



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1132425  
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: \_\_\_\_\_



1132425

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

April 10, 2013

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

Re: ACO1  
API 15-153-20914-00-00  
Ryan 'PB' 1-19  
SW/4 Sec.19-05S-31W  
Rawlins 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

Ryan 'PB' #1-19  
 2300' FSL 2150' FWL  
 Sec. 19-5S-31W  
 2917' KB

Anderson Ryan #1-19  
 2310' FNL 1400' FEL  
 Sec. 19-5S-31W  
 2953' KB

Formation	Sample top	Datum	Ref	Log tops	Datum	Ref	Log tops	Datum
Anhydrite	2610	+307	-3	2608	+309	-1	2643	+310
B/Anhydrite	2643	+274	-3	2641	+276	-1	2676	+277
Topeka	3672	-755	Flat	3675	-758	-3	3708	-755
Heebner	3845	-928	+1	3847	-930	-1	3882	-929
Lansing	3897	-977	+1	3896	-976	+2	3931	-978
Stark	4071	-1154	+2	4074	-1157	-1	4109	-1156
BKC	4125	-1208	+1	4130	-1213	-4	4162	-1209
Pawnee	4239	-1322	+2	4240	-1323	+1	4277	-1324
Cherokee	4317	-1400	+2	4318	-1401	+1	4355	-1402
Mississippi	4440	-1523	-4	4444	-1527	-8	4472	-1519
RTD	4540						4575	
LTD				4542			4570	

# Robert L. Milford

PETROLEUM GEOLOGIST  
Wichita, Kansas

## GEOLOGISTS REPORT

DRILLING TIME AND SAMPLE LOG

OPERATOR **Murfin Drilling Company, Inc.**

LEASE **Ryan 'B' #1-19**

LOC. SPOT **10' S & 160 W of NENE SW**

LOC. FOOTAGE **2,300' FSL & 2,150' FWL**

SEC. **19** TWP. **5S** R. **31W**

COUNTY **Rawlins** STATE **Kansas**

API **15-153-20914-00-00**

CONTRACTOR **Murfin Drilling Co., Inc.** REG. NO. **8**

DWELLING STARTED **11-15-2012** COMPLETED **12-22-2012**

MUD DISPLACED **3.175** MUD TYPE **Chemical**

DRILLING TIME HEFT FROM **3.575'** TO **RTD**

SAMPLES SAVED FROM **3.575'** TO **RTD**

SAMPLES EXAMINED FROM **3.575'** TO **RTD**

GEOLOGICAL SUPERVISION FROM **3.265'** TO **RTD**

FORMATION NAME **TOP** LOG DATE/TIME **TOP** SAMPLE DATUM

Stone Corral 2,608' +309 2,609' +308  
Topeka 3,675' -758 3,672' -755  
Heebner 3,847' -930 3,844' -927  
Lansing 3,896' -979 3,893' -976  
Stark 4,074' -1157 4,071' -1154  
B/KC 4,129' -1212 4,126' -1209  
Pawnee 4,240' -1323 4,238' -1321  
Cherokee 4,318' -1401 4,316' -1399  
Mississippi 4,444' -1527 4,442' -1525  
Total Depth 4,542' -1625 4,540' -1623

MEASUREMENTS  
CASING RECORD  
Conductor  
Surface **8.5/8" @ 217'**  
w/ 190 sacks cement  
Production **5.1/2" @ 452.6'**  
w/ 175 sacks cement

ELEVATIONS  
KB **2,917'**  
CL **2,912'**

Electrical Surveys  
Pioneer Wireline  
Dual Induction Log  
Dual Compensated -

Porosity Log  
Microresistivity Log  
Sonic Log

Some Log

0 19

DATE	7:00 AM DEPTH	REMARKS
12-15-12	0'	Spud @ 9:30 am. Plug down @ 1:30 pm. Drilled out plug @ 9:30 pm. Dev.: 0.5° @ 217'
12-16-12	890'	Cut 890' in last 24 hrs.
12-17-12	2,630'	Cut 1,740' in last 24 hrs; 22 hrs drlg.
12-18-12	3,575'	Cut 945' in last 24 hrs; 22 hrs drlg. DST #1 @ 3793'
12-19-12	3,793'	Cut 218' in last 24 hrs; 6 hrs drlg.
12-20-12	4,188'	Cut 395' in last 24 hrs; 17.75 hrs drlg. DST #2 @ 4350'
12-21-12	4,350'	Cut 162' in last 24 hrs; 8.5 hrs drlg. RTD 4540' @ 6:45 pm
12-22-12	4,540'	Cut 190' in last 24 hrs; 8.25 hrs drlg. Ran production casing

**Remarks**

The electric log measurements correlate from 1' higher to 3' lower 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



LITH	0	DRILL TIME (MIN/FT)	10	DEPTH	SAMPLE DESCRIPTIONS	REMARKS
				2600		Stone Corral 2608' (+309) EL
				2650		B/Stone Corral 2641' (+276) EL
				3550		Mud displaced from 3175' to 3206'
				3600	LS: crm-med gry, fxln, fos in prt, shly in prt, sub chky-prtly dns-gritty, pr por, NS Sh: gry, grn, red-brn, some Calc Sh: red-brn LS: crm-lt gry, fxln, fos-ool in prt, sub chky-prtly dns w/ some chky, pr por, NS	Morgan Mud check @ 3588': 60 Vis, 8.7 Wt, 5.2 WL, 1,400 ppm Chl, 5# LCM
				3650	LS: A.A. Sh: red-brn, some soft & gummy, gry & grn LS: wh-lt gry, fxln, fos in prt, some sli shly in prt, sub chky-prtly dns w/ some chky-vry chky, some pr-fr fos-vug por, NS	drill time not marked on geolograph after chart change
				3700	LS: crm-lt gry, fxln, sli fos, sli shly in prt, sub chky-prtly dns, pr por, NS Sh: mstly red-brn, soft & gummy in prt, some gry & grn LS: wh-lt gry, fxln, fos in prt, sub chky-prtly dns w/ some chky-vry chky, pr por, NS LS: A.A. w/ some fr-gd fos-pin point por, NS LS: wh-lt gry, fxln, fos in prt, some sdy (fr-vry frn grain sd), sub chky-prtly dns w/ some chky, pr por, NS Sd: lt gry, fr-vry frn grain, semi fri-brittle, pr vis por, NS Sh: red-brn, some soft & gummy, some grn & gry, w/ some Sdy Sh: red-brn, tr grn LS: wh-crm, fxln, fos in prt, chky-prtly dns w/ some vry chky, pr por, NS LS: wh-crm, fxln, fos in prt, vry chky-prtly dns, pr por, NS LS: wh-lt gry, fxln, fos in prt, chky-prtly dns, pr por, NS	DST #1 3768'-3793' Lecompton IF: BOB in 13" ISI: 1.75" blow back FF: BOB in 15" FSI: 6" blow back Rec: 465' TOTAL FLUID: 37' 60 (20% G, 80% O) 186' 60 (45% G, 55% O) 124' 60 (20% G, 45% O, 20% W, 15% M) 60' 60 (5% G, 20% O, 25% W, 50% M) 60' 60 (5% G, 20% O, 60% W, 20% M) Oil Gravity 29° API Chl ppm: 50,000 DST: 1,400 Mud IFP: 22-115#/30" ISTP: 1167#/60" FFP: 126-206#/60" FSI: 1120#/90"
				3800	Sh: red-brn, some soft & gummy, some grn & gry, w/ some Sdy Sh: red-brn, tr grn LS: wh-crm, fxln, fos in prt, chky-prtly dns w/ some vry chky, pr por, NS LS: wh-lt gry, fxln, fos in prt, chky-prtly dns, pr por, NS Sh: Black Carb ● LS: crm, fxln, fos, sub chk-prt dns, pr por, fr amnt brn spdt-sub sat stn, SSFO, no odor ● Sd: lt gry, fr-vry frn grain, calc, semi fri-brittle pr vis por, some blk sub sat-sat stn, NSFO, no odor ● LS: crm, fxln, sli fos-ool, sub chk-prt dns w/ some chky, pr w/ tr fr intrprt-vug por, scat med brn spdt-sub sat w/ some sat stn, SSFO, no odor Sh: red-brn, w/ gry & grn LS: crm-lt gry, fxln, fos, sub chky-prtly dns w/ some chky, pr por, NS ● LS: crm-tan, fxln, fos in prt, sub chky-prtly dns w/ some chky, pr w/ some fr fos por, scat blk thick-tarry spdt-sub sat stn, cpl pcs w/ VSSFO (pin point beads), sli ool ● LS: wh-lt gry, fxln, fos in prt, vry chky-prtly dns, some pr-fr fos, vry scat blk thick-tarry mstly spdt stn, NSFO, no odor LS: A.A., incrs wh, chky-vry chky, tr blk spdt stn, NSFO, no odor LS: tan-brn, fxln, sli fos, prtly dns, pr por, NS Sh: Black Carb LS: gry-tan, fxln, sli fos, sub chky-prtly dns, pr por, NS Sh: red-brn, grn, gry, w/ tr Sdy Sh: lt grn Sh: red-brn, gry, grn, w/ small amnt Sd: lt gry-lt grn, fr-vry frn grain, calc, some shly, semi fri, pr vis por, NS Sh: A.A. w/ brn & Sdy Sh: red-brn, & small amnt Shly LS: brn, fxln, sli gritty, hrd, pr por, NS ● LS: crm, fxln, ool-fos in prt, sub chky-prtly dns, pr-fr intrprt por, scat med-drk brn spdt-sub sat stn, SSFO (pin point-small beads), no odor Sh: red-brn, grn, gry	Ran 25 stand short trip prior to DST #1 Pipe Strap @ 3793': Strap short 0.11' Straight Hole Survey @ 3793': 0.25° Dev.
				3850	LS: red-brn & grn, some gry ● LS: wh-crm, fxln, sli fos, sli chky (tan-org), vry chky-prtly dns, pr w/ tr fr fos-vug por, vry scat mstly blk thick-tarry w/ some drk brn spdt-sub sat stn, 4 pcs w/ SSFO, no odor Sh: red-brn, grn, gry, w/ small amnt Sdy Sh: lt grn Sh: red-brn, some soft & gummy, grn, some gry ● LS: crm, fxln, ool-fos, sub chk-prt dns, some fr-gd intrprt-vug por, gd amnt lt-drk brn sub sat stn, F-SSFO, fr odor ● LS: wh-lt gry, fxln, fos-ool (small) in prt, chky (wh-gry), sub chky-prtly dns w/ some chky, fr-gd intrprt-vug por, scat lt-drk brn spdt-sub sat stn, S-SSFO, fr odor (sour ?)	Morgan Mud check @ 3867': 52 Vis, 9.0 Wt, 5.6 WL, 2,800 ppm Chl, 4# LCM
				3900	Sh: red-brn, grn, gry, w/ small amnt Sdy Sh: lt grn Sh: red-brn, some soft & gummy, grn, some gry ● LS: crm, fxln, ool-fos, sub chk-prt dns, pr por, scat lt-drk brn sub sat stn, SSFO, no odor ● LS: crm-tan, fxln, fos, sub chk-prt dns, pr por, scat lt-drk brn sub sat stn, SSFO, no odor ● LS: crm-lt gry, fxln, fos-ool in prt, sub chky-prtly dns, fr-gd intrprt-small vug por, scat lt-drk brn spdt-sub sat stn, S-SSFO, no odor ● LS: crm-lt gry, fxln, sub chky-prtly dns, pr por, rare brn stn (may be coverings), NSFO, no odor LS: A.A., NS	Start of area Blizzard Warning: snow to 6" w/ winds 25-40 mph common and gust over 55 mph. Low temperature 4° (not wind chill)
				4000	Sh: grn, grn, some red-brn ● LS: crm-gry, fxln, sli fos, sub chk-prt dns, pr por, vry scat lt-drk brn sub sat stn, SSFO, no odor ● LS: crm-tan, fxln, fos, sub chk-prt dns, pr por, scat lt-drk brn sub sat stn, SSFO, no odor ● LS: crm-lt gry, fxln, fos-ool in prt, sub chky-prtly dns, fr-gd intrprt-small vug por, scat lt-drk brn spdt-sub sat stn, S-SSFO, no odor ● LS: crm-lt gry, fxln, sub chky-prtly dns, pr por, rare brn stn (may be coverings), NSFO, no odor LS: A.A., NS	
				4050	Sh: grn, gry, red-brn, some drk gry ● LS: crm-tan, fxln, sub chky-dns, pr por, scat blk tarry-aspn spkld-patchy stn, NSFO, no odor ● LS: wh-crm, fxln, ool-fos in prt, chky-prtly dns, pr-fr intrprt por, tr blk spdt stn, NSFO, no odor LS: grn, red-brn, gry LS: crm-tan, fxln, fos in prt, sub chky-prtly dns, pr por, NS Sh: red-brn, grn, gry	
				4100	Sh: red-brn, soft & gummy in prt, w/ grn & gry ● LS: crm, fxln, ool-fos in prt, sub chk-prt dns, pr-fr intrprt por, scat blk w/ some brn spdt-sub sat stn, S-SSFO (some thick-hvy oil), no odor Sh: red-brn, gry, grn Sh: red-brn, grn, gry	Stark 4074' (-1157) EL
				4150	● LS: crm, fxln, ool-fos in prt, sub chky-prtly dns w/ some chky, pr w/ tr fr intrprt por, scat lt-med brn sub sat-sat stn, SSFO, no odor Sh: red-brn, grn, gry LS: crm-lt gry, fxln, sli fos, chky-prtly dns, pr por, NS Sh: red-brn, grn, gry, w/ some Sdy Sh: lt grn	B/KC 4129' (-1212) EL
				4200	LS: crm-tan, fxln, ool (small), sub chky-prtly dns w/ some chky, pr por, NS Sh: red-brn, grn, gry, some maroon Sh: A.A. LS: crm-lt gry, fxln, sli ool (small), chky-prtly dns, pr por, NS Sh: red-brn, gry, grn	
				4250	LS: crm-tan, fxln, sub chky-dns, pr por, NS Sh: gry, grn, red-brn, some lt gry, soft & gummy, & some Sdy Sh: lt grn Sh: red-brn, gry, grn, brn ● LS: wh-tan, fxln, ool-fos in prt, sub chky-prtly dns w/ some chky, pr por, tr brn-blk spdt-patchy stn, NSFO, no odor ● LS: wh-crm, fxln, fos in prt, sub chky-prtly dns w/ some chky-vry chky, pr por, cpl pcs w/ brn-blk spdt stn, NSFO, no odor Sh: gry & red-brn, some drk gry & tr Blk Carb Sh: drk gry ● LS: crm-brn, fxln, fos, mottled in prt, sub chk-prt dns w/ some chky, some fr-gd fos-vug por, scat med-drk brn, spdt-sub sat stn, SSFO, no odor - (includes top of lime below) ● LS: crm-lt gry, fxln, fos in prt, sub chky-prtly dns, fr w/ some gd fos-vug por, scat lt-med brn sub sat-sat stn, S-SSFO, no odor Sh: Blk Carb	Morgan Mud check @ 4221': 55 Vis, 9.2 Wt, 6.0 WL, 2,400 ppm Chl, 4# LCM
				4300	LS: crm-tan, fxln, sli fos, sub chky-prtly dns w/ some chky, pr por, NS LS: crm, fxln, fos in prt, sub chky-prtly dns w/ some chky, pr por, NS Sh: Blk Carb (small amnt) & drk gry ● LS: crm-tan, fxln, sli fos, sub chky-prtly dns, pr por, 1 pc w/ spot of blk tarry stn, NSFO, no odor ● LS: crm-tan, fxln, sli fos, sub chk-prt dns, pr por, 3 pcs w/ brn live oil stn & few pcs w/ dead brn-blk spdt stn, NSFO, no odor LS: crm-tan, fxln, sli fos, sub chky-prtly dns, pr por, NS Sh: red-brn & gry, some grn & brn, w/ small amnt of Sdy Sh-Shly Sdy & grn Sh: mstly gry, w/ red-brn & grn, & small amnt Sd: lt gry some w/ red-brn tint, fr-med grain, vry sli calc, mstly brittle, pr vis por, NS Sh: gry & red-brn, some grn & maroon, w/ some shly Sd: red-brn, & small amnt of Sd: A.A., NS Sh: red-brn, gry-grn, w/ some Sd: crm, fr-med grain, calc in prt, fri-brittle, sli glauc, pr-fr por, NS, & some crs loose grains, clr, sub rnd-sub org, NS Sh: A.A. w/ dcns amnt of Sd: A.A., NS	DST #2 4254'-4350' Lwr Paw-Verdigris IF: blow built to 8" ISI: no blow back FF: no blow FSI: no blow back Rec: 206' TOTAL FLUID: 86' 60 (5% G, 95% O) 62' 60 (5% G, 60% O, 35% M) 58' 60 (5% G, 40% O, 95% M) IFP: 20-70#/30" ISTP: 299#/60" FFP: 81-93#/30" FSI: 284#/60"
				4350	LS: crm-tan, fxln, sli fos, sub chky-prtly dns, pr por, NS Sh: red-brn & gry, some grn & brn, w/ small amnt of Sdy Sh-Shly Sdy & grn Sh: mstly gry, w/ red-brn & grn, & small amnt Sd: lt gry some w/ red-brn tint, fr-med grain, vry sli calc, mstly brittle, pr vis por, NS Sh: gry & red-brn, some grn & maroon, w/ some shly Sd: red-brn, & small amnt of Sd: A.A., NS Sh: red-brn, gry-grn, w/ some Sd: crm, fr-med grain, calc in prt, fri-brittle, sli glauc, pr-fr por, NS, & some crs loose grains, clr, sub rnd-sub org, NS Sh: A.A. w/ dcns amnt of Sd: A.A., NS	Ran 15 stand short trip prior to DST #2 Morgan Mud check @ 4350': 58 Vis, 9.3 Wt, 6.0 WL, 2,400 ppm Chl, 4# LCM
				4400	Sh: A.A. w/ some yell-grn, w/ incrs amnt of Sdy Sh: red-brn, & some Sd: crm, med grain, shly in prt, semi fri, pr vis por, NS Sh: red-brn, gry, grn, some brn & yell-grn, w/ some Sd: clr, med-cr grain, brn, sub med-grn, semi fri, pr-fr por, NS Sd: wh-crm, fr-med grain, semi fri-brittle, pr vis por, NS, w/ Sh: A.A. Cnt: clr-crm-org, fresh & weathered, some transl, fos in prt, fr pin point por in weathered cnt, NS Cnty LS: crm-tan, fxln, some with red tint, chky-prtly dns, pr por, NS, & Cnt: clr-crm-tan, fresh w/ some weathered, pr vis por, NS Cnt: wh-crm, some clr-transl, some fos, fresh & weathered (50/50), fr pin point por in weathered cnt, NS, w/ some LS: crm, fxln, shly (red-brn, mottled), sub chky, pr por, NS Cnt: A.A. w/ LS: crm-tan, fxln, sub chky-prtly dns, pr por, NS LS: crm-lt tan, fxln, sub chky-prtly dns, pr por, NS, w/ Cnt: wh-crm, mstly fresh w/ some weathered, some transl, NS LS: wh-crm, fxln, silicified, sub chky-dns, some pin point por, NS, w/ Cnt: wh-crm, some transl, fresh & weathered, NS LS: wh-crm, fxln, chky-prtly dns w/ some vry chky, some fr vug por, w/ Cnt: A.A., NS LS: A.A., incrs chky, w/ Cnt: A.A., NS	Miss. 4444' (-1527) EL
				4450	LS: crm-lt tan, fxln, sub chky-prtly dns, pr por, NS, w/ Cnt: wh-crm, mstly fresh w/ some weathered, some transl, NS LS: wh-crm, fxln, chky-prtly dns w/ some vry chky, some fr vug por, w/ Cnt: A.A., NS LS: A.A., incrs chky, w/ Cnt: A.A., NS	Ran 8 stand short trip @ TD, prior to running electric logs
				4500		R.T.D. 4540' (-1623) L.T.D. 4542' (-1625)
				4550		Straight Hole Survey @ 4540': 1° Dev.



## DRILL STEM TEST REPORT

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

250 N Water STE 300  
Wichita KS 67202

ATTN: Rocky Milford

**Ryan "PB" #1-19**

**19-5s-31w Rawlins,KS**

Start Date: 2012.12.18 @ 18:56:00

End Date: 2012.12.19 @ 03:43:15

Job Ticket #: 51389                      DST #: 1

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

Printed: 2012.12.24 @ 09:38:30



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

**19-5s-31w Rawlins, KS**  
**Ryan "PB" #1-19**  
 Job Ticket: 51389 **DST#: 1**  
 Test Start: 2012.12.18 @ 18:56:00

## GENERAL INFORMATION:

Formation: **Lecompton**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 20:52:30 Tester: Ryan Nichols  
 Time Test Ended: 03:43:15 Unit No: 40  
 Interval: **3768.00 ft (KB) To 3793.00 ft (KB) (TVD)** Reference Elevations: 2917.00 ft (KB)  
 Total Depth: 3793.00 ft (KB) (TVD) 2913.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 4.00 ft

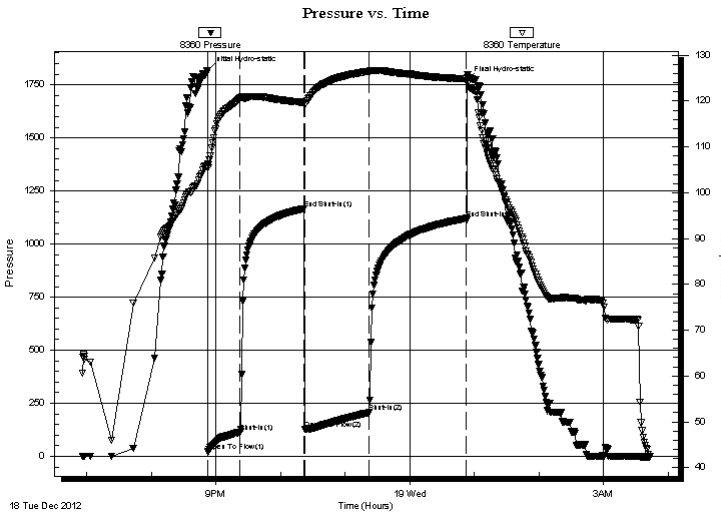
## Serial #: 8360

Inside

Press @ Run Depth: 205.86 psig @ 3769.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.12.18 End Date: 2012.12.19 Last Calib.: 2012.12.19  
 Start Time: 18:56:05 End Time: 03:43:15 Time On Btm: 2012.12.18 @ 20:52:15  
 Time Off Btm: 2012.12.19 @ 00:53:00

**TEST COMMENT:** 38 IF - Surface blow built to BoB in 13 mins  
 60 ISI - Surface blow started @ 1 min built to 1 3/4"  
 60 FF - Surface blow started @ 1 min built to BoB in 15 mins  
 90 FSI - Surface blow started @ 2 mins built to 6"

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1817.81	106.24	Initial Hydro-static
1	21.84	105.44	Open To Flow (1)
31	114.65	120.65	Shut-In(1)
90	1167.08	119.72	End Shut-In(1)
91	125.99	119.18	Open To Flow (2)
150	205.86	126.50	Shut-In(2)
241	1120.42	124.85	End Shut-In(2)
241	1771.03	125.04	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	GOMCW - 5%G - 20%o - 60%W - 20%M	0.30
60.00	GOWCM - 5%G - 20%o - 25%W - 50%W	0.30
124.00	GMCWO - 15%M - 20%G - 20%W - 45%o	1.22
186.00	GO - 45%G - 55%o	2.61
37.00	GO - 20%G - 80%o	0.52

## Gas Rates

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







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co., Inc.

**19-5s-31w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Ryan "PB" #1-19**

Job Ticket: 51389

**DST#: 1**

ATTN: Rocky Milford

Test Start: 2012.12.18 @ 18:56:00

## Tool Information

Drill Pipe:	Length: 3569.00 ft	Diameter: 3.80 inches	Volume: 50.06 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: 177.00 ft	Diameter: 2.25 inches	Volume: 0.87 bbl	Weight to Pull Loose:	54000.00 lb
			<u>Total Volume: 50.93 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial	45000.00 lb
Depth to Top Packer:	3768.00 ft			Final	46000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	25.00 ft				
Tool Length:	52.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments: RW = .298 @ 37 DEG F - 50,000 ppm

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3742.00	
Shut In Tool	5.00			3747.00	
Hydraulic tool	5.00			3752.00	
Jars	5.00			3757.00	
Safety Joint	2.00			3759.00	
Packer	5.00			3764.00	27.00 Bottom Of Top Packer
Packer	4.00			3768.00	
Stubb	1.00			3769.00	
Recorder	0.00	8360	Inside	3769.00	
Recorder	0.00	8353	Outside	3769.00	
Perforations	21.00			3790.00	
Bullnose	3.00			3793.00	25.00 Bottom Packers & Anchor

**Total Tool Length: 52.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co., Inc.

**19-5s-31w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Ryan "PB" #1-19**

Job Ticket: 51389

**DST#: 1**

ATTN: Rocky Milford

Test Start: 2012.12.18 @ 18:56:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

29 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

50000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbf

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1400.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbf
60.00	GOMCW - 5%G - 20%o - 60%W - 20%M	0.295
60.00	GOWCM - 5%G - 20%o - 25%W - 50%W	0.295
124.00	GMCWO - 15%M - 20%G - 20%W - 45%o	1.220
186.00	GO - 45%G - 55%o	2.609
37.00	GO - 20%G - 80%o	0.519

Total Length: 467.00 ft      Total Volume: 4.938 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API = 27 @ 58 DEG F - COR 29

RW = .298 @ 37 DEG F

Salinity = 50,000 PPM

Serial #: 8360

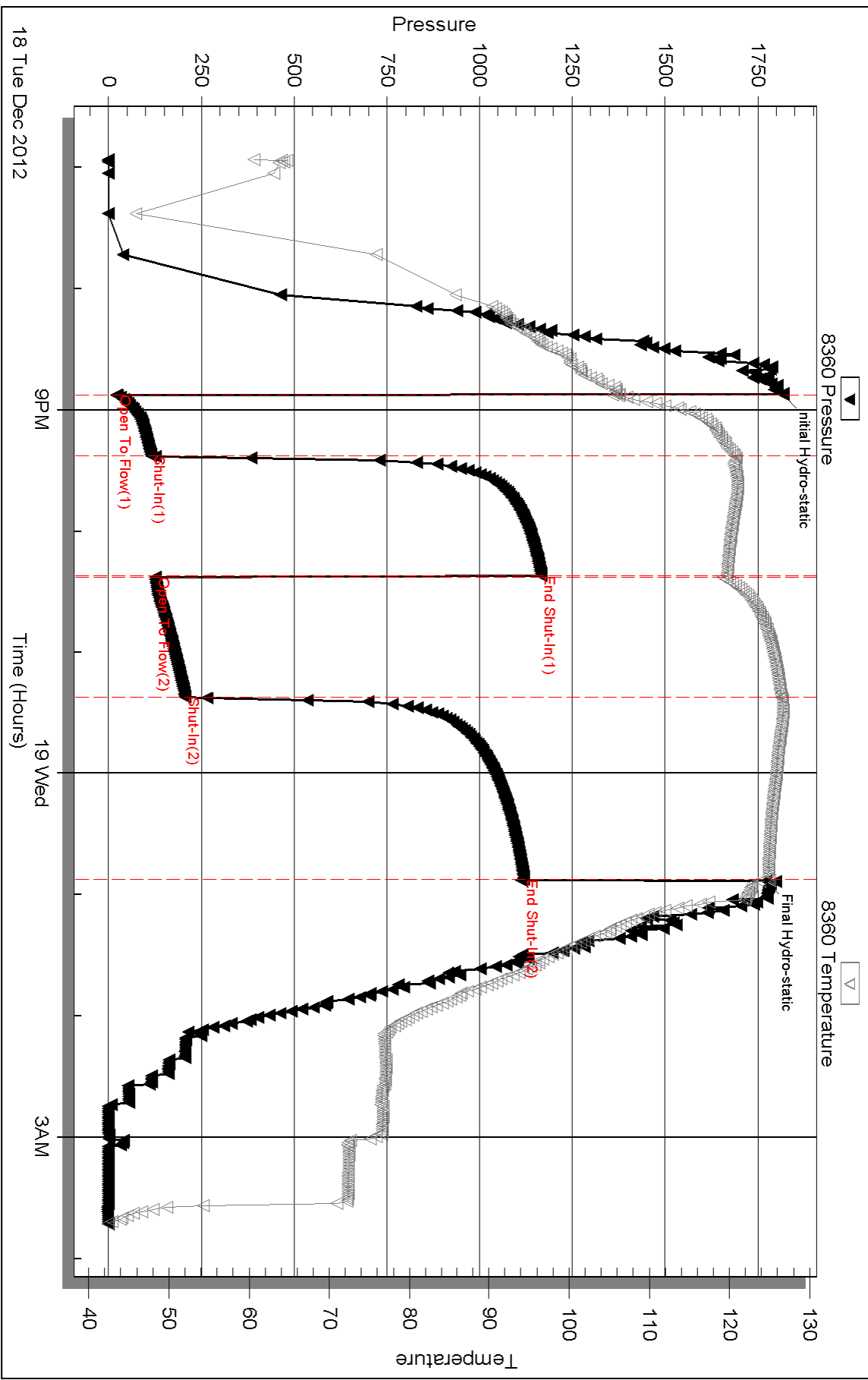
Inside

Murfin Drilling Co., Inc.

Ryan "PB" #1-19

DST Test Number: 1

### Pressure vs. Time



Triobite Testing, Inc

Ref. No: 51389

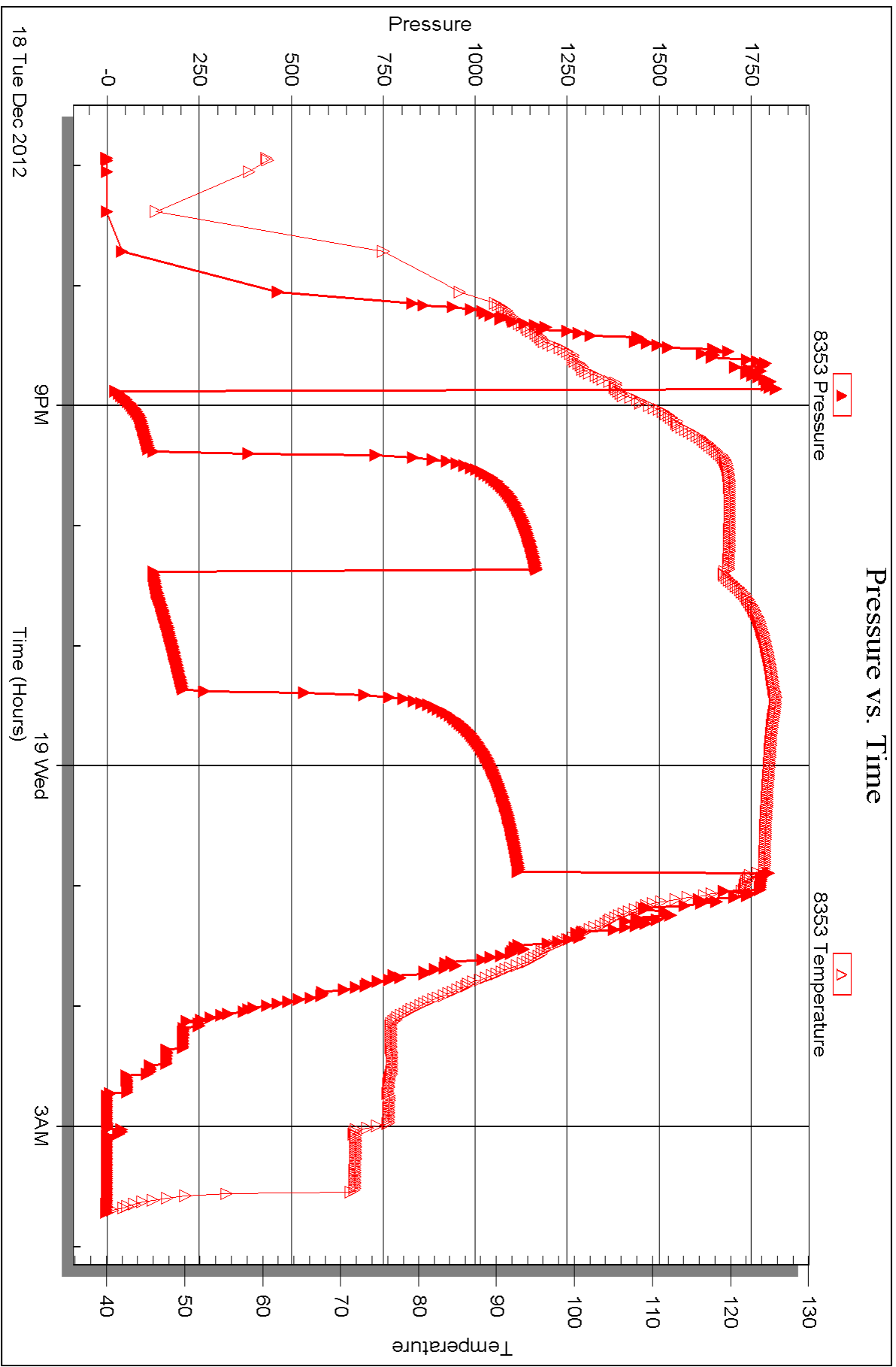
Printed: 2012.12.24 @ 09:38:34

Serial #: 8353

Outside Murfin Drilling Co., Inc.

Ryan "PB" #1-19

DST Test Number: 1





## DRILL STEM TEST REPORT

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

250 N Water STE 300  
Wichita KS 67202

ATTN: Rocky Milford

**Ryan "PB" #1-19**

**19-5s-31w Rawlins,KS**

Start Date: 2012.12.20 @ 22:45:00

End Date: 2012.12.21 @ 06:50:00

Job Ticket #: 51098                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.12.24 @ 09:37:46

Murfin Drilling Co., Inc.

19-5s-31w Rawlins,KS

Ryan "PB" #1-19

DST # 2

Lower Pawnee/Verdigr

2012.12.20



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

**19-5s-31w Rawlins, KS**  
**Ryan "PB" #1-19**  
 Job Ticket: 51098 **DST#: 2**  
 Test Start: 2012.12.20 @ 22:45:00

## GENERAL INFORMATION:

Formation: **Lower Pawnee/Verdigr**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 01:06:45  
 Time Test Ended: 06:50:00  
 Interval: **4254.00 ft (KB) To 4350.00 ft (KB) (TVD)**  
 Total Depth: 4350.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Wilbur Steinbeck  
 Unit No: 40  
 Reference Elevations: 2917.00 ft (KB)  
 2913.00 ft (CF)  
 KB to GR/CF: 4.00 ft

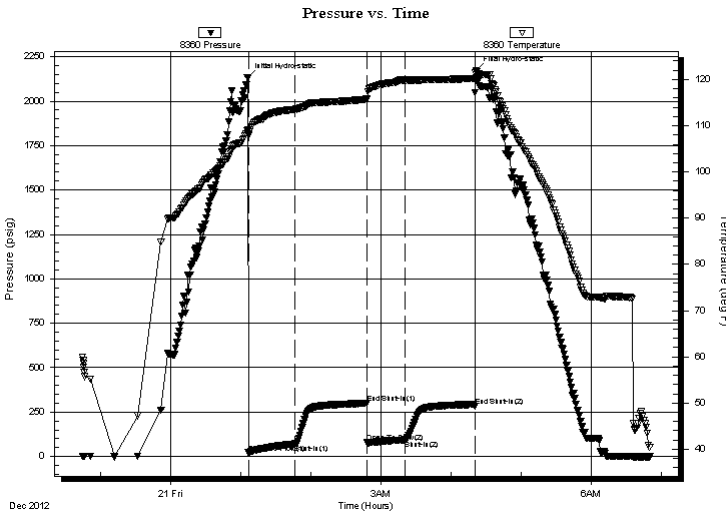
## Serial #: 8360

Inside

Press @ Run Depth: 93.33 psig @ 4255.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.12.20 End Date: 2012.12.21 Last Calib.: 2012.12.21  
 Start Time: 22:45:05 End Time: 06:49:59 Time On Btm: 2012.12.21 @ 01:06:15  
 Time Off Btm: 2012.12.21 @ 04:21:15

TEST COMMENT: IF; Built to 8" in 30 min.  
 IS; No Blow  
 FF; No Blow  
 FS; No Blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2130.83	109.14	Initial Hydro-static
1	20.47	107.93	Open To Flow (1)
40	70.30	113.53	Shut-In(1)
102	299.31	115.72	End Shut-In(1)
102	81.36	115.93	Open To Flow (2)
135	93.33	119.86	Shut-In(2)
194	284.13	120.27	End Shut-In(2)
195	2173.61	121.98	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
58.00	GOCM 5%G 40%O 55%M	0.29
62.00	GMCO 5%G 35%M 60%O	0.30
86.00	GO 5%O 95%O	0.69

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

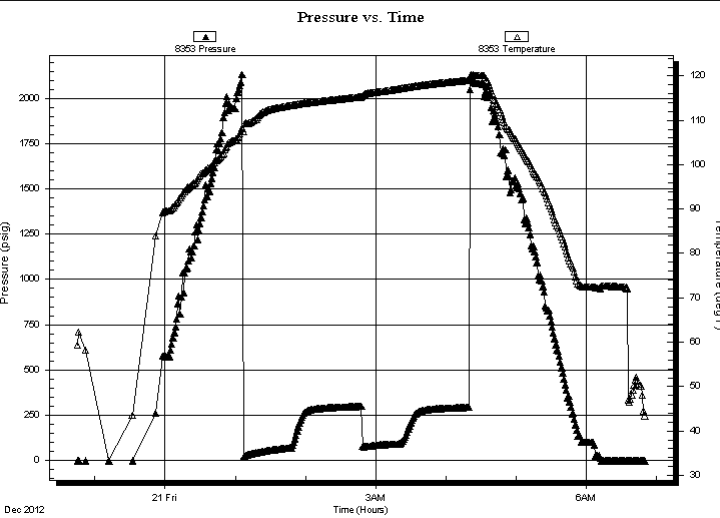
**19-5s-31w Rawlins, KS**  
**Ryan "PB" #1-19**  
 Job Ticket: 51098 **DST#: 2**  
 Test Start: 2012.12.20 @ 22:45:00

## GENERAL INFORMATION:

Formation: **Lower Pawnee/Verdigr**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 01:06:45 Tester: Wilbur Steinbeck  
 Time Test Ended: 06:50:00 Unit No: 40  
 Interval: **4254.00 ft (KB) To 4350.00 ft (KB) (TVD)** Reference Elevations: 2917.00 ft (KB)  
 Total Depth: 4350.00 ft (KB) (TVD) 2913.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 4.00 ft

**Serial #: 8353 Outside**  
 Press @ Run Depth: psig @ 4255.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.12.20 End Date: 2012.12.21 Last Calib.: 2012.12.21  
 Start Time: 22:45:15 End Time: 06:50:00 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** IF; Built to 8" in 30 min.  
 IS; No Blow  
 FF; No Blow  
 FS; No Blow



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

Recovery		
Length (ft)	Description	Volume (bbl)
58.00	GOCM 5%G 40%O 55%M	0.29
62.00	GMCO 5%G 35%M 60%O	0.30
86.00	GO 5%O 95%O	0.69

\* 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.

**19-5s-31w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Ryan "PB" #1-19**

Job Ticket: 51098

**DST#: 2**

ATTN: Rocky Milford

Test Start: 2012.12.20 @ 22:45:00

## Tool Information

Drill Pipe:	Length: 4076.00 ft	Diameter: 3.80 inches	Volume: 57.18 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: 177.00 ft	Diameter: 2.25 inches	Volume: 0.87 bbl	Weight to Pull Loose: lb
			<u>Total Volume: 58.05 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 42000.00 lb
Depth to Top Packer:	4254.00 ft			Final lb
Depth to Bottom Packer:	ft			
Interval between Packers:	96.00 ft			
Tool Length:	123.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4228.00	
Shut In Tool	5.00			4233.00	
Hydraulic tool	5.00			4238.00	
Jars	5.00			4243.00	
Safety Joint	2.00			4245.00	
Packer	5.00			4250.00	27.00 Bottom Of Top Packer
Packer	4.00			4254.00	
Stubb	1.00			4255.00	
Recorder	0.00	8360	Inside	4255.00	
Recorder	0.00	8353	Outside	4255.00	
Perforations	21.00			4276.00	
blank spacing	64.00			4340.00	
perforations	7.00			4347.00	
Bullnose	3.00			4350.00	96.00 Bottom Packers & Anchor

**Total Tool Length: 123.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co., Inc.

**19-5s-31w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Ryan "PB" #1-19**

Job Ticket: 51098

**DST#: 2**

ATTN: Rocky Milford

Test Start: 2012.12.20 @ 22:45:00

## 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: 55.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2400.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
58.00	GOCM 5%G 40%O 55%M	0.285
62.00	GMCO 5%G 35%M 60%O	0.305
86.00	GO 5%O 95%O	0.687

Total Length: 206.00 ft      Total Volume: 1.277 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity 37.6@60=37.6

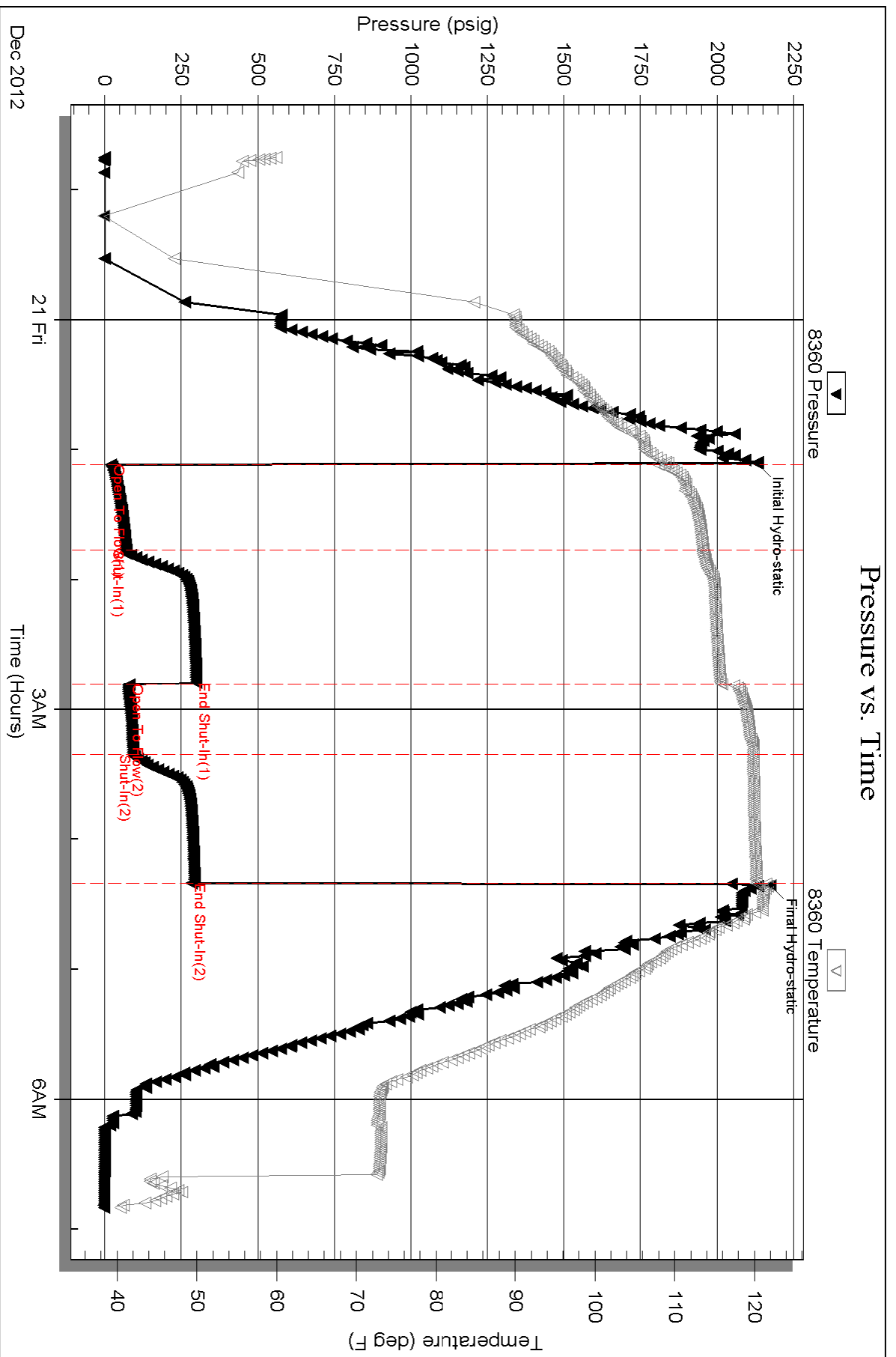
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Inside

Murfin Drilling Co., Inc.

Ryan "PB" #1-19

DST Test Number: 2

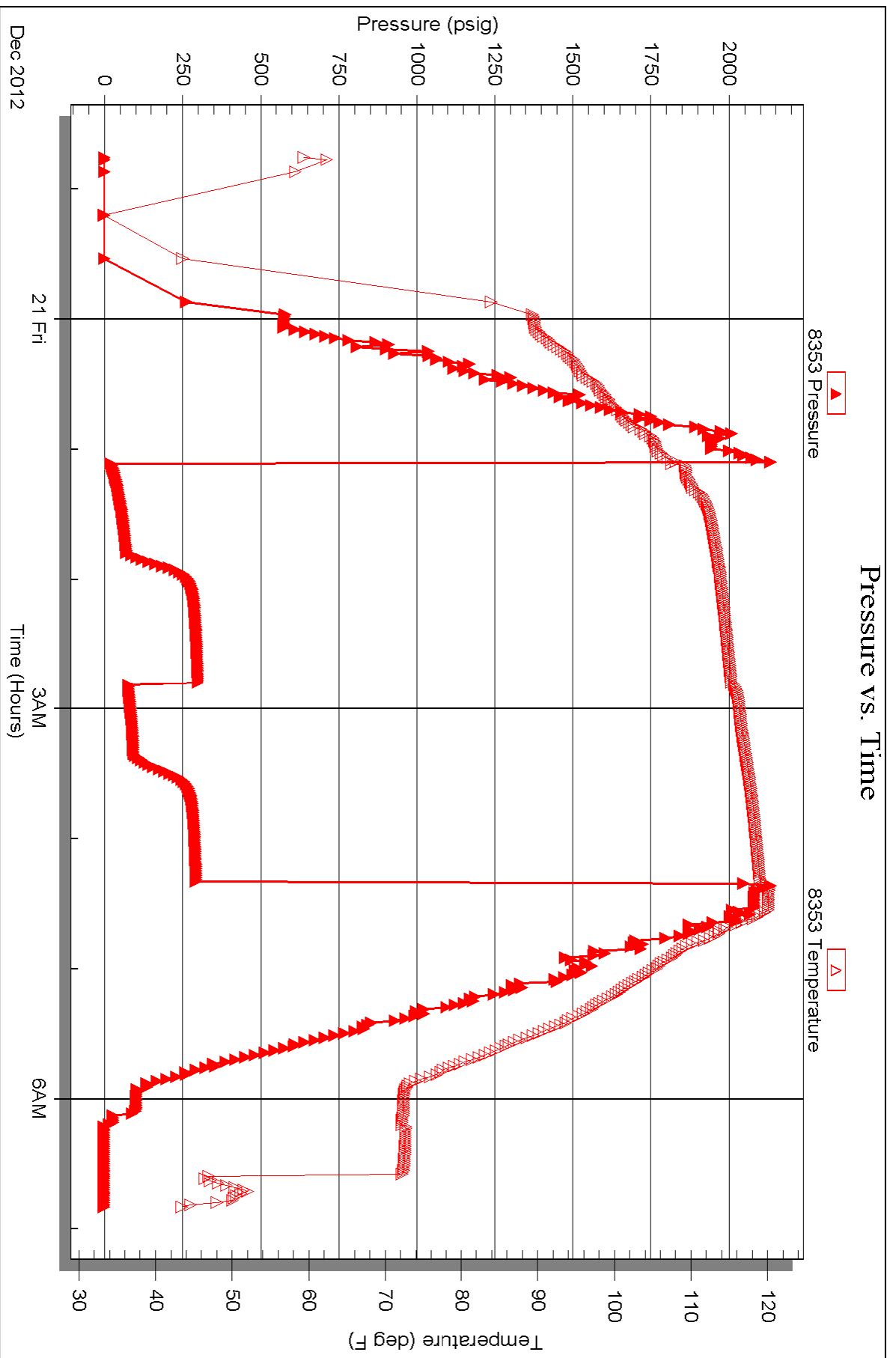


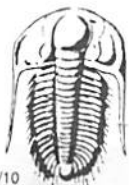
Serial #: 8353

Outside Murfin Drilling Co., Inc.

Ryan "PB" #1-19

DST Test Number: 2





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 51389

Well Name & No. Martin Drilling Co. Inc 5 Test No. 1 Date 12/18/12  
 Company Ryan "PB" #1-19 Elevation 2917 KB 2912 GL  
 Address 250 Water STE 300 Wichita KS, 67202  
 Co. Rep / Geo. Rocky Milford Rig Martin #8  
 Location: Sec. 19 Twp. 5S Rge. 31W Co. Rawlins State KS

Interval Tested 3768-3793 Zone Tested Lecompton  
 Anchor Length 25' Drill Pipe Run 3569 Mud Wt. 8.7  
 Top Packer Depth 3763 Drill Collars Run 177 Vis 60  
 Bottom Packer Depth 3768 Wt. Pipe Run 0 WL 5.2  
 Total Depth 3793 Chlorides 1400 ppm System LCM 5

Blow Description IF-Surface blow built to BoB in 13 mins  
ISL-Surface blow started @ 1 min built to 1 3/4"  
FF-Surface blow @ 1 min built to BoB in 15 mins  
FST-Surface blow @ 2 mins built to 6"

Rec	Feet of	%gas	%oil	%water	%mud
<u>37'</u>	<u>GO</u>	<u>20</u>	<u>80</u>		
<u>186'</u>	<u>GO</u>	<u>45</u>	<u>55</u>		
<u>124'</u>	<u>GMCWO</u>	<u>20</u>	<u>45</u>	<u>20</u>	<u>15</u>
<u>60'</u>	<u>GOUCM</u>	<u>5</u>	<u>20</u>	<u>25</u>	<u>50</u>
<u>60'</u>	<u>GOMCW</u>	<u>5</u>	<u>20</u>	<u>60</u>	<u>20</u>

Rec Total 465' BHT 125° Gravity 29 API RW 298 @ 37 °F Chlorides 50,000 ppm

(A) Initial Hydrostatic 1818  Test 1150 T-On Location 17150  
 (B) First Initial Flow 22  Jars 250 T-Started 18:56  
 (C) First Final Flow 115  Safety Joint 75 T-Open 20:45  
 (D) Initial Shut-In 1167  Circ Sub NC T-Pulled 00:53  
 (E) Second Initial Flow 126  Hourly Standby \_\_\_\_\_ T-Out 03:43  
 (F) Second Final Flow 206  Mileage 72 RT 111.60 Comments \_\_\_\_\_  
 (G) Final Shut-In 1120  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1771  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1586.60

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 1586.60  
 MP/DST Disc't \_\_\_\_\_

Approved By Rocky Milford Our Representative Ryan 2 Nichols  
 Trilobite Testing Inc. shall not be liable for damages of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 51098

4/10

Well Name & No. Ryan "PB" 1-19 Test No. 2 Date 12-20-12  
 Company Murfin Drilling Co Elevation 2917 KB 2912 GL  
 Address 250 N Water Stc 300 Wichita Ks 67202  
 Co. Rep / Geo. Rocky Rig Murfin 8  
 Location: Sec. 19 Twp. 5s Rge. 31w Co. Rowles State ks

Interval Tested 4254 4350 Zone Tested Lower Power Verdigris  
 Anchor Length 96 Drill Pipe Run 4076 Mud Wt. 9.2  
 Top Packer Depth 4249 Drill Collars Run 177 Vis 55  
 Bottom Packer Depth 4254 Wt. Pipe Run 0 WL 6.0  
 Total Depth 4350 Chlorides 2,400 ppm System LCM  
 Blow Description 30 IF Built to 8" in 30  
60 ISI No Blow  
30 FF No Blow  
60 FSI No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>86</u>	<u>60</u>	<u>5</u>	<u>95</u>		
<u>62</u>	<u>0MCO</u>	<u>5</u>	<u>60</u>	<u>35</u>	
<u>58</u>	<u>60CM</u>	<u>5</u>	<u>40</u>	<u>55</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 206 BHT 122 Gravity 576 @ 60 = 37.6 API RW @          °F Chlorides          ppm

(A) Initial Hydrostatic <u>2131</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>20:00</u>
(B) First Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>22:45</u>
(C) First Final Flow <u>70</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>1:18</u>
(D) Initial Shut-In <u>299</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/A</u>	T-Pulled <u>4:18</u>
(E) Second Initial Flow <u>81</u>	<input checked="" type="checkbox"/> Hourly Standby <u>Last test 1AM 12-19-12</u>	T-Out <u>6:40</u>
(F) Second Final Flow <u>93</u>	<input checked="" type="checkbox"/> Mileage <u>RT 72</u> 111.60	Comments <u>        </u>
(G) Final Shut-In <u>284</u>	<input type="checkbox"/> Sampler <u>        </u>	<input type="checkbox"/> Ruined Shale Packer <u>        </u>
(H) Final Hydrostatic <u>2174</u>	<input type="checkbox"/> Straddle <u>        </u>	<input type="checkbox"/> Ruined Packer <u>        </u>
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer <u>        </u>	<input type="checkbox"/> Extra Copies <u>        </u>
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer <u>        </u>	Sub Total <u>575</u>
Final Flow <u>70</u>	<input type="checkbox"/> Extra Recorder <u>        </u>	Total <u>2261.60</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby <u>1d 17.25h</u>	MP/DST Disc't <u>        </u>
	<input type="checkbox"/> Accessibility <u>        </u>	
	Sub Total <u>1686.60</u>	

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

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*acct. Prod. - Litz*

# INVOICE

PO Box 93999  
Southlake, TX 76092

Invoice Number: 134031

Invoice Date: Dec 15, 2012

Voice: (817) 546-7282

Page: 1

Fax: (817) 246-3361



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

Customer ID	Well Name# or Customer P.O.	Payment Terms	
Murfin	Ryan PB #1-19	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	Dec 15, 2012	1/14/13

Quantity	Item	Description	Unit Price	Amount
190.00	MAT	Class A Common	17.90	3,401.00
7.00	MAT	Chloride	64.00	448.00
199.50	SER	Cubic Feet	2.48	494.76
377.20	SER	Ton Mileage	2.60	980.72
1.00	SER	Surface	1,512.25	1,512.25
41.00	SER	Pump Truck Mileage	7.70	315.70
1.00	SER	Manifold Rental	275.00	275.00
41.00	SER	Light Vehicle Mileage	4.40	180.40
1.00	CEMENTER	Darren Racette		
1.00	EQUIP OPER	Tyler Flipse		
1.00	OPER ASSIST	Brandon Wilkinson		

*OKM*

Subtotal	7,607.83
Sales Tax	309.84
Total Invoice Amount	7,917.67
Payment/Credit Applied	
<b>TOTAL</b>	<b>7,917.67</b>

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

**\$ 2890.97**

ONLY IF PAID ON OR BEFORE

**Jan 9, 2013**

# ALLIED OIL & GAS SERVICES, LLC 060016

Federal Tax I.D. # 20-8661476

38 MIT TO P.O. BOX 93999  
SOUTHLAKE, TEXAS 76092

SERVICE POINT  
Oakley

DATE <u>12-15-12</u>	SEC. <u>19</u>	TWP. <u>5</u>	RANGE <u>31</u>	CALLED OUT	ON LOCATION	JOB START <u>100 Pm</u>	JOB FINISH <u>130 Pm</u>
CASE <u>Ryan (PS)</u>	WELL.# <u>1-19</u>	LOCATION <u>Gem 24 Hwy 14 N-1E 7N-2E-</u>		COUNTY <u>Rawlins</u>	STATE <u>Ks.</u>		
LD OR (Circle one)	<u>1/2 S-1/4 E-3/4 E into</u>						

CONTRACTOR Murfin #8

TYPE OF JOB Surface

OLE SIZE 12 1/4 T.D. 217

ASING SIZE 8 3/8 DEPTH 219

UBING SIZE DEPTH

RILL PIPE DEPTH

DOL DEPTH

RES. MAX MINIMUM

IBAS. LINE SHOE JOINT

EMENT LEFT IN CSG. 15'

ERFS.

ISPLACEMENT 13.05

OWNER Same

CEMENT AMOUNT ORDERED 190 SKS Com 3% CC

COMMON	<u>190 SKS</u>	@ <u>\$17.22</u>	<u>\$3401.20</u>
POZ MIX		@	
GEL		@	
CHLORIDE	<u>7 SKS</u>	@ <u>\$64.20</u>	<u>\$448.20</u>
ASC		@	
HANDLING	<u>192.50 CF X</u>	@ <u>\$2.48</u>	<u>\$474.76</u>
MILBAGE	<u>41 X 41 X</u>	@ <u>\$2.20</u>	<u>\$902.20</u>
			TOTAL <u>\$5324.42</u>

EQUIPMENT

JMP TRUCK CEMENTER Drew Racette 1

423-281 HELPER Tyler Elipse 2

ULK TRUCK

396-306 DRIVER Brandon Wilkinson 3

ULK TRUCK

DRIVER

REMARKS:

mix 190 SKS Cement

Displace with water

ement Did Circulate

Thank You

SERVICE

DEPTH OF JOB 219

PUMP TRUCK CHARGE \$752.25

EXTRA FOOTAGE @

MILBAGE 41 @ \$7.72 \$315.72

MANIFOLD @ \$275.00

LV mileage @ \$4.42 \$180.72

TOTAL \$2283.95

CHARGE TO: Murfin

REET

TY STATE ZIP

PLUG & FLOAT EQUIPMENT

@

@

@

@

@

I, 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 Rodney Farr

SIGNATURE Rodney Farr

TOTAL

SALES TAX (if Any) 309.84

TOTAL CHARGES 7,607.83

DISCOUNT 2890.97 IF PAID IN 30 DAYS

4716.86

3890



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



*cc: W F  
 cc: Liri  
 cc: L-1*

# Invoice

DATE	INVOICE #
1/3/2013	23877

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

- Acidizing
- Cement
- Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#1-19	Ryan PB	Rawlins		Oil	Development	Cement 5-1/2" P...	Josh
PRICE REF.	DESCRIPTION				QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way				120	Miles	6.00	720.00
576D-D	Pump Charge - Port Collar				1	Job	1,250.00	1,250.00
290	D-Air				2	Gallon(s)	35.00	70.00T
276	Flocele				150	Lb(s)	2.00	300.00T
330	Swift Multi-Density Standard (MIDCON II)				250	Sacks	16.50	4,125.00T
581D	Service Charge Cement				300	Sacks	2.00	600.00
583D	Drayage				1,801.8	Ton Miles	1.00	1,801.80
	Subtotal							8,866.80
	Sales Tax Rawlins County						8.05%	361.85
USED FOR					<i>IC 103</i>			
APPROVED					<i>[Signature]</i>			

**Thank You For Your Business In 2012!**  
**We Look Forward To Serving You In 2013!**

**Total** \$9,228.65





JOB LOG

SWIFT Services, Inc.

DATE 1-3-13 PAGE NO. 1

CUSTOMER Murphy WELL NO. 119 LEASE Ryan P.B. JOB TYPE Cement Port Collar TICKET NO. 23877

CHART NO.	TIME	RATE (BPM)	VOLUME (BB) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	0945							09 loc + 277
								Port Collar @ 2627 2 3/8 x 5 1/2
	1015				✓		1200	Pressure test
		3			✓		350	open Port Collar Injection Rate
	1028	4			✓		500	Start Cement
			4		✓			get circulation
			120/5		✓			Circulate Cement Bring weight up
	1055		9		✓			Displace
	1100							Close Port Collar
					✓		1200	Pressure Test
								Run 5 joints
	1115		25		✓		500	Reverse out Clean
								wash up Back up
	1215							Job Complete Thank You Josh, Jon, Doug
								Mixed 250 sks circulated 20 sks to pit



**CONSOLIDATED**  
Oil Well Services, LLC

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

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

Acctg - a. WF cc: Lil cc: L-1

**INVOICE**

Invoice # 255569

Invoice Date: 12/26/2012 Terms: 10/10/30, n/30

Page 1

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

RYAN PB 1-19  
39242  
19-5-31  
12-22-2012  
KS

USED FOR IC 103  
APPROVED JLR

Part Number	Description	Qty	Unit Price	Total
1126	OIL WELL CEMENT	225.00	22.5500	5073.75
1110A	KOL SEAL (50# BAG)	1125.00	.5600	630.00
4159	FLOAT SHOE AFU 5 1/2"	1.00	413.0000	413.00
4454	5 1/2" LATCH DOWN PLUG	1.00	567.0000	567.00
4136	TURBOLIZER 5 1/2"	15.00	72.0000	1080.00
4285	5 1/2" PORT COLLAR	1.00	2075.0000	2075.00
4104	CEMENT BASKET 5 1/2"	2.00	276.0000	552.00
4315	ROTATING SCRATCHERS	22.00	90.0000	1980.00
1102	CALCIUM CHLORIDE (50#)	240.00	.8900	213.60
1111A	SODIUM METASILICATE	200.00	2.4000	480.00
1142	KCL SUB MB6875 CC3107 (	2.00	35.7000	71.40
1111	SODIUM CHLORIDE (GRANULA	100.00	.0000	.00

Sublet Performed	Description	Total
9996-130	CEMENT MATERIAL DISCOUNT	-1313.58
9995-130	CEMENT EQUIPMENT DISCOUNT	-385.67

Description	Hours	Unit Price	Total
399 CEMENT PSI CHARGES	1.00	2950.00	2950.00
399 EQUIPMENT MILEAGE (ONE WAY)	40.00	5.00	200.00
460 TON MILEAGE DELIVERY	1.00	706.74	706.74

Amount Due 18044.18 if paid after 01/25/2013

Parts:	13135.75	Freight:	.00	Tax:	945.95	AR	16239.19
Labor:	.00	Misc:	.00	Total:	16239.19		
Sublt:	-1699.25	Supplies:	.00	Change:	.00		

Signed \_\_\_\_\_

Date \_\_\_\_\_

BARTLESVILLE, OK  
918/338-0808

EL DORADO, KS  
316/322-7022

EUREKA, KS  
620/583-7664

PONCA CITY, OK  
580/762-2303

OAKLEY, KS  
785/672-2227

OTTAWA, KS  
785/242-4044

THAYER, KS  
620/839-5269

GILLETTE, WY  
307/686-4914



**CONSOLIDATED**  
Oil Well Services, LLC

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

**FIELD TICKET & TREATMENT REPORT**  
**CEMENT**

TICKET NUMBER 39242  
LOCATION Oakley, KS  
FOREMAN Kelly Gabel  
Fuzzy

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY	
12-22-12	5406	Ryan PB 1-19	19	5	31	Rawlins	
CUSTOMER		Murtin Drig.					
MAILING ADDRESS		83 + 24 Set 2 W + 0 600 RA 14 N 1E 1 N 2E 125 1/2E					
CITY		STATE	ZIP CODE	TRUCK #	DRIVER	TRUCK #	DRIVER
				399	Damon M		
				460	Tim W		

JOB TYPE Prod HOLE SIZE 7 7/8 HOLE DEPTH 41540 CASING SIZE & WEIGHT 5 1/2 15.5#  
 CASING DEPTH 4526 DRILL PIPE \_\_\_\_\_ TUBING Pc Top # 45 OTHER PC @ 2633  
 SLURRY WEIGHT 14 1/2 SLURRY VOL \_\_\_\_\_ WATER gal/sk \_\_\_\_\_ CEMENT LEFT in CASING 19.35 (3000)  
 DISPLACEMENT 107 1/4 DISPLACEMENT PSI \_\_\_\_\_ MIX PSI \_\_\_\_\_ RATE \_\_\_\_\_

REMARKS: Safety meeting, ran float equipment on 11 # turbolizers, 3, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 44 baskets # 44 & 45 Pc top # 45, ran 50 JTS & circulated for 30 mins, ran pipe to bottom & circulated for 1 1/2 hrs, mixed 125 SKS OWC 5# KOI-seal, mixed 30 SKS RH, 20 SKS MH, released plug & displaced with 105 bbl water, with 250# lift & plug landed @ 1500', released pressure, float held, washed out pump & lines, pigged down, pumped 5 bbl water, flush, 5 bbl water,

*Thank You  
Fuzzy, Kelly & crew*

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
5401P	1	PUMP CHARGE	29.50 <sup>00</sup>	29.50 <sup>00</sup>
5406	40 mi	MILEAGE	5 <sup>00</sup>	200 <sup>00</sup>
1126	22.5 SKS	OWC	22.55	5073.75
1110A	11.25 #	KOI-seal	.56	6.30 <sup>00</sup>
5407A	10.58	Ten mileage delivery	167	706.74
4159	1	5 1/2 AFU float shoe (T)	413 <sup>00</sup>	413 <sup>00</sup>
4154	1	5 1/2 latchdown / plug (T)	567 <sup>00</sup>	567 <sup>00</sup>
4136	15	5 1/2 turbolizers (T)	72 <sup>00</sup>	1080 <sup>00</sup>
4285	1	5 1/2 Port collar (T)	207 <sup>00</sup>	207 <sup>00</sup>
4104	2	5 1/2 basket	276 <sup>00</sup>	552 <sup>00</sup>
4315	22	Rotating scrapers	90 <sup>00</sup>	1980 <sup>00</sup>
1102	240 #	Calcium chloride 2 Flush	1.59	213 <sup>50</sup>
1111A	200 #	Sodium metasilicate 3	2.40	480 <sup>00</sup>
1142	2 gal	KCL	35.20	70.40
1111	100 #	Salt		NC
				116992.49
				11699.25
				15293.24
			SALES TAX	945.95
			ESTIMATED TOTAL	116239.19

*our Fuzzy*

Revin 3737  
4:00 PM AUTHORIZATION Buck Salas

TITLE \_\_\_\_\_ DATE 12-22-12

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

2555179