

**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water
Ste.300
Wichita, KS 67202

RECEIVED

MAR 10 2010

KCC WICHITA

ATTN: Rocky Milford

5 2S 26W Decatur KS

Schwab 'A' #1-5

Start Date: 2009.11.13 @ 06:00:00

End Date: 2009.11.13 @ 14:42:23

Job Ticket #: 35498 DST #: 1

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

**KCC
MAR 08 2010
CONFIDENTIAL**

Murfin Drilling Co.

Schwab 'A' #1-5

5 2S 26W Decatur KS

DST # 1

Toronto-Lans C

2009.11.13



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co.

250 N. Water
Ste.300
Wichita, KS 67202
ATTN: Rocky Milford

Schwab 'A' #1-5

5 2S 26W Decatur KS

Job Ticket: 35498 DST#: 1

Test Start: 2009.11.13 @ 06:00:00

GENERAL INFORMATION:

Formation: **Toronto-Lans C**
Deviated: **No Whipstock:** ft (KB)
Time Tool Opened: 08:09:53
Time Test Ended: 14:42:23

Test Type: **Conventional Bottom Hole**
Tester: **Chuck Kreuzer**
Unit No: **36**

Interval: **3320.00 ft (KB) To 3397.00 ft (KB) (TVD)**
Total Depth: **3397.00 ft (KB) (TVD)**
Hole Diameter: **7.88 inches** Hole Condition: **Good**

Reference Elevations: **2570.00 ft (KB)**
2566.00 ft (CF)
KB to GR/CF: **4.00 ft**

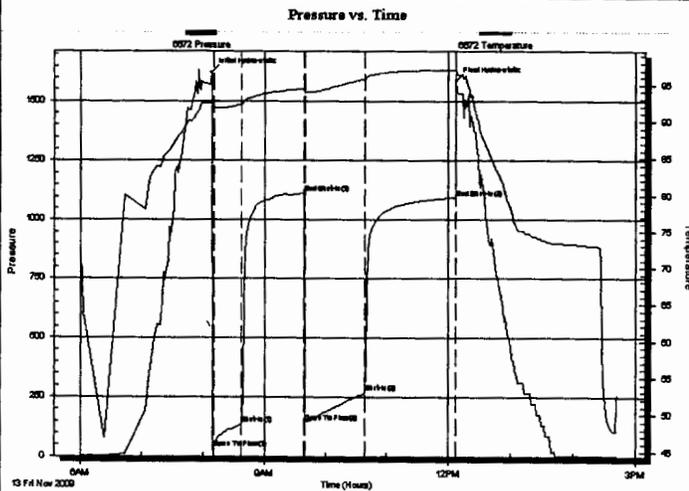
Serial #: 6672

Inside

Press@RunDepth: **268.12 psig @ 3329.00 ft (KB)**
Start Date: **2009.11.13** End Date: **2009.11.13**
Start Time: **06:00:05** End Time: **14:42:22**

Capacity: **8000.00 psig**
Last Calib.: **2009.11.13**
Time On Btrr: **2009.11.13 @ 08:07:53**
Time Off Btrr: **2009.11.13 @ 12:07:23**

TEST COMMENT: IF: Strong blow, B.O.B in 9 mins.
IS: Bled off, blow back after 1 min. Built to 2 3/4 in over 60 mins.
FF: Strong blow, B.O.B in 8 mins.
FSI: Bled off, Blow back after 1 min. Built to 5 1/2 in. ove



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1623.43	92.52	Initial Hydro-static
2	36.30	91.84	Open To Flow (1)
29	135.44	92.35	Shut-In(1)
91	1114.23	94.46	End Shut-In(1)
92	146.64	93.98	Open To Flow(2)
151	268.12	95.86	Shut-In(2)
239	1095.86	97.03	End Shut-In(2)
240	1587.47	97.22	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	gocm-20%g20%o60%m	0.59
122.00	gocm-15%g35%o50%m	1.16
124.00	go-25%g75%o	1.74
278.00	go-10%g90%o	3.90
0.00	434ft. gas in pipe	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

Schwab 'A' #1-5

250 N. Water
Ste.300
Wichita, KS 67202
ATTN: Rocky Milford

5 2S 26W Decatur KS
Job Ticket: 35498 DST#: 1
Test Start: 2009.11.13 @ 06:00:00

Tool Information

Drill Pipe:	Length: 3140.00 ft	Diameter: 3.80 inches	Volume: 44.05 bbl	Tool Weight: 2200.00 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: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 50000.00 lb
			<u>Total Volume: 44.94 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 38000.00 lb
Depth to Top Packer:	3320.00 ft			Final 40000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	77.00 ft			
Tool Length:	97.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

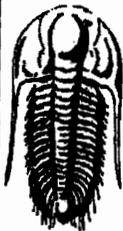
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KCC WICHITA

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3305.00	
Hydraulic tool	5.00			3310.00	
Packer	5.00			3315.00	20.00 Bottom Of Top Packer
Packer	5.00			3320.00	
Stubb	1.00			3321.00	
Perforations	7.00			3328.00	
Change Over Sub	1.00			3329.00	
Recorder	0.00	6672	Inside	3329.00	
Recorder	0.00	6752	Inside	3329.00	
Blank Spacing	64.00			3393.00	
Change Over Sub	1.00			3394.00	
Bullnose	3.00			3397.00	77.00 Bottom Packers & Anchor

Total Tool Length: 97.00



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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

Schwab 'A' #1-5

250 N. Water
Ste.300
Wichita, KS 67202
ATTN: Rocky Milford

5 2S 26W Decatur KS
Job Ticket: 35498 **DST#: 1**
Test Start: 2009.11.13 @ 06:00:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 57.00 sec/qt
Water Loss: 6.38 in³
Resistivity: ohm.m
Salinity: 700.00 ppm
Filter Cake: 2.00 inches

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

Oil API: deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	gocm-20%g20%o60%m	0.590
122.00	gocm-15%g35%o50%m	1.165
124.00	go-25%g75%o	1.739
278.00	go-10%g90%o	3.900
0.00	434ft. gas in pipe	0.000

Total Length: 644.00 ft Total Volume: 7.394 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 6672

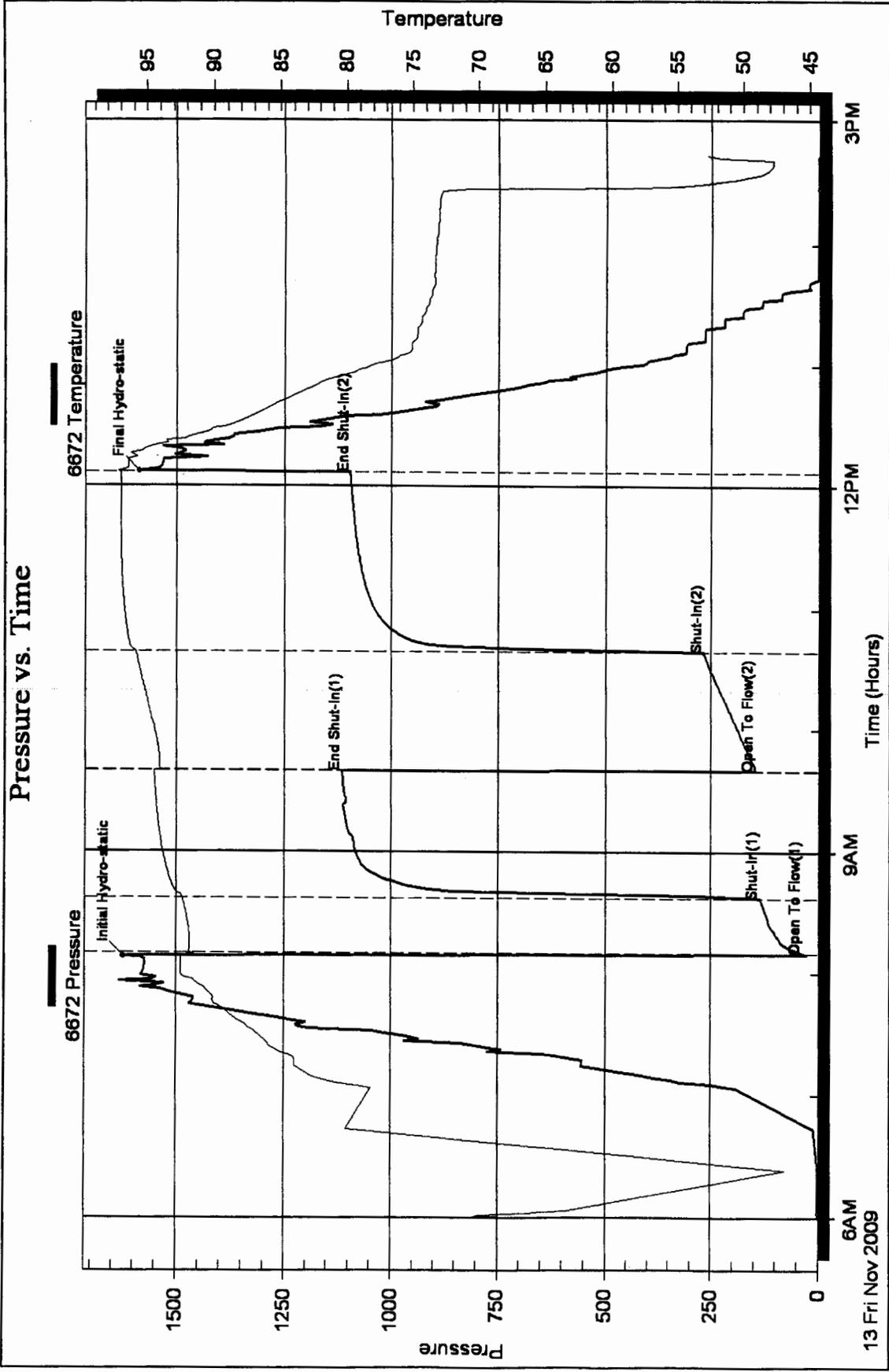
Inside

Murfin Drilling Co.

5 2S 26W Decatur KS

DST Test Number: 1

Pressure vs. Time



13 Fri Nov 2009

Trilobite Testing, Inc

Ref. No: 35498

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TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

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KCC WICHITA

Prepared For: **Murfin Drilling Co.**

250 N. Water
Ste.300
Wichita, KS 67202

ATTN: Rocky Milford

5 2S 26W Decatur KS

Schwab 'A' #1-5

Start Date: 2009.11.13 @ 21:05:00

End Date: 2009.11.14 @ 03:16:00

Job Ticket #: 35499 DST #: 2

Trilobite Testing, Inc
PO Box 1733 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Murfin Drilling Co.

Schwab 'A' #1-5

5 2S 26W Decatur KS

DST # 2

LKC-D

2009.11.13



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co.

250 N. Water
Ste.300
Wichita, KS 67202
ATTN: Rocky Milford

Schwab 'A' #1-5

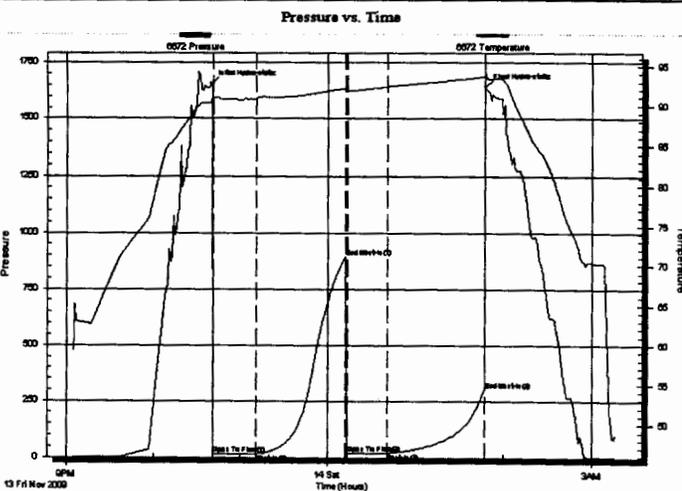
5 2S 26W Decatur KS
Job Ticket: 35499 DST#: 2
Test Start: 2009.11.13 @ 21:05:00

GENERAL INFORMATION:

Formation: **LKC-D**
 Deviated: **No Whipstock** ft (KB)
 Test Type: **Conventional Bottom Hole**
 Time Tool Opened: **22:41:00**
 Tester: **Chuck Kreuzter**
 Time Test Ended: **03:16:00**
 Unit No: **36**
 Interval: **3401.00 ft (KB) To 3424.00 ft (KB) (TVD)**
 Reference Elevations: **2570.00 ft (KB)**
 Total Depth: **3424.00 ft (KB) (TVD)**
2566.00 ft (CF)
 Hole Diameter: **7.88 inches** Hole Condition: **Good**
 KB to GR/CF: **4.00 ft**

Serial #: 6672 **Inside**
 Press@RunDepth: **22.05 psig @ 3402.00 ft (KB)** Capacity: **8000.00 psig**
 Start Date: **2009.11.13** End Date: **2009.11.14** Last Calib.: **2009.11.14**
 Start Time: **21:05:05** End Time: **03:15:59** Time On Btrr: **2009.11.13 @ 22:39:30**
 Time Off Btrr: **2009.11.14 @ 01:47:30**

TEST COMMENT: IF: Weak surface blow, Died in 6 mins.
 IS: No blow back over 60 mins.
 FF: Weak blow, Died in 30 sec.
 FS: No blow back over 60 mins.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1656.41	90.35	Initial Hydro-static
2	15.47	90.85	Open To Flow (1)
32	18.12	90.82	Shut-In(1)
93	893.13	92.14	End Shut-In(1)
94	19.72	91.81	Open To Flow (2)
122	22.05	92.37	Shut-In(2)
188	298.77	93.68	End Shut-In(2)
188	1643.21	94.40	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	ocm-5%o95%m	0.02

Gas Rates

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



**TRILOBITE
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DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

Schwab 'A' #1-5

250 N. Water
Ste.300
Wichita, KS 67202
ATTN: Rocky Milford

5 2S 26W Decatur KS
Job Ticket: 35499 **DST#: 2**
Test Start: 2009.11.13 @ 21:05:00

Tool Information

Drill Pipe:	Length: 3225.00 ft	Diameter: 3.80 inches	Volume: 45.24 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 28000.00 lb
Drill Collar:	Length: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 48000.00 lb
			<u>Total Volume: 46.13 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 38000.00 lb
Depth to Top Packer:	3401.00 ft			Final 38000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	23.00 ft			
Tool Length:	43.00 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			3386.00	
Hydraulic tool	5.00			3391.00	
Packer	5.00			3396.00	20.00 Bottom Of Top Packer
Packer	5.00			3401.00	
Stubb	1.00			3402.00	
Recorder	0.00	6672	Inside	3402.00	
Recorder	0.00	6752	Inside	3402.00	
Perforations	19.00			3421.00	
Bullnose	3.00			3424.00	23.00 Bottom Packers & Anchor
Total Tool Length:	43.00				



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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

Schwab 'A' #1-5

250 N. Water
Ste.300
Wichita, KS 67202

5 2S 26W Decatur KS

Job Ticket: 35499

DST#: 2

ATTN: Rocky Milford

Test Start: 2009.11.13 @ 21:05:00

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: 55.00 sec/qt

Cushion Volume:

bbl

Water Loss: 6.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	ocm-5%o95%m	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:

Serial #: 6672

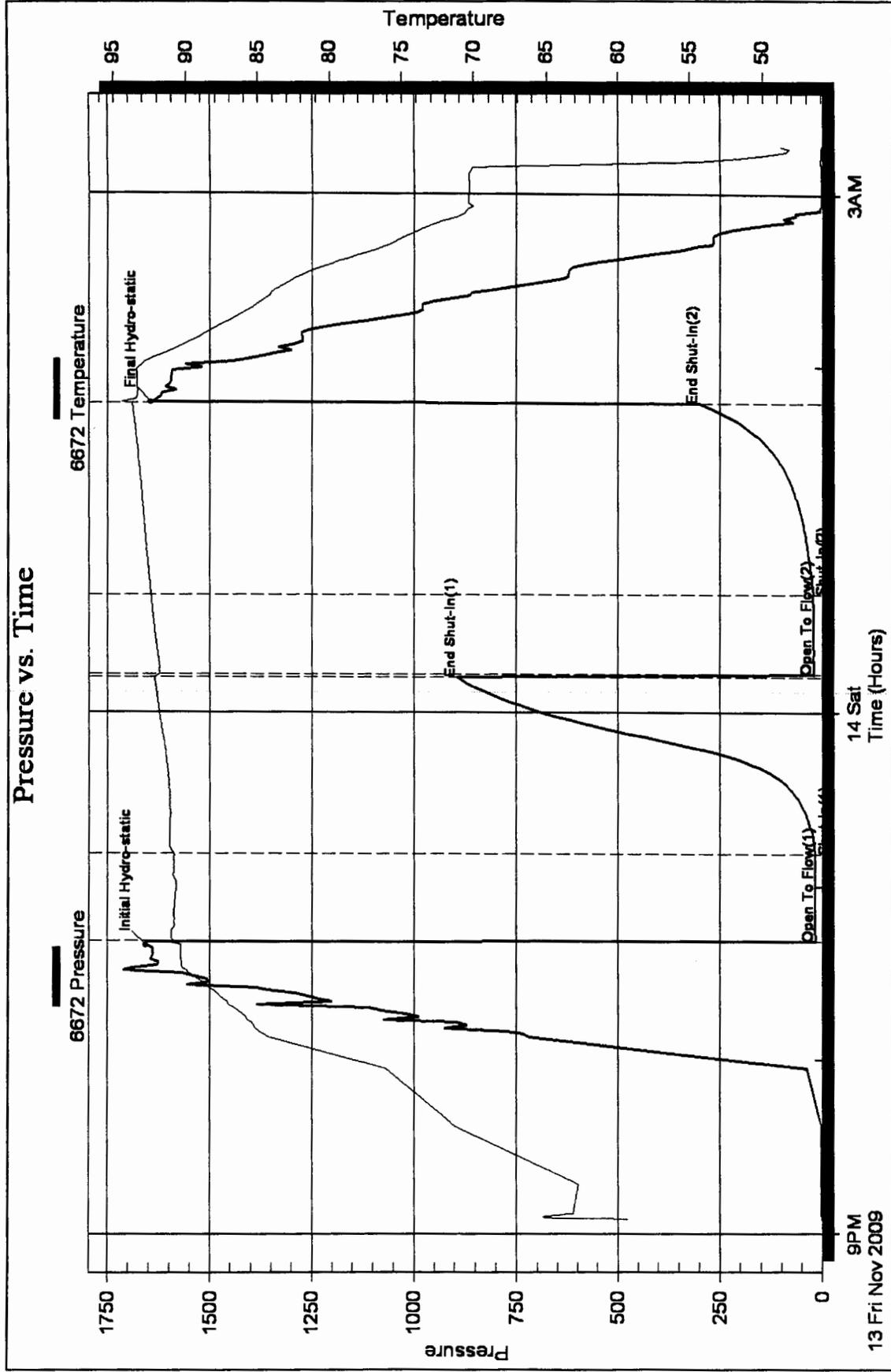
Inside

Murfin Drilling Co.

5 2S 26W Decatur KS

DST Test Number: 2

Pressure vs. Time





**TRILOBITE
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DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water
Ste.300
Wichita, Ks. 67202

ATTN: Rocky Milford

5 2S 26W Decatur KS

Schwab 'A' #1-5

Start Date: 2009.11.14 @ 13:10:00

End Date: 2009.11.14 @ 20:59:00

Job Ticket #: 35500 DST #: 3

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Murfin Drilling Co.

Schwab 'A' #1-5

5 2S 26W Decatur KS

DST # 3

LKC-H-J

2009.11.14



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.
250 N. Water
Ste.300
Wichita, Ks. 67202
ATTN: Rocky Milford

Schwab 'A' #1-5
5 2S 26W Decatur KS
Job Ticket: 35500 DST#: 3
Test Start: 2009.11.14 @ 13:10:00

Tool Information

Drill Pipe:	Length: 3258.00 ft	Diameter: 3.80 inches	Volume: 45.70 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 28000.00 lb
Drill Collar:	Length: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 50000.00 lb
			<u>Total Volume: 46.59 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 38000.00 lb
Depth to Top Packer:	3446.00 ft			Final 40000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	69.00 ft			
Tool Length:	89.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3431.00	
Hydraulic tool	5.00			3436.00	
Packer	5.00			3441.00	20.00 Bottom Of Top Packer
Packer	5.00			3446.00	
Stubb	1.00			3447.00	
Perforations	2.00			3449.00	
Change Over Sub	1.00			3450.00	
Recorder	0.00	6672	Inside	3450.00	
Recorder	0.00	6752	Inside	3450.00	
Blank Spacing	32.00			3482.00	
Change Over Sub	1.00			3483.00	
Perforations	29.00			3512.00	
Bullnose	3.00			3515.00	69.00 Bottom Packers & Anchor

Total Tool Length: 89.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.
250 N. Water
Ste.300
Wichita, Ks. 67202
ATTN: Rocky Milford

Schwab 'A' #1-5
5 2S 26W Decatur KS
Job Ticket: 35500 **DST#: 3**
Test Start: 2009.11.14 @ 13:10:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length:	Water Salinity:	43900 ppm
Viscosity: 60.00 sec/qt	Cushion Volume:		
Water Loss: 5.99 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure:		
Salinity: 900.00 ppm			
Filter Cake: 2.00 inches			

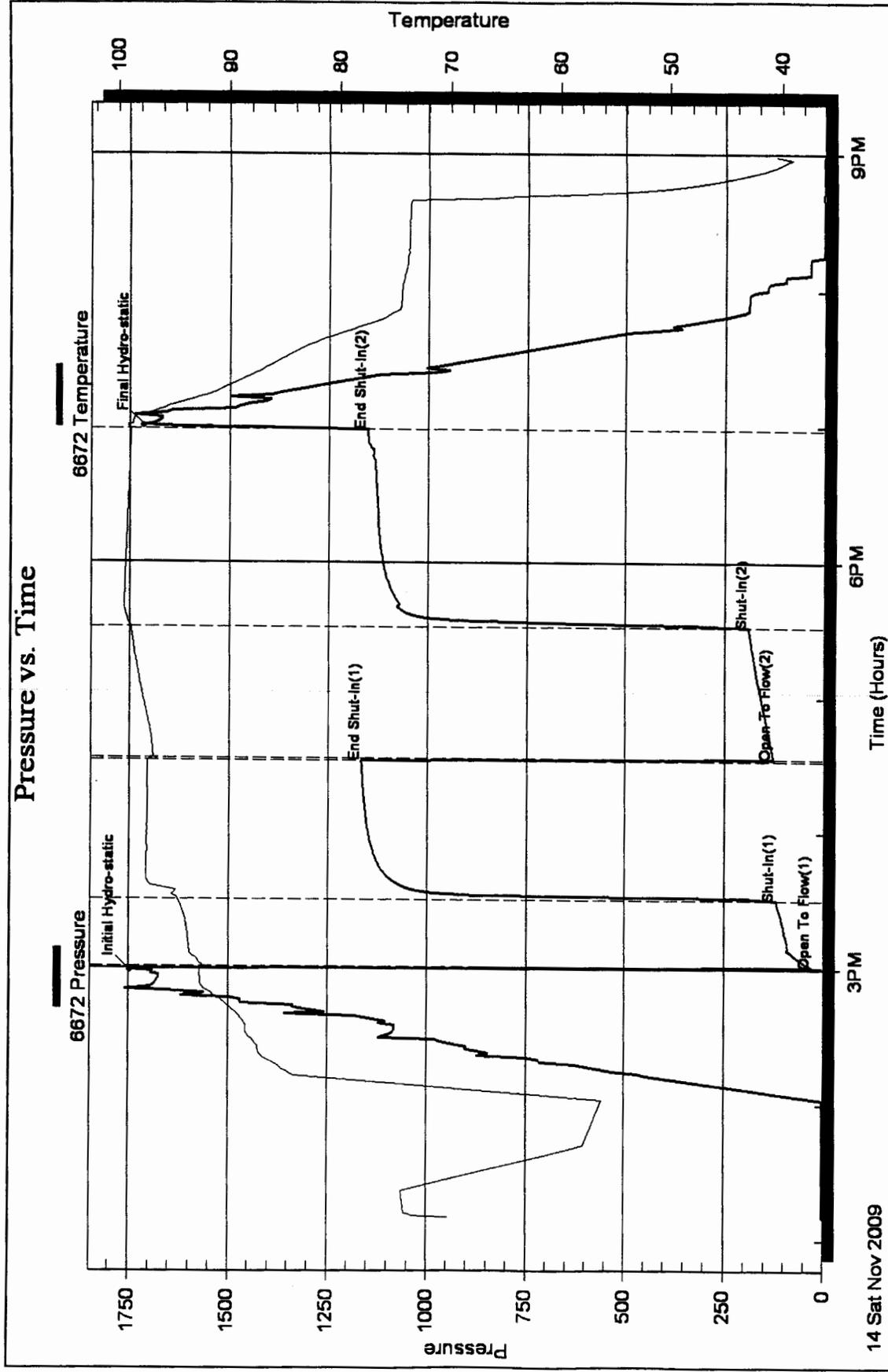
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	mcw-10% <i>m</i> 90% <i>w</i>	0.885
62.00	gmcw-5% <i>g</i> 35% <i>m</i> 60% <i>w</i>	0.870
124.00	gow cm-5% <i>g</i> 5% <i>o</i> 30% <i>w</i> 60% <i>m</i>	1.739
62.00	go-20% <i>g</i> 80% <i>o</i>	0.870
30.00	go-10% <i>g</i> 90% <i>o</i>	0.421
0.00	92ft. gas in pipe	0.000

Total Length: 458.00 ft Total Volume: 4.785 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments: RW .20 @ 60F = 43900 chlorides



14 Sat Nov 2009



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water
Ste.300
Wichita, Ks. 67202

ATTN: Rocky Milford

5 2S 26W Decatur KS

Schwab 'A' #1-5

Start Date: 2009.11.15 @ 03:10:00

End Date: 2009.11.15 @ 10:03:00

Job Ticket #: 35601 DST #: 4

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Murfin Drilling Co.

Schwab 'A' #1-5

5 2S 26W Decatur KS

DST # 4

LKC-K

2009.11.15



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co.

Schwab 'A' #1-5

250 N. Water
Ste.300
Wichita, Ks. 67202
ATTN: Rocky Milford

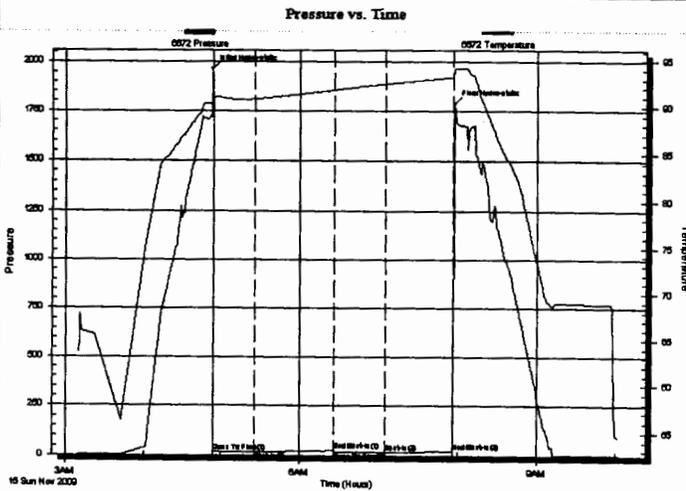
5 2S 26W Decatur KS
Job Ticket: 35601 **DST#: 4**
Test Start: 2009.11.15 @ 03:10:00

GENERAL INFORMATION:

Formation: **LKC- K**
 Deviated: **No Whipstock** ft (KB)
 Time Tool Opened: 04:54:00
 Time Test Ended: 10:03:00
 Test Type: **Conventional Bottom Hole**
 Tester: **Chuck Kreuzer**
 Unit No: **36**
 Interval: **3509.00 ft (KB) To 3540.00 ft (KB) (TVD)**
 Total Depth: **3540.00 ft (KB) (TVD)**
 Reference Elevations: **2570.00 ft (KB)**
2566.00 ft (CF)
 Hole Diameter: **7.88 inches** Hole Condition: **Good**
 KB to GR/CF: **4.00 ft**

Serial #: 6672 **Inside**
 Press@RunDepth: **17.97 psig @ 3510.00 ft (KB)** Capacity: **8000.00 psig**
 Start Date: **2009.11.15** End Date: **2009.11.15** Last Calib.: **2009.11.15**
 Start Time: **03:10:05** End Time: **10:02:59** Time On Btrr: **2009.11.15 @ 04:53:00**
 Time Off Btrr: **2009.11.15 @ 07:57:30**

TEST COMMENT: IF: Weak surface blow, Died in 7 mins.
 IS: No blow back over 60 mins.
 FF: No blow back over 30 mins.
 FS: No blow back over 60 mins



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1963.87	90.37	Initial Hydro-static
1	16.87	90.81	Open To Flow (1)
33	17.67	90.88	Shut-in(1)
93	26.61	91.84	End Shut-in(1)
94	17.00	91.85	Open To Flow (2)
133	17.97	92.51	Shut-in(2)
184	23.25	93.22	End Shut-in(2)
185	1786.64	94.09	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1.00	mud with oil specs	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

Schwab 'A' #1-5

250 N. Water
Ste.300
Wichita, Ks. 67202
ATTN: Rocky Milford

5 2S 26W Decatur KS
Job Ticket: 35601 **DST#: 4**
Test Start: 2009.11.15 @ 03:10:00

Tool Information

Drill Pipe:	Length: 3320.00 ft	Diameter: 3.80 inches	Volume: 46.57 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 28000.00 lb
Drill Collar:	Length: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 50000.00 lb
			<u>Total Volume: 47.46 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 38000.00 lb
Depth to Top Packer:	3509.00 ft			Final 38000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	31.00 ft			
Tool Length:	51.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3494.00	
Hydraulic tool	5.00			3499.00	
Packer	5.00			3504.00	20.00 Bottom Of Top Packer
Packer	5.00			3509.00	
Stubb	1.00			3510.00	
Recorder	0.00	6672	Inside	3510.00	
Recorder	0.00	6752	Inside	3510.00	
Perforations	27.00			3537.00	
Bullnose	3.00			3540.00	31.00 Bottom Packers & Anchor
Total Tool Length:	51.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

Schwab 'A' #1-5

250 N. Water
Ste.300
Wichita, Ks. 67202
ATTN: Rocky Milford

5 2S 26W Decatur KS
Job Ticket: 35601 **DST#: 4**
Test Start: 2009.11.15 @ 03:10:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 60.00 sec/qt
Water Loss: 5.99 in³
Resistivity: ohm.m
Salinity: 900.00 ppm
Filter Cake: 2.00 inches

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

Oil API: deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1.00	mud with oil specs	0.005

Total Length: 1.00 ft Total Volume: 0.005 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:

Pressure vs. Time

