



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1102413  
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: \_\_\_\_\_



1102413

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 <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  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: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
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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: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____			
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  
Thomas E. Wright, Commissioner  
Shari Feist Albrecht, Commissioner

Sam Brownback, Governor

November 26, 2012

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

Re: ACO1  
API 15-109-21121-00-00  
Vanava 2-5  
SW/4 Sec.05-13S-32W  
Logan 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

MDCI Vanava #2-5 1070' FSL 2600' FWL Sec. 5-T13S-R32W 3024' KB							MDCI Vanava #1-5 2310' FSL 1800' FEL Sec. 5-T13S-R32W 3044' KB	
Formation	SampleTops	Datum	Ref	Log Tops	Datum	Ref	Log Tops	Datum
Anhydrite	2509	+515	-1	2507	+517	+1	2528	+516
B/Anhydrite	2531	+493	-2	2530	+494	-1	2549	+495
Topeka	3744	-720	+4	3745	-721	+3	3768	-724
Heebner	3970	-946	+5	3968	-944	+7	3995	-951
Lansing	4012	-988	+5	4012	-988	+5	4037	-993
Stark	4238	-1214	+8	4237	-1213	+9	4266	-1222
Up Pawnee	4442	-1418	+8	4441	-1417	+9	4470	-1426
Chero Sh	4526	-1502	+8	4526	-1502	+8	4554	-1510
Johnson	4569	-1545	+8	4569	-1545	+8	4597	-1553
B Penn Lm	4604	-1580	+11	4607	-1583	+8	4633	-1591
Mississippi	4638	-1614	+22	4637	-1613	+23	4680	-1636
RTD	4720						4740	
LTD				4723			4741	



Thomas J. Funk  
Petroleum Geologist

**Geologists Report**  
**Drilling Time and Sample Log**

**OPERATOR** Murfin Drilling Co., Inc  
**WELL NO** #2-5  
**LEASE** Vanava

**FIELD** Field Ext  
**LOCATION** 1070' FSL & 2600' FWL  
**SEC.** 5  
**COUNTY** Logan

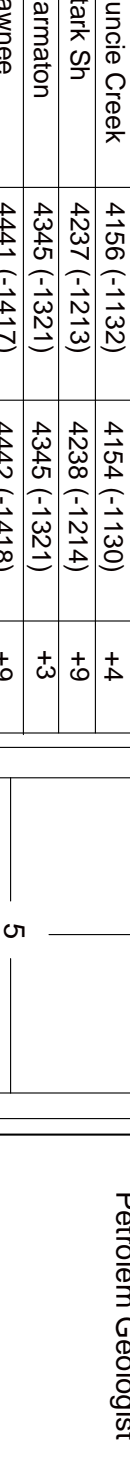
**STATE** Kansas  
**API** 15-109-21121  
**DF** 3024'  
**GL** 3013  
**Measurements Are All From** KB

**CONTRACTOR** Murfin Drilling Co  
**COMP** 8/12/2012  
**RTD** 4720'  
**SAMPLES SAVED FROM** 3700 TO 4720  
**DRILLING TIME KEPT FROM** 3700 TO 4720  
**SAMPLES EXAMINED FROM** 3700 TO 4720

**GEOLOGICAL SUPERVISION FROM** 3845 TO 4720  
**MUD/UP** 3200  
**TYPE MUD** Chemical

FORMATION	LOG TOP DATUM	SAMPLE TOP DATUM	STRUCT COMP
Anhydrite	2507 (-4517)	2509 (-4515)	+1
B/Anhydrite	2530 (-4394)	2531 (-4393)	-1
Topoka	3745 (-721)	3744 (-720)	+3
Healdene Sh	3968 (-944)	3970 (-946)	+7
Lansing	4012 (-988)	4012 (-988)	+5
Murde Creek	4156 (-1132)	4154 (-1130)	+4
Stark Sh	4237 (-1213)	4238 (-1214)	+9
Marmaton	4345 (-1321)	4345 (-1321)	+3
Pawnee	4441 (-1417)	4442 (-1418)	+9
Cherokee Sh	4526 (-1502)	4526 (-1502)	+8
Johnson Zone	4569 (-1545)	4569 (-1545)	+8
Mississippian	4637 (-1613)	4638 (-1614)	+23

**ELECTRICAL SURVEYS**  
Log-Tech  
DIL  
DUOP  
BHCS



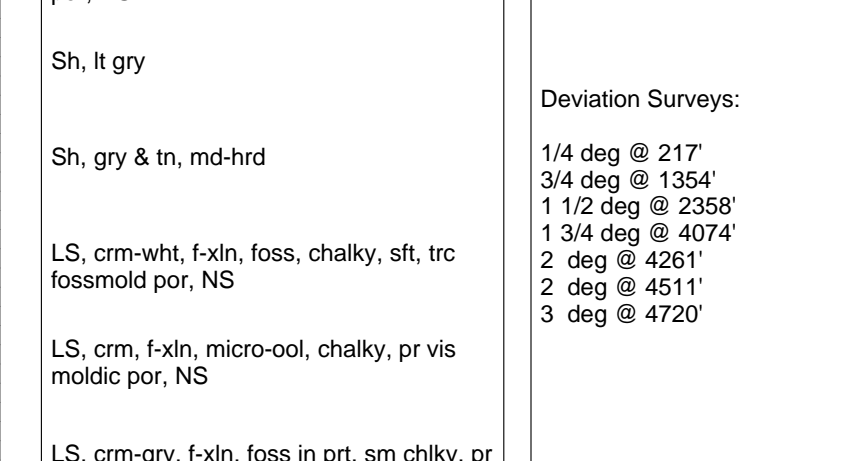
**REFERENCE WELL FOR STRUCTURAL COMPARISON:** Murfin Drilling Co. #1-5 Vanava

Date	Daily Progress		NO Size	Make	Type	Depth Out	Feet	Hours
	Depth	Spud						
8/1/12		Spud	1	1 1/4"	HTC	RR	217	217
8/2/12		300'	2	7 7/8"	HTC	DP906F	3650	3433
8/3/12		2840'	3	7 7/8"	HTC	GX22S	4720	1070
8/4/12		3895'						59
8/5/12		4074'						
8/6/12		4110'						
8/7/12		4213'						
8/8/12		4235'						
8/9/12		4345'						
8/10/12		4511'						
8/11/12		4678'						
8/12/12		4720'						

**Remarks And Recommendations:**  
Based upon log analysis, DST recovery, and sample examination, it was decided to run production casing to further evaluate the #2-5 Vanava.

Thomas Funk  
Petroleum Geologist

**LEGEND**

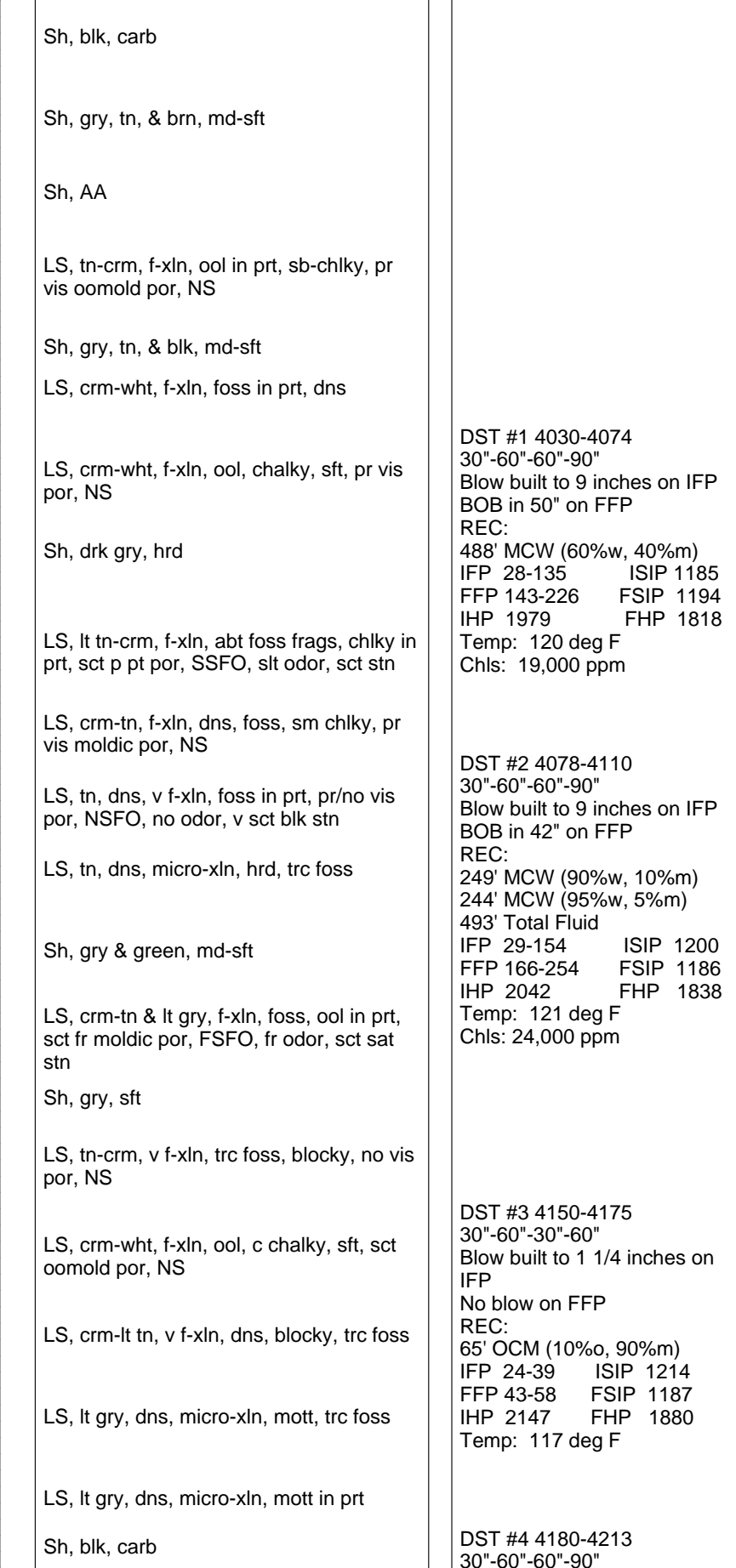


**Lithology**

**DRILLING TIME IN MINUTES PER FOOT**

**Sample Descriptions**

**Remarks**

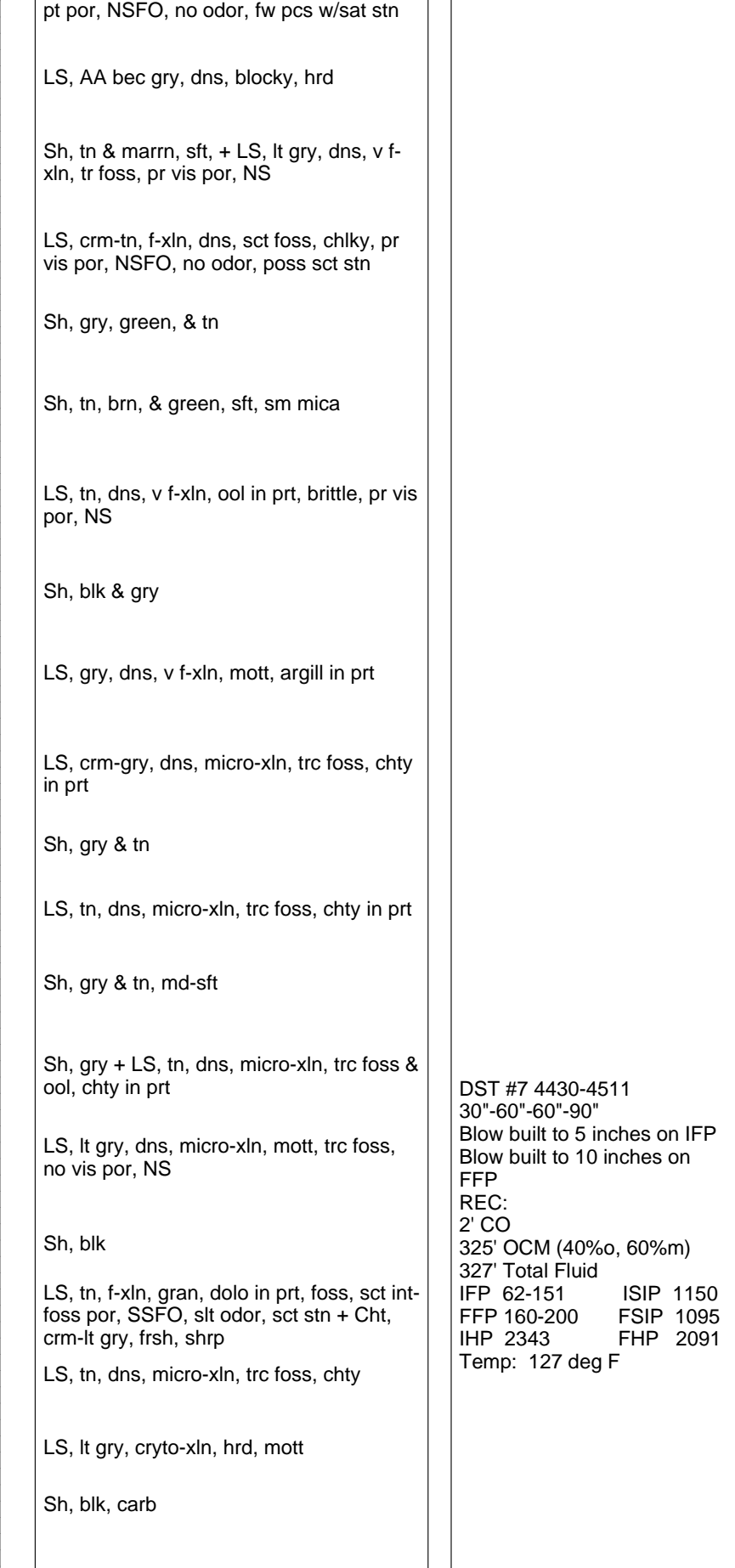


**Lithology**

**DRILLING TIME IN MINUTES PER FOOT**

**Sample Descriptions**

**Remarks**



**COMPANY** Murfin Drilling Co., Inc

**LEASE** #2-5 Vanava

**LOCATION** 1070' FSL & 2600' FWL

**COUNTY** Logan

**ELEVATION** 3024' KB

**Sec** 5 **TWP** 13S **RGE** 32W

**STATE** Kansas



## DRILL STEM TEST REPORT

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

205 N Water STE 300  
Wichita KS 67202

ATTN: Tom Funk

**Vanava #2-5**

**5-13s-32w Logan,KS**

Start Date: 2012.08.05 @ 10:17:13

End Date: 2012.08.05 @ 18:26:13

Job Ticket #: 46949                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.08.14 @ 15:35:15

Murfin Drilling Co. Inc  
5-13s-32w Logan,KS  
Vanava #2-5  
DST # 1  
LCK-"B-D"  
2012.08.05



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co. Inc  
205 N Water STE 300  
Wichita KS 67202  
ATTN: Tom Funk

**5-13s-32w Logan,KS**

**Vanava #2-5**

Job Ticket: 46949

**DST#: 1**

Test Start: 2012.08.05 @ 10:17:13

## GENERAL INFORMATION:

Formation: **LCK-"B-D"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 12:14:13  
 Time Test Ended: 18:26:13  
 Interval: **4030.00 ft (KB) To 4074.00 ft (KB) (TVD)**  
 Total Depth: 4074.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Tate Lang  
 Unit No: 55  
 Reference Elevations: 3024.00 ft (KB)  
 3013.00 ft (CF)  
 KB to GR/CF: 11.00 ft

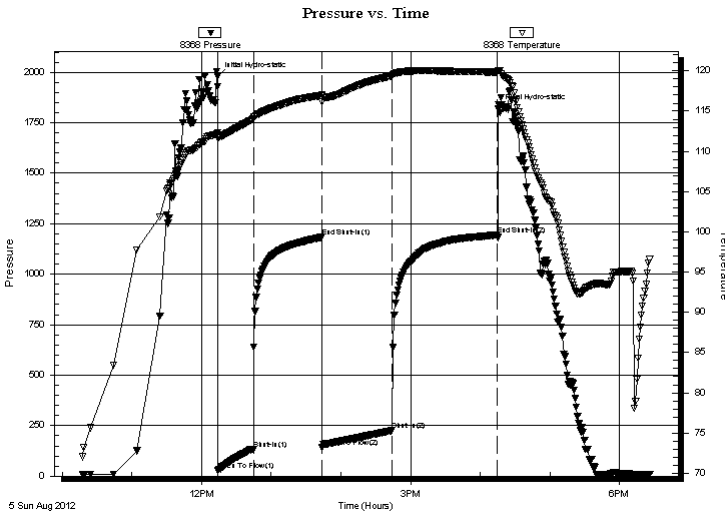
## Serial #: 8368

Inside

Press @ Run Depth: 226.35 psig @ 4036.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.08.05 End Date: 2012.08.05 Last Calib.: 2012.08.05  
 Start Time: 10:17:28 End Time: 18:26:13 Time On Btm: 2012.08.05 @ 12:13:43  
 Time Off Btm: 2012.08.05 @ 16:15:28

**TEST COMMENT:** IF-Fair Blow Built To 9 in.  
 ISI-Bled Off For 5 mins Dead No Return  
 FF-B.O.B. 50 mins.  
 FSI-Bled Off For 5 mins Dead No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1978.63	112.31	Initial Hydro-static
1	28.04	111.64	Open To Flow (1)
31	134.54	114.03	Shut-In(1)
90	1184.52	116.97	End Shut-In(1)
91	143.12	116.21	Open To Flow (2)
151	226.35	119.39	Shut-In(2)
241	1193.97	119.85	End Shut-In(2)
242	1818.16	120.06	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
488.00	40%M 60%W	4.71

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

Murfin Drilling Co. Inc  
205 N Water STE 300  
Wichita KS 67202  
ATTN: Tom Funk

**5-13s-32w Logan,KS**

**Vanava #2-5**

Job Ticket: 46949

**DST#: 1**

Test Start: 2012.08.05 @ 10:17:13

**GENERAL INFORMATION:**

Formation: **LCK-"B-D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:14:13

Time Test Ended: 18:26:13

Test Type: Conventional Bottom Hole (Initial)

Tester: Tate Lang

Unit No: 55

**Interval: 4030.00 ft (KB) To 4074.00 ft (KB) (TVD)**

Reference Elevations: 3024.00 ft (KB)

Total Depth: 4074.00 ft (KB) (TVD)

3013.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 6667 Outside**

Press @ RunDepth: psig @ 4036.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.08.05

End Date:

2012.08.05

Last Calib.:

2012.08.05

Start Time: 10:17:26

End Time:

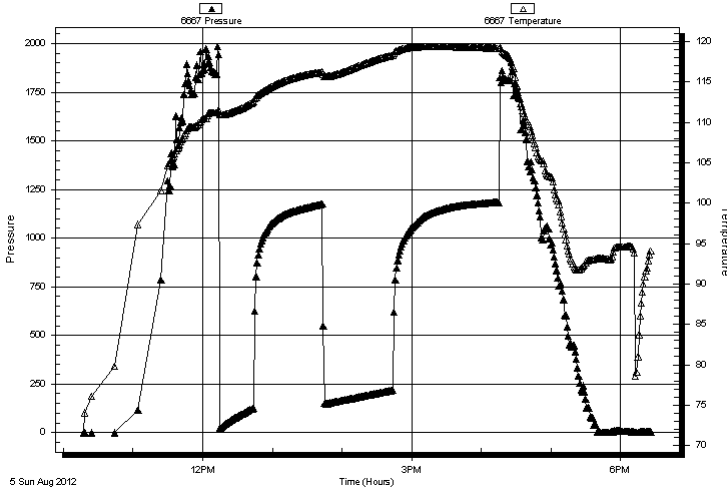
18:26:11

Time On Btm:

Time Off Btm:

**TEST COMMENT:** IF-Fair Blow Built To 9 in.  
ISI-Bled Off For 5 mins Dead No Return  
FF-B.O.B. 50 mins.  
FSI-Bled Off For 5 mins Dead No Return

Pressure vs. Time



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
488.00	40%M 60%W	4.71

**Gas Rates**

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co. Inc  
205 N Water STE 300  
Wichita KS 67202  
ATTN: Tom Funk

**5-13s-32w Logan,KS**  
**Vanava #2-5**  
Job Ticket: 46949      **DST#: 1**  
Test Start: 2012.08.05 @ 10:17:13

**Tool Information**

Drill Pipe:	Length: 3788.00 ft	Diameter: 3.80 inches	Volume: 53.14 bbl	Tool Weight: 20000.00 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: 234.00 ft	Diameter: 2.25 inches	Volume: 1.15 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 54.29 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	4030.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	44.00 ft			
Tool Length:	64.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
-------------------------	--------------------	-------------------	-----------------	-------------------	-----------------------

Change Over Sub	1.00			4011.00	
Shut In Tool	5.00			4016.00	
Hydraulic tool	5.00			4021.00	
Packer	5.00			4026.00	20.00      Bottom Of Top Packer
Packer	4.00			4030.00	
Stubb	1.00			4031.00	
Perforations	5.00			4036.00	
Recorder	0.00	8368	Inside	4036.00	
Recorder	0.00	6667	Outside	4036.00	
Change Over Sub	1.00			4037.00	
Drill Pipe	31.00			4068.00	
Change Over Sub	1.00			4069.00	
Bullnose	5.00			4074.00	44.00      Bottom Packers & Anchor

**Total Tool Length: 64.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co. Inc  
205 N Water STE 300  
Wichita KS 67202  
ATTN: Tom Funk

**5-13s-32w Logan,KS**  
**Vanava #2-5**  
Job Ticket: 46949      **DST#: 1**  
Test Start: 2012.08.05 @ 10:17:13

## Mud and Cushion Information

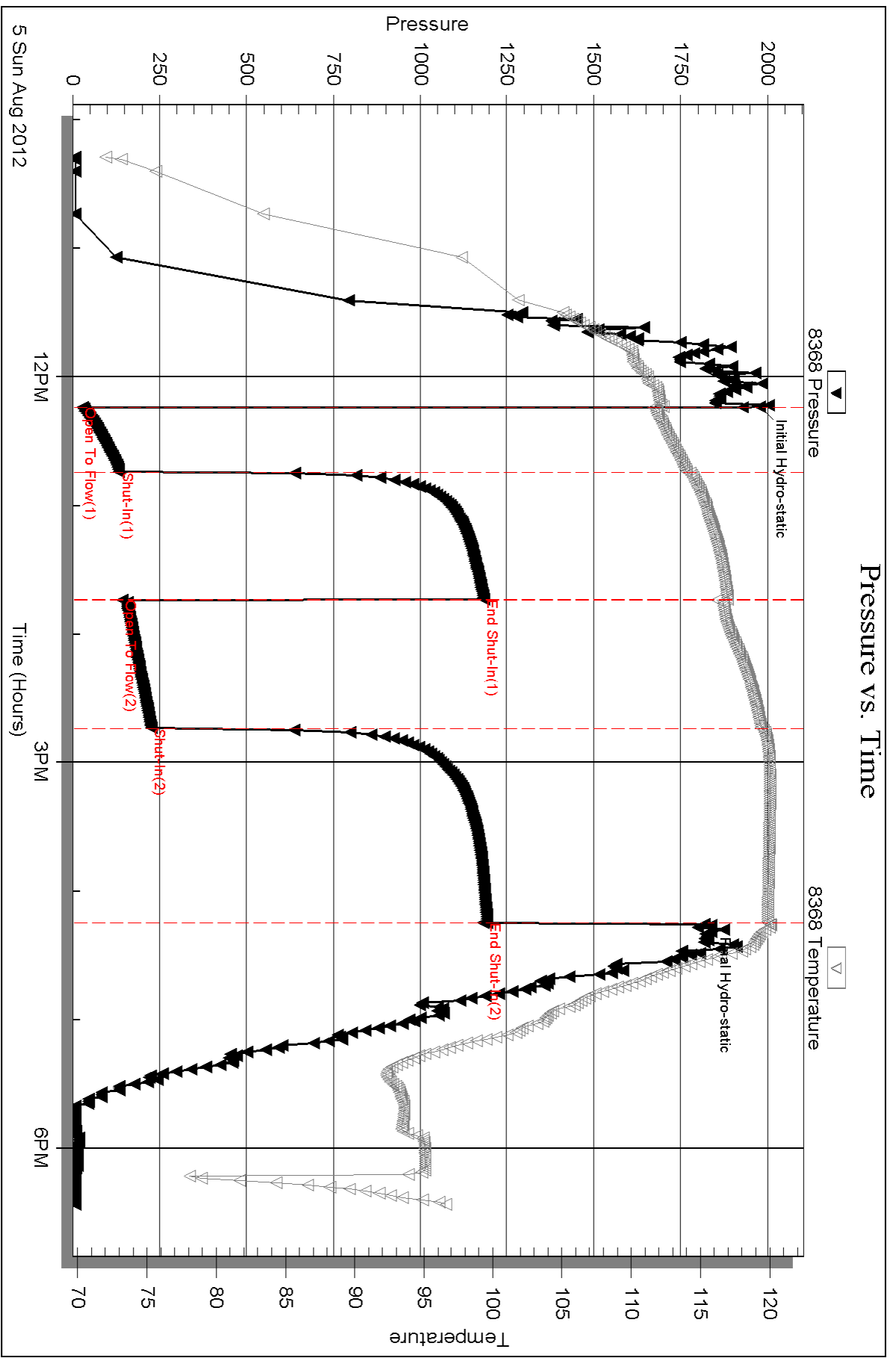
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 46.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.27 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 34000.00 ppm			
Filter Cake: inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
488.00	40%M 60%W	4.714

Total Length: 488.00 ft      Total Volume: 4.714 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments:



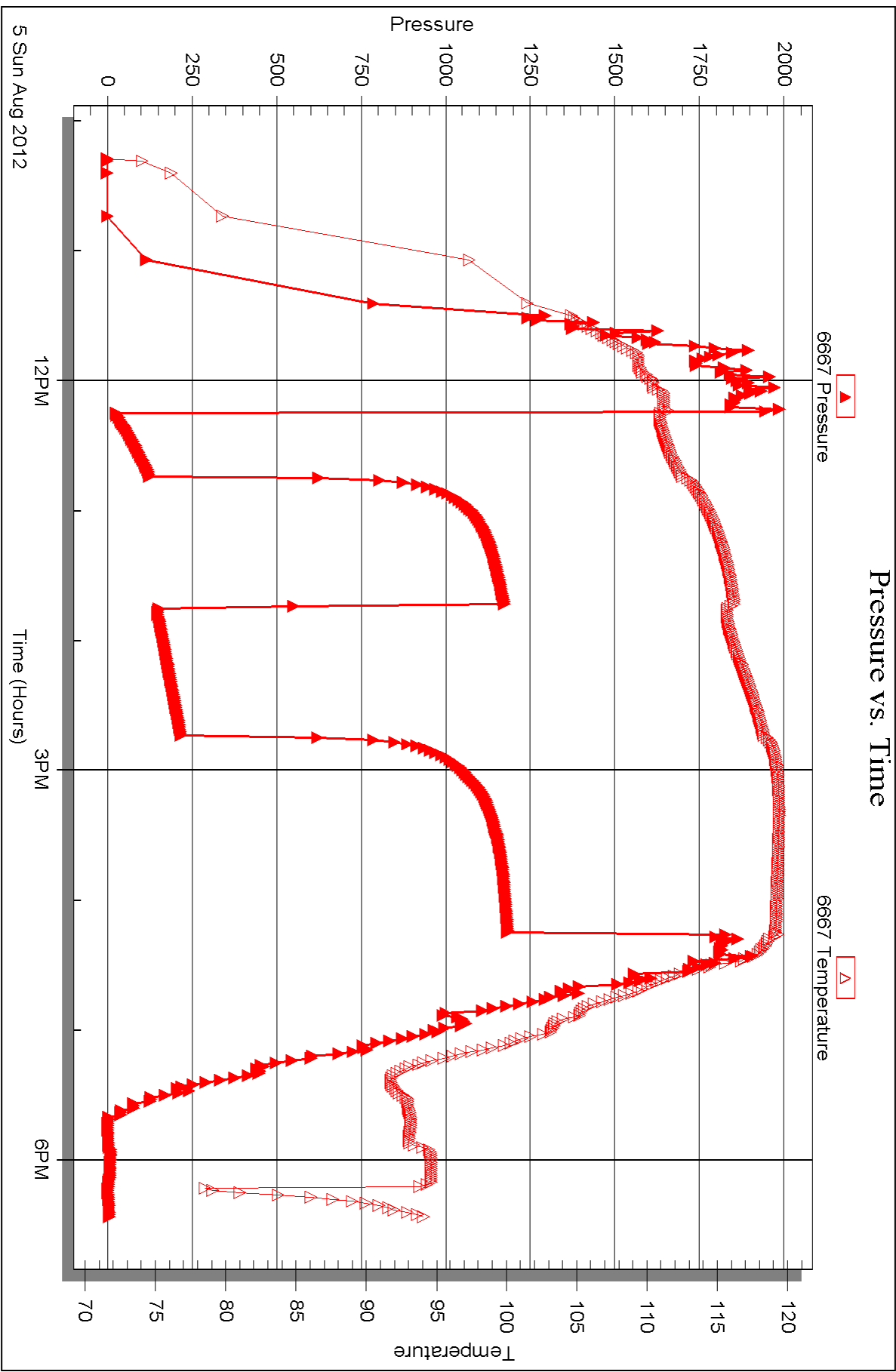


Serial #: 6667

Outside Murfin Drilling Co. Inc

Vanava #2-5

DST Test Number: 1







## DRILL STEM TEST REPORT

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

205 N Water STE 300  
Wichita KS 67202

ATTN: Tom Funk

### **Vanava #2-5**

### **5-13s-32w Logan,KS**

Start Date: 2012.08.06 @ 01:15:08

End Date: 2012.08.06 @ 09:37:23

Job Ticket #: 46950                      DST #: 2

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

Printed: 2012.08.14 @ 15:34:22



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co. Inc  
 205 N Water STE 300  
 Wichita KS 67202  
 ATTN: Tom Funk

**5-13s-32w Logan,KS**  
**Vanava #2-5**  
 Job Ticket: 46950 **DST#: 2**  
 Test Start: 2012.08.06 @ 01:15:08

## GENERAL INFORMATION:

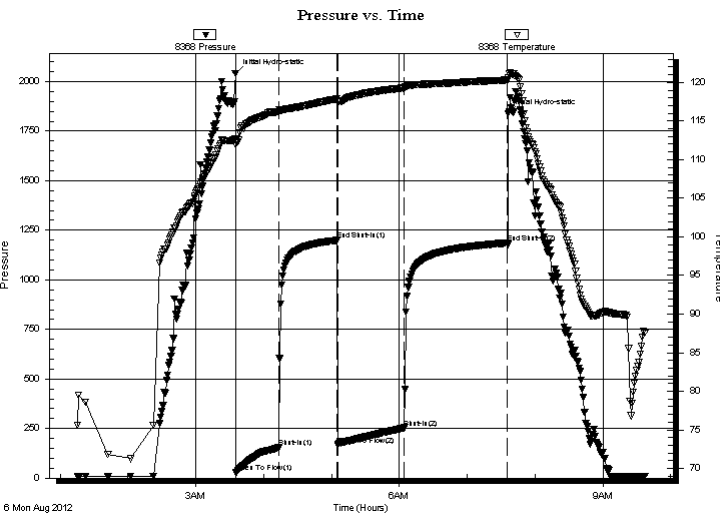
Formation: **LKC-"E-F"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 03:35:23  
 Time Test Ended: 09:37:23  
 Interval: **4078.00 ft (KB) To 4110.00 ft (KB) (TVD)**  
 Total Depth: 4110.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Tate Lang  
 Unit No: 55  
 Reference Elevations: 3024.00 ft (KB)  
 3013.00 ft (CF)  
 KB to GR/CF: 11.00 ft

## Serial #: 8368

Inside

Press @ RunDepth: 253.73 psig @ 4105.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.08.06 End Date: 2012.08.06 Last Calib.: 2012.08.06  
 Start Time: 01:15:23 End Time: 09:37:23 Time On Btm: 2012.08.06 @ 03:35:08  
 Time Off Btm: 2012.08.06 @ 07:36:08

**TEST COMMENT:** IF-Strong Blow Built To 9 1/2"  
 ISI-Bled Off For 10 Mins Chain Got Caught Between The Bales and Head Manifold- Dead No Return  
 FF-B.O.B. 42 mins  
 FSI-Bled Of For 5 mins Dead No Return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2041.67	112.73	Initial Hydro-static
1	28.66	111.97	Open To Flow (1)
39	153.54	116.19	Shut-In(1)
90	1199.62	117.86	End Shut-In(1)
91	165.71	117.45	Open To Flow (2)
150	253.73	119.29	Shut-In(2)
241	1186.35	120.30	End Shut-In(2)
241	1838.12	120.62	Final Hydro-static

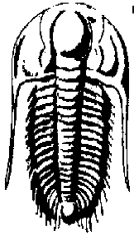
## Recovery

Length (ft)	Description	Volume (bbl)
249.00	10%M 90%W	1.36
244.00	5%M 95%W	3.42

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co. Inc  
205 N Water STE 300  
Wichita KS 67202  
ATTN: Tom Funk

**5-13s-32w Logan,KS**  
**Vanava #2-5**  
Job Ticket: 46950      **DST#: 2**  
Test Start: 2012.08.06 @ 01:15:08

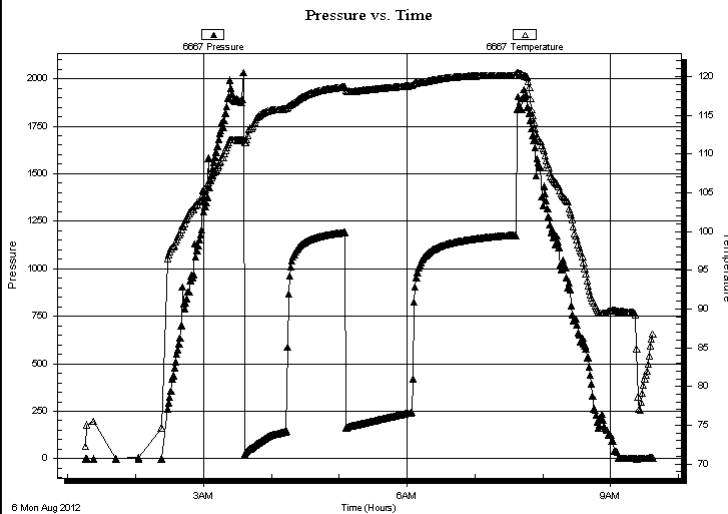
## GENERAL INFORMATION:

Formation: **LKC-"E-F"**  
Deviated: No Whipstock: ft (KB)      Test Type: Conventional Bottom Hole (Reset)  
Time Tool Opened: 03:35:23      Tester: Tate Lang  
Time Test Ended: 09:37:23      Unit No: 55  
**Interval: 4078.00 ft (KB) To 4110.00 ft (KB) (TVD)**      Reference Elevations: 3024.00 ft (KB)  
Total Depth: 4110.00 ft (KB) (TVD)      3013.00 ft (CF)  
Hole Diameter: 7.88 inches      Hole Condition: Good      KB to GR/CF: 11.00 ft

## Serial #: 6667      Outside

Press @ RunDepth:      psig @      4105.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2012.08.06      End Date: 2012.08.06      Last Calib.: 2012.08.06  
Start Time: 01:15:39      End Time: 09:37:39      Time On Btm:  
Time Off Btm:

**TEST COMMENT:** IF-Strong Blow Built To 9 1/2"  
ISI-Bled Off For 10 Mins Chain Got Caught Between The Bales and Head Manifold- Dead No Return  
FF-B.O.B. 42 mins  
FSI-Bled Of For 5 mins Dead No Return



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
249.00	10%M 90%W	1.36
244.00	5%M 95%W	3.42

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co. Inc  
205 N Water STE 300  
Wichita KS 67202  
ATTN: Tom Funk

**5-13s-32w Logan,KS**  
**Vanava #2-5**  
Job Ticket: 46950      **DST#: 2**  
Test Start: 2012.08.06 @ 01:15:08

**Tool Information**

Drill Pipe:	Length: 3849.00 ft	Diameter: 3.80 inches	Volume: 53.99 bbl	Tool Weight: 20000.00 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: 234.00 ft	Diameter: 2.25 inches	Volume: 1.15 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 55.14 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	4078.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	32.00 ft			
Tool Length:	52.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
-------------------------	--------------------	-------------------	-----------------	-------------------	-----------------------

Change Over Sub	1.00			4059.00	
Shut In Tool	5.00			4064.00	
Hydraulic tool	5.00			4069.00	
Packer	5.00			4074.00	20.00      Bottom Of Top Packer
Packer	4.00			4078.00	
Stubb	1.00			4079.00	
Perforations	26.00			4105.00	
Recorder	0.00	8368	Inside	4105.00	
Recorder	0.00	6667	Outside	4105.00	
Bullnose	5.00			4110.00	32.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>52.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co. Inc  
205 N Water STE 300  
Wichita KS 67202  
ATTN: Tom Funk

**5-13s-32w Logan,KS**  
**Vanava #2-5**  
Job Ticket: 46950      **DST#: 2**  
Test Start: 2012.08.06 @ 01:15:08

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 55.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.12 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 34000.00 ppm			
Filter Cake: inches			

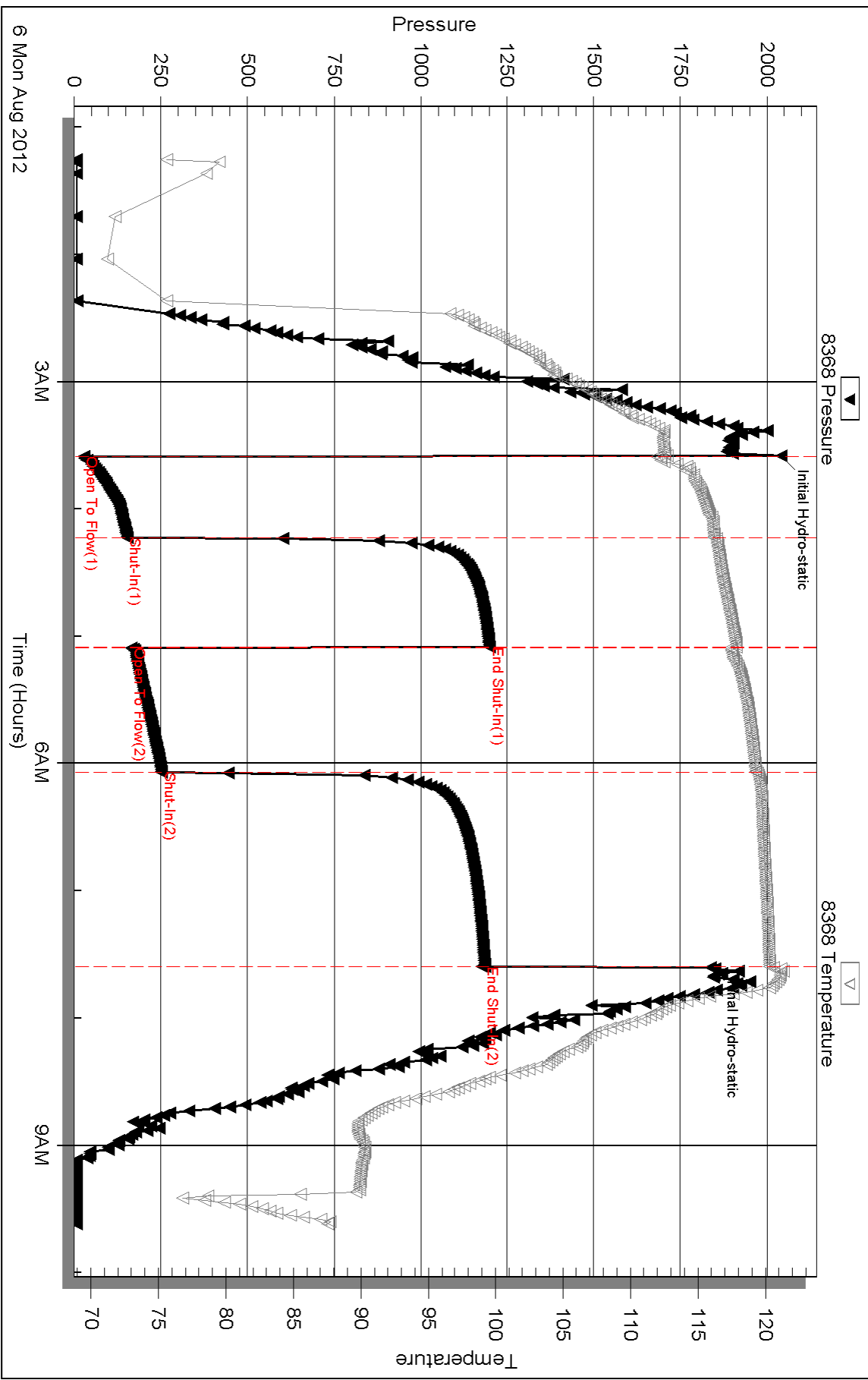
## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
249.00	10%M 90%W	1.361
244.00	5%M 95%W	3.423

Total Length: 493.00 ft      Total Volume: 4.784 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments:

# Pressure vs. Time

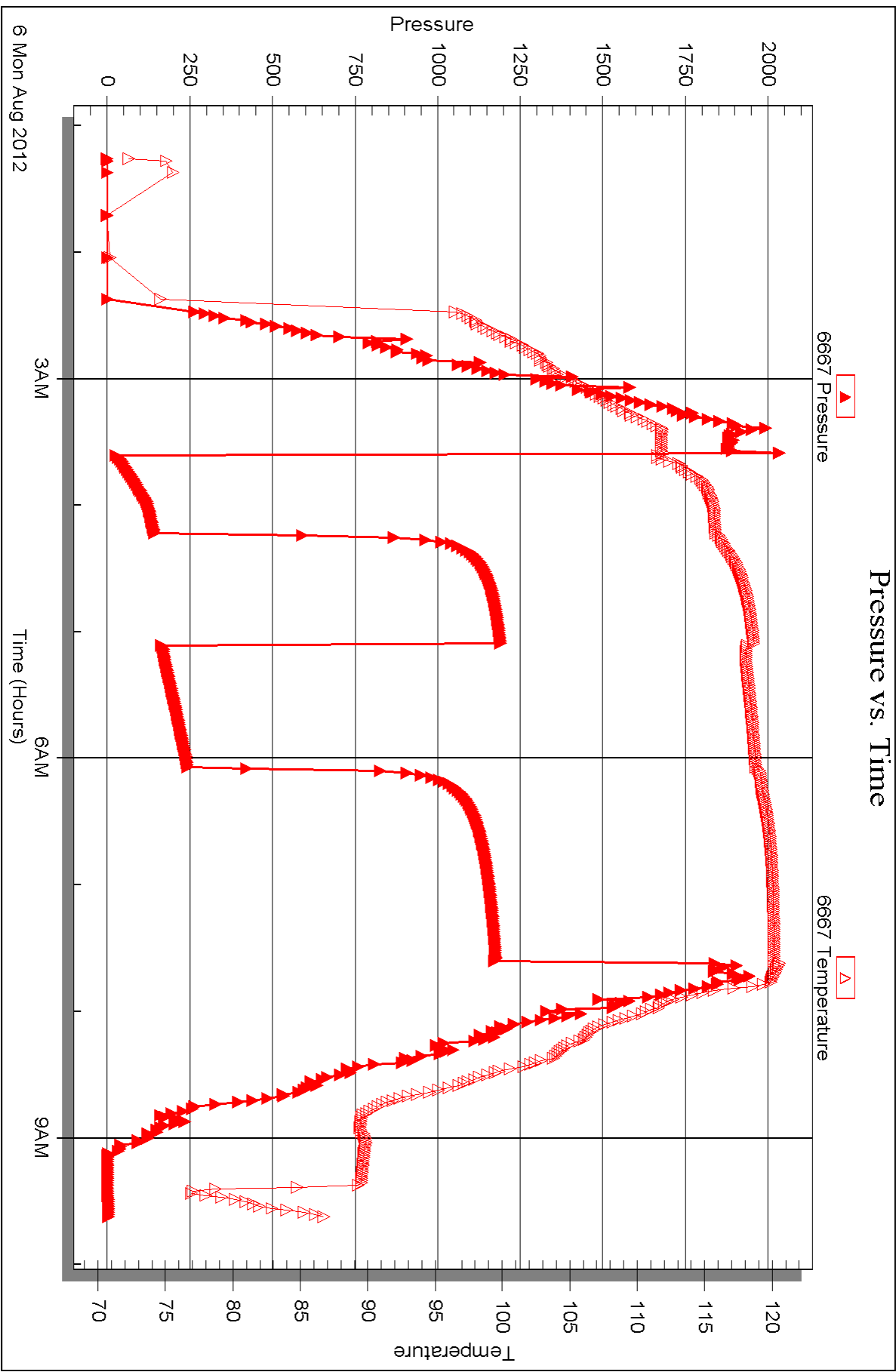


Serial #: 6667

Outside Murfin Drilling Co. Inc

Vanava #2-5

DST Test Number: 2





## DRILL STEM TEST REPORT

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

205 N Water STE 300  
Wichita KS 67202

ATTN: Tom Funk

**Vanava #2-5**

**5-13s-32w Logan,KS**

Start Date: 2012.08.06 @ 18:25:11

End Date: 2012.08.07 @ 01:32:11

Job Ticket #: 48281                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.08.14 @ 15:33:29





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co. Inc  
 205 N Water STE 300  
 Wichita KS 67202  
 ATTN: Tom Funk

**5-13s-32w Logan,KS**

**Vanava #2-5**

Job Ticket: 48281

**DST#: 3**

Test Start: 2012.08.06 @ 18:25:11

## GENERAL INFORMATION:

Formation: **LKC-"H"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 20:29:11  
 Time Test Ended: 01:32:11  
 Interval: **4150.00 ft (KB) To 4175.00 ft (KB) (TVD)**  
 Total Depth: 4175.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Tate Lang  
 Unit No: 55  
 Reference Elevations: 3024.00 ft (KB)  
 3013.00 ft (CF)  
 KB to GR/CF: 11.00 ft

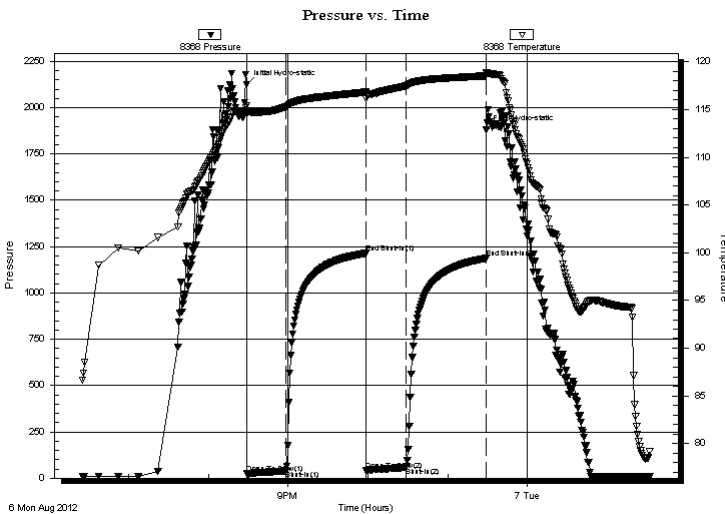
## Serial #: 8368

Inside

Press @ Run Depth: 57.84 psig @ 4170.00 ft (KB)  
 Start Date: 2012.08.06 End Date: 2012.08.07  
 Start Time: 18:25:26 End Time: 01:32:11  
 Capacity: 8000.00 psig  
 Last Calib.: 2012.08.07  
 Time On Btm: 2012.08.06 @ 20:28:56  
 Time Off Btm: 2012.08.06 @ 23:29:11

TEST COMMENT: IF-Weak Surface Blow Built to 1 1/4 in.  
 ISI-Dead No Return  
 FF-Dead No Blow  
 FSI-Dead No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2124.07	115.37	Initial Hydro-static
1	24.48	114.62	Open To Flow (1)
30	39.49	115.29	Shut-In(1)
90	1213.65	116.81	End Shut-In(1)
90	42.95	116.07	Open To Flow (2)
120	57.84	117.46	Shut-In(2)
180	1187.01	118.52	End Shut-In(2)
181	1880.36	118.88	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
65.00	10%O 90%M	0.32

\* Recovery from multiple tests

## Gas Rates

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



# TRILOBITE TESTING, INC.

## DRILL STEM TEST REPORT

Murfin Drilling Co. Inc  
205 N Water STE 300  
Wichita KS 67202  
ATTN: Tom Funk

5-13s-32w Logan, KS

Vanava #2-5

Job Ticket: 48281

DST#: 3

Test Start: 2012.08.06 @ 18:25:11

### GENERAL INFORMATION:

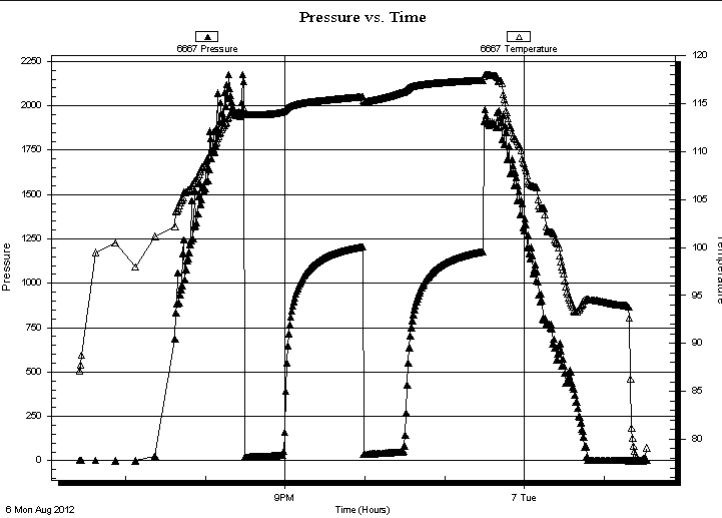
Formation:	<b>LKC-"H"</b>			Test Type:	Conventional Bottom Hole (Reset)
Deviated:	No	Whipstock:	ft (KB)	Tester:	Tate Lang
Time Tool Opened:	20:29:11			Unit No:	55
Time Test Ended:	01:32:11			Reference Elevations:	3024.00 ft (KB)
Interval:	<b>4150.00 ft (KB) To 4175.00 ft (KB) (TVD)</b>				3013.00 ft (CF)
Total Depth:	4175.00 ft (KB) (TVD)			KB to GR/CF:	11.00 ft
Hole Diameter:	7.88 inches	Hole Condition:	Good		

**Serial #: 6667**

**Outside**

Press@RunDepth:	psig @	4170.00 ft (KB)	Capacity:	8000.00 psig	
Start Date:	2012.08.06	End Date:	2012.08.07	Last Calib.:	2012.08.07
Start Time:	18:25:26	End Time:	01:32:11	Time On Btm:	
				Time Off Btm:	

**TEST COMMENT:** IF-Weak Surface Blow Built to 1 1/4 in.  
ISI-Dead No Return  
FF-Dead No Blow  
FSI-Dead No Return



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
65.00	10%O 90%M	0.32

### Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co. Inc  
205 N Water STE 300  
Wichita KS 67202  
ATTN: Tom Funk

**5-13s-32w Logan,KS**  
**Vanava #2-5**  
Job Ticket: 48281      **DST#: 3**  
Test Start: 2012.08.06 @ 18:25:11

**Tool Information**

Drill Pipe:	Length: 3911.00 ft	Diameter: 3.80 inches	Volume: 54.86 bbl	Tool Weight: 20000.00 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: 234.00 ft	Diameter: 2.25 inches	Volume: 1.15 bbl	Weight to Pull Loose: 58000.00 lb
			<u>Total Volume: 56.01 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	4150.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	25.00 ft			
Tool Length:	45.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Change Over Sub	1.00			4131.00	
Shut In Tool	5.00			4136.00	
Hydraulic tool	5.00			4141.00	
Packer	5.00			4146.00	20.00      Bottom Of Top Packer
Packer	4.00			4150.00	
Stubb	1.00			4151.00	
Perforations	19.00			4170.00	
Recorder	0.00	8368	Inside	4170.00	
Recorder	0.00	6667	Outside	4170.00	
Bullnose	5.00			4175.00	25.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>45.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co. Inc  
205 N Water STE 300  
Wichita KS 67202  
ATTN: Tom Funk

**5-13s-32w Logan,KS**  
**Vanava #2-5**  
Job Ticket: 48281      **DST#: 3**  
Test Start: 2012.08.06 @ 18:25:11

## Mud and Cushion Information

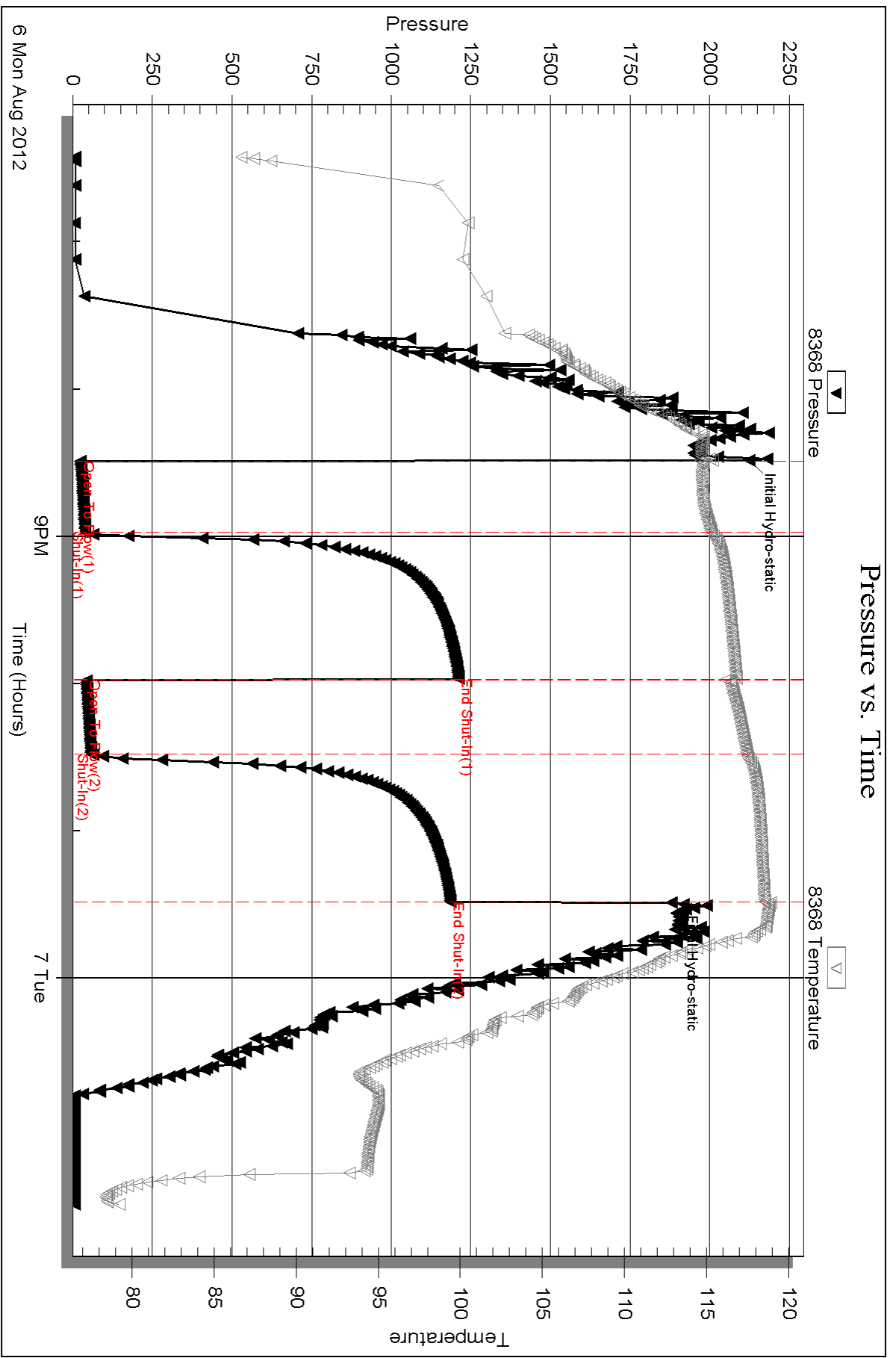
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 55.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.14 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5900.00 ppm			
Filter Cake: inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
65.00	10%O 90%M	0.320

Total Length: 65.00 ft      Total Volume: 0.320 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments:

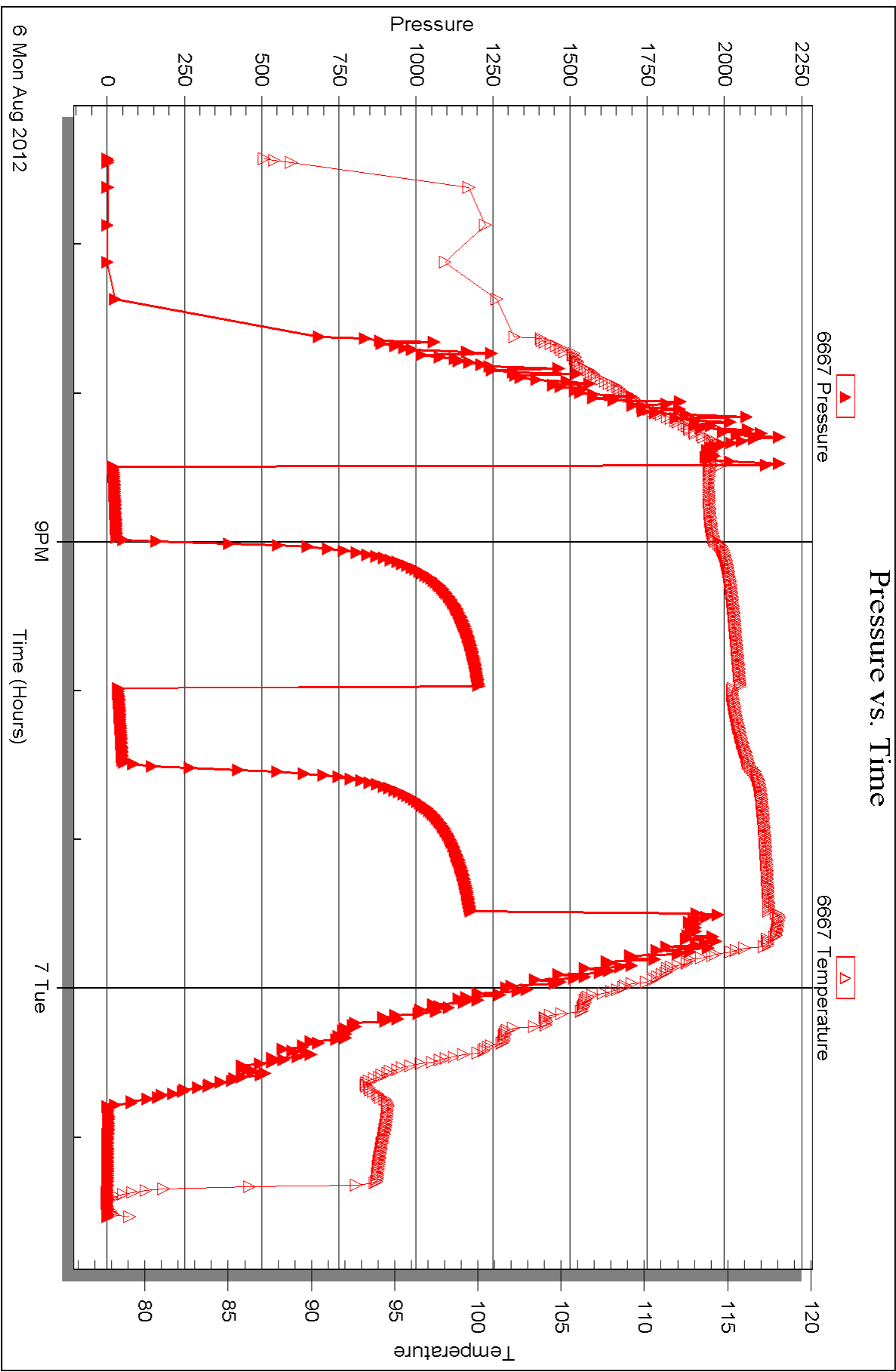


Serial #: 6667

Outside Murfin Drilling Co. Inc

Vanava #2-5

DST Test Number: 3





## DRILL STEM TEST REPORT

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

205 N Water STE 300  
Wichita KS 67202

ATTN: Tom Funk

**Vanava #2-5**

**5-13s-32w Logan,KS**

Start Date: 2012.08.07 @ 09:03:43

End Date: 2012.08.07 @ 17:24:43

Job Ticket #: 48282                      DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.08.14 @ 15:32:19



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co. Inc  
 205 N Water STE 300  
 Wichita KS 67202  
 ATTN: Tom Funk

**5-13s-32w Logan,KS**

**Vanava #2-5**

Job Ticket: 48282

**DST#: 4**

Test Start: 2012.08.07 @ 09:03:43

## GENERAL INFORMATION:

Formation: **LKC-"I"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 10:58:43  
 Time Test Ended: 17:24:43  
 Interval: **4180.00 ft (KB) To 4213.00 ft (KB) (TVD)**  
 Total Depth: 4213.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Tate Lang  
 Unit No: 55  
 Reference Elevations: 3024.00 ft (KB)  
 3013.00 ft (CF)  
 KB to GR/CF: 11.00 ft

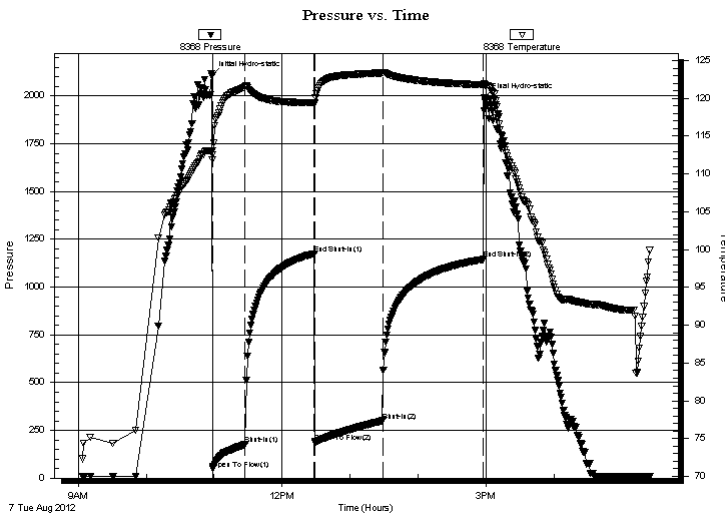
## Serial #: 8368

Inside

Press @ RunDepth: 300.09 psig @ 4183.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.08.07 End Date: 2012.08.07 Last Calib.: 2012.08.07  
 Start Time: 09:03:58 End Time: 17:24:43 Time On Btm: 2012.08.07 @ 10:58:13  
 Time Off Btm: 2012.08.07 @ 14:58:43

TEST COMMENT: IF-B.O.B. 13 mins  
 ISI-Bled Off For 5 mins Dead No Return  
 FF-B.O.B. 23 mins  
 FSI-Bled Off For 5 mins Dead No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2108.16	113.11	Initial Hydro-static
1	48.20	112.58	Open To Flow (1)
30	176.56	121.53	Shut-In(1)
91	1174.92	119.40	End Shut-In(1)
91	189.18	119.34	Open To Flow (2)
151	300.09	123.37	Shut-In(2)
240	1144.56	121.79	End Shut-In(2)
241	1992.09	121.85	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
549.00	5%O 5%M 90%W	5.57
61.00	40%M 60% W	0.86
3.00	100% Free Oil	0.04
0.00	610 Weak G.I.P.	0.00

\* Recovery from multiple tests

## Gas Rates

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





# TRILOBITE TESTING, INC.

## DRILL STEM TEST REPORT

Murfin Drilling Co. Inc  
 205 N Water STE 300  
 Wichita KS 67202  
 ATTN: Tom Funk

5-13s-32w Logan,KS

Vanava #2-5

Job Ticket: 48282

DST#: 4

Test Start: 2012.08.07 @ 09:03:43

### GENERAL INFORMATION:

Formation: **LKC-"I"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:58:43

Time Test Ended: 17:24:43

Test Type: Conventional Bottom Hole (Reset)

Tester: Tate Lang

Unit No: 55

Interval: **4180.00 ft (KB) To 4213.00 ft (KB) (TVD)**

Total Depth: 4213.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3024.00 ft (KB)

3013.00 ft (CF)

KB to GR/CF: 11.00 ft

Serial #: **6667** Outside

Press @ Run Depth: psig @ 4183.00 ft (KB)

Start Date: 2012.08.07

End Date: 2012.08.07

Start Time: 09:03:40

End Time: 17:24:10

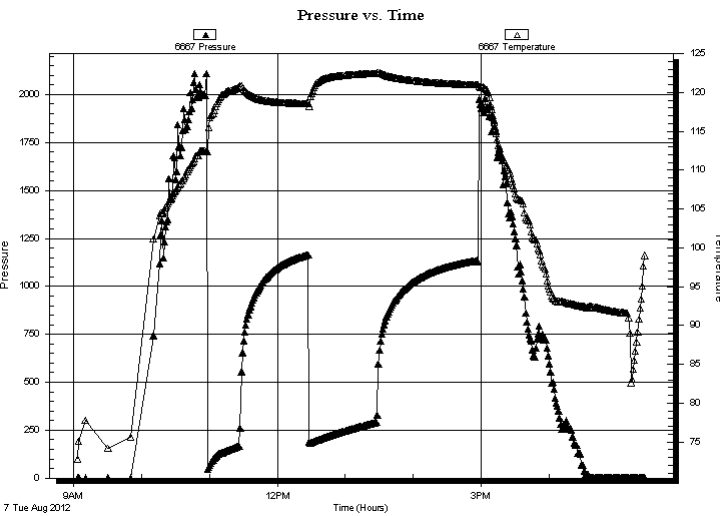
Capacity: 8000.00 psig

Last Calib.: 1899.12.30

Time On Btm:

Time Off Btm:

TEST COMMENT: IF-B.O.B. 13 mins  
 ISI-Bled Off For 5 mins Dead No Return  
 FF-B.O.B. 23 mins  
 FSI-Bled Off For 5 mins Dead No Return



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
549.00	5%O 5%M 90%W	5.57
61.00	40%M 60% W	0.86
3.00	100% Free Oil	0.04
0.00	610 Weak G.I.P.	0.00

### Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co. Inc  
205 N Water STE 300  
Wichita KS 67202  
ATTN: Tom Funk

**5-13s-32w Logan,KS**  
**Vanava #2-5**  
Job Ticket: 48282      **DST#: 4**  
Test Start: 2012.08.07 @ 09:03:43

**Tool Information**

Drill Pipe:	Length: 3943.00 ft	Diameter: 3.80 inches	Volume: 55.31 bbl	Tool Weight:	20000.00 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: 234.00 ft	Diameter: 2.25 inches	Volume: 1.15 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume: 56.46 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial	54000.00 lb
Depth to Top Packer:	4180.00 ft			Final	57000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	33.00 ft				
Tool Length:	53.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Change Over Sub	1.00			4161.00	
Shut In Tool	5.00			4166.00	
Hydraulic tool	5.00			4171.00	
Packer	5.00			4176.00	20.00      Bottom Of Top Packer
Packer	4.00			4180.00	
Stubb	1.00			4181.00	
Perforations	2.00			4183.00	
Recorder	0.00	8368	Inside	4183.00	
Recorder	0.00	6667	Outside	4183.00	
Perforations	25.00			4208.00	
Bullnose	5.00			4213.00	33.00      Bottom Packers & Anchor

**Total Tool Length: 53.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co. Inc  
205 N Water STE 300  
Wichita KS 67202  
ATTN: Tom Funk

**5-13s-32w Logan,KS**  
**Vanava #2-5**  
Job Ticket: 48282      **DST#: 4**  
Test Start: 2012.08.07 @ 09:03:43

## Mud and Cushion Information

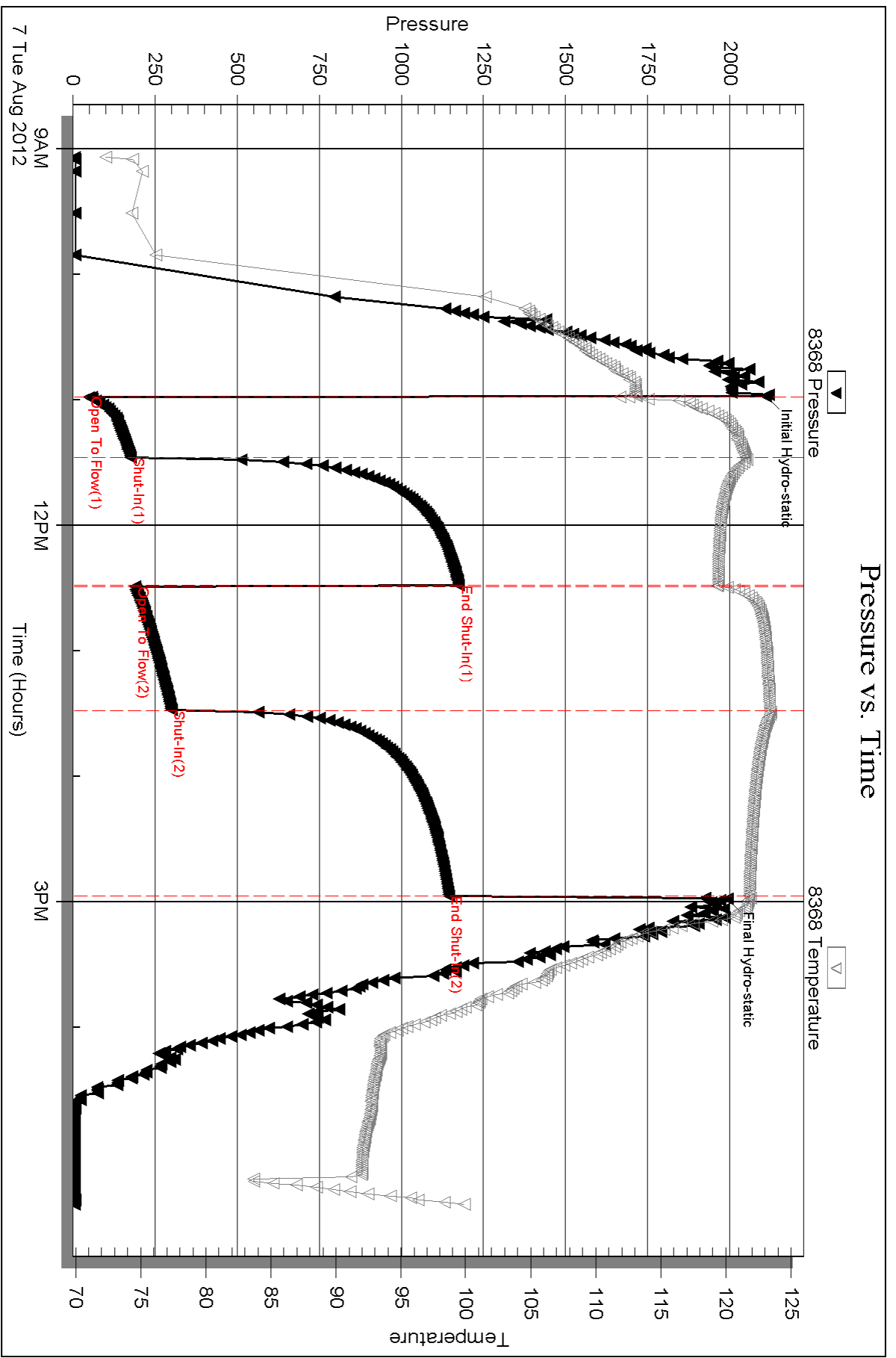
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 55.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.14 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 59000.00 ppm			
Filter Cake: inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
549.00	5%O 5%M 90%W	5.569
61.00	40%M 60% W	0.856
3.00	100% Free Oil	0.042
0.00	610 Weak G.I.P.	0.000

Total Length: 613.00 ft      Total Volume: 6.467 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments:

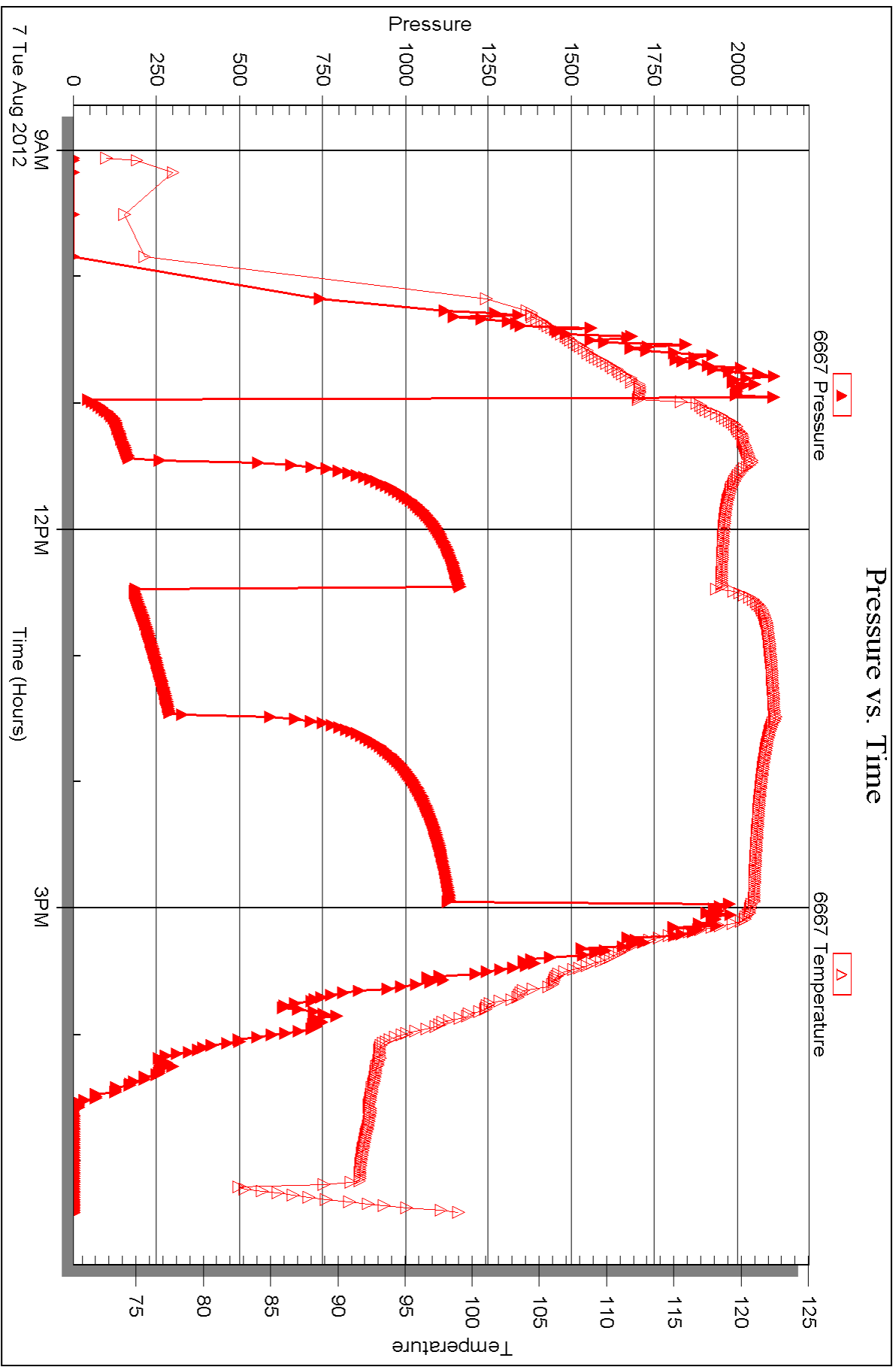


Serial #: 6667

Outside Murfin Drilling Co. Inc

Vanava #2-5

DST Test Number: 4





## DRILL STEM TEST REPORT

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

205 N Water STE 300  
Wichita KS 67202

ATTN: Tom Funk

**Vanava #2-5**

**5-13s-32w Logan,KS**

Start Date: 2012.08.08 @ 00:20:25

End Date: 2012.08.08 @ 07:59:10

Job Ticket #: 48283                      DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.08.14 @ 15:31:37

Murfin Drilling Co. Inc  
5-13s-32w Logan,KS  
Vanava #2-5  
DST # 5  
LKC- "J"  
2012.08.08



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co. Inc  
205 N Water STE 300  
Wichita KS 67202  
ATTN: Tom Funk

**5-13s-32w Logan,KS**

**Vanava #2-5**

Job Ticket: 48283

**DST#: 5**

Test Start: 2012.08.08 @ 00:20:25

## GENERAL INFORMATION:

Formation: **LKC- "J"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 02:55:10  
 Time Test Ended: 07:59:10  
 Interval: **4213.00 ft (KB) To 4235.00 ft (KB) (TVD)**  
 Total Depth: 4235.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Tate Lang  
 Unit No: 55  
 Reference Elevations: 3024.00 ft (KB)  
 3013.00 ft (CF)  
 KB to GR/CF: 11.00 ft

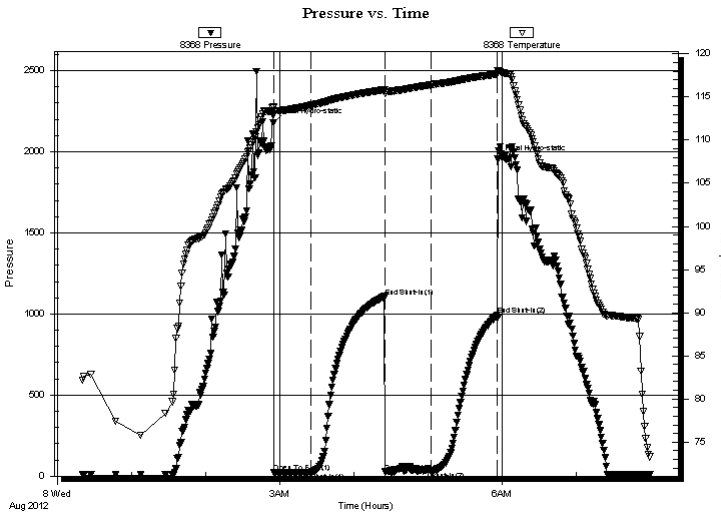
## Serial #: 8368

Inside

Press @ RunDepth: 28.75 psig @ 4216.00 ft (KB)  
 Start Date: 2012.08.08 End Date: 2012.08.08  
 Start Time: 00:20:40 End Time: 07:59:10  
 Capacity: 8000.00 psig  
 Last Calib.: 2012.08.08  
 Time On Btm: 2012.08.08 @ 02:54:55  
 Time Off Btm: 2012.08.08 @ 05:56:25

TEST COMMENT: IF-Weak Surface Blow Died in 7 mins.  
 ISI-Dead No Return  
 FF-Dead No Blow  
 FSI-Dead No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2179.84	113.82	Initial Hydro-static
1	21.71	112.94	Open To Flow (1)
31	24.49	114.05	Shut-In(1)
90	1106.70	115.85	End Shut-In(1)
91	26.41	115.45	Open To Flow (2)
128	28.75	116.39	Shut-In(2)
181	991.10	117.64	End Shut-In(2)
182	1953.47	118.09	Final Hydro-static

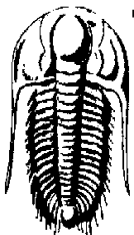
## Recovery

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

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Murfin Drilling Co. Inc  
205 N Water STE 300  
Wichita KS 67202  
ATTN: Tom Funk

**5-13s-32w Logan, KS**

**Vanava #2-5**

Job Ticket: 48283

**DST#: 5**

Test Start: 2012.08.08 @ 00:20:25

### GENERAL INFORMATION:

Formation: **LKC- "J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:55:10

Time Test Ended: 07:59:10

**Interval: 4213.00 ft (KB) To 4235.00 ft (KB) (TVD)**

Total Depth: 4235.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole (Reset)

Tester: Tate Lang

Unit No: 55

Reference Elevations: 3024.00 ft (KB)

3013.00 ft (CF)

KB to GR/CF: 11.00 ft

**Serial #: 6667**

**Outside**

Press @ Run Depth: psig @ 4216.00 ft (KB)

Start Date: 2012.08.08

End Date:

2012.08.08

Start Time: 00:20:42

End Time:

07:58:42

Capacity: 8000.00 psig

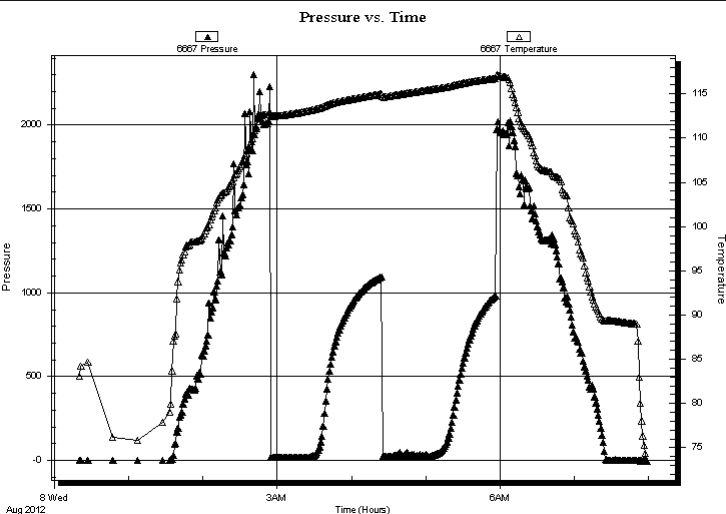
Last Calib.:

2012.08.08

Time On Btm:

Time Off Btm:

**TEST COMMENT:** IF-Weak Surface Blow Died in 7 mins.  
ISI-Dead No Return  
FF-Dead No Blow  
FSI-Dead No Return



### PRESSURE SUMMARY

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

### Recovery

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

### Gas Rates

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

\* Recovery from multiple tests





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co. Inc  
205 N Water STE 300  
Wichita KS 67202  
ATTN: Tom Funk

**5-13s-32w Logan,KS**  
**Vanava #2-5**  
Job Ticket: 48283      **DST#: 5**  
Test Start: 2012.08.08 @ 00:20:25

**Tool Information**

Drill Pipe:	Length: 3975.00 ft	Diameter: 3.80 inches	Volume: 55.76 bbl	Tool Weight:	20000.00 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: 234.00 ft	Diameter: 2.25 inches	Volume: 1.15 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume: 56.91 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial	55000.00 lb
Depth to Top Packer:	4213.00 ft			Final	55000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	22.00 ft				
Tool Length:	42.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
-------------------------	--------------------	-------------------	-----------------	-------------------	-----------------------

Change Over Sub	1.00			4194.00	
Shut In Tool	5.00			4199.00	
Hydraulic tool	5.00			4204.00	
Packer	5.00			4209.00	20.00      Bottom Of Top Packer
Packer	4.00			4213.00	
Stubb	1.00			4214.00	
Perforations	2.00			4216.00	
Recorder	0.00	8368	Inside	4216.00	
Recorder	0.00	6667	Outside	4216.00	
Perforations	14.00			4230.00	
Bullnose	5.00			4235.00	22.00      Bottom Packers & Anchor

**Total Tool Length: 42.00**



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Murfin Drilling Co. Inc  
205 N Water STE 300  
Wichita KS 67202  
ATTN: Tom Funk

**5-13s-32w Logan,KS**  
**Vanava #2-5**  
Job Ticket: 48283      **DST#: 5**  
Test Start: 2012.08.08 @ 00:20:25

**Mud and Cushion Information**

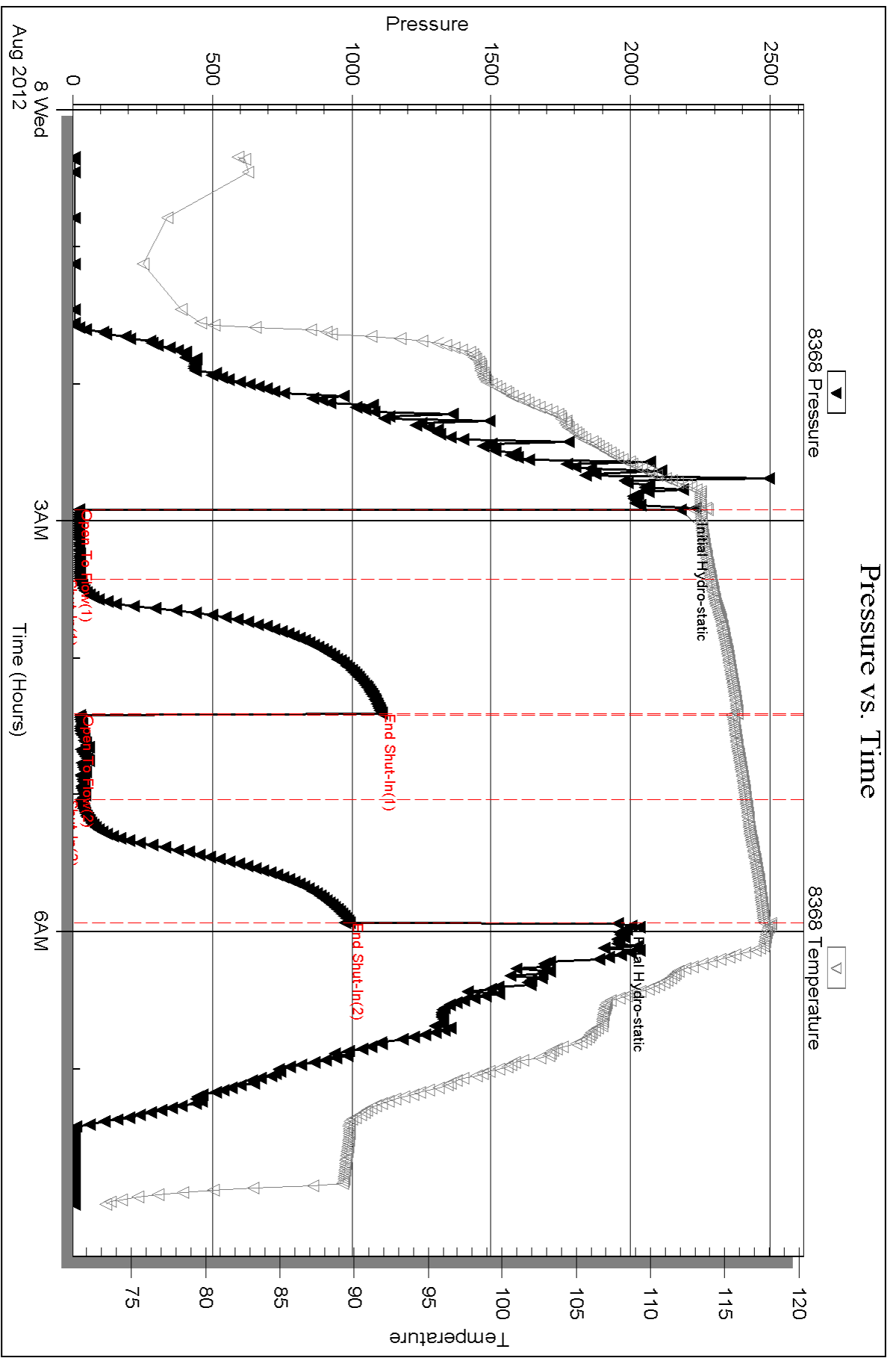
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 53.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.15 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 6400.00 ppm			
Filter Cake: inches			

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
10.00	100%M	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:

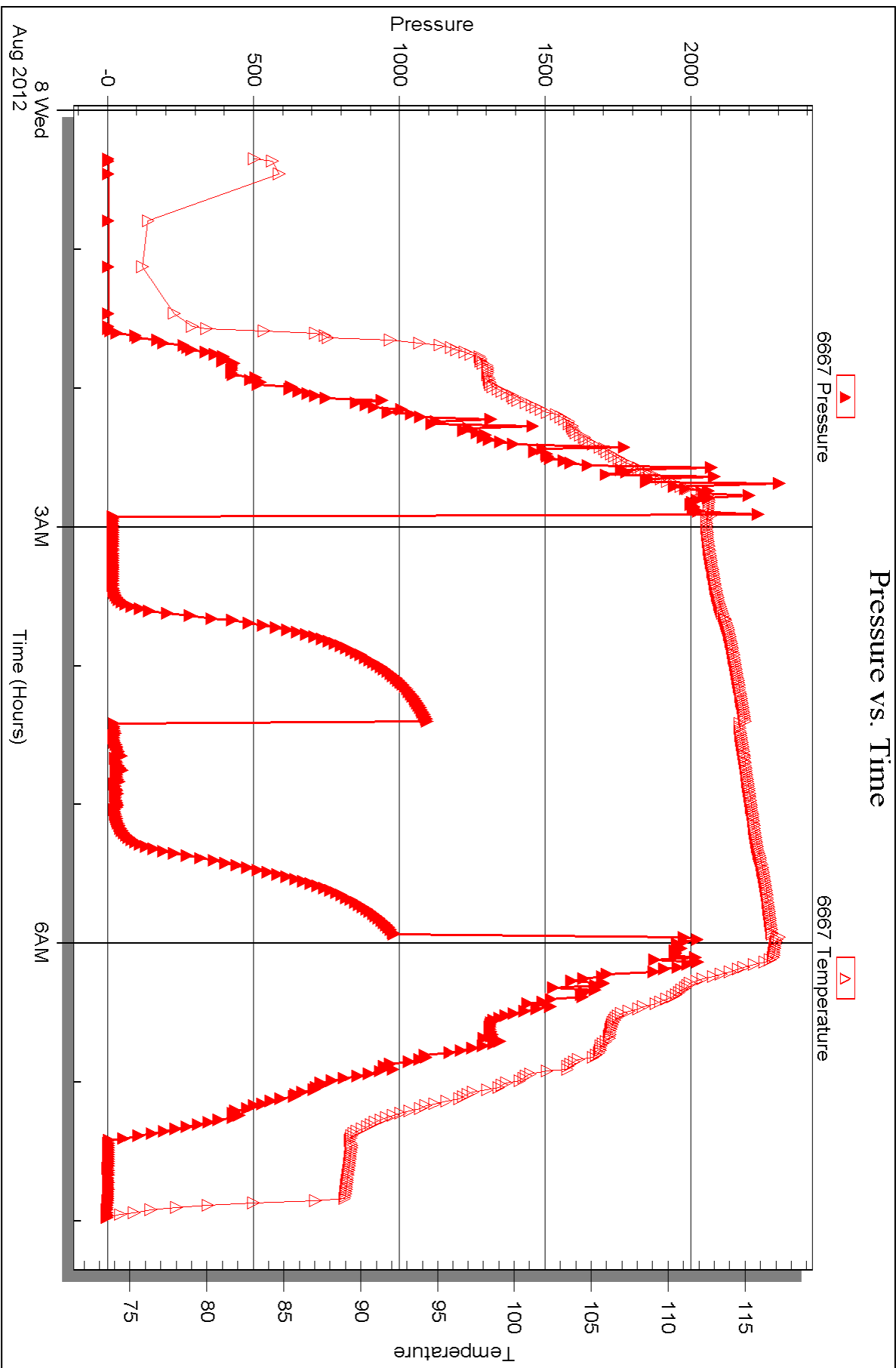


Serial #: 6667

Outside Murfin Drilling Co. Inc

Vanava #2-5

DST Test Number: 5





## DRILL STEM TEST REPORT

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

205 N Water STE 300  
Wichita KS 67202

ATTN: Tom Funk

**Vanava #2-5**

**5-13s-32w Logan,KS**

Start Date: 2012.08.08 @ 14:00:11

End Date: 2012.08.08 @ 22:27:41

Job Ticket #: 48284                      DST #: 6

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

Printed: 2012.08.14 @ 15:30:53



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co. Inc  
 205 N Water STE 300  
 Wichita KS 67202  
 ATTN: Tom Funk

**5-13s-32w Logan,KS**

**Vanava #2-5**

Job Ticket: 48284

**DST#: 6**

Test Start: 2012.08.08 @ 14:00:11

## GENERAL INFORMATION:

Formation: **LKC-"K"**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 16:14:41  
 Tester: Tate Lang  
 Time Test Ended: 22:27:41  
 Unit No: 55  
 Interval: **4235.00 ft (KB) To 4265.00 ft (KB) (TVD)**  
 Reference Elevations: 3024.00 ft (KB)  
 Total Depth: 4261.00 ft (KB) (TVD)  
 3013.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Good  
 KB to GR/CF: 11.00 ft

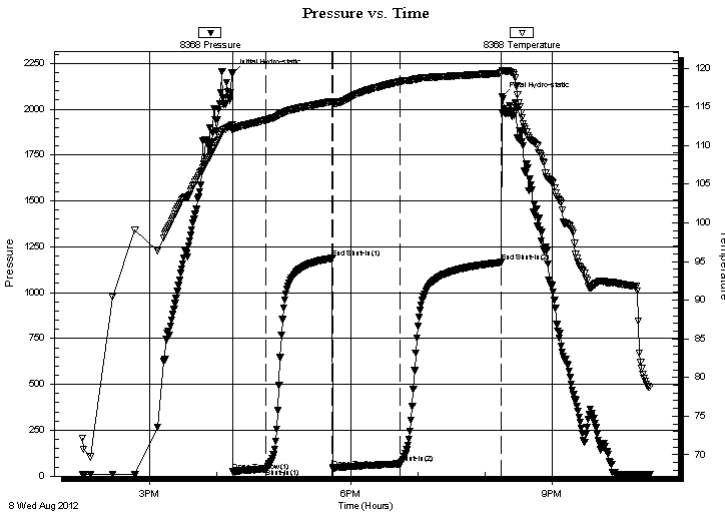
## Serial #: 8368

Inside

Press @ Run Depth: 67.48 psig @ 4242.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.08.08 End Date: 2012.08.08 Last Calib.: 2012.08.08  
 Start Time: 14:00:26 End Time: 22:27:41 Time On Btm: 2012.08.08 @ 16:14:26  
 Time Off Btm: 2012.08.08 @ 20:15:26

**TEST COMMENT:** IF-Weak Surface Blow Built to 1"  
 ISI-Dead No Return  
 FF-Weak Surface Blow Built to 2"  
 FSI-Dead No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2193.94	112.68	Initial Hydro-static
1	24.53	111.90	Open To Flow (1)
30	39.64	113.30	Shut-In(1)
89	1188.12	115.71	End Shut-In(1)
90	42.20	115.35	Open To Flow (2)
150	67.48	118.28	Shut-In(2)
240	1165.09	119.36	End Shut-In(2)
241	2068.56	119.72	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
70.00	40%O 60%M	0.34
0.00	60' G.I.P.	0.00

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

Murfin Drilling Co. Inc  
 205 N Water STE 300  
 Wichita KS 67202  
 ATTN: Tom Funk

**5-13s-32w Logan, KS**  
**Vanava #2-5**  
 Job Ticket: 48284 **DST#: 6**  
 Test Start: 2012.08.08 @ 14:00:11

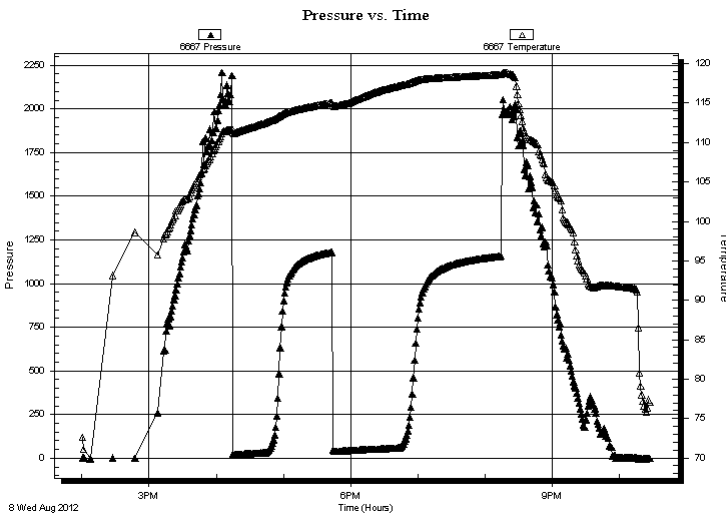
**GENERAL INFORMATION:**

Formation: **LKC-"K"**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 16:14:41 Tester: Tate Lang  
 Time Test Ended: 22:27:41 Unit No: 55  
 Interval: **4235.00 ft (KB) To 4265.00 ft (KB) (TVD)** Reference Elevations: 3024.00 ft (KB)  
 Total Depth: 4261.00 ft (KB) (TVD) 3013.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 11.00 ft

**Serial #: 6667 Outside**  
 Press @ RunDepth: psig @ 4242.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.08.08 End Date: 2012.08.08 Last Calib.: 2012.08.08  
 Start Time: 14:00:40 End Time: 22:27:55 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** IF-Weak Surface Blow Built to 1"  
 ISI-Dead No Return  
 FF-Weak Surface Blow Built to 2"  
 FSI-Dead No Return

**PRESSURE SUMMARY**



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

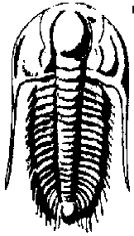
**Recovery**

Length (ft)	Description	Volume (bbl)
70.00	40%O 60%M	0.34
0.00	60' G.I.P.	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. Inc  
205 N Water STE 300  
Wichita KS 67202  
ATTN: Tom Funk

**5-13s-32w Logan,KS**  
**Vanava #2-5**  
Job Ticket: 48284      **DST#: 6**  
Test Start: 2012.08.08 @ 14:00:11

**Tool Information**

Drill Pipe:	Length: 4007.00 ft	Diameter: 3.80 inches	Volume: 56.21 bbl	Tool Weight:	20000.00 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: 234.00 ft	Diameter: 2.25 inches	Volume: 1.15 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume: 57.36 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial	52000.00 lb
Depth to Top Packer:	4235.00 ft			Final	52000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	26.00 ft				
Tool Length:	46.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
-------------------------	--------------------	-------------------	-----------------	-------------------	-----------------------

Change Over Sub	1.00			4216.00	
Shut In Tool	5.00			4221.00	
Hydraulic tool	5.00			4226.00	
Packer	5.00			4231.00	20.00      Bottom Of Top Packer
Packer	4.00			4235.00	
Stubb	1.00			4236.00	
Perforations	6.00			4242.00	
Recorder	0.00	8368	Inside	4242.00	
Recorder	0.00	6667	Outside	4242.00	
Perforations	14.00			4256.00	
Bullnose	5.00			4261.00	26.00      Bottom Packers & Anchor

**Total Tool Length: 46.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co. Inc  
205 N Water STE 300  
Wichita KS 67202  
ATTN: Tom Funk

**5-13s-32w Logan,KS**  
**Vanava #2-5**  
Job Ticket: 48284      **DST#: 6**  
Test Start: 2012.08.08 @ 14:00:11

## 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: 53.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.16 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 6400.00 ppm			
Filter Cake: inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
70.00	40%O 60%M	0.344
0.00	60' G.I.P.	0.000

Total Length: 70.00 ft      Total Volume: 0.344 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

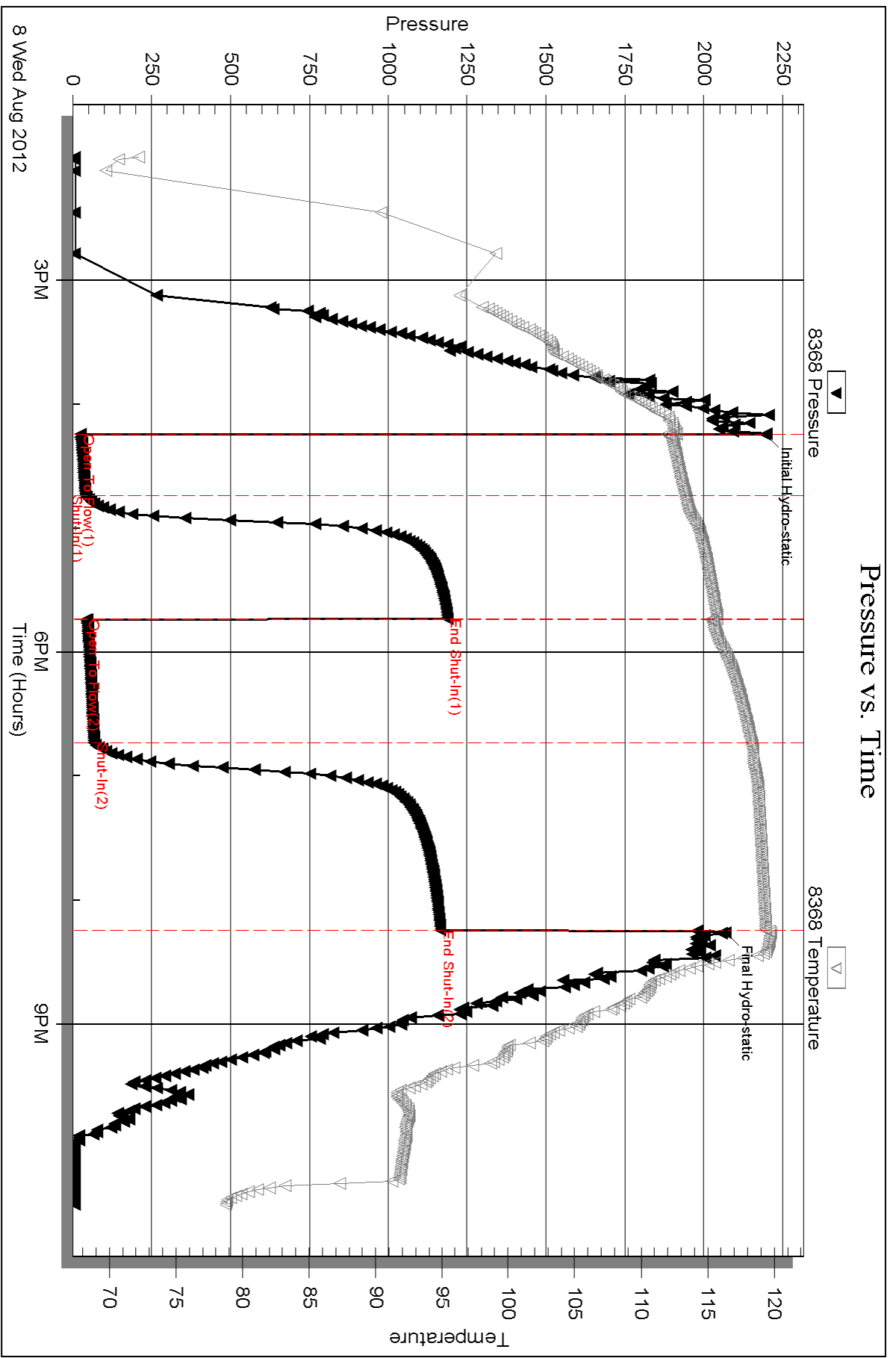
Serial #: 8368

Inside

Murfin Drilling Co. Inc

Vanava #2-5

DST Test Number: 6



Triobite Testing, Inc

Ref. No: 48284

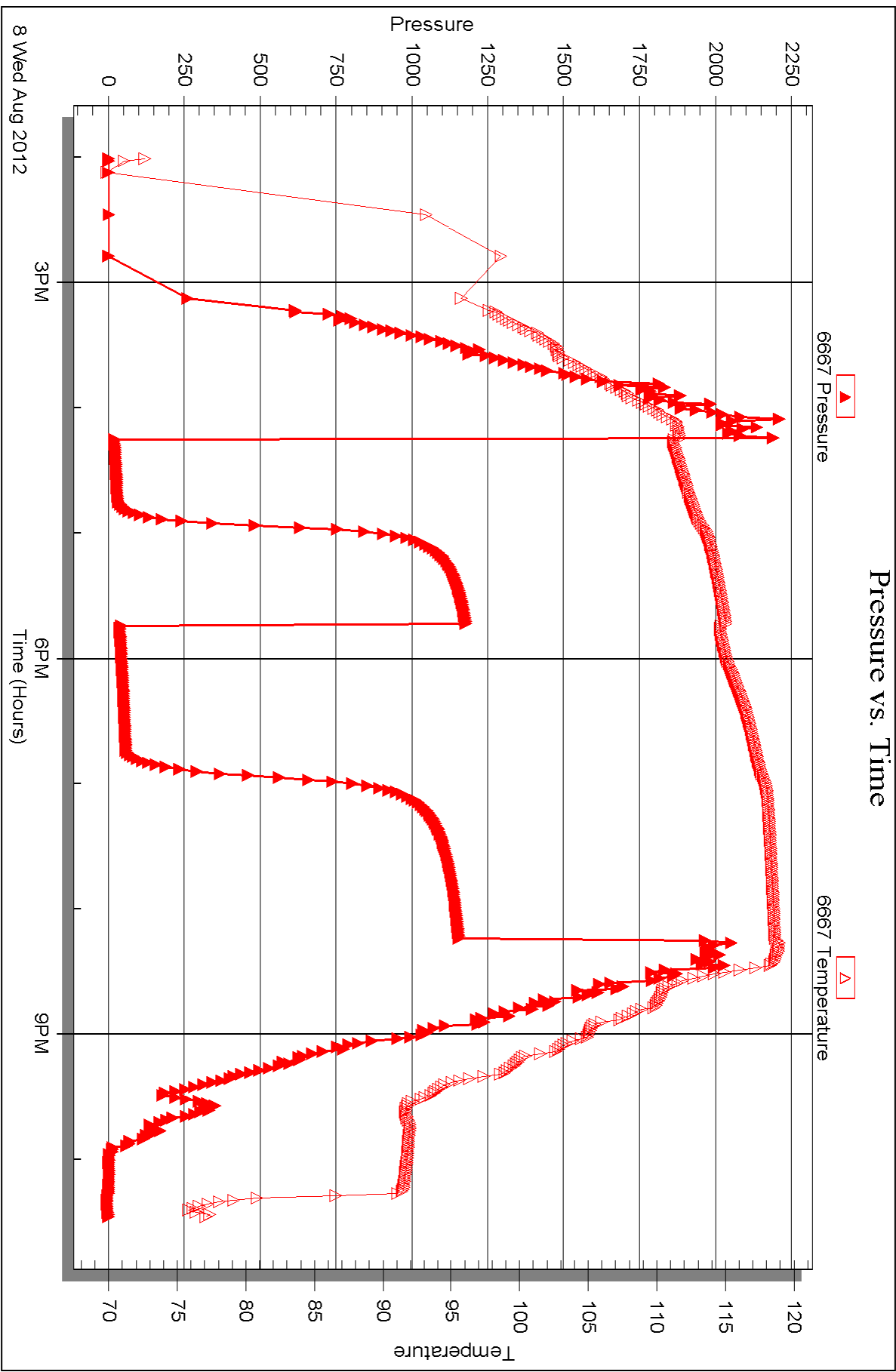
Printed: 2012.08.14 @ 15:30:57

Serial #: 6667

Outside Murfin Drilling Co. Inc

Vanava #2-5

DST Test Number: 6





## DRILL STEM TEST REPORT

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

205 N Water STE 300  
Wichita KS 67202

ATTN: Tom Funk

### **Vanava #2-5**

### **5-13s-32w Logan,KS**

Start Date: 2012.08.09 @ 19:51:46

End Date: 2012.08.10 @ 04:37:46

Job Ticket #: 48285                      DST #: 7

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.08.14 @ 15:30:04



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co. Inc  
205 N Water STE 300  
Wichita KS 67202  
ATTN: Tom Funk

**5-13s-32w Logan,KS**

**Vanava #2-5**

Job Ticket: 48285

**DST#: 7**

Test Start: 2012.08.09 @ 19:51:46

## GENERAL INFORMATION:

Formation: **Pawnee- Ft. Scott**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 22:10:46  
 Time Test Ended: 04:37:46  
 Interval: **4430.00 ft (KB) To 4511.00 ft (KB) (TVD)**  
 Total Depth: 4511.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Tate Lang  
 Unit No: 55  
 Reference Elevations: 3024.00 ft (KB)  
 3013.00 ft (CF)  
 KB to GR/CF: 11.00 ft

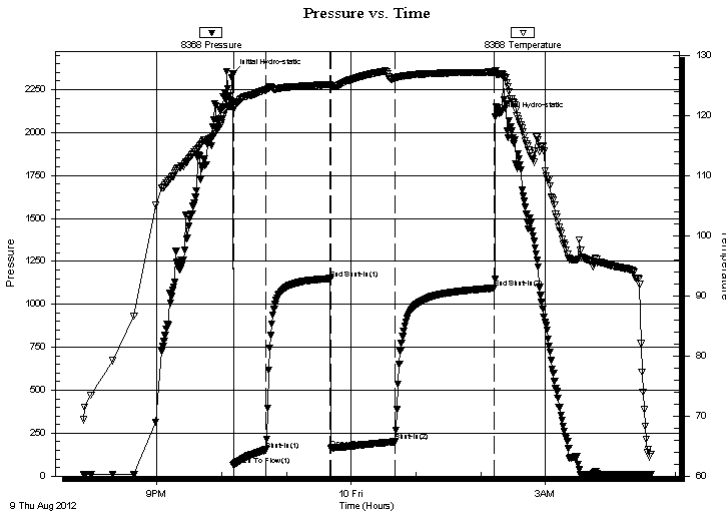
## Serial #: 8368

Inside

Press @ Run Depth: 200.20 psig @ 4496.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.08.09 End Date: 2012.08.10 Last Calib.: 2012.08.10  
 Start Time: 19:52:01 End Time: 04:37:46 Time On Btm: 2012.08.09 @ 22:10:31  
 Time Off Btm: 2012.08.10 @ 02:13:46

TEST COMMENT: IF-Fair Blow Built to 5 1/2"  
 ISI-Dead No Return  
 FF-Stong Blow Built to 10"  
 FSI-Dead No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2343.19	122.06	Initial Hydro-static
1	61.90	120.95	Open To Flow (1)
31	150.61	124.21	Shut-In(1)
90	1150.31	125.15	End Shut-In(1)
91	159.63	124.78	Open To Flow (2)
150	200.20	126.23	Shut-In(2)
243	1094.95	127.21	End Shut-In(2)
244	2091.18	127.50	Final Hydro-static

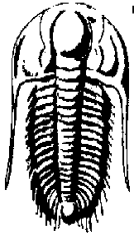
## Recovery

Length (ft)	Description	Volume (bbl)
325.00	40%O 60%M	2.43
2.00	100% Free Oil	0.03

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE TESTING, INC.**

## DRILL STEM TEST REPORT

Murfin Drilling Co. Inc  
 205 N Water STE 300  
 Wichita KS 67202  
 ATTN: Tom Funk

**5-13s-32w Logan, KS**

**Vanava #2-5**

Job Ticket: 48285

**DST#: 7**

Test Start: 2012.08.09 @ 19:51:46

### GENERAL INFORMATION:

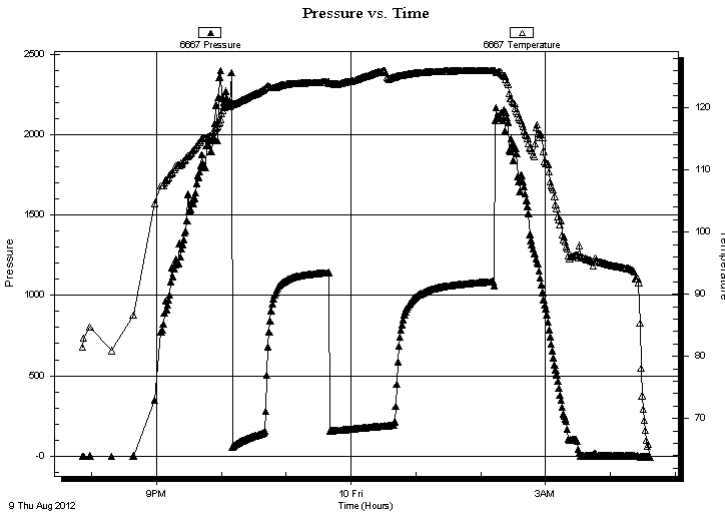
Formation: **Pawnee- Ft. Scott**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 22:10:46  
 Time Test Ended: 04:37:46  
 Interval: **4430.00 ft (KB) To 4511.00 ft (KB) (TVD)**  
 Total Depth: 4511.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Tate Lang  
 Unit No: 55  
 Reference Elevations: 3024.00 ft (KB)  
 3013.00 ft (CF)  
 KB to GR/CF: 11.00 ft

### Serial #: 6667 Outside

Press @ Run Depth: psig @ 4496.00 ft (KB)  
 Start Date: 2012.08.09 End Date: 2012.08.10  
 Start Time: 19:51:41 End Time: 04:36:56  
 Capacity: 8000.00 psig  
 Last Calib.: 2012.08.10  
 Time On Btm:  
 Time Off Btm:

TEST COMMENT: IF-Fair Blow Built to 5 1/2"  
 IS-Dead No Return  
 FF-Stong Blow Built to 10"  
 FS-Dead No Return

### PRESSURE SUMMARY



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

### Recovery

Length (ft)	Description	Volume (bbl)
325.00	40%O 60%M	2.43
2.00	100% Free Oil	0.03

\* 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. Inc  
205 N Water STE 300  
Wichita KS 67202  
ATTN: Tom Funk

**5-13s-32w Logan,KS**  
**Vanava #2-5**  
Job Ticket: 48285      **DST#: 7**  
Test Start: 2012.08.09 @ 19:51:46

**Tool Information**

Drill Pipe:	Length: 4194.00 ft	Diameter: 3.80 inches	Volume: 58.83 bbl	Tool Weight: 20000.00 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: 234.00 ft	Diameter: 2.25 inches	Volume: 1.15 bbl	Weight to Pull Loose: 63000.00 lb
			<u>Total Volume: 59.98 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	4430.00 ft			Final 57000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	81.00 ft			
Tool Length:	101.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
-------------------------	--------------------	-------------------	-----------------	-------------------	-----------------------

Change Over Sub	1.00			4411.00	
Shut In Tool	5.00			4416.00	
Hydraulic tool	5.00			4421.00	
Packer	5.00			4426.00	20.00      Bottom Of Top Packer
Packer	4.00			4430.00	
Stubb	1.00			4431.00	
Perforations	1.00			4432.00	
Change Over Sub	1.00			4433.00	
Drill Pipe	62.00			4495.00	
Change Over Sub	1.00			4496.00	
Recorder	0.00	8368	Inside	4496.00	
Recorder	0.00	6667	Outside	4496.00	
Perforations	10.00			4506.00	
Bullnose	5.00			4511.00	81.00      Bottom Packers & Anchor

**Total Tool Length: 101.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co. Inc  
205 N Water STE 300  
Wichita KS 67202  
ATTN: Tom Funk

**5-13s-32w Logan,KS**  
**Vanava #2-5**  
Job Ticket: 48285      **DST#: 7**  
Test Start: 2012.08.09 @ 19:51:46

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 54.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.58 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 6500.00 ppm			
Filter Cake: inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
325.00	40%O 60%M	2.427
2.00	100% Free Oil	0.028

Total Length: 327.00 ft      Total Volume: 2.455 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:



Serial #: 8368

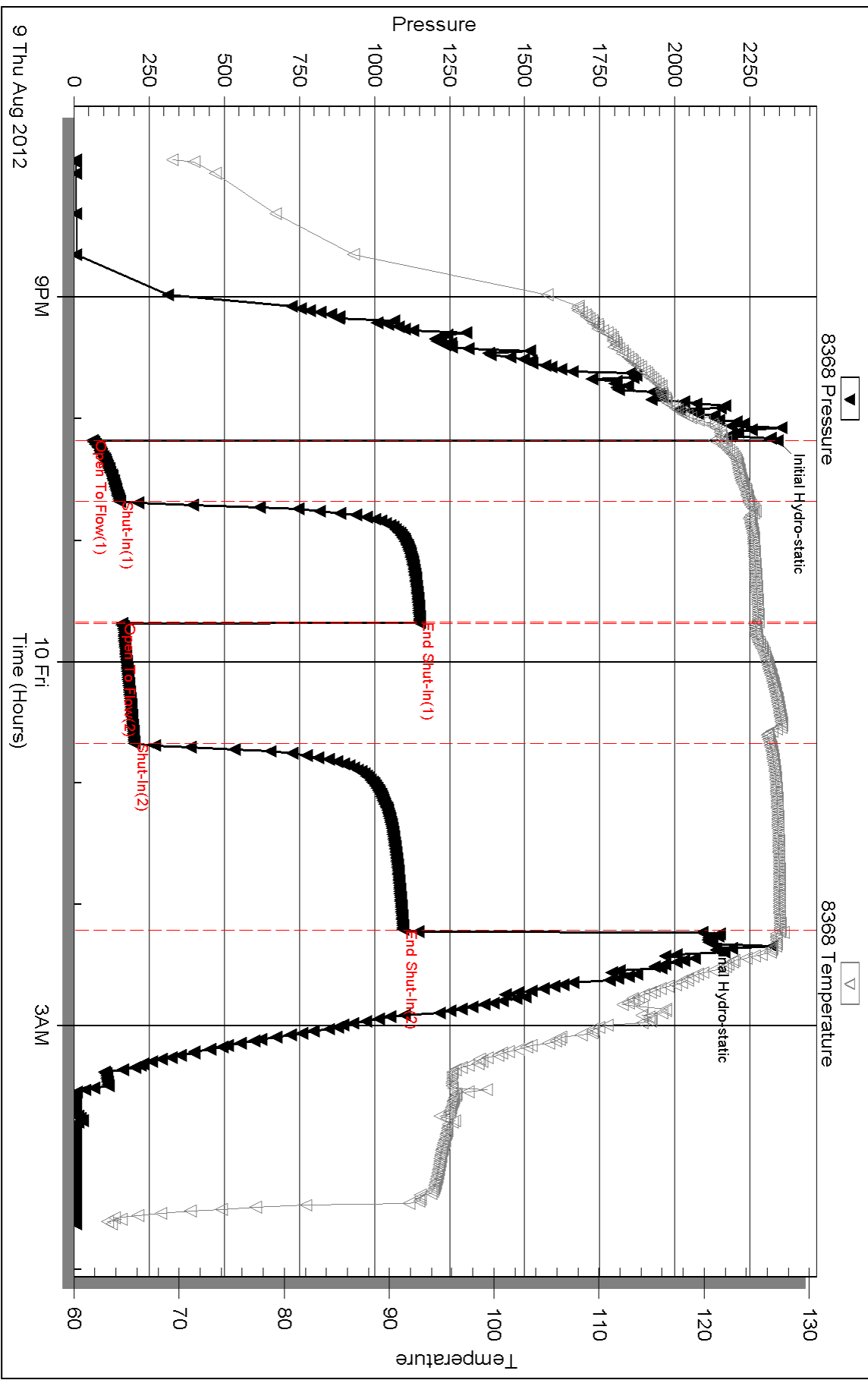
Inside

Murfin Drilling Co. Inc

Vanava #2-5

DST Test Number: 7

# Pressure vs. Time



Triobite Testing, Inc

Ref. No: 48285

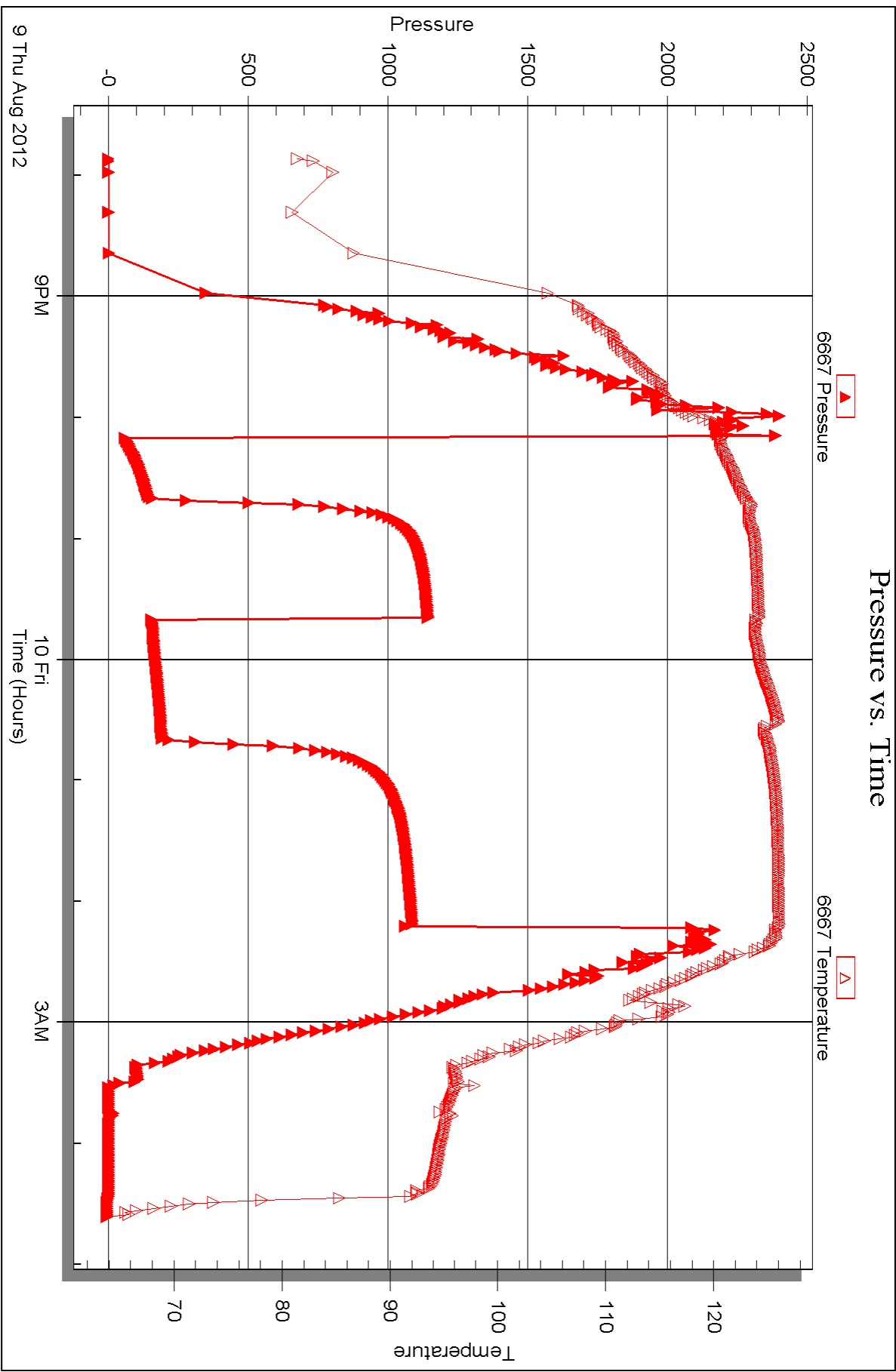
Printed: 2012.08.14 @ 15:30:07

Serial #: 6667

Outside Murfin Drilling Co. Inc

Vanava #2-5

DST Test Number: 7





## DRILL STEM TEST REPORT

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

205 N Water STE 300  
Wichita KS 67202

ATTN: Tom Funk

**Vanava #2-5**

**5-13s-32w Logan,KS**

Start Date: 2012.08.10 @ 15:11:22

End Date: 2012.08.10 @ 23:47:07

Job Ticket #: 48286                      DST #: 8

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.08.14 @ 15:29:18

Murfin Drilling Co. Inc  
5-13s-32w Logan,KS  
Vanava #2-5  
DST # 8  
Johnson  
2012.08.10



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co. Inc  
 205 N Water STE 300  
 Wichita KS 67202  
 ATTN: Tom Funk

**5-13s-32w Logan,KS**

**Vanava #2-5**

Job Ticket: 48286

**DST#: 8**

Test Start: 2012.08.10 @ 15:11:22

## GENERAL INFORMATION:

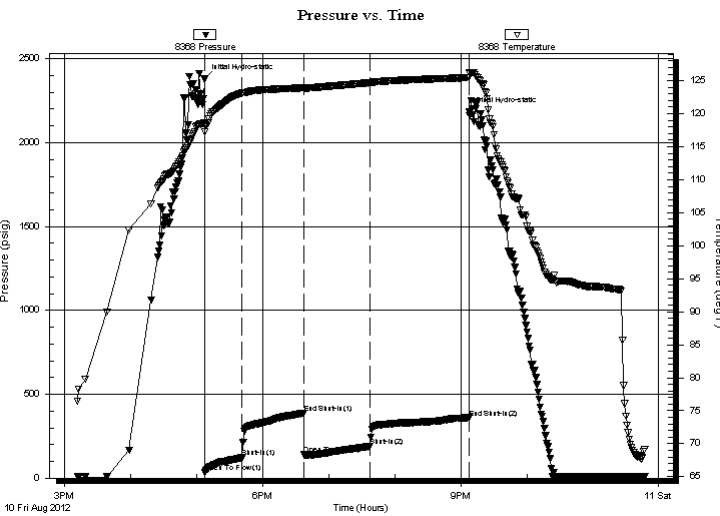
Formation: **Johnson**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 17:07:07  
 Time Test Ended: 23:47:07  
 Interval: **4545.00 ft (KB) To 4590.00 ft (KB) (TVD)**  
 Total Depth: 4590.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Tate Lang  
 Unit No: 55  
 Reference Elevations: 3024.00 ft (KB)  
 3013.00 ft (CF)  
 KB to GR/CF: 11.00 ft

## Serial #: 8368

Inside

Press @ Run Depth: 190.89 psig @ 4552.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.08.10 End Date: 2012.08.10 Last Calib.: 2012.08.10  
 Start Time: 15:11:37 End Time: 23:47:07 Time On Btm: 2012.08.10 @ 17:06:52  
 Time Off Btm: 2012.08.10 @ 21:07:52

TEST COMMENT: IF-B.O.B 18 mins  
 ISI-Bled Off for 5 mins Return Blow Built to 2" Died Out In 52 mins  
 FF-B.O.B. 19 mins  
 FSI-Bled Off for 5 mins Return Blow Built to 2 1/4" Died Back to Surface Blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2379.92	118.65	Initial Hydro-static
1	32.22	117.18	Open To Flow (1)
35	121.79	123.13	Shut-In(1)
91	388.65	123.93	End Shut-In(1)
91	139.63	123.80	Open To Flow (2)
151	190.89	124.70	Shut-In(2)
241	360.09	125.47	End Shut-In(2)
241	2183.95	126.20	Final Hydro-static

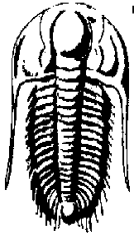
## Recovery

Length (ft)	Description	Volume (bbl)
386.00	30%G 70%O	3.28
120.00	20%M 40%G 40%O	1.68
0.00	1100 G.I.P.	0.00

\* Recovery from multiple tests

## Gas Rates

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



# TRILOBITE TESTING, INC.

## DRILL STEM TEST REPORT

Murfin Drilling Co. Inc  
 205 N Water STE 300  
 Wichita KS 67202  
 ATTN: Tom Funk

5-13s-32w Logan, KS

Vanava #2-5

Job Ticket: 48286

DST#: 8

Test Start: 2012.08.10 @ 15:11:22

### GENERAL INFORMATION:

Formation: **Johnson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:07:07

Time Test Ended: 23:47:07

Test Type: Conventional Bottom Hole (Reset)

Tester: Tate Lang

Unit No: 55

Interval: **4545.00 ft (KB) To 4590.00 ft (KB) (TVD)**

Reference Elevations: 3024.00 ft (KB)

Total Depth: 4590.00 ft (KB) (TVD)

3013.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 6667 Outside**

Press @ Run Depth: psig @ 4552.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.08.10

End Date: 2012.08.10

Last Calib.: 2012.08.10

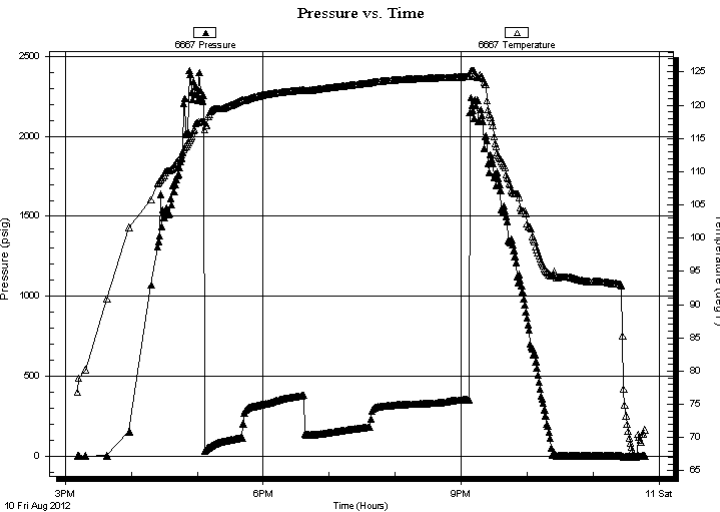
Start Time: 15:11:15

End Time: 23:46:45

Time On Btm:

Time Off Btm:

**TEST COMMENT:** IF-B.O.B 18 mins  
 ISI-Bled Off for 5 mins Return Blow Built to 2" Died Out In 52 mins  
 FF-B.O.B. 19 mins  
 FSI-Bled Off for 5 mins Return Blow Built to 2 1/4" Died Back to Surface Blow



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
386.00	30%G 70%O	3.28
120.00	20%M 40%G 40%O	1.68
0.00	1100 G.I.P.	0.00

### Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co. Inc  
205 N Water STE 300  
Wichita KS 67202  
ATTN: Tom Funk

**5-13s-32w Logan,KS**  
**Vanava #2-5**  
Job Ticket: 48286 **DST#: 8**  
Test Start: 2012.08.10 @ 15:11:22

**Tool Information**

Drill Pipe:	Length: 4318.00 ft	Diameter: 3.80 inches	Volume: 60.57 bbl	Tool Weight:	20000.00 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: 234.00 ft	Diameter: 2.25 inches	Volume: 1.15 bbl	Weight to Pull Loose:	64000.00 lb
			<u>Total Volume: 61.72 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial	52000.00 lb
Depth to Top Packer:	4545.00 ft			Final	56000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	45.00 ft				
Tool Length:	65.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
-------------------------	--------------------	-------------------	-----------------	-------------------	-----------------------

Change Over Sub	1.00			4526.00	
Shut In Tool	5.00			4531.00	
Hydraulic tool	5.00			4536.00	
Packer	5.00			4541.00	20.00 Bottom Of Top Packer
Packer	4.00			4545.00	
Stubb	1.00			4546.00	
Perforations	6.00			4552.00	
Recorder	0.00	8368	Inside	4552.00	
Recorder	0.00	6667	Outside	4552.00	
Change Over Sub	1.00			4553.00	
Drill Pipe	31.00			4584.00	
Change Over Sub	1.00			4585.00	
Bullnose	5.00			4590.00	45.00 Bottom Packers & Anchor

**Total Tool Length: 65.00**



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Murfin Drilling Co. Inc  
205 N Water STE 300  
Wichita KS 67202  
ATTN: Tom Funk

**5-13s-32w Logan,KS**  
**Vanava #2-5**  
Job Ticket: 48286      **DST#: 8**  
Test Start: 2012.08.10 @ 15:11:22

**Mud and Cushion Information**

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 55.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.19 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 7800.00 ppm			
Filter Cake: inches			

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
386.00	30%G 70%O	3.283
120.00	20%M 40%G 40%O	1.683
0.00	1100 G.I.P.	0.000

Total Length: 506.00 ft      Total Volume: 4.966 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

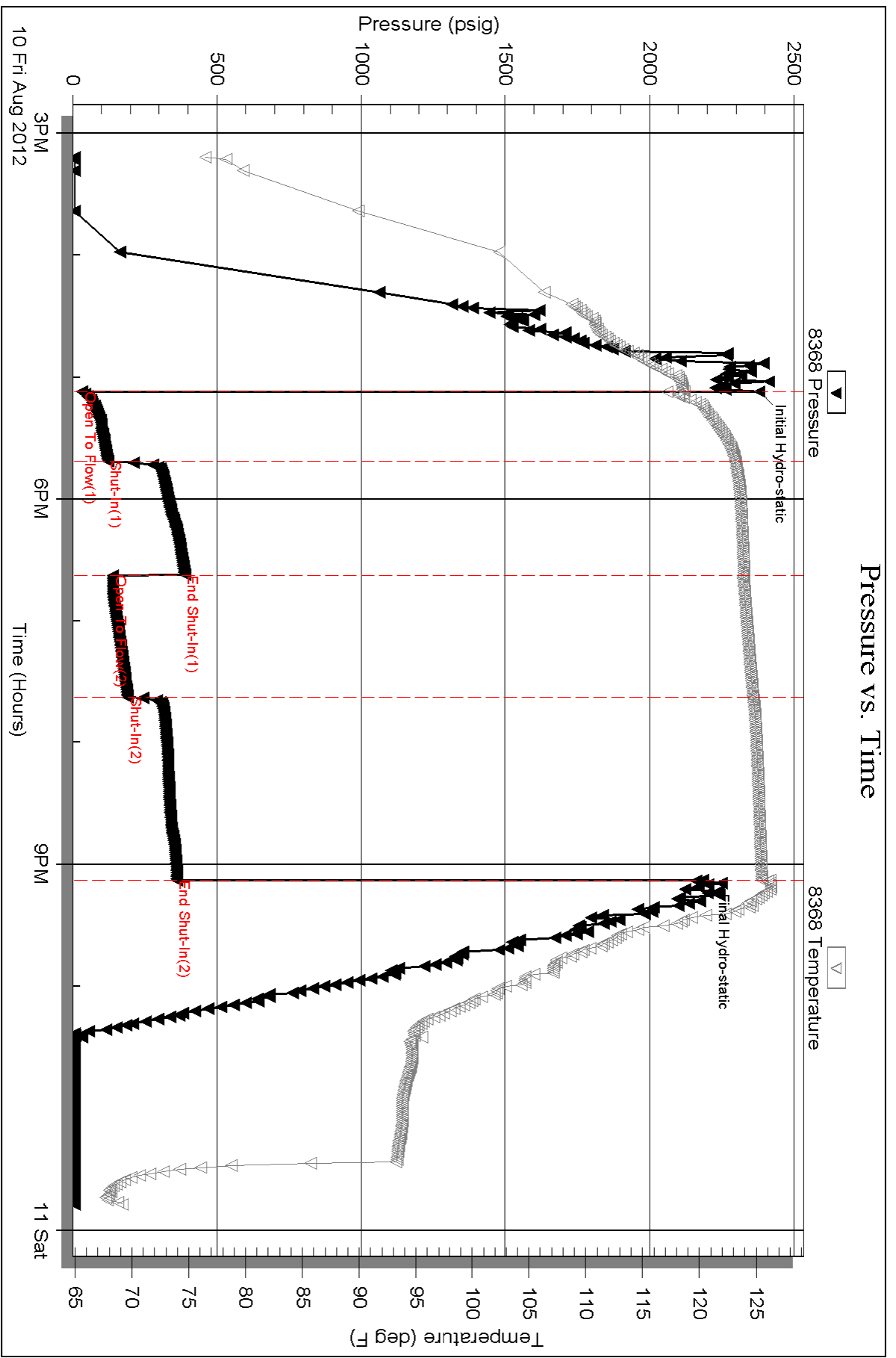
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Inside

Murfin Drilling Co. Inc

Vanava #2-5

DST Test Number: 8



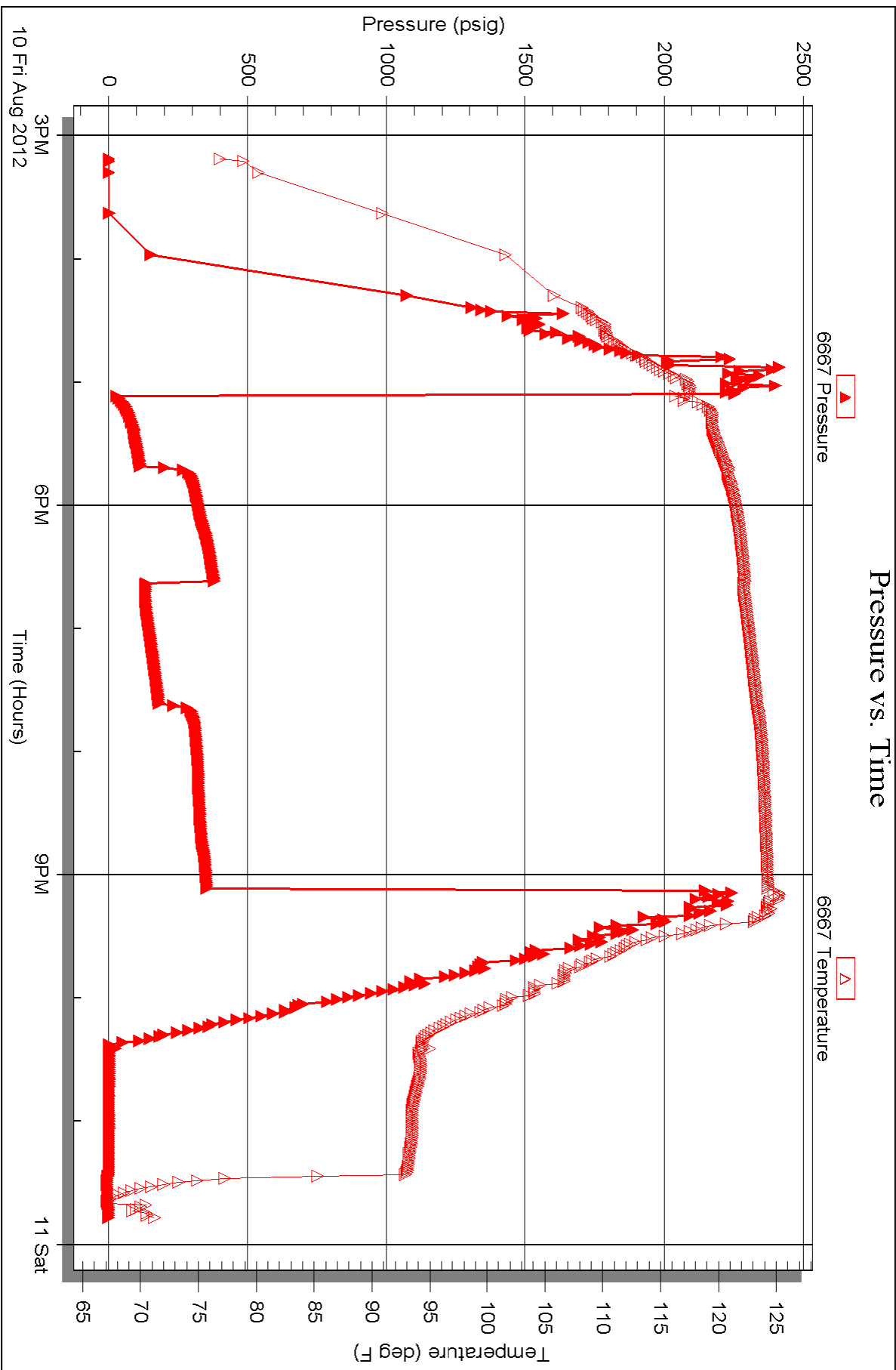


Serial #: 6667

Outside Murfin Drilling Co. Inc

Vanava #2-5

DST Test Number: 8





# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 46949

Well Name & No. Vanava #2-5 Test No. 1 Date 8-5-12  
 Company Murfin Drilling Company Inc. Elevation 3024 KB 3013 GL  
 Address 205 N Water St #E 300 Wichita KS 67202  
 Co. Rep / Geo. Tom Funk Rig Murfin 22  
 Location: Sec. 5 Twp. 13S Rge. 32W Co. Logan State KS

Interval Tested 4030 - 4074 Zone Tested LKC "B-D"  
 Anchor Length 44 Drill Pipe Run 3788 Mud Wt. 9.3  
 Top Packer Depth 4026 Drill Collars Run 234 Vis 46  
 Bottom Packer Depth 4030 Wt. Pipe Run \_\_\_\_\_ WL 8.4  
 Total Depth 4074 Chlorides 3400 ppm System LCM 5

Blow Description IF - Fair Blow Built to 9in  
ISI - Bled off for 5mins Dead No Return  
FF - B.O.B. 50mls  
FSL - Bled off for 5mins Dead No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>488</u>	<u>MCW</u>			<u>60</u>	<u>40</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 488 BHT 120 Gravity 8' API RW 1 @ 96 F Chlorides 19000 ppm

(A) Initial Hydrostatic	<u>1979</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>8:51</u>
(B) First Initial Flow	<u>28</u>	<input type="checkbox"/> Jars	T-Started <u>10:17</u>
(C) First Final Flow	<u>135</u>	<input type="checkbox"/> Safety Joint	T-Open <u>12:14</u>
(D) Initial Shut-In	<u>135</u> <u>1185</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>16:14</u>
(E) Second Initial Flow	<u>1185</u> <u>143</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>18:26</u>
(F) Second Final Flow	<u>143</u> <u>226</u>	<input checked="" type="checkbox"/> Mileage <u>74 R/T</u> 114.70	Comments _____
(G) Final Shut-In	<u>226</u> <u>1194</u>	<input type="checkbox"/> Sampler	<input type="checkbox"/> Ruined Shale Packer
(H) Final Hydrostatic	<u>1818</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Packer

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 90

Extra Packer  
 Extra Recorder  
 Day Standby  
 Accessibility  
 Sub Total 1364.70  
 Total 1364.70  
 MP/DST Disc't \_\_\_\_\_

Approved By [Signature] 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

## Test Ticket

NO. 46950

Well Name & No. Vanava #2-5 Test No. 2 Date 8-6-12  
 Company Murfin Drilling Company Inc. Elevation 3024 KB 3013 GL  
 Address 205 N Water STE 300 Wichita KS 67202  
 Co. Rep / Geo. Tom Funk Rig Murfin #22  
 Location: Sec. 5 Twp. 13s Rge. 32W Co. Logan State KS

Interval Tested 4078-4110 Zone Tested LKC "E-F"  
 Anchor Length 32 Drill Pipe Run 3849 Mud Wt. 8.9  
 Top Packer Depth 4074 Drill Collars Run 234 Vis 55  
 Bottom Packer Depth 4078 Wt. Pipe Run \_\_\_\_\_ WL 7.2  
 Total Depth 4110 Chlorides 3400 ppm System LCM 4

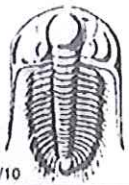
Blow Description TF - Strong Blow Built to 9 1/2 in  
ISI - Bled off for 10 mins Chain Got Caught in the Bales - Dead No Return  
FF - B.O.B. 42 mins  
FSI - Bled off for 5 mins Dead No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>249</u>	Feet of <u>MCW</u>		<u>90</u>	<u>10</u>	
<u>244</u>	Feet of <u>MCW</u>		<u>95</u>	<u>5</u>	
Rec _____	Feet of _____	%gas	%oil	%water	%mud
Rec _____	Feet of _____	%gas	%oil	%water	%mud
Rec _____	Feet of _____	%gas	%oil	%water	%mud

Rec Total 493 BHT 121 Gravity  API RW .1 @ 86 °F Chlorides 24 ppm  
 (A) Initial Hydrostatic 2042  Test 1250 T-On Location 00:28  
 (B) First Initial Flow 204 29  Jars T-Started 01:15  
 (C) First Final Flow 154  Safety Joint T-Open 03:35  
 (D) Initial Shut-In 1200  Circ Sub N/C T-Pulled 07:35  
 (E) Second Initial Flow 166  Hourly Standby T-Out 09:37  
 (F) Second Final Flow 254  Mileage 74 R/T 114.70 Comments \_\_\_\_\_  
 (G) Final Shut-In 1186  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1838  Straddle \_\_\_\_\_

Initial Open 30  Ruined Shale Packer \_\_\_\_\_  
 Initial Shut-In 60  Ruined Packer \_\_\_\_\_  
 Final Flow 60  Extra Packer \_\_\_\_\_  
 Final Shut-In 90  Extra Recorder \_\_\_\_\_  
 Sub Total 0  
 Total 1364.70  
 MP/DST Disc't \_\_\_\_\_  
 Sub Total 1364.70

Approved By [Signature] 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.



# TRIBOLITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 48281

Well Name & No. Vanava # 2-5 Test No. 3 Date 8-6-12  
 Company Murfin Drilling Company Inc. Elevation 3024 KB 3013 GL  
 Address 205 N Water STE 300 Wichita KS 67202  
 Co. Rep / Geo. Tom Funk Rig Murfin # 22  
 Location: Sec. 5 Twp. 13s Rge. 32w Co. Logan State KS

Interval Tested 4150-4175 Zone Tested LKC - "H"  
 Anchor Length 25' Drill Pipe Run 3911 Mud Wt. 9.0  
 Top Packer Depth 4146 Drill Collars Run 234 Vis 55  
 Bottom Packer Depth 4150 Wt. Pipe Run --- WL 7.2  
 Total Depth 4175 Chlorides 5900 ppm System LCM 3#

Blow Description IF - Weak Surface Blow Bolt to 1/4 in  
ISI - Dead No Blow Back  
FF - Dead No Blow  
FST - Dead No Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>65</u>	<u>OCM</u>	<u>10</u>		<u>90</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 65 BHT 117 Gravity --- API RW --- @ --- °F Chlorides --- ppm

(A) Initial Hydrostatic 2147  Test 1250 T-On Location 16:44  
 (B) First Initial Flow 24  Jars --- T-Started 18:25  
 (C) First Final Flow 39  Safety Joint --- T-Open 20:28  
 (D) Initial Shut-In 1214  Circ Sub N/C T-Pulled 23:28  
 (E) Second Initial Flow 43  Hourly Standby --- T-Out 01:31  
 (F) Second Final Flow 58  Mileage 74 R/T 114.70 Comments ---  
 (G) Final Shut-In 1187  Sampler ---  
 (H) Final Hydrostatic 1880  Straddle ---  
 Ruined Shale Packer ---  
 Ruined Packer ---  
 Extra Copies ---

Initial Open 30  Extra Recorder --- Sub Total 0  
 Initial Shut-In 60  Day Standby --- Total 1364.70  
 Final Flow 30  Accessibility --- MP/DST Disc't ---  
 Final Shut-In 60 Sub Total 1364.70

Approved By [Signature] Our Representative [Signature]

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 48282

Well Name & No. Varava # 2-5 Test No. 21 Date 8-7-12  
 Company Murfin Drilling Company Inc. Elevation 3024 KB 3013 GL  
 Address 205 N Water STE 300 Wichita KS 67202  
 Co. Rep / Geo. Tom Funk Rig Murfin # 22  
 Location: Sec. 5 Twp. 13 S Rge. 32 W Co. Logan State KS

Interval Tested 4180 - 4213 Zone Tested LKC - "I"  
 Anchor Length 33 Drill Pipe Run 3943 Mud Wt. 9.0  
 Top Packer Depth 4176 Drill Collars Run 234 Vis 55  
 Bottom Packer Depth 4180 Wt. Pipe Run --- WL 7.2  
 Total Depth 4213 Chlorides 5900 ppm System LCM 3#

Blow Description IF - B.O.B. 13 mins  
ISI - Bled off for 5 mins Dead No Return  
FF - B.O.B. 23 mins  
FSI - Bled off for 5 mins Dead No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>549</u>	<u>SO &amp; MCW</u>	<u>5</u>	<u>90</u>	<u>5</u>	<u>---</u>
<u>61</u>	<u>MCW</u>	<u>---</u>	<u>60</u>	<u>46</u>	<u>---</u>
<u>3</u>	<u>Free Oil</u>	<u>100</u>	<u>---</u>	<u>---</u>	<u>---</u>
<u>610</u>	<u>GIP - Weak</u>	<u>100</u>	<u>---</u>	<u>---</u>	<u>---</u>
<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>

Rec Total 613 BHT 124 Gravity --- API RW --- @ --- °F Chlorides --- ppm

(A) Initial Hydrostatic 2108  Test 1250 T-On Location 8:24  
 (B) First Initial Flow 48  Jars --- T-Started 9:03  
 (C) First Final Flow 177  Safety Joint --- T-Open 10:58  
 (D) Initial Shut-In 1175  Circ Sub N/C T-Pulled 14:58  
 (E) Second Initial Flow 189  Hourly Standby --- T-Out 17:24  
 (F) Second Final Flow 300  Mileage 74 R/T 114.70 Comments ---  
 (G) Final Shut-In 1145  Sampler ---  
 (H) Final Hydrostatic 1992  Straddle ---  Ruined Shale Packer ---  
 Shale Packer ---  Ruined Packer ---  
 Extra Packer ---  Extra Copies ---  
 Extra Recorder --- Sub Total 0  
 Day Standby --- Total 1364.70  
 Accessibility --- MP/DST Disc't ---

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 90

Sub Total 1364.70

Approved By [Signature] Our Representative [Signature]

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 48283

Well Name & No. Varava # 2-5 Test No. 5 Date 8-8-12  
 Company Murfin Drilling Company Inc. Elevation 3024 KB 3013 GL  
 Address 205 N Water STE 300 Wichita KS 67202  
 Co. Rep / Geo. Tom Funk Rig Murfit # 22  
 Location: Sec. 5 Twp. 13S Rge. 32W Co. Logan State KS

Interval Tested 4213- 4235 Zone Tested LHC - "5"  
 Anchor Length 22 Drill Pipe Run 3975 Mud Wt. 9.1  
 Top Packer Depth 4231 Drill Collars Run 234 Vis 53  
 Bottom Packer Depth 4235 Wt. Pipe Run \_\_\_\_\_ WL 7.2  
 Total Depth 4235 Chlorides 6400 ppm System LCM 4<sup>th</sup>  
 Blow Description IF - weak surface blow die in 7 mins  
ISI - Dead No Blow Back  
FF - Dead No Blow  
FSL - Dead No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 10 BHT \_\_\_\_\_ Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ ° F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>2180</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>23:28</u>
(B) First Initial Flow <u>22</u>	<input type="checkbox"/> Jars _____	T-Started <u>00:20</u>
(C) First Final Flow <u>1407 24</u>	<input type="checkbox"/> Safety Joint _____	T-Open <u>02:55</u>
(D) Initial Shut-In <u>26 1107</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>05:55</u>
(E) Second Initial Flow <u>2 26</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>07:59</u>
(F) Second Final Flow <u>29</u>	<input checked="" type="checkbox"/> Mileage <u>74 R/T</u> 114.70	Comments _____
(G) Final Shut-In <u>991</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1953</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 30  
 Final Shut-In 60

Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Sub Total 1364.70

MP/DST Disc't \_\_\_\_\_

Approved By [Signature] 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

## Test Ticket

NO. 48284

Well Name & No. Vanava # 2-5 Test No. 6 Date 8-8-12  
 Company Murfin Drilling Company Inc. Elevation 3024 KB 3013 GL  
 Address 205 N Water STE 300 Wichita KS 67202  
 Co. Rep / Geo. Tom Funk Rig Murfin # 22  
 Location: Sec. 5 Twp. 13s Rge. 32w Co. Logan State KS

Interval Tested 4235-4261 Zone Tested LKC - "H"  
 Anchor Length 26' Drill Pipe Run 4007 Mud Wt. 9.1  
 Top Packer Depth 4231 Drill Collars Run 234 Vis 53  
 Bottom Packer Depth 4235 Wt. Pipe Run --- WL 7.2  
 Total Depth 4261 Chlorides 6400 ppm System LCM 4

Blow Description IF - Weak Surface Blow Built to 1in  
ISI - Dead No Blow Back  
FF - Weak Surface Blow Built to 2in  
FST - Dead No Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>90</u>	<u>OCM</u>		<u>40</u>		<u>60</u>
<u>60</u>	<u>GIP</u>	<u>100</u>			
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 170 BHT \_\_\_\_\_ Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2194  Test 1250 T-On Location 13:17  
 (B) First Initial Flow 25  Jars \_\_\_\_\_ T-Started 14:00  
 (C) First Final Flow 40  Safety Joint \_\_\_\_\_ T-Open 16:14  
 (D) Initial Shut-In 1188  Circ Sub N/C T-Pulled 20:14  
 (E) Second Initial Flow 40  Hourly Standby \_\_\_\_\_ T-Out 22:27  
 (F) Second Final Flow 67  Mileage 74R/T 114.70 Comments \_\_\_\_\_  
 (G) Final Shut-In 1165  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2069  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 90

Sub Total 1364.70  
 Total 1364.70  
 MP/DST Disc't \_\_\_\_\_

Approved By [Signature] 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

## Test Ticket

NO. 48285

Well Name & No. Vanava II 2-5 Test No. 7 Date 8-9-12  
 Company MurFin Drilling Company, Inc. Elevation 3024 KB 3013 GL  
 Address 205 N Water St E 300 Wichita KS 67202  
 Co. Rep / Geo. Tom Funk Rig MurFin #22  
 Location: Sec. 3 Twp. 13S Rge. 32W Co. Logan State KS

Interval Tested 4430 - 4511 Zone Tested Pawnee - Fort Scott  
 Anchor Length 81 Drill Pipe Run 4194 Mud Wt. 9.2  
 Top Packer Depth 4426 Drill Collars Run 234 Vis 54  
 Bottom Packer Depth 4430 Wt. Pipe Run — WL 7.6  
 Total Depth 4511 Chlorides 6500 ppm System LCM 6

Blow Description IF - Fair Blow Built to 5 1/2 in  
ISI - Dead No Return  
FF - Strong Blow Built to 10 in  
FSI - Dead No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>325</u>	<u>OCM</u>		<u>40</u>	<u>60</u>	
<u>2</u>	<u>Free Oil</u>		<u>100</u>		
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 327 BHT 127 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 2343  Test 1250 T-On Location 18:55  
 (B) First Initial Flow 62  Jars — T-Started 19:51  
 (C) First Final Flow 151  Safety Joint — T-Open 22:10  
 (D) Initial Shut-In 1150  Circ Sub N/C T-Pulled 02:10  
 (E) Second Initial Flow 160  Hourly Standby — T-Out 04:37  
 (F) Second Final Flow 200  Mileage 74 R/T 114.70  
 (G) Final Shut-In 1095  Sampler —  
 (H) Final Hydrostatic 2091  Straddle —  
 Shale Packer —  
 Ruined Shale Packer —  
 Ruined Packer —  
 Extra Copies —  
 Comments —

Initial Open 30  Extra Recorder — Sub Total 0  
 Initial Shut-In 60  Day Standby — Total 1364.70  
 Final Flow 60  Accessibility — MP/DST Disc't —  
 Final Shut-In 90 Sub Total 1364.70

Approved By [Signature] 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

## Test Ticket

NO. 48286

Well Name & No. Varava # 2-5 Test No. 8 Date 8-10-12  
 Company Murfin Drilling Company Inc. Elevation 3024 KB 3013 GL  
 Address 205 N Water St # 300 Wichita KS 67202  
 Co. Rep / Geo. Tom Funk Rig Murfin # 22  
 Location: Sec. 5 Twp. 13S Rge. 32W Co. Logan State KS

Interval Tested ~~4540~~ 4545-4590 Zone Tested Johnson  
 Anchor Length 45 Drill Pipe Run 4318 Mud Wt. 9.3  
 Top Packer Depth 4541 Drill Collars Run 234 Vis 55  
 Bottom Packer Depth 4545 Wt. Pipe Run --- WL 7.2  
 Total Depth 4590 Chlorides 780 ppm System LCM 6

Blow Description IF - B.O.B. 18 mins  
ISF - Bled off for 6 mins Return Blow Built to 2 in Died Out in 5 mins  
FF - B.O.B. 19 mins  
FSL - Bled off for 5 mins Return Blow Built to 2 1/4 in Died Bud to 2 1/4 in

Rec	Feet of	%gas	%oil	%water	%mud
<u>386</u>		<u>30</u>	<u>70</u>		
<u>120</u>		<u>40</u>	<u>40</u>		<u>20</u>
<u>1100</u>		<u>100</u>			
Rec Total	<u>506</u>				

BHT 125 Gravity 28 API RW --- @ --- °F Chlorides --- ppm

(A) Initial Hydrostatic 2380  Test 1250 T-On Location 14:35  
 (B) First Initial Flow 32  Jars --- T-Started 15:11  
 (C) First Final Flow 122  Safety Joint --- T-Open 17:07  
 (D) Initial Shut-In 389  Circ Sub NIC T-Pulled 21:07  
 (E) Second Initial Flow 140  Hourly Standby --- T-Out 23:47  
 (F) Second Final Flow 191  Mileage 74 R/T 114.70 Comments ---  
 (G) Final Shut-In 360  Sampler ---  
 (H) Final Hydrostatic 2184  Straddle ---  
 Shale Packer ---  
 Ruined Shale Packer ---  
 Ruined Packer ---  
 Extra Packer ---  
 Extra Copies ---  
 Extra Recorder ---  
 Day Standby ---  
 Accessibility ---  
 Sub Total 1364.70 MP/DST Disc't ---

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 90

Approved By [Signature] Our Representative [Signature]

TriLOBITE TESTING INC. shall not be liable for damaged or 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.





PO Box 93999  
Southlake, TX 76092

Voice: (817) 546-7282  
Fax: (817) 246-3361

*acct.  
Prod-Lit*

# INVOICE

Invoice Number: 132194

Invoice Date: Aug 1, 2012

Page: 1

**PROD COPY**



<b>Bill To:</b>
Murfin Drlg. Co., Inc. 250 N. Water STE #300 Wichita, KS 67202

Customer ID	Well Name/# or Customer P.O.	Payment Terms	
Murfin	Vanava #2-5	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	Aug 1, 2012	8/31/12

Quantity	Item	Description	Unit Price	Amount
175.00	MAT	Class A Common	16.25	2,843.75
6.00	MAT	Chloride	58.20	349.20
183.76	SER	Cubic Feet	2.10	385.89
127.08	SER	Ton Mileage	2.35	298.64
1.00	SER	Surface	1,125.00	1,125.00
15.00	SER	Pump Truck Mileage	7.00	105.00
1.00	SER	Manifold Rental	200.00	200.00
15.00	SER	Light Vehicle Mileage	4.00	60.00
1.00	CEMENTER	Alan Ryan		
1.00	EQUIP OPER	Wayne McGhghy		
1.00	OPER ASSIST	Ethan Glassman		

*Account*  
*70203*  
*3. 8422.0002*  
*3434.92*  
*Cement S. (Bj)*  
*# 2-5*

ALL PRICES ARE NET, PAYABLE 30 DAYS FOLLOWING DATE OF INVOICE. 1 1/2% CHARGED THEREAFTER. IF ACCOUNT IS CURRENT, TAKE DISCOUNT OF

**\$ 1878.61**

ONLY IF PAID ON OR BEFORE  
**Aug 26, 2012**

Subtotal	5,367.48
Sales Tax	249.05
Total Invoice Amount	5,616.53
Payment/Credit Applied	
<b>TOTAL</b>	<b>5,616.53</b>

*090*  
*(1878.61)*  
**3434.92**



1/1/11/12

# ALLIED OIL & GAS SERVICES, LLC 056779

Federal Tax I.D.# 20-5976804

REMIT TO P.O. BOX 31  
RUSSELL, KANSAS 67665

SERVICE POINT:

Oakley, KS

DATE <u>8/1/12</u>	SEC. <u>5</u>	TWP. <u>13</u>	RANGE <u>22</u>	CALLED OUT	ON LOCATION	JOB START <u>9:30 pm</u>	JOB FINISH <u>10:00</u>
LEASE <u>Vanover</u>	WELL # <u>2-5</u>	LOCATION <u>Oakley 1152W 15 E 8700</u>			COUNTY <u>Logan</u>	STATE <u>KS</u>	
OLD OR NEW (Circle one)							

CONTRACTOR MacFire Dr. OWNER Same

TYPE OF JOB Surface

HOLE SIZE 12 1/4 T.D.

CASING SIZE 8 5/8 DEPTH 217

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT

CEMENT LEFT IN CSG. 15'

PERFS.

DISPLACEMENT

CEMENT AMOUNT ORDERED 175 cum 370 cc

COMMON 175 @ 16.25 2843.75

POZMIX @

GEL @

CHLORIDE 6 @ 58.00 349.00

ASC @

EQUIPMENT

PUMP TRUCK CEMENTER Alan Bryan 1

HELPER Wayne McGlothy 2

BULK TRUCK 347 DRIVER Ethan Glassman 3

BULK TRUCK DRIVER

HANDLING 183,259.00 @ 2.10 385.89

MILEAGE 2.12 2.12 8.428 288.04

TOTAL 3,877.48

REMARKS:

Drill, Circulate, Run Csg, Circulate, Mix Cement

Displace Cement

Cement Add Circulate

Thank You

Alan, Wayne, Ethan

CHARGE TO: MacFire Drilling Co

STREET

CITY STATE ZIP

### SERVICE

DEPTH OF JOB 217'

PUMP TRUCK CHARGE 1125.00

EXTRA FOOTAGE @

MILEAGE 15 @ 7.00 105.00

MANIFOLD @ 200.00

Vehicle 15 @ 4.00 60.00

TOTAL 1490.00

### PLUG & FLOAT EQUIPMENT

PLUG & FLOAT EQUIPMENT

PLUG @

PLUG @

PLUG @

PLUG @

PLUG @

TOTAL

You: Allied Oil & Gas Services, LLC.

You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME KELLY WILSON

SIGNATURE Kelly Wilson

SALES TAX (If Any) 219.05

TOTAL CHARGES 5,367.48

DISCOUNT 35 1818.61 IF PAID IN 30 DAYS



P. O. Box 466  
 Ness City, KS 67560  
 Off: 785-798-2300



# Invoice

DATE	INVOICE #
8/24/2012	23216

BILL TO
Murfin Drilling Co Inc PO Box 661 Colby, KS 67701-0661
USED FOR <u>IC-103</u>
APPROVED <u>JL</u>

- Acidizing
- Cement
- Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#2-5	Vanava	Logan	Company Tools	Oil	Development	Cement Port Collar	Blaine

PRICE REF.	DESCRIPTION	QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way	80	Miles	6.00	480.00
576D-D	Pump Charge - Port Collar	1	Job	1,250.00	1,250.00
330	Swift Multi-Density Standard (MIDCON II)	200	Sacks	16.50	3,300.00T
276	Flocele	50	Lb(s)	2.00	100.00T
290	D-Air	2	Gallon(s)	35.00	70.00T
581D	Service Charge Cement	400	Sacks	2.00	800.00
583D	Drayage	1,592.16	Ton Miles	1.00	1,592.16
	Subtotal				7,592.16
	Sales Tax Logan County			7.80%	270.66

**We Appreciate Your Business!**

**Total** \$7,862.82





Services, Inc.

CHARGE TO: MURFIN DRILLING  
 ADDRESS  
 CITY, STATE, ZIP CODE

TICKET No 23216

PAGE 1 OF 1

SERVICE LOCATIONS  
 1. Murphy KS WELLPROJECT NO. 2-5 LEASE Vanara COUNTY/PARISH Logan STATE KS CITY Oakley DATE 24 AUG 12 OWNER  
 2. TICKET TYPE  SERVICE  SALES CONTRACTOR  
 3. WELL TYPE oil WELL CATEGORY CO TOOLS JOB PURPOSE Development cement part collar SHIPPED WT DELIVERED TO location ORDER NO.  
 4. REFERRAL LOCATION INVOICE INSTRUCTIONS

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.		QTY.		UNIT PRICE	AMOUNT
		LOC	ACCT	DF		UM	UM	UM	UM		
575		1			MILEAGE TRK 114	80	mi			6.00	480.00
576D		1			Pennc charge	1	sq			1250.00	1250.00
330		1			SMD cement	200	sk			16.50	3300.00
276		1			Fluoride	50	lb			2.00	100.00
290		1			D-air	2 gal				35.00	70.00
581		1			service charge	400	sk			2.00	800.00
583		1			Drayage	39804	lb			1592.16 TM	1592.16

LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY provisions.  
 MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

DATE SIGNED: [Signature] TIME SIGNED:  A.M.  P.M.

REMIT PAYMENT TO:  
 SWIFT SERVICES, INC.  
 P.O. BOX 466  
 NESS CITY, KS 67560  
 785-798-2300

SURVEY  
 OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?  
 WE UNDERSTOOD AND MET YOUR NEEDS?  
 OUR SERVICE WAS PERFORMED WITHOUT DELAY?  
 WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?  
 ARE YOU SATISFIED WITH OUR SERVICE?  
 CUSTOMER DID NOT WISH TO RESPOND

PAGE TOTAL 7592.16  
 TOTAL 7862.82

SWIFT OPERATOR: APM APPROVAL: APM

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.

Thank You!



JOB LOG

SWIFT Services, Inc.

DATE 24 AUG 12 PAGE NO.

CUSTOMER MURPIN DRILLING

WELL NO. 2-5

LEASE Vanava

JOB TYPE cement port collar

TICKET NO. 23216

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
								400sk SMD w/ 1/2" floccle port collar 2527' 2 3/8 x 5 1/2
	1000							on loc TRK 114 wait on mud truck
	1105					1200	1200	test to 1200 psi - held open port collar
	1108	2 1/4	2			400		inj rate
	1109	2 1/2				500		start pumping mud
		2 1/2	4			500		fluid to surface
		2 1/2	80			600		
	1140		5					prep 5 bbl H <sub>2</sub> O spacer
	1142	3 1/2				300		mix SMD cement @ 11.2 ppg
	1207	3 1/2	103			500		- cement to surface - } 200sk mixed } } 15 to pit }
	1208		8.5					H <sub>2</sub> O flush
								close port collar
	1220					1210	1200	test port collar 1200 psi - held
								Run 6 joints
	1230		30					Reverse out - hole clean - 2 cement plugs
								wash truck
								Back up
								job complete
								Thanks
								TJ Doug Dave & Blake



P. O. Box 466  
Ness City, KS 67560  
Off: 785-798-2300



# Invoice

DATE	INVOICE #
8/12/2012	21739

BILL TO
Murfin Drilling Co Inc PO Box 661 Colby, KS 67701-0661

- Acidizing
- Cement
- Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#2-5	Vanava	Logan	Company Tools #22	Oil	Development	LongString	Nick

PRICE REF.	DESCRIPTION	QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way	80	Miles	6.00	480.00
578D-L	Pump Charge - Long String - 4720 Feet	1	Job	1,500.00	1,500.00
221	Liquid KCL (Clayfix)	4	Gallon(s)	25.00	100.00T
280	Flocheck 21	500	Gallon(s)	2.50	1,250.00T
290	D-Air	2	Gallon(s)	35.00	70.00T
403-5	5 1/2" Cement Basket	2	Each	250.00	500.00T
404-5	5 1/2" Port Collar	1	Each	2,400.00	2,400.00T
406-5	5 1/2" Latch Down Plug & Baffle	1	Each	250.00	250.00T
407-5	5 1/2" Insert Float Shoe With Auto Fill	1	Each	350.00	350.00T
409-5	5 1/2" Turbolizer	15	Each	90.00	1,350.00T
413-5	5 1/2" Roto Wall Scratcher	5	Each	40.00	200.00T
419-5	5 1/2" Rotating Head Rental	1	Each	200.00	200.00T
325	Standard Cement	225	Sacks	13.50	3,037.50T
276	Flocele	50	Lb(s)	2.00	100.00T
283	Salt	1,150	Lb(s)	0.20	230.00T
284	Calseal	11	Sack(s)	35.00	385.00T
285	CFR-1	100	Lb(s)	4.00	400.00T
581D	Service Charge Cement	225	Sacks	2.00	450.00
583D	Drayage	942	Ton Miles	1.00	942.00
	Subtotal				14,194.50
	Sales Tax Logan County			7.80%	844.16

USED FOR IC 103  
APPROVED [Signature]

<b>We Appreciate Your Business!</b>	<b>Total</b>	\$15,038.66
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Services, Inc.

CHARGE TO: Mur-Lin Drly Co. Inc  
 ADDRESS  
 CITY, STATE, ZIP CODE

TICKET NO 21739

PAGE 1 OF 2

SERVICE LOCATIONS  
 1. Hays, KS  
 2. Ness City, KS  
 3.  
 4. REFERRAL LOCATION

WELL/PROJECT NO. # 2-5  
 LEASE Landys  
 COUNTY/PARISH Logan  
 STATE KS  
 CITY

TICKET TYPE  SERVICE  
 SALES  
 CONTRACTOR Co Tools # 22  
 RIG NAME NO.  
 SHIPPED VIA ET  
 DELIVERED TO Location  
 WELL PERMIT NO.

WELL TYPE oil  
 WELL CATEGORY Development  
 JOB PURPOSE long string  
 WELL LOCATION

INVOICE INSTRUCTIONS

DATE 8-12-12  
 ORDER NO.  
 OWNER same

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.	UM	QTY.	UM	UNIT PRICE	AMOUNT
		LOC	ACCT	DF							
575					MILEAGE # 111	80	mi			6.00	480.00
578					Pump Charge (long string)	1	ea	4720		1500.00	1500.00
221					HCL	4	gal			25.00	100.00
280					Flockcheck-21	500	gal			2.50	1250.00
290					D-Air	20	ft			3.50	70.00
403					Baskets	2	ea	5 1/2	"	250.00	500.00
404					Part Collar	1	ea			2400.00	2400.00
406					L.D. Plug & Bag SP	1	ea			250.00	250.00
407					Insert Float Shoe w/ Fill	1	ea			350.00	350.00
409					Turbolizers	15	ea			90.00	1350.00
413					Retrwall Scratcher	5	ea			40.00	200.00
419					Rotating Head	1	ea			200.00	200.00

LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

DATE SIGNED 8-12-12 TIME SIGNED 11:00  A.M.  P.M.

SWIFT OPERATOR Michael Burke APPROVAL

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.

REMIT PAYMENT TO:  
 SWIFT SERVICES, INC.  
 P.O. BOX 466  
 NESS CITY, KS 67560  
 785-798-2300

SURVEY

OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?	AGREE	UN-DECIDED	DIS-AGREE
WE UNDERSTOOD AND MET YOUR NEEDS?			
OUR SERVICE WAS PERFORMED WITHOUT DELAY?			
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?			
ARE YOU SATISFIED WITH OUR SERVICE?	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
<input type="checkbox"/> CUSTOMER DID NOT WISH TO RESPOND			

PAGE TOTAL 1  
 PAGE 2  
 Subtotal  
 Log 27  
 TAX 18.57  
 TOTAL 15,036.66

Thank You!





PO Box 466,  
Ness City, KS 67560  
Off: 785-798-2300

TICKET CONTINUATION

TICKET No. 21739

CUSTOMER  
Murfida Dy Co. Inc

WELL #2-5 V42994  
DATE 8-12-12  
PAGE 2 OF 2

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			TIME	DESCRIPTION	WELL		UNIT PRICE	AMOUNT
		LOC	ACCT	DF			QTY.	UM		
325		2				Standard Cement	225	sks	13.50	3037.50
276		2				Flocelc	50	#	2.00	100.00
283		2				Salt	1150	00	.20	230.00
284		2				Calsea 1	11	sks	35.00	385.00
285		2				CFR-1	100	#	4.00	400.00
581		2				SERVICE CHARGE			2.00	450.00
583		2				MILEAGE CHARGE TOTAL WEIGHT 23550 LOADED MILES 88			1.00	992.00
						CUBIC FEET TON MILES 942				
									CONTINUATION TOTAL	5544.50



JOB LOG

SWIFT Services, Inc.

DATE 8-12-12 PAGE NO. 7

CUSTOMER *Murphy Drilling Co., Inc.* WELL NO. # *2-5* LEASE *Vanava* JOB TYPE *Longstring* TICKET NO. *21739*

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	0300							an loc sulfate
								RTD 4720'
								5 1/2" x 15.5# x 4711' x 21'
								Turbo 1-14, 51
								Bask 51, 52
								P.C. 52 @ 2533'
	0630							start FE
	0730							Circ @ 565 ft.
	0845							on bottom break circ
	1000	5	0			200		start KCL 15 bbl
		5	15/0			200		start Flocheck 21 500gal
		5	12/0			200		start KCL 5 bbl
		6	5/0			200		start Cement 175 sks EA-2
	1015		42					End Cement wash P/L
								Drop L.D. Plug
	1020	6.5	0			200		start Displacement
		5	72			250		Catch Cement
	1040		111.5			<del>750</del> 1500		Land Plug Release Pressure Float Held
	1045	2.5	7/5					Plug BH+MH 20/20 sks

Thank you

Nick, David B., & Flint