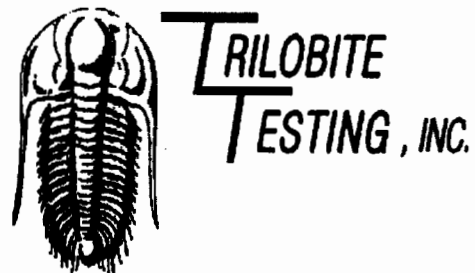


15-109-20857

1-13s-33w

IND



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co**

250 N Water Ste 300
Wichita, KS
67202

ATTN: Tom Funk

1-13s-33w Logan, Ks

Voth #1-1

Start Date: 2009.09.04 @ 05:45:20

End Date: 2009.09.04 @ 14:30:29

Job Ticket #: 34869 DST #: 1

RECEIVED

DEC 23 2009

KCC WICHITA

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Murfin Drilling Co

Voth #1-1

1-13s-33w Logan, Ks

DST # 1

Altamont-Ft Scott

2009.09.04



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co

250 N Water Ste 300
Wichita, KS
67202
ATTN: Tom Funk

Voth #1-1

1-13s-33w Logan, Ks

Job Ticket: 34869

DST#: 1

Test Start: 2009.09.04 @ 05:45:20

GENERAL INFORMATION:

Formation: **Altamont-Ft Scott**

Deviated: **No** Whipstock: **ft (KB)**

Time Tool Opened: 08:19:30

Time Test Ended: 14:30:29

Test Type: **Conventional Bottom Hole**

Tester: **Shane McBride**

Unit No: **40**

Interval: **4400.00 ft (KB) To 4585.00 ft (KB) (TVD)**

Total Depth: **4585.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Fair**

Reference Elevations: **3065.00 ft (KB)**

3055.00 ft (CF)

KB to GR/CF: **10.00 ft**

Serial #: 6771 **Outside**

Press@RunDepth: **73.79 psig @ 4401.00 ft (KB)**

Start Date: **2009.09.04**

End Date: **2009.09.04**

Start Time: **05:45:20**

End Time: **13:56:29**

Capacity: **7000.00 psig**

Last Calib.: **2009.09.04**

Time On Btrc: **2009.09.04 @ 08:19:00**

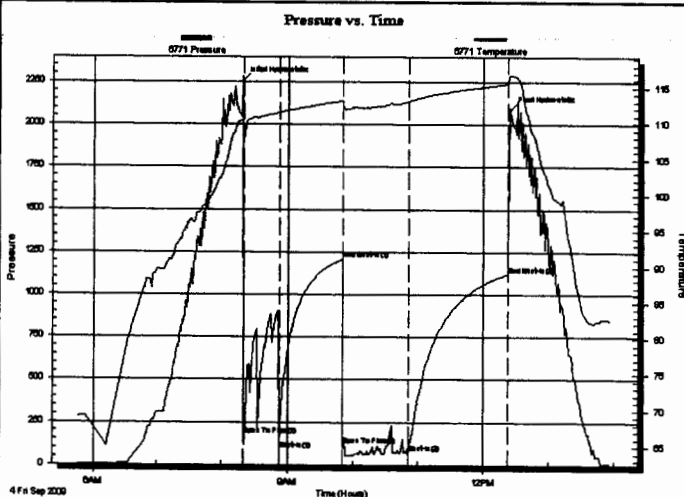
Time Off Btrc: **2009.09.04 @ 12:24:45**

TEST COMMENT: 1" in. blow @ open, died back to a weak surface blow

No return

No blow

No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2254.99	110.53	Initial Hydro-static
1	172.91	107.44	Open To Flow (1)
34	88.40	111.37	Shut-in(1)
92	1208.61	113.17	End Shut-in(1)
92	118.10	112.53	Open To Flow (2)
153	73.79	113.06	Shut-in(2)
244	1120.63	115.49	End Shut-in(2)
246	2086.13	116.76	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
95.00	mud 100% m	0.47

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co

Voth #1-1

250 N Water Ste 300

1-13s-33w Logan, Ks

Wichita, KS

Job Ticket: 34869

DST#: 1

67202

Test Start: 2009.09.04 @ 05:45:20

ATTN: Tom Funk

Tool Information

Drill Pipe:	Length: 3828.00 ft	Diameter: 3.80 inches	Volume: 53.70 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: 583.00 ft	Diameter: 2.25 inches	Volume: 2.87 bbl	Weight to Pull Loose:	100000.0 lb	
			Total Volume:	56.57 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial	80000.00 lb	
Depth to Top Packer:	4400.00 ft			Final	80000.00 lb	
Depth to Bottom Packer:	ft					
Interval between Packers:	185.00 ft					
Tool Length:	205.00 ft					
Number of Packers:	2	Diameter:	6.75 inches			

Tool Comments:

CONFIDENTIAL
DTC 2 3 2009

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4381.00	
Shut In Tool	5.00			4386.00	
Hydraulic tool	5.00			4391.00	
Packer	5.00			4396.00	20.00 Bottom Of Top Packer
Packer	4.00			4400.00	
Stubb	1.00			4401.00	
Recorder	0.00	6667	Inside	4401.00	
Recorder	0.00	6771	Outside	4401.00	
Perforations	20.00			4421.00	
Change Over Sub	1.00			4422.00	
Drill Pipe	157.00			4579.00	
Change Over Sub	1.00			4580.00	
Bullnose	5.00			4585.00	185.00 Bottom Packers & Anchor

Total Tool Length: 205.00



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co

Voth #1-1

250 N Water Ste 300
Wichita, KS
67202

1-13a-33w Logan, Ks

Job Ticket: 34869

DST#: 1

ATTN: Tom Funk

Test Start: 2009.09.04 @ 05:45:20

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 49.00 sec/qt

Water Loss: 6.38 in³

Resistivity: 0.00 ohm.m

Salinity: 9600.00 ppm

Filter Cake: 2.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

Oil API:

Water Salinity:

ft

bbl

psig

0 deg API

0 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
95.00	mud 100% _m	0.467

Total Length: 95.00 ft

Total Volume: 0.467 bbl

Num Fluid Samples: 0

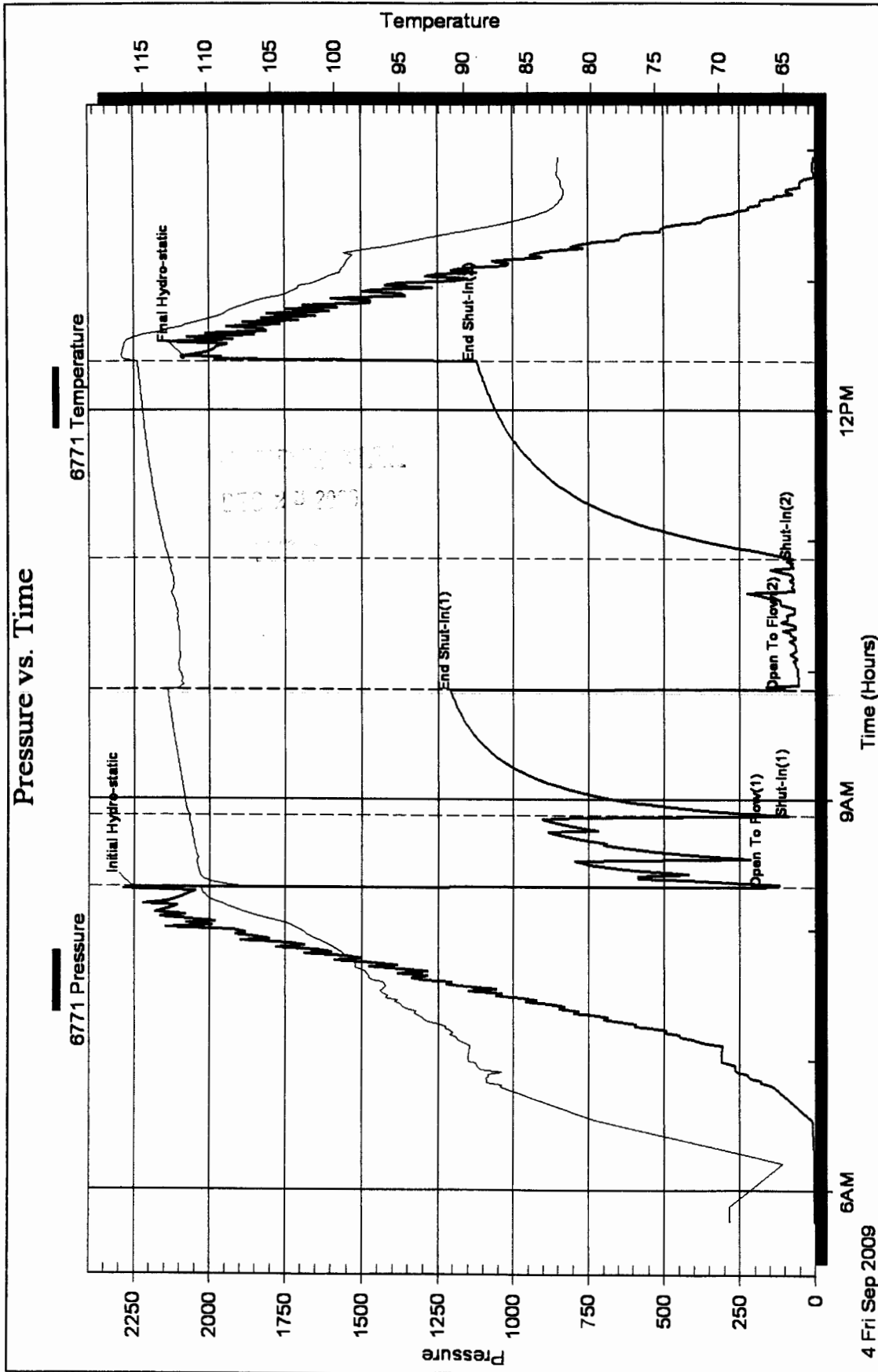
Num Gas Bombs: 0

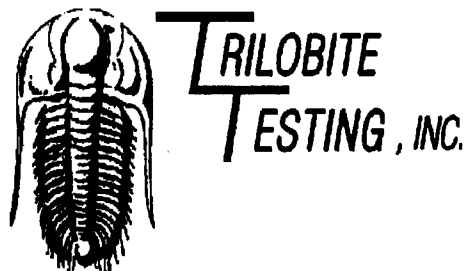
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





DRILL STEM TEST REPORT

CONFIDENTIAL
8/10/09 2:00

Prepared For: **Murfin Drilling Co**

250 N Water Ste 300
Wichita, KS
67202

ATTN: Tom Funk

1-13s-33w Logan, Ks

Voth #1-1

Start Date: 2009.09.04 @ 22:45:34

End Date: 2009.09.05 @ 08:47:19

Job Ticket #: 34870 DST #: 2

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Murfin Drilling Co

Voth #1-1

1-13s-33w Logan, Ks

DST # 2

Johnson

2009.09.04



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co

250 N Water Ste 300
Wichita, KS
67202

ATTN: Tom Funk

Voth #1-1

1-13s-33w Logan, Ks

Job Ticket: 34870

DST#: 2

Test Start: 2009.09.04 @ 22:45:34

GENERAL INFORMATION:

Formation: **Johnson**

Deviated: **No** Whipstock: **ft (KB)**

Time Tool Opened: 00:59:34

Time Test Ended: 08:47:19

Test Type: **Conventional Bottom Hole**

Tester: **Shane McBride**

Unit No: **40**

Interval: **4590.00 ft (KB) To 4647.00 ft (KB) (TVD)**

Total Depth: **4647.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Fair**

Reference Elevations: **3065.00 ft (KB)**

3055.00 ft (CF)

KB to GR/CF: **10.00 ft**

Serial #: 6667 **Inside**

Press@RunDepth: **834.13 psig @ 4591.00 ft (KB)**

Start Date: **2009.09.04**

End Date:

2009.09.05

Start Time: **22:45:39**

End Time:

08:47:19

Capacity: **7000.00 psig**

Last Calib.: **2009.09.05**

Time On Btm: **2009.09.05 @ 00:59:19**

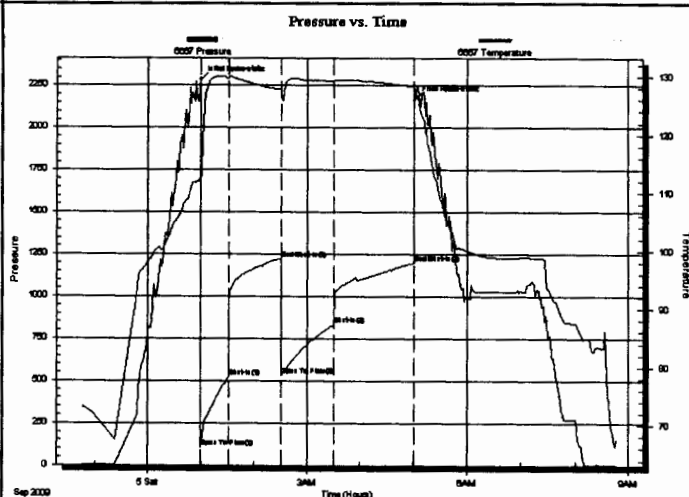
Time Off Btm: **2009.09.05 @ 05:01:34**

TEST COMMENT: **B.O.B. in 3 min.**

9 1/2" in return blow died back to 5" in.

B.O.B. in 1 1/2" in

7" in return blow died back to 2" in.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2282.92	112.57	Initial Hydro-static
1	108.05	112.04	Open To Flow (1)
32	522.41	129.72	Shut-In(1)
91	1224.42	127.76	End Shut-In(1)
92	536.25	127.48	Open To Flow (2)
151	834.13	129.18	Shut-In(2)
242	1197.77	128.28	End Shut-In(2)
243	2164.99	128.44	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
95.00	m c g o 30m 20g 50o under circ sub	0.47
1995.00	c g o 20g 80o reversed out	23.89
60.00	c g o 15g 85o	0.84
0.00	316' gas in pipe	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co

Voth #1-1

250 N Water Ste 300

1-13s-33w Logan, Ks

Wichita, KS

Job Ticket: 34870

DST#: 2

67202

Test Start: 2009.09.04 @ 22:45:34

ATTN: Tom Funk

Tool Information

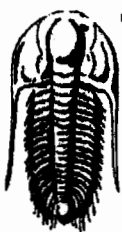
Drill Pipe:	Length: 4054.00 ft	Diameter: 3.80 inches	Volume: 56.87 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 544.00 ft	Diameter: 2.25 inches	Volume: 2.68 bbl	Weight to Pull Loose: 105000.0 lb
		Total Volume:	59.55 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial 80000.00 lb
Depth to Top Packer:	4590.00 ft			Final 84000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	57.00 ft			
Tool Length:	77.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4571.00	
Shut In Tool	5.00			4576.00	
Hydraulic tool	5.00			4581.00	
Packer	5.00			4586.00	20.00 Bottom Of Top Packer
Packer	4.00			4590.00	
Stubb	1.00			4591.00	
Recorder	0.00	6667	Inside	4591.00	
Recorder	0.00	6771	Outside	4591.00	
Perforations	17.00			4608.00	
Change Over Sub	1.00			4609.00	
Drill Pipe	32.00			4641.00	
Change Over Sub	1.00			4642.00	
Bullnose	5.00			4647.00	57.00 Bottom Packers & Anchor

Total Tool Length: 77.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co

Voth #1-1

250 N Water Ste 300
Wichita, KS
67202

1-13~~s~~-33w Logan, Ks

Job Ticket: 34870

DST#: 2

ATTN: Tom Funk

Test Start: 2009.09.04 @ 22:45:34

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

25 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbf

Water Loss: 6.38 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 9600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
95.00	m c g o 30m 20g 50o under circ sub	0.467
1995.00	c g o 20g 80o reversed out	23.894
60.00	c g o 15g 85o	0.842
0.00	316' gas in pipe	0.000

Total Length: 2150.00 ft

Total Volume: 25.203 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 6667

Inside

Murfin Drilling Co

1-13s-33w Logan, Ks

DST Test Number: 2

Pressure vs. Time

