



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1151648  
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: \_\_\_\_\_



1151648

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

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

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

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

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No  List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

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

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

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

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

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

TUBING RECORD:	Size:	Set At:	Packer At:	Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____
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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> _____	<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

July 15, 2013

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

Re: ACO1  
API 15-051-26505-00-00  
Alexia Unit 1-12  
NW/4 Sec.12-15S-19W  
Ellis 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 Alexia Unit #1-12 1640' FNL 1370' FWL Sec. 12-T15S-R19W 2085' KB							MDCI Befort #1-12 1750' FSL 350' FWL Sec. 12-T15S-R19W 2065' KB	
Formation	Sample top	Datum	Ref	Log tops	Datum	Ref	Log tops	Datum
Anhydrite	1276	+809	Flat	1272	+813	+4	1256	+809
B/Anhydrite	1320	+765	Flat	1320	+765	Flat	1300	+765
Topeka	3069	-984	-5	3069	-984	-5	3044	-979
Heebner	3332	-1247	-6	3330	-1245	-4	3306	-1241
Toronto	3354	-1269	-6	3350	-1265	-2	3328	-1263
Lansing	3377	-1292	-5	3372	-1287	Flat	3352	-1287
Stark	3574	-1489	-5	3573	-1488	-4	3549	-1484
BKC	3618	-1533	FLAT	3617	-1532	+1	3598	-1533
Arbuckle	3699	-1614	-27	3696	-1611	-24	3652	-1587
RTD	3800						3752	
LTD				3799			3756	

# Robert L. Milford

PETROLEUM GEOLOGIST  
Wichita, Kansas

## GEOLOGISTS' REPORT

DRILLING TIME AND SAMPLE LOG

OPERATOR **Murfin Drilling Company, Inc.**  
 LEASE **Alexia Unit #1-12**  
 LOC. SPOT **10'N & 50' E of C N2 S2 NW**

LOC. FOOTAGE **1,640' FNL 1,370' FWL**  
 SEC. **12** TWP. **15S** R. **19W**  
 COUNTY **Ellis** STATE **Kansas**

API **15-051-26505-00-00**  
 CONTRACTOR **Murfin Drilling Co., Inc.** RIG NO. **16**  
 DRILLING STARTED **3-28-2013** COMPLETED **4-4-2013**  
 MUD DISPLACED **3,239** MUD TYPE **Chemical**  
 DRILLING TIME KEPT FROM **2,965'** TO **RTD**  
 SAMPLES SAVED FROM **2,960'** TO **RTD**  
 SAMPLES EXAMINED FROM **2,960'** TO **RTD**  
 GEOLOGICAL SUPERVISION FROM **2,960'** TO **RTD**

FORMATION NAME	LOG TOP DATUM	SAMPLE TOP DATUM
Stone Corral	1,272' +813	1,273' +812
Base Stone Corral	1,320' +765	1,321' +764
Heebner	3,069' -984	3,070' -985
Toronto	3,330' -1245	3,332' -1247
Lansing	3,373' -1288	3,375' -1290
Stark	3,573' -1488	3,574' -1289
B/KC	3,617' -1532	3,618' -1533
Arbuckle	3,696' -1611	3,698' -1613
Total Depth	3,799' -1714	3,800' -1715

ELEVATIONS  
 KG **2,085'**  
 CL **2,080'**

NEAREST PROXIMA  
 CASING RECORD

CONDUCTOR  
 SURFACE **8.5/81' @ 208'**  
 W/ 165 sacks cement  
 Production name

ELECTRICAL SURVEYS  
 Pioneer Wireline  
 Dual Induction Log  
 Dual Compensated -

FORMATION NAME	LOG TOP DATUM	SAMPLE TOP DATUM
Porosity Log		
Microresistivity Log		
Borehole Compensated-Sonic Log		

DATE	7:00 AM DEPTH	REMARKS
3-28-13	0'	Spud @ 3:00 pm. Plug down @ 8:00 pm. Drilled out plug @ 4:00 am on 3-29-13
3-29-13	440'	Cut 440' in last 24 hrs. Dev.: 0.75° @ 2128'
3-30-13	2,225'	Cut 1,785' in last 24 hrs; 21 hrs drlg.
3-31-13	3,055'	Cut 830' in last 24 hrs; 21.75 hrs drlg. DST #1 @ 3438'
4-1-13	3,438'	Cut 383' in last 24 hrs; 14.5 hrs drlg. DST #2 @ 3460'
4-2-13	3,530'	Cut 92' in last 24 hrs; 4 hrs drlg. DST #3 @ 3600'
4-3-13	3,690'	Cut 160' in last 24 hrs; 6 hrs drlg. DST #4 @ 3710'. RTD 3800' @ 11:53 pm
4-4-13	3,800'	Cut 110' in last 24 hrs; 3.75 hrs drlg. P&A

**Remarks**

The electric log measurements correlate from 1' to 2' higher to the drilling measurements.

Formation tops and lithology on this report have been corrected to the electric log.

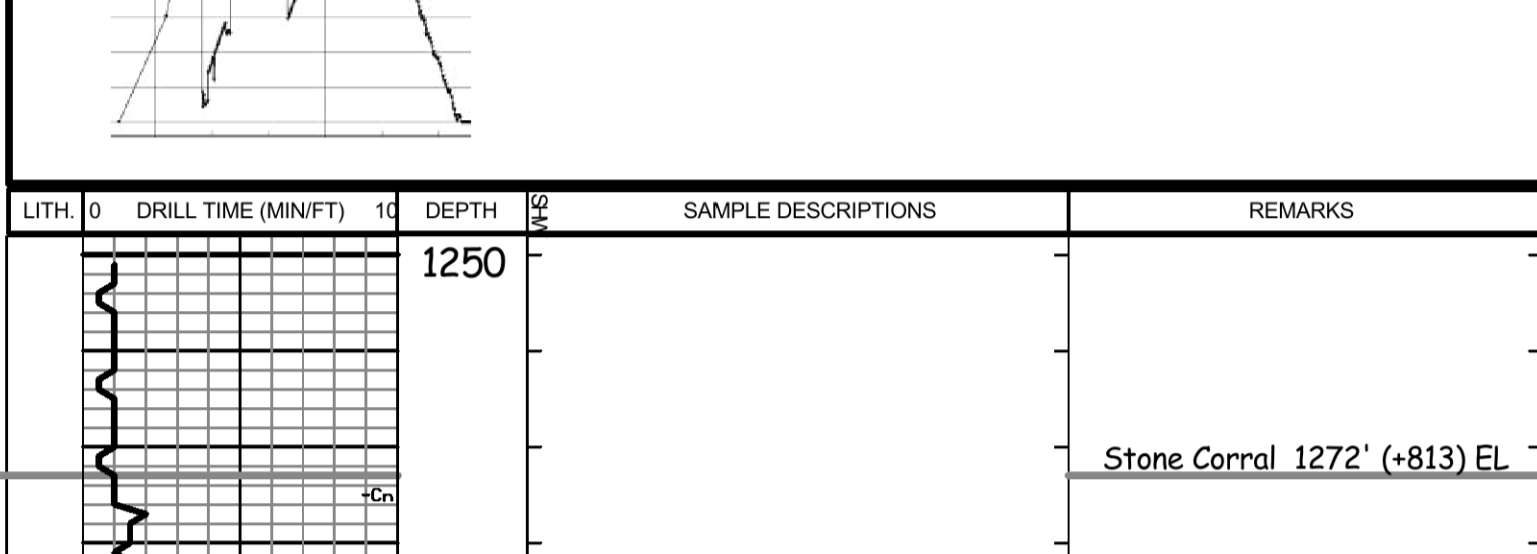
The drilling samples were deposited at the Kansas Geological Survey office in Wichita.

Respectfully submitted,

Robert L. Milford

### Drill Stem Test Charts

Drill Stem Test by Trilobite Testing, Inc.



LITH.	DRILL TIME (MIN/FT)	DEPTH (FT)	SAMPLE DESCRIPTIONS	REMARKS
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1250' - Stone Corral 1272' (+813) EL

1300' - B/Stone Corral 1320' (+765) EL

2950' - Mud displaced from 2639' to 2675' Call depth 2665' @ 7:24 pm on 3-30-13 Samples start 2960' @ 4:10 am on 3-31-13

LS: crm-brn, fxl, fos in prt, some sli shly, sub chky-prtly dns, pr por, NS  
 Sh: lt-med gry, tr grn  
 LS: A.A.

Mud Co/Service Mud check @ 2979': 67 Vis 8.8 Wt, 7.2 WL, Chl 1,700 ppm, 1# LCM

3000' - LS: crm-tan, fxl, fos in prt, sub chky-prtly dns w/ some chky-vry chky, pr por, NS  
 Sh: gry

3050' - LS: crm-brn, fxl, fos in prt, some blk mineralization, sub chky-prtly dns, pr por, NS  
 LS: A.A., some sli shly, pr por, NS  
 Sh: lt-med gry

3100' - LS: tan-brn, fxl, fos in prt, sub chky-prtly dns, pr por, NS  
 Sh: gry, some silty & sli calc

3050' - LS: tan-brn, fxl, fos in prt, some sli shly, sub chky-prtly dns, pr por, NS  
 LS: A.A.

3100' - LS: crm-brn, fxl, fos in prt, sub chky-prtly dns w/ some chky-vry chky, pr por, NS  
 LS: A.A., some w/ blk mineralization, pr por, NS  
 LS: A.A.

3100' - LS: crm-tan, fxl, ool-fos in prt, vry chky-sub chky, some pin point-vry small ooc por, NS  
 LS: crm-brn, fxl, fos in prt, sub chky-prtly dns, pr por, NS  
 Sh: gry  
 LS: crm-brn, fxl, fos in prt, sub chky-prtly dns w/ some chky-vry chky, pr por, NS  
 LS: A.A., pr vis por, NS

3150' - LS: wh-brn, fxl, fos-ool in prt, sli chty, vry chky-prtly dns, pr por, NS  
 LS: wh-tan w/ some brn, fxl, fos in prt, sli chty (wh-brn), vry chky-prtly dns, pr por, NS  
 Sh: Blk Carb & drk gry  
 Sh: gry

3200' - LS: wh-tan, fxl, sli fos, sub chky-prtly dns w/ some chky, pr por, NS  
 LS: A.A. w/ incrs chky-vry chky, pr por, NS  
 LS: crm-tan, fxl, sli fos, sli chty (tan), sub chky-prtly dns w/ some chky-vry chky, pr por, NS  
 Sh: gry  
 LS: crm-brn, fxl, sli fos, some blk mineralization, sub chky-prtly dns, pr por, NS  
 Sh: Blk Carb  
 LS: A.A.

3250' - Sh: gry  
 LS: crm-brn, fxl, sli fos, sub chky-prtly dns w/ some chky-vry chky, pr por, NS  
 LS: A.A., mstly crm-tan, pr por, NS  
 Sh: lt-med gry  
 LS: crm-tan, fxl, fos in prt, chky-prtly dns w/ some vry chky, pr fos por, NS

3300' - LS: wh-tan, fxl, fos in prt, sli chty (tan-gry), chky-prtly dns w/ some vry chky, pr fos por, tr brn-blk sptd-patchy stn, NSFO, no odor  
 LS: A.A., w/ tr stn, NSFO, no odor  
 Sh: Blk Carb  
 Sh: gry

3350' - LS: wh-crm, fxl, fos in prt, sli chty (gry), sub chky-prtly dns w/ some chky-vry chky, pr w/ tr fr fos por, vry scat lt brn-blk sptd-sub sat stn, some live stn, NSFO, no odor  
 Sh: red-brn, gry, grn  
 LS: wh-tan, fxl, fos in prt, sli chty, sub chky-prtly dns w/ some chky-vry chky, pr w/ tr fr-gd fos por, tr lt brn sptd-sub sat stn, some live stn, NSFO, no odor  
 Sh: gry

3400' - LS: wh-tan, fxl, ool in prt, sub chky-prtly dns w/ some chky-vry chky, pr por, NS  
 LS: crm-tan, fxl, ool in prt, sli chty (wh-tan), sub chky-prtly dns w/ some chky-vry chky, fr intrprt & fr-gd ooc por, scat lt brn sptd-sub sat w/ tr sat stn, S-FSFO, sli odor (some barren ooc por)  
 Sh: gry, some grn & red-brn  
 LS: crm-tan, fxl, ool in prt, sub chky-prtly dns, pr w/ tr fr fos por, tr vry lt-drk brn sptd-sub sat stn, VSSFO (4 pcs), no odor  
 LS: A.A., w/ chky-vry chky, chty (wh-tan), por & tr stn A.A., NSFO, no odor  
 LS: crm-tan, fxl, ool in prt, tr cht (wh), sub chky-prtly dns w/ some chky-vry chky, fr-gd ooc por, NS  
 LS: crm-tan, fxl, sli fos, sub chky-prtly dns w/ some chky, pr por, NS  
 LS: A.A., w/ tr cht (wh-gry) & incrs chky-vry chky, pr por, NS  
 Sh: med-drk gry

3450' - LS: crm-tan, fxl, sli fos, chty (wh), sub chky-prtly dns w/ some chky-vry chky, pr w/ tr fr fos por, tr lt-med brn sptd-sub sat stn, VSSFO (5 pcs), no odor  
 LS: wh-crm, fxl, ool in prt, vry chky-prtly dns, pr w/ tr fr-gd introal & moldic-vug por, scat lt brn sptd-sub sat w/ tr sat stn, S-FSFO, some w/ fnt odor on brk  
 Sh: mstly gry, some red-brn & grn  
 LS: crm-tan, fxl, ool in prt, sli chty (wh-gry), sub chky-prtly dns w/ some chky-vry chky, pr w/ tr fr fos por, some fr-gd introal & moldic-vug por, scat lt-med brn sptd-sub sat stn, mstly S5 w/ few pcs FSFO, no odor  
 Sh: gry  
 LS: crm-tan, fxl, ool-fos in prt, tr cht (wh), sub chky-prtly dns w/ some chky-vry chky, pr por, NS  
 LS: crm-tan, fxl, sli fos, sub chky-prtly dns w/ some chky-vry chky, pr por, NS  
 Sh: gry, some red-brn  
 LS: crm-tan, fxl, sli fos, sub chky-prtly dns, pr por, NS  
 Sh: gry, grn, red-brn

3500' - LS: crm-tan, fxl, tr ool, sli chty (crm-org, fresh), sub chky-prtly dns, pr por, NS  
 Chty LS: crm, fxl, chty (crm-org, fresh-sli weath), sub chky-prtly dns w/ some chky, pr por, tr brn-blk sptd-sub sat dead stn, NSFO, no odor  
 Sd: crm-gry, fr-med grain, sli calc, semi fri-brtl, pr vis por, scat brn-blk sub sat-stn, NSFO, no fluor, some w/ sli-fr cut, no odor, w/ Sh: red-brn  
 Sd: A.A., incrs blk tarry-asph stn, NSFO, no odor, w/ some Cht: crm-org (may be cavings) & Sh: red-brn (some soft & gummy), w/ gry & grn  
 Sd: A.A. w/ stn, NSFO, w/ Sh: red-brn (soft & gummy in prt), w/ grn & gry, & tr maroon & yell  
 Dol: crm-lt gry, fr-crs xln, rhomb, tr pyr, prt dns, fr-gd intrxln & tr vug por, gd amnt lt-drk brn sptd-sub sat w/ some sat stn, SSFO (mstly pin point-small beads, some thick-hvy beads), no odor  
 Dol: crm-lt gry, fr-crs xln, sli pyr, some sdy-sd studded (med-crs grains, submd), prtly dns, fr-gd intrxln-vug por, scat brn-blk mstly sptd w/ some sub sat stn, VSSFO (mstly pin point-small beads & some thick-hvy beads), no odor  
 Dol: A.A., w/ stn, NSFO, no odor, intermixed w/ Sdy Dol-Dol Sd: tan, fr-med xln, fr-med grain sd, some fr-gd por, NS

3550' - Dol: crm-tan, fr-med w/ some crs xln, sdy in prt (fr-crs grain), prtly dns, pr-fr w/ some gd intrxln por, scat brn-blk sptd-sub sat stn, NSFO, no odor  
 Dol: crm, fr-med w/ some crs xln, prtly dns, pr-fr w/ some gd intrxln por, scat brn-blk sptd-sub sat stn, NSFO, no odor, w/ Sdy Dol: A.A.  
 Dol: crm-tan, fr-crs xln, some sdy (med-crs grains), prtly dns, fr-gd intrxln por, vry scat brn-blk mstly sptd stn, NSFO, no odor  
 Dol: A.A.

3600' - LS: wh-crm, fxl, tr cht (crm-org), chky-prtly dns w/ some vry chky, pr por, NS  
 LS: crm-tan, fxl, sli fos, sub chky-prtly dns w/ some chky-vry chky, pr por, NS  
 Sh: gry, some red-brn  
 Sh: red-brn, soft & gummy in prt, w/ gry  
 LS: crm-tan, fxl, sli fos, sub chky-prtly dns, pr por, NS  
 Sh: gry, grn, red-brn

3650' - LS: crm-tan, fxl, ool, sli chty (crm-org, fresh), sub chky-prtly dns, pr por, NS  
 Dol: crm-tan, fxl, ool in prt, sli chty (wh-gry), sub chky-prtly dns w/ some chky-vry chky, pr por, NS  
 Mud Co/Service Mud check @ 3670': 54 Vis 9.2 Wt, 7.8 WL, Chl 2,500 ppm, 2# LCM

3700' - LS: crm-gry, fr-med grain, sli calc, semi fri-brtl, pr vis por, scat brn-blk sub sat-stn, NSFO, no fluor, some w/ sli-fr cut, no odor, w/ Sh: red-brn  
 Sd: A.A., incrs blk tarry-asph stn, NSFO, no odor, w/ some Cht: crm-org (may be cavings) & Sh: red-brn (some soft & gummy), w/ gry & grn  
 Sd: A.A. w/ stn, NSFO, w/ Sh: red-brn (soft & gummy in prt), w/ grn & gry, & tr maroon & yell  
 Dol: crm-lt gry, fr-crs xln, rhomb, tr pyr, prt dns, fr-gd intrxln & tr vug por, gd amnt lt-drk brn sptd-sub sat w/ some sat stn, SSFO (mstly pin point-small beads, some thick-hvy beads), no odor  
 Dol: crm-lt gry, fr-crs xln, sli pyr, some sdy-sd studded (med-crs grains, submd), prtly dns, fr-gd intrxln-vug por, scat brn-blk mstly sptd w/ some sub sat stn, VSSFO (mstly pin point-small beads & some thick-hvy beads), no odor  
 Dol: A.A., w/ stn, NSFO, no odor, intermixed w/ Sdy Dol-Dol Sd: tan, fr-med xln, fr-med grain sd, some fr-gd por, NS

3750' - Dol: crm-tan, fr-med w/ some crs xln, sdy in prt (fr-crs grain), prtly dns, pr-fr w/ some gd intrxln por, scat brn-blk sptd-sub sat stn, NSFO, no odor  
 Dol: crm, fr-med w/ some crs xln, prtly dns, pr-fr w/ some gd intrxln por, scat brn-blk sptd-sub sat stn, NSFO, no odor, w/ Sdy Dol: A.A.  
 Dol: crm-tan, fr-crs xln, some sdy (med-crs grains), prtly dns, fr-gd intrxln por, vry scat brn-blk mstly sptd stn, NSFO, no odor  
 Dol: A.A.

3800' - Dol: A.A.  
 Mud Co/Service Mud check @ 3800': 58 Vis 9.2 Wt, 8.0 WL, Chl 3,000 ppm, 2# LCM  
 R.T.D. 3800' (-1715)  
 L.T.D. 3799' (-1714)  
 Straight Hole Survey @ 3800': 0.875" Dev.

Stone Corral 1272' (+813) EL

B/Stone Corral 1320' (+765) EL

Topeka 3069' (-984) EL

Heebner 3330' (-1245) EL

Toronto 3350' (-1265) EL

Lansing 3373' (-1288) EL

Stark 3573' (-1488) EL

B/KC 3617' (-1532) EL

Arbuckle 3696' (-1611) EL



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 Water Ste 300  
Wichita KS 67202-1216

ATTN: Rocky Milford

### **Alexia Unit #1-12**

### **12-15s-19w Ellis,KS**

Start Date: 2013.04.01 @ 05:34:24

End Date: 2013.04.01 @ 13:30:03

Job Ticket #: 48516                      DST #: 1

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

Printed: 2013.04.08 @ 11:56:49



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc  
250 Water Ste 300  
Wichita KS 67202-1216  
ATTN: Rocky Milford

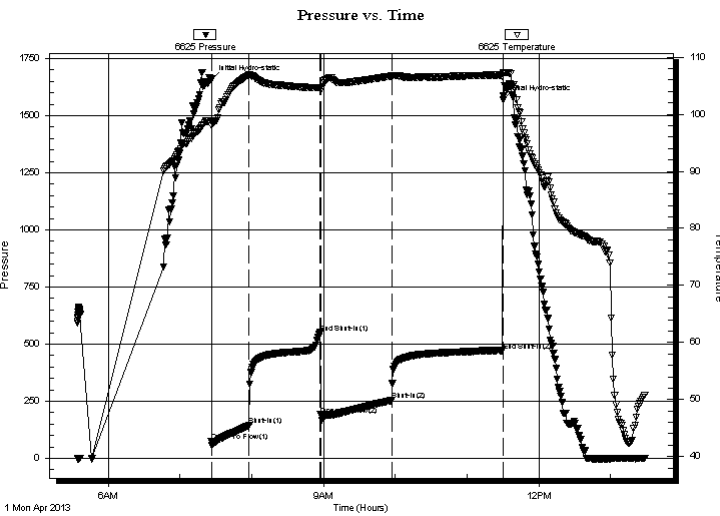
**12-15s-19w Ellis,KS**  
**Alexia Unit #1-12**  
Job Ticket: 48516 **DST#: 1**  
Test Start: 2013.04.01 @ 05:34:24

## GENERAL INFORMATION:

Formation: **Toronto-Lansing-"D"**  
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Initial)  
Time Tool Opened: 07:26:14 Tester: Jeff Brown  
Time Test Ended: 13:30:03 Unit No: 67  
**Interval: 3331.00 ft (KB) To 3438.00 ft (KB) (TVD)** Reference Elevations: 2085.00 ft (KB)  
Total Depth: 3438.00 ft (KB) (TVD) 2080.00 ft (CF)  
Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 5.00 ft

**Serial #: 6625 Outside**  
Press @ RunDepth: 253.03 psig @ 3402.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2013.04.01 End Date: 2013.04.01 Last Calib.: 2013.04.01  
Start Time: 05:34:25 End Time: 13:29:04 Time On Btm: 2013.04.01 @ 07:26:04  
Time Off Btm: 2013.04.01 @ 11:29:54

**TEST COMMENT:** IFP-Weak blow built to 2 1/4" died back to 1"  
ISI-Dead no blow back  
FFP-Good blow BOB in 25 min  
FSI-Dead no blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1659.29	98.81	Initial Hydro-static
1	75.64	97.95	Open To Flow (1)
32	143.39	106.90	Shut-In(1)
91	550.42	104.68	End Shut-In(1)
92	190.39	104.64	Open To Flow (2)
151	253.03	106.70	Shut-In(2)
244	470.94	106.71	End Shut-In(2)
244	1568.34	107.09	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
252.00	MW 10%M 90%W	3.27
126.00	WM 30%W 70%M	1.77
45.00	Mud with oil spots	0.63

## Gas Rates

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







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co Inc  
250 Water Ste 300  
Wichita KS 67202-1216  
ATTN: Rocky Milford

**12-15s-19w Ellis,KS**  
**Alexia Unit #1-12**  
Job Ticket: 48516      **DST#: 1**  
Test Start: 2013.04.01 @ 05:34:24

**Tool Information**

Drill Pipe:	Length: 3297.00 ft	Diameter: 3.80 inches	Volume: 46.25 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 29.00 ft	Diameter: 2.25 inches	Volume: 0.14 bbl	Weight to Pull Loose: 57000.00 lb
			<u>Total Volume: 46.39 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 44000.00 lb
Depth to Top Packer:	3331.00 ft			Final 49000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	107.00 ft			
Tool Length:	127.00 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			3312.00	
Shut In Tool	5.00			3317.00	
Hydraulic tool	5.00			3322.00	
Packer	4.00			3326.00	20.00      Bottom Of Top Packer
Packer	5.00			3331.00	
Stubb	1.00			3332.00	
Perforations	5.00			3337.00	
Change Over Sub	1.00			3338.00	
Drill Pipe	63.00			3401.00	
Change Over Sub	1.00			3402.00	
Recorder	0.00	6625	Outside	3402.00	
Recorder	0.00	8679	Inside	3402.00	
Perforations	33.00			3435.00	
Bullnose	3.00			3438.00	107.00      Bottom Packers & Anchor

**Total Tool Length: 127.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co Inc  
250 Water Ste 300  
Wichita KS 67202-1216  
ATTN: Rocky Milford

**12-15s-19w Ellis,KS**  
**Alexia Unit #1-12**  
Job Ticket: 48516      **DST#: 1**  
Test Start: 2013.04.01 @ 05:34:24

## Mud and Cushion Information

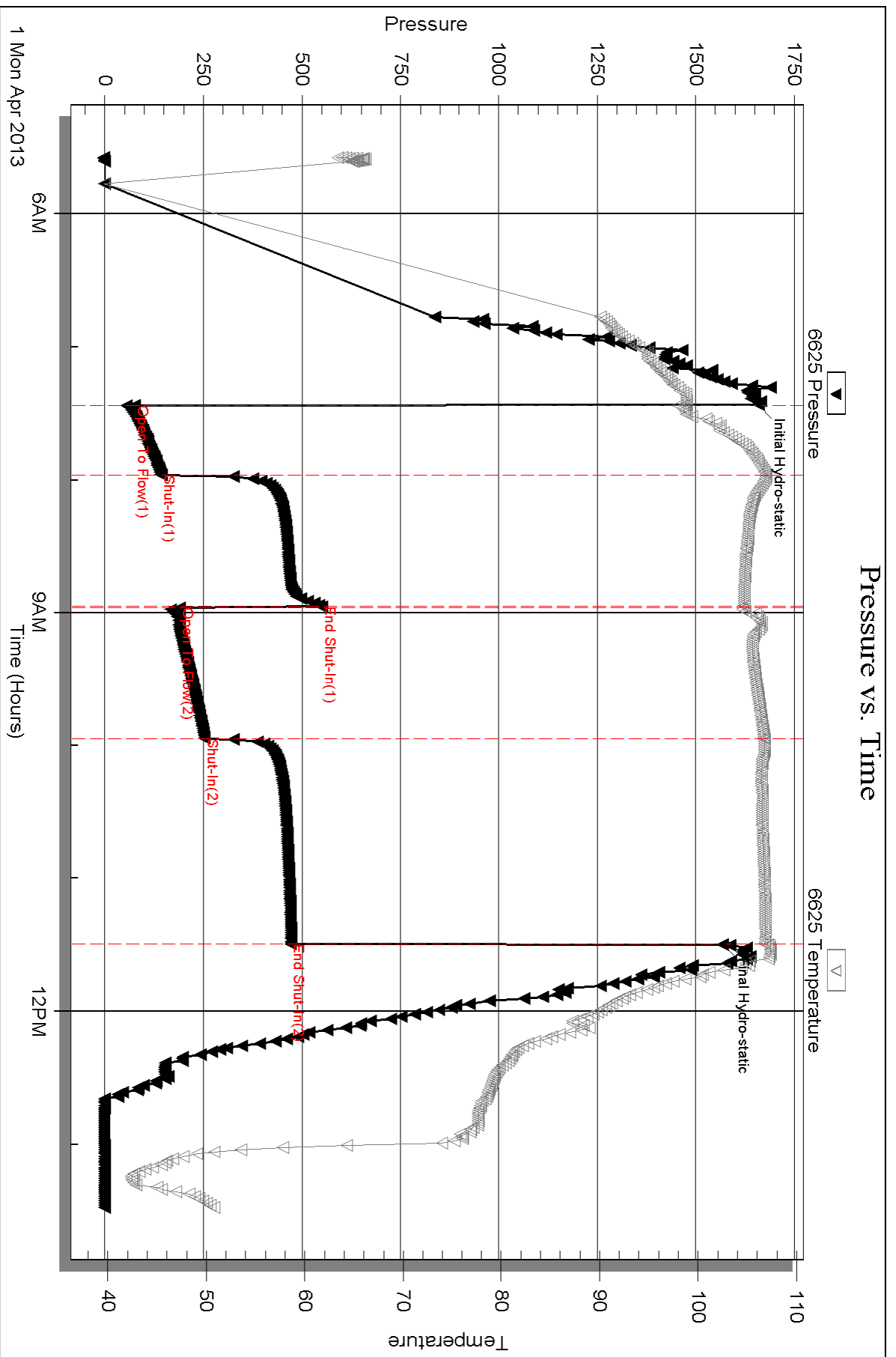
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 50.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.38 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2400.00 ppm			
Filter Cake: inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
252.00	MW 10%M 90%W	3.271
126.00	WM 30%W 70%M	1.767
45.00	Mud with oil spots	0.631

Total Length: 423.00 ft      Total Volume: 5.669 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments:



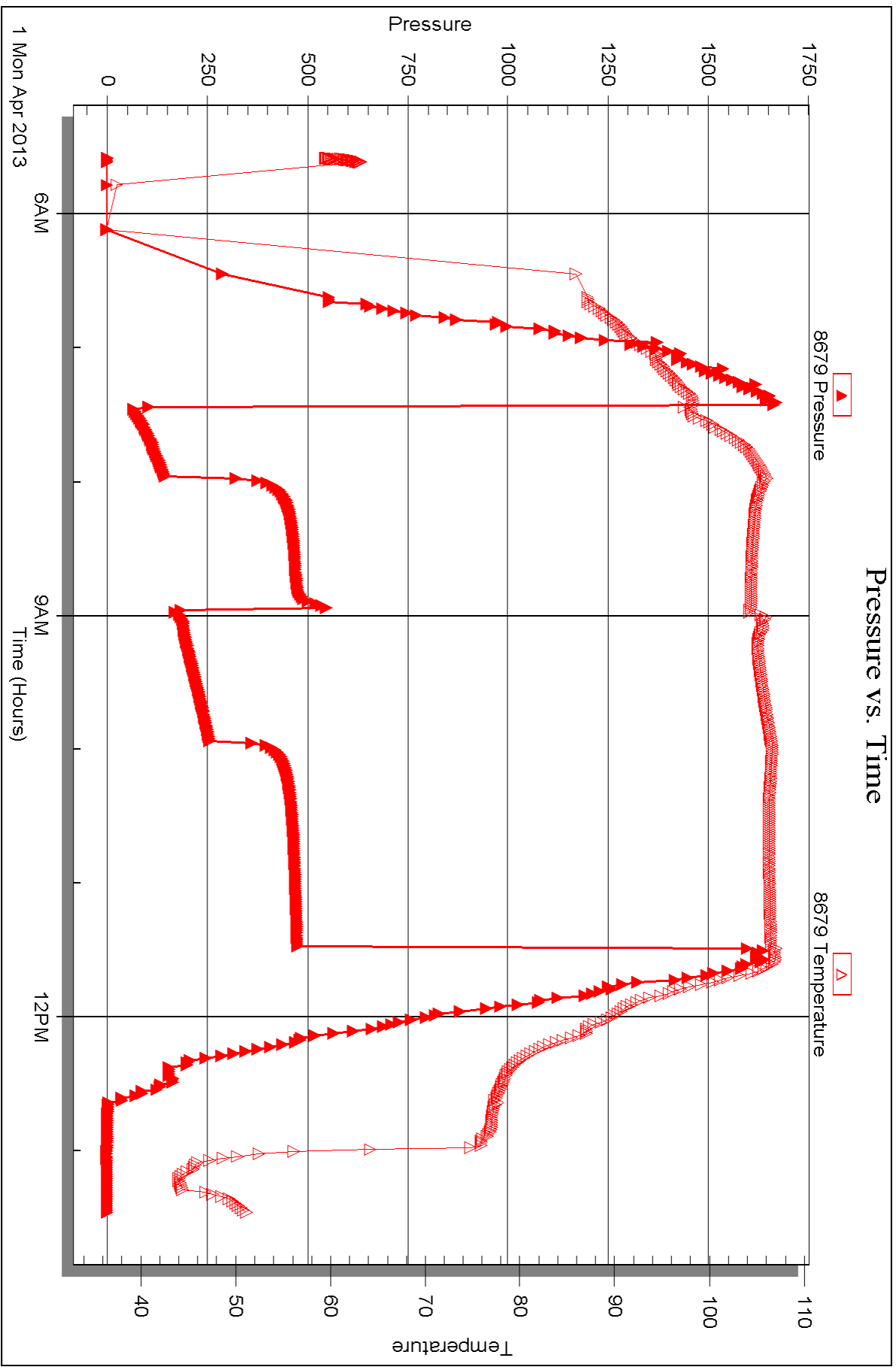
Serial #: 8679

Inside

Murfin Drilling Co Inc

Alexia Unit #1-12

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 Water Ste 300  
Wichita KS 67202-1216

ATTN: Rocky Milford

### **Alexia Unit #1-12**

### **12-15s-19w Ellis,KS**

Start Date: 2013.04.01 @ 18:45:09

End Date: 2013.04.02 @ 01:05:29

Job Ticket #: 48517                      DST #: 2

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

Printed: 2013.04.08 @ 11:56:09



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc  
250 Water Ste 300  
Wichita KS 67202-1216  
ATTN: Rocky Milford

**12-15s-19w Ellis,KS**  
**Alexia Unit #1-12**  
Job Ticket: 48517      **DST#: 2**  
Test Start: 2013.04.01 @ 18:45:09

## GENERAL INFORMATION:

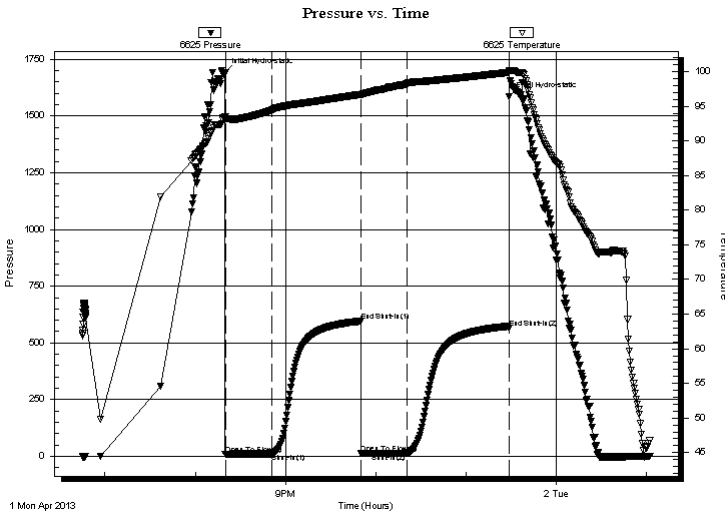
Formation: **Lansing E & F**  
Deviated: No Whipstock: ft (KB)      Test Type: Conventional Bottom Hole (Reset)  
Time Tool Opened: 20:19:59      Tester: Jeff Brown  
Time Test Ended: 01:05:29      Unit No: 67  
**Interval: 3436.00 ft (KB) To 3460.00 ft (KB) (TVD)**      Reference Elevations: 2085.00 ft (KB)  
Total Depth: 3460.00 ft (KB) (TVD)      2080.00 ft (CF)  
Hole Diameter: 7.88 inches Hole Condition: Good      KB to GR/CF: 5.00 ft

## Serial #: 6625      Outside

Press @ Run Depth: 12.74 psig @ 3437.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2013.04.01      End Date: 2013.04.02      Last Calib.: 2013.04.02  
Start Time: 18:45:10      End Time: 01:02:29      Time On Btm: 2013.04.01 @ 20:19:49  
Time Off Btm: 2013.04.01 @ 23:28:48

TEST COMMENT: IFP-Weakblow built to 1 1/8"  
ISI-Dead no blow back  
FFP-Dead no blow  
FSI-Dead no blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1690.83	93.43	Initial Hydro-static
1	8.70	93.16	Open To Flow (1)
31	11.49	94.49	Shut-In(1)
91	596.25	96.73	End Shut-In(1)
91	12.48	96.72	Open To Flow (2)
121	12.74	98.23	Shut-In(2)
189	565.09	99.89	End Shut-In(2)
189	1587.13	100.13	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud with 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 Water Ste 300  
Wichita KS 67202-1216  
ATTN: Rocky Milford

**12-15s-19w Ellis,KS**  
**Alexia Unit #1-12**  
Job Ticket: 48517      **DST#: 2**  
Test Start: 2013.04.01 @ 18:45:09

### Tool Information

Drill Pipe:	Length: 3392.00 ft	Diameter: 3.80 inches	Volume: 47.58 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 29.00 ft	Diameter: 2.25 inches	Volume: 0.14 bbl	Weight to Pull Loose: 52000.00 lb
			<u>Total Volume: 47.72 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 46000.00 lb
Depth to Top Packer:	3436.00 ft			Final 46000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	24.00 ft			
Tool Length:	44.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3417.00	
Shut In Tool	5.00			3422.00	
Hydraulic tool	5.00			3427.00	
Packer	4.00			3431.00	20.00      Bottom Of Top Packer
Packer	5.00			3436.00	
Stubb	1.00			3437.00	
Recorder	0.00	6625	Outside	3437.00	
Recorder	0.00	8679	Inside	3437.00	
Perforations	20.00			3457.00	
Bullnose	3.00			3460.00	24.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>44.00</b>				





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co Inc  
250 Water Ste 300  
Wichita KS 67202-1216  
ATTN: Rocky Milford

**12-15s-19w Ellis,KS**  
**Alexia Unit #1-12**  
Job Ticket: 48517      **DST#: 2**  
Test Start: 2013.04.01 @ 18:45:09

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 50.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.37 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2400.00 ppm			
Filter Cake: inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud w ith oil spots	0.025

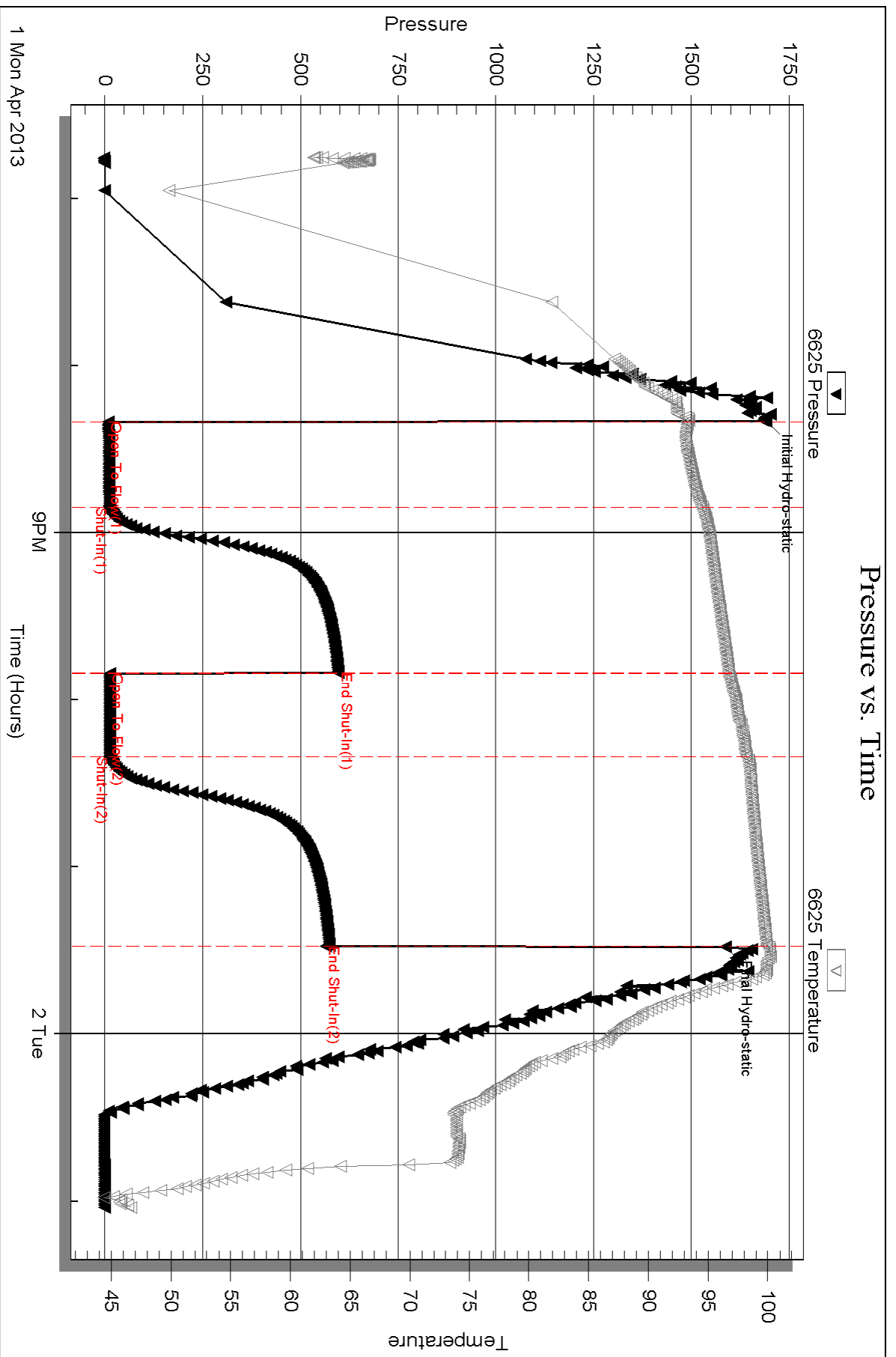
Total Length: 5.00 ft      Total Volume: 0.025 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

Serial #: 6625

Outside Murfin Drilling Co Inc

Alexia Unit #1-12

DST Test Number: 2



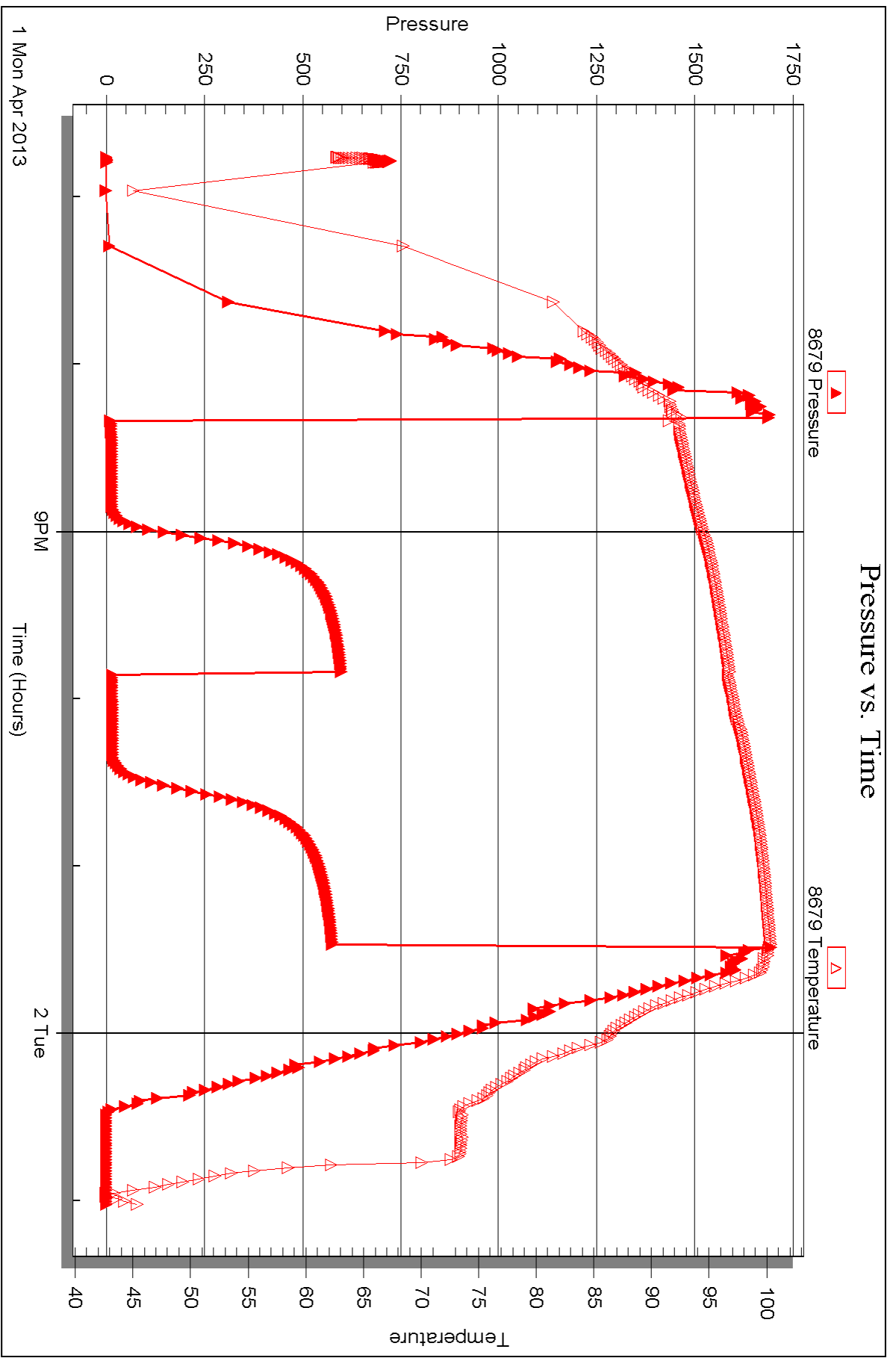
Serial #: 8679

Inside

Murfin Drilling Co Inc

Alexia Unit #1-12

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 48517

Printed: 2013.04.08 @ 11:56:12



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 Water Ste 300  
Wichita KS 67202-1216

ATTN: Rocky Milford

### **Alexia Unit #1-12**

### **12-15s-19w Ellis,KS**

Start Date: 2013.04.02 @ 14:49:58

End Date: 2013.04.02 @ 22:15:18

Job Ticket #: 48518                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.04.08 @ 11:55:28







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co Inc  
250 Water Ste 300  
Wichita KS 67202-1216  
ATTN: Rocky Milford

**12-15s-19w Ellis,KS**  
**Alexia Unit #1-12**  
Job Ticket: 48518      **DST#: 3**  
Test Start: 2013.04.02 @ 14:49:58

**Tool Information**

Drill Pipe:	Length: 3455.00 ft	Diameter: 3.80 inches	Volume: 48.46 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 29.00 ft	Diameter: 2.25 inches	Volume: 0.14 bbl	Weight to Pull Loose:	52000.00 lb
			<u>Total Volume: 48.60 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	13.00 ft			String Weight: Initial	46000.00 lb
Depth to Top Packer:	3491.00 ft			Final	47000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	109.00 ft				
Tool Length:	129.00 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			3472.00	
Shut In Tool	5.00			3477.00	
Hydraulic tool	5.00			3482.00	
Packer	4.00			3486.00	20.00      Bottom Of Top Packer
Packer	5.00			3491.00	
Stubb	1.00			3492.00	
Perforations	7.00			3499.00	
Change Over Sub	1.00			3500.00	
Drill Pipe	63.00			3563.00	
Change Over Sub	1.00			3564.00	
Recorder	0.00	6625	Outside	3564.00	
Recorder	0.00	8679	Inside	3564.00	
Perforations	33.00			3597.00	
Bullnose	3.00			3600.00	109.00      Bottom Packers & Anchor

**Total Tool Length: 129.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co Inc  
250 Water Ste 300  
Wichita KS 67202-1216  
ATTN: Rocky Milford

**12-15s-19w Ellis,KS**  
**Alexia Unit #1-12**  
Job Ticket: 48518      **DST#: 3**  
Test Start: 2013.04.02 @ 14:49:58

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 56.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.59 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2500.00 ppm			
Filter Cake: inches			

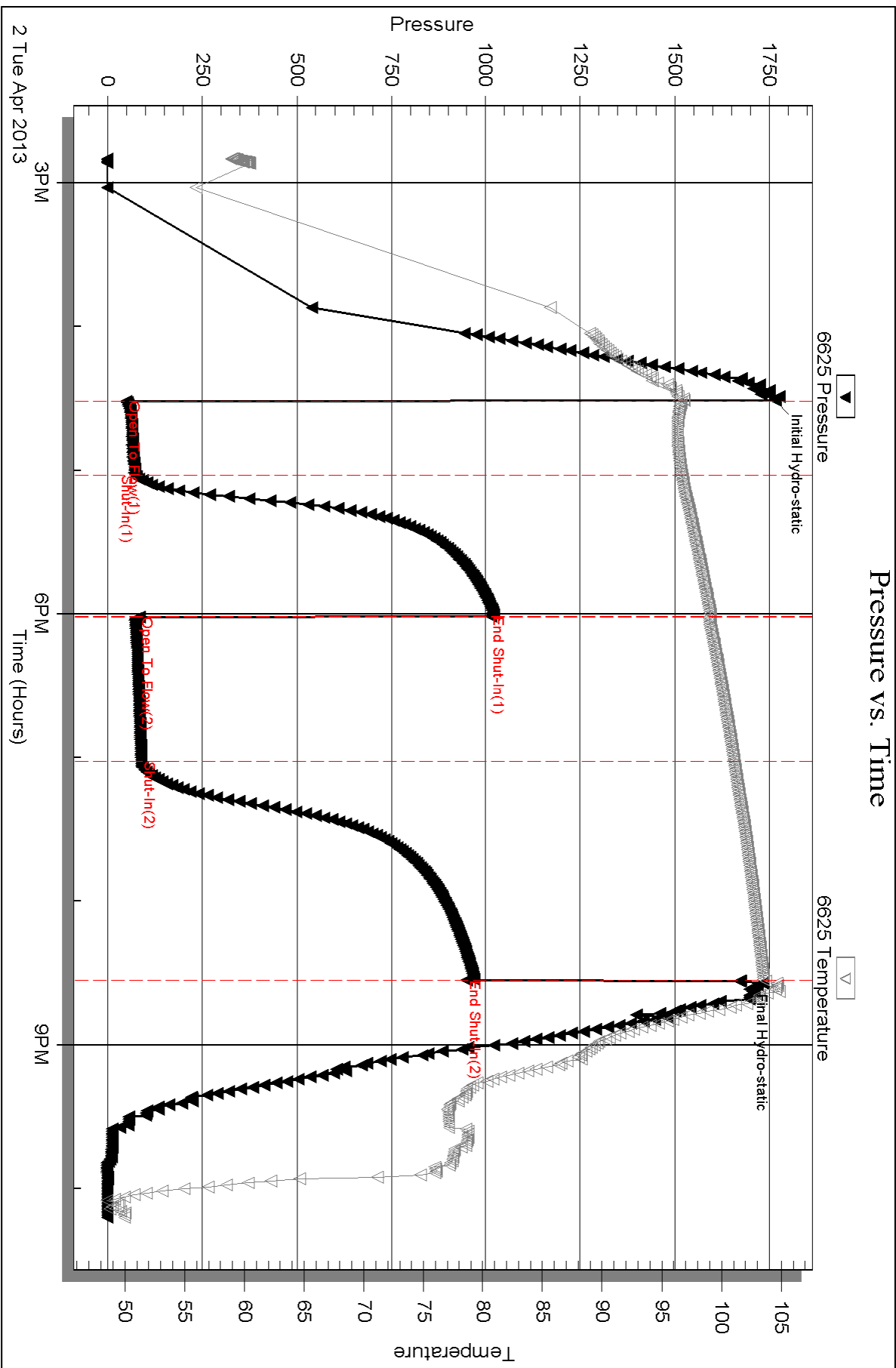
## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
92.00	VSOCGM 2%G 8%O 90%M	1.026
0.00	63-GIP	0.000

Total Length: 92.00 ft      Total Volume: 1.026 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:





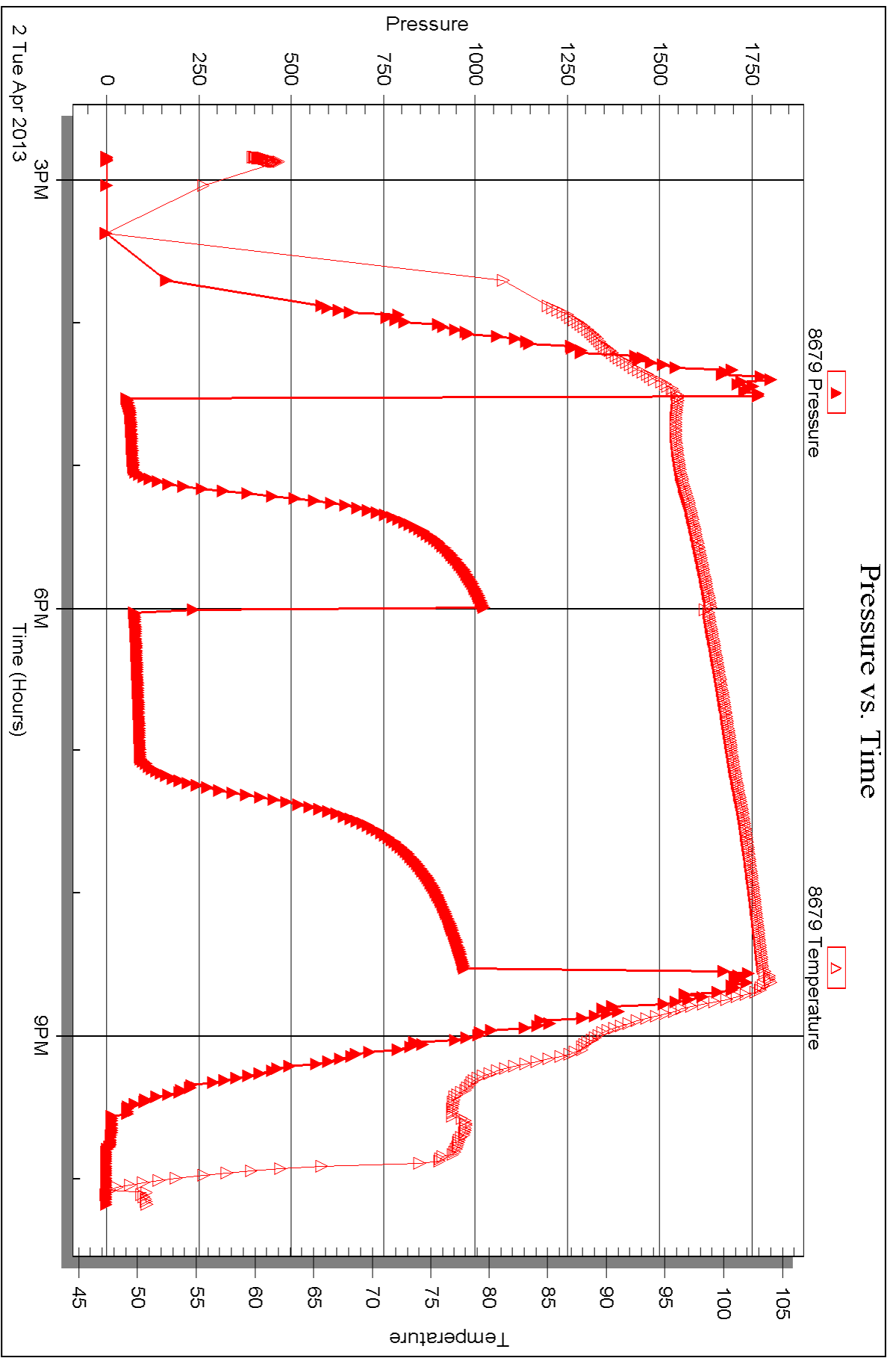
Serial #: 8679

Inside

Murfin Drilling Co Inc

Alexia Unit #1-12

DST Test Number: 3





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 Water Ste 300  
Wichita KS 67202-1216

ATTN: Rocky Milford

### **Alexia Unit #1-12**

#### **12-15s-19w Ellis,KS**

Start Date: 2013.04.03 @ 11:09:17

End Date: 2013.04.03 @ 18:30:17

Job Ticket #: 48519                      DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.04.08 @ 11:54:48



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc  
 250 Water Ste 300  
 Wichita KS 67202-1216  
 ATTN: Rocky Milford

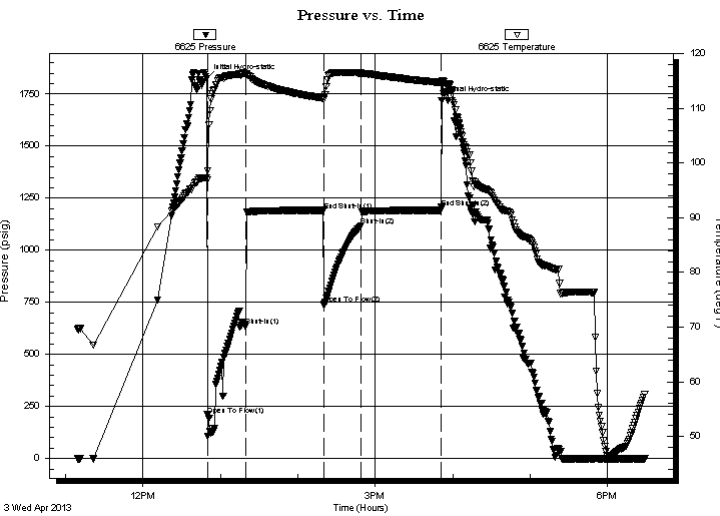
**12-15s-19w Ellis,KS**  
**Alexia Unit #1-12**  
 Job Ticket: 48519 **DST#: 4**  
 Test Start: 2013.04.03 @ 11:09:17

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 12:49:47  
 Time Test Ended: 18:30:17  
 Interval: **3665.00 ft (KB) To 3710.00 ft (KB) (TVD)**  
 Total Depth: 3438.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Jeff Brown  
 Unit No: 67  
 Reference Elevations: 2085.00 ft (KB)  
 2080.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 6625 Outside**  
 Press @ Run Depth: 1116.67 psig @ 3702.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.04.03 End Date: 2013.04.03 Last Calib.: 2013.04.03  
 Start Time: 11:09:18 End Time: 18:29:17 Time On Btm: 2013.04.03 @ 12:49:37  
 Time Off Btm: 2013.04.03 @ 15:51:27

**TEST COMMENT:** IFP-Strong blow BOB in 1 1/4 min  
 ISI-Dead no blow back  
 FFP-Strong blow BOB in 45 sec  
 FSI-Dead no blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1826.07	97.39	Initial Hydro-static
1	209.93	97.02	Open To Flow (1)
30	635.82	116.18	Shut-In(1)
91	1192.12	111.89	End Shut-In(1)
91	740.25	111.73	Open To Flow (2)
120	1116.67	116.48	Shut-In(2)
182	1206.13	114.76	End Shut-In(2)
182	1717.58	114.92	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
2080.00	MW 10%M 90%W	28.91
360.00	WM 10%W 90%M	5.05

\* 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 Water Ste 300  
Wichita KS 67202-1216  
ATTN: Rocky Milford

**12-15s-19w Ellis,KS**  
**Alexia Unit #1-12**  
Job Ticket: 48519      **DST#: 4**  
Test Start: 2013.04.03 @ 11:09:17

**Tool Information**

Drill Pipe:	Length: 3645.00 ft	Diameter: 3.80 inches	Volume: 51.13 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 29.00 ft	Diameter: 2.25 inches	Volume: 0.14 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume: 51.27 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial	47000.00 lb
Depth to Top Packer:	3665.00 ft			Final	55000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	45.00 ft				
Tool Length:	65.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Change Over Sub	1.00			3646.00	
Shut In Tool	5.00			3651.00	
Hydraulic tool	5.00			3656.00	
Packer	4.00			3660.00	20.00      Bottom Of Top Packer
Packer	5.00			3665.00	
Stubb	1.00			3666.00	
Perforations	3.00			3669.00	
Change Over Sub	1.00			3670.00	
Drill Pipe	31.00			3701.00	
Change Over Sub	1.00			3702.00	
Recorder	0.00	6625	Outside	3702.00	
Recorder	0.00	8679	Inside	3702.00	
Perforations	5.00			3707.00	
Bullnose	3.00			3710.00	45.00      Bottom Packers & Anchor

**Total Tool Length: 65.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co Inc  
250 Water Ste 300  
Wichita KS 67202-1216  
ATTN: Rocky Milford

**12-15s-19w Ellis,KS**  
**Alexia Unit #1-12**  
Job Ticket: 48519      **DST#: 4**  
Test Start: 2013.04.03 @ 11:09:17

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 54.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.79 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2500.00 ppm			
Filter Cake: inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2080.00	MW 10%M 90%W	28.913
360.00	WM 10%W 90%M	5.050

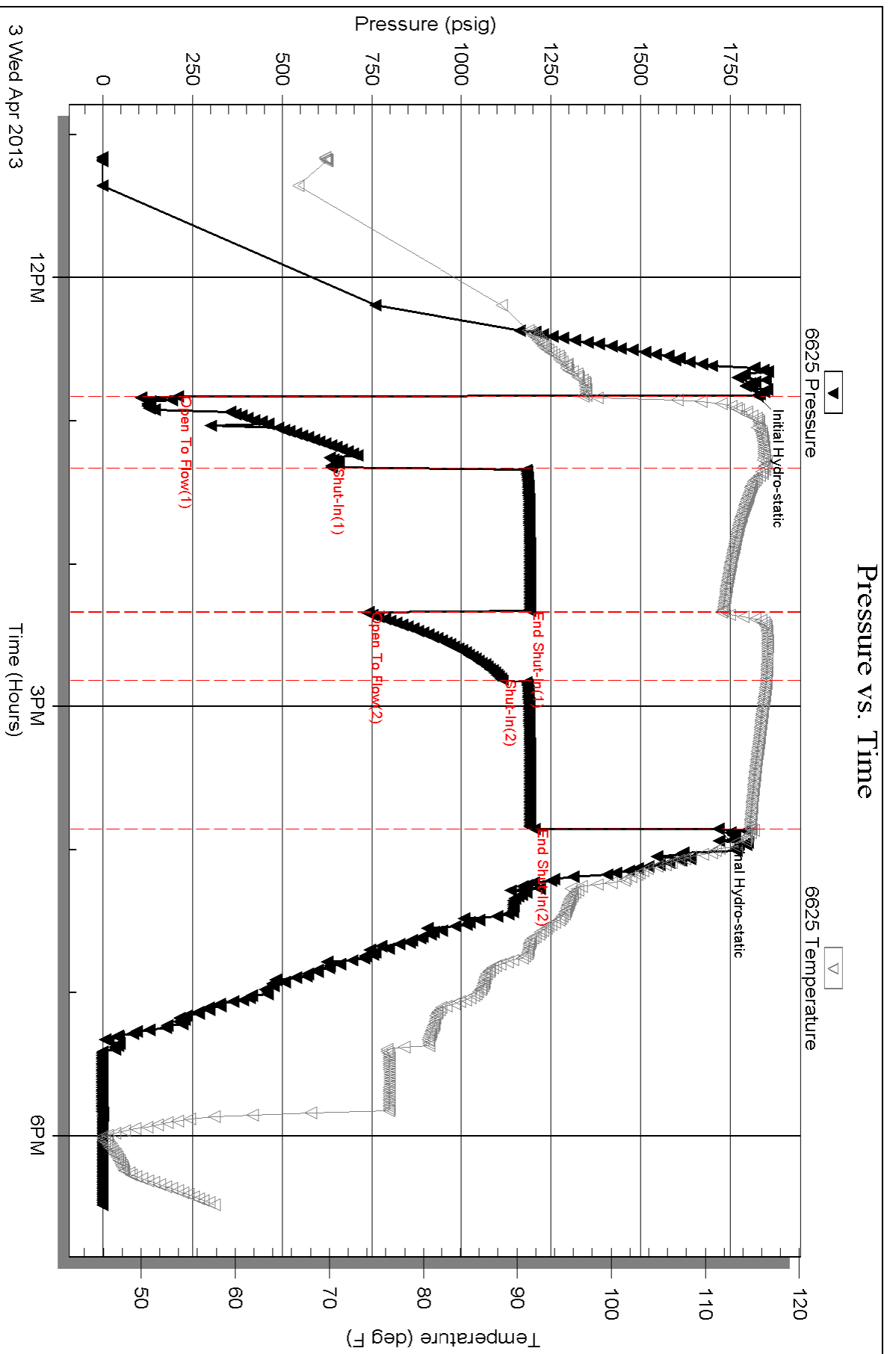
Total Length: 2440.00 ft      Total Volume: 33.963 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

Serial #: 6625

Outside Murfin Drilling Co Inc

Alexia Unit #1-12

DST Test Number: 4





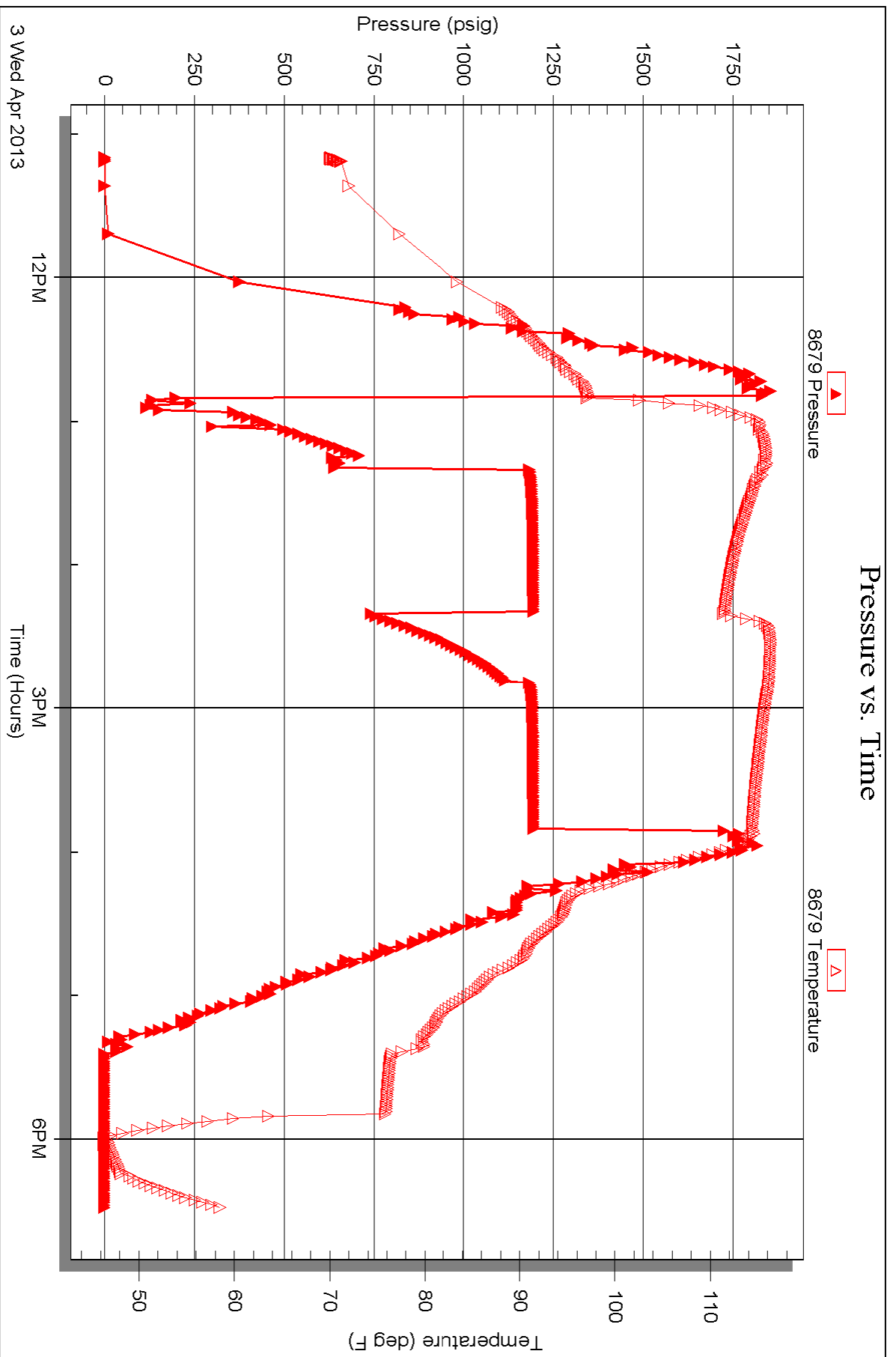
Serial #: 8679

Inside

Murfin Drilling Co Inc

Alexia Unit #1-12

DST Test Number: 4





# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 48516

Well Name & No. Alexia Unit #1-12 Test No. 1 Date 4-1-13  
 Company Murfin Drilling Co INC Elevation 2085 KB 2080 GL  
 Address 250 N Water Ste 300 Wichita KS 67202 + 1216  
 Co. Rep / Geo. Rocky Milford Rig Murfin #16  
 Location: Sec. 12 Twp. 15S Rge. 19W Co. ELLIS State KS

Interval Tested 3331 - 3438 Zone Tested Toronto - Lansing D  
 Anchor Length 107 Drill Pipe Run 3297 Mud Wt. 9.1  
 Top Packer Depth 3326 Drill Collars Run 29 Vis 50  
 Bottom Packer Depth 3331 Wt. Pipe Run 0 WL 7.4  
 Total Depth 3438 Chlorides 2400 ppm System LCM 1  
 Blow Description IP-Weak Blow Built to 2 1/4 IN ~~IN~~ Dies Back to 1 IN  
IS-Dead No Blow Back  
FP-Good Blow BoB IN 25 min  
FS-Dead No Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>252</u>	<u>MW</u>			<u>90%</u>	<u>10%</u>
<u>126</u>	<u>WM</u>			<u>30%</u>	<u>70%</u>
<u>45</u>	<u>MUD WITH OIL SPOTS</u>				<u>100%</u>

Rec Total 423 BHT 107 Gravity \_\_\_\_\_ API RW 165 @ 48.2° F Chlorides 70,000 ppm  
 (A) Initial Hydrostatic 1659  Test 1150 T-On Location 4:42  
 (B) First Initial Flow 76  Jars \_\_\_\_\_ T-Started 5:34  
 (C) First Final Flow 143  Safety Joint \_\_\_\_\_ T-Open 7:27  
 (D) Initial Shut-In 550  Circ Sub \_\_\_\_\_ T-Pulled 11:27  
 (E) Second Initial Flow 190  Hourly Standby \_\_\_\_\_ T-Out 13:30  
 (F) Second Final Flow 253  Mileage 28 RT 43.40 Comments \_\_\_\_\_  
 (G) Final Shut-In 471  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1568  Straddle \_\_\_\_\_  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Initial Open 30  Extra Packer \_\_\_\_\_  
 Initial Shut-In 60  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Final Flow 6090  Day Standby \_\_\_\_\_ Total 1193.40  
 Final Shut-In \_\_\_\_\_  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1193.40

Approved By \_\_\_\_\_ Our Representative Jeff Brown

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. 48517

Well Name & No. Alexia Unit #1-12 Test No. 2 Date 4-1-13  
 Company Murfin Drilling Co INC Elevation 2085 KB 8080 GL  
 Address 250 N Water St 300 Wichita KS 67202  
 Co. Rep / Geo. Rocky milford Rig Murfin #14  
 Location: Sec. 12 Twp. 15S Rge. 19W Co. ELLIS State KS

Interval Tested 3436 - 3440 Zone Tested Lansing E-F  
 Anchor Length 24 Drill Pipe Run 3392 Mud Wt. 9.1  
 Top Packer Depth 3431 Drill Collars Run 29 Vis 50  
 Bottom Packer Depth 3436 Wt. Pipe Run 0 WL 7.4  
 Total Depth 3440 Chlorides 2400 ppm System LCM 1  
 Blow Description FP-Weak Blow Built to 1 1/8 IN  
EST-Dead No Blow Back  
FP-Dead No Blow  
EST-Dead No Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>MUD WITH OIL 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 Total 5 BHT 100 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1691  Test 1150 T-On Location 18:24  
 (B) First Initial Flow 9  Jars T-Started 18:45  
 (C) First Final Flow 11  Safety Joint T-Open 20:21  
 (D) Initial Shut-In 596  Circ Sub T-Pulled 23:21  
 (E) Second Initial Flow 12  Hourly Standby T-Out 1:05  
 (F) Second Final Flow 13  Mileage 43.40 Comments \_\_\_\_\_  
 (G) Final Shut-In 565  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1587  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 1193.40 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Jeff Brown  
 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. 48518

Well Name & No. Alexia Unit #1-12 Test No. 3 Date 4-2-13  
 Company Murfin Drilling Co Inc Elevation 2085 KB 2080 GL  
 Address 250 N Water Ste 300 Wichita KS 67202  
 Co. Rep / Geo. Rocky Milford Rig Murfin #16  
 Location: Sec. 12 Twp. 15s Rge. 19W Co. ELLIS State KS

Interval Tested 3491 - 3600 Zone Tested Lansing - HIJK  
 Anchor Length 108 Drill Pipe Run 3455 Mud Wt. 9.1  
 Top Packer Depth 3486 3486 Drill Collars Run 29 Vis 56  
 Bottom Packer Depth 3492 3491 Wt. Pipe Run 0 WL 7.6  
 Total Depth 3600 Chlorides 2500 ppm System LCM 1

Blow Description FF - fair Blow Built to 6 IN  
ISI - Dead No Blow Back  
FF - fair Blow Built to 6 3/4 IN  
ISI - Dead No Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>92</u>	<u>SOC GM</u>	<u>2</u>	<u>8</u>		<u>90</u>
	<u>63 - GIP</u>				

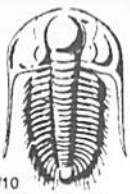
Rec Total 92 BHT 104 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1766  Test 1150 T-On Location 14:33  
 (B) First Initial Flow 49  Jars \_\_\_\_\_ T-Started 14:49  
 (C) First Final Flow 73  Safety Joint \_\_\_\_\_ T-Open 16:32  
 (D) Initial Shut-In 1014  Circ Sub \_\_\_\_\_ T-Pulled 20:32  
 (E) Second Initial Flow 83  Hourly Standby \_\_\_\_\_ T-Out 22:15  
 (F) Second Final Flow 89  Mileage 43.40 Comments \_\_\_\_\_  
 (G) Final Shut-In 950  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1675  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1193.40  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1193.40

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

Approved By \_\_\_\_\_ Our Representative Jeff Brown

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 48519

Well Name & No. Alexia Unit #1-12 Test No. 4 Date 4-3-13  
 Company Murfin Drilling Co INC Elevation 2085 KB 2080 GL  
 Address 250 N Water Ste 300 Wichita KS 67202  
 Co. Rep / Geo. Rocky Milford Rig Murfin #116  
 Location: Sec. 12 Twp. 15 S Rge. 19 W Co. ELLIS State KS

Interval Tested 3665 - 3710 Zone Tested Arbuckle  
 Anchor Length 45 Drill Pipe Run 3645 Mud Wt. 9.2  
 Top Packer Depth 3660 Drill Collars Run 29 Vis 54  
 Bottom Packer Depth 3665 Wt. Pipe Run 0 WL 7.8  
 Total Depth 3710 Chlorides 2500 ppm System LCM 2 #

Blow Description FF-Strong Blow Bob In 1 1/4 min  
1st-Dead No Blow Back  
FF-Strong Blow Bob In 45 sec  
1st-Dead No Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>2080</u>	<u>MW</u>			<u>90</u>	<u>10</u>
<u>360</u>	<u>WM</u>			<u>10</u>	<u>90</u>

Rec Total 2440 BHT 115 Gravity \_\_\_\_\_ API RW. 344 @ 50.3 °F Chlorides 28,000 ppm

(A) Initial Hydrostatic 1826  Test 1150 T-On Location 10:35  
 (B) First Initial Flow 210  Jars \_\_\_\_\_ T-Started 11:09  
 (C) First Final Flow 636  Safety Joint \_\_\_\_\_ T-Open 12:50  
 (D) Initial Shut-In 1192  Circ Sub \_\_\_\_\_ T-Pulled 15:50  
 (E) Second Initial Flow 740  Hourly Standby \_\_\_\_\_ T-Out 18:30  
 (F) Second Final Flow 1117  Mileage 43.40 Comments \_\_\_\_\_  
 (G) Final Shut-In 1206  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1718  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_

Shale Packer 250  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Open 30  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Initial Shut-In 60  Day Standby \_\_\_\_\_ Total 1443.40  
 Final Flow 30  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 60 Sub Total 1443.40

Approved By \_\_\_\_\_ Our Representative Jeff Brown

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# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025  
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 6474

Date	3-28-13	Sec.	12	Twp.	15	Range	19	County	Ellis	State	KS	On Location		Finish	8:00 p.m.
------	---------	------	----	------	----	-------	----	--------	-------	-------	----	-------------	--	--------	-----------

Location *Antonino 1E to 220R 15 1/2 W Sinto*

Lease	<i>Alexia Unit</i>	Well No.	<i>42</i>	Owner	To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.
Contractor	<i>Murfin #16</i>				
Type Job	<i>Surface</i>				
Hole Size	<i>12 1/4</i>	T.D.	<i>210</i>	Charge To	<i>Murfin Drilling</i>
Csg.	<i>8 5/8</i>	Depth	<i>208</i>	Street	
Tbg. Size		Depth		City	State
Tool		Depth		The above was done to satisfaction and supervision of owner agent or contractor.	
Cement Left in Csg.	<i>15'</i>	Shoe Joint		Cement Amount Ordered	<i>165 com 3% acc 2% d/c</i>
Meas Line		Displace	<i>12 1/2 B/L</i>		

EQUIPMENT				Common	<i>165</i>
Pumptrk	<i>9</i>	No.	<i>9</i>	Poz. Mix	
Bulktrk		No.	<i>3</i>	Gel.	<i>3</i>
Bulktrk	<i>14</i>	No.	<i>5</i>	Calcium	<i>5</i>

JOB SERVICES & REMARKS				Hulls	
Remarks:				Salt	
Rat Hole				Flowseal	
Mouse Hole				Kol-Seal	
Centralizers				Mud CLR 48	
Baskets				CFL-117 or CD110 CAF 38	
D/V or Port Collar				Sand	
<i>8 5/8 on bottom - Est. Circulation.</i>				Handling	<i>173</i>
<i>Mix 165 SK &amp; Displace Plug.</i>				Mileage	

Cement Circulated!				FLOAT EQUIPMENT	
				Guide Shoe	
				Centralizer	<i>8 5/8 wooden Plug</i>
				Baskets	
				AFU Inserts	
				Float Shoe	
				Latch Down	

				Pumptrk Charge	<i>Surface</i>
				Mileage	<i>13</i>
				Tax	
				Discount	
				Total Charge	

X Signature *Ag Seal*





# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025  
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 6647

Date	4-4-13	Sec.	12	Twp.	15	Range	19	County	Ellis	State	Ks	On Location		Finish	12:30pm
Lease	Alexia unit			Well No.	1-12		Owner	Antonino, Ks - 1E, 1S, 1/2 W, S1/4							
Contractor	Murfin #16			To Quality Oilwell Cementing, Inc.				You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.							
Type Job	Plug			Charge To				Murfin Drilling							
Hole Size	7 7/8"			T.D.	3800'		Street								
Csg.				Depth			City	State							
Tbg. Size	4 1/2" D.P.			Depth	3676'		The above was done to satisfaction and supervision of owner agent or contractor.								
Tool				Depth			Cement Amount Ordered	270 sx 60/40 4% Gel 1/4#							
Cement Left in Csg.				Shoe Joint			Meas Line Displace 1620/mud Flo-seal								
EQUIPMENT							Common 162								
Pumptrk	15	No.	Cementer	Nick		Poz. Mix 108									
Bulktrk	10	No.	Driver	Bobby		Gel. 10									
Bulktrk	P.U.	No.	Driver	Rick		Calcium									
JOB SERVICES & REMARKS							Hulls								
Remarks:							Salt								
Rat Hole							Flowseal 67#								
Mouse Hole							Kol-Seal								
Centralizers							Mud CLR 48								
Baskets							CFL-117 or CD110 CAF 38								
D/V or Port Collar							Sand								
	3676' - 50 sx						Handling 280								
	1290' - 25 sx						Mileage								
	600' - 100 sx						FLOAT EQUIPMENT								
	260' - 40 sx						Guide Shoe								
	40' - 10 sx w/ plug						Centralizer								
	Bathole - 30 sx						Baskets								
	Mouse hole - 15 sx						AFU Inserts								
	Cement dtd Circulate						Float Shoe								
							Latch Down								
							Day hole plug								
							Pumptrk Charge plug								
							Mileage 13								
Signature							Tax								
							Discount								
							Total Charge								