



Confidentiality Requested:

Yes No

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: _____



1171504

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
--	---

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

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

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

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

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

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

TUBING RECORD: Size: _____ Set At: _____ Packer At: _____ Liner Run: Yes No

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

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

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)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____ <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Summary of Changes

Lease Name and Number: Mary Ann 2-1

API/Permit #: 15-153-20933-00-00

Doc ID: 1171504

Correction Number: 1

Approved By: NAOMI JAMES

Field Name	Previous Value	New Value
Approved Date	12/02/2013	12/04/2013
Plug Back Total Depth	4390	4385
Production - Barrels Oil	509	200
Save Link	../..kcc/detail/operatorEditDetail.cfm?docID=1170643	../..kcc/detail/operatorEditDetail.cfm?docID=1171504



CONFIDENTIAL

WELL COMPLETION FORM

Form Must Be Typed
Form must be Signed
All blanks must be Filled

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
- Conv. to GSW
- Plug Back: _____ Plug Back Total Depth _____
- 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

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total 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

- Letter of Confidentiality Received
Date: _____
- Confidential Release Date: _____
- Wireline Log Received
- Geologist Report 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
--	---

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	Mary Ann 2-1
Doc ID	1170643

Perforations

Shots Per Foot	Perforation Record	Material Record	Depth
4	4097 - 4105 LKC D	1000 gal 15% MCA	

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

November 27, 2013

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

Re: ACO1
API 15-153-20933-00-00
Mary Ann 2-1
NW/4 Sec.01-01S-36W
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

Robert D. Hendrix

Petroleum Geologist

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY **Murfin Drilling Co. Inc.**

LEASE **Mary Ann #2-1**

FIELD **KB 30951**

LOCATION **3307fml & 15207fml**

SEC **1** TWPSP **1S** RGE **96W**

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

CONTRACTOR **Murfin Drilling Co. Inc. rig #14**

SPUD **7/30/2013** COMP **8/8/2013**

RTD **4:42⁰⁰** LTD **4:41⁰⁰**

MUD UP **3:44⁰⁰** TYPE MUD **Chemical**

SAMPLES SAVED FROM **3:40⁰⁰** TO **4:42⁰⁰**

DRILLING TIME KEPT FROM **3:40⁰⁰** TO **4:42⁰⁰**

SAMPLES EXAMINED FROM **3:40⁰⁰** TO **4:42⁰⁰**

GEOLOGICAL SUPERVISION FROM **3:46⁰⁰**

GEOLOGIST ON WELL **Robert D. Hendrix**

FOUNDED/INDUSTRIAL/MINOR/SOME

PIONEER ENERGY SERVICES

FORMER TOPS

ELECTRIC LOG

ANHYDRITE

NEVA

FORAKER

TOPEKA

OREAD

LANSING

STARK SHALE

BKC

APR# 15-153-20933

KB 30951

DF

GL 30851

Measurements Are All From Kelly Busting

CASING

CONDUCTOR

SURFACE 8-5/8" @ 223'

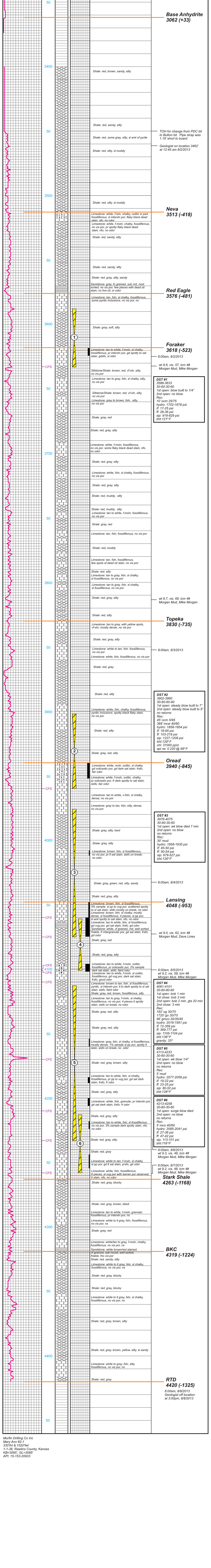
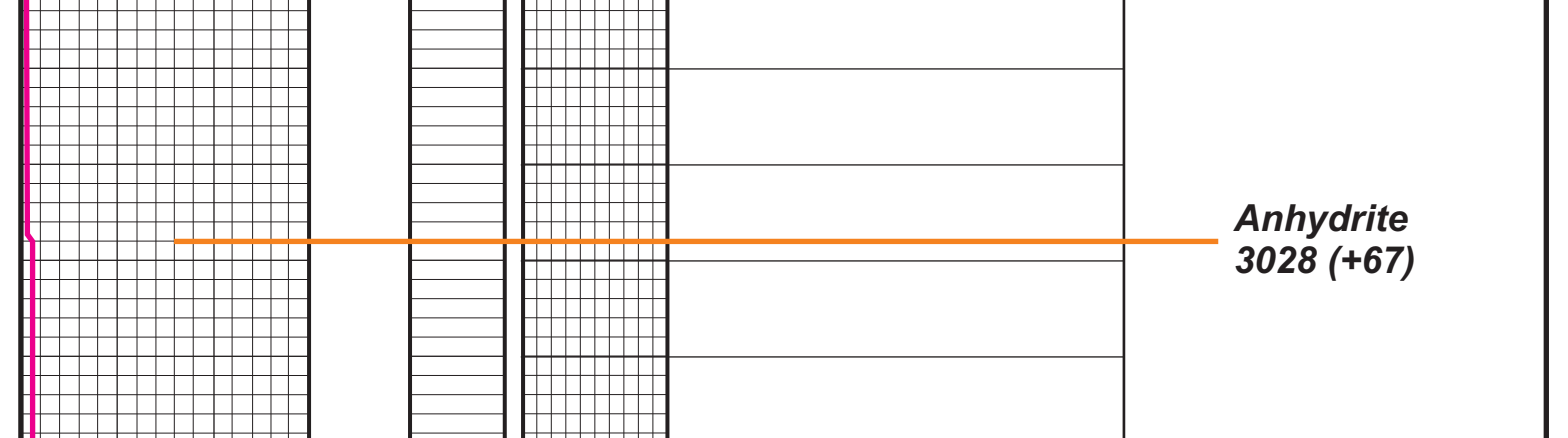
PRODUCTION 5-1/2"

ELECTRICAL SURVEYS

REMARKS:

It is recommended that casing be set to further evaluate the D zone. Due to extreme rain the Pioneer Logging truck was stuck and the hole remained open for 6 hours providing the 10' of fill difference seen between the RTD and LTD.

LEGEND



Robert D. Hendrix

Petroleum Geologist

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY **Murfin Drilling Co. Inc.**

LEASE **Mary Ann #2-1**

FIELD **KB 30951**

LOCATION **3307ftl & 1520ftl**

SEC **1** TWPSP **1S** RGE **96W**

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

CONTRACTOR **Murfin Drilling Co. Inc. rig #14**

SPUD **7/30/2013** COMP **8/8/2013**

RTD **4:42⁰⁰** LTD **4:41⁰⁰**

MUD UP **3:44⁰⁰** TYPE MUD **Chemical**

SAMPLES SAVED FROM **3400 TO 4420**

DRILLING TIME KEPT FROM **3400 TO 4420**

SAMPLES EXAMINED FROM **3400 TO 4420**

GEOLOGICAL SUPERVISION FROM **3462'**

GEOLOGIST ON WELL **Robert D. Hendrix**

Production **5.12"**

Surface **8.58" @ 223'**

conductor **4410'**

CASING **Measurements Are All From Kelly Bushings**

ELEVATIONS

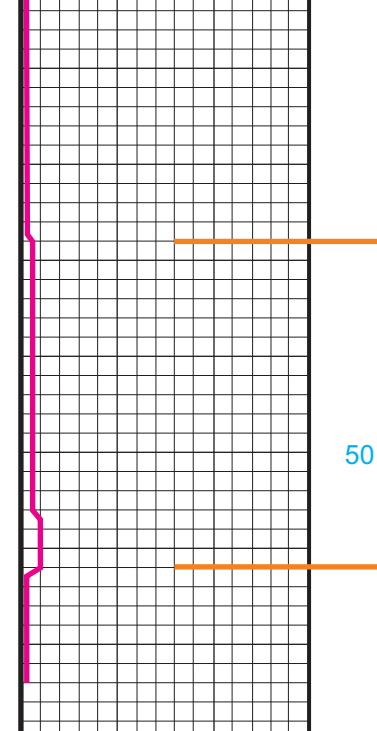
KB 30951

DF

GL 3085'

FORMATIONS

FORMATION TOPS	ELECTRIC LOG	SAMPLE
Anhydrite	3026 (-469)	3028 (-467)
Neva	3507 (-412)	3513 (-418)
Foraker	3616 (-321)	3618 (-323)
Topeka	3828 (-733)	3830 (-735)
Oread	3940 (-845)	3940 (-845)
Lansing	4044 (-949)	4048 (-953)
Stark Shale	4262 (-1167)	4263 (-1168)
BKC	4318 (-1223)	4319 (-1224)

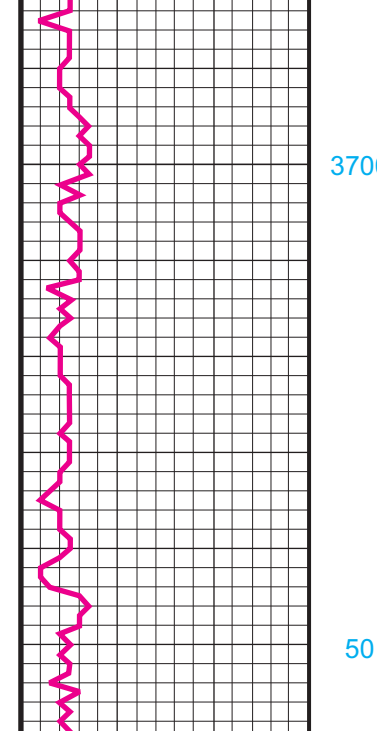
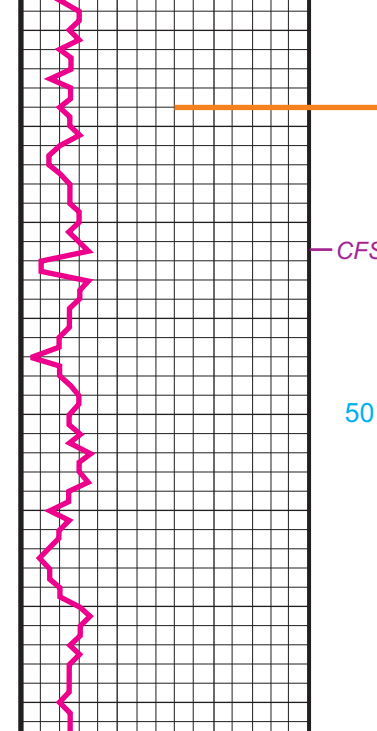


APR# 15-153-20933

REMARKS:

It is recommended that casing be set to further evaluate the D zone. Due to extreme rain the Pioneer Logging truck was stuck and the hole remained open for 6 hours providing the 10' of fill difference seen between the RTD and LTD.

LEGEND



DEPTH	LITHOLOGY	SAMPLE DESCRIPTION	REMARKS
3000			Anhydrite 3028 (+67)
50			Base Anhydrite 3062 (+33)
3400		Shale: red, brown, sandy, silty	
50		Shale: red, sandy, silty	TOH for change from PDC bit to Button bit. Pipe strap was 1.18' short to board.
3500		Shale: red, some gray, silty, sl amt of pyrite	Geologist on location 3462' at 12:45 am 8/2/2013
50		Shale: red, silty, sl muddy	
3600		Limestone: white, f-xln, chalky, oolitic in part, fossiliferous, sl interxn por, flaky black dead stain, nfo, no odor	Neva 3513 (-418)
50		Limestone: white, f-mxn, chalky, fossiliferous, no vis por, pr spotty flaky black dead stain, nfo, no odor	
50		Shale: red, sandy, silty	
50		Shale: red, gray, silty, sandy	
3700		Sandstone: gray, fn grained, sub md, mod sorted, no vis por, few pieces with dead oil stain, no live oil, or odor	Red Eagle 3576 (-481)
50		Limestone: tan, f-xln, sl chalky, fossiliferous, some pyritic inclusions, no vis por, ns	
50		Shale: gray, soft, silty	
3800		Limestone: tan to white, f-mxn, sl chalky, fossiliferous, pr interxn por, gd spotty to sat stain, gdsfo, sl odor	Foraker 3618 (-523)
50		Siltstone/Shale: brown, red, vf-xln, silty, no vis por	8:00am, 8/2/2013
50		Limestone: tan to gray, f-xln, sl chalky, silty, no vis por	wt 8.6, vis, 57, lcm 4# Morgan Mud, Mike Morgan
50		Siltstone/Shale: brown, red, vf-xln, silty, no vis por	
50		Limestone: gray to brown, f-xln, silty, no vis por	
50		Shale: gray, red	
50		Shale: red, gray, silty	
50		Limestone: white, f-mxn, fossiliferous, no vis por, some flaky black dead stain, nfo, no odor	
50		Shale: red, gray, silty	
50		Limestone: white, f-xln, sl chalky, fossiliferous, no vis por	
50		Shale: red, gray, silty	
50		Shale: red, muddy, silty	
50		Limestone: tan to white, f-mxn, fossiliferous, no vis por	
50		Shale: gray, red	
50		Limestone: tan, f-xln, fossiliferous, no vis por	
50		Shale: red, muddy	
50		Limestone: tan, f-xln, fossiliferous, few spots of dead oil stain, no vis por	
50		Shale: red, silty	
50		Limestone: tan to gray, f-xln, sl chalky, sl fossiliferous, no vis por	
50		Limestone: tan to gray, f-xln, sl chalky, sl fossiliferous, no vis por	
50		Shale: red, gray, silty	wt 8.7, vis, 69, lcm 4# Morgan Mud, Mike Morgan
50		Shale: red, silty	
3900		Limestone: tan to gray, with yellow spots, vf-xln, mostly dense, no vis por	Topeka 3830 (-735)
50		Shale: red, gray, silty	
50		Limestone: white to tan, f-xln, fossiliferous, no vis por	8:00am, 8/3/2013
50		Limestone: white, f-xln, fossiliferous, no vis por	
50		Shale: red, gray	
50		Shale: red, silty	
3950		Limestone: white, f-xln, chalky, fossiliferous, pyritic inclusions, spotty black flaky stain, no vis por	Oread 3940 (-845)
50		Shale: red, silty	
50		Limestone: white, f-xln, oolitic, sl chalky, gd oolitic por, gd dark sat stain, frsfo, fair odor	
50		Limestone: white, f-mxn, oolitic, chalky, pr oolitic por, fr dark spotty to sat stain, slsfo, fair odor	
50		Limestone: tan to white, f-xln, sl chalky, dense, no vis por	
50		Limestone: gray to tan, f-xln, silty, dense, no vis por	
4000		Shale: gray, silty, hard	
50		Shale: gray, silty	
50		Limestone: brown, f-xln, sl fossiliferous, no vis por, pr lt sat stain, slsfo on break, no odor	
50		Shale: gray, green, red, silty, sandy	8:00am, 8/4/2013
50		Shale: red, gray, silty	
4050		Limestone: brown, f-xln, sl fossiliferous, 5% sample, sl pp to vug por, scattered spotty to sl sat stain, slsfo mostly on break, no odor	Lansing 4048 (-953)
50		Limestone: brown, f-xln, sl chalky, mostly dense, sl fossiliferous, 4 pieces, sl pp por, sl amt spotty to sat stain, nfo, no odor	
50		Limestone: tan to gray, f-mxn, sl chalky, fossiliferous, gd vug por, gd sat stain, frsfo, gd odor	wt 9.0, vis, 62, lcm 4# Morgan Mud, Dave Lines
50		Sandstone: white, vf grained, md, well sorted, friable, fr intergranular por, gd sat stain, frsfo, gd odor	
50		Shale: gray, red, silty	
50		Shale: red, gray, silty	
50		Limestone: tan to gray, f-mxn, oolitic, fossiliferous, pr oolitic por, 2% sample dark sat stain, slsfo, faint odor	8:00am, 8/5/2013
50		Limestone: tan to white, f-xln, sl chalky, fossiliferous, gd vug por, dark sat stain, frsfo, good odor	
50		Limestone: brown to tan, f-xln, sl fossiliferous, pyritic, sl interxn por, lt to dark spotty to sl sat stain, slsfo, faint odor	
50		Limestone: tan to white, f-xln, sl chalky, fossiliferous, pr pp to vug por, gd sat dark stain, frsfo, fr odor	
50		Shale: gray, red, brown, fossiliferous, silty	
50		Limestone: tan to gray, f-mxn, sl chalky, fossiliferous, no vis por, 4 pieces lt spotty stain, slsfo on break, no odor	
50		Shale: gray, red, silty	
50		Shale: gray, red, silty	
50		Limestone: white, f-xln, sl chalky, sl fossiliferous, mostly dense, 1% sample sl pp por, spotty lt stain, slsfo on break, no odor	
50		Shale: red, gray, brown, silty	
50		Limestone: tan to white, f-xln, sl chalky, fossiliferous, pr pp to vug por, gd sat dark stain, frsfo, fr odor	
50		Shale: red, gray, silty	
50		Limestone: white, f-xln, granular, pr interxn por, gd sat dark stain, frsfo, fr odor	
50		Shale: red, gray, silty	
50		Limestone: tan to white, f-xln, sl fossiliferous, no vis por, 3% sample dark spotty stain, nfo, no odor	
50		Shale: red, gray, silty	
50		Shale: red, gray	
50		Limestone: white to tan, f-mxn, sl chalky, sl pp por, gd lt sat stain, prsfo, gd odor	8:00am, 8/6/2013
50		Limestone: white, f-xln, fossiliferous, 6 pieces, sl vug por with barren por observed, lt stain, nfo, no odor	wt 9.2, vis, 48, lcm 4# Morgan Mud, Mike Morgan
50		Shale: red, gray, blocky	
50		Shale: red, gray, brown, black	
50		Limestone: tan to white, f-mxn, granular, fossiliferous, pr interxn por, ns	
50		Limestone: white to lt gray, f-xln, fossiliferous, no vis por, ns	
50		Shale: gray, red	
50		Limestone: white/tan to gray, f-mxn, chalky, fossiliferous, no vis por, ns	
50		Sandstone: white/brown/red stained, vf grained, sub-round, well sorted, friable, fno vis por	
50		Shale: red, sandy, silty	
50		Limestone: white to lt gray, f-xln, sl chalky, fossiliferous, no vis por, ns	
50		Shale: red, gray, blocky	
50		Shale: red, gray, blocky	
50		Limestone: white to lt gray, f-xln, sl chalky, fossiliferous, no vis por, ns	
50		Shale: red, gray, brown, yellow, silty, sl sandy	
50		Limestone: white to gray, f-xln, silty, fossiliferous, no vis por, ns	
50		Shale: red, gray	RTD 4420 (-1325)
50			8:00am, 8/8/2013 Geologist off location at 3:00pm, 8/8/2013

Murfin Drilling Co Inc
Mary Ann #2-1
3307ftl & 1520ftl
1-1-36 Rawlins County, Kansas
KB-30951, GL=3085'
APR: 15-153-20933



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water STE 300
Wichita KS 67202

ATTN: Robert Hendrix

Mary Ann #2-1

1-1s-35w Rawlins,KS

Start Date: 2013.08.02 @ 12:45:00

End Date: 2013.08.02 @ 19:37:00

Job Ticket #: 53412 DST #: 1

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

Printed: 2013.08.09 @ 09:16:31



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co.

1-1s-35w Rawlins,KS

250 N Water STE 300
Wichita KS 67202

Mary Ann #2-1

ATTN: Robert Hendrix

Job Ticket: 53412

DST#: 1

Test Start: 2013.08.02 @ 12:45:00

GENERAL INFORMATION:

Formation: **Foraker**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:54:45

Time Test Ended: 19:37:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Wilbur Steinbeck

Unit No: 44

Interval: 3588.00 ft (KB) To 3633.00 ft (KB) (TVD)

Reference Elevations: 3095.00 ft (KB)

Total Depth: 3633.00 ft (KB) (TVD)

3085.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8353 Outside

Press @ Run Depth: 36.45 psig @ 3589.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.08.02

End Date:

2013.08.02

Last Calib.:

2013.08.02

Start Time: 12:45:15

End Time:

19:37:00

Time On Btm:

2013.08.02 @ 14:54:15

Time Off Btm:

2013.08.02 @ 17:57:45

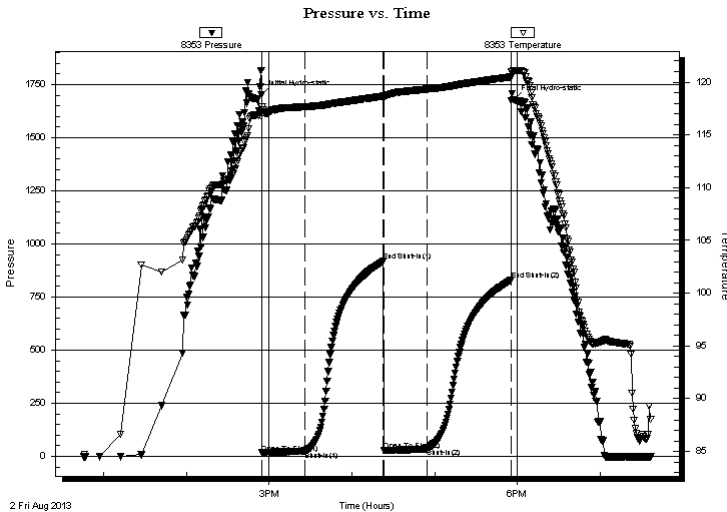
TEST COMMENT: 30 IF; Built to 1/4"

60 ISI; No Blow

30 FF; No Blow

60 FSI; No Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1702.26	117.11	Initial Hydro-static
1	16.50	117.63	Open To Flow (1)
32	24.90	117.67	Shut-In(1)
89	918.64	118.68	End Shut-In(1)
89	28.05	118.58	Open To Flow (2)
120	36.45	119.33	Shut-In(2)
181	828.89	120.49	End Shut-In(2)
184	1677.72	121.09	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	OCM 25%O 75%M	0.05

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

1-1s-35w Rawlins,KS

250 N Water STE 300
Wichita KS 67202

Mary Ann #2-1

Job Ticket: 53412

DST#: 1

ATTN: Robert Hendrix

Test Start: 2013.08.02 @ 12:45:00

Tool Information

Drill Pipe:	Length: 3045.00 ft	Diameter: 3.80 inches	Volume: 42.71 bbl	Tool Weight: 25000.00 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: 535.00 ft	Diameter: 2.25 inches	Volume: 2.63 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 45.34 bbl</u>	Tool Chased 14.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 63000.00 lb
Depth to Top Packer:	3588.00 ft			Final 63000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	45.00 ft			
Tool Length:	72.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3566.00	
Hydraulic tool jars	5.00			3571.00	
safety Joint	3.00			3576.00	
Packer	5.00			3584.00	27.00 Bottom Of Top Packer
Packer	4.00			3588.00	
Stubb	1.00			3589.00	
Recorder	0.00	8360	Inside	3589.00	
Recorder	0.00	8353	Outside	3589.00	
Perforations	7.00			3596.00	
Change Over Sub	1.00			3597.00	
Blank Spacing	32.00			3629.00	
Change Over Sub	1.00			3630.00	
Bullnose	3.00			3633.00	45.00 Bottom Packers & Anchor

Total Tool Length: 72.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

1-1s-35w Rawlins,KS

250 N Water STE 300
Wichita KS 67202

Mary Ann #2-1

Job Ticket: 53412

DST#: 1

ATTN: Robert Hendrix

Test Start: 2013.08.02 @ 12:45:00

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: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 500.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	OCM 25%O 75%M	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0

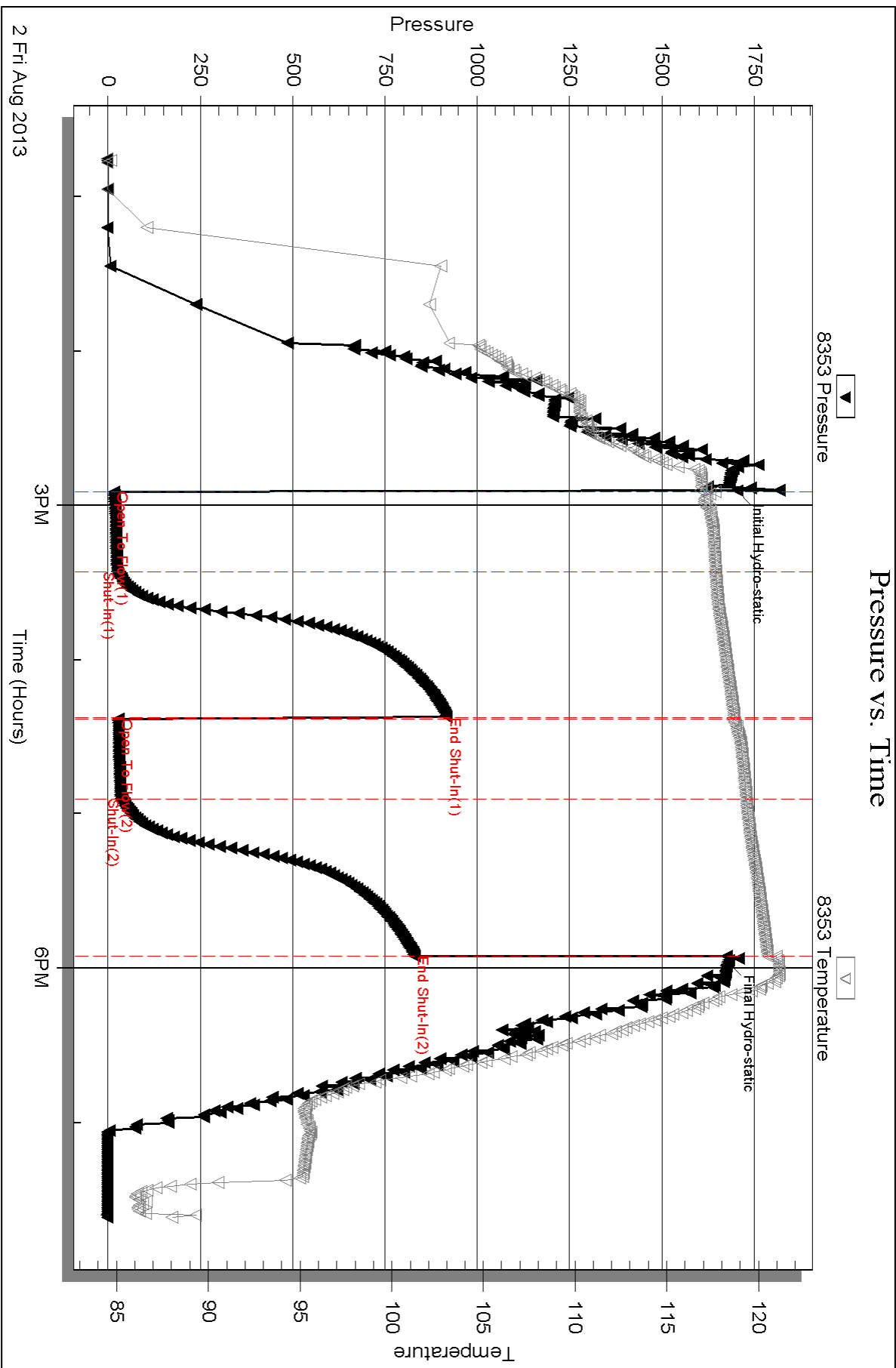
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



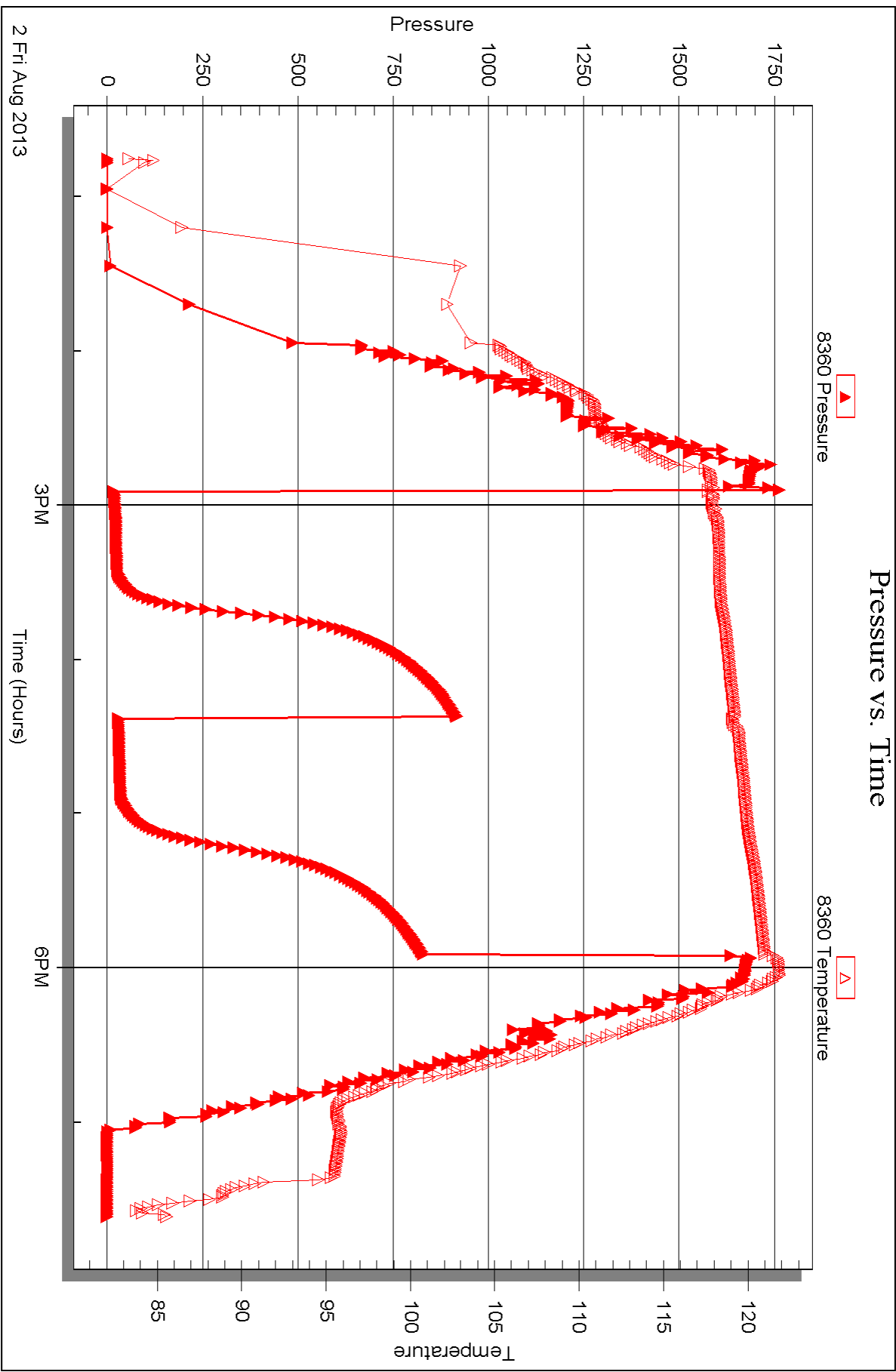
Serial #: 8360

Inside

Murfin Drilling Co.

Mary Ann #2-1

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water STE 300
Wichita KS 67202

ATTN: Robert Hendrix

Mary Ann #2-1

1-1s-35w Rawlins,KS

Start Date: 2013.08.03 @ 16:38:00

End Date: 2013.08.04 @ 00:31:45

Job Ticket #: 53413 DST #: 2

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

Printed: 2013.08.09 @ 09:15:51



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co.

1-1s-35w Rawlins,KS

250 N Water STE 300
Wichita KS 67202

Mary Ann #2-1

Job Ticket: 53413

DST#: 2

ATTN: Robert Hendrix

Test Start: 2013.08.03 @ 16:38:00

GENERAL INFORMATION:

Formation: **Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:46:30

Time Test Ended: 00:31:45

Test Type: Conventional Bottom Hole (Reset)

Tester: Wilbur Steinbeck

Unit No: 44

Interval: 3902.00 ft (KB) To 3960.00 ft (KB) (TVD)

Reference Elevations: 3095.00 ft (KB)

Total Depth: 3960.00 ft (KB) (TVD)

3085.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8353 Outside

Press @ Run Depth: 219.03 psig @ 3903.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.08.03

End Date:

2013.08.04

Last Calib.: 2013.08.04

Start Time: 16:38:15

End Time:

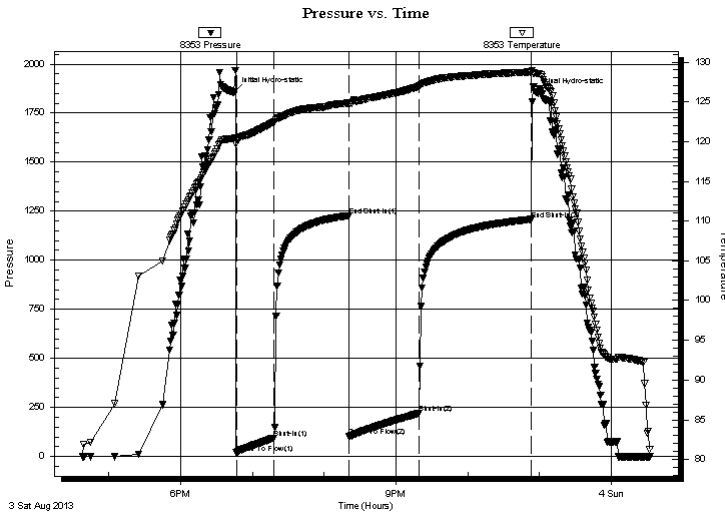
00:31:45

Time On Btm: 2013.08.03 @ 18:45:00

Time Off Btm: 2013.08.03 @ 22:57:00

TEST COMMENT: 30 IF; Built to 7"
60 ISI; No Blow
60 FF; Built to 9"
90 FSI; No Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1857.73	120.37	Initial Hydro-static
2	17.84	119.74	Open To Flow (1)
33	94.91	122.45	Shut-In(1)
96	1227.44	124.88	End Shut-In(1)
96	103.35	124.71	Open To Flow (2)
154	219.03	126.91	Shut-In(2)
248	1207.85	128.75	End Shut-In(2)
252	1854.52	128.57	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
368.00	MCW 40%M 60%W	1.81
45.00	OCM 5%O 95%M	0.22

* 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.

1-1s-35w Rawlins,KS

250 N Water STE 300
Wichita KS 67202

Mary Ann #2-1

Job Ticket: 53413

DST#: 2

ATTN: Robert Hendrix

Test Start: 2013.08.03 @ 16:38:00

Tool Information

Drill Pipe:	Length: 3362.00 ft	Diameter: 3.80 inches	Volume: 47.16 bbl	Tool Weight: 25000.00 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: 535.00 ft	Diameter: 2.25 inches	Volume: 2.63 bbl	Weight to Pull Loose: 78000.00 lb
			<u>Total Volume: 49.79 bbl</u>	Tool Chased 10.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	3902.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	58.00 ft			
Tool Length:	85.00 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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Shut In Tool	5.00			3880.00	
Hydraulic tool jars	5.00			3885.00	
safety Joint	3.00			3893.00	
Packer	5.00			3898.00	27.00 Bottom Of Top Packer
Packer	4.00			3902.00	
Stubb	1.00			3903.00	
Recorder	0.00	8360	Inside	3903.00	
Recorder	0.00	8353	Outside	3903.00	
Perforations	20.00			3923.00	
Change Over Sub	1.00			3924.00	
Blank Spacing	32.00			3956.00	
Change Over Sub	1.00			3957.00	
Bullnose	3.00			3960.00	58.00 Bottom Packers & Anchor

Total Tool Length: 85.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

1-1s-35w Rawlins,KS

250 N Water STE 300
Wichita KS 67202

Mary Ann #2-1

Job Ticket: 53413

DST#: 2

ATTN: Robert Hendrix

Test Start: 2013.08.03 @ 16:38:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 69.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 500.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
368.00	MCW 40%M 60%W	1.810
45.00	OCM 5%O 95%M	0.221

Total Length: 413.00 ft Total Volume: 2.031 bbl

Num Fluid Samples: 0

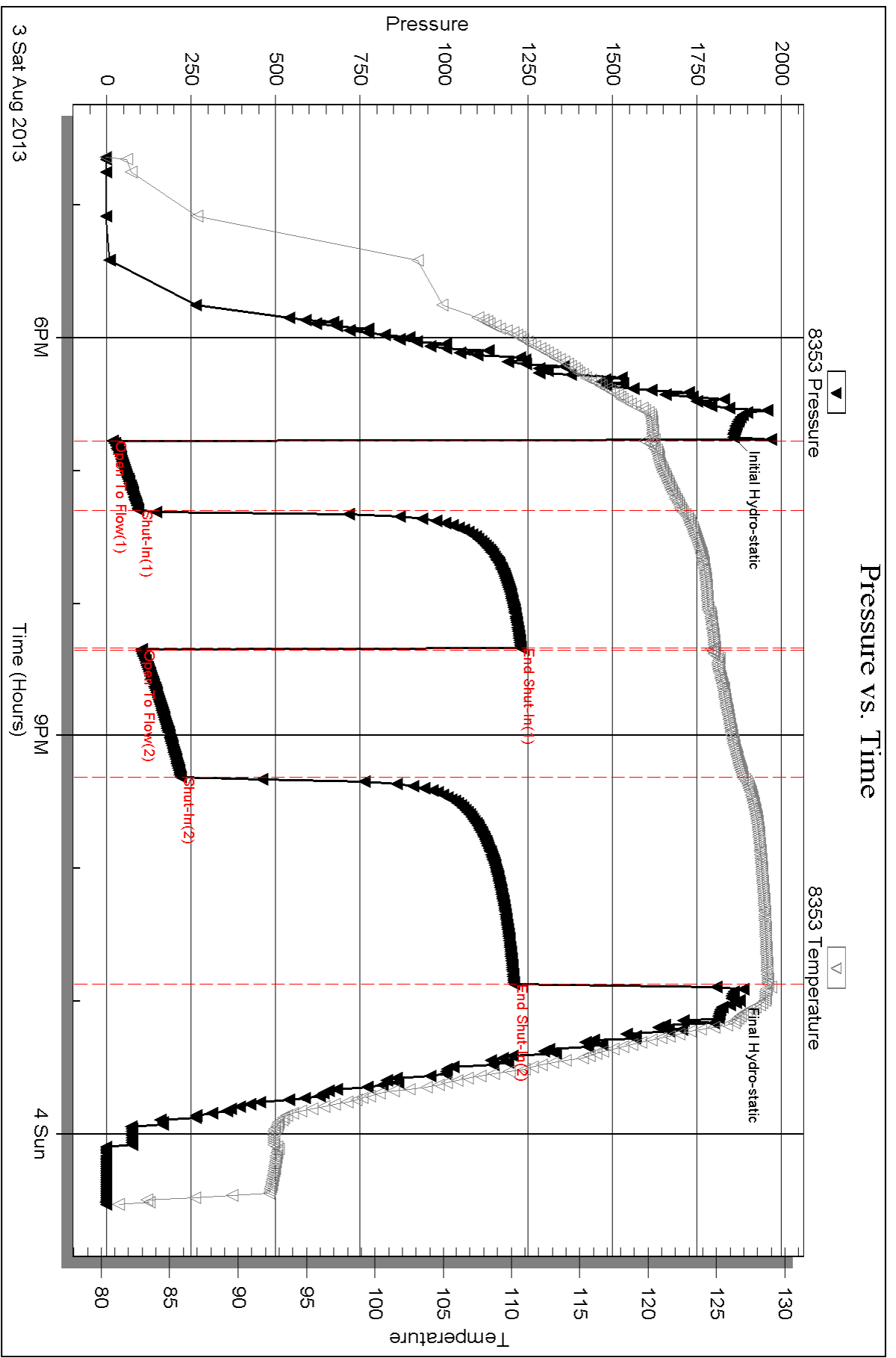
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .220@69 DEG F=31,000 ppm



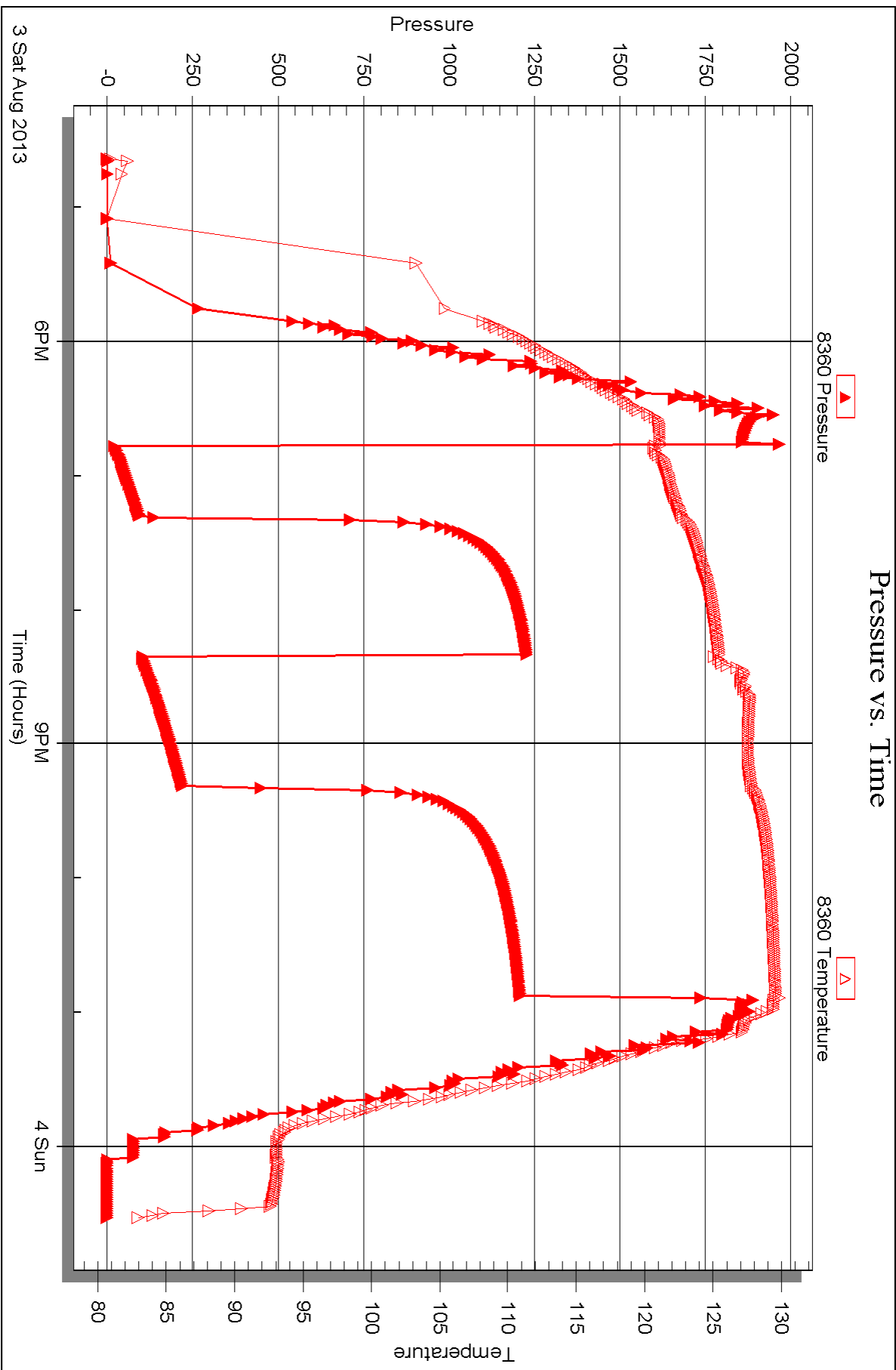
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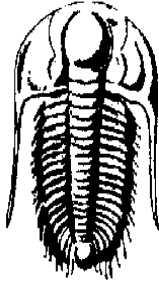
Inside

Murfin Drilling Co.

Mary Ann #2-1

DST Test Number: 2





TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water STE 300
Wichita KS 67202

ATTN: Robert Hendrix

Mary Ann #2-1

1-1s-35w Rawlins,KS

Start Date: 2013.08.04 @ 14:10:00

End Date: 2013.08.04 @ 20:56:30

Job Ticket #: 43414 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.08.09 @ 09:15:17

Murfin Drilling Co. 1-1s-35w Rawlins,KS Mary Ann #2-1 DST # 3 LKC A 2013.08.04



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co.

1-1s-35w Rawlins,KS

250 N Water STE 300
Wichita KS 67202

Mary Ann #2-1

Job Ticket: 43414

DST#: 3

ATTN: Robert Hendrix

Test Start: 2013.08.04 @ 14:10:00

GENERAL INFORMATION:

Formation: **LKC A**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:13:15

Time Test Ended: 20:56:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Wilbur Steinbeck

Unit No: 44

Interval: 3976.00 ft (KB) To 4075.00 ft (KB) (TVD)

Reference Elevations: 3095.00 ft (KB)

Total Depth: 4075.00 ft (KB) (TVD)

3085.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8353 Outside

Press @ Run Depth: 53.97 psig @ 3977.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.08.04

End Date:

2013.08.04

Last Calib.: 2013.08.04

Start Time: 14:10:15

End Time:

20:56:30

Time On Btm: 2013.08.04 @ 16:12:45

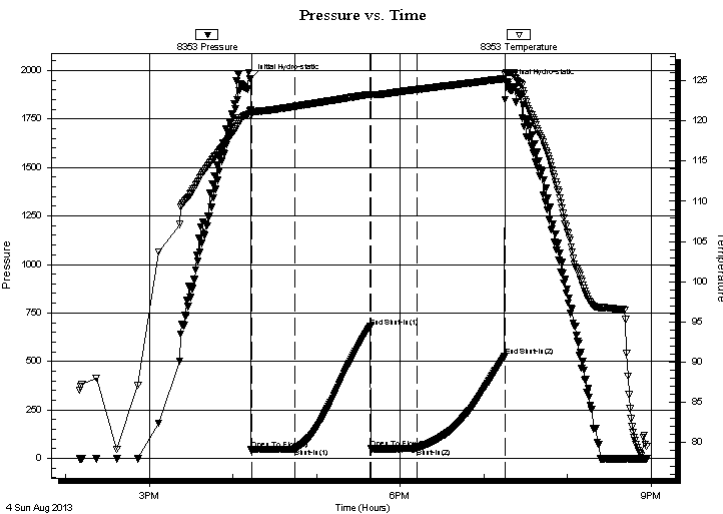
Time Off Btm: 2013.08.04 @ 19:16:15

TEST COMMENT: 30 IF; Surge blow died in 7 min

60 IS; No Blow

30 FF; No Blow

60 FS; No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1958.42	121.35	Initial Hydro-static
1	45.14	121.11	Open To Flow (1)
32	50.26	121.83	Shut-In(1)
86	679.30	123.32	End Shut-In(1)
86	49.58	123.11	Open To Flow (2)
119	53.97	123.92	Shut-In(2)
182	527.31	125.28	End Shut-In(2)
184	1934.71	126.03	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	Mud	0.15

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.

1-1s-35w Rawlins,KS

250 N Water STE 300
Wichita KS 67202

Mary Ann #2-1

Job Ticket: 43414

DST#: 3

ATTN: Robert Hendrix

Test Start: 2013.08.04 @ 14:10:00

Tool Information

Drill Pipe:	Length: 3424.00 ft	Diameter: 3.80 inches	Volume: 48.03 bbl	Tool Weight: 25000.00 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: 535.00 ft	Diameter: 2.25 inches	Volume: 2.63 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 50.66 bbl</u>	Tool Chased 15.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	3976.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	99.00 ft			
Tool Length:	126.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3954.00	
Hydraulic tool jars	5.00			3959.00	
safety Joint	5.00			3964.00	
Packer	3.00			3967.00	
Packer	5.00			3972.00	27.00 Bottom Of Top Packer
Packer	4.00			3976.00	
Stubb	1.00			3977.00	
Recorder	0.00	8360	Inside	3977.00	
Recorder	0.00	8353	Outside	3977.00	
Perforations	29.00			4006.00	
Change Over Sub	1.00			4007.00	
Blank Spacing	64.00			4071.00	
Change Over Sub	1.00			4072.00	
Bullnose	3.00			4075.00	99.00 Bottom Packers & Anchor

Total Tool Length: 126.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

1-1s-35w Rawlins,KS

250 N Water STE 300
Wichita KS 67202

Mary Ann #2-1

Job Ticket: 43414

DST#: 3

ATTN: Robert Hendrix

Test Start: 2013.08.04 @ 14:10:00

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: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.58 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	Mud	0.148

Total Length: 30.00 ft Total Volume: 0.148 bbl

Num Fluid Samples: 0

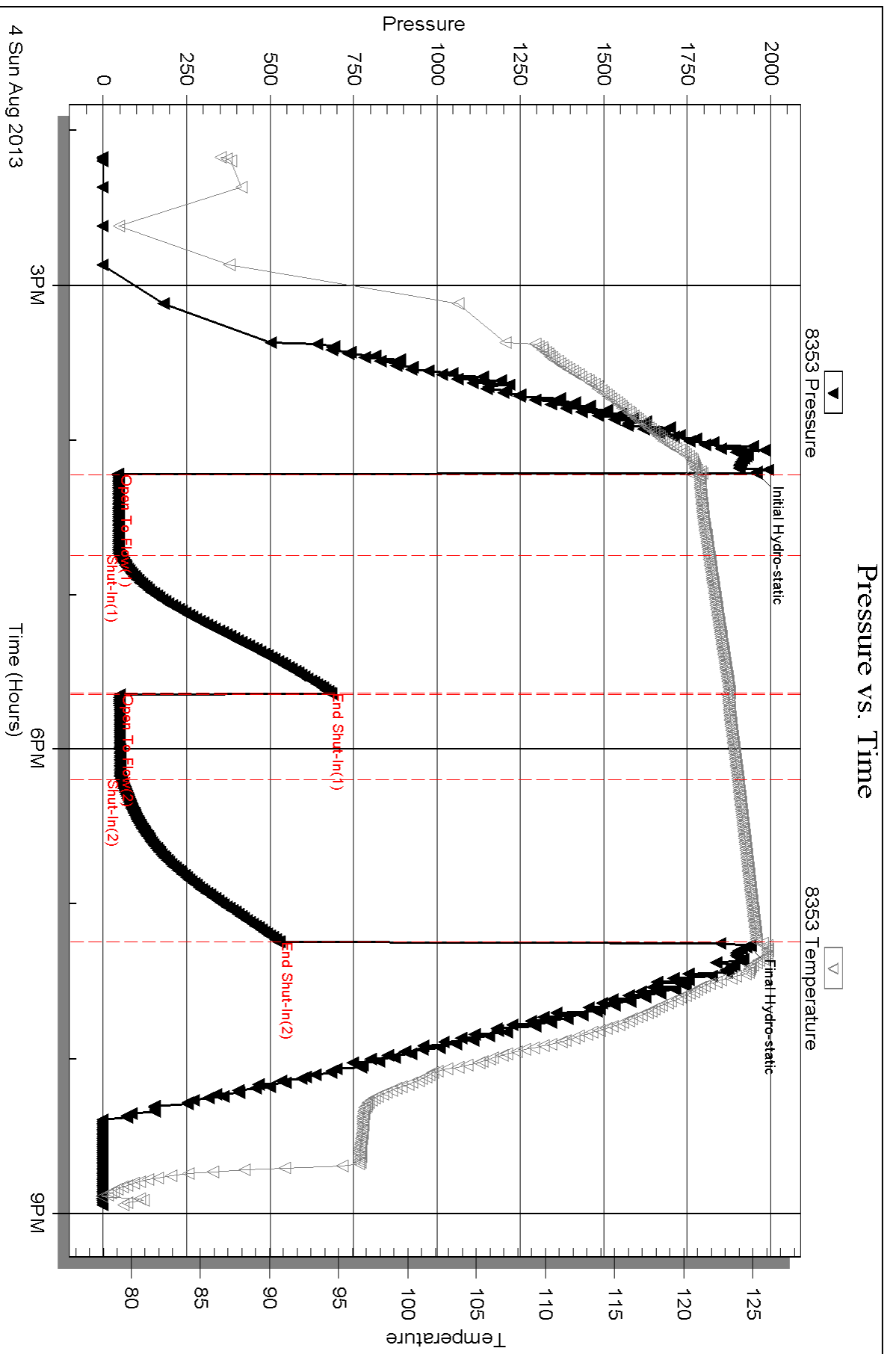
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



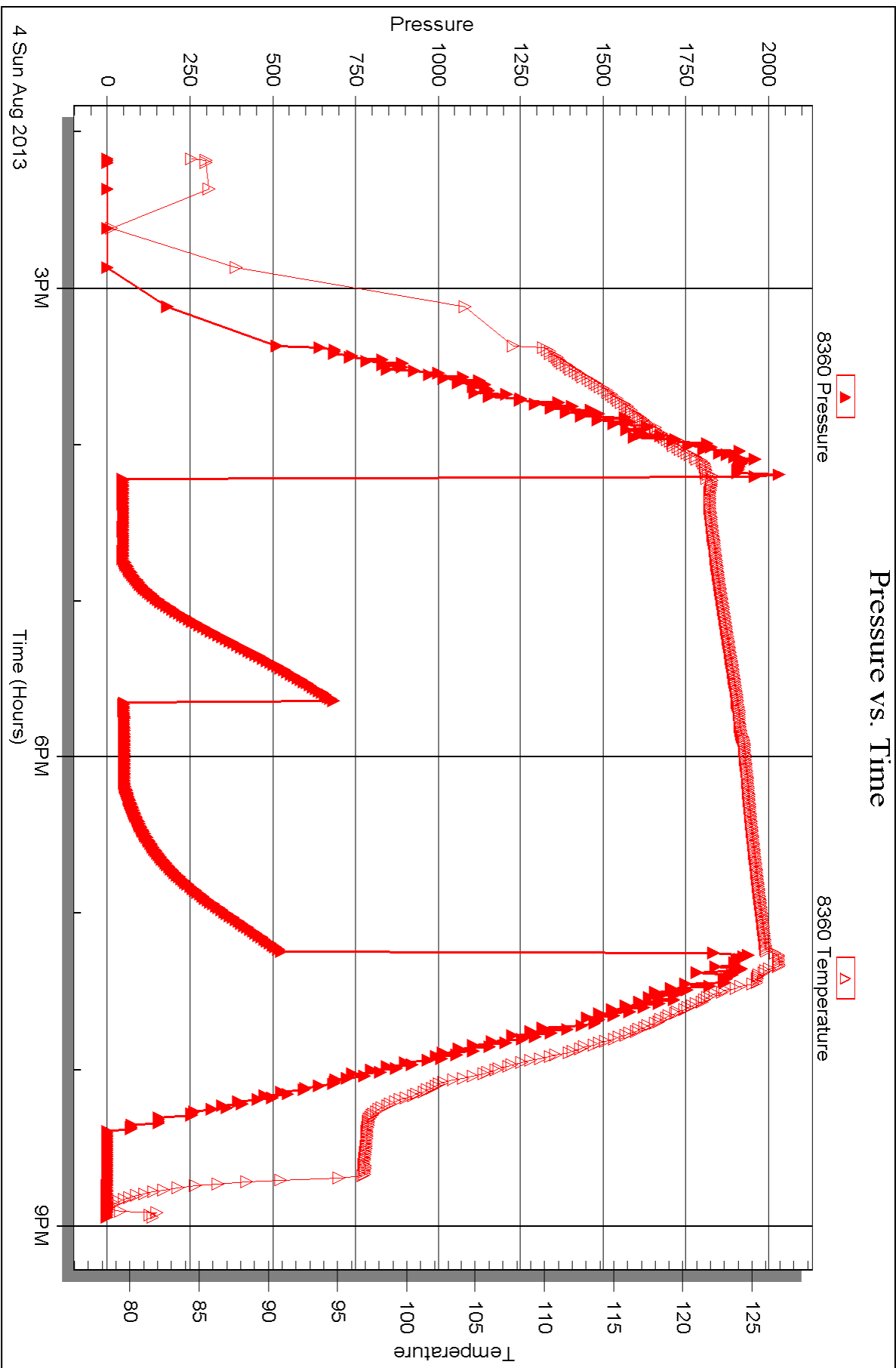
Serial #: 8360

Inside

Murfin Drilling Co.

Mary Ann #2-1

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water STE 300
Wichita KS 67202

ATTN: Robert Hendrix

Mary Ann #2-1

1-1s-35w Rawlins,KS

Start Date: 2013.08.05 @ 05:52:00

End Date: 2013.08.05 @ 15:49:45

Job Ticket #: 53415 DST #: 4

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

Printed: 2013.08.09 @ 09:14:43



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co.

1-1s-35w Rawlins,KS

250 N Water STE 300
Wichita KS 67202

Mary Ann #2-1

ATTN: Robert Hendrix

Job Ticket: 53415

DST#: 4

Test Start: 2013.08.05 @ 05:52:00

GENERAL INFORMATION:

Formation: **LKC D**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 07:55:45
 Tester: Wilbur Steinbeck
 Time Test Ended: 15:49:45
 Unit No: 44
 Interval: **4061.00 ft (KB) To 4101.00 ft (KB) (TVD)**
 Reference Elevations: 3095.00 ft (KB)
 Total Depth: 4101.00 ft (KB) (TVD)
 3085.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Fair
 KB to GR/CF: 10.00 ft

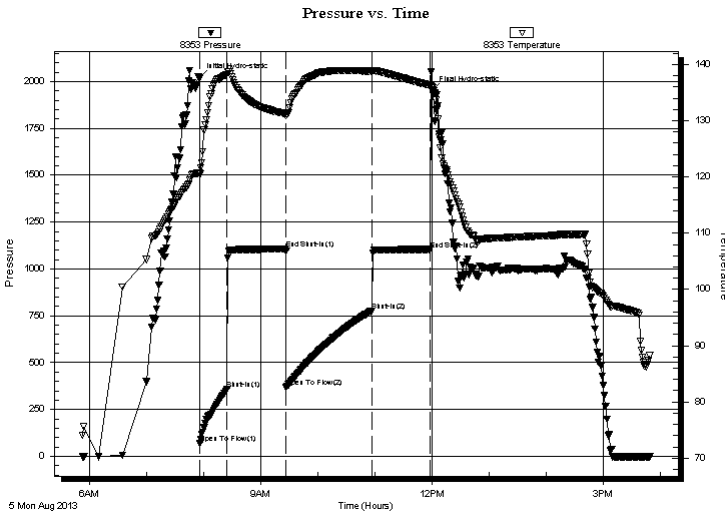
Serial #: 8353

Outside

Press @ Run Depth: 777.27 psig @ 4062.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.08.05 End Date: 2013.08.05 Last Calib.: 2013.08.05
 Start Time: 05:52:15 End Time: 15:49:45 Time On Btm: 2013.08.05 @ 07:55:00
 Time Off Btm: 2013.08.05 @ 12:00:15

TEST COMMENT: 30 IF; BOB in 1 min
 60 IS; BOB in 3 min
 90 FF; BOB in 2 min Gas to surface in 20 min
 60 FS; BOB in 3 min

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2018.55	120.65	Initial Hydro-static
1	71.80	120.48	Open To Flow (1)
30	358.84	138.21	Shut-In(1)
91	1105.29	131.25	End Shut-In(1)
92	368.95	130.88	Open To Flow (2)
182	777.27	138.75	Shut-In(2)
243	1103.69	136.32	End Shut-In(2)
246	1951.16	135.88	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
96.00	GMCO 20%G 35%M 45%O	0.47
1720.00	Dropped bar Reversed out GO 30%G 70%O	20.13
192.00	OG 30%O 70%G	2.69

* 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.

1-1s-35w Rawlins,KS

250 N Water STE 300
Wichita KS 67202

Mary Ann #2-1

Job Ticket: 53415

DST#: 4

ATTN: Robert Hendrix

Test Start: 2013.08.05 @ 05:52:00

Tool Information

Drill Pipe:	Length: 3522.00 ft	Diameter: 3.80 inches	Volume: 49.40 bbl	Tool Weight: 25000.00 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: 535.00 ft	Diameter: 2.25 inches	Volume: 2.63 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 52.03 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4061.00 ft			Final 75000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	40.00 ft			
Tool Length:	67.00 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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Shut In Tool	5.00			4039.00	
Hydraulic tool	5.00			4044.00	
jars	5.00			4049.00	
safety Joint	3.00			4052.00	
Packer	5.00			4057.00	27.00 Bottom Of Top Packer
Packer	4.00			4061.00	
Stubb	1.00			4062.00	
Recorder	0.00	8360	Inside	4062.00	
Recorder	0.00	8353	Outside	4062.00	
Perforations	36.00			4098.00	
Bullnose	3.00			4101.00	40.00 Bottom Packers & Anchor

Total Tool Length: 67.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

1-1s-35w Rawlins,KS

250 N Water STE 300
Wichita KS 67202

Mary Ann #2-1

Job Ticket: 53415

DST#: 4

ATTN: Robert Hendrix

Test Start: 2013.08.05 @ 05:52:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

33.4 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
96.00	GMCO 20%G 35%M 45%O	0.472
1720.00	Dropped bar Reversed out GO 30%G 70%O	20.128
192.00	OG 30%O 70%G	2.693

Total Length: 2008.00 ft Total Volume: 23.293 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

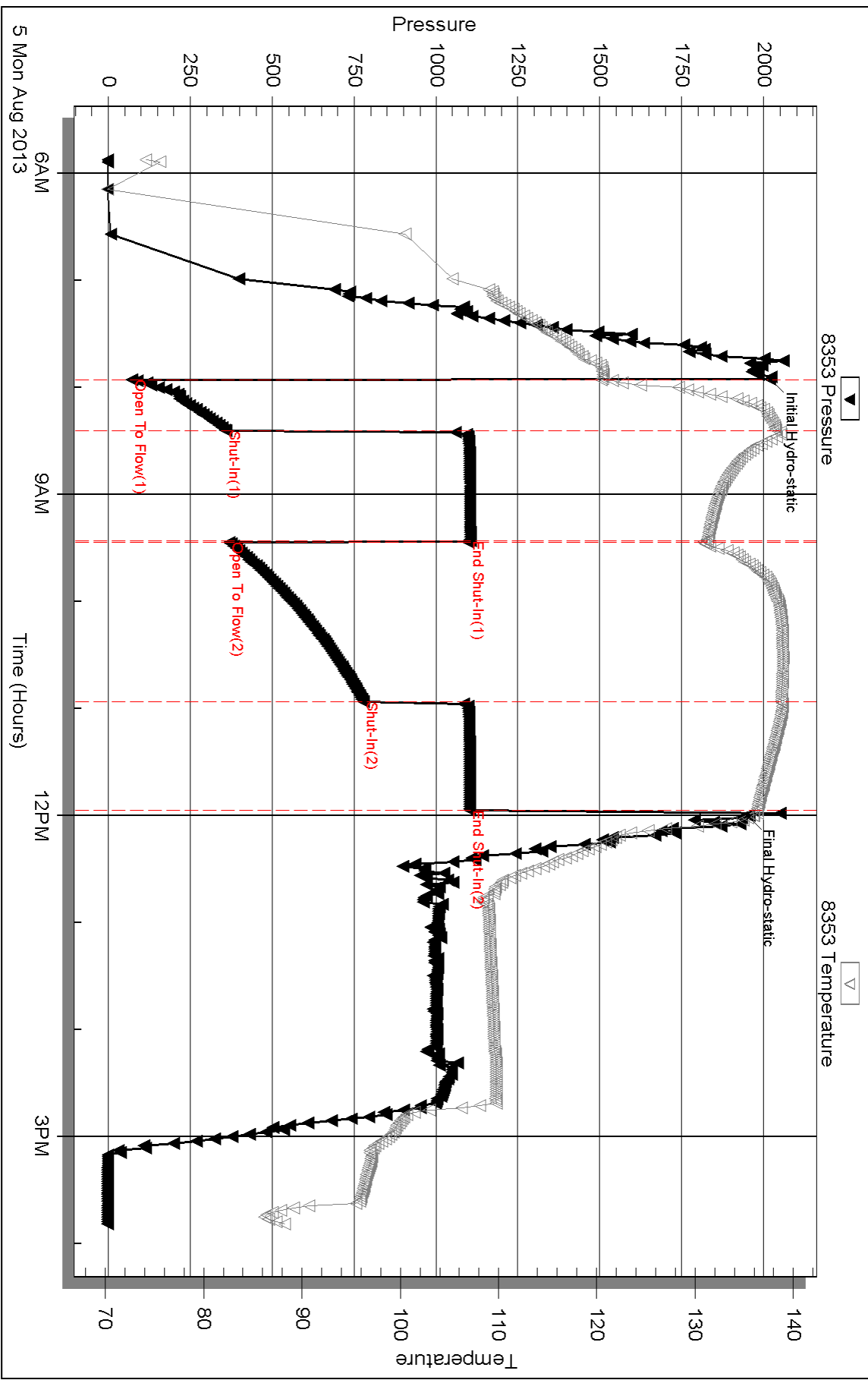
Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity 37.4@100 DEG F=33.4

Dropped bar and reversed fluid out

Pressure vs. Time



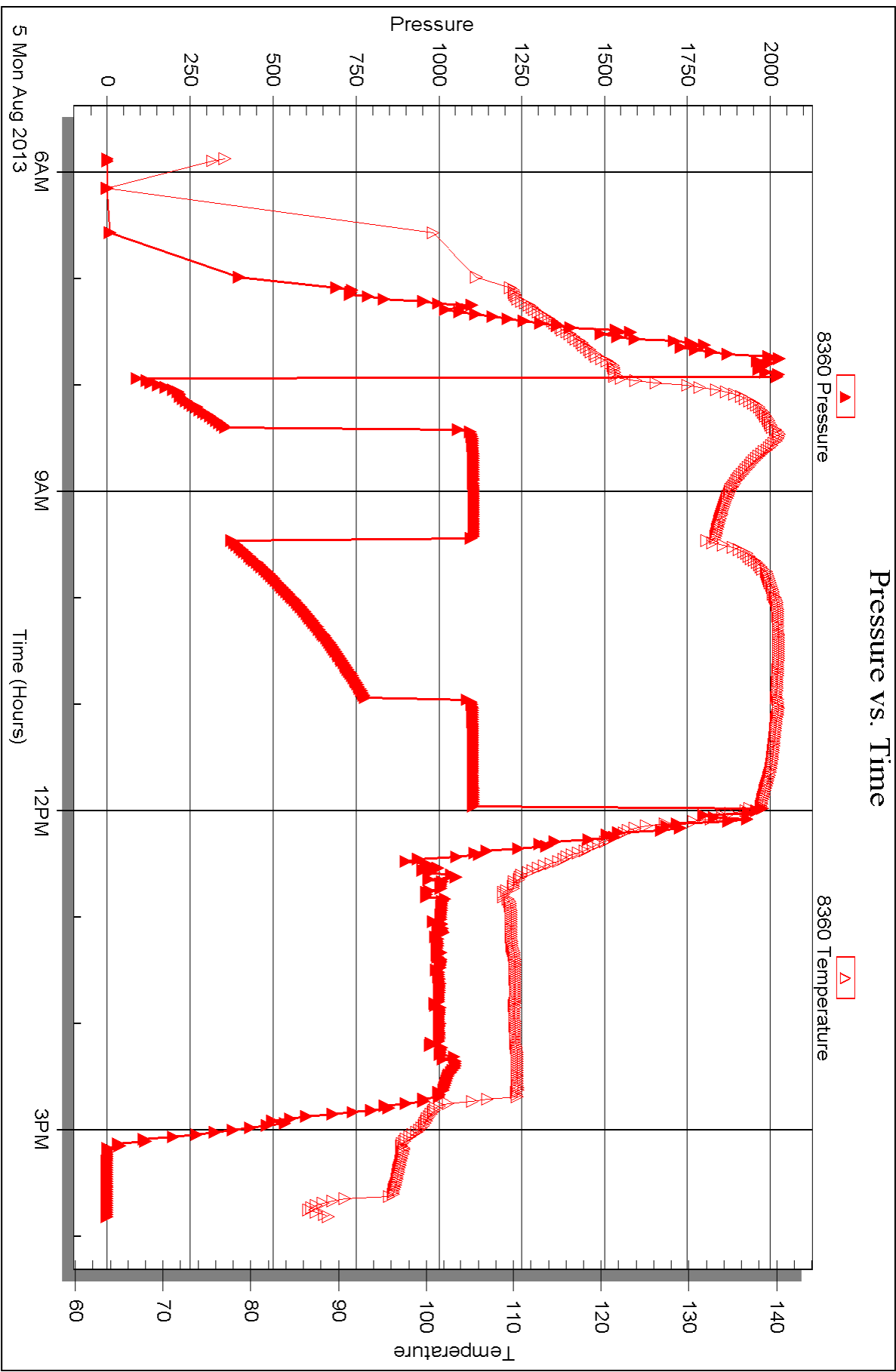
Serial #: 8360

Inside

Murfin Drilling Co.

Mary Ann #2-1

DST Test Number: 4





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water STE 300
Wichita KS 67202

ATTN: Robert Hendrix

Mary Ann #2-1

1-1s-35w Rawlins,KS

Start Date: 2013.08.06 @ 10:00:00

End Date: 2013.08.06 @ 16:55:30

Job Ticket #: 53416 DST #: 5

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

Printed: 2013.08.09 @ 09:14:03

Murfin Drilling Co. 1-1s-35w Rawlins,KS Mary Ann #2-1 DST # 5 LKC G,H,I 2013.08.06



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co.

1-1s-35w Rawlins,KS

250 N Water STE 300
Wichita KS 67202

Mary Ann #2-1

ATTN: Robert Hendrix

Job Ticket: 53416

DST#: 5

Test Start: 2013.08.06 @ 10:00:00

GENERAL INFORMATION:

Formation: **LKC G,H,I**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:05:30

Time Test Ended: 16:55:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Wilbur Steinbeck

Unit No: 44

Interval: 4113.00 ft (KB) To 4233.00 ft (KB) (TVD)

Reference Elevations: 3095.00 ft (KB)

Total Depth: 4233.00 ft (KB) (TVD)

3085.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8353 Outside

Press @ RunDepth: 24.88 psig @ 4114.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.08.06

End Date:

2013.08.06

Last Calib.: 2013.08.06

Start Time: 10:00:15

End Time:

16:55:30

Time On Btm: 2013.08.06 @ 12:04:30

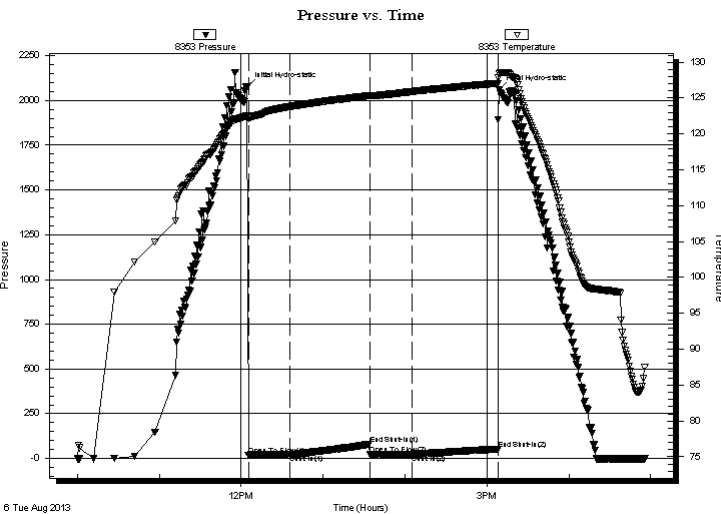
Time Off Btm: 2013.08.06 @ 15:09:00

TEST COMMENT: 30 IF; Built to 1/4"

60 IS; No Blow

30 FF; No Blow

60 FS; No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2076.67	122.52	Initial Hydro-static
1	19.17	122.32	Open To Flow (1)
31	21.95	123.81	Shut-In(1)
90	79.77	125.34	End Shut-In(1)
90	22.95	125.35	Open To Flow (2)
121	24.88	125.90	Shut-In(2)
184	52.18	127.07	End Shut-In(2)
185	2058.90	128.42	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud	0.02

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

1-1s-35w Rawlins,KS

250 N Water STE 300
Wichita KS 67202

Mary Ann #2-1

Job Ticket: 53416

DST#: 5

ATTN: Robert Hendrix

Test Start: 2013.08.06 @ 10:00:00

Tool Information

Drill Pipe:	Length: 3581.00 ft	Diameter: 3.80 inches	Volume: 50.23 bbl	Tool Weight: 25000.00 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: 535.00 ft	Diameter: 2.25 inches	Volume: 2.63 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 52.86 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4113.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	120.00 ft			
Tool Length:	147.00 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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Shut In Tool	5.00			4091.00	
Hydraulic tool jars	5.00			4096.00	
safety Joint	3.00			4101.00	
Packer	5.00			4109.00	27.00 Bottom Of Top Packer
Packer	4.00			4113.00	
Stubb	1.00			4114.00	
Recorder	0.00	8360	Inside	4114.00	
Recorder	0.00	8353	Outside	4114.00	
Perforations	18.00			4132.00	
Change Over Sub	1.00			4133.00	
Blank Spacing	96.00			4229.00	
Change Over Sub	1.00			4230.00	
Bullnose	3.00			4233.00	120.00 Bottom Packers & Anchor

Total Tool Length: 147.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

1-1s-35w Rawlins,KS

250 N Water STE 300
Wichita KS 67202

Mary Ann #2-1

Job Ticket: 53416

DST#: 5

ATTN: Robert Hendrix

Test Start: 2013.08.06 @ 10:00:00

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: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 500.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

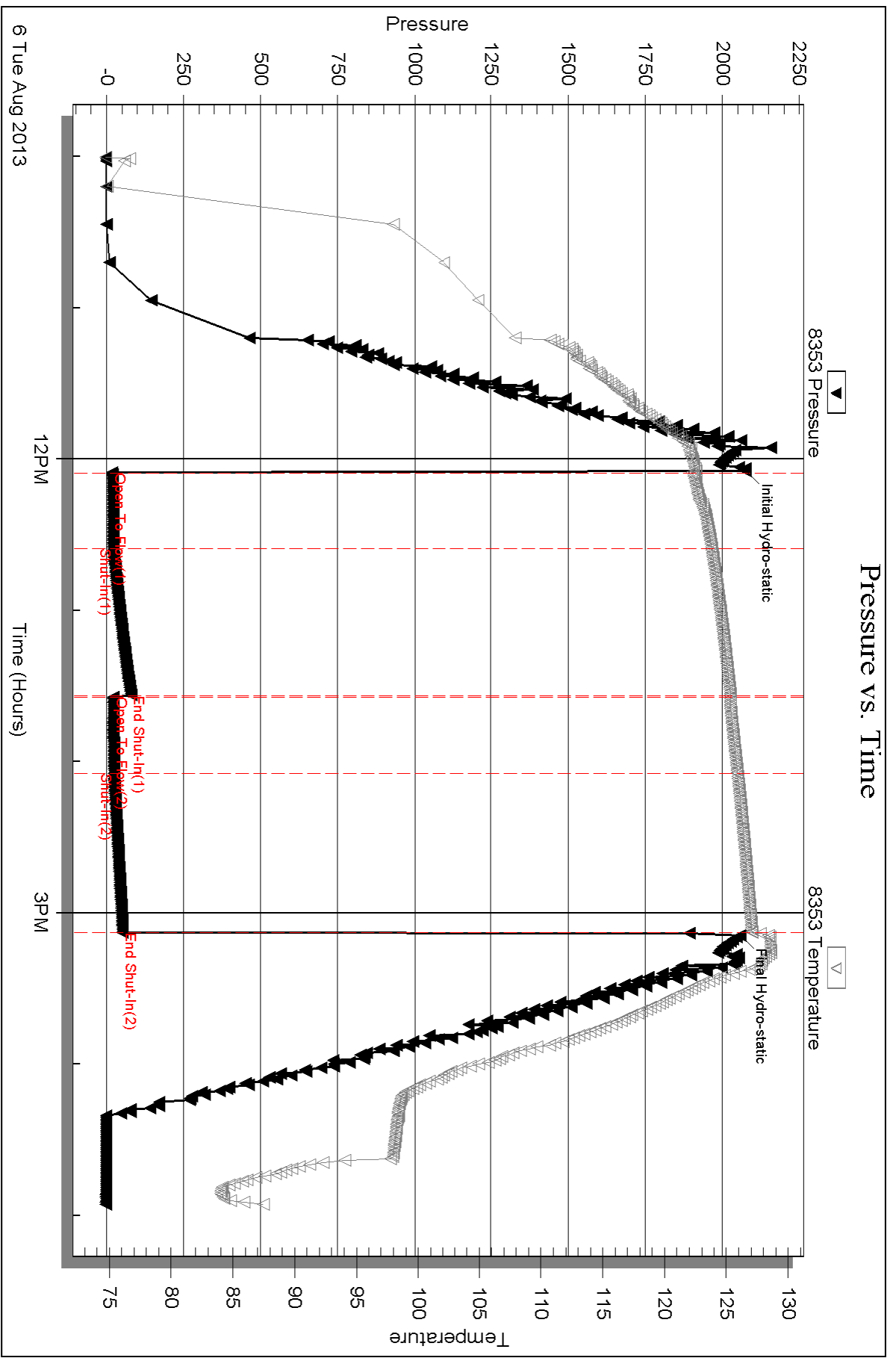
Num Gas Bombs: 0

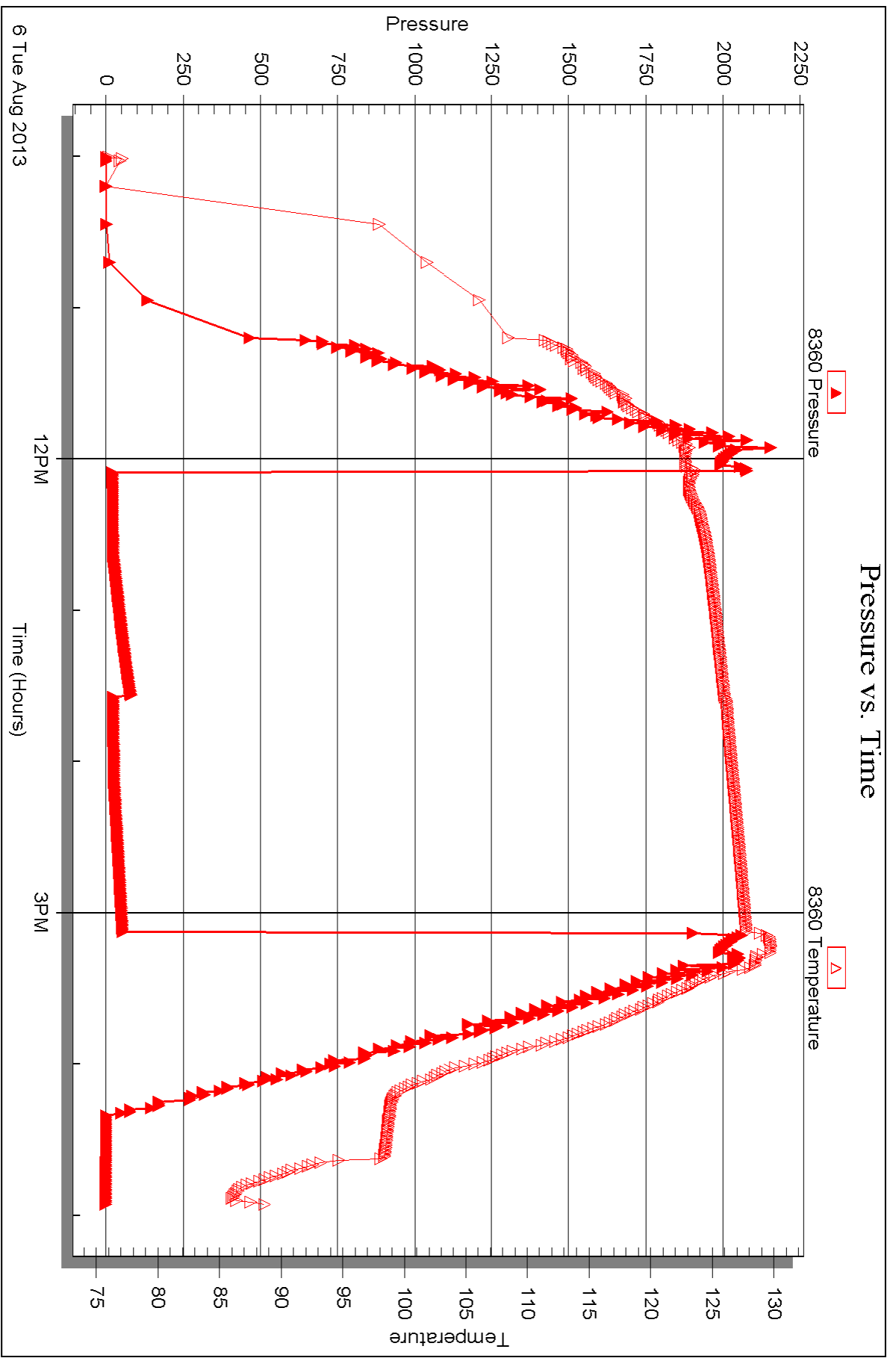
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water STE 300
Wichita KS 67202

ATTN: Robert Hendrix

Mary Ann #2-1

1-1s-35w Rawlins,KS

Start Date: 2013.08.07 @ 00:10:00

End Date: 2013.08.07 @ 09:48:30

Job Ticket #: 53417 DST #: 6

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

Printed: 2013.08.09 @ 09:13:19

Murfin Drilling Co. 1-1s-35w Rawlins,KS Mary Ann #2-1 DST # 6 LKC J 2013.08.07



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co.

1-1s-35w Rawlins,KS

250 N Water STE 300
Wichita KS 67202

Mary Ann #2-1

ATTN: Robert Hendrix

Job Ticket: 53417

DST#: 6

Test Start: 2013.08.07 @ 00:10:00

GENERAL INFORMATION:

Formation: **LKC J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:55:00

Time Test Ended: 09:48:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Wilbur Steinbeck

Unit No: 42

Interval: 4213.00 ft (KB) To 4258.00 ft (KB) (TVD)

Reference Elevations: 3095.00 ft (KB)

Total Depth: 4258.00 ft (KB) (TVD)

3085.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8353 Outside

Press @ Run Depth: 29.31 psig @ 4214.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.08.07

End Date:

2013.08.07

Last Calib.:

2013.08.07

Start Time: 00:10:15

End Time:

09:48:30

Time On Btm:

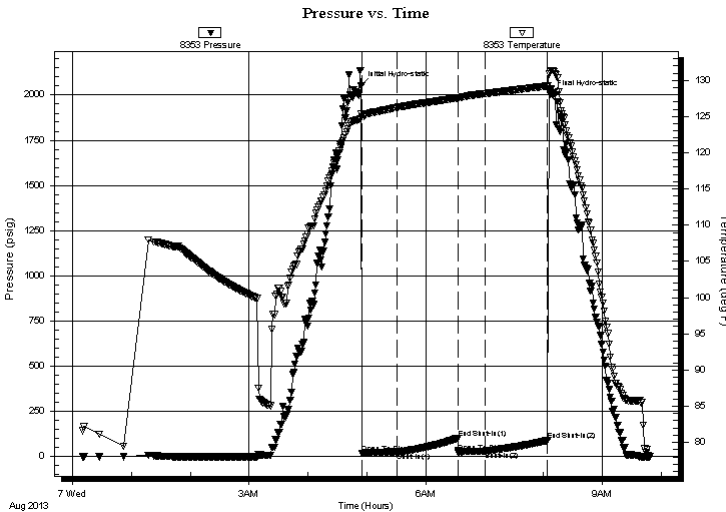
2013.08.07 @ 04:54:15

Time Off Btm:

2013.08.07 @ 08:07:00

TEST COMMENT: 30 IF; Surge blow then died
60 IS; No Blow
30 FF; No Blow
60 FS; No Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2053.53	125.38	Initial Hydro-static
1	16.63	125.00	Open To Flow (1)
36	25.04	126.25	Shut-In(1)
99	101.15	127.56	End Shut-In(1)
99	22.76	127.56	Open To Flow (2)
126	29.31	128.17	Shut-In(2)
190	89.10	129.22	End Shut-In(2)
193	2002.97	131.26	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	OCM 25%O 75%M	0.02

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.

1-1s-35w Rawlins,KS

250 N Water STE 300
Wichita KS 67202

Mary Ann #2-1

Job Ticket: 53417

DST#: 6

ATTN: Robert Hendrix

Test Start: 2013.08.07 @ 00:10:00

Tool Information

Drill Pipe:	Length: 3681.00 ft	Diameter: 3.80 inches	Volume: 51.63 bbl	Tool Weight: 25000.00 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: 535.00 ft	Diameter: 2.25 inches	Volume: 2.63 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 54.26 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4213.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	45.00 ft			
Tool Length:	72.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Shut In Tool	5.00			4191.00	
Hydraulic tool	5.00			4196.00	
jars	5.00			4201.00	
safety Joint	3.00			4204.00	
Packer	5.00			4209.00	27.00 Bottom Of Top Packer
Packer	4.00			4213.00	
Stubb	1.00			4214.00	
Recorder	0.00	8360	Inside	4214.00	
Recorder	0.00	8353	Outside	4214.00	
Perforations	7.00			4221.00	
Change Over Sub	1.00			4222.00	
Blank Spacing	32.00			4254.00	
Change Over Sub	1.00			4255.00	
Bullnose	3.00			4258.00	45.00 Bottom Packers & Anchor

Total Tool Length: 72.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

1-1s-35w Rawlins,KS

250 N Water STE 300
Wichita KS 67202

Mary Ann #2-1

Job Ticket: 53417

DST#: 6

ATTN: Robert Hendrix

Test Start: 2013.08.07 @ 00:10:00

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: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	OCM 25%O 75%M	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

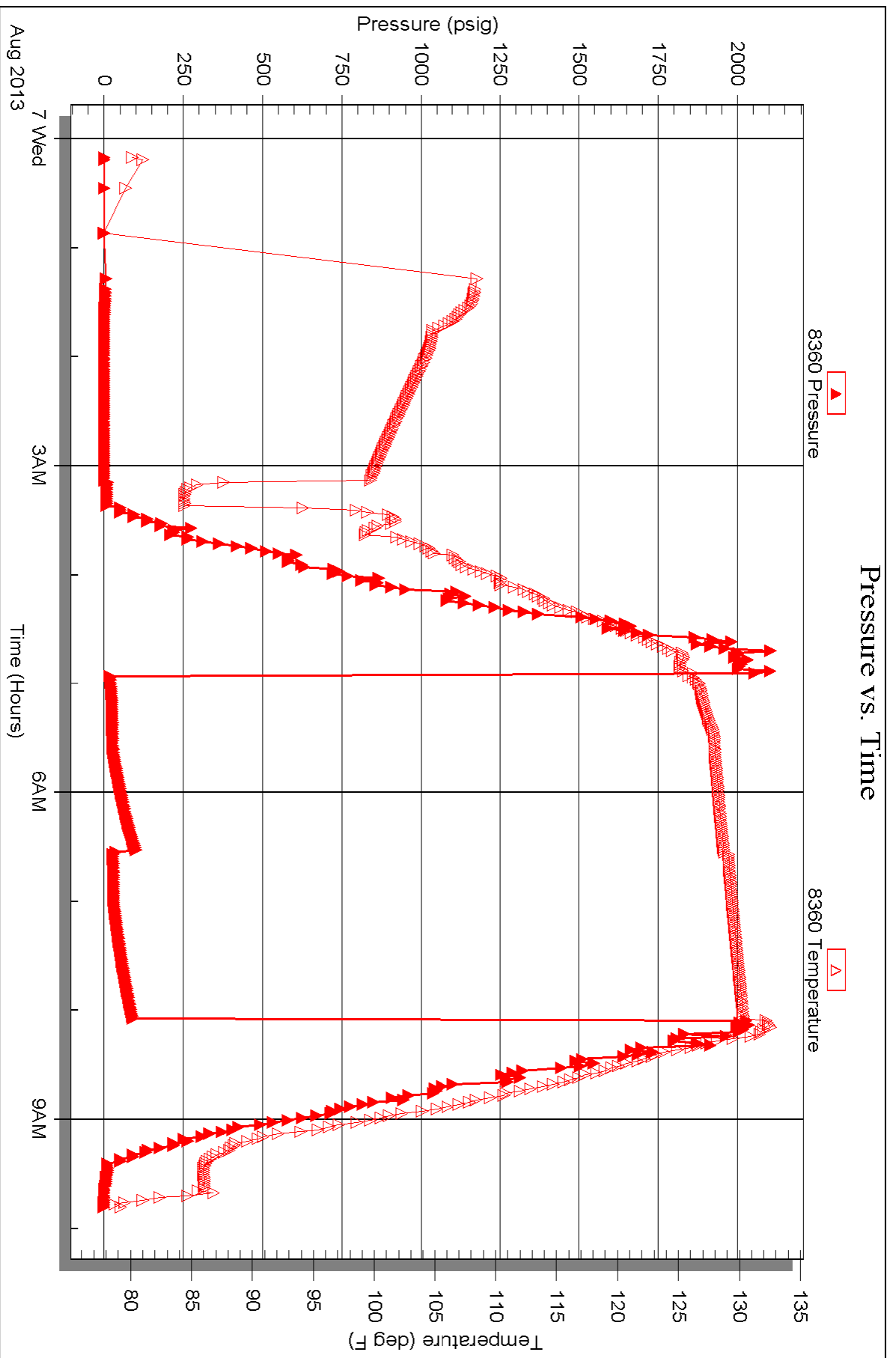
Serial #: 8360

Inside

Murfin Drilling Co.

Mary Ann #2-1

DST Test Number: 6





TRIBOLITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 53412

4/10

Well Name & No. Mary Ann 2-1 Test No. 1 Date 8-2-13
 Company Murkin Drilling Co. Elevation 3095 KB 3085 GL
 Address 250 N W 30th STE 300 Wichita Ks 67202
 Co. Rep / Geo. _____ Rig Murkin 14
 Location: Sec. 1 Twp. 15 Rge. 36W Co. Rawlins State Ks

Interval Tested 3588 - 3633 Zone Tested Foraker
 Anchor Length 45 Drill Pipe Run 3045 Mud Wt. 8.6
 Top Packer Depth 3583 Drill Collars Run 535 Vis 57
 Bottom Packer Depth 3588 Wt. Pipe Run 0 WL 60
 Total Depth 3633 Chlorides 500 ppm System LCM 4

Blow Description IF: Burt to 1/4"
ISI: No blow
FF: No blow
FSI: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>OCM</u>	<u>25</u>		<u>75</u>	
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 129 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic	<u>1702</u>	<input checked="" type="checkbox"/> Test	<u>1150</u>	T-On Location	<u>12:05</u>
(B) First Initial Flow	<u>17</u>	<input checked="" type="checkbox"/> Jars	<u>250</u>	T-Started	<u>12:45</u>
(C) First Final Flow	<u>25</u>	<input checked="" type="checkbox"/> Safety Joint	<u>75</u>	T-Open	<u>12:55</u>
(D) Initial Shut-In	<u>919</u>	<input checked="" type="checkbox"/> Circ Sub	<u>NA</u>	T-Pulled	<u>17:55</u>
(E) Second Initial Flow	<u>28</u>	<input type="checkbox"/> Hourly Standby		T-Out	<u>19:38</u>
(F) Second Final Flow	<u>36</u>	<input checked="" type="checkbox"/> Mileage	<u>120 RT</u> 186	Comments	
(G) Final Shut-In	<u>829</u>	<input type="checkbox"/> Sampler			
(H) Final Hydrostatic	<u>1678</u>	<input type="checkbox"/> Straddle			

Initial Open	<u>30</u>	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In	<u>60</u>	<input type="checkbox"/> Ruined Packer
Final Flow	<u>30</u>	<input type="checkbox"/> Extra Copies
Final Shut-In	<u>60</u>	Sub Total <u>0</u>
		Total <u>1661</u>
		MP/DST Disc't _____
		Sub Total <u>1661</u>

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 53413

Well Name & No. Mary Ann #2-1 Test No. 2 Date 8-3-13
 Company Murfin Drilling Co. Elevation 3095 KB 3085 GL
 Address 250 N Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Murfin 14
 Location: Sec. 1 Twp. 15 Rge. 36W Co. Rawlins State KS

Interval Tested 3902-3960 Zone Tested Orind
 Anchor Length 58 Drill Pipe Run 3362 Mud Wt. 8.7
 Top Packer Depth 3897 Drill Collars Run 535 Vis 69
 Bottom Packer Depth 3902 Wt. Pipe Run 0 WL 5.2
 Total Depth 3960 Chlorides 500 ppm System LCM 4

Blow Description IF: Built to 7"
IS: No blow
FF: Built to 9"
FS: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>45</u>	Feet of <u>OCM</u>	<u>5</u>		<u>95</u>	
<u>368</u>	Feet of <u>MCLW</u>				
	Feet of				
	Feet of				
	Feet of				

Rec Total 413 BHT 129° Gravity API RW .220 @ 69 °F Chlorides 31,000 ppm

(A) Initial Hydrostatic 1,858 Test 1150 T-On Location 16:15
 (B) First Initial Flow 18 Jars 250 T-Started 16:38
 (C) First Final Flow 95 Safety Joint 75 T-Open 18:50
 (D) Initial Shut-In 1227 Circ Sub NA T-Pulled 22:50
 (E) Second Initial Flow 103 Hourly Standby T-Out 00:33
 (F) Second Final Flow 219 Mileage 120 RT 186 Comments _____
 (G) Final Shut-In 1208 Sampler _____
 (H) Final Hydrostatic 1854 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90
 Sub Total 1661
 Total 1661
 MP/DST Disc't _____

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 53414

Well Name & No. Mary Ann 2-1 Test No. 3 Date 8-4-13
 Company Martin Drilling Co. Elevation 3095 KB 3085 GL
 Address 250 N Wacker STE 300 Wichita Ks 67202
 Co. Rep / Geo. Robert Hepervix Rig Martin 14
 Location: Sec. 1 Twp. 15 Rge. 36w Co. Rawlins State Ks

Interval Tested 3976 4075 Zone Tested Layer A
 Anchor Length 99 Drill Pipe Run 3424 Mud Wt. 9.0
 Top Packer Depth 3971 Drill Collars Run 535 Vis 62
 Bottom Packer Depth 3976 Wt. Pipe Run 0 WL 5.6
 Total Depth 4075 Chlorides 800 ppm System LCM 4
 Blow Description 1F, Force Blow died in 7 min
151, No Blow
FF, No Blow
PSI, No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 30 BHT 126° Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm
 (A) Initial Hydrostatic 1958 Test 1250 T-On Location 14:00
 (B) First Initial Flow 45 Jars 250 T-Started 14:10
 (C) First Final Flow 50 Safety Joint 75 T-Open 16:10
 (D) Initial Shut-In 679 Circ Sub NA T-Pulled 19:10
 (E) Second Initial Flow 50 Hourly Standby T-Out 20:55
 (F) Second Final Flow 54 Mileage 120 RT 186 Comments _____
 (G) Final Shut-In 527 Sampler _____
 (H) Final Hydrostatic 1935 Straddle _____

Initial Open 30 Shale Packer _____
 Initial Shut-In 60 Extra Packer _____
 Final Flow 30 Extra Recorder _____
 Final Shut-In 60 Day Standby _____
 Sub Total 0 Accessibility _____
 Total 1761 MP/DST Disc't _____
 Sub Total 1761

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 53415

Well Name & No. Mary Ann #2-1 Test No. 4 Date 8-5-13
 Company Murfin Drilling Co. Elevation 3095 KB 3085 GL.
 Address 250 N Water STE 300 Wichita Ks 67202
 Co. Rep / Geo. Robert Hendrix Rig Murfin 14
 Location: Sec. 1 Twp. 1s Rge. 36w Co. Rawlins State Ks

Interval Tested 1061 4101 Zone Tested Land D
 Anchor Length 40' Drill Pipe Run 3522 Mud Wt. 9.0
 Top Packer Depth 4056 Drill Collars Run 535 Vis 62
 Bottom Packer Depth 4061 Wt. Pipe Run 800 WL 5.6
 Total Depth 4101 Chlorides 800 ppm System LCM 4

Blow Description 1F; BOB in 1min
1S1; BOB in 3min
1F; BOB in 2min Gas to Surface 20min into Flow
1S1; BOB in 3min

Rec	Feet of	%gas	%oil	%water	%mud
192	OG	70	30		
1720	Reversed flow out OG	30	70		
96	GMCO	20	45	35	
	Gas to Surface 20min into				
	2nd open				

Rec Total 2008 BHT 136° Gravity 3.14 @ 10 = 33.4 API RW @ ° F Chlorides ppm

(A) Initial Hydrostatic 2019 Test 1250 T-On Location 5:20
 (B) First Initial Flow 72 Jars 250 T-Started 5:52
 (C) First Final Flow 359 Safety Joint 75 T-Open 7:55
 (D) Initial Shut-In 1105 Circ Sub Dropped bar 50 T-Pulled 12:55
 (E) Second Initial Flow 369 Hourly Standby T-Out 3:48
 (F) Second Final Flow 777 Mileage 120 RT 186 Comments Dropped bar
 (G) Final Shut-In 1104 Sampler and Reversed out
 (H) Final Hydrostatic 1951 Straddle fluid

Initial Open 30 Shale Packer
 Initial Shut-In 60 Extra Packer
 Final Flow 90 Extra Recorder
 Final Shut-In 120 60 Day Standby
 Accessibility
 Sub Total 1811 MP/DST Disc't

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 53416

Well Name & No. May Ann #2-1 Test No. 5 Date 8-6-13
 Company Martin Drilling Co. Elevation 3095 KB 3085 GL
 Address 250 N. Water St. 300 Wichita KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Martin 14
 Location: Sec. 1 Twp. 6s Rge. 36W Co. Rawlins State Ks

Interval Tested 4113 - 4233 Zone Tested Lon G, H, J
 Anchor Length 120' Drill Pipe Run 3581 Mud Wt. 9.2
 Top Packer Depth 4108 Drill Collars Run 535 Vis 58
 Bottom Packer Depth 4113 Wt. Pipe Run 0 WL 5.6
 Total Depth 4233 Chlorides 800 ppm System LCM 4

Blow Description 1F, Bhit to 1/4"
1st, No Blow
FF, No Blow
1st, No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 128 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2,077</u>	<input type="checkbox"/> Test 1250	T-On Location <u>9.15</u>
(B) First Initial Flow <u>19</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>10.00</u>
(C) First Final Flow <u>22</u>	<input checked="" type="checkbox"/> Safety Joint <u>NA</u> 75	T-Open <u>12.00</u>
(D) Initial Shut-In <u>80</u>	<input checked="" type="checkbox"/> Circ Sub <u>NA</u>	T-Pulled <u>15.00</u>
(E) Second Initial Flow <u>23</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>16.50</u>
(F) Second Final Flow <u>25</u>	<input checked="" type="checkbox"/> Mileage <u>170KT</u> 186	Comments _____
(G) Final Shut-In <u>52</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2,059</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer

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

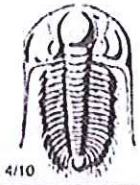
Shale Packer
 Extra Packer
 Extra Recorder
 Day Standby
 Accessibility

Sub Total 1761

MP/DST Disc't _____

Approved By _____ Our Representative [Signature]

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 53417

Well Name & No. Mary Ann 2-1 Test No. 6 Date 8.7-13
 Company Murphy Drilling Co. Elevation 3095 KB 3085 GL
 Address 250 N Water Ste 300 Wichita KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Murphy 14
 Location: Sec. 1 Twp. 15 Rge. 36w Co. Rawlins State KS

Interval Tested 4213 4258 Zone Tested Lan J
 Anchor Length 45 Drill Pipe Run 3681 Mud Wt. 9.2
 Top Packer Depth 4208 Drill Collars Run 535 Vis 58
 Bottom Packer Depth 4213 Wt. Pipe Run 0 WL 5.6
 Total Depth 4258 Chlorides 800 ppm System LCM 4

Blow Description 1F1 Surge blow then Dry
1S1, No Blow
1F1, No Blow
1S1, No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>MCO</u>	<u>60</u>		<u>40</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 118° Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2085</u>	<input type="checkbox"/> Test 1250	T-On Location <u>12:00</u>
(B) First Initial Flow <u>27</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>12:10</u>
(C) First Final Flow <u>36</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>5:00</u>
(D) Initial Shut-In <u>113</u>	<input checked="" type="checkbox"/> Circ Sub <u>NA</u>	T-Pulled <u>8:00</u>
(E) Second Initial Flow <u>47</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>9:48</u>
(F) Second Final Flow <u>42</u>	<input checked="" type="checkbox"/> Mileage <u>120 RT 372</u>	Comments <u>Loaded tools</u>
(G) Final Shut-In <u>101</u>	<input type="checkbox"/> Sampler	<u>9:15 8-8-13</u>
(H) Final Hydrostatic <u>2041</u>	<input type="checkbox"/> Straddle	

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

Ruined Shale Packer
 Ruined Packer
 Extra Copies
 Sub Total 0
 Total 1947
 MP/DST Disc't _____

Sub Total 1947

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



PO Box 93999
Southlake, TX 76092

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

Acct
EH

INVOICE

Invoice Number: 1377 19
Invoice Date: Jul 30, 2013
Page: 1

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

Now Includes:



Customer ID	Field Ticket #	Payment Terms	
Murfin	60771	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	Jul 30, 2013	8/29/13

Quantity	Item	Description	Unit Price	Amount
		Mary Ann #2-1		
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
827.81	SER	Ton Mileage	2.60	2,152.33
1.00	SER	Surface	1,512.25	1,512.25
90.00	SER	Pump Truck Mileage	7.70	693.00
1.00	SER	Manifold Head Rental	275.00	275.00
90.00	SER	Light Vehicle Mileage	4.40	396.00
1.00	CEMENTER	Andrew Forslund		
1.00	EQUIP OPER	D J Gray		
1.00	OPER ASSIST	Chris Helpingstine		

Handwritten signature: @KAD

Subtotal	9,372.34
Sales Tax	304.07
Total Invoice Amount	9,676.41
Payment/Credit Applied	
TOTAL	9,676.41

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

\$ 3,280.31

ONLY IF PAID ON OR BEFORE

Aug 24, 2013



P. O. Box
Ness City, KS
Off: 785-7

Accty -
cc: WF
cc: Lir
cc: P-1

Invoice

DATE	INVOICE #
8/9/2013	24894

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	#2-1	Mary Ann	Rawlins	Company Tools	Oil	Development	LongString	Nick
PRICE REF.	DESCRIPTION				QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way				150	Miles	6.00	900.00
578D-L	Pump Charge - Long String - 4420 Feet				1	Job	1,500.00	1,500.00
221	Liquid KCL (Clayfix)				4	Gallon(s)	25.00	100.00T
281	Mud Flush				500	Gallon(s)	1.25	625.00T
290	D-Air				5	Gallon(s)	42.00	210.00T
403-5	5 1/2" Cement Basket				3	Each	285.00	855.00T
406-5	5 1/2" Latch Down Plug & Baffle				1	Each	275.00	275.00T
407-5	5 1/2" Insert Float Shoe With Auto Fill				1	Each	375.00	375.00T
409-5	5 1/2" Turbolizer				14	Each	90.00	1,260.00T
413-5	5 1/2" Roto Wall Scratcher				8	Each	40.00	320.00T
419-5	5 1/2" Rotating Head Rental				1	Each	200.00	200.00T
325	Standard Cement				200	Sacks	14.00	2,800.00T
330	Swift Multi-Density Standard (MIDCON-1)				300	Sacks	17.00	5,100.00T
276	Flocele				25	Lb(s)	2.00	250.00T
283	Salt				200	Lb(s)	0.20	200.00T
284	Calseal				9	Sack(s)	35.00	315.00T
285	CFR-1				150	Lb(s)	4.00	600.00T
581D	Service Charge Cement				500	Sacks	2.00	1,000.00
583D	Drayage				3,773	Ton Miles	1.00	3,773.00
	Subtotal							20,658.00
	Sales Tax Rawlins County						7.90%	1,065.32
We Appreciate Your Business!						Total		\$21,723.32

APPROVED FOR [Signature]



Services, Inc.

CHARGE TO: Marlin Dlg Co Inc
 ADDRESS
 CITY, STATE, ZIP CODE

TICKET No **24894**

PAGE 1 OF 2

SERVICE LOCATIONS
 1. Hays, KS WELL PROJECT NO H 2-1 LEASE Mary Ann COUNTY/PARISH Randias STATE KS CITY
 2. Ness City, KS TICKET TYPE SERVICE CONTRACTOR Co Tools Rig # RIG NAME NO. ET SHIPPED VIA ET DELIVERED TO Location DATE 8-9-13 OWNER
 3. WELL TYPE oil WELL CATEGORY Development JOB PURPOSE longstring WELL PERMIT NO. WELL LOCATION
 4. REFERRAL LOCATION INVOICE INSTRUCTIONS

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	MILEAGE	QTY.	UM	QTY.	UM	UNIT PRICE	AMOUNT
		LOC	ACCT	DF								
575						150.00					6.00	900.00
578					Pump Charge (Longstring)	129		4420			1500.00	1500.00
221					REL	4 gal					25.00	100.00
281					Mud Flush	500 gal					1.25	625.00
290					D-Air	5 gal					42.00	210.00
403					Baskets	3 ea		5-1/2"			28.00	85.00
406					LD Plug & Baffle	1 ea					275.00	275.00
407					Insert Float Shoe w/ Bell	1 ea					375.00	375.00
409					Turbolizers	14 ea					90.00	1260.00
413					Rotarywell Scratchers	8 ea					40.00	320.00
419					Rotating Head	1 ea					200.00	200.00

LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS
 DATE SIGNED 8-9-13 TIME SIGNED 0300 A.M. P.M.
 Signature: Randy Duke

REMIT PAYMENT TO:
 SWIFT SERVICES, INC.
 P.O. BOX 466
 NESS CITY, KS 67560
 785-798-2300

SURVEY		AGREE	UN-DECIDED	DIS-AGREE	PAGE TOTAL	AMOUNT
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?					1	6020.00
WE UNDERSTOOD AND MET YOUR NEEDS?					2	14058.00
OUR SERVICE WAS PERFORMED WITHOUT DELAY?					Subtotal	20658.00
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?					Rewlins	1065.32
ARE YOU SATISFIED WITH OUR SERVICE?					Tax 7.9%	83.98
<input type="checkbox"/> CUSTOMER DID NOT WISH TO RESPOND					TOTAL	21,723.32

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.
 SWIFT OPERATOR: Mark W. White APPROVAL: Mark W. White
 Thank You!

JOB LOG

SWIFT Services, Inc.

DATE 8-8-13 PAGE NO.

CUSTOMER *Murfin Drilling Co Inc* WELL NO. # *2-1* LEASE *Mary Ann* JOB TYPE *Longstring* TICKET NO. *24894*

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	2100							on loc w/FE
								RTD 4420'
								5 1/2" x 15.5' x 4415' x 23'
								Turbo 1-12, 33, 5D
								Baskets 13, 34, 51
	2200							start FE
	0000							Break Circ
	0125	5	0			200		Start Mudflush 500 gal
		5	12/0			200		Start KCL flush 20 bbl
		5	20/0			200		Start SMD Cement 300 1250 sks SMD
		5	141/0			200		Start EA-2 Cement 200 sks
	0245		48					End Cement
								wash P/L
								Drop ED Plug
	0220	6	0			200		Start Displacement
	0235	5	80			1000		Circ Cement
	0240		104.5			1500		Land Plug
								Release Pressure
								Float Held
	0245	2						Plug RH/MH 3020 sks SMD
								circ 40 sks to pit
								Thank you
								Nicky, David E, Doug & Isaac