

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1272015
OIL & GAS CONSERVATION DIVISION

Form ACO-1
November 2016
Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

New Well Re-Entry Workover

Oil WSW SWD

Gas DH EOR

OG GSW

CM (Coal Bed Methane)

Cathodic Other (Core, Expl., etc.): _____

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

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

Deepening Re-perf. Conv. to EOR Conv. to SWD

Plug Back Liner Conv. to GSW Conv. to Producer

Commingled Permit #: _____

Dual Completion Permit #: _____

SWD Permit #: _____

EOR Permit #: _____

GSW Permit #: _____

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: _____

Spot Description: _____

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

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE NW SE SW

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

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

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

County: _____ Permit #: _____

AFFIDAVIT

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

Submitted Electronically

KCC Office Use ONLY

Confidentiality Requested

Date: _____

Confidential Release Date: _____

Wireline Log Received Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT I II III Approved by: _____ Date: _____

1272015



Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No TCores aken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
--	---

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

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

1. Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

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

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

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	DKN 1-4
Doc ID	1272015

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: Saman Sharifaie

DKN #1-4

4-1s-38w Cheyenne,KS

Start Date: 2015.10.16 @ 19:45:26

End Date: 2015.10.17 @ 03:35:56

Job Ticket #: 64828 DST #: 1

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

Printed: 2015.10.22 @ 09:28:06

Murfin Drilling Co., Inc. 4-1s-38w Cheyenne,KS DKN #1-4 DST # 1 LKC "A" 2015.10.16



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

4-1s-38w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

DKN #1-4

Job Ticket: 64828

DST#: 1

ATTN: Saman Sharifaie

Test Start: 2015.10.16 @ 19:45:26

GENERAL INFORMATION:

Formation: **LKC "A"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:33:56

Time Test Ended: 03:35:56

Test Type: Conventional Bottom Hole (Initial)

Tester: Brannan Lonsdale

Unit No: 62

Interval: 3951.00 ft (KB) To 4028.00 ft (KB) (TVD)

Reference Elevations: 3038.00 ft (KB)

Total Depth: 4028.00 ft (KB) (TVD)

3033.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6839 Outside

Press@RunDepth: 38.41 psig @ 3962.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.10.16

End Date:

2015.10.17

Last Calib.: 2015.10.17

Start Time: 19:45:27

End Time:

03:35:56

Time On Btm: 2015.10.16 @ 22:28:56

Time Off Btm: 2015.10.17 @ 01:31:26

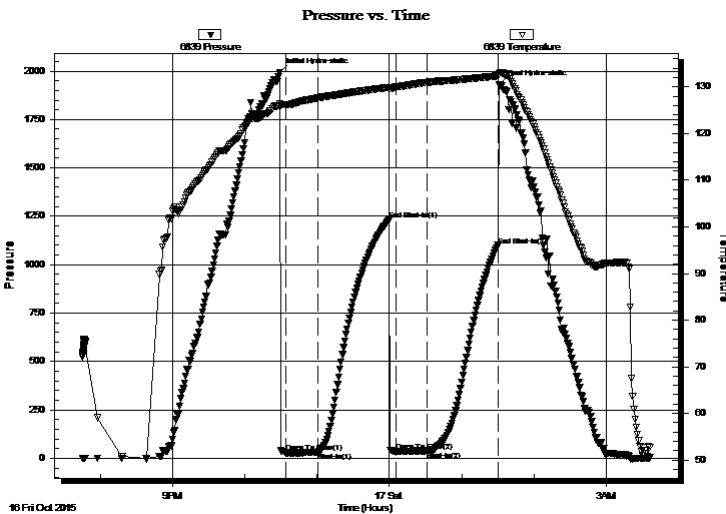
TEST COMMENT: 30- IF- 1" blow throughout

60- IS- No blow

30- FF- No blow

60- FS- No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1993.18	126.44	Initial Hydro-static
5	28.70	126.16	Open To Flow (1)
32	31.48	127.67	Shut-In(1)
91	1233.64	129.92	End Shut-In(1)
97	35.49	129.99	Open To Flow (2)
123	38.41	130.97	Shut-In(2)
181	1099.33	132.34	End Shut-In(2)
183	1930.55	132.92	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	OSM	0.07

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: Saman Sharifaie

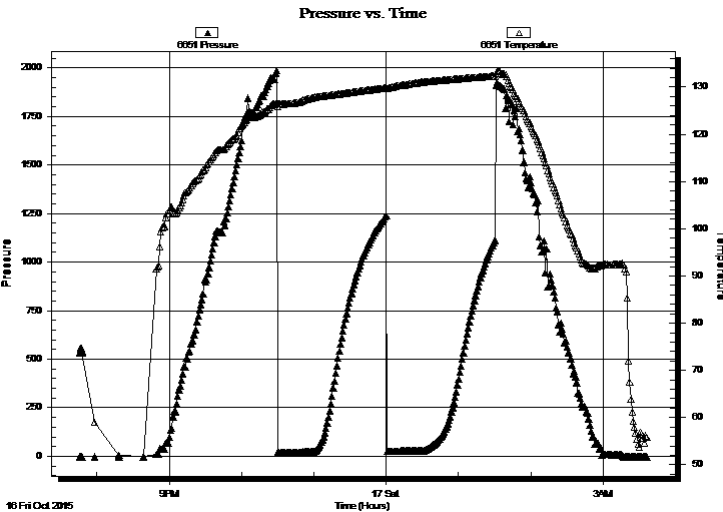
4-1s-38w Cheyenne,KS
DKN #1-4
Job Ticket: 64828 **DST#: 1**
Test Start: 2015.10.16 @ 19:45:26

GENERAL INFORMATION:

Formation: **LKC "A"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 22:33:56 Test Type: Conventional Bottom Hole (Initial)
Time Test Ended: 03:35:56 Tester: Brannan Lonsdale
Unit No: 62
Interval: 3951.00 ft (KB) To 4028.00 ft (KB) (TVD) Reference Elevations: 3038.00 ft (KB)
Total Depth: 4028.00 ft (KB) (TVD) 3033.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

Serial #: 6651 Inside
Press@RunDepth: psig @ 3962.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2015.10.16 End Date: 2015.10.17 Last Calib.: 2015.10.17
Start Time: 19:45:35 End Time: 03:36:04 Time On Btm:
Time Off Btm:

TEST COMMENT: 30- IF- 1" blow throughout
60- ISL- No blow
30- FF- No blow
60- FSI- No blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
15.00	OSM	0.07

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

4-1s-38w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

DKN #1-4

Job Ticket: 64828

DST#: 1

ATTN: Saman Sharifaie

Test Start: 2015.10.16 @ 19:45:26

Tool Information

Drill Pipe:	Length: 3808.00 ft	Diameter: 3.82 inches	Volume: 53.98 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 119.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	52000.00 lb
			<u>Total Volume:</u>	Tool Chased	0.00 ft
				String Weight: Initial	50000.00 lb
Drill Pipe Above KB:	3.00 ft			Final	50000.00 lb
Depth to Top Packer:	3951.00 ft				
Depth to Bottom Packer:	ft				
Interval between Packers:	77.00 ft				
Tool Length:	104.00 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			3925.00	
Shut In Tool	5.00			3930.00	
Hydraulic tool	5.00			3935.00	
Jars	5.00			3940.00	
Safety Joint	2.00			3942.00	
Packer	5.00			3947.00	27.00 Bottom Of Top Packer
Packer	4.00			3951.00	
Stubb	1.00			3952.00	
Perforations	9.00			3961.00	
Change Over Sub	1.00			3962.00	
Recorder	0.00	6651	Inside	3962.00	
Recorder	0.00	6839	Outside	3962.00	
Drill Pipe	62.00			4024.00	
Change Over Sub	1.00			4025.00	
Bullnose	3.00			4028.00	77.00 Bottom Packers & Anchor

Total Tool Length: 104.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

4-1s-38w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

DKN #1-4

Job Ticket: 64828

DST#: 1

ATTN: Saman Sharifaie

Test Start: 2015.10.16 @ 19:45:26

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: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	OSM	0.074

Total Length: 15.00 ft Total Volume: 0.074 bbl

Num Fluid Samples: 0

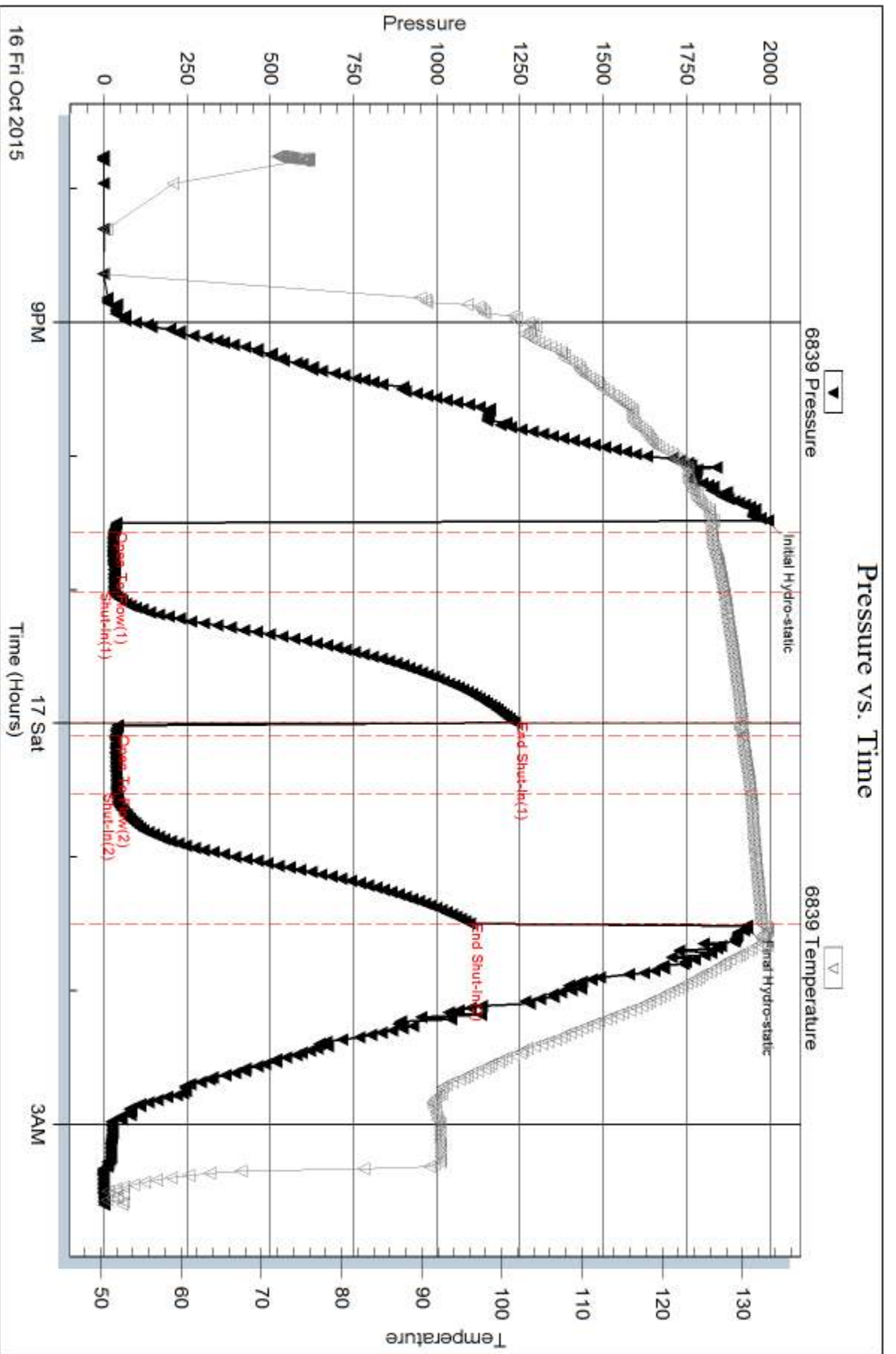
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



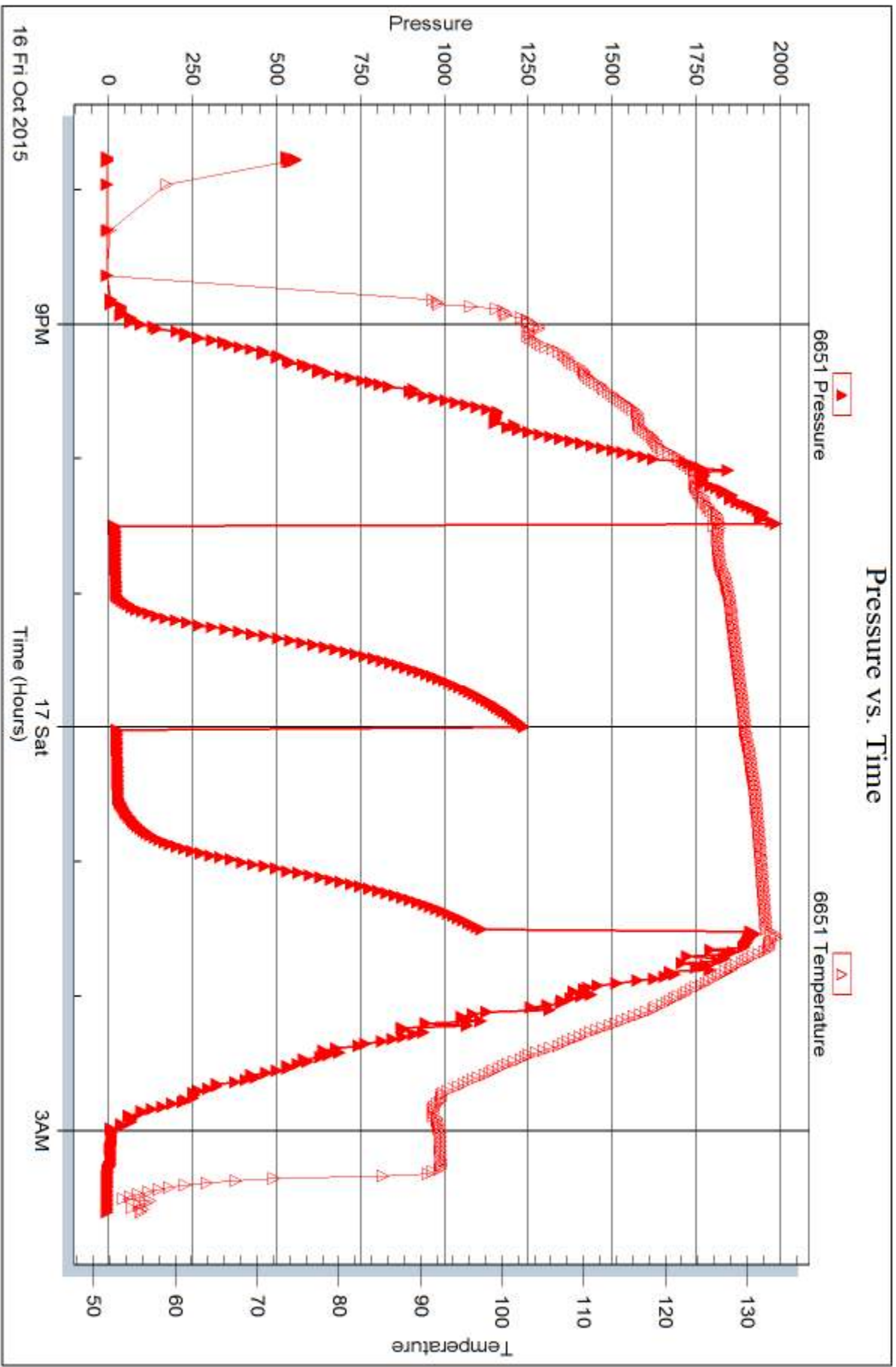
Serial #: 6651

Inside

Murfin Drilling Co., Inc.

DKN#1-4

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 64828

Printed: 2015.10.22 @ 09:28:07



DRILL STEM TEST REPORT

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

250 N Water Ste 300
Wichita, KS 67202

ATTN: Saman Sharifaie

DKN #1-4

4-1s-38w Cheyenne,KS

Start Date: 2015.10.17 @ 12:06:32

End Date: 2015.10.17 @ 21:53:02

Job Ticket #: 64829 DST #: 2

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

Printed: 2015.10.22 @ 09:18:04



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

4-1s-38w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

DKN #1-4

Job Ticket: 64829

DST#: 2

ATTN: Saman Sharifaie

Test Start: 2015.10.17 @ 12:06:32

GENERAL INFORMATION:

Formation: **LKC "B-D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:18:02

Time Test Ended: 21:53:02

Test Type: Conventional Bottom Hole (Reset)

Tester: Brannan Lonsdale

Unit No: 62

Interval: 4020.00 ft (KB) To 4084.00 ft (KB) (TVD)

Reference Elevations: 3038.00 ft (KB)

Total Depth: 4084.00 ft (KB) (TVD)

3033.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6651

Inside

Press@RunDepth: 41.18 psig @ 4049.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.10.17

End Date:

2015.10.17

Last Calib.:

2015.10.17

Start Time: 12:06:33

End Time:

21:53:02

Time On Btm:

2015.10.17 @ 16:17:32

Time Off Btm:

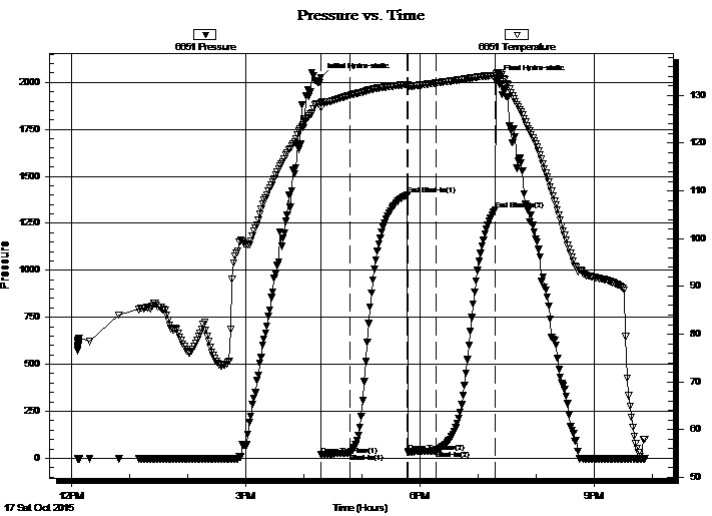
2015.10.17 @ 19:19:32

TEST COMMENT: 30- IF- Surface blow built very slowly to 1"

60- IS- No blow

30- FF- No blow

60- FSI- No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2024.65	128.44	Initial Hydro-static
1	18.71	127.47	Open To Flow (1)
30	28.66	130.01	Shut-In(1)
90	1399.81	132.30	End Shut-In(1)
91	33.32	131.86	Open To Flow (2)
120	41.18	132.61	Shut-In(2)
180	1320.52	134.20	End Shut-In(2)
182	2015.02	134.74	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
25.00	SOCM, 5%O 95%M	0.12
5.00	CO	0.02

* 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: Saman Sharifaie

4-1s-38w Cheyenne,KS
DKN #1-4
Job Ticket: 64829 **DST#: 2**
Test Start: 2015.10.17 @ 12:06:32

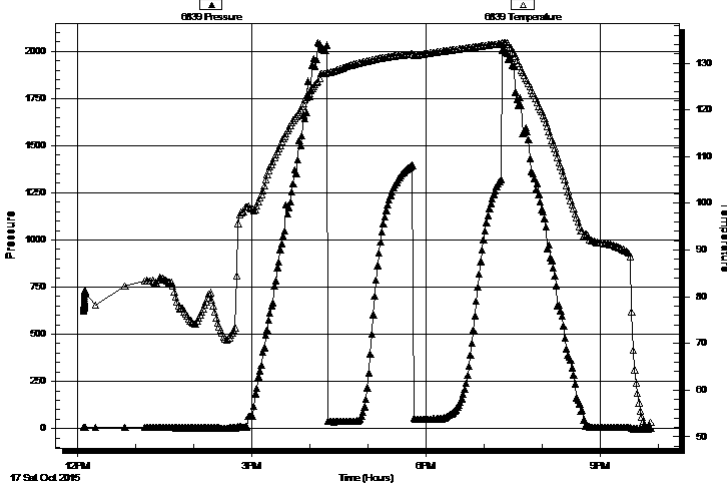
GENERAL INFORMATION:

Formation: **LKC "B-D"**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 16:18:02 Tester: Brannan Lonsdale
Time Test Ended: 21:53:02 Unit No: 62
Interval: 4020.00 ft (KB) To 4084.00 ft (KB) (TVD) Reference Elevations: 3038.00 ft (KB)
Total Depth: 4084.00 ft (KB) (TVD) 3033.00 ft (CF)
Hole Diameter: 7.88 inchesHole Condition: Fair KB to GR/CF: 5.00 ft

Serial #: 6839 Outside
Press@RunDepth: psig @ 4049.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2015.10.17 End Date: 2015.10.17 Last Calib.: 2015.10.17
Start Time: 12:06:33 End Time: 21:53:02 Time On Btm:
Time Off Btm:

TEST COMMENT: 30- IF- Surface blow built very slowly to 1"
60- IS- No blow
30- FF- No blow
60- FSI- No blow

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
25.00	SOCM, 5%O 95%M	0.12
5.00	CO	0.02

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.

4-1s-38w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

DKN #1-4

Job Ticket: 64829

DST#: 2

ATTN: Saman Sharifaie

Test Start: 2015.10.17 @ 12:06:32

Tool Information

Drill Pipe:	Length: 3838.00 ft	Diameter: 3.82 inches	Volume: 54.41 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 179.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose: 68000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	4020.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	64.00 ft			
Tool Length:	91.00 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			3994.00	
Shut In Tool	5.00			3999.00	
Hydraulic tool	5.00			4004.00	
Jars	5.00			4009.00	
Safety Joint	2.00			4011.00	
Packer	5.00			4016.00	27.00 Bottom Of Top Packer
Packer	4.00			4020.00	
Stubb	1.00			4021.00	
Perforations	27.00			4048.00	
Change Over Sub	1.00			4049.00	
Recorder	0.00	6651	Inside	4049.00	
Recorder	0.00	6839	Outside	4049.00	
Drill Pipe	31.00			4080.00	
Change Over Sub	1.00			4081.00	
Bullnose	3.00			4084.00	64.00 Bottom Packers & Anchor

Total Tool Length: 91.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

4-1s-38w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

DKN #1-4

Job Ticket: 64829

DST#: 2

ATTN: Saman Sharifaie

Test Start: 2015.10.17 @ 12:06:32

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: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.38 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
25.00	SOCM, 5%O 95%M	0.123
5.00	CO	0.025

Total Length: 30.00 ft Total Volume: 0.148 bbl

Num Fluid Samples: 0

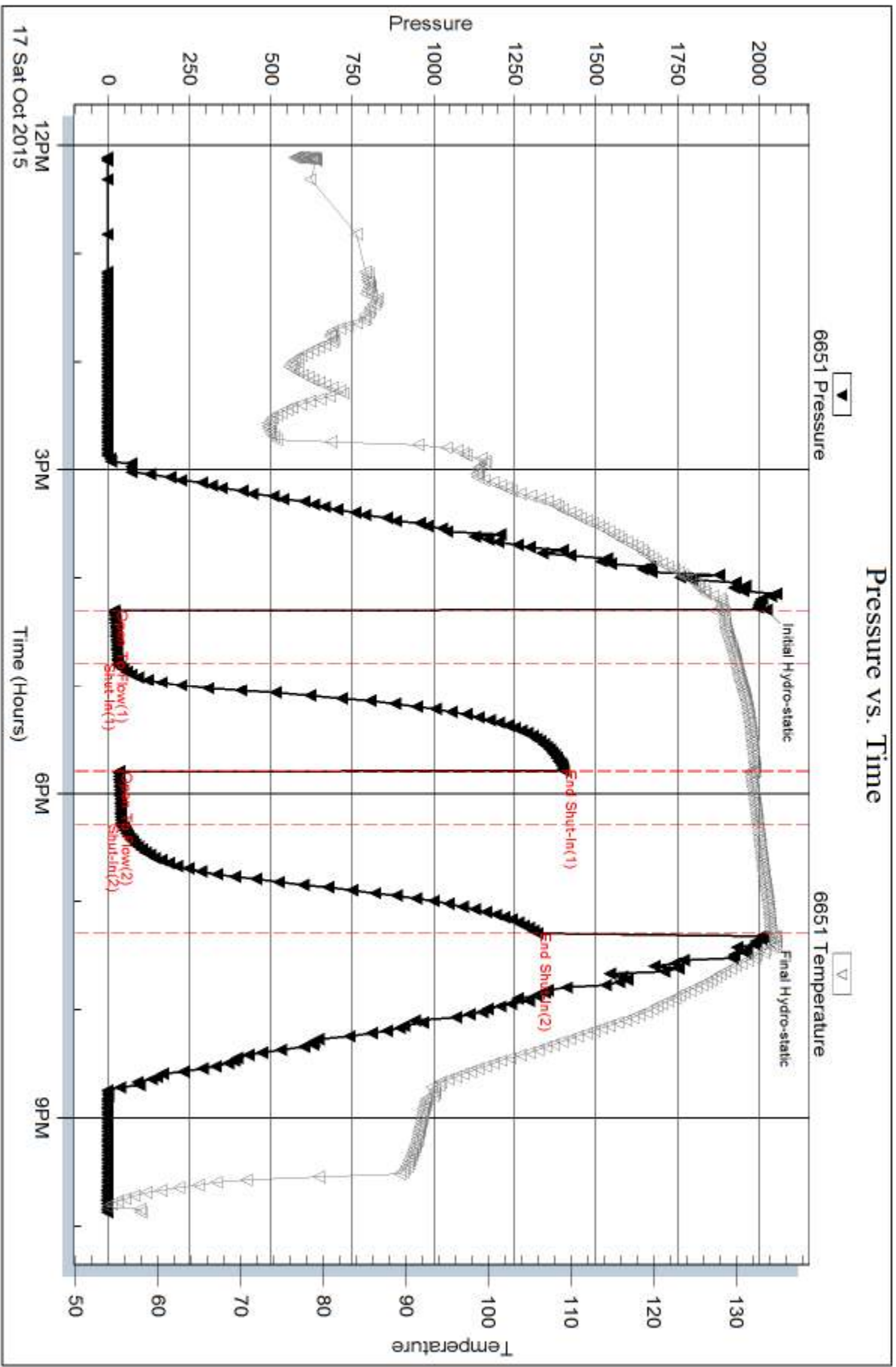
Num Gas Bombs: 0

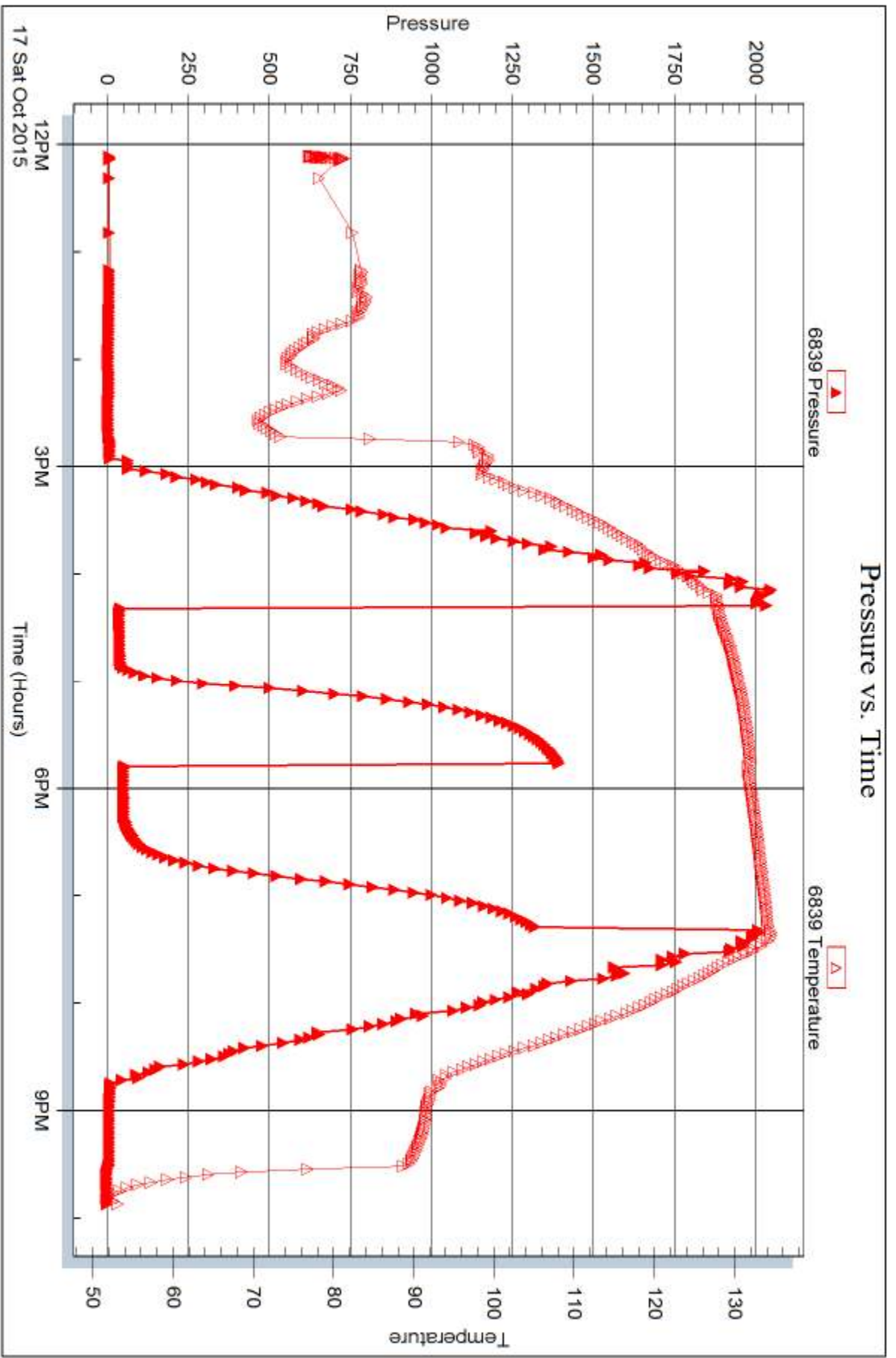
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

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

250 N Water Ste 300
Wichita, KS 67202

ATTN: Saman Sharifaie

DKN #1-4

4-1s-38w Cheyenne,KS

Start Date: 2015.10.18 @ 10:46:53

End Date: 2015.10.18 @ 18:13:23

Job Ticket #: 64830 DST #: 3

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

Printed: 2015.10.22 @ 09:17:43

Murfin Drilling Co., Inc. 4-1s-38w Cheyenne,KS DKN #1-4 DST # 3 LKC "G-H" 2015.10.18



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

4-1s-38w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

DKN #1-4

Job Ticket: 64830

DST#: 3

ATTN: Saman Sharifaie

Test Start: 2015.10.18 @ 10:46:53

GENERAL INFORMATION:

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

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:03:23

Time Test Ended: 18:13:23

Test Type: Conventional Bottom Hole (Reset)

Tester: Brannan Lonsdale

Unit No: 62

Interval: 4084.00 ft (KB) To 4170.00 ft (KB) (TVD)

Reference Elevations: 3038.00 ft (KB)

Total Depth: 4170.00 ft (KB) (TVD)

3033.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6651

Inside

Press@RunDepth: 24.94 psig @ 4104.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.10.18

End Date:

2015.10.18

Last Calib.: 2015.10.18

Start Time: 10:46:54

End Time:

18:13:23

Time On Btm: 2015.10.18 @ 13:02:53

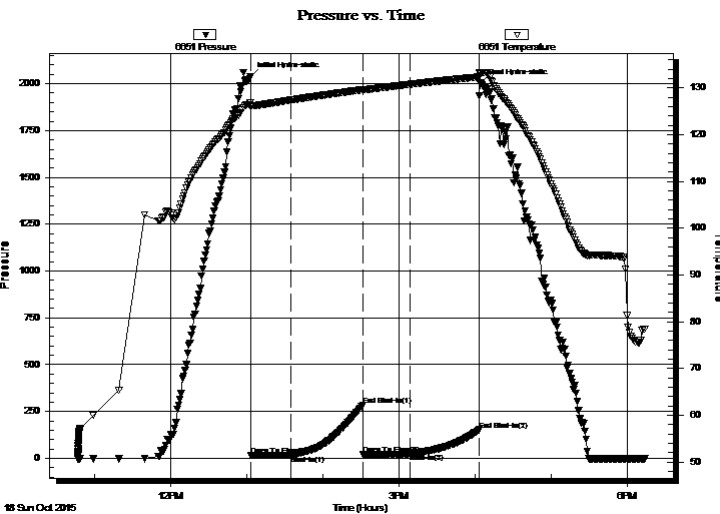
Time Off Btm: 2015.10.18 @ 16:03:53

TEST COMMENT: 30- IF- Slowly built to 3/4"

60- IS- No blow

30- FF- No blow

60- FS- No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2038.22	126.81	Initial Hydro-static
1	15.65	126.05	Open To Flow (1)
32	18.01	127.39	Shut-In(1)
89	282.93	129.62	End Shut-In(1)
89	18.90	129.43	Open To Flow (2)
126	24.94	130.79	Shut-In(2)
180	151.83	132.36	End Shut-In(2)
181	2002.02	133.28	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	OSM	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.

4-1s-38w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

DKN #1-4

Job Ticket: 64830

DST#: 3

ATTN: Saman Sharifaie

Test Start: 2015.10.18 @ 10:46:53

Tool Information

Drill Pipe:	Length: 3896.00 ft	Diameter: 3.82 inches	Volume: 55.23 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 179.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose: 59000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	4084.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	86.00 ft			
Tool Length:	113.00 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			4058.00	
Shut In Tool	5.00			4063.00	
Hydraulic tool	5.00			4068.00	
Jars	5.00			4073.00	
Safety Joint	2.00			4075.00	
Packer	5.00			4080.00	27.00 Bottom Of Top Packer
Packer	4.00			4084.00	
Stubb	1.00			4085.00	
Perforations	18.00			4103.00	
Change Over Sub	1.00			4104.00	
Recorder	0.00	6651	Inside	4104.00	
Recorder	0.00	6839	Outside	4104.00	
Drill Pipe	62.00			4166.00	
Change Over Sub	1.00			4167.00	
Bullnose	3.00			4170.00	86.00 Bottom Packers & Anchor

Total Tool Length: 113.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

4-1s-38w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

DKN #1-4

Job Ticket: 64830

DST#: 3

ATTN: Saman Sharifaie

Test Start: 2015.10.18 @ 10:46:53

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: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	OSM	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

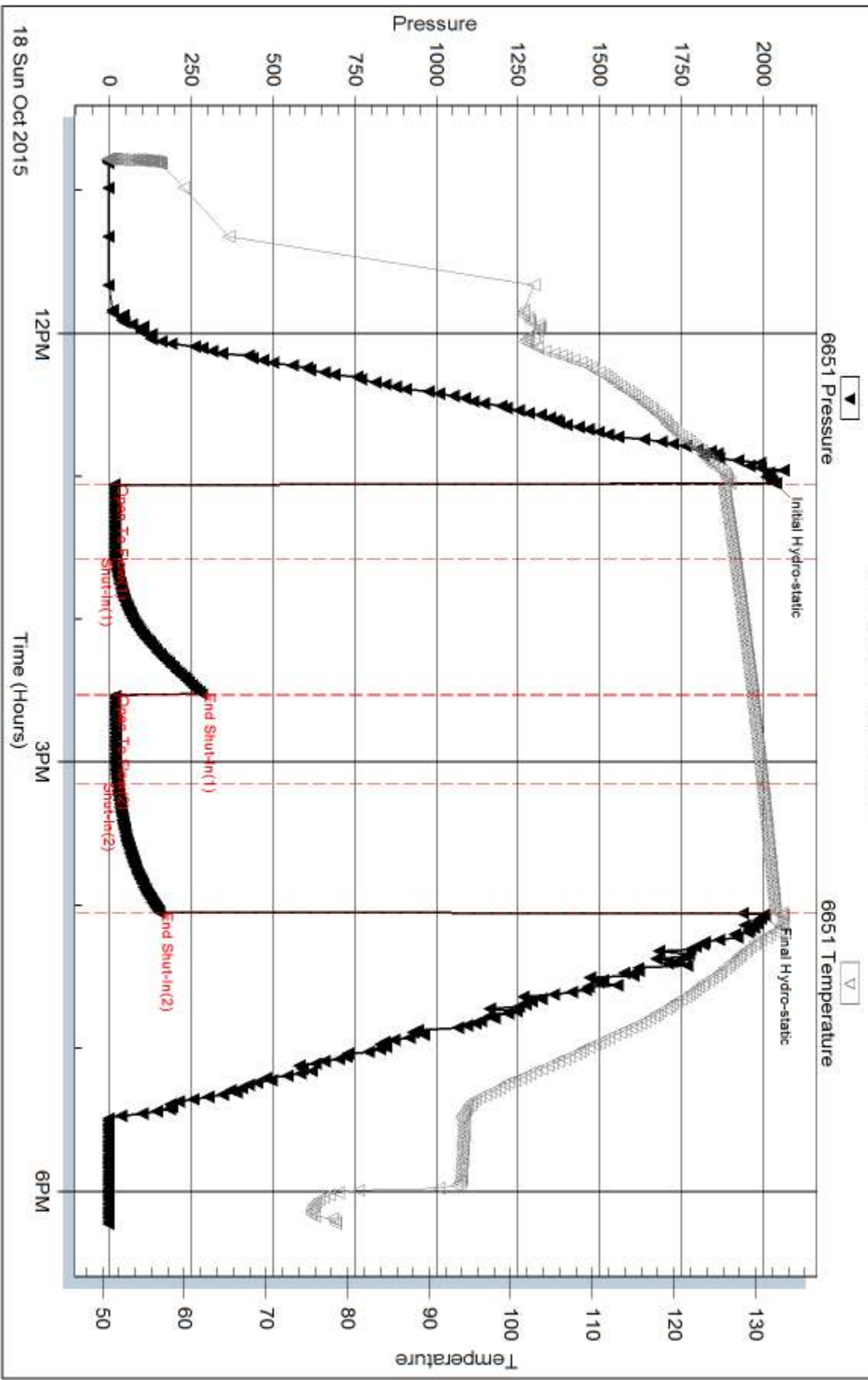
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

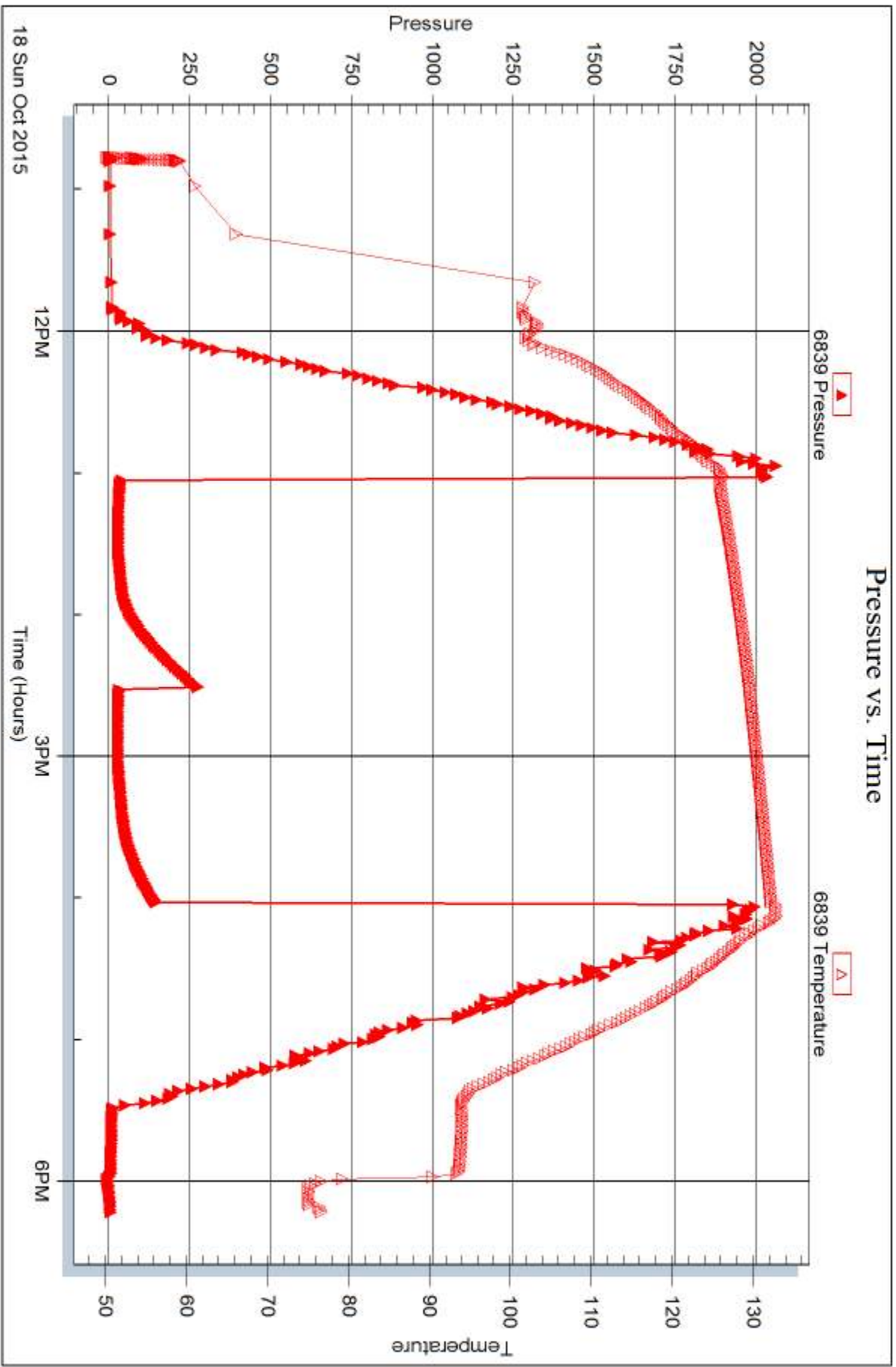


Serial #: 6839

Outside Murfin Drilling Co., Inc.

DKN#1-4

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 64830

Printed: 2015.10.22 @ 09:17:45



DRILL STEM TEST REPORT

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

250 N Water Ste 300
Wichita, KS 67202

ATTN: Saman Sharifaie

DKN #1-4

4-1s-38w Cheyenne,KS

Start Date: 2015.10.19 @ 03:02:32

End Date: 2015.10.19 @ 10:40:32

Job Ticket #: 64831 DST #: 4

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

Printed: 2015.10.22 @ 09:16:24



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

4-1s-38w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

DKN #1-4

Job Ticket: 64831

DST#: 4

ATTN: Saman Sharifaie

Test Start: 2015.10.19 @ 03:02:32

GENERAL INFORMATION:

Formation: **LKC "J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:33:02

Time Test Ended: 10:40:32

Test Type: Conventional Bottom Hole (Reset)

Tester: Brannan Lonsdale

Unit No: 62

Interval: 4163.00 ft (KB) To 4221.00 ft (KB) (TVD)

Reference Elevations: 3038.00 ft (KB)

Total Depth: 4221.00 ft (KB) (TVD)

3033.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6651

Inside

Press@RunDepth: 19.89 psig @ 4186.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.10.19

End Date:

2015.10.19

Last Calib.:

2015.10.19

Start Time: 03:02:33

End Time:

10:40:32

Time On Btm:

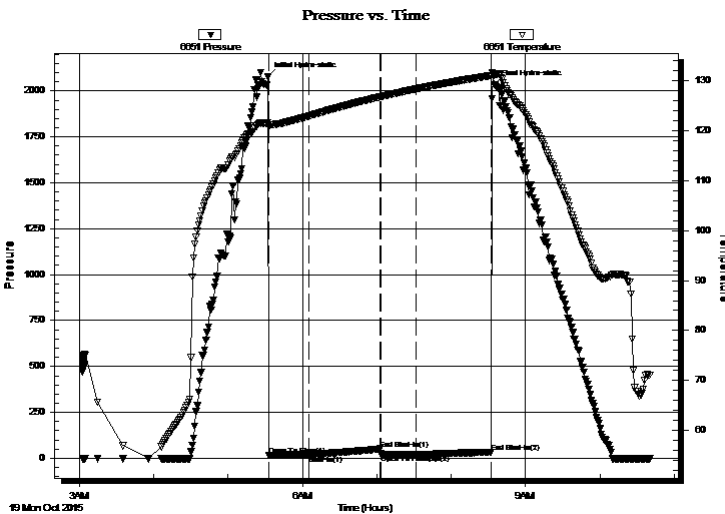
2015.10.19 @ 05:32:02

Time Off Btm:

2015.10.19 @ 08:34:32

TEST COMMENT: 30- IF- 1/2" blow
60- IS- No blow
30- FF- No blow
60- FS- No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2075.32	121.67	Initial Hydro-static
1	17.42	120.80	Open To Flow (1)
33	18.64	122.96	Shut-In(1)
91	51.17	126.81	End Shut-In(1)
92	19.17	126.85	Open To Flow (2)
120	19.89	128.38	Shut-In(2)
180	34.31	131.09	End Shut-In(2)
183	2034.16	131.17	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	M	0.01

* 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.

4-1s-38w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

DKN #1-4

Job Ticket: 64831

DST#: 4

ATTN: Saman Sharifaie

Test Start: 2015.10.19 @ 03:02:32

Tool Information

Drill Pipe:	Length: 3958.00 ft	Diameter: 3.82 inches	Volume: 56.11 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 179.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose:	53000.00 lb
			<u>Total Volume:</u>	Tool Chased	0.00 ft
				String Weight: Initial	51000.00 lb
Drill Pipe Above KB:	1.00 ft			Final	51000.00 lb
Depth to Top Packer:	4163.00 ft				
Depth to Bottom Packer:	ft				
Interval between Packers:	58.00 ft				
Tool Length:	85.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		
Tool Comments:					

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4137.00	
Shut In Tool	5.00			4142.00	
Hydraulic tool	5.00			4147.00	
Jars	5.00			4152.00	
Safety Joint	2.00			4154.00	
Packer	5.00			4159.00	27.00 Bottom Of Top Packer
Packer	4.00			4163.00	
Stubb	1.00			4164.00	
Perforations	21.00			4185.00	
Change Over Sub	1.00			4186.00	
Recorder	0.00	6651	Inside	4186.00	
Recorder	0.00	6839	Outside	4186.00	
Drill Pipe	31.00			4217.00	
Change Over Sub	1.00			4218.00	
Bullnose	3.00			4221.00	58.00 Bottom Packers & Anchor

Total Tool Length: 85.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

4-1s-38w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

DKN #1-4

Job Ticket: 64831

DST#: 4

ATTN: Saman Sharifaie

Test Start: 2015.10.19 @ 03:02:32

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: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	M	0.010

Total Length: 2.00 ft Total Volume: 0.010 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

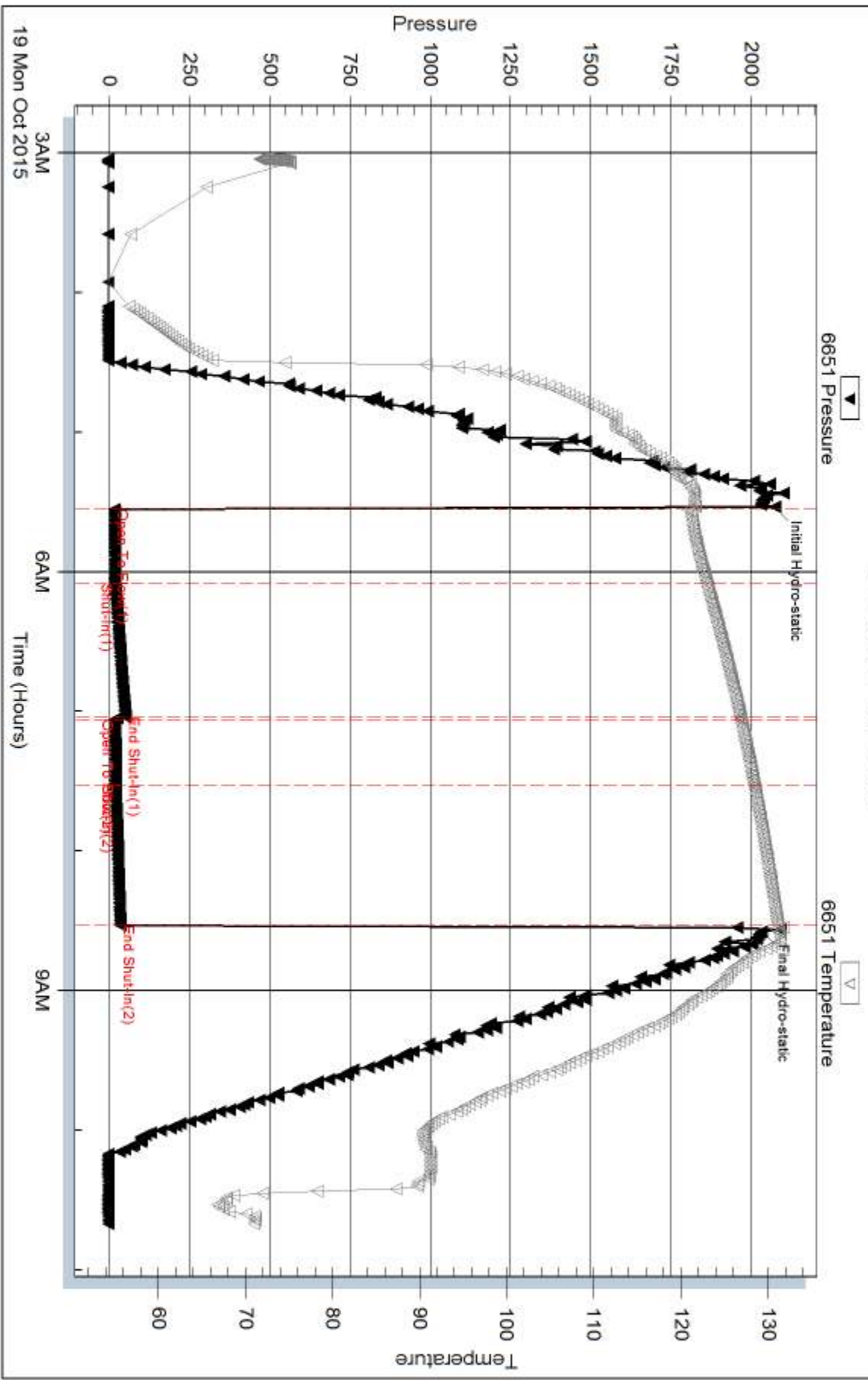
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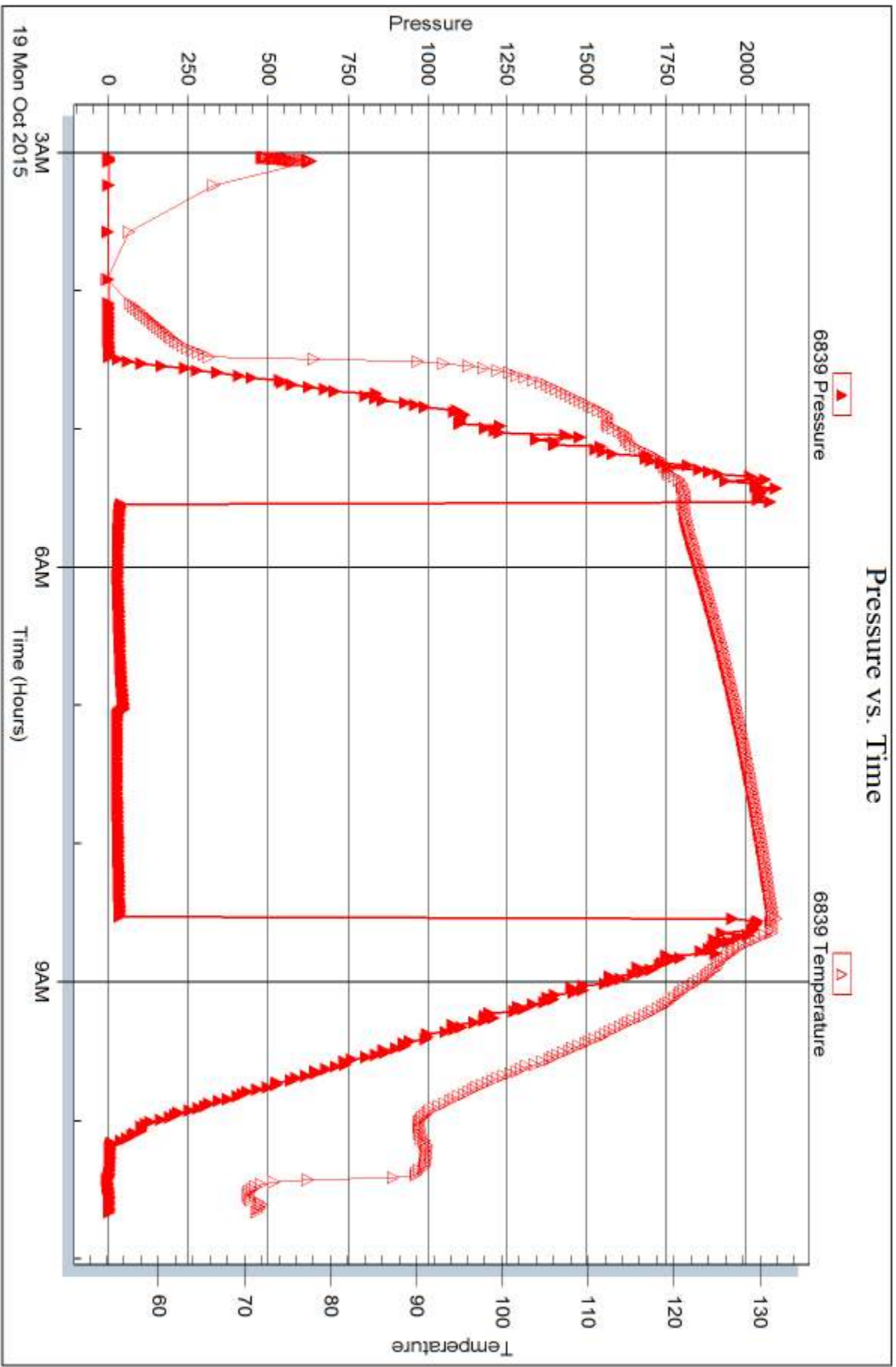
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time







DRILL STEM TEST REPORT

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

250 N Water Ste 300
Wichita, KS 67202

ATTN: Saman Sharifaie

DKN #1-4

4-1s-38w Cheyenne,KS

Start Date: 2015.10.20 @ 03:46:45

End Date: 2015.10.20 @ 11:42:15

Job Ticket #: 64832 DST #: 5

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

Printed: 2015.10.22 @ 09:15:48



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

4-1s-38w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

DKN #1-4

Job Ticket: 64832

DST#: 5

ATTN: Saman Sharifaie

Test Start: 2015.10.20 @ 03:46:45

GENERAL INFORMATION:

Formation: **Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:33:15

Time Test Ended: 11:42:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Brannan Lonsdale

Unit No: 62

Interval: 4373.00 ft (KB) To 4420.00 ft (KB) (TVD)

Reference Elevations: 3038.00 ft (KB)

Total Depth: 4420.00 ft (KB) (TVD)

3033.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6651

Inside

Press@RunDepth: 21.73 psig @ 4385.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.10.20

End Date:

2015.10.20

Last Calib.:

2015.10.20

Start Time: 03:46:46

End Time:

11:42:15

Time On Btm:

2015.10.20 @ 06:32:45

Time Off Btm:

2015.10.20 @ 09:34:15

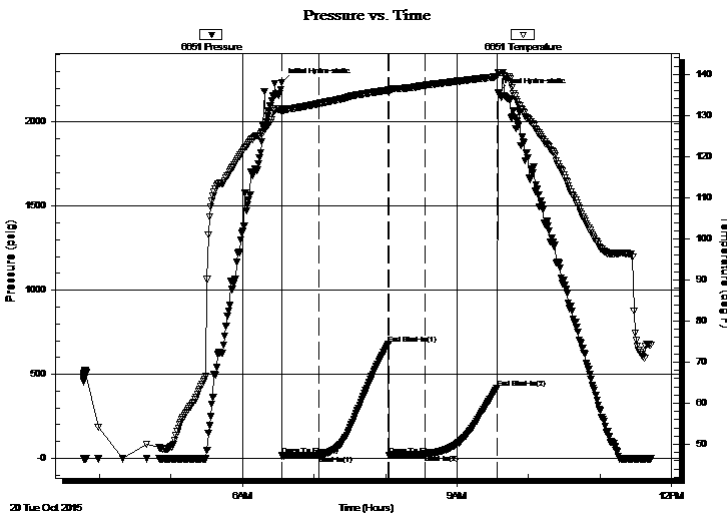
TEST COMMENT: 30- IF- Slowly built to 1"

60- IS- No blow

30- FF- No blow

60- FSI- No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2236.58	131.18	Initial Hydro-static
1	15.06	130.88	Open To Flow (1)
31	19.14	132.90	Shut-In(1)
90	680.41	136.18	End Shut-In(1)
90	19.31	135.64	Open To Flow (2)
121	21.73	137.36	Shut-In(2)
181	417.46	139.44	End Shut-In(2)
182	2175.90	140.49	Final Hydro-static

Recovery

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

Gas Rates

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

* Recovery from multiple tests



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

250 N Water Ste 300
Wichita, KS 67202

ATTN: Saman Sharifaie

4-1s-38w Cheyenne,KS

DKN #1-4

Job Ticket: 64832

DST#: 5

Test Start: 2015.10.20 @ 03:46:45

GENERAL INFORMATION:

Formation: **Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:33:15

Time Test Ended: 11:42:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Brannan Lonsdale

Unit No: 62

Interval: 4373.00 ft (KB) To 4420.00 ft (KB) (TVD)

Total Depth: 4420.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3038.00 ft (KB)

3033.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6839 Outside

Press@RunDepth: psig @ 4385.00 ft (KB)

Start Date: 2015.10.20 End Date: 2015.10.20

Start Time: 03:46:43 End Time: 11:42:12

Capacity: 8000.00 psig

Last Calib.: 2015.10.20

Time On Btm:

Time Off Btm:

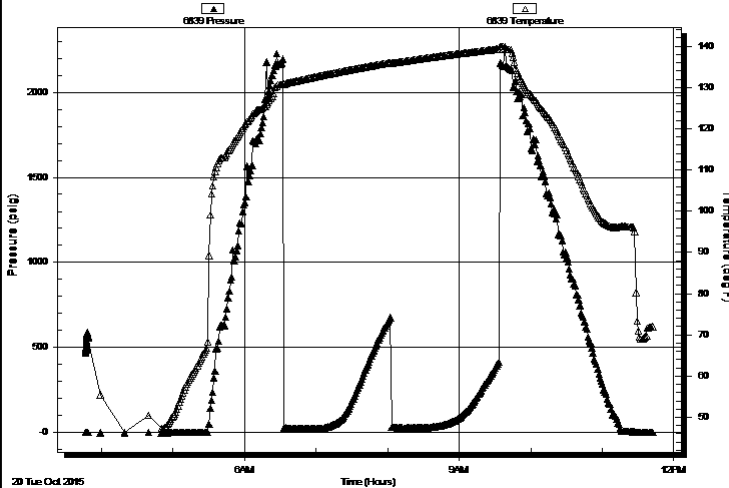
TEST COMMENT: 30- IF- Slowly built to 1"

60- IS- No blow

30- FF- No blow

60- FS- No blow

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

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

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

4-1s-38w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

DKN #1-4

Job Ticket: 64832

DST#: 5

ATTN: Saman Sharifaie

Test Start: 2015.10.20 @ 03:46:45

Tool Information

Drill Pipe:	Length: 4177.00 ft	Diameter: 3.82 inches	Volume: 59.21 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 179.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose:	56000.00 lb
			Total Volume: - bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial	54000.00 lb
Depth to Top Packer:	4373.00 ft			Final	54000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	47.00 ft				
Tool Length:	74.00 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			4347.00	
Shut In Tool	5.00			4352.00	
Hydraulic tool	5.00			4357.00	
Jars	5.00			4362.00	
Safety Joint	2.00			4364.00	
Packer	5.00			4369.00	27.00 Bottom Of Top Packer
Packer	4.00			4373.00	
Stubb	1.00			4374.00	
Perforations	10.00			4384.00	
Change Over Sub	1.00			4385.00	
Recorder	0.00	6651	Inside	4385.00	
Recorder	0.00	6839	Outside	4385.00	
Drill Pipe	31.00			4416.00	
Change Over Sub	1.00			4417.00	
Bullnose	3.00			4420.00	47.00 Bottom Packers & Anchor

Total Tool Length: 74.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

4-1s-38w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

DKN #1-4

Job Ticket: 64832

DST#: 5

ATTN: Saman Sharifaie

Test Start: 2015.10.20 @ 03:46:45

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	M	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

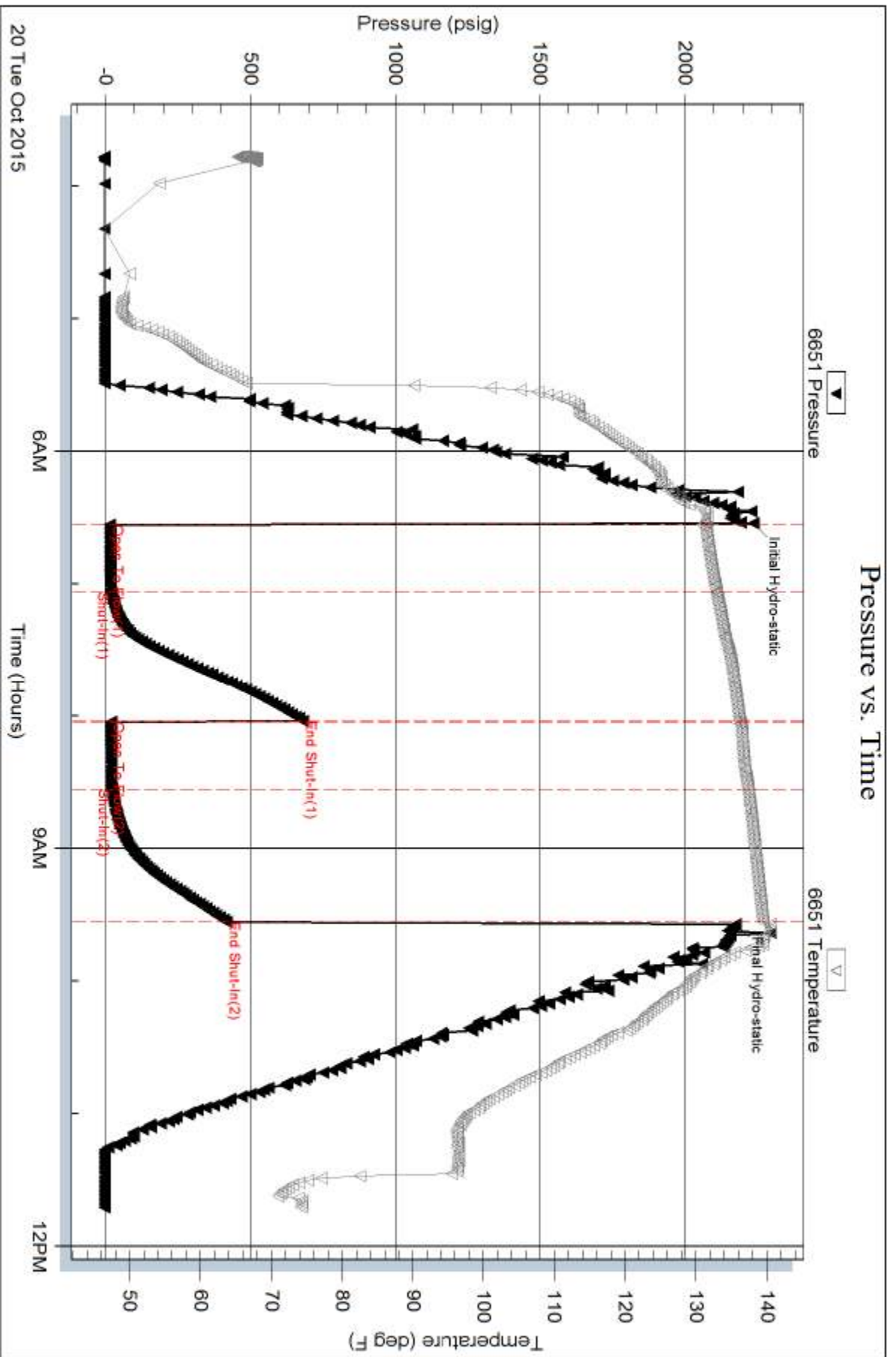
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

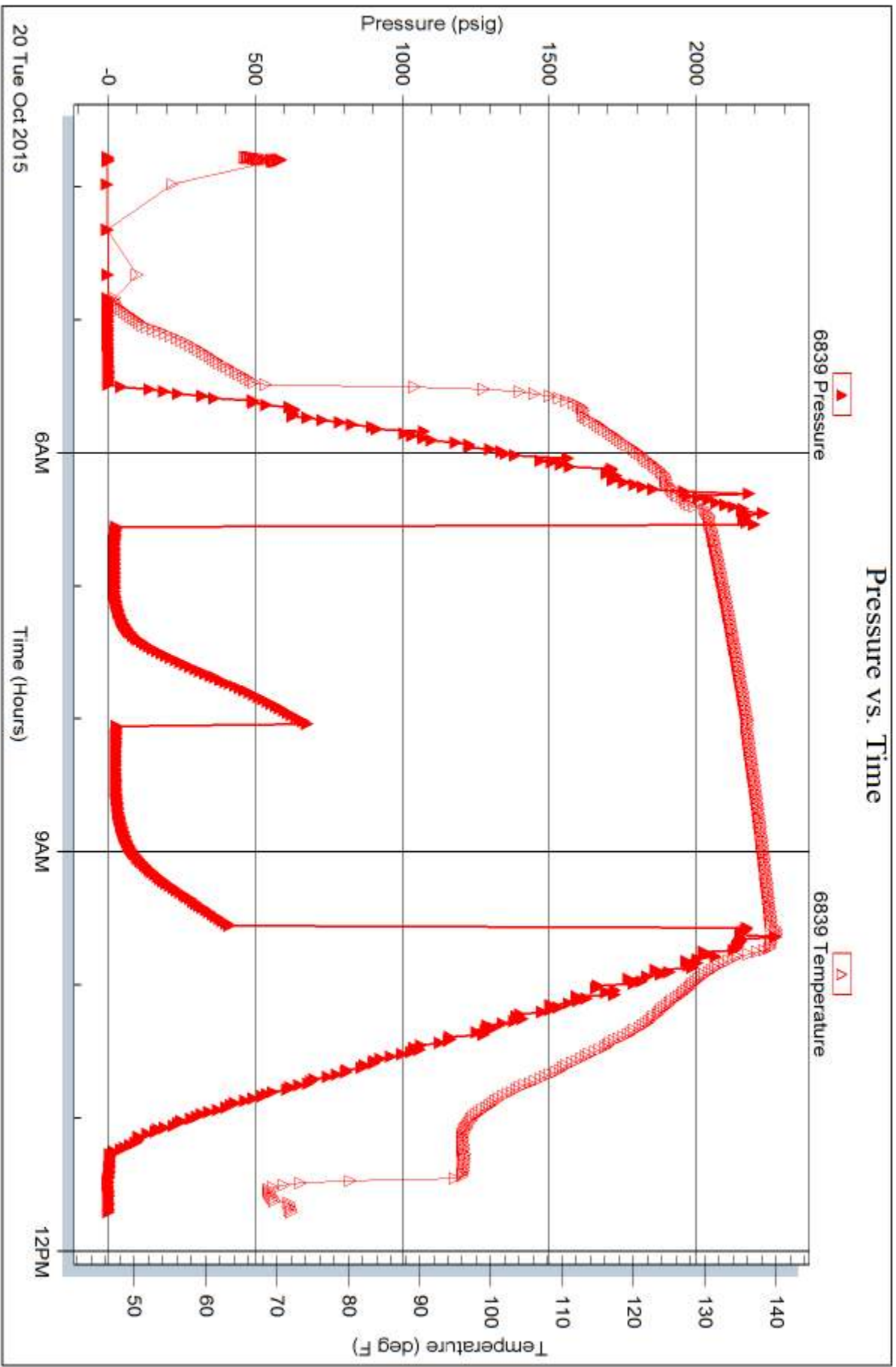


Serial #: 6839

Outside Murfin Drilling Co., Inc.

DKN#1-4

DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 64832

Printed: 2015.10.22 @ 09:15:49



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **64828**

Well Name & No. DKN #1-4 Test No. 1 Date 10/16/15
 Company Martin Drilling Co, Inc. Elevation 3038 KB 3033GL
 Address 250 N. Water Ste. 300 Wichita, KS 67202
 Co. Rep / Geo. Suman Shari Fare Rig Martin #3
 Location: Sec. 4 Twp. 1 S Rge. 38 W Co. Cherokee State KS

Interval Tested 3951-4028 Zone Tested LKC "A"
 Anchor Length 77' Drill Pipe Run 3808 Mud Wt. 9.1
 Top Packer Depth 3946 Drill Collars Run 119 Vis 56
 Bottom Packer Depth 3951 Wt. Pipe Run — WL 6.0
 Total Depth 4028 Chlorides 900 ppm System LCM 3#

Blow Description IF - 1" blow throughout
ISI - No blow
FF - No blow
FSI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>OSM</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 15' BHT 132° Gravity 1150 API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>1993</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>1940</u>
(B) First Initial Flow <u>29</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>1945</u>
(C) First Final Flow <u>31</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>2229</u>
(D) Initial Shut-In <u>1234</u>	<input type="checkbox"/> Circ Sub <u>—</u>	T-Pulled <u>10/17</u> <u>0129</u>
(E) Second Initial Flow <u>35</u>	<input type="checkbox"/> Hourly Standby <u>—</u>	T-Out <u>0335</u>
(F) Second Final Flow <u>38</u>	<input checked="" type="checkbox"/> Mileage <u>424 RT</u> <u>147rt</u>	Comments <u>—</u>
(G) Final Shut-In <u>1099</u>	<input type="checkbox"/> Sampler <u>—</u>	
(H) Final Hydrostatic <u>1931</u>	<input type="checkbox"/> Straddle <u>—</u>	
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer <u>—</u>	<input type="checkbox"/> Ruined Shale Packer <u>—</u>
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer <u>—</u>	<input type="checkbox"/> Ruined Packer <u>—</u>
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder <u>—</u>	<input type="checkbox"/> Extra Copies <u>—</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby <u>—</u>	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility <u>—</u>	Total <u>1622</u>
	Sub Total <u>1622</u>	MP/DST Disc't <u>—</u>

Approved By — Our Representative Brennan Lonsdale

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. **64829**

Well Name & No. DKN #1-4 Test No. 2 Date 10/17/15
 Company Murkin Drilling Co, Inc. Elevation 3038 KB 3033 GL
 Address 205 N. Water Ste. 300 Wichita, KS 67202
 Co. Rep / Geo. Saman Sharifade Rig Murkin #3
 Location: Sec. 4 Twp. 1 S Rge. 38 W Co. Cheyenne State KS

Interval Tested 4020-4284 Zone Tested LKC "B-D"
 Anchor Length 64' Drill Pipe Run 3838 Mud Wt. 9.3
 Top Packer Depth 4015 Drill Collars Run 179 Vis 50
 Bottom Packer Depth 4020 Wt. Pipe Run --- WL 6.4
 Total Depth 4084 Chlorides 900 ppm System LCM 1 1/2"
 Blow Description IF- Surface blow built very slowly to 1"
2ST- No blow
FF- No blow
FST- No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>25'</u>	<u>SOCM</u>		<u>5</u>		<u>95</u>
<u>5</u>	<u>CO</u>				

Rec Total 30 BHT 134° Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2025 Test 1150 T-On Location 1200
 (B) First Initial Flow 19 Jars 250 T-Started 1206
 (C) First Final Flow 29 Safety Joint 75 T-Open 1617
 (D) Initial Shut-In 1400 Circ Sub _____ T-Pulled 1917
 (E) Second Initial Flow 33 Hourly Standby _____ T-Out 2153
 (F) Second Final Flow 41 Mileage 424 RT 147rt Comments _____
 (G) Final Shut-In 1321 Sampler _____
 (H) Final Hydrostatic 2015 Straddle _____

Shale Packer _____ Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Extra Copies _____
 Day Standby _____ Sub Total 0
 Accessibility _____ Total 1622
 Sub Total 1622 MP/DST Disc't _____

Approved By _____ Our Representative Bryan Lonsdale
 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. **64830**

Well Name & No. DKN #1-4 Test No. 3 Date 10/18/15
 Company Martin Drilling Co, Inc. Elevation 3038 KB 3033 GL
 Address 250 N. Water Ste. 300 Wichita, KS 67202
 Co. Rep / Geo. Saman Sharifzade Rig Martin #3
 Location: Sec. 4 Twp. 1 S Rge. 38 W Co. Cherokee State KS

Interval Tested 4084 - 4170 Zone Tested LKC "G+H"
 Anchor Length 86' Drill Pipe Run 3896 Mud Wt. 9.1
 Top Packer Depth 4029 Drill Collars Run 179 Vis 52
 Bottom Packer Depth 4084 Wt. Pipe Run — WL 6.0
 Total Depth 4170 Chlorides 800 ppm System LCM 1#

Blow Description IF - slowly built to 3/4"
ISI - No blow
PF - No blow
FSI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>OSM</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 132° Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2038</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>0940</u>
(B) First Initial Flow <u>16</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>0946</u>
(C) First Final Flow <u>18</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>1202</u>
(D) Initial Shut-In <u>283</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>1502</u>
(E) Second Initial Flow <u>19</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>1713</u>
(F) Second Final Flow <u>25</u>	<input checked="" type="checkbox"/> Mileage <u>424 RT</u> 147	Comments _____
(G) Final Shut-In <u>152</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>2002</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Packer _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
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>1622</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1622</u>	

Approved By _____ Our Representative Brannan Lonsdale

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. **64831**

Well Name & No. DKN #1-4 Test No. 4 Date 10/14/15
 Company Murfin Drilling Co, Inc Elevation 3038 KB 3033 GL
 Address 205 N. Water Ste 300 Wichita, KS 67202
 Co. Rep / Geo. Saman Sharifate Rig Murfin #3
 Location: Sec. 4 Twp. 1 S Rge. 38 W Co. Cheyenne State KS

Interval Tested 4163-4221 Zone Tested LSC "5"
 Anchor Length 38' Drill Pipe Run 3958 Mud Wt. 9.1
 Top Packer Depth 4158 Drill Collars Run 179 Vis 52
 Bottom Packer Depth 4163 Wt. Pipe Run --- WL 6.0
 Total Depth 4221 Chlorides 800 ppm System LCM 1A

Blow Description IF - 1/2" blow
ISF - No blow
FF - No blow
FSF - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>M</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 2' BHT 1310 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2075 Test 1150 T-On Location 0200
 (B) First Initial Flow 17 Jars 250 T-Started 0202
 (C) First Final Flow 19 Safety Joint 75 T-Open 0432
 (D) Initial Shut-In 51 Circ Sub _____ T-Pulled 0732
 (E) Second Initial Flow 19 Hourly Standby _____ T-Out 0939
 (F) Second Final Flow 20 Mileage 424 RT 147 Comments _____
 (G) Final Shut-In 34 Sampler _____
 (H) Final Hydrostatic 2034 Straddle _____
 Shale Packer _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

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

Sub Total 1622 Total 1622 MP/DST Disc't _____

Approved By _____ Our Representative Brennan Lonsdale

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. **64832**

Well Name & No. DKN #1-4 Test No. 5 Date 10/20/15
 Company Murfin Drilling Co. Inc. Elevation 3038 KB 3033 GL
 Address 205 N. Water Ste. 300 Wichita, KS 67202
 Co. Rep / Geo. Suman Sharifpale Rig Murfin #3
 Location: Sec. 4 Twp. 1 S Rge. 38 W Co. Cheyenne State KS

Interval Tested 4373-4420 Zone Tested Pawnee
 Anchor Length 47' Drill Pipe Run 4177 Mud Wt. 9.2
 Top Packer Depth 4368 Drill Collars Run 179 Vis 55
 Bottom Packer Depth 4373 Wt. Pipe Run — WL 5.6
 Total Depth 4420 Chlorides 200 ppm System LCM 2#
 Blow Description IF - slowly built to 1"
ISI - No blow
FF - No blow
PSI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>M</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 1390 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2237</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>0243</u>
(B) First Initial Flow <u>15</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>0246</u>
(C) First Final Flow <u>19</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>0532</u>
(D) Initial Shut-In <u>680</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>0832</u>
(E) Second Initial Flow <u>19</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>1041</u>
(F) Second Final Flow <u>22</u>	<input checked="" type="checkbox"/> Mileage <u>424 RT 147+147</u>	Comments <u>Loaded tools</u>
(G) Final Shut-In <u>417</u>	<input type="checkbox"/> Sampler _____	<u>10/22 @ 0030</u>
(H) Final Hydrostatic <u>2176</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Packer _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>800</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby <u>1.5d 1.75h</u>	Total <u>2569</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1769</u>	

Approved By _____ Our Representative Brennan Lonsdale

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Saman Sharifaie

Petroleum Geologist

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

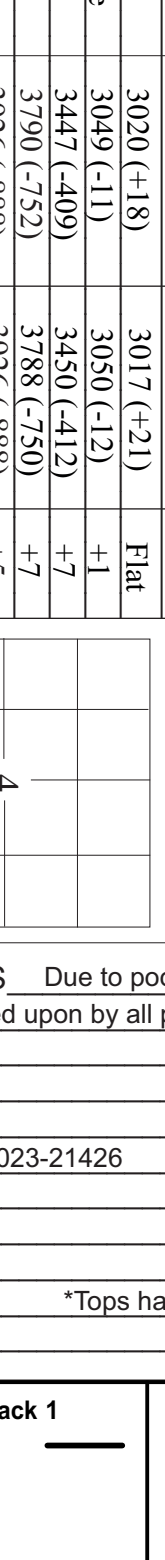
COMPANY: **Martin Drilling Co., Inc.**
LEASE: **DKN #1-4**
WELL: **Widaker**

LOCATION: **3307 ESL & 500 FEL**
COUNTY: **Cherokee STATE Kansas**
CONTRACTOR: **Martin Drilling #3**
SPUD: **10/21/15 COMP 10/22/15**
RTD: **4822' LTD 4821'**
MUD UP: **3100' TYPE MUD Chemical**

SAMPLES SAVED FROM: **3360' TO RTD**
DRILLING TIME KEPT FROM: **3360' TO RTD**
SAMPLES EXAMINED FROM: **3360' TO RTD**
GEOLOGICAL SUPERVISION FROM: **3060'**
REFERENCE WELL: **Christensen OW#0 #3-2**

FORMATION: **Flint**

Formation	Sample Tops	E-log Tops	Feet
Amshadite	3020 (-18)	3017 (+21)	3
Basal Amshadite	3490 (-11)	3050 (-12)	4
Neva	3477 (-400)	3450 (-412)	27
TOUSKA	3790 (-752)	3788 (-750)	2
Oredal	3026 (-888)	3026 (-888)	0
Starb	4000 (-962)	3997 (-959)	3
Starb	4224 (-1186)	4237 (-1185)	13
Pravnes	4404 (-1366)	4403 (-1365)	1
Cherokee	4490 (-1452)	4488 (-1450)	2

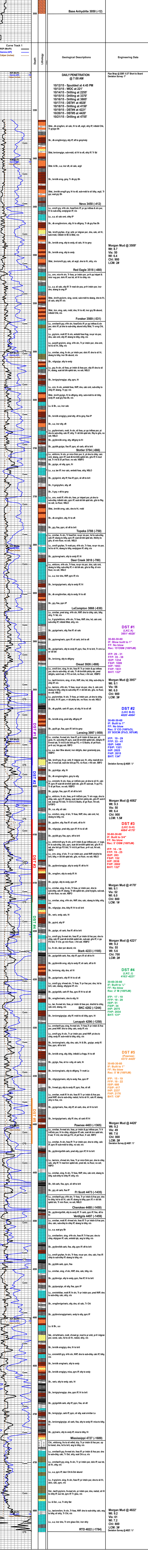


REMARKS: Due to poor shows of oil in multiple pay zones and negative DST results, it is recommended and agreed upon by all parties that this well be plugged and abandoned.

Respectfully Submitted,
Saman Sharifaie
Petroleum Geologist

API #15-023-21426

*Tops have been adjusted to electric logs



Engineering Data

Pipe Strap @ 3250': 0.37' Short to Board
Deviation Survey: 1°

Morgan Mud @ 3509'
WT: 8.7
Vis: 50
WI: 6.4
Chl: 900
LCM: 2#

DST #1 (LKC A) 3951'-4028'
30-60-30-60
IF: Blow built to 1"
FF: No blow
Rec: 5' OSM (100%M)

IFP: 29 - 31
FFP: 35 - 38
ISIP: 1234
FISP: 1099
IHP: 1993
FHP: 1931
BHT: 132°

Morgan Mud @ 3957'
WT: 9.6
Vis: 51
WI: 6.0
Chl: 900
LCM: 3#

DST #2 (LKC B-D) 4020'-4084'
30-60-30-60
IF: Built to 1"
FF: No blow
Rec: 5' OSM (100%), 25' SOCM (5%, 95%M)

IFP: 19 - 29
FFP: 33 - 41
ISIP: 1400
FISP: 1321
IHP: 2025
FHP: 2015
BHT: 134°

Deviation Survey @ 4028': 1/2°

Morgan Mud @ 4082'
WT: 9.2
Vis: 50
WI: 6.0
Chl: 900
LCM: 1.5#

DST #3 (LKC G-H) 4084'-4170'
30-60-30-60
IF: Built to 3/4"
FF: No blow
Rec: 5' OSM (100%M)

IFP: 16 - 18
FFP: 19 - 25
ISIP: 283
FISP: 153
IHP: 2038
FHP: 2002
BHT: 132°

Morgan Mud @ 4170'
WT: 9.1
Vis: 52
WI: 6.0
Chl: 800
LCM: 1#

Morgan Mud @ 4221'
WT: 9.1
Vis: 56
WI: 5.6
Chl: 700
LCM: 2#

DST #4 (LKC J) 4163'-4221'
30-60-30-60
IF: Built to 1/2"
FF: No blow
Rec: 2' M (100%M)

IFP: 17 - 19
FFP: 19 - 20
ISIP: 51
FISP: 417
IHP: 2237
FHP: 2034
BHT: 131°

Morgan Mud @ 4221'
WT: 9.2
Vis: 49
WI: 7.6
Chl: 800
LCM: 2#

Deviation Survey @ 4420': 1/2°

DST #5 (Pawnee) 4373'-4420'
30-60-30-60
IF: Built to 1"
FF: No blow
Rec: 5' M (100%M)

IFP: 15 - 19
FFP: 19 - 22
ISIP: 680
FISP: 417
IHP: 2237
FHP: 2034
BHT: 139°

Morgan Mud @ 4420'
WT: 9.2
Vis: 61
WI: 7.0
Chl: 800
LCM: 3#

Deviation Survey @ 4822': 1/2°

ALLIED OIL & GAS SERVICES, LLC

Federal Tax I.D. #20-5975804

20680
067689

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

SERVICE POINT:
Rockledge

DATE <u>12/12/15</u>	SEC. <u>4</u>	TWP. <u>1</u>	RANGE <u>38</u>	CALLED OUT	ON LOCATION	JOB START <u>2:00pm</u>	JOB FINISH <u>4:30pm</u>
LEASE <u>ORB</u>	WELL# <u>1-4</u>	LOCATION <u>Bird City N To 00 3W 57050</u>	COUNTY <u>Cherokee</u>	STATE <u>KS</u>			
OLD OR NEW (Circle one)							

CONTRACTOR Murphy 3
TYPE OF JOB Surface
HOLE SIZE 10 1/4 T.D. 221
CASING SIZE 8 5/8 DEPTH 221
TUBING SIZE _____ DEPTH _____
DRILL PIPE _____ DEPTH _____
TOOL _____ DEPTH _____
PRES. MAX _____ MINIMUM _____
MEAS. LINE _____ SHOE JOINT _____
CEMENT LEFT IN CSG. 65'
PERFS. _____
DISPLACEMENT 13, 13

OWNER Some
CEMENT AMOUNT ORDERED 220 lbs 3700 2700

COMMON 200 @ 17 9/16 3918 00
POZMIX @ _____
GEL 414 @ 16 6624 00
CHLORIDE 620 @ 16 9920 00
ASC @ _____
@ _____
@ _____
@ _____
@ _____
@ _____
@ _____
@ _____
@ _____
@ _____
@ _____
@ _____
@ _____
@ _____

EQUIPMENT

PUMP TRUCK CEMENTER Alan Ryan
495 HELPER Kain Ryan
BULK TRUCK
891 DRIVER Cory Brown
BULK TRUCK
_____ DRIVER _____

TOTAL 4,727.00
DISCOUNT 50% 2413.50

REMARKS:

Run Cement, Mix Cement, Displace Cement
Spent in
Cement did Circulate 6 BBL 70 P.P.T
Alan Ryan, Cory

SERVICE

HANDLING 237 31 @ 2 40 589 91
MILEAGE 2 25 700 Mile @ 80 CPM 1493 55
DEPTH OF JOB _____
PUMP TRUCK CHARGE _____ 1512 00
EXTRA FOOTAGE @ _____
HV MILEAGE 90 @ 2 20 385 00
LV MILEAGE 60 @ 4 40 264 00
Scudge @ _____ 225 00
@ _____

TOTAL 4,475.47
DISCOUNT 50% 2237.73

CHARGE TO: Murphy Drilling
STREET _____
CITY _____ STATE _____ ZIP _____

PLUG & FLOAT EQUIPMENT

@ _____
@ _____
@ _____
@ _____
@ _____
@ _____
@ _____
TOTAL _____
DISCOUNT _____%

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 Klint Farr
SIGNATURE [Signature]

SALES TAX (If Any) _____
TOTAL CHARGES 9,302.47
DISCOUNT 4,651.23 (50%) IF PAID IN 30 DAYS
NET TOTAL 4,651.23 IF PAID IN 30 DAYS

ALLIED OIL & GAS SERVICES, LLC

Federal Tax I.D. #20-5975804

20642
1376
147
96
0376
2109
216
067694

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

SERVICE POINT:

Dakley, TX

DATE <i>10/22/15</i>	SEC. <i>4</i>	TWP. <i>1</i>	RANGE <i>38</i>	CALLED OUT	ON LOCATION	JOB START <i>7:00</i>	JOB FINISH <i>2:30</i>
LEASE <i>DILW</i>	WELL# <i>1-4</i>	LOCATION <i>Bendheim 570 Rd DD - Ogona, TX</i>		COUNTY <i>Ogona</i>	STATE <i>TX</i>		
OLD OR NEW (Circle one) <input checked="" type="radio"/> OLD		<i>2 1/2 w 5' into</i>					

CONTRACTOR *Martin 3*

TYPE OF JOB *PTA*

HOLE SIZE *2 3/8* T.D.

CASING SIZE *5 1/8* DEPTH

TUBING SIZE *4 1/2* DEPTH

DRILL PIPE *4 1/2* DEPTH

TOOL DEPTH

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT

CEMENT LEFT IN CSG.

PERFS.

DISPLACEMENT

OWNER *Same*

CEMENT AMOUNT ORDERED *240 60/40 4700 gal*

14 FT

60/40 4700 gal

COMMON *240 5K @ 18.92 4540.80*

POZMIX @

GEL @

CHLORIDE @

ASC @

FloSul 60lb @ 2.92 1752.00

TOTAL *4719.00*

EQUIPMENT

PUMP TRUCK CEMENTER *4 Ryan*

405 281 HELPER *2 Ryan*

BULK TRUCK

897 DRIVER *James Racette*

BULK TRUCK

DRIVER

REMARKS:

50 5K @ 2.900

100 5K @ 2.200

50 5K @ 2.25

10 5K @ 2.40

30 5K - RH

SERVICE

HANDLING *2500F @ 2.92 641.20*

MILEAGE *2 1/2 miles @ 10.35 702 1423.12*

DEPTH OF JOB

PUMP TRUCK CHARGE *2600.47*

EXTRA FOOTAGE @

HV MILEAGE *50 @ 2.92 146.00*

LV MILEAGE *50 @ 4 220.00*

CHARGE TO: *Martin*

STREET

CITY STATE ZIP

TOTAL *5,269.30*

DISCOUNT *50% 2634.65*

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.

PLUG & FLOAT EQUIPMENT

8 1/2 Wood-Plug @ 110.00

TOTAL *110.00*

DISCOUNT *0%*

PRINTED NAME

SIGNATURE *[Signature]*

SALES TAX (If Any)

TOTAL CHARGES *10,098.30*

DISCOUNT *4,994.15 (50%)* IF PAID IN 30 DAYS

NET TOTAL *5,104.15* IF PAID IN 30 DAYS

MDCI
DKN #1-4
330' FSL 500' FEL
Sec. 4-T1S-R38W
3038' KB

Formation	Sample top	Datum	Ref	Log Top	Datum	Ref
Anhydrite	3020	+18	-3	3017	+21	Flat
B/Anhydrite	3049	-11	+2	3050	-12	+1
Neva	3447	-409	+10	3450	-412	+7
Red Eagle	3518	-480	+5	3516	-478	+7
Foraker	3569	-531	+10	3569	-531	+10
Topeka	3790	-752	+5	3788	-750	+7
Oread	3926	-888	+5	3926	-888	+5
Lansing	4006	-968	Flat	3997	-959	+9
Stark	4224	-1186	+5	4223	-1185	+6
BKC	4287	-1249	+2	4282	-1244	+7
Pawnee	4404	-1366	Flat	4403	-1365	+1
Cherokee	4490	-1452	+6	4488	-1450	+8
Mississippi	4742	-1704	+5	4727	-1689	+20
RTD	4822	-1784				
LTD				4821	-1783	