

Confidentiality Requested:

Yes No

**KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION**

Form ACO-1

January 2018

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

Gas DH EOR

OG GSW

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 EOR Conv. to SWD

Plug Back Liner Conv. to GSW Conv. to Producer

Commingled Permit #: _____

Dual Completion Permit #: _____

SWD Permit #: _____

EOR Permit #: _____

GSW Permit #: _____

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: _____

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 Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT I II III Approved by: _____ Date: _____

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 Geologist Report / Mud Logs <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				

1. Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*
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)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____				
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5) (Submit ACO-4)</i>	PRODUCTION INTERVAL: Top _____ Bottom _____
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	ALMUT 1-15
Doc ID	1324822

All Electric Logs Run

DIL
DUCP
MEL
BHCS
CBL

Robert L. Milford

PETROLEUM GEOLOGIST
Wichita, Kansas

GEOLOGISTS REPORT

DRILLING TIME AND SAMPLE LOG

OPERATOR: Murfin Drilling Company, Inc.

LEASE: Almud #1-15

LOC. SPOT: 110° S & 150° W of S2 SW NW

LOC. FOOTAGE: 2 420' FNL 510' FWL

SEC. 15 TWPSP 55 RANG 32W

COUNTY: Rawlins STATE: KANSAS

API: 15-153-21181-00-00

CONTRACTOR: Amfin Drilling Co., Inc. RIG NO. 7

DRILLING STARTED: 11/7/2016 COMPLETED: 11-15-2016

MUD DISPLAYED: 3.350 MUD TYPE: Chemical

DRILLING TIME KEPT FROM: 3.600 TO: RTD

SAMPLES SAVED FROM: 3.600 TO: RTD

SAMPLES EXAMINED FROM: 3.600 TO: RTD

GEOLOGICAL SUPERVISION FROM: 3.600 TO: RTD

ELEVATIONS
KB 2,955'
GL 2,990'

NEAREST TOWN/LOCALITY
CASING RECORD

CONDUCTOR

Surface: 8.5/8" @ 210'
w/ 130 sacks cement
Production none

ELECTRICAL SURVEYS
Pioneer Wireline:
Dip Induction Log
Dip Compensated

Porosity Log
Microresistivity Log
Sonic Log

TOP DATUM SAMPLE DATE

FORMATION NAME	TOP	DATUM	SAMPLE	DATE
Base Stone Corral	2,688'	-267'	2,688'	+267'
Topeka	3,706'	-751'	3,708'	-753'
Heebner	3,876'	-921'	3,878'	-923'
Lansing	3,922'	-967'	3,924'	-969'
Stark	4,108'	-1153'	4,110'	-1155'
B/KC	4,162'	-1207'	4,164'	-1209'
Ft. Scott	4,278'	-1323'	4,280'	-1325'
Excello	4,336'	-1381'	4,338'	-1383'
Mississippi	4,477'	-1522'	4,479'	-1524'
Total Depth	4,579'	-1624'	4,580'	-1625'

DATE	7:00 AM DEPTH	REMARKS
11-7-16	0'	Spud @ 4:00 pm. Plug down @ 8:00 pm. Drilled out plug @ 4:00 am on 11-8-16 w/ PDC bit
11-8-16	370'	Cut 370' in last 24 hrs. Dev.: 0.5° @ 1520'. Lost circ (100 bbls) @ 1837'. down 0.75 hr.
11-9-16	2,915'	Cut 2,545' in last 24 hrs; 22.25 hrs drlg. Bit trip @ 3500' (ran button bit)
11-10-16	3,775'	Cut 860' in last 24 hrs; 18.75 hrs drlg. DST #1 @ 3947'
11-11-16	3,947'	Cut 172' in last 24 hrs; 5.75 hrs drlg. DST #2 @ 3985'. DST #3 @ 4024'
11-12-16	4,024'	Cut 77' in last 24 hrs; 4.5 hrs drlg. DST #4 @ 4114'
11-13-15	4,114'	Cut 90' in last 24 hrs; 4.25 hrs drlg. DST #5 @ 4171'
11-14-16	4,175'	Cut 61' in last 24 hrs; 2.75 hrs drlg. DST #6 @ 4340'
11-15-16	4,360'	Cut 185' in last 24 hrs; 8.25 hrs drlg. RTD 4580'. Logged. DST #7 (Straddle)
11-16-16	4,580'	Cut 220' in last 24 hrs; 9.5 hrs drlg. Plugged and abandoned

Remarks

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

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

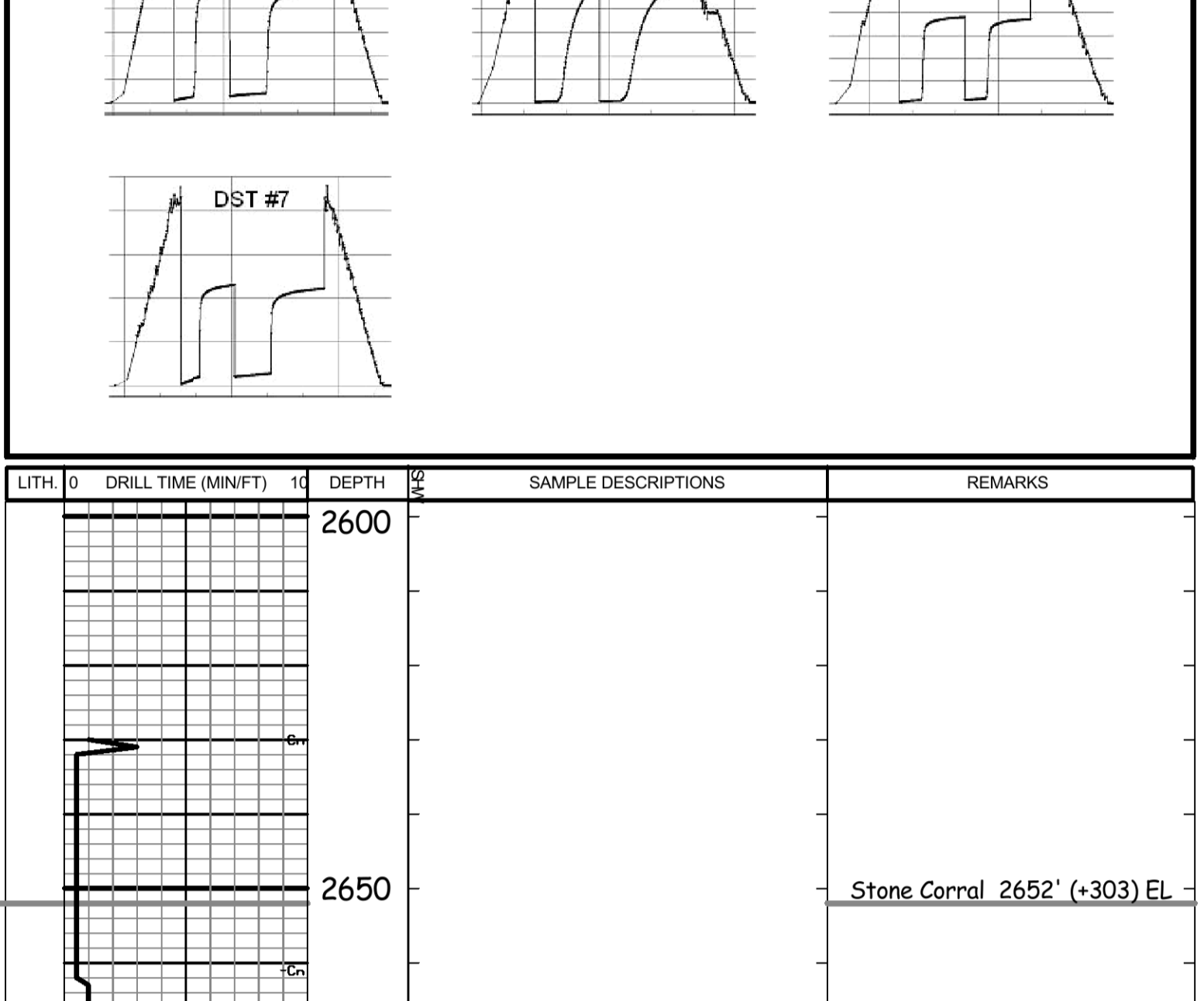
The drilling samples were deposited at the Kansas Geological Survey office in Wichita.

Respectfully submitted,

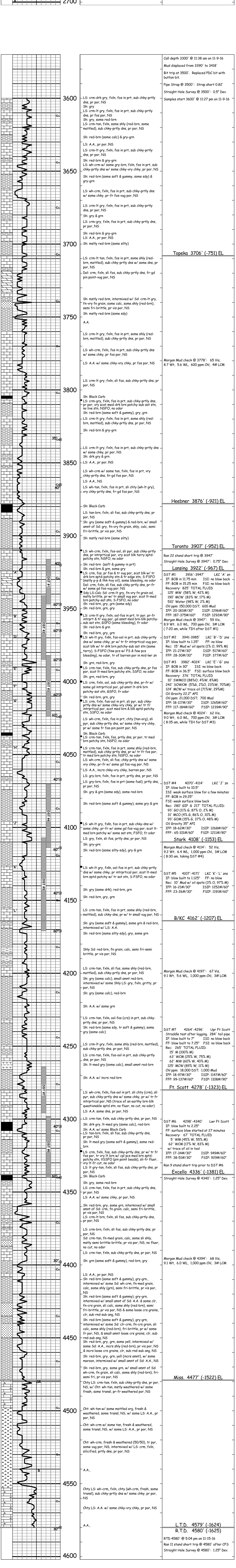
Robert L. Milford

Drill Stem Test Charts

Drill Stem Test by Trilobite Testing, Inc.



LITH.	DRILL TIME (MIN/FT)	DEPTH	SAMPLE DESCRIPTIONS	REMARKS
		2600		
		2650		Stone Corral 2652' (+303) EL
		2700		B/Stone Corral 2688' (+267) EL



Call depth 3300' @ 11:38 am on 11-9-16
Mud displaced from 3390' to 3418'
Bit trip at 3500'. Replaced PDC bit with button bit.
Pipe Strap @ 3500': Strap short 0.82'
Straight Hole Survey @ 3500': 0.5° Dev.
Samples start 3600' @ 11:27 pm on 11-9-16

LS: crm-drk gry, fxln, fos in prt, sub chky-prtly dns, pr por, NS
Sh: gry
LS: crm-lt gry, fxln, fos in prt, sub chky-prtly dns, pr fos por, NS
Sh: gry, some red-brn
LS: crm-tan, fxln, some shly (red-brn, some mottled), sub chky-prtly dns, pr por, NS
Sh: red-brn (some calc) & gry-grn
LS: A.A., pr por, NS
LS: crm-lt gry, fxln, fos in prt, sub chky-prtly dns, pr por, NS
Sh: red-brn & gry-grn
LS: wh-crm w/ some gry-brn, fxln, fos in prt, sub chky-prtly dns w/ some chky-vry chy, pr por, NS
Sh: red-brn (some soft & gummy, some sdy) & gry-grn
LS: wh-crm, fxln, fos in prt, sub chky-prtly dns w/ some chky, pr-fr fos-vug por, NS
LS: crm-lt gry, fxln, fos in prt, sub chky-prtly dns, pr por, NS
Sh: gry & grn
LS: crm-gry, fxln, fos in prt, sub chky-prtly dns, pr por, NS
Sh: red-brn & gry-grn
LS: A.A., pr por, NS
Sh: mostly red-brn (some silty)

LS: crm-lt tan, fxln, fos in prt, some shly (red-brn, mottled), sub chky-prtly dns w/ some dns, pr por, NS
Dol: crm, fxln, sli fos, sub chky-prtly dns, fr-gd pin point-vug por, NS
Sh: mstly red-brn, intermixed w/ Sd: crm-lt gry, fr-vry fr grain, some calc, some shly (red-brn), semi fri-brittle, pr vis por, NS
Sh: mstly red-brn (some sdy)
A.A.
LS: crm-lt gry, fxln, fos in prt, some shly (red-brn, mottled), sub chky-prtly dns, pr por, NS
LS: wh-crm, fxln, fos in prt, sub chky-prtly dns w/ some chky, pr fos por, NS
LS: A.A. w/ some chky-vry chy, pr fos por, NS
LS: crm-lt gry, fxln, sli fos, sub chky-prtly dns, pr por, NS
Sh: Black Carb
LS: crm-gry, fxln, fos in prt, sub chky-prtly dns, pr por, vry scat med-drk brn patchy-sub sat stn, no live stn, NSF0, no odor
Sh: red-brn (some soft & gummy), gry, grn
LS: crm-lt gry, fxln, fos in prt, some shly (red-brn, mottled), sub chky-prtly dns, pr por, NS
Sh: red-brn & gry-grn
LS: crm-lt gry, fxln, fos in prt, sub chky-prtly dns w/ some chky, pr por, NS
Sh: drk gry & grn
LS: A.A., pr por, NS
LS: wh-crm w/ some tan, fxln, fos in prt, vry chky-prtly dns, fr-gd fos por, NS
LS: A.A., NS
LS: wh-tan, fxln, fos in prt, sli chty (wh-lt gry), vry chky-prtly dns, fr-gd fos por, NS
Sh: Black Carb
LS: tan-brn, fxln, sli fos, sub chky-prtly dns, pr por, NS
Sh: gry (some soft & gummy) & red-brn, w/ small amt of Sd: gry, fr-vry fr grain, shly, calc, semi fri-brittle, pr vis por, NS
Sh: mstly red-brn (some silty)

LS: wh-crm, fxln, fos-ool, sli pyr, sub chky-prtly dns, pr intrprtcal por, some calc, some shly (red-brn), semi fri-brittle, pr vis por, NS
Sh: red-brn (soft & gummy in prt)
LS: crm, fos, pr fos & fr vug por, scat blk w/ tr drk brn spdt-patchy stn & fr edge stn, S-FSFO (mstly p-p & thk-hvy oil), some bleeding, no odor
Dol: crm, fxln, sli fos, sub chky-prtly dns, pr-fr w/ some gd fos-vug por, NS
Sdly LS-Calc Sd: crm-lt gry, fr-vry fr grain sd, mstly brittle, pr w/ tr small vug por, scat lt-med brn patchy-sat stn, S-FSFO, no odor
Sh: red-brn, gry, grn (some sdy)
Sh: red-brn, gry, gry
LS: crm-lt gry, fxln, ool-fos in prt, pr pyr, pr-fr intrprt & fr vug por, gd amt med brn-blk patchy-sub sat stn, GSFO (some bleeding), fr odor
Sh: red-brn & grn
Sh: red-brn, gry, grn
LS: wh-lt gry, fxln, fos-ool in prt, sub chky-prtly dns w/ some chky, pr por, NS
Scat blk w/ tr drk brn patchy-sub sat stn (some tarry), S-FSFO (few pcs w/ FS & few pcs bleeding), no odor, tr of barren por in mid-lwr zn
Sh: grn, red-brn, gry
LS: crm-tan, fxln, fos, sub chky-prtly dns, pr fos por, scat lt-med brn patchy stn, SSFO, fr odor
Sh: grn, red-brn, gry
LS: crm, fxln, ool, sub chky-prtly dns, pr-fr w/ some gd intrprtcal por, gd amt lt-drk brn patchy-sat stn, GSFO, fr odor
Sh: red-brn, gry, grn
LS: crm, fxln, fos-ool in prt, sli pyr, sub chky-prtly dns w/ some chky-vry chy, pr w/ tr fr intrprtcal por, scat med brn & blk spdt-patchy stn, SSFO, no odor
LS: wh-crm, fxln, fos in prt, chty (tan-org), sli pyr, sub chky-prtly dns, w/ some chky-vry chy, pr w/ some fr fos-pin point por, NS
Sh: Black Carb
LS: crm-tan, fxln, fos, prtly dns, pr por, tr med brn patchy stn, NSF0, no odor
LS: crm-tan, fxln, fos in prt, some shly (red-brn, mottled), sub chky-prtly dns, pr w/ tr fr fos por, tr med brn patchy stn, NSF0, no odor
LS: wh-crm, fxln, sli fos, chky-prtly dns w/ some vry chy, pr-fr w/ some gd fos-vug por, NS
LS: A.A., in crs chky-vry chy, barren por, NS
LS: gry-brn, fxln, fos in prt, prtly dns, pr por, NS
LS: gry & grn (some sdy), some red-brn
Sh: red-brn (some soft & gummy), some gry & grn

LS: wh-lt gry, fxln, fos in prt, sub chky-prtly dns w/ some chky, pr-fr w/ some gd fos-vug por, scat lt-med brn patchy w/ some sat stn, S-FSFO, fr odor
LS: gry, fxln, sli fos, prtly dns, pr por, NS
Sh: gry-grn
Sh: red-brn (some silty-sdy), gry & grn

LS: wh-lt gry, fxln, ool-fos in prt, sub chky-prtly dns w/ some chky, pr-fr w/ some gd intrprtcal por, scat lt-med brn spdt-patchy w/ tr sat stn, S-FSFO, no odor
Sh: gry (some drk), red-brn, grn
Sh: red-brn, gry, grn
LS: crm-tan, fxln, fos in prt, some shly (red-brn, mottled), sub chky-prtly dns, pr w/ tr small vug por, NS
Sh: gry (some soft & gummy), some grn & red-brn, intermixed w/ LS: A.A.
Sh: red-brn (some silty-sdy), gry, some grn
Shly Sd: red-brn, fr grain, calc, semi fri-semi brittle, pr vis por, NS

LS: crm-tan, fxln, sli fos, some shly (red-brn, mottled), sub chky-prtly dns, pr por, NS
Sh: gry (some calc), small amt red-brn, intermixed w/ some Shly LS: gry, fxln, gritty, pr por, NS
Sh: gry (some calc), red-brn
Sh: A.A. w/ some grn
LS: crm-tan, fxln, ool-fos (crs) in prt, sub chky-prtly dns, pr por, NS
Sh: red-brn (some sdy, tr soft & gummy), some gry (some calc)

LS: crm-lt gry, fxln, some shly (red-brn, mottled), sub chky-prtly dns, pr por, NS
LS: crm-tan, fxln, fos-ool in prt, sub chky-prtly dns, pr por, NS
Sh: lt-med gry (some calc), small amt red-brn
Sh: A.A. w/ incrs red-brn

LS: wh-crm, fxln, fos-ool w/ some chky (crn), sli pyr, sub chky-prtly dns w/ some chky, pr w/ tr fr intrprtcal por, NS (trace of an earthy brn-blk questionable spdt stn, no flour, no cut, no odor)
LS: A.A. some dns, pr por, NS
LS: crm-tan, fxln, sub chky-prtly dns, pr por, NS
Sh: drk gry, lt-med gry (some calc), red-brn
Sh: A.A. w/ some Black Carb
LS: tan-brn, fxln, sli fos, sub chky-prtly dns, pr por, NS
Sh: lt-med gry (some soft & gummy), some grn
LS: crm, fxln, fos, sub chky-prtly dns, pr w/ tr fr fos por, tr vry lt brn w/ qtz pcs med brn spdt-patchy stn, VSSFO (pin point beads), sli-fr flour, vry lt-fr cut, no odor
LS: lt gry-tan, fxln, sli fos, sub chky-prtly dns, pr por, NS
Sh: Black Carb
Sh: gry, some red-brn
LS: crm-tan, fxln, fos in prt, sub chky-prtly dns, pr por, NS
LS: A.A. w/ some chky, pr por, NS
Sh: red-brn, gry, some grn, intermixed w/ small amt of Sd: crm, fr grain, sli calc, some shly (red-brn), fri-semi fri, pr vis por, NS
Chly LS: crm-tan, fxln, sub chky-prtly dns, pr por, NS, w/ Cht: wh-tan, mstly weathered w/ some fresh, some transl, pr-fr weathered por, NS

Cht: wh-tan w/ some mottled org, fresh & weathered, some transl, NS, w/ some LS: A.A., pr por, NS
Cht: wh-crm w/ some tan, fresh & weathered, some transl, NS, w/ some LS: A.A., pr por, NS
Cht: wh-crm, fresh & weathered (50/50), tr pyr, some vug por, NS, intermixed w/ LS: crm, fxln, silicified, prtly dns, pr por, NS
A.A.,
Chly LS: wh-crm, fxln, chty (wh-crm, fresh, some transl), sub chky-prtly dns w/ some chky, pr por, NS
Chly LS: A.A. w/ some chky-vry chy, pr por, NS
A.A.,

RTD 4580' @ 5:04 pm on 11-15-16
Ran 11 stand short trip @ 4580' after CFS
Straight Hole Survey @ 4580': 1.25° Dev.

DST #1 3916'-3947' LKC 'A' zn
IF: BOB in 11:75 min ISI: no blow back
FF: BOB in 15:25 min FSI: no blow back
Recovery: 825' TOTAL FLUID
125' MW (58% W, 42% M)
190' MCV (83% W, 17% M)
510' Water (98% W, 2% M)
Chl ppm: 150,000 DST: 600 Mud
IFP: 20-183#/30' ISIP: 1296#/60'
FFP: 187-375#/60' FSI: 1292#/90'

DST #2 3941-3985' LKC 'B'-D' zns
IF: blow built to 1.25" FF: no blow
Rec: 15' Mud w/ oil spots (1% O, 99% M)
IFP: 21-27#/30' ISIP: 517#/60'
FFP: 28-30#/30' FSI: 377#/60'

DST #3 3982'-4024' LKC 'E'-G' zns
IF: BOB in 30' ISI: no blow back
FF: BOB in 36.5' FSI: surface blow back
Recovery: 376' TOTAL FLUID
10' SWMCO (88%, 2%W, 8%M)
242' SOWCM (5%, 6%W, 23%W, 70%M)
124' MCV w/ trace oil (71%W, 29%M)
Chl Gravity: 22.2° API
Oil ppm: 21,000 DST: 700 Mud
IFP: 18-117#/30' ISIP: 1265#/60'
FFP: 117-184#/60' FSI: 1239#/90'

Morgan Mud check @ 4024': 62 Vis, 9.0 Wt, 5.6 WL, 700 ppm Chl, 3# LCM (8:35 am, while TTH for DST #3)

DST #4 4070'-4114' LKC 'J' zn
IF: blow built to 10.25" FF: no blow
Rec: 15' Mud w/ oil spots (3% O, 97% M)
IFP: 16-21#/30' ISIP: 1252#/60'
FFP: 23-26#/30' FSI: 1191#/60'

Morgan Mud check @ 4114': 52 Vis, 9.2 Wt, 6.4 WL, 1,000 ppm Chl, 3# LCM (8:30 am, taking DST #4)

DST #5 4107'-4171' LKC 'K'-L' zns
IF: blow built to 1.125" FF: no blow
Rec: 10' Mud w/ oil spots (3% O, 97% M)
IFP: 16-21#/30' ISIP: 1252#/60'
FFP: 23-26#/30' FSI: 1191#/60'

Morgan Mud check @ 4171': 67 Vis, 9.1 Wt, 5.6 WL, 1,000 ppm Chl, 3# LCM

DST #7 4264'-4296' Upr Ft Scott
Straddle test after logging 284' tail pipe
IF: blow built to 7" ISI: no blow back
Rec: blow built to 7.25" FSI: no blow back
FF: TOTAL FLUID:
15' W (100% M)
63' WCM (25% W, 75% M)
62' MW (60% W, 40% M)
125' MCV (89% W, 11% M)
w/ trace of oil in tool
IFP: 17-34#/30' ISIP: 949#/60'
FFP: 38-51#/30' FSI: 929#/60'

Ran 9 stand short trip prior to DST #6
Excello 4336' (-1381) EL

Morgan Mud check @ 4394': 68 Vis, 9.1 Wt, 6.0 WL, 1,000 ppm Chl, 3# LCM

DST #6 4298'-4340' Lwr Ft Scott
IF: blow built to 2.25" FF: no blow
Rec: 67' TOTAL FLUID
5' WM (4% W, 55% M)
62' WCM (17% W, 83% M)
w/ trace of oil in tool
IFP: 18-97#/30' ISIP: 949#/60'
FFP: 38-51#/30' FSI: 929#/60'

Miss. 4477' (-1522) EL

L.T.D. 4579' (-1624)
R.T.D. 4580' (-1625)



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Rocky Milford

Almut #1-15

15-5s-32w Rawlins,KS

Start Date: 2016.11.10 @ 20:27:00

End Date: 2016.11.11 @ 05:15:15

Job Ticket #: 61200 DST #: 1

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

Printed: 2016.11.15 @ 16:50:21

Murfin Drilling Co., Inc. 15-5s-32w Rawlins,KS Almut #1-15 DST # 1 LKC "A" 2016.11.10



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

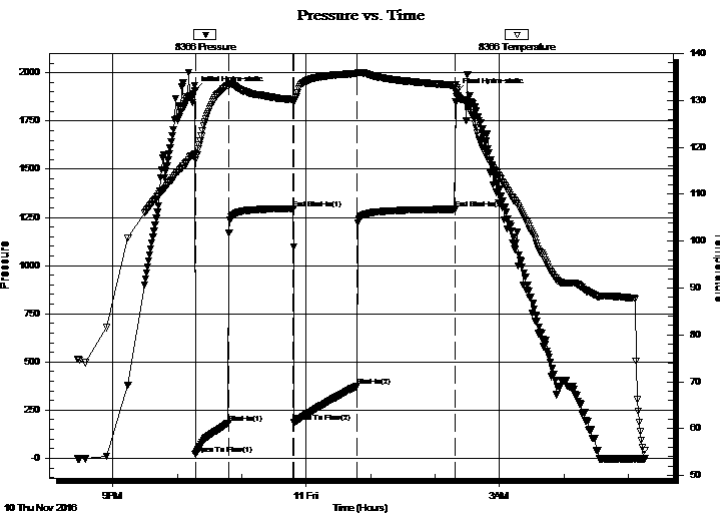
15-5s-32w Rawlins, KS
Almut #1-15
 Job Ticket: 61200 **DST#: 1**
 Test Start: 2016.11.10 @ 20:27:00

GENERAL INFORMATION:

Formation: **LKC "A"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 22:16:45
 Time Test Ended: 05:15:15
 Interval: **3916.00 ft (KB) To 3947.00 ft (KB) (TVD)**
 Total Depth: 3947.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: James Winder
 Unit No: 83
 Reference Elevations: 2955.00 ft (KB)
 2950.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8366 Outside
 Press@RunDepth: 375.39 psig @ 3917.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2016.11.10 End Date: 2016.11.11 Last Calib.: 2016.11.11
 Start Time: 20:27:05 End Time: 05:15:15 Time On Btm: 2016.11.10 @ 22:16:30
 Time Off Btm: 2016.11.11 @ 02:20:00

TEST COMMENT: 30 - IF: Blow built to BOB (11") at 11 3/4 min.
 60 - IS: No blow back
 60 - FF: Blow started at 1 1/4 min., built to BOB at 15 1/4 min.
 90 - FS: No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1909.01	118.57	Initial Hydro-static
1	20.37	117.42	Open To Flow (1)
31	183.05	133.15	Shut-In(1)
92	1296.40	130.17	End Shut-In(1)
92	186.95	129.84	Open To Flow (2)
151	375.39	135.73	Shut-In(2)
242	1292.40	133.24	End Shut-In(2)
244	1895.32	132.79	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
510.00	Water 98%w , 2%m	5.45
190.00	MCW 83%w , 17%m	2.67
125.00	MW 58%w , 42%m	1.75

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

15-5s-32w Rawlins,KS

250 N. Water STE 300
Wichita, KS 67202

Almut #1-15

Job Ticket: 61200

DST#: 1

ATTN: Rocky Milford

Test Start: 2016.11.10 @ 20:27:00

Tool Information

Drill Pipe:	Length: 3708.00 ft	Diameter: 3.80 inches	Volume: 52.01 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 187.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose: 64000.00 lb
			<u>Total Volume: 52.93 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3916.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	31.00 ft			
Tool Length:	60.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3888.00	
Shut In Tool	5.00			3893.00	
Hydraulic tool	5.00			3898.00	
Jars	5.00			3903.00	
Safety Joint	3.00			3906.00	
Packer	5.00			3911.00	29.00 Bottom Of Top Packer
Packer	5.00			3916.00	
Packer - Shale	0.00			3916.00	
Stubb	1.00			3917.00	
Recorder	0.00	6625	Inside	3917.00	
Recorder	0.00	8366	Outside	3917.00	
Perforations	27.00			3944.00	
Bullnose	3.00			3947.00	31.00 Bottom Packers & Anchor

Total Tool Length: 60.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

15-5s-32w Rawlins,KS

250 N. Water STE 300
Wichita, KS 67202

Almut #1-15

Job Ticket: 61200

DST#: 1

ATTN: Rocky Milford

Test Start: 2016.11.10 @ 20:27:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 60.00 sec/qt
Water Loss: 5.57 in³
Resistivity: ohm.m
Salinity: 600.00 ppm
Filter Cake: 2.00 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: deg API
Water Salinity: 150000 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
510.00	Water 98%w , 2%m	5.450
190.00	MCW 83%w , 17%m	2.665
125.00	MW 58%w , 42%m	1.753

Total Length: 825.00 ft Total Volume: 9.868 bbl

Num Fluid Samples: 0

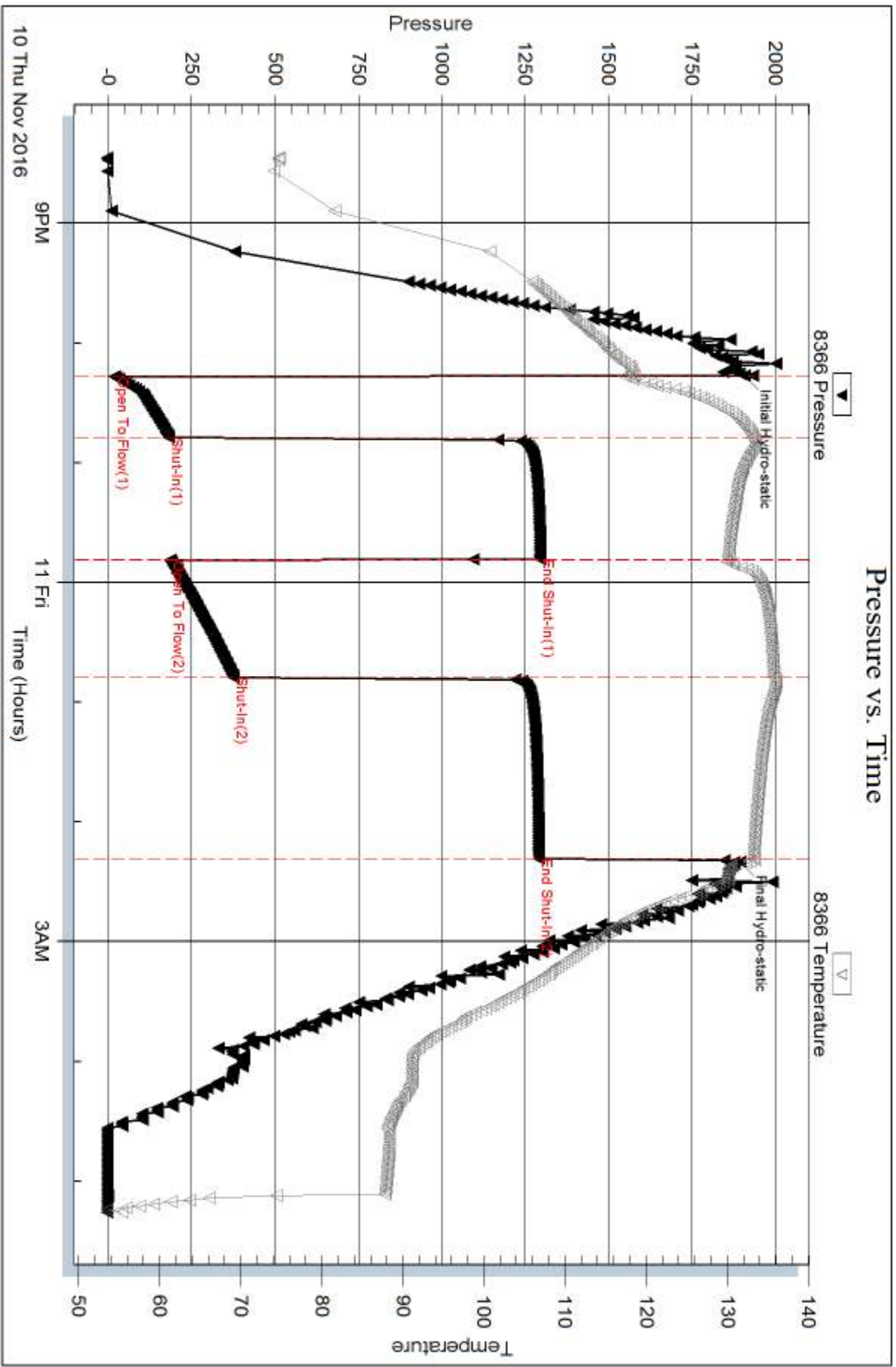
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .110 ohms @ 37.7 deg F
Chlorides = 150,000 ppm



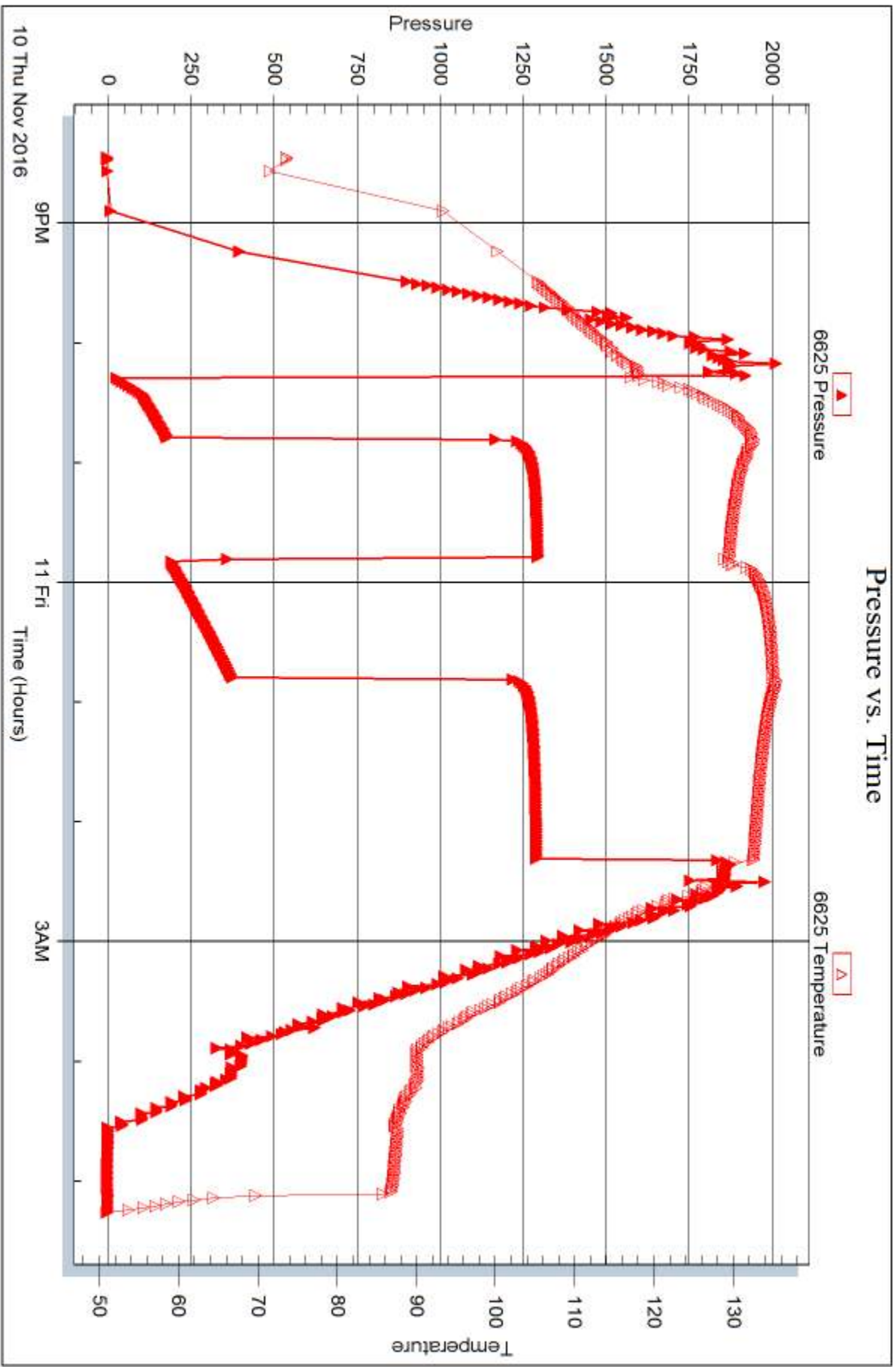
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Inside

Murfin Drilling Co., Inc.

Almut #1-15

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 61200

Printed: 2016.11.15 @ 16:50:23



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Rocky Milford

Almut #1-15

15-5s-32w Rawlins,KS

Start Date: 2016.11.11 @ 14:15:00

End Date: 2016.11.11 @ 21:02:30

Job Ticket #: 61251 DST #: 2

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

Printed: 2016.11.15 @ 16:49:58



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

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

15-5s-32w Rawlins,KS
Almut #1-15
 Job Ticket: 61251 **DST#: 2**
 Test Start: 2016.11.11 @ 14:15:00

GENERAL INFORMATION:

Formation: **LKC "B - D"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 16:02:00
 Time Test Ended: 21:02:30
 Interval: **3941.00 ft (KB) To 3985.00 ft (KB) (TVD)**
 Total Depth: 3985.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: James Winder
 Unit No: 83
 Reference Elevations: 2955.00 ft (KB)
 2950.00 ft (CF)
 KB to GR/CF: 5.00 ft

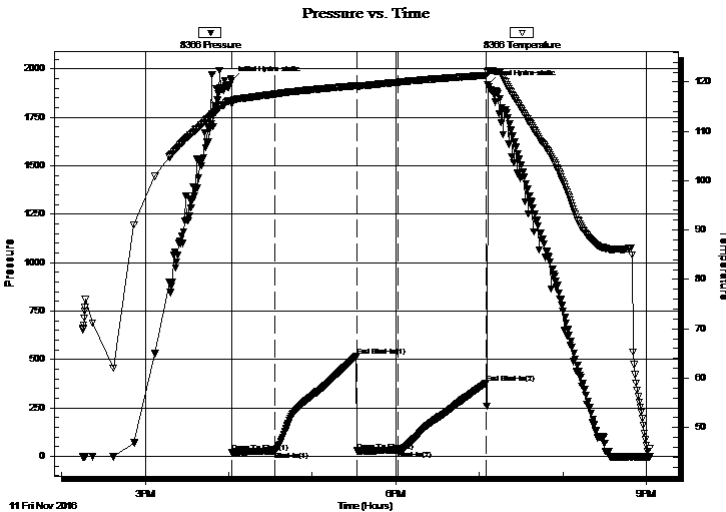
Serial #: 8366

Outside

Press@RunDepth: 29.94 psig @ 3942.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2016.11.11 End Date: 2016.11.11 Last Calib.: 2016.11.11
 Start Time: 14:15:05 End Time: 21:02:29 Time On Btm: 2016.11.11 @ 16:01:45
 Time Off Btm: 2016.11.11 @ 19:06:00

TEST COMMENT: 30 - IF: Blow built to 1 1/4", slowly died back to 1" at close
 60 - IS: No blow
 30 - FF: No blow
 60 - FS: No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1938.66	116.23	Initial Hydro-static
1	21.06	115.51	Open To Flow (1)
31	27.04	117.51	Shut-In(1)
90	516.71	119.24	End Shut-In(1)
91	28.19	119.03	Open To Flow (2)
120	29.94	119.94	Shut-In(2)
184	376.96	121.35	End Shut-In(2)
185	1921.33	121.92	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	Mud w/oil spots 99%m, 1%o	0.07

* 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.

15-5s-32w Rawlins,KS

250 N. Water STE 300
Wichita, KS 67202

Almut #1-15

Job Ticket: 61251

DST#: 2

ATTN: Rocky Milford

Test Start: 2016.11.11 @ 14:15:00

Tool Information

Drill Pipe:	Length: 3739.00 ft	Diameter: 3.80 inches	Volume: 52.45 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 187.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose: 56000.00 lb
			<u>Total Volume: 53.37 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3941.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	44.00 ft			
Tool Length:	73.00 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			3913.00	
Shut In Tool	5.00			3918.00	
Hydraulic tool	5.00			3923.00	
Jars	5.00			3928.00	
Safety Joint	3.00			3931.00	
Packer	5.00			3936.00	29.00 Bottom Of Top Packer
Packer	5.00			3941.00	
Packer - Shale	0.00			3941.00	
Stubb	1.00			3942.00	
Recorder	0.00	6625	Inside	3942.00	
Recorder	0.00	8366	Outside	3942.00	
Perforations	6.00			3948.00	
Blank Spacing	34.00			3982.00	
Bullnose	3.00			3985.00	44.00 Bottom Packers & Anchor

Total Tool Length: 73.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

15-5s-32w Rawlins,KS

250 N. Water STE 300
Wichita, KS 67202

Almut #1-15

Job Ticket: 61251

DST#: 2

ATTN: Rocky Milford

Test Start: 2016.11.11 @ 14:15:00

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: 59.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.96 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	Mud w /oil spots 99%m, 1%o	0.074

Total Length: 15.00 ft Total Volume: 0.074 bbl

Num Fluid Samples: 0

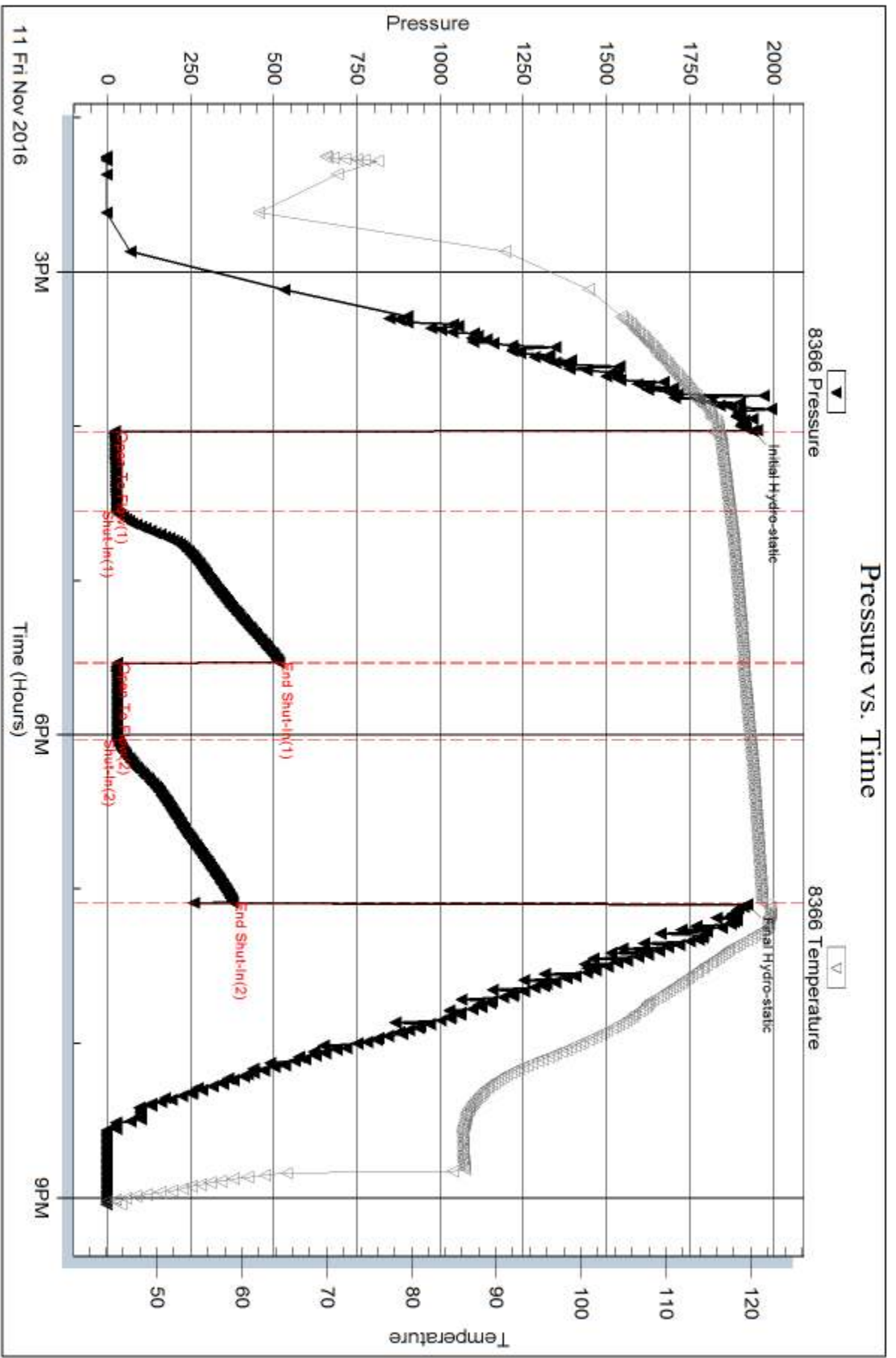
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



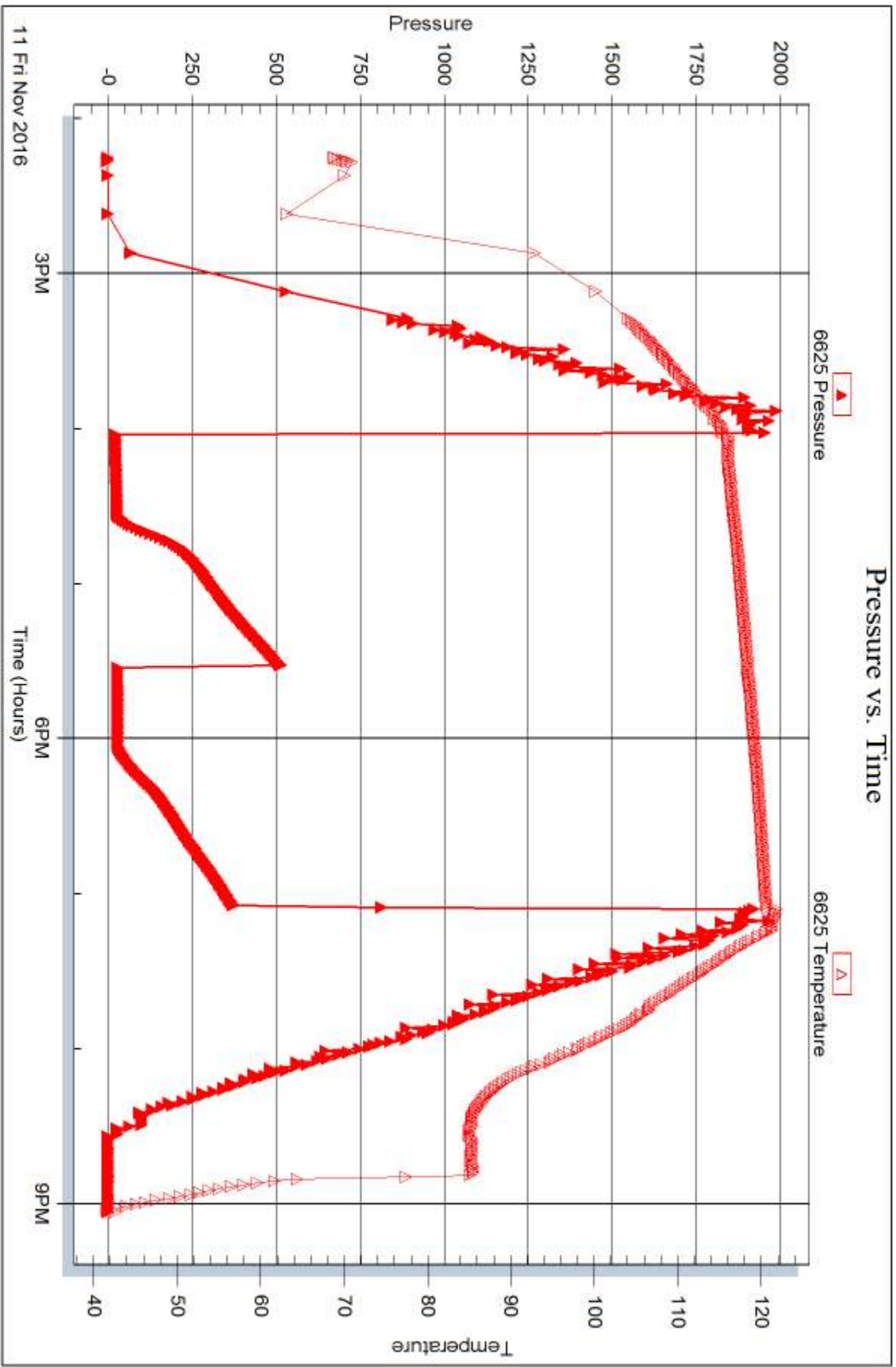
Serial #: 6625

Inside

Murfin Drilling Co., Inc.

Almut #1-15

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 61251

Printed: 2016.11.15 @ 16:50:00



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Rocky Milford

Almut #1-15

15-5s-32w Rawlins,KS

Start Date: 2016.11.12 @ 07:15:00

End Date: 2016.11.12 @ 15:16:15

Job Ticket #: 61252 DST #: 3

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

Printed: 2016.11.15 @ 16:49:36



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

15-5s-32w Rawlins, KS
Almut #1-15
 Job Ticket: 61252 **DST#: 3**
 Test Start: 2016.11.12 @ 07:15:00

GENERAL INFORMATION:

Formation: **LKC "E - G"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 09:00:30
 Time Test Ended: 15:16:15
 Interval: **3982.00 ft (KB) To 4024.00 ft (KB) (TVD)**
 Total Depth: 4024.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: James Winder
 Unit No: 83
 Reference Elevations: 2955.00 ft (KB)
 2950.00 ft (CF)
 KB to GR/CF: 5.00 ft

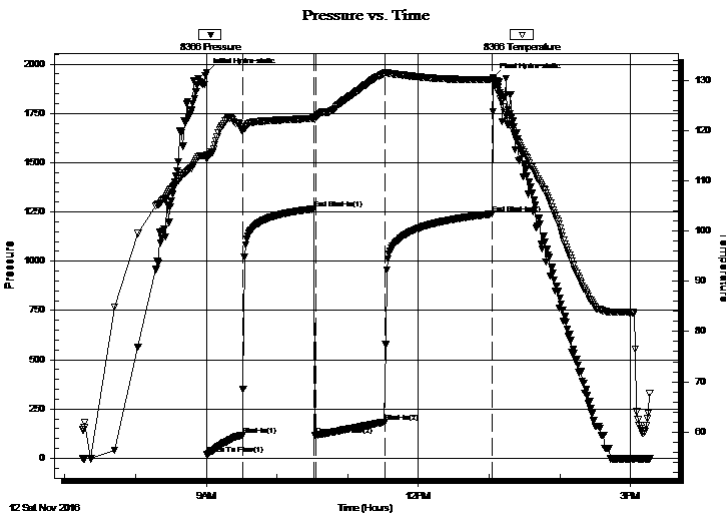
Serial #: 8366

Outside

Press@RunDepth: 184.21 psig @ 3983.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2016.11.12 End Date: 2016.11.12 Last Calib.: 2016.11.12
 Start Time: 07:15:05 End Time: 15:16:14 Time On Btm: 2016.11.12 @ 09:00:15
 Time Off Btm: 2016.11.12 @ 13:03:30

TEST COMMENT: 30 - IF: Blow built to BOB (11") at 30 min.
 60 - IS: No blow back
 60 - FF: Blow built to BOB at 36 1/2 min.
 90 - FS: Weak surface blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1957.72	115.21	Initial Hydro-static
1	17.84	114.27	Open To Flow (1)
31	116.66	119.90	Shut-In(1)
92	1264.72	122.45	End Shut-In(1)
93	117.17	122.32	Open To Flow (2)
152	184.21	131.34	Shut-In(2)
243	1239.41	130.16	End Shut-In(2)
244	1932.17	130.22	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
124.00	MCW w/trace oil 71%w , 29%m	0.61
242.00	SO/WCM 70%m, 23%w , 5%g, 2%o	2.82
10.00	SWMCO 88%o, 8%m, 4%w	0.14

* 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.

15-5s-32w Rawlins,KS

250 N. Water STE 300
Wichita, KS 67202

Almut #1-15

Job Ticket: 61252

DST#: 3

ATTN: Rocky Milford

Test Start: 2016.11.12 @ 07:15:00

Tool Information

Drill Pipe:	Length: 3771.00 ft	Diameter: 3.80 inches	Volume: 52.90 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 187.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose: 58000.00 lb
			<u>Total Volume: 53.82 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	3982.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	42.00 ft			
Tool Length:	71.00 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			3954.00	
Shut In Tool	5.00			3959.00	
Hydraulic tool	5.00			3964.00	
Jars	5.00			3969.00	
Safety Joint	3.00			3972.00	
Packer	5.00			3977.00	29.00 Bottom Of Top Packer
Packer	5.00			3982.00	
Stubb	1.00			3983.00	
Recorder	0.00	6625	Inside	3983.00	
Recorder	0.00	8366	Outside	3983.00	
Perforations	5.00			3988.00	
Blank Spacing	33.00			4021.00	
Bullnose	3.00			4024.00	42.00 Bottom Packers & Anchor

Total Tool Length: 71.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

15-5s-32w Rawlins,KS

250 N. Water STE 300
Wichita, KS 67202

Almut #1-15

Job Ticket: 61252

DST#: 3

ATTN: Rocky Milford

Test Start: 2016.11.12 @ 07:15:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 60.00 sec/qt
Water Loss: 5.57 in³
Resistivity: ohm.m
Salinity: 600.00 ppm
Filter Cake: 2.00 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: 22.2 deg API
Water Salinity: 21000 ppm

Recovery Information

Recovery Table

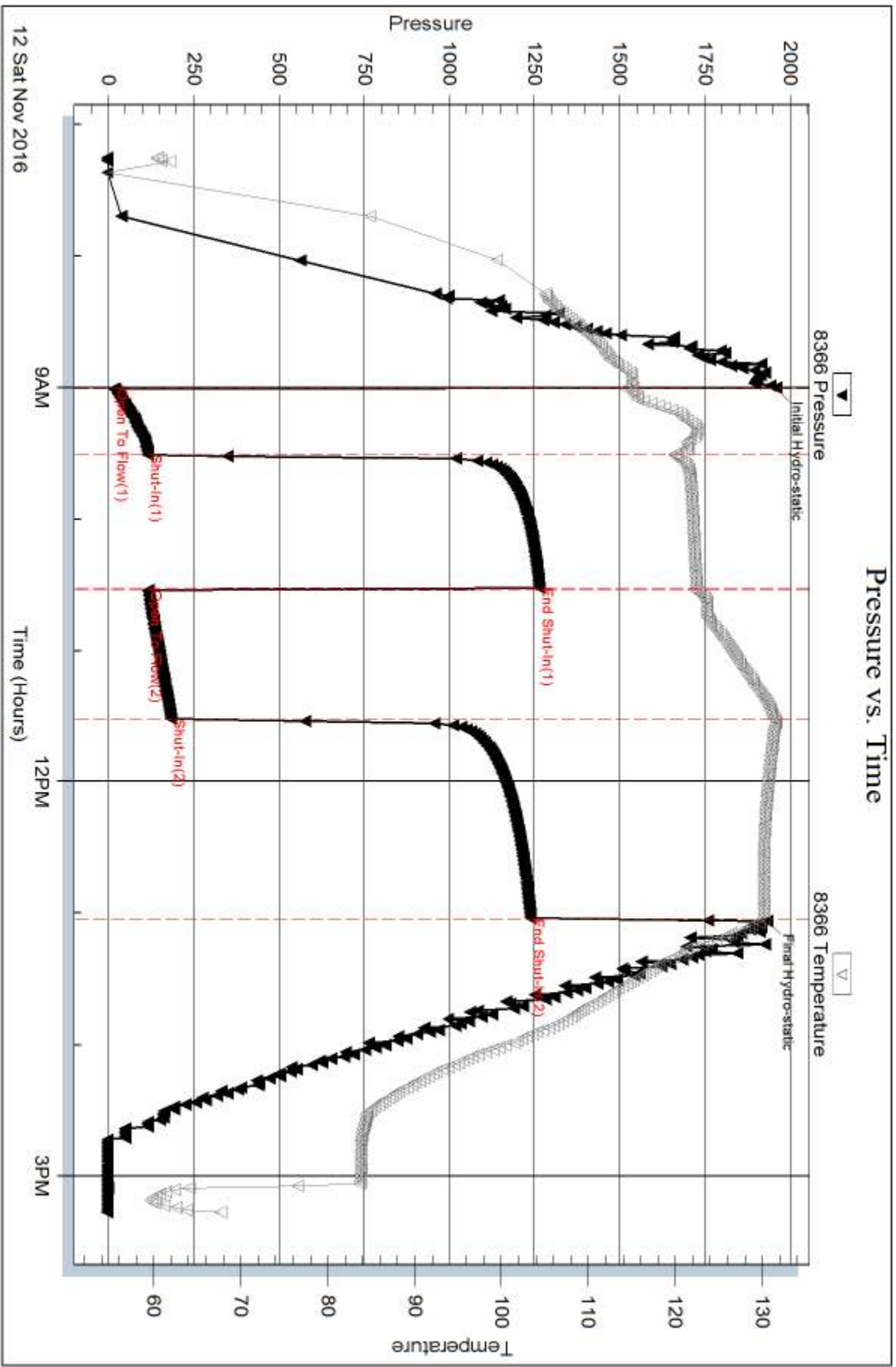
Length ft	Description	Volume bbl
124.00	MCW w /trace oil 71%w , 29%m	0.610
242.00	SO/WCM 70%m, 23%w , 5%g, 2%o	2.821
10.00	SWMCO 88%o, 8%m, 4%w	0.140

Total Length: 376.00 ft Total Volume: 3.571 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: Gravity = 23.2 api @ 70 deg F Corrected Gravity = 22.2 api
RW = .336 ohms @ 69.6 deg F Chlorides = 21,000 ppm



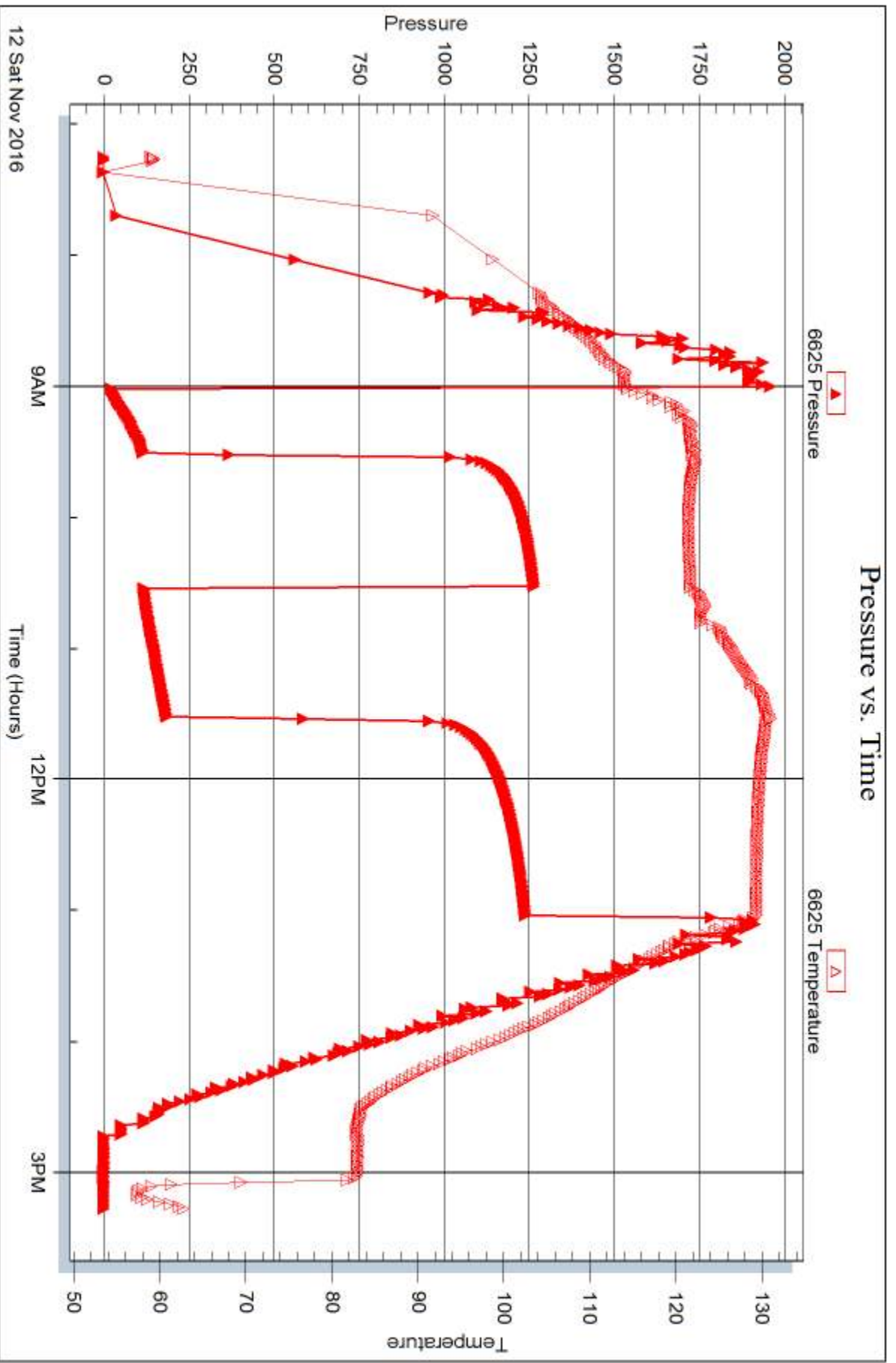
Serial #: 6625

Inside

Murfin Drilling Co., Inc.

Almut #1-15

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 61252

Printed: 2016.11.15 @ 16:49:37



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Rocky Milford

Almut #1-15

15-5s-32w Rawlins,KS

Start Date: 2016.11.13 @ 02:30:00

End Date: 2016.11.13 @ 10:53:15

Job Ticket #: 61253 DST #: 4

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

Printed: 2016.11.15 @ 16:49:12



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

15-5s-32w Rawlins,KS

250 N. Water STE 300
Wichita, KS 67202

Almut #1-15

Job Ticket: 61253

DST#: 4

ATTN: Rocky Milford

Test Start: 2016.11.13 @ 02:30:00

Tool Information

Drill Pipe:	Length: 3866.00 ft	Diameter: 3.80 inches	Volume: 54.23 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 187.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose: 66000.00 lb
			<u>Total Volume: 55.15 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	4070.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	44.00 ft			
Tool Length:	73.00 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			4042.00	
Shut In Tool	5.00			4047.00	
Hydraulic tool	5.00			4052.00	
Jars	5.00			4057.00	
Safety Joint	3.00			4060.00	
Packer	5.00			4065.00	29.00 Bottom Of Top Packer
Packer	5.00			4070.00	
Packer - Shale	0.00			4070.00	
Stubb	1.00			4071.00	
Recorder	0.00	6625	Inside	4071.00	
Recorder	0.00	8366	Outside	4071.00	
Perforations	7.00			4078.00	
Blank Spacing	33.00			4111.00	
Bullnose	3.00			4114.00	44.00 Bottom Packers & Anchor

Total Tool Length: 73.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

15-5s-32w Rawlins,KS

250 N. Water STE 300
Wichita, KS 67202

Almut #1-15

Job Ticket: 61253

DST#: 4

ATTN: Rocky Milford

Test Start: 2016.11.13 @ 02:30:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 61.00 sec/qt
Water Loss: 5.97 in³
Resistivity: ohm.m
Salinity: 700.00 ppm
Filter Cake: 2.00 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: 35 deg API
Water Salinity: ppm

Recovery Information

Recovery Table

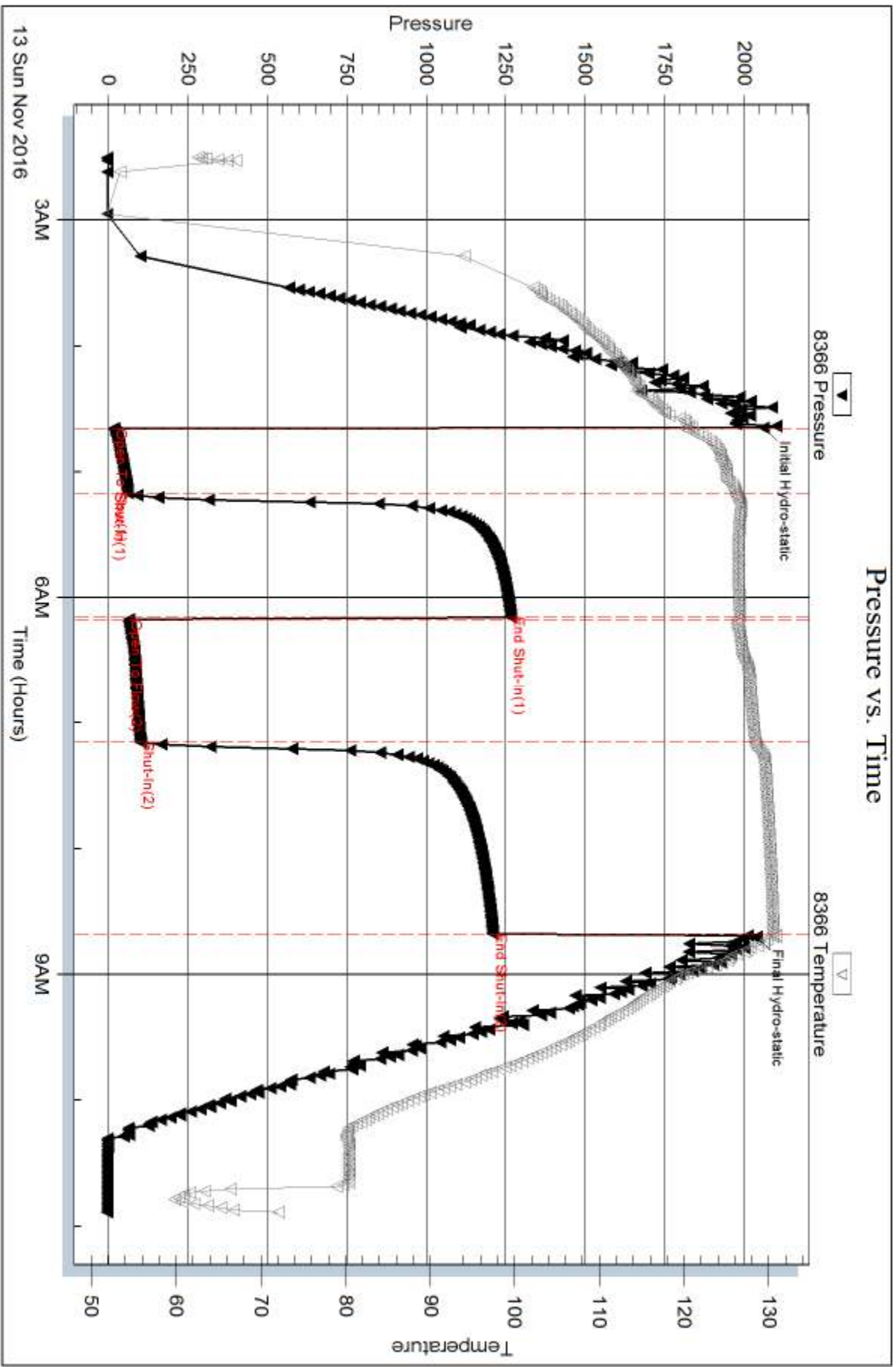
Length ft	Description	Volume bbl
93.00	GOM 48% <i>m</i> , 37% <i>o</i> , 15% <i>g</i>	0.457
31.00	MCO 86% <i>o</i> , 10% <i>m</i> , 4% <i>g</i>	0.152
93.00	GO 87% <i>o</i> , 11% <i>g</i> , 2% <i>m</i>	0.731
0.00	GIP = 280'+	0.000

Total Length: 217.00 ft Total Volume: 1.340 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: Gravity = 36.4 api @ 74 deg F
Corrected Gravity = 35 api



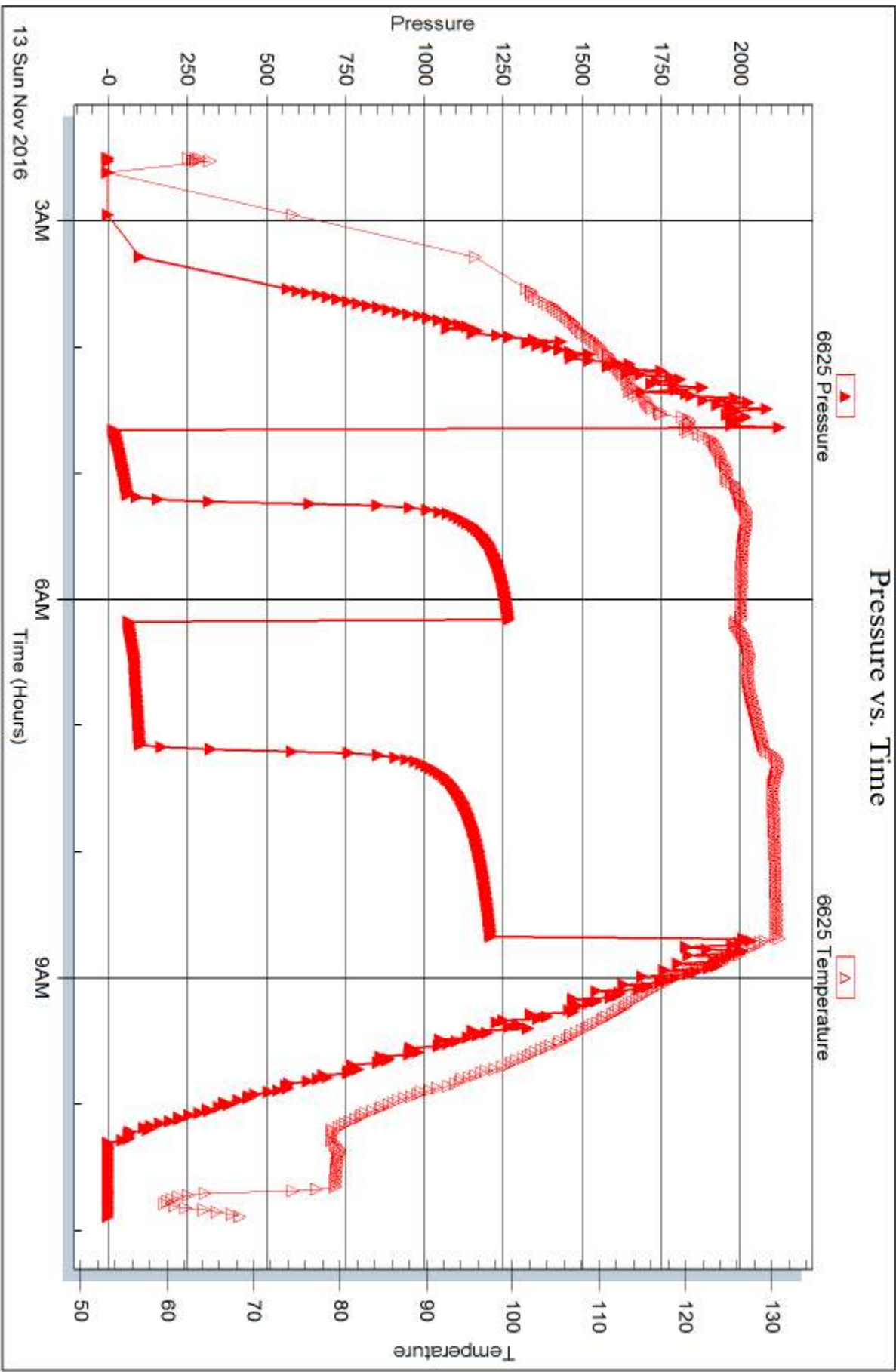
Serial #: 6625

Inside

Murfin Drilling Co., Inc.

Almut #1-15

DST Test Number: 4





DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Rocky Milford

Almut #1-15

15-5s-32w Rawlins,KS

Start Date: 2016.11.13 @ 20:28:00

End Date: 2016.11.14 @ 03:57:15

Job Ticket #: 61254 DST #: 5

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

Printed: 2016.11.15 @ 16:48:49



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

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

15-5s-32w Rawlins,KS

Almut #1-15

Job Ticket: 61254

DST#: 5

Test Start: 2016.11.13 @ 20:28:00

GENERAL INFORMATION:

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

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:15:45

Time Test Ended: 03:57:15

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

Interval: 4107.00 ft (KB) To 4171.00 ft (KB) (TVD)

Reference Elevations: 2955.00 ft (KB)

Total Depth: 4171.00 ft (KB) (TVD)

2950.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8366 Outside

Press@RunDepth: 26.19 psig @ 4108.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.11.13

End Date:

2016.11.14

Last Calib.: 2016.11.14

Start Time: 20:28:05

End Time:

03:57:14

Time On Btm: 2016.11.13 @ 22:15:30

Time Off Btm: 2016.11.14 @ 01:23:30

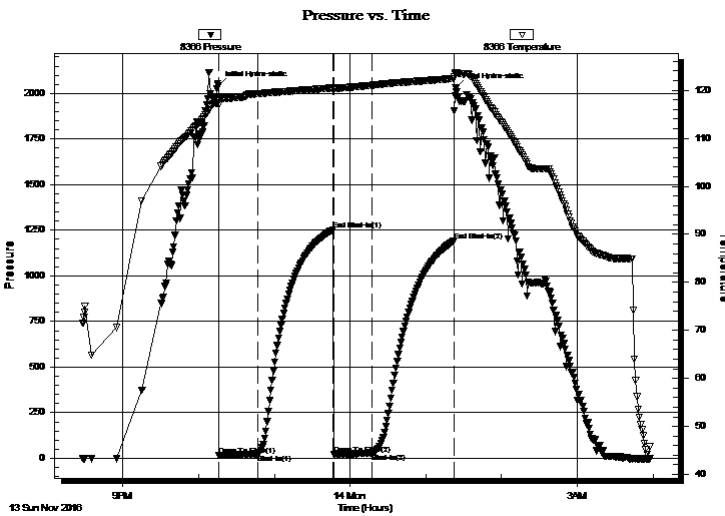
TEST COMMENT: 30 - IF: Blow built to 1 1/8"

60 - ISI: No blow back

30 - FF: No blow

60 - FSI: No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2042.40	117.87	Initial Hydro-static
1	15.83	116.90	Open To Flow (1)
31	20.65	119.24	Shut-In(1)
91	1252.29	120.50	End Shut-In(1)
92	23.09	120.13	Open To Flow (2)
122	26.19	121.03	Shut-In(2)
187	1190.56	122.43	End Shut-In(2)
188	2029.36	123.72	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud w/oil spots 97%m, 3%o	0.05

* 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.

15-5s-32w Rawlins, KS

250 N. Water STE 300
Wichita, KS 67202

Almut #1-15

Job Ticket: 61254

DST#: 5

ATTN: Rocky Milford

Test Start: 2016.11.13 @ 20:28:00

GENERAL INFORMATION:

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

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:15:45

Time Test Ended: 03:57:15

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

Interval: 4107.00 ft (KB) To 4171.00 ft (KB) (TVD)

Reference Elevations: 2955.00 ft (KB)

Total Depth: 4171.00 ft (KB) (TVD)

2950.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6625 Inside

Press@RunDepth: psig @ 4108.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.11.13

End Date:

2016.11.14

Last Calib.:

2016.11.14

Start Time: 20:28:05

End Time:

03:57:44

Time On Btm:

Time Off Btm:

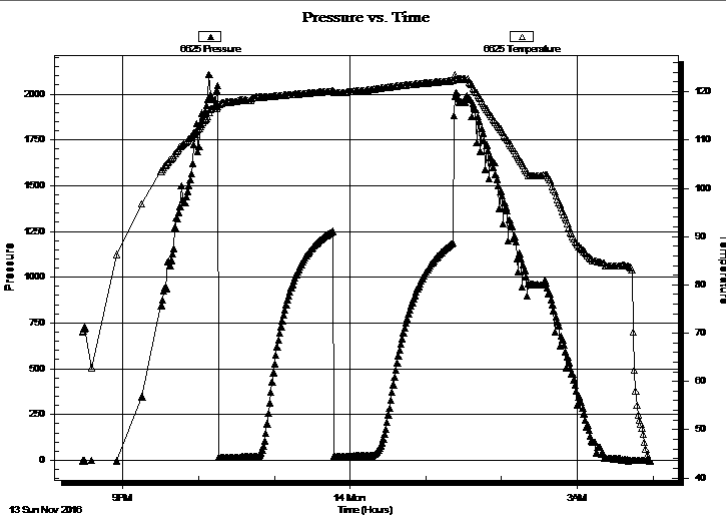
TEST COMMENT: 30 - IF: Blow built to 1 1/8"

60 - ISI: No blow back

30 - FF: No blow

60 - FSI: No blow back

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud w/oil spots 97% m, 3% o	0.05

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

15-5s-32w Rawlins,KS

250 N. Water STE 300
Wichita, KS 67202

Almut #1-15

Job Ticket: 61254

DST#: 5

ATTN: Rocky Milford

Test Start: 2016.11.13 @ 20:28:00

Tool Information

Drill Pipe:	Length: 3898.00 ft	Diameter: 3.80 inches	Volume: 54.68 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 187.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume: 55.60 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial	54000.00 lb
Depth to Top Packer:	4107.00 ft			Final	54000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	64.00 ft				
Tool Length:	93.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

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

Change Over Sub	1.00			4079.00	
Shut In Tool	5.00			4084.00	
Hydraulic tool	5.00			4089.00	
Jars	5.00			4094.00	
Safety Joint	3.00			4097.00	
Packer	5.00			4102.00	29.00 Bottom Of Top Packer
Packer	5.00			4107.00	
Stubb	1.00			4108.00	
Recorder	0.00	6625	Inside	4108.00	
Recorder	0.00	8366	Outside	4108.00	
Perforations	27.00			4135.00	
Blank Spacing	33.00			4168.00	
Bullnose	3.00			4171.00	64.00 Bottom Packers & Anchor

Total Tool Length: 93.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

15-5s-32w Rawlins,KS

250 N. Water STE 300
Wichita, KS 67202

Almut #1-15

Job Ticket: 61254

DST#: 5

ATTN: Rocky Milford

Test Start: 2016.11.13 @ 20:28:00

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: 63.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	Mud w /oil spots 97% _m , 3% _o	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0

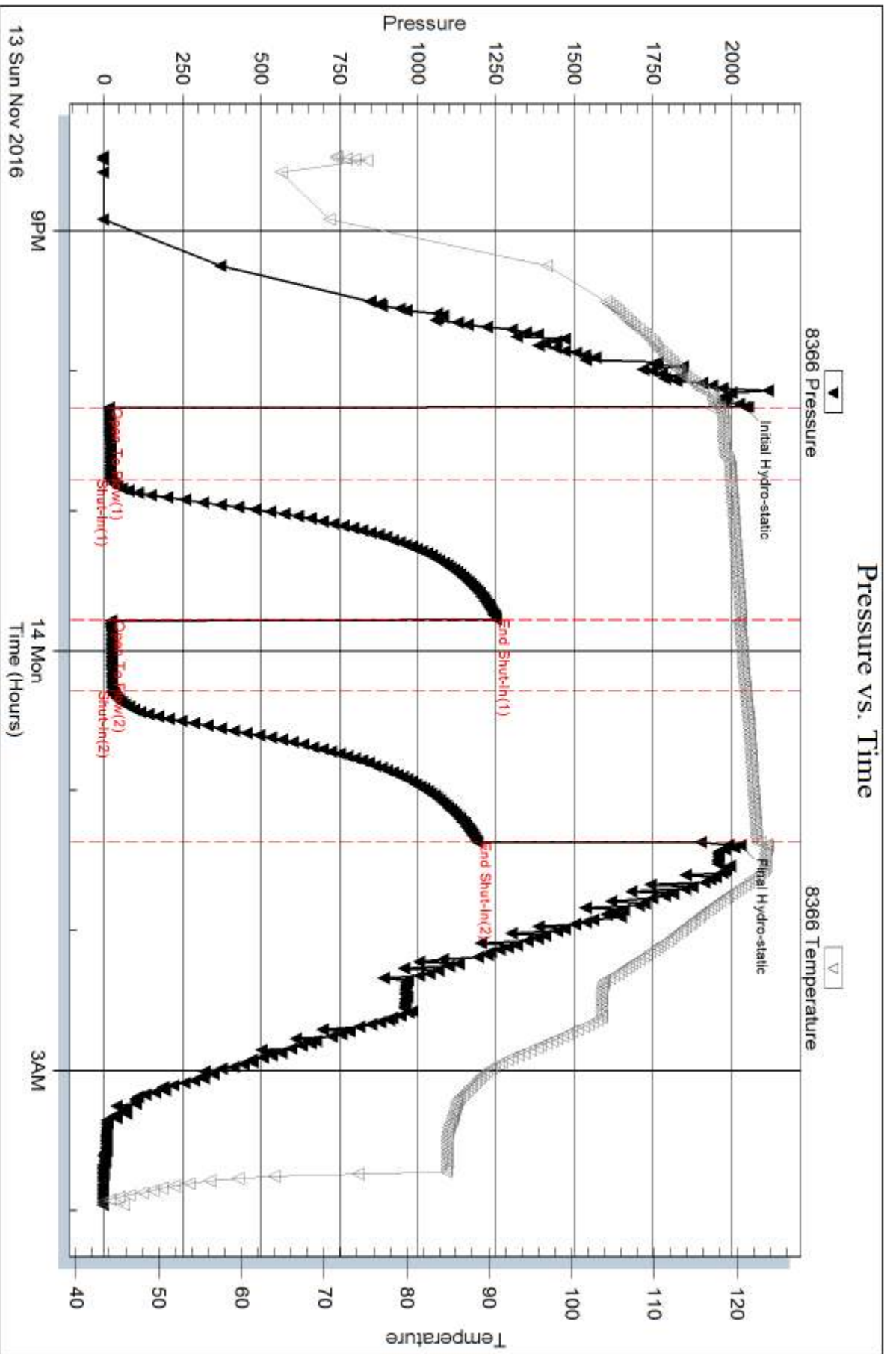
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



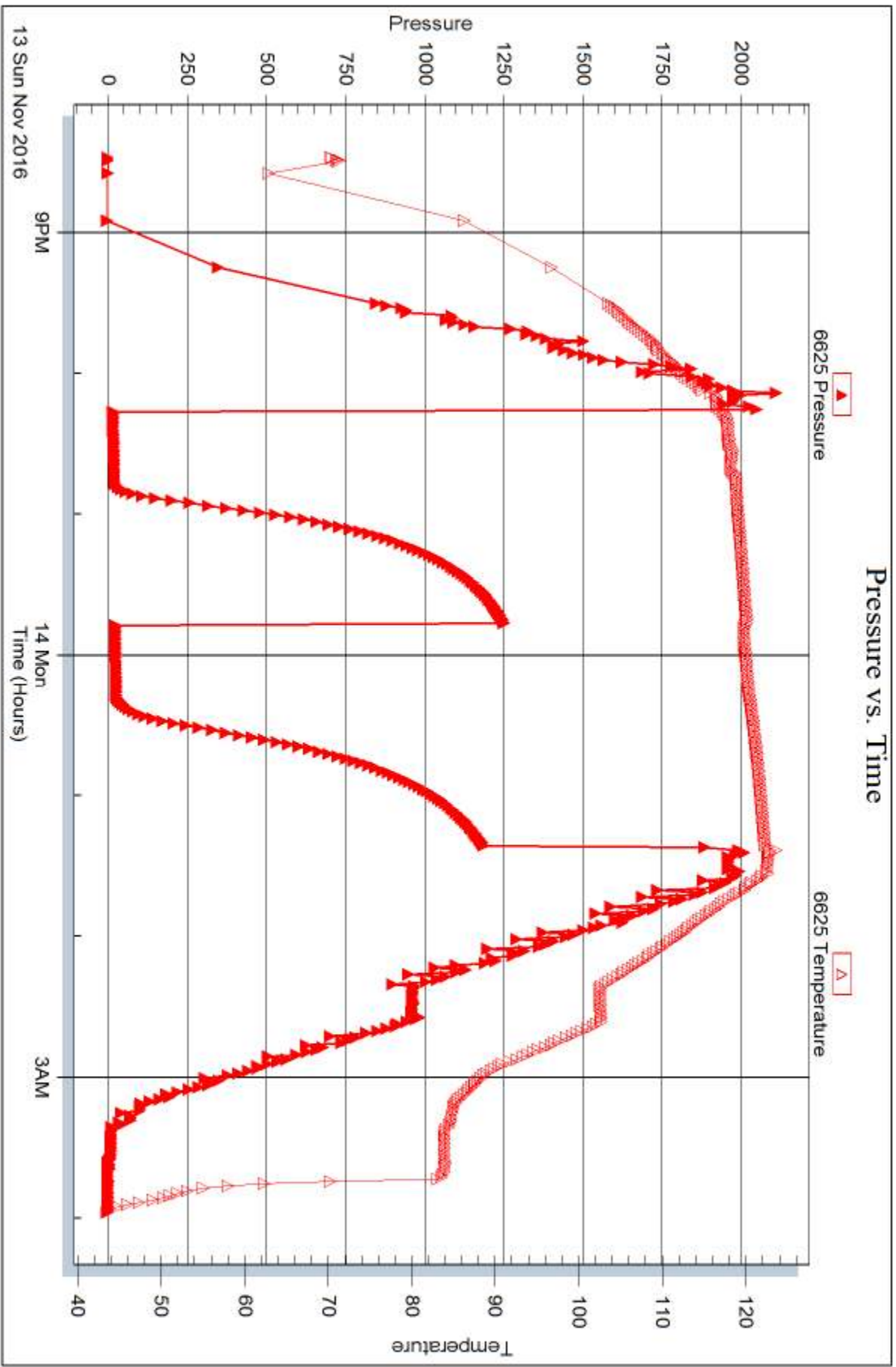
Serial #: 6625

Inside

Murfin Drilling Co., Inc.

Almut #1-15

DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 61254

Printed: 2016.11.15 @ 16:48:50



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Rocky Milford

Almut #1-15

15-5s-32w Rawlins,KS

Start Date: 2016.11.14 @ 19:47:00

End Date: 2016.11.15 @ 03:02:30

Job Ticket #: 61255 DST #: 6

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

Printed: 2016.11.15 @ 16:47:35



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

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

15-5s-32w Rawlins,KS

Almut #1-15

Job Ticket: 61255

DST#: 6

Test Start: 2016.11.14 @ 19:47:00

GENERAL INFORMATION:

Formation: **Ft. Scott**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:42:15

Time Test Ended: 03:02:30

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

Interval: 4298.00 ft (KB) To 4340.00 ft (KB) (TVD)

Reference Elevations: 2955.00 ft (KB)

Total Depth: 4340.00 ft (KB) (TVD)

2950.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8366 Outside

Press@RunDepth: 50.92 psig @ 4299.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.11.14

End Date:

2016.11.15

Last Calib.:

2016.11.15

Start Time: 19:47:05

End Time:

03:02:29

Time On Btm:

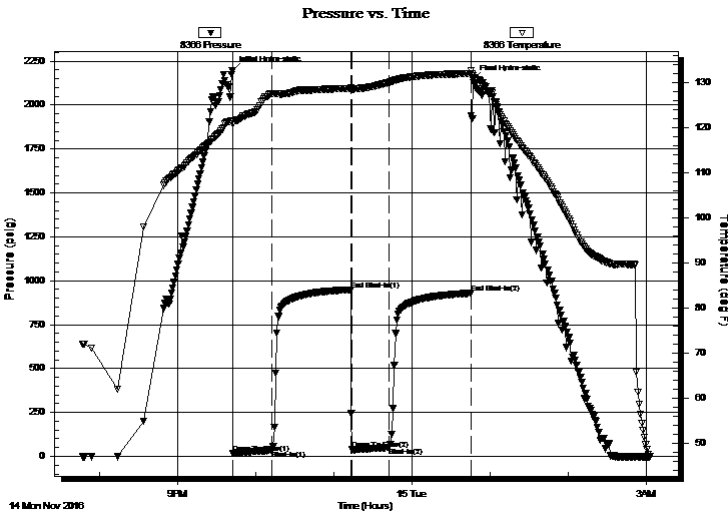
2016.11.14 @ 21:42:00

Time Off Btm:

2016.11.15 @ 00:46:45

TEST COMMENT: 30 - IF: 1/4" Blow at open, built to 2 1/4"
60 - IS: No blow back
30 - FF: Weak surface blow started at 27 min.
60 - FS: No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2197.58	121.54	Initial Hydro-static
1	16.70	120.73	Open To Flow (1)
31	34.33	127.50	Shut-In(1)
91	949.19	128.66	End Shut-In(1)
92	37.81	128.33	Open To Flow (2)
121	50.92	129.95	Shut-In(2)
183	929.29	131.94	End Shut-In(2)
185	2143.20	131.41	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	WCM 83% _m , 17% _w	0.30
5.00	WM 55% _m , 45% _w	0.02
0.00	trace of oil in tool	0.00

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

15-5s-32w Rawlins,KS

250 N. Water STE 300
Wichita, KS 67202

Almut #1-15

Job Ticket: 61255

DST#: 6

ATTN: Rocky Milford

Test Start: 2016.11.14 @ 19:47:00

Tool Information

Drill Pipe:	Length: 4087.00 ft	Diameter: 3.80 inches	Volume: 57.33 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 187.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose:	64000.00 lb
			<u>Total Volume: 58.25 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial	55000.00 lb
Depth to Top Packer:	4298.00 ft			Final	55000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	42.00 ft				
Tool Length:	71.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

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

Change Over Sub	1.00			4270.00	
Shut In Tool	5.00			4275.00	
Hydraulic tool	5.00			4280.00	
Jars	5.00			4285.00	
Safety Joint	3.00			4288.00	
Packer	5.00			4293.00	29.00 Bottom Of Top Packer
Packer	5.00			4298.00	
Stubb	1.00			4299.00	
Recorder	0.00	6625	Inside	4299.00	
Recorder	0.00	8366	Outside	4299.00	
Perforations	5.00			4304.00	
Blank Spacing	33.00			4337.00	
Bullnose	3.00			4340.00	42.00 Bottom Packers & Anchor

Total Tool Length: 71.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

15-5s-32w Rawlins,KS

250 N. Water STE 300
Wichita, KS 67202

Almut #1-15

Job Ticket: 61255

DST#: 6

ATTN: Rocky Milford

Test Start: 2016.11.14 @ 19:47:00

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:

12000 ppm

Viscosity: 65.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.56 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	WCM 83% _m , 17% _w	0.305
5.00	WM 55% _m , 45% _w	0.025
0.00	trace of oil in tool	0.000

Total Length: 67.00 ft Total Volume: 0.330 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

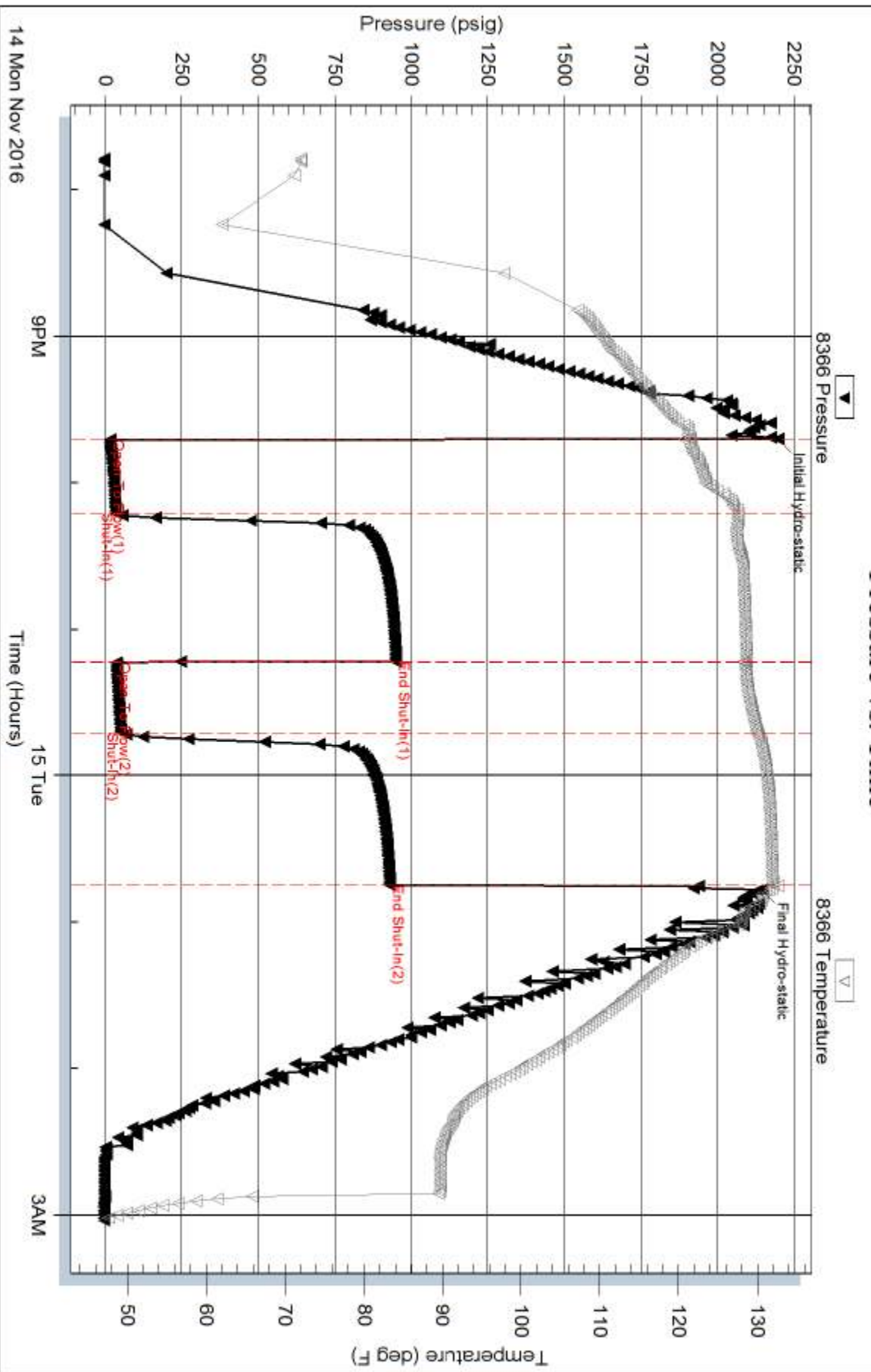
Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .889 ohms @ 43.5 deg F

Chlorides = 12,000 ppm

Pressure vs. Time



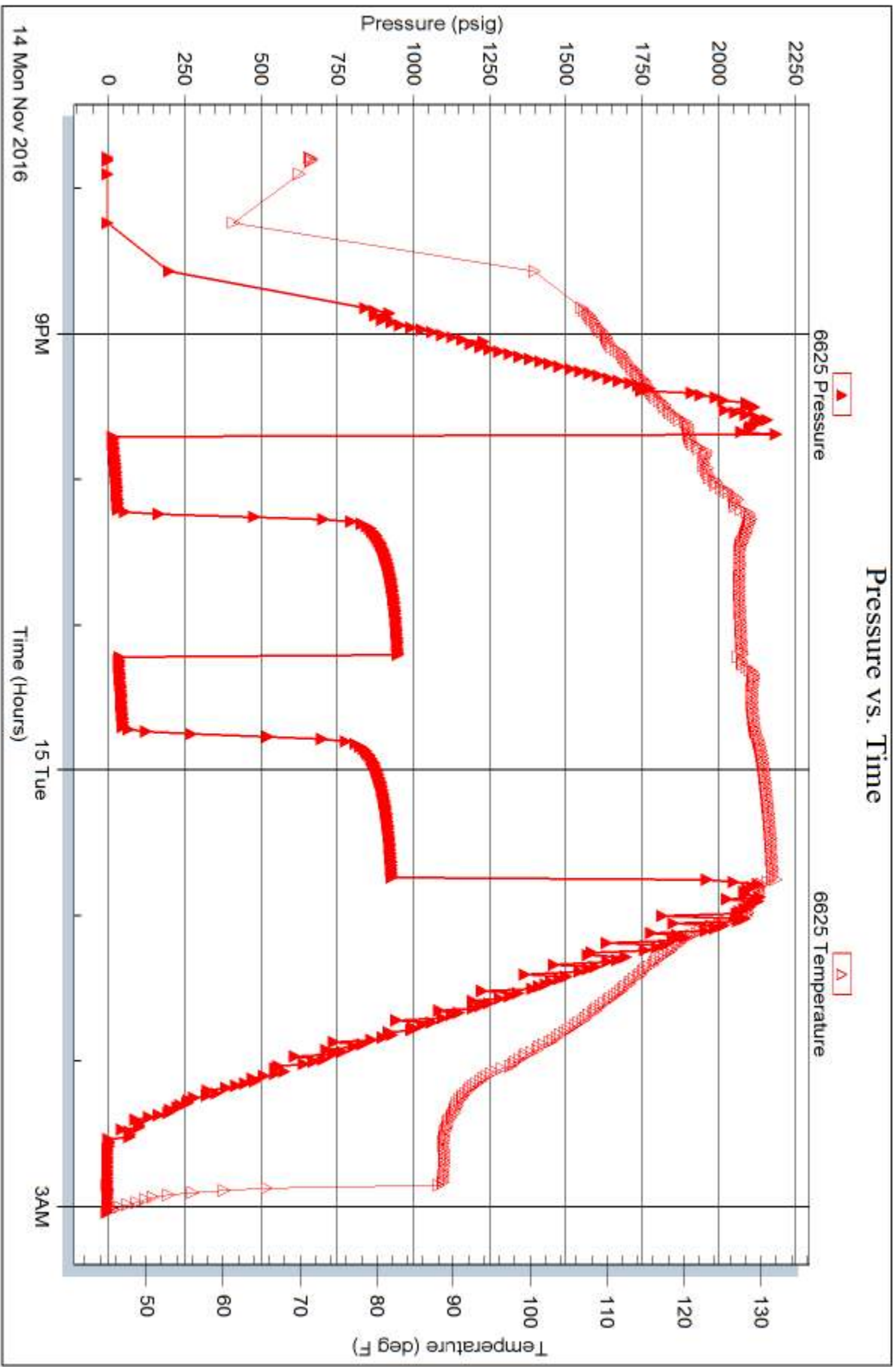
Serial #: 6625

Inside

Murfin Drilling Co., Inc.

Almut #1-15

DST Test Number: 6



Trilobite Testing, Inc

Ref. No: 61255

Printed: 2016.11.15 @ 16:47:38



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Rocky Milford

Almut #1-15

15/5s/32w Rawlins KS

Start Date: 2016.11.16 @ 05:17:00

End Date: 2016.11.16 @ 14:01:45

Job Ticket #: 61256 DST #: 7

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

Printed: 2016.11.16 @ 15:24:48



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

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

15/5s/32w Rawlins KS
Almut #1-15
 Job Ticket: 61256 **DST#: 7**
 Test Start: 2016.11.16 @ 05:17:00

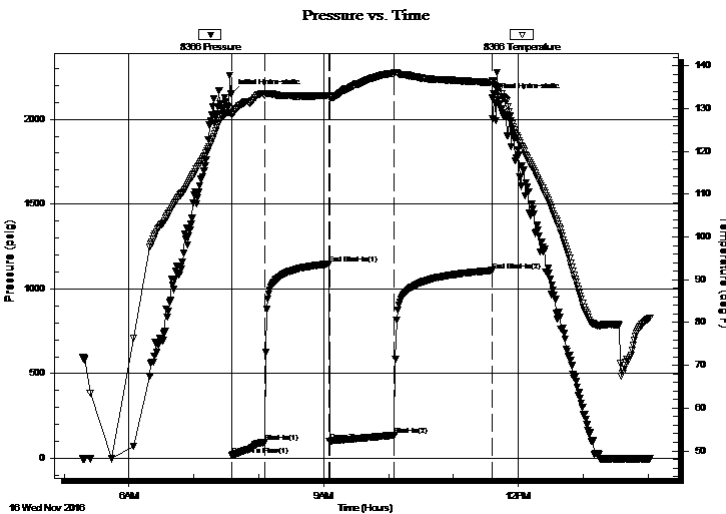
GENERAL INFORMATION:

Formation: **Upper Ft Scott**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 07:35:00
 Time Test Ended: 14:01:45
 Interval: **4264.00 ft (KB) To 4296.00 ft (KB) (TVD)**
 Total Depth: 4580.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Straddle (Reset)
 Tester: James Winder
 Unit No: 83
 Reference Elevations: 2955.00 ft (KB)
 2950.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8366 Outside
 Press@RunDepth: 136.63 psig @ 4265.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2016.11.16 End Date: 2016.11.16 Last Calib.: 2016.11.16
 Start Time: 05:17:05 End Time: 14:01:45 Time On Btm: 2016.11.16 @ 07:34:30
 Time Off Btm: 2016.11.16 @ 11:36:00

TEST COMMENT: 30 - IF: Blow built to 7" (had a surge around 20 min.)
 60 - IS: No blow back
 60 - FF: Blow built to 7 1/4"
 90 - FS: No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2152.71	129.09	Initial Hydro-static
1	17.88	128.54	Open To Flow (1)
31	97.05	133.11	Shut-In(1)
91	1147.26	132.95	End Shut-In(1)
91	99.35	132.62	Open To Flow (2)
151	136.63	138.27	Shut-In(2)
241	1107.68	136.03	End Shut-In(2)
242	2130.00	136.38	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
125.00	MCW 89%w, 11%m	0.61
62.00	MW 60%w, 40%m	0.30
62.00	WCM 75%m, 25%w	0.87
15.00	Mud 100%	0.21

* 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.

15/5s/32w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Almut #1-15

Job Ticket: 61256

DST#: 7

ATTN: Rocky Milford

Test Start: 2016.11.16 @ 05:17:00

GENERAL INFORMATION:

Formation: **Upper Ft Scott**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:35:00

Time Test Ended: 14:01:45

Test Type: Conventional Straddle (Reset)

Tester: James Winder

Unit No: 83

Interval: 4264.00 ft (KB) To 4296.00 ft (KB) (TVD)

Total Depth: 4580.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2955.00 ft (KB)

2950.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6625 Inside

Press@RunDepth: psig @ 4265.00 ft (KB)

Start Date: 2016.11.16

End Date: 2016.11.16

Capacity: 8000.00 psig

Last Calib.: 2016.11.16

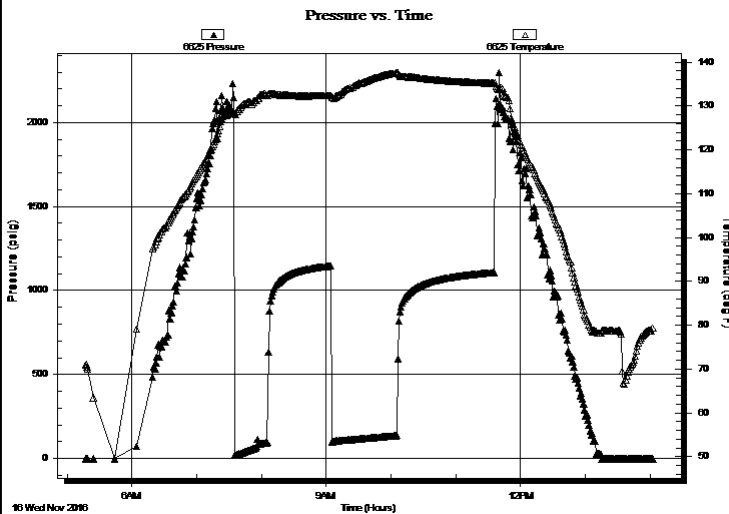
Start Time: 05:17:05

End Time: 14:02:15

Time On Btm:

Time Off Btm:

TEST COMMENT: 30 - IF: Blow built to 7" (had a surge around 20 min.)
60 - IS: No blow back
60 - FF: Blow built to 7 1/4"
90 - FS: No blow back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
125.00	MCW 89%w, 11%m	0.61
62.00	MW 60%w, 40%m	0.30
62.00	WCM 75%m, 25%w	0.87
15.00	Mud 100%	0.21

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

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

15/5s/32w Rawlins KS

Almut #1-15

Job Ticket: 61256 **DST#: 7**
Test Start: 2016.11.16 @ 05:17:00

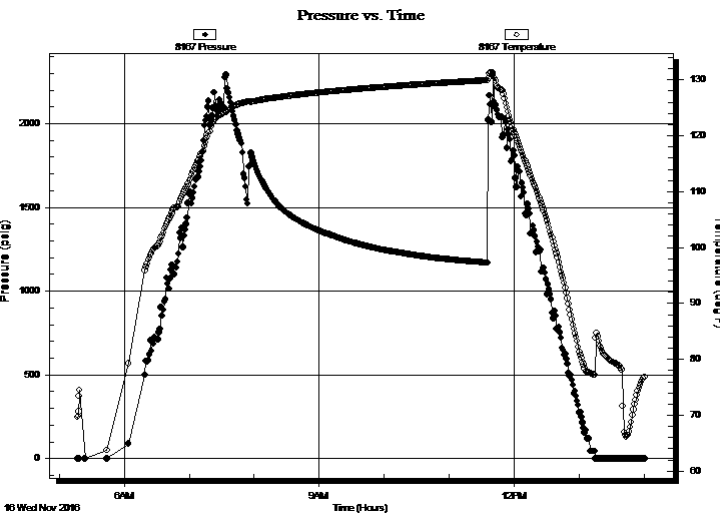
GENERAL INFORMATION:

Formation: **Upper Ft Scott**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 07:35:00
 Time Test Ended: 14:01:45
 Interval: **4264.00 ft (KB) To 4296.00 ft (KB) (TVD)**
 Total Depth: 4580.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Straddle (Reset)
 Tester: James Winder
 Unit No: 83
 Reference Elevations: 2955.00 ft (KB)
 2950.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8167 Below (Straddle)

Press@RunDepth: psig @ 4297.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2016.11.16 End Date: 2016.11.16 Last Calib.: 2016.11.16
 Start Time: 05:17:05 End Time: 14:00:45 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30 - IF: Blow built to 7" (had a surge around 20 min.)
 60 - IS: No blow back
 60 - FF: Blow built to 7 1/4"
 90 - FS: No blow back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
125.00	MCW 89%w, 11%m	0.61
62.00	MW 60%w, 40%m	0.30
62.00	WCM 75%m, 25%w	0.87
15.00	Mud 100%	0.21

* 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.

15/5s/32w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Almut #1-15

Job Ticket: 61256

DST#: 7

ATTN: Rocky Milford

Test Start: 2016.11.16 @ 05:17:00

Tool Information

Drill Pipe:	Length: 4055.00 ft	Diameter: 3.80 inches	Volume: 56.88 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 187.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose:	72000.00 lb
			<u>Total Volume: 57.80 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial	60000.00 lb
Depth to Top Packer:	4264.00 ft			Final	64000.00 lb
Depth to Bottom Packer:	4296.00 ft				
Interval between Packers:	32.00 ft				
Tool Length:	345.00 ft				
Number of Packers:	3	Diameter:	6.75 inches		

Tool Comments: tool settled down w hile on IF - had a surge around 20 min.

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4236.00	
Shut In Tool	5.00			4241.00	
Hydraulic tool	5.00			4246.00	
Jars	5.00			4251.00	
Safety Joint	3.00			4254.00	
Packer	5.00			4259.00	29.00 Bottom Of Top Packer
Packer	5.00			4264.00	
Packer - Shale	0.00			4264.00	
Stubb	1.00			4265.00	
Recorder	0.00	6625	Inside	4265.00	
Recorder	0.00	8366	Outside	4265.00	
Perforations	26.00			4291.00	
Blank Off Sub	1.00			4292.00	
Blank spacing	4.00			4296.00	32.00 Tool Interval
Packer	0.00			4296.00	
Packer - Shale	0.00			4296.00	
Stubb	1.00			4297.00	
Recorder	0.00	8167	Below	4297.00	
Perforations	24.00			4321.00	
Drill Pipe	256.00			4577.00	
Bullnose	3.00			4580.00	284.00 Bottom Packers & Anchor
Total Tool Length:	345.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

15/5s/32w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Almut #1-15

Job Ticket: 61256

DST#: 7

ATTN: Rocky Milford

Test Start: 2016.11.16 @ 05:17:00

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:

18000 ppm

Viscosity: 68.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.00 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
125.00	MCW 89%w , 11%m	0.615
62.00	MW 60%w , 40%m	0.305
62.00	WCM 75%m, 25%w	0.870
15.00	Mud 100%	0.210

Total Length: 264.00 ft Total Volume: 2.000 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

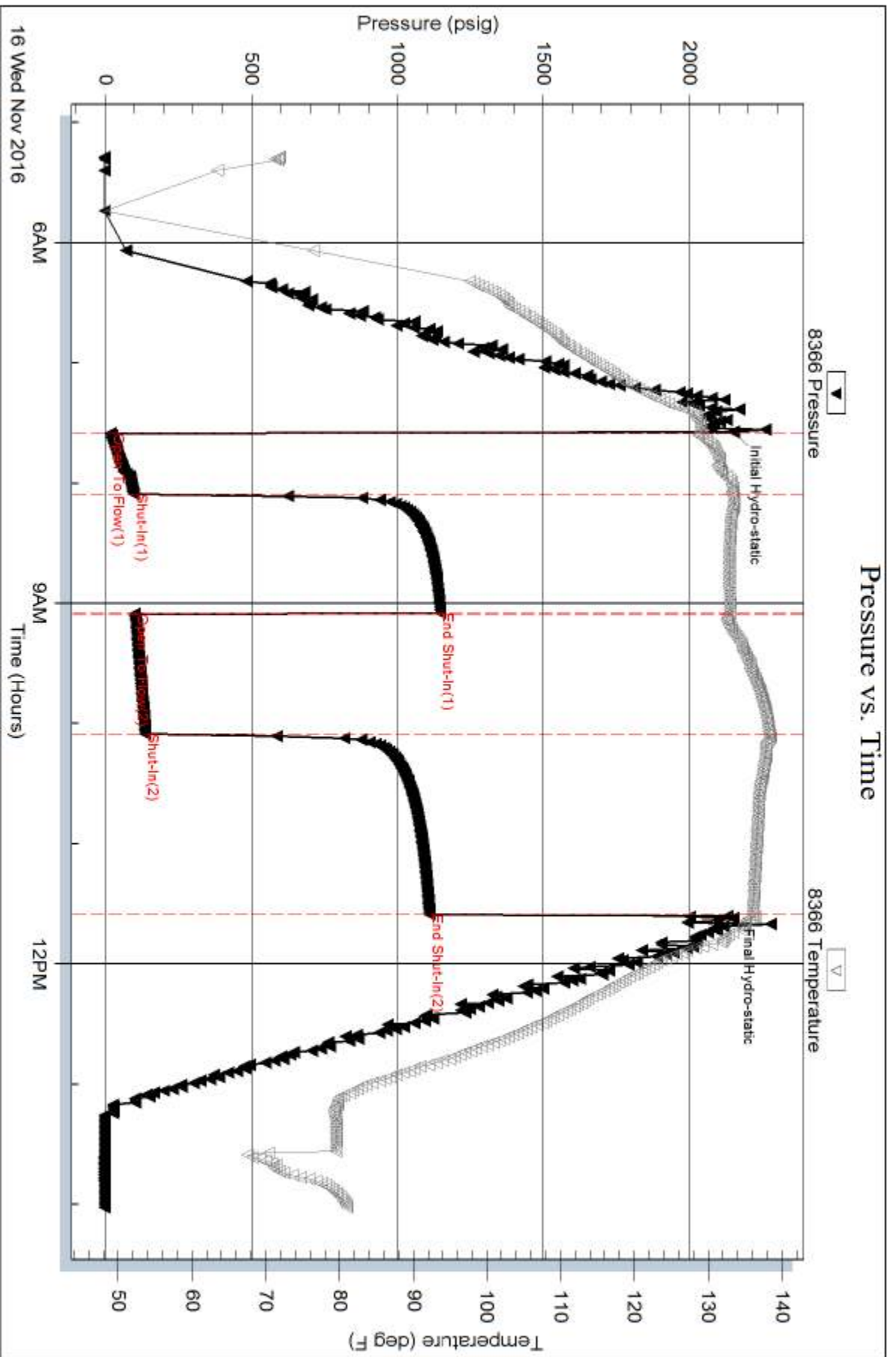
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .339 ohms @ 79.5 deg F

Chlorides = 18,000 ppm



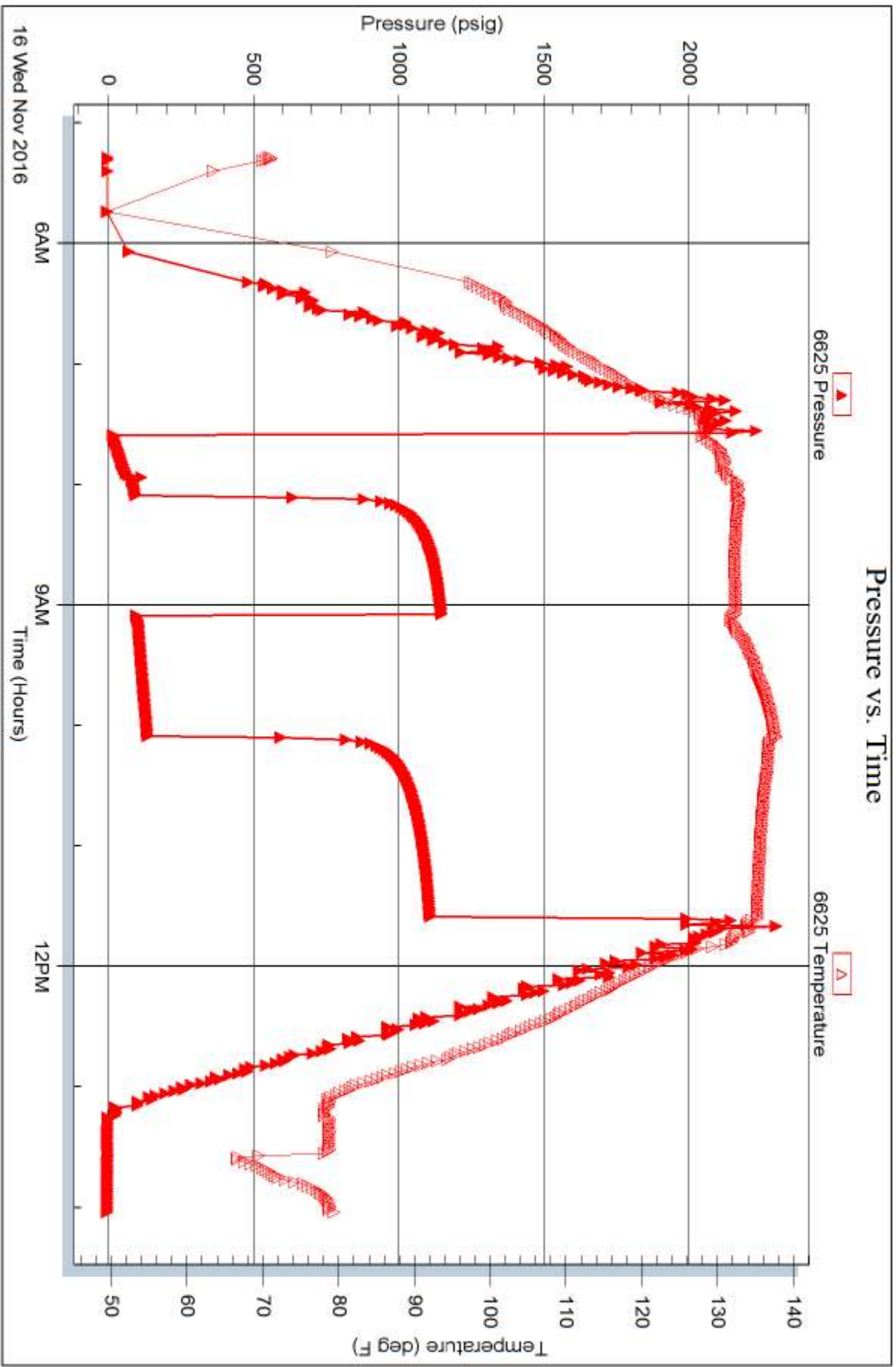
Serial #: 6625

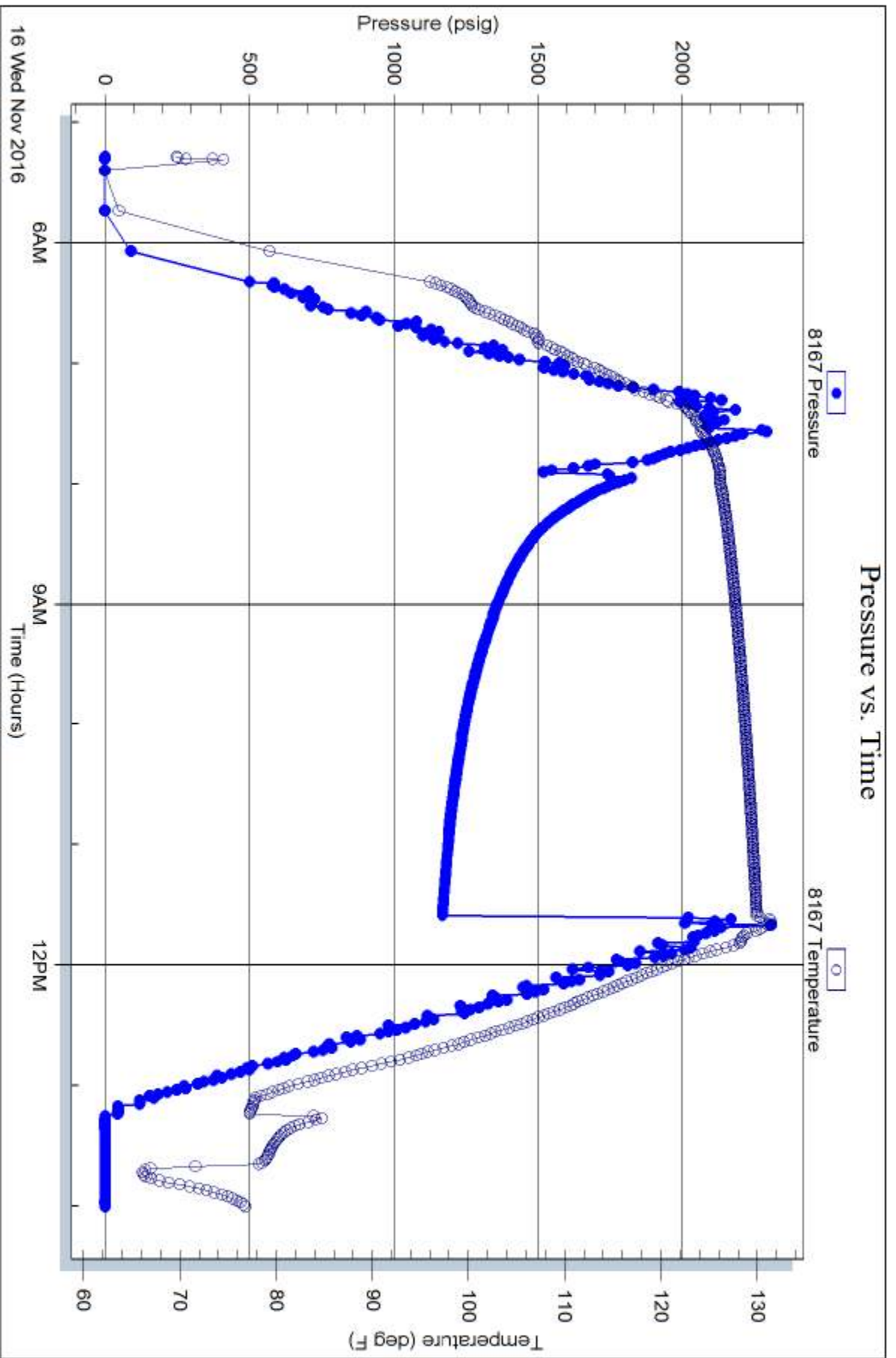
Inside

Murfin Drilling Co., Inc.

Almut #1-15

DST Test Number: 7







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **61200** 23348

Well Name & No. Almut #1-15 Test No. 1 Date 11-10-16
 Company Murfin Drilling Co Inc Elevation 2955 KB 2950 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Rocky Milford Rig Murfin #7
 Location: Sec. 15 Twp. 5s Rge. 32w Co. Rawlins State KS

Interval Tested 3916 - 3947 Zone Tested LKC "A"
 Anchor Length 31 Drill Pipe Run 3708 Mud Wt. 9.0
 Top Packer Depth 3911 Drill Collars Run 187 Vis 60
 Bottom Packer Depth 3916 (shale) Wt. Pipe Run - WL 5.6
 Total Depth 3947 Chlorides 600 ppm System LCM 4

Blow Description IF: Blow built to BOB(11") at 11 3/4 min.
ISI: No blowback
FF: Blow started at 1 1/4 min, built to BOB at 15 1/4 min.
FSI: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>125</u>	<u>MW</u>		<u>58</u>	<u>42</u>	
<u>190</u>	<u>MCW</u>		<u>83</u>	<u>17</u>	
<u>510</u>	<u>Water</u>		<u>98</u>	<u>2</u>	

Rec Total 825 BHT 133 Gravity _____ API RW 110 @ 37.7 °F Chlorides 150,000 ppm

(A) Initial Hydrostatic 1909 Test 1050 T-On Location 19:00 1/10
 (B) First Initial Flow 20 Jars 250 T-Started 20:27
 (C) First Final Flow 183 Safety Joint 75 T-Open 22:16
 (D) Initial Shut-In 1296 Circ Sub _____ T-Pulled 2:18
 (E) Second Initial Flow 187 Hourly Standby _____ T-Out 5:10 1/11
 (F) Second Final Flow 375 Mileage 72RT 54 Comments _____
 (G) Final Shut-In 1292 Sampler _____
 (H) Final Hydrostatic 1895 Straddle _____

Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Initial Open 30 Extra Packer _____
 Initial Shut-In 60 Extra Recorder _____
 Final Flow 60 Day Standby _____
 Final Shut-In 90 Accessibility _____
 Sub Total 1679 Total 1679 MP/DST Disc't _____

Approved By Rocky Milford

Our Representative James Winder

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 61251

Well Name & No. Almut #1-15 Test No. 2 Date 11-11-16
 Company Murfin Drilling Co Inc Elevation 2955 KB 2950 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Rocky Milford Rig Murfin #7
 Location: Sec. 15 Twp. 5s Rge. 32w Co. Rawlins State KS

Interval Tested 3941 - 3985 Zone Tested LKC "B-D"
 Anchor Length 44 Drill Pipe Run 3739 Mud Wt. 8.9
 Top Packer Depth 3936 Drill Collars Run 187 Vis 59
 Bottom Packer Depth 3941 (shale) Wt. Pipe Run - WL 6.0
 Total Depth 3985 Chlorides 700 ppm System LCM 3

Blow Description IF: Blow built to 1 1/4", slowly died back to 1" at close
ISI: No blowback
FF: No blow
FSI: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>Mud w/oil spots</u>	<u>1</u>		<u>99</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 15 BHT 121 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1939 Test 1050 T-On Location 13:10
 (B) First Initial Flow 21 Jars 250 T-Started 14:15
 (C) First Final Flow 27 Safety Joint 75 T-Open 16:02
 (D) Initial Shut-In 517 Circ Sub _____ T-Pulled 19:05
 (E) Second Initial Flow 28 Hourly Standby _____ T-Out 21:00
 (F) Second Final Flow 30 Mileage 72RT 54 Comments _____
 (G) Final Shut-In 377 Sampler _____
 (H) Final Hydrostatic 1921 Straddle _____

Ruined Shale Packer _____
 Ruined Packer _____
 Extra Packer _____
 Extra Copies _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1679 MP/DST Disc't _____

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

Approved By Rocky Milford Our Representative James Winder
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 61252

Well Name & No. Almut #1-15 Test No. 3 Date 11-12-16
 Company Murfin Drilling Co Inc Elevation 2955 KB 2950 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Rocky Milford Rig Murfin #7
 Location: Sec. 15 Twp. 5s Rge. 32w Co. Rawlins State KS

Interval Tested 3982 - 4024 Zone Tested LKC "E-G"
 Anchor Length 42 Drill Pipe Run 3771 Mud Wt. 9.0
 Top Packer Depth 3977 Drill Collars Run 187 Vis 62
 Bottom Packer Depth 3982 Wt. Pipe Run - WL 6.0
 Total Depth 4024 Chlorides 700 ppm System LCM 3

Blow Description IF: Blow built to BOB (11") at 30 min.
ISI: No blowback
FF: Blow built to BOB at 36 1/2 min.
FSI: Weak surface blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>SWMC0</u>	<u>88</u>	<u>4</u>	<u>8</u>	
<u>242</u>	<u>SO/WCM</u>	<u>5</u>	<u>23</u>	<u>70</u>	
<u>124</u>	<u>mcw w/trace oil</u>	<u>trace</u>	<u>71</u>	<u>29</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 376 BHT 130 Gravity 22.2 API RW .336 @ 69.6 °F Chlorides 21,000 ppm

(A) Initial Hydrostatic 1958 Test 1150 T-On Location 6:00
 (B) First Initial Flow 18 Jars 250 T-Started 7:15
 (C) First Final Flow 117 Safety Joint 75 T-Open 9:00
 (D) Initial Shut-In 1265 Circ Sub _____ T-Pulled 13:02
 (E) Second Initial Flow 117 Hourly Standby _____ T-Out 15:10
 (F) Second Final Flow 184 Mileage 72 RT 54 Comments _____
 (G) Final Shut-In 1239 Sampler _____
 (H) Final Hydrostatic 1932 Straddle _____

Initial Open 30 Ruined Shale Packer _____
 Initial Shut-In 60 Ruined Packer _____
 Final Flow 60 Extra Packer _____
 Final Shut-In 90 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1529 Total 1529 MP/DST Disc't _____

Approved By Rocky Milford Our Representative James Winder
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 61253

Well Name & No. Almut #1-15 Test No. 4 Date 11-13-16
 Company Murfin Drilling Co, Inc Elevation 2955 KB 2950 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Rocky Milford Rig Murfin #7
 Location: Sec. 15 Twp. 5s Rge. 32w Co. Rawlins State KS

Interval Tested 4070 - 4014 Zone Tested LKC "J"
 Anchor Length 44 Drill Pipe Run 3866 Mud Wt. 9.0
 Top Packer Depth 4065 Drill Collars Run 187 Vis 61
 Bottom Packer Depth 4070 (shale) Wt. Pipe Run - WL 6.0
 Total Depth 4014 Chlorides 700 ppm System LCM 4

Blow Description IF: Blow built to 10 1/2"
ISI: Weak surface blowback for a few minutes then dead
FF: Blow built to BOB (11") at 29 1/4 minutes
FSI: Weak surface blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>93</u>	<u>GO</u>	<u>11</u>	<u>87</u>	<u>2</u>	<u>0</u>
<u>31</u>	<u>MCO</u>	<u>4</u>	<u>86</u>	<u>10</u>	<u>0</u>
<u>93</u>	<u>60M</u>	<u>15</u>	<u>37</u>	<u>48</u>	<u>0</u>
<u>5IP = 280'</u>					

Rec Total 217 BHT 131 Gravity 35 API RW @ ° F Chlorides ppm

(A) Initial Hydrostatic 2063 Test 1150 T-On Location 1:15
 (B) First Initial Flow 18 Jars 250 T-Started 2:30
 (C) First Final Flow 62 Safety Joint 75 T-Open 4:39
 (D) Initial Shut-In 1268 Circ Sub _____ T-Pulled 8:40
 (E) Second Initial Flow 65 Hourly Standby _____ T-Out 10:45
 (F) Second Final Flow 101 Mileage 72 RT 54 Comments _____
 (G) Final Shut-In 1211 Sampler _____
 (H) Final Hydrostatic 2040 Straddle _____

Ruined Shale Packer _____
 Ruined Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1779 MP/DST Disc't _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90
 Approved By Rocky Milford Our Representative James Winder

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 61254

Well Name & No. Almut #1-15 Test No. 5 Date 11-13-16
 Company Murfin Drilling Co. Inc Elevation 2955 KB 2950 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Rocky Milford Rig Murfin #7
 Location: Sec. 15 Twp. 5s Rge. 32w Co. Rawlins State KS

Interval Tested 4107 - 4171 Zone Tested LKC "K-L"
 Anchor Length 64 Drill Pipe Run 3898 Mud Wt. 9.0
 Top Packer Depth 4102 Drill Collars Run 187 Vis 63
 Bottom Packer Depth 4107 Wt. Pipe Run - WL 6.4
 Total Depth 4171 Chlorides 1000 ppm System LCM 4

Blow Description IF: Blow built to 1 1/8"
ISI: No blowback
FF: No blow
FSI: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>Mud w/oil spots</u>		<u>3</u>		<u>97</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 122 Gravity _____ API RW _____ @ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic 2042 Test 1150 T-On Location 19:20 1/13
 (B) First Initial Flow 16 Jars 250 T-Started 20:28
 (C) First Final Flow 21 Safety Joint 75 T-Open 22:15
 (D) Initial Shut-In 1252 Circ Sub _____ T-Pulled 1:22
 (E) Second Initial Flow 23 Hourly Standby _____ T-Out 3:55 1/14
 (F) Second Final Flow 26 Mileage 72 RT 54 Comments _____
 (G) Final Shut-In 1191 Sampler _____
 (H) Final Hydrostatic 2029 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

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

Sub Total 0
 Total 1529
 MP/DST Disc't _____

Approved By Rocky Milford Our Representative James Winder
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 61255

4/10

Well Name & No. Almut #1-15 Test No. 6 Date 11-14-16
 Company Murfin Drilling Co. Inc Elevation 2955 KB 2950 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Rocky Milford Rig Murfin #7
 Location: Sec. 15 Twp. 5S Rge. 32W Co. Rawlins State KS

Interval Tested 4298 - 4340 Zone Tested Ft. Scott
 Anchor Length 42 Drill Pipe Run 4087 Mud Wt. 9.1
 Top Packer Depth 4293 Drill Collars Run 187 Vis 65
 Bottom Packer Depth 4298 Wt. Pipe Run - WL 5.6
 Total Depth 4340 Chlorides 1000 ppm System LCM 3
 Blow Description IF: 1/4" Blow at open, built to 2 1/4"
ISI: No blowback
FF: Weak surface blow started at 27 min.
FSI: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>WM</u>		<u>45</u>	<u>55</u>	
<u>62</u>	<u>Wcm</u>		<u>17</u>	<u>83</u>	
	<u>trace of oil in tool</u>				

Rec Total 67 BHT 132 Gravity API RW .889 @ 43.5 °F Chlorides 12,000 ppm
 (A) Initial Hydrostatic 2198 Test 1150 T-On Location 19:10 1/14
 (B) First Initial Flow 17 Jars 250 T-Started 19:47
 (C) First Final Flow 34 Safety Joint 75 T-Open 21:42
 (D) Initial Shut-In 949 Circ Sub _____ T-Pulled 00:45
 (E) Second Initial Flow 38 Hourly Standby _____ T-Out 3:00 1/15
 (F) Second Final Flow 51 Mileage 72 RTXJ 54+54 Comments _____
 (G) Final Shut-In 929 Sampler _____
 (H) Final Hydrostatic 2143 Straddle _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1583 MP/DST Disc't _____

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

Approved By Rocky Milford

Our Representative James Winkler

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 61256

4/10

Well Name & No. Almut # 1-15 Test No. 7 Date 11-16-17
 Company Murfin Drilling Co. Inc Elevation 2955 KB 2950 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Rocky Milford Rig Murfin #7
 Location: Sec. 15 Twp. 5s Rge. 32w Co. Rawlins State KS

Interval Tested 4264-4296 Zone Tested UPPER Ft Scott
 Anchor Length 32 Anchor 284 Tail Drill Pipe Run 4055 Mud Wt. 9.1
 Top Packer Depth 4259-4264 (shale) Drill Collars Run 187 Vis 68
 Bottom Packer Depth 4296 (shale) Wt. Pipe Run - WL 6.0
 Total Depth 4580 Chlorides 1000 ppm System LCM 3

Blow Description IF: Blow built to 7' (had a surge around 20min)
ISI: No blowback
FF: Blow built to 7 1/4"
FSI: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>Mud</u>			<u>100</u>	
<u>63</u>	<u>wcm</u>		<u>25</u>	<u>75</u>	
<u>62</u>	<u>62 mw</u>		<u>60</u>	<u>40</u>	
<u>125</u>	<u>mcw</u>		<u>89</u>	<u>11</u>	
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 265 BHT 136 Gravity API RW 339 @ 79.5° F Chlorides 18,000 ppm

(A) Initial Hydrostatic <u>2153</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>4:40</u>
(B) First Initial Flow <u>18</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>5:17</u>
(C) First Final Flow <u>97</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>7:35</u>
(D) Initial Shut-In <u>1147</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>11:35</u>
(E) Second Initial Flow <u>99</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>13:55</u>
(F) Second Final Flow <u>137</u>	<input checked="" type="checkbox"/> Mileage <u>72 RT 54</u>	Comments <u>tool settled down</u>
(G) Final Shut-In <u>1108</u>	<input type="checkbox"/> Sampler	<u>while on IF-had a surge</u>
(H) Final Hydrostatic <u>2130</u>	<input checked="" type="checkbox"/> Straddle <u>600</u>	<u>around 20 min.</u>
Initial Open <u>30</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility	Total <u>2379</u>
	Sub Total <u>2379</u>	MP/DST Disc't

Approved By Rocky Milford

Our Representative Janus Winkler

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ALLIED OFS, LLC

Federal Tax I.D. #81-2169190

68210

REMIT TO: Allied Ofs, LLC
P.O. Box 205803
Dallas, TX 75320-5803

SERVICE POINT:

De Key

DATE <u>11-2-16</u>	SEC. <u>15</u>	TWP. <u>5S</u>	RANGE <u>32W</u>	CALLED OUT	ON LOCATION <u>5:30 PM</u>	JOB START <u>7:30 AM</u>	JOB FINISH <u>8:30 AM</u>
LEASE <u>Almut</u>	WELL# <u>1-15</u>	LOCATION <u>Gem 13N E+N into</u>		COUNTY <u>Polk</u>	STATE <u>KS</u>		
OLD OR NEW (Circle one)							

CONTRACTOR Murfin 7
 TYPE OF JOB Surface
 HOLE SIZE 12 1/4 T.D. 210'
 CASING SIZE 8 5/8 DEPTH 210.78'
 TUBING SIZE DEPTH
 DRILL PIPE DEPTH
 TOOL DEPTH
 PRES. MAX MINIMUM
 MEAS. LINE SHOE JOINT
 CEMENT LEFT IN CSG. 15'
 PERFS.
 DISPLACEMENT 12.47 BBL

OWNER same
 CEMENT
 AMOUNT ORDERED 130 sbs com 3% cc
2 1/2 gal

COMMON 130 sbs @ 12.90 2327.00
 POZMIX @
 GEL 244# @ 1.05 256.20
 CHLORIDE 367# @ 1.10 403.70
 ASC @
 @
 @
 @
 @
 @
 @

EQUIPMENT
 PUMP TRUCK CEMENTER Andrew Fairhead
 # 566-281 HELPER Kevin Ryan
 BULK TRUCK
 # 891 DRIVER Jade Mitten
 BULK TRUCK
 # DRIVER

TOTAL 2,986.90

DISCOUNT 52% 1,553.18

REMARKS:

Circulated 2 BBL TO PIT
Thank you

SERVICE

HANDLING 141 cu/ft @ 2.48 349.68
 MILEAGE 2.25 ton/mile 7 ton 673.75
 DEPTH OF JOB 210.78'
 PUMP TRUCK CHARGE 1512.25
 EXTRA FOOTAGE @
 HV MILEAGE 35 miles @ 7.20 252.00
 LV MILEAGE 35 miles @ 4.40 154.00

TOTAL 2,959.18

DISCOUNT 52% 1,538.78

CHARGE TO: Murfin
 STREET
 CITY STATE ZIP

PLUG & FLOAT EQUIPMENT

8 1/2
2 Centralizers @ 75.00 150.00
 @
 @
 @
 @

TOTAL 150.00

DISCOUNT 52% 78.00

To: Allied Ofs, 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 KELLY WILSON
 SIGNATURE Kelly Wilson

SALES TAX (If Any)
 TOTAL CHARGES 6,096.08
 DISCOUNT 3,169.96 (52%) IF PAID IN 30 DAYS
 NET TOTAL 2,926.11 IF PAID IN 30 DAYS



ALLIED OFS, LLC

Federal Tax I.D. #81-2169190

219.32
68184
14.62

REMIT TO: Allied OFS, LLC
P.O. Box 205803
Dallas, TX 75320-5803

SERVICE POINT: Daddy K

DATE <u>11/16/14</u>	SEC. <u>15</u>	TWP. <u>5</u>	RANGE <u>22</u>	CALLED OUT	ON LOCATION	JOB START <u>9:00</u>	JOB FINISH <u>10:00</u>
LEASE <u>Alpert</u>	WELL # <u>1-15</u>	LOCATION <u>Com 13 N E 0 N 14</u>	COUNTY <u>Haskell</u>	STATE <u>OK</u>			
OLD OR NEW (Circle one)							

CONTRACTOR Murfin
 TYPE OF JOB PIP
 HOLE SIZE 8 5/8 T.D.
 CASING SIZE 8 5/8 DEPTH 210'
 TUBING SIZE DEPTH
 DRILL PIPE DEPTH
 TOOL DEPTH
 PRES. MAX MINIMUM
 MEAS. LINE SHOE JOINT
 CEMENT LEFT IN CSG.
 PERFS.
 DISPLACEMENT

OWNER Sum
 CEMENT
 AMOUNT ORDERED 255 60/40 40 mel
14 PDS

EQUIPMENT
 PUMP TRUCK CEMENTER Alan Ryan
 # 417 HELPER Walt
 BULK TRUCK # 457 DRIVER Walt
 # 201-580 DRIVER Tom Brown
 BULK TRUCK
 # DRIVER Robert Smith, Lewis

COMMON 255 @ 18.92 = 4824.60
 POZMIX @
 GEL @
 CHLORIDE @
 ASC @
Pro Seal 64 @ 2.97 = 190.68
 TOTAL 5,014.88

REMARKS:
50 SK 2671
100 SK 1800
50 SK 700
10 SK 40'
30 SK R 17
15 SK MH

DISCOUNT 52% 2,607.63
 SERVICE
 HANDLING 274.05 @ 40 = 629.52
 MILEAGE 25 mel/mile 11-4 700 1097.25
 DEPTH OF JOB
 PUMP TRUCK CHARGE 2483.50
 EXTRA FOOTAGE @
 HV MILEAGE 35 @ 7.20 = 269.50
 LV MILEAGE 35 @ 4.80 = 154.00
 TOTAL 4,683.77
 DISCOUNT 52% 2,435.56

CHARGE TO Murfin Drilling
 STREET
 CITY STATE ZIP

PLUG & FLOAT EQUIPMENT
8 5/8 Woods Plug @ 110.00
 TOTAL 110.00
 DISCOUNT 52% 57.80

To: Allied OFS, 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 Kelly Wilson
 SIGNATURE Kelly Wilson

SALES TAX (If Any)
 TOTAL CHARGES 9,808.45
 DISCOUNT 5,100.39 (52%) IF PAID IN 30 DAYS
 NET TOTAL 4,708.05 IF PAID IN 30 DAYS

DRILLING REPORT - ALMUT 1-15

Almut #1-15 2420 FNL 510 FWL Sec. 15-T5S-R32W 2955' KB						
Formation	Sample top	Datum	Ref	Log Tops	Datum	Ref
Anhydrite	2663	+292	-12	2652	+303	-1
B/Anhydrite	2688	+267	-4	2688	+267	-4
Topeka	3708	-753	-1	3706	-751	+1
Heebner	3879	-924	-1	3876	-921	+2
Toronto	3911	-956	FLAT	3907	-952	+4
Lansing	3925	-970	+2	3921	-966	+6
Stark	4112	-1157	-2	4107	-1152	+3
BKC	4164	-1209	+1	4163	-1208	+2
Ft Scott	4285	-1330	+4	4278	-1323	+11
Miss	4478	-1523	+7	4477	-1522	+8
RTD	4580	-1625				
LTD				4579		