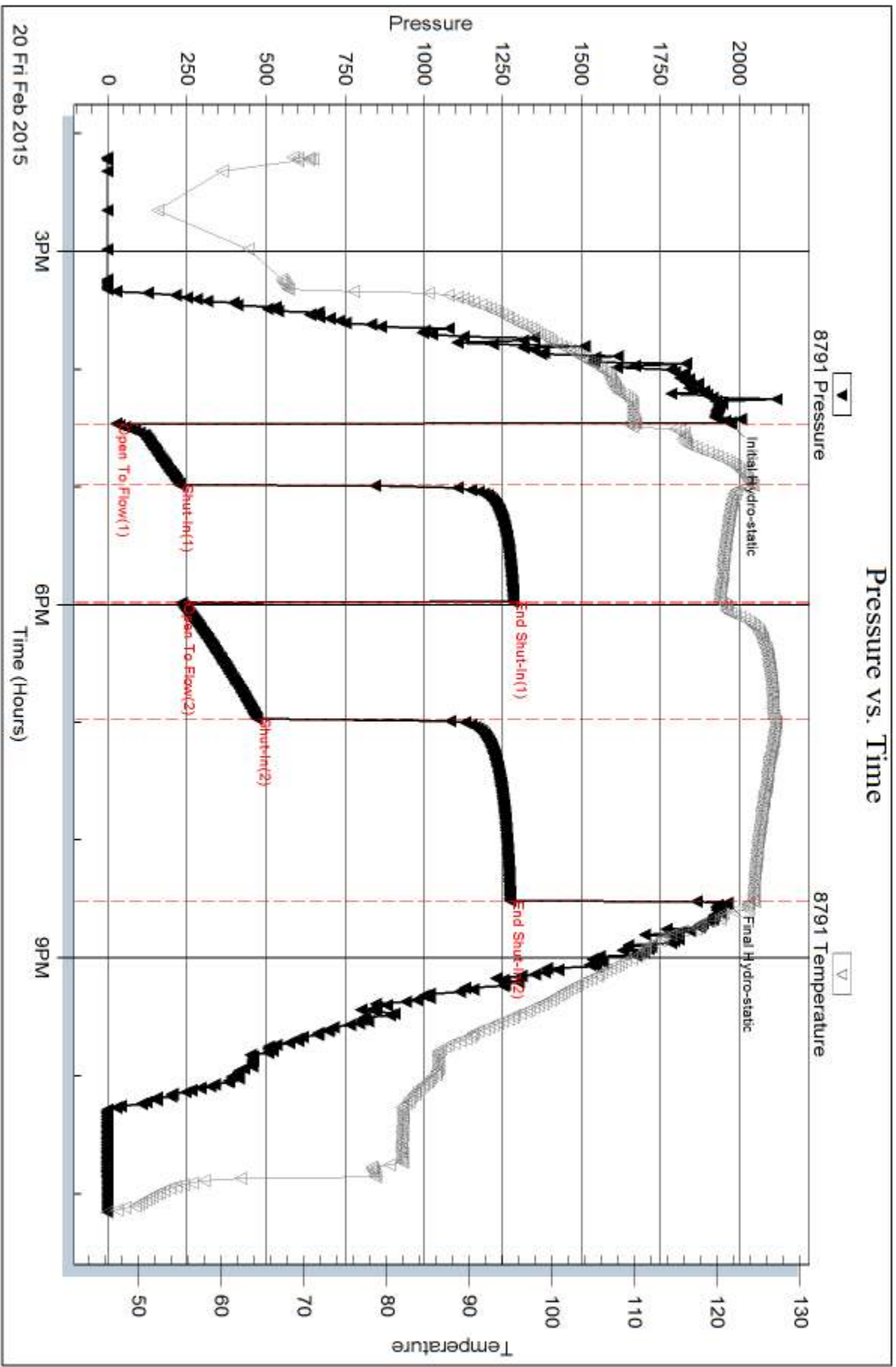
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .390 ohms @ 42.4 deg F

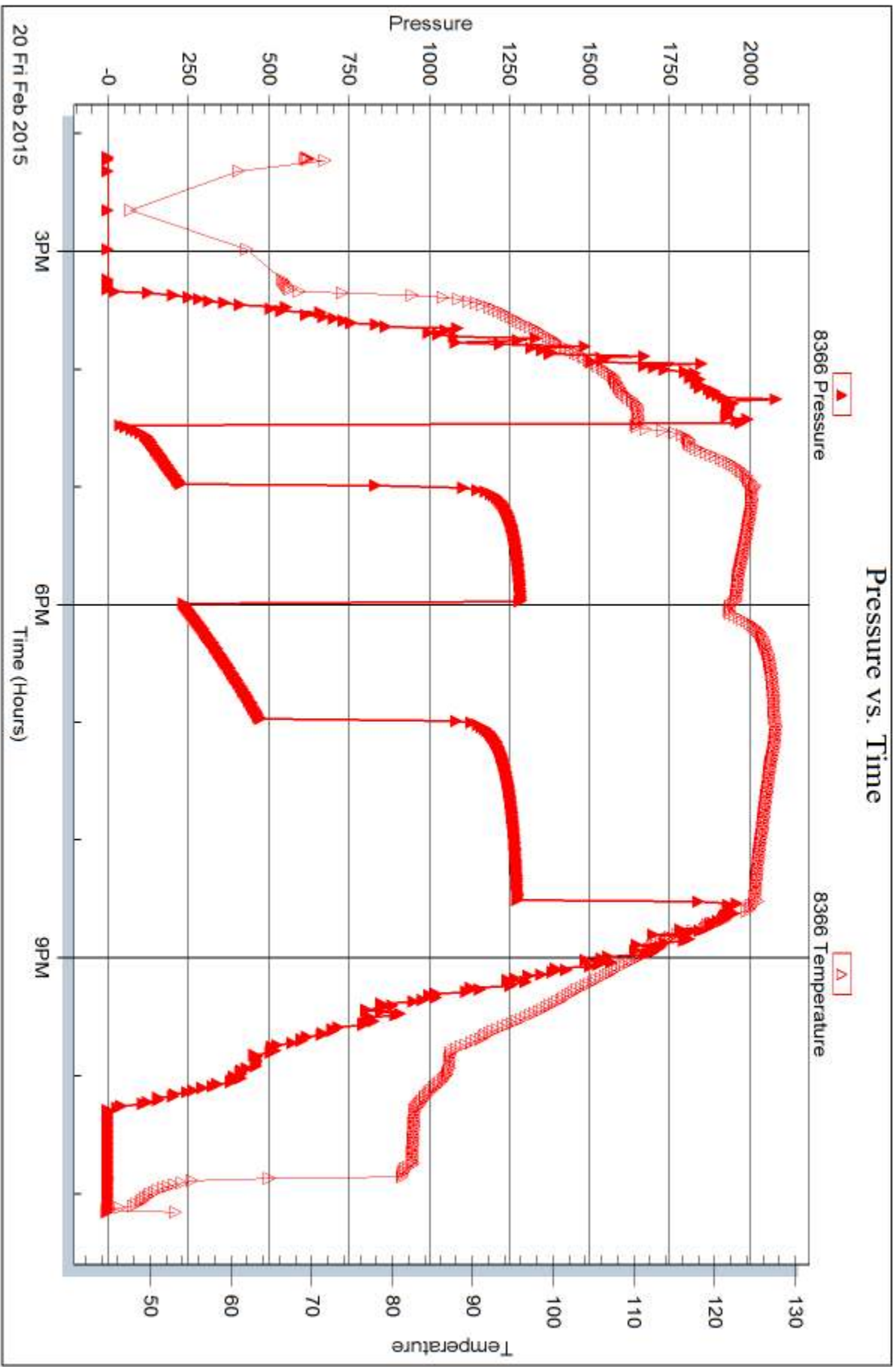


Serial #: 8366

Outside Murfin Drilling Co., Inc.

Schmidt-Vap'A #1-26

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 62156

Printed: 2015.02.25 @ 13:27:53



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Rocky Milford

Schmidt-Vap'A' #1-26

26-4s-31w Rawlins,KS

Start Date: 2015.02.21 @ 09:35:00

End Date: 2015.02.21 @ 17:56:00

Job Ticket #: 62157 DST #: 2

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

Printed: 2015.02.25 @ 13:27:28



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TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.
250 N. Water STE 300
Wichita, KS 67202
ATTN: Rocky Milford

26-4s-31w Rawlins, KS

Schmidt-Vap'A' #1-26

Job Ticket: 62157

DST#: 2

Test Start: 2015.02.21 @ 09:35:00

GENERAL INFORMATION:

Formation: **LKC "E - G"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 11:23:15
 Time Test Ended: 17:56:00
 Interval: **4024.00 ft (KB) To 4075.00 ft (KB) (TVD)**
 Total Depth: 4075.00 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: 2939.00 ft (KB)
 2934.00 ft (CF)
 KB to GR/CF: 5.00 ft

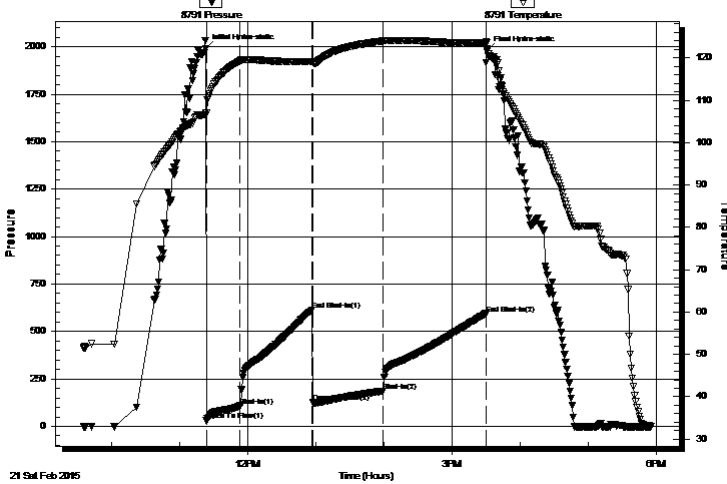
Serial #: 8791

Inside

Press@RunDepth: 186.26 psig @ 4025.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.02.21 End Date: 2015.02.21 Last Calib.: 2015.02.21
 Start Time: 09:35:05 End Time: 17:55:59 Time On Btm: 2015.02.21 @ 11:22:45
 Time Off Btm: 2015.02.21 @ 15:30:45

TEST COMMENT: 30 - IF: Blow built to BOB (11") at 6 1/2 min.
 60 - IS: Blow back built to 9 1/4"
 60 - FF: Blow built to BOB at 9 1/2 min.
 90 - FS: Blow back built to 5 1/2"

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1991.80	107.05	Initial Hydro-static
1	29.87	106.97	Open To Flow (1)
31	106.90	119.27	Shut-In(1)
94	613.21	119.07	End Shut-In(1)
95	126.15	118.81	Open To Flow (2)
157	186.26	123.96	Shut-In(2)
247	593.76	123.46	End Shut-In(2)
248	1980.97	123.65	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
140.00	GOCM 44% m, 35% g, 21% o	0.69
343.00	CGO 69% o, 30% g, 1% m	4.38
0.00	GIP = 710'	0.00

* Recovery from multiple tests

Gas Rates

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



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26-4s-31w Rawlins, KS

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Wichita, KS 67202

Schmidt-Vap'A' #1-26

Job Ticket: 62157

DST#: 2

ATTN: Rocky Milford

Test Start: 2015.02.21 @ 09:35:00

GENERAL INFORMATION:

Formation: **LKC "E - G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:23:15

Time Test Ended: 17:56:00

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

Interval: 4024.00 ft (KB) To 4075.00 ft (KB) (TVD)

Reference Elevations: 2939.00 ft (KB)

Total Depth: 4075.00 ft (KB) (TVD)

2934.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8366 Outside

Press@RunDepth: psig @ 4025.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.02.21

End Date:

2015.02.21

Last Calib.:

2015.02.21

Start Time: 09:35:05

End Time:

17:55:14

Time On Btm:

Time Off Btm:

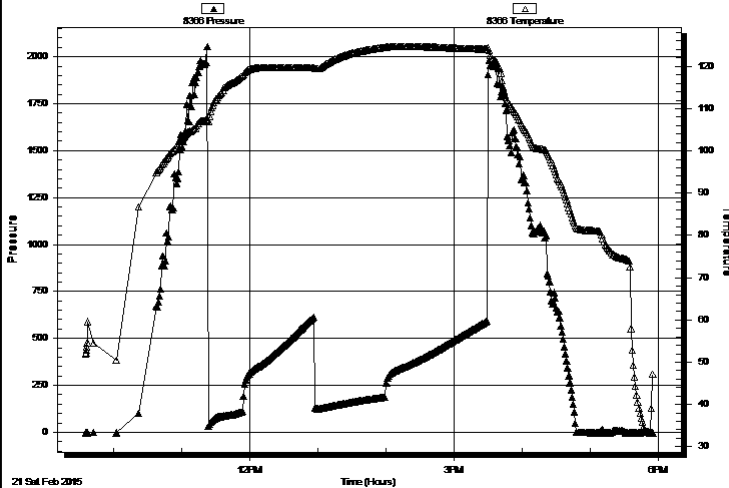
TEST COMMENT: 30 - IF: Blow built to BOB (11") at 6 1/2 min.

60 - IS: Blow back built to 9 1/4"

60 - FF: Blow built to BOB at 9 1/2 min.

90 - FS: Blow back built to 5 1/2"

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
140.00	GOCM 44% m, 35% g, 21% o	0.69
343.00	CGO 69% o, 30% g, 1% m	4.38
0.00	GIP = 710'	0.00

Gas Rates

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

* Recovery from multiple tests



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DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

26-4s-31w Rawlins,KS

250 N. Water STE 300
Wichita, KS 67202

Schmidt-Vap'A' #1-26

Job Ticket: 62157

DST#: 2

ATTN: Rocky Milford

Test Start: 2015.02.21 @ 09:35:00

Tool Information

Drill Pipe:	Length: 3832.00 ft	Diameter: 3.80 inches	Volume: 53.75 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: 62000.00 lb
			<u>Total Volume: 54.67 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4024.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	51.00 ft			
Tool Length:	79.00 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			4001.00	
Hydraulic tool	5.00			4006.00	
Jars	5.00			4011.00	
Safety Joint	3.00			4014.00	
Packer	5.00			4019.00	28.00 Bottom Of Top Packer
Packer	5.00			4024.00	
Stubb	1.00			4025.00	
Recorder	0.00	8791	Inside	4025.00	
Recorder	0.00	8366	Outside	4025.00	
Perforations	13.00			4038.00	
Blank Spacing	34.00			4072.00	
Bullnose	3.00			4075.00	51.00 Bottom Packers & Anchor

Total Tool Length: 79.00



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DRILL STEM TEST REPORT

FLUID SUMMARY

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26-4s-31w Rawlins,KS

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Wichita, KS 67202

Schmidt-Vap'A' #1-26

Job Ticket: 62157

DST#: 2

ATTN: Rocky Milford

Test Start: 2015.02.21 @ 09:35:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 51.00 sec/qt
Water Loss: 6.37 in³
Resistivity: ohm.m
Salinity: 800.00 ppm
Filter Cake: 2.00 inches

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

Oil API: 38.4 deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
140.00	GOCM 44%m, 35%g, 21%o	0.688
343.00	CGO 69%o, 30%g, 1%m	4.383
0.00	GIP = 710'	0.000

Total Length: 483.00 ft Total Volume: 5.071 bbl

Num Fluid Samples: 0

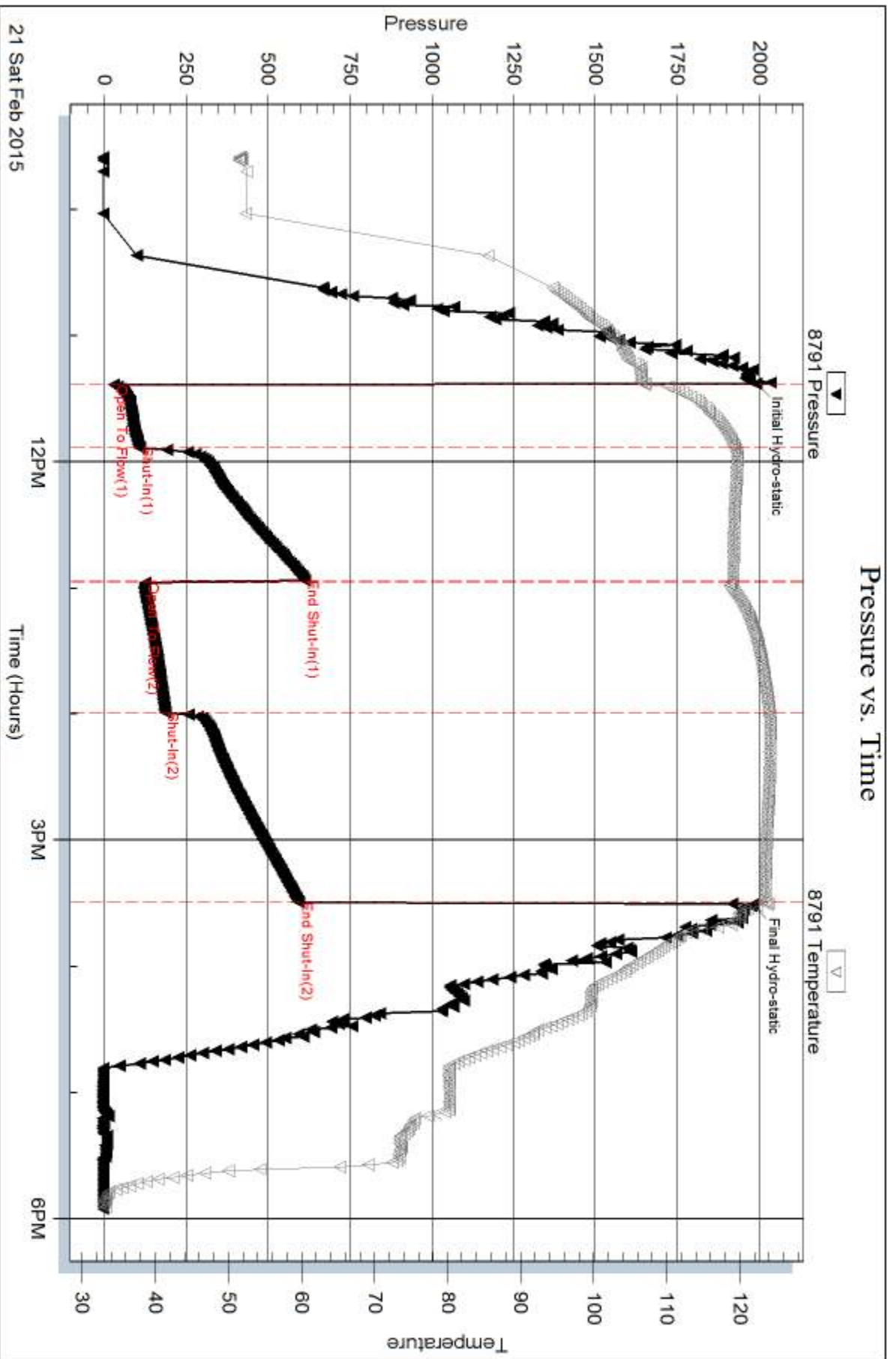
Num Gas Bombs: 0

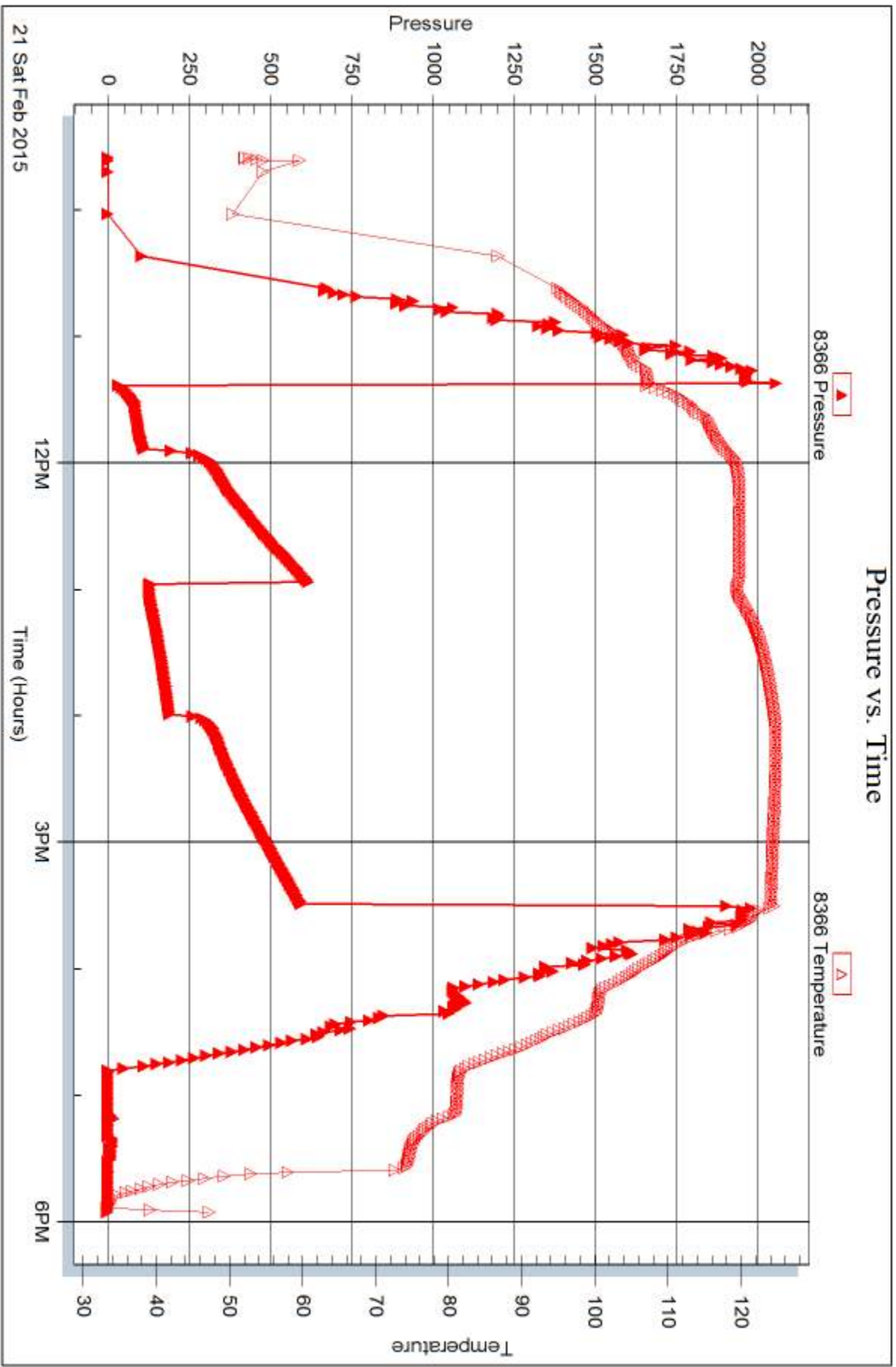
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = 36 api @ 36 deg F
Corrected Gravity = 38.4 api







DRILL STEM TEST REPORT

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250 N. Water STE 300
Wichita, KS 67202

ATTN: Rocky Milford

Schmidt-Vap'A' #1-26

26-4s-31w Rawlins,KS

Start Date: 2015.02.22 @ 04:12:00

End Date: 2015.02.22 @ 13:47:45

Job Ticket #: 62158 DST #: 3

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

Printed: 2015.02.25 @ 13:22:49

Murfin Drilling Co., Inc.

26-4s-31w Rawlins,KS

Schmidt-Vap'A' #1-26

DST # 3

LKC "H - J"

2015.02.22



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.
 250 N. Water STE 300
 Wichita, KS 67202
 ATTN: Rocky Milford

26-4s-31w Rawlins, KS

Schmidt-Vap'A' #1-26

Job Ticket: 62158 **DST#: 3**
 Test Start: 2015.02.22 @ 04:12:00

GENERAL INFORMATION:

Formation: **LKC "H - J"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 07:08:30
 Time Test Ended: 13:47:45
 Interval: **4069.00 ft (KB) To 4140.00 ft (KB) (TVD)**
 Total Depth: 4140.00 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: 2939.00 ft (KB)
 2934.00 ft (CF)
 KB to GR/CF: 5.00 ft

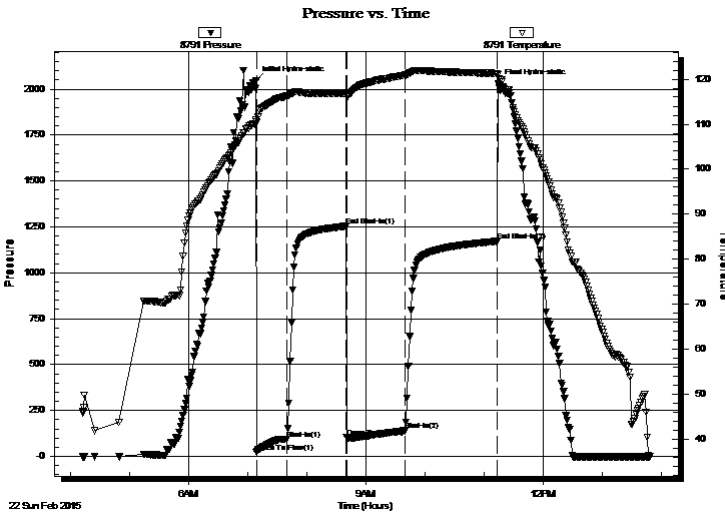
Serial #: 8791

Inside

Press@RunDepth: 140.38 psig @ 4070.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.02.22 End Date: 2015.02.22 Last Calib.: 2015.02.22
 Start Time: 04:12:05 End Time: 13:47:45 Time On Btm: 2015.02.22 @ 07:08:15
 Time Off Btm: 2015.02.22 @ 11:14:00

TEST COMMENT: 30 - IF: Blow built to BOB (11") at 10 1/2 min.
 60 - IS: Blow back built to 2"
 60 - FF: Blow built to BOB at 6 1/2 min.
 90 - FS: Blow back built to 5 1/2"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2048.82	110.94	Initial Hydro-static
1	20.66	110.42	Open To Flow (1)
31	94.01	116.24	Shut-In(1)
91	1253.40	116.84	End Shut-In(1)
92	105.21	116.21	Open To Flow (2)
152	140.38	120.89	Shut-In(2)
245	1171.40	121.29	End Shut-In(2)
246	2030.10	121.03	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
140.00	GOCM 55%o, 27%g, 18%g	0.69
200.00	CGO 75%o, 24%g, 1%m	2.38
0.00	GIP = 665'	0.00

* Recovery from multiple tests

Gas Rates

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



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250 N. Water STE 300
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ATTN: Rocky Milford

26-4s-31w Rawlins, KS

Schmidt-Vap'A' #1-26

Job Ticket: 62158

DST#: 3

Test Start: 2015.02.22 @ 04:12:00

GENERAL INFORMATION:

Formation: **LKC "H - J"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 07:08:30
 Time Test Ended: 13:47:45
 Interval: **4069.00 ft (KB) To 4140.00 ft (KB) (TVD)**
 Total Depth: 4140.00 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: 2939.00 ft (KB)
 2934.00 ft (CF)
 KB to GR/CF: 5.00 ft

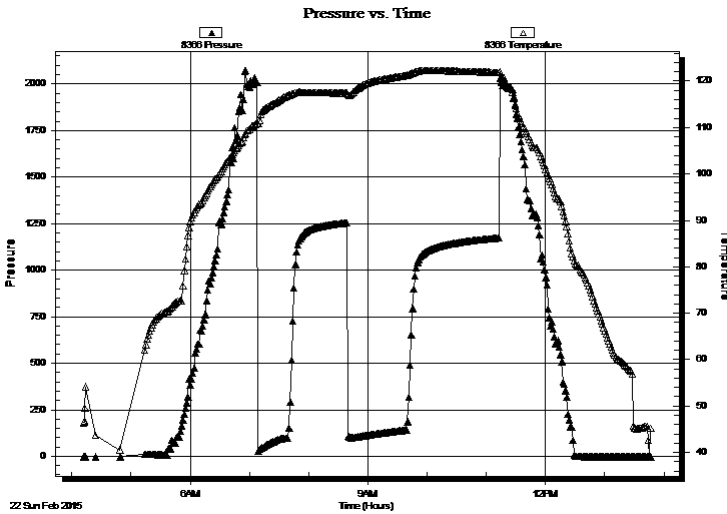
Serial #: 8366

Outside

Press@RunDepth: psig @ 4070.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.02.22 End Date: 2015.02.22 Last Calib.: 2015.02.22
 Start Time: 04:12:05 End Time: 13:47:00 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30 - IF: Blow built to BOB (11") at 10 1/2 min.
 60 - IS: Blow back built to 2"
 60 - FF: Blow built to BOB at 6 1/2 min.
 90 - FS: Blow back built to 5 1/2"

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
140.00	GOCM 55% m, 27% o, 18% g	0.69
200.00	CGO 75% o, 24% g, 1% m	2.38
0.00	GIP = 665'	0.00

* 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.

26-4s-31w Rawlins,KS

250 N. Water STE 300
Wichita, KS 67202

Schmidt-Vap'A' #1-26

Job Ticket: 62158

DST#: 3

ATTN: Rocky Milford

Test Start: 2015.02.22 @ 04:12:00

Tool Information

Drill Pipe:	Length: 3865.00 ft	Diameter: 3.80 inches	Volume: 54.22 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: 55.14 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4069.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	71.00 ft			
Tool Length:	99.00 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			4046.00	
Hydraulic tool	5.00			4051.00	
Jars	5.00			4056.00	
Safety Joint	3.00			4059.00	
Packer	5.00			4064.00	28.00 Bottom Of Top Packer
Packer	5.00			4069.00	
Stubb	1.00			4070.00	
Recorder	0.00	8791	Inside	4070.00	
Recorder	0.00	8366	Outside	4070.00	
Perforations	29.00			4099.00	
Blank Spacing	34.00			4133.00	
Perforations	4.00			4137.00	
Bullnose	3.00			4140.00	71.00 Bottom Packers & Anchor

Total Tool Length: 99.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

26-4s-31w Rawlins,KS

250 N. Water STE 300
Wichita, KS 67202

Schmidt-Vap'A' #1-26

Job Ticket: 62158

DST#: 3

ATTN: Rocky Milford

Test Start: 2015.02.22 @ 04:12:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 56.00 sec/qt
Water Loss: 5.98 in³
Resistivity: ohm.m
Salinity: 1400.00 ppm
Filter Cake: 2.00 inches

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

Oil API: 41 deg API
Water Salinity: ppm

Recovery Information

Recovery Table

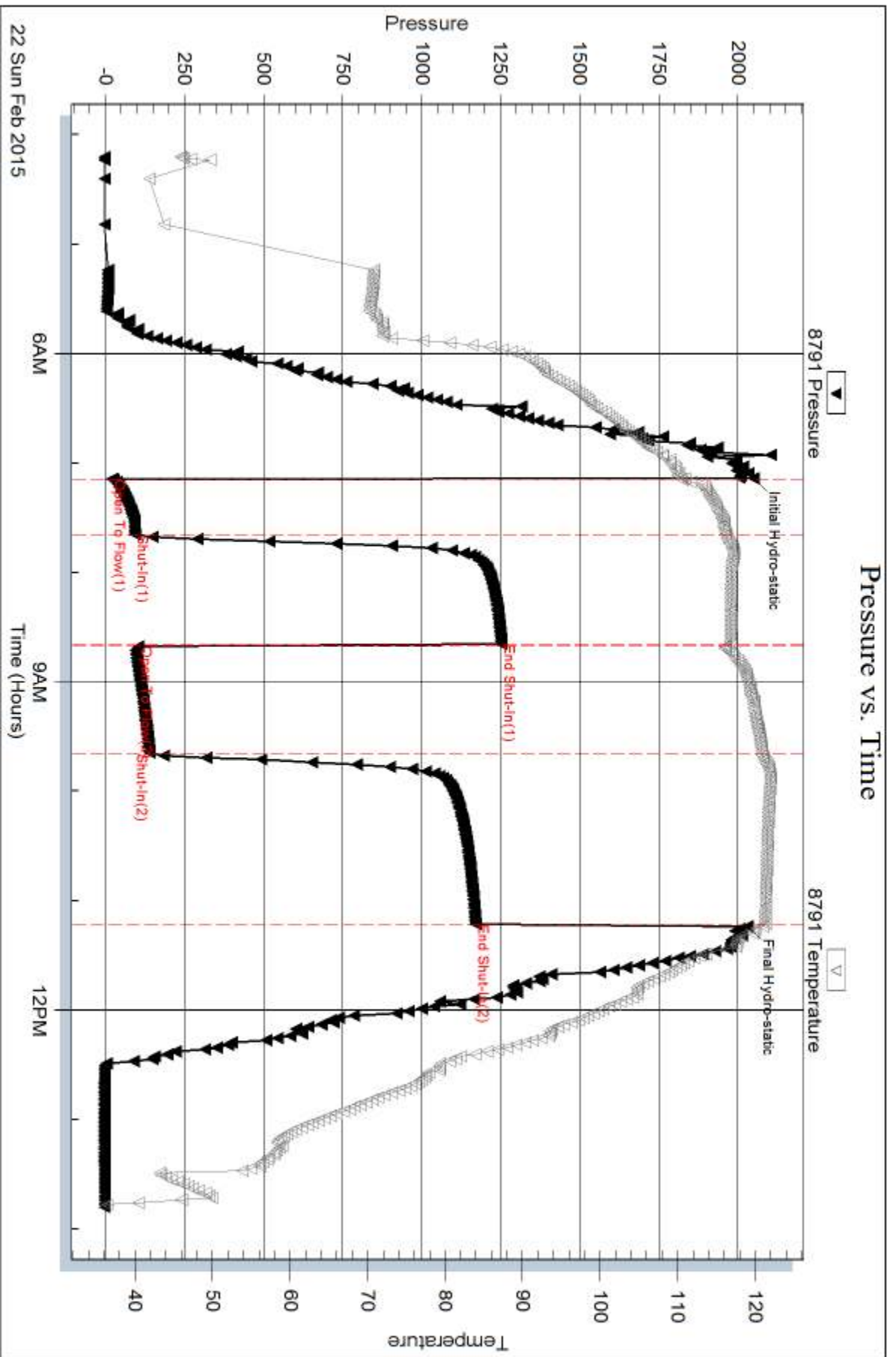
Length ft	Description	Volume bbl
140.00	GOCM 55% <i>m</i> , 27% <i>o</i> , 18% <i>g</i>	0.688
200.00	CGO 75% <i>o</i> , 24% <i>g</i> , 1% <i>m</i>	2.377
0.00	GIP = 665'	0.000

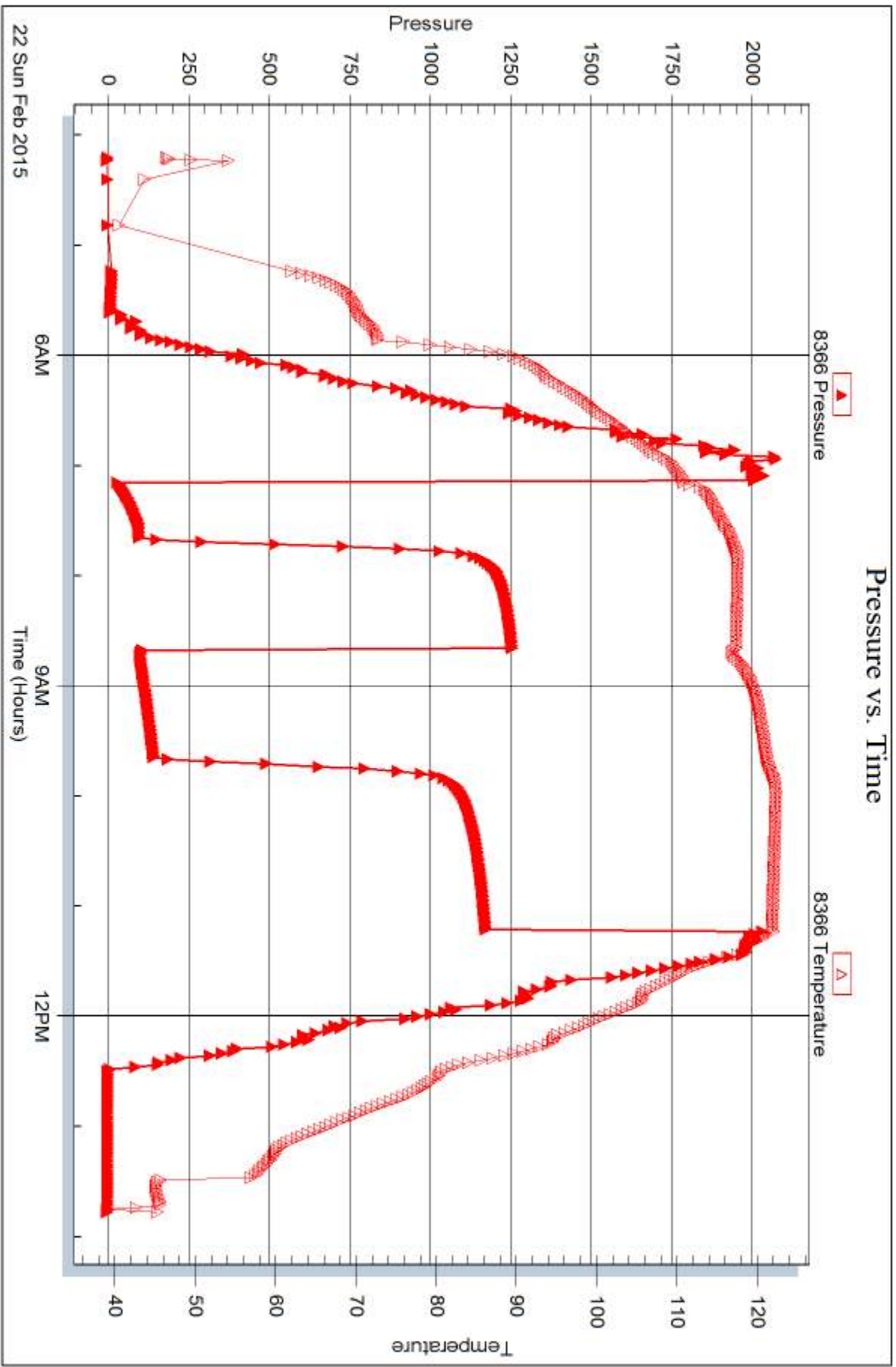
Total Length: 340.00 ft Total Volume: 3.065 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: Gravity = 38 api @ 30 deg F
Corrected Gravity = 41 api







DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Rocky Milford

Schmidt-Vap'A' #1-26

26-4s-31w Rawlins,KS

Start Date: 2015.02.23 @ 01:10:00

End Date: 2015.02.23 @ 09:08:30

Job Ticket #: 62159 DST #: 4

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

Printed: 2015.02.25 @ 13:20:01



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

26-4s-31w Rawlins, KS

250 N. Water STE 300
Wichita, KS 67202

Schmidt-Vap'A' #1-26

Job Ticket: 62159

DST#: 4

ATTN: Rocky Milford

Test Start: 2015.02.23 @ 01:10:00

GENERAL INFORMATION:

Formation: **LKC "K - L"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:41:30

Time Test Ended: 09:08:30

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

Interval: 4137.00 ft (KB) To 4195.00 ft (KB) (TVD)

Reference Elevations: 2939.00 ft (KB)

Total Depth: 4195.00 ft (KB) (TVD)

2934.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8791

Inside

Press@RunDepth: 18.66 psig @ 4138.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.02.23

End Date:

2015.02.23

Last Calib.:

2015.02.23

Start Time: 01:10:05

End Time:

09:08:29

Time On Btm:

2015.02.23 @ 03:41:15

Time Off Btm:

2015.02.23 @ 06:51:45

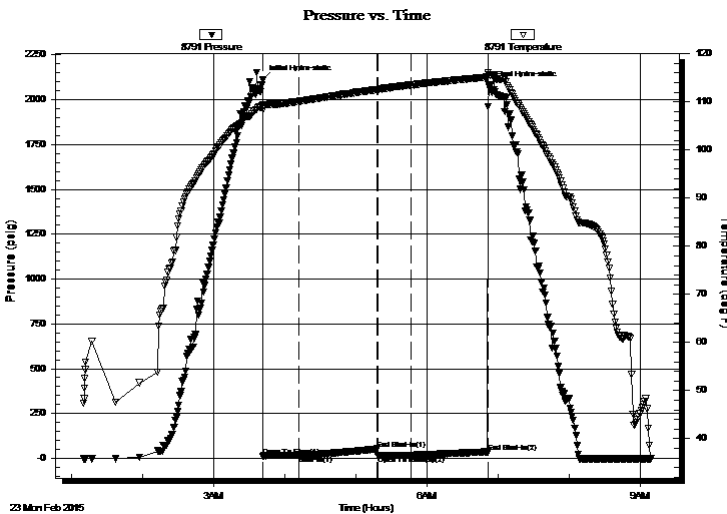
TEST COMMENT: 30 - IF: 3/4" Blow at open, built to 1 1/4" at 10 min., 1 1/4" blow till close

60 - ISI: No blow back

30 - FF: No blow

60 - FSI: No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2110.26	109.43	Initial Hydro-static
1	13.40	108.51	Open To Flow (1)
31	16.31	110.11	Shut-In(1)
97	52.95	112.56	End Shut-In(1)
97	17.68	112.45	Open To Flow (2)
126	18.66	113.55	Shut-In(2)
190	36.73	115.17	End Shut-In(2)
191	2080.85	115.69	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud w/oil spots 99%m, 1%o	0.02

* Recovery from multiple tests

Gas Rates

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



DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

26-4s-31w Rawlins, KS

250 N. Water STE 300
Wichita, KS 67202

Schmidt-Vap'A' #1-26

Job Ticket: 62159

DST#: 4

ATTN: Rocky Milford

Test Start: 2015.02.23 @ 01:10:00

GENERAL INFORMATION:

Formation: **LKC "K - L"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:41:30

Time Test Ended: 09:08:30

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

Interval: 4137.00 ft (KB) To 4195.00 ft (KB) (TVD)

Total Depth: 4195.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2939.00 ft (KB)

2934.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8366 Outside

Press@RunDepth: psig @ 4138.00 ft (KB)

Start Date: 2015.02.23

End Date:

2015.02.23

Start Time: 01:10:05

End Time:

09:07:59

Capacity: 8000.00 psig

Last Calib.:

2015.02.23

Time On Btm:

Time Off Btm:

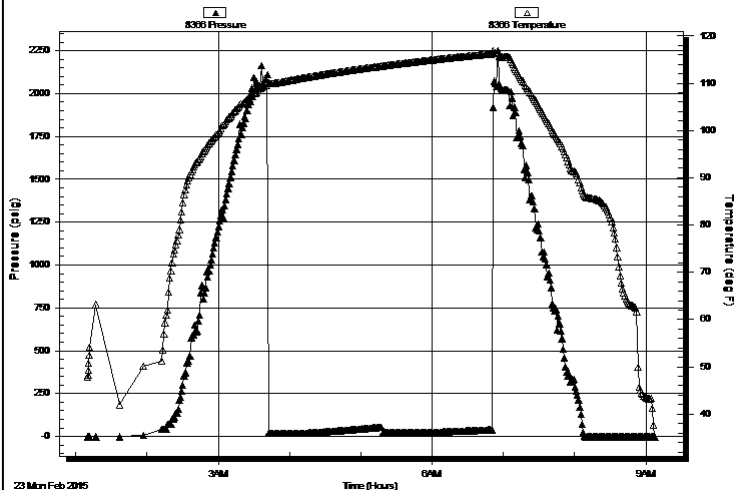
TEST COMMENT: 30 - IF: 3/4" Blow at open, built to 1 1/4" at 10 min., 1 1/4" blow till close

60 - ISI: No blow back

30 - FF: No blow

60 - FSI: No blow

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud w/oil spots 99% _m , 1% _o	0.02

* 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.

26-4s-31w Rawlins,KS

250 N. Water STE 300
Wichita, KS 67202

Schmidt-Vap'A' #1-26

Job Ticket: 62159

DST#: 4

ATTN: Rocky Milford

Test Start: 2015.02.23 @ 01:10:00

Tool Information

Drill Pipe:	Length: 3928.00 ft	Diameter: 3.80 inches	Volume: 55.10 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: 76000.00 lb
			<u>Total Volume: 56.02 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4137.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	58.00 ft			
Tool Length:	86.00 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			4114.00	
Hydraulic tool	5.00			4119.00	
Jars	5.00			4124.00	
Safety Joint	3.00			4127.00	
Packer	5.00			4132.00	28.00 Bottom Of Top Packer
Packer	5.00			4137.00	
Stubb	1.00			4138.00	
Recorder	0.00	8791	Inside	4138.00	
Recorder	0.00	8366	Outside	4138.00	
Perforations	18.00			4156.00	
Blank Spacing	34.00			4190.00	
Perforations	2.00			4192.00	
Bullnose	3.00			4195.00	58.00 Bottom Packers & Anchor

Total Tool Length: 86.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

26-4s-31w Rawlins,KS

250 N. Water STE 300
Wichita, KS 67202

Schmidt-Vap'A' #1-26

Job Ticket: 62159

DST#: 4

ATTN: Rocky Milford

Test Start: 2015.02.23 @ 01:10:00

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: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud w /oil spots 99%m, 1%o	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

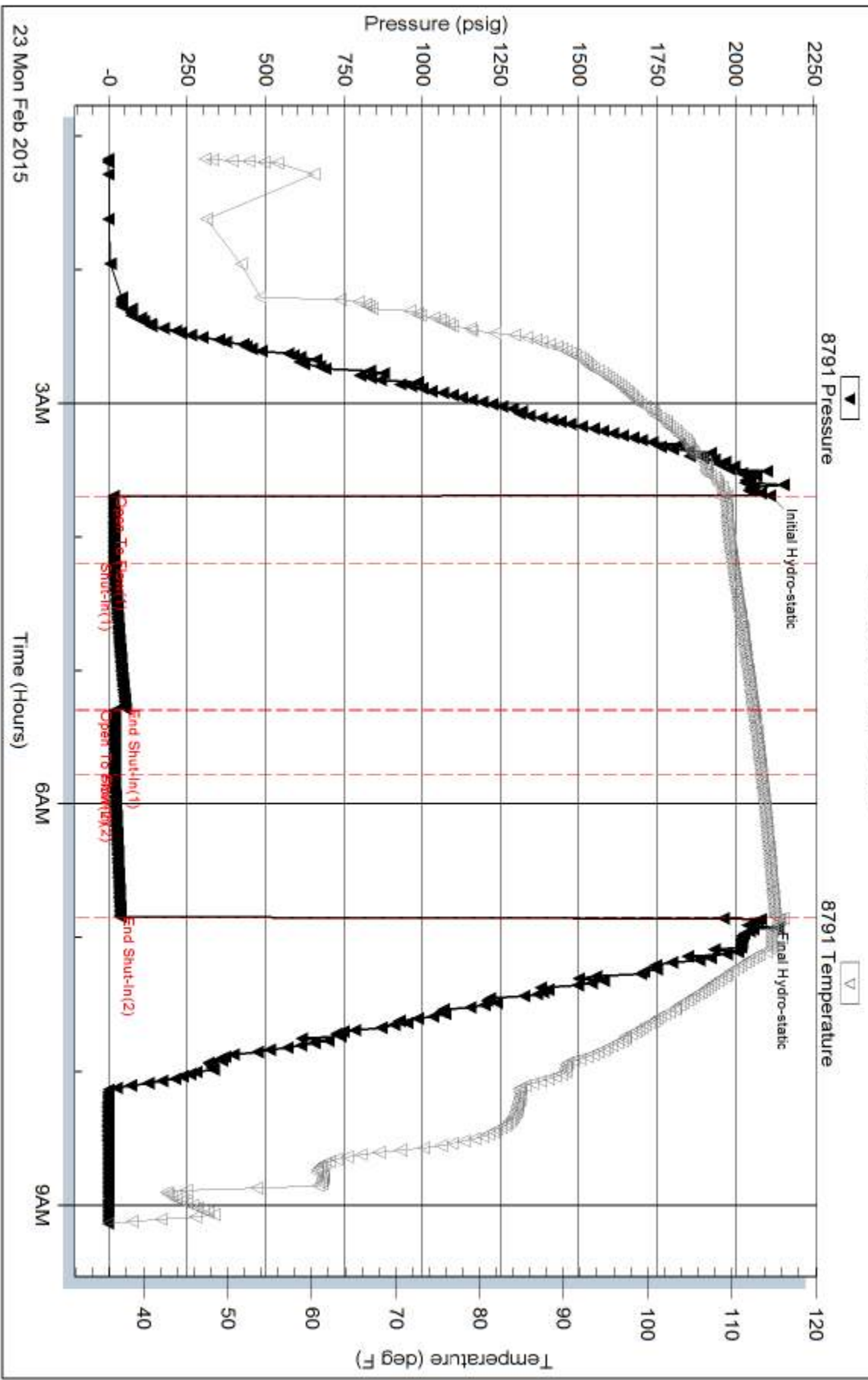
Serial #:

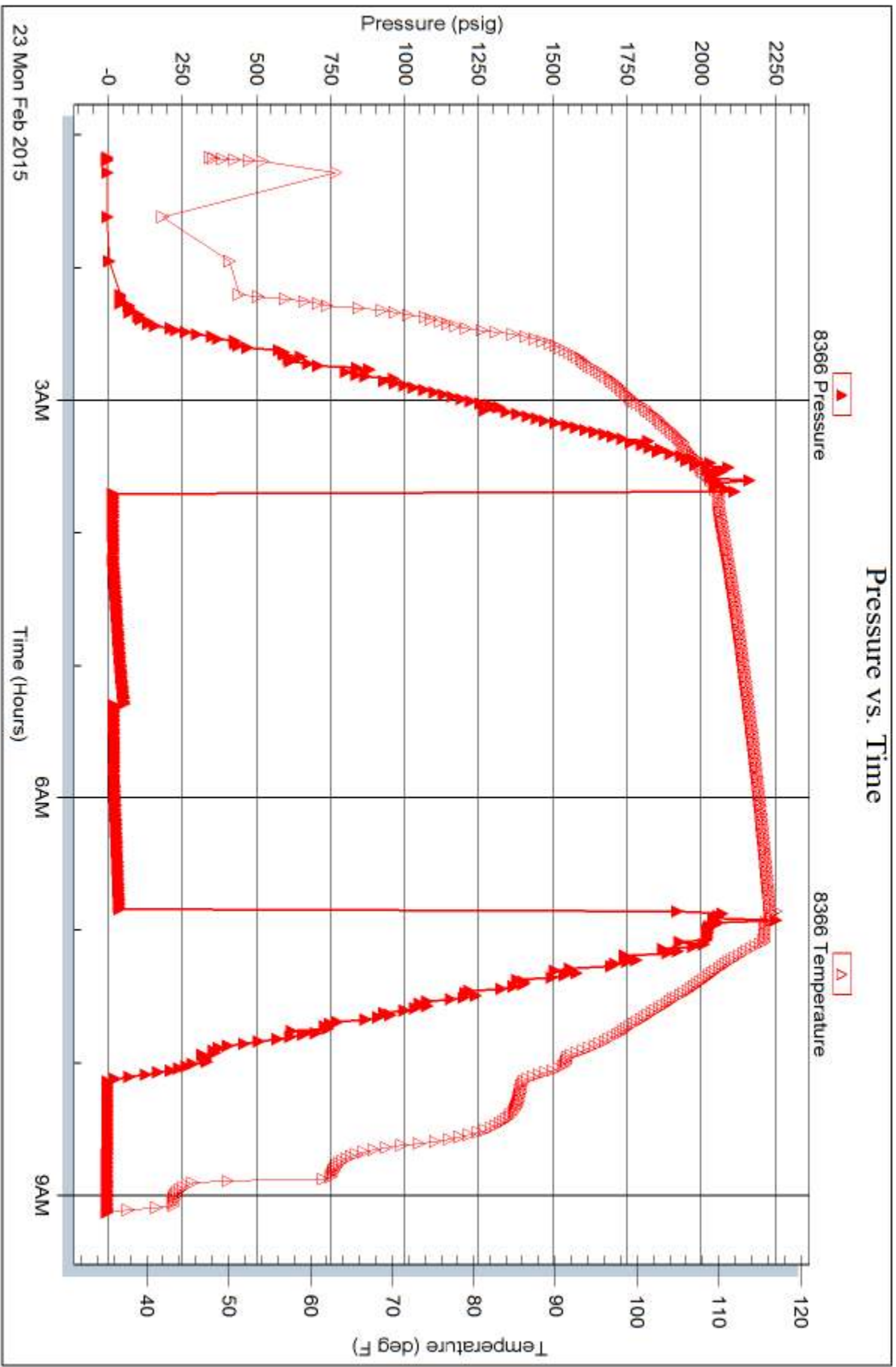
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 62156

Well Name & No. Schmidt - Vap "A" #1-26 Test No. 1 Date 2-20-15
 Company Murfin Drilling Co. Inc. Elevation 2939 KB 2934 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Rocky Milford Rig Murfin #7
 Location: Sec. 26 Twp. 4S Rge. 31w Co. Rawlins State KS

Interval Tested 3922 - 4007 Zone Tested Toronto - LKC "B"
 Anchor Length 85 Drill Pipe Run 3737 Mud Wt. 9.3
 Top Packer Depth 3917 Drill Collars Run 187 Vis 51
 Bottom Packer Depth 3922 Wt. Pipe Run - WL 6.4
 Total Depth 4007 Chlorides 800 ppm System LCM 6

Blow Description IF: Blow built to BOB (11") at 9 min.
ISI: No blowback
FF: Blow built to BOB at 11 min.
FSI: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>220</u>	<u>MW</u>		<u>50</u>	<u>50</u>	
<u>757</u>	<u>SMCW</u>		<u>96</u>	<u>4</u>	

Rec Total 977 BHT 124 Gravity _____ API RW .390 @ 42.4 °F Chlorides 29,000 ppm

(A) Initial Hydrostatic 1974 Test 1150 T-On Location 13:40
 (B) First Initial Flow 25 Jars 250 T-Started 14:12
 (C) First Final Flow 227 Safety Joint 75 T-Open 16:27
 (D) Initial Shut-In 1286 Circ Sub _____ T-Pulled 20:31
 (E) Second Initial Flow 232 Hourly Standby _____ T-Out 23:05
 (F) Second Final Flow 471 Mileage 48 RT 48
 (G) Final Shut-In 1275 Sampler _____
 (H) Final Hydrostatic 1963 Straddle _____

Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1523
 Sub Total 1523
 Sub Total 0
 Total 1523
 MP/DST Disc't _____

Approved By Rocky Milford Our Representative James Winder

TriLOBite Testing Inc. shall not be liable for damaged or any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 62157

Well Name & No. Schmidt-Vap 'A' #1-26 Test No. 2 Date 2-21-15
 Company Murfin Drilling Co. Inc. Elevation 2939 KB 2934 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Rocky Milford Rig Murfin #7
 Location: Sec. 26 Twp. 4s Rge. 31w Co. Rawlins State KS

Interval Tested 4024-4075 Zone Tested LKC "E-6"
 Anchor Length 51 Drill Pipe Run 3832 Mud Wt. 9.3
 Top Packer Depth 4019 Drill Collars Run 187 Vis 55
 Bottom Packer Depth 4024 Wt. Pipe Run - WL 6.0
 Total Depth 4075 Chlorides 1400 ppm System LCM 6

Blow Description IF: Blow built to BOB (11") at 6 1/2 min.
ISI: Blowback built to 9 1/4"
FF: Blow built to BOB at 9 1/2 min.
FBI: Blowback built to 5 1/2"

Rec	Feet of	%gas	%oil	%water	%mud
<u>343</u>	<u>C60</u>	<u>30</u>	<u>69</u>	<u>-</u>	<u>1</u>
<u>140</u>	<u>GOCM</u>	<u>35</u>	<u>21</u>	<u>-</u>	<u>44</u>
<u> </u>	<u>GIP=710'</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

Rec Total 483 BHT 124 Gravity 38.4 API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic 1992 Test 1150 T-On Location 9:00
 (B) First Initial Flow 30 Jars 250 T-Started 9:35
 (C) First Final Flow 107 Safety Joint 75 T-Open 11:23
 (D) Initial Shut-In 613 Circ Sub _____ T-Pulled 15:29
 (E) Second Initial Flow 126 Hourly Standby _____ T-Out 17:45
 (F) Second Final Flow 186 Mileage 48RT 48 Comments _____
 (G) Final Shut-In 594 Sampler _____
 (H) Final Hydrostatic 1981 Straddle _____

Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1523
 Sub Total _____
 Sub Total 0
 Total 1523
 MP/DST Disc't _____

Approved By Rocky Milford Our Representative James Winder

TriLOBITE TESTING INC. shall not be liable for damaged or any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 62158

Well Name & No. Schmidt - Vap 'A' #1-26 Test No. 3 Date 2-22-15
 Company Murfin Drilling Co Inc Elevation 2939 KB 2934 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Rocky Milford Rig Murfin #7
 Location: Sec. 26 Twp. 4s Rge. 31w Co. Rawlins State KS

Interval Tested 4069 - 4140 Zone Tested KC "H-J"
 Anchor Length 71 Drill Pipe Run 3865 Mud Wt. 9.3
 Top Packer Depth 4064 Drill Collars Run 187 Vis 56
 Bottom Packer Depth 4069 Wt. Pipe Run - WL 6.0
 Total Depth 4140 Chlorides 1400 ppm System LCM 6

Blow Description IF: Blow built to BOB (11") at 10 1/2 min. (Diesel in bucket)
ISI: Blowback built to 2"
FF: Blow built to BOB at 6 1/2 min.
FSI: Blowback built to 5 1/2"

Rec	Feet of	%gas	%oil	%water	%mud
<u>200</u>	<u>CGO</u>	<u>24</u>	<u>75</u>	<u>-</u>	<u>1</u>
<u>140</u>	<u>60cm</u>	<u>18</u>	<u>27</u>	<u>-</u>	<u>55</u>
<u>Rec</u>	<u>Feet of GIP = 665"</u>	<u>%gas</u>	<u>%oil</u>	<u>%water</u>	<u>%mud</u>
<u>Rec</u>	<u>Feet of</u>	<u>%gas</u>	<u>%oil</u>	<u>%water</u>	<u>%mud</u>
<u>Rec</u>	<u>Feet of</u>	<u>%gas</u>	<u>%oil</u>	<u>%water</u>	<u>%mud</u>

Rec Total 340 BHT 121 Gravity 41 API RW @ °F Chlorides ppm

(A) Initial Hydrostatic 2049 Test 1150 T-On Location 3:20
 (B) First Initial Flow 21 Jars 250 T-Started 4:12
 (C) First Final Flow 94 Safety Joint 75 T-Open 7:08
 (D) Initial Shut-In 1253 Circ Sub _____ T-Pulled 11:13
 (E) Second Initial Flow 105 Hourly Standby _____ T-Out 13:45
 (F) Second Final Flow 140 Mileage 48RT 48 Comments _____
 (G) Final Shut-In 1171 Sampler _____
 (H) Final Hydrostatic 2030 Straddle _____
 Shale Packer _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

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

Sub Total 1523

Approved By Rocky Milford Our Representative James Winder

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **62159**

Well Name & No. Schmidt - Vap 'A' #1-26 Test No. 4 Date 2-23-15
 Company Murfin Drilling Co. Inc Elevation 2939 KB 2934 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Rocky Milford Rig Murfin #7
 Location: Sec. 26 Twp. 4s Rge. 3lw Co. Rawlins State KS

Interval Tested 4137 - 4195 Zone Tested LKC "K-L"
 Anchor Length 58 Drill Pipe Run 3928 Mud Wt. 9.4
 Top Packer Depth 4132 Drill Collars Run 187 Vis 56
 Bottom Packer Depth 4137 Wt. Pipe Run - WL 6.0
 Total Depth 4195 Chlorides 1600 ppm System LCM 5 1/2

Blow Description IF: 3/4" Blow at open, built to 1/4" at 10 min., 1/4" Blow till close
ISI: No blowback (Diesel in bucket)
FF: No blow
FSI: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>Mud w/oil spots</u>		<u>1</u>		<u>99</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 115 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2110 Test 1150 T-On Location 23:55 2/22
 (B) First Initial Flow 13 Jars 250 T-Started 1:10
 (C) First Final Flow 16 Safety Joint 75 T-Open 3:41
 (D) Initial Shut-In 53 Circ Sub _____ T-Pulled 6:50
 (E) Second Initial Flow 18 Hourly Standby _____ T-Out 9:05
 (F) Second Final Flow 19 Mileage 48RT x2 48+48 Comments _____
 (G) Final Shut-In 37 Sampler _____
 (H) Final Hydrostatic 2081 Straddle _____

Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Initial Open 30 Extra Packer _____
 Initial Shut-In 60 Extra Recorder _____
 Final Flow 30 Day Standby _____
 Final Shut-In 60 Accessibility _____
 Sub Total 1571

Approved By Rocky Milford Our Representative James Winder

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