



DRILL STEM TEST REPORT

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

250 N. Water Ste 300
Wichita KS 67202

ATTN: Robert Hendrix

Schmidt-Vap #1-26

26-4s-31w Rawlins,KS

Start Date: 2014.02.15 @ 23:05:00

End Date: 2014.02.16 @ 08:38:15

Job Ticket #: 55171 DST #: 1

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.02.20 @ 15:47:01



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 #1-26

Job Ticket: 55171

DST#: 1

ATTN: Robert Hendrix

Test Start: 2014.02.15 @ 23:05:00

GENERAL INFORMATION:

Formation: **Tor-LKC B**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:04:30

Time Test Ended: 08:38:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: #54

Interval: 3888.00 ft (KB) To 3973.00 ft (KB) (TVD)

Reference Elevations: 2911.00 ft (KB)

Total Depth: 3973.00 ft (KB) (TVD)

2900.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 8879

Inside

Press@RunDepth: 748.84 psig @ 3889.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.02.15

End Date: 2014.02.16

Last Calib.: 2014.02.16

Start Time: 23:05:05

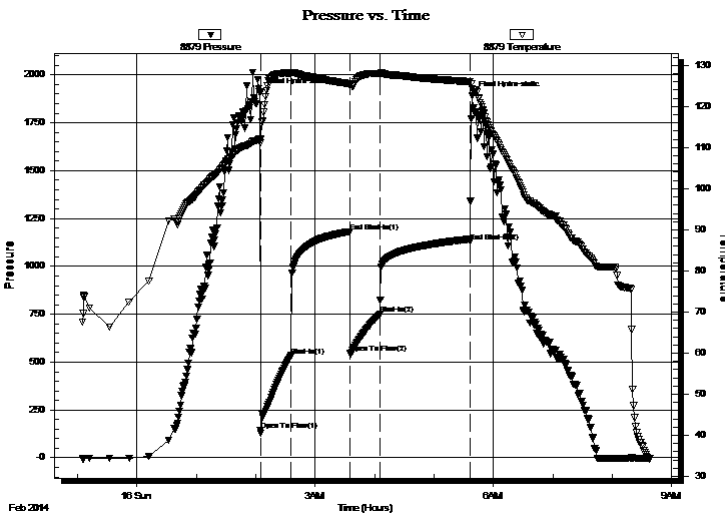
End Time: 08:38:15

Time On Btm: 2014.02.16 @ 02:04:15

Time Off Btm: 2014.02.16 @ 05:38:45

TEST COMMENT: 30 - IF - Surface blow built to bottom of bucket in 1 1/2 min.
60 - ISI - Return built to a weak surface blow
30 - FF - Surface blow built to bottom of bucket in 3 min.
90 - FSI - Return built up to 1"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1906.31	112.04	Initial Hydro-static
1	143.24	111.19	Open To Flow (1)
32	533.38	128.10	Shut-In(1)
91	1182.32	125.52	End Shut-In(1)
91	546.79	125.03	Open To Flow (2)
122	748.84	128.06	Shut-In(2)
213	1130.32	126.03	End Shut-In(2)
215	1892.50	124.35	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1575.00	OCMW - 85W - 10M - 5o	19.69
116.00	Free Oil - 100o	1.63

Gas Rates

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



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Job Ticket: 55171

DST#: 1

ATTN: Robert Hendrix

Test Start: 2014.02.15 @ 23:05:00

GENERAL INFORMATION:

Formation: **Tor-LKC B**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:04:30

Time Test Ended: 08:38:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: #54

Interval: 3888.00 ft (KB) To 3973.00 ft (KB) (TVD)

Reference Elevations: 2911.00 ft (KB)

Total Depth: 3973.00 ft (KB) (TVD)

2900.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 6669 Outside

Press@RunDepth: psig @ 3889.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.02.15 End Date: 2014.02.16

Last Calib.: 2014.02.16

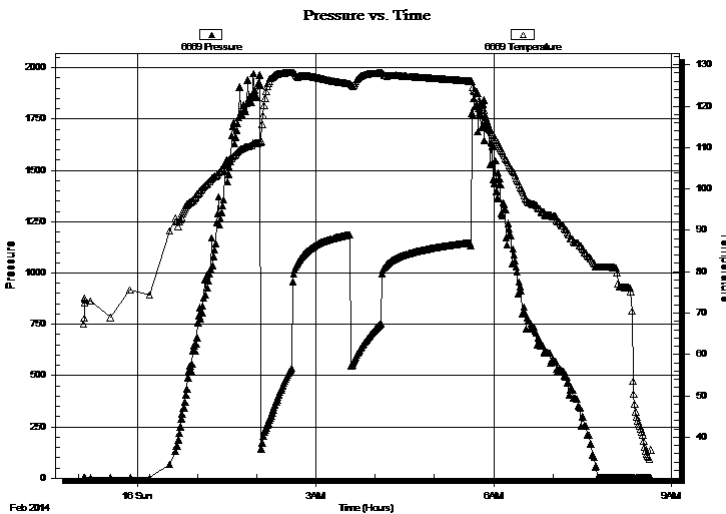
Start Time: 23:05:05 End Time: 08:38:45

Time On Btm:

Time Off Btm:

TEST COMMENT: 30 - IF - Surface blow built to bottom of bucket in 1 1/2 min.
60 - ISI - Return built to a weak surface blow
30 - FF - Surface blow built to bottom of bucket in 3 min.
90 - FSI - Return built up to 1"

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
1575.00	OCMW - 85W - 10M - 5o	19.69
116.00	Free Oil - 100o	1.63

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 #1-26

Job Ticket: 55171

DST#: 1

ATTN: Robert Hendrix

Test Start: 2014.02.15 @ 23:05:00

Tool Information

Drill Pipe:	Length: 3602.00 ft	Diameter: 3.80 inches	Volume: 50.53 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: 264.00 ft	Diameter: 2.25 inches	Volume: 1.30 bbl	Weight to Pull Loose: 82000.00 lb
			<u>Total Volume: 51.83 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	3888.00 ft			Final 78000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	85.00 ft			
Tool Length:	112.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Hydraulic tool	5.00			3866.00	
Jars	5.00			3871.00	
Shut In Tool	5.00			3876.00	
Safety Joint	3.00			3879.00	
Packer	4.00			3883.00	27.00 Bottom Of Top Packer
Packer	5.00			3888.00	
Stubb	1.00			3889.00	
Recorder	0.00	8879	Inside	3889.00	
Recorder	0.00	6669	Outside	3889.00	
Perforations	16.00			3905.00	
Change Over Sub	1.00			3906.00	
Drill Pipe	63.00			3969.00	
Change Over Sub	1.00			3970.00	
Bullnose	3.00			3973.00	85.00 Bottom Packers & Anchor

Total Tool Length: 112.00



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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 #1-26

Job Ticket: 55171

DST#: 1

ATTN: Robert Hendrix

Test Start: 2014.02.15 @ 23:05:00

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:

ppm

Viscosity: 92.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.58 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2200.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1575.00	OCMW - 85W - 10M - 5o	19.688
116.00	Free Oil - 100o	1.627

Total Length: 1691.00 ft Total Volume: 21.315 bbl

Num Fluid Samples: 0

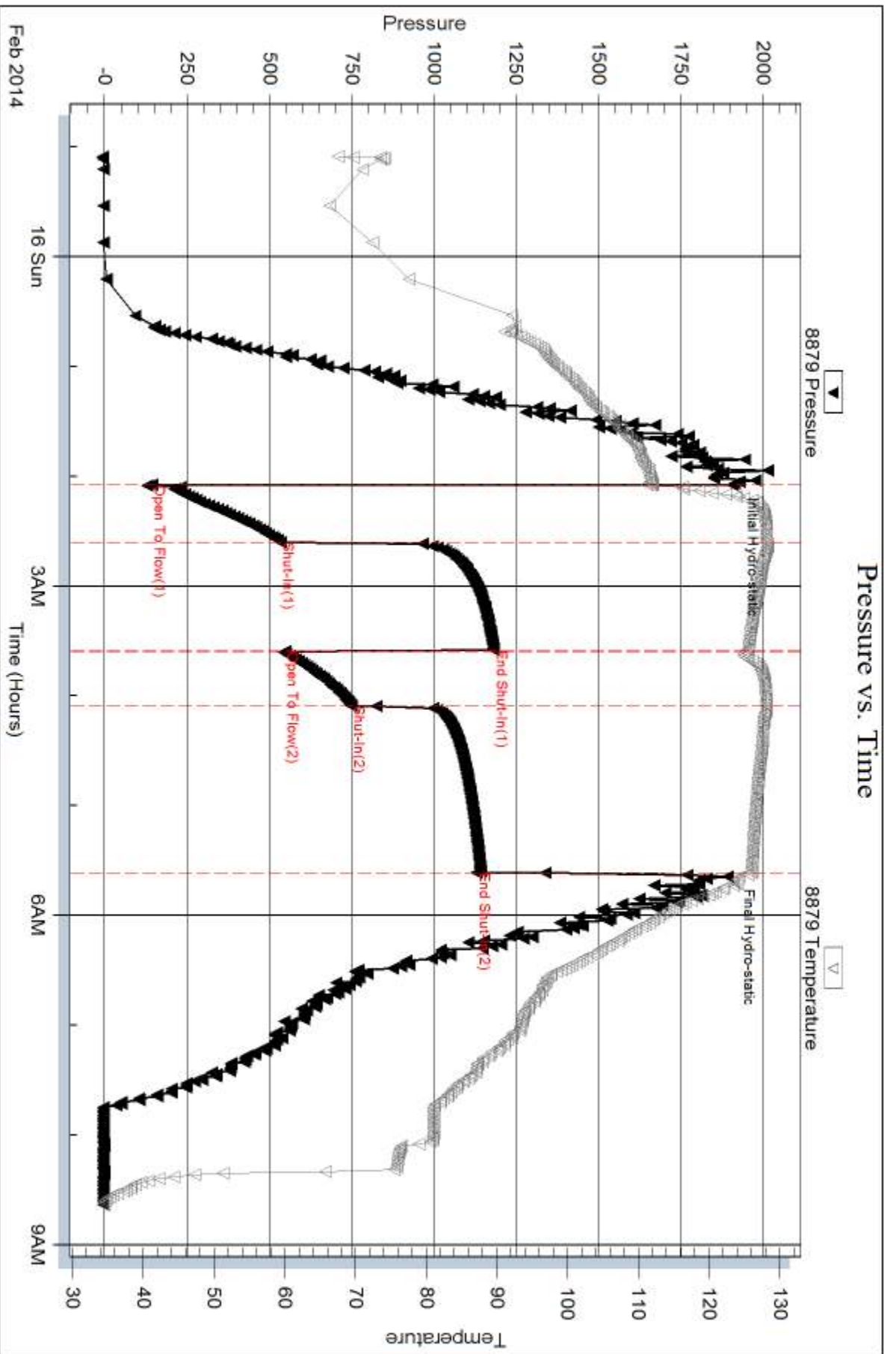
Num Gas Bombs: 0

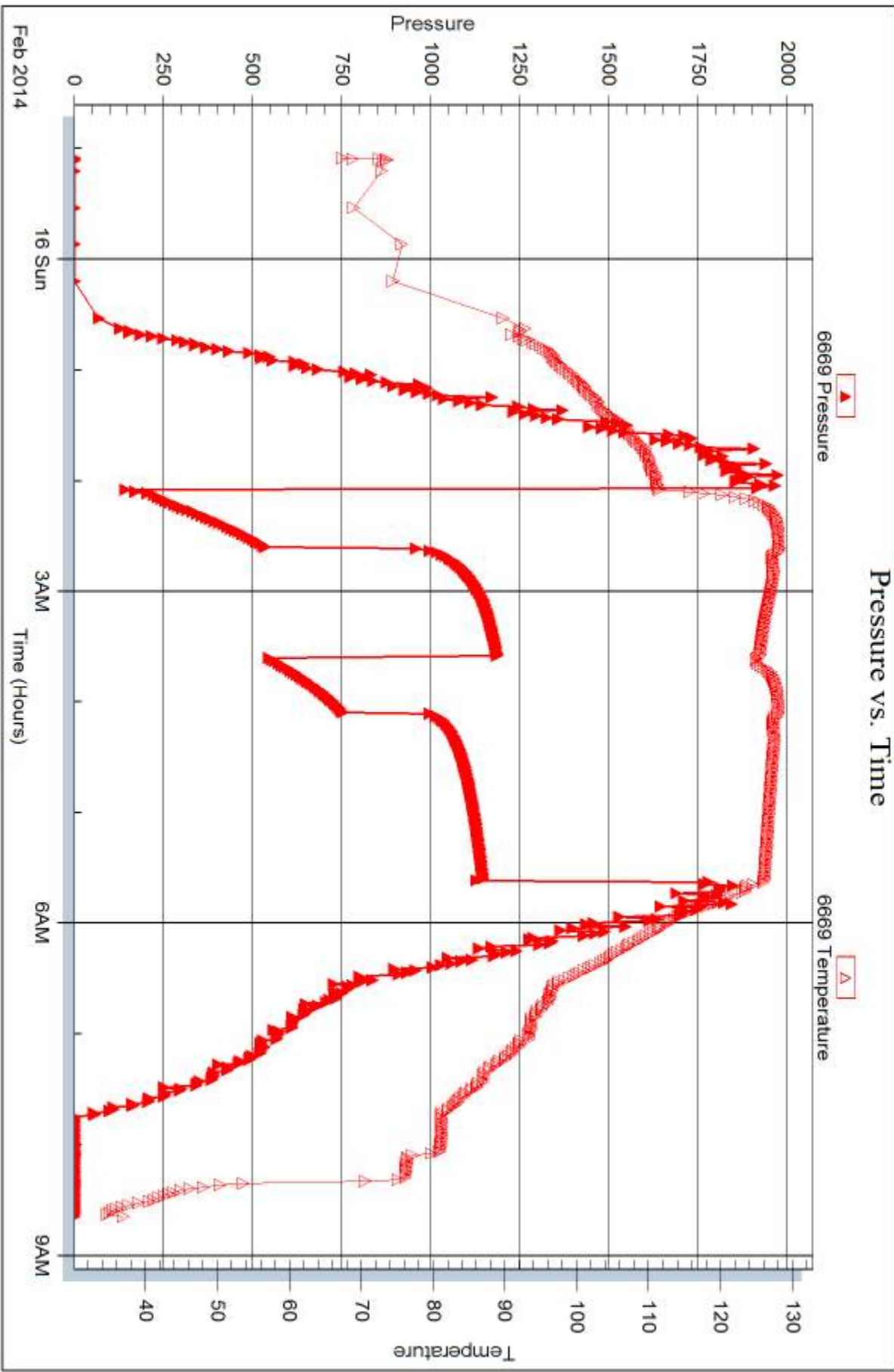
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

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

250 N. Water Ste 300
Wichita KS 67202

ATTN: Robert Hendrix

Schmidt-Vap #1-26

26-4s-31w Rawlins,KS

Start Date: 2014.02.16 @ 17:52:00

End Date: 2014.02.17 @ 06:06:47

Job Ticket #: 55172 DST #: 2

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.02.20 @ 15:46:38



**TRILOBITE
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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 #1-26

Job Ticket: 55172

DST#: 2

ATTN: Robert Hendrix

Test Start: 2014.02.16 @ 17:52:00

GENERAL INFORMATION:

Formation: **LKC E-F**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:03:18

Time Test Ended: 06:06:47

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 54

Interval: 3993.00 ft (KB) To 4015.00 ft (KB) (TVD)

Reference Elevations: 2911.00 ft (KB)

Total Depth: 4015.00 ft (KB) (TVD)

2900.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 8879

Inside

Press@RunDepth: 433.90 psig @ 3994.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.02.16

End Date: 2014.02.17

Last Calib.: 2014.02.17

Start Time: 17:52:23

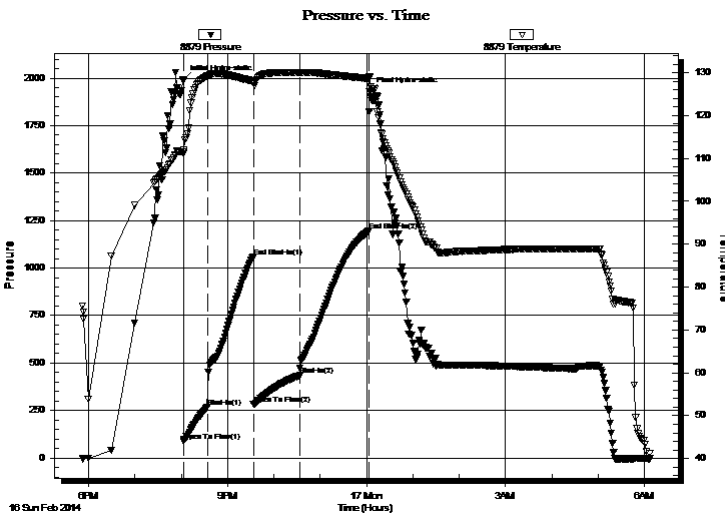
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Time On Btm: 2014.02.16 @ 20:03:03

Time Off Btm: 2014.02.17 @ 00:03:47

TEST COMMENT: 30 - IF - Surface blow built to bottom of bucket in 3 min.
60 - ISI - Return built to bottom of bucket in 47 min.
60 - FF - Surface blow built to bottom of bucket in 4 min.
90 - FSI - Return built to bottom of bucket in 15 min.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1989.89	111.43	Initial Hydro-static
1	87.47	111.02	Open To Flow (1)
31	267.19	129.18	Shut-In(1)
91	1059.73	128.01	End Shut-In(1)
91	283.17	127.50	Open To Flow (2)
151	433.90	129.95	Shut-In(2)
240	1195.75	128.64	End Shut-In(2)
241	1928.58	128.99	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1228.00	Free Oil - 100o	14.82
0.00	2236 gas in pipe	0.00

Gas Rates

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



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DRILL STEM TEST REPORT

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26-4s-31w Rawlins,KS

250 N. Water Ste 300
Wichita KS 67202

Schmidt-Vap #1-26

Job Ticket: 55172

DST#: 2

ATTN: Robert Hendrix

Test Start: 2014.02.16 @ 17:52:00

GENERAL INFORMATION:

Formation: **LKC E-F**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:03:18

Time Test Ended: 06:06:47

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 54

Interval: 3993.00 ft (KB) To 4015.00 ft (KB) (TVD)

Reference Elevations: 2911.00 ft (KB)

Total Depth: 4015.00 ft (KB) (TVD)

2900.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 6669

Inside

Press@RunDepth: psig @ 3994.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.02.16

End Date:

2014.02.17

Last Calib.:

2014.02.17

Start Time: 17:52:05

End Time:

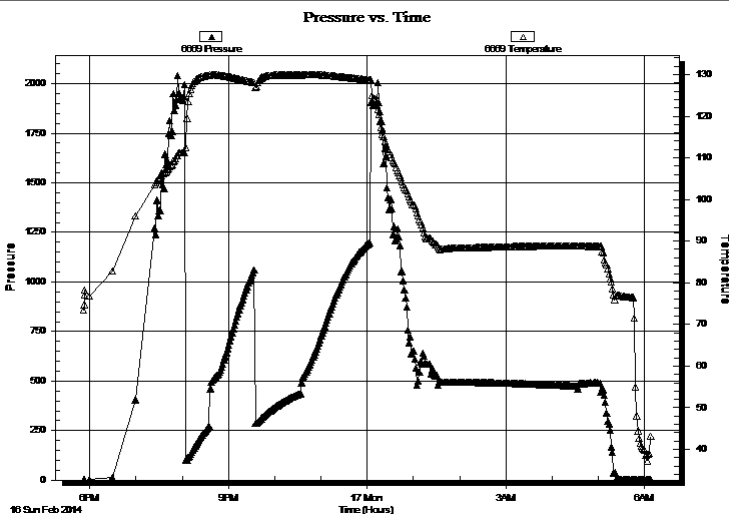
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Time On Btm:

Time Off Btm:

TEST COMMENT: 30 - IF - Surface blow built to bottom of bucket in 3 min.
60 - ISI - Return built to bottom of bucket in 47 min.
60 - FF - Surface blow built to bottom of bucket in 4 min.
90 - FSI - Return built to bottom of bucket in 15 min.

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
1228.00	Free Oil - 100o	14.82
0.00	2236 gas in pipe	0.00

Gas Rates

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



**TRILOBITE
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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 #1-26

Job Ticket: 55172

DST#: 2

ATTN: Robert Hendrix

Test Start: 2014.02.16 @ 17:52:00

Tool Information

Drill Pipe:	Length: 3728.00 ft	Diameter: 3.80 inches	Volume: 52.29 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: 264.00 ft	Diameter: 2.25 inches	Volume: 1.30 bbl	Weight to Pull Loose: 82000.00 lb
			<u>Total Volume: 53.59 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 74000.00 lb
Depth to Top Packer:	3993.00 ft			Final 76000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	22.00 ft			
Tool Length:	49.00 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			3971.00	
Hydraulic tool	5.00			3976.00	
Jars	5.00			3981.00	
Safety Joint	3.00			3984.00	
Packer	4.00			3988.00	27.00 Bottom Of Top Packer
Packer	5.00			3993.00	
Stubb	1.00			3994.00	
Recorder	0.00	6669	Inside	3994.00	
Recorder	0.00	8879	Inside	3994.00	
Perforations	18.00			4012.00	
Bullnose	3.00			4015.00	22.00 Bottom Packers & Anchor

Total Tool Length: 49.00



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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 #1-26

Job Ticket: 55172

DST#: 2

ATTN: Robert Hendrix

Test Start: 2014.02.16 @ 17:52:00

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: 85.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.19 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1700.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1228.00	Free Oil - 100o	14.821
0.00	2236 gas in pipe	0.000

Total Length: 1228.00 ft Total Volume: 14.821 bbl

Num Fluid Samples: 0

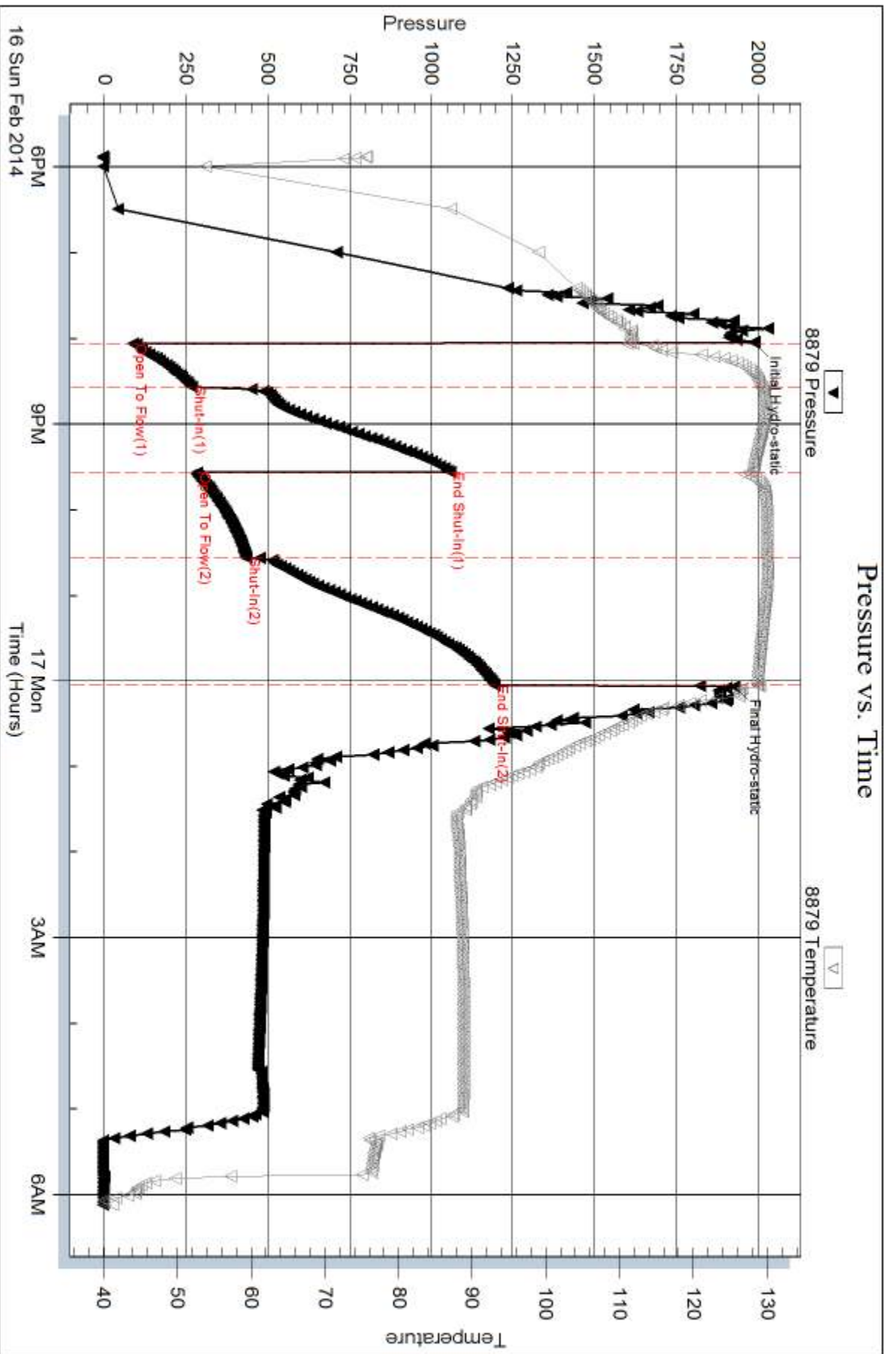
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



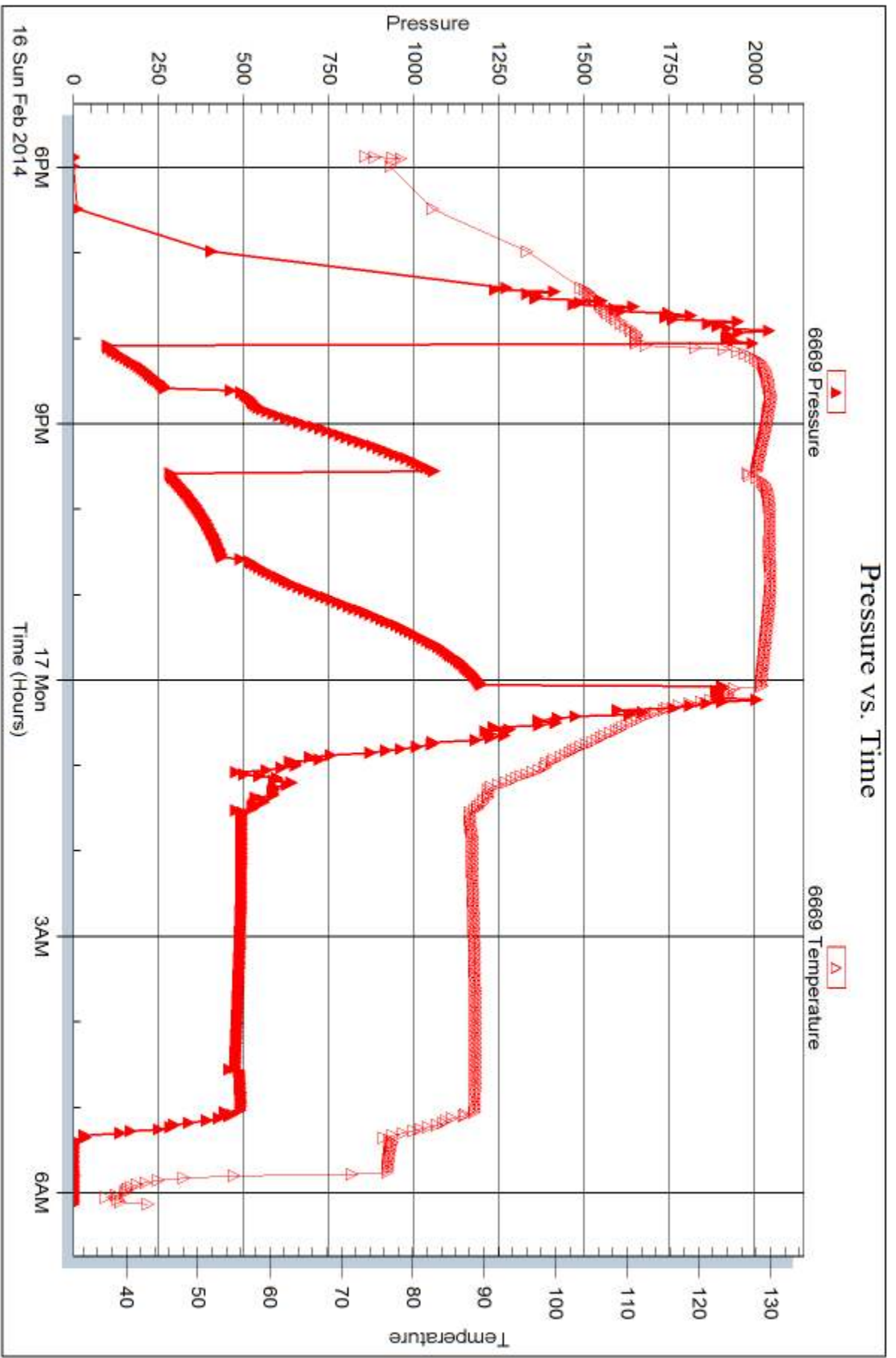
Serial #: 6669

Inside

Murfin Drilling Co., Inc.

Schmidt-Vap #1-26

DST Test Number: 2





DRILL STEM TEST REPORT

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

250 N. Water Ste 300
Wichita KS 67202

ATTN: Robert Hendrix

Schmidt-Vap #1-26

26-4s-31w Rawlins,KS

Start Date: 2014.02.17 @ 18:13:00

End Date: 2014.02.18 @ 03:35:15

Job Ticket #: 55173 DST #: 3

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.02.20 @ 15:46:15



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 #1-26

Job Ticket: 55173

DST#: 3

ATTN: Robert Hendrix

Test Start: 2014.02.17 @ 18:13:00

GENERAL INFORMATION:

Formation: **LKC H-I**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:01:15

Time Test Ended: 03:35:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: #54

Interval: 4045.00 ft (KB) To 4109.00 ft (KB) (TVD)

Reference Elevations: 2911.00 ft (KB)

Total Depth: 4109.00 ft (KB) (TVD)

2900.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 8879

Inside

Press@RunDepth: 487.92 psig @ 4046.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.02.17

End Date:

2014.02.18

Last Calib.:

2014.02.18

Start Time: 18:13:05

End Time:

03:35:15

Time On Btm:

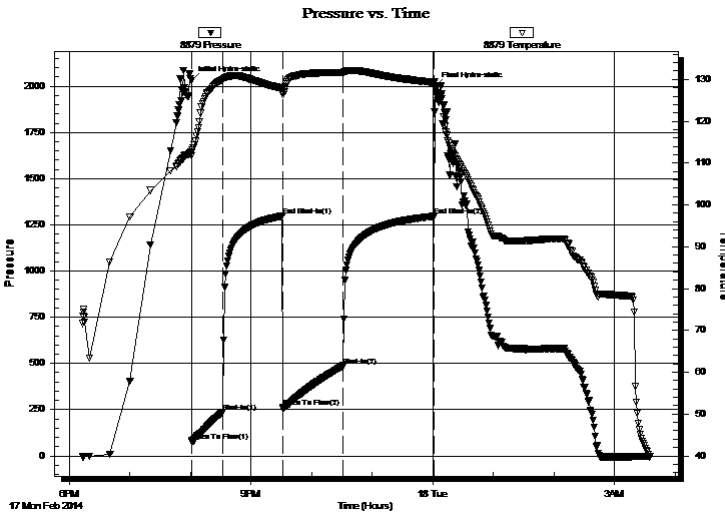
2014.02.17 @ 20:01:00

Time Off Btm:

2014.02.18 @ 00:02:30

TEST COMMENT: 30 - IF - Surface blow built to bottom of bucket in 4 min.
60 - ISI - Return built to bottom of bucket in 30 min.
60 - FF - Surface blow built to bottom of bucket in 4 min.
90 - FSI - Return built to bottom of bucket in 17 min.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2029.87	112.58	Initial Hydro-static
1	79.13	111.80	Open To Flow (1)
31	236.89	129.93	Shut-In(1)
90	1297.32	127.77	End Shut-In(1)
91	262.63	126.93	Open To Flow (2)
151	487.92	131.62	Shut-In(2)
241	1296.07	129.24	End Shut-In(2)
242	1996.27	128.28	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1532.00	Free Oil - 100o	19.09
0.00	1429 - gas in pipe	0.00

Gas Rates

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



**TRILOBITE
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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 #1-26

Job Ticket: 55173

DST#: 3

ATTN: Robert Hendrix

Test Start: 2014.02.17 @ 18:13:00

Tool Information

Drill Pipe:	Length: 3760.00 ft	Diameter: 3.80 inches	Volume: 52.74 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: 264.00 ft	Diameter: 2.25 inches	Volume: 1.30 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 54.04 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 74000.00 lb
Depth to Top Packer:	4045.00 ft			Final 76000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	64.00 ft			
Tool Length:	91.00 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			4023.00	
Hydraulic tool	5.00			4028.00	
Jars	5.00			4033.00	
Safety Joint	3.00			4036.00	
Packer	4.00			4040.00	27.00 Bottom Of Top Packer
Packer	5.00			4045.00	
Stubb	1.00			4046.00	
Recorder	0.00	8879	Inside	4046.00	
Recorder	0.00	6669	Outside	4046.00	
Perforations	27.00			4073.00	
Change Over Sub	1.00			4074.00	
Drill Pipe	31.00			4105.00	
Change Over Sub	1.00			4106.00	
Bullnose	3.00			4109.00	64.00 Bottom Packers & Anchor

Total Tool Length: 91.00



**TRILOBITE
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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 #1-26

Job Ticket: 55173

DST#: 3

ATTN: Robert Hendrix

Test Start: 2014.02.17 @ 18:13:00

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: 54.00 sec/qt

Cushion Volume:

bbl

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3300.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1532.00	Free Oil - 100o	19.085
0.00	1429 - gas in pipe	0.000

Total Length: 1532.00 ft Total Volume: 19.085 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

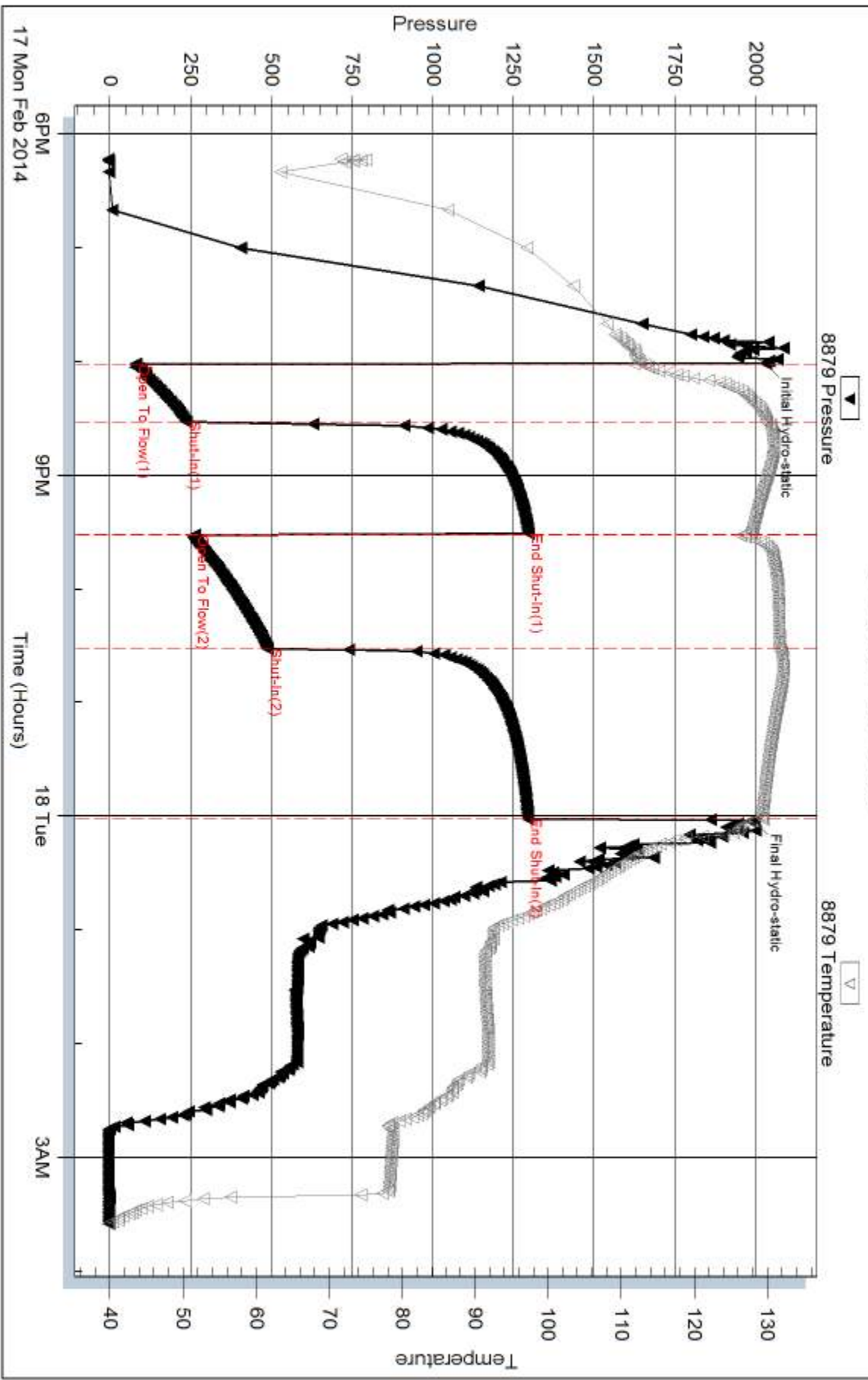
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

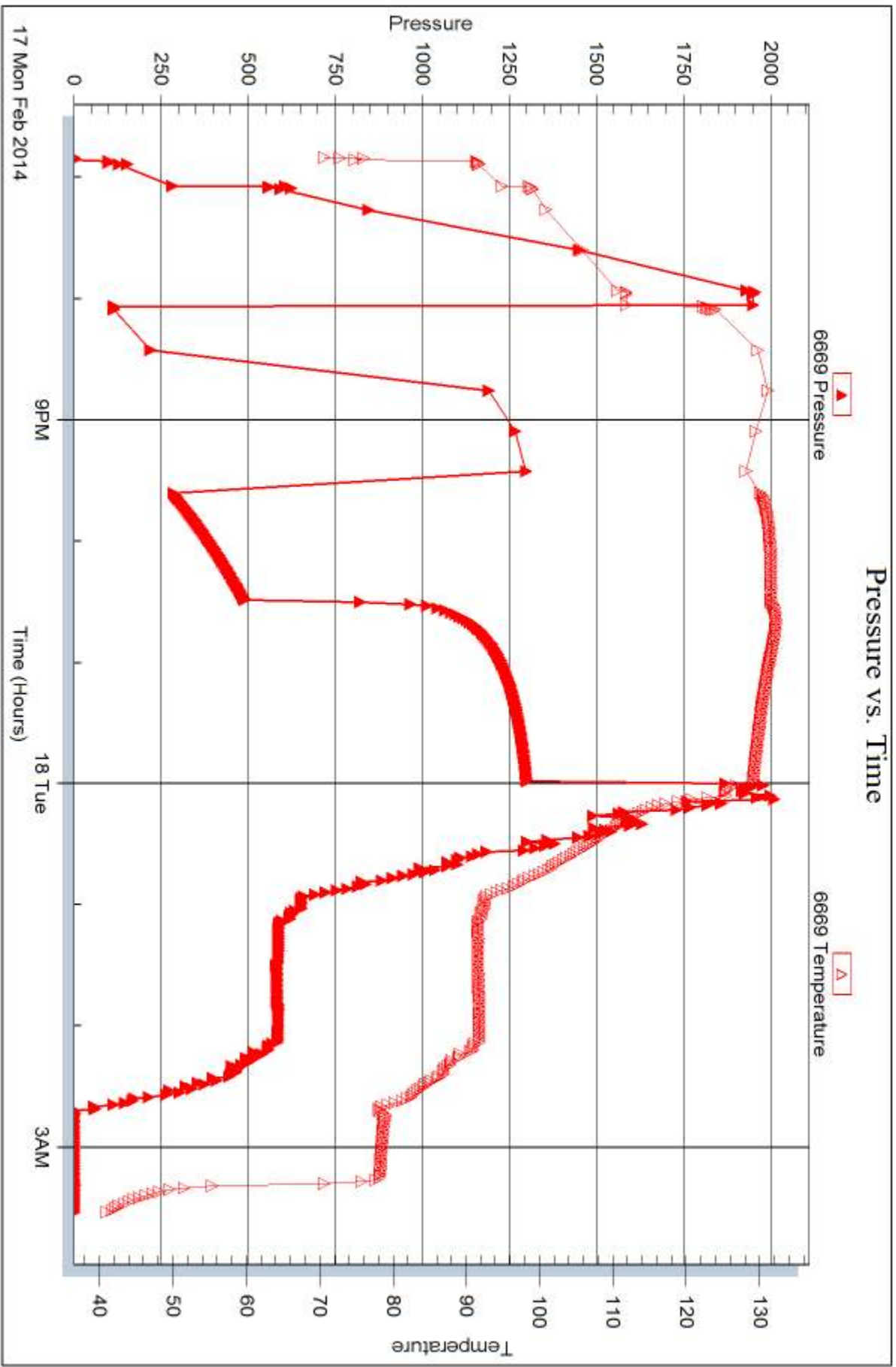


Serial #: 6669

Outside Marfin Drilling Co., Inc.

Schmidt-Vap #1-26

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 55173

Printed: 2014.02.20 @ 15:46:17



DRILL STEM TEST REPORT

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

250 N. Water Ste 300
Wichita KS 67202

ATTN: Robert Hendrix

Schmidt-Vap #1-26

26-4s-31w Rawlins,KS

Start Date: 2014.02.19 @ 05:22:00

End Date: 2014.02.19 @ 12:46:30

Job Ticket #: 55174 DST #: 4

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.02.20 @ 15:45:47



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 #1-26

Job Ticket: 55174

DST#: 4

ATTN: Robert Hendrix

Test Start: 2014.02.19 @ 05:22:00

GENERAL INFORMATION:

Formation: **Ft. Scott - Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:04:45

Time Test Ended: 12:46:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: #54

Interval: **4320.00 ft (KB) To 4376.00 ft (KB) (TVD)**

Reference Elevations: 2911.00 ft (KB)

Total Depth: 4376.00 ft (KB) (TVD)

2900.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 8879

Inside

Press@RunDepth: 17.56 psig @ 4321.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.02.19

End Date:

2014.02.19

Last Calib.:

2014.02.19

Start Time: 05:22:05

End Time:

12:46:29

Time On Btm:

2014.02.19 @ 08:04:30

Time Off Btm:

2014.02.19 @ 11:07:30

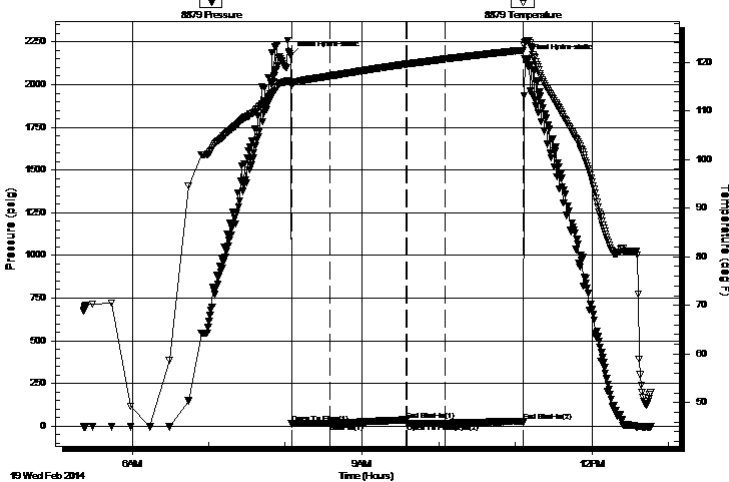
TEST COMMENT: 30 - IF - Surface blow built to a weak surface

60 - ISI - No Return

30 - FF - No Surface blow

60 - FSI - No Return

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2168.45	116.01	Initial Hydro-static
1	14.27	115.31	Open To Flow (1)
31	16.21	117.21	Shut-In(1)
91	36.86	119.64	End Shut-In(1)
91	16.89	119.65	Open To Flow (2)
121	17.56	120.69	Shut-In(2)
182	25.39	122.51	End Shut-In(2)
183	2150.29	124.07	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	Mud - 100M	0.01

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 #1-26

Job Ticket: 55174

DST#: 4

ATTN: Robert Hendrix

Test Start: 2014.02.19 @ 05:22:00

Tool Information

Drill Pipe:	Length: 4046.00 ft	Diameter: 3.80 inches	Volume: 56.75 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: 264.00 ft	Diameter: 2.25 inches	Volume: 1.30 bbl	Weight to Pull Loose: 82000.00 lb
			<u>Total Volume: 58.05 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 76000.00 lb
Depth to Top Packer:	4320.00 ft			Final 76000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	56.00 ft			
Tool Length:	83.00 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			4298.00	
Hydraulic tool	5.00			4303.00	
Jars	5.00			4308.00	
Safety Joint	3.00			4311.00	
Packer	4.00			4315.00	27.00 Bottom Of Top Packer
Packer	5.00			4320.00	
Stubb	1.00			4321.00	
Recorder	0.00	6669	Inside	4321.00	
Recorder	0.00	8879	Inside	4321.00	
Perforations	19.00			4340.00	
Change Over Sub	1.00			4341.00	
Drill Pipe	31.00			4372.00	
Change Over Sub	1.00			4373.00	
Bullnose	3.00			4376.00	56.00 Bottom Packers & Anchor

Total Tool Length: 83.00



**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 #1-26

Job Ticket: 55174

DST#: 4

ATTN: Robert Hendrix

Test Start: 2014.02.19 @ 05:22:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	Mud - 100M	0.010

Total Length: 2.00 ft Total Volume: 0.010 bbl

Num Fluid Samples: 0

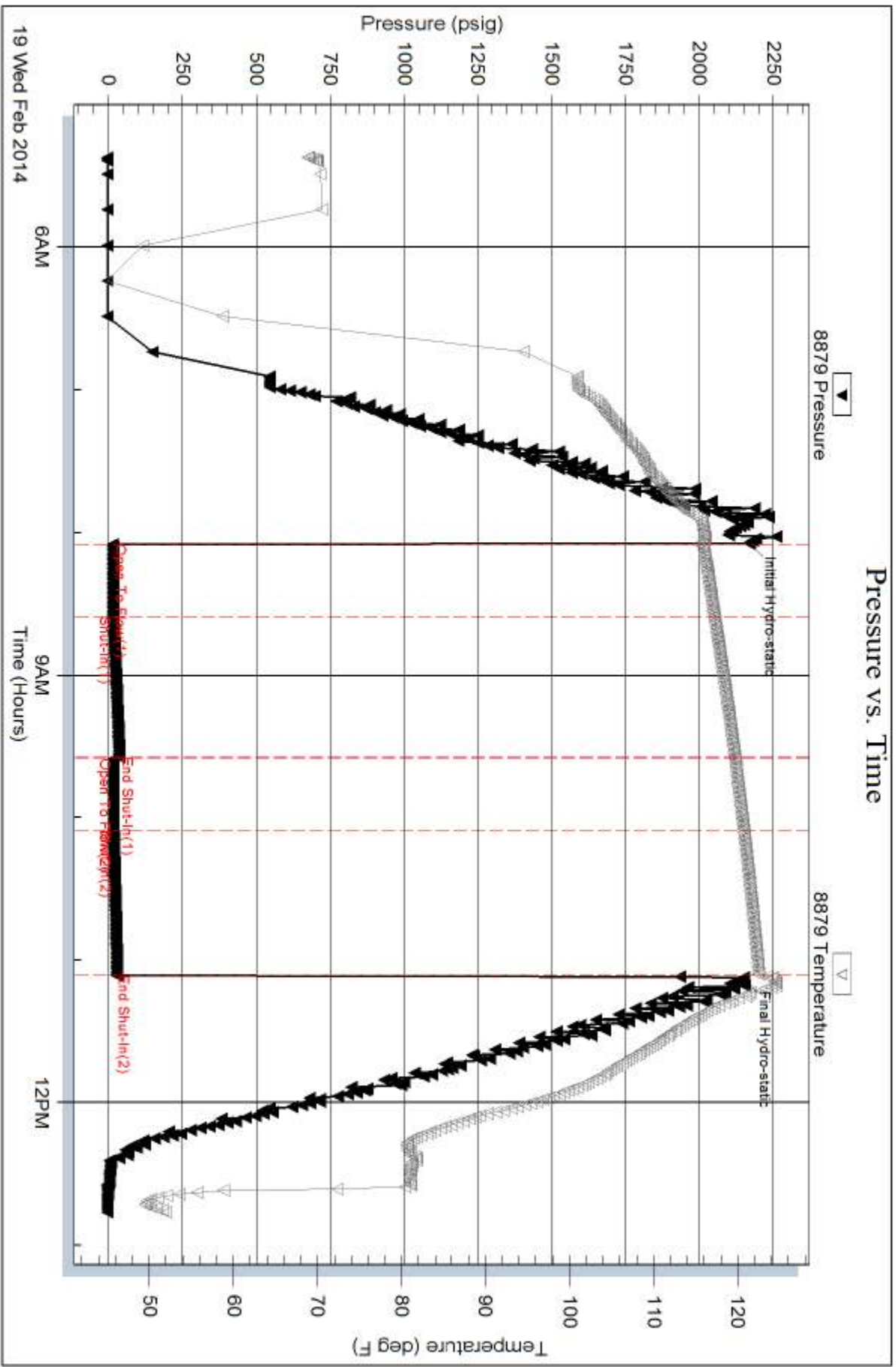
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



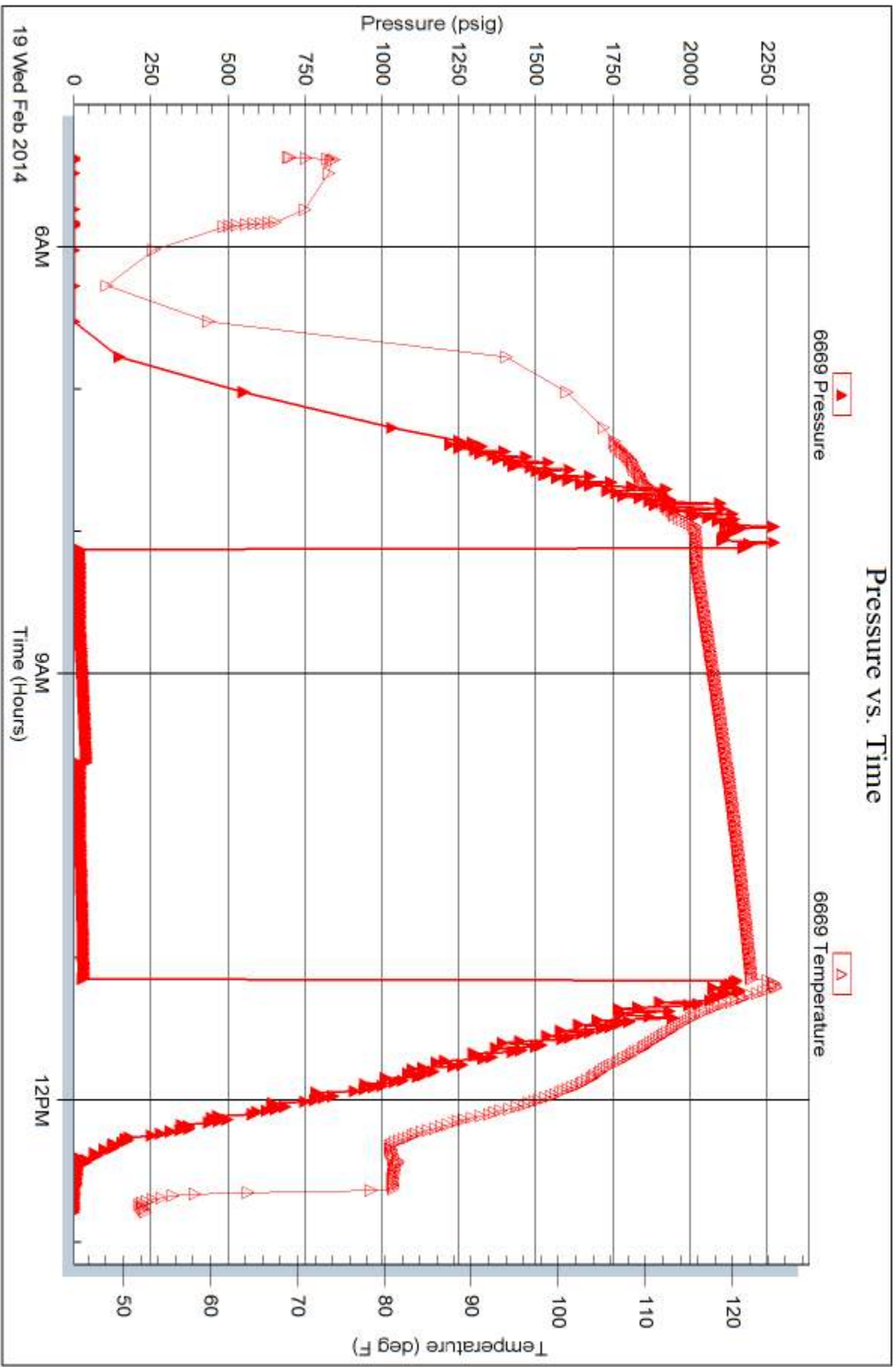
Serial #: 6669

Inside

Murfin Drilling Co., Inc.

Schmidt-Vap #1-26

DST Test Number: 4



19 Wed Feb 2014

6AM

9AM

12PM

Trilobite Testing, Inc

Ref. No: 55174

Printed: 2014.02.20 @ 15:45:50



TRIBOLITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 55171

Well Name & No. Schmidt-Vap #1-26 Test No. 1 Date 2-15-14
 Company Murfin Drilling Co., Inc. Elevation 2911 KB 2900 GL
 Address 250 N. Water Ste 300 Wichita-Ks 67202
 Co. Rep / Geo. Robert Hendrix Rig Murfin #2
 Location: Sec. 26 Twp. 4S Rge. 31W Co. Rawlins State KS

Interval Tested 3888 - 3973 Zone Tested Top - Lans A - Lans B
 Anchor Length 85' Drill Pipe Run 3602' Mud Wt. 9.0
 Top Packer Depth 3884 Drill Collars Run 264' Vis 92
 Bottom Packer Depth 3888 Wt. Pipe Run 0 WL 5.6
 Total Depth 3973 Chlorides 2200 ppm System LCM 10#
 Blow Description IF - Surface blow built to bottom of bucket in 1/2 min.
ISI - return built to a weak surface blow
FF - Surface blow built to bottom of bucket in 3 min.
FSI - return built up to 1"

Rec	Feet of	%gas	%oil	%water	%mud
<u>116'</u>	<u>Freeoil</u>	<u>100</u>			
<u>1575'</u>	<u>OCMW</u>	<u>5</u>	<u>85</u>	<u>10</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 1691 BHT 126°F Gravity 20 API RW 0.134 @ 34°F Chlorides 130,000 ppm
 (A) Initial Hydrostatic 1906 Test 1150 T-On Location 9:25pm
 (B) First Initial Flow 143 Jars 250 T-Started 11:05pm
 (C) First Final Flow 533 Safety Joint 75 T-Open 2:05am
 (D) Initial Shut-In 1182 Circ Sub N/C T-Pulled 5:35am
 (E) Second Initial Flow 546 Hourly Standby T-Out 8:39am
 (F) Second Final Flow 748 Mileage 48 R/T 74.40
 (G) Final Shut-In 1130 Sampler
 (H) Final Hydrostatic 1892 Straddle Ruined Shale Packer
 Shale Packer Ruined Packer
 Extra Packer Extra Copies
 Extra Recorder
 Day Standby
 Accessibility

Initial Open 30
 Initial Shut-In 60
 Final Flow 30
 Final Shut-In 90
 Sub Total 0
 Total 1549.40
 MP/DST Disc't

Approved By _____ Our Representative [Signature]

Tribolite 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. 55172

Well Name & No. Schmidt - Vap #1-26 Test No. 2 Date 2-16-14
 Company Murfin Drilling Co., Inc. Elevation 2911 KB 2900 GL
 Address 250 N. Water Ste. 300 Wichita KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Murfin #2
 Location: Sec. 26 Twp. 4S Rge. 31W Co. Rawlins State KS

Interval Tested 3993 - 4015 Zone Tested Lans - E-F
 Anchor Length 22' Drill Pipe Run 3728' Mud Wt. 9.0
 Top Packer Depth 3989 Drill Collars Run 214' Vis 85
 Bottom Packer Depth 3993 Wt. Pipe Run 0 WL 5.2
 Total Depth 4015 Chlorides 1700 ppm System LCM 8#

Blow Description IF-Surface blow built to bottom of bucket in 3 min.
ISI-Return built to bottom of bucket in 47 min.
FF-Surface blow built to bottom of bucket in 4 min.
FSI-Return built to bottom of bucket in 15 min.

Rec	Feet of	%gas	%oil	%water	%mud
1228'	Free oil	100			
	2236' Gas in pipe				

Rec Total 1228 BHT 128°F Gravity 38 API RW @ °F Chlorides ppm

(A) Initial Hydrostatic 1989 Test 1250 T-On Location 5:30pm
 (B) First Initial Flow 87 Jars 250 T-Started 5:52pm
 (C) First Final Flow 267 Safety Joint 75 T-Open 8:04pm
 (D) Initial Shut-In 1059 Circ Sub used 50 T-Pulled 12:05am
 (E) Second Initial Flow 283 Hourly Standby 2h 200 T-Out 6:08am
 (F) Second Final Flow 433 Mileage 48 R/T 74.40 Comments Dropped bar,
 (G) Final Shut-In 1195 Sampler also waited on truck
 (H) Final Hydrostatic 1928 Straddle Ruined Shale Packer
 Shale Packer Ruined Packer
 Extra Packer Extra Copies
 Extra Recorder
 Day Standby
 Accessibility

Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90
 Sub Total 1899.40
 Total 1899.40
 MP/DST Disc't

Approved By _____ Our Representative Royal Justice

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. 55173

Well Name & No. Schmidt-Vap #1-26 Test No. 3 Date 2-17-14
 Company Murfin Drilling Co., Inc. Elevation 2911 KB 2900 GL
 Address 250 W. Water Ste. 300 Wichita KS, 67202
 Co. Rep / Geo. Robert Hendrix Rig Murfin #2
 Location: Sec. 26 Twp. 4S Rge. 31W Co. Rawlins State KS

Interval Tested 4045-4109 Zone Tested Lans -H-I
 Anchor Length 64' Drill Pipe Run 3760' Mud Wt. 9.1
 Top Packer Depth 4041 Drill Collars Run 264' Vis 54
 Bottom Packer Depth 4045 Wt. Pipe Run 0 WL 6.4
 Total Depth 4109 Chlorides 3,300 ppm System LCM 7#

Blow Description IF - Surface blow built to bottom of bucket in 4 min.
ISI - Return built to bottom of bucket in 30 min.
FF - Surface built to bottom of bucket in 4 min.
FSI - Return built to bottom of bucket in 17 min.

Rec	Feet of	%gas	%oil	%water	%mud
<u>1532'</u>	<u>DK Gas Oil</u>	<u>100</u>			
	<u>1429' - Gas in pipe</u>	<u>100</u>			

Rec Total 1532' BHT 1297F Gravity 31@60° API RW @ ° F Chlorides ppm

(A) Initial Hydrostatic 2029 Test 1250 T-On Location 5:40pm
 (B) First Initial Flow 79 Jars 250 T-Started 6:13pm
 (C) First Final Flow ~~236~~ 236 Safety Joint 75 T-Open 8:01pm
 (D) Initial Shut-In 1297 Circ Sub used 50 T-Pulled 12:01 am
 (E) Second Initial Flow 262 Hourly Standby _____ T-Out 3:35 am
 (F) Second Final Flow 487 Mileage 48 R/T 74.40 Comments Dropped bar
 (G) Final Shut-In 1296 Sampler _____
 (H) Final Hydrostatic 1996 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____

Initial Open 30 Extra Packer _____ Extra Copies _____
 Initial Shut-In 60 Extra Recorder _____ Sub Total 0
 Final Flow 60 Day Standby _____ Total 1699.40
 Final Shut-In 90 Accessibility 1699.40 MP/DST Disc't _____
 Sub Total 1699.40

Approved By _____ Our Representative _____

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 55174

Well Name & No. Schmidt - Vap #1-26 Test No. 4 Date 2-19-14
 Company Murfin Drilling Co, Inc. Elevation 2911 KB 2900 GL
 Address 250 N. Water Ste 300 Wichita KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Murfin #2
 Location: Sec. 26 Twp. 4S Rge. 31W Co. Rawlins State KS

Interval Tested 4320 - 4376 Zone Tested Ft. Scott - Cherokee
 Anchor Length 56' Drill Pipe Run 4046' Mud Wt. 9.3
 Top Packer Depth 4316 Drill Collars Run 264' Vis 51
 Bottom Packer Depth 4320 Wt. Pipe Run 0 WL 6.4
 Total Depth 4376 Chlorides 2,000 ppm System LCM 7#

Blow Description IF - Surface blow built to a weak surface
ISI - No Return
FF - No Surface blow
FSI - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>2'</u>	<u>mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 2' BHT 122°F Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2168 Test 1250 T-On Location 4:25am
 (B) First Initial Flow 14 Jars 250 T-Started 5:22am
 (C) First Final Flow 16 Safety Joint 75 T-Open 8:05am
 (D) Initial Shut-In 36 Circ Sub N/C T-Pulled 12:03pm 11:05am
 (E) Second Initial Flow 16 Hourly Standby _____ T-Out 12:47pm
 (F) Second Final Flow 17 Mileage 48 R/T 148.80 Comments loaded tool
 (G) Final Shut-In 25 Sampler _____ at 11:42pm 2-19-14
 (H) Final Hydrostatic 2150 Straddle _____

Initial Open 30 Shale Packer _____ Ruined Shale Packer _____
 Initial Shut-In 60 Extra Packer _____ Ruined Packer _____
 Final Flow 30 Extra Recorder _____ Extra Copies _____
 Final Shut-In 60 Day Standby 1d 1h Total 33.33
 Sub Total 1723.80 Total 1757.13
 MP/DST Disc't _____

Approved By _____ Our Representative [Signature]

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