



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Ste. 300  
Wichita, KS 67202

ATTN: Wes Hansen

### **Steele "A" #3-20**

#### **S20-10s-34w Thomas, KS**

Start Date: 2012.05.07 @ 21:42:00

End Date: 2012.05.08 @ 07:09:30

Job Ticket #: 46639                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.16 @ 09:54:15





**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Murfin Drilling Co.  
250 N. Water Ste. 300  
Wichita, KS 67202  
ATTN: Wes Hansen

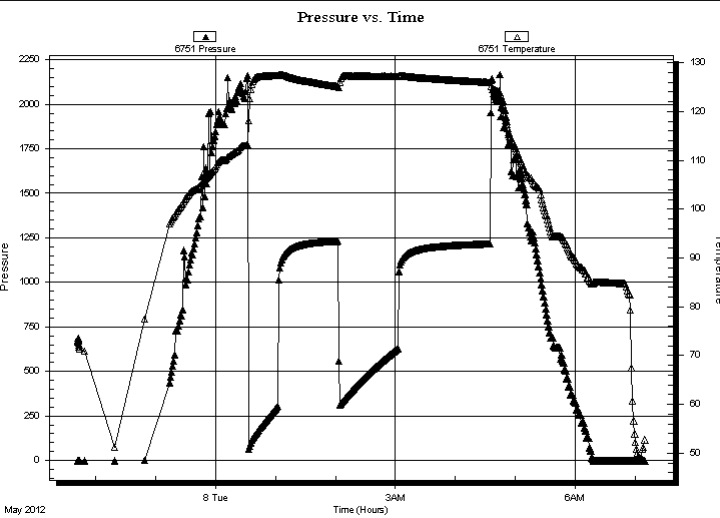
**S20-10s-34w Thomas, KS**  
**Steele "A" #3-20**  
Job Ticket: 46639      **DST#: 1**  
Test Start: 2012.05.07 @ 21:42:00

### GENERAL INFORMATION:

Formation: <b>LKC "B"</b>			
Deviated: No Whipstock:	ft (KB)	Test Type: Conventional Bottom Hole (Initial)	
Time Tool Opened: 00:32:40		Tester: Chuck Smith	
Time Test Ended: 07:09:30		Unit No: 37	
<b>Interval: 4190.00 ft (KB) To 4208.00 ft (KB) (TVD)</b>		Reference Elevations: 3248.00 ft (KB)	
Total Depth: 4208.00 ft (KB) (TVD)		3237.00 ft (CF)	
Hole Diameter: 7.88 inches	Hole Condition: Good	KB to GR/CF: 11.00 ft	

<b>Serial #: 6751</b>	<b>Outside</b>		
Press @ Run Depth: psig @ 4194.00 ft (KB)	Capacity: 8000.00 psig		
Start Date: 2012.05.07	End Date: 2012.05.08	Last Calib.: 2012.05.08	
Start Time: 21:42:02	End Time: 07:09:10	Time On Btm:	
		Time Off Btm:	

**TEST COMMENT:** B.O.B. @ 7 min.  
No return.  
B.O.B. @ 8 min.  
No return.



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
156.00	MW 15m 85w	0.77
1134.00	W 100w Oil spots in tool.	15.70

### Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co.

**S20-10s-34w Thomas, KS**

250 N. Water Ste. 300  
Wichita, KS 67202

**Steele "A" #3-20**

Job Ticket: 46639

**DST#: 1**

ATTN: Wes Hansen

Test Start: 2012.05.07 @ 21:42:00

## Tool Information

Drill Pipe:	Length: 4006.00 ft	Diameter: 3.80 inches	Volume: 56.19 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 179.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 57.07 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	22.50 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4190.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	18.00 ft			
Tool Length:	45.50 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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Change Over Sub	1.00			4163.50	
Shut In Tool	5.00			4168.50	
Hydraulic tool	5.00			4173.50	
Jars	5.00			4178.50	
Safety Joint	2.50			4181.00	
Packer	5.00			4186.00	27.50 Bottom Of Top Packer
Packer	4.00			4190.00	
Stubb	1.00			4191.00	
Perforations	3.00			4194.00	
Recorder	0.00	8018	Inside	4194.00	
Recorder	0.00	6751	Outside	4194.00	
Perforations	11.00			4205.00	
Bullnose	3.00			4208.00	18.00 Bottom Packers & Anchor

**Total Tool Length: 45.50**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**S20-10s-34w Thomas, KS**

250 N. Water Ste. 300  
Wichita, KS 67202

**Steele "A" #3-20**

Job Ticket: 46639

**DST#: 1**

ATTN: Wes Hansen

Test Start: 2012.05.07 @ 21:42:00

## 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:

58000 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.17 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6900.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
156.00	MW 15m 85w	0.767
1134.00	W 100w Oil spots in tool.	15.698

Total Length: 1290.00 ft      Total Volume: 16.465 bbl

Num Fluid Samples: 0

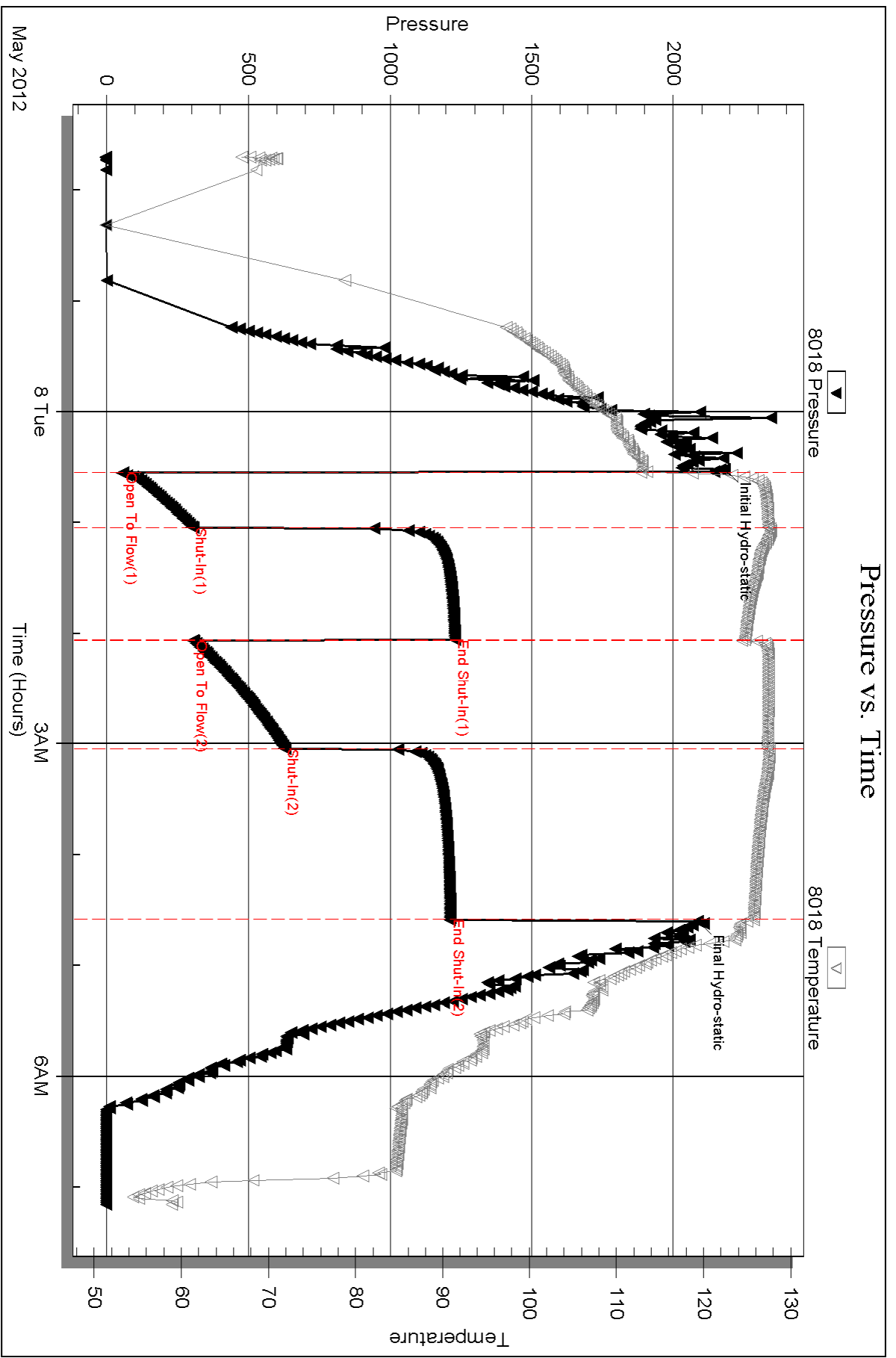
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW:.200 @ 47 Degrees F = 58000 PPM

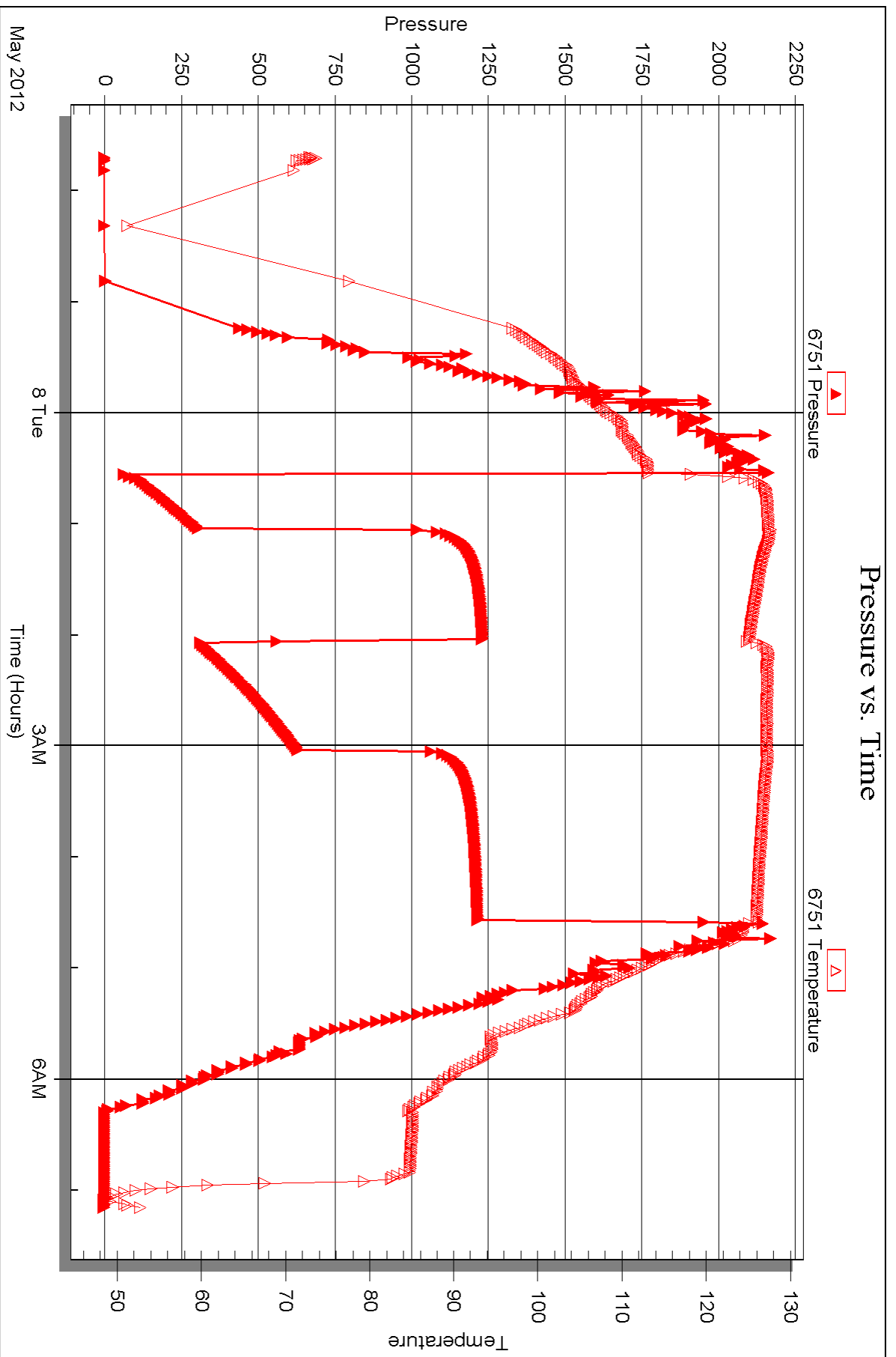


Serial #: 6751

Outside Murfin Drilling Co.

Steele "A" #3-20

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Ste. 300  
Wichita, KS 67202

ATTN: Wes Hansen

### **Steele "A" #3-20**

#### **S20-10s-34w Thomas, KS**

Start Date: 2012.05.08 @ 17:27:00

End Date: 2012.05.09 @ 01:58:39

Job Ticket #: 46640                      DST #: 2

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

Printed: 2012.05.16 @ 09:52:57

Murfin Drilling Co. S20-10s-34w Thomas, KS Steele "A" #3-20 DST # 2 LKC "E-F" 2012.05.08





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.  
250 N. Water Ste. 300  
Wichita, KS 67202  
ATTN: Wes Hansen

**S20-10s-34w Thomas, KS**

**Steele "A" #3-20**

Job Ticket: 46640

**DST#: 2**

Test Start: 2012.05.08 @ 17:27:00

## GENERAL INFORMATION:

Formation: **LKC "E-F"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 19:12:20  
 Time Test Ended: 01:58:39  
 Interval: **4237.00 ft (KB) To 4260.00 ft (KB) (TVD)**  
 Total Depth: 4260.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Chuck Smith  
 Unit No: 37  
 Reference Elevations: 3248.00 ft (KB)  
 3237.00 ft (CF)  
 KB to GR/CF: 11.00 ft

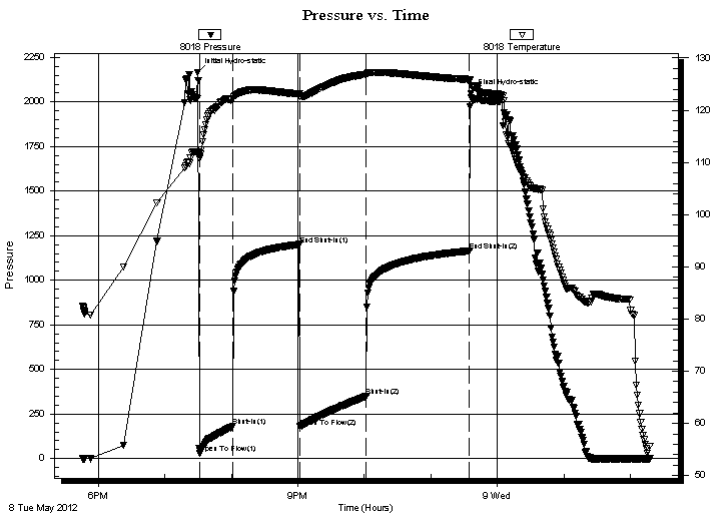
## Serial #: 8018

Inside

Press @ Run Depth: 348.96 psig @ 4241.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.05.08 End Date: 2012.05.09 Last Calib.: 2012.05.09  
 Start Time: 17:46:02 End Time: 02:17:40 Time On Btm: 2012.05.08 @ 19:29:30  
 Time Off Btm: 2012.05.08 @ 23:36:20

TEST COMMENT: B.O.B @ 15 1/2 min.  
 No return.  
 B.O.B. @ 19 min.  
 No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2165.64	111.99	Initial Hydro-static
2	29.59	111.33	Open To Flow (1)
32	180.25	122.17	Shut-In(1)
92	1200.46	123.10	End Shut-In(1)
93	178.21	122.60	Open To Flow (2)
153	348.96	126.88	Shut-In(2)
246	1164.37	125.88	End Shut-In(2)
247	2047.70	124.74	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
505.00	MW 5m 95w	5.45
220.00	WM 30w 70m Oil spots in tool.	3.09

\* 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.

**S20-10s-34w Thomas, KS**

250 N. Water Ste. 300  
Wichita, KS 67202

**Steele "A" #3-20**

Job Ticket: 46640

**DST#: 2**

ATTN: Wes Hansen

Test Start: 2012.05.08 @ 17:27:00

## Tool Information

Drill Pipe:	Length: 4040.00 ft	Diameter: 3.80 inches	Volume: 56.67 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 179.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 57.55 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	9.50 ft			String Weight: Initial 69000.00 lb
Depth to Top Packer:	4237.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	23.00 ft			
Tool Length:	50.50 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			4210.50	
Shut In Tool	5.00			4215.50	
Hydraulic tool	5.00			4220.50	
Jars	5.00			4225.50	
Safety Joint	2.50			4228.00	
Packer	5.00			4233.00	27.50 Bottom Of Top Packer
Packer	4.00			4237.00	
Stubb	1.00			4238.00	
Perforations	3.00			4241.00	
Recorder	0.00	8018	Inside	4241.00	
Recorder	0.00	6751	Outside	4241.00	
Perforations	16.00			4257.00	
Bullnose	3.00			4260.00	23.00 Bottom Packers & Anchor

**Total Tool Length: 50.50**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**S20-10s-34w Thomas, KS**

250 N. Water Ste. 300  
Wichita, KS 67202

**Steele "A" #3-20**

Job Ticket: 46640

**DST#: 2**

ATTN: Wes Hansen

Test Start: 2012.05.08 @ 17:27:00

## 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:

65000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6900.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
505.00	MW 5m 95w	5.453
220.00	WM 30w 70m Oil spots in tool.	3.086

Total Length: 725.00 ft

Total Volume: 8.539 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8018

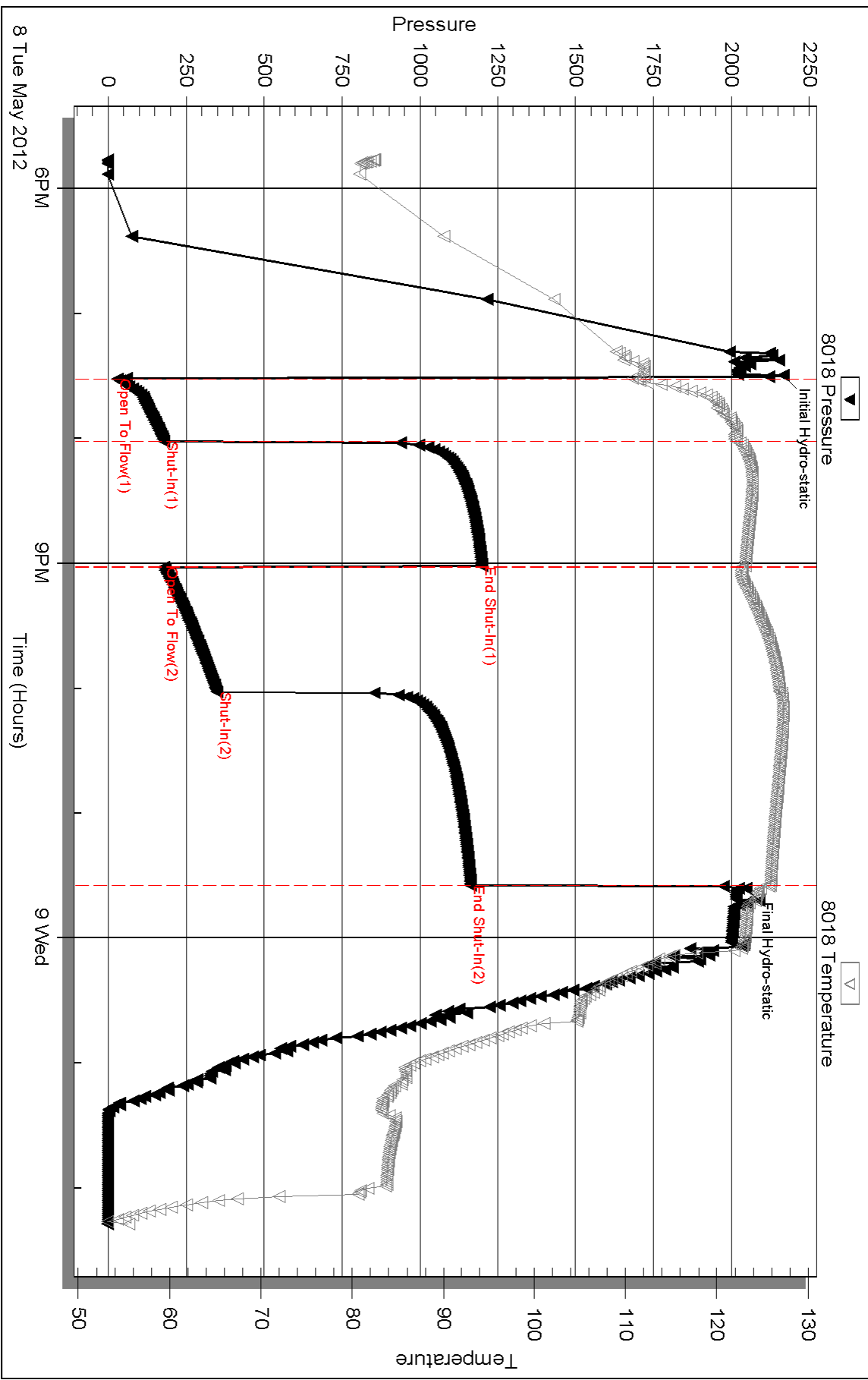
Inside

Murfin Drilling Co.

Steele "A" #3-20

DST Test Number: 2

### Pressure vs. Time

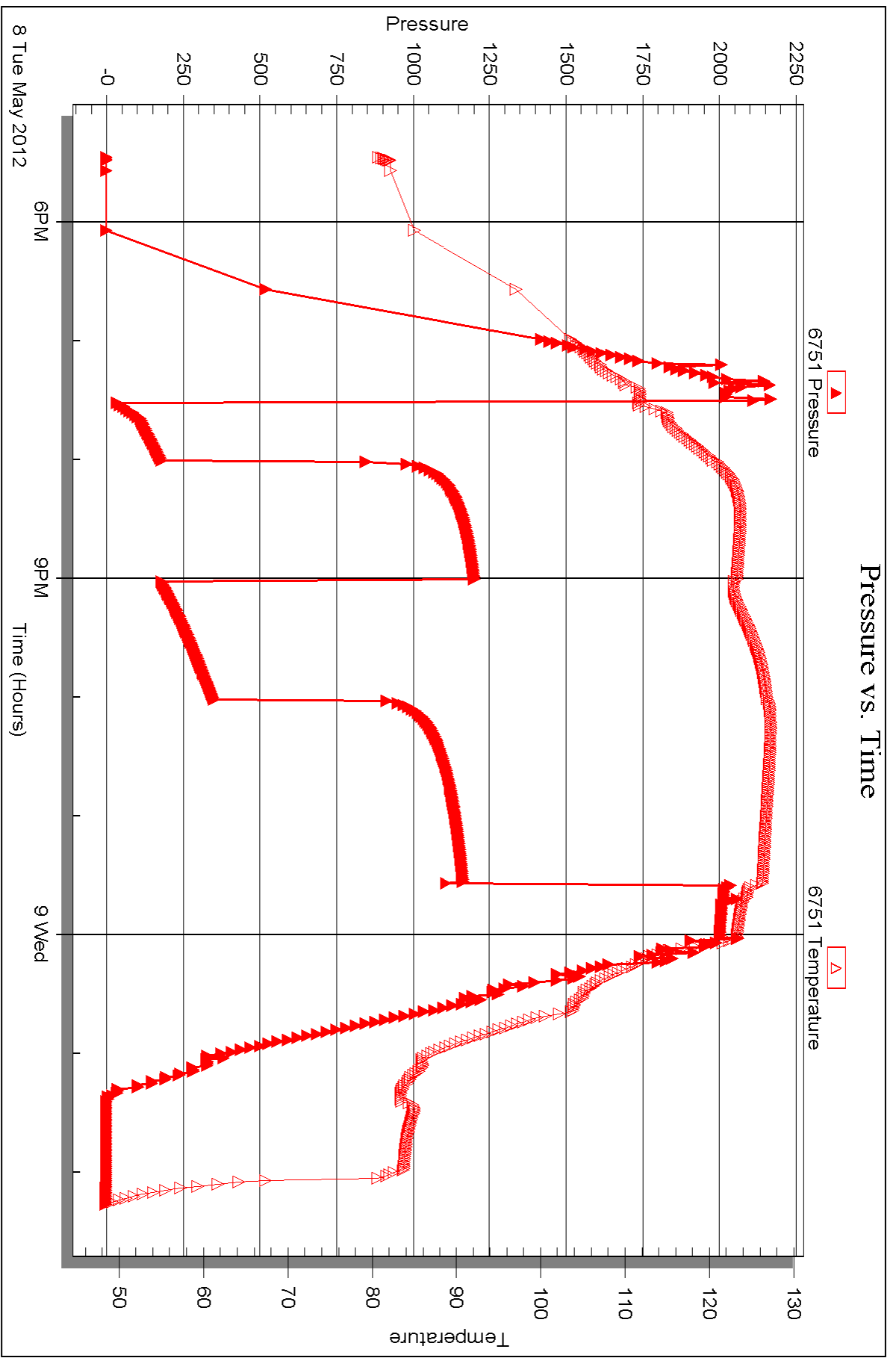


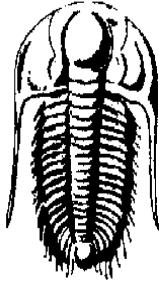
Serial #: 6751

Outside Murfin Drilling Co.

Steele "A" #3-20

DST Test Number: 2





**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Ste. 300  
Wichita, KS 67202

ATTN: Wes Hansen

### **Steele "A" #3-20**

#### **S20-10s-34w Thomas, KS**

Start Date: 2012.05.09 @ 15:02:00

End Date: 2012.05.09 @ 23:53:49

Job Ticket #: 46641                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.16 @ 09:51:47

Murfin Drilling Co. S20-10s-34w Thomas, KS Steele "A" #3-20 DST # 3 LKC "H" 2012.05.09









**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co.

**S20-10s-34w Thomas, KS**

250 N. Water Ste. 300  
Wichita, KS 67202

**Steele "A" #3-20**

Job Ticket: 46641

**DST#: 3**

ATTN: Wes Hansen

Test Start: 2012.05.09 @ 15:02:00

## Tool Information

Drill Pipe:	Length: 4102.00 ft	Diameter: 3.80 inches	Volume: 57.54 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 179.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 58.42 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	14.50 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4294.00 ft			Final 71000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	36.00 ft			
Tool Length:	63.50 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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Change Over Sub	1.00			4267.50	
Shut In Tool	5.00			4272.50	
Hydraulic tool	5.00			4277.50	
Jars	5.00			4282.50	
Safety Joint	2.50			4285.00	
Packer	5.00			4290.00	27.50 Bottom Of Top Packer
Packer	4.00			4294.00	
Stubb	1.00			4295.00	
Perforations	5.00			4300.00	
Recorder	0.00	8018	Inside	4300.00	
Recorder	0.00	6751	Outside	4300.00	
Perforations	27.00			4327.00	
Bullnose	3.00			4330.00	36.00 Bottom Packers & Anchor

**Total Tool Length: 63.50**



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Murfin Drilling Co.  
250 N. Water Ste. 300  
Wichita, KS 67202  
ATTN: Wes Hansen

**S20-10s-34w Thomas, KS**  
**Steele "A" #3-20**  
Job Ticket: 46641      **DST#: 3**  
Test Start: 2012.05.09 @ 15:02:00

**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:	40000 ppm
Viscosity: 50.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.38 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 9000.00 ppm			
Filter Cake: 2.00 inches			

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
179.00	MW 50m 50w	0.880
29.00	OSWM 20w 80m	0.407
2.00	O 100o	0.028

Total Length: 210.00 ft      Total Volume: 1.315 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments: RW:.261 @ 51 Degrees F = 40000 PPM

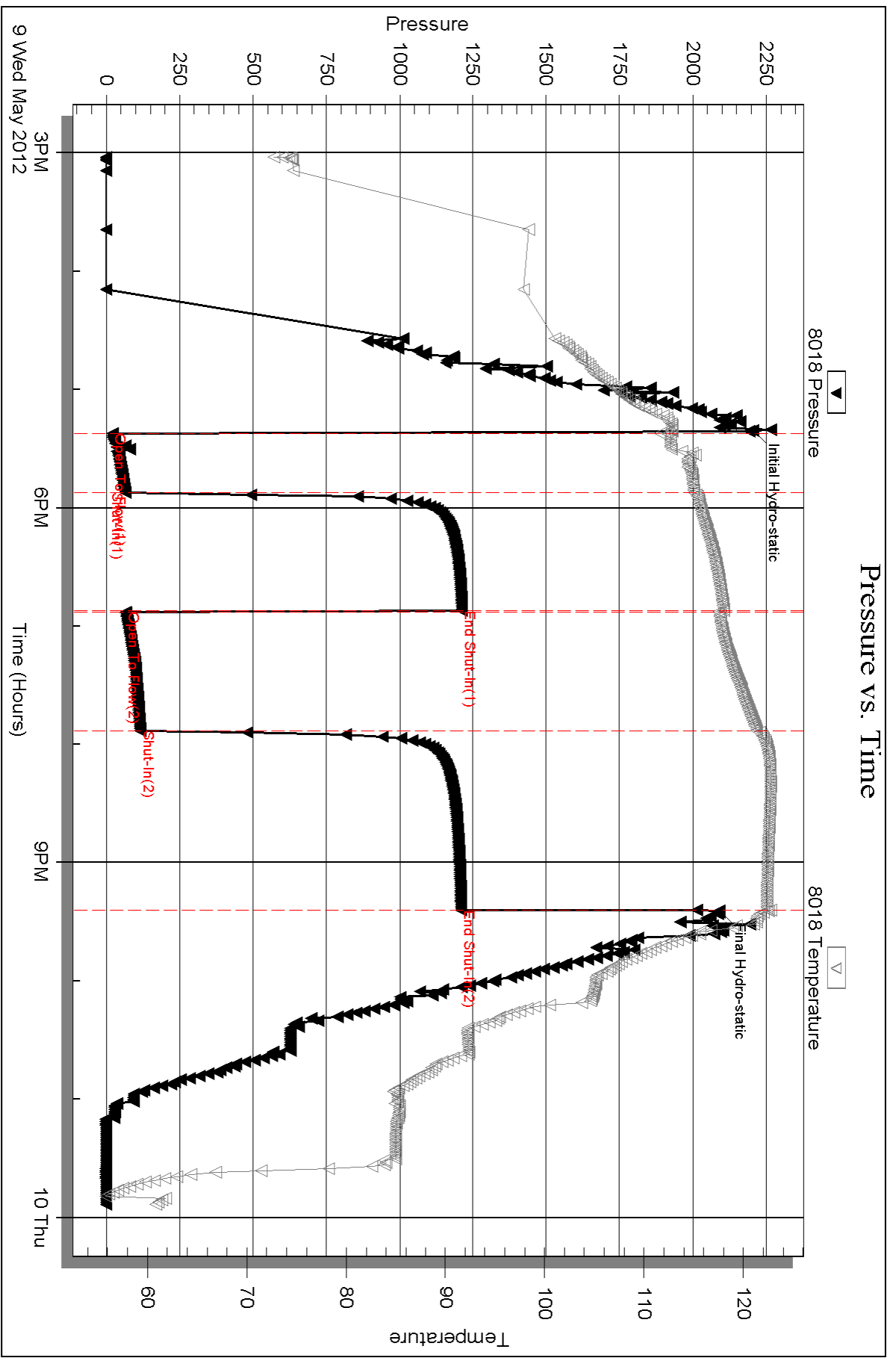
Serial #: 8018

Inside

Murfin Drilling Co.

Steele "A" #3-20

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 46641

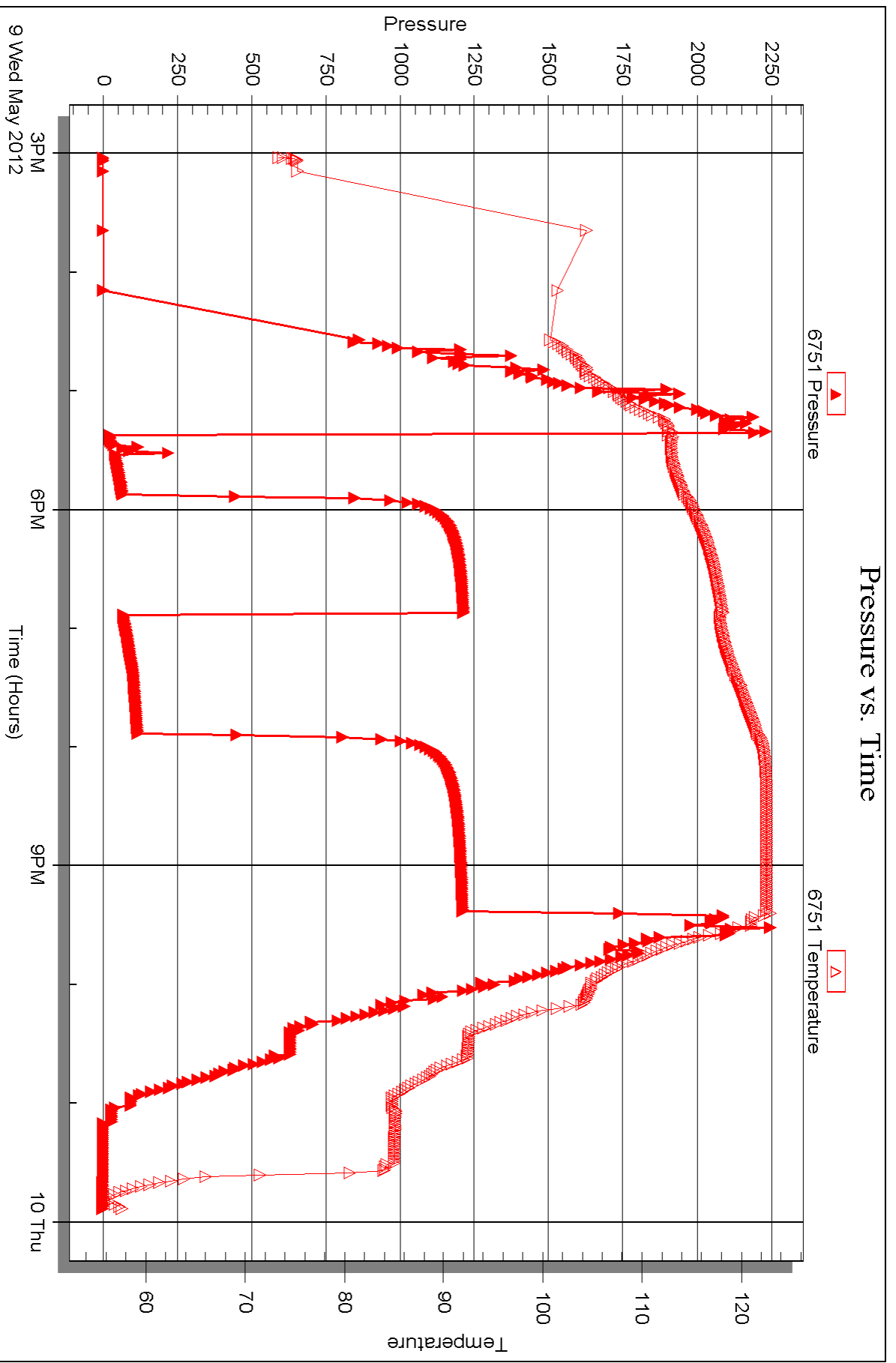
Printed: 2012.05.16 @ 09:51:50

Serial #: 6751

Outside Murfin Drilling Co.

Steele "A" #3-20

DST Test Number: 3





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Ste. 300  
Wichita, KS 67202

ATTN: Wes Hansen

### **Steele "A" #3-20**

#### **S20-10s-34w Thomas, KS**

Start Date: 2012.05.10 @ 17:39:00

End Date: 2012.05.11 @ 02:58:10

Job Ticket #: 46642                      DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.16 @ 09:50:50

Murfin Drilling Co. S20-10s-34w Thomas, KS Steele "A" #3-20 DST # 4 LKC "I-J-K" 2012.05.10



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.  
250 N. Water Ste. 300  
Wichita, KS 67202  
ATTN: Wes Hansen

**S20-10s-34w Thomas, KS**  
**Steele "A" #3-20**  
Job Ticket: 46642      **DST#: 4**  
Test Start: 2012.05.10 @ 17:39:00

## GENERAL INFORMATION:

Formation: **LKC "I-J-K"**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 20:48:30  
Time Test Ended: 02:58:10  
Interval: **4334.00 ft (KB) To 4413.00 ft (KB) (TVD)**  
Total Depth: 4413.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Chuck Smith  
Unit No: 37  
Reference Elevations: 3248.00 ft (KB)  
3237.00 ft (CF)  
KB to GR/CF: 11.00 ft

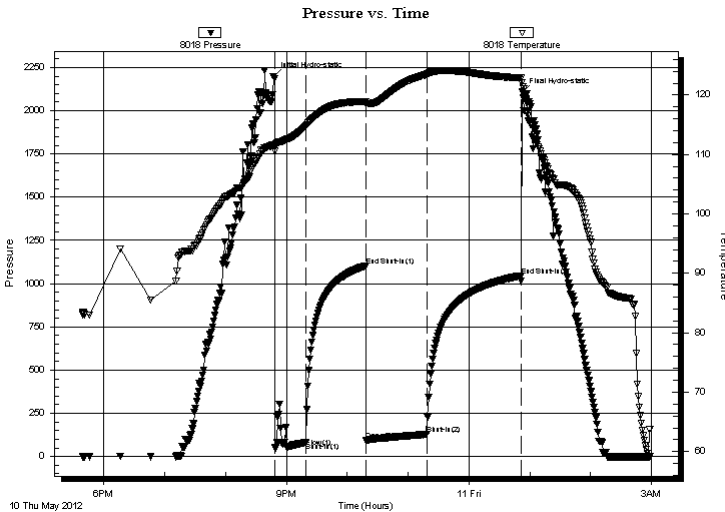
## Serial #: 8018

Inside

Press @ Run Depth: 128.89 psig @ 4340.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2012.05.10 End Date: 2012.05.11 Last Calib.: 2012.05.11  
Start Time: 17:39:02 End Time: 02:58:10 Time On Btm: 2012.05.10 @ 20:47:10  
Time Off Btm: 2012.05.11 @ 00:52:10

TEST COMMENT: 5" Blow .  
No return.  
5" Blow .  
No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2197.13	111.52	Initial Hydro-static
2	55.52	110.55	Open To Flow (1)
32	82.98	114.77	Shut-In(1)
91	1103.87	118.94	End Shut-In(1)
92	91.64	118.58	Open To Flow (2)
152	128.89	123.45	Shut-In(2)
244	1046.16	122.86	End Shut-In(2)
245	2106.71	122.12	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
179.00	OSMW 45m 55w	0.88
61.00	OSWM 40w 60m	0.86

\* 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.

**S20-10s-34w Thomas, KS**

250 N. Water Ste. 300  
Wichita, KS 67202

**Steele "A" #3-20**

Job Ticket: 46642

**DST#: 4**

ATTN: Wes Hansen

Test Start: 2012.05.10 @ 17:39:00

## Tool Information

Drill Pipe:	Length: 4133.00 ft	Diameter: 3.80 inches	Volume: 57.98 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 179.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 58.86 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.50 ft			String Weight: Initial 71000.00 lb
Depth to Top Packer:	4334.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	79.00 ft			
Tool Length:	106.50 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			4307.50	
Shut In Tool	5.00			4312.50	
Hydraulic tool	5.00			4317.50	
Jars	5.00			4322.50	
Safety Joint	2.50			4325.00	
Packer	5.00			4330.00	27.50 Bottom Of Top Packer
Packer	4.00			4334.00	
Stubb	1.00			4335.00	
Perforations	5.00			4340.00	
Recorder	0.00	8018	Inside	4340.00	
Recorder	0.00	6751	Outside	4340.00	
Perforations	5.00			4345.00	
Change Over Sub	1.00			4346.00	
Drill Pipe	63.00			4409.00	
Change Over Sub	1.00			4410.00	
Bullnose	3.00			4413.00	79.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>106.50</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**S20-10s-34w Thomas, KS**

250 N. Water Ste. 300  
Wichita, KS 67202

**Steele "A" #3-20**

Job Ticket: 46642

**DST#: 4**

ATTN: Wes Hansen

Test Start: 2012.05.10 @ 17:39:00

## 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:

50000 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 8600.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
179.00	OSMW 45m 55w	0.880
61.00	OSWM 40w 60m	0.856

Total Length: 240.00 ft      Total Volume: 1.736 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW: .193 @ 55 Degrees F = 50000 PPM

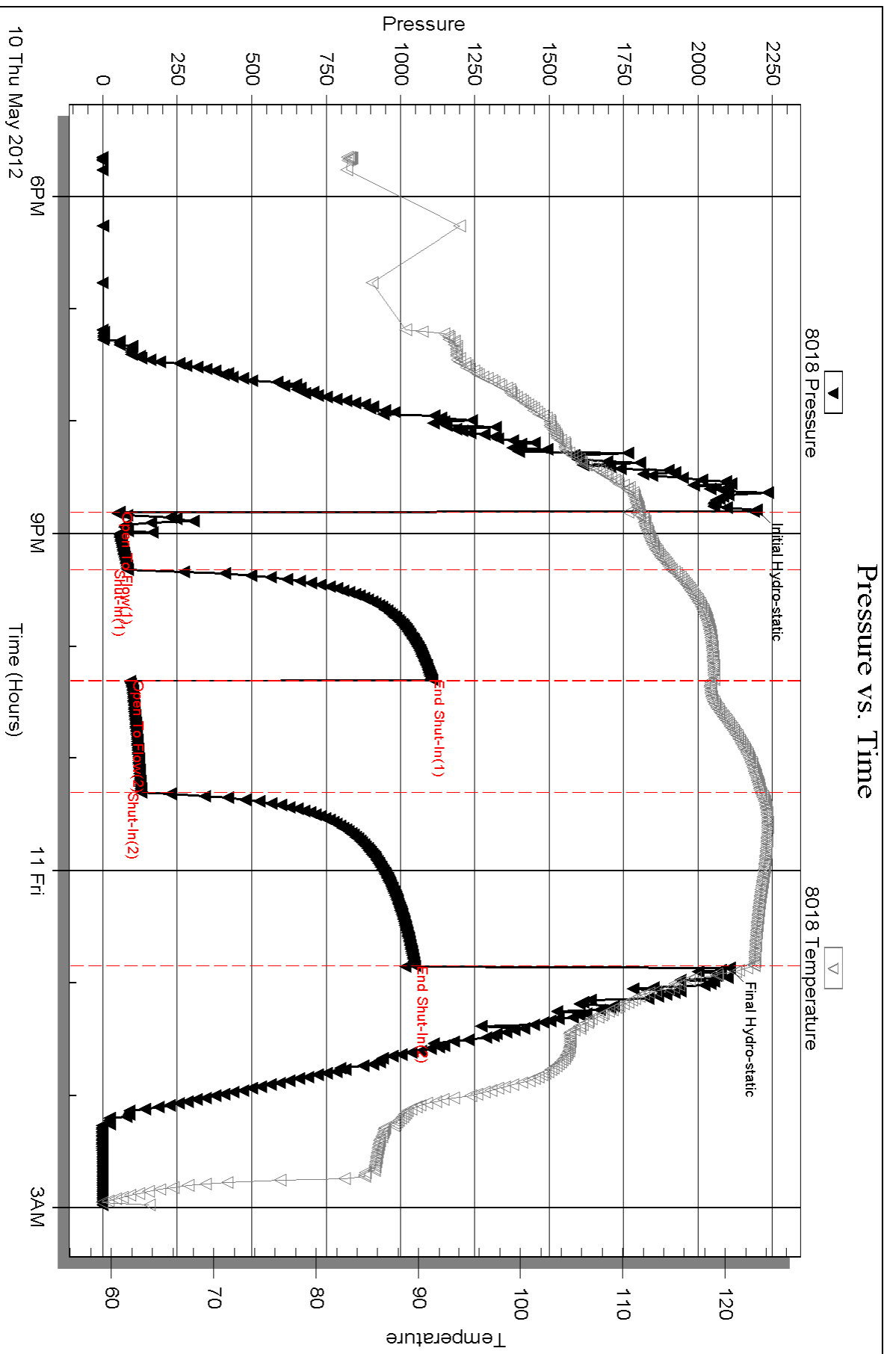
Serial #: 8018

Inside

Murfin Drilling Co.

Steele "A" #3-20

DST Test Number: 4

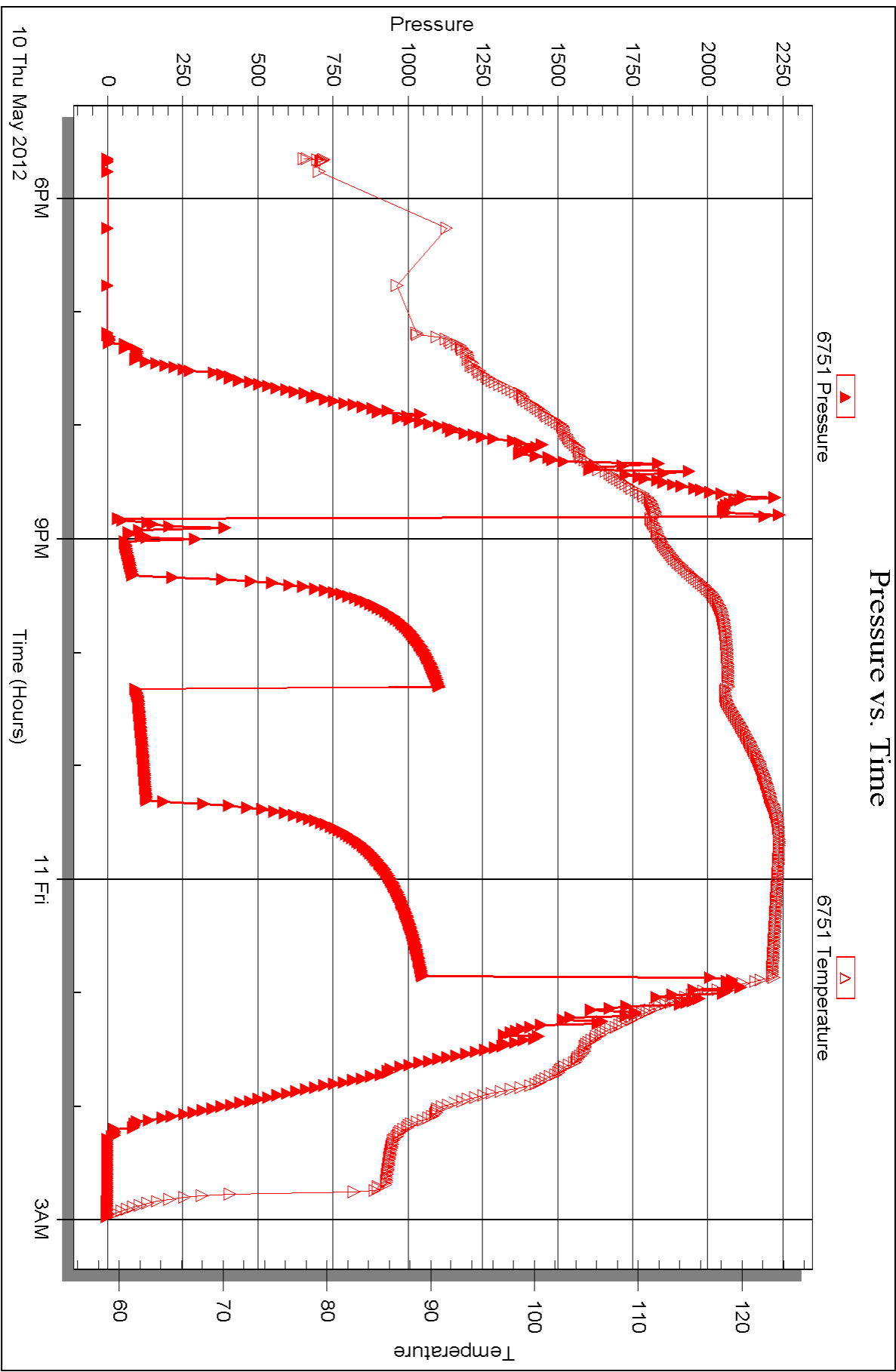


Serial #: 6751

Outside Murfin Drilling Co.

Steele"A" #3-20

DST Test Number: 4





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Ste. 300  
Wichita, KS 67202

ATTN: Wes Hansen

### **Steele "A" #3-20**

#### **S20-10s-34w Thomas, KS**

Start Date: 2012.05.12 @ 11:30:00

End Date: 2012.05.12 @ 18:44:00

Job Ticket #: 46643                      DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.16 @ 09:47:28



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.  
 250 N. Water Ste. 300  
 Wichita, KS 67202  
 ATTN: Wes Hansen

**S20-10s-34w Thomas, KS**  
**Steele "A" #3-20**  
 Job Ticket: 46643      **DST#: 5**  
 Test Start: 2012.05.12 @ 11:30:00

## GENERAL INFORMATION:

Formation: **Myrick Station**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 13:45:10  
 Time Test Ended: 18:44:00  
 Interval: **4608.00 ft (KB) To 4630.00 ft (KB) (TVD)**  
 Total Depth: 4630.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Chuck Smith  
 Unit No: 37  
 Reference Elevations: 3248.00 ft (KB)  
 3237.00 ft (CF)  
 KB to GR/CF: 11.00 ft

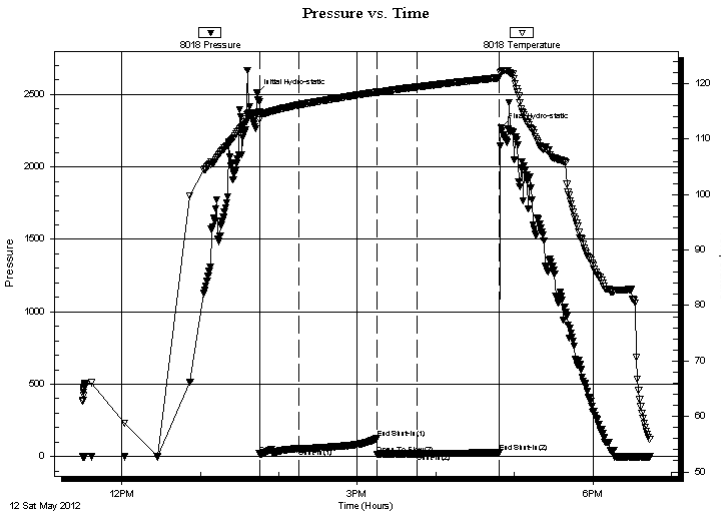
## Serial #: 8018

Inside

Press @ Run Depth: 19.88 psig @ 4612.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2012.05.12      End Date: 2012.05.12      Last Calib.: 2012.05.12  
 Start Time: 11:30:02      End Time: 18:44:00      Time On Btm: 2012.05.12 @ 13:43:20  
 Time Off Btm: 2012.05.12 @ 16:49:50

TEST COMMENT: Weak surface blow died @ 12 min.  
 No return.  
 No return.  
 No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2508.58	114.78	Initial Hydro-static
2	19.30	113.47	Open To Flow (1)
32	56.33	116.16	Shut-In(1)
92	127.63	118.52	End Shut-In(1)
92	17.53	118.44	Open To Flow (2)
122	19.88	119.40	Shut-In(2)
186	27.03	121.07	End Shut-In(2)
187	2272.20	122.20	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1.00	M100m	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.

**S20-10s-34w Thomas, KS**

250 N. Water Ste. 300  
Wichita, KS 67202

**Steele "A" #3-20**

Job Ticket: 46643

**DST#: 5**

ATTN: Wes Hansen

Test Start: 2012.05.12 @ 11:30:00

## Tool Information

Drill Pipe:	Length: 4415.00 ft	Diameter: 3.80 inches	Volume: 61.93 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 179.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 62.81 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	13.50 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4608.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	22.00 ft			
Tool Length:	49.50 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			4581.50	
Shut In Tool	5.00			4586.50	
Hydraulic tool	5.00			4591.50	
Jars	5.00			4596.50	
Safety Joint	2.50			4599.00	
Packer	5.00			4604.00	27.50 Bottom Of Top Packer
Packer	4.00			4608.00	
Stubb	1.00			4609.00	
Perforations	3.00			4612.00	
Recorder	0.00	8018	Inside	4612.00	
Recorder	0.00	6751	Outside	4612.00	
Outside	15.00			4627.00	
Bullnose	3.00			4630.00	22.00 Bottom Packers & Anchor

**Total Tool Length: 49.50**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co.

**S20-10s-34w Thomas, KS**

250 N. Water Ste. 300  
Wichita, KS 67202

**Steele "A" #3-20**

Job Ticket: 46643

**DST#: 5**

ATTN: Wes Hansen

Test Start: 2012.05.12 @ 11:30:00

### 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: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.17 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 10000.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1.00	M 100m	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:

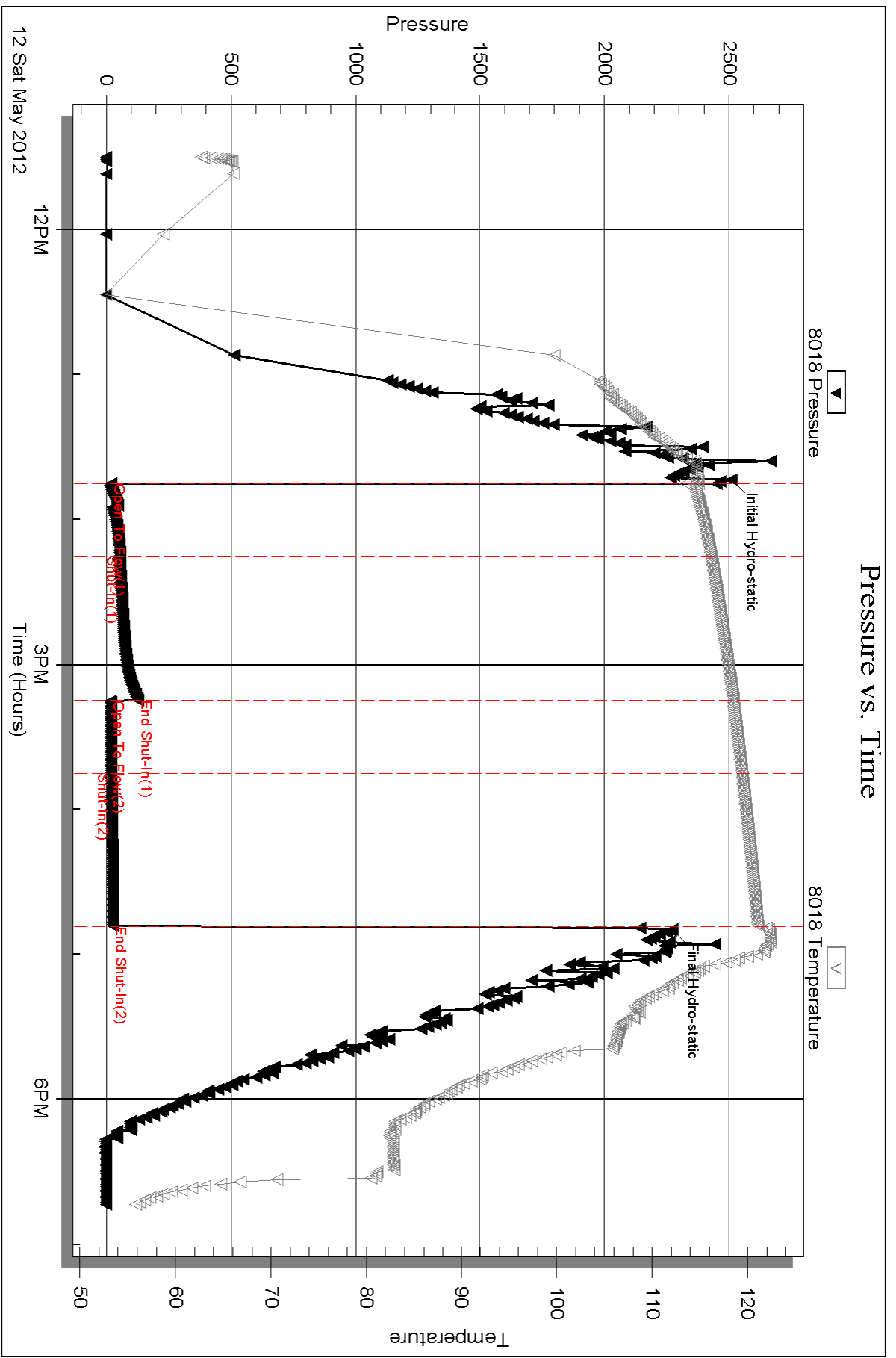
Serial #: 8018

Inside

Murfin Drilling Co.

Steele "A" #3-20

DST Test Number: 5



Triobite Testing, Inc

Ref. No: 46643

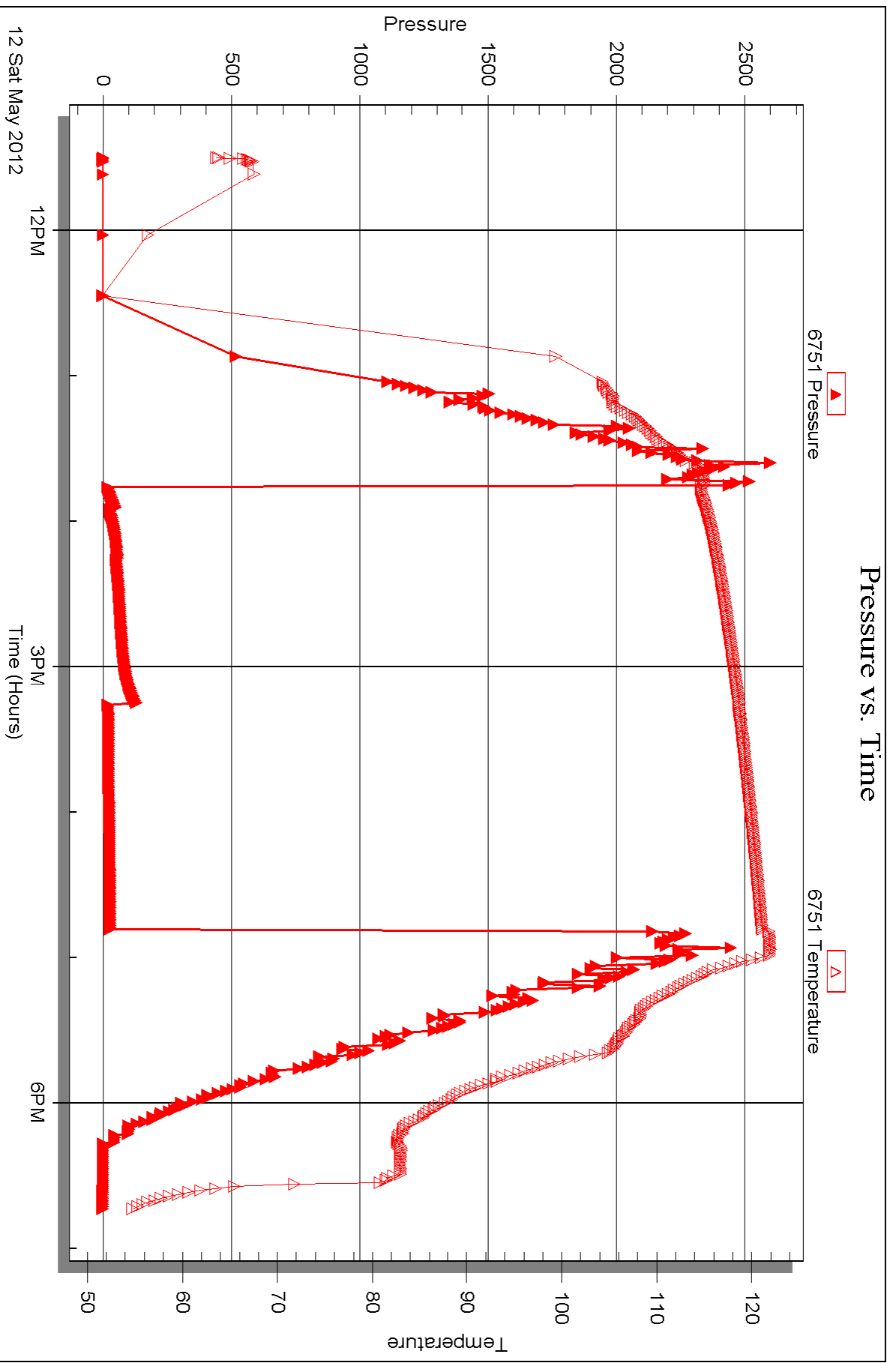
Printed: 2012.05.16 @ 09:47:30

Serial #: 6751

Outside Murfin Drilling Co.

Steele "A" #3-20

DST Test Number: 5





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Ste. 300  
Wichita, KS 67202

ATTN: Wes Hansen

### **Steele "A" #3-20**

#### **S20-10s-34w Thomas, KS**

Start Date: 2012.05.13 @ 13:48:00

End Date: 2012.05.13 @ 20:47:50

Job Ticket #: 46644                      DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.16 @ 09:46:51



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.  
250 N. Water Ste. 300  
Wichita, KS 67202  
ATTN: Wes Hansen

**S20-10s-34w Thomas, KS**

**Steele "A" #3-20**

Job Ticket: 46644

**DST#: 6**

Test Start: 2012.05.13 @ 13:48:00

## GENERAL INFORMATION:

Formation: **Johnson**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 15:53:00  
 Time Test Ended: 20:47:50  
 Interval: **4704.00 ft (KB) To 4746.00 ft (KB) (TVD)**  
 Total Depth: 4746.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Chuck Smith  
 Unit No: 37  
 Reference Elevations: 3248.00 ft (KB)  
 3237.00 ft (CF)  
 KB to GR/CF: 11.00 ft

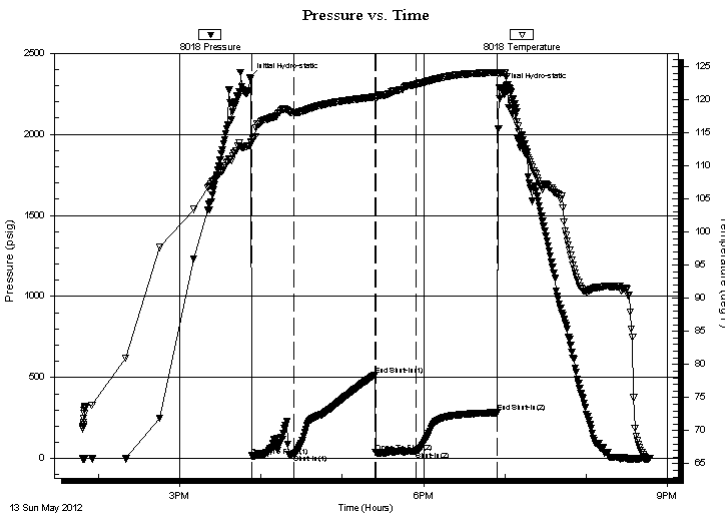
## Serial #: 8018

Inside

Press @ Run Depth: 45.00 psig @ 4705.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.05.13 End Date: 2012.05.13 Last Calib.: 2012.05.13  
 Start Time: 13:48:02 End Time: 20:47:49 Time On Btm: 2012.05.13 @ 15:51:20  
 Time Off Btm: 2012.05.13 @ 18:55:50

TEST COMMENT: 1/2" Blow died @ 25 min.  
 No return.  
 No blow.  
 No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2352.06	113.05	Initial Hydro-static
2	16.31	113.46	Open To Flow (1)
33	28.58	118.03	Shut-In(1)
93	516.23	120.42	End Shut-In(1)
94	38.85	120.10	Open To Flow (2)
124	45.00	122.31	Shut-In(2)
184	283.16	124.13	End Shut-In(2)
185	2289.43	123.98	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	SOCM 2o 98m	0.30

\* 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.

**S20-10s-34w Thomas, KS**

250 N. Water Ste. 300  
Wichita, KS 67202

**Steele "A" #3-20**

Job Ticket: 46644

**DST#: 6**

ATTN: Wes Hansen

Test Start: 2012.05.13 @ 13:48:00

## Tool Information

Drill Pipe:	Length: 4509.00 ft	Diameter: 3.80 inches	Volume: 63.25 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 179.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 64.13 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	11.50 ft			String Weight: Initial 74000.00 lb
Depth to Top Packer:	4704.00 ft			Final 74000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	42.00 ft			
Tool Length:	69.50 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Change Over Sub	1.00			4677.50	
Shut In Tool	5.00			4682.50	
Hydraulic tool	5.00			4687.50	
Jars	5.00			4692.50	
Safety Joint	2.50			4695.00	
Packer	5.00			4700.00	27.50 Bottom Of Top Packer
Packer	4.00			4704.00	
Stubb	1.00			4705.00	
Recorder	0.00	8018	Inside	4705.00	
Recorder	0.00	6751	Outside	4705.00	
Perforations	5.00			4710.00	
Change Over Sub	1.00			4711.00	
Drill Pipe	31.00			4742.00	
Change Over Sub	1.00			4743.00	
Bullnose	3.00			4746.00	42.00 Bottom Packers & Anchor

**Total Tool Length: 69.50**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co.

**S20-10s-34w Thomas, KS**

250 N. Water Ste. 300  
Wichita, KS 67202

**Steele "A" #3-20**

Job Ticket: 46644

**DST#: 6**

ATTN: Wes Hansen

Test Start: 2012.05.13 @ 13:48:00

### 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:

bbbl

Water Loss: 7.16 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7600.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	SOCM 2o 98m	0.295

Total Length: 60.00 ft      Total Volume: 0.295 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

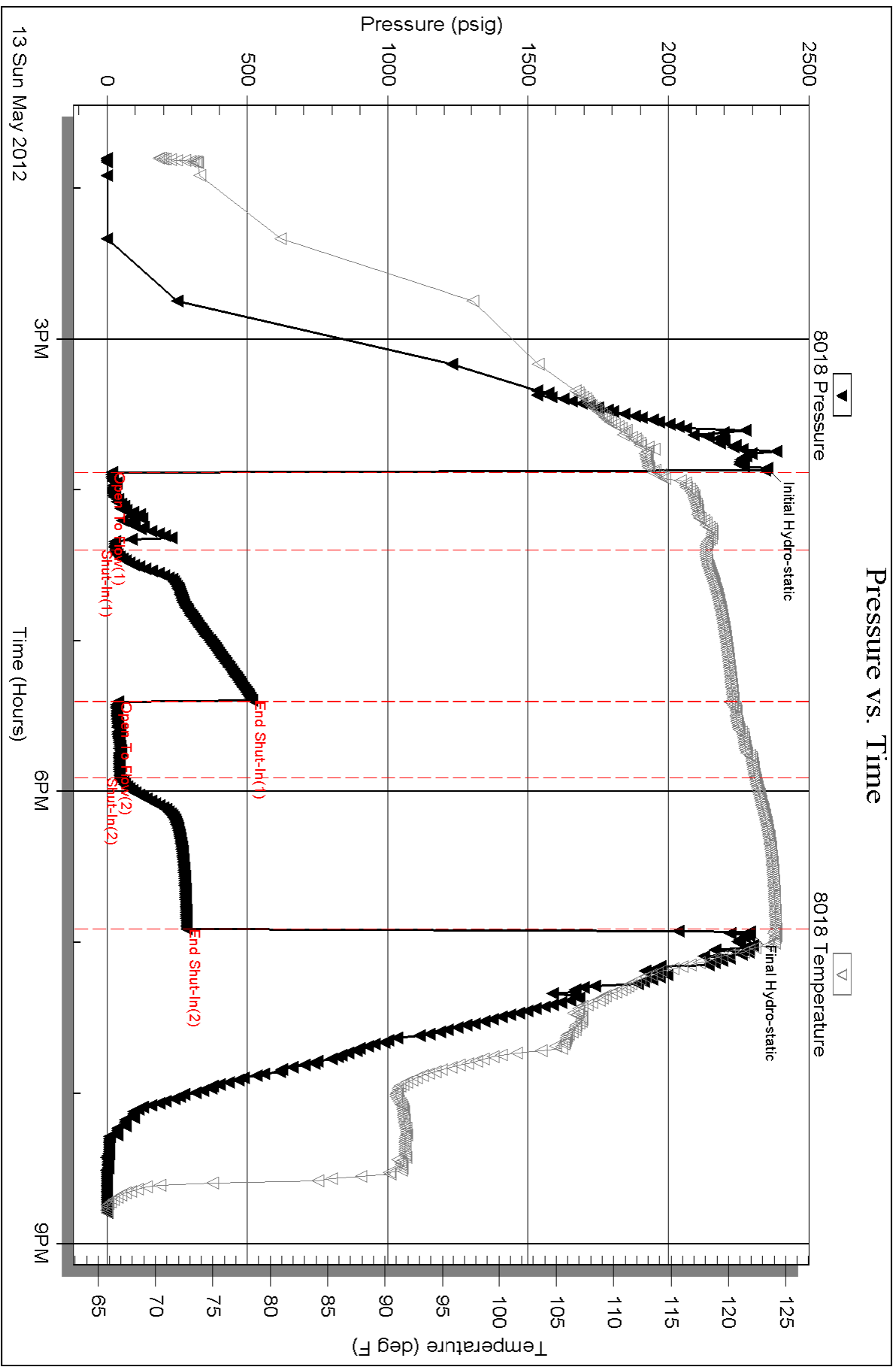
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:









# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 46639

4/10

Well Name & No. Steele A<sup>#</sup> 3-20 Test No. 1 Date 5-7-12  
 Company Murfin Drilling Co. Elevation 3248 KB 3237 GL  
 Address 250 N. Water Ste. 300 Wichita, KS 67202  
 Co. Rep / Geo. Wes Hansen Rig MDC<sup>#</sup> 20  
 Location: Sec. 20 Twp. 10s Rge. 34w Co. Thomas State KS

Interval Tested 4190 - 4208 Zone Tested LKC 'B'  
 Anchor Length 18 Drill Pipe Run 4006 Mud Wt. 9.2  
 Top Packer Depth 4186 Drill Collars Run 179 Vis 55  
 Bottom Packer Depth 4190 Wt. Pipe Run 0 WL 7.2  
 Total Depth 4208 Chlorides 6900 ppm System LCM 8  
 Blow Description B.O.B. @ 7 min.  
No return.  
B.O.B. @ 8 min.  
No return.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>156</u>	Feet of <u>MW</u>	%gas	%oil	<u>85</u> %water	<u>15</u> %mud
Rec <u>1134</u>	Feet of <u>W Oil spots in tool.</u>	%gas	%oil	<u>100</u> %water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 1290 BHT 126 Gravity - API RW .200 @ 47 °F Chlorides 58,000 ppm

(A) Initial Hydrostatic <u>2181</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>21:30</u>
(B) First Initial Flow <u>59</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>21:42</u>
(C) First Final Flow <u>305</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>00:33</u>
(D) Initial Shut-In <u>1231</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIC</u>	T-Pulled <u>04:35</u>
(E) Second Initial Flow <u>306</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>07:10</u>
(F) Second Final Flow <u>629</u>	<input checked="" type="checkbox"/> Mileage <u>134RT</u> 207.70	Comments
(G) Final Shut-In <u>1215</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2087</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1782.70</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't

Sub Total 1782.70

Approved By Wesley Hansen

Our Representative Chuck Smith

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.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 46640

4/10

Well Name & No. Steele "A" #3-20 Test No. 2 Date 5-8-12  
 Company Murfin Drilling Co. Elevation 3248 KB 3237 GL  
 Address 250 N. Water Ste. 300 Wichita, KS 67202  
 Co. Rep / Geo. Wes Hansen Rig MDC #20  
 Location: Sec. 20 Twp. 10s Rge. 34w Co. Thomas State KS

Interval Tested 4237-4260 Zone Tested LKC "E-F"  
 Anchor Length 23 Drill Pipe Run 4040 Mud Wt. 9.2  
 Top Packer Depth 4233 Drill Collars Run 179 Vis 57  
 Bottom Packer Depth 4237 Wt. Pipe Run 0 WL 6.8  
 Total Depth 4260 Chlorides 6900 ppm System LCM 8  
 Blow Description B.O.B. @ 15 1/2 min.  
No return.  
B.O.B. @ 19 min.  
No return.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>220</u>	Feet of <u>WM</u>	%gas	%oil <u>30</u>	%water <u>70</u>	%mud
Rec <u>505</u>	Feet of <u>MW Oil spots in tool</u>	%gas	%oil <u>95</u>	%water <u>5</u>	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 725 BHT 126 Gravity - API RW .195 @ 43 °F Chlorides 65,000 ppm

(A) Initial Hydrostatic 2166  Test 1250 T-On Location 17:30  
 (B) First Initial Flow 30  Jars 250 T-Started 17:27  
 (C) First Final Flow 180  Safety Joint 75 T-Open 19:31  
 (D) Initial Shut-In 1200  Circ Sub NIC T-Pulled 23:35  
 (E) Second Initial Flow 178  Hourly Standby \_\_\_\_\_ T-Out 02:18  
 (F) Second Final Flow 349  Mileage 134RT 207.70 Comments \_\_\_\_\_  
 (G) Final Shut-In 1164  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2048  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 1782.70  
 Final Flow 60  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 90 Sub Total 1782.70

Approved By Wesley Hansen Our Representative Chuck Smith

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 46641

4/10

Well Name & No. Steele "A" #3-20 Test No. 3 Date 5-9-12  
 Company Murfin Drilling Co. Elevation 3248 KB 3237 GL  
 Address 250 N. Water Ste. 300 Wichita, KS 67202  
 Co. Rep / Geo. Wes Hansen Rig MDC #20  
 Location: Sec. 20 Twp. 10s Rge. 34w Co. Thomas State KS

Interval Tested 4294 - 4330 Zone Tested LKC "H"  
 Anchor Length 36 Drill Pipe Run 4102 Mud Wt. 9.1  
 Top Packer Depth 4290 Drill Collars Run 179 Vis 50  
 Bottom Packer Depth 4294 Wt. Pipe Run 0 WL 6.4  
 Total Depth 4330 Chlorides 9000 ppm System LCM 8  
 Blow Description 3 1/2" Blow.

Surface return died @ 10 min.  
5" Blow.  
Surface return died @ 22 min.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>2</u>	Feet of <u>0</u>	%gas	<u>100</u> %oil	%water	%mud
Rec <u>29</u>	Feet of <u>OSWM</u>	%gas	%oil	<u>20</u> %water	<u>80</u> %mud
Rec <u>179</u>	Feet of <u>MW</u>	%gas	%oil	<u>50</u> %water	<u>50</u> %mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 210 BHT 122 Gravity - API RW .261 @ 51 °F Chlorides 4000 ppm

(A) Initial Hydrostatic 2205  Test 1250 T-On Location 15:00  
 (B) First Initial Flow 21  Jars 250 T-Started 15:02  
 (C) First Final Flow 64  Safety Joint 75 T-Open 17:22  
 (D) Initial Shut-In 1214  Circ Sub N/C T-Pulled 21:24  
 (E) Second Initial Flow 66  Hourly Standby T-Out 23:54  
 (F) Second Final Flow 115  Mileage 207.70 Comments  
 (G) Final Shut-In 1211  Sampler  
 (H) Final Hydrostatic 2090  Straddle  Ruined Shale Packer  
 Shale Packer  Ruined Packer  
 Extra Packer  Extra Copies  
 Extra Recorder Sub Total 0  
 Day Standby Total 1782.70  
 Accessibility MP/DST Disc't  
 Sub Total 1782.70

Approved By Wesley Hansen Our Representative Chuck Smith

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 46642

Well Name & No. Steele "A" 3-20 Test No. 4 Date 5-10-12  
 Company Murfin Drilling Co. Elevation 3248 KB 3237 GL  
 Address 250 N. Water Ste. 300 Wichita, KS 67202  
 Co. Rep / Geo. Wes Hansen Rig MDC #20  
 Location: Sec. 20 Twp. 10s Rge. 24w Co. Thomas State KS

Interval Tested 4334-4413 Zone Tested LKC "I-J-K"  
 Anchor Length 79 Drill Pipe Run 4133 Mud Wt. 9.1  
 Top Packer Depth 4330 Drill Collars Run 179 Vis 55  
 Bottom Packer Depth 4334 Wt. Pipe Run 0 WL 6.0  
 Total Depth 4413 Chlorides 8600 ppm System LCM 8"  
 Blow Description 5" Blow  
No return.  
5" Blow.  
No return.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>61</u>	Feet of <u>OSWM</u>	%gas	%oil <u>40</u>	%water <u>60</u>	%mud
Rec <u>179</u>	Feet of <u>OSMW</u>	%gas	%oil <u>55</u>	%water <u>45</u>	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 240 BHT 123 Gravity — API RW .193 @ 55 °F Chlorides 50,000 ppm

(A) Initial Hydrostatic 2197  Test 1250 T-On Location 17:30  
 (B) First Initial Flow 56  Jars 250 T-Started 17:39  
 (C) First Final Flow 83  Safety Joint 75 T-Open 20:49  
 (D) Initial Shut-In 1104  Circ Sub NIC T-Pulled 00:51  
 (E) Second Initial Flow 92  Hourly Standby \_\_\_\_\_ T-Out 02:58  
 (F) Second Final Flow 129  Mileage 207.70 Comments \_\_\_\_\_  
 (G) Final Shut-In 1046  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2107  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 1782.70  
 Final Flow 60  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 90 Sub Total 1782.70

Approved By Wesley Hansen Our Representative Chuck Smith

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 46643

4/10

Well Name & No. Steel A #3-20 Test No. 5 Date 5-12-12  
 Company Musfin Drilling Co. Elevation 3248 KB 3237 GL  
 Address 250 N. Water Stc. 300 Wichita, Ks 67202  
 Co. Rep / Geo. Wes Hansen Rig MDC# 20  
 Location: Sec. 20 Twp. 10s Rge. 24w Co. Thomas State Ks

Interval Tested 4608-4630 Zone Tested Myrick Station  
 Anchor Length 22 Drill Pipe Run 4415 Mud Wt. 9.2  
 Top Packer Depth 4604 Drill Collars Run 179 Vis 60  
 Bottom Packer Depth 4608 Wt. Pipe Run 0 WL 7.2  
 Total Depth 4630 Chlorides 10,000 ppm System LCM 8  
 Blow Description B. Weak surface blow died @ 12 min.  
No return.  
No blow.  
No return.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>1</u>	Feet of <u>M</u>			%water <u>100</u>	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 1 BHT 121 Gravity - API RW @ - °F Chlorides - ppm

(A) Initial Hydrostatic <u>2509</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>10:30</u>
(B) First Initial Flow <u>19</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>11:30</u>
(C) First Final Flow <u>56</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>13:45</u>
(D) Initial Shut-In <u>128</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>16:49</u>
(E) Second Initial Flow <u>18</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>18:44</u>
(F) Second Final Flow <u>20</u>	<input checked="" type="checkbox"/> Mileage <u>207.70</u>	Comments
(G) Final Shut-In <u>27</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2272</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input checked="" type="checkbox"/> Day Standby <u>6 1/2</u> 216.67	Total <u>1999.37</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1999.37</u>	

Approved By Wesley Hansen Our Representative Chuck Smith

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 46644

4/10

Well Name & No. Steele 'A' #3-20 Test No. 6 Date 5-13-12  
 Company Murfin Drilling Co. Elevation 3248 KB 3237 GL  
 Address 250 N. Water Ste. 300 Wichita, KS 67202  
 Co. Rep / Geo. Wes Hansen Rig MDC #20  
 Location: Sec. 20 Twp. 10s Rge. 24w Co. Thomas State KS

Interval Tested 4704-4746 Zone Tested Johnson  
 Anchor Length 42 Drill Pipe Run 4509 Mud Wt. 9.2  
 Top Packer Depth 4700 Drill Collars Run 179 Vis 55  
 Bottom Packer Depth 4704 Wt. Pipe Run 0 WL 7.2  
 Total Depth 4746 Chlorides 7600 ppm System LCM 8  
 Blow Description 1/2" Blow  
No return.  
No blow.  
No return.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>60</u>	Feet of <u>500m</u>	%gas	<u>2</u> %oil	%water	<u>98</u> %mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 60 BHT 124 Gravity - API RW @ - °F Chlorides - ppm

(A) Initial Hydrostatic <u>2352</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>13:45</u>
(B) First Initial Flow <u>16</u>	<input checked="" type="checkbox"/> Jars 2550	T-Started <u>13:48</u>
(C) First Final Flow <u>29</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>15:53</u>
(D) Initial Shut-In <u>516</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIC</u>	T-Pulled <u>18:55</u>
(E) Second Initial Flow <u>39</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>20:48</u>
(F) Second Final Flow <u>45</u>	<input checked="" type="checkbox"/> Mileage 207.70	Comments
(G) Final Shut-In <u>283</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2289</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1782.70</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1782.70</u>	

Approved By Wesley Hansen

Our Representative Chuck Smith

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