



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water STE 300
Wichita KS 67202

ATTN: Keith Reavis

Schmidt-Vap #2-26

26-4s-31w Rawlins,KS

Start Date: 2015.03.06 @ 13:55:00

End Date: 2015.03.06 @ 22:40:00

Job Ticket #: 60818 DST #: 1

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

Printed: 2015.03.09 @ 14:52:15



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
 250 N Water STE 300
 Wichita KS 67202
 ATTN: Keith Reavis

26-4s-31w Rawlins,KS

Schmidt-Vap #2-26

Job Ticket: 60818 **DST#: 1**
 Test Start: 2015.03.06 @ 13:55:00

GENERAL INFORMATION:

Formation: **Toronto - LKC "B"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 16:03:30
 Time Test Ended: 22:40:00
 Interval: **3856.00 ft (KB) To 3942.00 ft (KB) (TVD)**
 Total Depth: 3942.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Robert Zodrow
 Unit No: 66
 Reference Elevations: 2882.00 ft (KB)
 2877.00 ft (CF)
 KB to GR/CF: 5.00 ft

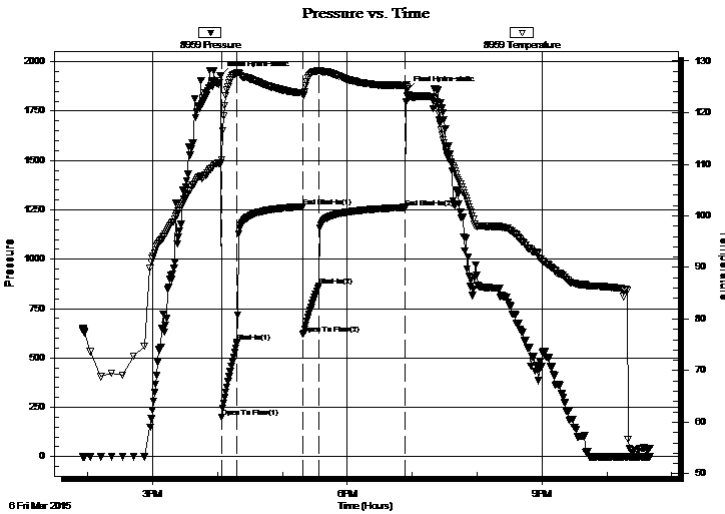
Serial #: 8959

Inside

Press@RunDepth: 864.53 psig @ 3857.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.03.06 End Date: 2015.03.06 Last Calib.: 2015.03.06
 Start Time: 13:55:05 End Time: 22:40:00 Time On Btm: 2015.03.06 @ 16:03:00
 Time Off Btm: 2015.03.06 @ 18:55:00

TEST COMMENT: 15-IF- Bob in 1 min
 60-ISI- Return built to weak surface blow
 15-FF- Bob in 2 mins
 60-FSI- Retrun built to 1/2"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1927.92	110.33	Initial Hydro-static
1	199.60	110.81	Open To Flow (1)
15	581.69	127.70	Shut-In(1)
76	1266.30	123.88	End Shut-In(1)
76	620.10	123.45	Open To Flow (2)
91	864.53	128.13	Shut-In(2)
171	1262.70	125.20	End Shut-In(2)
172	1855.76	124.97	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1115.00	GOCW 15%G 15%O 70%W	14.50
500.00	GOCWM 7%G 10%O 35%W 48%M	7.31
30.00	WMCO 5%W 10%M 85%O	0.44

Gas Rates

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



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DRILL STEM TEST REPORT

Murfin Drilling Co Inc

26-4s-31w Rawlins,KS

250 N Water STE 300
Wichita KS 67202

Schmidt-Vap #2-26

ATTN: Keith Reavis

Job Ticket: 60818

DST#: 1

Test Start: 2015.03.06 @ 13:55:00

GENERAL INFORMATION:

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

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:03:30

Time Test Ended: 22:40:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Robert Zodrow

Unit No: 66

Interval: **3856.00 ft (KB) To 3942.00 ft (KB) (TVD)**

Total Depth: 3942.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2882.00 ft (KB)

2877.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8521 Outside

Press@RunDepth: psig @ 3857.00 ft (KB)

Start Date: 2015.03.06

End Date:

2015.03.06

Capacity: 8000.00 psig

Last Calib.:

2015.03.06

Start Time: 13:55:05

End Time:

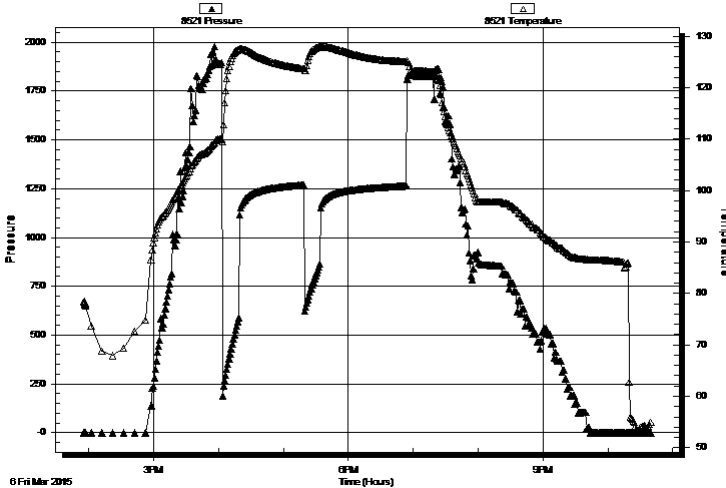
22:40:00

Time On Btm:

Time Off Btm:

TEST COMMENT: 15-IF- Bob in 1 min
60-IS- Return built to weak surface blow
15-FF- Bob in 2 mins
60-FS- Re-run built to 1/2"

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
1115.00	GOCW 15%G 15%O 70%W	14.50
500.00	GOCWM 7%G 10%O 35%W 48%M	7.31
30.00	WMCO 5%W 10%M 85%O	0.44

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 #2-26

Job Ticket: 60818

DST#: 1

ATTN: Keith Reavis

Test Start: 2015.03.06 @ 13:55:00

Tool Information

Drill Pipe:	Length: 3673.00 ft	Diameter: 3.88 inches	Volume: 53.71 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: 68000.00 lb
			<u>Total Volume: 54.62 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3856.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	86.00 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			3834.00	
Hydraulic tool	5.00			3839.00	
Jars	5.00			3844.00	
Safety Joint	3.00			3847.00	
Packer	5.00			3852.00	27.00 Bottom Of Top Packer
Packer	4.00			3856.00	
Stubb	1.00			3857.00	
Recorder	0.00	8959	Inside	3857.00	
Recorder	0.00	8521	Outside	3857.00	
Perforations	17.00			3874.00	
Change Over Sub	1.00			3875.00	
Drill Pipe	63.00			3938.00	
Change Over Sub	1.00			3939.00	
Bullnose	3.00			3942.00	86.00 Bottom Packers & Anchor

Total Tool Length: 113.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc
250 N Water STE 300
Wichita KS 67202
ATTN: Keith Reavis

26-4s-31w Rawlins,KS
Schmidt-Vap #2-26
Job Ticket: 60818 **DST#: 1**
Test Start: 2015.03.06 @ 13:55:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 41 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 38000 ppm
Viscosity: 71.00 sec/qt	Cushion Volume: bbl	
Water Loss: 5.19 in ³	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
1115.00	GOCW 15%G 15%O 70%W	14.501
500.00	GOCWM 7%G 10%O 35%W 48%M	7.312
30.00	WMCO 5%W 10%M 85%O	0.439

Total Length: 1645.00 ft Total Volume: 22.252 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: RW .331@52.5Deg F = 38000

Serial #: 8959

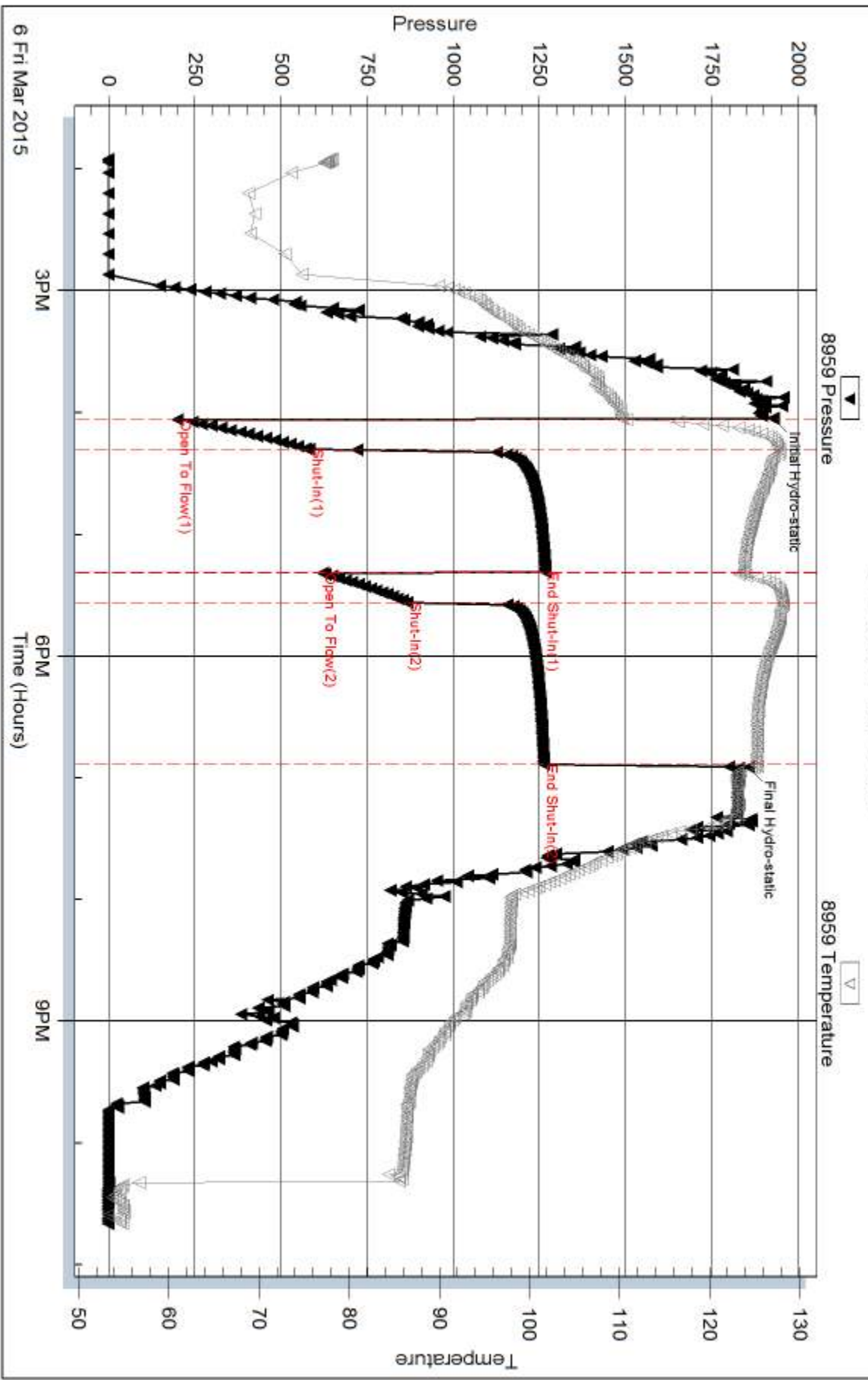
Inside

Murfin Drilling Co Inc

Schmidt-Vap #2-26

DST Test Number: 1

Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 60818

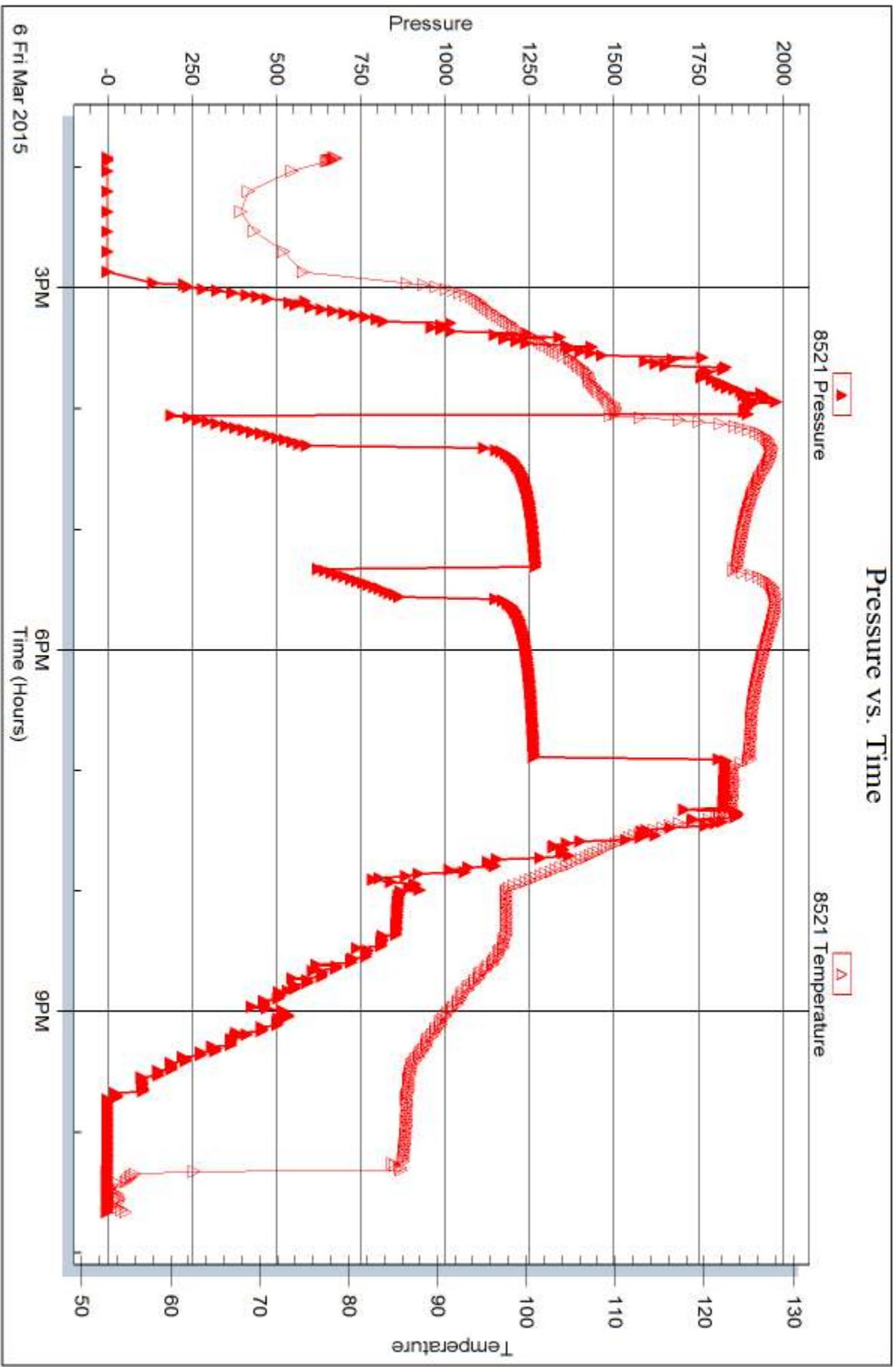
Printed: 2015.03.09 @ 14:52:17

Serial #: 8521

Outside Murfin Drilling Co Inc

Schmidt-Vap #2-26

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 60818

Printed: 2015.03.09 @ 14:52:17



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water STE 300
Wichita KS 67202

ATTN: Keith Reavis

Schmidt-Vap #2-26

26-4s-31w Rawlins,KS

Start Date: 2015.03.07 @ 08:50:00

End Date: 2015.03.07 @ 17:17:30

Job Ticket #: 60819 DST #: 2

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

Printed: 2015.03.09 @ 14:51:52



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
250 N Water STE 300
Wichita KS 67202
ATTN: Keith Reavis

26-4s-31w Rawlins,KS

Schmidt-Vap #2-26

Job Ticket: 60819

DST#: 2

Test Start: 2015.03.07 @ 08:50:00

GENERAL INFORMATION:

Formation: **LKC "F--G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:52:00

Time Test Ended: 17:17:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Robert Zodrow

Unit No: 66

Interval: 3962.00 ft (KB) To 4010.00 ft (KB) (TVD)

Total Depth: 4010.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2882.00 ft (KB)

2877.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8959

Inside

Press@RunDepth: 110.86 psig @ 3963.00 ft (KB)

Start Date: 2015.03.07

End Date:

2015.03.07

Start Time: 08:50:05

End Time:

17:17:29

Capacity: 8000.00 psig

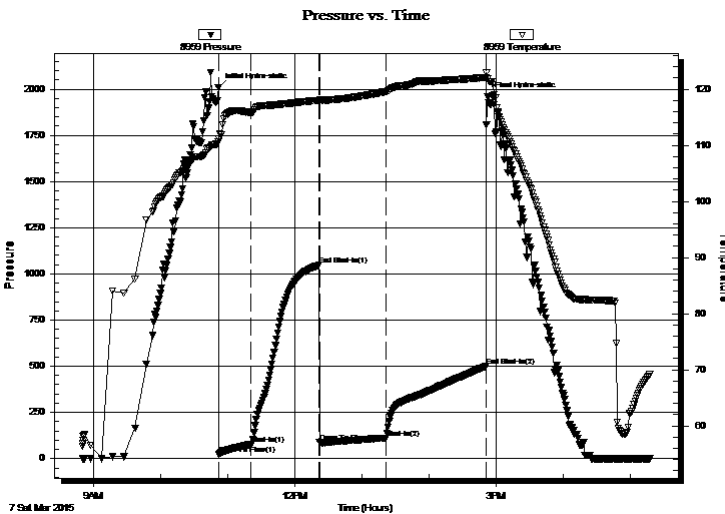
Last Calib.: 2015.03.07

Time On Btm: 2015.03.07 @ 10:51:30

Time Off Btm: 2015.03.07 @ 14:52:30

TEST COMMENT: 30-IF- Bob in 15 mins
60-ISI- Return built to 1/2"
60-FF- Bob in 16 mins
90-FSI- Return built to 2"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2009.97	110.63	Initial Hydro-static
1	25.07	111.09	Open To Flow (1)
30	77.65	115.82	Shut-In(1)
90	1046.98	117.99	End Shut-In(1)
91	87.35	117.86	Open To Flow (2)
150	110.86	119.57	Shut-In(2)
240	500.20	122.13	End Shut-In(2)
241	1957.18	121.92	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
220.00	GMCO 15%G 25%M 60%O	1.41
30.00	GO 10%G 90%O	0.44
0.00	GIP 300'	0.00

* 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

26-4s-31w Rawlins,KS

250 N Water STE 300
Wichita KS 67202

Schmidt-Vap #2-26

Job Ticket: 60819

DST#: 2

ATTN: Keith Reavis

Test Start: 2015.03.07 @ 08:50:00

GENERAL INFORMATION:

Formation: **LKC "F--G"**

Deviated: No Whipstock: ft (KB)

Test Type: Conventional Bottom Hole (Reset)

Time Tool Opened: 10:52:00

Tester: Robert Zodrow

Time Test Ended: 17:17:30

Unit No: 66

Interval: 3962.00 ft (KB) To 4010.00 ft (KB) (TVD)

Reference Elevations: 2882.00 ft (KB)

Total Depth: 4010.00 ft (KB) (TVD)

2877.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8521 Outside

Press@RunDepth: psig @ 3963.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.03.07

End Date: 2015.03.07

Last Calib.: 2015.03.07

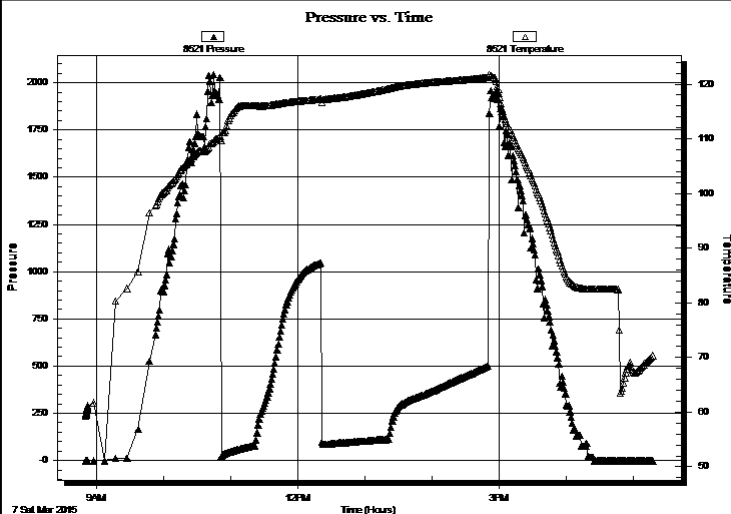
Start Time: 08:50:05

End Time: 17:17:29

Time On Btm:

Time Off Btm:

TEST COMMENT: 30-IF- Bob in 15 mins
60-ISI- Return built to 1/2"
60-FF- Bob in 16 mins
90-FSI- Return built to 2"



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
220.00	GMCO 15%G 25%M 60%O	1.41
30.00	GO 10%G 90%O	0.44
0.00	GIP 300'	0.00

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

26-4s-31w Rawlins,KS

250 N Water STE 300
Wichita KS 67202

Schmidt-Vap #2-26

Job Ticket: 60819

DST#: 2

ATTN: Keith Reavis

Test Start: 2015.03.07 @ 08:50:00

Tool Information

Drill Pipe:	Length: 3771.00 ft	Diameter: 3.88 inches	Volume: 55.15 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: 68000.00 lb
			<u>Total Volume: 56.06 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	3962.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	48.00 ft			
Tool Length:	75.00 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			3940.00	
Hydraulic tool	5.00			3945.00	
Jars	5.00			3950.00	
Safety Joint	3.00			3953.00	
Packer	5.00			3958.00	27.00 Bottom Of Top Packer
Packer	4.00			3962.00	
Stubb	1.00			3963.00	
Recorder	0.00	8959	Inside	3963.00	
Recorder	0.00	8521	Outside	3963.00	
Perforations	11.00			3974.00	
Change Over Sub	1.00			3975.00	
Drill Pipe	31.00			4006.00	
Change Over Sub	1.00			4007.00	
Bullnose	3.00			4010.00	48.00 Bottom Packers & Anchor

Total Tool Length: 75.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc
250 N Water STE 300
Wichita KS 67202
ATTN: Keith Reavis

26-4s-31w Rawlins,KS
Schmidt-Vap #2-26
Job Ticket: 60819 **DST#: 2**
Test Start: 2015.03.07 @ 08:50:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 38 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 65.00 sec/qt	Cushion Volume: bbl	
Water Loss: 5.99 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 2100.00 ppm		
Filter Cake: 2.00 inches		

Recovery Information

Recovery Table

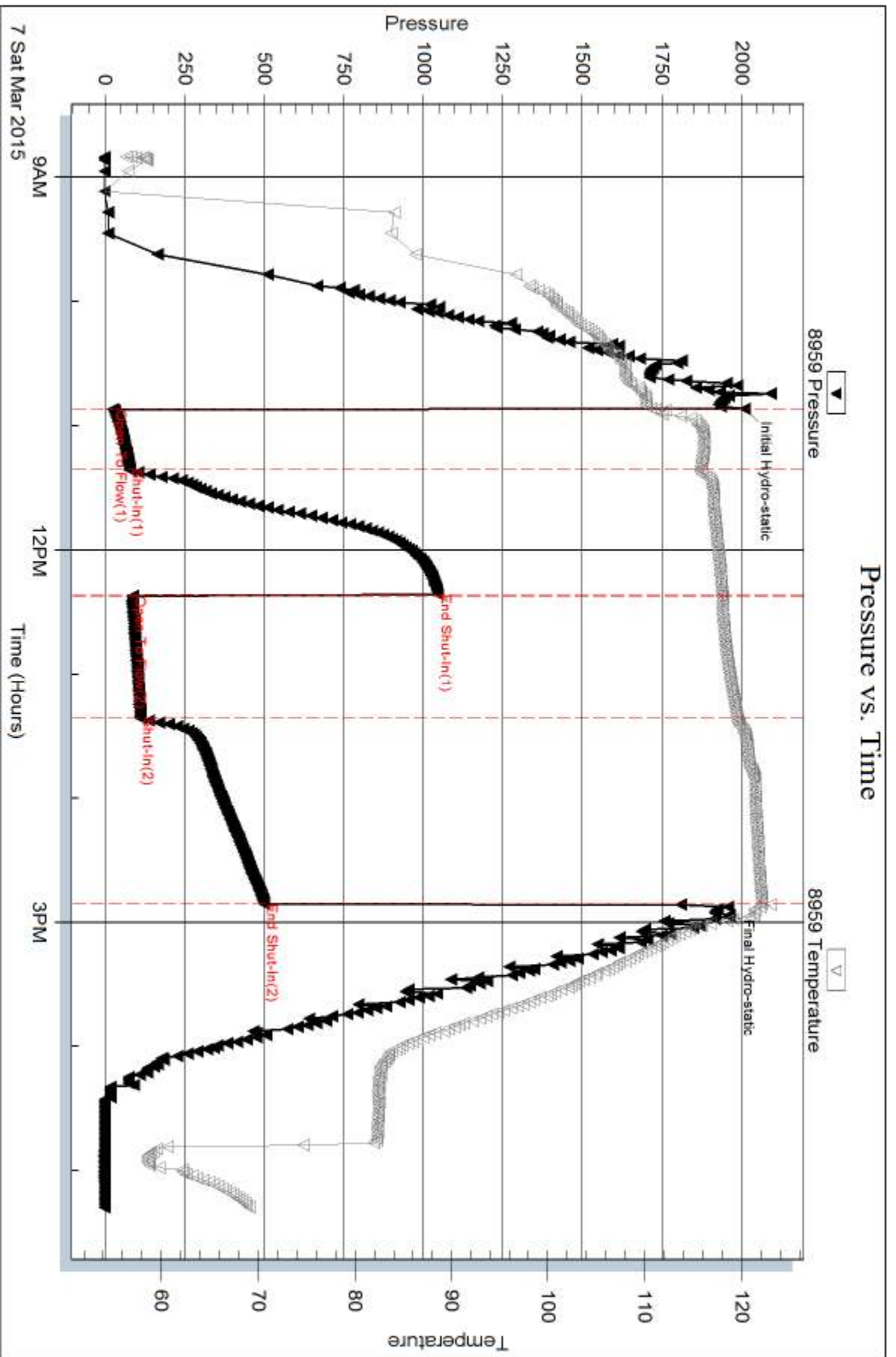
Length ft	Description	Volume bbl
220.00	GMCO 15%G 25%M 60%O	1.412
30.00	GO 10%G 90%O	0.439
0.00	GIP 300'	0.000

Total Length: 250.00 ft Total Volume: 1.851 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:

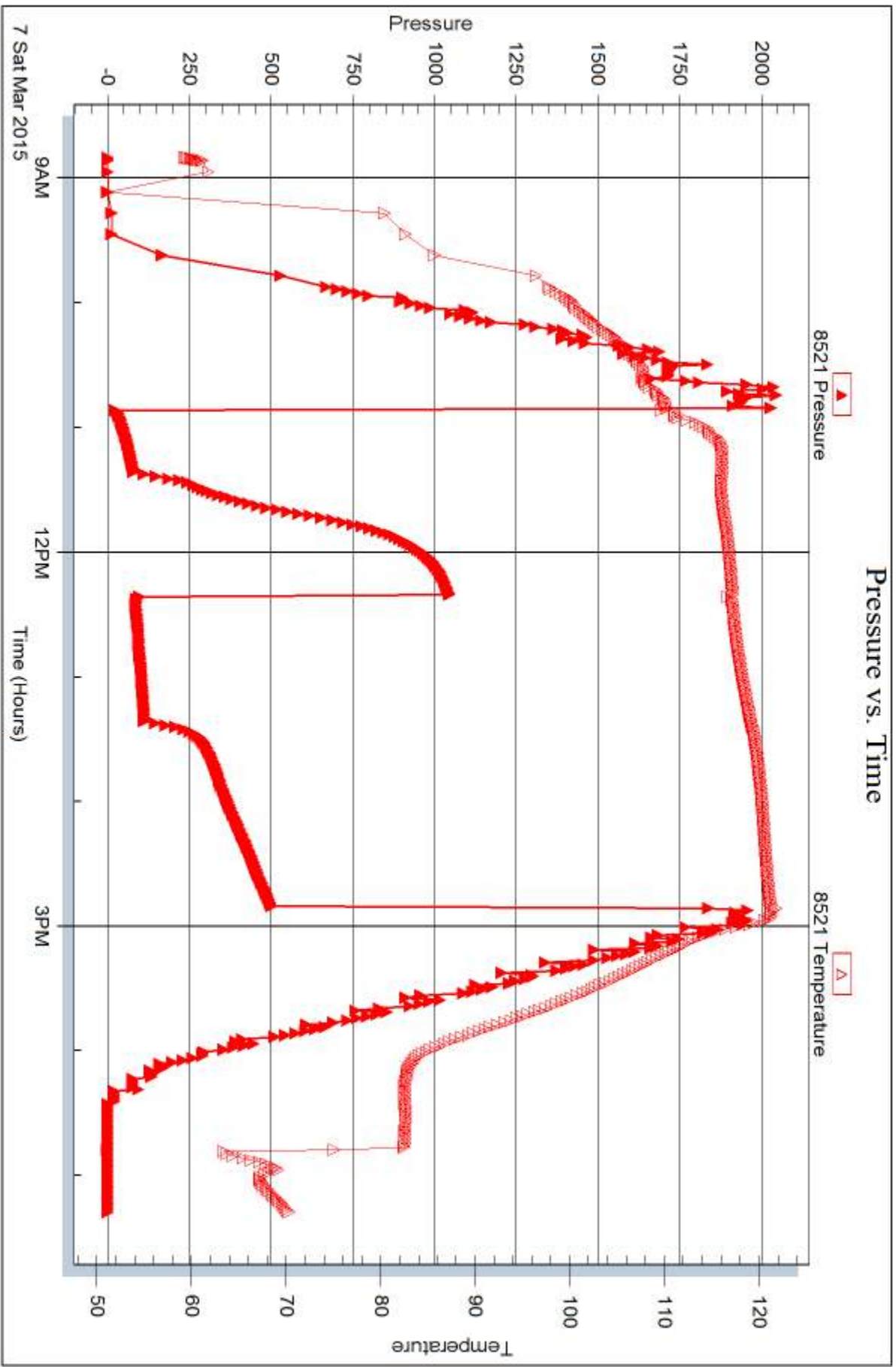


Serial #: 8521

Outside Murfin Drilling Co Inc

Schmidt-Vap #2-26

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 60819

Printed: 2015.03.09 @ 14:51:54



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water STE 300
Wichita KS 67202

ATTN: Keith Reavis

Schmidt-Vap #2-26

26-4s-31w Rawlins,KS

Start Date: 2015.03.08 @ 04:15:00

End Date: 2015.03.08 @ 11:53:00

Job Ticket #: 60820 DST #: 3

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

Printed: 2015.03.09 @ 14:50:10

Murfin Drilling Co Inc
26-4s-31w Rawlins,KS
Schmidt-Vap #2-26
DST # 3
LKC "H-J"
2015.03.08



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
250 N Water STE 300
Wichita KS 67202
ATTN: Keith Reavis

26-4s-31w Rawlins,KS

Schmidt-Vap #2-26

Job Ticket: 60820 **DST#: 3**
Test Start: 2015.03.08 @ 04:15:00

GENERAL INFORMATION:

Formation: **LKC "H--J"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 06:41:00
Time Test Ended: 11:53:00
Interval: **4004.00 ft (KB) To 4076.00 ft (KB) (TVD)**
Total Depth: 4076.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Reference Elevations: 2882.00 ft (KB)
2877.00 ft (CF)
KB to GR/CF: 5.00 ft

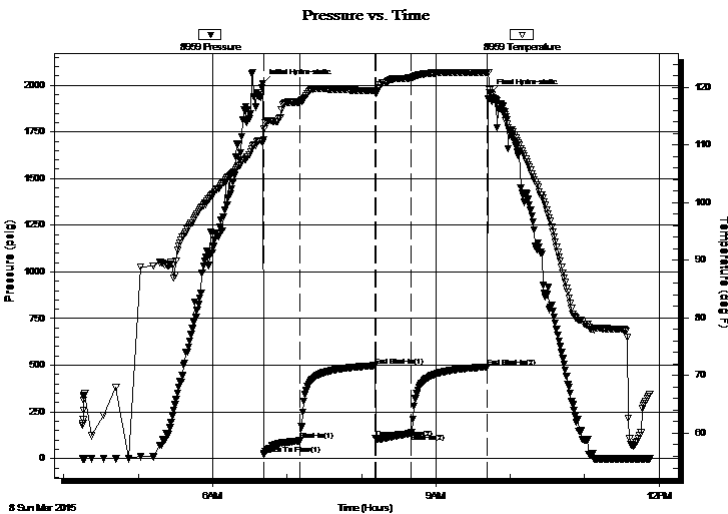
Serial #: 8959

Inside

Press@RunDepth: 135.35 psig @ 4005.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2015.03.08 End Date: 2015.03.08 Last Calib.: 2015.03.08
Start Time: 04:15:05 End Time: 11:52:59 Time On Btm: 2015.03.08 @ 06:40:30
Time Off Btm: 2015.03.08 @ 09:43:30

TEST COMMENT: 30-IF- Blow built to 3"
60-ISI- No return
30-FF-Blow built to 1/4"
60-FSI- No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2007.69	110.47	Initial Hydro-static
1	24.54	110.85	Open To Flow (1)
30	95.64	117.45	Shut-In(1)
91	497.66	119.35	End Shut-In(1)
91	109.04	118.90	Open To Flow (2)
120	135.35	121.64	Shut-In(2)
181	491.44	122.55	End Shut-In(2)
183	1957.50	119.58	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
250.00	GMCO 20%G 30%M 50%O	1.85
70.00	GO 10%G 90%O	1.02
0.00	GIP 200'	0.00

* 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: Keith Reavis

26-4s-31w Rawlins,KS

Schmidt-Vap #2-26

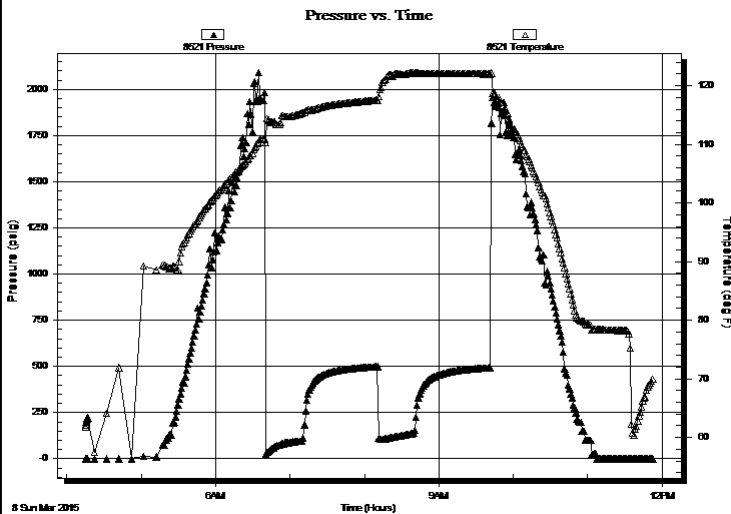
Job Ticket: 60820 **DST#: 3**
Test Start: 2015.03.08 @ 04:15:00

GENERAL INFORMATION:

Formation: **LKC "H--J"**
 Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 06:41:00 Tester: Robert Zodrow
 Time Test Ended: 11:53:00 Unit No: 66
 Interval: **4004.00 ft (KB) To 4076.00 ft (KB) (TVD)** Reference Elevations: 2882.00 ft (KB)
 Total Depth: 4076.00 ft (KB) (TVD) 2877.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

Serial #: 8521 Outside
 Press@RunDepth: psig @ 4005.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.03.08 End Date: 2015.03.08 Last Calib.: 2015.03.08
 Start Time: 04:15:05 End Time: 11:52:59 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30-IF- Blow built to 3"
 60-ISI- No return
 30-FF-Blow built to 1/4"
 60-FSI- No return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
250.00	GMCO 20%G 30%M 50%O	1.85
70.00	GO 10%G 90%O	1.02
0.00	GIP 200'	0.00

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

26-4s-31w Rawlins,KS

250 N Water STE 300
Wichita KS 67202

Schmidt-Vap #2-26

Job Ticket: 60820

DST#: 3

ATTN: Keith Reavis

Test Start: 2015.03.08 @ 04:15:00

Tool Information

Drill Pipe:	Length: 3800.00 ft	Diameter: 3.88 inches	Volume: 55.57 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: 56.48 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial	58000.00 lb
Depth to Top Packer:	4004.00 ft			Final	58000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	72.00 ft				
Tool Length:	99.00 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			3982.00	
Hydraulic tool	5.00			3987.00	
Jars	5.00			3992.00	
Safety Joint	3.00			3995.00	
Packer	5.00			4000.00	27.00 Bottom Of Top Packer
Packer	4.00			4004.00	
Stubb	1.00			4005.00	
Recorder	0.00	8959	Inside	4005.00	
Recorder	0.00	8521	Outside	4005.00	
Perforations	3.00			4008.00	
Change Over Sub	1.00			4009.00	
Drill Pipe	63.00			4072.00	
Change Over Sub	1.00			4073.00	
Bullnose	3.00			4076.00	72.00 Bottom Packers & Anchor

Total Tool Length: 99.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc
250 N Water STE 300
Wichita KS 67202
ATTN: Keith Reavis

26-4s-31w Rawlins,KS
Schmidt-Vap #2-26
Job Ticket: 60820 **DST#: 3**
Test Start: 2015.03.08 @ 04:15:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 31 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 61.00 sec/qt	Cushion Volume: bbl	
Water Loss: 5.99 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 1900.00 ppm		
Filter Cake: 2.00 inches		

Recovery Information

Recovery Table

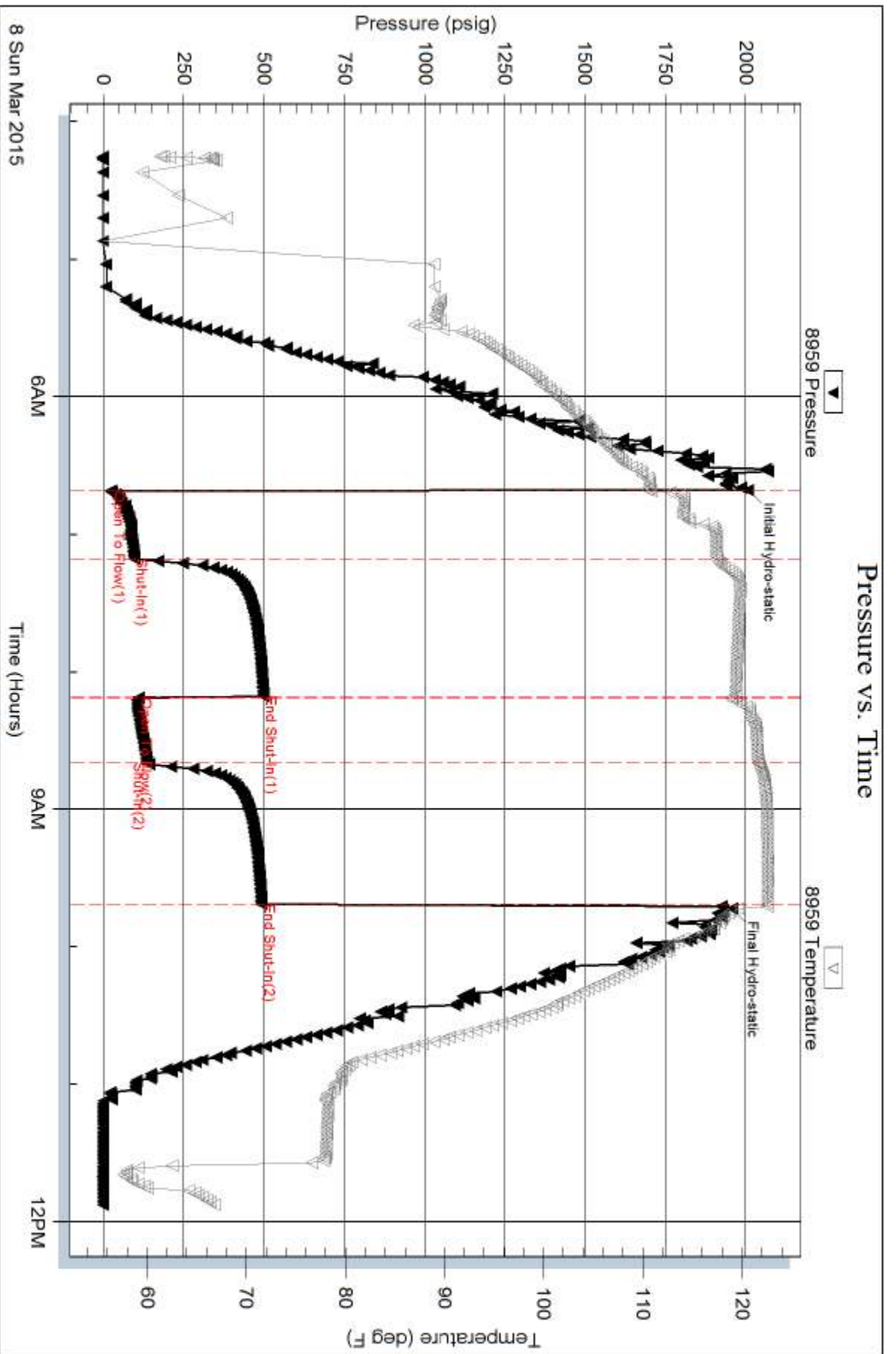
Length ft	Description	Volume bbl
250.00	GMCO 20%G 30%M 50%O	1.851
70.00	GO 10%G 90%O	1.024
0.00	GIP 200'	0.000

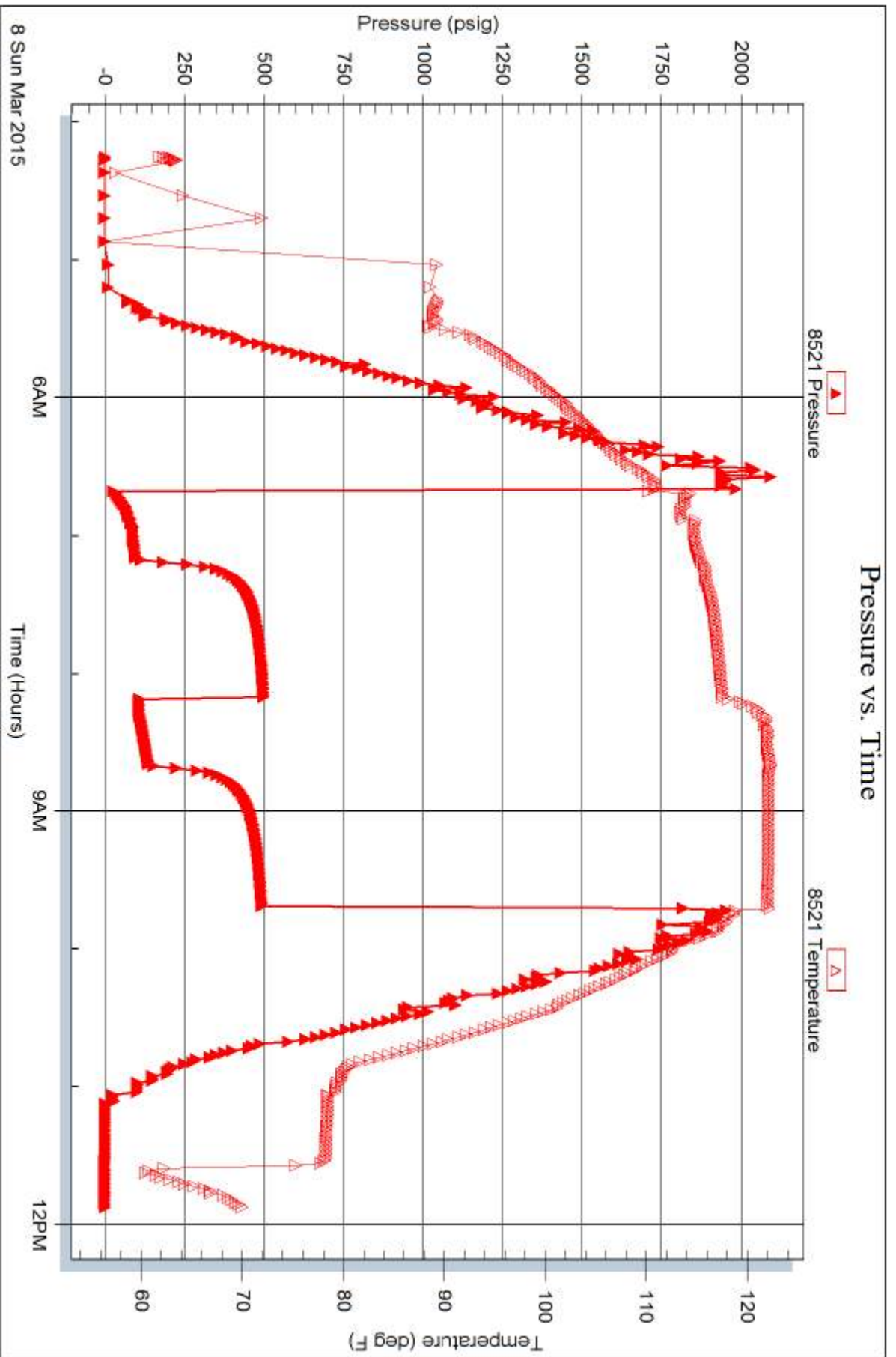
Total Length: 320.00 ft Total Volume: 2.875 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **60818**

Well Name & No. ScHmidt - VAP #2-26 Test No. 1 Date 3-6-2015
 Company Murfin Drilling CO Inc Elevation 2882 KB 2877 GL
 Address 250 N Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Keith Reavis Rig Murfin #7
 Location: Sec. 26 Twp. 4S Rge. 31W Co. Rawlins State KS

Interval Tested 3856 — 3942 Zone Tested Toronto - LK2" B"
 Anchor Length 86 Drill Pipe Run 3673 Mud Wt. 9.0
 Top Packer Depth 3852 Drill Collars Run 186 Vis 71
 Bottom Packer Depth 3856 Wt. Pipe Run 0 WL 5.2
 Total Depth 3942 Chlorides 1600 ppm System LCM 8.
 Blow Description IF - Bob in 1 min
ISI - Return built to weak surface blow
FF - Bob in 2 min
FSI - Return built to 1/2"

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>WMCO</u>	<u>85</u>	<u>5</u>	<u>10</u>	
<u>500</u>	<u>90CWM</u>	<u>7</u>	<u>10</u>	<u>35</u>	<u>48</u>
<u>1115</u>	<u>90CW</u>	<u>15</u>	<u>15</u>	<u>70</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 1645 BHT 125 Gravity 41 API RW 1.331 @ 52.5 °F Chlorides 38,000 ppm
 (A) Initial Hydrostatic 1928 Test 1050 T-On Location 13:00 3-6
 (B) First Initial Flow 199 Jars 250 T-Started 13:55 3-6
 (C) First Final Flow 581 Safety Joint 75 T-Open 16:03 3-6
 (D) Initial Shut-In 1266 Circ Sub _____ T-Pulled 18:53 3-6
 (E) Second Initial Flow 620 Hourly Standby _____ T-Out 22:40 3-6
 (F) Second Final Flow 864 Mileage 48 RT 48 Comments FIX the oil pump chain on draw works
 (G) Final Shut-In 1262 Sampler _____ Ruined Shale Packer _____
 (H) Final Hydrostatic 1855 Straddle _____ Ruined Packer _____
 Initial Open 15 Shale Packer _____ Extra Copies _____
 Initial Shut-In 60 Extra Packer _____ Sub Total 0
 Final Flow 15 Extra Recorder _____ Total 1423
 Final Shut-In 60 Day Standby _____ MP/DST Disc't _____
 Accessibility _____
 Sub Total 1423

Approved By _____ Our Representative Robert Zeevaer

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. **60819**

Well Name & No. SCHMIDT - VAP 2-26 Test No. 2 Date 3-7-2015
 Company Murfin Drilling CO Inc Elevation 2882 KB 2877 GL
 Address 250 N water STE 300 wichita ks, 67202
 Co. Rep / Geo. Keith Reavis Rig Murfin #7
 Location: Sec. 26 Twp. 4S Rge. 31W Co. Rawlins State KS

Interval Tested 3962 — 4010 Zone Tested LKC "F-D"
 Anchor Length 48 Drill Pipe Run 3771 Mud Wt. 9.1
 Top Packer Depth 3958 Drill Collars Run 186 Vis 65
 Bottom Packer Depth 3962 Wt. Pipe Run 0 WL 6
 Total Depth 4010 Chlorides 2,100 ppm System LCM 7

Blow Description IF - Bob in 15 mins
ISI - Return built to 2"
FF - Bob in 16 mins
FSI - Return built to 2"

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>90</u>	<u>10</u>	<u>90</u>		
<u>220</u>	<u>9mco</u>	<u>15</u>	<u>60</u>	<u>25</u>	
<u> </u>	<u>HIP 300'</u>				
<u> </u>	<u> </u>				
<u> </u>	<u> </u>				

Rec Total 250 BHT 122 Gravity 38 API RW @ °F Chlorides ppm

(A) Initial Hydrostatic 2010 Test 1150 T-On Location 08:20 3-7
 (B) First Initial Flow 25 Jars 250 T-Started 08:50 3-7
 (C) First Final Flow 77 Safety Joint 75 T-Open 10:52 3-7
 (D) Initial Shut-In 1047 Circ Sub T-Pulled 14:51 3-7
 (E) Second Initial Flow 87 Hourly Standby T-Out 17:14 3-7
 (F) Second Final Flow 111 Mileage 48 RT 48
 (G) Final Shut-In 500 Sampler
 (H) Final Hydrostatic 1957 Straddle Ruined Shale Packer

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

Approved By Our Representative Robert Zedew

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **60820**

Well Name & No. SCHMIDT - VAP #2-26 Test No. 3 Date 3-8-2015
 Company Murfin Drilling CO Inc Elevation 2882 KB 2877 GL
 Address 250 N Water STE 300 Wichita KS, 67202
 Co. Rep / Geo. Keith Reavis Rig Murfin #7
 Location: Sec. 26 Twp. 4S Rge. 31W Co. Rawlins State KS

Interval Tested 4004 — 4076 Zone Tested LKC "H-5"
 Anchor Length 72 Drill Pipe Run 3800 Mud Wt. 9.1
 Top Packer Depth 4000 Drill Collars Run 186 Vis 61
 Bottom Packer Depth 4004 Wt. Pipe Run 0 WL 6
 Total Depth 4076 Chlorides 1900 ppm System LCM 6
 Blow Description IF - Blow built to 3"
ISI - NO return
FF - Blow built to 1/4"
FSI - NO return

Rec	Feet of	%gas	%oil	%water	%mud
<u>70</u>	<u>90</u>	<u>10</u>	<u>90</u>		
<u>250</u>	<u>9MCO</u>	<u>20</u>	<u>50</u>	<u>30</u>	
<u>41P 200</u>					

Rec Total 320 BHT 119 Gravity 31 API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 2007 Test 1150 T-On Location 03:30 3-8
 (B) First Initial Flow 24 Jars 250 T-Started 04:15 3-8
 (C) First Final Flow 95 Safety Joint 75 T-Open 06:41 3-8
 (D) Initial Shut-In 497 Circ Sub _____ T-Pulled 09:42 3-8
 (E) Second Initial Flow 109 Hourly Standby _____ T-Out 11:48 3-8
 (F) Second Final Flow 135 Mileage 48 RT X2 48 Comments loaded tool 03-09-15 at 08:30
 (G) Final Shut-In 491 Sampler _____
 (H) Final Hydrostatic 1957 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 30 Extra Recorder _____ Sub Total 0
 Initial Shut-In 60 Day Standby _____ Total 1571
 Final Flow 30 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 60 Sub Total 1571

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