

Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1252102  
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: \_\_\_\_\_

1252102

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

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

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

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

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

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

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

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

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

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

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

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

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

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____ <input type="checkbox"/> Commingled <i>(Submit ACO-4)</i>	<b>PRODUCTION INTERVAL:</b> _____ _____
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Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	Vrbas 'A' 1-25
Doc ID	1252102

All Electric Logs Run

DIL
DUCP
MEL
BHCS



# Robert L. Milford

PETROLEUM GEOLOGIST  
Wichita, Kansas

## GEOLOGISTS' REPORT

DRILLING TIME AND SAMPLE LOG

OPERATOR: **Murfin Drilling Company, Inc.**  
LEASE: **Yrbas 'A' #41-25**  
LOC. SPOT: **N2 NE SW**  
LOC. FOOTAGE: **2,310' FSL 1,980' FWL**

SEC: **25** TWP: **4S** RNG: **31W**  
COUNTY: **Rauvins** STATE: **Kansas**  
API: **15-153-21129-00-00**

CONTRACTOR: **Murfin Drilling Co., Inc.** RIG NO.: **7**  
DRILLING STARTED: **4-13-2015** COMPLETED: **4-19-2015**  
MUD DISPLAYED: **3.166** MUD TYPE: **Chemical**  
DRILLING TIME/EFF FROM: **3.610** TO RTD  
SAMPLES SAVED FROM: **3.610** TO RTD  
SAMPLES EXAMINED FROM: **3.610** TO RTD  
GEOLOGICAL SUPERVISION FROM: **3.610** TO RTD

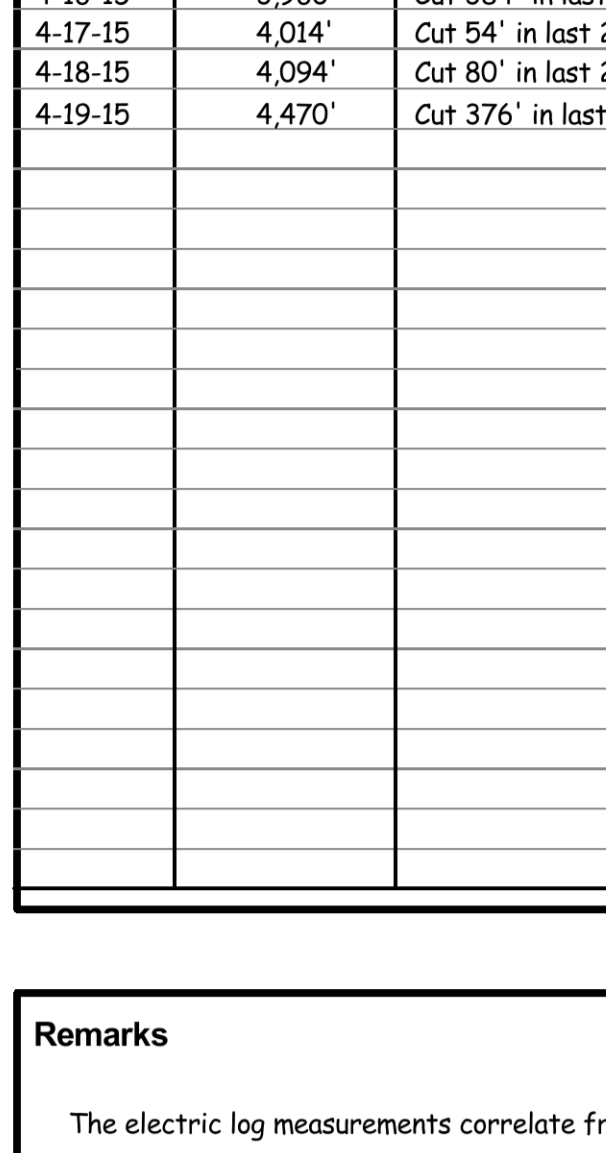
FORMATION NAME TOP LOG DATE SAMPLE DATUM  
Stone Corral 2,633' +248 2,635' +246  
Topeka 3,709' -828 3,711' -830  
Heebner 3,875' -994 3,877' -996  
Lansing 3,924' -1043 3,926' -1045  
Stark 4,090' -1209 4,092' -1211  
B/KC 4,136' -1255 4,138' -1257  
Pawnee 4,251' -1370 4,252' -1371  
Cherokee 4,336' -1455 4,337' -1456  
Mississippi 4,436' -1574 4,435' -1574  
Total Depth 4,470' -1589 4,470' -1589

MEASUREMENTS  
KB **2,881'**  
GL **2,876'**

CASING RECORD  
Conductor  
Surface **8.5/8" @ 219'**  
w/ 200 sticks cement  
Production none

ELECTRICAL SURVEYS  
Fluores Wireline  
Dial Induction Log  
Dial Compensated -

Porosity Log  
Microresistivity Log  
Borehole Compensated -  
Sonic Log



DATE	7:00 AM DEPTH	REMARKS
4-13-15	0'	Spud @ 2:30 pm. Plug down @ 6:00 pm. Drilled out plug @ 2:00 am on 4-14-15 w/ PDC bit
4-14-15	1,040'	Cut 1,040' in last 24 hrs. Cut 821' in 5 hrs w/ PDC bit. Bit trip @ 3576'
4-15-15	3,576'	Cut 2,536' in last 24 hrs; 18.75 hrs drlg. DST #1 @ 3960'
4-16-15	3,960'	Cut 384' in last 24 hrs; 15.75 hrs drlg. DST #2 @ 4014'
4-17-15	4,014'	Cut 54' in last 24 hrs; 2.5 hrs drlg. DST #3 @ 4094'
4-18-15	4,094'	Cut 80' in last 24 hrs; 4 hrs drlg. RTD 4470' @ 6:57 am on 4-19-15
4-19-15	4,470'	Cut 376' in last 24 hrs; 20.25 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.

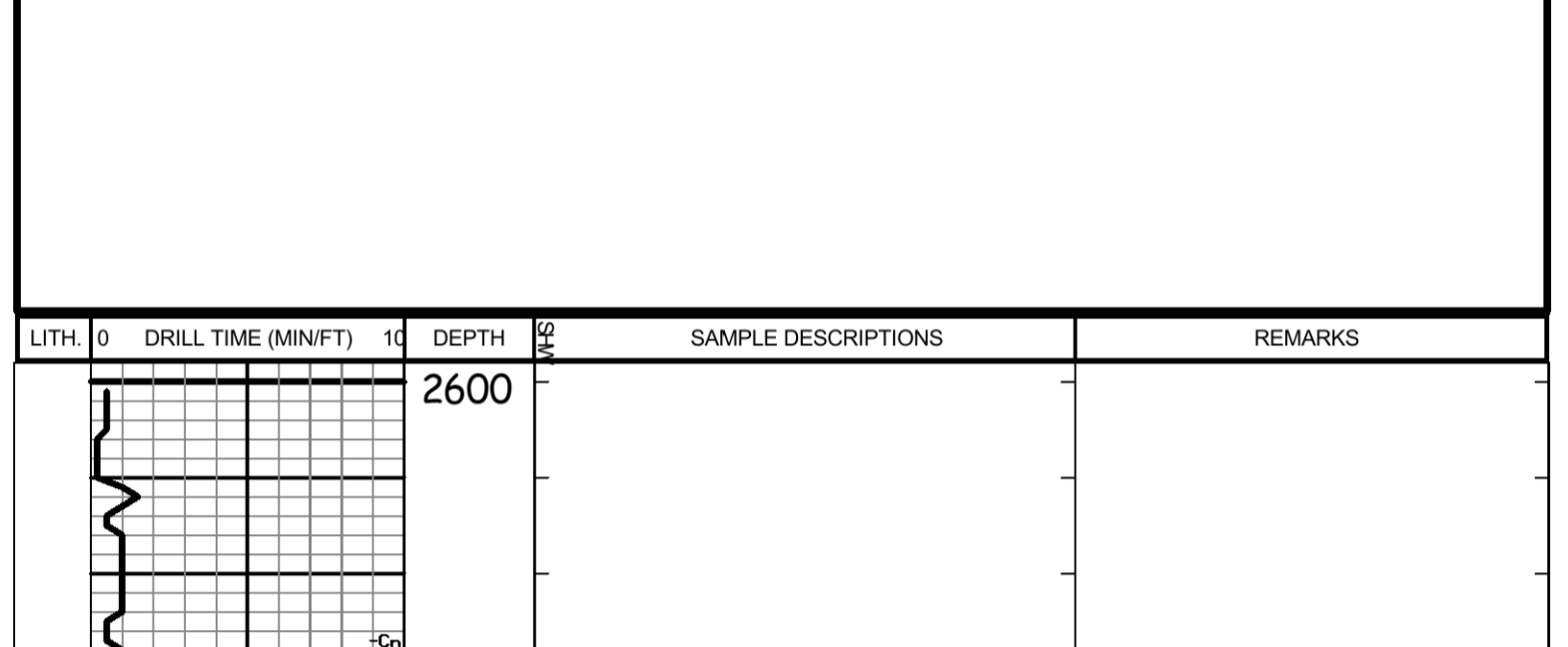
The drilling samples were deposited at the Kansas Geological Survey office in Wichita.

Respectfully submitted,

Robert L. Milford

### Drill Stem Test Charts

Drill Stem Test by Trilobite Testing, Inc.



LITH	0	DRILL TIME (MIN/FT)	10	DEPTH (FT)	SAMPLE DESCRIPTIONS	REMARKS
				2600		Stone Corral 2633' (+248) EL
				2650		B/Stone Corral 2666' (+215) EL
				2700		

LITH	0	DRILL TIME (MIN/FT)	10	DEPTH (FT)	SAMPLE DESCRIPTIONS	REMARKS
				3600	LS: crm-gry, fxl, fos in prt, some blk inclusions, sub chky-prtly dns, pr por, NS LS: crm-lt gry, fxl, fos in prt, sub chky-prtly dns, pr por, NS Sh: lt gry (soft & gummy) & red-brn (some soft & gummy), some gry-grn LS: wh-tan, fxl, fos in prt, sub chky-prtly dns w/ some chky, pr por, NS	Call depth 3310' @ 1:23 am on 4-15-15 Mud displaced from 3166' to 3262' Bit trip at 3576'. Replaced PDC bit with button bit. Pipe Strap @ 3576': Strap short 0.24' Straight Hole Survey @ 3576': 1° Dev. Samples start 3610' @ 10:49 am on 4-15-15 Morgan Mud check @ 3612': 186 Vis, 8.7 Wt, 5.2 WL, 1,600 ppm Chl, 3# LCM
				3650	LS: red-brn & gry-grn LS: crm-tan, fxl, fos in prt, sub chky-prtly dns w/ some chky, pr por, NS Sh: red-brn (some soft & gummy, some sdy), some gry & grn LS: wh-lt gry, fxl, fos in prt, sub chky-prtly dns w/ some chky-vry chky, pr w/ tr fr-gd fos-vug por, NS Sh: red-brn, some gry-grn LS: wh-tan, fxl, sli fos, sub chky-prtly dns w/ some chky, pr por, NS Sh: red-brn (some soft & gummy), some gry Sh: red-brn (some soft & gummy), some gry-grn	Topeka 3709' (-828) EL
				3750	LS: wh-tan, fxl, sli fos, some shly (red-brn, mottled), sub chky-prtly dns w/ some chky-vry chky, pr por, NS LS: wh-lt gry, fxl, sli fos, chky-prtly dns w/ some vry chky, pr por, NS Sdy LS-Calc Sd: crm-lt gry, fxl, fn-vry fn grain sd, fri-semi brittle, pr vis por, NS Shly Sd-Sdy Sh: red-brn Sh: red-brn (some sdy, some soft & gummy), some gry & grn LS: wh-crm, fxl, fos in prt, some calcite infill, chky-prtly dns, pr por, NS LS: wh-lt gry, fxl, fos in prt, sub chky-prtly dns w/ some chky-vry chky, pr por, NS LS: A.A. w/ dcns chky-vry chky, pr por, NS LS: crm-lt gry, fxl, fos in prt, sub chky-prtly dns w/ some chky, pr por, NS	
				3800	Sh: Blk Carb LS: crm-brn, fos, sub chky-prtly dns, pr por, NS Sh: red-brn, gry, gm w/ tr Sd: gry, fn-vry fn grain, calc, semi fri, pr vis por, NS LS: crm, fxl, fos-ool in prt, sub chky-prtly dns w/ some chky, pr por, NS Sh: red-brn (some sdy) w/ gm & gry LS: crm, fxl, fos-ool, sub chky-prtly dns w/ some chky, pr por, NS LS: wh-tan, fxl, fos-ool in prt, vry chky-prtly dns, pr intrprtcal por, tr blk spdt-patchy dead stn, NSFO, no odor LS: wh-crm, fxl, fos-ool in prt, sli pyr, chky-prtly dns, pr w/ tr fr intrprtcal por, NS Sh: Blk Carb LS: tan-brn, fxl, fos, mostly soft & gummy, pr por, NS Sh: gry w/ some grn (some soft & gummy) & some red-brn Sh: red-brn (some soft & gummy, some sdy) w/ some gry & grn LS: wh-crm, fxl, fos-ool in prt, sub chky-prtly dns, pr w/ tr fr intrprtcal por, scat med-drk brn spdt-patchy w/ tr sat stn, S-FSFO, no odor Sh: red-brn (some soft & gummy), some gry & grn	DST #1 3876'-3960' Tor-LKC 'B' zn IF: blow built to 0.25" FF: no blow back Rec: 10' Oil Spotted Mud (Spts 0, 100% M) IFP: 16-25#/30" ISIP: 1137#/60" FFP: 26-32#/60" FSIP: 1173#/90"
				3900	LS: crm, fxl, fos, sub chky-prtly dns, pr por, tr blk spdt-patchy stn (cpl pcs w/ thk-hvy live oil stn) & tr med brn spdt dead stn (brn stn in lower part of zn), NSFO, no odor Sd: lt gry, fn-vry fn grain, calc, semi brittle, pr vis por, scat blk patchy-sat stn, SSFO, no odor Sh: red-brn, gry, grn LS: wh-lt gry, fxl, fos, chky-prtly dns w/ some vry chky, pr fr w/ tr gd vug por, fr med-drk brn & blk spdt-patchy stn, SSFO, no odor LS: crm-lt gry, fxl, sub chky-prtly dns, pr w/ tr fr fos-vug por, scat med-drk brn patchy-sub sat stn, SSFO, no odor Sh: red-brn, gry, grn LS: crm, fxl, fos in prt, sub chky-prtly dns, pr fos por, scat med-brn w/ some drk brn & blk spdt-sub sat stn, SSFO, no odor Sh: red-brn & gry-grn LS: wh-tan, fxl, sli fos, sli chty (crm-gm), vry chky-prtly dns, pr por, tr brn-blk spdt-patchy stn, NSFO, no odor LS: wh-lt gry, fxl, fos in prt, chky-prtly dns w/ some vry chky, pr vis por, NS Sh: Blk Carb (few pcs) LS: tan-brn, fxl, fos in prt, prtly dns, pr por, NS Sh: red-brn w/ some grn & gry	Ran 25 stand short trip prior to DST #1 Straight Hole Survey @ 3960': 0.75° Dev. Morgan Mud check @ 3960': 50 Vis, 8.9 Wt, 6.8 WL, 2,200 ppm Chl, 5# LCM (10:25 am, while TTH w/ DST)
				4000	LS: crm-lt gry, fxl, fos-ool in prt, sub chky-prtly dns, pr fr intrprtcal w/ some small vug por, scat lt-med brn patchy-sat stn, S-FSFO, fr odor Sh: red-brn, gry, grn LS: crm, fxl, fos in prt, sub chky-prtly dns, pr fos por, scat med-brn w/ some drk brn & blk spdt-sub sat stn, SSFO, no odor Sh: red-brn & gry-grn LS: wh-tan, fxl, sli fos, sli chty (crm-gm), vry chky-prtly dns, pr por, tr brn-blk spdt-patchy stn, NSFO, no odor LS: wh-lt gry, fxl, fos in prt, chky-prtly dns w/ some vry chky, pr vis por, NS Sh: Blk Carb (few pcs) LS: tan-brn, fxl, fos in prt, prtly dns, pr por, NS Sh: red-brn w/ some grn & gry	DST #2 3976'-4014' LKC 'E'-G' zns IF: blow built to 10" IS: no blow back FF: blow built to 6" FS: no blow back Rec: 320' TOTAL FLUID: 5' WM (20% W, 80% M) 63' WM (50% W, 50% M) 63' MW (90% W, 10% M) Chl ppm: 62,000 DST: 2,200 Mud IFP: 18-101#/30" ISIP: 1100#/60" FFP: 106-189#/60" FSIP: 1087#/90" Morgan Mud check @ 4014': 47 Vis, 9.2 Wt, 6.4 WL, 2,000 ppm Chl, 5# LCM (11:20 am, while TOH w/ DST recovery)
				4050	LS: wh-crm, fxl, chky-prtly dns w/ some vry chky, pr por, rare med-drk brn spdt stn (cpl pcs w/ drk brn live stn), NSFO, no odor Sh: red-brn, gry, grn LS: crm-lt gry, fxl, fos in prt, sub chky-prtly dns, pr por, NS Sh: red-brn (some soft & gummy, some sdy) w/ some gry & grn Sh: A.A. LS: crm-lt gry, fxl, fos-ool in prt, sub chky-prtly dns, pr fr intrprtcal w/ some small vug por, scat lt-med brn patchy-sat stn, S-FSFO, fr odor Sh: red-brn, gry, grn Sh: red-brn (some soft & gummy, some sdy), w/ some gry-grn LS: wh-lt gry, fxl, fos in prt, sub chky-prtly dns w/ some vry chky, pr por, NS LS: crm-lt gry, fxl, sli fos, sub chky-prtly dns w/ some chky, pr por, NS Calc Sh: lt gry & purple w/ Sh: red-brn, gry & grn LS: crm, fxl, sli fos, sub chky-prtly dns, pr por, NS Sh: red-brn (some soft & gummy, some sdy), some gry & grn Sh: A.A. LS: crm-lt gry, fxl, fos in prt, sub chky-prtly dns, pr por, NS w/ some Calc Sh-Shly LS: lt gry Sh: lt gry (soft & gummy), red-brn, gry-grn Sh: red-brn (some soft & gummy), some gry-grn LS: crm-lt gry, fxl, sub chky-prtly dns, pr por, NS LS: red-brn, some gry-grn LS: crm-med gry, fxl, sli fos, sub chky-prtly dns, pr por, NS LS: A.A. w/ some Calc Sh: lt-med gry Sh: red-brn, some gry & grn Sh: A.A. Sh: red-brn, some med gry Sh: red-brn & gry-grn	DST #3 4022-4094' LKC 'H'-J' zns IF: blow built to 7" IS: no blow back FF: blow built to 3.5" FS: no blow back Rec: 355' TOTAL FLUID: 189' MW (65% W, 35% M) 63' MW (90% W, 10% M) 103' MW (60% W, 40% M) Chl ppm: 75,000 DST: 2,000 Mud IFP: 19-118#/30" ISIP: 1204#/60" FFP: 125-182#/60" FSIP: 1184#/90"
				4100	LS: wh-lt gry, fxl, fos in prt, sub chky-prtly dns w/ some vry chky, pr por, NS Sh: red-brn & gry (some soft & gummy) LS: crm-lt gry, fxl, sli fos, sub chky-prtly dns w/ some chky, pr por, NS Calc Sh: lt gry & purple w/ Sh: red-brn, gry & grn LS: crm, fxl, sli fos, sub chky-prtly dns, pr por, NS Sh: red-brn (some soft & gummy, some sdy), some gry & grn Sh: A.A. LS: crm-lt gry, fxl, fos in prt, sub chky-prtly dns, pr por, NS w/ some Calc Sh-Shly LS: lt gry Sh: lt gry (soft & gummy), red-brn, gry-grn Sh: red-brn (some soft & gummy), some gry-grn LS: crm-lt gry, fxl, sub chky-prtly dns, pr por, NS LS: red-brn, some gry-grn LS: crm-med gry, fxl, sli fos, sub chky-prtly dns, pr por, NS LS: A.A. w/ some Calc Sh: lt-med gry Sh: red-brn, some gry & grn Sh: A.A. Sh: red-brn, some med gry Sh: red-brn & gry-grn	Morgan Mud check @ 4127': 60 Vis, 9.2 Wt, 7.2 WL, 2,900 ppm Chl, 5# LCM
				4150	LS: wh-lt gry, fxl, fos in prt, sub chky-prtly dns w/ some vry chky, pr w/ tr fr pin point por, NS Sh: lt gry-tan (soft & gummy) w/ some red-brn & gry-grn & some Calc Sh: gry Sh: red-brn & med-drk gry Sh: Blk Carb (tr amnt) LS: brn, fxl, prtly dns, pr por, NS Sh: red-brn & med-drk gry LS: crm-tan, fxl, fos in prt, sub chky-prtly dns w/ some chky, pr por, NS LS: tan-gry, fxl, some shly, sub chky-prtly dns, pr por, NS Sh: lt gry (some soft & gummy) Sh: med-drk gry (some soft & gummy) w/ some red-brn (some soft & gummy) Sh: Blk Carb (tr amnt) Sh: med-drk gry w/ some grn & red-brn LS: crm-tan, fxl, fos in prt, sub chky-prtly dns w/ some chky, pr por, NS Sh: Blk Carb (scat pcs) w/ Sh: gry, red-brn, grn	No Circ sample caught at 4310'. Looked at 4300-10' sample, then decided to drill ahead
				4350	LS: wh-tan, fxl, fos in prt, sub chky-prtly dns w/ some chky, pr por, NS LS: crm-tan, fxl, fos in prt, sub chky-prtly dns w/ some dns, pr por, NS Sh: gry, red-brn, grn Sh: A. A. w/ small amnt of Sd: lt gry, fn-vry fn grain, sli calc, semi brittle, pr vis por, NS Sh: gry, red-brn, grn, w/ some Sdy Sh: red-brn, & some crs loose Sd grains, clr, sub rnd-sub ang Sh: red-brn, gry, grn w/ some red-brn & grn mottled & small amnt of Sd: clr, fn-med grn, semi fri-brittle, pr-fr vis por, NS Sh: fri-brittle, pr-fr vis por, NS Sh: red-brn (some soft & gummy, some sdy), gry-grn & tr yell, w/ some crs loose Sd grains, clr, sub rnd-sub ang Sh: red-brn (some sdy), some gry & grn LS: A.A. w/ some red-brn & grn mottled, w/ some crs loose Sd grains, clr-yell, sub rnd-sub ang Sd: clr-wh, med grain, semi fri-brittle, pr-fr vis por, NS w/ some crs loose Sd grains A.A. & small amnt of Cht: crm-yell, fresh & weathered, NS Sh: red-brn & grn (some mottled) w/ gry & yell Cht: wh-yell, fresh & weathered, some fos, some pin point-vug por, NS Cht: A.A.	Miss. 4455' (-1574) DT top of Miss. is below start of most log curves Ran 15 stand short trip @ 4470' after CF5 L.T.D. 4470' (-1589) R.T.D. 4470' (-1589) Straight Hole Survey @ 4470': 0.75° Dev.



## DRILL STEM TEST REPORT

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

250 N. Water, Ste 300  
Wichita KS 67202

ATTN: Rocky Milford

### **Vrbas 'A' #1-25**

#### **25-4s-31w Rawlins,KS**

Start Date: 2015.04.16 @ 08:42:00

End Date: 2015.04.16 @ 16:50:45

Job Ticket #: 62362                      DST #: 1

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.04.20 @ 15:55:07



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.  
250 N. Water, Ste 300  
Wichita KS 67202  
ATTN: Rocky Milford

**25-4s-31w Rawlins,KS**

**Vrbas 'A' #1-25**

Job Ticket: 62362

**DST#: 1**

Test Start: 2015.04.16 @ 08:42:00

## GENERAL INFORMATION:

Formation: **Toronto -LKC 'B'**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 10:46:30  
 Time Test Ended: 16:50:45  
 Interval: **3876.00 ft (KB) To 3960.00 ft (KB) (TVD)**  
 Total Depth: 3960.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Royal Fisher  
 Unit No: 54  
 Reference Elevations: 2881.00 ft (KB)  
 2876.00 ft (CF)  
 KB to GR/CF: 5.00 ft

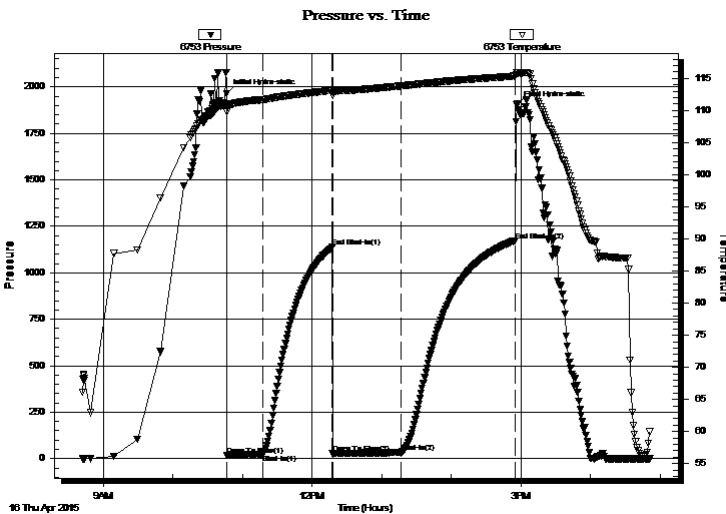
## Serial #: 6753

**Outside**

Press@RunDepth: 32.96 psig @ 3877.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2015.04.16 End Date: 2015.04.16 Last Calib.: 2015.04.16  
 Start Time: 08:42:05 End Time: 16:50:44 Time On Btm: 2015.04.16 @ 10:46:15  
 Time Off Btm: 2015.04.16 @ 14:56:15

TEST COMMENT: 30 - IF - Surface blow built to 1/4"  
 60 - ISI - No Return  
 60 - FF - No Surface blow  
 90 - FSI - No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1963.61	110.93	Initial Hydro-static
1	16.94	109.71	Open To Flow (1)
31	25.08	111.66	Shut-In(1)
91	1137.15	113.11	End Shut-In(1)
92	26.27	112.38	Open To Flow (2)
150	32.96	113.81	Shut-In(2)
249	1173.40	115.34	End Shut-In(2)
250	1901.38	115.80	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	OSM - 100M - Oil Spots	0.05

## Gas Rates

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







**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co., Inc.

**25-4s-31w Rawlins,KS**

250 N. Water, Ste 300  
Wichita KS 67202

**Vrbas 'A' #1-25**

Job Ticket: 62362

**DST#: 1**

ATTN: Rocky Milford

Test Start: 2015.04.16 @ 08:42:00

## Tool Information

Drill Pipe:	Length: 3611.83 ft	Diameter: 3.80 inches	Volume: 50.66 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 248.79 ft	Diameter: 2.25 inches	Volume: 1.22 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 51.88 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	11.62 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	3876.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	84.00 ft			
Tool Length:	111.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3854.00	
Hydraulic tool	5.00			3859.00	
Jars	5.00			3864.00	
Safety Joint	3.00			3867.00	
Packer	4.00			3871.00	27.00 Bottom Of Top Packer
Packer	5.00			3876.00	
Stubb	1.00			3877.00	
Recorder	0.00	8368	Inside	3877.00	
Recorder	0.00	6753	Outside	3877.00	
Perforations	14.00			3891.00	
Change Over Sub	1.00			3892.00	
Drill Pipe	63.00			3955.00	
Change Over Sub	1.00			3956.00	
Bullnose	4.00			3960.00	84.00 Bottom Packers & Anchor

**Total Tool Length: 111.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co., Inc.

**25-4s-31w Rawlins,KS**

250 N. Water, Ste 300  
Wichita KS 67202

**Vrbas 'A' #1-25**

Job Ticket: 62362

**DST#: 1**

ATTN: Rocky Milford

Test Start: 2015.04.16 @ 08:42:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 186.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1600.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	OSM - 100M - Oil Spots	0.049

Total Length: 10.00 ft      Total Volume: 0.049 bbl

Num Fluid Samples: 0

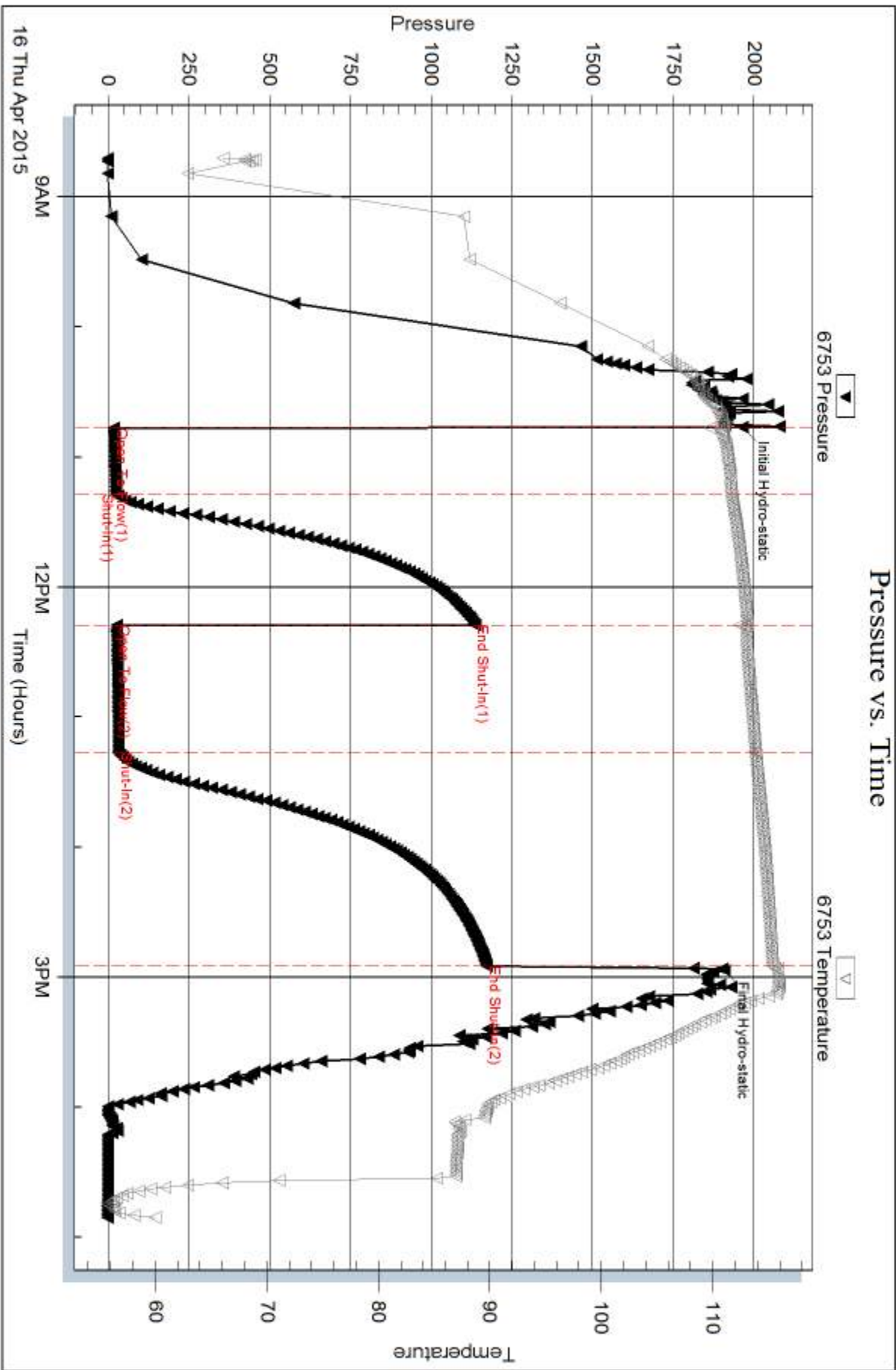
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



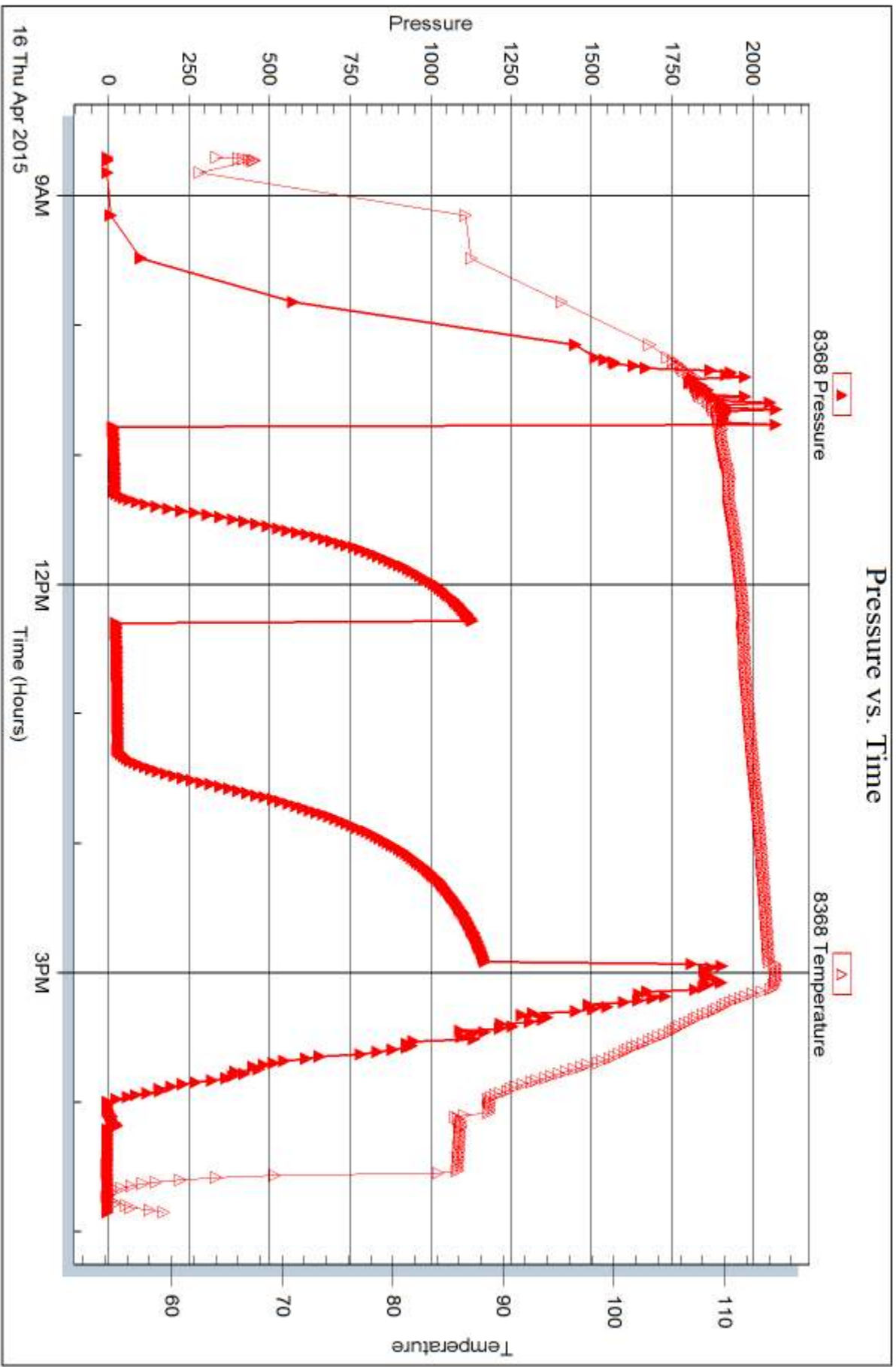
Serial #: 8368

Inside

Murfin Drilling Co., Inc.

Vrbas 'A' #1-25

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 62362

Printed: 2015.04.20 @ 15:55:10



## DRILL STEM TEST REPORT

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

250 N. Water, Ste 300  
Wichita KS 67202

ATTN: Rocky Milford

### **Vrbas 'A' #1-25**

#### **25-4s-31w Rawlins,KS**

Start Date: 2015.04.17 @ 02:26:00

End Date: 2015.04.17 @ 11:20:45

Job Ticket #: 62363                      DST #: 2

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.04.20 @ 15:54:33



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

**25-4s-31w Rawlins,KS**

250 N. Water, Ste 300  
Wichita KS 67202

**Vrbas 'A' #1-25**

Job Ticket: 62363

**DST#: 2**

ATTN: Rocky Milford

Test Start: 2015.04.17 @ 02:26:00

## GENERAL INFORMATION:

Formation: **LKC 'E-G'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:00:15

Time Test Ended: 11:20:45

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 54

**Interval: 3976.00 ft (KB) To 4014.00 ft (KB) (TVD)**

Reference Elevations: 2881.00 ft (KB)

Total Depth: 4014.00 ft (KB) (TVD)

2876.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 6753 Inside**

Press@RunDepth: 189.33 psig @ 3977.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.04.17

End Date: 2015.04.17

Last Calib.: 2015.04.17

Start Time: 02:26:05

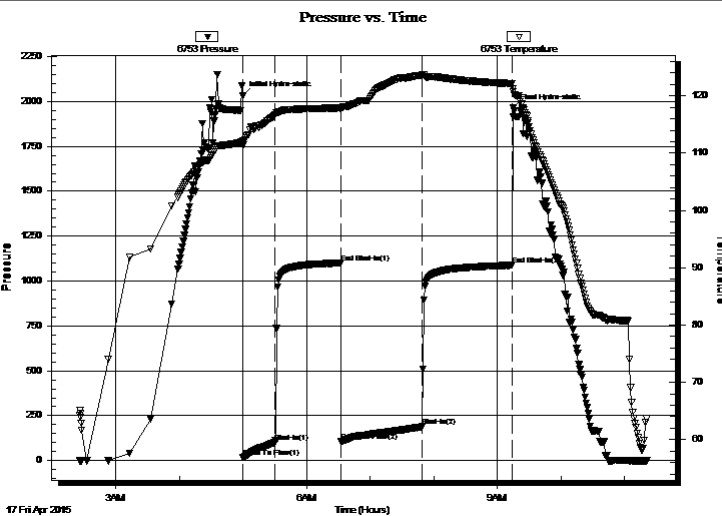
End Time: 11:20:45

Time On Btm: 2015.04.17 @ 05:00:00

Time Off Btm: 2015.04.17 @ 09:15:00

**TEST COMMENT:** 30 - IF - Surface blow built up to 6"  
60 - ISI - No Return  
60 - FF - Surface blow started in 5 mins. and built up to 10"  
90 - FSI - No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2033.49	112.14	Initial Hydro-static
1	18.39	111.36	Open To Flow (1)
31	101.50	116.76	Shut-In(1)
93	1100.08	117.91	End Shut-In(1)
93	106.35	117.59	Open To Flow (2)
169	189.33	123.65	Shut-In(2)
254	1087.79	122.14	End Shut-In(2)
255	1962.35	120.69	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
189.00	MW- 5M - 95W	0.93
63.00	MW- 10M - 90W	0.34
63.00	WM - 50M - 50W	0.88
5.00	WM - 80M - 20W	0.07

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co., Inc.

**25-4s-31w Rawlins,KS**

250 N. Water, Ste 300  
Wichita KS 67202

**Vrbas 'A' #1-25**

Job Ticket: 62363

**DST#: 2**

ATTN: Rocky Milford

Test Start: 2015.04.17 @ 02:26:00

## Tool Information

Drill Pipe:	Length: 3706.83 ft	Diameter: 3.80 inches	Volume: 52.00 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 248.79 ft	Diameter: 2.25 inches	Volume: 1.22 bbl	Weight to Pull Loose: 62000.00 lb
			<u>Total Volume: 53.22 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	6.62 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	3976.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	38.00 ft			
Tool Length:	65.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Shut In Tool	5.00			3954.00	
Hydraulic tool	5.00			3959.00	
Jars	5.00			3964.00	
Safety Joint	3.00			3967.00	
Packer	4.00			3971.00	27.00 Bottom Of Top Packer
Packer	5.00			3976.00	
Stubb	1.00			3977.00	
Recorder	0.00	6753	Inside	3977.00	
Recorder	0.00	8368	Outside	3977.00	
Perforations	33.00			4010.00	
Bullnose	4.00			4014.00	38.00 Bottom Packers & Anchor

**Total Tool Length: 65.00**





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co., Inc.

**25-4s-31w Rawlins,KS**

250 N. Water, Ste 300  
Wichita KS 67202

**Vrbas 'A' #1-25**

Job Ticket: 62363

**DST#: 2**

ATTN: Rocky Milford

Test Start: 2015.04.17 @ 02:26:00

## 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:

62000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 22000.00 ppm

Filter Cake: 3.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
189.00	MW- 5M - 95W	0.929
63.00	MW- 10M - 90W	0.339
63.00	WM- 50M - 50W	0.884
5.00	WM- 80M - 20W	0.070

Total Length: 320.00 ft

Total Volume: 2.222 bbl

Num Fluid Samples: 0

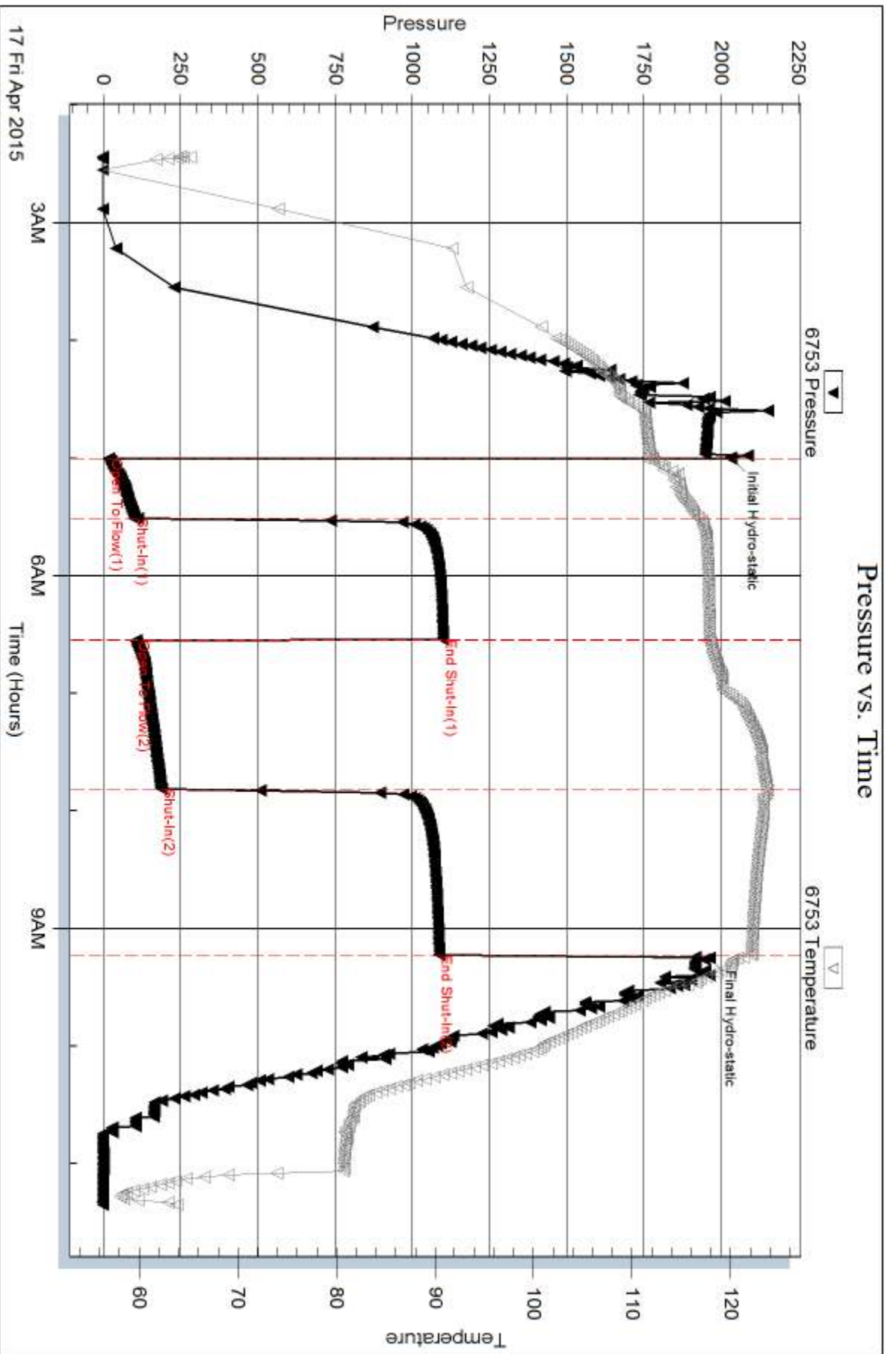
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

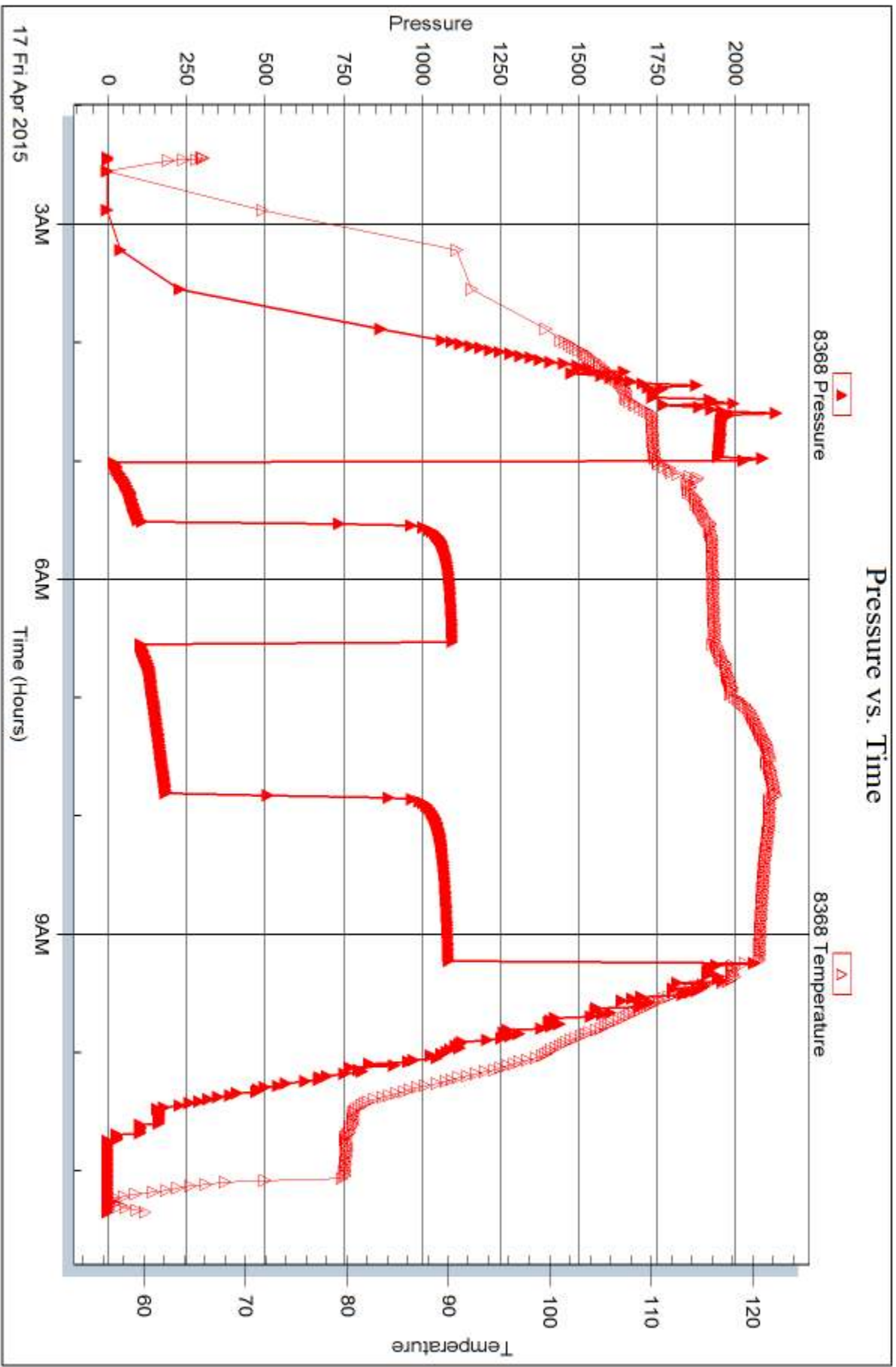


Serial #: 8368

Outside Murfin Drilling Co., Inc.

Vrbas 'A' #1-25

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 62363

Printed: 2015.04.20 @ 15:54:35



## DRILL STEM TEST REPORT

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

250 N. Water, Ste 300  
Wichita KS 67202

ATTN: Rocky Milford

### **Vrbas 'A' #1-25**

#### **25-4s-31w Rawlins,KS**

Start Date: 2015.04.17 @ 21:30:00

End Date: 2015.04.18 @ 06:09:45

Job Ticket #: 62364                      DST #: 3

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.04.20 @ 15:53:12



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.  
 250 N. Water, Ste 300  
 Wichita KS 67202  
 ATTN: Rocky Milford

**25-4s-31w Rawlins,KS**

**Vrbas 'A' #1-25**

Job Ticket: 62364

**DST#: 3**

Test Start: 2015.04.17 @ 21:30:00

## GENERAL INFORMATION:

Formation: **LKC 'H- J'**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 23:34:30  
 Time Test Ended: 06:09:45  
 Interval: **4022.00 ft (KB) To 4094.00 ft (KB) (TVD)**  
 Total Depth: 4094.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Royal Fisher  
 Unit No: 54  
 Reference Elevations: 2881.00 ft (KB)  
 2876.00 ft (CF)  
 KB to GR/CF: 5.00 ft

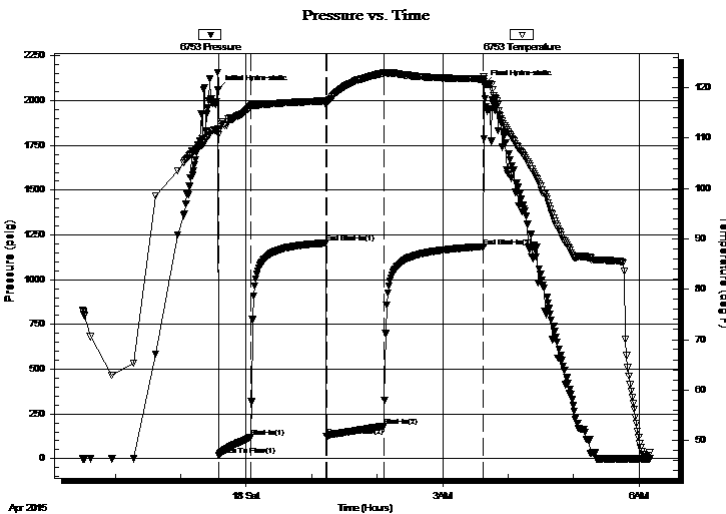
## Serial #: 6753

**Outside**

Press@RunDepth: 182.36 psig @ 4023.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2015.04.17 End Date: 2015.04.18 Last Calib.: 2015.04.18  
 Start Time: 21:30:05 End Time: 06:09:45 Time On Btm: 2015.04.17 @ 23:34:15  
 Time Off Btm: 2015.04.18 @ 03:38:15

TEST COMMENT: 30 - IF - Surface blow built to 7"  
 60 - ISI - No Return  
 60 - FF - Surface blow built to 3 1/2"  
 90 - FSI - No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2061.94	111.93	Initial Hydro-static
1	19.85	110.71	Open To Flow (1)
30	118.99	116.25	Shut-In(1)
99	1204.92	117.39	End Shut-In(1)
100	125.20	116.69	Open To Flow (2)
152	182.36	122.88	Shut-In(2)
244	1184.53	121.75	End Shut-In(2)
244	2091.29	121.26	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
63.00	MW - 35M - 65W	0.31
189.00	MW - 10M - 90W	0.96
103.00	MW - 40M - 60W	1.44

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co., Inc.

**25-4s-31w Rawlins,KS**

250 N. Water, Ste 300  
Wichita KS 67202

**Vrbas 'A' #1-25**

Job Ticket: 62364

**DST#: 3**

ATTN: Rocky Milford

Test Start: 2015.04.17 @ 21:30:00

## Tool Information

Drill Pipe:	Length: 3770.02 ft	Diameter: 3.80 inches	Volume: 52.88 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 248.79 ft	Diameter: 2.25 inches	Volume: 1.22 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume: 54.10 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	23.81 ft			String Weight: Initial	54000.00 lb
Depth to Top Packer:	4022.00 ft			Final	54000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	72.00 ft				
Tool Length:	99.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4000.00	
Hydraulic tool	5.00			4005.00	
Jars	5.00			4010.00	
Safety Joint	3.00			4013.00	
Packer	4.00			4017.00	27.00 Bottom Of Top Packer
Packer	5.00			4022.00	
Stubb	1.00			4023.00	
Recorder	0.00	8368	Inside	4023.00	
Recorder	0.00	6753	Outside	4023.00	
Perforations	34.00			4057.00	
Change Over Sub	1.00			4058.00	
Drill Pipe	31.00			4089.00	
Change Over Sub	1.00			4090.00	
Bullnose	4.00			4094.00	72.00 Bottom Packers & Anchor

**Total Tool Length: 99.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co., Inc.

**25-4s-31w Rawlins,KS**

250 N. Water, Ste 300  
Wichita KS 67202

**Vrbas 'A' #1-25**

Job Ticket: 62364

**DST#: 3**

ATTN: Rocky Milford

Test Start: 2015.04.17 @ 21:30:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

75000 ppm

Viscosity: 47.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
63.00	MW - 35M - 65W	0.310
189.00	MW - 10M - 90W	0.959
103.00	MW - 40M - 60W	1.445

Total Length: 355.00 ft

Total Volume: 2.714 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

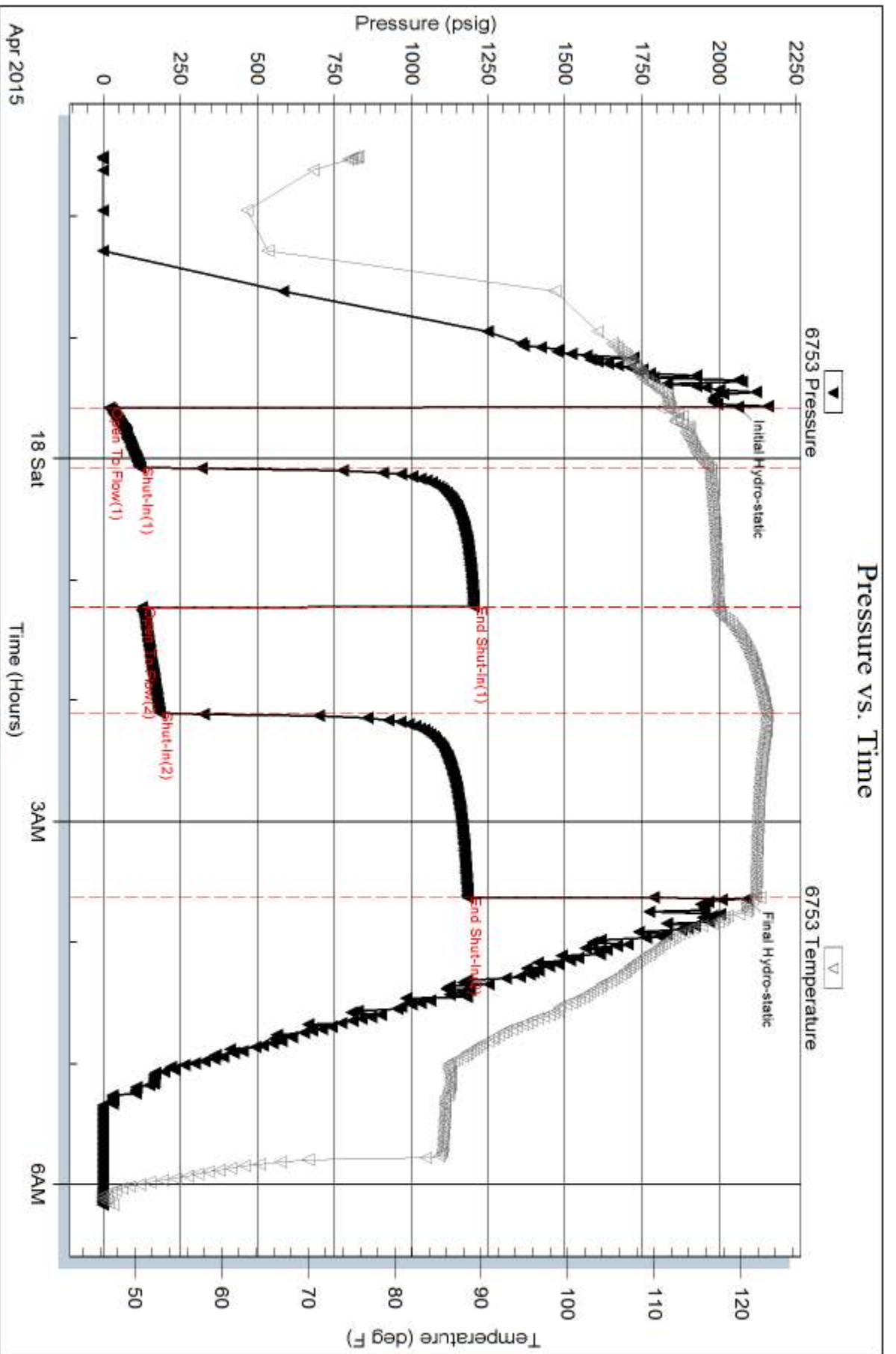
Serial #:

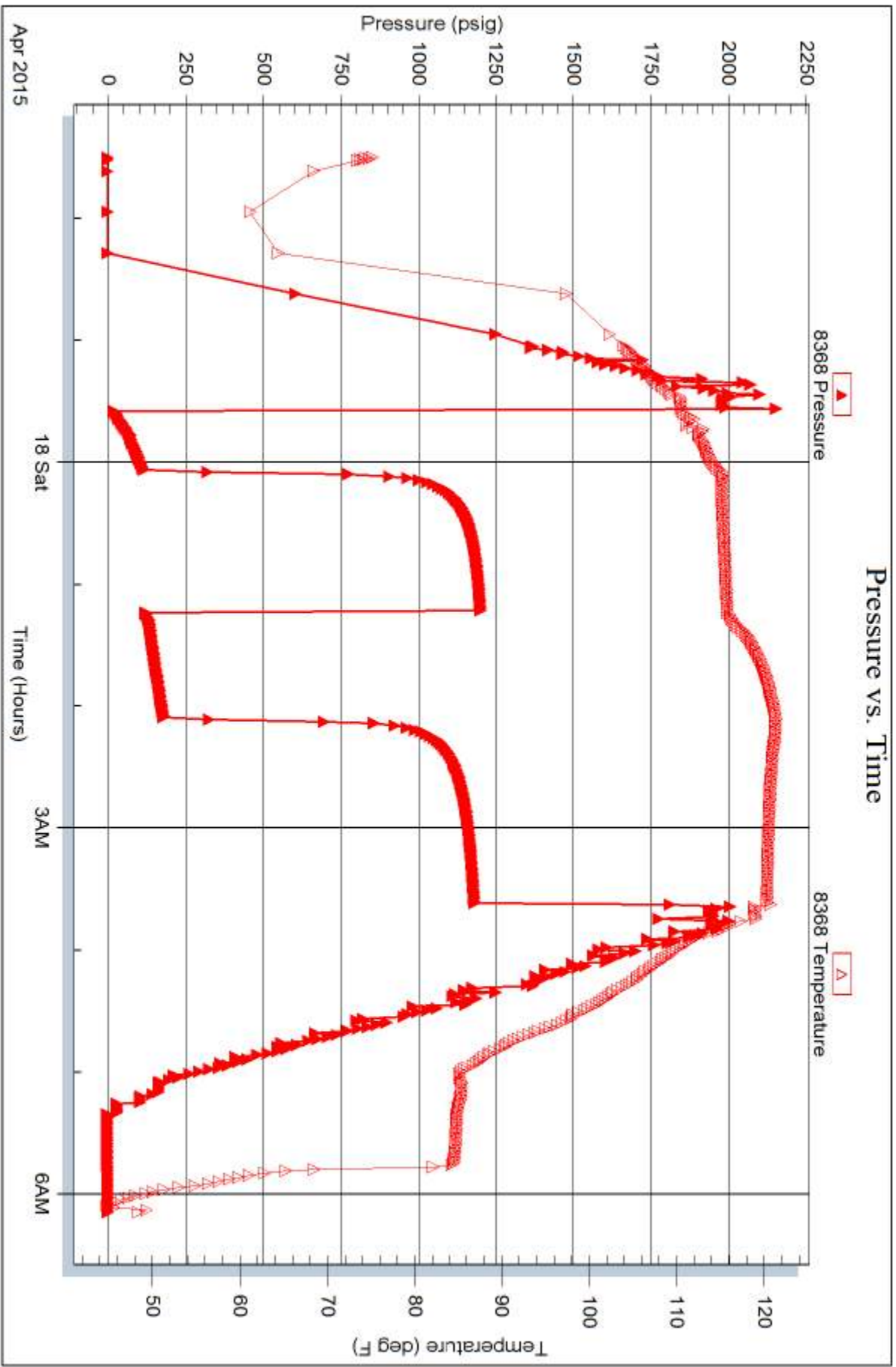
Laboratory Name:

Laboratory Location:

Recovery Comments:









# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 62362

Well Name & No. Vrbas 'A' #1-25 Test No. 1 Date 4-16-15  
 Company Murkin Drilling Co., Inc. Elevation 2881 KB 2876 GL  
 Address 250 N. Water, Ste. 300 Wichita Ks 67202  
 Co. Rep / Geo. Rocky Milford Rig Murkin #7  
 Location: Sec. 25 Twp. 4S Rge. 3/W Co. Rawlins State Ks

Interval Tested 3876-3960 Zone Tested Toronto - Lkc 'B'  
 Anchor Length 84 Drill Pipe Run 3611.83' Mud Wt. 8.6  
 Top Packer Depth 3871 Drill Collars Run 248.79' Vis 1.86  
 Bottom Packer Depth 3876 Wt. Pipe Run ⊕ WL 5.2  
 Total Depth 3960 Chlorides 11600 ppm System LCM 3#

Blow Description IF - Surface blow built to a 1/4"  
ISI - No Return  
FF - No Surface blow  
FSI - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>10'</u>	<u>0sm</u>	<u>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 10' BHT 115°F Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1963  Test 1050 T-On Location 8:10am  
 (B) First Initial Flow 16  Jars 250 T-Started 8:42am  
 (C) First Final Flow 25  Safety Joint 75 T-Open 10:46am  
 (D) Initial Shut-In 1137  Circ Sub N/C T-Pulled 2:46pm  
 (E) Second Initial Flow 26  Hourly Standby \_\_\_\_\_ T-Out 4:51pm  
 (F) Second Final Flow 32  Mileage 44 R/T 44 Comments \_\_\_\_\_  
 (G) Final Shut-In 1173  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1901  Straddle \_\_\_\_\_

Initial Open 30  Shale Packer \_\_\_\_\_  
 Initial Shut-In 100  Shale Packer \_\_\_\_\_  
 Final Flow 60  Extra Packer \_\_\_\_\_  
 Final Shut-In 90  Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1419 MP/DST Disc't \_\_\_\_\_

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

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





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 62363

Well Name & No. Vrbas 'A' #1-25 Test No. 2 Date 4-17-15  
 Company Martin Drilling Co., Inc. Elevation 2881 KB 2876 GL  
 Address 250 N. Water St. 300 Wichita Ks 67202  
 Co. Rep / Geo. Rocky Miford Rig Martin #7  
 Location: Sec. 25 Twp. -4S Rge. 3/W Co. Rawlins State Ks

Interval Tested 3976'-4014 Zone Tested LKC - 'E-B'  
 Anchor Length 38' Drill Pipe Run 3706.83' Mud Wt. 8.9  
 Top Packer Depth 3971 Drill Collars Run 248.79' Vis 50  
 Bottom Packer Depth 3976 Wt. Pipe Run 0 WL 6.8  
 Total Depth 4014 Chlorides 2200 ppm System LCM 5#  
 Blow Description IF - Surface blow built to 6"  
ISI - No Return  
FF - Surface blow built to 10"  
FST - No Return

Rec	Feet of	WM	%gas	%oil	%water	%mud
<u>5'</u>	<u>5'</u>	<u>WM</u>		<u>20</u>	<u>80</u>	
<u>63'</u>	<u>63'</u>	<u>WM</u>		<u>50</u>	<u>50</u>	
<u>63'</u>	<u>63'</u>	<u>MW</u>		<u>90</u>	<u>10</u>	
<u>189'</u>	<u>189'</u>	<u>MW</u>		<u>95</u>	<u>5</u>	

Rec Total 320' BHT 122°F Gravity \_\_\_\_\_ API RW .167 @ 57 °F Chlorides 62,000 ppm

(A) Initial Hydrostatic 2033  Test 1150 T-On Location 2:00 am  
 (B) First Initial Flow 18  Jars 250 T-Started 2:26 am  
 (C) First Final Flow 101  Safety Joint 75 T-Open 5:00 am  
 (D) Initial Shut-In 1100  Circ Sub N/C T-Pulled 9:10 am  
 (E) Second Initial Flow 106  Hourly Standby \_\_\_\_\_ T-Out 11:21 am  
 (F) Second Final Flow 189  Mileage 44 R/T 44 Comments \_\_\_\_\_  
 (G) Final Shut-In 1087  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1962  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1519

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

Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total 0  
 Total 1519  
 MP/DST Disc't \_\_\_\_\_

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





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 62364

Well Name & No. Krbas 'A' # 1-25 Test No. 3 Date 4-17-15  
 Company Murfin Drilling Co, Inc. Elevation 2881 KB 2876 GL  
 Address 250 N. Water, Ste 300 Wichita Ks 67202  
 Co. Rep / Geo. Rocky Milford Rig Murfin #7  
 Location: Sec. 25 Twp. 4S Rge. 31W Co. Rawlins State Ks

Interval Tested 4022-4094 Zone Tested LKC 'H'  
 Anchor Length 72' Drill Pipe Run 3770.02 Mud Wt. 9.2  
 Top Packer Depth 4017' Drill Collars Run 248.79' Vis 47  
 Bottom Packer Depth 4022' Wt. Pipe Run 0 WL 6.4  
 Total Depth 4094 Chlorides 2000 ppm System LCM 5#  
 Blow Description IF - Surface blow built to 7"  
ISI - No return  
FF - Surface blow built to 3 1/2"  
FBI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>63</u>	<u>mW</u>		<u>65</u>	<u>35</u>	
<u>189</u>	<u>mW</u>		<u>90</u>	<u>10</u>	
<u>103</u>	<u>mW</u>		<u>60</u>	<u>40</u>	

Rec Total 355' BHT 721°F Gravity \_\_\_\_\_ API RW 1.164 @ 47 °F Chlorides 75,000 ppm

(A) Initial Hydrostatic 2061  Test 1150 T-On Location 9:05pm  
 (B) First Initial Flow 19  Jars 250 T-Started 9:30pm  
 (C) First Final Flow 118  Safety Joint 75 T-Open 11:34pm  
 (D) Initial Shut-In 1204  Circ Sub N/C T-Pulled 3:34am  
 (E) Second Initial Flow 125  Hourly Standby \_\_\_\_\_ T-Out 6:1am  
 (F) Second Final Flow 182  Mileage 44 RIT 44 Comments picked up tool on  
 (G) Final Shut-In 1184  Sampler \_\_\_\_\_ 44 4-19-15 on location @  
 (H) Final Hydrostatic 2091  Straddle \_\_\_\_\_ 3:55pm left @ 4:43pm  
 Shale Packer \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1563  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1563

Approved By \_\_\_\_\_ Our Representative [Signature]  
 TriLOBITE TESTING Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



Azent  
Prod-MG

# INVOICE

PO Box 93999  
Southlake, TX 76092

Invoice Number: 149299  
Invoice Date: Apr 13, 2015  
Page: 1

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

Federal Tax I.D.#: 20-8651475

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

Customer ID	Field Ticket #	Payment Terms	
Murfin	63863	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	Apr 13, 2015	5/13/15

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Vrbas A #1-25		
200.00	CEMENT MATERIALS	Class A Common	17.90	3,580.00
564.00	CEMENT MATERIALS	Chloride	1.10	620.40
210.00	CEMENT SERVICE	Cubic Feet Charge	2.48	520.80
484.10	CEMENT SERVICE	Ton Mileage Charge	2.75	1,331.28
1.00	CEMENT SERVICE	Surface	1,512.25	1,512.25
50.00	CEMENT SERVICE	Pump Truck Mileage	7.70	385.00
50.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	220.00
1.00	CEMENT SERVICE	Manifold Rental	275.00	275.00
1.00	CEMENT SUPERVISOR	Alan Ryan		
1.00	EQUIPMENT OPERATOR	Kevin Ryan		
1.00	EQUIPMENT OPERATOR	Darren Racette		

±0203 3. 8437.000 4976.44 Cement S. Co. #1-25

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

\$ 3,800.12

ONLY IF PAID ON OR BEFORE  
May 13, 2015

Subtotal	8,444.73
Sales Tax	331.83
Total Invoice Amount	8,776.56
Payment/Credit Applied	
<b>TOTAL</b>	<b>8,776.56</b>

(3800.12)

NET

4976.44





PO Box 93999  
Southlake, TX 76092

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

*acct  
Prod-ING*

# INVOICE

Invoice Number: 149386  
Invoice Date: Apr 19, 2015  
Page: 1

Federal Tax I.D.#: 20-8651475

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

<b>Customer ID</b>	<b>Field Ticket #</b>	<b>Payment Terms</b>	
Murfin	64704	Net 30 Days	
<b>Job Location</b>	<b>Camp Location</b>	<b>Service Date</b>	<b>Due Date</b>
KS1-03	Oakley	Apr 19, 2015	5/19/15

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Urban #1-25		
255.00	CEMENT MATERIALS	60/40/4% Gel Blend	18.92	4,824.60
64.00	CEMENT MATERIALS	Flo Seal	2.97	190.08
273.87	CEMENT SERVICE	Cubic Feet Charge	2.48	679.20
572.00	CEMENT SERVICE	Ton Mileage Charge	2.75	1,573.00
1.00	CEMENT SERVICE	Plug to Abandon	2,483.59	2,483.59
50.00	CEMENT SERVICE	Heavy Vehicle Mileage	7.70	385.00
50.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	220.00
1.00	EQUIPMENT SALES	8-5/8 Wooden Plug	110.00	110.00
1.00	CEMENT SUPERVISOR	LaRene Wentz		
1.00	EQUIPMENT OPERATOR	Wayne McGhghy		
1.00	EQUIPMENT OPERATOR	Kevin Ryan		
		<i>±0203 3.8439.000</i>	<i>6632.28</i>	<i>PTA " 1-25</i>

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

\$ 4,659.96 ✓

ONLY IF PAID ON OR BEFORE

May 19, 2015

Subtotal	10,465.47
Sales Tax	826.77
Total Invoice Amount	11,292.24
Payment/Credit Applied	
<b>TOTAL</b>	<b>11,292.24</b>

*- 4659.96  
MTR  
6632.28*



# ALLIED OIL & GAS SERVICES, LLC. 064704

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999  
SOUTHLAKE, TEXAS 76092

SERVICE POINT: Saklay, TX

DATE <u>4-19-13</u>	SEC <u>25</u>	TWP <u>4</u>	RANGE <u>31</u>	CALLED OUT	ON LOCATION <u>5:30pm</u>	JOB START <u>7:30pm</u>	JOB FINISH <u>10:30pm</u>
LEASE <u>Urban</u>	WELL # <u>1-25</u>	LOCATION <u>Rexford WtX, LE</u>	COUNTY <u>Rockwall</u>	STATE <u>TX</u>			
OLD OR NEW (Circle one) <u>NEW</u>			<u>WtX 105, 1Y2w, 5wits</u>				

CONTRACTOR Marfin 7 OWNER Same

TYPE OF JOB <u>PTA</u>	CEMENT AMOUNT ORDERED <u>2555B 6990 490gel</u>
HOLE SIZE <u>770</u> T.D. <u>4970</u>	<u>14# 46500</u>
CASING SIZE _____ DEPTH _____	
TUBING SIZE _____ DEPTH _____	
DRILL PIPE <u>4 1/2</u> DEPTH <u>26.50'</u>	
TOOL _____ DEPTH _____	
PRES. MAX _____ MINIMUM _____	
MEAS. LINE _____ SHOE JOINT _____	
CEMENT LEFT IN CSG. _____	
PERFS. _____	
DISPLACEMENT <u>30.57 bbl</u>	

EQUIPMENT	COMMON _____ @ _____
	POZMIX _____ @ _____
	GEL _____ @ _____
	CHLORIDE _____ @ _____
	ASC _____ @ _____
	<u>6990/4</u> <u>2555B</u> @ <u>16.92</u> <u>4824.60</u>
	<u>Pluseal</u> <u>69#</u> @ <u>2.77</u> <u>190.08</u>
	<u>Material Total</u> @ _____ <u>5014.68</u>
	<u>(2256.61/45%)</u> @ _____
	HANDLING <u>273.87</u> @ <u>2.78</u> <u>679.20</u>
	MILEAGE <u>11.97</u> <u>bu X 50 X</u> <u>2.75</u> <u>1578.20</u>
	TOTAL _____

REMARKS:  
Mix 505B 2630'  
Mix 1005B 1900'  
Mix 505B 2251'  
Mix 105B 40' w/ plug  
Mix 155B M.H.  
Mix 305B R.H.  
Pluseal 700

CHARGE TO: Marfin  
 STREET \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

SERVICE	
DEPTH OF JOB <u>26.50'</u>	
PUMP TRUCK CHARGE _____	<u>2983.59</u>
EXTRA FOOTAGE _____ @ _____	
MILEAGE <u>11.97</u> @ <u>50</u> @ <u>2.70</u>	<u>389.00</u>
MANIFOLD _____ @ _____	
<u>MFLD</u> <u>50</u> @ <u>4.40</u>	<u>220.00</u>
	TOTAL <u>3403.35</u>
	<u>(2403.35/45%)</u> TOTAL <u>5,340.79</u>

PLUG & FLOAT EQUIPMENT	
<u>Wooden plug</u> _____ @ _____	<u>110.00</u>
_____ @ _____	
_____ @ _____	
_____ @ _____	
_____ @ _____	
	TOTAL <u>110.00</u>

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

PRINTED NAME Fred Wilkin  
 SIGNATURE [Signature]

SALES TAX (If Any) \_\_\_\_\_  
 TOTAL CHARGES 10465.47  
 DISCOUNT 4,659.96 (45%) IF PAID IN 30 DAYS  
5805.50 Net

Urbas 'A' #1-25  
 2310' FSL 1980' FWL  
 Sec. 25-4S-31W  
 2881' KB

Formation	Sample top	Datum	Ref	Log tops	Datum	Ref
Anhydrite	2635	+246	+2	2633	+248	+4
B/Anhydrite	2661	+220	+9	2666	+215	+4
Topeka	3711	-830	+3	3709	-828	+5
Heebner	3877	-996	+3	3875	-994	+5
Lansing	3926	-1045	+4	3924	-1043	+6
Stark	4091	-1210	+5	4090	-1209	+6
BKC	4135	-1254	+3	4036	-1255	+2
Pawnee	4250	-1369	+6	4251	-1370	+5
Cherokee	4337	-1456	+3	4336	-1455	+4
Mississippi	4455	-1574	+1	NR		
RTD	4470					
LTD				4470		