



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1154798  
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: \_\_\_\_\_



1154798

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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



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

Mark Sievers, Chairman  
Thomas E. Wright, Commissioner  
Shari Feist Albrecht, Commissioner

Sam Brownback, Governor

August 09, 2013

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

Re: ACO1  
API 15-109-21171-00-00  
LANA 1-5  
NE/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 LANA #1-5 1710' FNL 375' FEL Sec. 5-T13S-R32W 3060' 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	2545	+515	-1	2545	+515	-1	2528	+516
B/Anhydrite	2565	+495	Flat	2567	+493	-2	2549	+495
Topeka	3784	-724	Flat	3781	-721	+3	3768	-724
Heebner	4005	-945	+6	4005	-945	+6	3995	-951
Lansing	4044	-984	+9	4046	-986	+7	4037	-993
Stark	4278	-1218	+4	4278	-1218	+4	4266	-1222
BKC	4337	-1277	+8	4341	-1281	+4	4329	-1285
Up Pawnee	4473	-1413	+13	4476	-1416	+10	4470	-1426
Chero Sh	4559	-1499	+11	4558	-1498	+12	4554	-1510
Johnson	4601	-1541	+12	4602	-1542	+11	4597	-1553
Mississippi	4670	-1610	+26	4672	-1612	+24	4680	-1636
RTD	4770						4740	
LTD				4772			4741	

# GEOLOGIST'S REPORT

OPERATOR **MURFIN DRILLING CO INC.**  
 LEASE **#1-5 Lana**

LOCATION **1710' FNL 375' FEL**  
 SEC **5** TWP **13S** RGE **32W**

COUNTY **LOGAN** STATE **KANSAS**  
 FIELD **HIGH HAT WEST**

CONTRACTOR **MURFIN DRILLING CO** RIG NO. **20**  
 COMMENCED **APRIL 16, 2013** COMPLETED **APRIL 29, 2013**  
 MUD DISPLACED **3230'** MUD TYPE **CHEMICAL**  
 DRILLING TIME (VERT FROM **3650'** TO **4770'**  
 SAMPLES SAVED FROM **3680'** TO **4770'**

GEOLOGICAL SUPERVISION FROM **3605'** TO **4770'**  
 GEOLOGIST ON WELL **STEPHEN J MILLER**

FORMATION NAME **LOG** TOP DATUM TOP DATUM  
 ANHYDRITE 2545 +517 2544 +516  
 B/ANHYDRITE 2564 +486 2567 +483  
 TOPEKA 3782 3784 3784 3784  
 HEBBNER 4005 -945 4005 -945  
 LANING 4046 -986 4044 -984  
 STARK SHALE 4278 -1218 4278 -1218  
 B/KANSAS CITY 4340 -1280 4337 -1277  
 CHEROKEE 4558 -1488 4559 -1489  
 MISSISSIPPIAN 4673 -1613 4670 -1610  
 TOTAL DEPTH 4773 -1713 4770 -1710

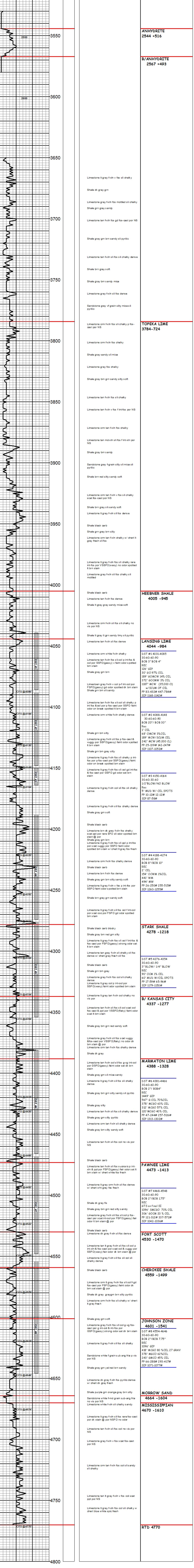
ELEVATIONS  
 KB **3060'**  
 GL **3049'**

CASINO RECORD  
 CONDUCTOR \_\_\_\_\_  
 SURFACE **8.50" @ 21'**  
 PRODUCTION **5127 @ 4780'**

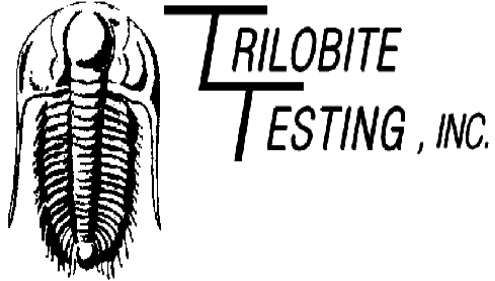
ELECTRICAL SURVEYS:  
**PIONEER**  
 DUAL INDUCTION  
 COMP NEUDENS  
 SONIC  
 MICROLOG

FORMATION NAME	LOG	TOP DATUM	TOP DATUM
ANHYDRITE	2545	+517	2544 +516
B/ANHYDRITE	2564	+486	2567 +483
TOPEKA	3782	-722	3784 3784
HEBBER	4005	-945	4005 -945
LANING	4046	-986	4044 -984
STARK SHALE	4278	-1218	4278 -1218
B/KANSAS CITY	4340	-1280	4337 -1277
CHEROKEE	4558	-1488	4559 -1489
MISSISSIPPIAN	4673	-1613	4670 -1610
TOTAL DEPTH	4773	-1713	4770 -1710

REMARKS  
 API 15-109-21171  
 Drilling Fluids: MORGAN MUD  
 Drill Stem Testing: TRILOBITE  
 Gas Trailer: NONE  
 Reserve Pit Chlorides: 7000 PPM



Operator: **MURFIN DRILLING CO INC.**  
 Lease: **#1-5 Lana**  
 Location: **1710' FNL 375' FEL** SEC. **5** TWP **13S** RGE **32W**  
 County: **LOGAN** State: **KANSAS**



## DRILL STEM TEST REPORT

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

250 N. Water Ste 300  
Wichita KS 67202

ATTN: Steve Miller

**Lana #1-5**

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

Start Date: 2013.04.21 @ 02:46:00

End Date: 2013.04.21 @ 11:38:55

Job Ticket #: 49233                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.04.30 @ 09:15:05

Murfin Drilling Co. Inc  
5-13s-32w Logan,KS  
Lana #1-5  
DST # 1  
LKC " A - B "  
2013.04.21









**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co. Inc  
250 N. Water Ste 300  
Wichita KS 67202  
ATTN: Steve Miller

**5-13s-32w Logan,KS**  
**Lana #1-5**  
Job Ticket: 49233      **DST#: 1**  
Test Start: 2013.04.21 @ 02:46:00

**Tool Information**

Drill Pipe:	Length: 3854.00 ft	Diameter: 3.80 inches	Volume: 54.06 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: 26000.00 lb
Drill Collar:	Length: 179.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose: 10000.00 lb
			<u>Total Volume: 54.94 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4039.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	47.00 ft			
Tool Length:	75.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

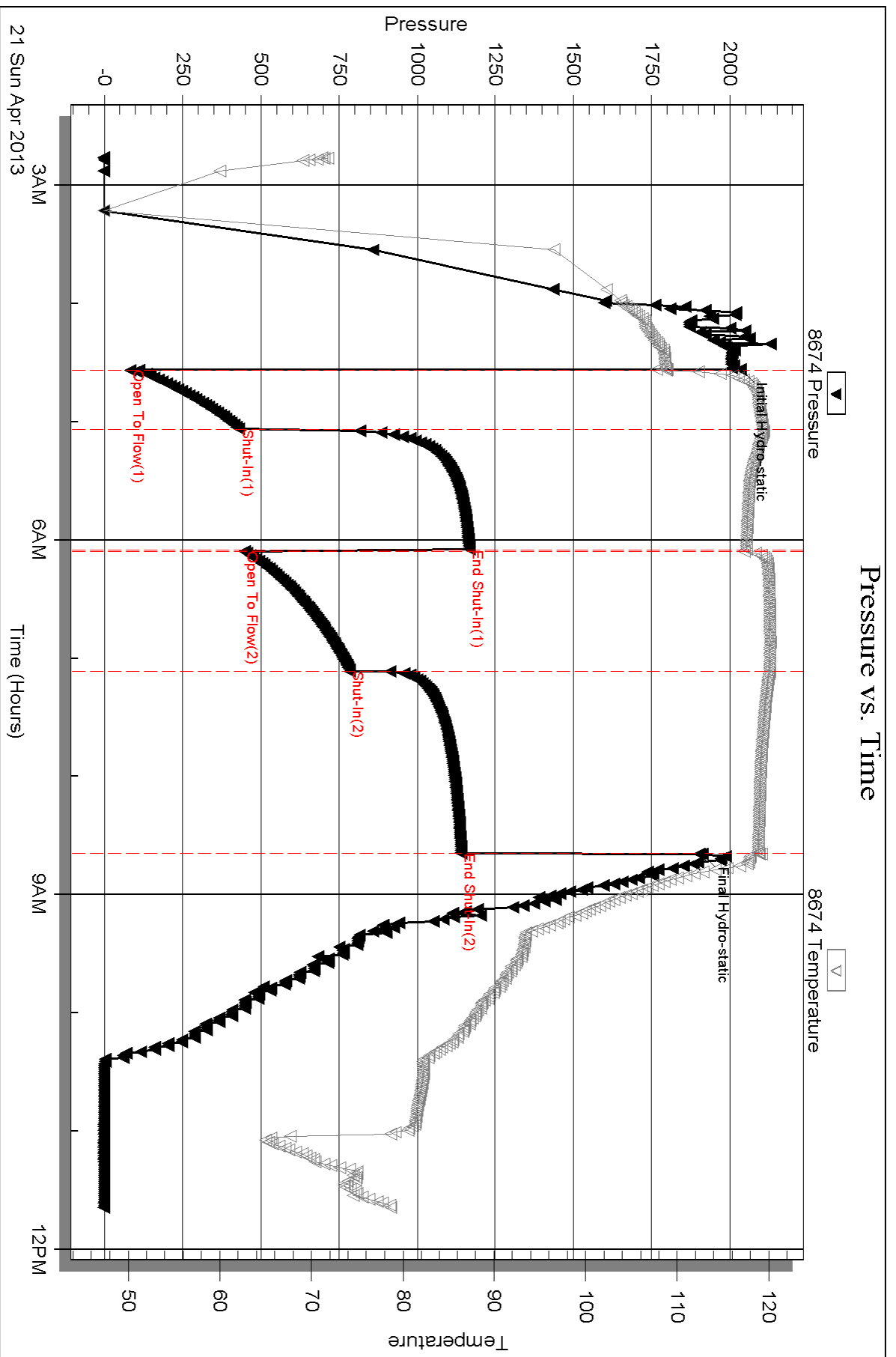
Tool Comments:

<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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<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			4012.00	
Shut In Tool	5.00			4017.00	
Hydraulic tool	5.00			4022.00	
Jars	5.00			4027.00	
Safety Joint	3.00			4030.00	
Packer	5.00			4035.00	28.00      Bottom Of Top Packer
Packer	4.00			4039.00	
Stubb	1.00			4040.00	
Recorder	0.00	8355	Outside	4040.00	
Recorder	0.00	8674	Inside	4040.00	
Perforations	10.00			4050.00	
Change Over Sub	1.00			4051.00	
Drill Pipe	31.00			4082.00	
Change Over Sub	1.00			4083.00	
Bullnose	3.00			4086.00	47.00      Bottom Packers & Anchor

**Total Tool Length: 75.00**



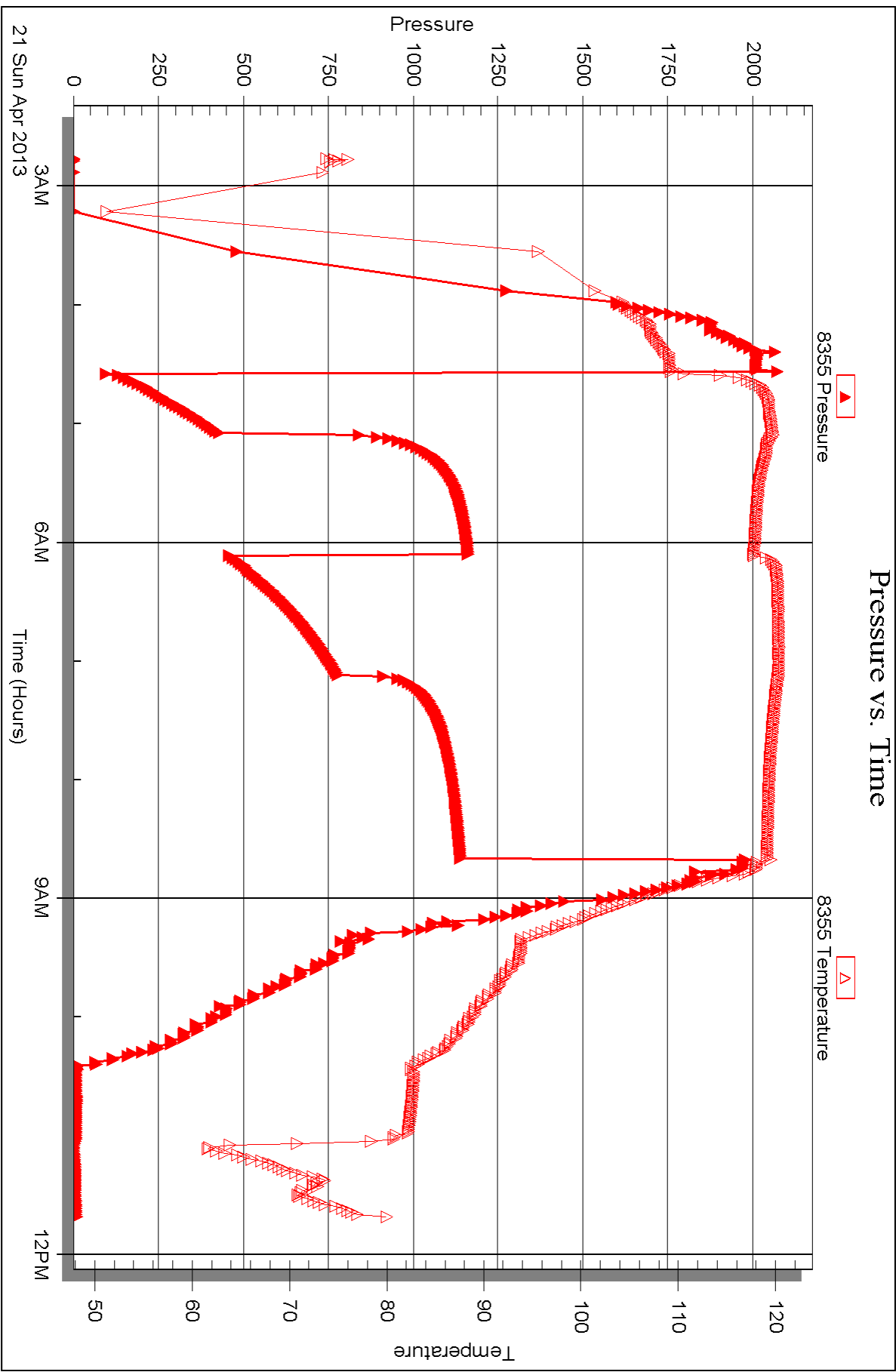


Serial #: 8355

Outside Murfin Drilling Co. Inc

Lana #1-5

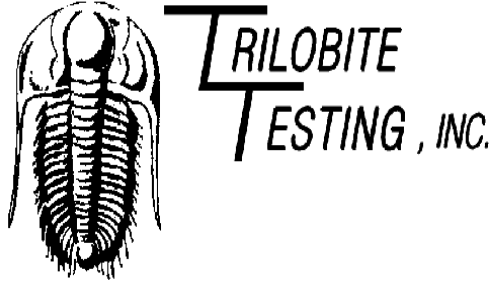
DST Test Number: 1



Triobite Testing, Inc

Ref. No: 49233

Printed: 2013.04.30 @ 09:15:09



## DRILL STEM TEST REPORT

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

250 N. Water Ste 300  
Wichita KS 67202

ATTN: Steve Miller

**Lana #1-5**

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

Start Date: 2013.04.22 @ 00:12:00

End Date: 2013.04.22 @ 08:32:54

Job Ticket #: 49234                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.04.30 @ 09:14:19

Murfin Drilling Co. Inc  
5-13s-32w Logan,KS  
Lana #1-5  
DST # 2  
LKC " E - F "  
2013.04.22



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co. Inc  
 250 N. Water Ste 300  
 Wichita KS 67202  
 ATTN: Steve Miller

**5-13s-32w Logan, KS**  
**Lana #1-5**  
 Job Ticket: 49234      **DST#: 2**  
 Test Start: 2013.04.22 @ 00:12:00

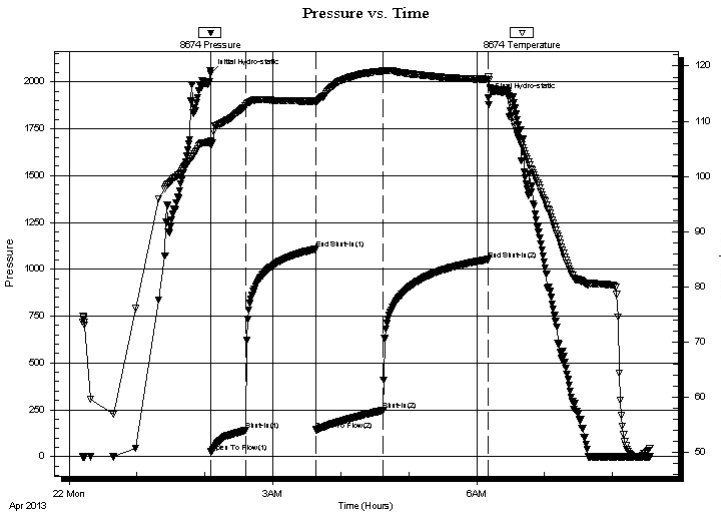
## GENERAL INFORMATION:

Formation: **LKC " E - F "**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 02:05:25 Tester: Will MacLean  
 Time Test Ended: 08:32:54 Unit No: 58  
 Interval: **4088.00 ft (KB) To 4148.00 ft (KB) (TVD)** Reference Elevations: 3060.00 ft (KB)  
 Total Depth: 4148.00 ft (KB) (TVD) 3049.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 11.00 ft

**Serial #: 8674      Inside**  
 Press @ Run Depth: 247.12 psig @ 4089.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.04.22 End Date: 2013.04.22 Last Calib.: 2013.04.22  
 Start Time: 00:12:00 End Time: 08:32:54 Time On Btm: 2013.04.22 @ 02:05:10  
 Time Off Btm: 2013.04.22 @ 06:10:24

**TEST COMMENT:** IF- Weak Surface Blow Built to BOB in 20 1/2 min  
 IS- No Blow  
 FF- Weak Surface Blow Built to BOB in 30 1/4 min  
 FS- No Blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2045.53	106.40	Initial Hydro-static
1	25.11	105.68	Open To Flow (1)
31	139.64	112.80	Shut-In(1)
93	1107.42	113.64	End Shut-In(1)
93	142.80	113.30	Open To Flow (2)
153	247.12	119.09	Shut-In(2)
245	1052.22	117.57	End Shut-In(2)
246	1916.64	118.00	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
242.00	MCW 7% <i>m</i> 93% <i>w</i>	1.76
189.00	MCW 33% <i>m</i> 67% <i>w</i> with Skim of Oil on	2.65
68.00	OMCW 3% <i>oil</i> 38% <i>m</i> 59% <i>w</i>	0.95
1.00	100% <i>oil</i>	0.01

\* 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  
250 N. Water Ste 300  
Wichita KS 67202  
ATTN: Steve Miller

**5-13s-32w Logan,KS**  
**Lana #1-5**  
Job Ticket: 49234      **DST#: 2**  
Test Start: 2013.04.22 @ 00:12:00

**Tool Information**

Drill Pipe:	Length: 3895.00 ft	Diameter: 3.80 inches	Volume: 54.64 bbl	Tool Weight:	1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	24000.00 lb
Drill Collar:	Length: 179.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose:	8000.00 lb
			<u>Total Volume: 55.52 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial	58000.00 lb
Depth to Top Packer:	4088.00 ft			Final	58000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	60.00 ft				
Tool Length:	80.00 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			4069.00	
Shut In Tool	5.00			4074.00	
Hydraulic tool	5.00			4079.00	
Packer	5.00			4084.00	20.00      Bottom Of Top Packer
Packer	4.00			4088.00	
Stubb	1.00			4089.00	
Recorder	0.00	8355	Outside	4089.00	
Recorder	0.00	8674	Inside	4089.00	
Perforations	20.00			4109.00	
Change Over Sub	1.00			4110.00	
Drill Pipe	31.00			4141.00	
Change Over Sub	1.00			4142.00	
Perforations	3.00			4145.00	
Bullnose	3.00			4148.00	60.00      Bottom Packers & Anchor

**Total Tool Length: 80.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co. Inc  
250 N. Water Ste 300  
Wichita KS 67202  
ATTN: Steve Miller

**5-13s-32w Logan,KS**  
**Lana #1-5**  
Job Ticket: 49234      **DST#: 2**  
Test Start: 2013.04.22 @ 00:12:00

## 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:	45000 ppm
Viscosity: 60.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.72 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 6000.00 ppm			
Filter Cake: 2.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
242.00	MCW 7%m 93%w	1.764
189.00	MCW 33%m 67%w with Skim of Oil on Top	2.651
68.00	OMCW 3%oil 38%m 59%w	0.954
1.00	100%oil	0.014

Total Length: 500.00 ft      Total Volume: 5.383 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments: RW is .221 @ 50f = 45000

Serial #: 8674

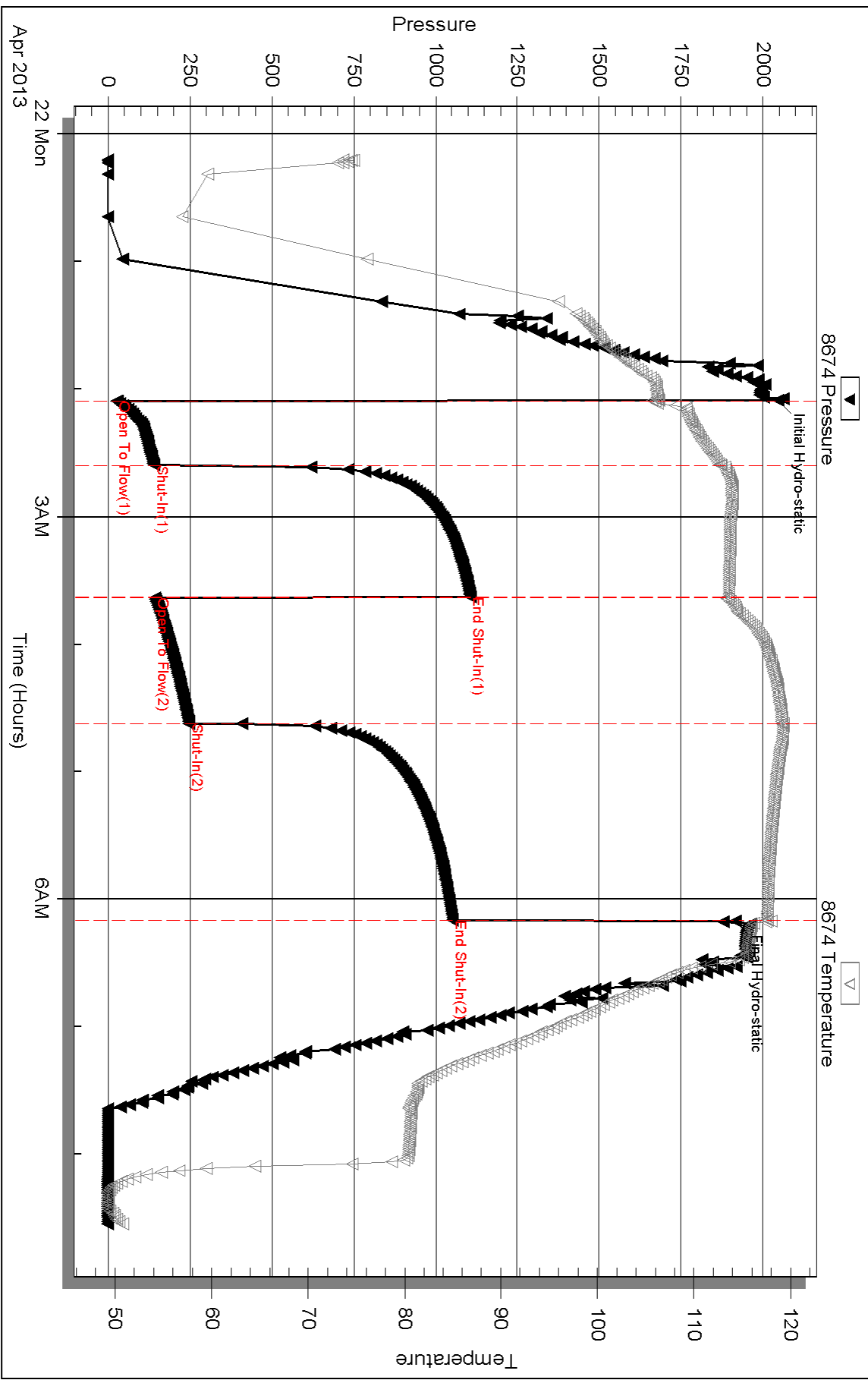
Inside

Murfin Drilling Co. Inc

Lana #1-5

DST Test Number: 2

### Pressure vs. Time



Triobite Testing, Inc

Ref. No: 49234

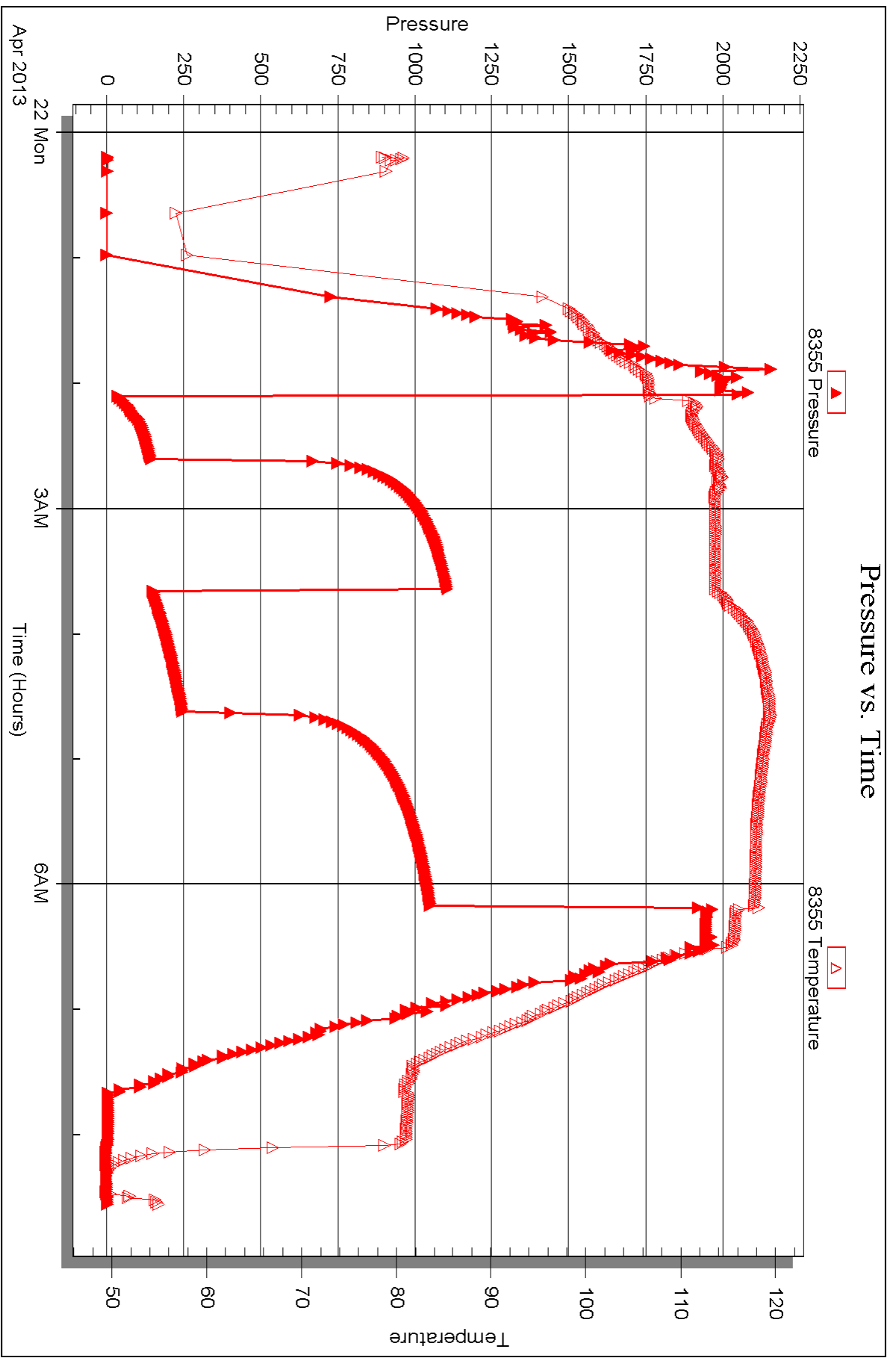
Printed: 2013.04.30 @ 09:14:22

Serial #: 8355

Outside Murfin Drilling Co. Inc

Lana #1-5

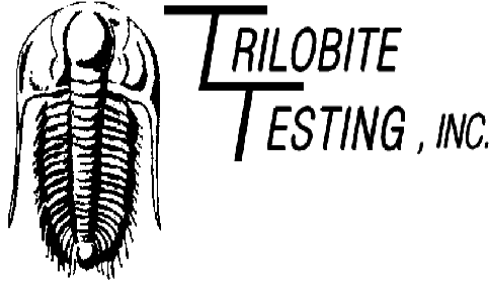
DST Test Number: 2



Triobite Testing, Inc

Ref. No: 49234

Printed: 2013.04.30 @ 09:14:22



## DRILL STEM TEST REPORT

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

250 N. Water Ste 300  
Wichita KS 67202

ATTN: Steve Miller

**Lana #1-5**

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

Start Date: 2013.04.22 @ 17:24:00

End Date: 2013.04.23 @ 00:48:39

Job Ticket #: 49235                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.04.30 @ 09:13:39



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co. Inc  
250 N. Water Ste 300  
Wichita KS 67202  
ATTN: Steve Miller

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

**Lana #1-5**

Job Ticket: 49235

**DST#: 3**

Test Start: 2013.04.22 @ 17:24:00

## GENERAL INFORMATION:

Formation: **LKC " G "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:38:10

Time Test Ended: 00:48:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 58

**Interval: 4150.00 ft (KB) To 4164.00 ft (KB) (TVD)**

Reference Elevations: 3060.00 ft (KB)

Total Depth: 4164.00 ft (KB) (TVD)

3049.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 8674**

**Inside**

Press @ Run Depth: 12.70 psig @ 4151.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.04.22

End Date:

2013.04.23

Last Calib.: 2013.04.23

Start Time: 17:24:00

End Time:

00:48:39

Time On Btm: 2013.04.22 @ 19:37:55

Time Off Btm: 2013.04.22 @ 22:46:54

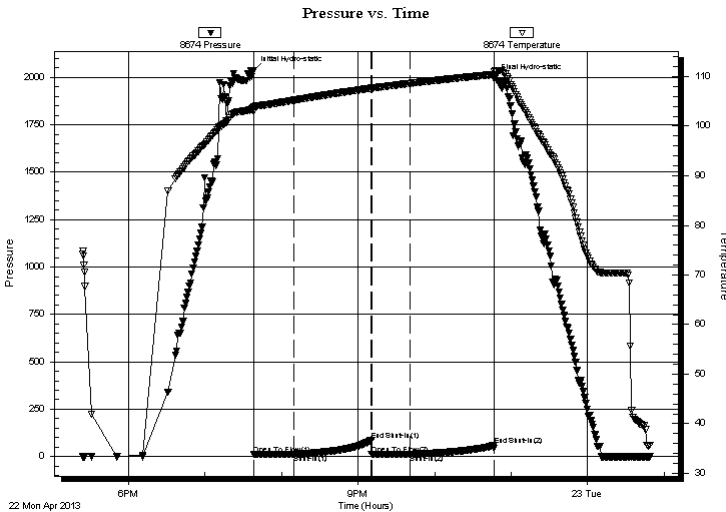
**TEST COMMENT:** IF- Weak Surface Blow 1/2"

IS- No Blow

FF- No Blow

FS- No Blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2036.18	103.79	Initial Hydro-static
1	10.25	102.96	Open To Flow (1)
32	12.45	105.22	Shut-In(1)
93	87.15	107.65	End Shut-In(1)
93	12.46	107.61	Open To Flow (2)
123	12.70	108.62	Shut-In(2)
189	58.14	110.42	End Shut-In(2)
189	1992.82	111.07	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	100% m with a Few Oil Spots	0.02

\* 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  
250 N. Water Ste 300  
Wichita KS 67202  
ATTN: Steve Miller

**5-13s-32w Logan,KS**  
**Lana #1-5**  
Job Ticket: 49235      **DST#: 3**  
Test Start: 2013.04.22 @ 17:24:00

**Tool Information**

Drill Pipe:	Length: 3981.00 ft	Diameter: 3.80 inches	Volume: 55.84 bbl	Tool Weight:	1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	28000.00 lb
Drill Collar:	Length: 179.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose:	8000.00 lb
			<u>Total Volume: 56.72 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial	56000.00 lb
Depth to Top Packer:	4150.00 ft			Final	56000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	14.00 ft				
Tool Length:	34.00 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	
Recorder	0.00	8355	Outside	4151.00	
Recorder	0.00	8674	Inside	4151.00	
Perforations	10.00			4161.00	
Bullnose	3.00			4164.00	14.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>34.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co. Inc  
250 N. Water Ste 300  
Wichita KS 67202  
ATTN: Steve Miller

**5-13s-32w Logan,KS**  
**Lana #1-5**  
Job Ticket: 49235      **DST#: 3**  
Test Start: 2013.04.22 @ 17:24:00

## 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: 73.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.34 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4000.00 ppm			
Filter Cake: 2.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	100% m with a Few Oil Spots	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments:



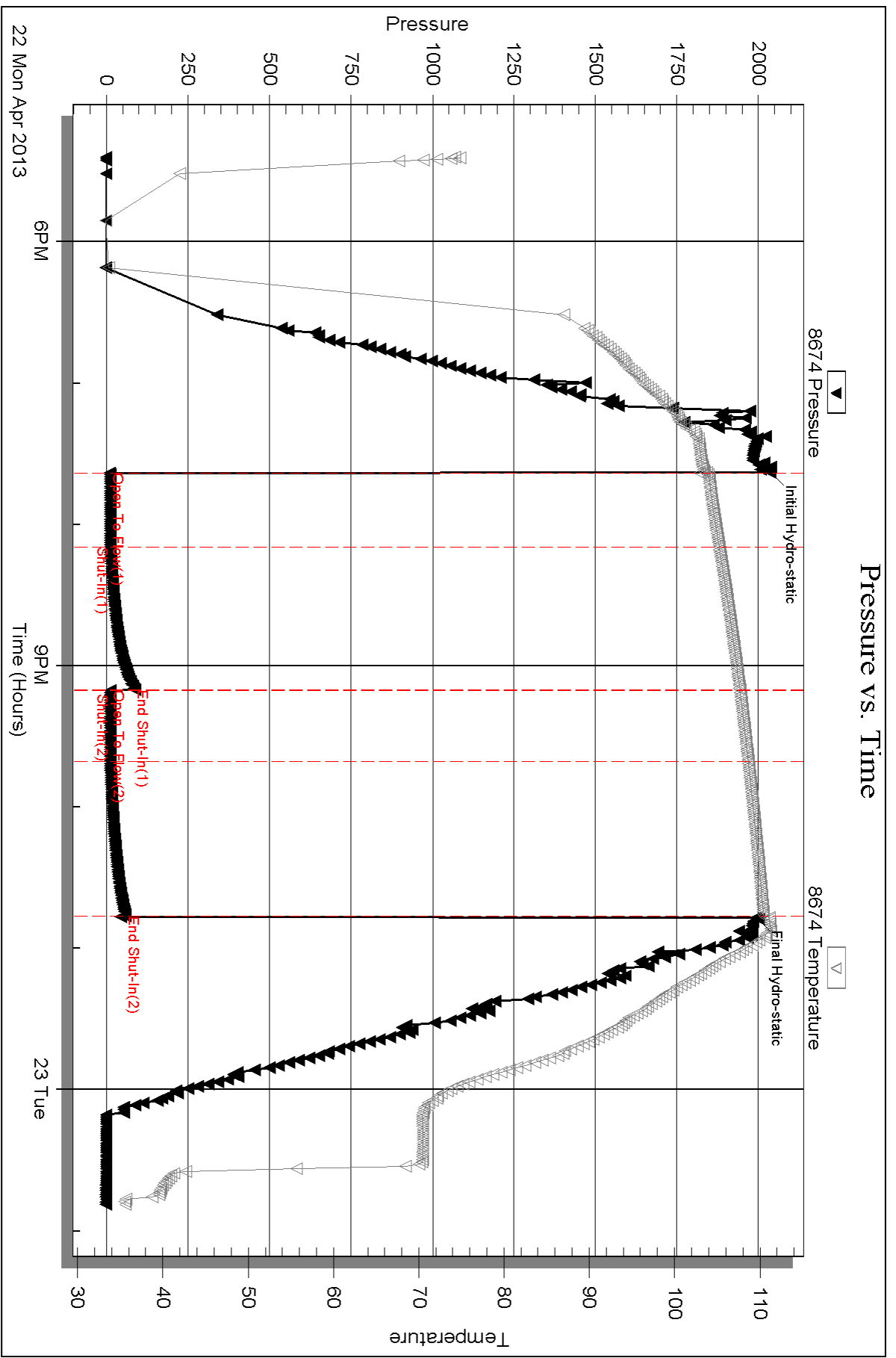
Serial #: 8674

Inside

Murfin Drilling Co. Inc

Lana #1-5

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 49235

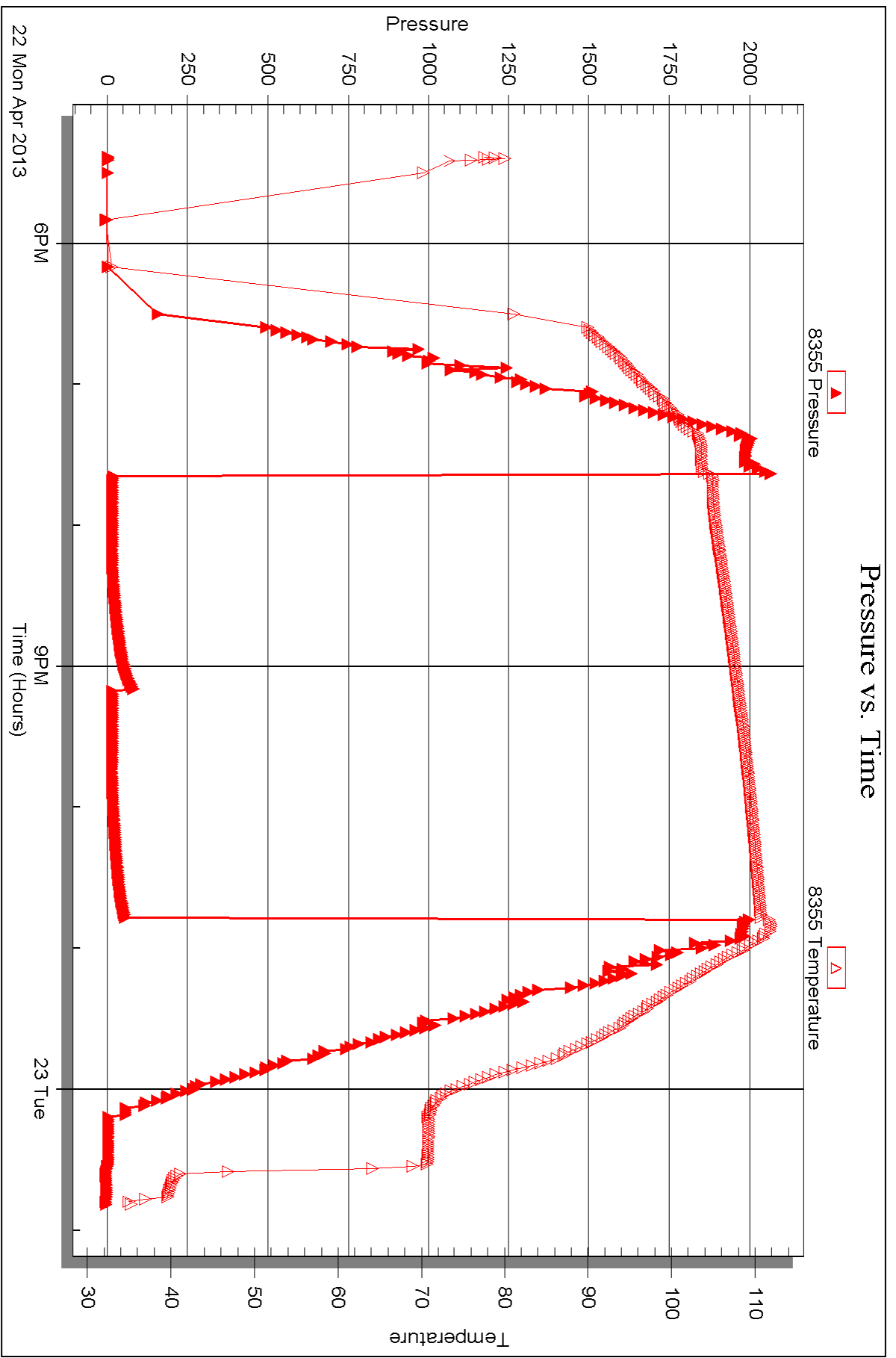
Printed: 2013.04.30 @ 09:13:42

Serial #: 8355

Outside Murfin Drilling Co. Inc

Lana #1-5

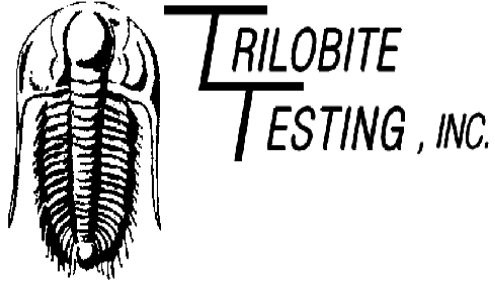
DST Test Number: 3



Triobite Testing, Inc

Ref. No: 49235

Printed: 2013.04.30 @ 09:13:43



## DRILL STEM TEST REPORT

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

250 N. Water Ste 300  
Wichita KS 67202

ATTN: Steve Miller

**Lana #1-5**

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

Start Date: 2013.04.23 @ 21:18:00

End Date: 2013.04.24 @ 06:04:25

Job Ticket #: 49236                      DST #: 4

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

Printed: 2013.04.30 @ 09:12:47

Murfin Drilling Co. Inc  
5-13s-32w Logan,KS  
Lana #1-5  
DST # 4  
LKC " H - J "  
2013.04.23



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co. Inc  
 250 N. Water Ste 300  
 Wichita KS 67202  
 ATTN: Steve Miller

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

**Lana #1-5**

Job Ticket: 49236

**DST#: 4**

Test Start: 2013.04.23 @ 21:18:00

## GENERAL INFORMATION:

Formation: **LKC "H-J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:30:55

Time Test Ended: 06:04:25

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 58

**Interval: 4188.00 ft (KB) To 4274.00 ft (KB) (TVD)**

Reference Elevations: 3060.00 ft (KB)

Total Depth: 4086.00 ft (KB) (TVD)

3049.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 8674**

**Inside**

Press @ Run Depth: 515.97 psig @ 4189.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.04.23

End Date:

2013.04.24

Last Calib.:

2013.04.24

Start Time: 21:18:00

End Time:

06:04:25

Time On Btm:

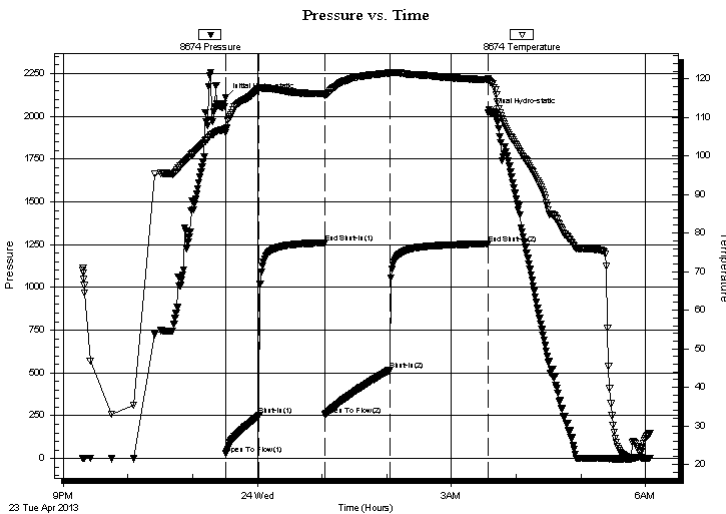
2013.04.23 @ 23:30:40

Time Off Btm:

2013.04.24 @ 03:33:54

**TEST COMMENT:** IF- Surface Blow Built to BOB in 8 1/4 min  
 IS- No Blow  
 FF- Surface Blow Built to BOB in 10 3/4 min  
 FS- No Blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2107.31	107.02	Initial Hydro-static
1	26.43	106.02	Open To Flow (1)
31	250.73	117.42	Shut-In(1)
92	1260.73	116.11	End Shut-In(1)
92	255.54	115.67	Open To Flow (2)
152	515.97	121.47	Shut-In(2)
243	1255.15	119.70	End Shut-In(2)
244	2023.55	119.99	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
368.00	MCW 9% <i>m</i> 91% <i>w</i>	3.53
126.00	MCW 21% <i>m</i> 79% <i>w</i>	1.77
441.00	WCM 48% <i>w</i> 52% <i>m</i>	6.19
154.00	OWCM 1% <i>oil</i> 32% <i>w</i> 67% <i>m</i>	2.16
2.00	100% <i>oil</i>	0.03

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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\* Recovery from multiple tests





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co. Inc  
250 N. Water Ste 300  
Wichita KS 67202  
ATTN: Steve Miller

**5-13s-32w Logan,KS**  
**Lana #1-5**  
Job Ticket: 49236      **DST#: 4**  
Test Start: 2013.04.23 @ 21:18:00

**Tool Information**

Drill Pipe:	Length: 4015.00 ft	Diameter: 3.80 inches	Volume: 56.32 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 179.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose: 12000.00 lb
			<u>Total Volume: 57.20 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	4188.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	86.00 ft			
Tool Length:	106.00 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			4169.00	
Shut In Tool	5.00			4174.00	
Hydraulic tool	5.00			4179.00	
Packer	5.00			4184.00	20.00 Bottom Of Top Packer
Packer	4.00			4188.00	
Stubb	1.00			4189.00	
Recorder	0.00	8355	Outside	4189.00	
Recorder	0.00	8674	Inside	4189.00	
Perforations	15.00			4204.00	
Change Over Sub	1.00			4205.00	
Drill Pipe	63.00			4268.00	
Change Over Sub	1.00			4269.00	
Perforations	2.00			4271.00	
Bullnose	3.00			4274.00	86.00 Bottom Packers & Anchor

**Total Tool Length: 106.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co. Inc  
250 N. Water Ste 300  
Wichita KS 67202  
ATTN: Steve Miller

**5-13s-32w Logan,KS**  
**Lana #1-5**  
Job Ticket: 49236      **DST#: 4**  
Test Start: 2013.04.23 @ 21:18:00

## 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:	70000 ppm
Viscosity: 52.00 sec/qt	Cushion Volume: bbl		
Water Loss: 5.95 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4400.00 ppm			
Filter Cake: 2.00 inches			

## Recovery Information

Recovery Table

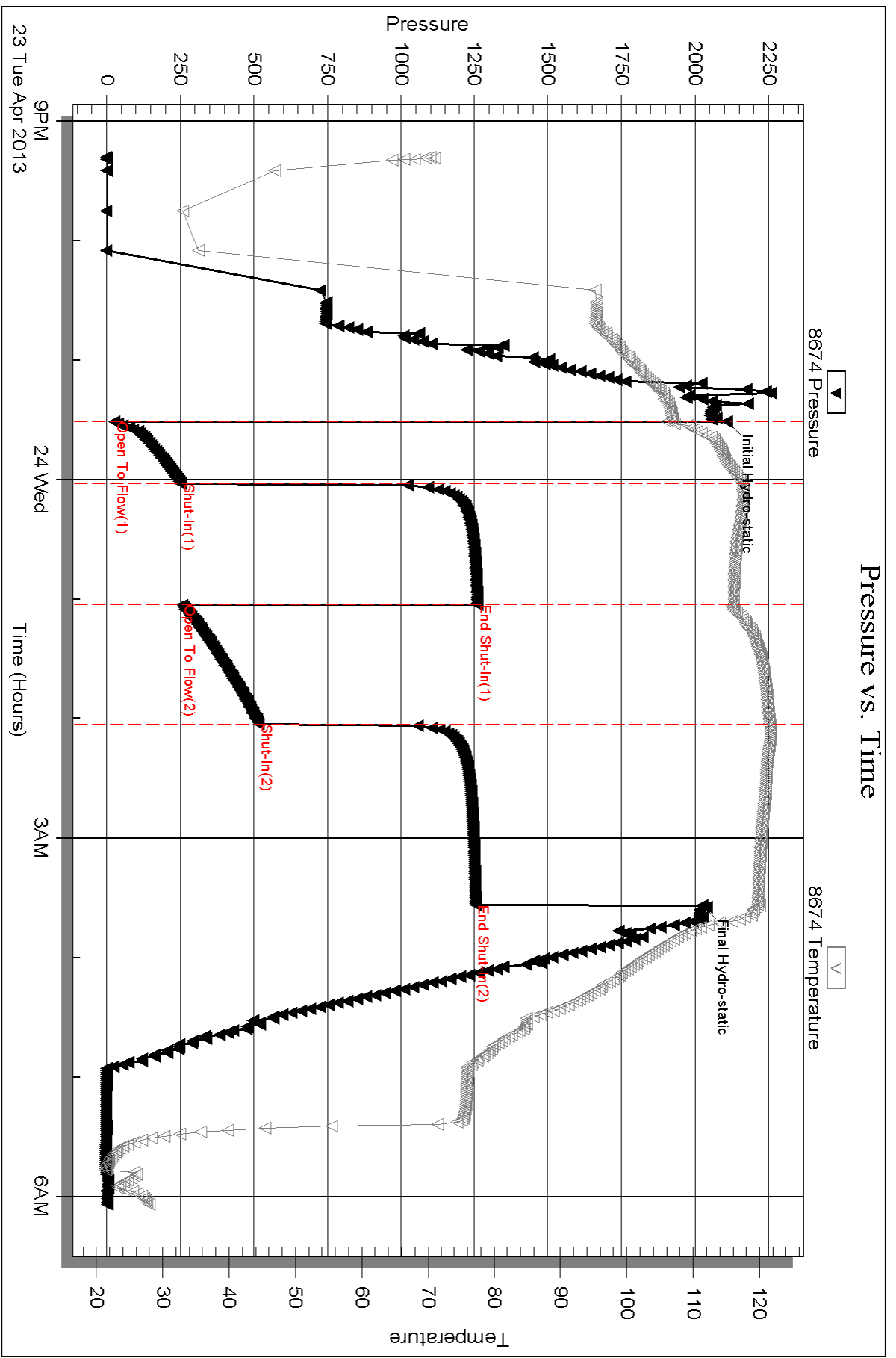
Length ft	Description	Volume bbl
368.00	MCW 9% <i>m</i> 91% <i>w</i>	3.531
126.00	MCW 21% <i>m</i> 79% <i>w</i>	1.767
441.00	WCM 48% <i>w</i> 52% <i>m</i>	6.186
154.00	OWCM 1% <i>oil</i> 32% <i>w</i> 67% <i>m</i>	2.160
2.00	100% <i>oil</i>	0.028

Total Length: 1091.00 ft      Total Volume: 13.672 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments: RW is .295 @ 25f = 70000



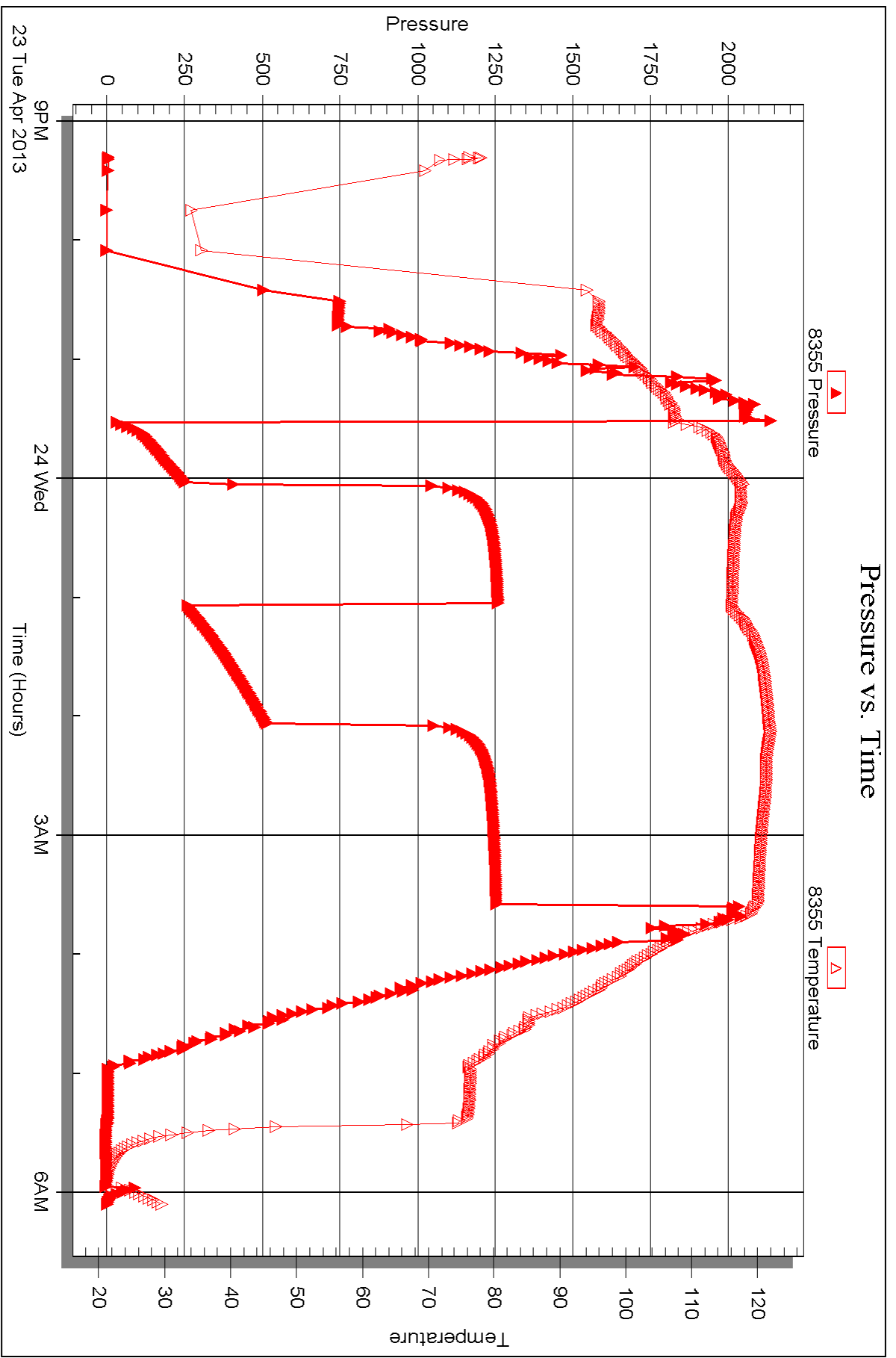


Serial #: 8355

Outside Murfin Drilling Co. Inc

Lana #1-5

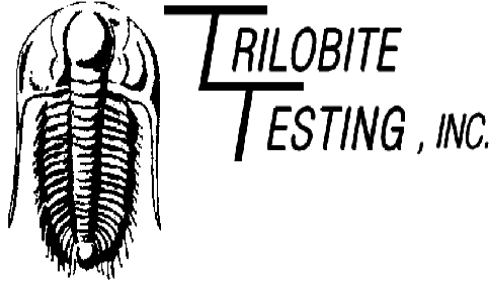
DST Test Number: 4



Triobite Testing, Inc

Ref. No: 49236

Printed: 2013.04.30 @ 09:12:52



## DRILL STEM TEST REPORT

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

250 N. Water Ste 300  
Wichita KS 67202

ATTN: Steve Miller

**Lana #1-5**

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

Start Date: 2013.04.24 @ 20:38:00

End Date: 2013.04.25 @ 03:46:39

Job Ticket #: 49237                      DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.04.30 @ 09:12:00



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co. Inc  
250 N. Water Ste 300  
Wichita KS 67202  
ATTN: Steve Miller

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

**Lana #1-5**

Job Ticket: 49237

**DST#: 5**

Test Start: 2013.04.24 @ 20:38:00

## GENERAL INFORMATION:

Formation: **LKC " K - L "**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 22:47:25 Tester: Will MacLean  
 Time Test Ended: 03:46:39 Unit No: 58  
 Interval: **4276.00 ft (KB) To 4354.00 ft (KB) (TVD)** Reference Elevations: 3060.00 ft (KB)  
 Total Depth: 4354.00 ft (KB) (TVD) 3049.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 11.00 ft

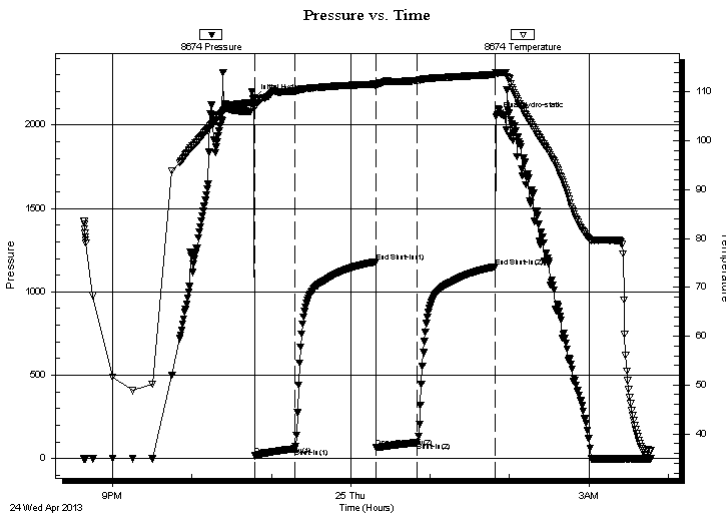
## Serial #: 8674

Inside

Press @ Run Depth: 96.14 psig @ 4277.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.04.24 End Date: 2013.04.25 Last Calib.: 2013.04.25  
 Start Time: 20:38:00 End Time: 03:46:39 Time On Btm: 2013.04.24 @ 22:46:55  
 Time Off Btm: 2013.04.25 @ 01:49:39

TEST COMMENT: IF- Weak Surface Blow Built to 3"  
 IS- No Blow  
 FF- Weak Surface Blow Built to 1/4"  
 FS- No Blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2158.28	107.30	Initial Hydro-static
1	17.36	106.86	Open To Flow (1)
31	59.35	110.16	Shut-In(1)
92	1179.73	111.60	End Shut-In(1)
93	65.30	111.12	Open To Flow (2)
124	96.14	112.33	Shut-In(2)
183	1150.51	113.52	End Shut-In(2)
183	2049.00	113.92	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	100% mud w with Oil Spots	0.30
90.00	OCM 1%oil 99%m	0.44

## 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  
250 N. Water Ste 300  
Wichita KS 67202  
ATTN: Steve Miller

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

**Lana #1-5**

Job Ticket: 49237

**DST#: 5**

Test Start: 2013.04.24 @ 20:38:00

## GENERAL INFORMATION:

Formation: **LKC " K - L "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:47:25

Time Test Ended: 03:46:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 58

**Interval: 4276.00 ft (KB) To 4354.00 ft (KB) (TVD)**

Reference Elevations: 3060.00 ft (KB)

Total Depth: 4354.00 ft (KB) (TVD)

3049.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 8355 Outside**

Press @ Run Depth: psig @ 4277.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.04.24

End Date:

2013.04.25

Last Calib.:

2013.04.25

Start Time: 20:37:15

End Time:

03:47:24

Time On Btm:

Time Off Btm:

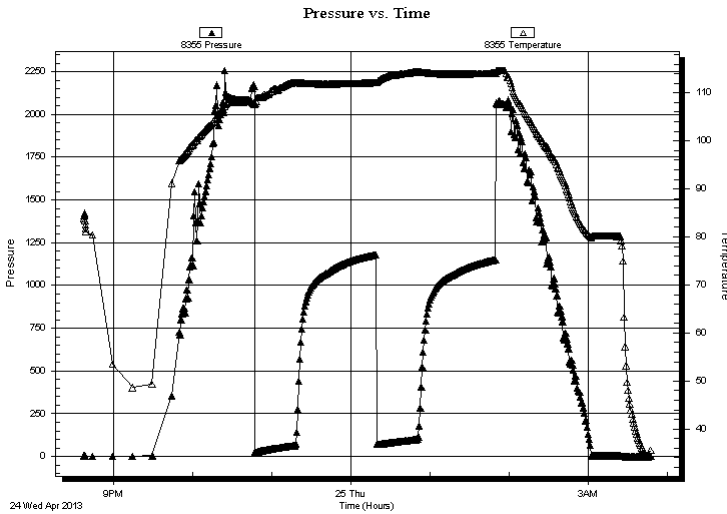
**TEST COMMENT:** IF- Weak Surface Blow Built to 3"

IS- No Blow

FF- Weak Surface Blow Built to 1/4"

FS- No Blow

## PRESSURE SUMMARY



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

Length (ft)	Description	Volume (bbl)
60.00	100% mud w with Oil Spots	0.30
90.00	OCM 1%oil 99%m	0.44

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co. Inc  
250 N. Water Ste 300  
Wichita KS 67202  
ATTN: Steve Miller

**5-13s-32w Logan,KS**  
**Lana #1-5**  
Job Ticket: 49237      **DST#: 5**  
Test Start: 2013.04.24 @ 20:38:00

**Tool Information**

Drill Pipe:	Length: 4109.00 ft	Diameter: 3.80 inches	Volume: 57.64 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 179.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose: 20000.00 lb
			<u>Total Volume: 58.52 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4276.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	78.00 ft			
Tool Length:	98.00 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			4257.00	
Shut In Tool	5.00			4262.00	
Hydraulic tool	5.00			4267.00	
Packer	5.00			4272.00	20.00      Bottom Of Top Packer
Packer	4.00			4276.00	
Stubb	1.00			4277.00	
Recorder	0.00	8355	Outside	4277.00	
Recorder	0.00	8674	Inside	4277.00	
Perforations	9.00			4286.00	
Change Over Sub	1.00			4287.00	
Drill Pipe	63.00			4350.00	
Change Over Sub	1.00			4351.00	
Bullnose	3.00			4354.00	78.00      Bottom Packers & Anchor

**Total Tool Length: 98.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co. Inc  
250 N. Water Ste 300  
Wichita KS 67202  
ATTN: Steve Miller

**5-13s-32w Logan,KS**  
**Lana #1-5**  
Job Ticket: 49237      **DST#: 5**  
Test Start: 2013.04.24 @ 20:38:00

## 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: 54.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.75 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 6300.00 ppm			
Filter Cake: 2.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	100% mud with Oil Spots	0.295
90.00	OCM 1%oil 99%m	0.443

Total Length: 150.00 ft      Total Volume: 0.738 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments:

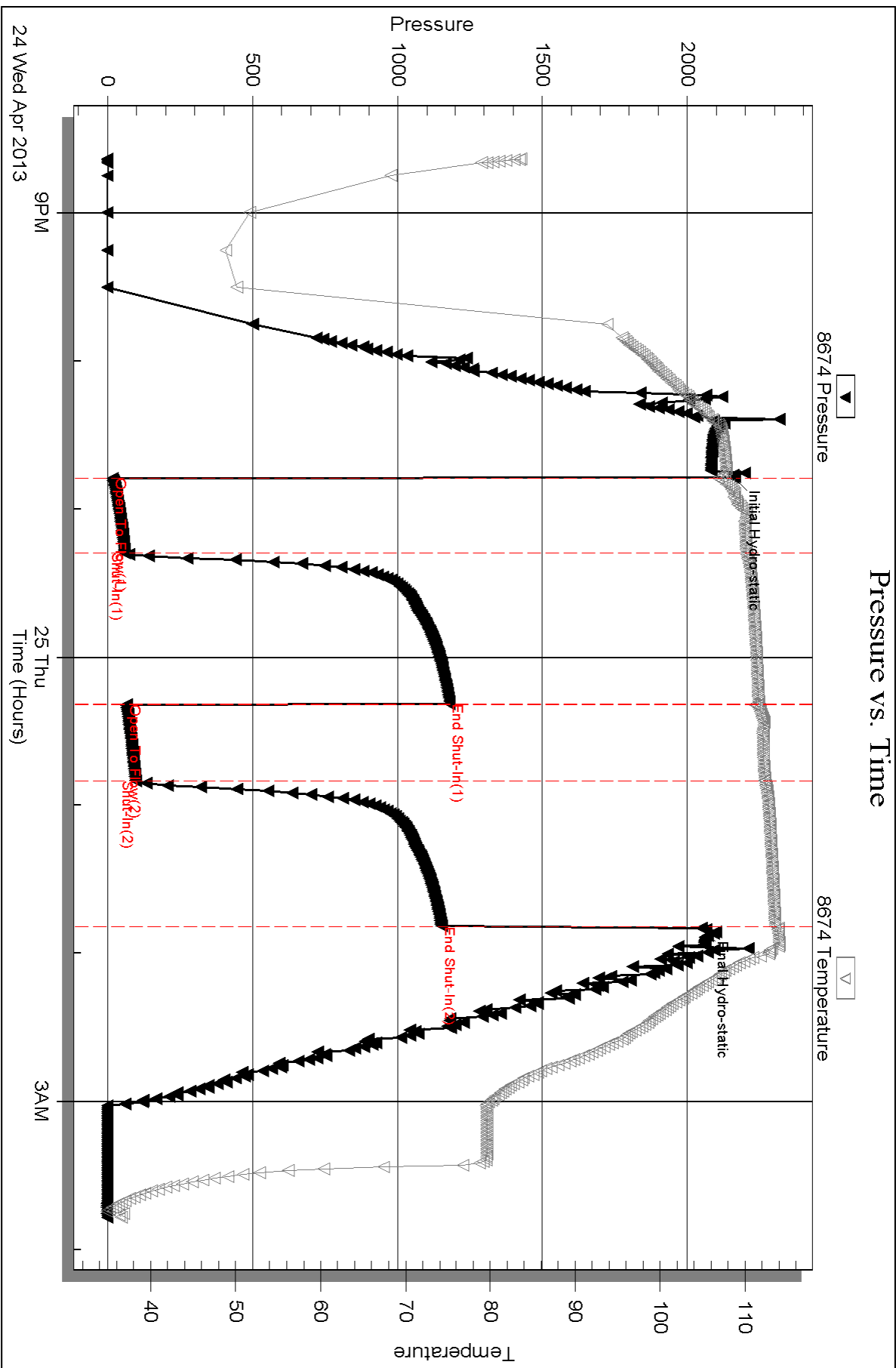
Serial #: 8674

Inside

Murfin Drilling Co. Inc

Lana #1-5

DST Test Number: 5



Triobite Testing, Inc

Ref. No: 49237

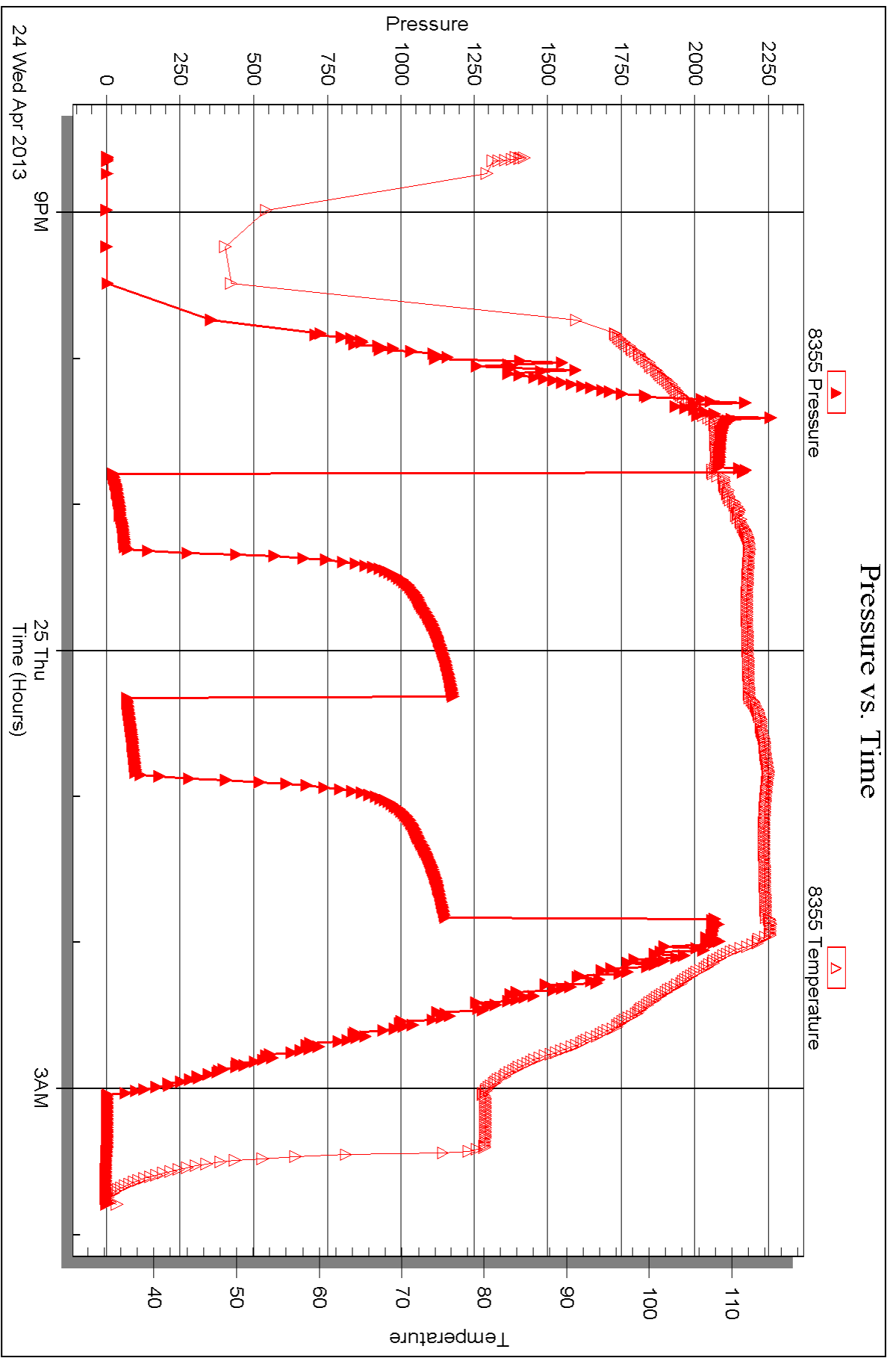
Printed: 2013.04.30 @ 09:12:03

Serial #: 8355

Outside Murfin Drilling Co. Inc

Lana #1-5

DST Test Number: 5

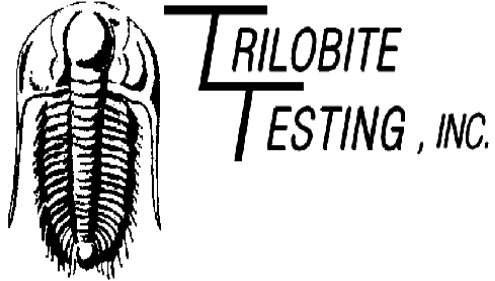


Triobite Testing, Inc

Ref. No: 49237

Printed: 2013.04.30 @ 09:12:03





## DRILL STEM TEST REPORT

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

250 N. Water Ste 300  
Wichita KS 67202

ATTN: Steve Miller

**Lana #1-5**

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

Start Date: 2013.04.25 @ 21:40:00

End Date: 2013.04.26 @ 07:27:10

Job Ticket #: 49238                      DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.04.30 @ 09:10:23



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co. Inc  
 250 N. Water Ste 300  
 Wichita KS 67202  
 ATTN: Steve Miller

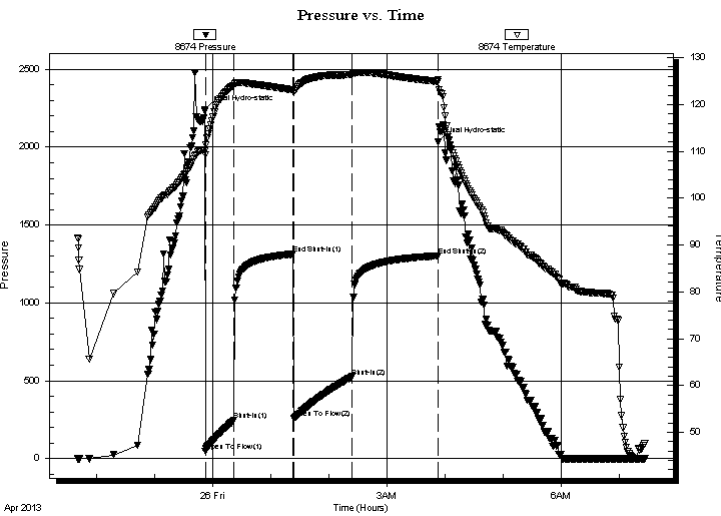
**5-13s-32w Logan, KS**  
**Lana #1-5**  
 Job Ticket: 49238      **DST#: 6**  
 Test Start: 2013.04.25 @ 21:40:00

## GENERAL INFORMATION:

Formation: **Marmanton**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 23:51:55  
 Tester: Will MacLean  
 Time Test Ended: 07:27:10  
 Unit No: 58  
 Interval: **4381.00 ft (KB) To 4466.00 ft (KB) (TVD)**  
 Reference Elevations: 3060.00 ft (KB)  
 Total Depth: 4466.00 ft (KB) (TVD)  
 3049.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Good  
 KB to GR/CF: 11.00 ft

**Serial #: 8674      Inside**  
 Press @ Run Depth: 526.23 psig @ 4383.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2013.04.25      End Date: 2013.04.26      Last Calib.: 2013.04.26  
 Start Time: 21:40:00      End Time: 07:27:10      Time On Btm: 2013.04.25 @ 23:51:40  
 Time Off Btm: 2013.04.26 @ 03:52:39

**TEST COMMENT:** IF- Surface Blow Built to BOB in 2 min  
 IS- Weak Surface Blow in 4 min Built to 7 3/4"  
 FF- Surface Blow Built to BOB in 3 3/4 min  
 FS- Weak Surface Blow in 1 1/2 min Built to 5 1/2"



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2239.59	110.01	Initial Hydro-static
1	47.85	109.29	Open To Flow (1)
30	244.71	124.07	Shut-In(1)
91	1313.50	123.10	End Shut-In(1)
92	257.35	122.57	Open To Flow (2)
153	526.23	126.35	Shut-In(2)
241	1302.05	124.93	End Shut-In(2)
241	2032.37	125.30	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	GMCO 25%g 35%m 40%oil	0.59
312.00	MGCO 8%m 35%g 57%oil	3.84
378.00	MGCO 5%m 32%g 63%oil	5.30
252.00	GO 34%g 66%oil	3.53
315.00	GO 20%g 80%oil	4.42
0.00	1449' of GIP	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  
250 N. Water Ste 300  
Wichita KS 67202  
ATTN: Steve Miller

**5-13s-32w Logan,KS**  
**Lana #1-5**  
Job Ticket: 49238      **DST#: 6**  
Test Start: 2013.04.25 @ 21:40:00

**Tool Information**

Drill Pipe:	Length: 4204.00 ft	Diameter: 3.80 inches	Volume: 58.97 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 179.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose: 16000.00 lb
			<u>Total Volume: 59.85 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4381.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	85.00 ft			
Tool Length:	105.00 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			4362.00	
Shut In Tool	5.00			4367.00	
Hydraulic tool	5.00			4372.00	
Packer	5.00			4377.00	20.00 Bottom Of Top Packer
Packer	4.00			4381.00	
Stubb	1.00			4382.00	
Perforations	1.00			4383.00	
Recorder	0.00	8355	Outside	4383.00	
Recorder	0.00	8674	Inside	4383.00	
Perforations	15.00			4398.00	
Change Over Sub	1.00			4399.00	
Drill Pipe	63.00			4462.00	
Change Over Sub	1.00			4463.00	
Bullnose	3.00			4466.00	85.00 Bottom Packers & Anchor

**Total Tool Length: 105.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co. Inc  
250 N. Water Ste 300  
Wichita KS 67202  
ATTN: Steve Miller

**5-13s-32w Logan,KS**  
**Lana #1-5**  
Job Ticket: 49238      **DST#: 6**  
Test Start: 2013.04.25 @ 21:40:00

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 27 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: 6200.00 ppm		
Filter Cake: 2.00 inches		

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	GMCO 25%g 35%m 40%oil	0.590
312.00	MGCO 8%m 35%g 57%oil	3.839
378.00	MGCO 5%m 32%g 63%oil	5.302
252.00	GO 34%g 66%oil	3.535
315.00	GO 20%g 80%oil	4.419
0.00	1449' of GIP	0.000

Total Length: 1377.00 ft      Total Volume: 17.685 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments: API is 26 @ 50f = 27

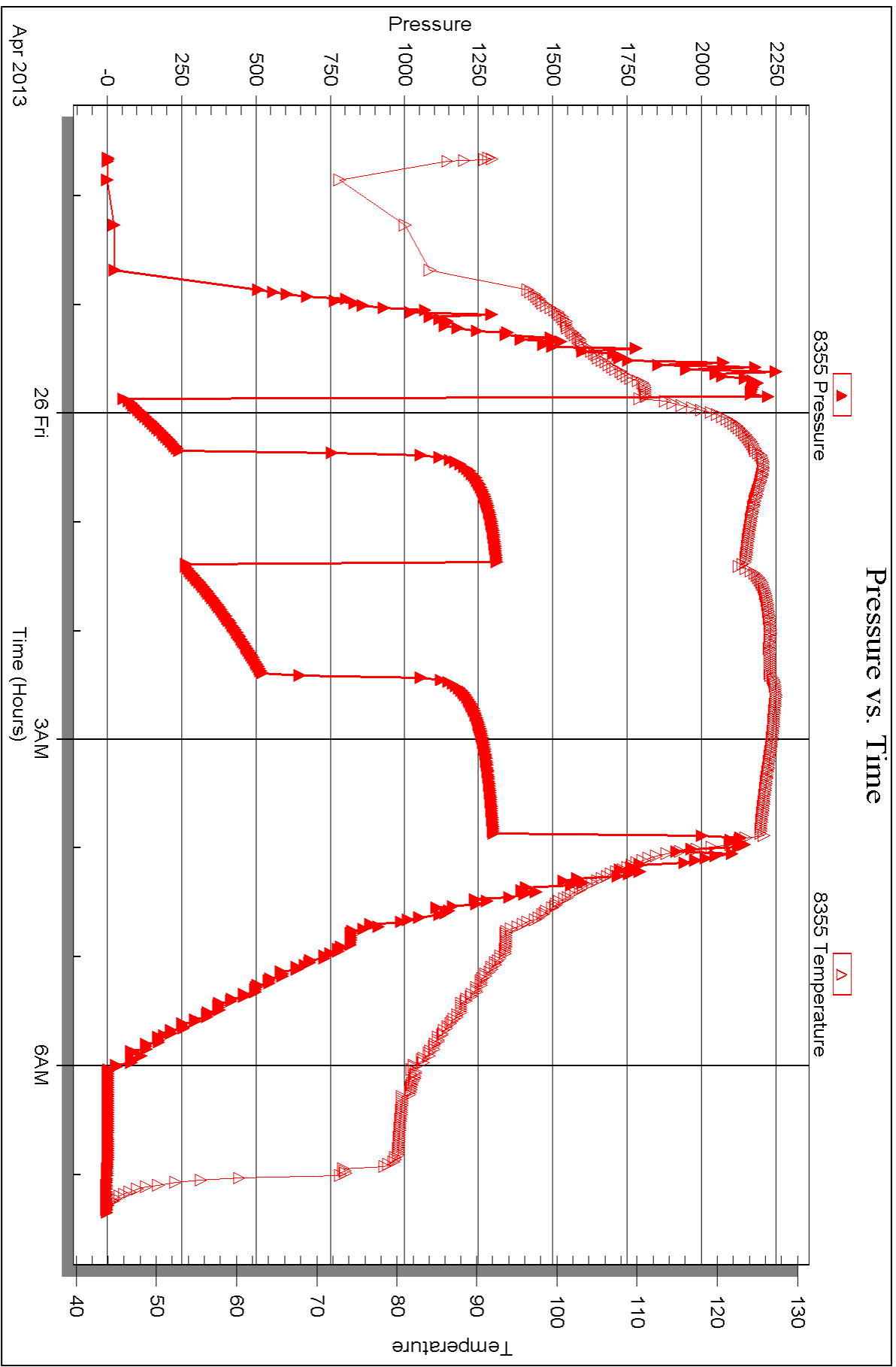


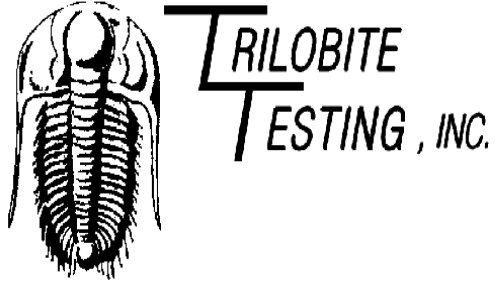
Serial #: 8355

Outside Murfin Drilling Co. Inc

Lana #1-5

DST Test Number: 6





## DRILL STEM TEST REPORT

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

250 N. Water Ste 300  
Wichita KS 67202

ATTN: Steve Miller

**Lana #1-5**

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

Start Date: 2013.04.26 @ 23:36:00

End Date: 2013.04.27 @ 10:02:55

Job Ticket #: 49239                      DST #: 7

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

Printed: 2013.04.30 @ 09:07:20





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co. Inc  
 250 N. Water Ste 300  
 Wichita KS 67202  
 ATTN: Steve Miller

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

**Lana #1-5**

Job Ticket: 49239

**DST#: 7**

Test Start: 2013.04.26 @ 23:36:00

## GENERAL INFORMATION:

Formation: **Pawnee / Ft. Scott**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:43:25

Time Test Ended: 10:02:55

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 58

**Interval: 4468.00 ft (KB) To 4548.00 ft (KB) (TVD)**

Total Depth: 4548.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3060.00 ft (KB)

3049.00 ft (CF)

KB to GR/CF: 11.00 ft

**Serial #: 8674 Inside**

Press @ Run Depth: 572.15 psig @ 4470.00 ft (KB)

Start Date: 2013.04.26

End Date: 2013.04.27

Start Time: 23:36:00

End Time: 10:02:55

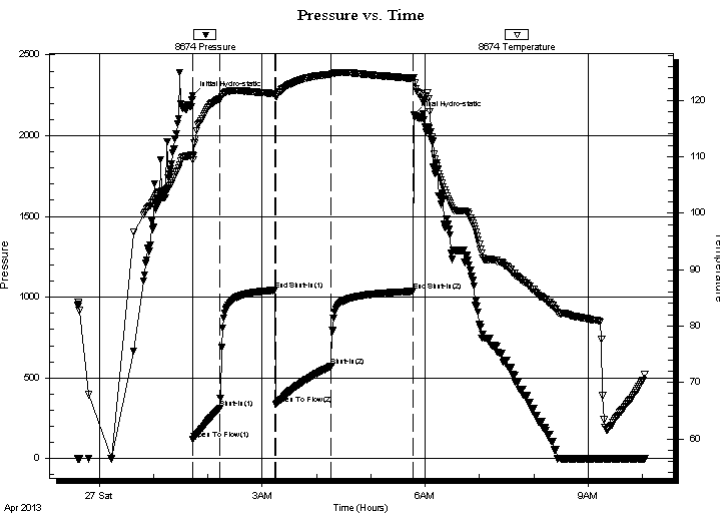
Capacity: 8000.00 psig

Last Calib.: 2013.04.27

Time On Btm: 2013.04.27 @ 01:43:10

Time Off Btm: 2013.04.27 @ 05:47:24

**TEST COMMENT:** IF- Surface Blow Built to BOB in 2 min  
 IS- Weak Surface Blow in 1 1/4 min Built to BOB in 48 min  
 FF- Surface Blow Built to BOB in 1 3/4 min  
 FS- Weak Surface Blow Built to BOB in 25 min ( Gas to Surface in 70 min )



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2248.79	110.20	Initial Hydro-static
1	121.99	109.52	Open To Flow (1)
30	312.05	120.28	Shut-In(1)
91	1042.81	121.18	End Shut-In(1)
92	337.91	120.69	Open To Flow (2)
153	572.15	124.62	Shut-In(2)
244	1036.44	123.83	End Shut-In(2)
245	2127.12	123.98	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
243.00	GOCM 18%g 37%oil 45%m	1.78
63.00	OGCM 10%oil 30%g 60%m	0.88
378.00	MGCO 15%m 26%g 59%oil	5.30
441.00	MGCO 3%m 28%g 69%oil	6.19
277.00	MGCO 2%m 9%g 89%oil	3.89
0.00	2999' of GIP	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  
250 N. Water Ste 300  
Wichita KS 67202  
ATTN: Steve Miller

**5-13s-32w Logan,KS**  
**Lana #1-5**  
Job Ticket: 49239      **DST#: 7**  
Test Start: 2013.04.26 @ 23:36:00

**Tool Information**

Drill Pipe:	Length: 4299.00 ft	Diameter: 3.80 inches	Volume: 60.30 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:	24000.00 lb
Drill Collar:	Length: 179.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose:	18000.00 lb
			<u>Total Volume: 61.18 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial	62000.00 lb
Depth to Top Packer:	4468.00 ft			Final	64000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	80.00 ft				
Tool Length:	100.00 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			4449.00	
Shut In Tool	5.00			4454.00	
Hydraulic tool	5.00			4459.00	
Packer	5.00			4464.00	20.00      Bottom Of Top Packer
Packer	4.00			4468.00	
Stubb	1.00			4469.00	
Perforations	1.00			4470.00	
Recorder	0.00	8355	Outside	4470.00	
Recorder	0.00	8674	Inside	4470.00	
Perforations	10.00			4480.00	
Change Over Sub	1.00			4481.00	
Drill Pipe	63.00			4544.00	
Change Over Sub	1.00			4545.00	
Bullnose	3.00			4548.00	80.00      Bottom Packers & Anchor

**Total Tool Length: 100.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co. Inc  
250 N. Water Ste 300  
Wichita KS 67202  
ATTN: Steve Miller

**5-13s-32w Logan,KS**  
**Lana #1-5**  
Job Ticket: 49239      **DST#: 7**  
Test Start: 2013.04.26 @ 23:36:00

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 32 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 57.00 sec/qt	Cushion Volume: bbl	
Water Loss: 6.78 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 6300.00 ppm		
Filter Cake: 2.00 inches		

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
243.00	GOCM 18%g 37%oil 45%m	1.778
63.00	OGCM 10%oil 30%g 60%m	0.884
378.00	MGCO 15%m 26%g 59%oil	5.302
441.00	MGCO 3%m 28%g 69%oil	6.186
277.00	MGCO 2%m 9%g 89%oil	3.886
0.00	2999' of GIP	0.000

Total Length: 1402.00 ft      Total Volume: 18.036 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments: API is 32 @ 60f = 32

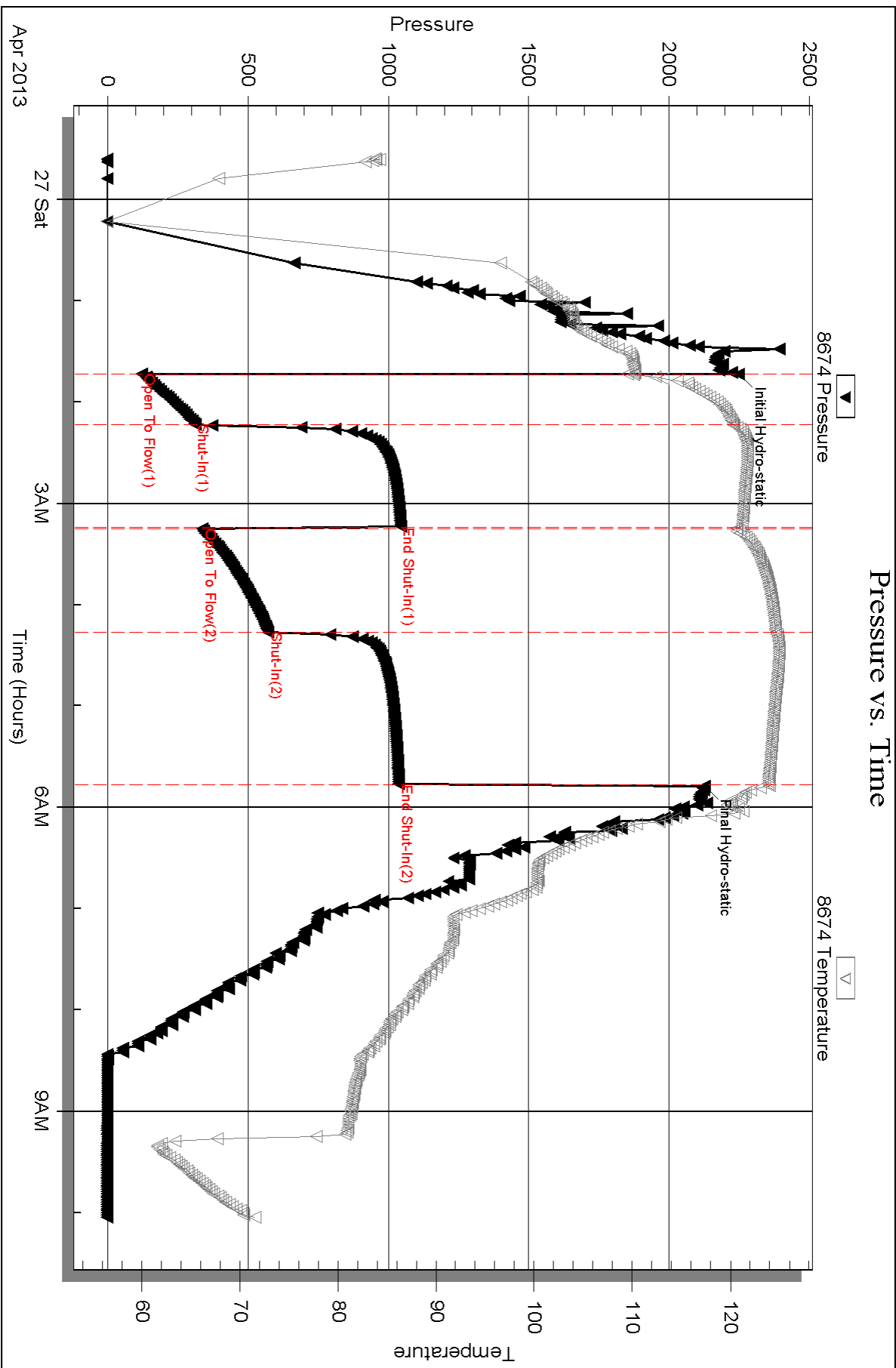
Serial #: 8674

Inside

Murfin Drilling Co. Inc

Lana #1-5

DST Test Number: 7

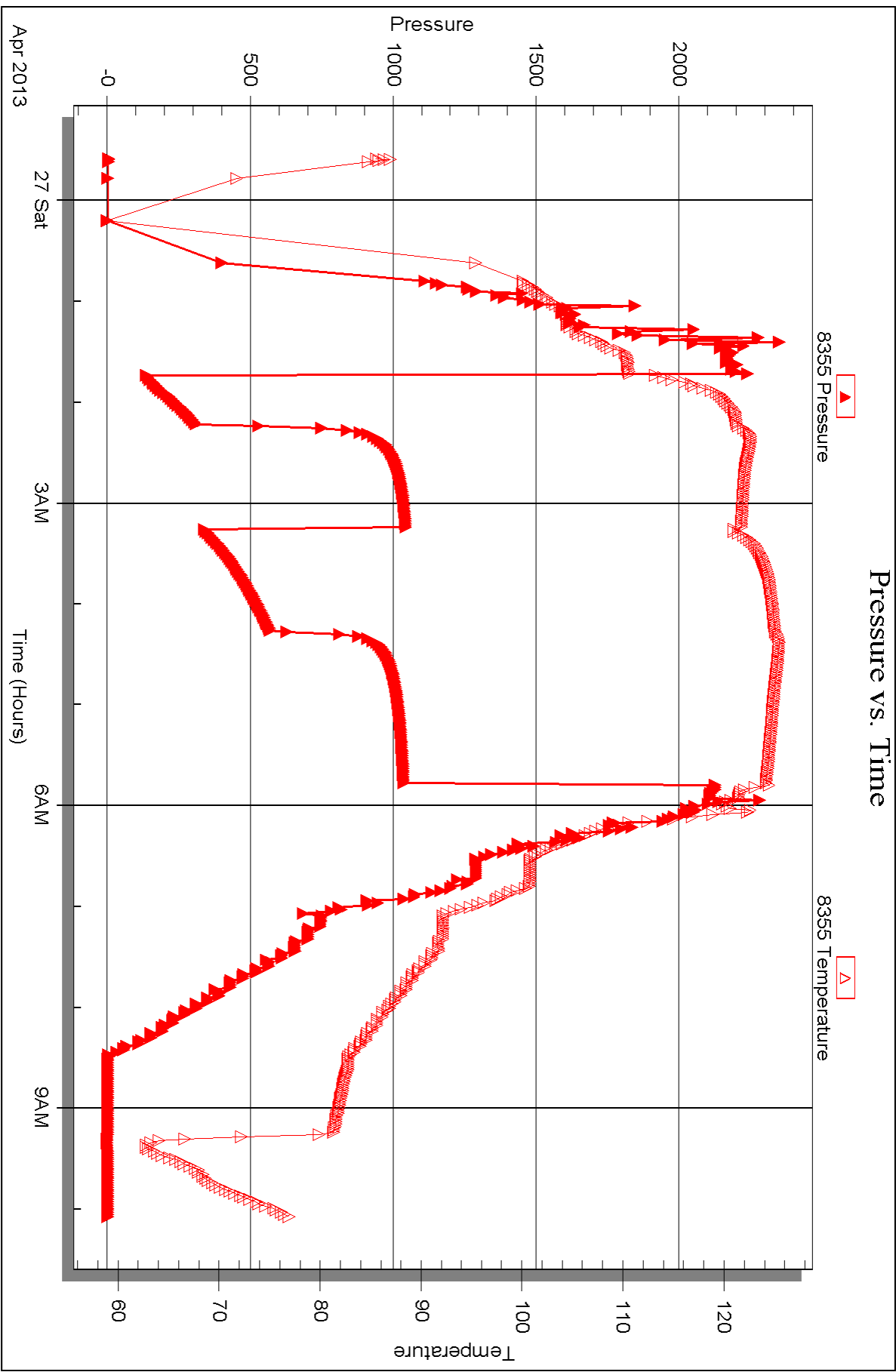


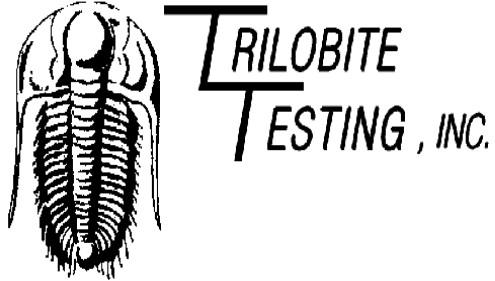
Serial #: 8355

Outside Murfin Drilling Co. Inc

Lana #1-5

DST Test Number: 7





## DRILL STEM TEST REPORT

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

250 N. Water Ste 300  
Wichita KS 67202

ATTN: Steve Miller

**Lana #1-5**

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

Start Date: 2013.04.28 @ 02:00:00

End Date: 2013.04.28 @ 11:05:10

Job Ticket #: 49240                      DST #: 8

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

Printed: 2013.04.30 @ 09:06:24



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co. Inc  
 250 N. Water Ste 300  
 Wichita KS 67202  
 ATTN: Steve Miller

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

**Lana #1-5**

Job Ticket: 49240

**DST#: 8**

Test Start: 2013.04.28 @ 02:00:00

## GENERAL INFORMATION:

Formation: **Johnson**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 04:02:55  
 Time Test Ended: 11:05:10  
 Interval: **4554.00 ft (KB) To 4646.00 ft (KB) (TVD)**  
 Total Depth: 4646.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Will MacLean  
 Unit No: 58  
 Reference Elevations: 3060.00 ft (KB)  
 3049.00 ft (CF)  
 KB to GR/CF: 11.00 ft

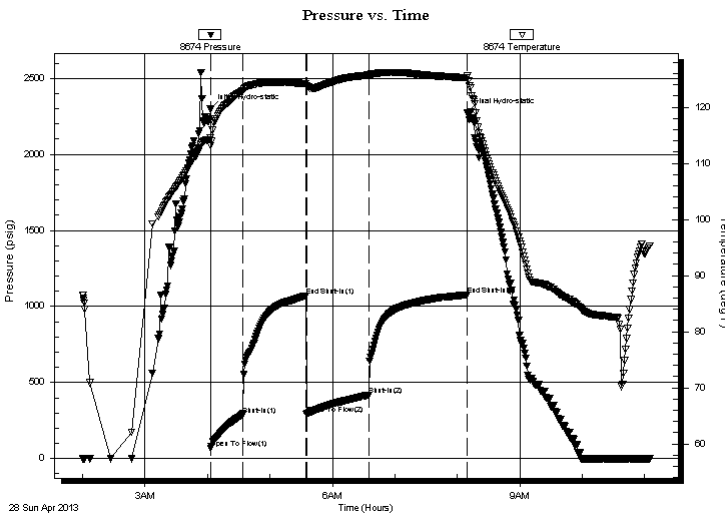
## Serial #: 8674

Inside

Press @ Run Depth: 417.74 psig @ 4556.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.04.28 End Date: 2013.04.28 Last Calib.: 2013.04.28  
 Start Time: 02:00:00 End Time: 11:05:10 Time On Btm: 2013.04.28 @ 04:02:40  
 Time Off Btm: 2013.04.28 @ 08:09:39

TEST COMMENT: IF- Surface Blow Built to BOB in 2 min  
 IS- Weak Surface Blow in 4 1/2 min Built to BOB in 50 min  
 FF- Surface Blow Built to BOB in 7 3/4 min  
 FS- Weak Surface Blow in 1 1/4 min Built to BOB in 29 min

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2298.38	114.55	Initial Hydro-static
1	66.43	113.07	Open To Flow (1)
31	288.69	122.95	Shut-In(1)
92	1071.05	124.20	End Shut-In(1)
93	293.41	123.68	Open To Flow (2)
152	417.74	125.72	Shut-In(2)
247	1077.73	125.25	End Shut-In(2)
247	2273.76	125.63	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
243.00	GMCO 20%g 35%m 45%oil	1.78
252.00	MGCO 8%m 30%g 62%oil	3.53
126.00	MGCO 10%m 28%g 62%oil	1.77
252.00	MGCO 5%m 22%g 73%oil	3.53
164.00	MGCO 2%m 11%g 87%oil	2.30
0.00	1096' of GIP	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  
250 N. Water Ste 300  
Wichita KS 67202  
ATTN: Steve Miller

**5-13s-32w Logan,KS**  
**Lana #1-5**  
Job Ticket: 49240 **DST#: 8**  
Test Start: 2013.04.28 @ 02:00:00

**Tool Information**

Drill Pipe:	Length: 4363.00 ft	Diameter: 3.80 inches	Volume: 61.20 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:	24000.00 lb
Drill Collar:	Length: 179.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose:	40000.00 lb
			<u>Total Volume: 62.08 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial	62000.00 lb
Depth to Top Packer:	4554.00 ft			Final	64000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	92.00 ft				
Tool Length:	112.00 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			4535.00	
Shut In Tool	5.00			4540.00	
Hydraulic tool	5.00			4545.00	
Packer	5.00			4550.00	20.00 Bottom Of Top Packer
Packer	4.00			4554.00	
Stubb	1.00			4555.00	
Perforations	1.00			4556.00	
Recorder	0.00	8355	Outside	4556.00	
Recorder	0.00	8674	Inside	4556.00	
Perforations	22.00			4578.00	
Change Over Sub	1.00			4579.00	
Drill Pipe	63.00			4642.00	
Change Over Sub	1.00			4643.00	
Bullnose	3.00			4646.00	92.00 Bottom Packers & Anchor

**Total Tool Length: 112.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co. Inc  
250 N. Water Ste 300  
Wichita KS 67202  
ATTN: Steve Miller

**5-13s-32w Logan,KS**  
**Lana #1-5**  
Job Ticket: 49240      **DST#: 8**  
Test Start: 2013.04.28 @ 02:00:00

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 27 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 50.00 sec/qt	Cushion Volume: bbl	
Water Loss: 7.59 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 5000.00 ppm		
Filter Cake: 2.00 inches		

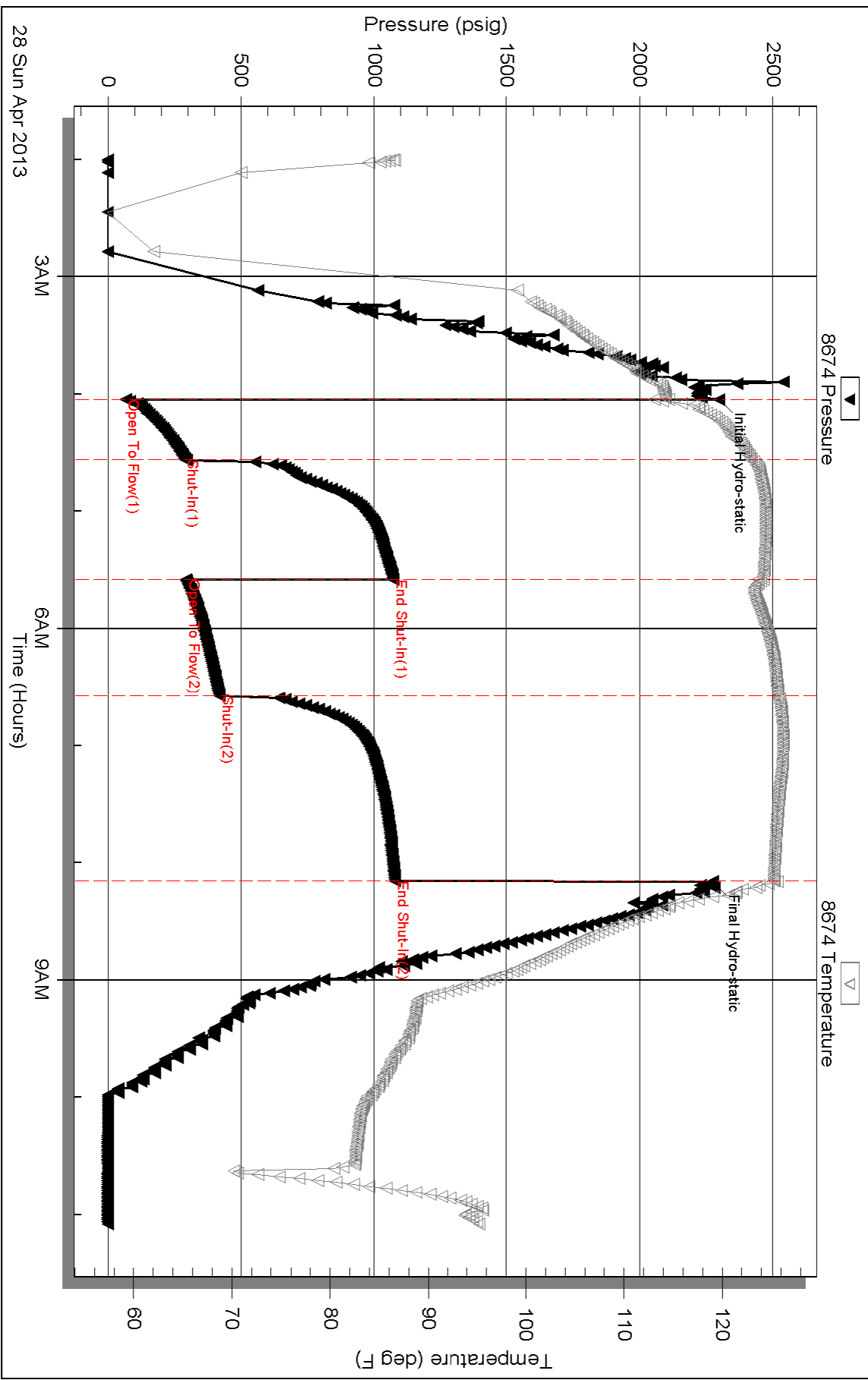
## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
243.00	GMCO 20%g 35%m 45%oil	1.778
252.00	MGCO 8%m 30%g 62%oil	3.535
126.00	MGCO 10%m 28%g 62%oil	1.767
252.00	MGCO 5%m 22%g 73%oil	3.535
164.00	MGCO 2%m 11%g 87%oil	2.300
0.00	1096' of GIP	0.000

Total Length: 1037.00 ft      Total Volume: 12.915 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments: API is 29 @ 80f = 27

### Pressure vs. Time

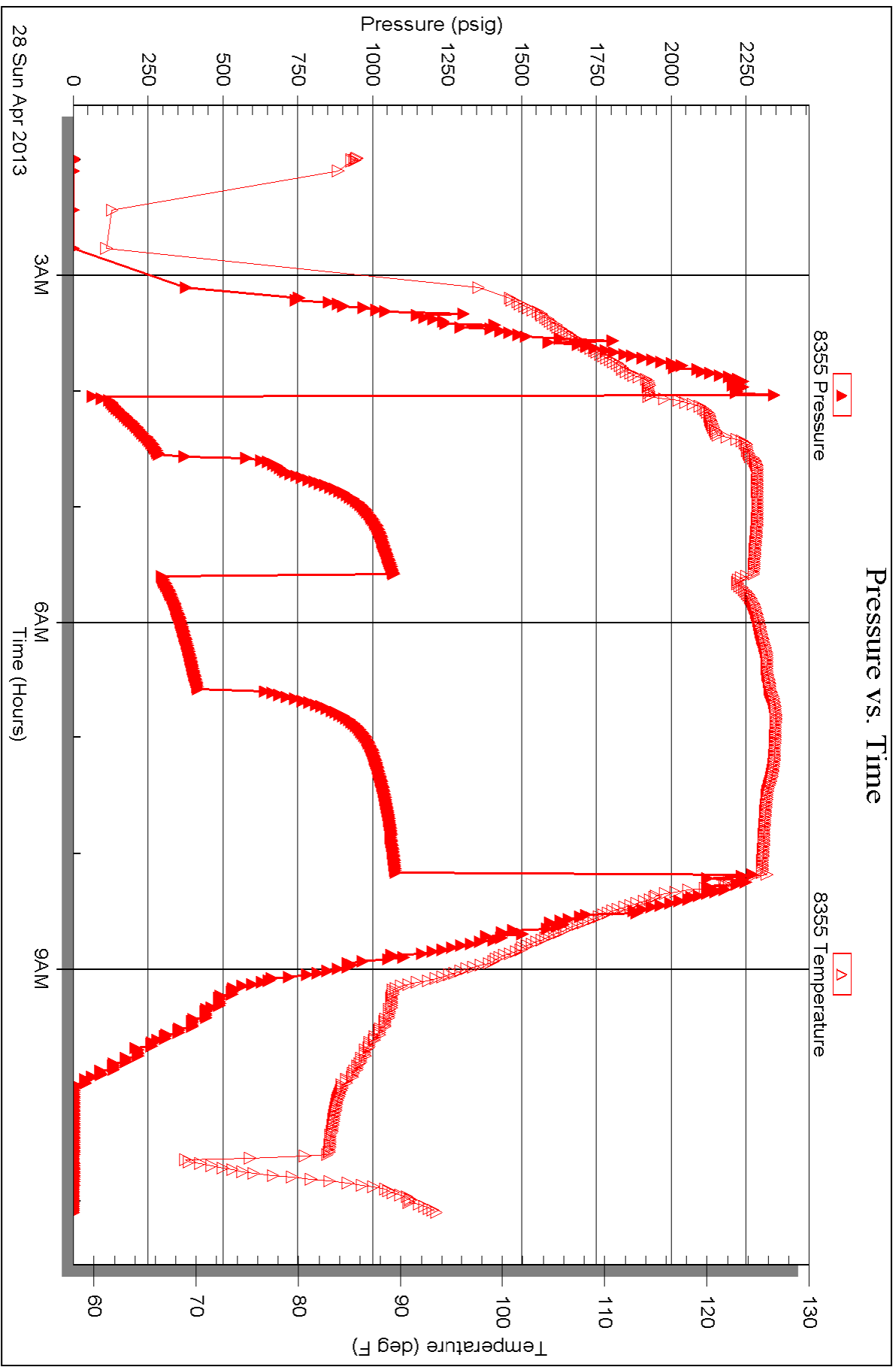


Serial #: 8355

Outside Murfin Drilling Co. Inc

Lana #1-5

DST Test Number: 8





# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 49233

Well Name & No. Lana #1-5 Test No. DST #1 Date 4-21-13  
 Company Murfin Drilling Co. Inc Elevation 3060 KB 3049 GL  
 Address 250 N. Water Ste 300 Wichita KS 67202  
 Co. Rep / Geo. Steve Miller Rig Murfin Rig #20  
 Location: Sec. 5 Twp. 13s Rge. 32W Co. Logan State KS

Interval Tested 4039-4086 Zone Tested LRC "A-B"  
 Anchor Length 47 Drill Pipe Run 3854 Mud Wt. 9.0  
 Top Packer Depth 4035 Drill Collars Run 179 Vis 55  
 Bottom Packer Depth 4039 Wt. Pipe Run 0 WL 5.2  
 Total Depth 4086 Chlorides 4800 ppm System LCM 416  
 Blow Description IF - Surface Blow Built to BOB in 3min  
ISI - No Blow  
FF - Surface Blow Built to BOB in 3 3/4 min  
FSI - Weak Surface Blow in 25min

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>60</u>	<u>3</u>	<u>97</u>		
<u>189</u>	<u>GOMCW</u>	<u>4</u>	<u>14</u>	<u>48</u>	<u>34</u>
<u>252</u>	<u>GOMCW</u>	<u>2</u>	<u>3</u>	<u>66</u>	<u>29</u>
<u>567</u>	<u>MCW with sknot oil on top</u>			<u>89</u>	<u>11</u>
<u>620</u>	<u>MCW with sknot oil on top</u>			<u>97</u>	<u>3</u>

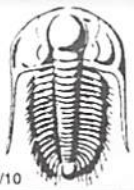
Rec Total 1658 BHT 112 Gravity \_\_\_\_\_ API RW, 187 @ 74 °F Chlorides 35000 ppm

(A) Initial Hydrostatic <u>2033</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>1:48</u>
(B) First Initial Flow <u>83</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>2:46</u>
(C) First Final Flow <u>432</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>4:33</u>
(D) Initial Shut-In <u>1168</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIC</u>	T-Pulled <u>8:39</u>
(E) Second Initial Flow <u>447</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>11:38</u>
(F) Second Final Flow <u>784</u>	<input checked="" type="checkbox"/> Mileage <u>76 RIT</u> 117.80	Comments <u>API rs 33 @ 70f = 32</u>
(G) Final Shut-In <u>1142</u>	<input type="checkbox"/> Sampler _____	<u>126' of GIP</u>
(H) Final Hydrostatic <u>1911</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Packer _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby _____	Total <u>1692.80</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1692.80</u>	

Approved By \_\_\_\_\_

Our Representative Will Mart

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. 49234

Well Name & No. Lana #1-5 Test No. DST #2 Date 4-22-13  
 Company Murfin Drilling Co. Inc Elevation 3060 KB 3049 GL  
 Address 250 N Water Stc 300 Wichita KS 67202  
 Co. Rep / Geo. Steve Miller Rig Murfn Rig #20  
 Location: Sec. 5 Twp. 13s Rge. 32w Co. Logan State KS

Interval Tested 4088-4148 Zone Tested LKC "F+F"  
 Anchor Length 60 Drill Pipe Run 3895 Mud Wt. 9.3  
 Top Packer Depth 4084 Drill Collars Run 179 Vis 60  
 Bottom Packer Depth 4088 Wt. Pipe Run 0 WL 6.8  
 Total Depth 4148 Chlorides 6000 ppm System LCM 716  
 Blow Description IF- Weak Surface Blow Built to BOB in 20 1/2 min  
ISI- No Blow  
FF- Weak Surface Blow Built to BOB in 30 1/4 min  
FSI- No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>Oil</u>		<u>100</u>		
<u>68</u>	<u>OMCW</u>		<u>3</u>	<u>59</u>	<u>38</u>
<u>189</u>	<u>MCW with skim of oil on top</u>			<u>67</u>	<u>33</u>
<u>242</u>	<u>MCW</u>			<u>93</u>	<u>7</u>

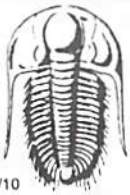
Rec Total 1500 BHT 114 Gravity \_\_\_\_\_ API RW 221 @ 50 ° F Chlorides 45000 ppm

(A) Initial Hydrostatic 2045  Test 1250 T-On Location 00:12  
 (B) First Initial Flow 25  Jars \_\_\_\_\_ T-Started 00:48  
 (C) First Final Flow 139  Safety Joint \_\_\_\_\_ T-Open 2:05  
 (D) Initial Shut-In 1107  Circ Sub N/C T-Pulled 6:10  
 (E) Second Initial Flow 142  Hourly Standby \_\_\_\_\_ T-Out 8:32  
 (F) Second Final Flow 247  Mileage 76 RIT 117.80 Comments \_\_\_\_\_  
 (G) Final Shut-In 1052  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1916  Straddle \_\_\_\_\_  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Initial Open 30  Extra Packer \_\_\_\_\_  
 Initial Shut-In 60  Extra Recorder \_\_\_\_\_  
 Final Flow 60  Day Standby \_\_\_\_\_  
 Final Shut-In 90  Accessibility \_\_\_\_\_  
 Sub Total 1367.80 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_

Our Representative RJM

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. 49235

Well Name & No. Lana #1-5 Test No. DST #3 Date 4-22-13  
 Company Murkin Drilling Co. Inc Elevation 3060 KB 3049 GL  
 Address 250 N. Water Ste 300 Wichita KS 67202  
 Co. Rep / Geo. Steve Miller Rig Murkin Rig #20  
 Location: Sec. 5 Twp. 13S Rge. 32W Co. Logan State KS

Interval Tested 4150-4164 Zone Tested LRC "G"  
 Anchor Length 14 Drill Pipe Run 3981 Mud Wt. 9.3  
 Top Packer Depth 4146 Drill Collars Run 179 Vis 73  
 Bottom Packer Depth 4150 Wt. Pipe Run 0 WL 6.4  
 Total Depth 4164 Chlorides 4000 ppm System LCM 616

Blow Description IF - Weak Surface Blow 1/2"  
ISI - No Blow  
FF - No Blow  
FSI - No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>Mud with a few 0.1 spots</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 5 BHT 110 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2036  Test 1250 T-On Location 16:24  
 (B) First Initial Flow 10  Jars \_\_\_\_\_ T-Started 17:24  
 (C) First Final Flow 12  Safety Joint \_\_\_\_\_ T-Open 19:38  
 (D) Initial Shut-In 87  Circ Sub NIC T-Pulled 22:46  
 (E) Second Initial Flow 12  Hourly Standby \_\_\_\_\_ T-Out 00:48  
 (F) Second Final Flow 12  Mileage 76 RIT 117.80 Comments \_\_\_\_\_  
 (G) Final Shut-In 58  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1992  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 30  
 Final Shut-In 60  
 Sub Total 0  
 Total 1367.80  
 MP/DST Disc't \_\_\_\_\_  
 Sub Total 1367.80

Approved By [Signature] Our Representative Will Menden

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. 49236

Well Name & No. Lana #1-5 Test No. DST #4 Date 4-23-13  
 Company Murfin Drilling Co. Inc Elevation 3060 KB 3049 GL  
 Address 250 N. Water Ste 300 Wichita KS 67202  
 Co. Rep / Geo. Steve Miller Rig Murfin Rig #20  
 Location: Sec. 5 Twp. 13S Rge. 32W Co. Logan State KS

Interval Tested 4188-4274 Zone Tested LKC "H-I-J"  
 Anchor Length 4184 86' Drill Pipe Run 4015 Mud Wt. 9.1  
 Top Packer Depth 4188 4184 Drill Collars Run 179 Vis 52  
 Bottom Packer Depth 4188 Wt. Pipe Run 0 WL 6.0  
 Total Depth 4274 Chlorides 4400 ppm System LCM 716  
 Blow Description IF - Surface Blow Built to BOB in 8 1/4 min  
ISI - No Blow  
FF - Surface Blow Built to BOB in 10 3/4 min  
FSI - No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>Oil</u>		<u>100</u>		
<u>54</u>	<u>OWCM</u>		<u>1</u>	<u>32</u>	<u>67</u>
<u>441</u>	<u>WCM</u>			<u>48</u>	<u>52</u>
<u>126</u>	<u>WCM</u>			<u>79</u>	<u>21</u>
<u>368</u>	<u>WCM</u>			<u>91</u>	<u>9</u>

Rec Total 1091 BHT 112 Gravity \_\_\_\_\_ API RW 295 @ 25 ° F Chlorides 70 ppm  
 (A) Initial Hydrostatic 2107  Test 1250 T-On Location 20:28  
 (B) First Initial Flow 26  Jars \_\_\_\_\_ T-Started 21:18  
 (C) First Final Flow 250  Safety Joint \_\_\_\_\_ T-Open 23:30  
 (D) Initial Shut-In 1260  Circ Sub NIC T-Pulled 3:33  
 (E) Second Initial Flow 255  Hourly Standby \_\_\_\_\_ T-Out 6:04  
 (F) Second Final Flow 515  Mileage 76 RIT 117.80 Comments \_\_\_\_\_  
 (G) Final Shut-In 1255  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2023  Straddle \_\_\_\_\_  
 Initial Open 30  Shale Packer \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Initial Shut-In 60  Extra Packer \_\_\_\_\_  Ruined Packer 320  
 Final Flow 60  Extra Recorder \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Final Shut-In 90  Day Standby \_\_\_\_\_ Sub Total \_\_\_\_\_  
 Accessibility \_\_\_\_\_ Total 1687.80  
 Sub Total 1367.80 MP/DST Disc't \_\_\_\_\_

Approved By [Signature] Our Representative Will Marz

Trilobite Testing Inc. shall not be liable for damages 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. 49237

Well Name & No. Lana #1-5 Test No. DST #5 Date 4-24-13  
 Company Murfin Drilling Co. Inc Elevation 3060 KB 3049 GL  
 Address 250 N. Water Ste 300 Wichita KS 67202  
 Co. Rep / Geo. Steve Miller Rig Murfin Rig #20  
 Location: Sec. 5 Twp. 13s Rge. 32w Co. Logan State KS

Interval Tested 4276-4354 Zone Tested LKC "K-L"  
 Anchor Length 78 Drill Pipe Run 4109 Mud Wt. 9.2  
 Top Packer Depth 4272 Drill Collars Run 179 Vis 54  
 Bottom Packer Depth 4276 Wt. Pipe Run 0 WL 6.8  
 Total Depth 4354 Chlorides 6300 ppm System LCM 616  
 Blow Description IF- Weak Surface Blow Built to 3"  
ISI- No Blow  
FF- Weak Surface Blow Built to 1/4"  
FSI- No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>90</u>	<u>OCM</u>		<u>1</u>		<u>99</u>
<u>60</u>	<u>Mud with oil spots</u>				

Rec Total 150 BHT 105 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ ° F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2158  Test 1250 T-On Location 20:18  
 (B) First Initial Flow 17  Jars \_\_\_\_\_ T-Started 20:38  
 (C) First Final Flow 59  Safety Joint \_\_\_\_\_ T-Open 22:47  
 (D) Initial Shut-In 1179  Circ Sub NIC T-Pulled 1:49  
 (E) Second Initial Flow 65  Hourly Standby \_\_\_\_\_ T-Out 3:46  
 (F) Second Final Flow 96  Mileage 76 RIT 117.80 Comments \_\_\_\_\_  
 (G) Final Shut-In 1150  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2049  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

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

Sub Total 1367.80

Approved By [Signature] Our Representative Nick Mas  
 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. 49238

Well Name & No. Lana #1-5 Test No. DST #6 Date 4-25-13  
 Company Murfin Drilling Co. Inc Elevation 3060 KB 3049 GL  
 Address 250 N. Water Ste 300 Wichita KS 67202  
 Co. Rep / Geo. Steve Miller Rig Murfin Rig #20  
 Location: Sec. 5 Twp. 13s Rge. 32w Co. Logan State KS

Interval Tested 4381-4466 Zone Tested Marmanton  
 Anchor Length 85 Drill Pipe Run 4204 Mud Wt. 9.2  
 Top Packer Depth 4377 Drill Collars Run 179 Vis 53  
 Bottom Packer Depth 4381 Wt. Pipe Run 0 WL 7.2  
 Total Depth 4466 Chlorides 6200 ppm System LCM 616

Blow Description IF- Surface Blow Built to BOB in 2min  
TSI- Weak Surface Blow in 4min Built to 7 3/4"  
FF- Surface Blow Built to BOB in 3 3/4min  
FSI- Weak Surface Blow in 1 1/2min Built to 5 1/2"

Rec	Feet of	%gas	%oil	%water	%mud
315	G-O	20%	80%		
252	G-O	34%	66%		
378	MGCCO	32%	63%		5%
312	MGCCO	35%	57%		8%
120	G-MCO	25%	40%		35%

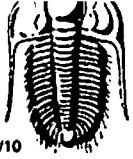
Rec Total 1377 BHT 112 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2239  Test 1250 T-On Location 21:18  
 (B) First Initial Flow 47  Jars \_\_\_\_\_ T-Started 21:40  
 (C) First Final Flow 244  Safety Joint \_\_\_\_\_ T-Open 23:51  
 (D) Initial Shut-In 1313  Circ Sub \_\_\_\_\_ T-Pulled 3:52  
 (E) Second Initial Flow 257  Hourly Standby \_\_\_\_\_ T-Out 7:27  
 (F) Second Final Flow 526  Mileage 76 RIT 117.80 Comments 1449' of GIP  
 (G) Final Shut-In 1302  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2032  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Open 30  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Initial Shut-In 60  Day Standby \_\_\_\_\_ Total 1367.80  
 Final Flow 60  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 90 Sub Total 1367.80

Approved By [Signature]

Our Representative Will Moore

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 49289

Well Name & No. Lana #1-5 Test No. DST #7 Date 4-26-13  
 Company Murfin Drilling Co. Inc Elevation 3060 KB 3049 GL  
 Address 250 N. Water Ste 300 Wichita KS 67202  
 Co. Rep / Geo. Steve Miller Rig Murfin Rig #20  
 Location: Sec. 5 Twp. 13s Rge. 32w Co. Logan State KS

Interval Tested 4468-4548 Zone Tested Pawnee  
 Anchor Length 80 Drill Pipe Run 4299 Mud Wt. 9.2  
 Top Packer Depth 4464 Drill Collars Run 179 Vis 57  
 Bottom Packer Depth 4468 Wt. Pipe Run 0 WL 6.8  
 Total Depth 4548 Chlorides 6300 ppm System LCM 716

Blow Description IF - Surface Blow Built to BOB in 2min  
ISI - Weak Surface Blow in 14min Built to BOB in 48min  
FF - Surface Blow Built to BOB in 134min  
FSI - Weak Surface Blow Built to BOB in 25min

Rec	Feet of	%gas	%oil	%water	%mud
<u>277</u>	<u>MGCO</u>	<u>9</u>	<u>89</u>	<u>2</u>	<u>2</u>
<u>471</u>	<u>MGCO</u>	<u>28</u>	<u>69</u>	<u>3</u>	<u>3</u>
<u>378</u>	<u>MGCO</u>	<u>26</u>	<u>59</u>	<u>15</u>	<u>15</u>
<u>63</u>	<u>OG-CM</u>	<u>30</u>	<u>10</u>	<u>60</u>	<u>60</u>
<u>243</u>	<u>GOCM</u>	<u>18</u>	<u>37</u>	<u>45</u>	<u>45</u>

Rec Total 1402 BHT 117 Gravity 32 API RW @ ° F Chlorides ppm

- (A) Initial Hydrostatic 2248
- (B) First Initial Flow 121
- (C) First Final Flow 312
- (D) Initial Shut-In 1042
- (E) Second Initial Flow 337
- (F) Second Final Flow 572
- (G) Final Shut-In 1036
- (H) Final Hydrostatic 2127

- Test 1250
- Jars
- Safety Joint
- Circ Sub NIC
- Hourly Standby 1 Hr 100
- Mileage 76 RIT 117.80
- Sampler
- Straddle
- Shale Packer
- Extra Packer
- Extra Recorder
- Day Standby
- Accessibility
- Sub Total 1467.80

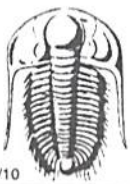
T-On Location 23:04  
 T-Started 23:36  
 T-Open 1:43  
 T-Pulled 5:47  
 T-Out 10:02

Comments 2999' of GIP  
API is 32 @ 60 f = 32  
 Ruined Shale Packer  
 Ruined Packer  
 Extra Copies  
 Sub Total 0  
 Total 1467.80  
 MP/DST Disc't

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

Approved By [Signature] Our Representative Will Marshall

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 49240

Well Name & No. Lana #1-5 Test No. DST #8 Date 4-28-13  
 Company Murfin Drilling Co. Inc Elevation 3060 KB 3094 GL  
 Address 250 N. Water Ste 300 Wichita KS 67202  
 Co. Rep / Geo. Steve Miller Rig Murfin Rig #20  
 Location: Sec. 5 Twp. 13s Rge. 32w Co. Logan State KS

Interval Tested 4554-4646 Zone Tested Johnson  
 Anchor Length 92 Drill Pipe Run 4363 Mud Wt. 9.2  
 Top Packer Depth 4550 Drill Collars Run 179 Vis 50  
 Bottom Packer Depth 4554 Wt. Pipe Run 0 WL 7.6  
 Total Depth 4646 Chlorides 5000 ppm System LCM 6/6

Blow Description IF - Surface Blow Built to BOB in 2 min  
ISI - Weak Surface Blow in 4 1/2 min Built to BOB in 50 min  
FF - Surface Blow Built to BOB in 7 3/4 min  
FSI - Weak Surface Blow with 1 1/4 min Built to BOB in 29 min

Rec	Feet of	%gas	%oil	%water	%mud
<u>164</u>	<u>MGCO</u>	<u>11</u>	<u>87</u>	<u>2</u>	<u>2</u>
<u>252</u>	<u>MGCO</u>	<u>22</u>	<u>73</u>	<u>5</u>	<u>5</u>
<u>126</u>	<u>MGCO</u>	<u>28</u>	<u>62</u>	<u>10</u>	<u>10</u>
<u>252</u>	<u>MGCO</u>	<u>30</u>	<u>62</u>	<u>8</u>	<u>8</u>
<u>243</u>	<u>GMCO</u>	<u>20</u>	<u>45</u>	<u>35</u>	<u>35</u>

Rec Total 1037 BHT 119 Gravity 27 API RW @ °F Chlorides ppm

(A) Initial Hydrostatic 2298  
 (B) First Initial Flow 66  
 (C) First Final Flow 288  
 (D) Initial Shut-In 1071  
 (E) Second Initial Flow 293  
 (F) Second Final Flow 417  
 (G) Final Shut-In 1077  
 (H) Final Hydrostatic 2273

Test 1250  
 Jars  
 Safety Joint  
 Circ Sub NIC  
 Hourly Standby  
 Mileage 76 RIT X 2  
 Sampler  
 Straddle  
 Shale Packer  
 Extra Packer  
 Extra Recorder  
 Day Standby 1d 1h  
 Accessibility  
 Sub Total 1485.60

T-On Location 1:10  
 T-Started 2:00  
 T-Open 4:02  
 T-Pulled 8:09  
 T-Out 11:05

Comments API is 29080t = 27  
1096' of GIP  
 Ruined Shale Packer  
 Ruined Packer  
 Extra Copies  
 Sub Total 800  
 Total Loaded Tools @ 12:00 pm  
 on 4-29-13  
 MP/DST Disc't 2285.60

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

Approved By [Signature]

Our Representative [Signature]



**CONSOLIDATED**  
Oil Well Services, LLC

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

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

INVOICE

Invoice # 258103

Invoice Date: 04/17/2013 Terms: 10/10/30,n/30

Page 1

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

**OPERATOR PAY MDC**

5-13-32  
04-16-2013  
KS

USED FOR \_\_\_\_\_

LEASE: Lana 1-5/Bm

APPROVED \_\_\_\_\_

Part Number	Description	Qty	Unit Price	Total
1104S	CLASS "A" CEMENT (SALE)	185.00	17.6500	3265.25
1102	CALCIUM CHLORIDE (50#)	522.00	.8900	464.58
1111	SODIUM CHLORIDE (GRANULA)	100.00	.0000	.00

Sublet Performed	Description	Total
9996-130	CEMENT MATERIAL DISCOUNT	-372.98
9995-130	CEMENT EQUIPMENT DISCOUNT	-157.00

Description	Hours	Unit Price	Total
463 CEMENT PUMP (SURFACE)	1.00	1085.00	1085.00
463 EQUIPMENT MILEAGE (ONE WAY)	15.00	5.00	75.00
466 MIN. BULK DELIVERY	1.00	410.00	410.00

*Q13*

Amount Due 5590.76 if paid after 05/17/2013

Parts:	3729.83	Freight:	.00	Tax:	261.84	AR	5031.69
Labor:	.00	Misc:	.00	Total:	5031.69		
Sublt:	-529.98	Supplies:	.00	Change:	.00		

Signed \_\_\_\_\_

Date \_\_\_\_\_

BARTLESVILLE, OK 918/338-0808    EL DORADO, KS 316/322-7022    EUREKA, KS 620/583-7664    PONCA CITY, OK 580/762-2303    OAKLEY, KS 785/672-8822    OTTAWA, KS 785/242-4044    THAYER, KS 620/839-5269    GILLETTE, WY 307/686-4914    CUSHING, OK 918/225-2650



**CONSOLIDATED**  
Oil Well Services, LLC

258103

TICKET NUMBER 39396

LOCATION Oakley, KS

FOREMAN Kelly Gabel

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

**FIELD TICKET & TREATMENT REPORT**

**CEMENT**

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
4-16-13	5406	<del>Funky Queens #3447</del>	5	13 <sup>s</sup>	32 <sup>w</sup>	KS Logan
CUSTOMER Murtin		Oakley Southwest Governor 2W S into	TRUCK #	DRIVER	TRUCK #	DRIVER
MAILING ADDRESS			4163	COY D		
CITY		STATE	4166	Jeremy		
ZIP CODE				Jack		

JOB TYPE Surface HOLE SIZE 12 1/4 HOLE DEPTH 226 CASING SIZE & WEIGHT 8 5/8 24 #  
 CASING DEPTH 226' DRILL PIPE \_\_\_\_\_ TUBING \_\_\_\_\_ OTHER \_\_\_\_\_  
 SLURRY WEIGHT 14<sup>s</sup> SLURRY VOL \_\_\_\_\_ WATER gal/sk \_\_\_\_\_ CEMENT LEFT in CASING 20'  
 DISPLACEMENT 13 bbl DISPLACEMENT PSI \_\_\_\_\_ MIX PSI \_\_\_\_\_ RATE \_\_\_\_\_

REMARKS: safety meeting, rigged up on murtin #20, hooked up to circulate, mixed 185 sks com 320cc + displaced with 13 bbl water, washed out pumps & lines, rigged down.

Cement did circulate

APPROX 5 bbl to pit

*Thank You  
Kelly Gabel*

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
54015	1	PUMP CHARGE	1085 <sup>00</sup>	1085 <sup>00</sup>
5406	15 mi	MILEAGE	5 <sup>00</sup>	75 <sup>00</sup>
11045	185 sks	class A Cement	17 <sup>65</sup>	3265 <sup>25</sup>
1102	522 #	Calcium chloride	.89	464 <sup>58</sup>
5407	9.30	Ton mileage delivery	167	410 <sup>00</sup>
1111	100 #	Salt		NC
				5299 <sup>83</sup>
				529 <sup>98</sup>
				4769 <sup>85</sup>
			SALES TAX	266 <sup>84</sup>
			ESTIMATED TOTAL	5031.69

**Completed**

*Jan 10 2010*

Revin 3737

AUTHORIZATION Meg Cochran

TITLE Toorpusher

DATE 4-16-13

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

Acety - cc: WF cc: L12 cc: L-1



**CONSOLIDATED**  
Oil Well Services, LLC

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

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

**INVOICE**

Invoice # 258382

Invoice Date: 04/30/2013 Terms: 10/10/30,n/30

Page 1

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

LANA 1-5  
39925 USED FOR LC103  
5-13-32  
04-29-2013 APPROVED JL  
KS

Part Number	Description	Qty	Unit Price	Total
4310	5 1/2" ROTATING HEAD	1.00	150.0000	150.00
1126	OIL WELL CEMENT	225.00	23.7000	5332.50
1110A	KOL SEAL (50# BAG)	1125.00	.5600	630.00
1102	CALCIUM CHLORIDE (50#)	240.00	.9400	225.60
1111A	SODIUM METASILICATE	200.00	2.5200	504.00
1142A	KCL SUB MB6875 CC3107 (1	2.00	41.1000	82.20
4159	FLOAT SHOE AFU 5 1/2"	1.00	433.7500	433.75
4454	5 1/2" LATCH DOWN PLUG	1.00	318.2500	318.25
4285	5 1/2" PORT COLLAR	1.00	2178.7500	2178.75
4136	TURBOLIZER 5 1/2"	15.00	75.7500	1136.25
4104	CEMENT BASKET 5 1/2"	2.00	290.0000	580.00
4315	ROTATING SCRATCHERS	15.00	94.5000	1417.50

Sublet Performed	Description	Total
9996-130	CEMENT MATERIAL DISCOUNT	-1298.88
9995-130	CEMENT EQUIPMENT DISCOUNT	-368.38

Description	Hours	Unit Price	Total
405 CEMENT PUMP	1.00	3175.00	3175.00
405 EQUIPMENT MILEAGE (ONE WAY)	15.00	5.25	78.75
460 MIN. BULK DELIVERY	1.00	430.00	430.00

Amount Due 17685.68 if paid after 05/30/2013

Parts:	12988.80	Freight:	.00	Tax:	911.82	AR	15917.11
Labor:	.00	Misc:	.00	Total:	15917.11		
Sublt:	-1667.26	Supplies:	.00	Change:	.00		

Signed \_\_\_\_\_

Date \_\_\_\_\_





**CONSOLIDATED**  
Oil Well Services, LLC

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

258382

TICKET NUMBER 39925  
LOCATION Oakleys  
FOREMAN Miles S Fuzz Y

**FIELD TICKET & TREATMENT REPORT**

**CEMENT**

KS

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
4-29-13	5406	LANA 1-S	5	13S	32W	Logan
CUSTOMER			TRUCK #	DRIVER	TRUCK #	DRIVER
Munroe Dng			405	Jeremy P		
MAILING ADDRESS			460	Jordan H		
CITY				Jack J	Ride along	
STATE						
ZIP CODE						

JOB TYPE Production HOLE SIZE 7718 HOLE DEPTH \_\_\_\_\_ CASING SIZE & WEIGHT 5 1/2 15.5  
 CASING DEPTH 4762.54 DRILL PIPE \_\_\_\_\_ TUBING \_\_\_\_\_ OTHER P-Collar 2552'  
 SLURRY WEIGHT 14 SLURRY VOL 1.42 WATER gal/sk 6.9 CEMENT LEFT in CASING 20.92  
 DISPLACEMENT 112.8 DISPLACEMENT PSI \_\_\_\_\_ MIX PSI \_\_\_\_\_ RATE \_\_\_\_\_

REMARKS: Safety meeting on Munroe #20 Run float equip Turbolizers  
 \*1-14, 52. Baskets 52, 53 Port Collar #53. Circ 15 min 1/2 way in. Circ  
 45 min on bottom. Mix Floater flush, mix 175 sks OWC w/5th Kolseal. Wash  
 pump and lines drop plus and displace 1134 Bbls. 1100\* lift, 1800\* land  
 float held, mix 20skt MIL, 30skt PH.

Thanks Fuzz Y crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
5401	1	PUMP CHARGE	3175.00	3175.00
5406	15	MILEAGE	5.25	78.75
5407	10.6 don	Ten mileage Delivery (min)	1.22	430.00
4310	1	5 1/2 rotating head	150.00	150.00
1126	225 sks	OWC	23.20	5332.00
110A	1125 #	Kolseal	.56	630.00
1102	240 #	Calcium chloride	.94	225.60
1111A	200 #	Metasilicate	2.52	504.00
1142A	2 sal	KCL	41.10	82.20
4159	1	5 1/2 - ASU float shoe	433.25	433.25
4454	1	5 1/2 - hatchdown Assy	318.25	318.25
4285	1	5 1/2 - Port Collar	2178.25	2178.25
4136	15	5 1/2 - Turbolizers	75.25	1136.25
4104	2	5 1/2 - Baskets	290.00	580.00
4315	15	5' - rotating scratcher sections	94.50	1417.50
		Subtotal		16672.53
		less 10% OPI		1667.26
		Subtotal		15005.27
		SALES TAX		911.82
		ESTIMATED TOTAL		15917.11

Revin 3737

AUTHORIZATION Buck Salas

TITLE \_\_\_\_\_

DATE \_\_\_\_\_

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