

1236719

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

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

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

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

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

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

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

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

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

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

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

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

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

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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	WWWM 'A' 3-4
Doc ID	1236719

All Electric Logs Run

DIL
DUCP
MEL
BHCS
CBL



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water STE 300
Wichita KS 67202

ATTN: Tom Funk

WWWM 'A' #3

4-13s-32w Logan,KS

Start Date: 2014.10.02 @ 14:13:00

End Date: 2014.10.02 @ 23:33:00

Job Ticket #: 57478 DST #: 1

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

Printed: 2014.10.07 @ 16:59:44



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co.

4-13s-32w Logan, KS

250 N Water STE 300
Wichita KS 67202

WWWM 'A' #3

Job Ticket: 57478

DST#: 1

ATTN: Tom Funk

Test Start: 2014.10.02 @ 14:13:00

GENERAL INFORMATION:

Formation: **LKC E-F**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:44:30

Time Test Ended: 23:33:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Justin Haris

Unit No: 75

Interval: 4112.00 ft (KB) To 4145.00 ft (KB) (TVD)

Reference Elevations: 3047.00 ft (KB)

Total Depth: 4145.00 ft (KB) (TVD)

3036.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

Serial #: 8675

Inside

Press@RunDepth: 691.77 psig @ 4113.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.10.02

End Date:

2014.10.02

Last Calib.:

2014.10.02

Start Time: 14:13:15

End Time:

23:33:00

Time On Btm:

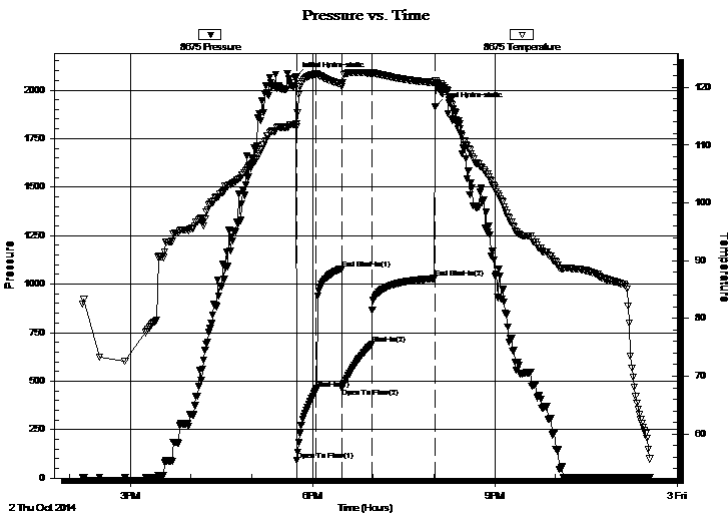
2014.10.02 @ 17:44:00

Time Off Btm:

2014.10.02 @ 20:01:15

TEST COMMENT: 30: B.O.B in 3 mins.
30: No Return.
30: B.O.B in 3 mins.
30: No Return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2067.13	113.63	Initial Hydro-static
1	92.43	113.26	Open To Flow (1)
20	458.41	122.32	Shut-In(1)
45	1079.29	120.54	End Shut-In(1)
46	465.27	120.14	Open To Flow (2)
75	691.77	122.50	Shut-In(2)
137	1029.27	120.85	End Shut-In(2)
138	1914.31	121.21	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
543.00	mcw 10% m 90%w	2.67
891.00	0w cm 1%o 49%w 50%m	12.50
2.00	clean oil	0.03

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

4-13s-32w Logan,KS

250 N Water STE 300
Wichita KS 67202

WWWM 'A' #3

Job Ticket: 57478

DST#: 1

ATTN: Tom Funk

Test Start: 2014.10.02 @ 14:13:00

Tool Information

Drill Pipe:	Length: 3558.85 ft	Diameter: 3.80 inches	Volume: 49.92 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 543.15 ft	Diameter: 2.25 inches	Volume: 2.67 bbl	Weight to Pull Loose:	98000.00 lb
			<u>Total Volume:</u> - bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial	90000.00 lb
Depth to Top Packer:	4112.00 ft			Final	96000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	31.00 ft				
Tool Length:	51.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4093.00	
Shut In Tool	5.00			4098.00	
Hydraulic tool	5.00			4103.00	
Packer	5.00			4108.00	20.00 Bottom Of Top Packer
Packer	4.00			4112.00	
Stubb	1.00			4113.00	
Recorder	0.00	8675	Inside	4113.00	
Recorder	0.00	8650	Outside	4113.00	
perforations	27.00			4140.00	
Change Over Sub	0.00			4140.00	
Drill Pipe	0.00			4140.00	
Change Over Sub	0.00			4140.00	
Bullnose	3.00			4143.00	31.00 Bottom Packers & Anchor

Total Tool Length: 51.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

4-13s-32w Logan,KS

250 N Water STE 300
Wichita KS 67202

WWWM 'A' #3

Job Ticket: 57478

DST#: 1

ATTN: Tom Funk

Test Start: 2014.10.02 @ 14:13:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

20 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

20000 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2200.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
543.00	mcw 10% m 90%w	2.670
891.00	0w cm 1%o 49%w 50%m	12.497
2.00	clean oil	0.028

Total Length: 1436.00 ft Total Volume: 15.192 bbl

Num Fluid Samples: 0

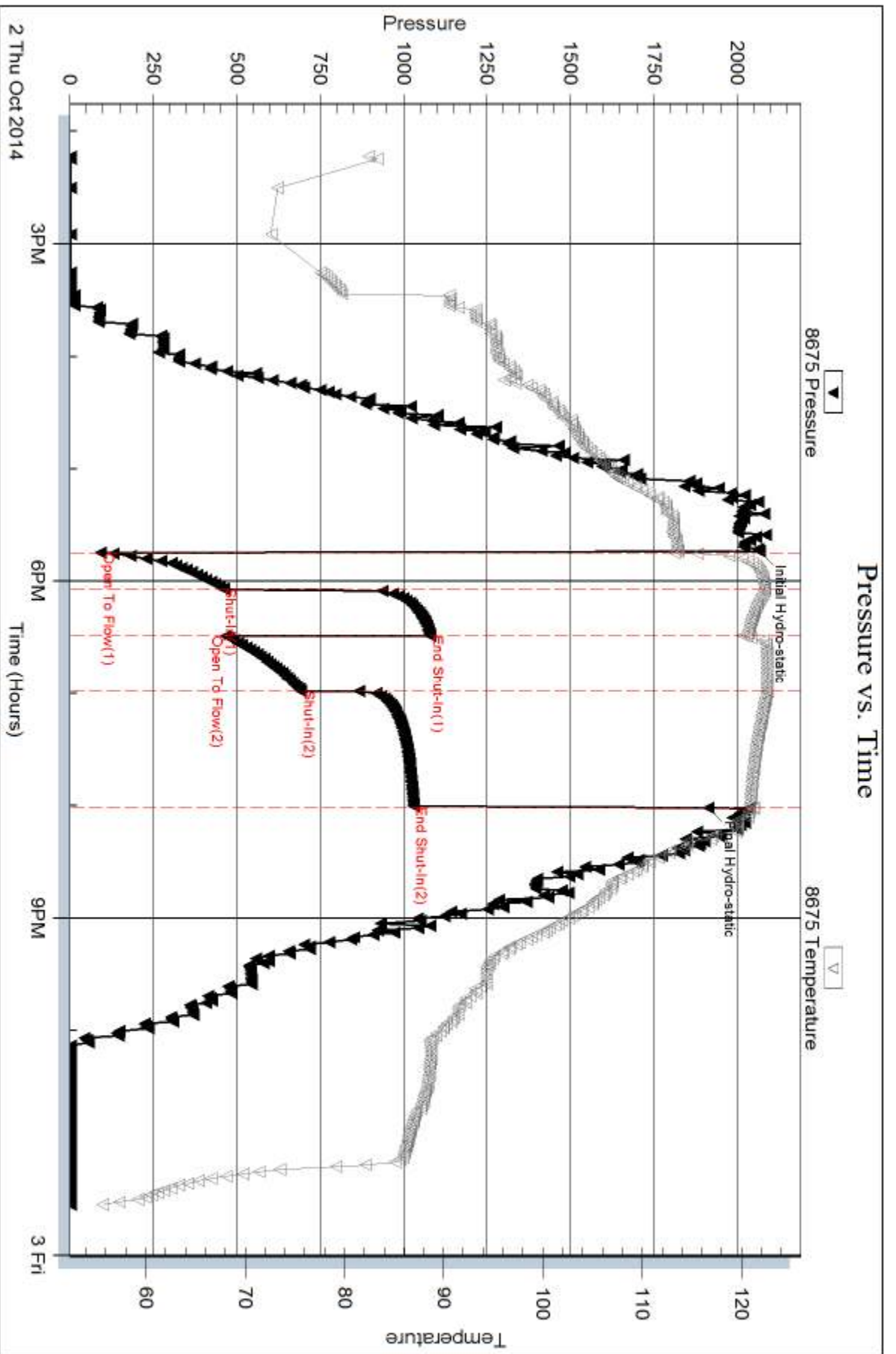
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API RW .45 @ 48 Chlorides 20000ppm

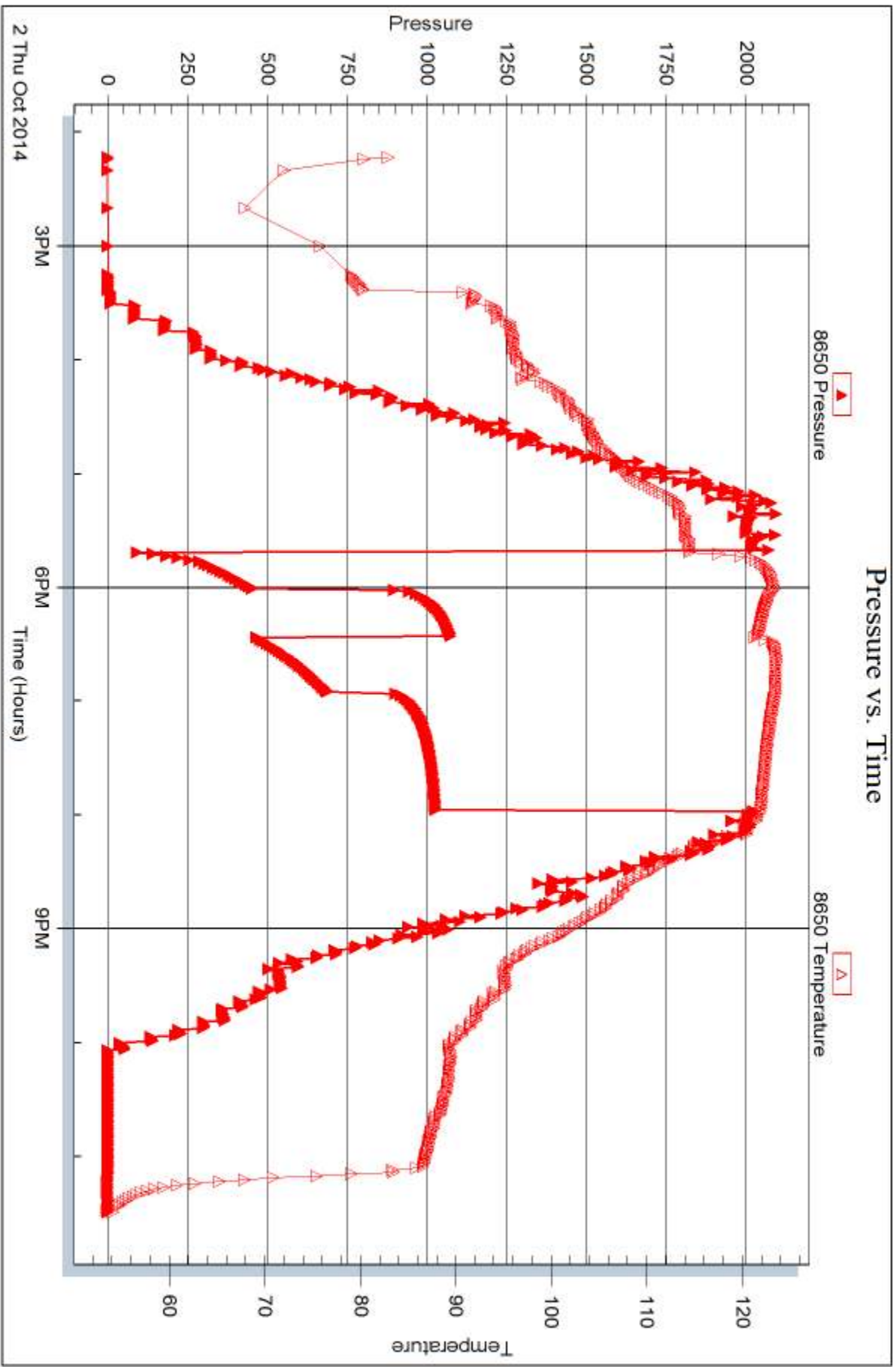


Serial #: 8650

Outside Murfin Drilling Co.

WMMMM'A #3

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 57478

Printed: 2014, 10.07 @ 16:59:45



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water STE 300
Wichita KS 67202

ATTN: Tom Funk

WWWM 'A' #3

4-13s-32w Logan,KS

Start Date: 2014.10.04 @ 08:22:00

End Date: 2014.10.04 @ 16:58:15

Job Ticket #: 57278 DST #: 2

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

Printed: 2014.10.07 @ 16:52:53



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co.

4-13s-32w Logan,KS

250 N Water STE 300
Wichita KS 67202

WWWM 'A' #3

Job Ticket: 57278

DST#: 2

ATTN: Tom Funk

Test Start: 2014.10.04 @ 08:22:00

GENERAL INFORMATION:

Formation: **Altamont 'A - C'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:09:00

Time Test Ended: 16:58:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Jace McKinney

Unit No: 75

Interval: 4379.00 ft (KB) To 4460.00 ft (KB) (TVD)

Reference Elevations: 3047.00 ft (KB)

Total Depth: 4460.00 ft (KB) (TVD)

3036.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

Serial #: 8675

Inside

Press@RunDepth: 34.90 psig @ 4380.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.10.04

End Date:

2014.10.04

Last Calib.: 2014.10.04

Start Time: 08:22:15

End Time:

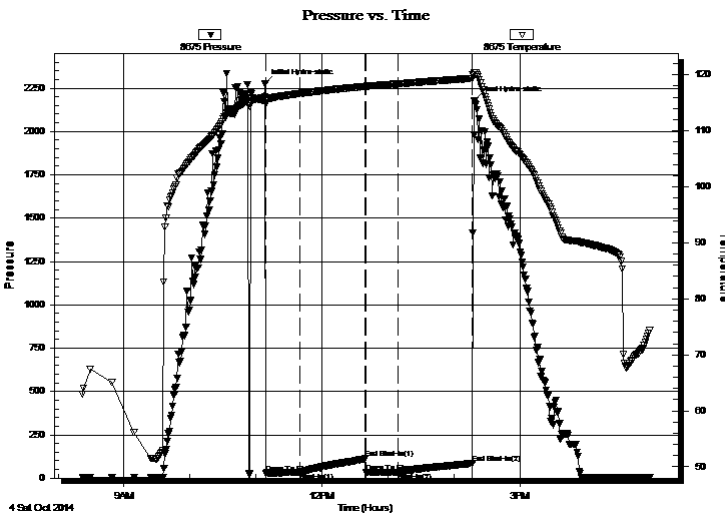
16:58:15

Time On Btm: 2014.10.04 @ 11:08:15

Time Off Btm: 2014.10.04 @ 14:18:45

TEST COMMENT: Surface blow
No return blow
No blow
No return blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2276.97	116.02	Initial Hydro-static
1	29.28	114.78	Open To Flow (1)
32	32.27	116.68	Shut-In(1)
92	112.01	117.94	End Shut-In(1)
92	33.82	117.91	Open To Flow (2)
122	34.90	118.40	Shut-In(2)
189	85.81	119.36	End Shut-In(2)
191	2176.63	120.43	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	100% Mud	0.05

* 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.

4-13s-32w Logan,KS

250 N Water STE 300
Wichita KS 67202

WWWM 'A' #3

Job Ticket: 57278

DST#: 2

ATTN: Tom Funk

Test Start: 2014.10.04 @ 08:22:00

Tool Information

Drill Pipe:	Length: 4119.55 ft	Diameter: 3.80 inches	Volume: 57.79 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 275.10 ft	Diameter: 2.25 inches	Volume: 1.35 bbl	Weight to Pull Loose: 110000.0 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	35.65 ft			String Weight: Initial 86000.00 lb
Depth to Top Packer:	4379.00 ft			Final 86000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	65.00 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			4360.00	
Shut In Tool	5.00			4365.00	
Hydraulic tool	5.00			4370.00	
Packer	5.00			4375.00	20.00 Bottom Of Top Packer
Packer	4.00			4379.00	
Stubb	1.00			4380.00	
Recorder	0.00	8675	Inside	4380.00	
Recorder	0.00	8650	Outside	4380.00	
perforations	27.00			4407.00	
Change Over Sub	1.00			4408.00	
Drill Pipe	32.00			4440.00	
Change Over Sub	1.00			4441.00	
Bullnose	3.00			4444.00	65.00 Bottom Packers & Anchor

Total Tool Length: 85.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

4-13s-32w Logan,KS

250 N Water STE 300
Wichita KS 67202

WWWM 'A' #3

Job Ticket: 57278

DST#: 2

ATTN: Tom Funk

Test Start: 2014.10.04 @ 08:22:00

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: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	100% Mud	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0

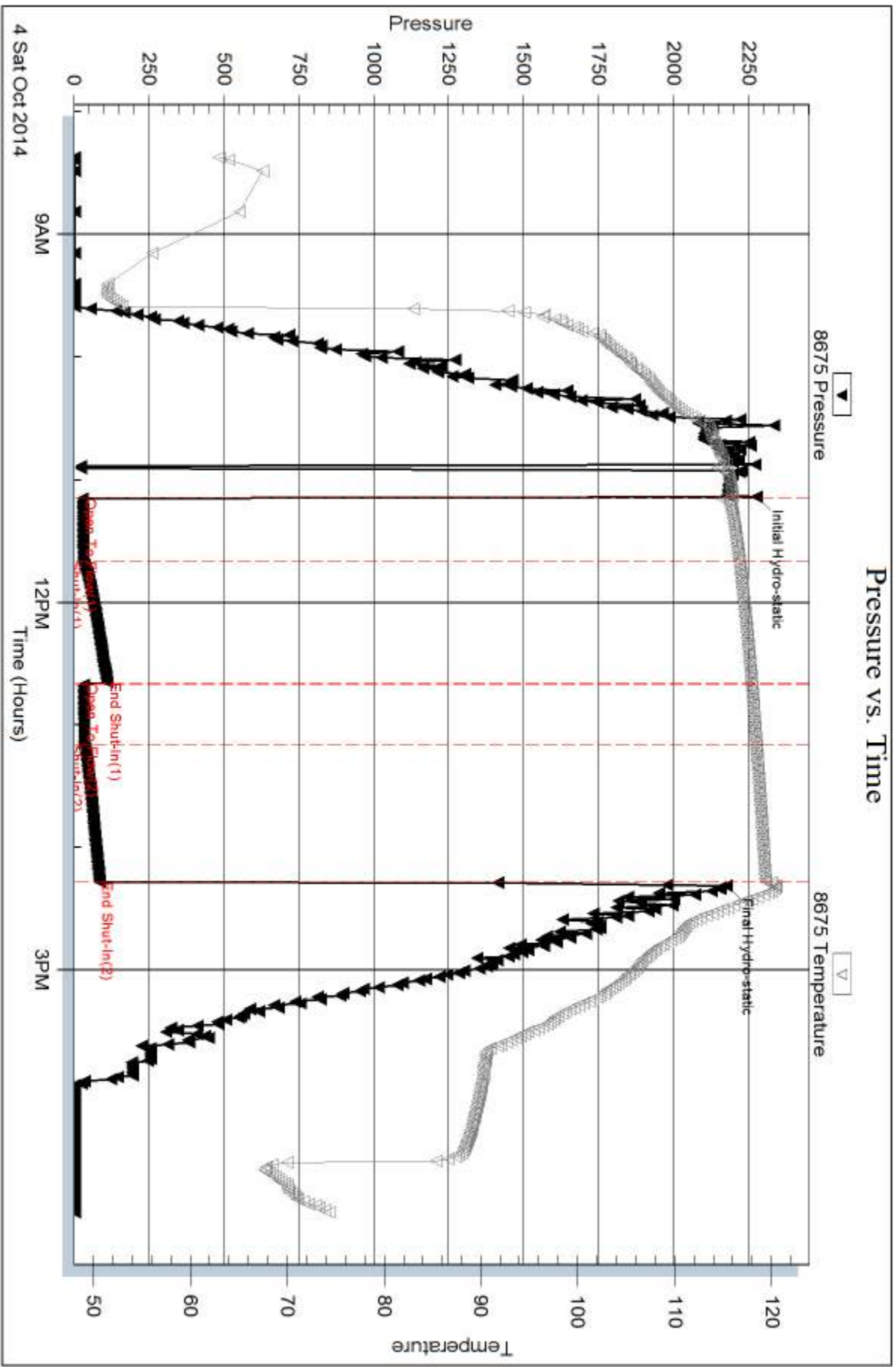
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

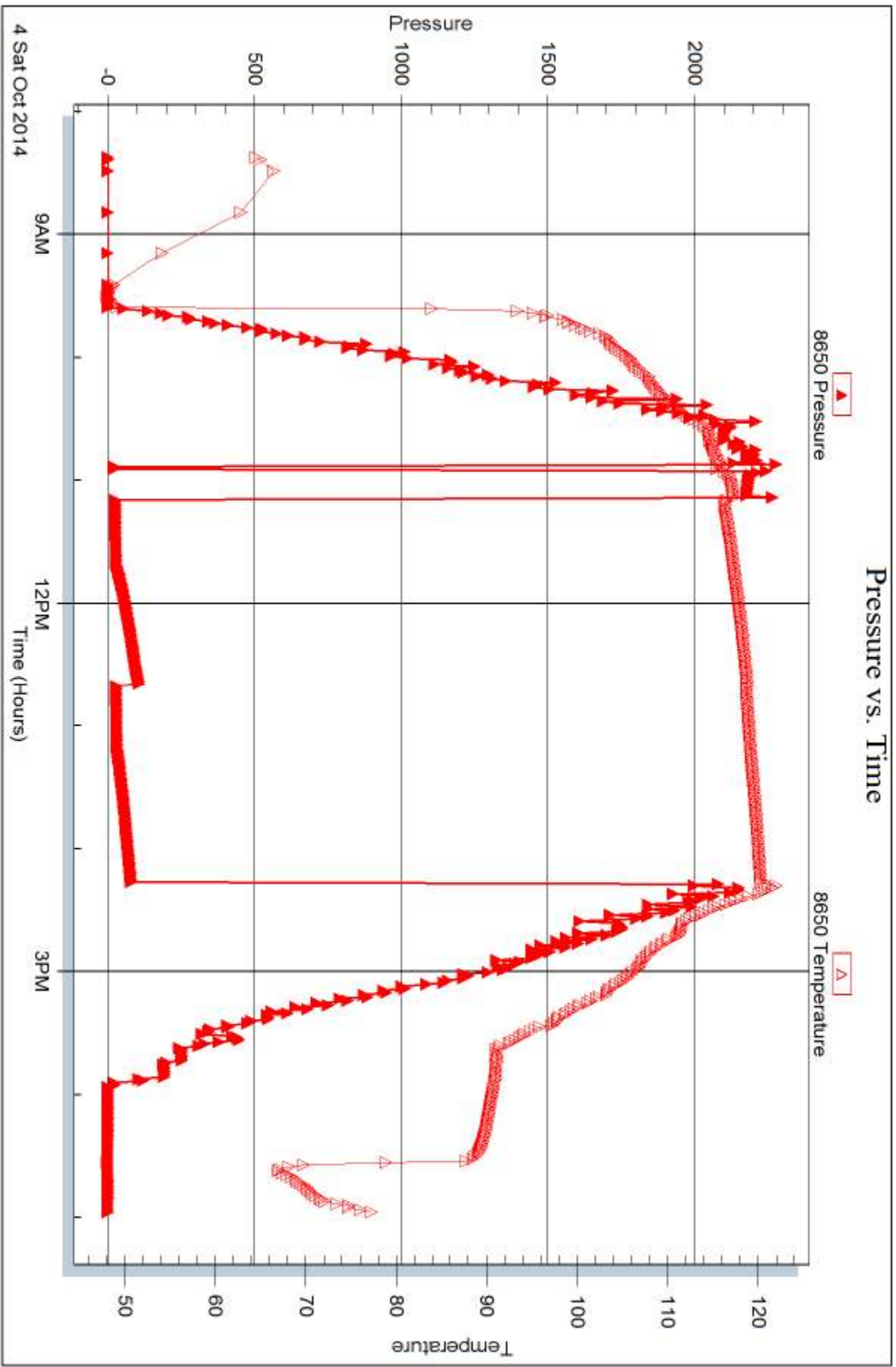


Serial #: 8650

Outside Murfin Drilling Co.

WMMMM'A #3

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 57278

Printed: 2014, 10, 07 @ 16:52:55



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water STE 300
Wichita KS 67202

ATTN: Tom Funk

WWWM 'A' #3

4-13s-32w Logan,KS

Start Date: 2014.10.05 @ 07:52:00

End Date: 2014.10.05 @ 17:53:30

Job Ticket #: 57279 DST #: 3

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

Printed: 2014.10.07 @ 16:52:33

Murfin Drilling Co. 4-13s-32w Logan,KS WWWM 'A' #3 DST # 3 Pawnee - Fort Scott 2014.10.05



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co.
250 N Water STE 300
Wichita KS 67202
ATTN: Tom Funk

4-13s-32w Logan,KS
WWWM 'A' #3
Job Ticket: 57279 **DST#: 3**
Test Start: 2014.10.05 @ 07:52:00

GENERAL INFORMATION:

Formation: **Pawnee - Fort Scott**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 10:10:45
Time Test Ended: 17:53:30
Test Type: Conventional Bottom Hole (Reset)
Tester: Jace McKinney
Unit No: 75
Interval: **4460.00 ft (KB) To 4555.00 ft (KB) (TVD)**
Reference Elevations: 3047.00 ft (KB)
Total Depth: 4555.00 ft (KB) (TVD) 3036.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Poor KB to GR/CF: 11.00 ft

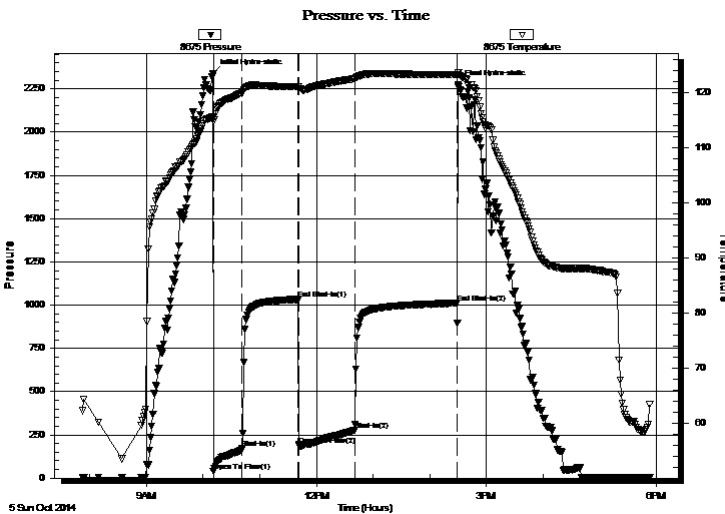
Serial #: 8675

Inside

Press@RunDepth: 275.13 psig @ 4461.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.10.05 End Date: 2014.10.05 Last Calib.: 2014.10.05
Start Time: 07:52:15 End Time: 17:53:30 Time On Btm: 2014.10.05 @ 10:10:30
Time Off Btm: 2014.10.05 @ 14:30:15

TEST COMMENT: B.O.B. in 7 1/2 min.
Bled off for 5 min. Built to 9 1/2" return blow
B.O.B. in 1 1/2 min.
Bled off for 5 min. Built to 10" return blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2339.57	115.66	Initial Hydro-static
1	41.04	114.79	Open To Flow (1)
31	170.60	119.91	Shut-In(1)
91	1032.58	121.08	End Shut-In(1)
91	192.63	120.69	Open To Flow (2)
150	275.13	122.53	Shut-In(2)
259	1011.00	123.24	End Shut-In(2)
260	2272.30	123.68	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
182.00	gw ocm 5%W 10%O 20%G 65%M	0.90
188.00	vgmo 15%M 15%O 70%G	1.79
250.00	gco 30%G 70%O	3.51
0.00	2120 Feet Gas In Pipe	0.00

* 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.

4-13s-32w Logan,KS

250 N Water STE 300
Wichita KS 67202

WWWM 'A' #3

Job Ticket: 57279

DST#: 3

ATTN: Tom Funk

Test Start: 2014.10.05 @ 07:52:00

Tool Information

Drill Pipe:	Length: 4183.00 ft	Diameter: 3.80 inches	Volume: 58.68 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 275.10 ft	Diameter: 2.25 inches	Volume: 1.35 bbl	Weight to Pull Loose:	102000.0 lb
			<u>Total Volume:</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	18.10 ft			String Weight: Initial	78000.00 lb
Depth to Top Packer:	4460.00 ft			Final	82000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	95.00 ft				
Tool Length:	115.00 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			4441.00	
Shut In Tool	5.00			4446.00	
Hydraulic tool	5.00			4451.00	
Packer	5.00			4456.00	20.00 Bottom Of Top Packer
Packer	4.00			4460.00	
Stubb	1.00			4461.00	
Recorder	0.00	8675	Inside	4461.00	
Recorder	0.00	8650	Outside	4461.00	
perforations	26.00			4487.00	
Change Over Sub	1.00			4488.00	
Drill Pipe	63.00			4551.00	
Change Over Sub	1.00			4552.00	
Bullnose	3.00			4555.00	95.00 Bottom Packers & Anchor

Total Tool Length: 115.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

4-13s-32w Logan,KS

250 N Water STE 300
Wichita KS 67202

WWWM 'A' #3

Job Ticket: 57279

DST#: 3

ATTN: Tom Funk

Test Start: 2014.10.05 @ 07:52:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

30 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 66.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
182.00	gw ocm 5%W 10%O 20%G 65%M	0.895
188.00	vgmo 15%M 15%O 70%G	1.789
250.00	gco 30%G 70%O	3.507
0.00	2120 Feet Gas In Pipe	0.000

Total Length: 620.00 ft

Total Volume: 6.191 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

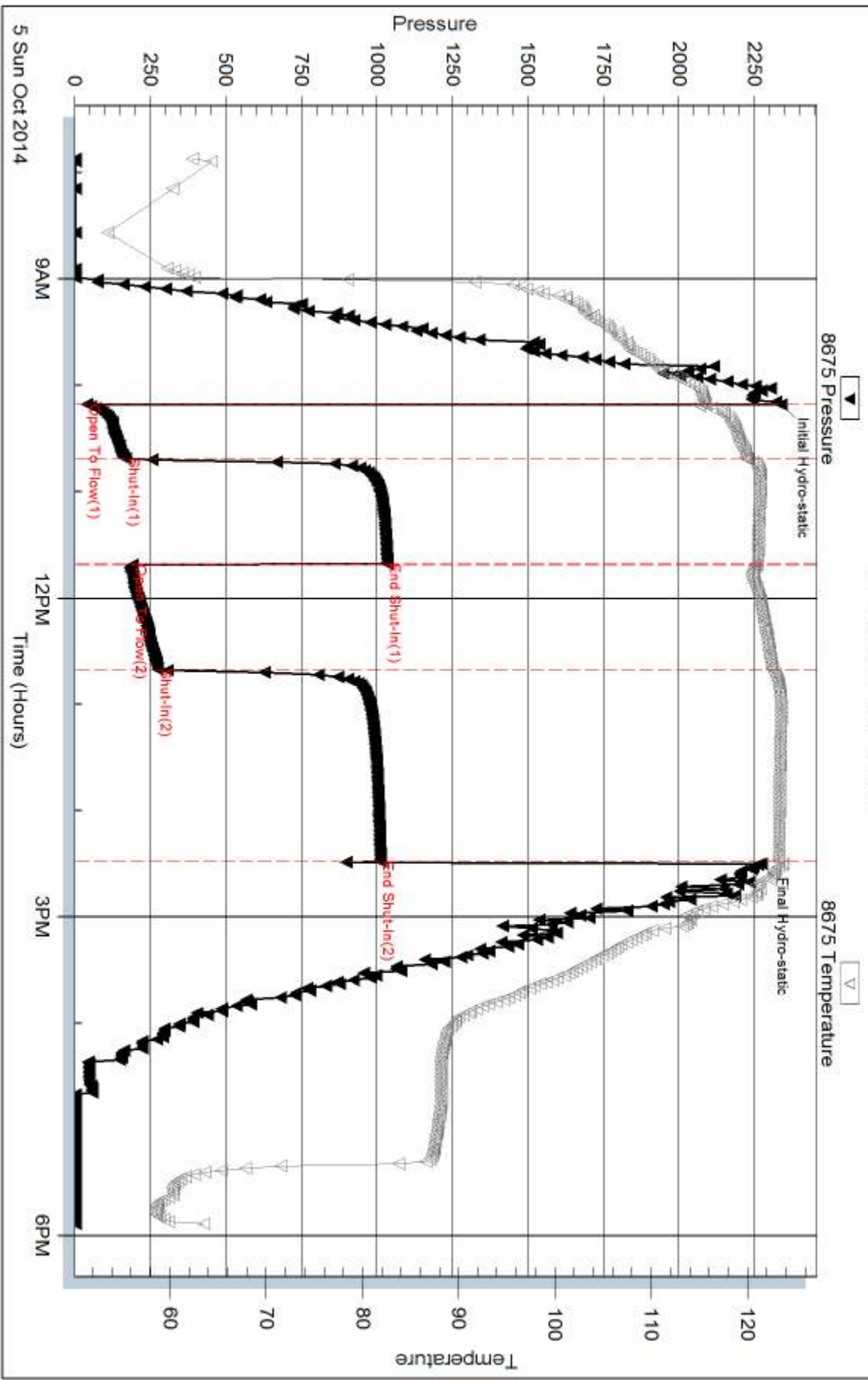
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API: 29 @ 50 F = 30

Pressure vs. Time

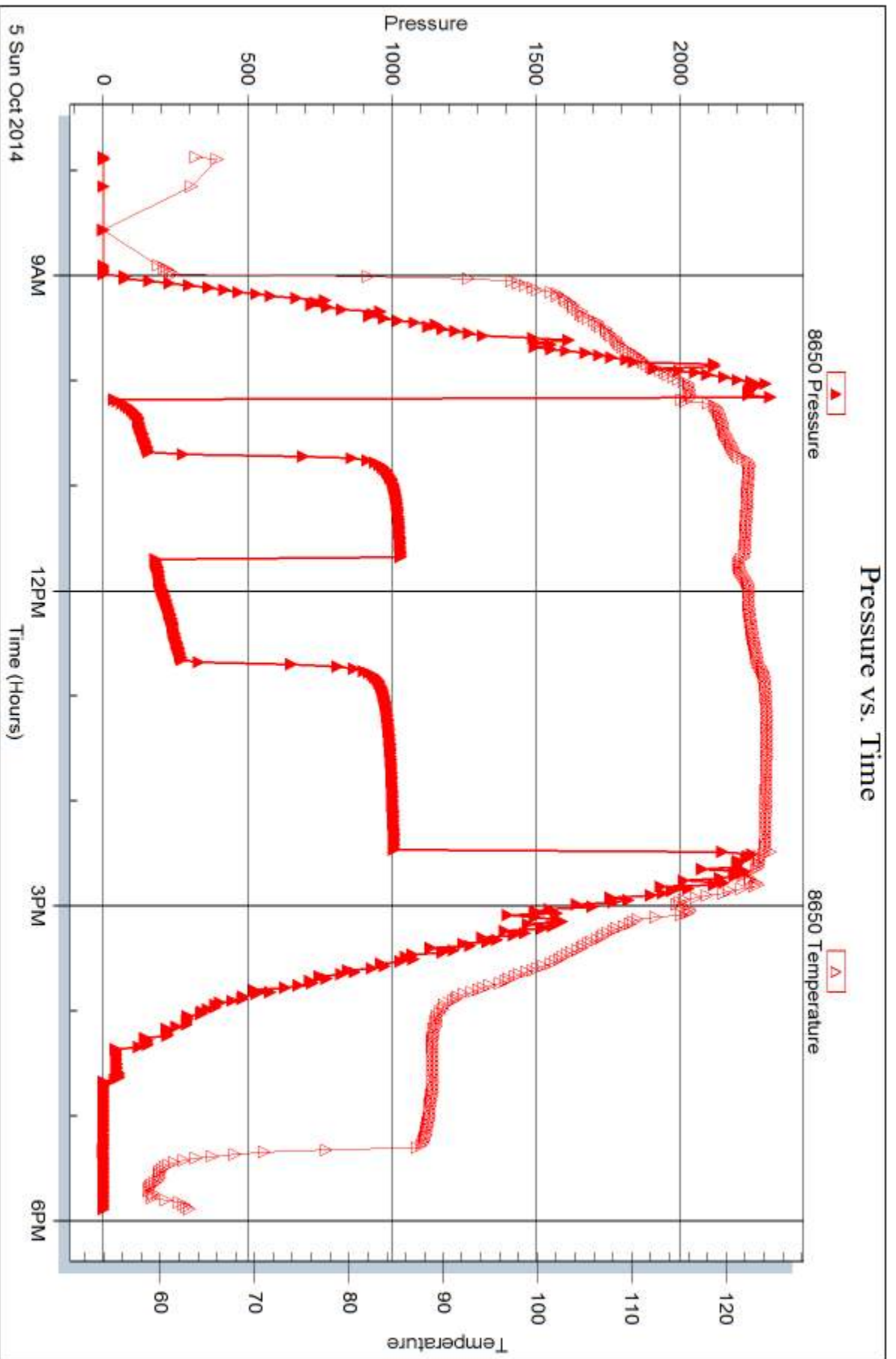


Serial #: 8650

Outside Murfin Drilling Co.

WMMMA #3

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water STE 300
Wichita KS 67202

ATTN: Tom Funk

WWWM 'A' #3

4-13s-32w Logan,KS

Start Date: 2014.10.06 @ 09:40:00

End Date: 2014.10.06 @ 19:07:30

Job Ticket #: 57280 DST #: 4

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

Printed: 2014.10.07 @ 16:51:42



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co.

4-13s-32w Logan,KS

250 N Water STE 300
Wichita KS 67202

WWWM 'A' #3

Job Ticket: 57280

DST#: 4

ATTN: Tom Funk

Test Start: 2014.10.06 @ 09:40:00

GENERAL INFORMATION:

Formation: **Johnson Zone**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:08:45

Time Test Ended: 19:07:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Jace McKinney

Unit No: 75

Interval: 4570.00 ft (KB) To 4620.00 ft (KB) (TVD)

Reference Elevations: 3047.00 ft (KB)

Total Depth: 4620.00 ft (KB) (TVD)

3036.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

Serial #: 8675

Inside

Press@RunDepth: 499.33 psig @ 4571.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.10.06

End Date:

2014.10.06

Last Calib.:

2014.10.06

Start Time: 09:40:15

End Time:

19:07:30

Time On Btm:

2014.10.06 @ 12:08:30

Time Off Btm:

2014.10.06 @ 16:12:00

TEST COMMENT:

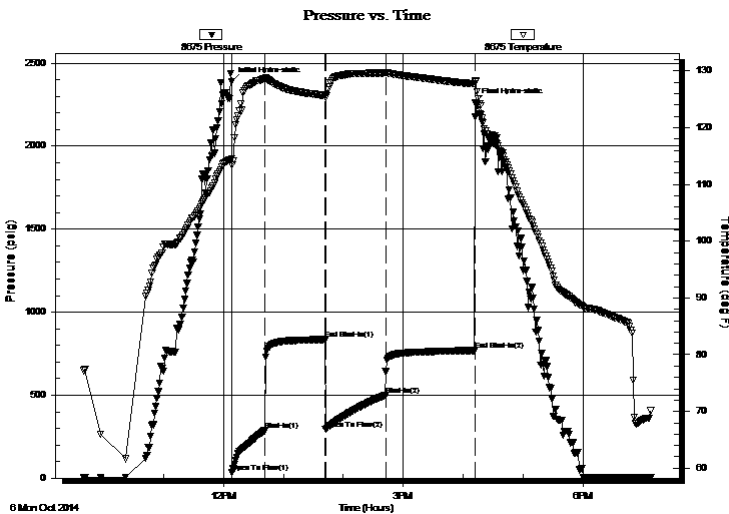
B.O.B. in 8 1/2 min.

Bled off for 5 min. Weak surface return blow

B.O.B. in 12 min.

Bled off for 5 min. Surface return blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2389.33	114.49	Initial Hydro-static
1	35.28	113.43	Open To Flow (1)
33	286.52	128.63	Shut-In(1)
94	835.06	125.66	End Shut-In(1)
94	295.44	125.25	Open To Flow (2)
154	499.33	129.67	Shut-In(2)
243	769.37	127.73	End Shut-In(2)
244	2260.59	128.33	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
275.00	100% Water	1.35
475.00	mcw 20%M 80%W	6.66
300.00	w cm 30%W 70%M	4.21

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

4-13s-32w Logan,KS

250 N Water STE 300
Wichita KS 67202

WWWM 'A' #3

Job Ticket: 57280

DST#: 4

ATTN: Tom Funk

Test Start: 2014.10.06 @ 09:40:00

Tool Information

Drill Pipe:	Length: 4278.24 ft	Diameter: 3.80 inches	Volume: 60.01 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 275.10 ft	Diameter: 2.25 inches	Volume: 1.35 bbl	Weight to Pull Loose: 104000.0 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	3.34 ft			String Weight: Initial 80000.00 lb
Depth to Top Packer:	4570.00 ft			Final 84000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	50.00 ft			
Tool Length:	70.00 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			4551.00	
Shut In Tool	5.00			4556.00	
Hydraulic tool	5.00			4561.00	
Packer	5.00			4566.00	20.00 Bottom Of Top Packer
Packer	4.00			4570.00	
Stubb	1.00			4571.00	
Recorder	0.00	8675	Inside	4571.00	
Recorder	0.00	8650	Outside	4571.00	
perforations	13.00			4584.00	
Change Over Sub	1.00			4585.00	
Drill Pipe	31.00			4616.00	
Change Over Sub	1.00			4617.00	
Bullnose	3.00			4620.00	50.00 Bottom Packers & Anchor

Total Tool Length: 70.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

4-13s-32w Logan,KS

250 N Water STE 300
Wichita KS 67202

WWWM 'A' #3

Job Ticket: 57280

DST#: 4

ATTN: Tom Funk

Test Start: 2014.10.06 @ 09:40:00

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: 61.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3300.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
275.00	100% Water	1.352
475.00	mcw 20%M 80%W	6.662
300.00	w cm 30%W 70%M	4.208

Total Length: 1050.00 ft Total Volume: 12.222 bbl

Num Fluid Samples: 0

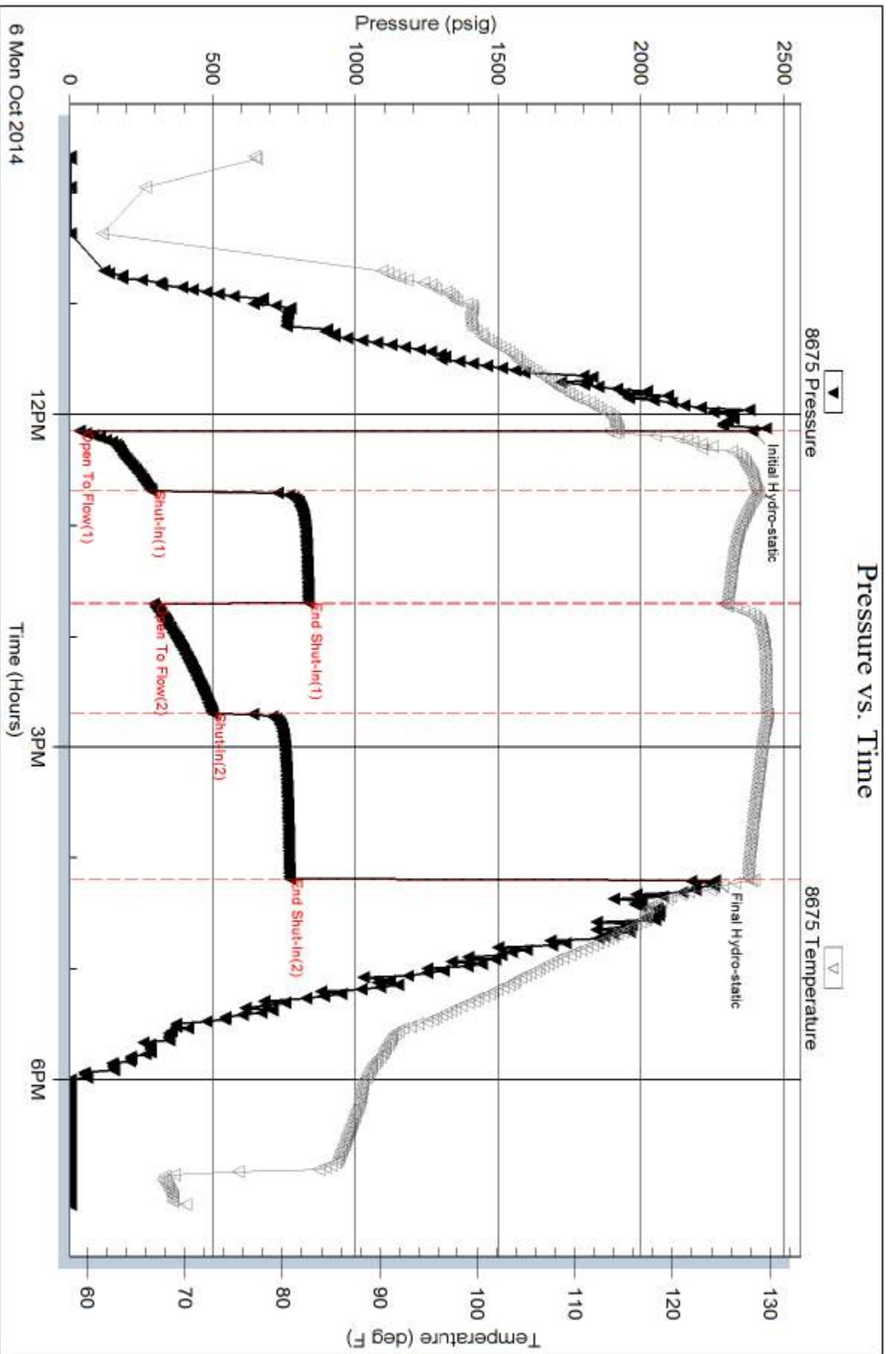
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW: .15 @ 80 F = 40,000

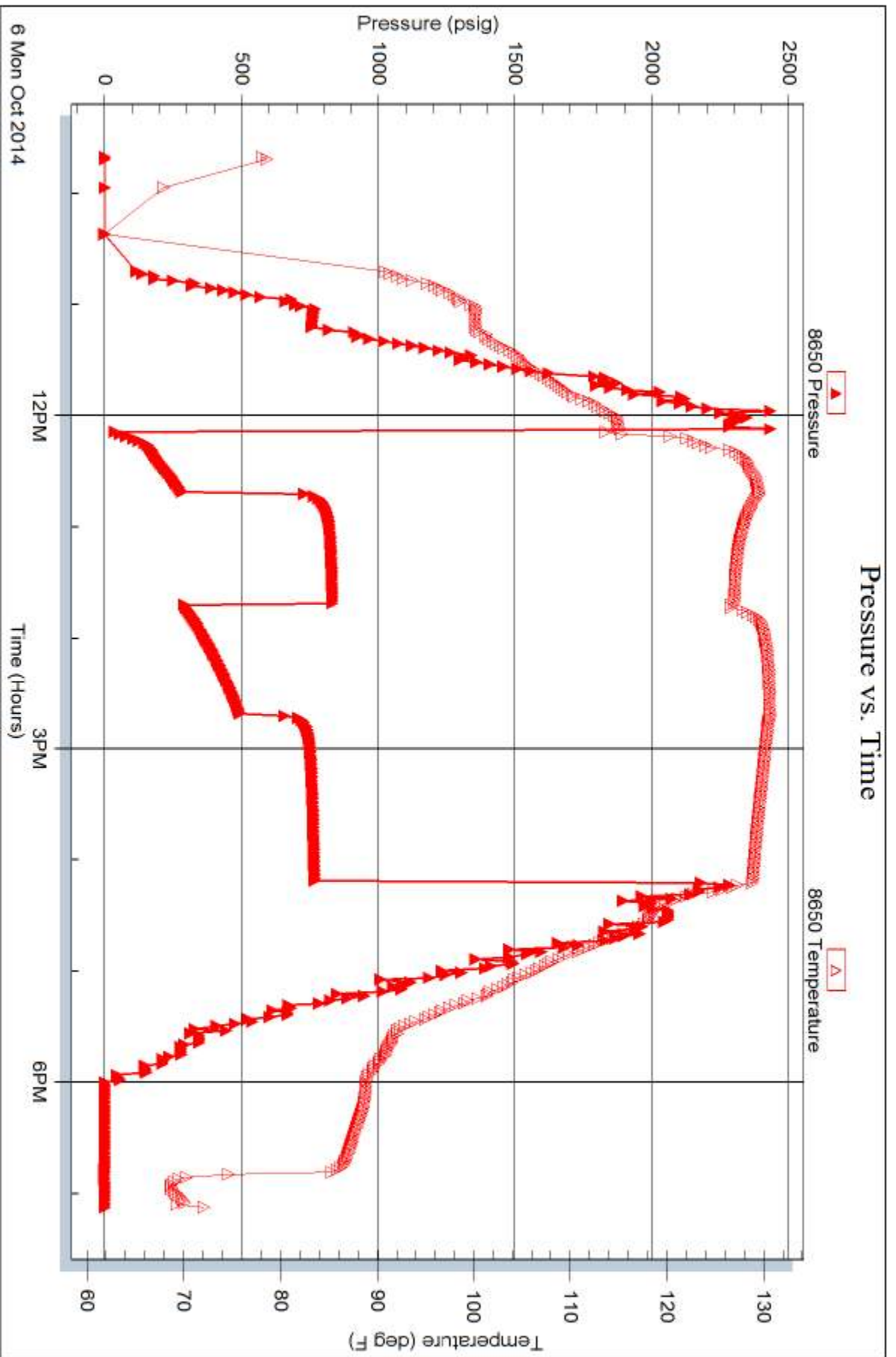


Serial #: 8650

Outside Murfin Drilling Co.

WMMMA #3

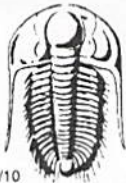
DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 57280

Printed: 2014, 10, 07 @ 16:51:43



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57478

4/10

Well Name & No. #3 WWWW 'A' Test No. 1 Date 10-2-14
 Company Murfin Drilling Co. Elevation 3047 KB 3036 GL
 Address 250 N Water STE 300 Wichita ks 67202
 Co. Rep / Geo. Tom Funk Rig Murfin #4
 Location: Sec. 4 Twp. 13s Rge. 32w Co. Logan State ks

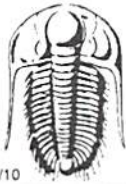
Interval Tested 4112 4145 Zone Tested losing E-F
 Anchor Length 33 Drill Pipe Run 3579.5 Mud Wt. 9.0
 Top Packer Depth 4108 Drill Collars Run 543.5 Vis 54
 Bottom Packer Depth 4112 Wt. Pipe Run Ø WL 7.2
 Total Depth 4145 Chlorides 2200 ppm System LCM 6
 Blow Description 15 B.O.B in 3 min
30 No Return.
30 B.O.B in 3 min
60 No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>clean oil</u>		<u>99</u>		
<u>891</u>	<u>Ø wcm</u>		<u>1</u>	<u>49</u>	<u>50</u>
<u>543</u>	<u>mew</u>			<u>90</u>	<u>10</u>

Rec Total ~~1436~~ 1436 BHT 121 Gravity 20.8 API RW .45 @ 48 °F Chlorides 20000 ppm
 (A) Initial Hydrostatic 2067 Test 1250 T-On Location 13:30
 (B) First Initial Flow 92 Jars _____ T-Started 14:13
 (C) First Final Flow 468 Safety Joint _____ T-Open 17:43
 (D) Initial Shut-In 1079 Circ Sub 50 T-Pulled 19:58
 (E) Second Initial Flow 465 Hourly Standby _____ T-Out 23:33
 (F) Second Final Flow 692 Mileage 76 RT 117.80 Comments _____
 (G) Final Shut-In 1029 Sampler _____
 (H) Final Hydrostatic 1914 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1417.80
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1417.80

Initial Open 15
 Initial Shut-In 30
 Final Flow 30
 Final Shut-In 60
 Approved By [Signature] Our Representative [Signature]

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57278

4/10

Well Name & No. #3 WLOWM "A" Test No. 2 Date 10/4/14
 Company Murkin Drilling Company Elevation 3047 KB 3036 GL
 Address 250 N Water STE 300, Wichita KS, 67202
 Co. Rep / Geo. Tom Funk Rig Murkin Rig 4
 Location: Sec. 4 Twp. 13s Rge. 30w Co. Logan County State KS

Interval Tested 4379-4460 Zone Tested Altamont 'A,B,C'
 Anchor Length 81 Drill Pipe Run 4119. ~~4119~~ Mud Wt. 9.00
 Top Packer Depth 4375 Drill Collars Run 275.10 ~~275.10~~ Vis 54
 Bottom Packer Depth 4379 Wt. Pipe Run WL 60.4
 Total Depth 4460 Chlorides 3,600 ppm System LCM 7 #

Blow Description Surface below
no return below
no below
no return below

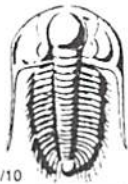
Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 10 BHT 119 Gravity API RW @ F Chlorides ppm
 (A) Initial Hydrostatic 2,277 Test 1250 T-On Location 08:22
 (B) First Initial Flow 29 Jars T-Started 08:22
 (C) First Final Flow 32 Safety Joint T-Open 11:09
 (D) Initial Shut-In 112 Circ Sub w/c T-Pulled 14:09
 (E) Second Initial Flow 34 Hourly Standby +9 hours T-Out 16:58
 (F) Second Final Flow 35 Mileage 76 RT 117.80 Comments
 (G) Final Shut-In 86 Sampler
 (H) Final Hydrostatic 2,177 Straddle Ruined Shale Packer
 Shale Packer Ruined Packer
 Extra Packer Extra Copies

Initial Open 30 Extra Recorder Sub Total 291.67
 Initial Shut-In 60 Day Standby 1d 8.75h Total 1659.47
 Final Flow 30 Accessibility MP/DST Disc't
 Final Shut-In 60 Sub Total 1367.80

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57279

Well Name & No. #3 WWWW 'A' Test No. 3 Date 10/15/14
 Company Martin Drilling Company Elevation 3047 KB 3036 GL
 Address 250 N Water STE 300, Wichita KS 67202
 Co. Rep / Geo. Tom Funk Rig Martin Rig 4
 Location: Sec. H Twp. 13s Rge. 32w Co. Logan County State KS

Interval Tested 4460-4555 Zone Tested Pawnee - Fort Scott
 Anchor Length 95 Drill Pipe Run 4183.00 Mud Wt. 9.3
 Top Packer Depth 4456 Drill Collars Run 276.10 Vis 66
 Bottom Packer Depth 4460 Wt. Pipe Run _____ WL 604
 Total Depth 4555 Chlorides 3,000 ppm System LCM 8#

Blow Description B.O.B. in 7 1/2 min.
Bled off for 5 min. Built to 9 1/2" return below
B.O.B. in 1 1/2 min.

Bled off for 5 min. Built to 10" return below

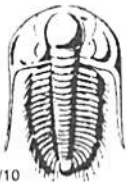
Rec	Feet of	%gas	%oil	%water	%mud
<u>250</u>	<u>2120 Feet Gas In Pipe</u>				
<u>188</u>	<u>600</u>	<u>30</u>	<u>70</u>		
<u>188</u>	<u>MCOG</u>	<u>70</u>	<u>15</u>		<u>15</u>
<u>182</u>	<u>WCOGM</u>	<u>20</u>	<u>10</u>	<u>5</u>	<u>65</u>
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 6220 BHT 123 Gravity 30 API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2,340 Test 1250 T-On Location 07:30
 (B) First Initial Flow 41 Jars T-Started 07:52
 (C) First Final Flow 171 Safety Joint T-Open 10:10
 (D) Initial Shut-In 1,033 Circ Sub N/C T-Pulled 14:10
 (E) Second Initial Flow 193 Hourly Standby 1/2 hour standby T-Out 17:53
 (F) Second Final Flow 275 Mileage 76RT 117.80 Comments _____
 (G) Final Shut-In 1,011 Sampler _____
 (H) Final Hydrostatic 2,273 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1367.80
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1367.80

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57280

4/10

Well Name & No. #3 WWWW 'A' Test No. 4 Date 10/10/14
 Company Martin Drilling Company Elevation 3047 KB 3036 GL
 Address 250 N Water STE 300, Wichita KS, 67202
 Co. Rep / Geo. Tom Frank Rig Martin Rig 4
 Location: Sec. 4 Twp. 13s Rge. 32w Co. Logan County State KS

Interval Tested 4570-4620 Zone Tested Johnson Zone
 Anchor Length 50 Drill Pipe Run 4278.24 Mud Wt. 9.4
 Top Packer Depth 4566 Drill Collars Run 275.10 Vis 60
 Bottom Packer Depth 4570 Wt. Pipe Run _____ WL 7.2
 Total Depth 4620 Chlorides 3,300 ppm System LCM 8#

Blow Description B.O.B. in 8 1/2 min
Bled off for 5 min. weak return below

B.O.B. in 12 min
Bled off for 5 min. surface return below

Rec	Feet of	%gas	%oil	%water	%mud
<u>300</u>	<u>WCM</u>		<u>30</u>	<u>70</u>	
<u>475</u>	<u>MCO</u>		<u>80</u>	<u>20</u>	
<u>275</u>	<u>water</u>		<u>100</u>		
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____

Rec Total 1060 BHT 128 Gravity _____ API RW .15 @ 80 ° F Chlorides 40,000 ppm
 (A) Initial Hydrostatic 2,389 Test 1250 T-On Location 08:35
 (B) First Initial Flow 35 Jars _____ T-Started 09:40
 (C) First Final Flow 287 Safety Joint _____ T-Open 12:08
 (D) Initial Shut-In 835 Circ Sub N/C T-Pulled 16:08
 (E) Second Initial Flow 295 Hourly Standby 1/2 hour standby T-Out 19:07
 (F) Second Final Flow 499 Mileage 76 RT 235.60 Comments _____
 (G) Final Shut-In 969 Sampler _____ loaded tools 10/7 am
 (H) Final Hydrostatic 2,261 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1485.60
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1485.60

Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90

Approved By _____ Our Representative [Signature]

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Thomas J. Funk
 Petroleum Geologist

Geologist's Report
Drilling Time and Sample Log

OPERATOR **Murfin Drilling Co., Inc**

LEASE **WWWM 'A'** WELL NO **#3-4**

FIELD **High Hat** API **15-109-21338**

LOCATION **1650' FSL & 1560' FEL**

SEC. **4** TWP **13S** RGE **32W**

COUNTY **Logan** STATE **Kansas**

CONTRACTOR **Murfin Dring Co** Reg # **4**

COMM **9/29/2014** COMP **10/7/2014**

RTD **9/29/2014** LOG TD **4726'**

SAMPLES SAVED FROM **3670'** TO **4725'**

DRILLING TIME KEPT FROM **3670'** TO **4725'**

SAMPLES EXAMINED FROM **3670'** TO **4725'**

GEOLOGICAL SUPERVISION FROM **3700'** TO **4725'**

MUD UP **3300'** TYPE MUD **Chemical**

FORMATION	LOG	SAMPLE	ELECTRICAL SURVEYS
	TOP DATUM	TOP DATUM	DIL
Anhydrite	2530 (+517)	2529 (+518)	Pioneer Energy Serv
B/Anhydrite	2554 (+493)	2548 (+499)	MEL
Topoka	3771 (-724)	3771 (-724)	DUQP
Heebner Sh	3995 (-948)	3993 (-946)	BHCS
Lansing	4040 (-993)	4039 (-992)	
Munroe Creek	4188 (-1141)	4185 (-1138)	
Stark Sh	4274 (-1227)	4273 (-1226)	
Marmaton	4375 (-1328)	4374 (-1327)	
Pawnee	4470 (-1423)	4471 (-1425)	
Cherokee Sh	4552 (-1505)	4552 (-1505)	
Johnson Zone	4597 (-1550)	4594 (-1547)	
Mississippian	4668 (-1621)	4665 (-1618)	

Date	Drilling Progress	NO. Stret	Make	Type	Origin	Out	Feet	Hours
9/29/14	Spud	1	1 1/4" HTC	GTC-1	220	220	220	3
9/30/14	2885'	2	7 7/8" HTC	DF506	3650	3430	3430	48
10/1/14	3660'	3	7 7/8" HTC	GX20c	4725	1075	1075	65
10/2/14	4115'							
10/3/14	4165'							
10/4/14	4460'							
10/5/14	4555'							
10/6/14	4620'							
10/7/14	4725' TD							

ELEVATION **KB 3047'**

FIELD **DF**

LOCATION **GL 3036'**

SEC. **4** TWP **13S** RGE **32W**

Measurements Are All From **KB**

CASING RECORD

SURFACE **8 5/8" at 220' KB w/1705x**

PRODUCTION **5 1/2" at 4718' KB w/1755x**

DRILLING TIME KEPT FROM **3670'** TO **4725'**

SAMPLES EXAMINED FROM **3670'** TO **4725'**

GEOLOGICAL SUPERVISION FROM **3700'** TO **4725'**

MUD UP **3300'** TYPE MUD **Chemical**

FORMATION

LOG

SAMPLE

ELECTRICAL SURVEYS

DIL

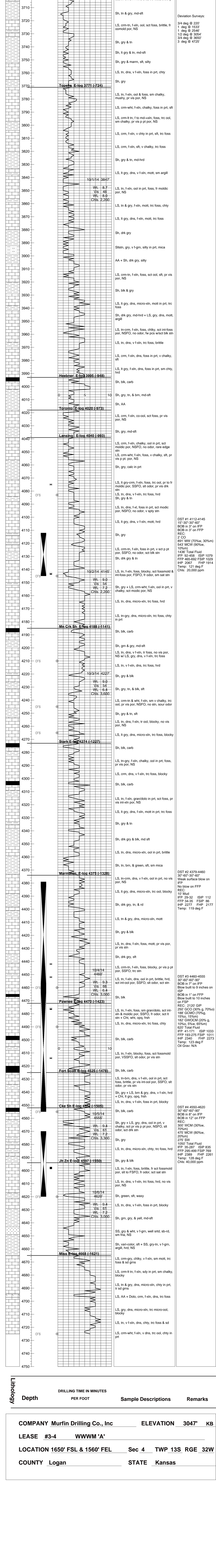
MEL

DUQP

BHCS

Remarks
Based upon log analysis, DST recovery, and sample examination, it was decided to run 5 1/2" casing to further evaluate the #3-4 WWWM 'A'
Thomas Funk Petroleum Geologist

REMARKS AND RECOMMENDATIONS:



COMPANY **Murfin Drilling Co., Inc** ELEVATION **3047'** KB

LEASE **#3-4** WWWW 'A'

LOCATION **1650' FSL & 1560' FEL** Sec **4** TWP **13S** RGE **32W**

COUNTY **Logan** STATE **Kansas**

ALLIED OIL & GAS SERVICES, LLC 063762

Federal Tax I.D. # 20-8651475

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

SERVICE POINT:

Dolly K1

DATE <u>9/28/14</u>	SEC <u>4</u>	TWP <u>13</u>	RANGE <u>32</u>	CALLED OUT	ON LOCATION	JOB START <u>10:30 AM</u>	JOB FINISH <u>11:00 AM</u>
LEASE <u>WUW.M.</u>		WELL# <u>3-4</u>	LOCATION <u>Dolly 11 S 1W 1/2 S</u>			COUNTY # <u>Logan</u>	STATE <u>Ky</u>
OLD OR NEW (Circle one) <u>NEW</u>							

CONTRACTOR Marvin 4

TYPE OF JOB Surface

HOLE SIZE 12 1/4 T.D. 220

CASING SIZE 8 1/2 DEPTH 220

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT

CEMENT LEFT IN CSG. 15'

PERFS.

DISPLACEMENT 13.05

EQUIPMENT

PUMP TRUCK CEMENTER Ma Ryan

443-281 HELPER Kevin Ryan

BULK TRUCK

891 DRIVER Chris (TWC)

BULK TRUCK

DRIVER

OWNER Same

CEMENT AMOUNT ORDERED 120 can 370cc

COMMON 170 5lb @ 17⁰⁰ 3043⁰⁰

POZMIX @

GEL @

CHLORIDE 479 lb @ 1¹⁰ 526⁹⁰

ASC @

Material Total @ 3,369.80

(1249.46 / 352)

HANDLING 128.49 @ 2⁴⁰ 442⁶⁶

MILEAGE 22⁰⁰ / mile 8.25 7.2 271³²

TOTAL

REMARKS:

Per Coy, Circulate, pay cement, Disposal cement

Chris

Cement and Gravel - 5 bbl to P.

Thank You

Ma, Kevin, Chris

CHARGE TO: Marvin

STREET _____

CITY _____ STATE _____ ZIP _____

SERVICE

DEPTH OF JOB 220'

PUMP TRUCK CHARGE 1512²⁵

EXTRA FOOTAGE @

MILEAGE 12 @ 22⁰⁰ 264⁰⁰

MANIFOLD @ 225⁰⁰

672 Vehicle 12 @ 4⁴⁰ 528⁰⁰

(926.35 / 352) TOTAL 2,646.20

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 KELLY WILSON

SIGNATURE Kelly Wilson

SALES TAX (if Any) _____

TOTAL CHARGES 6,216.60

DISCOUNT 2,175.81 (352) IF PAID IN 30 DAYS

4,040.79 Net.



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



Invoice

DATE	INVOICE #
10/7/2014	26815

BILL TO
Murfin Drilling Co Inc
PO Box 661 USED FOR <u>IC 102</u>
Colby, KS 67701-0661
APPROVED <u>[Signature]</u>

- Acidizing
- Cement
- Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#3-4	WWWM A	Logan	Company Tools	Oil	Development	^{Cement} LongString	Nick
PRICE REF.	DESCRIPTION				QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way				80	Miles	6.00	480.00
578D-L	Pump Charge - Long String - 4725 Feet				1	Job	1,500.00	1,500.00
221	Liquid KCL (Clayfix)				4	Gallon(s)	25.00	100.00T
280	Flocheck 21				500	Gallon(s)	3.00	1,500.00T
290	D-Air				3	Gallon(s)	42.00	126.00T
403-5	5 1/2" Cement Basket				2	Each	300.00	600.00T
404-5	5 1/2" Port Collar				1	Each	2,900.00	2,900.00T
406-5	5 1/2" Latch Down Plug & Baffle				1	Each	275.00	275.00T
407-5	5 1/2" Insert Float Shoe With Auto Fill				1	Each	375.00	375.00T
409-5	5 1/2" Turbolizer				15	Each	90.00	1,350.00T
413-5	5 1/2" Roto Wall Scratcher				10	Each	40.00	400.00T
419-5	5 1/2" Rotating Head Rental				1	Each	200.00	200.00T
325	Standard Cement				225	Sacks	14.50	3,262.50T
276	Flocele				50	Lb(s)	2.50	125.00T
283	Salt				1,150	Lb(s)	0.20	230.00T
284	Calseal				11	Sack(s)	35.00	385.00T
285	CFR-1				150	Lb(s)	4.50	675.00T
581D	Service Charge Cement				225	Sacks	2.00	450.00
583D	Drayage				944	Ton Miles	1.00	944.00
	Subtotal							15,877.50
	Sales Tax Logan County						7.65%	956.52
We Appreciate Your Business!							Total	\$16,834.02



Services, Inc.

CHARGE TO: Martin Oly Co. Inc.
 ADDRESS
 CITY, STATE, ZIP CODE

TICKET 26815

PAGE 1 OF 2

SERVICE LOCATIONS

1. Hays, KS WELLPROJECT NO. #3-4 LEASE William A COUNTY/PARISH Logan STATE KS DATE 10-7-14 OWNER Sg. m e

2. Ness City, KS TICKET TYPE SALES CONTRACTOR Co Tools Hq RIG NAME/NO. Location ORDER NO.

3. WELLS TYPE Development WELLS CATEGORY Development JOB PURPOSE Longstring WELLS PERMIT NO.

4. REFERRAL LOCATION INVOICE INSTRUCTIONS

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	LOC	ACCT	DF	DESCRIPTION	QTY.	UM	QTY.	UM	UNIT PRICE	AMOUNT
575		1			MILEAGE #111	80	mi			6.00	480.00
578		1			Pump Charge (Longstring)	1	ea	4725'		1500.00	1500.00
221		1			KCL	4	gal			25.00	100.00
280		1			Flocheck-21	500	gal			3.00	1500.00
290		1			D-Air	3	pa			42.00	126.00
403		1			Baskets	2	pa	5 1/2"		300.00	600.00
404		1			Port Collar	1	pa			2900.00	2900.00
406		1			L.D. Plug & Band P/A	1	pa			275.00	275.00
407		1			Insert Floats Shoe w/ P.D.	1	pa			375.00	375.00
409		1			Turbolizers	15	ea			90.00	1350.00
413		1			Rotawal/ Scratchers	10	ea			40.00	400.00
419		1			Rotating Head	1	ea			200.00	200.00

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

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

DATE SIGNED 10-22-14 TIME SIGNED 0805 A.M. P.M.

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

SURVEY

OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN? YES NO

WE UNDERSTOOD AND MET YOUR NEEDS? YES NO

OUR SERVICE WAS PERFORMED WITHOUT DELAY? YES NO

WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY? YES NO

ARE YOU SATISFIED WITH OUR SERVICE? YES NO

CUSTOMER DID NOT WISH TO RESPOND

PAGE TOTAL 1 9806
 PAGE 2 6071 50
 Subtotal 15,877.50
 TAX 1693.17
 TOTAL 17,570.67

SWIFT OPERATOR [Signature] APPROVAL [Signature]

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.

Thank You!



Services, Inc.

PO Box 466
Ness City, KS 67560
Off: 785-798-2300

TICKET CONTINUATION

TICKET No. 26815

CUSTOMER *Martin Dely Co Inc*

WELL *Wewym #1 #4*

DATE *10-7-14*

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PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			TIME	DESCRIPTION	WELL				UNIT PRICE	AMOUNT	
		LOC	ACCT	DE			QTY	UM	QTY	UM			
325						Standard Cement	225	sks				14.50	3262.50
276						Flocele	50	#	1/4	1/4		2.50	125.00
283						Salt	1150	#	10	1/2		20	230.00
284						Calced	11	sks	5	0		35.00	385.00
285						CFR-1	150	#	3/4	0		4.50	675.00
581						SERVICE CHARGE						2.00	950.00
583						MILEAGE TOTAL WEIGHT CHANGE						1.00	949.00
						LOADED MILES							
						CUBIC FEET							
						TON MILES							
CONTINUATION TOTAL												6071.50	

Depth 4460'. Cut 295'. DT: None. CT: 3¾ hrs. Dev.: None. **DST #2 4379-4460 (Altamont A,B,C):** 30-60-30-60. IF: surf blw. FF: no blw. Rec.: 10'M. HP: 2277-2177. FP: 29/32, 34/35. SIP: 112-86. BHT: 119°.

10/5/14 Depth 4555'. Cut 95'. DT: None. CT: 16¾ hrs. Dev.: None. **DST #3 4460-4555 (Ft. Scott):** 30-60-60-90. IF: BOB in 7½ mins. FF: bled off for 5mins, built to 9 ½" return blw. FF: BOB in 1½ min. ISI: Bled off for 5mins. built to 10" return blw. Rec.: 2120'GIP, 250'GCO (30%G, 70%O), 188'MCOG (15%M, 15%O, 70%M), 182'WCOGM (5%W, 10%O, 20%G, 65%M). HP: 2340-2272. FP: 41/171, 193/275. SIP: 1033-1011. BHT: 123°.

10/6/14 Depth 4620'. Cut 65'. DT: None. CT: 19hrs, (4hrs hull sack sucked out of DC handling sub when dumping fluid sucked into DC went down DC & plugged bit). Dev.: None. **Pawnee:** LS, tn, foss, gran/dolo in prt, sm chty, fr moldic por, ssfo, fr odr, stn. **Lwr Pawnee:** LS, crm-tn, f to md-xln, foss, v sct moldic por, ssfo, slt to fr odr, rare sat stn. **Ft Scott:** LS, tn-brn, v f-xln, micro-ool in prt, v sct int-ool por, vssfo, slt odr, pr vis stn. **Johnson:** LS, tn & gry, f-xln, foss, brittle, sct fossmold por, ssfo, fr odr, rare sat stn. **DST #4 4570-4620 (Johnson Zn):**

10/7/14 RTD: 4725'. Cut 105'. DT: None. CT: 14¾ hrs. Dev.: None. **DST #4 4570-4620 (Johnson Zn):** 30-60-60-90. IF: BOB in 8½ mins. ISI: bled off for 5min, wk surf return blw. FF: BOB 12mins. FSI: bled off for 5mins, surf return blw. Rec.: 275'W, 475'MCW (20%M, 80%W), 300'WCM (30%W, 70%M). HP: 2389-2261. FP: 35/287, 295/499. SIP: 835-769. BHT: 128°. HC @ 7:00AM 10/7.

10/8/14 RTD: 4725'. CT: 24hrs. Dev.: 3° @ 4725'. Pioneer logged 10:30AM - 3:30PM 10/7. LTD: 4726'. Ran 111jts of 5 ½" prod csg, set @ 4718'. PC @ 2534'.

10/9/14 RTD: 4725. CT: 5½ hrs. Swift cmt w/175sxs EA-2. PD @ 8:30AM 10/8. 30sxs RH, 20sxs MH. RR @ 12:30PM 10/8. FINAL REPORT.

WWWM 'A' #3-4 1650' FSL 1560' FEL Sec. 4-T13S-R32W 3047' KB							WWWM #2-4 1735' FSL 660' FEL Sec. 4-T13S-R32W 3051' KB	
Formation	sample tops	Datum	Ref	Log Tops	Datum	Ref	Log Tops	Datum
Anhydrite	2529	+518	+1	2530	+517	Flat	2534	+517
B/Anhydrite	2548	+499	+5	2554	+493	+987	2557	+494
Topeka	3771	-724	-3	3771	-724	-3	3772	-721
Heebner	3993	-946	-3	3995	-948	-5	3994	-943
Toronto	4018	-971	-2	4020	-973	-4	4020	-969
Lansing	4039	-992	-4	4040	-993	-5	4039	-988
Stark	4273	-1226	-5	4273	-1226	-5	4272	-1221
Pawnee	4472	-1425	-3	4470	-1423	-1	4473	-1422
Fort Scott	4525	-1478	-1	4525	-1478	-1	4528	-1477
Cherokee	4552	-1505	-1	4552	-1505	-1	4555	-1504
Johnson	4594	-1547	-1	4597	-1550	-4	4597	-1546
Mississippi	4665	-1618	-18	4669	-1622	-22	4651	-1600
RTD	4725						4780	-1729
LTD				4726	-1679		4782	-1731