



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1235575
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

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

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

- New Well Re-Entry Workover
- Oil WSW SWD SIOW
- Gas D&A ENHR SIGW
- OG GSW Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

- Deepening Re-perf. Conv. to ENHR Conv. to SWD
- Plug Back Conv. to GSW Conv. to Producer
- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- ENHR Permit #: _____
- GSW Permit #: _____

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

GPS Location: Lat: _____, Long: _____
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested
Date: _____
- Confidential Release Date: _____
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____

1235575

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 <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
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:				

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. <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	Vanava 3-5
Doc ID	1235575

All Electric Logs Run

DIL
DUCP
MEL
BHCS
CBL



DRILL STEM TEST REPORT

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

250 N Water STE
Wichita KS 67202

ATTN: Larry Nicholson

Vanava #3 5

5-13s-32w Logan,KS

Start Date: 2014.09.28 @ 05:42:15

End Date: 2014.09.28 @ 13:25:00

Job Ticket #: 59157 DST #: 1

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

Printed: 2014.10.03 @ 16:45:19

Murfin Drilling Co. Inc. 5-13s-32w Logan,KS Vanava #3 5 DST # 1 LKC A-D 2014.09.28



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

5-13s-32w Logan,KS

250 N Water STE
Wichita KS 67202

Vanava #3 5

Job Ticket: 59157

DST#: 1

ATTN: Larry Nicholson

Test Start: 2014.09.28 @ 05:42:15

GENERAL INFORMATION:

Formation: **LKC A-D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:36:15

Time Test Ended: 13:25:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Mike Roberts

Unit No: 65

Interval: 4043.00 ft (KB) To 4118.00 ft (KB) (TVD)

Reference Elevations: 3056.00 ft (KB)

Total Depth: 4118.00 ft (KB) (TVD)

3046.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8737 Outside

Press@RunDepth: 485.90 psig @ 4047.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.28

End Date:

2014.09.28

Last Calib.:

2014.09.28

Start Time: 05:42:15

End Time:

13:25:00

Time On Btm:

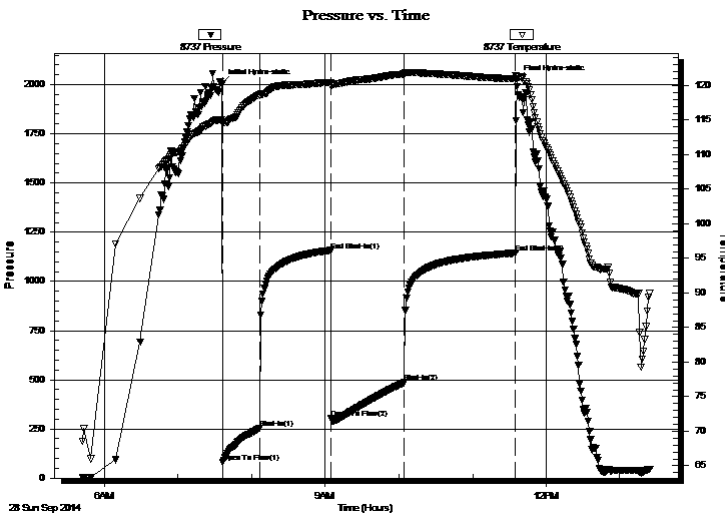
2014.09.28 @ 07:35:45

Time Off Btm:

2014.09.28 @ 11:36:00

TEST COMMENT: IF: Built to 2" blow then died down to 1" blow
IS: No return blow
FF: BOB in 39 min.
FS: No return blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2003.56	115.10	Initial Hydro-static
1	80.98	114.45	Open To Flow (1)
31	253.45	118.63	Shut-In(1)
89	1157.53	120.49	End Shut-In(1)
89	305.96	119.90	Open To Flow (2)
149	485.90	121.66	Shut-In(2)
240	1144.04	120.96	End Shut-In(2)
241	2026.13	121.31	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
308.00	mcw 40%m 60%w	1.51
744.00	w cm 50%w 50%m	10.44
62.00	w cm 50%w 50%m trace of oil on top	0.87

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

5-13s-32w Logan,KS

250 N Water STE
Wichita KS 67202

Vanava #3 5

Job Ticket: 59157

DST#: 1

ATTN: Larry Nicholson

Test Start: 2014.09.28 @ 05:42:15

Tool Information

Drill Pipe:	Length: 3734.00 ft	Diameter: 3.80 inches	Volume: 52.38 bbl	Tool Weight: 1500.00 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: 308.00 ft	Diameter: 2.25 inches	Volume: 1.51 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 53.89 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4043.00 ft			Final 78000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	75.00 ft			
Tool Length:	99.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4020.00	
Shut In Tool	5.00			4025.00	
Hydraulic tool	5.00			4030.00	
Jars	5.00			4035.00	
Safety Joint	3.00			4038.00	
Packer	5.00			4043.00	24.00 Bottom Of Top Packer
Packer - Shale	0.00			4043.00	
Stubb	1.00			4044.00	
Perforations	3.00			4047.00	
Recorder	0.00	8846	Inside	4047.00	
Recorder	0.00	8737	Outside	4047.00	
Change Over Sub	1.00			4048.00	
Blank Spacing	64.00			4112.00	
Change Over Sub	1.00			4113.00	
Bullnose	5.00			4118.00	75.00 Anchor Tool

Total Tool Length: 99.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

5-13s-32w Logan,KS

250 N Water STE
Wichita KS 67202

Vanava #3 5

Job Ticket: 59157

DST#: 1

ATTN: Larry Nicholson

Test Start: 2014.09.28 @ 05:42:15

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

12000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbf

Water Loss: 6.31 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2400.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
308.00	mcw 40%m 60%w	1.515
744.00	w cm 50%w 50%m	10.436
62.00	w cm 50%w 50%m trace of oil on top	0.870

Total Length: 1114.00 ft Total Volume: 12.821 bbf

Num Fluid Samples: 0

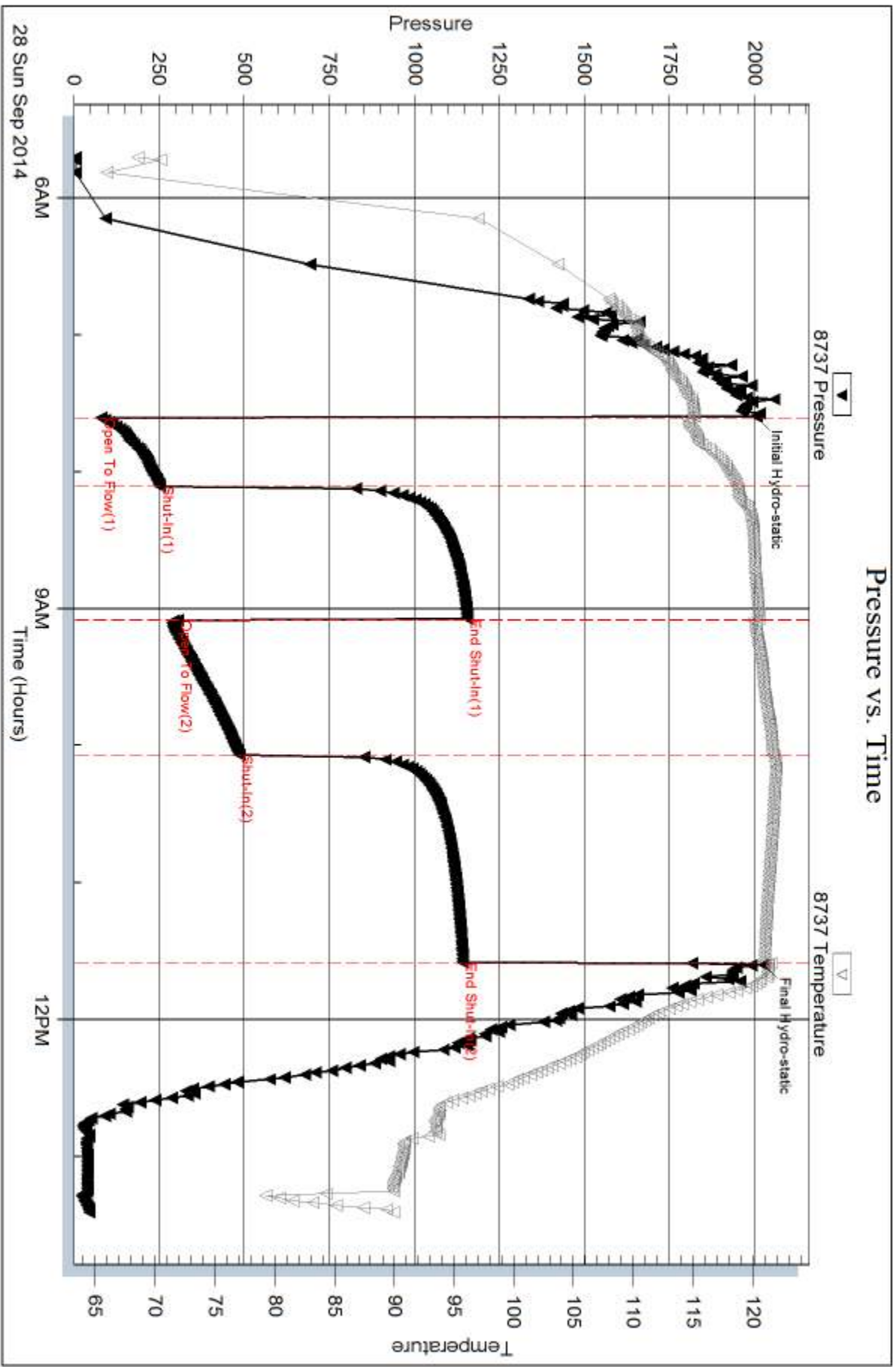
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW= .547@ 82.3*=12,000 PPM



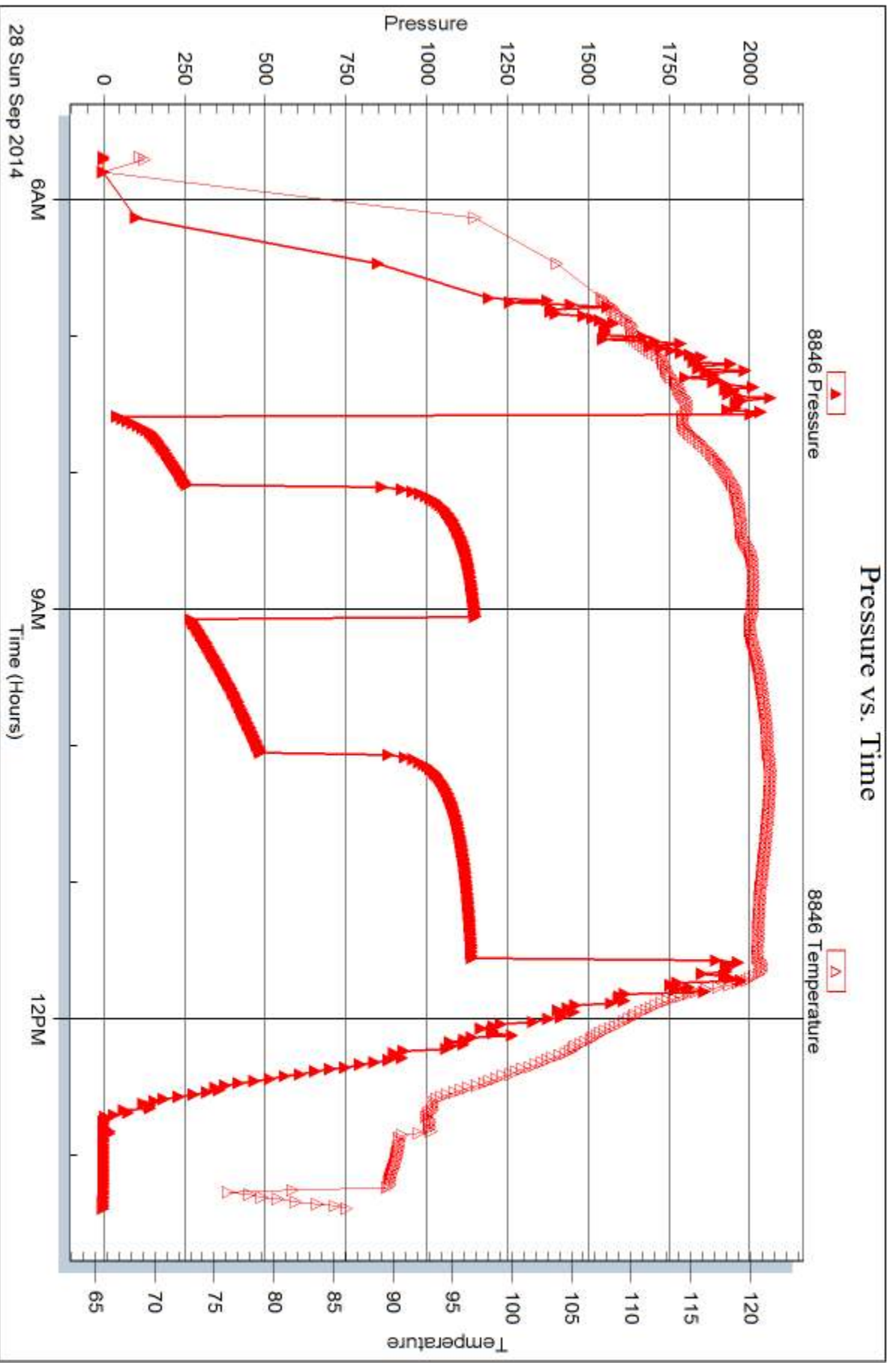
Serial #: 8846

Inside

Murfin Drilling Co. Inc.

Vanava #3 5

DST Test Number: 1





DRILL STEM TEST REPORT

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

250 N Water STE
Wichita KS 67202

ATTN: Larry Nicholson

Vanava #3 5

5-13s-32w Logan,KS

Start Date: 2014.09.28 @ 20:17:15

End Date: 2014.09.29 @ 05:07:45

Job Ticket #: 59158 DST #: 2

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

Printed: 2014.10.03 @ 16:41:00



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

5-13s-32w Logan,KS

250 N Water STE
Wichita KS 67202

Vanava #3 5

Job Ticket: 59158

DST#: 2

ATTN: Larry Nicholson

Test Start: 2014.09.28 @ 20:17:15

GENERAL INFORMATION:

Formation: **LKC E-F**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:32:00

Time Test Ended: 05:07:45

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 65

Interval: 4116.00 ft (KB) To 4151.00 ft (KB) (TVD)

Reference Elevations: 3056.00 ft (KB)

Total Depth: 4151.00 ft (KB) (TVD)

3046.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8846

Inside

Press@RunDepth: 565.37 psig @ 4120.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.28

End Date:

2014.09.29

Last Calib.:

2014.09.29

Start Time: 20:17:15

End Time:

05:07:45

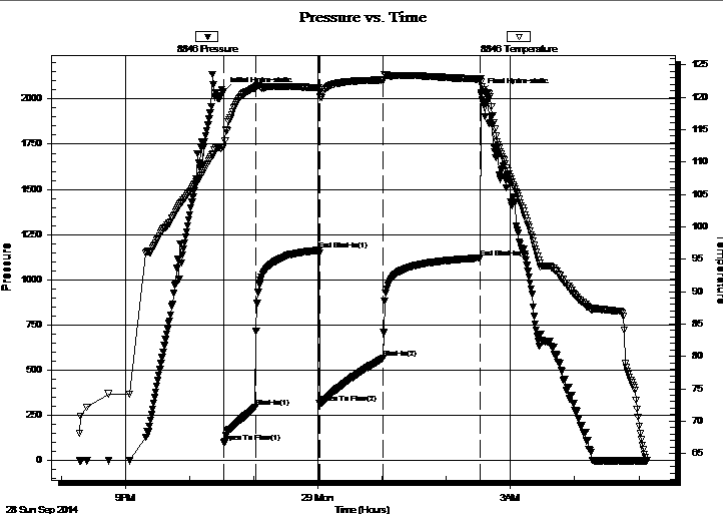
Time On Btm:

2014.09.28 @ 22:31:30

Time Off Btm:

2014.09.29 @ 02:32:30

TEST COMMENT: IF: Built to 3" blow
IS: No return blow
FF: BOB in 32 min.
FS: No return blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2039.94	112.38	Initial Hydro-static
1	99.62	112.30	Open To Flow (1)
31	296.14	121.44	Shut-In(1)
90	1163.18	121.42	End Shut-In(1)
90	317.58	120.87	Open To Flow (2)
150	565.37	122.67	Shut-In(2)
240	1121.06	122.74	End Shut-In(2)
241	2035.43	122.31	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
308.00	ocmw 10%o 10%m 80%w	1.51
372.00	ocgw m 10%o 20%g 30%w 40%m	5.22
310.00	gcmo 5%g 15%m 80%o	4.35
310.00	gcmo 5%g 10%m 85%o	4.35
0.00	GIP=186 feet	0.00

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

5-13s-32w Logan,KS

250 N Water STE
Wichita KS 67202

Vanava #3 5

Job Ticket: 59158

DST#: 2

ATTN: Larry Nicholson

Test Start: 2014.09.28 @ 20:17:15

Tool Information

Drill Pipe:	Length: 3800.00 ft	Diameter: 3.80 inches	Volume: 53.30 bbl	Tool Weight: 1500.00 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: 308.00 ft	Diameter: 2.25 inches	Volume: 1.51 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 54.81 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4116.00 ft			Final 78000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	75.00 ft			
Tool Length:	99.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4093.00	
Shut In Tool	5.00			4098.00	
Hydraulic tool	5.00			4103.00	
Jars	5.00			4108.00	
Safety Joint	3.00			4111.00	
Packer	5.00			4116.00	24.00 Bottom Of Top Packer
Packer - Shale	0.00			4116.00	
Stubb	1.00			4117.00	
Perforations	3.00			4120.00	
Recorder	0.00	8846	Inside	4120.00	
Recorder	0.00	8737	Outside	4120.00	
Change Over Sub	1.00			4121.00	
Blank Spacing	64.00			4185.00	
Change Over Sub	1.00			4186.00	
Bullnose	5.00			4191.00	75.00 Anchor Tool

Total Tool Length: 99.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

5-13s-32w Logan,KS

250 N Water STE
Wichita KS 67202

Vanava #3 5

Job Ticket: 59158

DST#: 2

ATTN: Larry Nicholson

Test Start: 2014.09.28 @ 20:17:15

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

31 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

12000 ppm

Viscosity: 74.00 sec/qt

Cushion Volume:

bbf

Water Loss: 6.34 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1900.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
308.00	ocmw 10%o 10%m 80%w	1.515
372.00	ocgw m 10%o 20%g 30%w 40%m	5.218
310.00	gcmo 5%g 15%m 80%o	4.348
310.00	gcmo 5%g 10%m 85%o	4.348
0.00	GIP=186 feet	0.000

Total Length: 1300.00 ft Total Volume: 15.429 bbl

Num Fluid Samples: 0

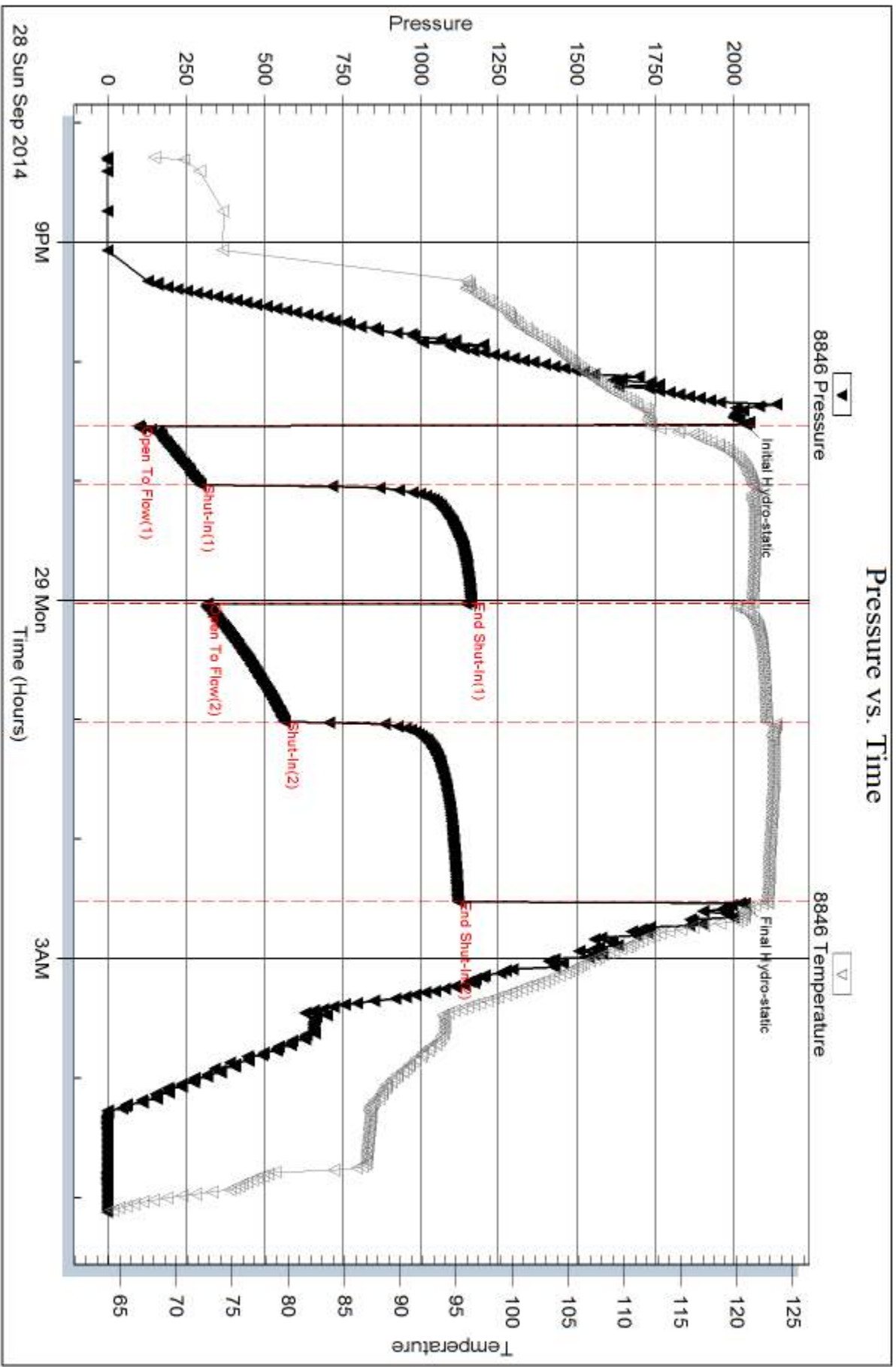
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW=.532@ 79.6*= 12,000 ppm

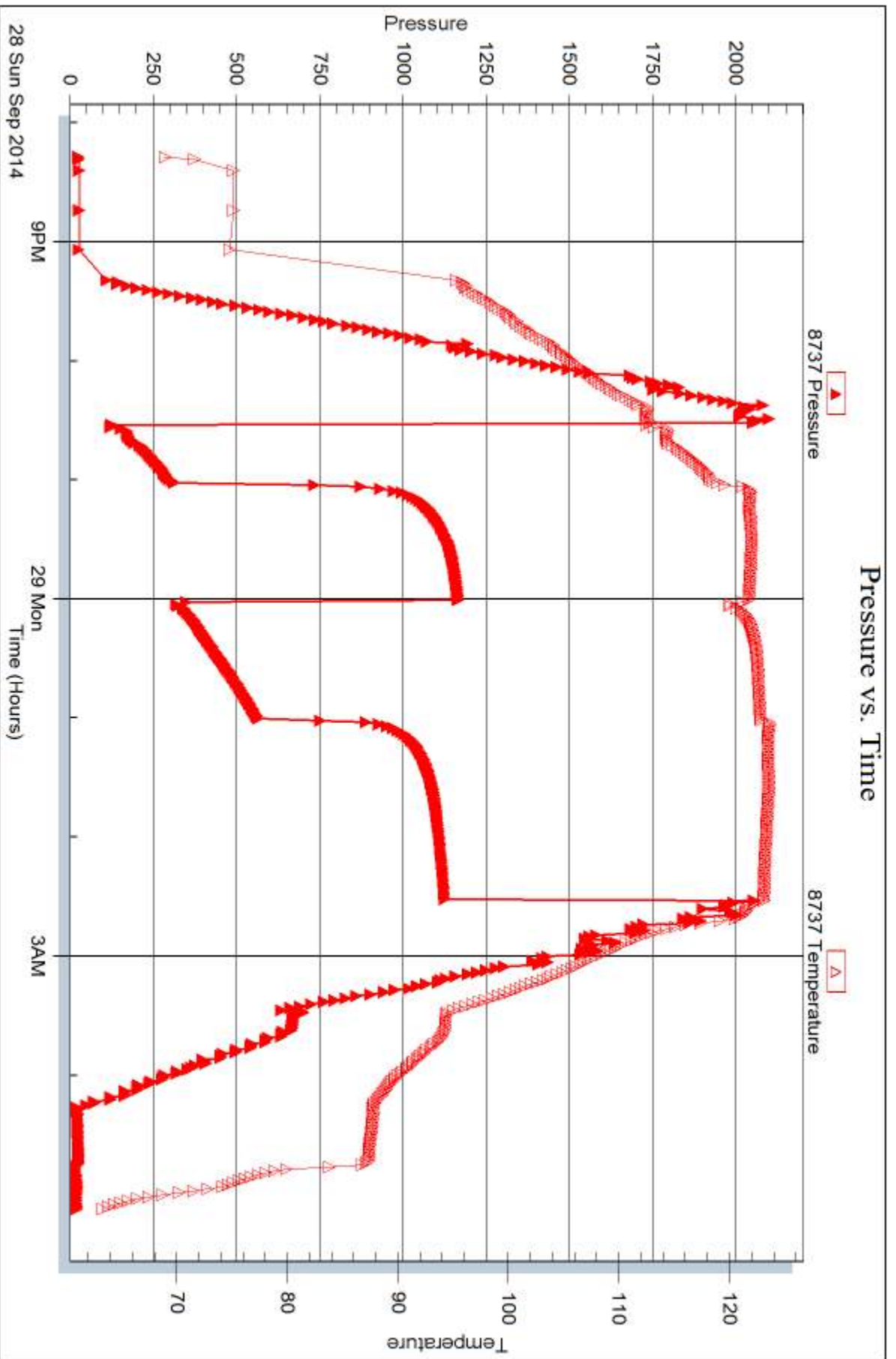


Serial #: 8737

Outside Murfin Drilling Co. Inc.

Vanava #3 5

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 59158

Printed: 2014, 10, 03 @ 16:41:01



DRILL STEM TEST REPORT

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

250 N Water STE
Wichita KS 67202

ATTN: Larry Nicholson

Vanava #3 5

5-13s-32w Logan,KS

Start Date: 2014.09.29 @ 18:18:00

End Date: 2014.09.30 @ 02:42:30

Job Ticket #: 59159 DST #: 3

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

Printed: 2014.10.03 @ 16:40:35



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

5-13s-32w Logan,KS

250 N Water STE
Wichita KS 67202

Vanava #3 5

Job Ticket: 59159

DST#: 3

ATTN: Larry Nicholson

Test Start: 2014.09.29 @ 18:18:00

GENERAL INFORMATION:

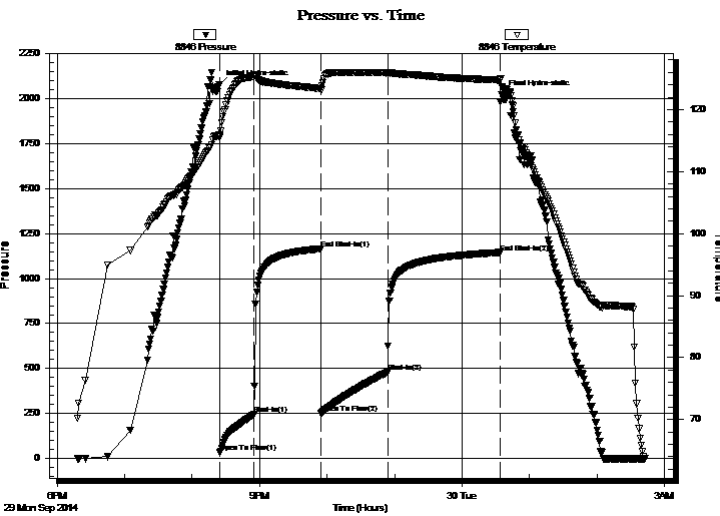
Formation: **LKC J**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 20:24:45
 Time Test Ended: 02:42:30
 Interval: **4246.00 ft (KB) To 4276.00 ft (KB) (TVD)**
 Total Depth: 4118.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Mike Roberts
 Unit No: 65
 Reference Elevations: 3056.00 ft (KB)
 3046.00 ft (CF)
 KB to GR/CF: 10.00 ft

Serial #: 8846

Inside

Press@RunDepth: 481.40 psig @ 4271.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.09.29 End Date: 2014.09.30 Last Calib.: 2014.09.30
 Start Time: 18:18:15 End Time: 02:42:30 Time On Btm: 2014.09.29 @ 20:24:15
 Time Off Btm: 2014.09.30 @ 00:35:30

TEST COMMENT: IF: Built to 3" blow
 IS: No return blow
 FF: BOB in 40 min.
 FS: No return blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2077.45	115.86	Initial Hydro-static
1	33.08	115.55	Open To Flow (1)
31	246.36	125.39	Shut-In(1)
90	1165.53	123.40	End Shut-In(1)
91	253.75	123.13	Open To Flow (2)
150	481.40	125.92	Shut-In(2)
250	1144.62	124.75	End Shut-In(2)
252	2022.87	123.58	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
618.00	sw 100%sw	5.86
248.00	mcw 30%m 70%sw	3.48
248.00	ocw m 5%o 15%w 80%m	3.48

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

5-13s-32w Logan,KS

250 N Water STE
Wichita KS 67202

Vanava #3 5

Job Ticket: 59159

DST#: 3

ATTN: Larry Nicholson

Test Start: 2014.09.29 @ 18:18:00

Tool Information

Drill Pipe:	Length: 3923.00 ft	Diameter: 3.80 inches	Volume: 55.03 bbl	Tool Weight: 1500.00 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: 308.00 ft	Diameter: 2.25 inches	Volume: 1.51 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 56.54 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4246.00 ft			Final 78000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	54.00 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			4223.00	
Shut In Tool	5.00			4228.00	
Hydraulic tool	5.00			4233.00	
Jars	5.00			4238.00	
Safety Joint	3.00			4241.00	
Packer	5.00			4246.00	24.00 Bottom Of Top Packer
Packer - Shale	0.00			4246.00	
Stubb	1.00			4247.00	
Perforations	24.00			4271.00	
Recorder	0.00	8846	Inside	4271.00	
Recorder	0.00	8737	Outside	4271.00	
Bullnose	5.00			4276.00	30.00 Anchor Tool

Total Tool Length: 54.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

5-13s-32w Logan,KS

250 N Water STE
Wichita KS 67202

Vanava #3 5

Job Ticket: 59159

DST#: 3

ATTN: Larry Nicholson

Test Start: 2014.09.29 @ 18:18:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

19000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.31 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2400.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
618.00	sw 100%sw	5.863
248.00	mcw 30%m 70%sw	3.479
248.00	ocw m 5%o 15%w 80%m	3.479

Total Length: 1114.00 ft Total Volume: 12.821 bbl

Num Fluid Samples: 0

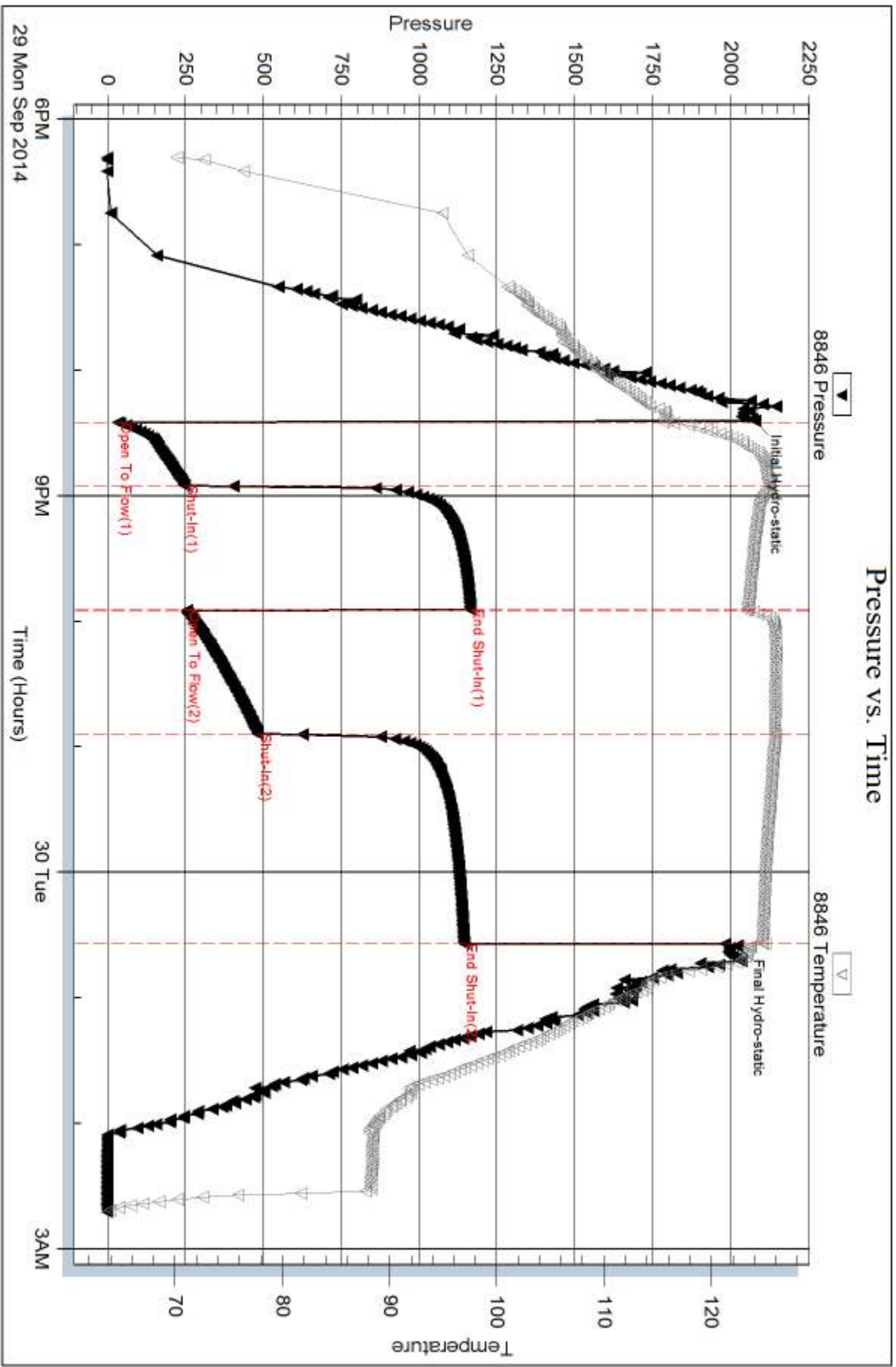
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW= .411@ 62.5= 19,000 ppm

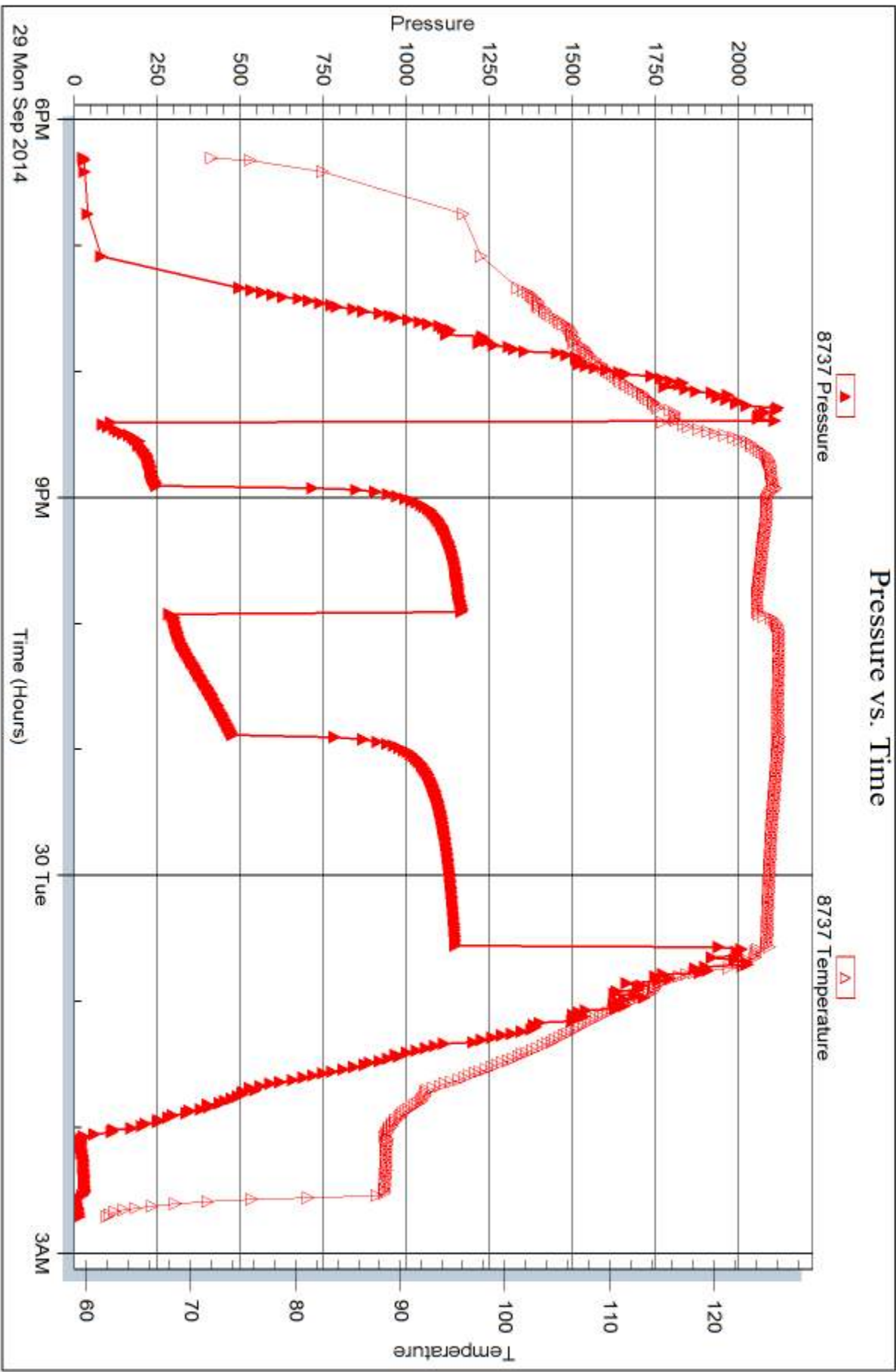


Serial #: 8737

Outside Murfin Drilling Co. Inc.

Vanava #3 5

DST Test Number: 3





DRILL STEM TEST REPORT

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

250 N Water STE
Wichita KS 67202

ATTN: Larry Nicholson

Vanava #3 5

5-13s-32w Logan,KS

Start Date: 2014.09.30 @ 20:32:15

End Date: 2014.10.01 @ 04:44:15

Job Ticket #: 59160 DST #: 4

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

Printed: 2014.10.03 @ 16:40:08



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

5-13s-32w Logan,KS

250 N Water STE
Wichita KS 67202

Vanava #3 5

Job Ticket: 59160

DST#: 4

ATTN: Larry Nicholson

Test Start: 2014.09.30 @ 20:32:15

GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:27:30

Time Test Ended: 04:44:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 65

Interval: 4387.00 ft (KB) To 4477.00 ft (KB) (TVD)

Reference Elevations: 3056.00 ft (KB)

Total Depth: 4477.00 ft (KB) (TVD)

3046.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8846

Inside

Press@RunDepth: 214.84 psig @ 4391.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.30

End Date:

2014.10.01

Last Calib.: 2014.10.01

Start Time: 20:32:15

End Time:

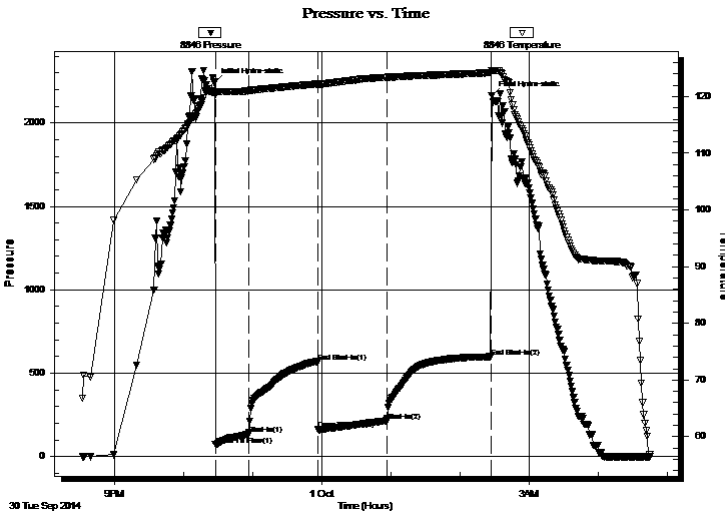
04:44:15

Time On Btm: 2014.09.30 @ 22:26:30

Time Off Btm: 2014.10.01 @ 02:27:15

TEST COMMENT: IF: Built to 3" blow
IS: Weak surface blow that died in 20 min.
FF: BOB in 28 min.
FS: No return blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2241.83	120.71	Initial Hydro-static
1	70.97	120.57	Open To Flow (1)
30	133.57	121.02	Shut-In(1)
90	569.57	122.21	End Shut-In(1)
90	163.30	122.03	Open To Flow (2)
150	214.84	123.39	Shut-In(2)
240	598.99	124.20	End Shut-In(2)
241	2163.80	124.54	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
126.00	gcom 5%g 10%o 85%m	0.62
184.00	gcmo 20%g 40%o 40%m	0.92
248.00	gco 20%g 80%o	3.48
0.00	GIP= 806 ft	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

5-13s-32w Logan,KS

250 N Water STE
Wichita KS 67202

Vanava #3 5

Job Ticket: 59160

DST#: 4

ATTN: Larry Nicholson

Test Start: 2014.09.30 @ 20:32:15

Tool Information

Drill Pipe:	Length: 4082.00 ft	Diameter: 3.80 inches	Volume: 57.26 bbl	Tool Weight: 1500.00 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: 308.00 ft	Diameter: 2.25 inches	Volume: 1.51 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 58.77 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 74000.00 lb
Depth to Top Packer:	4387.00 ft			Final 76000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	90.00 ft			
Tool Length:	114.00 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			4364.00	
Shut In Tool	5.00			4369.00	
Hydraulic tool	5.00			4374.00	
Jars	5.00			4379.00	
Safety Joint	3.00			4382.00	
Packer	5.00			4387.00	24.00 Bottom Of Top Packer
Packer - Shale	0.00			4387.00	
Stubb	1.00			4388.00	
Perforations	3.00			4391.00	
Recorder	0.00	8846	Inside	4391.00	
Recorder	0.00	8737	Outside	4391.00	
Change Over Sub	1.00			4392.00	
Blank Spacing	64.00			4456.00	
Change Over Sub	1.00			4457.00	
Perforations	15.00			4472.00	
Bullnose	5.00			4477.00	90.00 Anchor Tool
Total Tool Length:	114.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

5-13s-32w Logan,KS

250 N Water STE
Wichita KS 67202

Vanava #3 5

Job Ticket: 59160

DST#: 4

ATTN: Larry Nicholson

Test Start: 2014.09.30 @ 20:32:15

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

29 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.95 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2900.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
126.00	gcom 5%g 10%o 85%m	0.620
184.00	gcmo 20%g 40%o 40%m	0.923
248.00	gco 20%g 80%o	3.479
0.00	GIP= 806 ft	0.000

Total Length: 558.00 ft

Total Volume: 5.022 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API 29@60

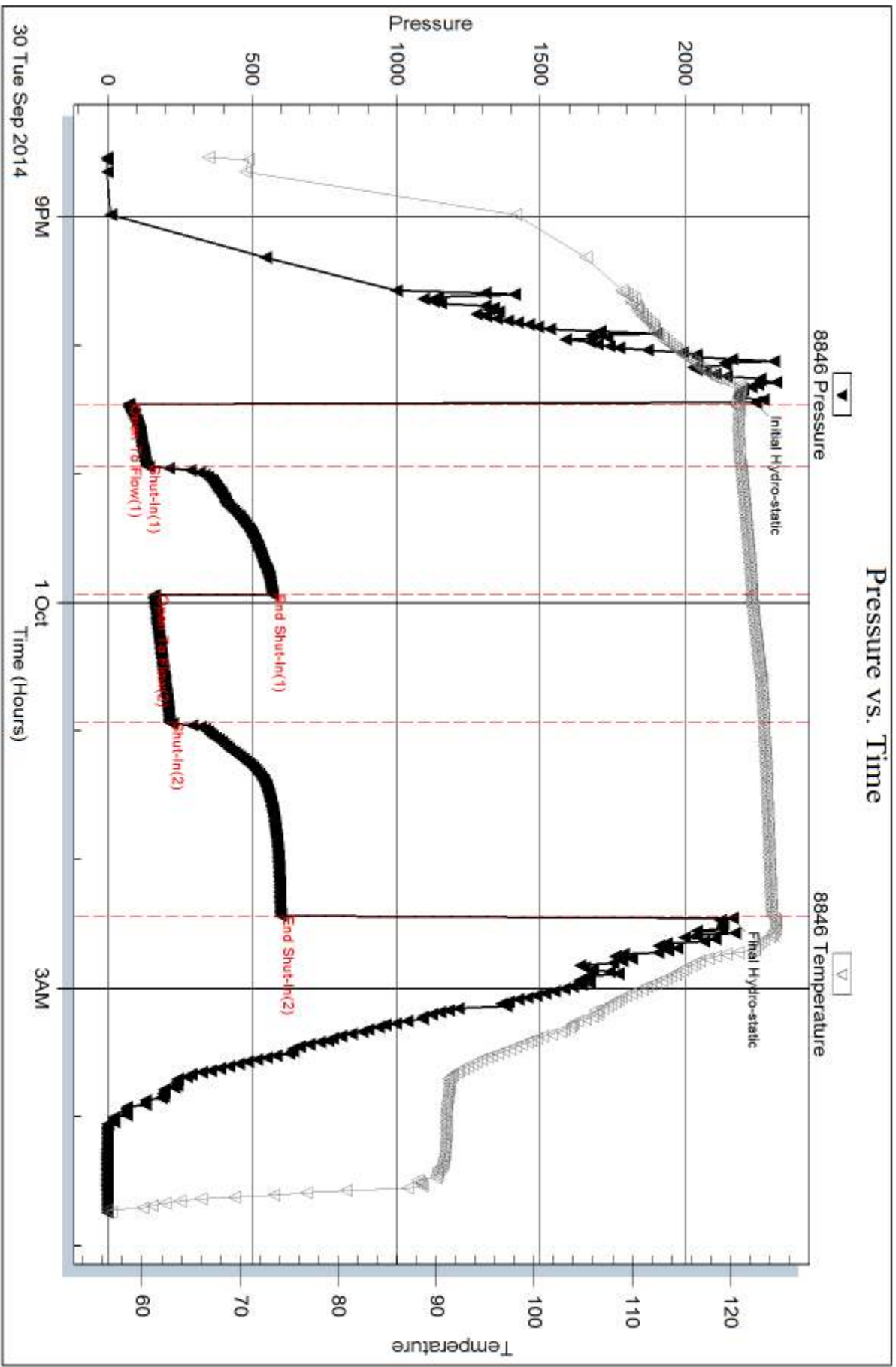
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Inside

Murfin Drilling Co. Inc.

Vanava #3 5

DST Test Number: 4

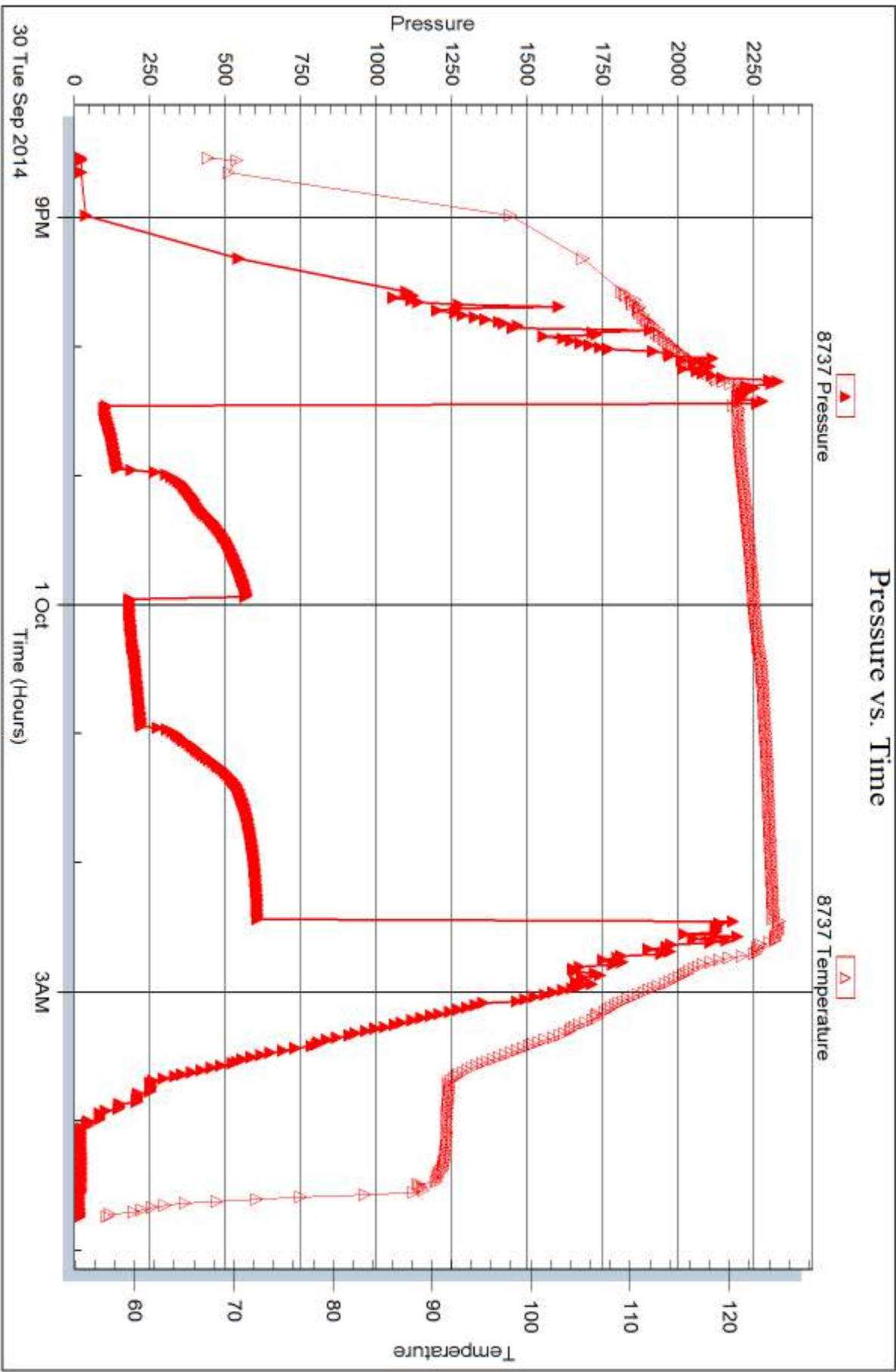


Serial #: 8737

Outside Murfin Drilling Co. Inc.

Vanava #3 5

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 59160

Printed: 2014, 10, 03 @ 16:40:09



DRILL STEM TEST REPORT

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

250 N Water STE
Wichita KS 67202

ATTN: Larry Nicholson

Vanava #3 5

5-13s-32w Logan,KS

Start Date: 2014.10.01 @ 15:06:15

End Date: 2014.10.01 @ 23:38:45

Job Ticket #: 59161 DST #: 5

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

Printed: 2014.10.03 @ 16:39:42



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

5-13s-32w Logan, KS

250 N Water STE
Wichita KS 67202

Vanava #3 5

Job Ticket: 59161

DST#: 5

ATTN: Larry Nicholson

Test Start: 2014.10.01 @ 15:06:15

GENERAL INFORMATION:

Formation: **Pawnee-Ft.Scott**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:11:30

Time Test Ended: 23:38:45

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 65

Interval: 4474.00 ft (KB) To 4556.00 ft (KB) (TVD)

Reference Elevations: 3056.00 ft (KB)

Total Depth: 4556.00 ft (KB) (TVD)

3046.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8846

Inside

Press@RunDepth: 331.85 psig @ 4485.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.10.01

End Date:

2014.10.01

Last Calib.: 2014.10.01

Start Time: 15:06:15

End Time:

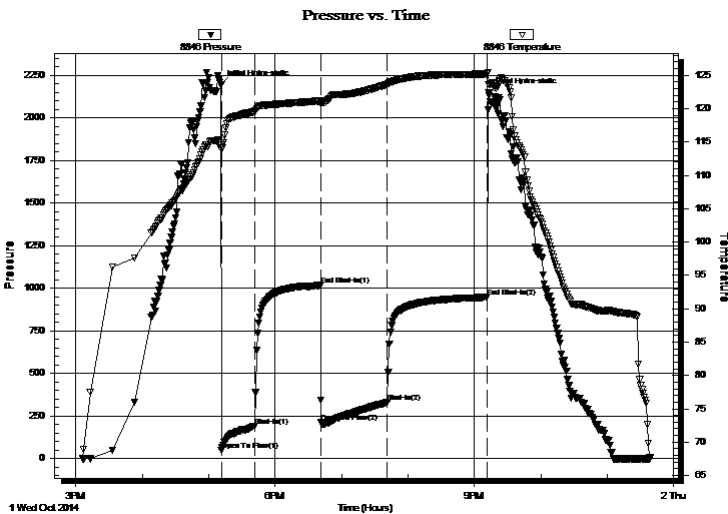
23:38:45

Time On Btm: 2014.10.01 @ 17:11:15

Time Off Btm: 2014.10.01 @ 21:13:00

TEST COMMENT: IF:BOB in 13 min.
IS:Return blow built to 7"
FF:BOB in 5 min.
FS:Return blow built to 8"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2196.39	114.55	Initial Hydro-static
1	48.35	113.89	Open To Flow (1)
31	192.39	119.54	Shut-In(1)
90	1017.75	121.17	End Shut-In(1)
91	213.72	121.01	Open To Flow (2)
151	331.85	123.67	Shut-In(2)
241	947.43	125.20	End Shut-In(2)
242	2146.47	123.60	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
434.00	ocgm 10%o 40%g 50%m	3.28
124.00	gcmo 30%g 35%m 35%o	1.74
372.00	mcgo 5%m 10%g 85%o	5.22
0.00	GIP= 1674	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

5-13s-32w Logan,KS

250 N Water STE
Wichita KS 67202

Vanava #3 5

Job Ticket: 59161

DST#: 5

ATTN: Larry Nicholson

Test Start: 2014.10.01 @ 15:06:15

Tool Information

Drill Pipe:	Length: 4171.00 ft	Diameter: 3.80 inches	Volume: 58.51 bbl	Tool Weight: 1500.00 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: 308.00 ft	Diameter: 2.25 inches	Volume: 1.51 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 60.02 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 74000.00 lb
Depth to Top Packer:	4474.00 ft			Final 76000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	82.00 ft			
Tool Length:	106.00 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			4451.00	
Shut In Tool	5.00			4456.00	
Hydraulic tool	5.00			4461.00	
Jars	5.00			4466.00	
Safety Joint	3.00			4469.00	
Packer	5.00			4474.00	24.00 Bottom Of Top Packer
Packer - Shale	0.00			4474.00	
Stubb	1.00			4475.00	
Perforations	10.00			4485.00	
Recorder	0.00	8846	Inside	4485.00	
Recorder	0.00	8737	Outside	4485.00	
Change Over Sub	1.00			4486.00	
Blank Spacing	64.00			4550.00	
Change Over Sub	1.00			4551.00	
Bullnose	5.00			4556.00	82.00 Anchor Tool

Total Tool Length: 106.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

5-13s-32w Logan,KS

250 N Water STE
Wichita KS 67202

Vanava #3 5

Job Ticket: 59161

DST#: 5

ATTN: Larry Nicholson

Test Start: 2014.10.01 @ 15:06:15

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

28 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.93 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2900.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
434.00	ocgm 10%o 40%g 50%m	3.282
124.00	gcmo 30%g 35%m 35%o	1.739
372.00	mcgo 5%m 10%g 85%o	5.218
0.00	GIP= 1674	0.000

Total Length: 930.00 ft Total Volume: 10.239 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API= 28 @ 60

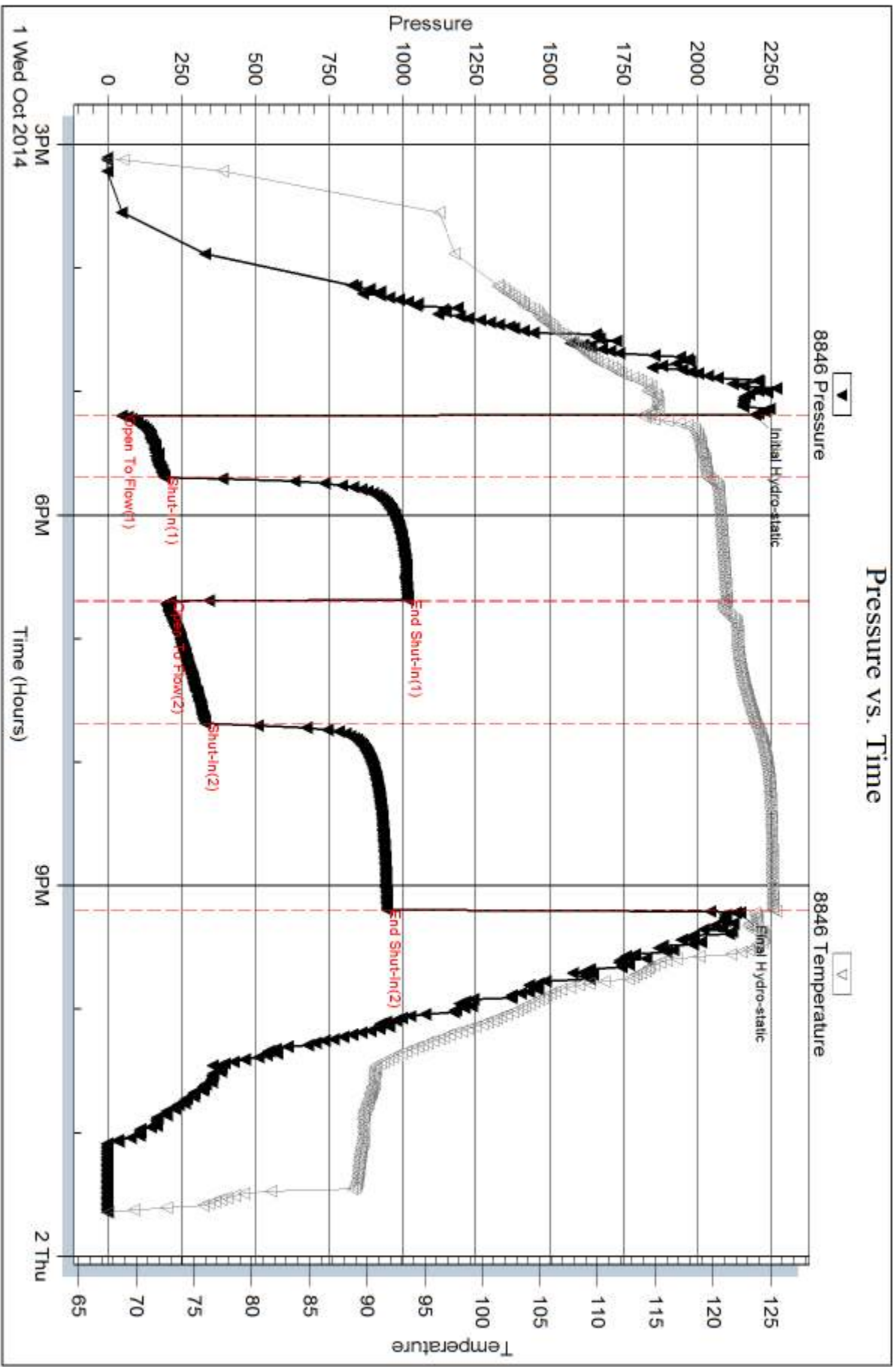
Serial #: 8846

Inside

Murfin Drilling Co. Inc.

Vanava #3 5

DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 59161

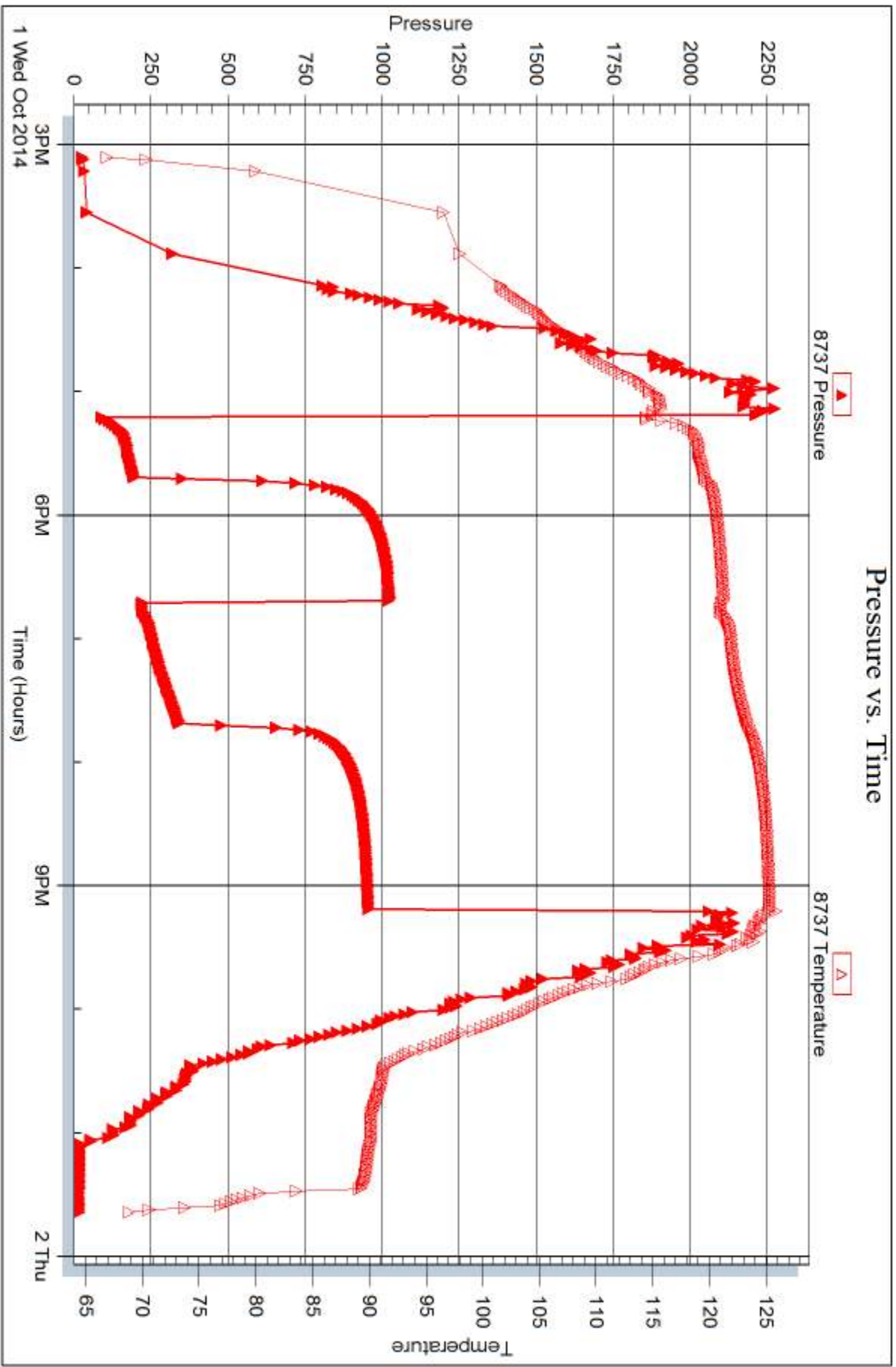
Printed: 2014, 10, 03 @ 16:39:43

Serial #: 8737

Outside Murfin Drilling Co. Inc.

Vanava #3 5

DST Test Number: 5



Triobite Testing, Inc

Ref. No: 59161

Printed: 2014, 10, 03 @ 16:39:43



DRILL STEM TEST REPORT

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

250 N Water STE
Wichita KS 67202

ATTN: Larry Nicholson

Vanava #3 5

5-13s-32w Logan,KS

Start Date: 2014.10.02 @ 16:23:15

End Date: 2014.10.03 @ 01:05:15

Job Ticket #: 59164 DST #: 6

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

Printed: 2014.10.03 @ 16:39:07



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

5-13s-32w Logan,KS

250 N Water STE
Wichita KS 67202

Vanava #3 5

Job Ticket: 59164

DST#: 6

ATTN: Larry Nicholson

Test Start: 2014.10.02 @ 16:23:15

GENERAL INFORMATION:

Formation: **Johnson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:04:00

Time Test Ended: 01:05:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 65

Interval: 4583.00 ft (KB) To 4627.00 ft (KB) (TVD)

Reference Elevations: 3056.00 ft (KB)

Total Depth: 4527.00 ft (KB) (TVD)

3046.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8846

Inside

Press@RunDepth: 168.00 psig @ 4589.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.10.02

End Date:

2014.10.03

Last Calib.: 2014.10.03

Start Time: 16:23:15

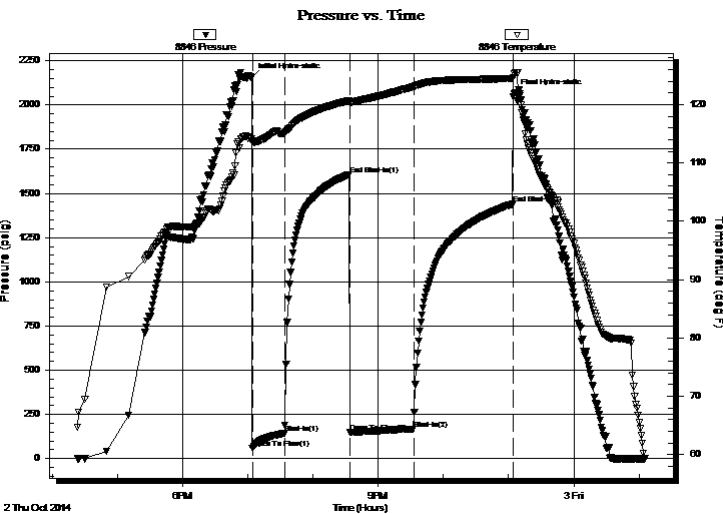
End Time:

01:05:15

Time On Btm: 2014.10.02 @ 19:03:15

Time Off Btm: 2014.10.02 @ 23:05:00

TEST COMMENT: IF:BOB in 25 min
IS:No return blow
FF:Built to 5" blow
FS:No retrurn blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2157.49	114.16	Initial Hydro-static
1	56.96	113.83	Open To Flow (1)
31	142.85	115.12	Shut-In(1)
91	1608.14	120.65	End Shut-In(1)
91	149.52	120.31	Open To Flow (2)
150	168.00	123.04	Shut-In(2)
241	1439.77	124.46	End Shut-In(2)
242	2066.22	125.26	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
323.00	mud 100%m	1.73

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

5-13s-32w Logan,KS

250 N Water STE
Wichita KS 67202

Vanava #3 5

Job Ticket: 59164

DST#: 6

ATTN: Larry Nicholson

Test Start: 2014.10.02 @ 16:23:15

Tool Information

Drill Pipe:	Length: 4268.00 ft	Diameter: 3.80 inches	Volume: 59.87 bbl	Tool Weight: 1500.00 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: 308.00 ft	Diameter: 2.25 inches	Volume: 1.51 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 61.38 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 78000.00 lb
Depth to Top Packer:	4583.00 ft			Final 79000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	44.00 ft			
Tool Length:	68.00 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			4560.00	
Shut In Tool	5.00			4565.00	
Hydraulic tool	5.00			4570.00	
Jars	5.00			4575.00	
Safety Joint	3.00			4578.00	
Packer	5.00			4583.00	24.00 Bottom Of Top Packer
Packer - Shale	0.00			4583.00	
Stubb	1.00			4584.00	
Perforations	5.00			4589.00	
Recorder	0.00	8846	Inside	4589.00	
Recorder	0.00	8737	Outside	4589.00	
Change Over Sub	1.00			4590.00	
Blank Spacing	31.00			4621.00	
Change Over Sub	1.00			4622.00	
Bullnose	5.00			4627.00	44.00 Anchor Tool

Total Tool Length: 68.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

5-13s-32w Logan,KS

250 N Water STE
Wichita KS 67202

Vanava #3 5

Job Ticket: 59164

DST#: 6

ATTN: Larry Nicholson

Test Start: 2014.10.02 @ 16:23:15

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 61.00 sec/qt

Cushion Volume:

bbl

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1900.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
323.00	mud 100%m	1.725

Total Length: 323.00 ft Total Volume: 1.725 bbl

Num Fluid Samples: 0

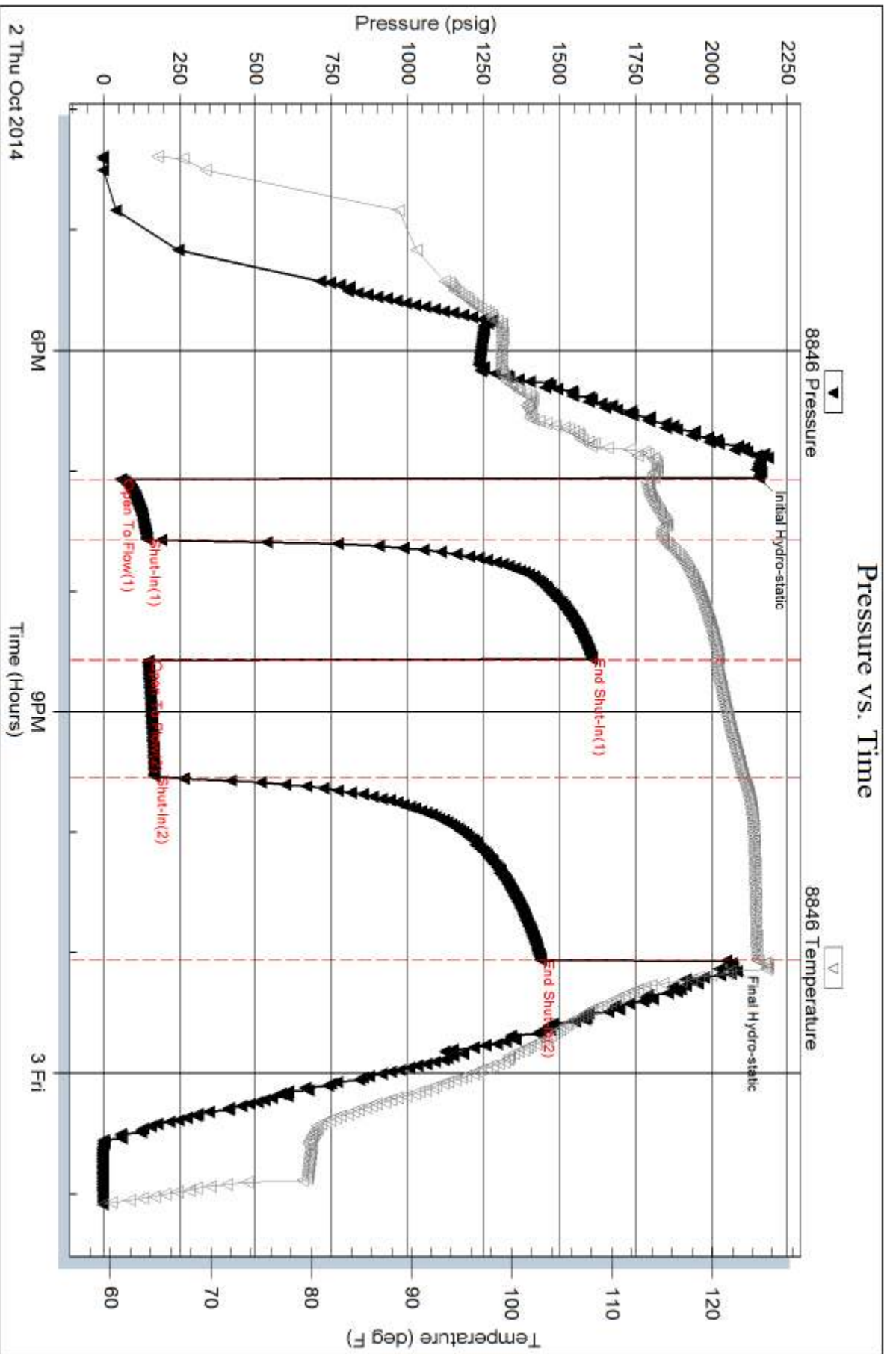
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Ran a 75 Bbl. Sweep to get 18# LCM out of zone.

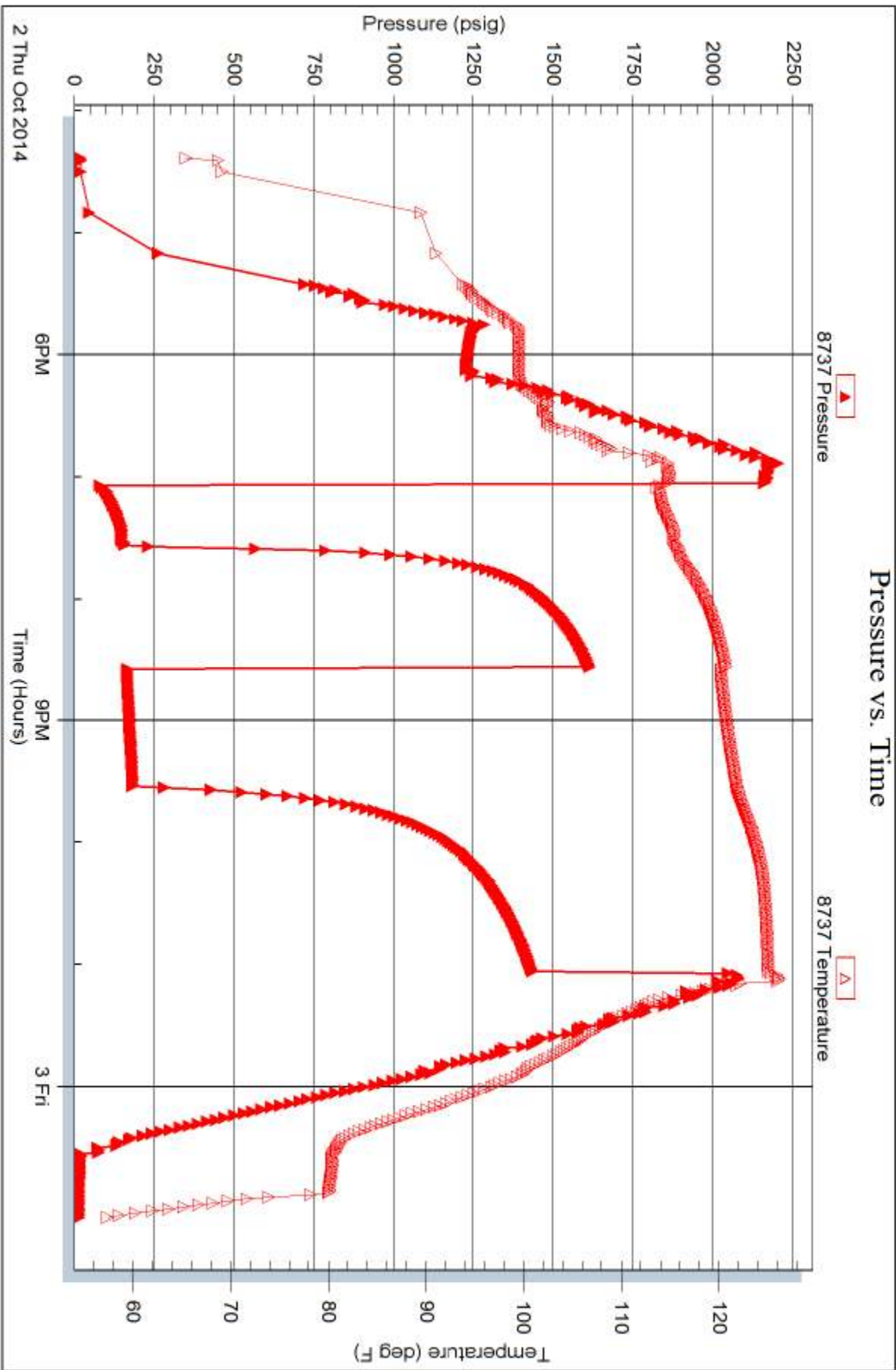


Serial #: 8737

Outside Murfin Drilling Co. Inc.

Vanava #3 5

DST Test Number: 6



Triobite Testing, Inc

Ref. No: 59164

Printed: 2014, 10, 03 @ 16:39:08



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 59157

4/10

Well Name & No. Vanava #3-5 Test No. 1 Date 9-28-14
 Company Murfin Drilling Co Inc. Elevation 3056 KB 3046 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Larry Nicholson Rig Murfin 21
 Location: Sec. 5 Twp. 13S Rge. 32W Co. Logan State KS

Interval Tested 4043-4118 Zone Tested Lansing A-B-D
 Anchor Length 75 Drill Pipe Run 3734 Mud Wt. 9.0
 Top Packer Depth 4038 Drill Collars Run 308 Vis 50
 Bottom Packer Depth 4043 Wt. Pipe Run Ø WL 6.4
 Total Depth 4118 Chlorides 2400 ppm System LCM 8

Blow Description IF: Bu. 1+ to 2" Blow then Died to 1" Blow
FS: No Return Blow
FF: BOB in 39 Min.
FS: No Return Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>62</u>	<u>Wcm trace of oil</u>		<u>50</u>	<u>50</u>	
<u>744</u>	<u>Wcm</u>		<u>50</u>	<u>50</u>	
<u>308</u>	<u>mcw</u>		<u>60</u>	<u>40</u>	

Rec Total 1114 BHT 121 Gravity — API RW .547 @ 823/- °F Chlorides 12,000 ppm
 (A) Initial Hydrostatic 2003 Test 1250.00 T-On Location 03:45
 (B) First Initial Flow 80 Jars 250.00 T-Started 05:41
 (C) First Final Flow 253 Safety Joint 75.00 T-Open 07:34
 (D) Initial Shut-In 1157 Circ Sub _____ T-Pulled 11:34
 (E) Second Initial Flow 305 Hourly Standby _____ T-Out 13:25
 (F) Second Final Flow 485 Mileage 84 RT 130.20/- Comments _____
 (G) Final Shut-In 1144 Sampler _____
 (H) Final Hydrostatic 2024 Straddle _____ Ruined Shale Packer _____
 Shale Packer 250.00 Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1955.20
 Accessibility _____ MP/DST Disc't _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90
 Sub Total 1955.20/-

Approved By _____ Our Representative Mike Roberts

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. 59158

Well Name & No. Vanava #3-5 Test No. 2 Date 9-28-14
 Company Murfin Drilling Co Inc. Elevation 3056 KB 3046 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Larry Nicholson Rig Murfin 21
 Location: Sec. 5 Twp. 13S Rge. 32W Co. Logan State KS

Interval Tested 4116-4151 Zone Tested LKC E+F
 Anchor Length 35' Drill Pipe Run 3800 Mud Wt. 9.2
 Top Packer Depth 4111 Drill Collars Run 308 Vis 74
 Bottom Packer Depth 4116 Wt. Pipe Run Ø WL 64
 Total Depth 4151 Chlorides 1900 ppm System LCM 8
 Blow Description IF: Built to 3" Blow
IS: No Return Blow
FF: BOB in 32 Min
FS: No Return Blow

Rec	Feet of	%gas	%oil	%water	%mud
0	GIP 186'	100			
310	gcmo	5	85	10	
310	gcmo	5	80	15	
372	OCgwm	20	10	30	40
308	OCmW		10	80	10

Rec Total 1300 BHT 123 Gravity 0.31 API RW 32 @ 32 °F Chlorides _____ ppm

(A) Initial Hydrostatic 2039 Test 1250.00 T-On Location 19:50
 (B) First Initial Flow 99 Jars 250.00 T-Started 20:17
 (C) First Final Flow 296 Safety Joint 75.00 T-Open 22:32
 (D) Initial Shut-In ~~1163~~ 1163 Circ Sub NL T-Pulled 02:32
 (E) Second Initial Flow 317 Hourly Standby _____ T-Out 05:07
 (F) Second Final Flow 565 Mileage 84 RT 130.20 Comments _____
 (G) Final Shut-In 1121 Sampler _____
 (H) Final Hydrostatic 2035 Straddle _____ Ruined Shale Packer _____
 Shale Packer 250.00 Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 30 Extra Recorder _____ Sub Total 0
 Initial Shut-In 60 Day Standby _____ Total 1955.20
 Final Flow 60 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 90 Sub Total 1955.20/-

Approved By _____ Our Representative Mate Roberts
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 59159

Well Name & No. Vanava #3-5 Test No. 3 Date 9-29-14
 Company Martin Drilling Co Inc. Elevation 3056 KB 3046 GL
 Address 250 N. Water St 300 Wichita KS 67202
 Co. Rep / Geo. Larry Nicholson Rig Martin 21
 Location: Sec. 5 Twp. 13S Rge. 32W Co. Logan State KS

Interval Tested 4246-4276 Zone Tested J
 Anchor Length 30 Drill Pipe Run 3923 Mud Wt. 9.1
 Top Packer Depth 4241 Drill Collars Run 308 Vis 56
 Bottom Packer Depth 4246 Wt. Pipe Run Ø WL 6.8
 Total Depth 4276 Chlorides 2700 ppm System LCM 7
 Blow Description IF: Built to 3" Blow
IS: NO Return Blow
FF: BOB in 40 Min
FS: NO Return Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>248</u>	<u>OCWM</u>	<u>5</u>	<u>15</u>	<u>80</u>	
<u>248</u>	<u>MCW</u>		<u>70</u>	<u>30</u>	
<u>618</u>	<u>SW</u>		<u>100</u>		

Rec Total 1114 BHT 123 Gravity — API RW: 411 @ 62.9° F Chlorides 19000 ppm

(A) Initial Hydrostatic <u>2077</u>	<input checked="" type="checkbox"/> Test <u>1250.00</u>	T-On Location <u>17:15</u>
(B) First Initial Flow <u>33</u>	<input checked="" type="checkbox"/> Jars <u>250.00</u>	T-Started <u>18:18</u>
(C) First Final Flow <u>246</u>	<input checked="" type="checkbox"/> Safety Joint <u>75.00</u>	T-Open <u>20:23</u>
(D) Initial Shut-In <u>1165</u>	<input checked="" type="checkbox"/> Circ Sub <u>NL</u>	T-Pulled <u>00:23</u>
(E) Second Initial Flow <u>253</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>02:42</u>
(F) Second Final Flow <u>481</u>	<input checked="" type="checkbox"/> Mileage <u>84 RT 130.20</u>	Comments
(G) Final Shut-In <u>1144</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2022</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input checked="" type="checkbox"/> Shale Packer <u>250.00</u>	<input type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1955.20</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>\$1955.20</u>	

Approved By _____

Our Representative Mike Roberts

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 59160

Well Name & No. Vanava #3-5 Test No. 4 Date 9-30-14
 Company Martin Drilling Co Inc. Elevation 3056 KB 3046 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Larry Nicholson Rig Martin 21
 Location: Sec. 5 Twp. 13S Rge. 32W Co. Logan State KS

Interval Tested 4387-4477 Zone Tested Marmaton
 Anchor Length 90' Drill Pipe Run 4082 Mud Wt. 9.2
 Top Packer Depth 4382 Drill Collars Run 308 Vis 49
 Bottom Packer Depth 4387 Wt. Pipe Run Ø WL 8.0
 Total Depth 4477 Chlorides 2900 ppm System LCM 6

Blow Description TF: Boilt to 3" Blow
IS: Wash Surface Blow that died in 20 Min.
FF: BOBIN 28 Min
FS: No Return Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>Ø</u>	Feet of <u>GIP 806</u>				
<u>248</u>	Feet of <u>gco</u>	<u>20</u>	<u>80</u>		
<u>184</u>	Feet of <u>gcmo</u>	<u>20</u>	<u>40</u>	<u>40</u>	
<u>126</u>	Feet of <u>gcOM</u>	<u>5</u>	<u>10</u>	<u>85</u>	
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 560 BHT 124 Gravity 29 API RW — @ —° F Chlorides — ppm
 (A) Initial Hydrostatic 2241 Test 1250.00 T-On Location 20:00
 (B) First Initial Flow 70 Jars 250.00 T-Started 20:32
 (C) First Final Flow 133 Safety Joint 75.00 T-Open 22:27
 (D) Initial Shut-In 569 Circ Sub NC T-Pulled 02:27
 (E) Second Initial Flow 163 Hourly Standby _____ T-Out 04:44
 (F) Second Final Flow 214 Mileage 84RT = 130.20 Comments _____
 (G) Final Shut-In 598 Sampler _____
 (H) Final Hydrostatic 2163 Straddle _____

Shale Packer 250.00 Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1955.20
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1955.20/-

Approved By _____ Our Representative Mike Roberts

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 59163

Well Name & No. Vanava #3-5 Test No. 5 Date 10-1-14
 Company Murfin Drilling Co Inc. Elevation 3056 KB 3046 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Larry Nicholson Rig Murfin 21
 Location: Sec. 5 Twp. 13S Rge. 32W Co. Logan State KS

Interval Tested 4474-4556 Zone Tested Pawnee-Ft. Scott
 Anchor Length 82 Drill Pipe Run 4171 Mud Wt. 9.2
 Top Packer Depth 4469 Drill Collars Run 308 Vis 49
 Bottom Packer Depth 4474 Wt. Pipe Run Ø WL 8.0
 Total Depth 4556 Chlorides 2900 ppm System LCM 6#

Blow Description IF: BOB IN 13 MIN
IS: Return Blow 7"
FF: BOB IN 5 MIN
FS: Return Blow 8"

Rec	Feet of	%gas	%oil	%water	%mud
<u>0</u>	<u>Feet of GIP = 1674'</u>	<u>100</u>			
<u>372</u>	<u>Feet of mcgo</u>	<u>10</u>	<u>85</u>		<u>5</u>
<u>124</u>	<u>Feet of gcmo</u>	<u>30</u>	<u>35</u>		<u>35</u>
<u>434</u>	<u>Feet of ocgm</u>	<u>40</u>	<u>10</u>		<u>50</u>

Rec Total 930 BHT 125 Gravity 28 API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic <u>2196</u>	<input checked="" type="checkbox"/> Test <u>1250.00</u>	T-On Location <u>14:45</u>
(B) First Initial Flow <u>48</u>	<input checked="" type="checkbox"/> Jars <u>250.00</u>	T-Started <u>15:06</u>
(C) First Final Flow <u>192</u>	<input checked="" type="checkbox"/> Safety Joint <u>75.00</u>	T-Open <u>17:12</u>
(D) Initial Shut-In <u>1017</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>21:12</u>
(E) Second Initial Flow <u>213</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>23:38</u>
(F) Second Final Flow <u>331</u>	<input checked="" type="checkbox"/> Mileage <u>Ø4 RT 130.00</u>	Comments
(G) Final Shut-In <u>947</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2146</u>	<input type="checkbox"/> Straddle	

Initial Open 30 Shale Packer 250.00 Ruined Shale Packer
 Initial Shut-In 60 Extra Packer Ruined Packer
 Final Flow 60 Extra Recorder Extra Copies
 Final Shut-In 90 Day Standby Sub Total 0
 Accessibility Total 1955.20
 Sub Total 1955.20 MP/DST Disc't

Approved By _____ Our Representative Mike Polak

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 59164

Well Name & No. Vanava #3-5 Test No. 6 Date 10-2-14
 Company Martin Drilling Co Inc Elevation 3056 KB 3046 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Larry Nicholson Rig Martin 21
 Location: Sec. 5 Twp. 13S Rge. 32W Co. Logan State KS

Interval Tested 4583-4627 Zone Tested Johnson
 Anchor Length 44' Drill Pipe Run 4268 Mud Wt. 8.9
 Top Packer Depth 4578 Drill Collars Run 308 Vis 61
 Bottom Packer Depth 4583 Wt. Pipe Run Ø WL 6.4
 Total Depth 4627 Chlorides 1900 ppm System LCM 16# Pumped 75
 Blow Description IF: BOB in 21 Min
IS: No Return Blow
FF: Built to 5"
FS: No Return Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>323</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 323 BHT 125 Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic <u>2157</u>	<input checked="" type="checkbox"/> Test <u>1250.00</u>	T-On Location <u>15:00</u>
(B) First Initial Flow <u>56</u>	<input checked="" type="checkbox"/> Jars <u>250.00</u>	T-Started <u>16:23</u>
(C) First Final Flow <u>142</u>	<input checked="" type="checkbox"/> Safety Joint <u>75.00</u>	T-Open <u>19:03</u>
(D) Initial Shut-In <u>1608</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>23:03</u>
(E) Second Initial Flow <u>149</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>01:05</u>
(F) Second Final Flow <u>168</u>	<input checked="" type="checkbox"/> Mileage <u>84RT 130.20</u>	Comments <u>Loaded tools</u>
(G) Final Shut-In <u>1439</u>	<input type="checkbox"/> Sampler <u>130.20</u>	<u>X2 13:00 10-3-14</u>
(H) Final Hydrostatic <u>2066</u>	<input type="checkbox"/> Straddle	
	<input checked="" type="checkbox"/> Shale Packer <u>250.00</u>	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
Final Flow <u>60</u>	<input type="checkbox"/> Accessibility <u>2085.40</u>	Total <u>2085.40</u>
Final Shut-In <u>90</u>	Sub Total <u>1955.20</u>	MP/DST Disc't

Approved By _____ Our Representative Mike Robert

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



Invoice

DATE	INVOICE #
10/4/2014	26599

BILL TO
Murfin Drilling Co Inc PO Box 661 Colby, KS 67701-0661
USED FOR <u>LC 103</u>
APPROVED <u>JT/WM</u>

- Acidizing
- Cement
- Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#3-5	Vanava	Logan	Company Tools	Oil	Development	Cement LongString	Blaine

PRICE REF.	DESCRIPTION	QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way	80	Miles	6.00	480.00
578D-L	Pump Charge - Long String	1	Job	1,500.00	1,500.00
403-5	5 1/2" Cement Basket	2	Each	300.00	600.00T
404-5	5 1/2" Port Collar	1	Each	2,900.00	2,900.00T
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	15	Each	90.00	1,350.00T
413-5	5 1/2" Roto Wall Scratcher	5	Each	40.00	200.00T
419-5	5 1/2" Rotating Head Rental	1	Each	200.00	200.00T
325	Standard Cement	225	Sacks	14.50	3,262.50T
284	Calseal	11	Sack(s)	35.00	385.00T
283	Salt	1,150	Lb(s)	0.20	230.00T
285	CFR-1	150	Lb(s)	4.50	675.00T
276	Flocele	50	Lb(s)	2.50	125.00T
280	Flocheck 21	500	Gallon(s)	3.00	1,500.00T
221	Liquid KCL (Clayfix)	2	Gallon(s)	25.00	50.00T
290	D-Air	2	Gallon(s)	42.00	84.00T
581D	Service Charge Cement	225	Sacks	2.00	450.00
583D	Drayage	942	Ton Miles	1.00	942.00
	Subtotal				15,583.50
	Sales Tax Logan County			7.65%	934.18

We Appreciate Your Business!	Total	\$16,517.68
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Services, Inc.

TICKET 26599

CHARGE TO: Murfin Drilling
 ADDRESS: _____
 CITY, STATE, ZIP CODE: _____

PAGE 1 OF 2

SERVICE LOCATIONS: Wellington KS WELL/PROJECT NO: 3-5 LEASE: Vanava COUNTY/PARISH: Logan STATE: KS CITY: Oakley DATE: 4 Oct 14 OWNER: _____
 1. Wellington KS CONTRACTOR: _____ RIG NAME/NO: _____ SHIPPED: YES DELIVERED TO: Location ORDER NO: _____
 2. _____ TICKET TYPE: _____ CONTRACTOR: _____ SALES: _____ SERVICE: _____
 3. _____ WELL TYPE: 0-1 WELL CATEGORY: Development JOB PURPOSE: Cement log string WELL PERMIT NO: _____
 4. _____ REFERRAL LOCATION: _____ INVOICE INSTRUCTIONS: _____

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING		DESCRIPTION	MILEAGE	QTY.	UM	QTY.	UM	UNIT PRICE	AMOUNT
		LOC	ACCT								
578	575	1		TRK 114	80	in				6.00	480.00
578		1		Pump Charge						1500.00	1500.00
403		1		Cement Bucket	52	in	2	oz		300.00	600.00
404		1		Shot collar	52	in	1	ea		2900.00	2900.00
406		1		Catch Sample & Baggage	52	in	1	ea		275.00	275.00
407		1		Insect float shoe w/ auto fill	52	in	1	ea		375.00	375.00
409		1		Turbolizer	52	in	15	ea		92.00	1350.00
413		1		Robt Well scratcher	52	in	5	ea		40.00	200.00
419		1		Rotating head rental	52	in	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: _____ TIME SIGNED: _____
 REMIT PAYMENT TO:
 SWIFT SERVICES, INC.
 P.O. BOX 466
 NESS CITY, KS 67560
 785-798-2300

SWIFT OPERATOR: _____ APPROVAL: _____
 CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES: The customer hereby acknowledges receipt of the materials and services listed on this ticket.
 SURVEY: OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN? _____ WE UNDERSTOOD AND MET YOUR NEEDS? _____ OUR SERVICE WAS PERFORMED WITHOUT DELAY? _____ WE OPERATED THE EQUIPMENT AND PERFORMED JOB SATISFACTORILY? _____ ARE YOU SATISFIED WITH OUR SERVICE? YES NO
 CUSTOMER DID NOT WISH TO RESPOND
 TAX: _____ TOTAL: 16,517.65
 Thank You!

JOB LOG

SWIFT Services, Inc.

DATE 4 OCT PAGE NO.

CUSTOMER Martin Drilling WELL NO. 3-5 LEASE VENAVA JOB TYPE cement long string TICKET NO. 26599

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
								225 sk EA-2 cement w/ 1/4" Floacle 5 1/2" x 15.5" casing 11 joints - 4769' shoejt 196' Port Collar #51 2551' TD = 4775' Centralizers 1-14, 48 Basket 49.50
	0900 0938							only TR 1/4 start 5 1/2" x 15.5" casing in well
	1115							Drop ball - circulate - ROTATE
	1203	4	5				200	Pump 5 bbl KCL flush
		4	12				200	Pump 500 gal Floacle 21
		4	15				200	Pump 15 bbl KCL flush
	1215		7					Plug RH - MH 30sk - 20sk
	1217	4 1/2	45				200	mix EA-2 cement 175sk @ 15.3 ppg
	1232							Drop latch down plug wash out pump & line
	1235	6					200	Displace plug
		6	108				800	
	1300	6	113				1500	Land plug
	1305							Release pressure to truck - dried up
	1310							wash truck
								Back up
	1350							job complete
								Flint, Blain & Russ



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



Invoice

DATE	INVOICE #
10/13/2014	27879

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	#3-5	Vanava	Logan	Company Tools	Oil	Development	Cement Port Collar	Blaine

PRICE REF.	DESCRIPTION	QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way	80	Miles	6.00	480.00
576D-D	Pump Charge - Port Collar	1	Job	1,500.00	1,500.00
330	Swift Multi-Density Standard (MIDCON II)	210	Sacks	18.50	3,885.00T
276	Flocele	50	Lb(s)	2.50	125.00T
290	D-Air	2	Gallon(s)	42.00	84.00T
581D	Service Charge Cement	350	Sacks	2.00	700.00
583D	Drayage	1,433.14	Ton Miles	1.00	1,433.14
	Subtotal				8,207.14
	Sales Tax Logan County			7.65%	313.19
USED FOR <u>IC 103</u> APPROVED <u>[Signature]</u>					

We Appreciate Your Business!

Total

\$8,520.33



CHARGE TO: **MURFIN DRILLING**
 ADDRESS:
 CITY, STATE, ZIP CODE

TICKET 27879

PAGE 1 OF 1

SERVICE LOCATIONS
 1. **Moody KS** WELL/PROJECT NO. **3-5** LEASE **Varava** COUNTY/PARISH **Logan** STATE **KS** CITY **Oakley** DATE **13 Oct 14** OWNER
 2. SERVICE CONTRACTOR
 SALES TICKET TYPE
 3. WELL TYPE **CD TRAILS** RIG NAME/NO. **CD TRAILS** SHIPPED **BT** DELIVERED TO **Location** ORDER NO.
 4. REFERRAL LOCATION INVOICE INSTRUCTIONS **Durlockport cement post collar** WELL PERMIT NO. **5-13-32** WELL LOCATION

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	MILEAGE	QTY.	UM	QTY.	UM	UNIT PRICE	AMOUNT
		LOC	ACCT	DF								
575		1			Pump Charge	80 mi					6.00	480.00
576D		1			TRK 114						1500.00	1500.00
330		1			SWD cement	210 SK					18.50	3885.00
276		1			Flare	50 lb					2.50	125.00
290		1			D-air	2 gal					42.00	84.00
581		1			Service charge cement	350 SK					2.00	700.00
583		1			Drayage	35 828 lb					1.00	1435.14

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 *[Signature]* TIME SIGNED A.M. P.M.
 DATE SIGNED *[Signature]* TIME SIGNED A.M. P.M.

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

SURVEY

OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?	AGREE	UN-DECIDED	DIS-AGREE
WE UNDERSTOOD AND MET YOUR NEEDS?			
OUR SERVICE WAS PERFORMED WITHOUT DELAY?			
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?			
ARE YOU SATISFIED WITH OUR SERVICE?	<input type="checkbox"/> YES	<input type="checkbox"/> NO	

CUSTOMER DID NOT WISH TO RESPOND

PAGE TOTAL **8207.14**
 TOTAL **8520.33**

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES: The customer hereby acknowledges receipt of the materials and services listed on this ticket.
 SWIFT OPERATOR *[Signature]* APPROVAL *[Signature]*

Thank You!

JOB LOG

SWIFT Services, Inc.

DATE 13 OCT 14 PAGE NO.

CUSTOMER MARIN Drilling WELL NO. 3-5 LEASE Vanava JOB TYPE Cement port collar TICKET NO. 27879

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
								350 sk SMD cement w/ 4# flocc 2 3/8 x 5 1/2 Port collar @ 2540' 10sk bentonite gel on the side
	1100							on loc TRK 114 Running tubing
	1240					1200	1200	test to 1200 psi - hold open port collar
		3 1/2	2			600		inj rate 3 1/2 bpm @ 600 psi
	1250	4				600		mix SMD cement @ 11.2 ppg
		4	5			600		- fluid to surface -
		4	105			650		- cement to surface - ^{190sk @ 5}
			6					mix SMD cement 20sk @ 13.0
			111 total					{ 210 sk mixed } 15 topit
		4	9			650		Displace 9 bbl H ₂ O close port collar
	1325					1200	1200	test to 1200 psi - hold
	1333							RUN 6 joints
	1342	4	30			300	300	Reverse hole clean - 2 cement flags -
	1350							wash truck
								Rack up
	1430							job complete flush Pump, Blow, & arrange

Vanava #3-5
 Daily Drilling Report
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		MDCI Vanava #3-5 2260' FSL 410' FEL Sec. 5-T13S-R32W 3056' KB					MDCI Vanava #1-5 2310' FSL 1800' FEL Sec. 5-T13S-R32W 3044' KB		
Formation	SampleTops	Datum	Ref	Log Tops	Datum	Ref	Log Tops	Datum	
Anhydrite	2545	+511	-5	2534	+522	+6	2528	+516	
B/Anhydrite	2564	+492	-3	2558	+498	+3	2549	+495	
Topeka	3781	-725	-1	3773	-717	+7	3768	-724	
Heebner	4007	-951	Flat	3999	-943	+8	3995	-951	
Lansing	4049	-993	Flat	4041	-985	+8	4037	-993	
Stark	4275	-1219	+3	4269	-1213	+9	4266	-1222	
Pawnee	4478	-1422	+4	4468	-1412	+14	4470	-1426	
Cher Sh	4562	-1506	+4	4553	-1497	+13	4554	-1510	
Johnson	4608	-1552	+1	4598	-1542	+11	4597	-1553	
Morrow	4656	-1600	+1	4633	-1577	+24	4645	-1601	
Mississippi	4674	-1618	+18	4655	-1599	+37	4680	-1636	
RTD	4775						4740		
LTD				4769			4741		