



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1077346  
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
-----------------------------------	-----------------	---

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: \_\_\_\_\_

1077346

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

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

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

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

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

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

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

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

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

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

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

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

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

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

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____ <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
--	---	---

Conservation Division  
Finney State Office Building  
130 S. Market, Rm. 2078  
Wichita, KS 67202-3802



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

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

Sam Brownback, Governor

March 27, 2012

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

Re: ACO1  
API 15-137-20597-00-00  
Thiele 1-8  
SW/4 Sec.08-02S-24W  
Norton 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

Thiele #1-8 330 FSL 2310 FWL Sec. 8-2S-24W 2545' KB							Blickenstaff #1-5 SW SW SW Sec. 5-2S-24W 2541' KB	
Formation	Sample tops	Datum	Ref	Log Tops	Datum	Ref	Log Tops	Datum
Anhydrite	2069	+476	-1	2068	+477	Flat	2064	+477
B/Anhydrite	2100	+445	-4	2098	+447	-2	2092	+449
Neva	2879	-334	-5	2881	-336	-7	2870	-329
Stotler	3149	-604	-3	3157	-612	-11	3142	-601
Topeka	3278	-733	-5	3281	-736	-8	3269	-728
Deer Crk	3331	-786	-7	3333	-788	-9	3320	-779
Heebner	3450	-905	-10	3450	-905	-10	3436	-895
Toronto	3481	-936	-7	3484	-939	-10	3470	-929
Lansing	3491	-946	-5	3496	-951	-10	3482	-941
Stark	3640	-1095	-6	3644	-1099	-10	3630	-1089
BKC	3689	-1144	-10	3688	-1143	-9	3675	-1134
Reagan Sn	3782	-1237	-14	3782	-1237	-14	3764	-1223
Granite Wsh	3789	-1244	-7	3787	-1242	-5	3778	-1237
RTD	3822	-1277						
LTD				3823	-1278		3798	-1253



# Robert D. Hendrix

## Petroleum Geologist

### GEOLOGIST'S REPORT

#### DRILLING TIME AND SAMPLE LOG

COMPANY **Murfin Drilling Co. Inc**

LEASE **Thiele #1-8**

FIELD **Wildcat**

LOCATION **3307SSL & 23107FWL**

SEC **8** TWP **2 S** RGE **24 W**

COUNTY **NORTON** STATE **Kansas**

CONTRACTOR **Murfin Drilling Rig #21**

SPUD **2/11/2012** COMP **2/18/2012**

RTD **2/22** LTD **2/23**

MUD UP **2600** TYPE MUD **Chemical**

SAMPLES SAVED FROM **2700** TO **RTD**

DRILLING TIME KEPT FROM **2770** TO **RTD**

SAMPLES EXAMINED FROM **2700** TO **RTD**

GEOLOGICAL SUPERVISION FROM **2900** to **RTD**  
GEOLOGIST ON WELL **Robert D. Hendrix**

DILL / CN-CD  
Litho / Sonic  
Log-1-6ch

FORMATION TOPS	ELECTRIC LOG	SAMPLE
Anhydrite	2068 (+472)	2069 (+476)
Neva	2881 (-336)	2879 (-334)
Heebner Sh.	3281 (-736)	3278 (-733)
Heebner Sh.	3450 (-905)	3450 (-905)
Lansing	3496 (-951)	3491 (-946)
Stark	3644 (-1099)	3540 (-1095)
BKC	3688 (-1143)	3689 (-1144)
Granite Wash	3787 (-1242)	3782 (-1244)

ELEVATIONS  
KB **2545'**  
DF \_\_\_\_\_  
GL **2534'**

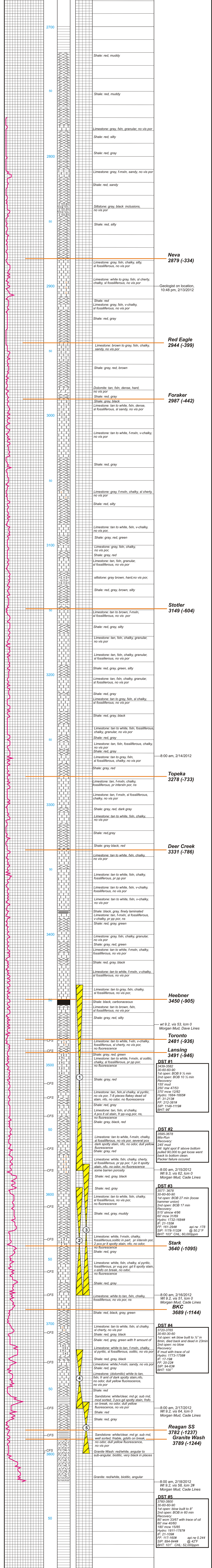
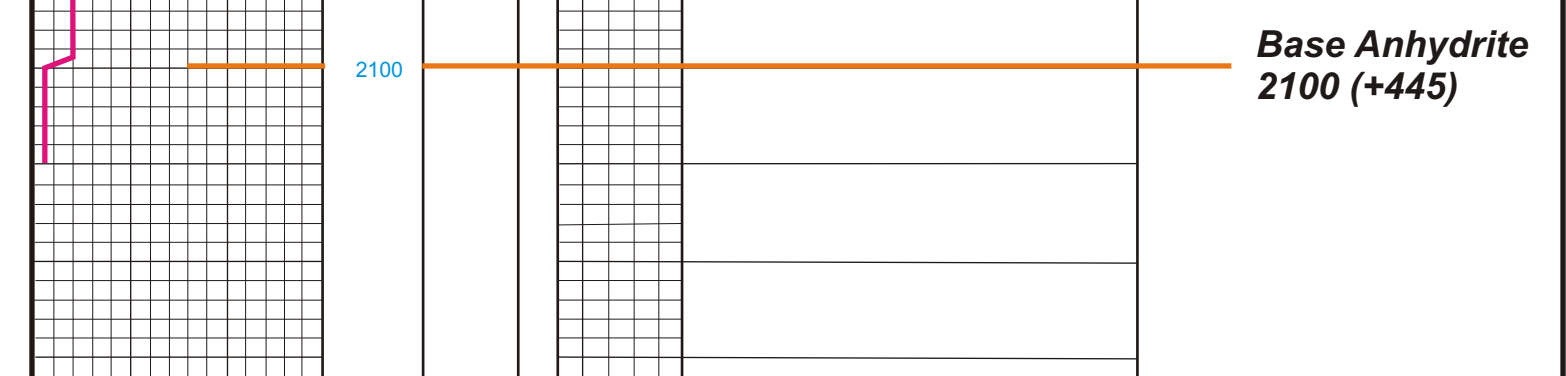
CASING  
CONDUCTOR \_\_\_\_\_  
SURFACE **8.58" at 51**

PRODUCTION **None**

ELECTRICAL SURVEYS

REMARKS *All shows were tested and due to a lack of positive results on the DST's it is suggested this test be plugged and abandoned.*

### LEGEND





## DRILL STEM TEST REPORT

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

250 N. Water Suite 300  
Wichita, KS 67202

ATTN: Robert Hendrix

### **Thiele #1-8**

### **8-2s-24w Norton,KS**

Start Date: 2012.02.15 @ 07:34:00

End Date: 2012.02.15 @ 15:30:30

Job Ticket #: 45570                      DST #: 1

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

Printed: 2012.02.24 @ 11:52:38



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

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

**8-2s-24w Norton, KS**

**Thiele #1-8**

Job Ticket: 45570

**DST#: 1**

Test Start: 2012.02.15 @ 07:34:00

## GENERAL INFORMATION:

Formation: **Toronto - LKC "G"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 09:32:30  
 Time Test Ended: 15:30:30  
 Interval: **3439.00 ft (KB) To 3582.00 ft (KB) (TVD)**  
 Total Depth: 3582.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: James Winder  
 Unit No: 57  
 Reference Elevations: 2545.00 ft (KB)  
 2534.00 ft (CF)  
 KB to GR/CF: 11.00 ft

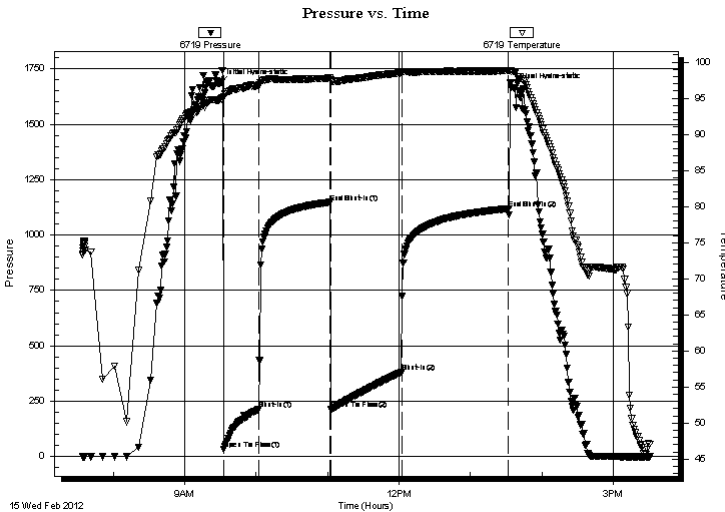
## Serial #: 6719

Inside

Press @ Run Depth: 380.93 psig @ 3440.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.02.15 End Date: 2012.02.15 Last Calib.: 2012.02.15  
 Start Time: 07:34:05 End Time: 15:30:29 Time On Btm: 2012.02.15 @ 09:29:30  
 Time Off Btm: 2012.02.15 @ 13:35:30

TEST COMMENT: 30 - IF: Blow built to BOB (11") in 9 1/2 min.  
 60 - IS: Bled off, No blow back  
 60 - FF: Blow built to BOB in 10 1/2 min.  
 90 - FS: Bled off, No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1683.98	94.77	Initial Hydro-static
3	31.11	95.14	Open To Flow (1)
33	213.44	96.77	Shut-In(1)
92	1147.66	97.77	End Shut-In(1)
93	211.55	97.54	Open To Flow (2)
153	380.93	98.51	Shut-In(2)
243	1119.15	98.80	End Shut-In(2)
246	1665.26	98.70	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
370.00	MCW 88%w, 12%m	3.28
250.00	Muddy Water 53%w, 47%m	3.51
155.00	Mud 100%	2.17

## Gas Rates

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









**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co., Inc.

**8-2s-24w Norton,KS**

250 N. Water Suite 300  
Wichita, KS 67202

**Thiele #1-8**

Job Ticket: 45570

**DST#: 1**

ATTN: Robert Hendrix

Test Start: 2012.02.15 @ 07:34:00

## Tool Information

Drill Pipe:	Length: 3234.00 ft	Diameter: 3.80 inches	Volume: 45.36 bbl	Tool Weight: 4000.00 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: 210.00 ft	Diameter: 2.25 inches	Volume: 1.03 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 46.39 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	33.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	3439.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	143.00 ft			
Tool Length:	171.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Shut In Tool	5.00			3416.00	
Hydraulic tool	5.00			3421.00	
Jars	5.00			3426.00	
Safety Joint	3.00			3429.00	
Packer	5.00			3434.00	28.00 Bottom Of Top Packer
Packer	5.00			3439.00	
Stubb	1.00			3440.00	
Recorder	0.00	6719	Inside	3440.00	
Recorder	0.00	8320	Outside	3440.00	
Perforations	11.00			3451.00	
Blank Spacing	128.00			3579.00	
Bullnose	3.00			3582.00	143.00 Bottom Packers & Anchor

**Total Tool Length: 171.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co., Inc.

**8-2s-24w Norton,KS**

250 N. Water Suite 300  
Wichita, KS 67202

**Thiele #1-8**

Job Ticket: 45570

**DST#: 1**

ATTN: Robert Hendrix

Test Start: 2012.02.15 @ 07:34:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

40000 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.36 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1600.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
370.00	MCW 88%w , 12%m	3.277
250.00	Muddy Water 53%w , 47%m	3.507
155.00	Mud 100%	2.174

Total Length: 775.00 ft      Total Volume: 8.958 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

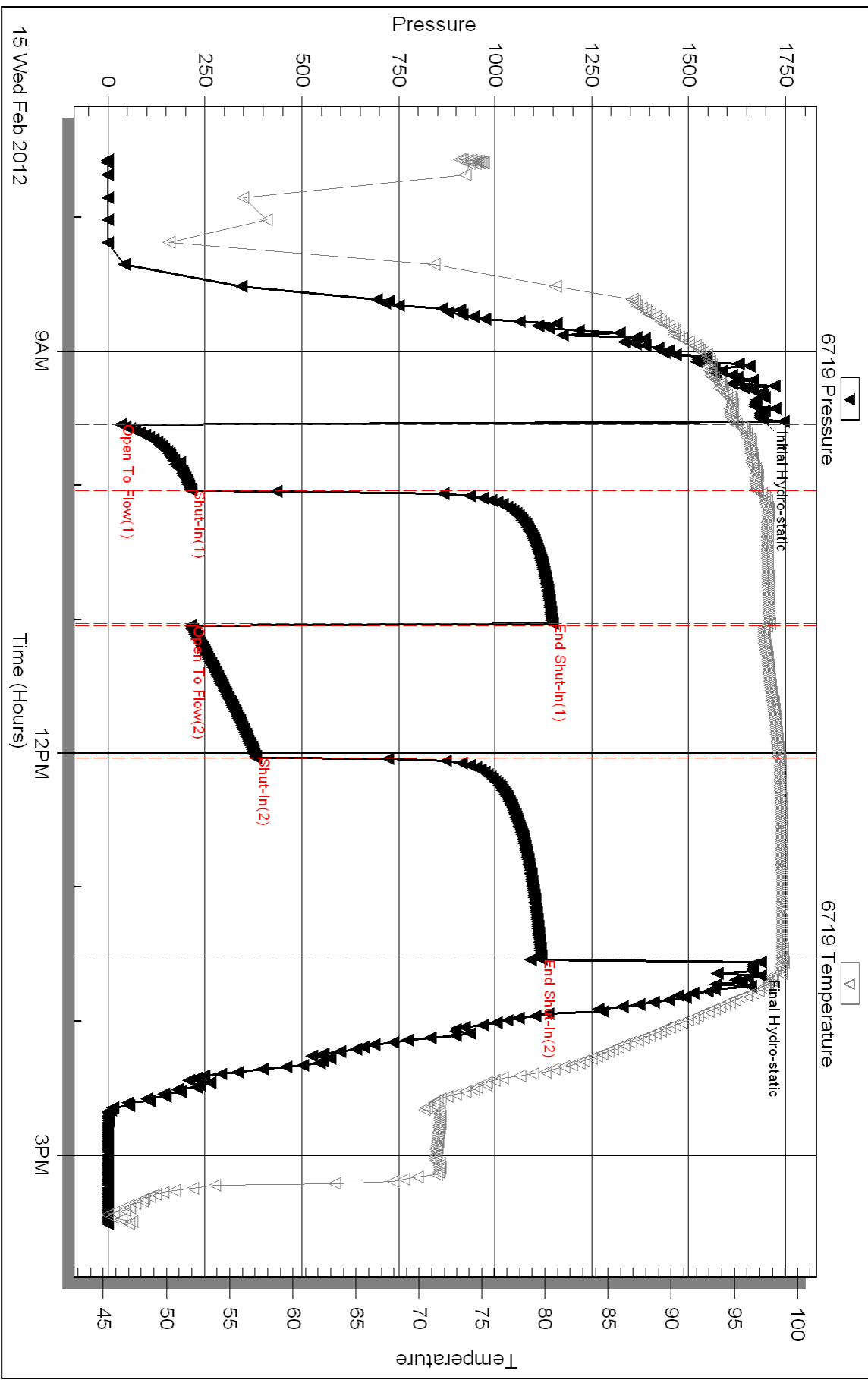
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .264 ohms @ 49 deg F

# Pressure vs. Time

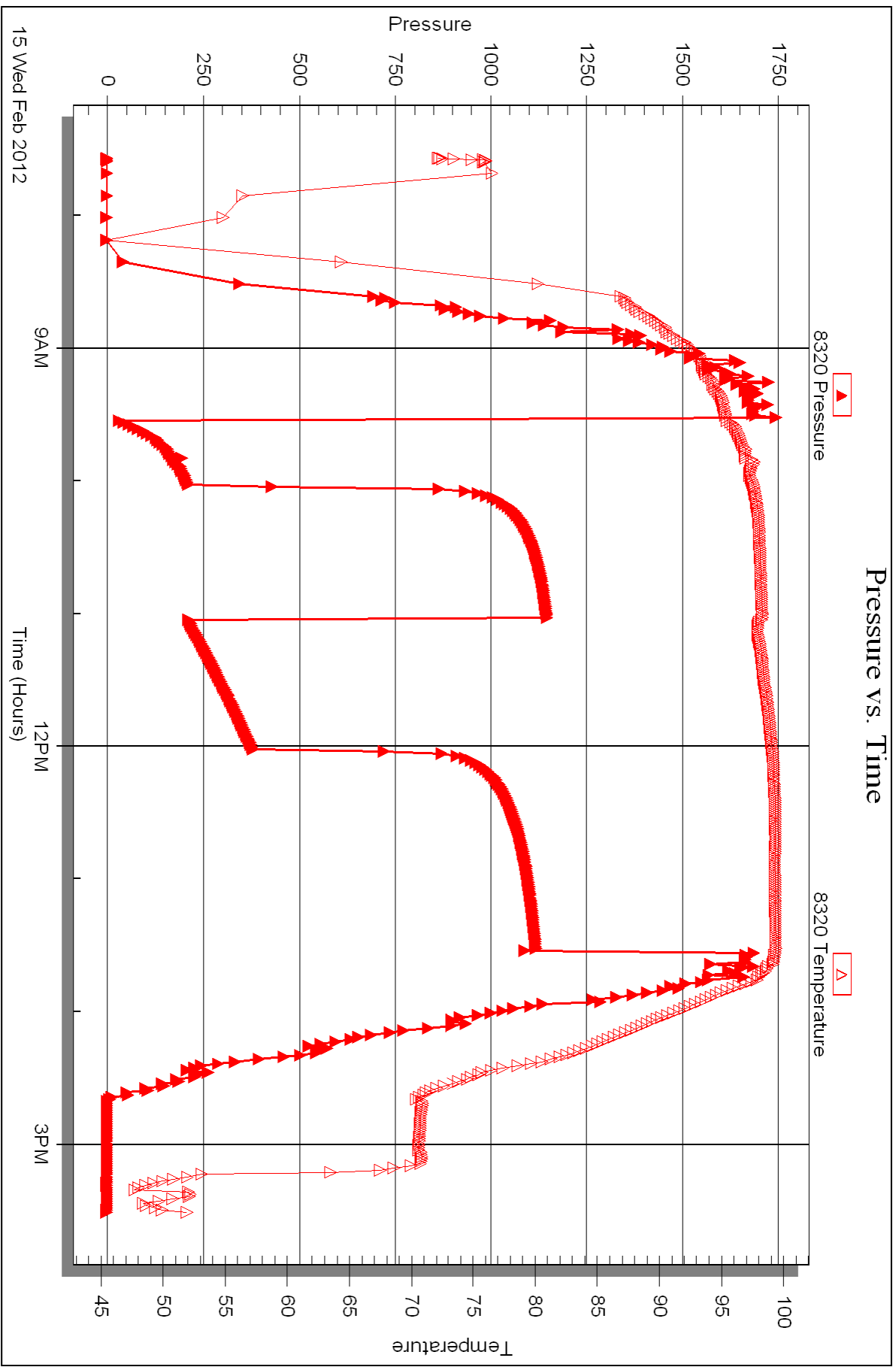


Serial #: 8320

Outside Murfin Drilling Co., Inc.

Thiele #1-8

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 45570

Printed: 2012.02.24 @ 11:52:40



## DRILL STEM TEST REPORT

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

250 N. Water Suite 300  
Wichita, KS 67202

ATTN: Robert Hendrix

### **Thiele #1-8**

### **8-2s-24w Norton,KS**

Start Date: 2012.02.16 @ 05:22:00

End Date: 2012.02.16 @ 09:30:00

Job Ticket #: 45571                      DST #: 2

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

Printed: 2012.02.24 @ 11:51:55



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

**8-2s-24w Norton, KS**

**Thiele #1-8**

Job Ticket: 45571

**DST#: 2**

Test Start: 2012.02.16 @ 05:22:00

## GENERAL INFORMATION:

Formation: **LKC "H - L"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 07:35:30  
 Time Test Ended: 09:30:00  
 Interval: **3595.00 ft (KB) To 3678.00 ft (KB) (TVD)**  
 Total Depth: 3678.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: James Winder  
 Unit No: 57  
 Reference Elevations: 2545.00 ft (KB)  
 2534.00 ft (CF)  
 KB to GR/CF: 11.00 ft

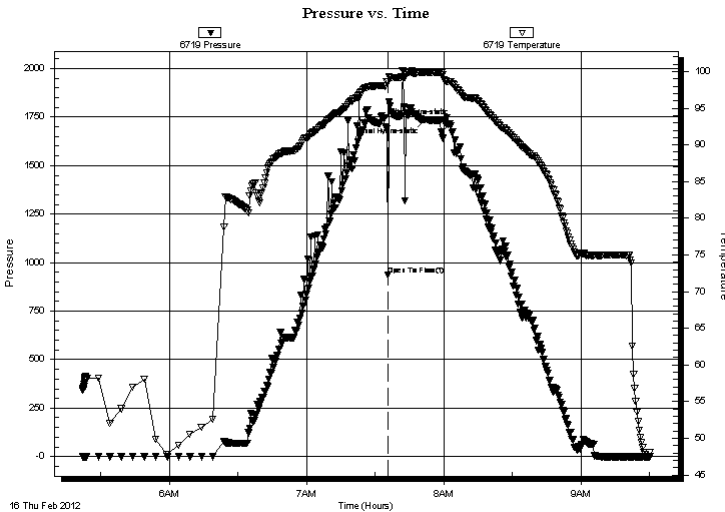
## Serial #: 6719

Inside

Press @ Run Depth: psig @ 3596.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.02.16 End Date: 2012.02.16 Last Calib.: 2012.02.16  
 Start Time: 05:22:05 End Time: 09:30:00 Time On Btm: 2012.02.16 @ 07:32:00  
 Time Off Btm: 2012.02.16 @ 07:52:00

**TEST COMMENT:** Hit tight spot about 8' before getting to Bottom  
 Pulled up to 90K to get loose (string weighing 56K)  
 Went to bottom clean after coming up  
 Packer Failure - Reset Tool - Packer Failure - Pulled Tool

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1715.52	98.06	Initial Hydro-static
4	935.90	98.56	Open To Flow (1)
20	1736.11	99.88	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
245.00	Mud 100%	1.52

\* 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.

**8-2s-24w Norton,KS**

250 N. Water Suite 300  
Wichita, KS 67202

**Thiele #1-8**

Job Ticket: 45571

**DST#: 2**

ATTN: Robert Hendrix

Test Start: 2012.02.16 @ 05:22:00

## Tool Information

Drill Pipe:	Length: 3393.00 ft	Diameter: 3.80 inches	Volume: 47.59 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	56000.00 lb
Drill Collar:	Length: 210.00 ft	Diameter: 2.25 inches	Volume: 1.03 bbl	Weight to Pull Loose:	58000.00 lb
			<u>Total Volume: 48.62 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial	56000.00 lb
Depth to Top Packer:	3595.00 ft			Final	57000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	83.00 ft				
Tool Length:	106.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments: Pulled 90K to get free from tight spot 8' above bottom before setting tool

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3577.00	
Hydraulic tool	5.00			3582.00	
Safety Joint	3.00			3585.00	
Packer	5.00			3590.00	23.00 Bottom Of Top Packer
Packer	5.00			3595.00	
Stubb	1.00			3596.00	
Recorder	0.00	6719	Inside	3596.00	
Recorder	0.00	8320	Outside	3596.00	
Perforations	15.00			3611.00	
Blank Spacing	64.00			3675.00	
Bullnose	3.00			3678.00	83.00 Bottom Packers & Anchor

**Total Tool Length: 106.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co., Inc.

**8-2s-24w Norton,KS**

250 N. Water Suite 300  
Wichita, KS 67202

**Thiele #1-8**

Job Ticket: 45571

**DST#: 2**

ATTN: Robert Hendrix

Test Start: 2012.02.16 @ 05:22:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.97 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
245.00	Mud 100%	1.524

Total Length: 245.00 ft      Total Volume: 1.524 bbl

Num Fluid Samples: 0

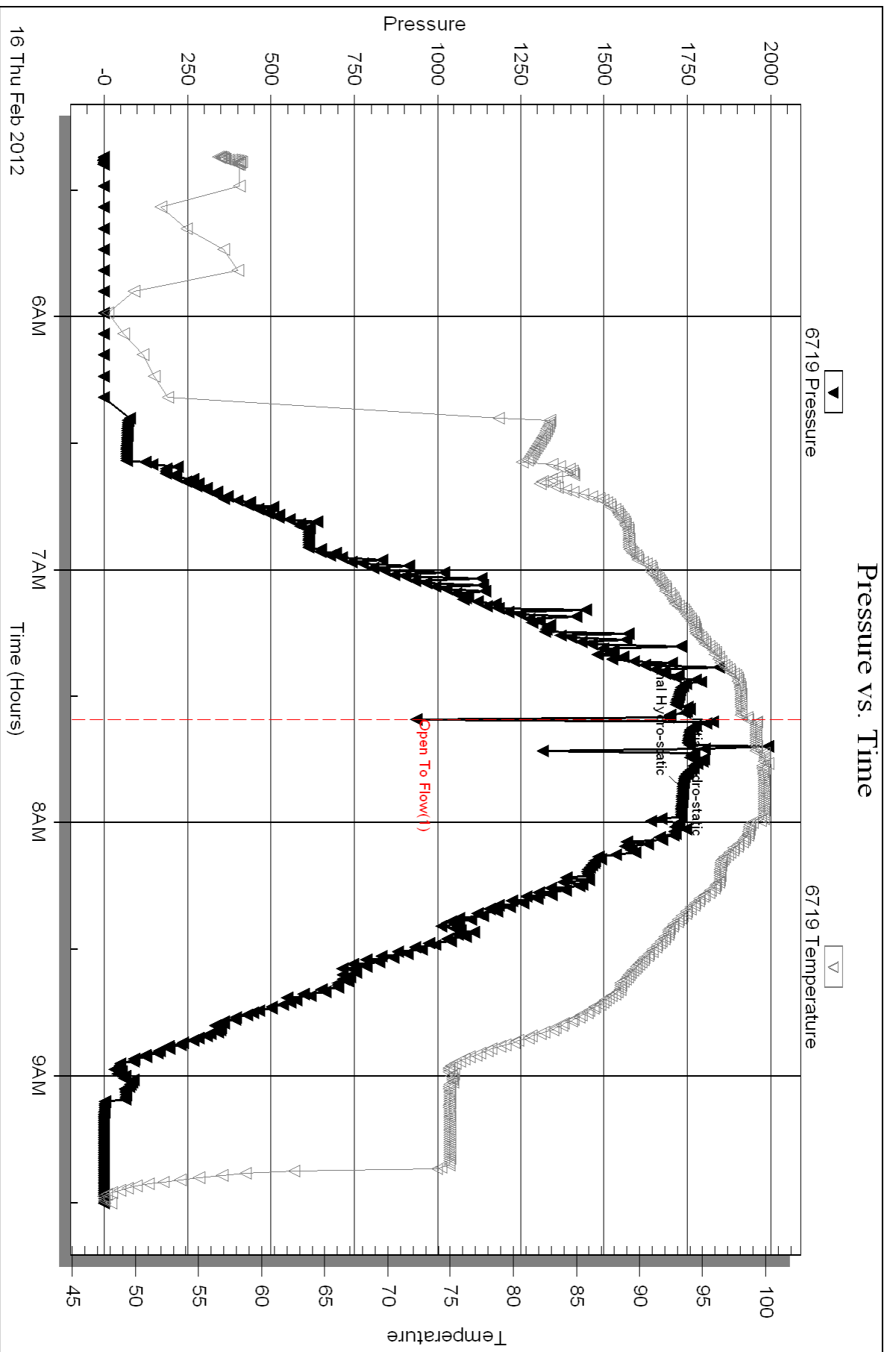
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

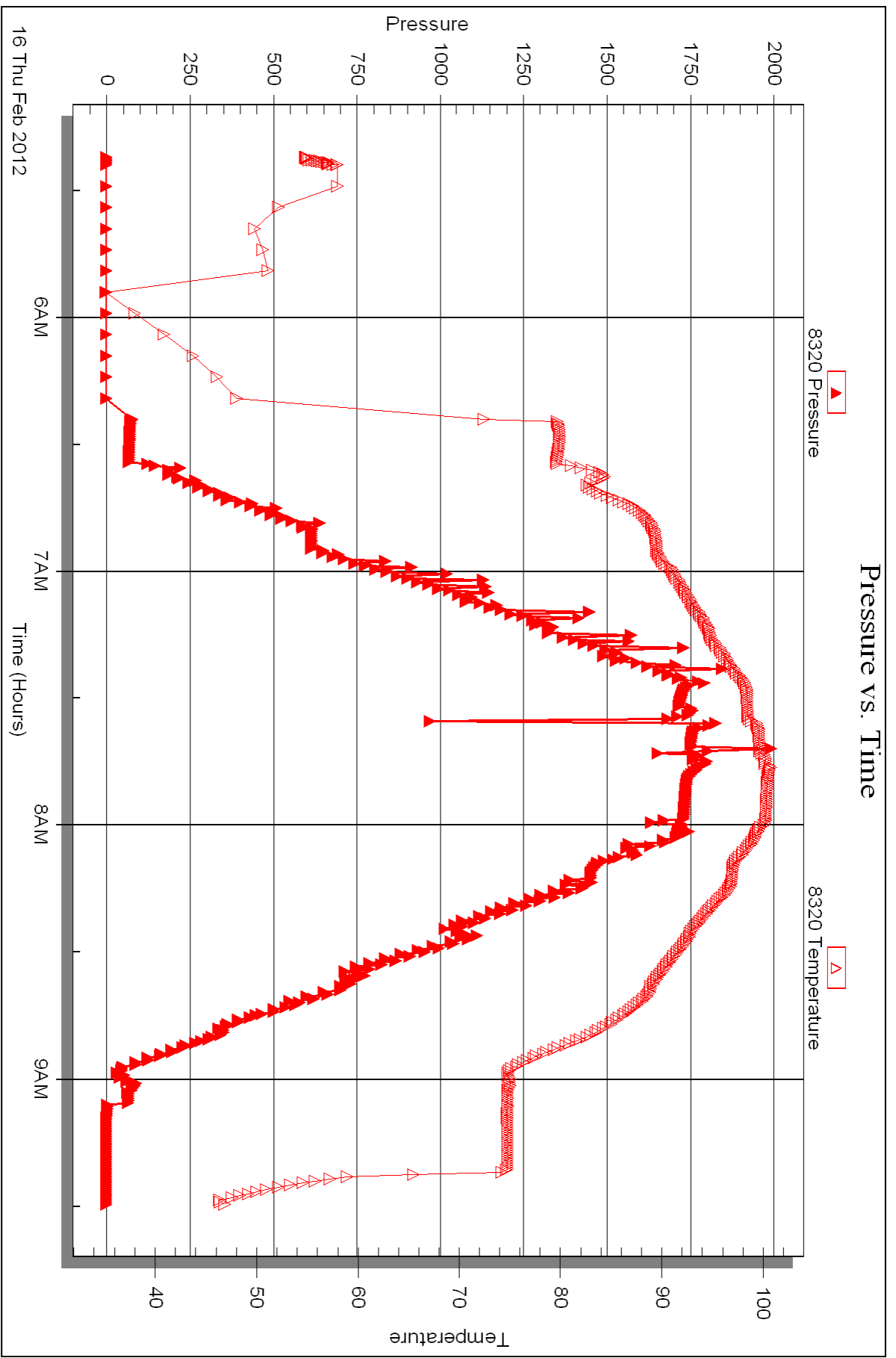


Serial #: 8320

Outside Murfin Drilling Co., Inc.

Thiele #1-8

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 45571

Printed: 2012.02.24 @ 11:51:57



## DRILL STEM TEST REPORT

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

250 N. Water Suite 300  
Wichita, KS 67202

ATTN: Robert Hendrix

### **Thiele #1-8**

### **8-2s-24w Norton,KS**

Start Date: 2012.02.16 @ 09:56:00

End Date: 2012.02.16 @ 17:34:30

Job Ticket #: 45572                      DST #: 3

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

Printed: 2012.02.24 @ 11:50:45





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

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

**8-2s-24w Norton, KS**

**Thiele #1-8**

Job Ticket: 45572

**DST#: 3**

Test Start: 2012.02.16 @ 09:56:00

## GENERAL INFORMATION:

Formation: **LKC "G - L"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 11:43:30  
 Time Test Ended: 17:34:30  
 Interval: **3577.00 ft (KB) To 3678.00 ft (KB) (TVD)**  
 Total Depth: 3567.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: James Winder  
 Unit No: 57  
 Reference Elevations: 2545.00 ft (KB)  
 2534.00 ft (CF)  
 KB to GR/CF: 11.00 ft

## Serial #: 6719

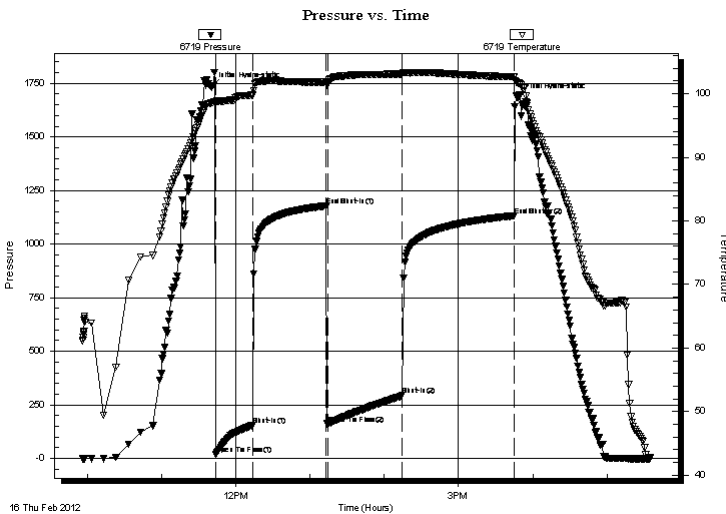
Inside

Press @ Run Depth: 293.81 psig @ 3578.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.02.16 End Date: 2012.02.16 Last Calib.: 2012.02.16  
 Start Time: 09:56:05 End Time: 17:34:29 Time On Btm: 2012.02.16 @ 11:40:30  
 Time Off Btm: 2012.02.16 @ 15:48:00

**TEST COMMENT:** 30 - IF: Blow built to BOB (11") in 27 min. (Slow due to loose hammer union)  
 60 - IS: Bled off, No blow back  
 60 - FF: Blow built to BOB in 17 min.  
 90 - FS: Bled off, No blow back

## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1732.36	98.56	Initial Hydro-static
3	21.06	98.57	Open To Flow (1)
33	155.23	99.78	Shut-In(1)
93	1178.35	101.81	End Shut-In(1)
94	160.70	101.49	Open To Flow (2)
154	293.81	103.08	Shut-In(2)
245	1132.07	102.63	End Shut-In(2)
248	1683.63	101.68	Final Hydro-static



## Recovery

Length (ft)	Description	Volume (bbl)
60.00	MCW 69%w , 31%m	0.30
515.00	Water 96%w , 4%m	5.86

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co., Inc.

**8-2s-24w Norton,KS**

250 N. Water Suite 300  
Wichita, KS 67202

**Thiele #1-8**

Job Ticket: 45572

**DST#: 3**

ATTN: Robert Hendrix

Test Start: 2012.02.16 @ 09:56:00

## Tool Information

Drill Pipe:	Length: 3362.00 ft	Diameter: 3.80 inches	Volume: 47.16 bbl	Tool Weight: 4000.00 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: 210.00 ft	Diameter: 2.25 inches	Volume: 1.03 bbl	Weight to Pull Loose: 64000.00 lb
			<u>Total Volume: 48.19 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	3577.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	101.00 ft			
Tool Length:	124.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments: Loose hammer union on manifold - found and tightened around 10 min. during initial flow

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3559.00	
Hydraulic tool	5.00			3564.00	
Safety Joint	3.00			3567.00	
Packer	5.00			3572.00	23.00 Bottom Of Top Packer
Packer	5.00			3577.00	
Stubb	1.00			3578.00	
Recorder	0.00	6719	Inside	3578.00	
Recorder	0.00	8320	Outside	3578.00	
Perforations	33.00			3611.00	
Blank Spacing	64.00			3675.00	
Bullnose	3.00			3678.00	101.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>				<b>124.00</b>	



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co., Inc.

**8-2s-24w Norton,KS**

250 N. Water Suite 300  
Wichita, KS 67202

**Thiele #1-8**

Job Ticket: 45572

**DST#: 3**

ATTN: Robert Hendrix

Test Start: 2012.02.16 @ 09:56:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

60000 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.98 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
60.00	MCW 69%w , 31%m	0.295
515.00	Water 96%w , 4%m	5.858

Total Length: 575.00 ft      Total Volume: 6.153 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

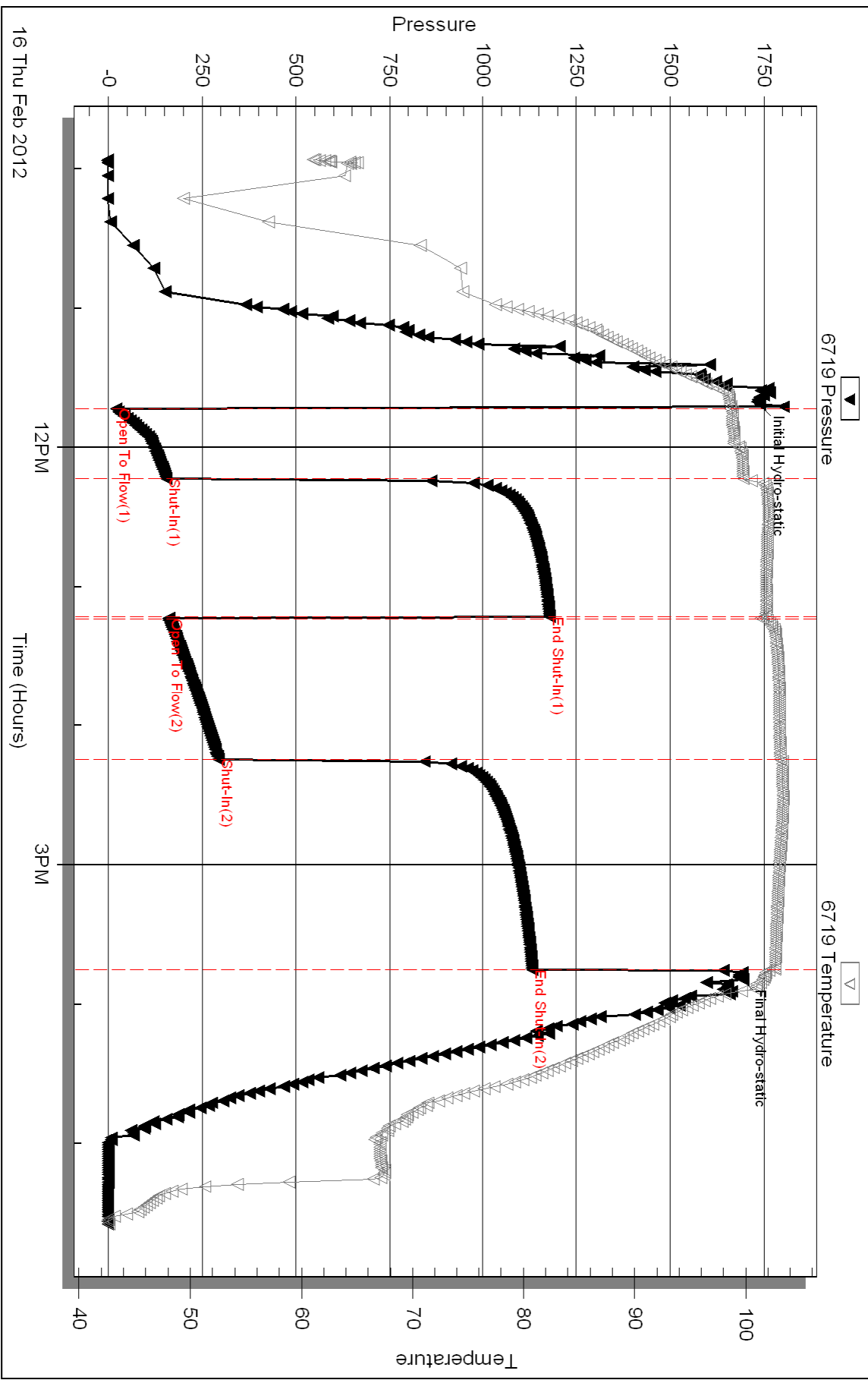
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .178 ohms @ 50.2 deg F

### Pressure vs. Time

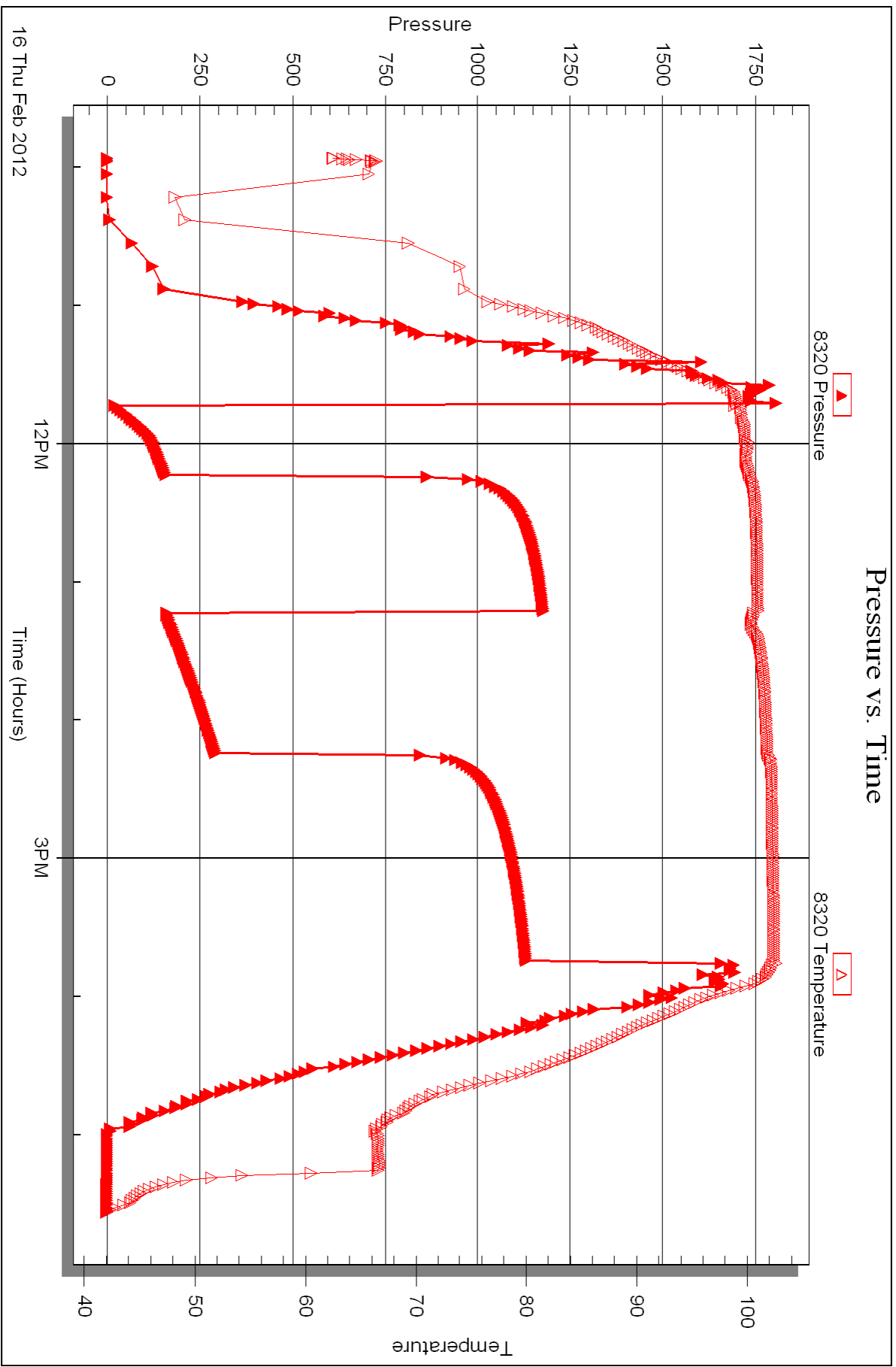


Serial #: 8320

Outside Murfin Drilling Co., Inc.

Thiele #1-8

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 45572

Printed: 2012.02.24 @ 11:50:48





## DRILL STEM TEST REPORT

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

250 N. Water Suite 300  
Wichita, KS 67202

ATTN: Robert Hendrix

### **Thiele #1-8**

### **8-2s-24w Norton,KS**

Start Date: 2012.02.17 @ 06:03:00

End Date: 2012.02.17 @ 12:37:00

Job Ticket #: 45573                      DST #: 4

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

Printed: 2012.02.24 @ 11:50:08



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

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

**8-2s-24w Norton, KS**

**Thiele #1-8**

Job Ticket: 45573

**DST#: 4**

Test Start: 2012.02.17 @ 06:03:00

## GENERAL INFORMATION:

Formation: **Lower Pawnee**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 07:44:30  
 Time Test Ended: 12:37:00  
 Interval: **3720.00 ft (KB) To 3765.00 ft (KB) (TVD)**  
 Total Depth: 3765.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: James Winder  
 Unit No: 57  
 Reference Elevations: 2545.00 ft (KB)  
 2534.00 ft (CF)  
 KB to GR/CF: 11.00 ft

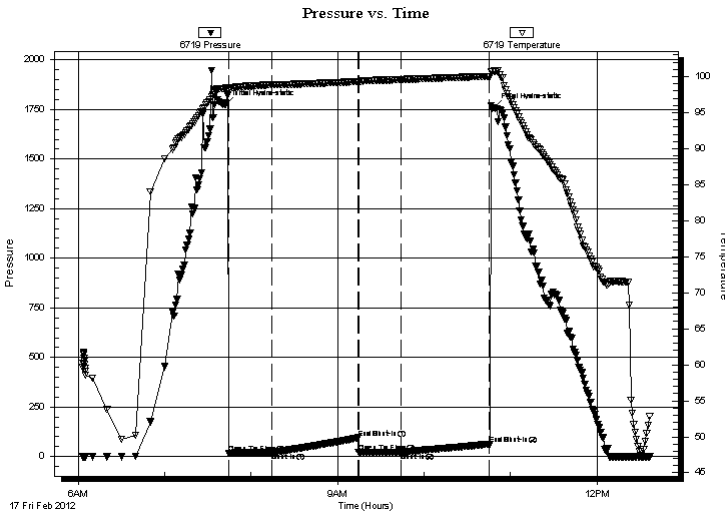
## Serial #: 6719

Inside

Press @ Run Depth: 21.75 psig @ 3721.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.02.17 End Date: 2012.02.17 Last Calib.: 2012.02.17  
 Start Time: 06:03:05 End Time: 12:36:59 Time On Btm: 2012.02.17 @ 07:42:00  
 Time Off Btm: 2012.02.17 @ 10:48:30

**TEST COMMENT:** 30 - IF: 1/4" Blow at open, Built to 1/2" in 8 min., dead at 23 min.  
 60 - IS: No blow back  
 30 - FF: No blow  
 60 - FS: No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1773.05	98.37	Initial Hydro-static
3	16.84	98.21	Open To Flow (1)
33	19.34	98.87	Shut-In(1)
92	94.46	99.30	End Shut-In(1)
93	20.25	99.28	Open To Flow (2)
122	21.75	99.59	Shut-In(2)
183	62.74	100.04	End Shut-In(2)
187	1757.63	100.74	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
8.00	Mud w /trace of Oil 100%m	0.04

\* 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.

**8-2s-24w Norton,KS**

250 N. Water Suite 300  
Wichita, KS 67202

**Thiele #1-8**

Job Ticket: 45573

**DST#: 4**

ATTN: Robert Hendrix

Test Start: 2012.02.17 @ 06:03:00

## Tool Information

Drill Pipe:	Length: 3518.00 ft	Diameter: 3.80 inches	Volume: 49.35 bbl	Tool Weight: 2000.00 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: 210.00 ft	Diameter: 2.25 inches	Volume: 1.03 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 50.38 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 57000.00 lb
Depth to Top Packer:	3720.00 ft			Final 57000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	45.00 ft			
Tool Length:	68.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3702.00	
Hydraulic tool	5.00			3707.00	
Safety Joint	3.00			3710.00	
Packer	5.00			3715.00	23.00 Bottom Of Top Packer
Packer	5.00			3720.00	
Stubb	1.00			3721.00	
Recorder	0.00	6719	Inside	3721.00	
Recorder	0.00	8320	Outside	3721.00	
Perforations	8.00			3729.00	
Blank Spacing	33.00			3762.00	
Bullnose	3.00			3765.00	45.00 Bottom Packers & Anchor

**Total Tool Length: 68.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co., Inc.

**8-2s-24w Norton,KS**

250 N. Water Suite 300  
Wichita, KS 67202

**Thiele #1-8**

Job Ticket: 45573

**DST#: 4**

ATTN: Robert Hendrix

Test Start: 2012.02.17 @ 06:03:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.98 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1900.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
8.00	Mud w /trace of Oil 100%m	0.039

Total Length: 8.00 ft      Total Volume: 0.039 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

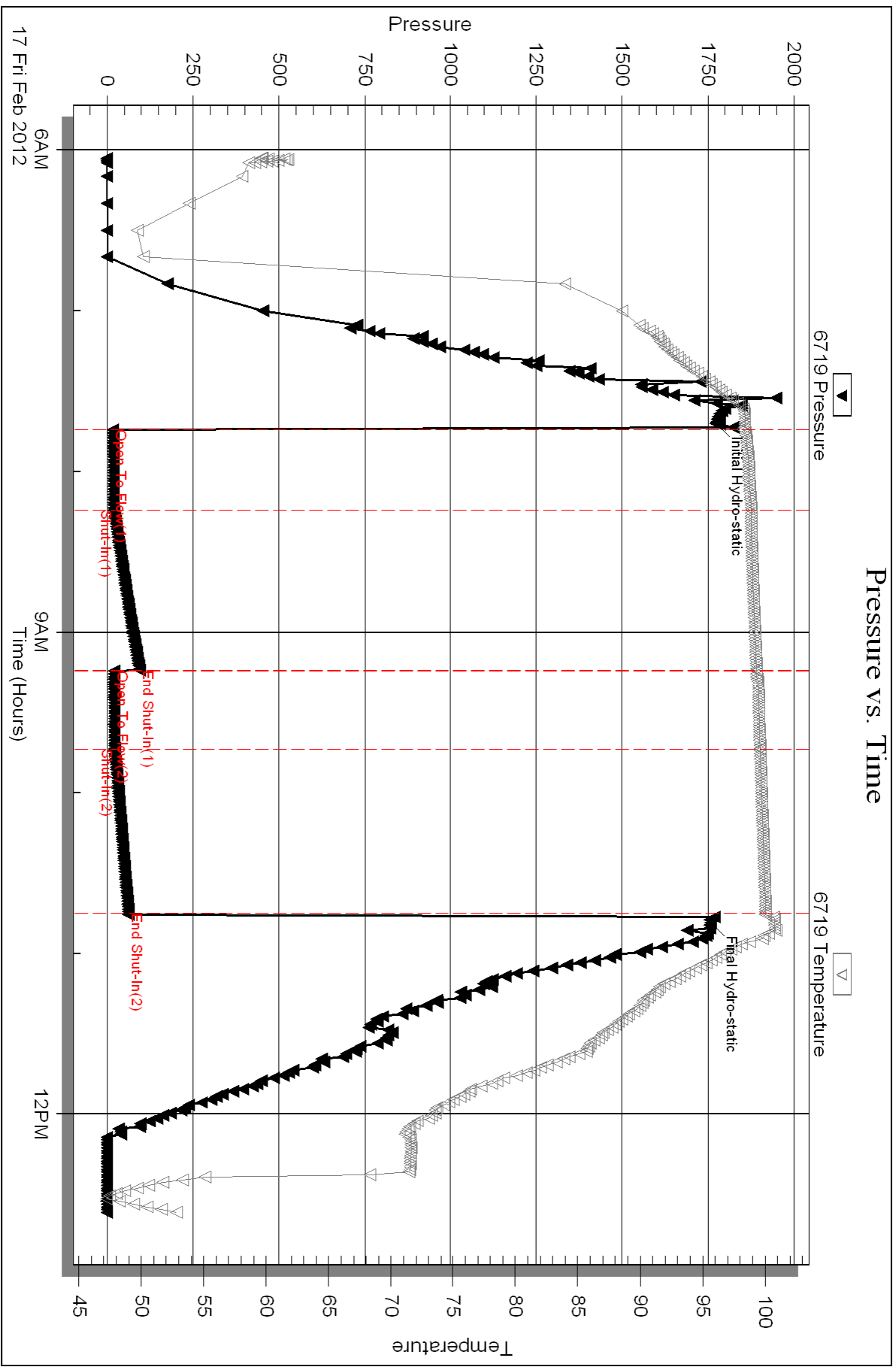
Serial #: 6719

Inside

Murfin Drilling Co., Inc.

Thiele #1-8

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 45573

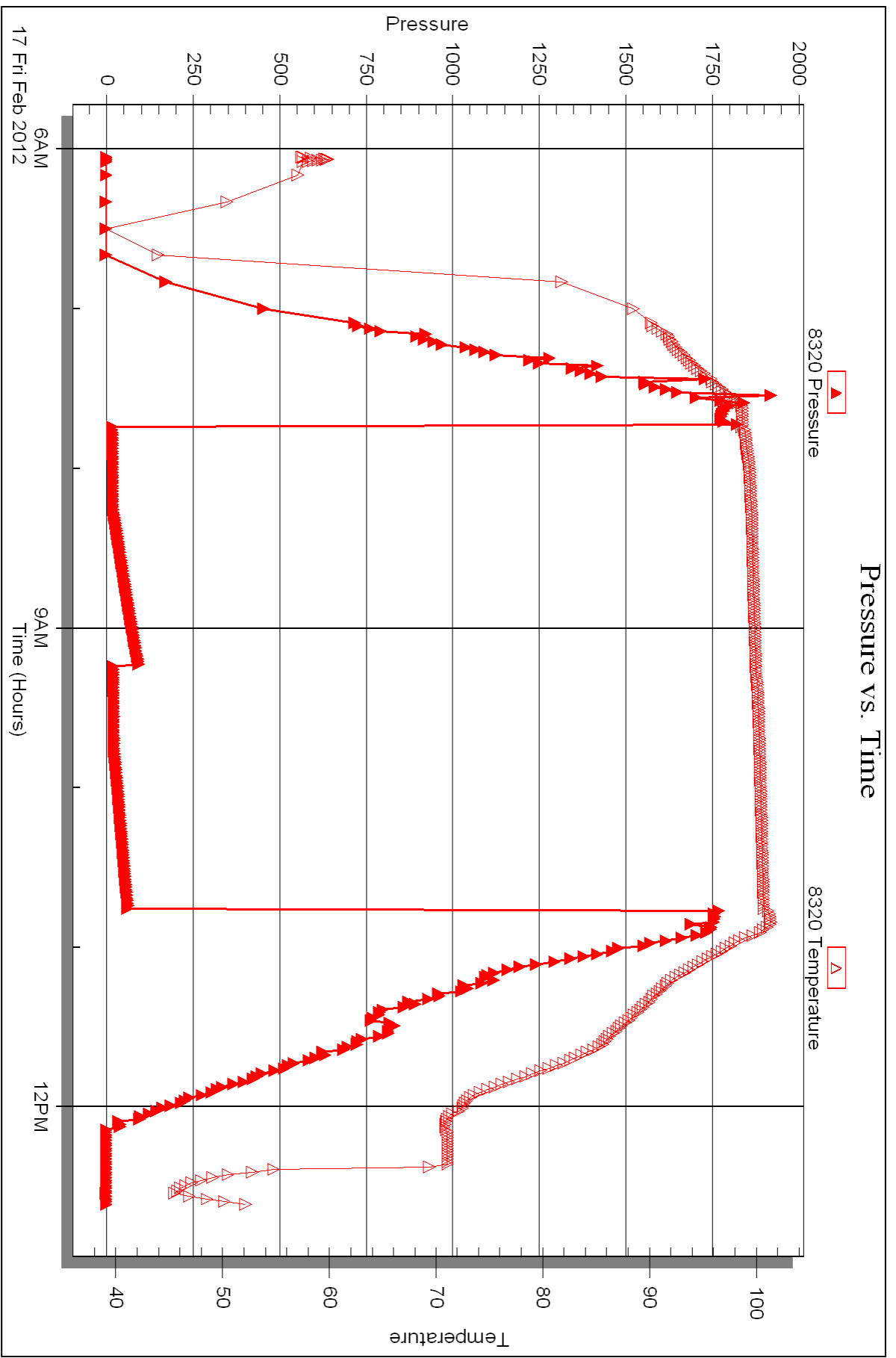
Printed: 2012.02.24 @ 11:50:11

Serial #: 8320

Outside Murfin Drilling Co., Inc.

Thiele #1-8

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 45573

Printed: 2012.02.24 @ 11:50:11



## DRILL STEM TEST REPORT

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

250 N. Water Suite 300  
Wichita, KS 67202

ATTN: Robert Hendrix

### **Thiele #1-8**

### **8-2s-24w Norton,KS**

Start Date: 2012.02.17 @ 20:20:00

End Date: 2012.02.18 @ 03:59:00

Job Ticket #: 45574                      DST #: 5

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

Printed: 2012.02.24 @ 11:49:27





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

**8-2s-24w Norton, KS**

**Thiele #1-8**

Job Ticket: 45574

**DST#: 5**

Test Start: 2012.02.17 @ 20:20:00

## GENERAL INFORMATION:

Formation: **Reagan Sand/Granite**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:04:00

Time Test Ended: 03:59:00

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 57

**Interval: 3760.00 ft (KB) To 3800.00 ft (KB) (TVD)**

Reference Elevations: 2545.00 ft (KB)

Total Depth: 3800.00 ft (KB) (TVD)

2534.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 6719**

**Inside**

Press @ Run Depth: 159.59 psig @ 3761.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.02.17

End Date:

2012.02.18

Last Calib.:

2012.02.18

Start Time: 20:20:05

End Time:

03:58:59

Time On Btm:

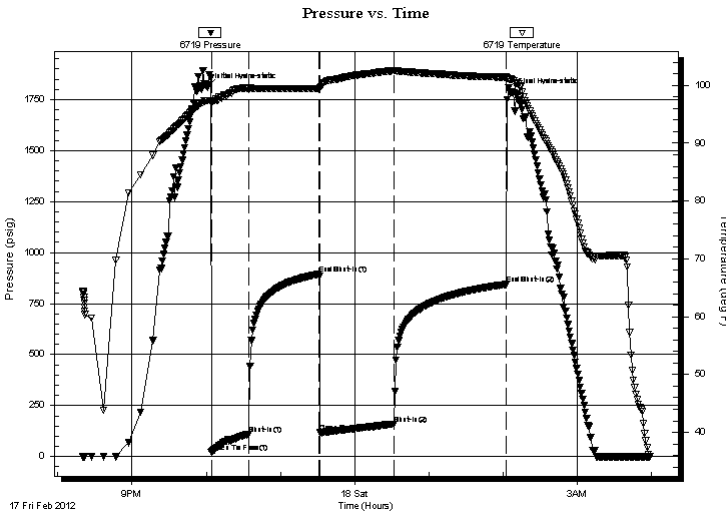
2012.02.17 @ 22:01:00

Time Off Btm:

2012.02.18 @ 02:06:30

**TEST COMMENT:** 30 - IF: Blow built to 8"  
 60 - IS: Bled off, No blow back  
 60 - FF: Blow built to BOB (11") at 60 min.  
 90 - FS: Bled off, No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1811.18	97.33	Initial Hydro-static
3	20.85	96.98	Open To Flow (1)
34	109.24	99.43	Shut-In(1)
90	894.48	99.48	End Shut-In(1)
91	117.48	99.53	Open To Flow (2)
151	159.59	102.55	Shut-In(2)
242	844.42	101.41	End Shut-In(2)
246	1786.85	101.06	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
180.00	MCW 85%w, 15%m	0.89
60.00	MW 60%w, 40%m	0.57
80.00	WCM w/trace oil 67%m, 33%w	1.12

\* 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.

**8-2s-24w Norton,KS**

250 N. Water Suite 300  
Wichita, KS 67202

**Thiele #1-8**

Job Ticket: 45574

**DST#: 5**

ATTN: Robert Hendrix

Test Start: 2012.02.17 @ 20:20:00

## Tool Information

Drill Pipe:	Length: 3547.00 ft	Diameter: 3.80 inches	Volume: 49.76 bbl	Tool Weight:	2000.00 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: 210.00 ft	Diameter: 2.25 inches	Volume: 1.03 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume: 50.79 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial	56000.00 lb
Depth to Top Packer:	3760.00 ft			Final	58000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	40.00 ft				
Tool Length:	63.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

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

Shut In Tool	5.00			3742.00	
Hydraulic tool	5.00			3747.00	
Safety Joint	3.00			3750.00	
Packer	5.00			3755.00	23.00 Bottom Of Top Packer
Packer	5.00			3760.00	
Stubb	1.00			3761.00	
Recorder	0.00	6719	Inside	3761.00	
Recorder	0.00	8320	Outside	3761.00	
Perforations	36.00			3797.00	
Bullnose	3.00			3800.00	40.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>63.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co., Inc.

**8-2s-24w Norton,KS**

250 N. Water Suite 300  
Wichita, KS 67202

**Thiele #1-8**

Job Ticket: 45574

**DST#: 5**

ATTN: Robert Hendrix

Test Start: 2012.02.17 @ 20:20:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

52000 ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1800.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	MCW 85%w , 15%m	0.885
60.00	MW 60%w , 40%m	0.568
80.00	WCM w/trace oil 67%m, 33%w	1.122

Total Length: 320.00 ft      Total Volume: 2.575 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .244 ohms @ 42 deg F

Serial #: 6719

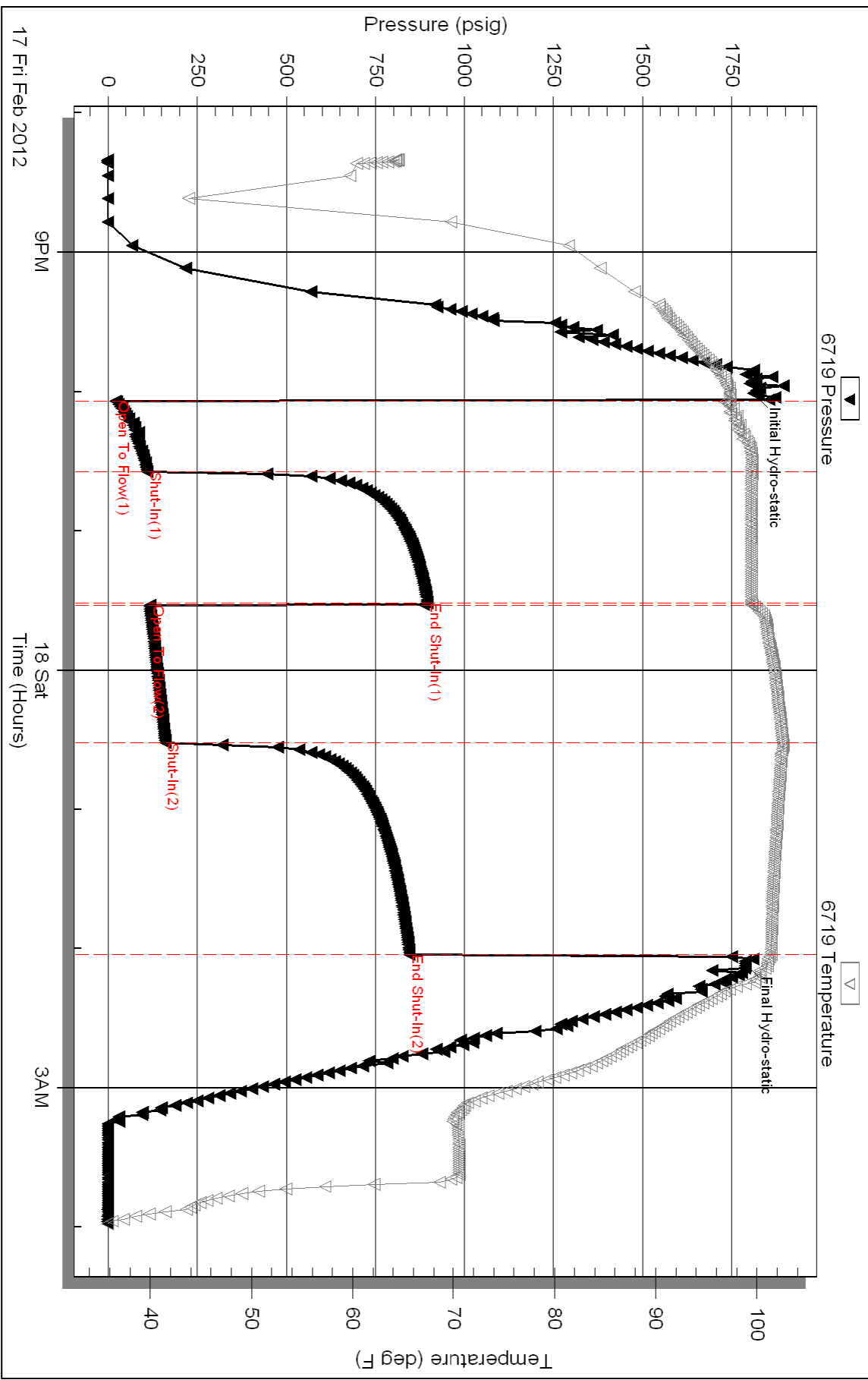
Inside

Murfin Drilling Co., Inc.

Thiele #1-8

DST Test Number: 5

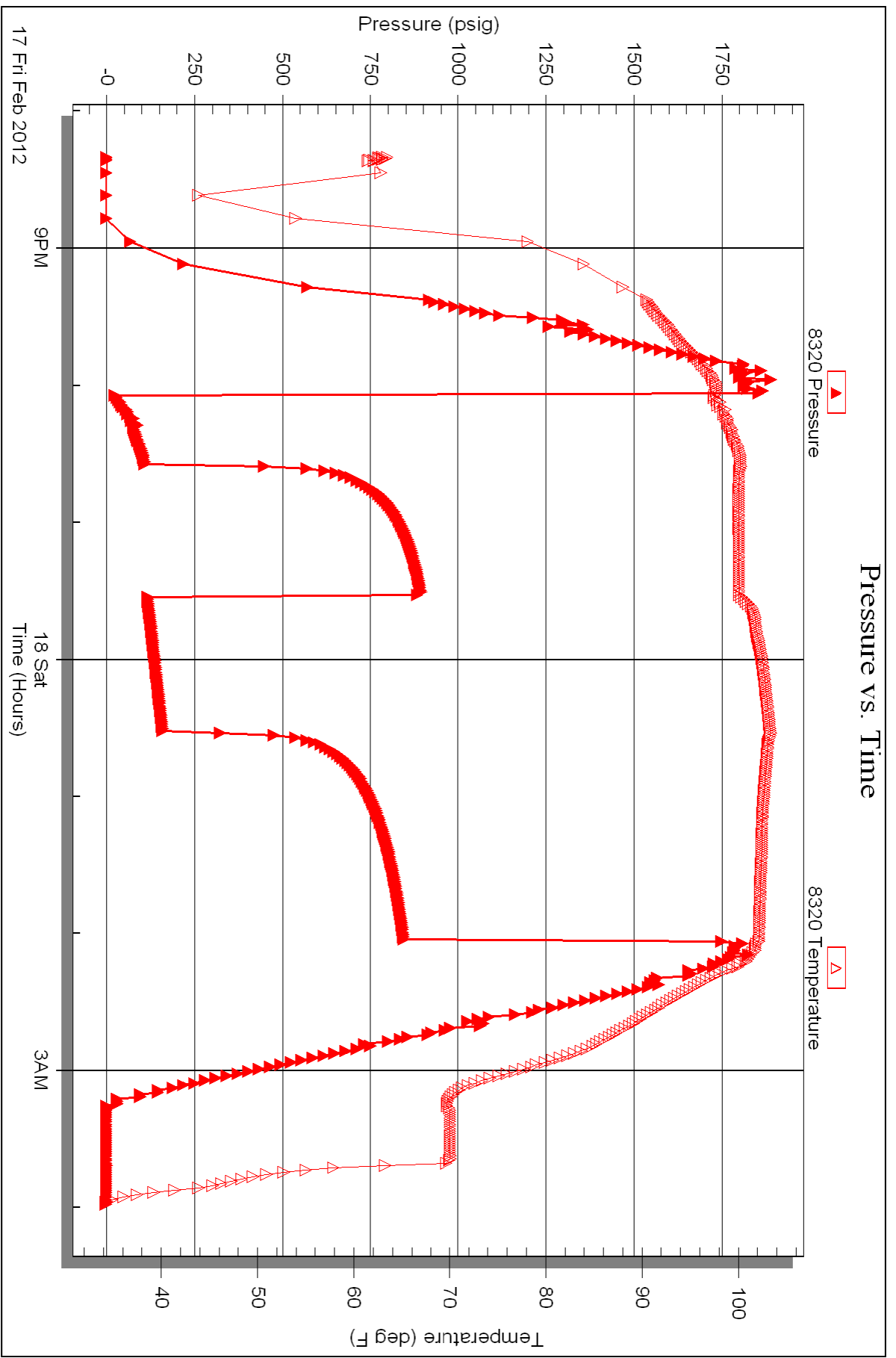
### Pressure vs. Time



Triobite Testing, Inc

Ref. No: 45574

Printed: 2012.02.24 @ 11:49:29





# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

RECEIVED  
FEB 23 2012

## Test Ticket

NO. 45570

4/10

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

Well Name & No. Thiele #1-8 Test No. 1 Date 2-15-12  
 Company Murfin Drilling Co. Inc. Elevation 2545 KB 2534 GL  
 Address 250 N. Water Suite 300 Wichita, KS 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #21  
 Location: Sec. 8 Twp. 25 Rge. 24W Co. Norton State KS

Interval Tested 3439 ~~2479~~ - 3582 Zone Tested Toronto - LKC "E"  
 Anchor Length 143 Drill Pipe Run 3234 Mud Wt. 9.3  
 Top Packer Depth ~~2479~~ 3434 Drill Collars Run 210 Vis 54  
 Bottom Packer Depth ~~2479~~ 3439 Wt. Pipe Run - WL 6.4  
 Total Depth 3582 Chlorides 1600 ppm System LCM -

Blow Description IF: Blow built to BOB (11") in 9 1/2 min.  
ISI: Bled off, No blowback  
FF: Blow built to BOB in 10 1/2 min.  
FSI: Bled off, No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>155</u>	<u>Mud</u>			<u>100</u>	
<u>250</u>	<u>Muddy Water</u>		<u>53</u>	<u>47</u>	
<u>370</u>	<u>MCW</u>		<u>88</u>	<u>12</u>	

Rec Total 775 BHT 99 Gravity - API RW .264 @ 49 °F Chlorides 40,000 ppm

(A) Initial Hydrostatic 1684  Test \* 1125' T-On Location 5:15  
 (B) First Initial Flow 31  Jars \* 250' T-Started 7:34  
 (C) First Final Flow 213  Safety Joint \* 75' T-Open 9:32  
 (D) Initial Shut-In 1148  Circ Sub \*NA T-Pulled 13:32  
 (E) Second Initial Flow 212  Hourly Standby 1hr 100' T-Out 3:20 15:20  
 (F) Second Final Flow 381  Mileage 60RT 84' Comments \_\_\_\_\_  
 (G) Final Shut-In 1119  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1665  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_

Initial Open 30  Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Shut-In 60  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Final Flow 60  Day Standby \_\_\_\_\_ Total 1634'  
 Final Shut-In 90  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1634'

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

RECEIVED  
FEB 23 2012  
BY: \_\_\_\_\_

## Test Ticket

NO. 45571

Well Name & No. Thiele #1-8 Test No. 2 Date 2-16-12  
 Company Murfin Drilling Co. Inc. Elevation 2545 KB 2534 GL  
 Address 250 N. Water Suite 300 Wichita KS 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #21  
 Location: Sec. 8 Twp. 2s Rge. 24w Co. Norton State KS

Interval Tested 3595-3678 Zone Tested LKC "H-L"  
 Anchor Length 83 Drill Pipe Run 3393 Mud Wt. 9.3  
 Top Packer Depth 3590 Drill Collars Run 210 Vis 52  
 Bottom Packer Depth 3595 Wt. Pipe Run - WL 6.0  
 Total Depth 3678 Chlorides 1500 ppm System LCM -

Blow Description Hit tight spot about 8' before getting to Bottom  
Pulled up to 90K to get loose (String weighing 56K)  
Went to Bottom clean after coming up  
Packer Failure - Reset Tool - Packer Failure - Pulled Tool

Rec	Feet of	%gas	%oil	%water	%mud
<u>245</u>	<u>mud</u>	<u>-</u>	<u>-</u>	<u>100</u>	<u>0</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 \_\_\_\_\_ BHT \_\_\_\_\_ Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic _____	<input type="checkbox"/> Test <u>* 925'</u>	T-On Location <u>5:00</u>
(B) First Initial Flow _____	<input checked="" type="checkbox"/> Jars _____	T-Started <u>5:22</u>
(C) First Final Flow _____	<input type="checkbox"/> Safety Joint <u>* 75'</u>	T-Open <u>7:35</u>
(D) Initial Shut-In _____	<input checked="" type="checkbox"/> Circ Sub <u>* NA</u>	T-Pulled <u>7:43</u>
(E) Second Initial Flow _____	<input checked="" type="checkbox"/> Hourly Standby _____	T-Out <u>9:25</u>
(F) Second Final Flow _____	<input type="checkbox"/> Mileage <u>60 RT 84'</u>	Comments _____
(G) Final Shut-In _____	<input checked="" type="checkbox"/> Sampler _____	<input checked="" type="checkbox"/> Ruined Shale Packer _____
(H) Final Hydrostatic _____	<input checked="" type="checkbox"/> Straddle _____	<input checked="" type="checkbox"/> Ruined Packer _____
Initial Open _____	<input checked="" type="checkbox"/> Shale Packer _____	<input checked="" type="checkbox"/> Extra Copies _____
Initial Shut-In _____	<input checked="" type="checkbox"/> Extra Packer _____	Sub Total <u>0</u>
Final Flow _____	<input checked="" type="checkbox"/> Extra Recorder _____	Total <u>1084'</u>
Final Shut-In _____	<input checked="" type="checkbox"/> Day Standby _____	MP/DST Disc't _____
	<input checked="" type="checkbox"/> Accessibility _____	
	Sub Total <u>1084'</u>	

Approved By R. D. Whig Our Representative James Winder

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.





# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

RECEIVED  
FEB 23 2012

## Test Ticket

NO. 45572

4/10

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

Well Name & No. Thiele #1-8 Test No. 3 Date 2-16-12  
 Company Murfin Drilling Co. Inc Elevation 2545 KB 2534 GL  
 Address 250 N. Water Suite 300 Wichita KS 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #21  
 Location: Sec. 8 Twp. 2s Rge. 24w Co. Norton State KS

Interval Tested 3577 - 3678 Zone Tested LKC "H#6-L"  
 Anchor Length 101 Drill Pipe Run 3362 Mud Wt. 9.3  
 Top Packer Depth 3572 Drill Collars Run 210 Vis 52  
 Bottom Packer Depth 3577 Wt. Pipe Run - WL 6.0  
 Total Depth 3678 Chlorides 1500 ppm System LCM -

Blow Description IF: Blow built to BOB (11") in 27 min. (slow due to loose hammer union)  
ISI: Bled off, No Blowback  
FF: Blow built to BOB in 17 min.  
FSI: Bled off, No Blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>515</u>	<u>Water</u>	<u>-</u>	<u>-</u>	<u>96</u>	<u>4</u>
<u>60</u>	<u>MCW</u>	<u>-</u>	<u>-</u>	<u>69</u>	<u>31</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 575 BHT 103 Gravity - API RW .178 @ 50.2 °F Chlorides 60,000 ppm

(A) Initial Hydrostatic 1732  Test \* 1125- T-On Location 9:30  
 (B) First Initial Flow 21  Jars \_\_\_\_\_ T-Started 9:56  
 (C) First Final Flow 155  Safety Joint \* 75- T-Open 11:43  
 (D) Initial Shut-In 1178  Circ Sub \*NA T-Pulled 15:45  
 (E) Second Initial Flow 161  Hourly Standby \_\_\_\_\_ T-Out 17:30  
 (F) Second Final Flow 294  Mileage \_\_\_\_\_  
 (G) Final Shut-In 1132  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1684  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1200-

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

Sub Total 1200- Total 1200- 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

RECEIVED  
FEB 23 2012

## Test Ticket

NO. 45573

4/10

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

Well Name & No. Thiele #1-8 Test No. 4 Date 2-17-12  
 Company Murfin Drilling Co. Inc. Elevation 2545 KB 2534 GL  
 Address 250 N. Water Suite 300 Wichita, KS 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #21  
 Location: Sec. 8 Twp. 2s Rge. 24W Co. Norton State KS

Interval Tested 3720 - 3765 Zone Tested Lower Pawnee  
 Anchor Length 45 Drill Pipe Run 3518 Mud Wt. 9.2  
 Top Packer Depth 3715 Drill Collars Run 210 Vis 51  
 Bottom Packer Depth 3720 Wt. Pipe Run - WL 6.0  
 Total Depth 3765 Chlorides 1900 ppm System LCM -  
 Blow Description IF: 1/4" Blow at open, built to 1/2" at 8min., dead at 23 min.  
ISI: No Blowback  
FF: No Blow  
FSI: No Blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>8</u>	<u>Mud w/trace of oil</u>	<u>-</u>	<u>trace</u>	<u>-</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

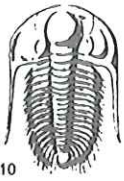
Rec Total 8 BHT 100 Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic 1773  Test \* 1125' T-On Location 5:40  
 (B) First Initial Flow 17  Jars T-Started 6:03  
 (C) First Final Flow 19  Safety Joint \* 75' T-Open 7:44  
 (D) Initial Shut-In 94  Circ Sub \*NA T-Pulled 10:45  
 (E) Second Initial Flow 20  Hourly Standby T-Out 12:30  
 (F) Second Final Flow 22  Mileage GORT 84' Comments \_\_\_\_\_  
 (G) Final Shut-In 63  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1758  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Initial Open 30  Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Shut-In 60  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Final Flow 30  Day Standby \_\_\_\_\_ Total 1284  
 Final Shut-In 60  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1284

Approved By [Signature] Our Representative Janna Winter

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

RECEIVED  
FEB 23 2012

## Test Ticket

NO. 45574

4/10

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

Well Name & No. Thiele #1-8 Test No. 5 Date 2-17-12  
 Company Murfin Drilling Co. Inc. Elevation 2545 KB 2534 GL  
 Address 250 N. Water Suite 300 Wichita, KS 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #21  
 Location: Sec. 8 Twp. 2s Rge. 24w Co. Norton State KS

Interval Tested 3760 - 3800 Zone Tested Reagan Sand / Granite wash  
 Anchor Length 40 Drill Pipe Run 3547 Mud Wt. 9.2  
 Top Packer Depth 3755 Drill Collars Run 210 Vis 56  
 Bottom Packer Depth 3760 Wt. Pipe Run - WL 6.0  
 Total Depth 3800 Chlorides 1800 ppm System LCM 2#

Blow Description IF: Blow built to 8"  
ISI: Bled off, No Blowback  
FF: Blow built to BOB (11") at 60 min.  
FSI: Bled off, No Blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>80</u>	<u>wcm w/trace of Oil</u>	<u>-</u>	<u>trace</u>	<u>33</u>	<u>67</u>
<u>60</u>	<u>MW</u>	<u>-</u>	<u>-</u>	<u>60</u>	<u>40</u>
<u>180</u>	<u>MCW</u>	<u>-</u>	<u>-</u>	<u>85</u>	<u>15</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 320 BHT 101 Gravity - API RW .244 @ 42 ° F Chlorides 52,000 ppm

(A) Initial Hydrostatic 1811  Test \* 1125' T-On Location 19:35  
 (B) First Initial Flow 21  Jars T-Started 20:20  
 (C) First Final Flow 109  Safety Joint \* 75' T-Open 22:04  
 (D) Initial Shut-In 894  Circ Sub \* N/A T-Pulled 2:02  
 (E) Second Initial Flow 117  Hourly Standby T-Out 3:50  
 (F) Second Final Flow 160  Mileage 60RTX2 1168' Comments loaded Tools  
 (G) Final Shut-In 844  Sampler after log  
 (H) Final Hydrostatic 1787  Straddle  Ruined Shale Packer  
 Shale Packer  Ruined Packer  
 Extra Packer  Extra Copies

Initial Open 30  Extra Recorder  
 Initial Shut-In 60  Day Standby  
 Final Flow 60  Accessibility  
 Final Shut-In 90  Sub Total 1368'  
 Sub Total 1368' MP/DST Disc't \_\_\_\_\_

Approved By [Signature] Our Representative James Winters

Tribolite 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.





**PROD COPY INVOICE**

*well.  
Ligh.*

PO Box 93999  
Southlake, TX 76092

Invoice Number: 130134

Invoice Date: Feb 11, 2012

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

**OPERATOR PAY MDC**

Page: 1

**LEASE: Thiele 1-8**

*on*

Federal Tax I.D.#: 20-8651475

**Bill To:**  
Murfin Drlg. Co., Inc.  
250 N. Water.  
STE #300  
Wichita, KS 67202

Customer ID	Well Name# or Customer P.O.	Payment Terms	
Murfin	Thiele #1-8	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	Feb 11, 2012	3/12/12

Quantity	Item	Description	Unit Price	Amount
240.00	MAT	Class A Common	16.25	3,900.00
8.00	MAT	Chloride	58.20	465.60
248.00	SER	Handling	2.25	558.00
80.00	SER	Mileage 248 sx @.11 per sk per mi	27.28	2,182.40
1.00	SER	Surface	1,125.00	1,125.00
55.00	SER	Extra Footage	0.95	52.25
80.00	SER	Pump Truck Mileage	7.00	560.00
1.00	SER	Manifold Head Rental	200.00	200.00
80.00	SER	Light Vehicle Mileage	4.00	320.00
1.00	EQP	8.5/8 Surface Plug	92.00	92.00
1.00	CEMENTER	Andrew Forslund		
1.00	EQUIP OPER	Jerry Yates		
1.00	OPER ASSIST	Tyler Flipse		

Account	Unit	W	No	Description
10203				6460.18 Cement S. Csg. #1-8
3,8085.0001				

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

**\$ 3309.33**

ONLY IF PAID ON OR BEFORE  
**Mar 7, 2012**

Subtotal	9,455.25
Sales Tax	314.26
Total Invoice Amount	9,769.51
Payment/Credit Applied	
<b>TOTAL</b>	<b>9,769.51</b>

*OKAD*

*- 3309.33*

*6460.18*









PO Box 93999  
Southlake, TX 76092

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

# INVOICE

Invoice Number: 130186

Invoice Date: Feb 18, 2012

Page: 1

**OPERATOR PAY MDC**  
**LEASE: Thiele 1-8**

**Bill To:**  
Murfin Drlg. Co., Inc.  
PO BOX 661  
Colby, KS 67701

Federal Tax I.D.#: 20-8651475

**PROD COPY**

Customer ID	Well Name# or Customer P.O.	Payment Terms	
Murfin	Thiele #1-8	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS2-03	Oakley	Feb 18, 2012	3/19/12

Quantity	Item	Description	Unit Price	Amount
130.00	MAT	Class A Common	16.25	2,112.50
90.00	MAT	Pozmix	8.50	765.00
8.00	MAT	Gel	21.25	170.00
55.00	MAT	FloSeal	2.70	148.50
230.00	SER	Handling	2.25	517.50
80.00	SER	Mileage	25.30	2,024.00
1.00	SER	Plugged to Abandon	1,250.00	1,250.00
80.00	SER	Heavy Vehicle Mileage	7.00	560.00
80.00	SER	Light Vehicle Mileage	4.00	320.00
1.00	EQP	7 7/8 Top Wooden Plug	92.00	92.00
1.00	CEMENTER	LaRene Wentz		
1.00	EQUIP OPER	Darren Racette		
1.00	OPER ASSIST	Ethan Glassman		

Account	Unit	Rate	No.	Amount	Description
ID203	Big			5734.81	PTA # 1-8
				3.8085.0001	

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

**\$2785.83**

ONLY IF PAID ON OR BEFORE

**Mar 14, 2012**

Subtotal	7,959.50
Sales Tax	561.14
Total Invoice Amount	8,520.64
Payment/Credit Applied	
<b>TOTAL</b>	<b>8,520.64</b>

- 2785.83  
**5734.81**



# ALLIED CEMENTING CO., LLC. 034591

Federal Tax I.D.# 20-5975804

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

SERVICE POINT: Osage

DATE <u>2-18-12</u>	SEC. <u>8</u>	TWP. <u>2</u>	RANGE <u>24</u>	CALLED OUT	ON LOCATION <u>8:00 Pm</u>	JOB START <u>9:30 Pm</u>	JOB FINISH <u>10:30 Pm</u>
LEASE	WELL #	LOCATION <u>Norton 9W-4N-1/2 E-N int</u>			COUNTY <u>Norton</u>	STATE <u>Ks</u>	
OLD OR <u>NEW</u> (Circle one)							

CONTRACTOR Marfin #21

TYPE OF JOB PIA

HOLE SIZE 7 7/8 T.D. 3822

CASING SIZE DEPTH

TUBING SIZE DEPTH

DRILL PIPE 4 1/2 DEPTH 2085

TOOL DEPTH

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT

CEMENT LEFT IN CSG.

PERFS.

DISPLACEMENT 26.1

OWNER Same

CEMENT

AMOUNT ORDERED 220 SKS 6 3/4 4 1/2 Gal

1/4" Flo Seal

COMMON 130 SKS @ \$16.25 \$2112.50

POZMIX 90 SKS @ \$8.50 \$765.00

OEL 8 SKS @ \$21.25 \$170.00

CHLORIDE @

ASC @

Flo Seal 55 lbs @ \$2.70 \$148.50

HANDLING 230 @ 2.25 \$517.50

MILEAGE 116 Per mile \$2024.00

TOTAL \$5737.50

EQUIPMENT

PUMP TRUCK CEMENTER Lalene

# 431 HELPER Darren

BULK TRUCK

# 347 DRIVER Ethan

BULK TRUCK

# DRIVER

REMARKS:

Mix 25 SKS 2085

Mix 100 SKS 1336

Mix 40 SKS 390

Mix 10 SKS Top 40 ft with wooden

Plug

Plug Mouse Hole

Plug Rat Hole

Thank You

CHARGE TO: Marfin Drilling Co

STREET

CITY STATE ZIP

SERVICE

DEPTH OF JOB 2085

PUMP TRUCK CHARGE \$1250.00

EXTRA FOOTAGE @

MILEAGE 80 @ 7.00 \$560.00

MANIFOLD @

LV mileage @ 4.00 \$320.00

TOTAL \$2130.00

PLUG & FLOAT EQUIPMENT

Top Wooden Plug @ \$92.00

@

@

@

@

TOTAL \$92.00

To Allied Cementing Co., 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.

SALES TAX (If Any)

TOTAL CHARGES

DISCOUNT IF PAID IN 30 DAYS

PRINTED NAME Juan Tinoco

SIGNATURE Juan Tinoco