



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1233758
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: _____

1233758

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. <input type="checkbox"/> Commingled <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	Delay 1-21
Doc ID	1233758

All Electric Logs Run

DIL
DUCP
MEL
BHCS



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita KS 67202

ATTN: Rocky Milford

Delay #1-21

21-1s-38w Cheyenne,KS

Start Date: 2014.08.27 @ 23:43:00

End Date: 2014.08.28 @ 08:34:45

Job Ticket #: 58300 DST #: 1

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

Printed: 2014.09.04 @ 13:48:11



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

21-1s-38w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Delay #1-21

Job Ticket: 58300

DST#: 1

ATTN: Rocky Milford

Test Start: 2014.08.27 @ 23:43:00

GENERAL INFORMATION:

Formation: **Topeka**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:58:45

Time Test Ended: 08:34:45

Test Type: Conventional Bottom Hole (Initial)

Tester: Ryan Nichols

Unit No: 78

Interval: 3873.00 ft (KB) To 3968.00 ft (KB) (TVD)

Reference Elevations: 3199.00 ft (KB)

Total Depth: 3968.00 ft (KB) (TVD)

3194.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 6752 Inside

Press@RunDepth: 24.91 psig @ 3874.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.08.27

End Date:

2014.08.28

Last Calib.:

2014.08.28

Start Time: 23:43:05

End Time:

08:34:45

Time On Btm:

2014.08.28 @ 02:57:45

Time Off Btm:

2014.08.28 @ 06:10:00

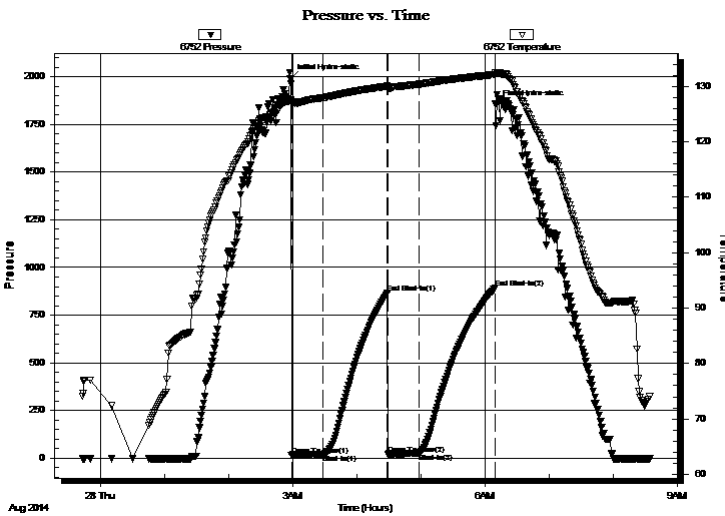
TEST COMMENT: 30 IF - 1/4" blow built to 1/2"

60 ISI - No return

30 FF - No blow

60 FSI - No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1987.73	127.42	Initial Hydro-static
1	16.63	127.29	Open To Flow (1)
31	20.43	127.95	Shut-In(1)
91	865.49	130.03	End Shut-In(1)
92	22.33	129.77	Open To Flow (2)
121	24.91	130.39	Shut-In(2)
192	890.89	132.13	End Shut-In(2)
193	1855.68	132.44	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud 100%m	0.02

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

21-1s-38w Cheyenne, KS

Delay #1-21

Job Ticket: 58300

DST#: 1

Test Start: 2014.08.27 @ 23:43:00

GENERAL INFORMATION:

Formation: Topeka		
Deviated: No Whipstock:	ft (KB)	Test Type: Conventional Bottom Hole (Initial)
Time Tool Opened: 02:58:45		Tester: Ryan Nichols
Time Test Ended: 08:34:45		Unit No: 78
Interval: 3873.00 ft (KB) To 3968.00 ft (KB) (TVD)		Reference Elevations: 3199.00 ft (KB)
Total Depth: 3968.00 ft (KB) (TVD)		3194.00 ft (CF)
Hole Diameter: 7.88 inches	Hole Condition: Good	KB to GR/CF: 5.00 ft

Serial #: 8322

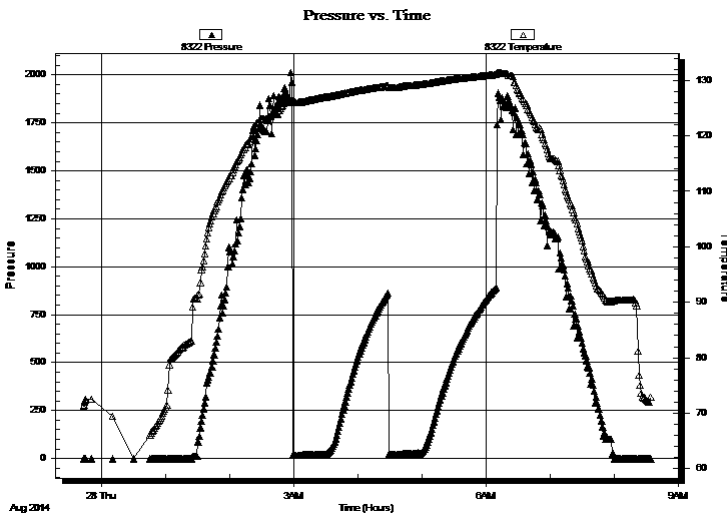
Outside

Press@RunDepth: psig @ 3874.00 ft (KB)
 Start Date: 2014.08.27 End Date: 2014.08.28
 Start Time: 23:43:05 End Time: 08:34:45

Capacity: 8000.00 psig
 Last Calib.: 2014.08.28
 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30 IF - 1/4" blow built to 1/2"
 60 ISI - No return
 30 FF - No blow
 60 FSI - No return

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud 100% _m	0.02

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

21-1s-38w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Delay #1-21

Job Ticket: 58300

DST#: 1

ATTN: Rocky Milford

Test Start: 2014.08.27 @ 23:43:00

Tool Information

Drill Pipe:	Length: 3674.00 ft	Diameter: 3.80 inches	Volume: 51.54 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 52.45 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 67000.00 lb
Depth to Top Packer:	3873.00 ft			Final 67000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	95.00 ft			
Tool Length:	122.00 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			3847.00	
Shut In Tool	5.00			3852.00	
Hydraulic tool	5.00			3857.00	
Jars	5.00			3862.00	
Safety Joint	2.00			3864.00	
Packer	5.00			3869.00	27.00 Bottom Of Top Packer
Packer	4.00			3873.00	
Packer - Shale	0.00			3873.00	
Stubb	1.00			3874.00	
Recorder	0.00	6752	Inside	3874.00	
Recorder	0.00	8322	Outside	3874.00	
Perforations	26.00			3900.00	
Blank Spacing	65.00			3965.00	
Bullnose	3.00			3968.00	95.00 Bottom Packers & Anchor

Total Tool Length: 122.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

21-1s-38w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Delay #1-21

Job Ticket: 58300

DST#: 1

ATTN: Rocky Milford

Test Start: 2014.08.27 @ 23:43:00

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: 88.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud 100%m	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

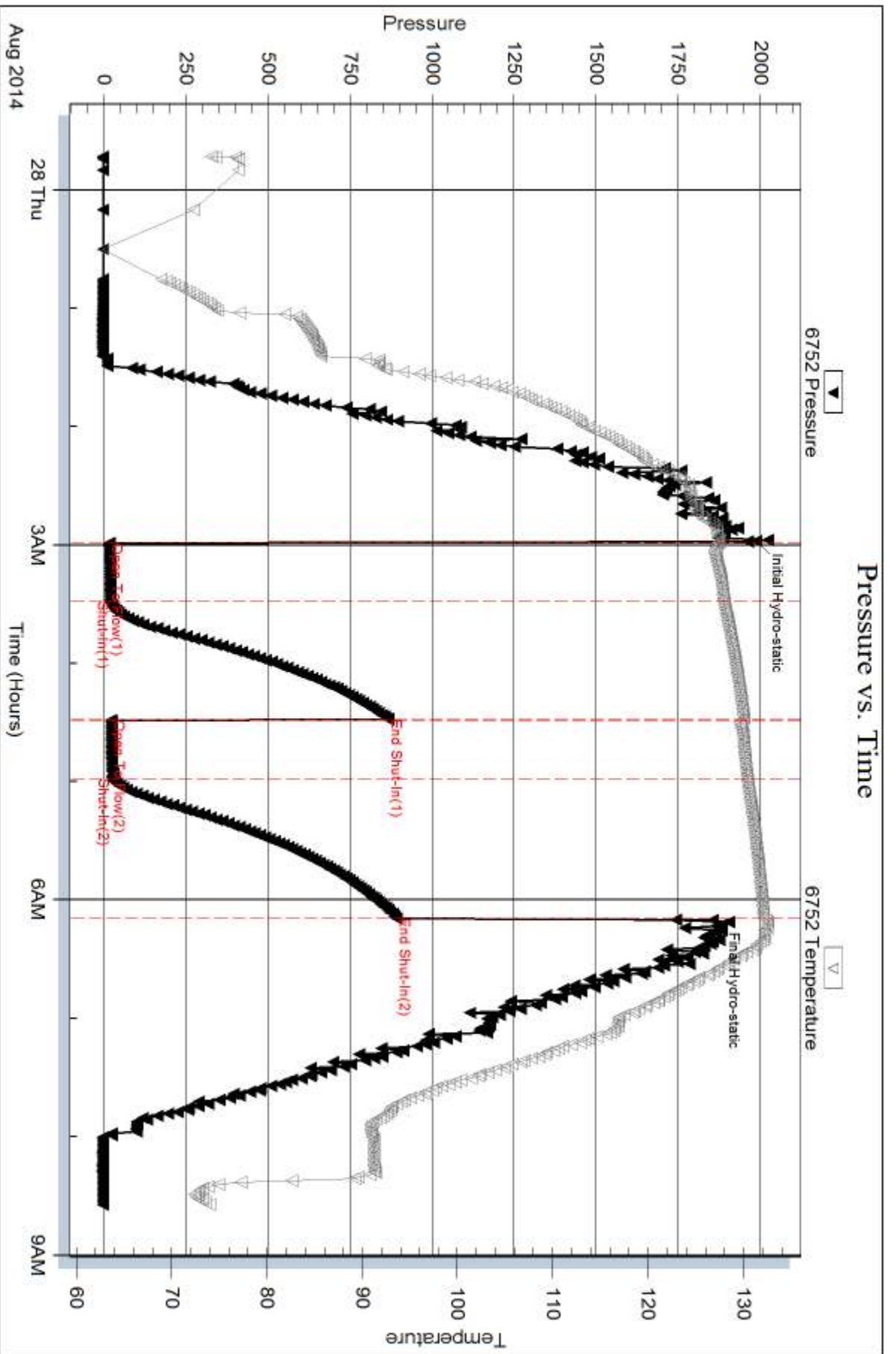
Num Gas Bombs: 0

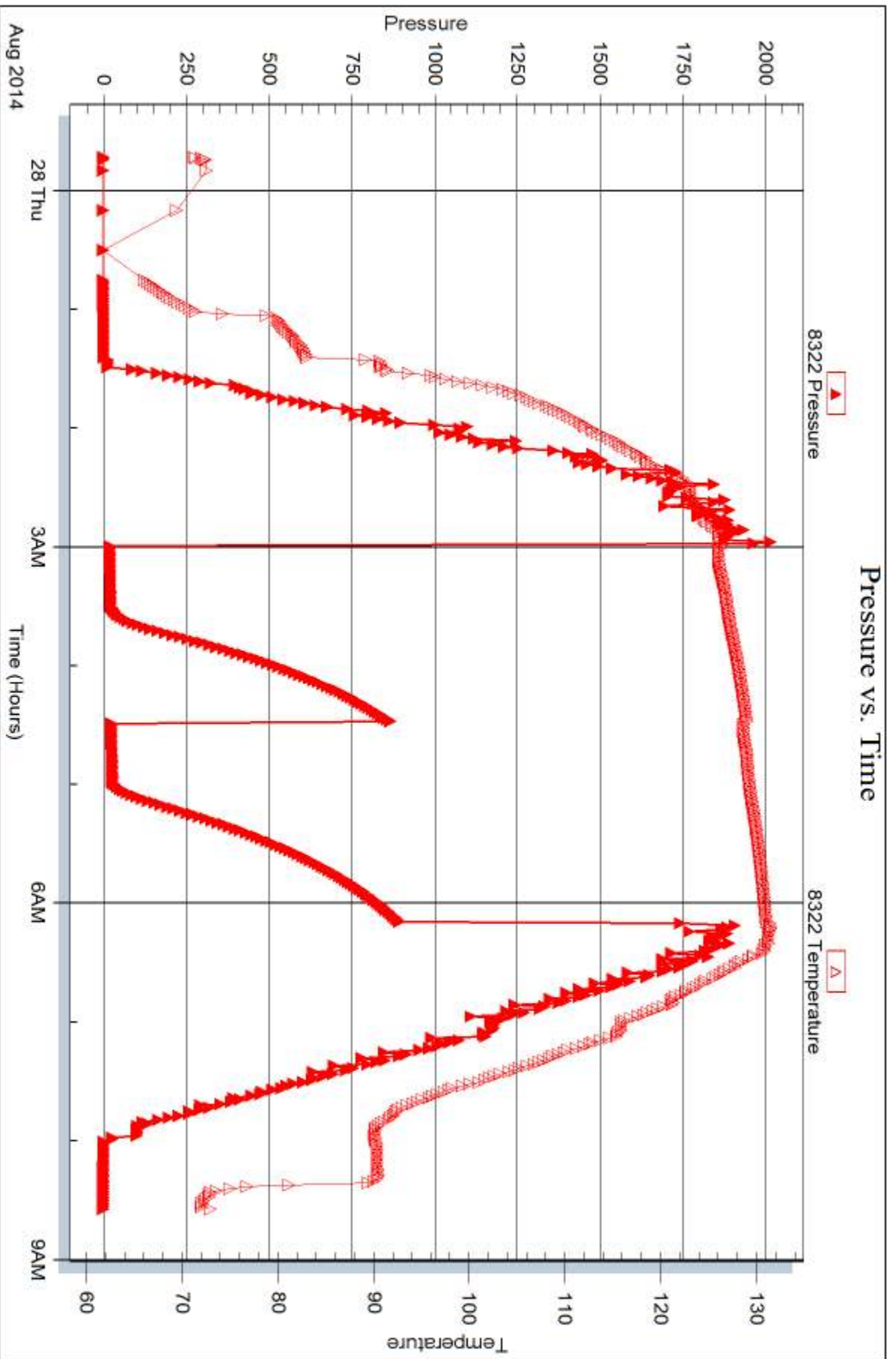
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita KS 67202

ATTN: Rocky Milford

Delay #1-21

21-1s-38w Cheyenne,KS

Start Date: 2014.08.28 @ 23:41:00

End Date: 2014.08.29 @ 07:25:15

Job Ticket #: 60001 DST #: 2

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

Printed: 2014.09.04 @ 13:47:46

Murfin Drilling Co. Inc. 21-1s-38w Cheyenne,KS Delay #1-21 DST # 2 Oread 2014.08.28



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

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

21-1s-38w Cheyenne,KS

Delay #1-21

Job Ticket: 60001

DST#: 2

Test Start: 2014.08.28 @ 23:41:00

GENERAL INFORMATION:

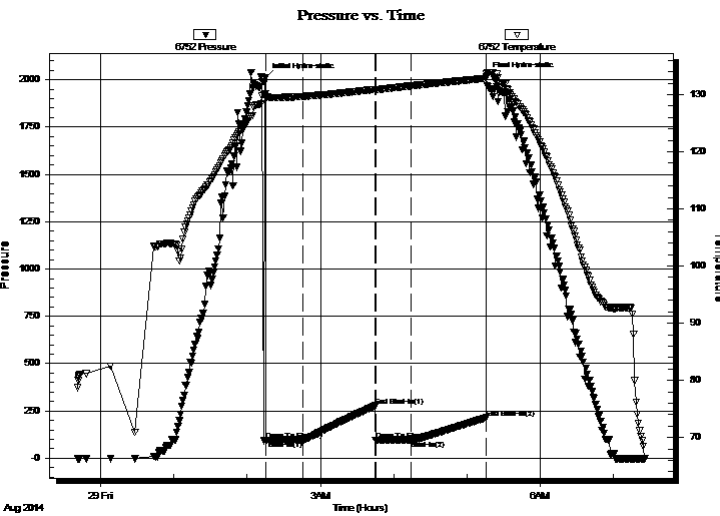
Formation: **Oread**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 02:15:30
 Time Test Ended: 07:25:15
 Interval: **4026.00 ft (KB) To 4095.00 ft (KB) (TVD)**
 Total Depth: 4095.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ryan Nichols
 Unit No: 78
 Reference Elevations: 3199.00 ft (KB)
 3194.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 6752

Inside

Press@RunDepth: 97.26 psig @ 4027.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.08.28 End Date: 2014.08.29 Last Calib.: 2014.08.29
 Start Time: 23:41:05 End Time: 07:25:14 Time On Btm: 2014.08.29 @ 02:15:15
 Time Off Btm: 2014.08.29 @ 05:15:45

TEST COMMENT: 30 IF - Surface blow tool opened up 4' off bottom going through a bridge, reset tool
 60 ISI - No return
 30 FF - No blow
 60 FSI - No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2010.58	130.18	Initial Hydro-static
1	94.09	129.44	Open To Flow (1)
31	93.59	129.67	Shut-In(1)
90	277.15	130.91	End Shut-In(1)
90	94.69	130.85	Open To Flow (2)
119	97.26	131.52	Shut-In(2)
180	213.53	132.85	End Shut-In(2)
181	2015.79	133.58	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
130.00	Mud 100% m	0.64

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

21-1s-38w Cheyenne, KS

250 N. Water STE 300
Wichita KS 67202

Delay #1-21

Job Ticket: 60001

DST#: 2

ATTN: Rocky Milford

Test Start: 2014.08.28 @ 23:41:00

GENERAL INFORMATION:

Formation: **Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:15:30

Time Test Ended: 07:25:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 78

Interval: 4026.00 ft (KB) To 4095.00 ft (KB) (TVD)

Total Depth: 4095.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3199.00 ft (KB)

3194.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8322 Outside

Press@RunDepth: psig @ 4027.00 ft (KB)

Start Date: 2014.08.28

End Date:

2014.08.29

Start Time: 23:41:05

End Time:

07:24:59

Capacity: 8000.00 psig

Last Calib.:

2014.08.29

Time On Btm:

Time Off Btm:

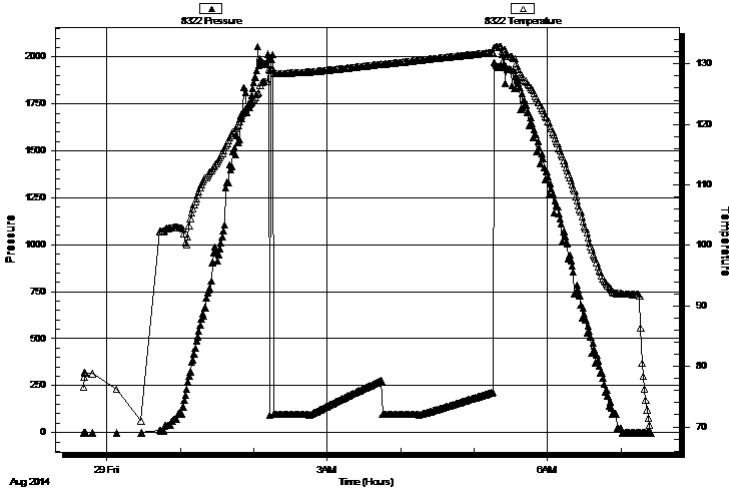
TEST COMMENT: 30 IF - Surface blow tool opened up 4' off bottom going through a bridge, reset tool

60 ISI - No return

30 FF - No blow

60 FSI - No return

Pressure vs. Time



PRESSURE SUMMARY

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

Length (ft)	Description	Volume (bbl)
130.00	Mud 100% m	0.64

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

21-1s-38w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Delay #1-21

Job Ticket: 60001

DST#: 2

ATTN: Rocky Milford

Test Start: 2014.08.28 @ 23:41:00

Tool Information

Drill Pipe:	Length: 3833.00 ft	Diameter: 3.80 inches	Volume: 53.77 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 650000.0 lb
			<u>Total Volume: 54.68 bbl</u>	Tool Chased 4.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 57000.00 lb
Depth to Top Packer:	4026.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	69.00 ft			
Tool Length:	96.00 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			4000.00	
Shut In Tool	5.00			4005.00	
Hydraulic tool	5.00			4010.00	
Jars	5.00			4015.00	
Safety Joint	2.00			4017.00	
Packer	5.00			4022.00	27.00 Bottom Of Top Packer
Packer	4.00			4026.00	
Packer - Shale	0.00			4026.00	
Stubb	1.00			4027.00	
Recorder	0.00	6752	Inside	4027.00	
Recorder	0.00	8322	Outside	4027.00	
Perforations	31.00			4058.00	
Blank Spacing	34.00			4092.00	
Bullnose	3.00			4095.00	69.00 Bottom Packers & Anchor

Total Tool Length: 96.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

21-1s-38w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Delay #1-21

Job Ticket: 60001

DST#: 2

ATTN: Rocky Milford

Test Start: 2014.08.28 @ 23:41:00

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: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
130.00	Mud 100%m	0.639

Total Length: 130.00 ft Total Volume: 0.639 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

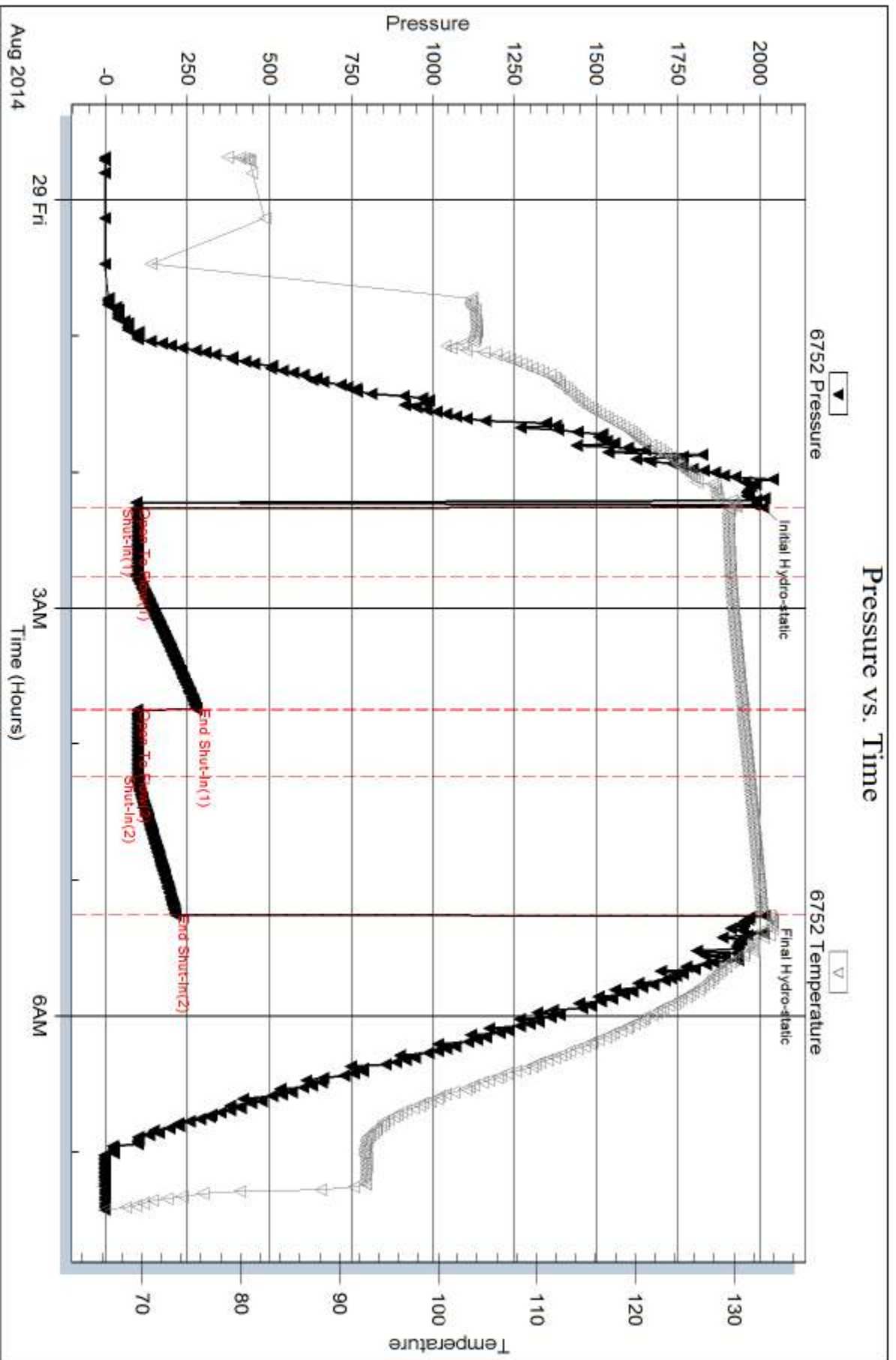
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

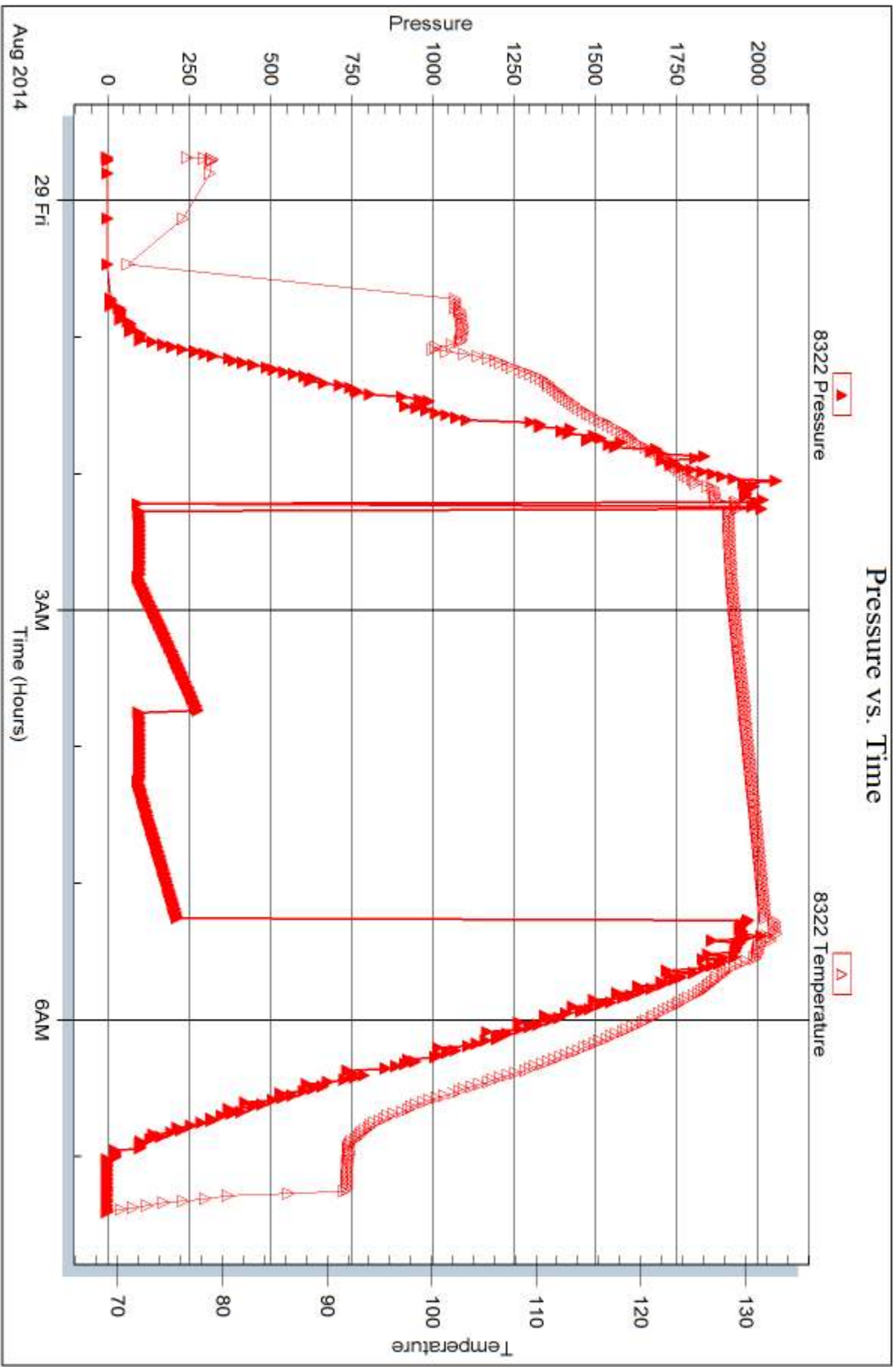


Serial #: 8322

Outside Murfin Drilling Co. Inc.

Delay #1-21

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 60001

Printed: 2014.09.04 @ 13:47:47



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita KS 67202

ATTN: Rocky Milford

Delay #1-21

21-1s-38w Cheyenne,KS

Start Date: 2014.08.29 @ 21:02:00

End Date: 2014.08.30 @ 06:55:15

Job Ticket #: 60002 DST #: 3

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

Printed: 2014.09.04 @ 13:47:16



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

21-1s-38w Cheyenne, KS

250 N. Water STE 300
Wichita KS 67202

Delay #1-21

Job Ticket: 60002

DST#: 3

ATTN: Rocky Milford

Test Start: 2014.08.29 @ 21:02:00

GENERAL INFORMATION:

Formation: **LKC " A - D "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:14:30

Time Test Ended: 06:55:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 78

Interval: 4092.00 ft (KB) To 4220.00 ft (KB) (TVD)

Reference Elevations: 3199.00 ft (KB)

Total Depth: 4220.00 ft (KB) (TVD)

3194.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 6752

Inside

Press@RunDepth: 112.11 psig @ 4093.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.08.29

End Date:

2014.08.30

Last Calib.: 2014.08.30

Start Time: 21:02:05

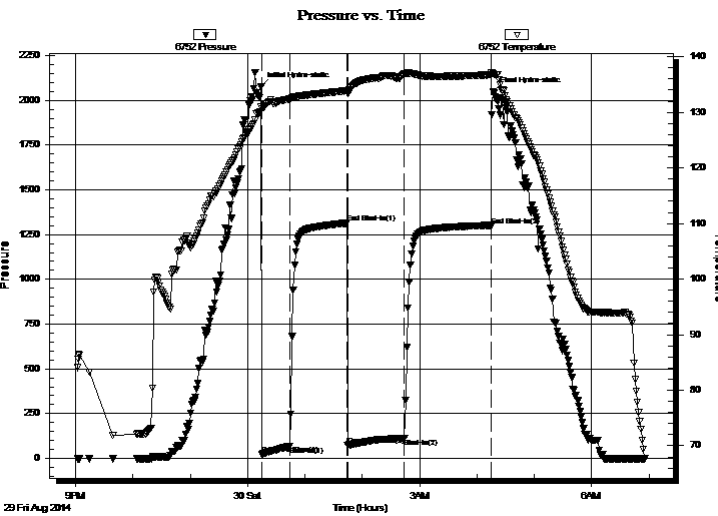
End Time:

06:55:15

Time On Btm: 2014.08.30 @ 00:14:00

Time Off Btm: 2014.08.30 @ 04:16:30

TEST COMMENT: 30 IF - 1/4" blow built to 4"
60 ISI - No return
60 FF - Surface blow started @ 13 mins built to 3"
90 FSI - No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2077.38	130.92	Initial Hydro-static
1	21.19	130.71	Open To Flow (1)
30	67.34	132.38	Shut-In(1)
90	1314.25	133.87	End Shut-In(1)
91	72.91	133.66	Open To Flow (2)
150	112.11	136.88	Shut-In(2)
241	1301.73	136.75	End Shut-In(2)
243	2048.23	136.94	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	OCM - 25%o - 75%M	0.02
186.00	OCM - 15%o - 85%M	0.96

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

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

21-1s-38w Cheyenne,KS

Delay #1-21

Job Ticket: 60002

DST#: 3

Test Start: 2014.08.29 @ 21:02:00

GENERAL INFORMATION:

Formation: **LKC " A - D "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:14:30

Time Test Ended: 06:55:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 78

Interval: 4092.00 ft (KB) To 4220.00 ft (KB) (TVD)

Total Depth: 4220.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3199.00 ft (KB)

3194.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8322 Outside

Press@RunDepth: psig @ 4093.00 ft (KB)

Start Date: 2014.08.29

End Date: 2014.08.30

Capacity: 8000.00 psig

Last Calib.: 2014.08.30

Start Time: 21:02:05

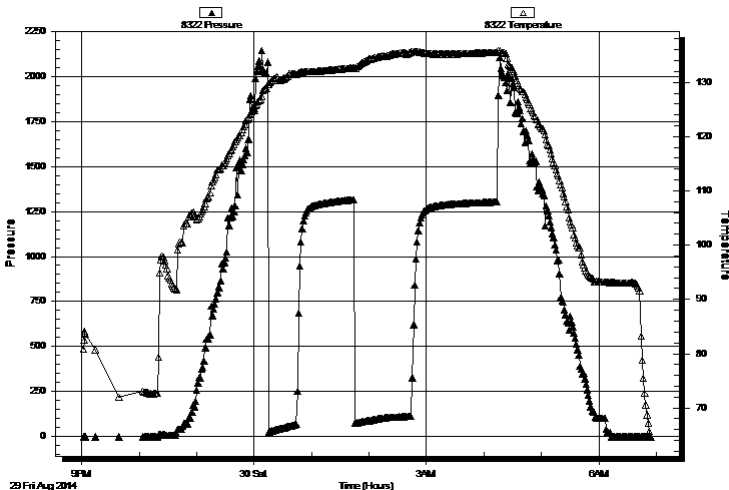
End Time: 06:55:00

Time On Btm:

Time Off Btm:

TEST COMMENT: 30 IF - 1/4" blow built to 4"
60 ISI - No return
60 FF - Surface blow started @ 13 mins built to 3"
90 FSI - No return

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	OCM - 25%o - 75%M	0.02
186.00	OCM - 15%o - 85%M	0.96

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

21-1s-38w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Delay #1-21

Job Ticket: 60002

DST#: 3

ATTN: Rocky Milford

Test Start: 2014.08.29 @ 21:02:00

Tool Information

Drill Pipe:	Length: 3889.00 ft	Diameter: 3.80 inches	Volume: 54.55 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 55.46 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4092.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	128.00 ft			
Tool Length:	155.00 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			4066.00	
Shut In Tool	5.00			4071.00	
Hydraulic tool	5.00			4076.00	
Jars	5.00			4081.00	
Safety Joint	2.00			4083.00	
Packer	5.00			4088.00	27.00 Bottom Of Top Packer
Packer	4.00			4092.00	
Packer - Shale	0.00			4092.00	
Stubb	1.00			4093.00	
Recorder	0.00	6752	Inside	4093.00	
Recorder	0.00	8322	Outside	4093.00	
Perforations	28.00			4121.00	
Blank Spacing	96.00			4217.00	
Bullnose	3.00			4220.00	128.00 Bottom Packers & Anchor

Total Tool Length: 155.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

21-1s-38w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Delay #1-21

Job Ticket: 60002

DST#: 3

ATTN: Rocky Milford

Test Start: 2014.08.29 @ 21:02:00

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: 45.00 sec/qt

Cushion Volume:

bbf

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
5.00	OCM - 25%o - 75%M	0.025
186.00	OCM - 15%o - 85%M	0.960

Total Length: 191.00 ft Total Volume: 0.985 bbf

Num Fluid Samples: 0

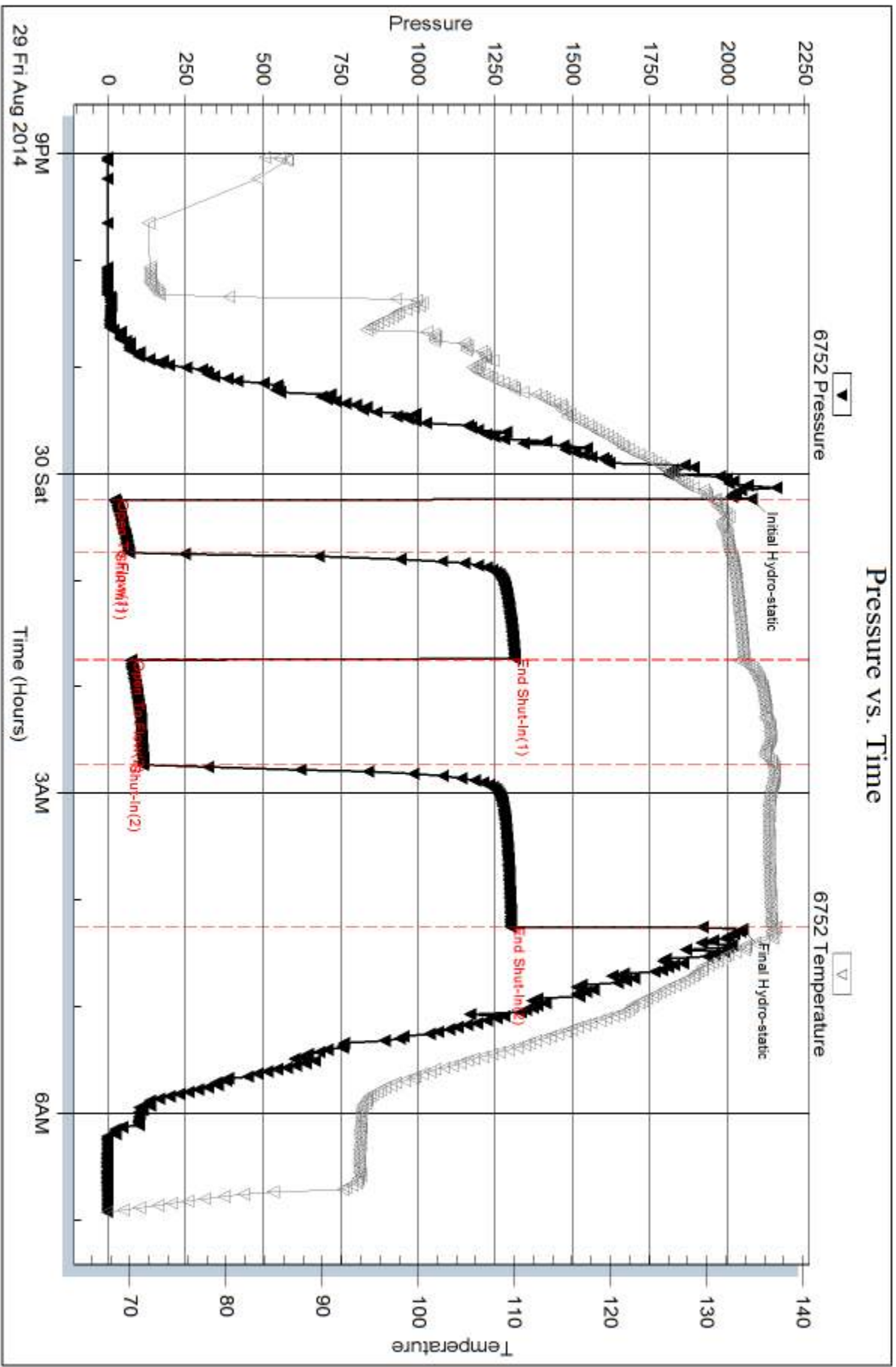
Num Gas Bombs: 0

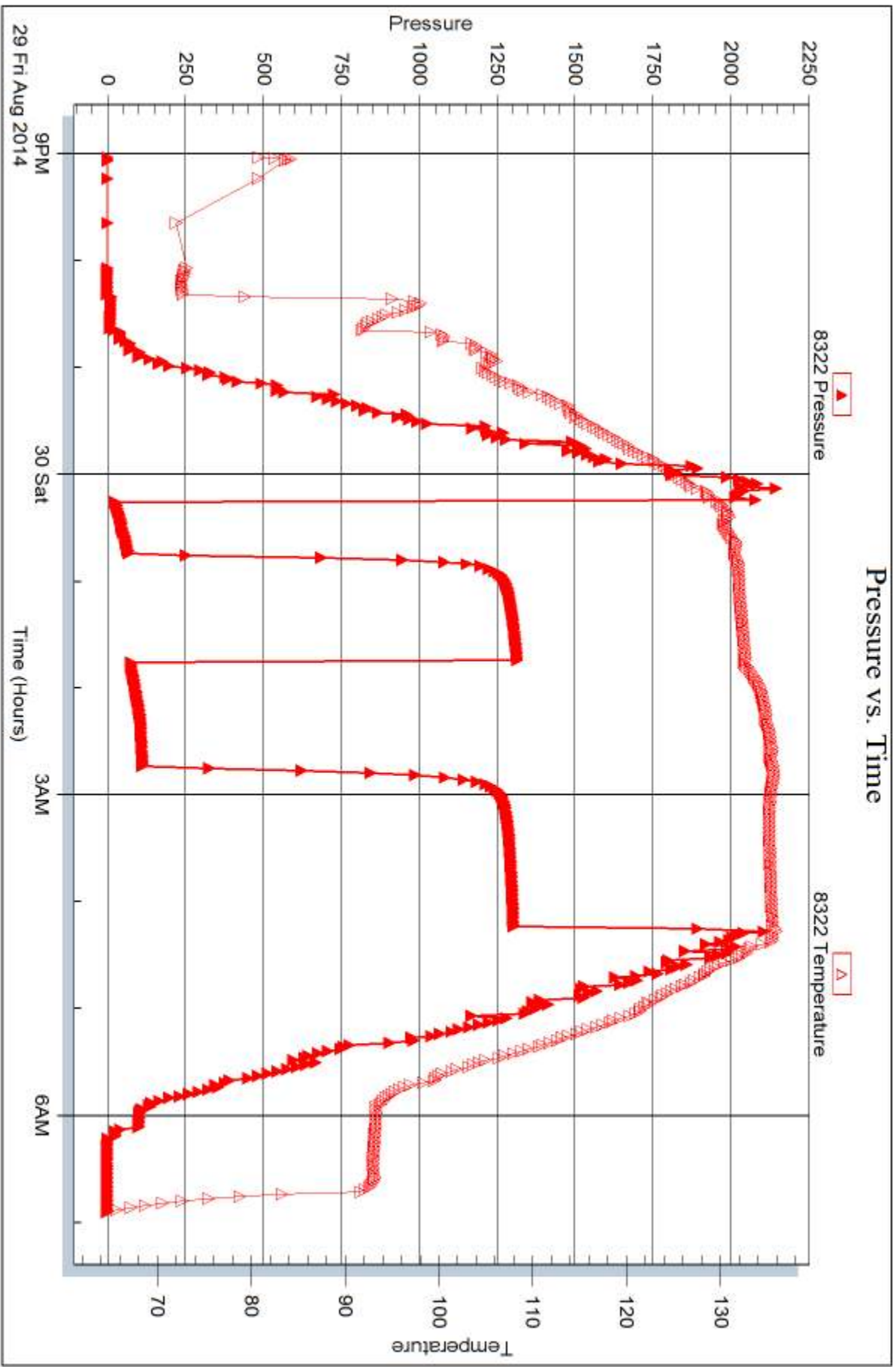
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita KS 67202

ATTN: Rocky Milford

Delay #1-21

21-1s-38w Cheyenne,KS

Start Date: 2014.08.30 @ 18:42:00

End Date: 2014.08.31 @ 05:04:30

Job Ticket #: 60003 DST #: 4

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

Printed: 2014.09.04 @ 13:46:52

Murfin Drilling Co. Inc.
21-1s-38w Cheyenne,KS
Delay #1-21
DST # 4
LKC " G - H "
2014.08.30



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

21-1s-38w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Delay #1-21

Job Ticket: 60003

DST#: 4

ATTN: Rocky Milford

Test Start: 2014.08.30 @ 18:42:00

GENERAL INFORMATION:

Formation: **LKC " G - H "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:27:00

Time Test Ended: 05:04:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 78

Interval: 4215.00 ft (KB) To 4310.00 ft (KB) (TVD)

Total Depth: 4310.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3199.00 ft (KB)

3194.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6752

Inside

Press@RunDepth: 48.61 psig @ 4216.00 ft (KB)

Start Date: 2014.08.30

Start Time: 18:42:05

End Date:

End Time:

2014.08.31

05:04:30

Capacity: 8000.00 psig

Last Calib.: 2014.08.31

Time On Btm: 2014.08.30 @ 23:26:30

Time Off Btm: 2014.08.31 @ 02:25:00

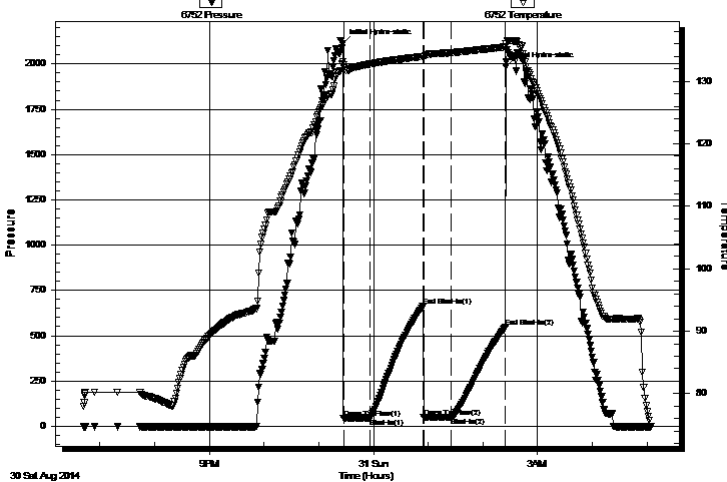
TEST COMMENT: 30 IF - Surface blow built to 1/4" -- tool opened up going through a bridge 5' off bottom

60 ISI - No return

30 FF - No blow

60 FSI - No return

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2113.49	133.15	Initial Hydro-static
1	44.38	132.70	Open To Flow (1)
30	46.35	132.75	Shut-In(1)
88	664.20	133.98	End Shut-In(1)
89	47.78	133.85	Open To Flow (2)
119	48.61	134.56	Shut-In(2)
179	546.33	135.48	End Shut-In(2)
179	1986.49	135.96	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
65.00	Mud w / oil spots	0.32

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

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

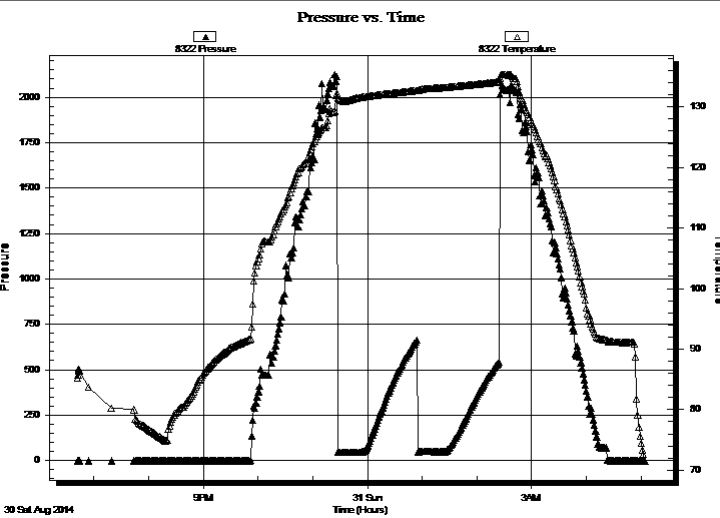
21-1s-38w Cheyenne,KS
Delay #1-21
Job Ticket: 60003 **DST#: 4**
Test Start: 2014.08.30 @ 18:42:00

GENERAL INFORMATION:

Formation: **LKC "G - H"**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 23:27:00 Tester: Ryan Nichols
Time Test Ended: 05:04:30 Unit No: 78
Interval: 4215.00 ft (KB) To 4310.00 ft (KB) (TVD) Reference Elevations: 3199.00 ft (KB)
Total Depth: 4310.00 ft (KB) (TVD) 3194.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 5.00 ft

Serial #: 8322 Outside
Press@RunDepth: psig @ 4216.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.08.30 End Date: 2014.08.31 Last Calib.: 2014.08.31
Start Time: 18:42:05 End Time: 05:04:15 Time On Btm:
Time Off Btm:

TEST COMMENT: 30 IF - Surface blow built to 1/4" -- tool opened up going through a bridge 5' off bottom
60 ISI - No return
30 FF - No blow
60 FSI - No return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
65.00	Mud w / oil spots	0.32

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

21-1s-38w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Delay #1-21

Job Ticket: 60003

DST#: 4

ATTN: Rocky Milford

Test Start: 2014.08.30 @ 18:42:00

Tool Information

Drill Pipe:	Length: 4022.00 ft	Diameter: 3.80 inches	Volume: 56.42 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 57.33 bbl</u>	Tool Chased 5.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4215.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	95.00 ft			
Tool Length:	122.00 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			4189.00	
Shut In Tool	5.00			4194.00	
Hydraulic tool	5.00			4199.00	
Jars	5.00			4204.00	
Safety Joint	2.00			4206.00	
Packer	5.00			4211.00	27.00 Bottom Of Top Packer
Packer	4.00			4215.00	
Stubb	1.00			4216.00	
Recorder	0.00	6752	Inside	4216.00	
Recorder	0.00	8322	Outside	4216.00	
Perforations	26.00			4242.00	
Change Over Sub	1.00			4243.00	
Drill Pipe	63.00			4306.00	
Change Over Sub	1.00			4307.00	
Bullnose	3.00			4310.00	95.00 Bottom Packers & Anchor

Total Tool Length: 122.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

21-1s-38w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Delay #1-21

Job Ticket: 60003

DST#: 4

ATTN: Rocky Milford

Test Start: 2014.08.30 @ 18:42:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 69.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
65.00	Mud w / oil spots	0.320

Total Length: 65.00 ft Total Volume: 0.320 bbl

Num Fluid Samples: 0

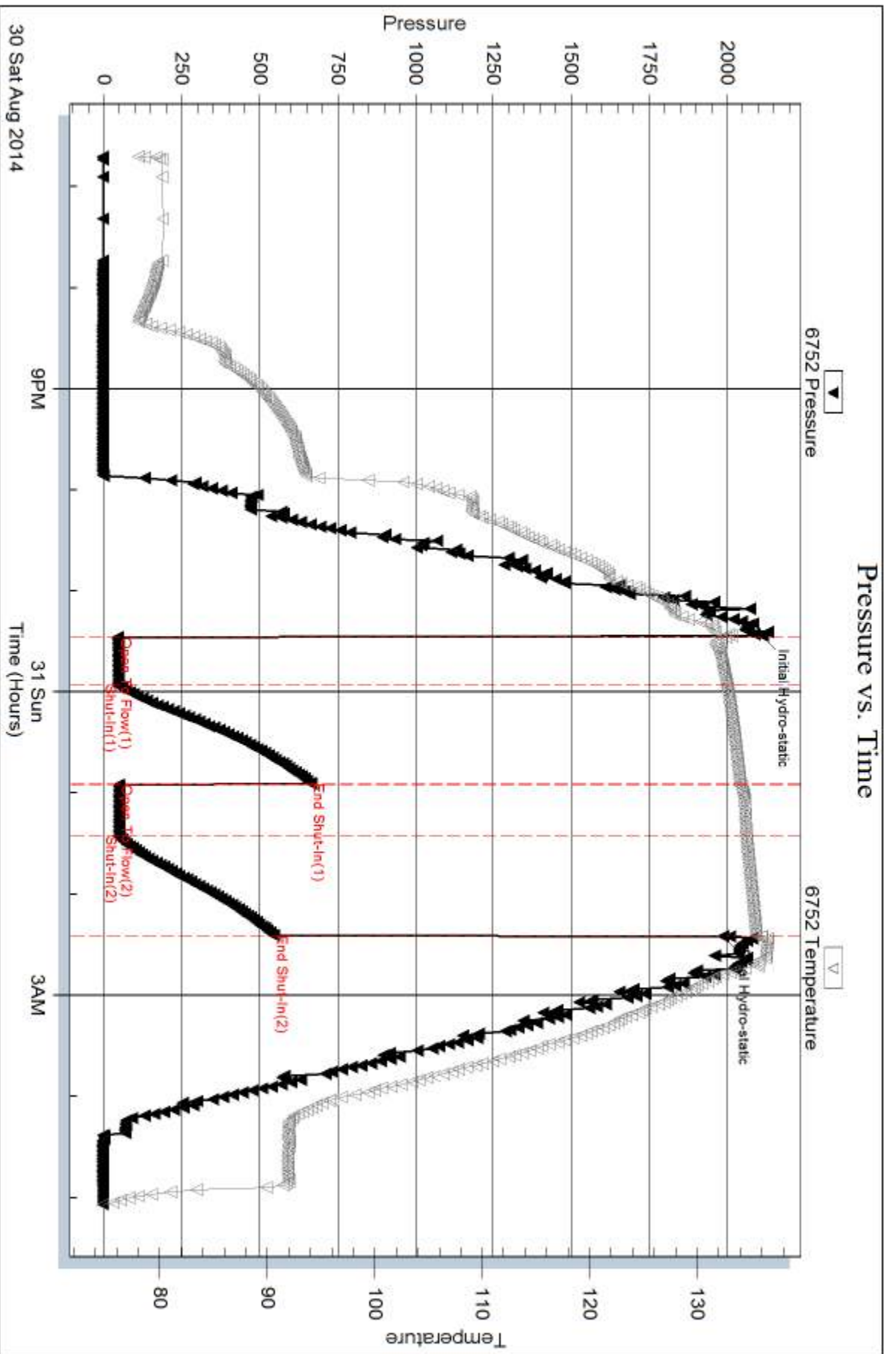
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

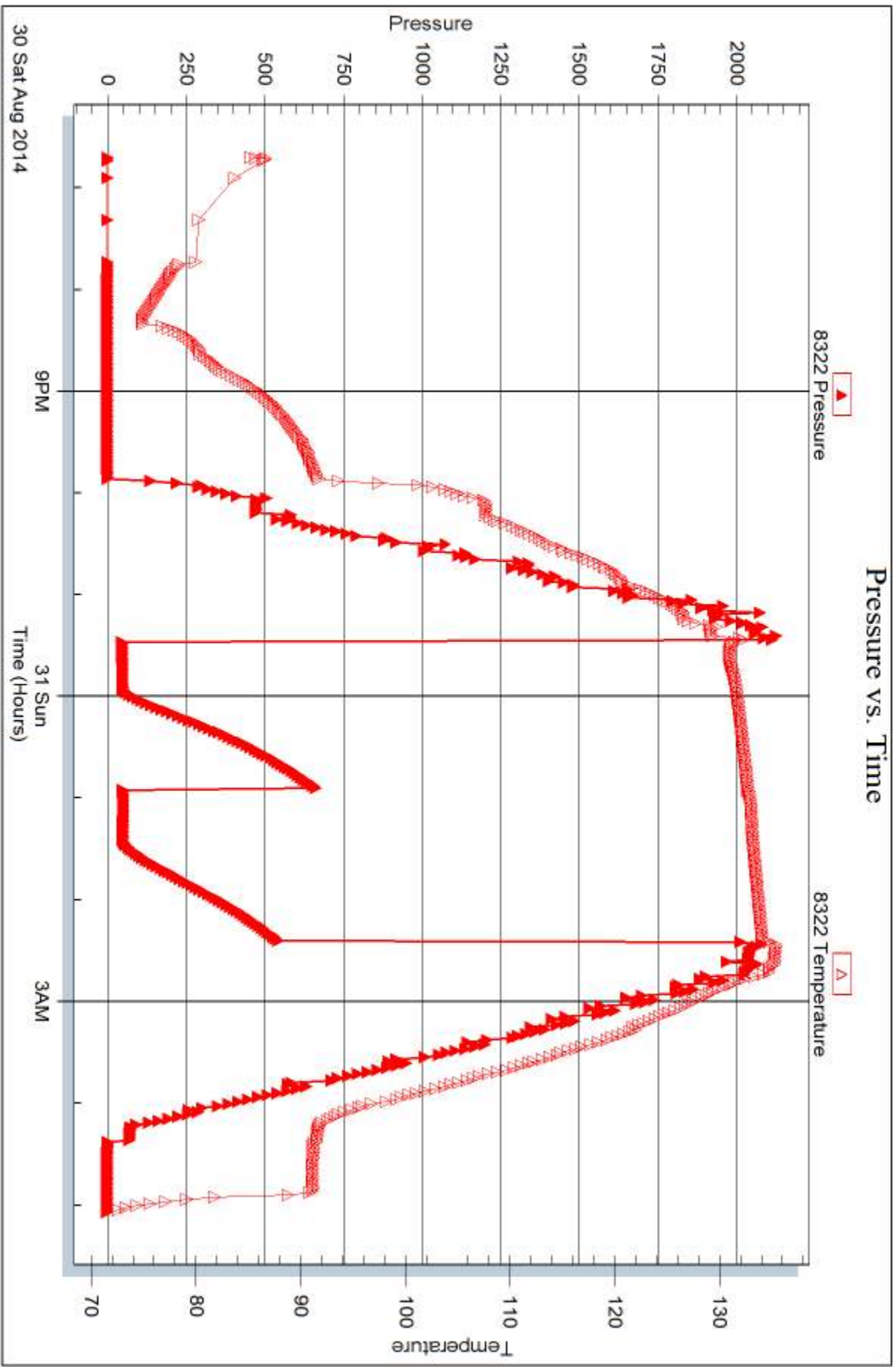


Serial #: 8322

Outside Murfin Drilling Co. Inc.

Delay #1-21

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 60003

Printed: 2014.09.04 @ 13:46:53



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita KS 67202

ATTN: Rocky Milford

Delay #1-21

21-1s-38w Cheyenne,KS

Start Date: 2014.08.31 @ 20:48:00

End Date: 2014.09.01 @ 05:22:00

Job Ticket #: 60004 DST #: 5

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

Printed: 2014.09.04 @ 13:46:13



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

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

21-1s-38w Cheyenne,KS

Delay #1-21

Job Ticket: 60004

DST#: 5

Test Start: 2014.08.31 @ 20:48:00

GENERAL INFORMATION:

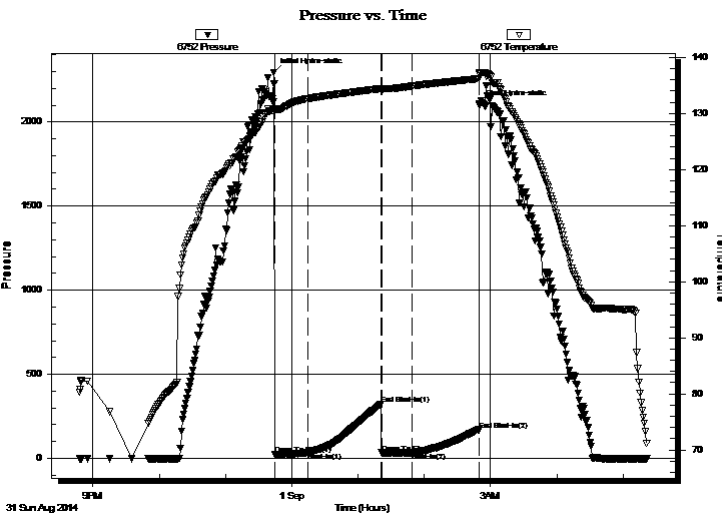
Formation: **LKC "J-L"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 23:44:30
 Time Test Ended: 05:22:00
 Interval: **4303.00 ft (KB) To 4430.00 ft (KB) (TVD)**
 Total Depth: 4430.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ryan Nichols
 Unit No: 78
 Reference Elevations: 3199.00 ft (KB)
 3194.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 6752

Inside

Press@RunDepth: 33.89 psig @ 4304.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.08.31 End Date: 2014.09.01 Last Calib.: 2014.09.01
 Start Time: 20:48:05 End Time: 05:22:00 Time On Btm: 2014.08.31 @ 23:43:45
 Time Off Btm: 2014.09.01 @ 02:50:00

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



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2294.93	130.79	Initial Hydro-static
1	22.23	130.52	Open To Flow (1)
31	33.75	132.62	Shut-In(1)
97	322.00	134.42	End Shut-In(1)
98	31.97	134.36	Open To Flow (2)
126	33.89	134.90	Shut-In(2)
186	165.95	136.20	End Shut-In(2)
187	2101.36	137.13	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud w/oil spots 100%M	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. Inc.

21-1s-38w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Delay #1-21

Job Ticket: 60004

DST#: 5

ATTN: Rocky Milford

Test Start: 2014.08.31 @ 20:48:00

Tool Information

Drill Pipe:	Length: 4118.00 ft	Diameter: 3.80 inches	Volume: 57.76 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose:	65000.00 lb
			<u>Total Volume: 58.67 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial	60000.00 lb
Depth to Top Packer:	4303.00 ft			Final	60000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	127.00 ft				
Tool Length:	154.00 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			4277.00	
Shut In Tool	5.00			4282.00	
Hydraulic tool	5.00			4287.00	
Jars	5.00			4292.00	
Safety Joint	2.00			4294.00	
Packer	5.00			4299.00	27.00 Bottom Of Top Packer
Packer	4.00			4303.00	
Stubb	1.00			4304.00	
Recorder	0.00	6752	Inside	4304.00	
Recorder	0.00	8322	Outside	4304.00	
Perforations	27.00			4331.00	
Change Over Sub	1.00			4332.00	
Drill Pipe	94.00			4426.00	
Change Over Sub	1.00			4427.00	
Bullnose	3.00			4430.00	127.00 Bottom Packers & Anchor

Total Tool Length: 154.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

21-1s-38w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Delay #1-21

Job Ticket: 60004

DST#: 5

ATTN: Rocky Milford

Test Start: 2014.08.31 @ 20:48:00

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: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud w /oil spots 100%M	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

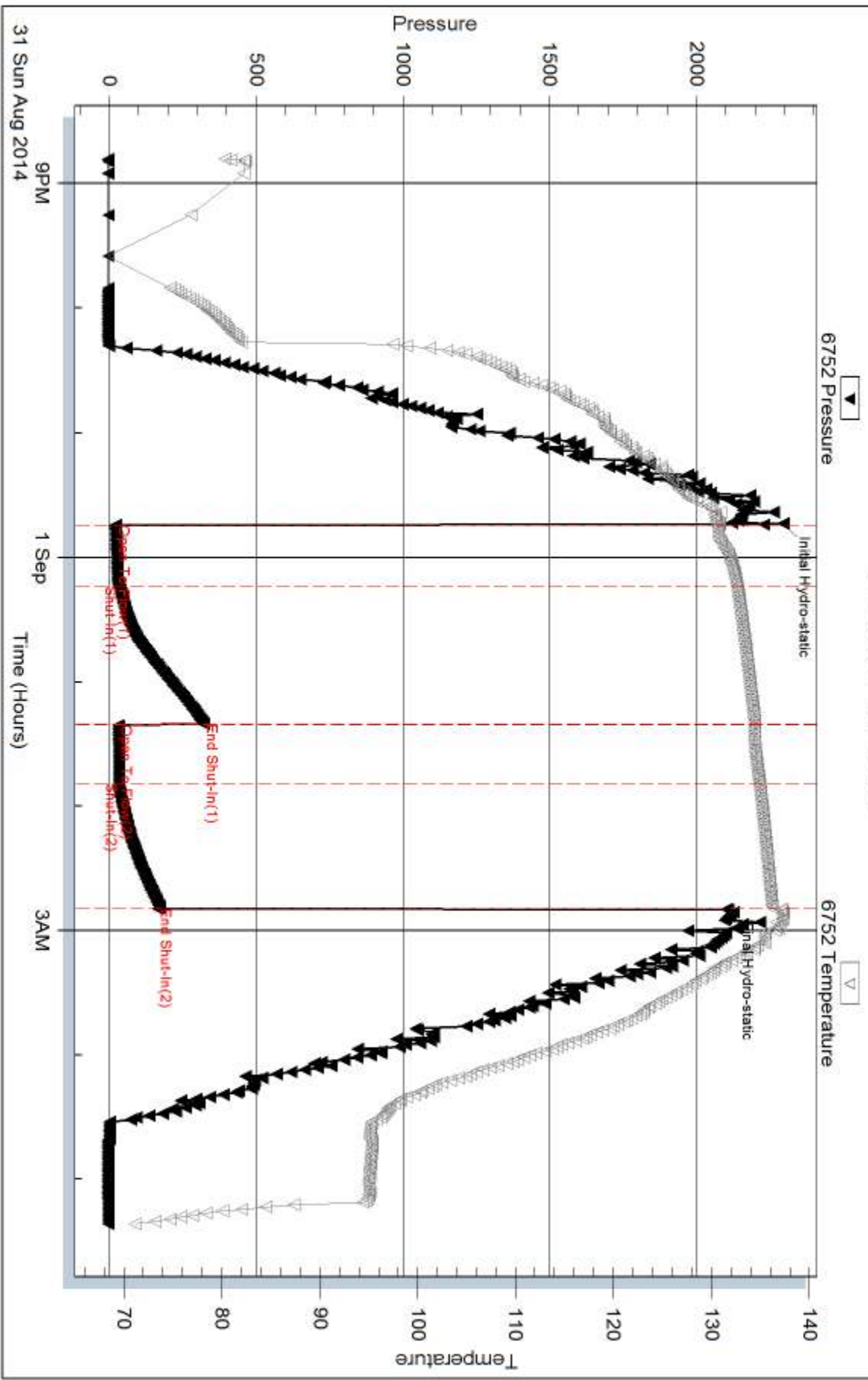
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

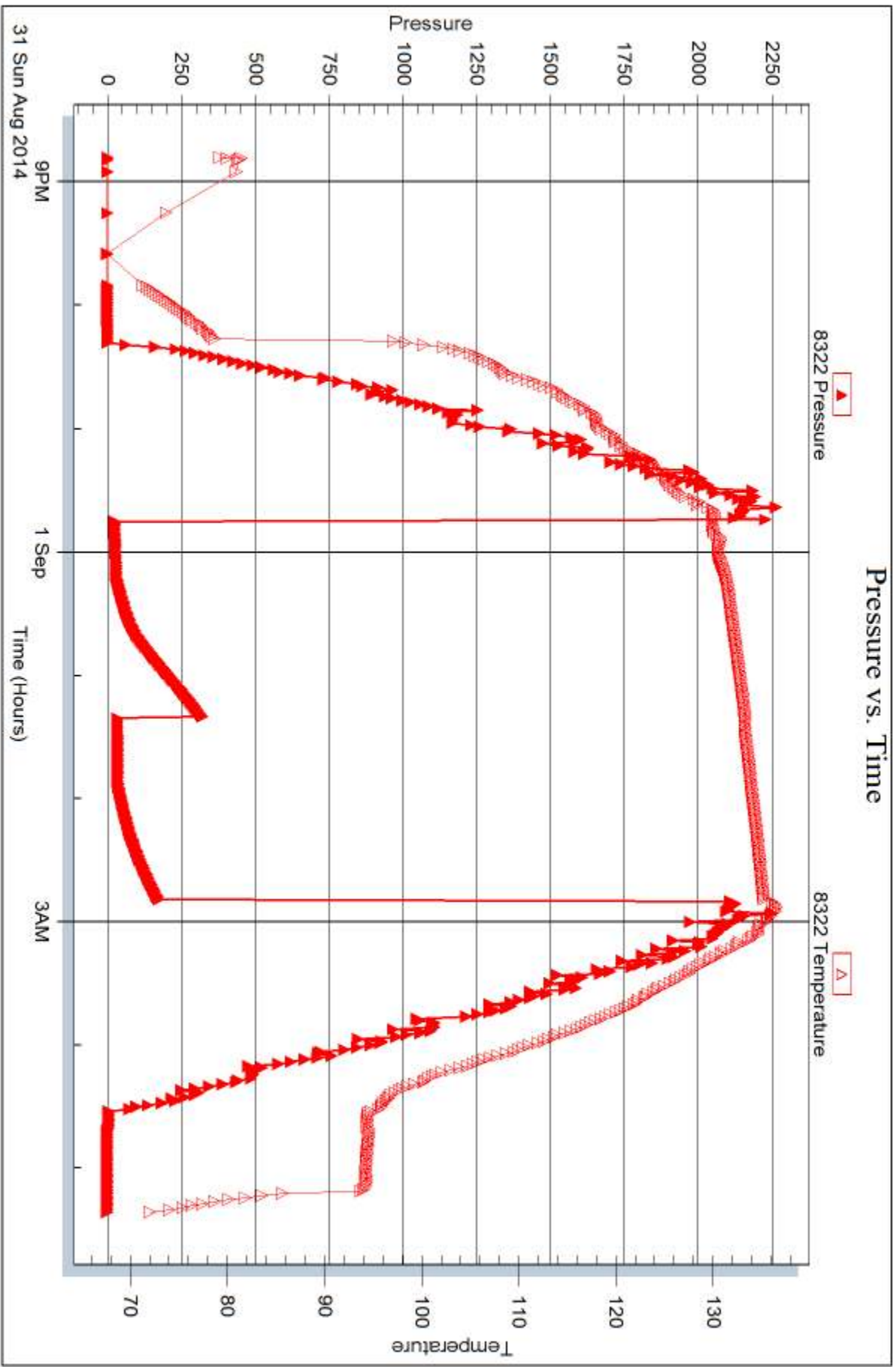


Serial #: 8322

Outside Murfin Drilling Co. Inc.

Delay #1-21

DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 60004

Printed: 2014.09.04 @ 13:46:14



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita KS 67202

ATTN: Rocky Milford

Delay #1-21

21-1s-38w Cheyenne,KS

Start Date: 2014.09.02 @ 00:24:00

End Date: 2014.09.02 @ 09:12:30

Job Ticket #: 60005 DST #: 6

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

Printed: 2014.09.04 @ 13:43:05



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

21-1s-38w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Delay #1-21

Job Ticket: 60005

DST#: 6

ATTN: Rocky Milford

Test Start: 2014.09.02 @ 00:24:00

GENERAL INFORMATION:

Formation: **Marm. C - Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:33:00

Time Test Ended: 09:12:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 78

Interval: 4423.00 ft (KB) To 4570.00 ft (KB) (TVD)

Reference Elevations: 3199.00 ft (KB)

Total Depth: 4570.00 ft (KB) (TVD)

3194.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8322 Outside

Press@RunDepth: 35.53 psig @ 4424.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.02

End Date:

2014.09.02

Last Calib.:

2014.09.02

Start Time: 00:24:05

End Time:

09:12:30

Time On Btm:

2014.09.02 @ 03:32:00

Time Off Btm:

2014.09.02 @ 06:34:00

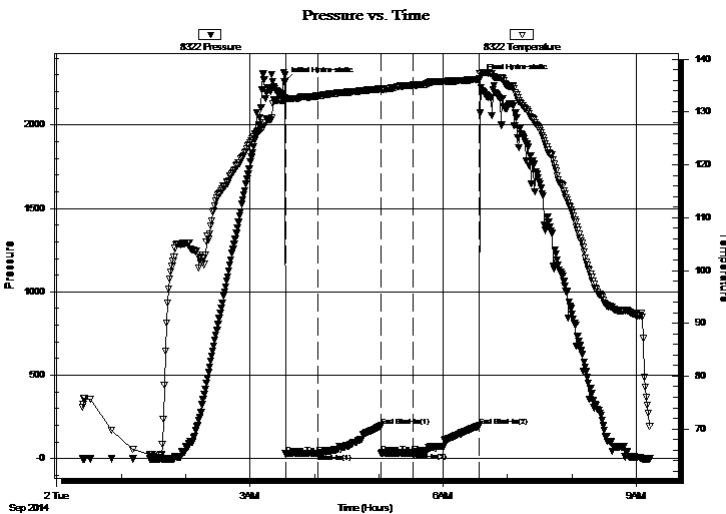
TEST COMMENT: 30 IF - 1" blow built to 1 1/4" @ 12 mins died back to 1"

60 ISI - No return

30 FF - No blow

60 FSI - No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2257.83	132.59	Initial Hydro-static
1	28.42	132.32	Open To Flow (1)
31	32.43	133.03	Shut-In(1)
90	196.91	134.40	End Shut-In(1)
91	32.45	134.36	Open To Flow (2)
121	35.53	135.09	Shut-In(2)
182	196.17	136.20	End Shut-In(2)
182	2279.24	137.29	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud	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. Inc.

21-1s-38w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Delay #1-21

Job Ticket: 60005

DST#: 6

ATTN: Rocky Milford

Test Start: 2014.09.02 @ 00:24:00

Tool Information

Drill Pipe:	Length: 4242.00 ft	Diameter: 3.80 inches	Volume: 59.50 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 700000.0 lb
			<u>Total Volume: 60.41 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 61000.00 lb
Depth to Top Packer:	4423.00 ft			Final 61000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	147.00 ft			
Tool Length:	174.00 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			4397.00	
Shut In Tool	5.00			4402.00	
Hydraulic tool	5.00			4407.00	
Jars	5.00			4412.00	
Safety Joint	2.00			4414.00	
Packer	5.00			4419.00	27.00 Bottom Of Top Packer
Packer	4.00			4423.00	
Packer - Shale	0.00			4423.00	
Stubb	1.00			4424.00	
Recorder	0.00	6752	Inside	4424.00	
Recorder	0.00	8322	Outside	4424.00	
Perforations	14.00			4438.00	
Blank Spacing	129.00			4567.00	
Bullnose	3.00			4570.00	147.00 Bottom Packers & Anchor

Total Tool Length: 174.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

21-1s-38w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Delay #1-21

Job Ticket: 60005

DST#: 6

ATTN: Rocky Milford

Test Start: 2014.09.02 @ 00:24:00

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: 73.00 sec/qt

Cushion Volume:

bbf

Water Loss: 6.40 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
5.00	Mud	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbf

Num Fluid Samples: 0

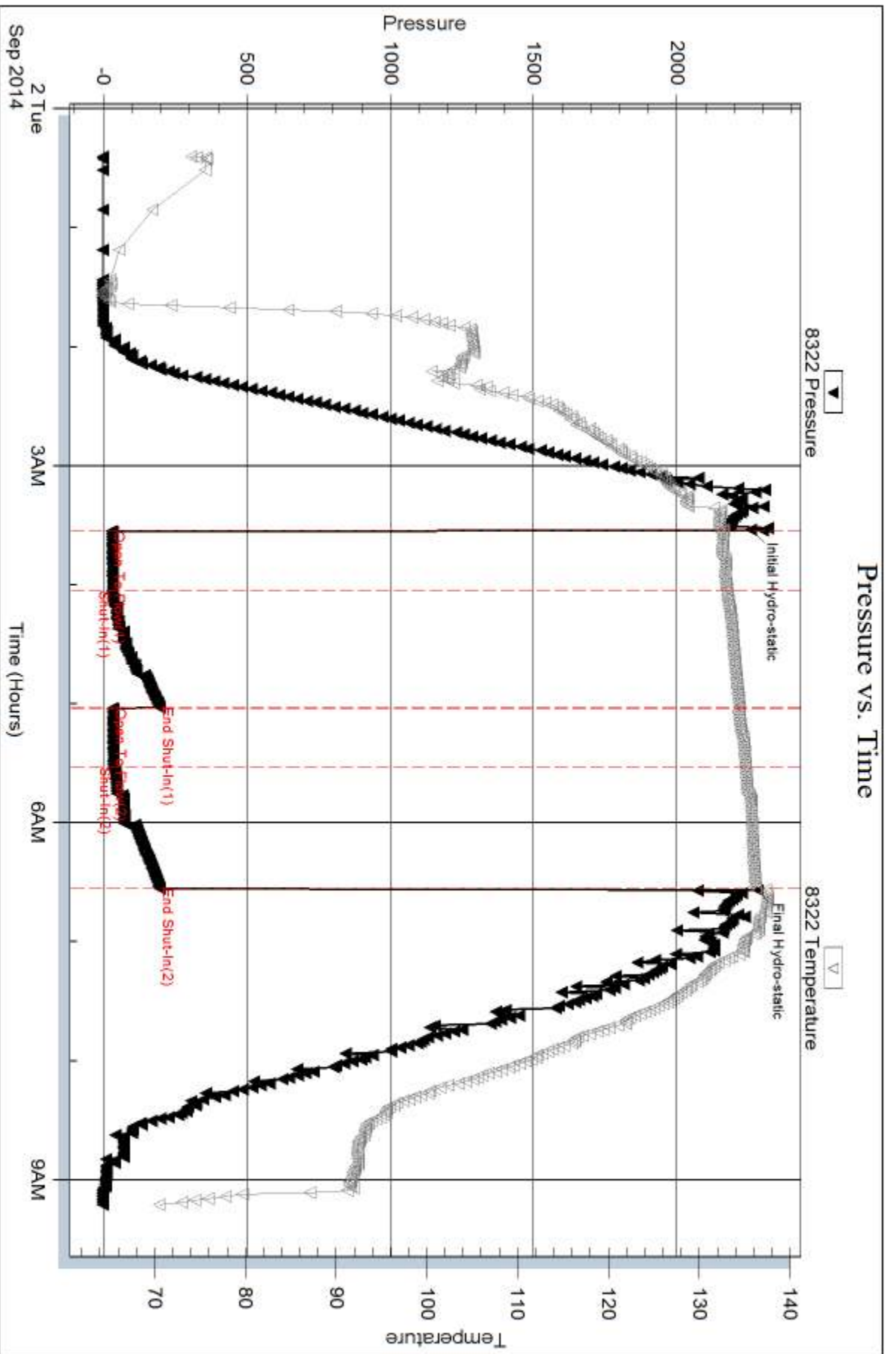
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **58300**

4/10

Well Name & No. Delay # 1-21 Test No. 1 Date 8/27/14
 Company Murfin Drilling Co. Inc. Elevation 3199 KB 3194 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Rocky Milford Rig Murfin # 7
 Location: Sec. 21 Twp. 15 Rge. 38W Co. Cheyenne State KS

Interval Tested 3873 - 3968 Zone Tested Topeka
 Anchor Length 95' Drill Pipe Run 3674' Mud Wt. 9.0
 Top Packer Depth 3868 Drill Collars Run 1860' Vis 88
 Bottom Packer Depth 3873 Wt. Pipe Run 0' WL 6.8
 Total Depth 3968 Chlorides 600 ppm System LCM 3
 Blow Description IF - 1/4" blow built to 1/2"
ISI - No return
FF - No blow
FSI - No return

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	Feet of	%gas	%oil	%water	%mud

Rec Total 5' BHT 1320 Gravity — API RW — @ —° F Chlorides — ppm
 (A) Initial Hydrostatic 1988 Test 1150 T-On Location 22:30
 (B) First Initial Flow 17 Jars 250 T-Started 23:43
 (C) First Final Flow 20 Safety Joint 75 T-Open 02:58
 (D) Initial Shut-In 865 Circ Sub NC T-Pulled 05:58
 (E) Second Initial Flow 22 Hourly Standby _____ T-Out 08:34
 (F) Second Final Flow 25 Mileage 143 RT 221.65 Comments _____
 (G) Final Shut-In 891 Sampler _____
 (H) Final Hydrostatic 1856 Straddle _____ Ruined Shale Packer _____
 Shale Packer 250 Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 30 Extra Recorder _____ Sub Total 0
 Initial Shut-In 60 Day Standby _____ Total 1946.65
 Final Flow 30 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 60 Sub Total 1946.65

Approved By _____ Our Representative Rocky Milford

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. 60001

Well Name & No. Delay # 1-21 Test No. 2 Date 8/28/14
 Company Martin Drilling Co. Inc. Elevation 3199 KB 3194 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Ricky Milford Rig Martin # 7
 Location: Sec. 21 Twp. 15 Rge. 38W Co. Cheyenne State KS

Interval Tested 4026 - 4095 Zone Tested Oread
 Anchor Length 69' Drill Pipe Run 3833' Mud Wt. 9.3
 Top Packer Depth 4021 Drill Collars Run 186' Vis 48
 Bottom Packer Depth 4026 Wt. Pipe Run 0' WL 7.2
 Total Depth 4095 Chlorides 600 ppm System LCM 3

Blow Description IF - Surface blow
ISI - No return
FF - No blow
FBI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>130'</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 130' BHT 133° Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic <u>2011</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>23:15</u>
(B) First Initial Flow <u>94</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>23:41</u>
(C) First Final Flow <u>94</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>02:15</u>
(D) Initial Shut-In <u>277</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>05:15</u>
(E) Second Initial Flow <u>95</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>07:25</u>
(F) Second Final Flow <u>97</u>	<input checked="" type="checkbox"/> Mileage <u>143 RT</u> 221.65	Comments <u>tool opened</u>
(G) Final Shut-In <u>214</u>	<input type="checkbox"/> Sampler	<u>4' off bottom going</u>
(H) Final Hydrostatic <u>2016</u>	<input type="checkbox"/> Straddle	<u>through a bridge</u>
Initial Open <u>30</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>2046.65</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>2046.65</u>	

Approved By _____ Our Representative Ricky Milford

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 60002

Well Name & No. Delay # 1-21 Test No. 3 Date 8/29/14
 Company Murfin Drilling Co. Inc. Elevation 3199 KB 3194 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Rocky Mifford Rig Murfin # 7
 Location: Sec. 21 Twp. 15 Rge. 38 W Co. Cheyenne State KS

Interval Tested 4092 - 4220 Zone Tested LKC "A-D"
 Anchor Length 128' Drill Pipe Run 3589' Mud Wt. 9.2
 Top Packer Depth 4087 Drill Collars Run 186' Vis 45
 Bottom Packer Depth 4092 Wt. Pipe Run 0' WL 6.4
 Total Depth 4220 Chlorides 600 ppm System LCM 3

Blow Description IF - 1/4" blow built to 4"
ISI - No return
FF - Surface blow started @ 13 mins built to 3"
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>5'</u>	<u>OCM</u>	<u>25</u>		<u>75</u>	
<u>186'</u>	<u>OCM</u>	<u>15</u>		<u>85</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 191' BHT 737° Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2077 Test 1250 T-On Location 20:30
 (B) First Initial Flow 21 Jars 250 T-Started 21:02
 (C) First Final Flow 67 Safety Joint 75 T-Open 00:14
 (D) Initial Shut-In 1314 Circ Sub NC T-Pulled 00:14
 (E) Second Initial Flow 73 Hourly Standby x 1/2 T-Out 06:55
 (F) Second Final Flow 112 Mileage 143 RT 221.65 Comments _____
 (G) Final Shut-In 1302 Sampler _____
 (H) Final Hydrostatic 2048 Straddle _____ Ruined Shale Packer _____
 Shale Packer 250 Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90
 Sub Total 2046.65
 Total 2046.65
 MP/DST Disc't _____

Approved By _____ Our Representative Rocky Mifford

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 60003

Well Name & No. Delay #1-21 Test No. 4 Date 8/30/14
 Company ~~XXXXXXXXXX~~ Murfin Drilling Co Inc Elevation 3199 KB 3194 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Rocky M. Ford Rig Murfin #7
 Location: Sec. 21 Twp. 15 Rge. 38W Co. Cheyenne State KS

Interval Tested 4215 - 4310 Zone Tested 2KC "G-H"
 Anchor Length 95' Drill Pipe Run 4022' Mud Wt. 9.3
 Top Packer Depth 4210 Drill Collars Run 186' Vis 69
 Bottom Packer Depth 4215 Wt. Pipe Run 0' WL 8.0
 Total Depth 4310 Chlorides 800 ppm System LCM 4

Blow Description IF - Surface blow built to 1/4"
IST - No return
FF - No blow
FST - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>65'</u>	<u>Mud w/oil spots</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 65' BHT 136° Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic <u>2113</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>18:30</u>
(B) First Initial Flow <u>44</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>18:42</u>
(C) First Final Flow <u>46</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>23:24</u>
(D) Initial Shut-In <u>864</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>02:24</u>
(E) Second Initial Flow <u>48</u>	<input checked="" type="checkbox"/> Hourly Standby <u>X 1/2 .25</u> 25	T-Out <u>05:04</u>
(F) Second Final Flow <u>49</u>	<input checked="" type="checkbox"/> Mileage <u>143 RT</u> 221.65	Comments <u>tool opened going through bridge 5' off bottom</u>
(G) Final Shut-In <u>546</u>	<input type="checkbox"/> Sampler	<input type="checkbox"/> Ruined Shale Packer
(H) Final Hydrostatic <u>1986</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Packer

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

Extra Packer
 Extra Recorder
 Day Standby
 Accessibility

Sub Total 1821.65

Total 1821.65
 MP/DST Disc't

Approved By _____ Our Representative Rocky M. Ford

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 60004

Well Name & No. Delay # 1-21 Test No. 5 Date 8/31/14
 Company Martin Drilling Co. Inc. Elevation 3199 KB 3194 GL
 Address 250 N. Water STE 300 Wichita KS 67203
 Co. Rep / Geo. Rocky Milford Rig Martin # 7
 Location: Sec. 21 Twp. 15 Rge. 39W Co. Cheyenne State KS

Interval Tested 4303 - 4430 Zone Tested LKC "J-L"
 Anchor Length 127' Drill Pipe Run 4118' Mud Wt. 9.2
 Top Packer Depth 42098 Drill Collars Run 186' Vis 60
 Bottom Packer Depth 4303 Wt. Pipe Run 0' WL 6.0
 Total Depth 4430 Chlorides 600 ppm System LCM 4
 Blow Description IF - Surface blow built to 1/4"
ISI - No return
FF - No blow
FST - No return

Rec	Feet of	%gas	%oil	%water	%mud
5'	Mud w/oil spots				100%

Rec Total 5' BHT 236° Gravity API RW @ °F Chlorides ppm

(A) Initial Hydrostatic <u>2295</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>20:15</u>
(B) First Initial Flow <u>22</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>20:48</u>
(C) First Final Flow <u>34</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>23:40</u>
(D) Initial Shut-In <u>322</u>	<input checked="" type="checkbox"/> Circ Sub <u>N2</u>	T-Pulled <u>02:40</u>
(E) Second Initial Flow <u>32</u>	<input type="checkbox"/> Hourly Standby <u> </u>	T-Out <u>05:22</u>
(F) Second Final Flow <u>34</u>	<input checked="" type="checkbox"/> Mileage <u>143 RT 221.65</u>	Comments <u> </u>
(G) Final Shut-In <u>166</u>	<input type="checkbox"/> Sampler <u> </u>	
(H) Final Hydrostatic <u>2101</u>	<input type="checkbox"/> Straddle <u> </u>	<input type="checkbox"/> Ruined Shale Packer <u> </u>
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer <u> </u>	<input type="checkbox"/> Ruined Packer <u> </u>
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer <u> </u>	<input type="checkbox"/> Extra Copies <u> </u>
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder <u> </u>	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby <u> </u>	Total <u>1796.65</u>
	<input type="checkbox"/> Accessibility <u> </u>	MP/DST Disc't <u> </u>
	Sub Total <u>1796.65</u>	

Approved By Our Representative Rocky Milford

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 60005

Well Name & No. Delay #1-21 Test No. 6 Date 9/01/14
 Company Martin Drilling Co. Inc. Elevation 3199 KB 3194 GL
 Address 250 N. Water, STE 300 Wichita KS 67202
 Co. Rep / Geo. Rocky Milford Rig Martin #7
 Location: Sec. 27 Twp. 15 Rge. 38W Co. Cherokee State KS

Interval Tested 4423 - 4570 Zone Tested Marm. "C" - Pawnee
 Anchor Length 147' Drill Pipe Run 4242' Mud Wt. 9.3
 Top Packer Depth 4418 Drill Collars Run 186' Vis 73
 Bottom Packer Depth 4423 Wt. Pipe Run 0' WL 6.4
 Total Depth 4570 Chlorides 800 ppm System LCM 4
 Blow Description IF - 1" blow built to 1 1/4" @ 12 mins died back to 1"
ISI - No return
FF - No blow
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
5'	Mud			100	

Rec Total 5' BHT 136° Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2258</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>23:45</u>
(B) First Initial Flow <u>28</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>00:24</u>
(C) First Final Flow <u>32</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>03:32</u>
(D) Initial Shut-In <u>197</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>06:32</u>
(E) Second Initial Flow <u>32</u>	<input type="checkbox"/> Hourly Standby <u>—</u>	T-Out <u>09:12</u>
(F) Second Final Flow <u>36</u>	<input checked="" type="checkbox"/> Mileage <u>143 RT</u> 221.65	Comments <u>loaded tools @ 11:30 on 9/3/14</u>
(G) Final Shut-In <u>196</u>	<input type="checkbox"/> Sampler <u>—</u> 221.65	
(H) Final Hydrostatic <u>2279</u>	<input type="checkbox"/> Straddle <u>—</u>	<input type="checkbox"/> Ruined Shale Packer <u>—</u>
Initial Open <u>30</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Packer <u>—</u>
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer <u>—</u>	<input type="checkbox"/> Extra Copies <u>—</u>
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder <u>—</u>	Sub Total <u>800</u>
Final Shut-In <u>60</u>	<input checked="" type="checkbox"/> Day Standby <u>1d 2.25h</u>	Total <u>3068.30</u>
	<input type="checkbox"/> Accessibility <u>—</u>	MP/DST Disc't <u>—</u>
	Sub Total <u>2268.30</u>	

Approved By _____ Our Representative [Signature]
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ALLIED OIL & GAS SERVICES, LLC 064207

Federal Tax I.D. # 20-8651475

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

SERVICE POINT:

Oakley

DATE <u>8-24-14</u>	SEC <u>21</u>	TWP <u>1</u>	RANGE <u>38</u>	CALLED OUT	ON LOCATION <u>4:00pm</u>	JOB START <u>5:00pm</u>	JOB FINISH <u>5:30pm</u>
LEASE <u>Delay</u>	WELL# <u>1-21</u>	LOCATION <u>Bird city 14 N 2W</u>			COUNTY <u>Cheyenne</u>	STATE <u>Ks</u>	
OLD OR <u>NEW</u> (Circle one)				<u>Yes</u> into			

CONTRACTOR Murfin 7
 TYPE OF JOB Surface
 HOLE SIZE 12 1/4 T.D. 218'
 CASING SIZE 8 5/8 DEPTH 218.18'
 TUBING SIZE _____ DEPTH _____
 DRILL PIPE _____ DEPTH _____
 TOOL _____ DEPTH _____
 PRES. MAX _____ MINIMUM _____
 MEAS. LINE _____ SHOE JOINT _____
 CEMENT LEFT IN CSG. 15'
 PERFS. _____
 DISPLACEMENT 12.94 BBL

OWNER Same
 CEMENT AMOUNT ORDERED 220 sks com 3% cc

EQUIPMENT

PUMP TRUCK CEMENTER Andrew Fairland
 # 422 HELPER Chris (TWS)
 BULK TRUCK # 818 DRIVER Esteban (TWS)
 BULK TRUCK # _____ DRIVER _____

COMMON 220 sks @ 17.90 3938.00
 POZMIX @ _____
 GEL @ _____
 CHLORIDE 620# @ 1.10 682.00
 ASC @ _____
 Material Total 4620.00
 (1611.00 / 35%)
 HANDLING 231 cu/ft @ 2.48 572.88
 MILEAGE 2.25 ton/mile @ 1215.70 2735.27

REMARKS:
Circulated 5 bbls float

TOTAL _____

SERVICE

DEPTH OF JOB 218.18'
 PUMP TRUCK CHARGE 1572.25
 EXTRA FOOTAGE @ _____
 MILEAGE 95 mi/Lea @ 7.70 731.50
 MANIFOLD Head @ _____ 225.00
Light vehicle @ 4.40 418.00

(2200.17 / 35%) TOTAL 6,291.94

thank you

CHARGE TO: Murfin
 STREET _____
 CITY _____ STATE _____ ZIP _____

PLUG & FLOAT EQUIPMENT

TOTAL _____

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

PRINTED NAME _____
 SIGNATURE FRED WILLIAMS 4775

SALES TAX (If Any) _____
 TOTAL CHARGES 10,911.94
 DISCOUNT 3,819.17 (35%) IF PAID IN 30 DAYS
7,092.76 Net.



INVOICE

PO Box 93999
Southlake, TX 76092

Invoice Number: 145497
Invoice Date: Sep 4, 2014
Page: 1

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

IC103RK R

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

Customer ID	Field Ticket #	Payment Terms	
Murfin	64146	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-02	Oakley	Sep 4, 2014	10/4/14

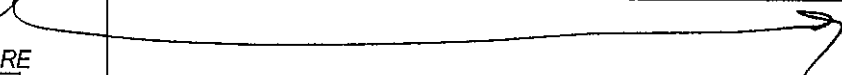
Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Delay #1-21		
376.00	CEMENT MATERIALS	Class A Common	0.50	188.00
200.00	CEMENT MATERIALS	ASC	23.50	4,700.00
1,000.00	CEMENT MATERIALS	Gilsonite	0.98	980.00
12.00	CEMENT MATERIALS	Mud Clean	41.09	493.08
1,040.00	CEMENT MATERIALS	Salt -- No Charge		
255.92	CEMENT SERVICE	Cubic Feet Charge	2.48	634.68
1,061.15	CEMENT SERVICE	Ton Mileage Charge	2.75	2,918.16
1.00	CEMENT SERVICE	Long String	2,765.75	2,765.75
95.00	CEMENT SERVICE	Pump Truck Mileage	7.70	731.50
1.00	CEMENT SERVICE	Swedge Manifold Rental	475.00	475.00
95.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	418.00
1.00	EQUIPMENT SALES	5-1/2 AFU Float Shoe	545.00	545.00
1.00	EQUIPMENT SALES	5-1/2 Latch Down Plug Assembly	660.00	660.00
15.00	EQUIPMENT SALES	5-1/2 Turbolizer	95.00	1,425.00
3.00	EQUIPMENT SALES	5-1/2 Basket	395.00	1,185.00
3.00	EQUIPMENT SALES	5-1/2 Rotating Scratchers	120.00	360.00
1.00	EQUIPMENT OPERATOR	Paul Beaver		
1.00	OPERATOR ASSISTANT	Brandon Wilkinson		
1.00	OPERATOR ASSISTANT	Wayne Messalle		

Subtotal	18,479.17
Sales Tax	858.69
Total Invoice Amount	19,337.86
Payment/Credit Applied	
TOTAL	19,337.86

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

\$ 5,006.45

ONLY IF PAID ON OR BEFORE
Oct 4, 2014



ALLIED OIL & GAS SERVICES, LLC 064146

Federal Tax I.D. # 20-8651475

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

SERVICE POINT:
(9-3-14) Colley KS

DATE <u>9-4-14</u>	SEC <u>21</u>	TWP <u>1</u>	RANGE <u>38</u>	CALLED OUT	ON LOCATION <u>7:00pm</u>	JOB START <u>1:30am</u>	JOB FINISH <u>2:00am</u>
LEASE <u>Delay</u>	WELL # <u>121</u>	LOCATION <u>Bird City 14N 2W 1/2 S</u>			COUNTY <u>Cheyenne</u>	STATE <u>KS</u>	
OLD OR <input checked="" type="checkbox"/> NEW (Circle one)				<u>Windo</u>			

CONTRACTOR <u>Murfin 7</u>	OWNER <u>Same</u>
TYPE OF JOB <u>Production (longstring)</u>	CEMENT
HOLE SIZE <u>7 7/8</u> ID <u>4750</u>	AMOUNT ORDERED <u>200 sks ASC, 10% salt, 5" gilsonite, 2% gel, 500 gal mud clean</u>
CASING SIZE <u>5 1/2 (15.5")</u> DEPTH <u>4741'</u>	COMMON _____ @ _____
TUBING SIZE _____ DEPTH _____	POZMIX _____ @ _____
DRILL PIPE _____ DEPTH _____	GEL <u>376#</u> @ <u>.50</u> <u>188.00</u>
TOOL _____ DEPTH _____	CHLORIDE _____ @ _____
PRES. MAX _____ MINIMUM _____	ASC <u>200sks</u> @ <u>23.50</u> <u>4700.00</u>
MEAS. LINE _____ SHOE JOINT <u>20.52'</u>	<u>gilsonite 1000#</u> @ <u>.98</u> <u>98.00</u>
CEMENT LEFT IN CSG. <u>20.52'</u>	<u>mud clean 12 bbl</u> @ <u>41.09</u> <u>493.08</u>
PERFS. _____	<u>salt 1040#</u> @ <u>.68</u> <u>N/C</u>
DISPLACEMENT <u>112.35 bbl water</u>	<u>Mud gel total</u> @ _____ <u>5172.08</u>
EQUIPMENT _____	<u>(1977.67 / 35%)</u> @ _____
PUMP TRUCK CEMENTER <u>Paul Beaver</u>	HANDLING <u>255.92 @</u> <u>2.48</u> <u>634.68</u>
# <u>431</u> HELPER <u>Brandon Wilkinson</u>	MILEAGE <u>11.17 hrs x 95mi x 2.75</u> <u>2918.16</u>
BULK TRUCK # <u>818/287</u> DRIVER <u>Wayne Messalle</u>	TOTAL _____
BULK TRUCK # _____ DRIVER _____	SERVICE

REMARKS:
Ran pipe/float equip. Break circ/drop ball pumped ball through shoe @ 1000' circ. mix 12 bbl mud clean, mix 30 sks in R.H. mix 15 sks in M.A. mix 155 sks ASC, wash up in pit. Release plug. Displace w/ water. plug did land @ 1500'. Lift pressure 1000#. Float did hold, put swedge + valve on casing, pressure to 200#, shut-in

CHARGE TO: Murfin Drlg Thank you! Neil + Crew

STREET _____

CITY _____ STATE _____ ZIP _____

DEPTH OF JOB <u>4750'</u>	
PUMP TRUCK CHARGE <u>2765.75</u>	
EXTRA FOOTAGE _____ @ _____	
MILEAGE <u>milw 95</u> @ <u>7.70</u> <u>731.50</u>	
MANIFOLD <u>Rat. head head</u> @ _____ <u>475.00</u>	
<u>milw 95</u> @ <u>4.40</u> <u>418.00</u>	
TOTAL <u>7,943.09</u>	

PLUG & FLOAT EQUIPMENT

<u>Weatherford 5 1/2</u>	
<u>AFV Float shoe</u> @ _____ <u>545.00</u>	
<u>Hold down plug Assy</u> @ _____ <u>160.00</u>	
<u>Crane 1 1/2 bitracs 15</u> @ <u>95.00</u> <u>1425.00</u>	
<u>Basket 3</u> @ <u>395.00</u> <u>1185.00</u>	
<u>Rat. scratchers 3</u> @ <u>120.00</u> <u>360.00</u>	
(0%) TOTAL <u>4,175.00</u>	

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

PRINTED NAME _____

SIGNATURE [Signature]

SALES TAX (if Any) _____

TOTAL CHARGES 17,597.17

DISCOUNT 4,697.75 (33%) IF PAID IN 30 DAYS

12,899.41 Net.

Delay #1-21
 Daily Drilling Report
 Page Two

8/31/14 Depth 4310'. Cut 90'. DT: None. CT: 18hrs. Dev.: None. **LKC G:** pr w/ tr fr intrprtcal & vug por, scat med-drk brn & blk sptd-patchy stn w/ tr sat stn, SSFO, no odor. **LKC H:** pr w/ tr fr fos por, scat med-drk brn & blk patchy stn, S-FSFO (some bleeding), no odor. **DST #4 4215-4310 (LKC G-H):** 30-60-30-60. IF: blow built to 1/4". FF: no blow. Rec. 65' Mud w/ oil spots (100% M). HP: 2113-1986. FP: 44/46, 48/49. SIP: 664-546. BHT: 136°. Note: tool opened going through bridge 5' off bottom.

9/1/14 Depth 4430'. Cut 120'. DT: none. CT: 17hrs. Dev.: 1/2° @ 4430'. **LKC J:** pr por, tr blk sptd-patchy dead stn & two pcs w/ brn sptd-sub sat stn, 1 pc w/ VSSFO (caving ?), no odor. **LKC K:** pr por, tr brn-blk sptd-patchy stn, NSFO, no odor. **LKC L:** pr por, NS. **DST #5 4303-4430 (LKC J-L):** 30-60-30-60. IF: blow built to 1/4". FF: no blow. Rec. 5' Mud w/ oil spots (100% M). HP: 2295-2101. FP: 22/34, 32/34. SIP: 322-166. BHT: 136°.

9/2/14 Depth 4570'. Cut 140'. DT: None. CT: 14 1/2 hrs. Dev.: None. **Marmaton C zn:** pr w/ tr fr intrprtcal & gd fos (bryozoan) por, scat lt-med w/ some drk brn sptd-sat stn, S-FSFO, no odor (some barren bryozoan por). **Pawnee:** pr w/ some fr pin point & tr small vug por, fr amnt lt brn patchy-sat stn, S-FSFO, fnt odor. **DST #6 4423-4570 (Marm 'C'-Paw):** 30-60-30-60. IF: blow built to 1 1/4" then died back to 1". FF: no blow. Rec. 5' M. HP: 2258-2279. FP: 28/32, 32/36. SIP: 197-196. BHT: 136°.

9/3/14 RTD: 4750'. Cut 180'. DT: None. CT: 14 1/2 hrs. Dev.: 3/4° @ 4750'. HC @ 11:30PM 9/3. Pioneer started logging @ 5:15AM. LTD: 4753'

9/4/14 RTD: 4750'. CT: 23 1/4 hrs. Pioneer finished logging @ 10:30AM 9/3. Ran 112jts of 15.5# 5 1/2" prod csg, set @ 4741'. Allied cmt w/155sxs ASC. PD @ 2:15AM 9/4. 30sxs RH, 15sxs MH. RR @ 6:15AM 9/14/14. FINAL REPORT

MDCI Delay #1-21 1510' FSL 330' FEL Sec. 21-T1S-R38W 3199' KB							Golden Eagle Drig Co Christensen #15-52 990' FSL 2220' FEL Sec. 15-T1S-R38W 3186' KB	
Formation	Sample top	Datum	Ref	Log Top	Datum	Ref	Log Top	Datum
Anhydrite	3147	+52	+11	3143	+56	+15	3145	+41
B/Anhydrite	3174	+25	----	3176	+23	----	----	-----
Neva	3587	-388	----	3591	-392	----	----	----
Red Eagle	3659	-460	----	3659	-460	----	----	----
Foraker	3708	-509	----	3711	-512	----	----	----
Topeka	3937	-738	----	3930	-731	----	----	----
Oread	4068	-869	+17	4070	-871	+15	4072	-886
Lansing	4139	-940	+18	4141	-942	+16	4144	-958
Stark	4365	-1166	+19	4366	-1167	+18	4371	-1185
BKC	4427	-1228	+18	4424	-1225	+21	4432	-1246
Pawnee	4543	-1344	+20	4546	-1347	+17	4550	-1364
Cherokee	4631	-1432	+20	4633	-1434	+18	4638	-1452
Mississippi	DNR			DNR			4878	-1692
RTD	4750	-1551					5143	
LTD				4753			5143	