



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1073376  
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

Form must be Typed  
Form must be Signed  
All blanks must be Filled

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

- New Well       Re-Entry       Workover
- Oil       WSW       SWD       SIOW
- Gas       D&A       ENHR       SIGW
- OG       GSW       Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic       Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

- Deepening       Re-perf.       Conv. to ENHR       Conv. to SWD
- Plug Back       Conv. to GSW       Conv. to Producer
- Commingled      Permit #: \_\_\_\_\_
- Dual Completion      Permit #: \_\_\_\_\_
- SWD      Permit #: \_\_\_\_\_
- ENHR      Permit #: \_\_\_\_\_
- GSW      Permit #: \_\_\_\_\_

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE       NW       SE       SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum:  NAD27       NAD83       WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite:

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested  
Date: \_\_\_\_\_
- Confidential Release Date: \_\_\_\_\_
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

1073376

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
Cores Taken	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Electric Log Run	<input type="checkbox"/> Yes <input type="checkbox"/> No			
List All E. Logs Run:				

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate				
<input type="checkbox"/> Protect Casing				
<input type="checkbox"/> Plug Back TD				
<input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD:      Size: \_\_\_\_\_ Set At: \_\_\_\_\_ Packer At: \_\_\_\_\_ Liner Run:  Yes  No

Date of First, Resumed Production, SWD or ENHR: \_\_\_\_\_ Producing Method:  
 Flowing    Pumping    Gas Lift    Other *(Explain)* \_\_\_\_\_

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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Conservation Division  
Finney State Office Building  
130 S. Market, Rm. 2078  
Wichita, KS 67202-3802



Phone: 316-337-6200  
Fax: 316-337-6211  
<http://kcc.ks.gov/>

Mark Sievers, Chairman  
Ward Loyd, Commissioner  
Thomas E. Wright, Commissioner

Sam Brownback, Governor

February 02, 2012

Leon Rodak  
Murfin Drilling Co., Inc.  
250 N WATER STE 300  
WICHITA, KS 67202-1216

Re: ACO1  
API 15-153-20891-00-00  
Cooper 1-11  
NW/4 Sec.11-05S-33W  
Rawlins County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,  
Leon Rodak

Cooper #1-11 330' FNL 330'FWL Sec. 11-5S-33W 3013' KB						Curtin #1 Nielson Enterprises Sec. 10-5S-33W 3092' KB		
Formation	Sample top	Datum	Ref	Log tops	Datum	Ref	Log tops	Datum
Anhydrite	2665	+348	+4	2668	+345	+1	2748	+344
B/Anhydrite	2702	+311	+2	2704	+309	Flat	2783	+309
Topeka	3712	-699	+3	3709	-696	+6	3794	-702
Heebner	3876	-863	+5	3874	-861	+7	3960	-868
Lansing	3926	-913	+3	3925	-912	+4	4008	-916
Stark	4108	-1095	+8	4106	-1093	+11	4196	-1104
BKC	4160	-1147	+6	4155	-1142	+11	4245	-1153
Pawnee	4281	-1268	+10	4281	-1268	+10	4370	-1278
Cherokee	4357	-1344	+8	4356	-1344	+8	4444	-1352
Mississippi	4504	-1491	+3	4485	-1472	+22	4586	-1494
RTD	4694						4632	
LTD				4695				

# Robert D. Hendrix

Petroleum Geologist

## GEOLOGIST'S REPORT DRILLING TIME AND SAMPLE LOG

Murfin Drilling Co., Inc.

### ELEVATIONS

KB 3013'

DF \_\_\_\_\_

GL 3008'

Measurements Are All From Kelly Bushing

CASING

CONDUCTOR \_\_\_\_\_

SURFACE 8-51.8" at 220'

PRODUCTION None

ELECTRICAL SURVEYS

DIL / CN-CD

Micro/Sonic Logtech

Robert D. Hendrix

GEOLOGICAL SUPERVISION FROM 3700 TO RTD

GEOLOGIST ON WELL

FORMATION TOPS

ELECTRIC LOG

SAMPLE

Heebner Sh. 3876 (-862) 3876 (-863)

Lansing 3924 (-913) 3924 (-913)

Stark Sh. 4106 (-1093) 4106 (-1095)

B/KC 4156 (-1143) 4160 (-1147)

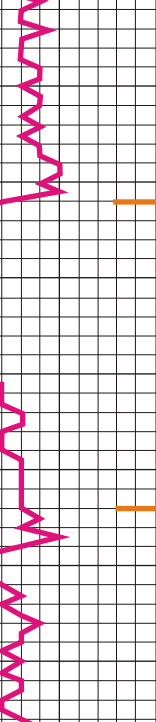
Pawnee 4281 (-1268) 4281 (-1268)

Cherokee Shale 4357 (-1344) 4357 (-1344)

Mississippian 4486 (-1473) 4504 (-1491)

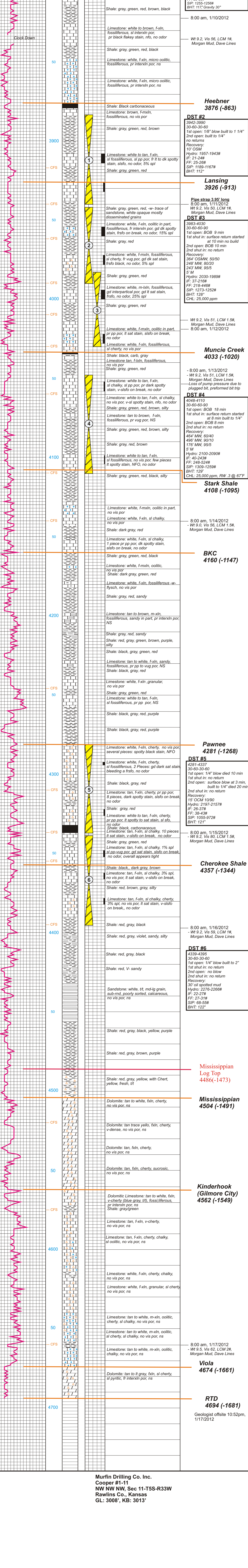
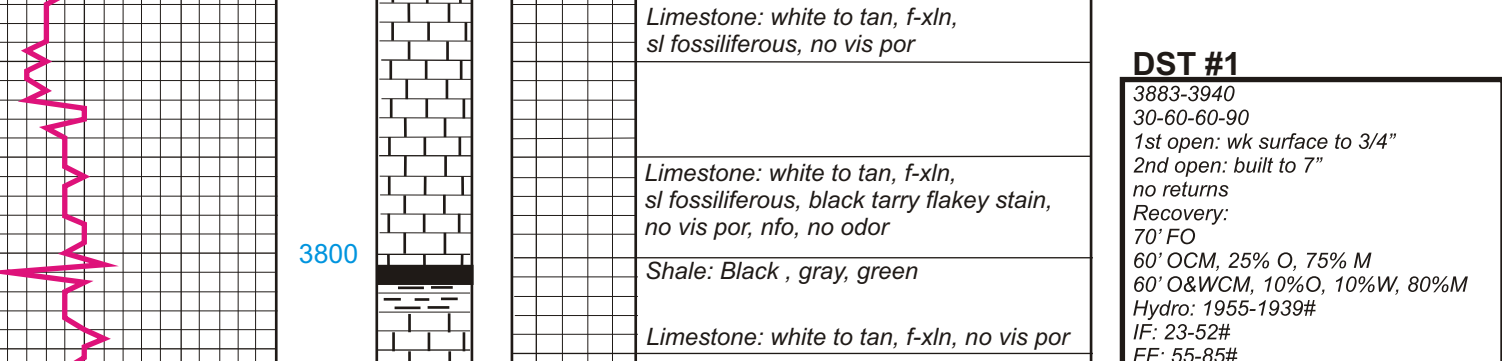
Viola 4674 (-1661) 4674 (-1661)

AP# 15-153-20891



REMARKS

### LEGEND



Murfin Drilling Co. Inc.  
Cooper #1-11  
NW NW NW, Sec 11-T5S-R33W  
Rawlins Co., Kansas  
GL: 3008', KB: 3013'



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water STE #300  
Wichita, KS 67202

ATTN: Robert Hendrix

### **Cooper #1-11**

#### **11-5s-33w Rawlins,KS**

Start Date: 2012.01.10 @ 22:00:00

End Date: 2012.01.11 @ 07:09:30

Job Ticket #: 43083                      DST #: 1

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

Printed: 2012.01.19 @ 11:30:04



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.  
 250 N. Water STE #300  
 Wichita, KS 67202  
 ATTN: Robert Hendrix

**11-5s-33w Rawlins, KS**  
**Cooper #1-11**  
 Job Ticket: 43083      **DST#: 1**  
 Test Start: 2012.01.10 @ 22:00:00

## GENERAL INFORMATION:

Formation: **Tor. - Lans "A"**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 00:59:45 Tester: Kevin Mack  
 Time Test Ended: 07:09:30 Unit No: 43  
 Interval: **3883.00 ft (KB) To 3940.00 ft (KB) (TVD)** Reference Elevations: 3013.00 ft (KB)  
 Total Depth: 3940.00 ft (KB) (TVD) 3004.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 9.00 ft

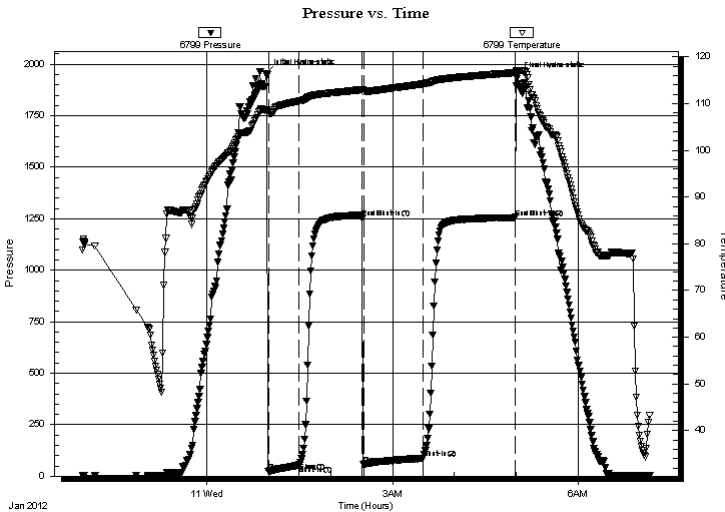
## Serial #: 6799

Inside

Press @ Run Depth: 85.86 psig @ 3884.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.01.10 End Date: 2012.01.11 Last Calib.: 2012.01.11  
 Start Time: 22:00:05 End Time: 07:09:30 Time On Btm: 2012.01.11 @ 00:57:45  
 Time Off Btm: 2012.01.11 @ 05:00:30

TEST COMMENT: IF- Weak Surface blow built to 3/4"  
 IS- No Return  
 FF- Surface blow built to 7"  
 FS- No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1954.99	108.64	Initial Hydro-static
2	22.90	108.00	Open To Flow (1)
32	52.06	110.50	Shut-In(1)
93	1254.96	112.95	End Shut-In(1)
94	55.41	112.53	Open To Flow (2)
152	85.86	114.18	Shut-In(2)
241	1256.27	116.60	End Shut-In(2)
243	1939.04	117.09	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	OCWM 10o 10W 80M	0.30
60.00	OCWM 25o 75M	0.30
70.00	Free oil 100o	0.71

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.  
250 N. Water STE #300  
Wichita, KS 67202  
ATTN: Robert Hendrix

**11-5s-33w Rawlins, KS**  
**Cooper #1-11**  
Job Ticket: 43083      **DST#: 1**  
Test Start: 2012.01.10 @ 22:00:00

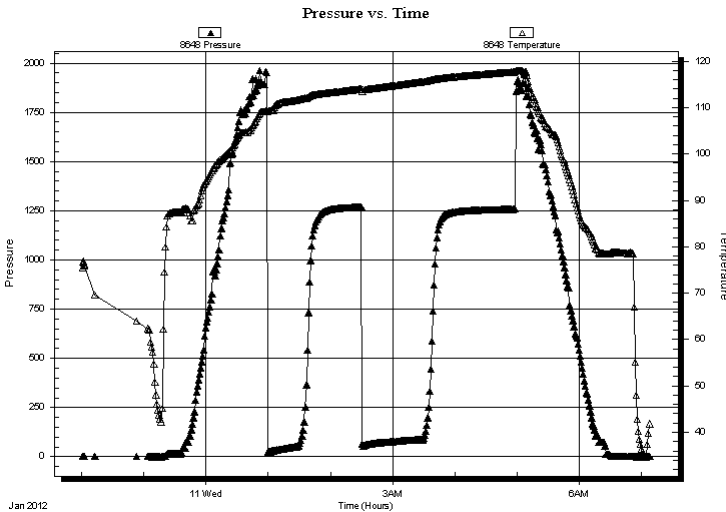
### GENERAL INFORMATION:

Formation: <b>Tor. - Lans "A"</b>		Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock:	ft (KB)	Tester: Kevin Mack
Time Tool Opened: 00:59:45		Unit No: 43
Time Test Ended: 07:09:30		
<b>Interval: 3883.00 ft (KB) To 3940.00 ft (KB) (TVD)</b>		Reference Elevations: 3013.00 ft (KB)
Total Depth: 3940.00 ft (KB) (TVD)		3004.00 ft (CF)
Hole Diameter: 7.88 inches	Hole Condition: Good	KB to GR/CF: 9.00 ft

<b>Serial #: 8648</b>	<b>Inside</b>			Capacity: 8000.00 psig
Press @ Run Depth:                  psig @	3884.00 ft (KB)			Last Calib.: 2012.01.11
Start Date: 2012.01.10	End Date: 2012.01.11			Time On Btm:
Start Time: 22:01:05	End Time: 07:08:30			Time Off Btm:

TEST COMMENT: IF- Weak Surface blow built to 3/4"  
IS- No Return  
FF- Surface blow built to 7"  
FS- No Return

### PRESSURE SUMMARY



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

### Recovery

Length (ft)	Description	Volume (bbl)
60.00	OCWM 10o 10W 80M	0.30
60.00	OCWM 25o 75M	0.30
70.00	Free oil 100o	0.71

### Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co.

**11-5s-33w Rawlins,KS**

250 N. Water STE #300  
Wichita, KS 67202

**Cooper #1-11**

Job Ticket: 43083

**DST#: 1**

ATTN: Robert Hendrix

Test Start: 2012.01.10 @ 22:00:00

## Tool Information

Drill Pipe:	Length: 3719.00 ft	Diameter: 3.80 inches	Volume: 52.17 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: 150.00 ft	Diameter: 2.25 inches	Volume: 0.74 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 52.91 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3883.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	57.00 ft			
Tool Length:	86.00 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			3855.00	
Shut In Tool	5.00			3860.00	
Hydraulic tool	5.00			3865.00	
Jars	5.00			3870.00	
Safety Joint	3.00			3873.00	
Packer	5.00			3878.00	29.00 Bottom Of Top Packer
Packer	5.00			3883.00	
Stubb	1.00			3884.00	
Recorder	0.00	8648	Inside	3884.00	
Recorder	0.00	6799	Inside	3884.00	
Perforations	18.00			3902.00	
Change Over Sub	1.00			3903.00	
Drill Pipe	31.00			3934.00	
Change Over Sub	1.00			3935.00	
Bullnose	5.00			3940.00	57.00 Bottom Packers & Anchor

**Total Tool Length: 86.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**11-5s-33w Rawlins,KS**

250 N. Water STE #300  
Wichita, KS 67202

**Cooper #1-11**

Job Ticket: 43083

**DST#: 1**

ATTN: Robert Hendrix

Test Start: 2012.01.10 @ 22:00:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

30 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.58 in<sup>3</sup>

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
60.00	OCWM 10o 10W 80M	0.295
60.00	OCWM 25o 75M	0.295
70.00	Free oil 100o	0.709

Total Length: 190.00 ft      Total Volume: 1.299 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 29 @ 50 deg = 30

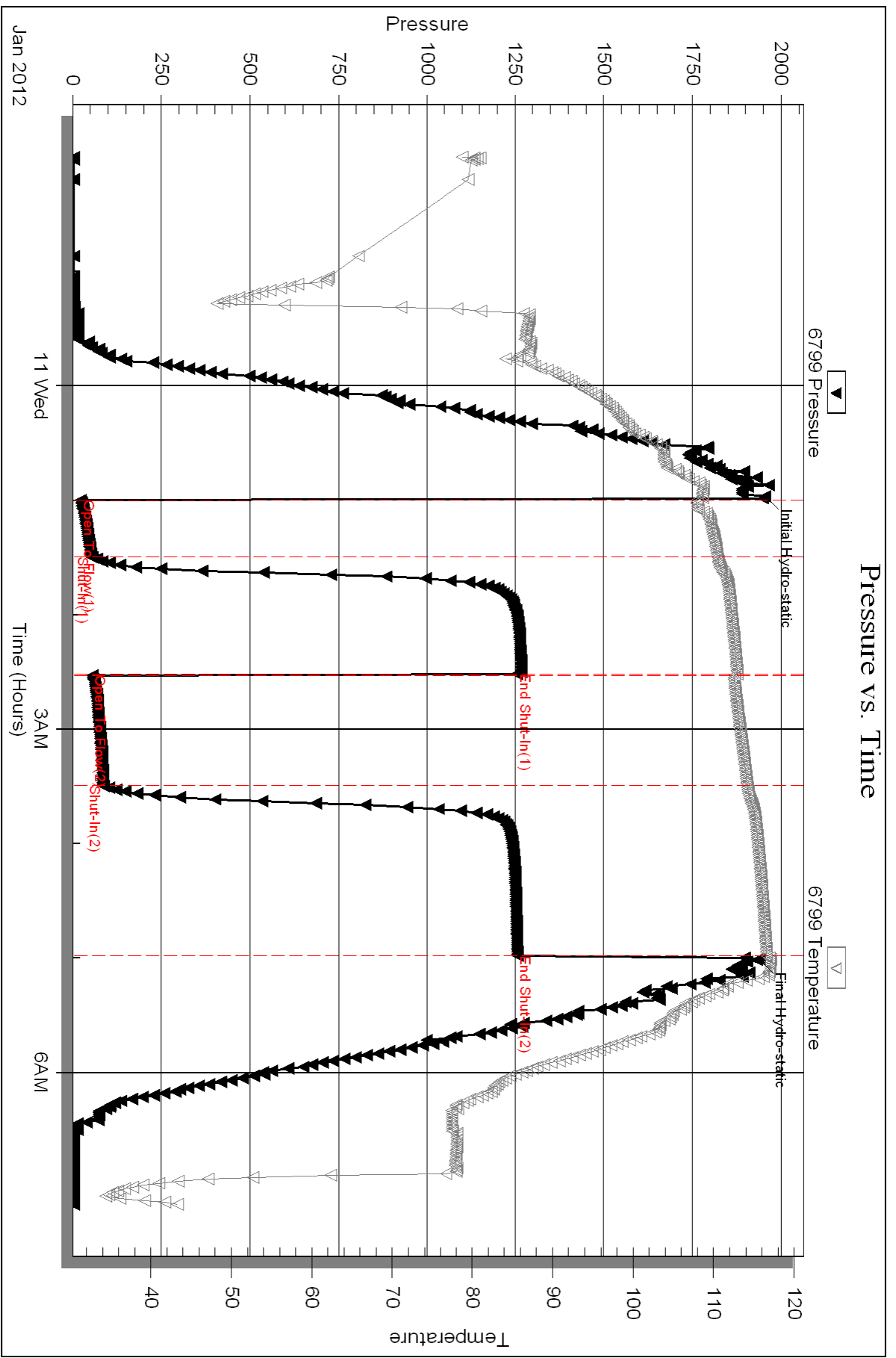
Serial #: 6799

Inside

Murfin Drilling Co.

Cooper #1-11

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 43083

Printed: 2012.01.19 @ 11:30:07

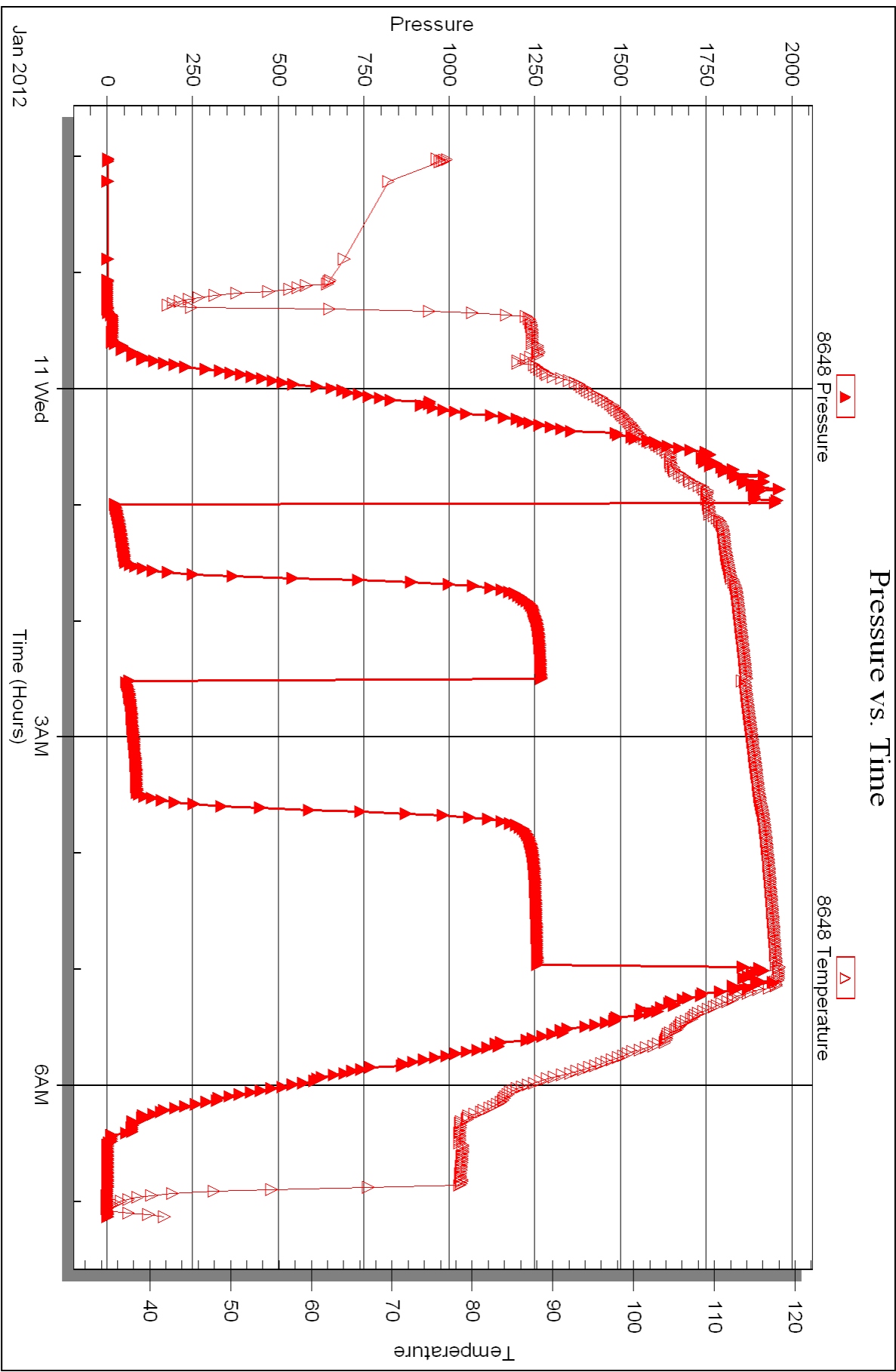
Serial #: 8648

Inside

Murfin Drilling Co.

Cooper #1-11

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water STE #300  
Wichita, KS 67202

ATTN: Robert Hendrix

### **Cooper #1-11**

#### **11-5s-33w Rawlins,KS**

Start Date: 2012.01.11 @ 18:06:00

End Date: 2012.01.12 @ 01:33:00

Job Ticket #: 43084                      DST #: 2

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

Printed: 2012.01.19 @ 11:29:28

Murfin Drilling Co. 11-5s-33w Rawlins,KS Cooper #1-11 DST # 2 Lans. "B-D" 2012.01.11



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.  
250 N. Water STE #300  
Wichita, KS 67202  
ATTN: Robert Hendrix

**11-5s-33w Rawlins, KS**  
**Cooper #1-11**  
Job Ticket: 43084      **DST#: 2**  
Test Start: 2012.01.11 @ 18:06:00

## GENERAL INFORMATION:

Formation: **Lans. "B-D"**  
Deviated: No Whipstock:                      ft (KB)  
Time Tool Opened: 20:16:45  
Time Test Ended: 01:33:00  
Interval: **3942.00 ft (KB) To 3990.00 ft (KB) (TVD)**  
Total Depth: 3990.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Kevin Mack  
Unit No: 43  
Reference Elevations: 3013.00 ft (KB)  
3004.00 ft (CF)  
KB to GR/CF: 9.00 ft

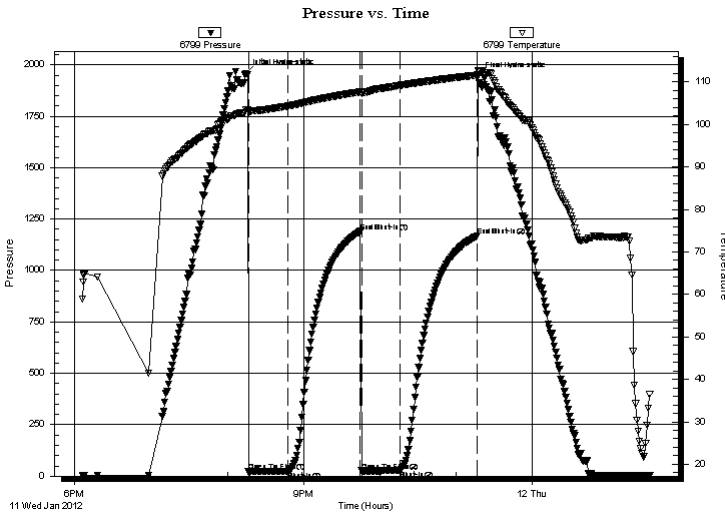
## Serial #: 6799

Inside

Press @ Run Depth: 26.23 psig @ 3943.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2012.01.11      End Date: 2012.01.12      Last Calib.: 2012.01.12  
Start Time: 18:06:05      End Time: 01:32:59      Time On Btm: 2012.01.11 @ 20:14:45  
Time Off Btm: 2012.01.11 @ 23:17:45

TEST COMMENT: IF- 1/8" Blow built to 1 1/4"  
IS- No Return  
FF- Surface blow built to 1/4"  
FS- No Return

## PRESSURE SUMMARY



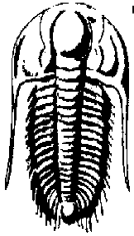
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1957.63	103.36	Initial Hydro-static
2	21.56	103.12	Open To Flow (1)
33	24.02	104.34	Shut-In(1)
90	1189.61	107.68	End Shut-In(1)
91	25.16	107.39	Open To Flow (2)
121	26.23	109.23	Shut-In(2)
182	1167.98	111.64	End Shut-In(2)
183	1943.73	112.55	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud 100M	0.05

## Gas Rates

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



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

## DRILL STEM TEST REPORT

Murfin Drilling Co.  
250 N. Water STE #300  
Wichita, KS 67202  
ATTN: Robert Hendrix

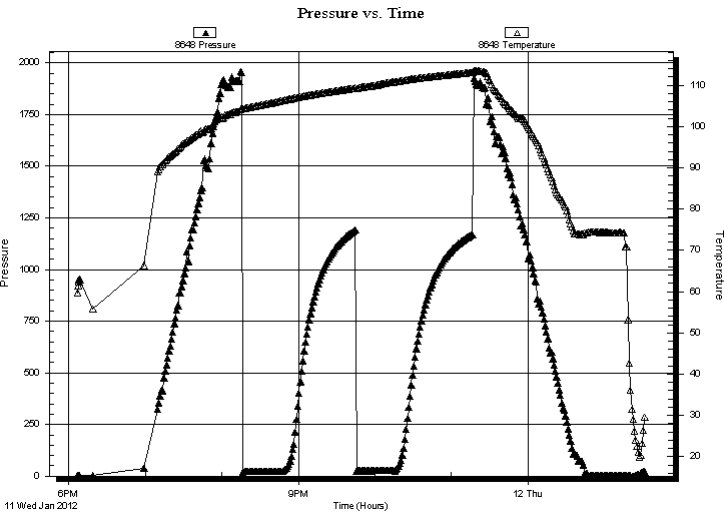
**11-5s-33w Rawlins,KS**  
**Cooper #1-11**  
Job Ticket: 43084      **DST#: 2**  
Test Start: 2012.01.11 @ 18:06:00

### GENERAL INFORMATION:

Formation: **Lans. "B-D"**  
Deviated: No Whipstock: ft (KB)      Test Type: Conventional Bottom Hole (Initial)  
Time Tool Opened: 20:16:45      Tester: Kevin Mack  
Time Test Ended: 01:33:00      Unit No: 43  
  
Interval: **3942.00 ft (KB) To 3990.00 ft (KB) (TVD)**      Reference Elevations: 3013.00 ft (KB)  
Total Depth: 3990.00 ft (KB) (TVD)      3004.00 ft (CF)  
Hole Diameter: 7.88 inches      Hole Condition: Good      KB to GR/CF: 9.00 ft

**Serial #: 8648      Inside**  
Press@RunDepth:      psig @      3943.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2012.01.11      End Date: 2012.01.12      Last Calib.: 2012.01.12  
Start Time: 18:06:50      End Time: 01:31:59      Time On Btm:  
Time Off Btm:

TEST COMMENT: IF- 1/8" Blow built to 1 1/4"  
IS- No Return  
FF- Surface blow built to 1/4"  
FS- No Return



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud 100M	0.05

### Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co.

**11-5s-33w Rawlins,KS**

250 N. Water STE #300  
Wichita, KS 67202

**Cooper #1-11**

Job Ticket: 43084

**DST#: 2**

ATTN: Robert Hendrix

Test Start: 2012.01.11 @ 18:06:00

## Tool Information

Drill Pipe:	Length: 3779.00 ft	Diameter: 3.80 inches	Volume: 53.01 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: 150.00 ft	Diameter: 2.25 inches	Volume: 0.74 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 53.75 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	3942.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	48.00 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			3914.00	
Shut In Tool	5.00			3919.00	
Hydraulic tool	5.00			3924.00	
Jars	5.00			3929.00	
Safety Joint	3.00			3932.00	
Packer	5.00			3937.00	29.00 Bottom Of Top Packer
Packer	5.00			3942.00	
Stubb	1.00			3943.00	
Recorder	0.00	8648	Inside	3943.00	
Recorder	0.00	6799	Inside	3943.00	
Perforations	9.00			3952.00	
Change Over Sub	1.00			3953.00	
Drill Pipe	31.00			3984.00	
Change Over Sub	1.00			3985.00	
Bullnose	5.00			3990.00	48.00 Bottom Packers & Anchor

**Total Tool Length: 77.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**11-5s-33w Rawlins,KS**

250 N. Water STE #300  
Wichita, KS 67202

**Cooper #1-11**

Job Ticket: 43084

**DST#: 2**

ATTN: Robert Hendrix

Test Start: 2012.01.11 @ 18:06:00

## 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: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1800.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	Mud 100M	0.049

Total Length: 10.00 ft      Total Volume: 0.049 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

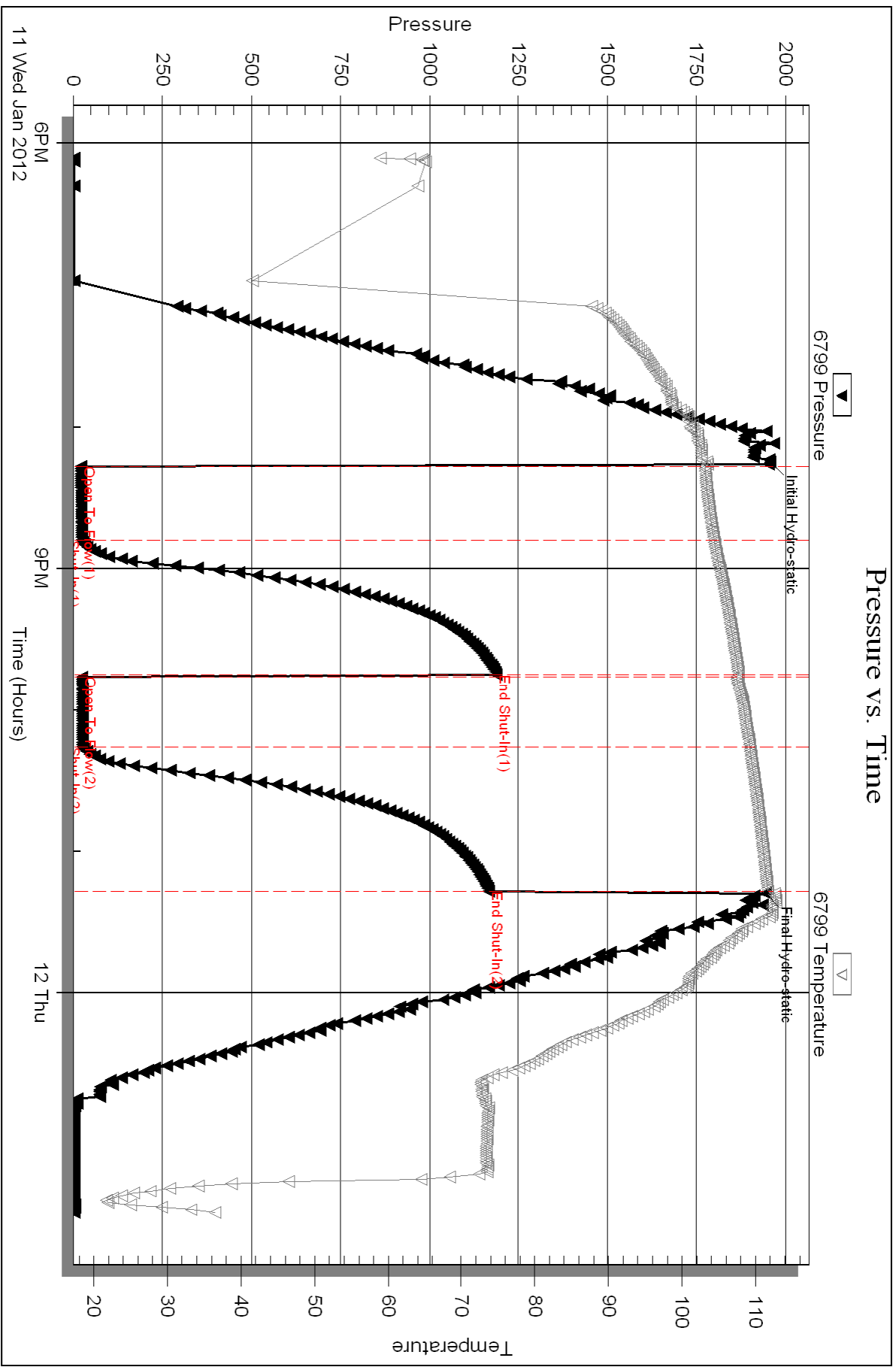
Serial #: 6799

Inside

Murfin Drilling Co.

Cooper #1-11

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 43084

Printed: 2012.01.19 @ 11:29:31

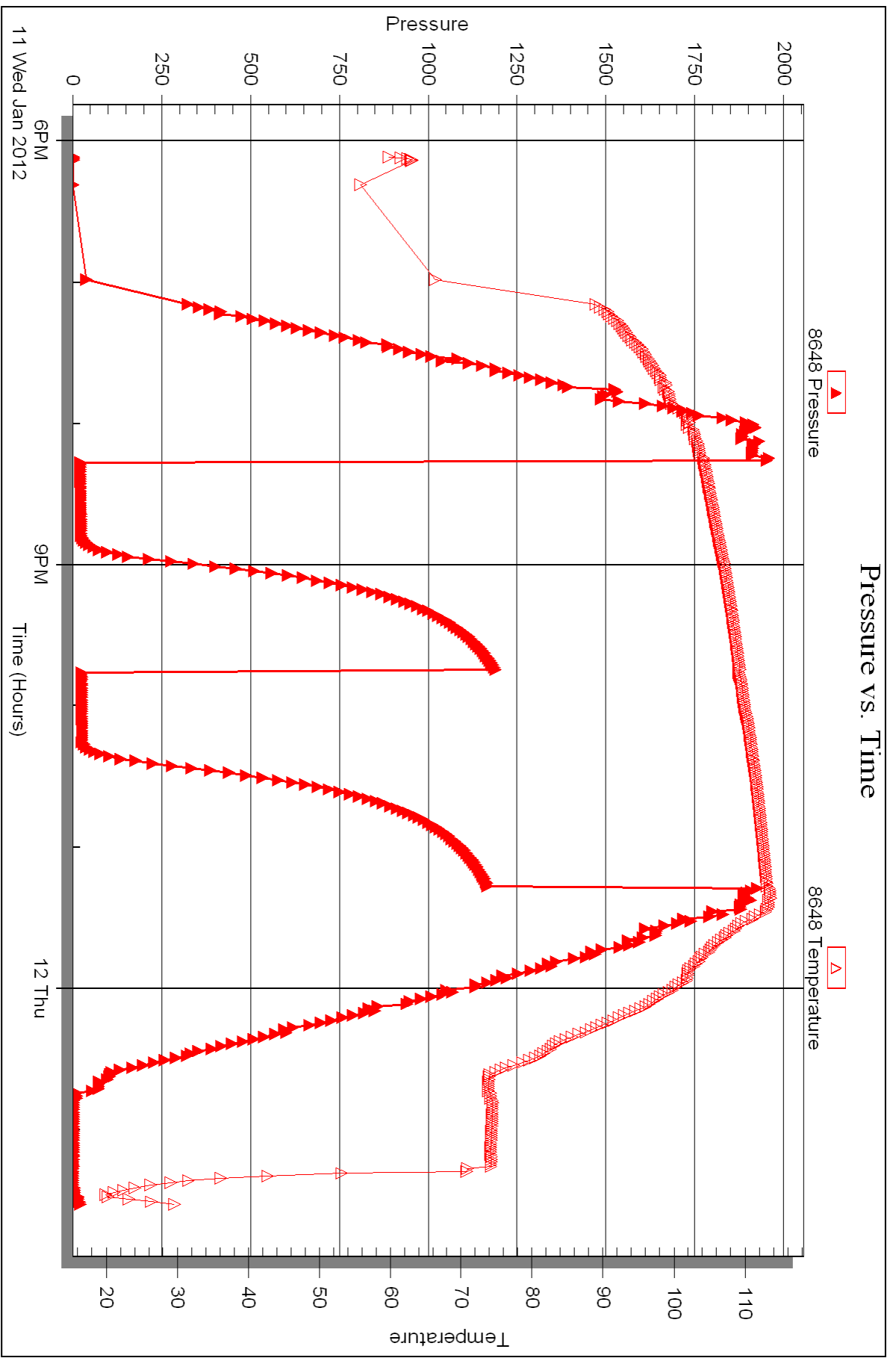
Serial #: 8648

Inside

Murfin Drilling Co.

Cooper #1-11

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 43084

Printed: 2012.01.19 @ 11:29:31



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water STE #300  
Wichita, KS 67202

ATTN: Robert Hendrix

### **Cooper #1-11**

#### **11-5s-33w Rawlins,KS**

Start Date: 2012.01.12 @ 12:42:00

End Date: 2012.01.12 @ 21:34:45

Job Ticket #: 43085                      DST #: 3

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

Printed: 2012.01.19 @ 11:28:43



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.  
 250 N. Water STE #300  
 Wichita, KS 67202  
 ATTN: Robert Hendrix

**11-5s-33w Rawlins, KS**  
**Cooper #1-11**  
 Job Ticket: 43085      **DST#: 3**  
 Test Start: 2012.01.12 @ 12:42:00

## GENERAL INFORMATION:

Formation: **LKC "F-G"**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 15:11:45  
 Tester: Kevin Mack  
 Time Test Ended: 21:34:45  
 Unit No: 43  
**Interval: 3983.00 ft (KB) To 4030.00 ft (KB) (TVD)**  
 Reference Elevations: 3013.00 ft (KB)  
 Total Depth: 4030.00 ft (KB) (TVD)  
 3004.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Good  
 KB to GR/CF: 9.00 ft

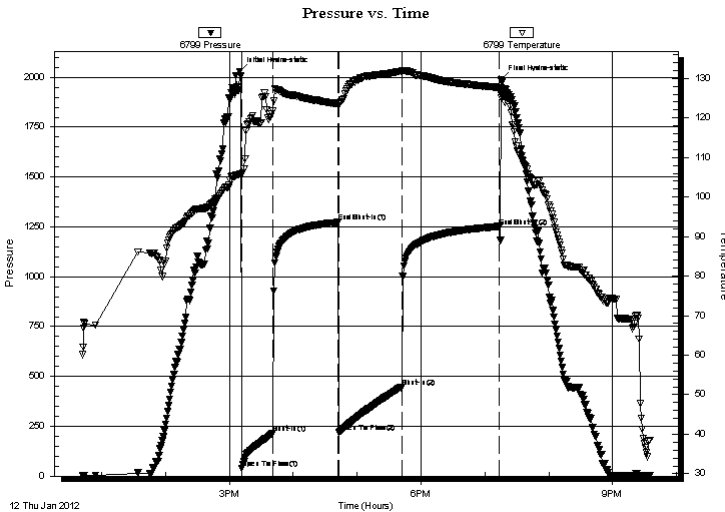
## Serial #: 6799

Inside

Press @ Run Depth: 446.88 psig @ 3984.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2012.01.12      End Date: 2012.01.12      Last Calib.: 2012.01.12  
 Start Time: 12:42:05      End Time: 21:34:45      Time On Btm: 2012.01.12 @ 15:09:45  
 Time Off Btm: 2012.01.12 @ 19:15:15

**TEST COMMENT:** IF- BoB in 9 min.  
 IS- Surface return started at 10 min. Did not build or die.  
 FF- BoB in 10 min.  
 FS- No Return

## PRESSURE SUMMARY



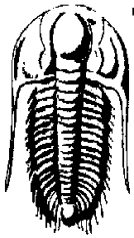
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2030.45	105.86	Initial Hydro-static
2	37.89	105.84	Open To Flow (1)
31	216.56	121.76	Shut-In(1)
92	1273.50	123.53	End Shut-In(1)
93	218.89	123.13	Open To Flow (2)
152	446.88	131.75	Shut-In(2)
244	1252.74	127.73	End Shut-In(2)
246	1989.53	125.88	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud (Heavy) 100M	0.02
243.00	MW 5M 95W	2.09
248.00	MW 20M 80W	3.48
364.00	OSMW 50M 50W (oil spots)	5.11

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

Murfin Drilling Co.

250 N. Water STE #300  
Wichita, KS 67202

ATTN: Robert Hendrix

**11-5s-33w Rawlins, KS**

**Cooper #1-11**

Job Ticket: 43085

**DST#: 3**

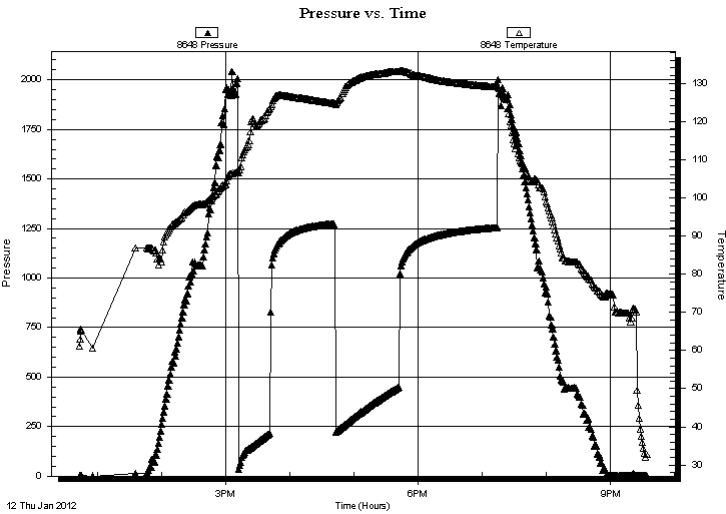
Test Start: 2012.01.12 @ 12:42:00

**GENERAL INFORMATION:**

Formation: <b>LKC "F-G"</b>			
Deviated: No Whipstock:		ft (KB)	Test Type: Conventional Bottom Hole (Initial)
Time Tool Opened: 15:11:45			Tester: Kevin Mack
Time Test Ended: 21:34:45			Unit No: 43
<b>Interval: 3983.00 ft (KB) To 4030.00 ft (KB) (TVD)</b>			Reference Elevations: 3013.00 ft (KB)
Total Depth: 4030.00 ft (KB) (TVD)			3004.00 ft (CF)
Hole Diameter: 7.88 inches	Hole Condition: Good		KB to GR/CF: 9.00 ft

<b>Serial #: 8648</b>	<b>Inside</b>		
Press @RunDepth:	psig @ 3984.00 ft (KB)	Capacity:	8000.00 psig
Start Date:	2012.01.12	End Date:	2012.01.12
Start Time:	12:42:50	End Time:	21:33:45
		Time On Btm:	
		Time Off Btm:	

**TEST COMMENT:** IF- BoB in 9 min.  
IS- Surface return started at 10 min. Did not build or die.  
FF- BoB in 10 min.  
FS- No Return



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
5.00	Mud (Heavy) 100M	0.02
243.00	MW 5M 95W	2.09
248.00	MW 20M 80W	3.48
364.00	OSMW 50M 50W (oil spots)	5.11

**Gas Rates**

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co.

**11-5s-33w Rawlins,KS**

250 N. Water STE #300  
Wichita, KS 67202

**Cooper #1-11**

Job Ticket: 43085

**DST#: 3**

ATTN: Robert Hendrix

Test Start: 2012.01.12 @ 12:42:00

## Tool Information

Drill Pipe:	Length: 3810.00 ft	Diameter: 3.80 inches	Volume: 53.44 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: 150.00 ft	Diameter: 2.25 inches	Volume: 0.74 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 54.18 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	3983.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	47.00 ft			
Tool Length:	76.00 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
Change Over Sub	1.00			3955.00	
Shut In Tool	5.00			3960.00	
Hydraulic tool	5.00			3965.00	
Jars	5.00			3970.00	
Safety Joint	3.00			3973.00	
Packer	5.00			3978.00	29.00 Bottom Of Top Packer
Packer	5.00			3983.00	
Stubb	1.00			3984.00	
Recorder	0.00	8648	Inside	3984.00	
Recorder	0.00	6799	Inside	3984.00	
Perforations	8.00			3992.00	
Change Over Sub	1.00			3993.00	
Drill Pipe	31.00			4024.00	
Change Over Sub	1.00			4025.00	
Bullnose	5.00			4030.00	47.00 Bottom Packers & Anchor

**Total Tool Length: 76.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**11-5s-33w Rawlins,KS**

250 N. Water STE #300  
Wichita, KS 67202

**Cooper #1-11**

Job Ticket: 43085

**DST#: 3**

ATTN: Robert Hendrix

Test Start: 2012.01.12 @ 12:42:00

## 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:

25000 ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1800.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud (Heavy) 100M	0.025
243.00	MW 5M 95W	2.088
248.00	MW 20M 80W	3.479
364.00	OSMW 50M 50W (oil spots)	5.106

Total Length: 860.00 ft      Total Volume: 10.698 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

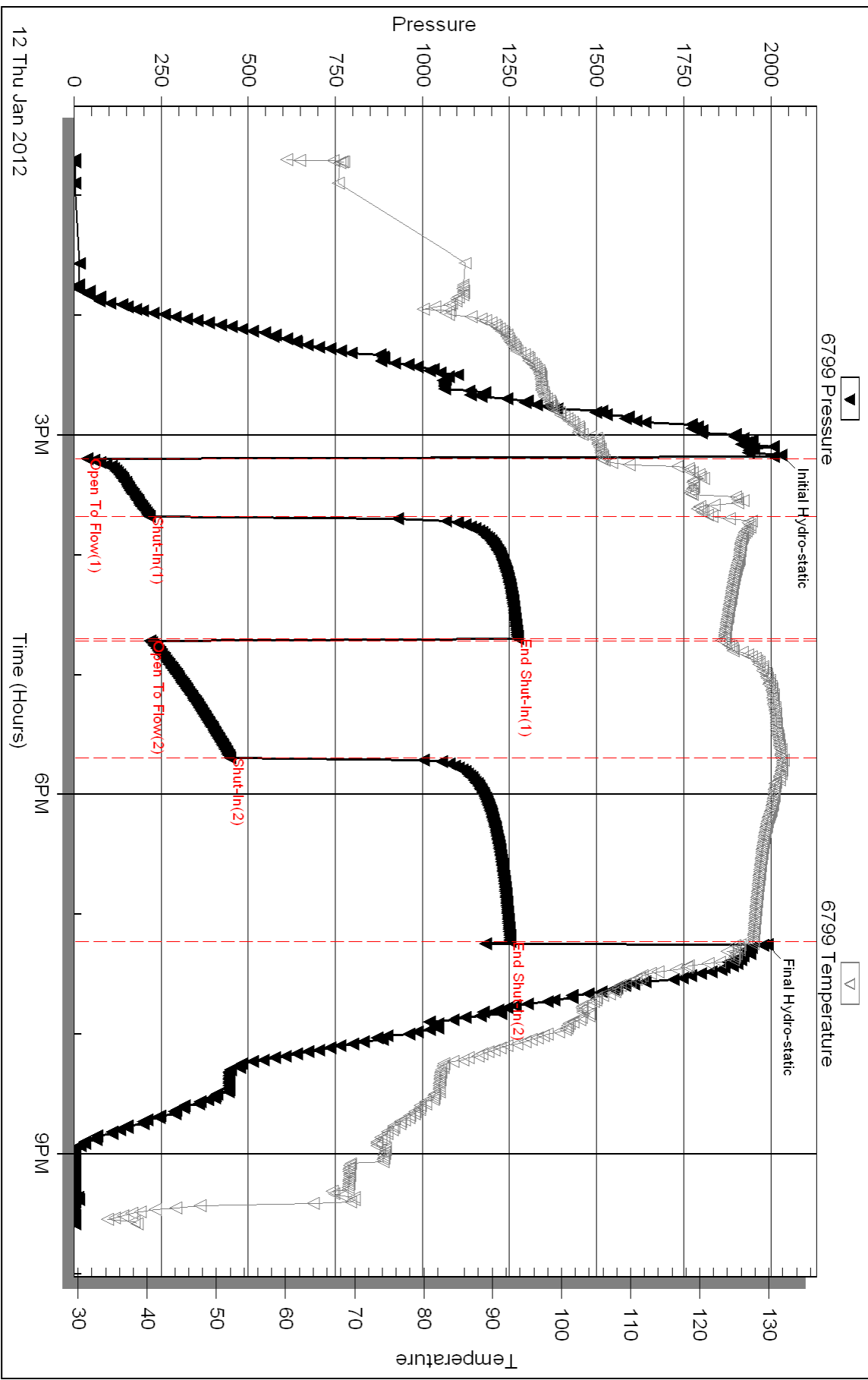
Laboratory Location:

Recovery Comments: Last 7 stands had a strong gas odor.

RW .32 @ 60 deg = 25000 ppm



### Pressure vs. Time



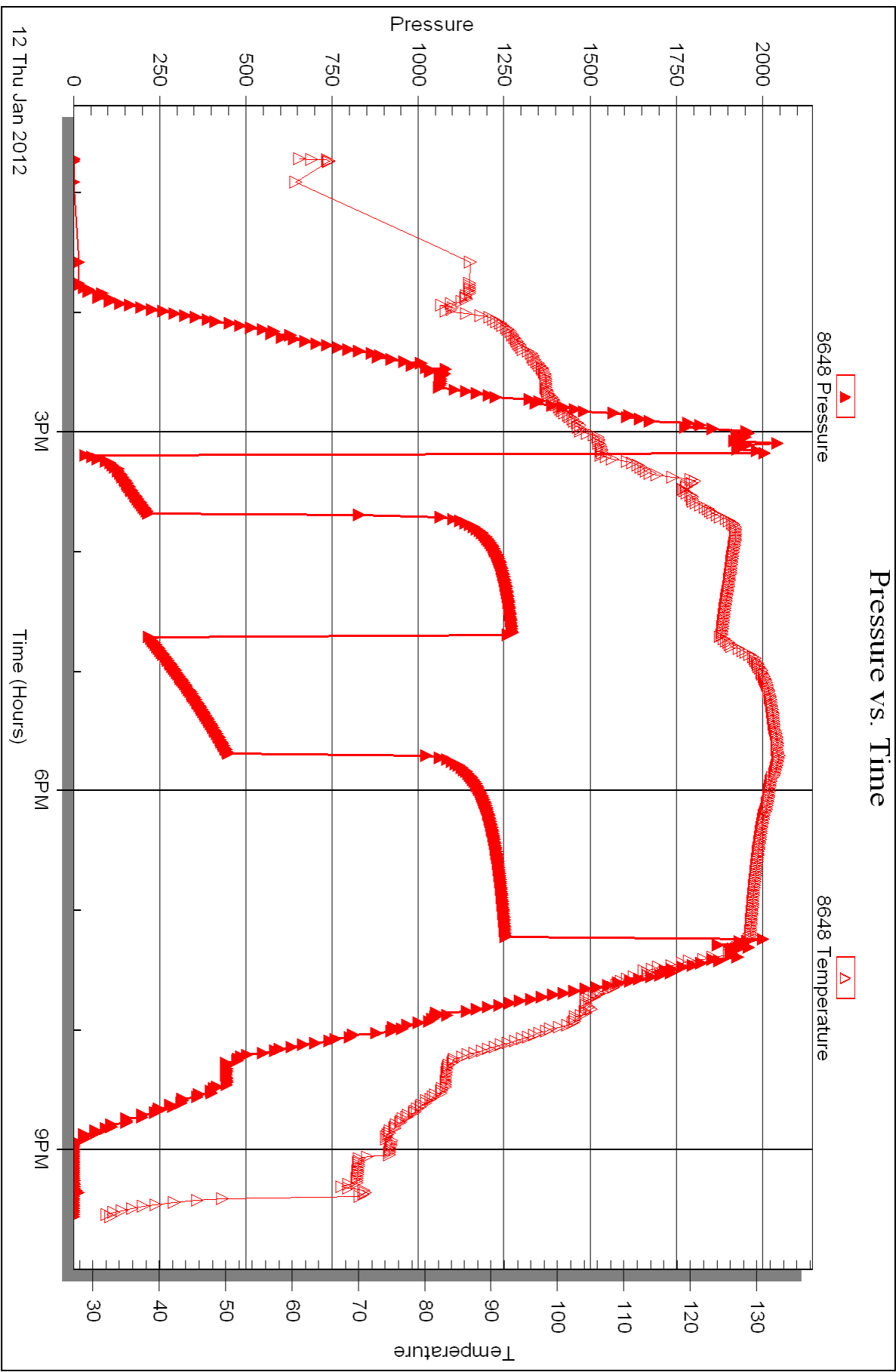
Serial #: 8648

Inside

Murfin Drilling Co.

Cooper #1-11

DST Test Number: 3





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water STE #300  
Wichita, KS 67202

ATTN: Robert Hendrix

### **Cooper #1-11**

#### **11-5s-33w Rawlins,KS**

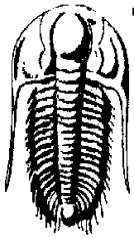
Start Date: 2012.01.13 @ 16:06:00

End Date: 2012.01.14 @ 00:48:00

Job Ticket #: 43086                      DST #: 4

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

Printed: 2012.01.19 @ 11:28:01



# TRILOBITE TESTING, INC.

## DRILL STEM TEST REPORT

Murfin Drilling Co.  
 250 N. Water STE #300  
 Wichita, KS 67202  
 ATTN: Robert Hendrix

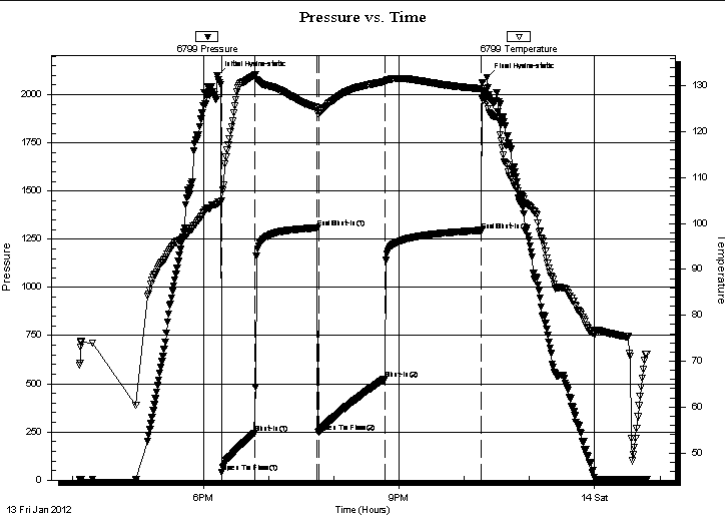
**11-5s-33w Rawlins,KS**  
**Cooper #1-11**  
 Job Ticket: 43086      **DST#: 4**  
 Test Start: 2012.01.13 @ 16:06:00

### GENERAL INFORMATION:

Formation: **LKC "H-J"**  
 Deviated: No Whipstock:      ft (KB)  
 Time Tool Opened: 18:16:45  
 Time Test Ended: 00:48:00  
 Interval: **4048.00 ft (KB) To 4110.00 ft (KB) (TVD)**  
 Total Depth: 4110.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Kevin Mack  
 Unit No: 43  
 Reference Elevations: 3013.00 ft (KB)  
 3004.00 ft (CF)  
 KB to GR/CF: 9.00 ft

**Serial #: 6799**      **Inside**  
 Press @ Run Depth: 524.82 psig @ 4049.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2012.01.13      End Date: 2012.01.14      Last Calib.: 2012.01.14  
 Start Time: 16:06:05      End Time: 00:48:00      Time On Btm: 2012.01.13 @ 18:12:45  
    Time Off Btm: 2012.01.13 @ 22:21:00

**TEST COMMENT:** IF- BoB in 18 min  
 IS- Surface return started at 8 min. Built to 1/4"  
 FF- BoB in 8 min.  
 FS- No Return



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2100.56	104.30	Initial Hydro-static
4	40.35	104.94	Open To Flow (1)
34	243.33	132.25	Shut-In(1)
92	1309.01	125.24	End Shut-In(1)
93	248.94	123.90	Open To Flow (2)
154	524.82	130.90	Shut-In(2)
243	1295.91	129.37	End Shut-In(2)
249	2090.35	126.43	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud (Heavy) 100M	0.02
176.00	MW 5M 95W	1.15
496.00	MW 10M 90W	6.96
464.00	MW 40M 60W	6.51

### Gas Rates

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



# TRILOBITE TESTING, INC.

## DRILL STEM TEST REPORT

Murfin Drilling Co.  
 250 N. Water STE #300  
 Wichita, KS 67202  
 ATTN: Robert Hendrix

11-5s-33w Rawlins, KS

Cooper #1-11

Job Ticket: 43086

DST#: 4

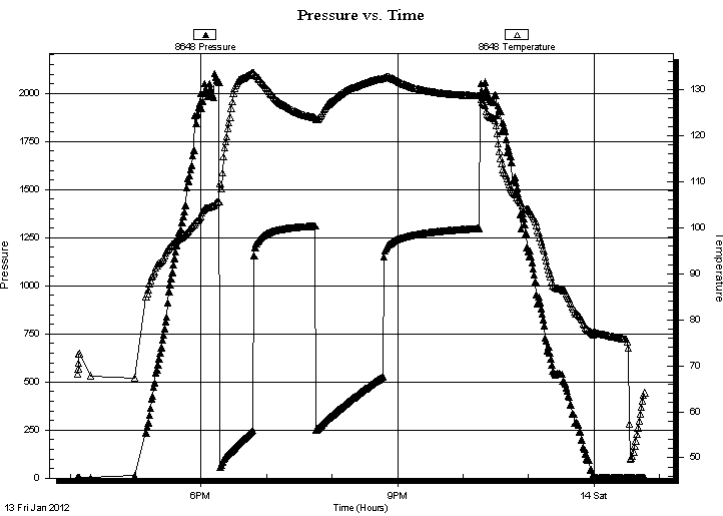
Test Start: 2012.01.13 @ 16:06:00

### GENERAL INFORMATION:

Formation: <b>LKC "H-J"</b>	Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock:                      ft (KB)	Tester: Kevin Mack
Time Tool Opened: 18:16:45	Unit No: 43
Time Test Ended: 00:48:00	Reference Elevations: 3013.00 ft (KB)
<b>Interval: 4048.00 ft (KB) To 4110.00 ft (KB) (TVD)</b>	3004.00 ft (CF)
Total Depth: 4110.00 ft (KB) (TVD)	KB to GR/CF: 9.00 ft
Hole Diameter: 7.88 inches Hole Condition: Good	

<b>Serial #: 8648</b>	<b>Inside</b>	Capacity: 8000.00 psig
Press @ Run Depth:                      psig @ 4049.00 ft (KB)	Last Calib.: 2012.01.14	
Start Date: 2012.01.13	End Date: 2012.01.14	Time On Btm:
Start Time: 16:06:50	End Time: 00:47:00	Time Off Btm:

**TEST COMMENT:** IF- BoB in 18 min  
 IS- Surface return started at 8 min. Built to 1/4"  
 FF- BoB in 8 min.  
 FS- No Return



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud (Heavy) 100M	0.02
176.00	MV 5M 95W	1.15
496.00	MV 10M 90W	6.96
464.00	MV 40M 60W	6.51

### Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co.

**11-5s-33w Rawlins,KS**

250 N. Water STE #300  
Wichita, KS 67202

**Cooper #1-11**

Job Ticket: 43086

**DST#: 4**

ATTN: Robert Hendrix

Test Start: 2012.01.13 @ 16:06:00

## Tool Information

Drill Pipe:	Length: 3875.00 ft	Diameter: 3.80 inches	Volume: 54.36 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: 150.00 ft	Diameter: 2.25 inches	Volume: 0.74 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 55.10 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	4048.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	62.00 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
Change Over Sub	1.00			4020.00	
Shut In Tool	5.00			4025.00	
Hydraulic tool	5.00			4030.00	
Jars	5.00			4035.00	
Safety Joint	3.00			4038.00	
Packer	5.00			4043.00	29.00 Bottom Of Top Packer
Packer	5.00			4048.00	
Stubb	1.00			4049.00	
Recorder	0.00	8648	Inside	4049.00	
Recorder	0.00	6799	Inside	4049.00	
Perforations	23.00			4072.00	
Change Over Sub	1.00			4073.00	
Drill Pipe	31.00			4104.00	
Change Over Sub	1.00			4105.00	
Bullnose	5.00			4110.00	62.00 Bottom Packers & Anchor

**Total Tool Length: 91.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**11-5s-33w Rawlins,KS**

250 N. Water STE #300  
Wichita, KS 67202

**Cooper #1-11**

Job Ticket: 43086

**DST#: 4**

ATTN: Robert Hendrix

Test Start: 2012.01.13 @ 16:06:00

## 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:

25000 ppm

Viscosity: 65.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.38 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3700.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud (Heavy) 100M	0.025
176.00	MW 5M 95W	1.148
496.00	MW 10M 90W	6.958
464.00	MW 40M 60W	6.509

Total Length: 1141.00 ft      Total Volume: 14.640 bbl

Num Fluid Samples: 0

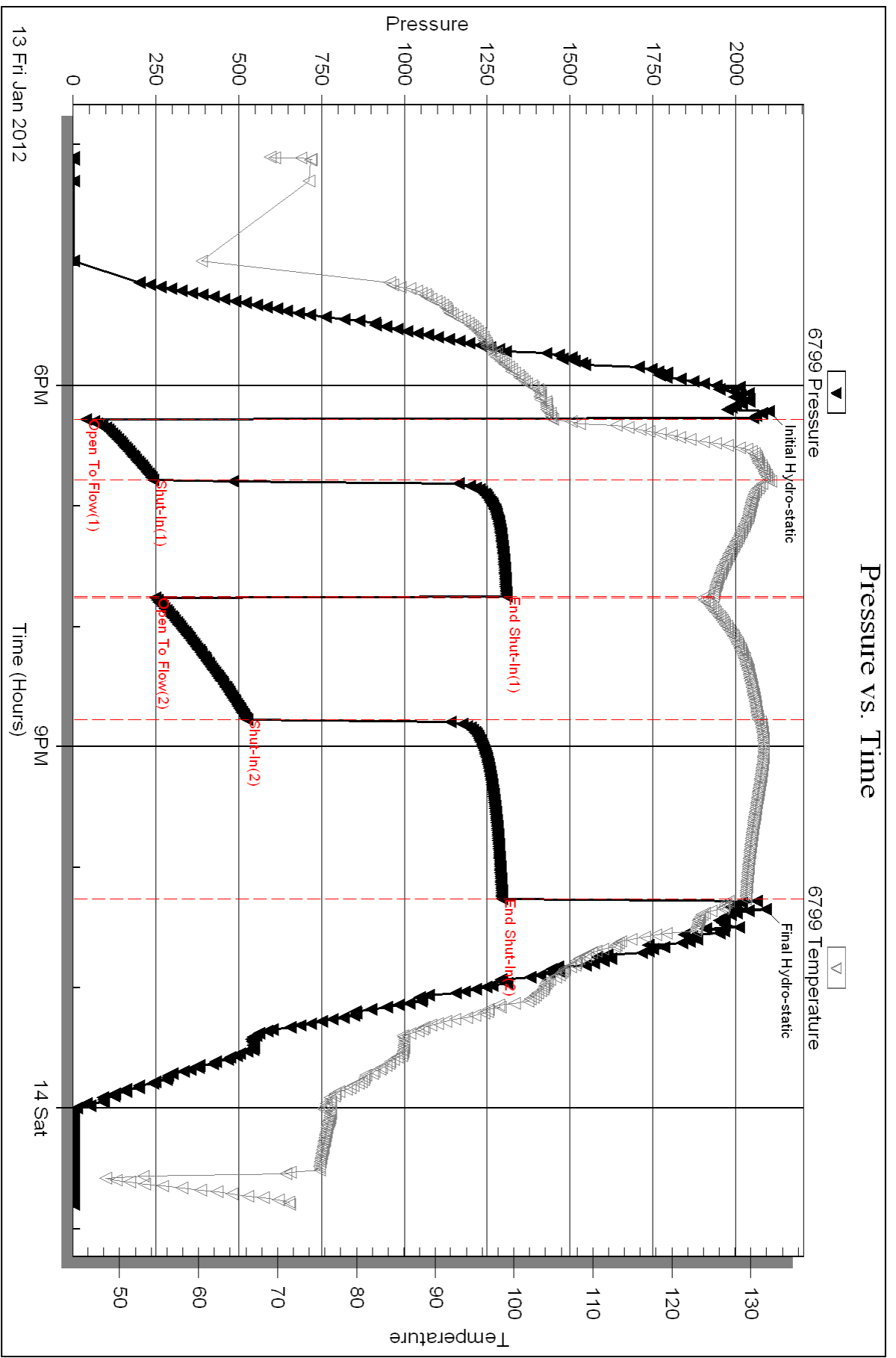
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .3 @ 67 deg. = 25000ppm





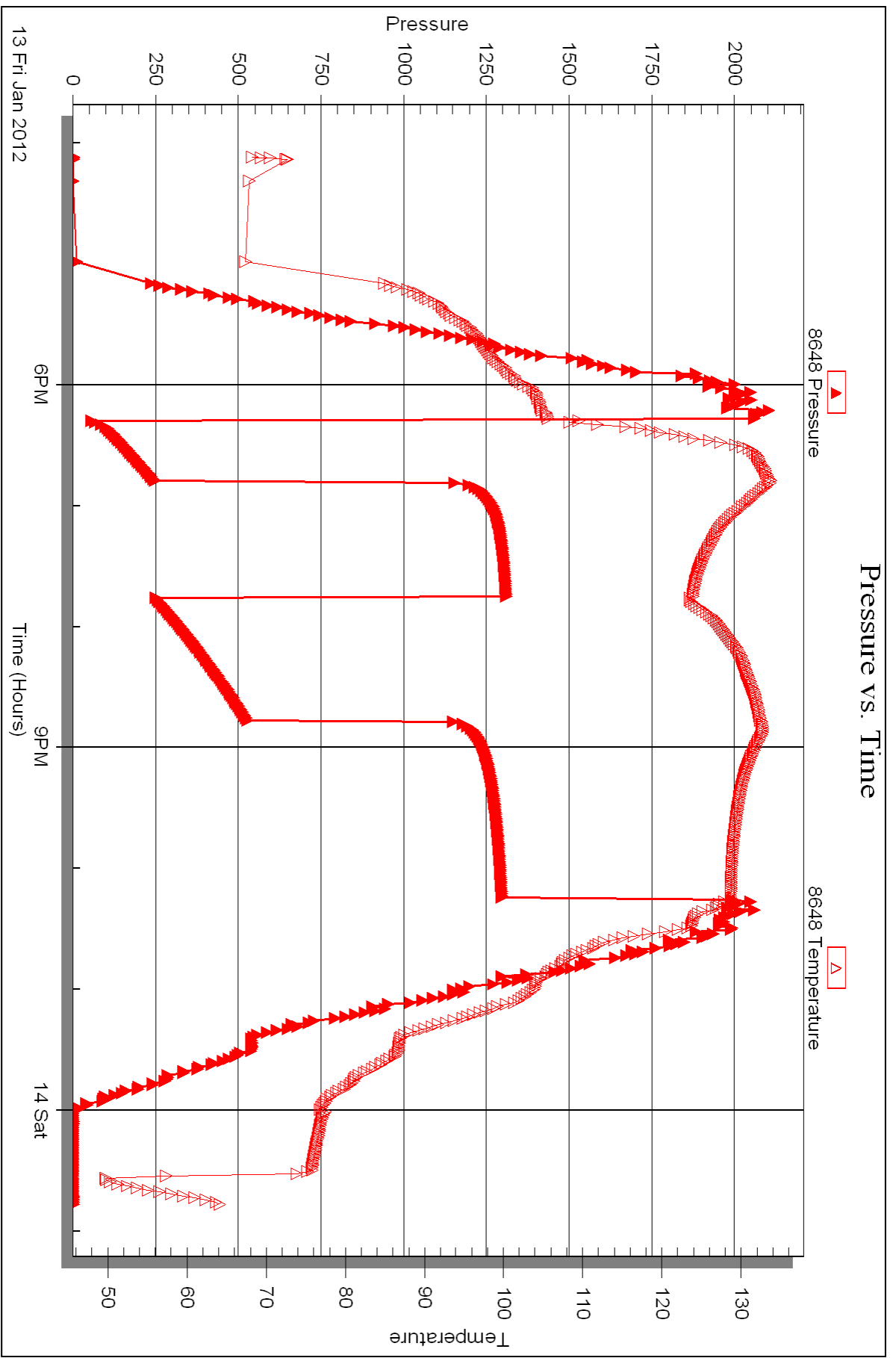
Serial #: 8648

Inside

Murfin Drilling Co.

Cooper #1-11

DST Test Number: 4



Triobite Testing, Inc

Ref. No.: 43086

Printed: 2012.01.19 @ 11:28:04



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water STE #300  
Wichita, KS 67202

ATTN: Robert Hendrix

### **Cooper #1-11**

### **11-5s-33w Rawlins,KS**

Start Date: 2012.01.15 @ 05:53:00

End Date: 2012.01.15 @ 13:48:30

Job Ticket #: 43087                      DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.01.19 @ 11:27:27



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.  
 250 N. Water STE #300  
 Wichita, KS 67202  
 ATTN: Robert Hendrix

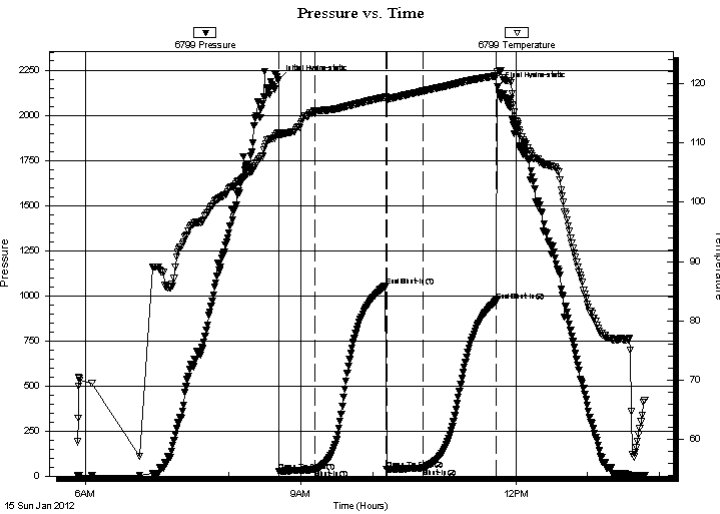
**11-5s-33w Rawlins, KS**  
**Cooper #1-11**  
 Job Ticket: 43087      **DST#: 5**  
 Test Start: 2012.01.15 @ 05:53:00

## GENERAL INFORMATION:

Formation: **Pawnee - Myric Stati**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 08:41:45 Tester: KevinMack  
 Time Test Ended: 13:48:30 Unit No: 43  
 Interval: **4281.00 ft (KB) To 4337.00 ft (KB) (TVD)** Reference Elevations: 3013.00 ft (KB)  
 Total Depth: 4337.00 ft (KB) (TVD) 3004.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 9.00 ft

**Serial #: 6799 Inside**  
 Press @ RunDepth: 43.29 psig @ 4282.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.01.15 End Date: 2012.01.15 Last Calib.: 2012.01.15  
 Start Time: 05:53:05 End Time: 13:48:29 Time On Btm: 2012.01.15 @ 08:41:30  
 Time Off Btm: 2012.01.15 @ 11:44:45

**TEST COMMENT:** IF- 1/4" Blow died in 15 min.  
 IS- No Return  
 FF- Surface blow started at 3 min. Built to 1/4" then died at 20 min.  
 FS- No Return



## PRESSURE SUMMARY

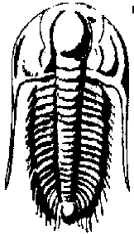
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2197.55	111.75	Initial Hydro-static
1	26.98	111.23	Open To Flow (1)
31	37.42	115.32	Shut-In(1)
90	1055.55	117.70	End Shut-In(1)
91	38.27	117.38	Open To Flow (2)
121	43.29	118.68	Shut-In(2)
183	972.79	121.28	End Shut-In(2)
184	2157.82	121.97	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
15.00	OCM 90M 10o	0.07

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.  
250 N. Water STE #300  
Wichita, KS 67202  
ATTN: Robert Hendrix

**11-5s-33w Rawlins, KS**  
**Cooper #1-11**  
Job Ticket: 43087      **DST#: 5**  
Test Start: 2012.01.15 @ 05:53:00

## GENERAL INFORMATION:

Formation: **Pawnee - Myric Stati**

Deviated: No      Whipstock:      ft (KB)

Time Tool Opened: 08:41:45

Time Test Ended: 13:48:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 43

Interval: **4281.00 ft (KB) To 4337.00 ft (KB) (TVD)**

Total Depth: 4337.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3013.00 ft (KB)

3004.00 ft (CF)

KB to GR/CF: 9.00 ft

**Serial #: 8648**      **Inside**

Press @ Run Depth:      psig @ 4282.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.01.15

End Date: 2012.01.15

Last Calib.: 2012.01.15

Start Time: 05:54:05

End Time: 13:47:44

Time On Btm:

Time Off Btm:

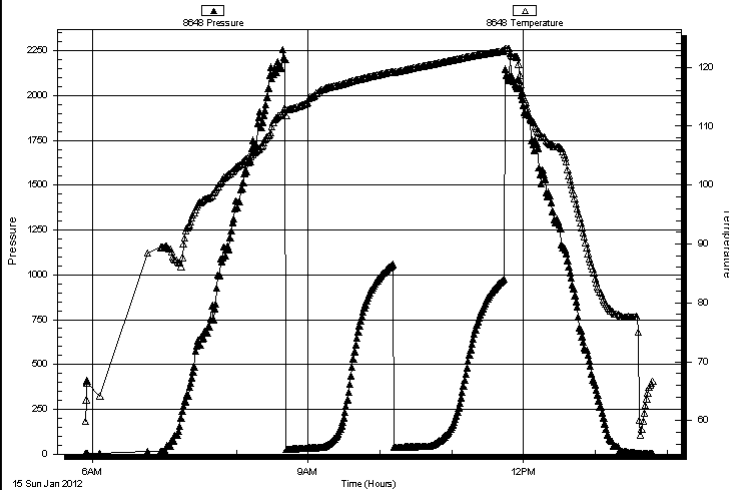
**TEST COMMENT:** IF- 1/4" Blow died in 15 min.

IS- No Return

FF- Surface blow started at 3 min. Built to 1/4" then died at 20 min.

FS- No Return

Pressure vs. Time



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
15.00	OCM 90M 10o	0.07

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co.

**11-5s-33w Rawlins,KS**

250 N. Water STE #300  
Wichita, KS 67202

**Cooper #1-11**

Job Ticket: 43087

**DST#: 5**

ATTN: Robert Hendrix

Test Start: 2012.01.15 @ 05:53:00

## Tool Information

Drill Pipe:	Length: 4124.00 ft	Diameter: 3.80 inches	Volume: 57.85 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: 150.00 ft	Diameter: 2.25 inches	Volume: 0.74 bbl	Weight to Pull Loose: 72000.00 lb
			<u>Total Volume: 58.59 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4281.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	56.00 ft			
Tool Length:	85.00 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			4253.00	
Shut In Tool	5.00			4258.00	
Hydraulic tool	5.00			4263.00	
Jars	5.00			4268.00	
Safety Joint	3.00			4271.00	
Packer	5.00			4276.00	29.00 Bottom Of Top Packer
Packer	5.00			4281.00	
Stubb	1.00			4282.00	
Recorder	0.00	8648	Inside	4282.00	
Recorder	0.00	6799	Inside	4282.00	
Perforations	18.00			4300.00	
Change Over Sub	1.00			4301.00	
Drill Pipe	30.00			4331.00	
Change Over Sub	1.00			4332.00	
Bullnose	5.00			4337.00	56.00 Bottom Packers & Anchor

**Total Tool Length: 85.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**11-5s-33w Rawlins,KS**

250 N. Water STE #300  
Wichita, KS 67202

**Cooper #1-11**

Job Ticket: 43087

**DST#: 5**

ATTN: Robert Hendrix

Test Start: 2012.01.15 @ 05:53:00

## 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: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2400.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	OCM 90M 10o	0.074

Total Length: 15.00 ft      Total Volume: 0.074 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

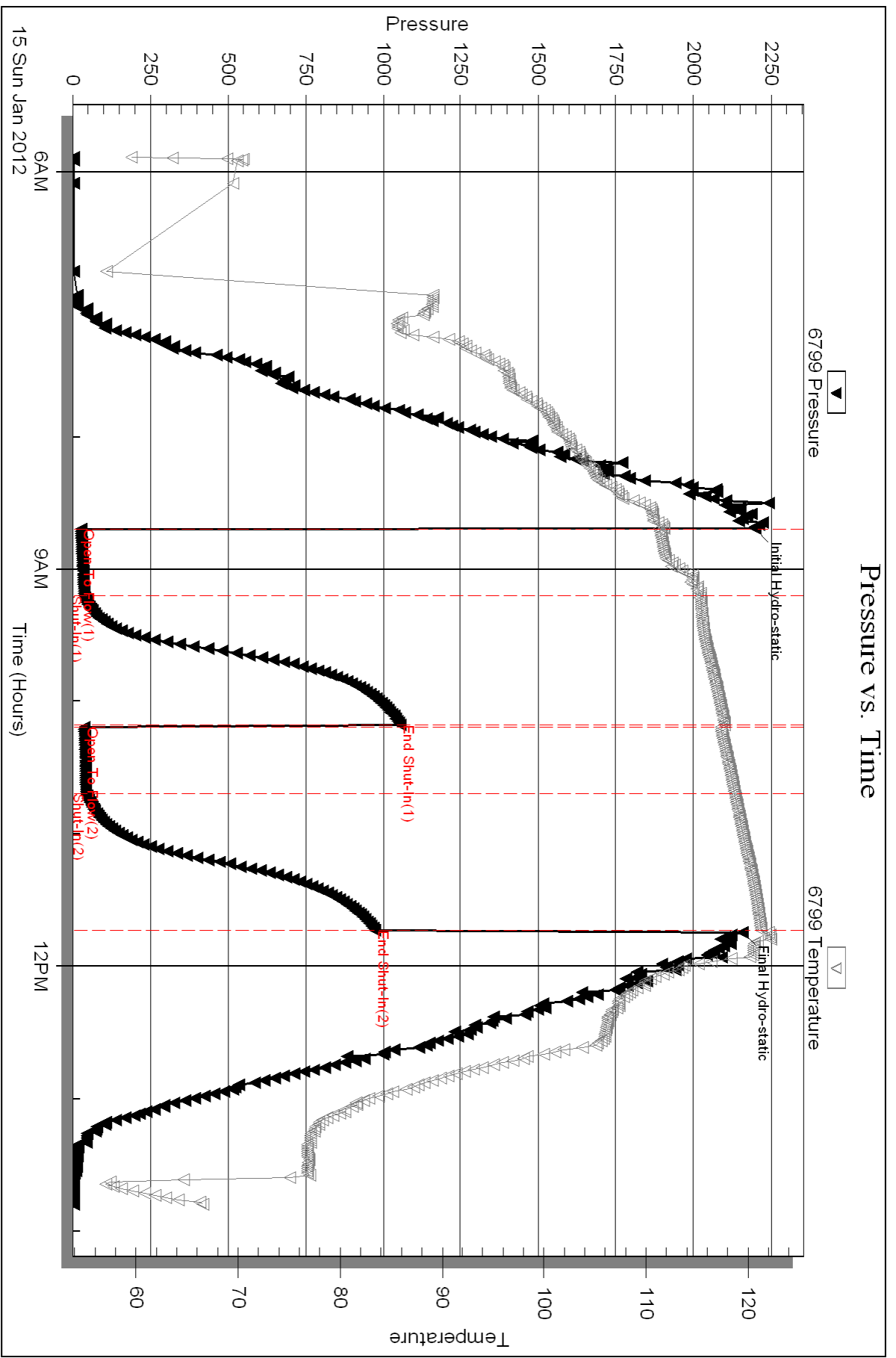
Serial #: 6799

Inside

Murfin Drilling Co.

Cooper #1-11

DST Test Number: 5



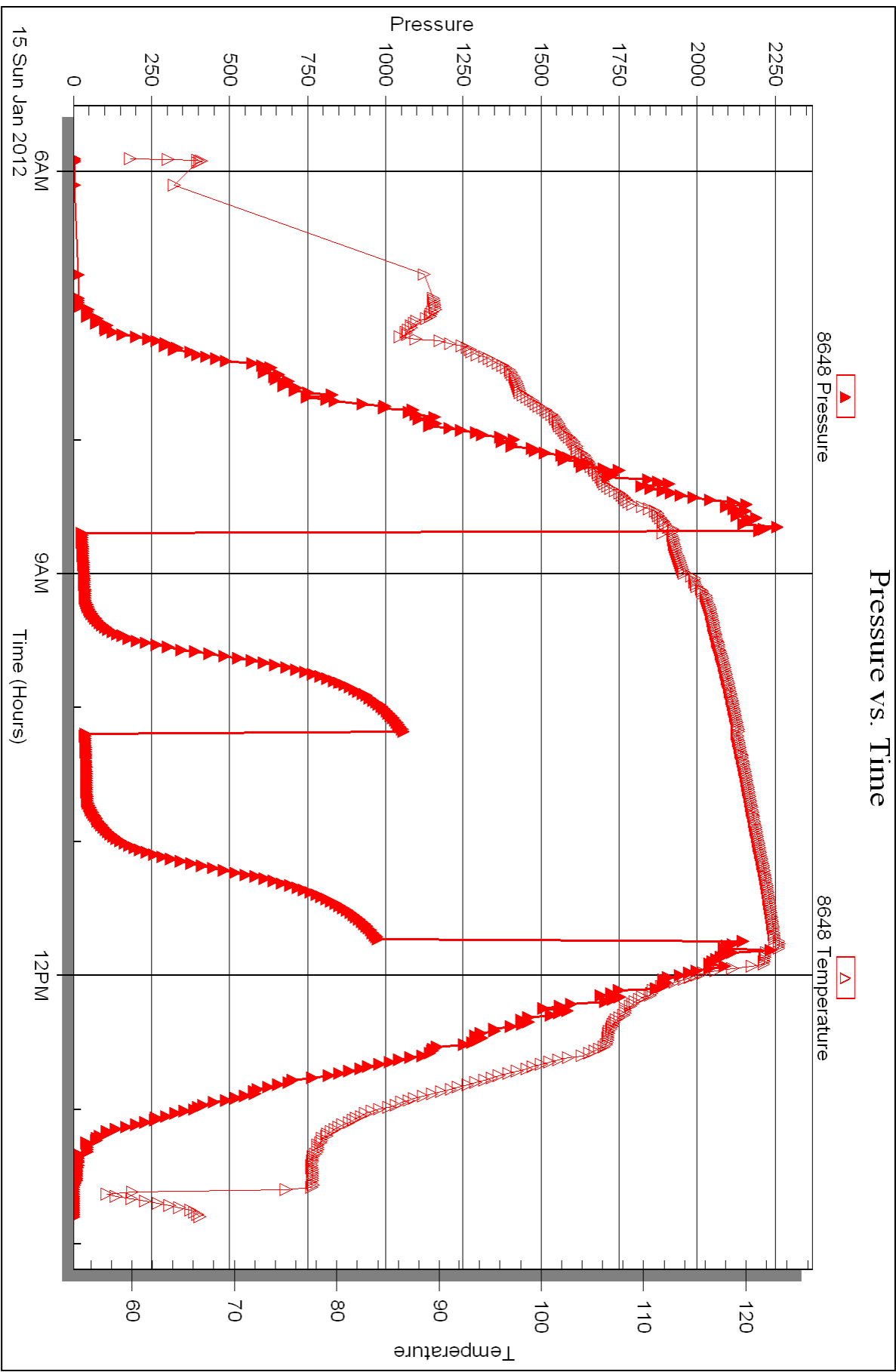
Serial #: 8648

Inside

Murfin Drilling Co.

Cooper #1-11

DST Test Number: 5







## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water STE #300  
Wichita, KS 67202

ATTN: Robert Hendrix

### **Cooper #1-11**

### **11-5s-33w Rawlins,KS**

Start Date: 2012.01.16 @ 01:30:00

End Date: 2012.01.16 @ 09:30:15

Job Ticket #: 43088                      DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.01.19 @ 11:26:42



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.  
250 N. Water STE #300  
Wichita, KS 67202  
ATTN: Robert Hendrix

**11-5s-33w Rawlins, KS**  
**Cooper #1-11**  
Job Ticket: 43088      **DST#: 6**  
Test Start: 2012.01.16 @ 01:30:00

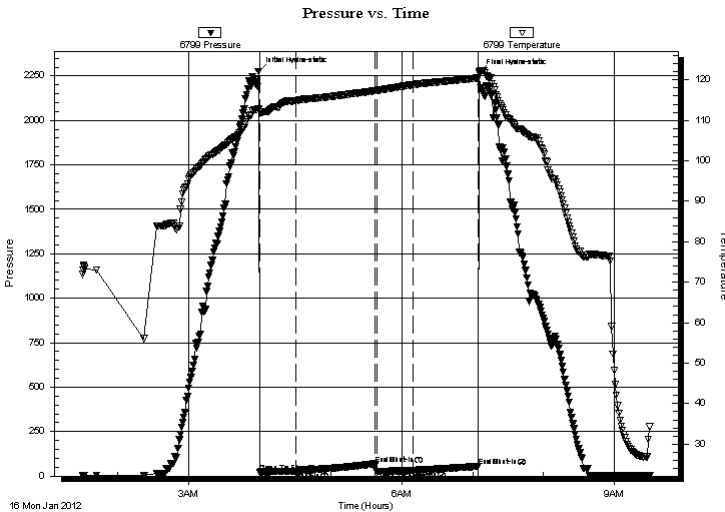
## GENERAL INFORMATION:

Formation: **Ft. Scott - Cherokee**  
Deviated: No Whipstock:      ft (KB)  
Time Tool Opened: 03:59:45  
Time Test Ended: 09:30:15  
Interval: **4339.00 ft (KB) To 4395.00 ft (KB) (TVD)**  
Total Depth: 4395.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Kevin Mack  
Unit No: 43  
Reference Elevations: 3013.00 ft (KB)  
3004.00 ft (CF)  
KB to GR/CF: 9.00 ft

**Serial #: 6799      Inside**  
Press @ Run Depth: 31.91 psig @ 4340.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2012.01.16      End Date: 2012.01.16      Last Calib.: 2012.01.16  
Start Time: 01:30:05      End Time: 09:30:14      Time On Btm: 2012.01.16 @ 03:58:45  
Time Off Btm: 2012.01.16 @ 07:05:45

TEST COMMENT: IF- 1/4" Blow built to 2"  
IS- No Return  
FF- No Blow  
FS- No Return

## PRESSURE SUMMARY



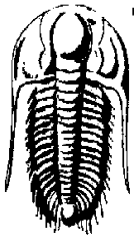
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2276.48	112.76	Initial Hydro-static
1	22.75	112.17	Open To Flow (1)
32	27.19	114.88	Shut-In(1)
99	68.24	117.31	End Shut-In(1)
100	27.34	117.36	Open To Flow (2)
131	31.91	118.80	Shut-In(2)
186	55.90	120.46	End Shut-In(2)
187	2266.23	122.04	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
30.00	OSM 100M (oil spots)	0.15

## Gas Rates

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



# TRILLOBITE TESTING, INC.

## DRILL STEM TEST REPORT

Murfin Drilling Co.  
 250 N. Water STE #300  
 Wichita, KS 67202  
 ATTN: Robert Hendrix

**11-5s-33w Rawlins,KS**  
**Cooper #1-11**  
 Job Ticket: 43088      **DST#: 6**  
 Test Start: 2012.01.16 @ 01:30:00

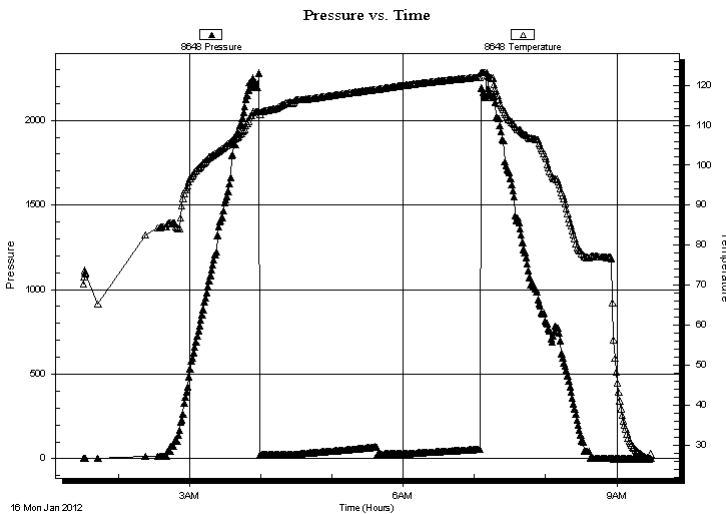
### GENERAL INFORMATION:

Formation: <b>Ft. Scott - Cherokee</b>	Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock: ft (KB)	Tester: Kevin Mack
Time Tool Opened: 03:59:45	Unit No: 43
Time Test Ended: 09:30:15	Reference Elevations: 3013.00 ft (KB)
<b>Interval: 4339.00 ft (KB) To 4395.00 ft (KB) (TVD)</b>	3004.00 ft (CF)
Total Depth: 4395.00 ft (KB) (TVD)	KB to GR/CF: 9.00 ft
Hole Diameter: 7.88 inches	Hole Condition: Good

**Serial #: 8648      Inside**

Press @ Run Depth: psig @ 4340.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2012.01.16	End Date: 2012.01.16
Start Time: 01:30:50	End Time: 09:29:14
	Last Calib.: 2012.01.16
	Time On Btm:
	Time Off Btm:

TEST COMMENT: IF- 1/4" Blow built to 2"  
 IS- No Return  
 FF- No Blow  
 FS- No Return



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
30.00	OSM 100M (oil spots)	0.15

### Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co.

**11-5s-33w Rawlins,KS**

250 N. Water STE #300  
Wichita, KS 67202

**Cooper #1-11**

Job Ticket: 43088

**DST#: 6**

ATTN: Robert Hendrix

Test Start: 2012.01.16 @ 01:30:00

## Tool Information

Drill Pipe:	Length: 4190.00 ft	Diameter: 3.80 inches	Volume: 58.77 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: 150.00 ft	Diameter: 2.25 inches	Volume: 0.74 bbl	Weight to Pull Loose: 77000.00 lb
			<u>Total Volume: 59.51 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4339.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	56.00 ft			
Tool Length:	85.00 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
Change Over Sub	1.00			4311.00	
Shut In Tool	5.00			4316.00	
Hydraulic tool	5.00			4321.00	
Jars	5.00			4326.00	
Safety Joint	3.00			4329.00	
Packer	5.00			4334.00	29.00 Bottom Of Top Packer
Packer	5.00			4339.00	
Stubb	1.00			4340.00	
Recorder	0.00	8648	Inside	4340.00	
Recorder	0.00	6799	Inside	4340.00	
Perforations	16.00			4356.00	
Change Over Sub	1.00			4357.00	
Drill Pipe	32.00			4389.00	
Change Over Sub	1.00			4390.00	
Bullnose	5.00			4395.00	56.00 Bottom Packers & Anchor

**Total Tool Length: 85.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**11-5s-33w Rawlins,KS**

250 N. Water STE #300  
Wichita, KS 67202

**Cooper #1-11**

Job Ticket: 43088

**DST#: 6**

ATTN: Robert Hendrix

Test Start: 2012.01.16 @ 01:30:00

## 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: 80.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	OSM 100M(oil spots)	0.148

Total Length: 30.00 ft      Total Volume: 0.148 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 6799

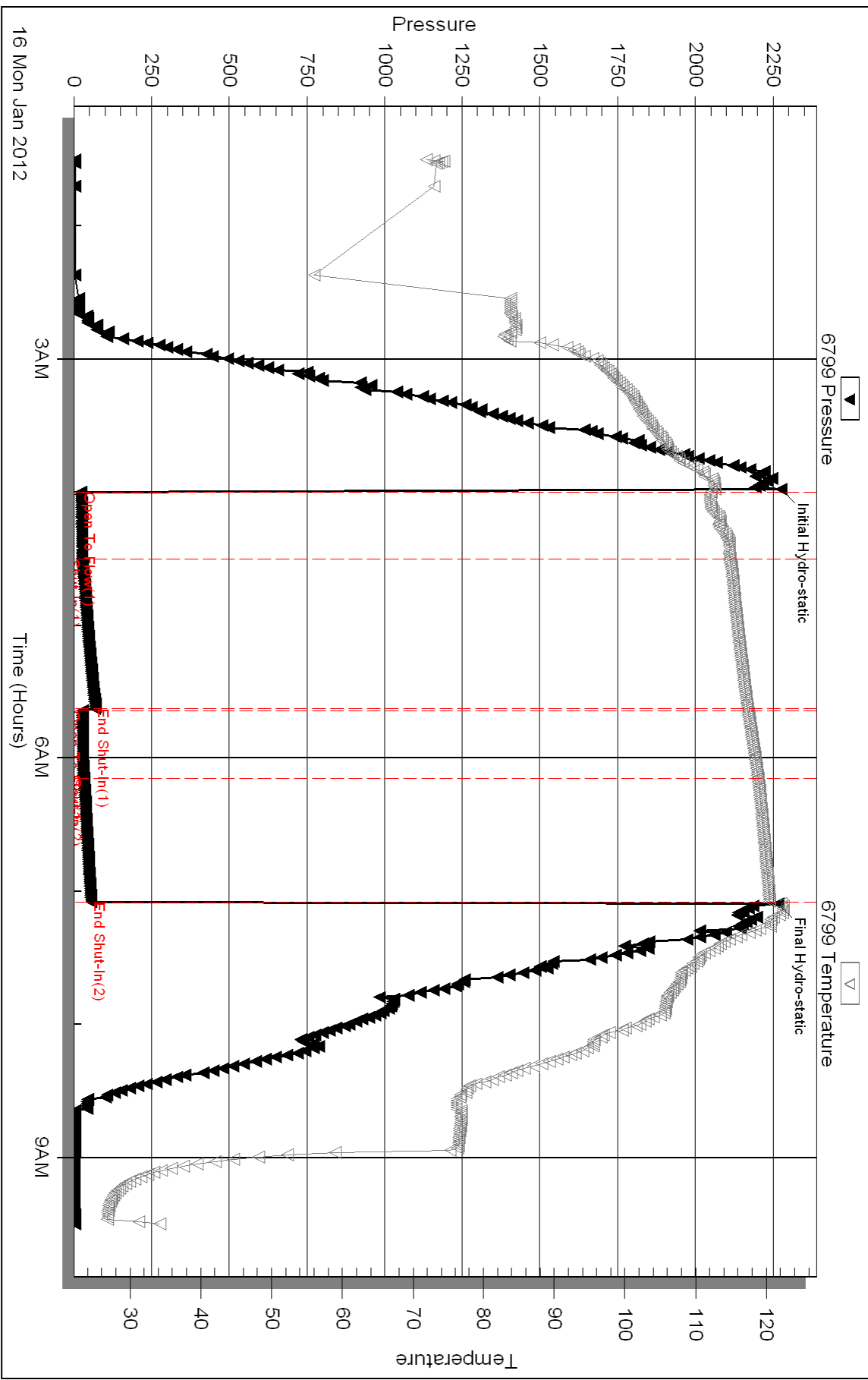
Inside

Murfin Drilling Co.

Cooper #1-11

DST Test Number: 6

### Pressure vs. Time



Triobite Testing, Inc

Ref. No: 43088

Printed: 2012.01.19 @ 11:26:46

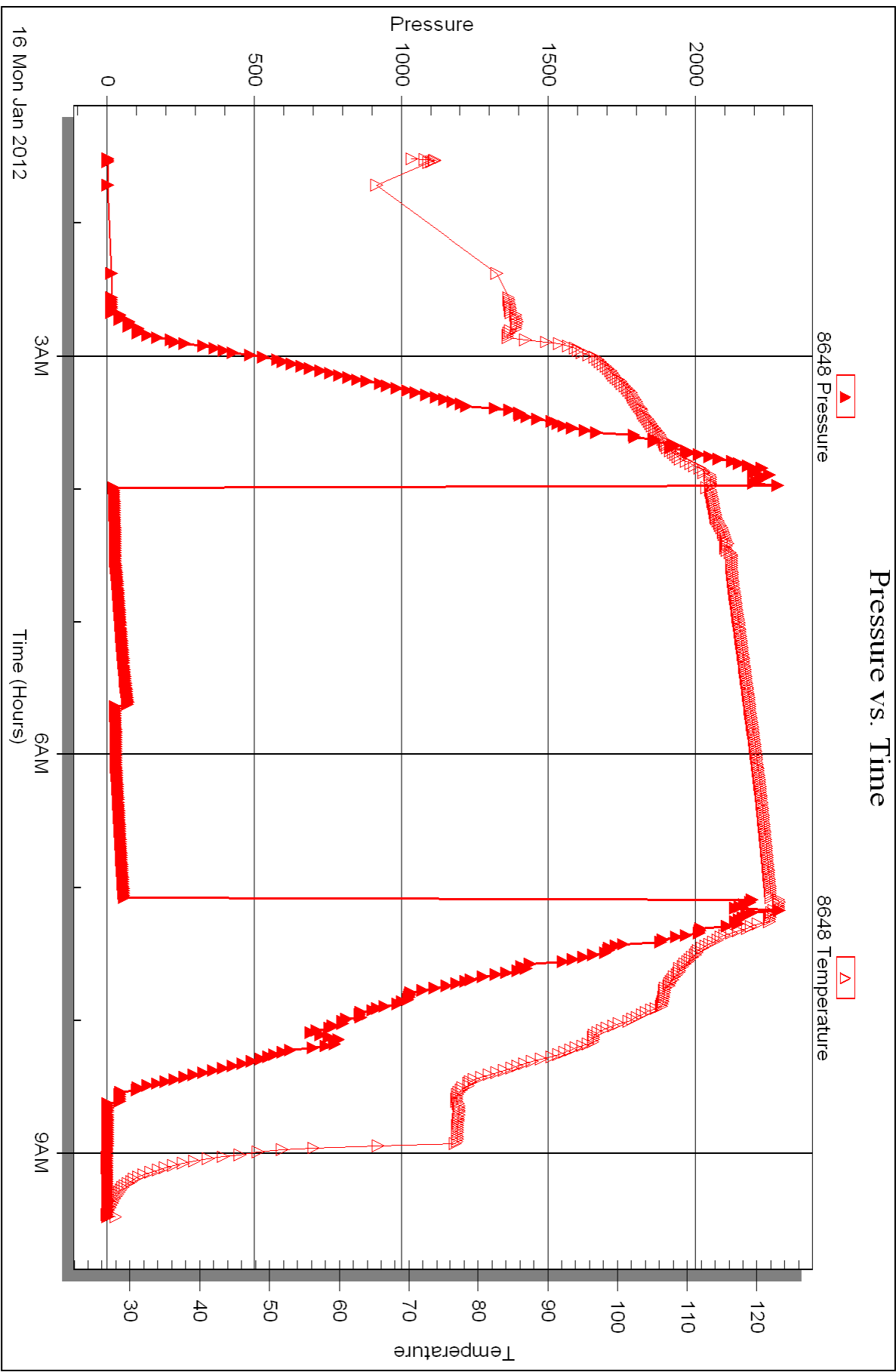
Serial #: 8648

Inside

Murfin Drilling Co.

Cooper #1-11

DST Test Number: 6





# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

RECEIVED  
JAN 13 2012

## Test Ticket

NO. 043083

4/10

BY: \_\_\_\_\_

Well Name & No. Cooper #1-11 Test No. 1 Date 1-10-12  
 Company Murfin Drilling Co. Elevation 3004 KB 3013 GL  
 Address 250 N Water STE #300 Wichita, KS 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #8  
 Location: Sec. 11 Twp. 5s Rge. 33w Co. Rawlins State KS

Interval Tested 3883-3940 Zone Tested Top - Lens. "A"  
 Anchor Length 57' Drill Pipe Run 3719 Mud Wt. 9.2  
 Top Packer Depth 3879 Drill Collars Run 150 Vis 56  
 Bottom Packer Depth 3883 Wt. Pipe Run Ø WL 7.6  
 Total Depth 3940 Chlorides 1,700 ppm System LCM 1#  
 Blow Description IF - Weak surface blow built to 3/4"  
IS - NO RETURN  
FF - Surface Blow built to 7"  
FS - No Return

Rec	Feet of	%gas	%oil	%water	%mud
70	Free Oil	100			
60	OCM	25		75	
60	OCWM	10	10	80	

Rec Total 190 BHT 117 Gravity 30 API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic 1954  Test 1125' T-On Location 8:50 PM  
 (B) First Initial Flow 22  Jars 250' T-Started 10:00 PM  
 (C) First Final Flow 52  Safety Joint 75' T-Open 12:59 AM  
 (D) Initial Shut-In 1254  Circ Sub NIC T-Pulled 4:59 AM  
 (E) Second Initial Flow 55  Hourly Standby 1 1/2 hrs 150' T-Out 7:10 AM  
 (F) Second Final Flow 85  Mileage 126 90 RT Comments \_\_\_\_\_  
 (G) Final Shut-In 1256  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1939  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Initial Open 30  Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Shut-In 60  Extra Recorder \_\_\_\_\_ Sub Total Ø  
 Final Flow 60  Day Standby \_\_\_\_\_ Total 1726  
 Final Shut-In 90  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1726

Approved By \_\_\_\_\_ Our Representative

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

RECEIVED  
JAN 13 2012

## Test Ticket

NO. 043084

Well Name & No. Cooper # 1-11 Test No. 2 Date 1-11-12  
 Company MURFIN Drilling Co. Elevation 3004 KB 3013 GL  
 Address 250 N Water STE #300 - Wichita, KS 67202  
 Co. Rep / Geo. Roberta Hendrix Rig MURFIN #8  
 Location: Sec. 11 Twp. 5s Rge. 33w Co. Rawlins State KS

Interval Tested 3942 - 3990 Zone Tested Lens. "B-D"  
 Anchor Length 48' Drill Pipe Run 3779 Mud Wt. 9.2  
 Top Packer Depth 3938 Drill Collars Run 150' Vis 50  
 Bottom Packer Depth 3942 Wt. Pipe Run Ø WL 8.0  
 Total Depth 3990 Chlorides 14800 ppm System LCM 1#  
 Blow Description IF - 1/8" Blow built to 1 1/4"  
IS - NO Return  
FF - Surface Blow built to 1/4"  
FS - NO Return

Rec	Feet of	%gas	spots	%oil	%water	%mud
<u>10</u>	<u>OSM</u>				<u>60</u>	
Rec	Feet of	%gas		%oil	%water	%mud
Rec	Feet of	%gas		%oil	%water	%mud
Rec	Feet of	%gas		%oil	%water	%mud
Rec	Feet of	%gas		%oil	%water	%mud

Rec Total 10 BHT 112 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>1957</u>	<input checked="" type="checkbox"/> Test <u>1125'</u>	T-On Location <u>5:50 PM</u>
(B) First Initial Flow <u>21</u>	<input checked="" type="checkbox"/> Jars <u>250'</u>	T-Started <u>6:06 PM</u>
(C) First Final Flow <u>24</u>	<input checked="" type="checkbox"/> Safety Joint <u>75'</u>	T-Open <u>8:15 PM</u>
(D) Initial Shut-In <u>1189</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>11:15 PM</u>
(E) Second Initial Flow <u>25</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1:34 AM</u>
(F) Second Final Flow <u>26</u>	<input checked="" type="checkbox"/> Mileage <u>126 90 RT</u>	Comments
(G) Final Shut-In <u>1167</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1943</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>36</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>Ø</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1576'</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1576'</u>	

Approved By \_\_\_\_\_ Our Representative [Signature]

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

RECEIVED  
JAN 13 2012

## Test Ticket

NO. 043085

Well Name & No. Cooper #1-11 Test No. 3 Date 1-12-12  
 Company Murfin Drilling Co. Elevation 3004 KB 3013 GL  
 Address 250 N Water STE #300 Wichita, KS 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #8  
 Location: Sec. 11 Twp. S5 Rge. 33w Co. Rawlins State KS

Interval Tested 3983-4030 Zone Tested LKC "F-6"  
 Anchor Length 47' Drill Pipe Run 3810 Mud Wt. 9.2  
 Top Packer Depth 3979 Drill Collars Run 150' Vis 51  
 Bottom Packer Depth 3983 Wt. Pipe Run Ø WL 7.2  
 Total Depth 4030 Chlorides 1,800 ppm System LCM 1.5#

Blow Description IF- BoB in 9 min  
IS- Surface Blow started at 10 min. Did not build or die.  
FF- BoB in 10 min.  
FS- No Return

Rec	Feet of	%gas	SPOTS	%oil	%water	%mud
<u>364</u>	<u>OSMW</u>			<u>50</u>	<u>50</u>	
<u>248</u>	<u>MW</u>			<u>80</u>	<u>20</u>	
<u>243</u>	<u>MW</u>			<u>95</u>	<u>5</u>	
<u>5</u>	<u>Mud (heavy)</u>				<u>100</u>	

Rec Total 860 BHT 128 Gravity - API RW. 32 @ 60 °F Chlorides 2500 ppm

(A) Initial Hydrostatic	<u>2030</u>	<input checked="" type="checkbox"/> Test	<u>1225'</u>	T-On Location	<u>12:06 PM</u>
(B) First Initial Flow	<u>37</u>	<input checked="" type="checkbox"/> Jars	<u>250'</u>	T-Started	<u>12:42 PM</u>
(C) First Final Flow	<u>216</u>	<input checked="" type="checkbox"/> Safety Joint	<u>76'</u>	T-Open	<u>3:11 PM</u>
(D) Initial Shut-In	<u>1273</u>	<input checked="" type="checkbox"/> Circ Sub	<u>NIC</u>	T-Pulled	<u>7:11 PM</u>
(E) Second Initial Flow	<u>218</u>	<input type="checkbox"/> Hourly Standby		T-Out	<u>9:35 PM</u>
(F) Second Final Flow	<u>446</u>	<input checked="" type="checkbox"/> Mileage	<u>126' 90 RT</u>	Comments	<u>last 2 stands had a strong gas smell.</u>
(G) Final Shut-In	<u>1252</u>	<input type="checkbox"/> Sampler		<input type="checkbox"/> Ruined Shale Packer	
(H) Final Hydrostatic	<u>1489</u>	<input type="checkbox"/> Straddle		<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>Ø</u>
Final Flow	<u>60</u>	<input type="checkbox"/> Day Standby		Total	<u>1676'</u>
Final Shut-In	<u>90</u>	<input type="checkbox"/> Accessibility		MP/DST Disc't	
Sub Total	<u>1676'</u>				

Approved By \_\_\_\_\_ Our Representative

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

RECEIVED  
JAN 18 2012  
BY: \_\_\_\_\_

## Test Ticket

NO. 043086

Well Name & No. Cooper # 1-11 Test No. 4 Date 1-13-12  
 Company Murfin Drilling Co. Elevation ~~3000~~ 3004 GL  
 Address 250 N. Water STE #300 Wichita, KS 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #8  
 Location: Sec. 11 Twp. 5s Rge. 33w Co. Rawlins State KS

Interval Tested 4048 - 4110 Zone Tested LKC "H-5"  
 Anchor Length 62 Drill Pipe Run 3875 Mud Wt. 9.2  
 Top Packer Depth 4044 Drill Collars Run 150 Vis 65  
 Bottom Packer Depth 4048 Wt. Pipe Run Ø WL 8.4  
 Total Depth 4110 Chlorides 3,700 ppm System LCM 1#

Blow Description IF - BoB in 18 min.  
IS - Surface Return started at 8 min. Built to 1/4"  
FF - BoB in 8 min.  
FS - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>464</u>	<u>MW</u>		<u>60</u>	<u>40</u>	
<u>496</u>	<u>MW</u>		<u>90</u>	<u>10</u>	
<u>176</u>	<u>MW</u>		<u>95</u>	<u>5</u>	
<u>5</u>	<u>Mud (heavy)</u>			<u>100</u>	

Rec Total 1141' BHT 129 Gravity — API RW .3 @ 67 °F Chlorides 25700 ppm

(A) Initial Hydrostatic <u>2100</u>	<input checked="" type="checkbox"/> Test <u>1225'</u>	T-On Location <u>3:30 PM</u>
(B) First Initial Flow <u>40</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>4:06 PM</u>
(C) First Final Flow <u>243</u>	<input checked="" type="checkbox"/> Safety Joint <u>75'</u>	T-Open <u>6:16 PM</u>
(D) Initial Shut-In <u>1309</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/K</u>	T-Pulled <u>10:16 PM</u>
(E) Second Initial Flow <u>248</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>12:48 AM</u>
(F) Second Final Flow <u>524</u>	<input checked="" type="checkbox"/> Mileage <u>126 90 RT</u>	Comments _____
(G) Final Shut-In <u>1259</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2090</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>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>Ø</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby	Total <u>None</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't _____
	Sub Total <u>None</u>	

Approved By \_\_\_\_\_ Our Representative

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

RECEIVED  
JAN 18 2012  
BY: \_\_\_\_\_

## Test Ticket

NO. 043087

Well Name & No. Cooper # 1-11 Test No. 5 Date 1-15-12  
 Company Murfin Drilling Company Elevation 3013 KB 3004 GL  
 Address 250 N. Water STE #300 Wichita, KS 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #8  
 Location: Sec. 11 Twp. 5s Rge. 33w Co. Rawlins State KS

Interval Tested 4281-4337 Zone Tested Pawnee - Myric Station  
 Anchor Length 56' Drill Pipe Run 4124 Mud Wt. 9.0  
 Top Packer Depth 4277 Drill Collars Run 150' Vis 56  
 Bottom Packer Depth 4281 Wt. Pipe Run Ø WL 6.8  
 Total Depth 4337 Chlorides 2,400 ppm System LCM 1.5#

Blow Description IF - 1/4" Blow died at 15 min.  
IS - No Return  
FF - Surface Blow started at 3 min. Built to 1/4" then died at 20 min.  
FS - No Return

Rec	Feet of	%gas	%oil	%water	%mud
15	OCM	10		90	

Rec Total 15 BHT 121° Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic <u>2197</u>	<input checked="" type="checkbox"/> Test <u>1225'</u>	T-On Location <u>5:45 AM</u>
(B) First Initial Flow <u>26</u>	<input checked="" type="checkbox"/> Jars <u>250'</u>	T-Started <u>5:53 AM</u>
(C) First Final Flow <u>37</u>	<input checked="" type="checkbox"/> Safety Joint <u>75'</u>	T-Open <u>8:41 AM</u>
(D) Initial Shut-In <u>1055</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIC</u>	T-Pulled <u>11:41 AM</u>
(E) Second Initial Flow <u>38</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1:49 PM</u>
(F) Second Final Flow <u>43</u>	<input checked="" type="checkbox"/> Mileage <u>126' 90 RT</u>	Comments <u>Finished last test</u>
(G) Final Shut-In <u>972</u>	<input type="checkbox"/> Sampler	<u>1-18-12 - 12:48 AM</u>
(H) Final Hydrostatic <u>2157</u>	<input type="checkbox"/> Straddle	<u>5 hrs stand-by</u>
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>1166.70</u>
Initial Shut-In <u>60</u>	<input type="checkbox"/> Day Standby <u>29 hrs</u>	Total <u>1842.70</u>
Final Flow <u>30</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't _____
Final Shut-In <u>60</u>	Sub Total <u>1166.70</u>	

Approved By \_\_\_\_\_ Our Representative

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

RECEIVED  
JAN 18 2012  
BY: \_\_\_\_\_

## Test Ticket

NO. 043088

4/10

Well Name & No. Couper # 1-11 Test No. 6 Date 1-16-12  
 Company Murrin Drilling Company Elevation 3013 KB 3004 GL  
 Address 250 N Water STE #300 Wichita, KS 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murrin #8  
 Location: Sec. 11 Twp. 5s Rge. 33w Co. Rawlins State KS

Interval Tested 4339-4395 Zone Tested Ft. Scott - Cherokee  
 Anchor Length 4335-58' Drill Pipe Run 4190 Mud Wt. 9.2  
 Top Packer Depth 4339 4335 Drill Collars Run 150 Vis 80  
 Bottom Packer Depth 4339 Wt. Pipe Run Ø WL 7.2  
 Total Depth 4395 Chlorides 3,000 ppm System LCM 1#  
 Blow Description IF- 1/4" Blow built to 2"  
IS- No Return  
FF- No Blow  
FS- No Return

Rec	Feet of	%gas (SPSS)	%oil	%water	%mud
<u>30</u>	<u>OSM</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	Feet of	%gas	%oil	%water	%mud

Rec Total 30 BHT 122 Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic <u>2276</u>	<input checked="" type="checkbox"/> Test <u>1225</u>	T-On Location <u>1:00 AM</u>
(B) First Initial Flow <u>22</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>1:30 AM</u>
(C) First Final Flow <u>27</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>4:00 AM</u>
(D) Initial Shut-In <u>68</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIC</u>	T-Pulled <u>7:00 AM</u>
(E) Second Initial Flow <u>27</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>9:30 AM</u>
(F) Second Final Flow <u>31</u>	<input checked="" type="checkbox"/> Mileage <u>126 90 RT</u>	Comments _____
(G) Final Shut-In <u>55</u>	<input type="checkbox"/> Sampler	<input type="checkbox"/> Ruined Shale Packer
(H) Final Hydrostatic <u>2266</u>	<input type="checkbox"/> Straddle	<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>Ø</u>
Final Flow <u>30</u>	<input type="checkbox"/> Day Standby	Total <u>1676</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't _____
	Sub Total <u>1676</u>	

Approved By \_\_\_\_\_ Our Representative [Signature]

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**CONSOLIDATED**  
Oil Well Services, LLC

**REMIT TO**  
Consolidated Oil Well Services, LLC  
Dept. 970  
P.O. Box 4346  
Houston, TX 77210-4346

*John H. Hoot*  
**MAIN OFFICE**  
P.O. Box 884  
Chanute, KS 66720  
620/431-9210 • 1-800/467-8676  
Fax 620/431-0012

INVOICE

Invoice # 246975

Invoice Date: 01/11/2012 Terms: 15/15/30, n/30 *operator Pay* Page 1

MURFIN DRILLING  
P.O. BOX 288  
RUSSELL KS 67665  
( ) -

COOPER 1-11  
33789  
11-5S-33W  
1-5-2012  
KS

*mpc*  
*am*  
**PROD COPY**

Part Number	Description	Qty	Unit Price	Total
1104S	CLASS "A" CEMENT (SALE)	190.00	17.6500	3353.50
1102	CALCIUM CHLORIDE (50#)	536.00	.8900	477.04

Sublet Performed	Description	Total
9999-130	CASH DISCOUNT	-574.58
9999-130	CASH DISCOUNT	-282.21

Description	Hours	Unit Price	Total
439 TON MILEAGE DELIVERY	1.00	596.40	596.40
463 CEMENT PUMP (SURFACE)	1.00	1085.00	1085.00
463 EQUIPMENT MILEAGE (ONE WAY)	40.00	5.00	200.00

USED FOR  
APPROVED

Account	Unit Fig	W L	No.	Amount	Description
FD203				5117.26	<i>John M</i> Cement S.C.
	3.		1214.	0001	

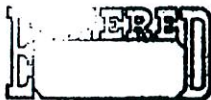
Amount Due 6020.30 if paid after 02/10/2012

Parts:	3830.54	Freight:	.00	Tax:	262.11	AR	5117.26
Labor:	.00	Misc:	.00	Total:	5117.26		
Sublt:	-856.79	Supplies:	.00	Change:	.00		

Signed \_\_\_\_\_ Date \_\_\_\_\_



**CONSOLIDATED**  
Oil Well Services, LLC



TICKET NUMBER 33789  
LOCATION Oakley  
FOREMAN Fuzzy

PO Box 884, Chanute, KS 66720  
620-431-9210 or 800-467-8676

**FIELD TICKET & TREATMENT REPORT**

**CEMENT**

KS

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
1-5-12	5406	Cooper 1-11	11	55	33W	Rawlins
CUSTOMER Mun Sin Dng		Colby N- Rd E 36 1/2 E+5.4	TRUCK #	DRIVER	TRUCK #	DRIVER
MAILING ADDRESS			463	Josh G		
CITY			439	Cody R		
STATE						
ZIP CODE						

JOB TYPE surface HOLE SIZE 12 1/4 HOLE DEPTH 220 CASING SIZE & WEIGHT 8 1/8 23 #  
 CASING DEPTH 220 DRILL PIPE \_\_\_\_\_ TUBING \_\_\_\_\_ OTHER \_\_\_\_\_  
 SLURRY WEIGHT 19.2 SLURRY VOL 1.88 WATER gal/sk 5.2 CEMENT LEFT in CASING 20'  
 DISPLACEMENT 12.7 DISPLACEMENT PSI \_\_\_\_\_ MIX PSI \_\_\_\_\_ RATE \_\_\_\_\_

REMARKS: 5:30 meeting on Mun Sin #8. Rig up and circulate  
mix 190SKS CLASS A' 3% cc. Displace 12.7 BBS  
and shut in. Cement did circulate approx 6 BBS top of

Thanks Fuzzy & Crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
54015	1	PUMP CHARGE	1085 <sup>00</sup>	1085 <sup>00</sup>
5406	40	MILEAGE	5 <sup>00</sup>	200 <sup>00</sup>
5407A	8.93 Ton	Tow mileage Delivery	16 <sup>00</sup>	596 <sup>40</sup>
11045	190SKS	CLASS A' cement	17 <sup>65</sup>	3353 <sup>50</sup>
1102	536 #	Calcium Chloride	1.89	477 <sup>04</sup>
		subtotal		5711 <sup>94</sup>
		less 15% disc		856 <sup>79</sup>
		subtotal		4855 <sup>15</sup>
		246975	SALES TAX	262 <sup>11</sup>
			ESTIMATED TOTAL	5117 <sup>26</sup>

Flavin 3737

AUTHORIZATION Rodney Fan TITLE \_\_\_\_\_ DATE \_\_\_\_\_

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.



**CONSOLIDATED**  
Oil Well Services, LLC

**REMIT TO**  
Consolidated Oil Well Services, LLC  
Dept. 970  
P.O. Box 4346  
Houston, TX 77210-4346

*Liz*  
MAIN OFFICE

P.O. Box 884  
Chanute, KS 66720  
620/431-9210 • 1-800/467-8676  
Fax 620/431-0012

INVOICE

Invoice # 247199

Invoice Date: 01/19/2012 Terms: 15/15/30, n/30 Page 1

MURFIN DRILLING  
P.O. BOX 288  
RUSSELL KS 67665  
( ) -

operator Pay  
mcc  
COOPER 1-11 / 3m  
33835  
11-5S-33W  
1-18-2012  
KS

PROD COPY

Part Number	Description	Qty	Unit Price	Total
1131	60/40 POZ MIX	220.00	15.1000	3322.00
1118B	PREMIUM GEL / BENTONITE	756.00	.2500	189.00
1107	FLO-SEAL (25#)	55.00	2.8200	155.10
4432	8 5/8" WOODEN PLUG	1.00	96.0000	96.00

Sublet Performed	Description	Total
9999-130	CASH DISCOUNT	-564.32
9999-130	CASH DISCOUNT	-323.54

Description	Hours	Unit Price	Total
399 P & A NEW WELL	1.00	1325.00	1325.00
399 EQUIPMENT MILEAGE (ONE WAY)	40.00	5.00	200.00
566 TON MILEAGE DELIVERY	378.40	1.67	631.93

USED FOR APPROVED

APPROVED	ED203	5288.59	Description	PTA	#1-11
	3.1274.0001				
Amount Due 6221.88 if paid after 02/18/2012					

Parts:	3762.10	Freight:	.00	Tax:	257.42	AR	5288.59
Labor:	.00	Misc:	.00	Total:	5288.59		
Sublt:	-887.86	Supplies:	.00	Change:	.00		

Signed \_\_\_\_\_

Date \_\_\_\_\_





**CONSOLIDATED**  
Oil Well Services, LLC

PO Box 884, Chanute, KS 66720  
620-431-9210 or 800-467-8676



**FIELD TICKET & TREATMENT REPORT**  
**CEMENT**

TICKET NUMBER 33835  
LOCATION Oakley, KS  
FOREMAN Walt Dunkel

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
1-18-12	5406	Cooper 1-11	11	55	33 W	Reilins
CUSTOMER			KS			
Mailing Address			TRUCK #	DRIVER	TRUCK #	DRIVER
MURFIN Drilling Co.			399 #	Damon Miller		
CITY			566 #	Colby Roots		
STATE						
ZIP CODE						

JOB TYPE PTA HOLE SIZE 7 1/8 HOLE DEPTH 4694 CASING SIZE & WEIGHT \_\_\_\_\_  
 CASING DEPTH \_\_\_\_\_ DRILL PIPE 4 1/2 xH TUBING \_\_\_\_\_ OTHER \_\_\_\_\_  
 SLURRY WEIGHT \_\_\_\_\_ SLURRY VOL \_\_\_\_\_ WATER gal/sk \_\_\_\_\_ CEMENT LEFT in CASING \_\_\_\_\_  
 DISPLACEMENT \_\_\_\_\_ DISPLACEMENT PSI \_\_\_\_\_ MIX PSI \_\_\_\_\_ RATE \_\_\_\_\_

REMARKS: Safety Meeting, Rig up on Murfin #8, Plug as ordered  
25 SKs @ 2680'  
100 SKs @ 1910' 220 SKs 6 3/4 per, 4% Col, 1/4# Flo-Seal  
40 SKs @ 270'  
10 SKs @ 40'  
30 SKs in R.H.  
15 SKs in M.H.

*Thank You  
Walt + crew*

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
5405N	1	PUMP CHARGE	1325.00	1325.00
5406	40	MILEAGE	5.00	200.00
1131	220 SKs	6 3/4 per	15.10	3322.00
1118B	756 #	Bentonite	1.25	189.00
1107	55 #	Flo-Seal	2.82	155.10
5407A	9.46	Ton Mileage Delivery	1.67	631.93
4432	1	8 5/8 wooden Plug	96.00	96.00
				5919.03
				<del>5919.93</del>
		Less 15%		887.86
				5,031.17
		247199	SALES TAX	257.42
			ESTIMATED TOTAL	5288.59

AVIN 3737 AUTHORIZATION Rodney Fan TITLE \_\_\_\_\_ DATE 1-18-12

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.