

TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water STE 300
Wichita KS 67202

ATTN: Jeff Christian

Culwell D #1-30

30-1s-36w Rawlins,KS

Start Date: 2013.02.06 @ 20:18:00

End Date: 2013.02.07 @ 03:58:45

Job Ticket #: 49014 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.02.19 @ 09:56:30

Murfin Drilling Co Inc
30-1s-36w Rawlins,KS
Culwell D #1-30
DST # 1
Oread
2013.02.06



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
250 N Water STE 300
Wichita KS 67202
ATTN: Jeff Christian

30-1s-36w Rawlins, KS
Culwell D #1-30
Job Ticket: 49014 **DST#: 1**
Test Start: 2013.02.06 @ 20:18:00

GENERAL INFORMATION:

Formation: **Oread**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 23:20:15
Time Test Ended: 03:58:45
Interval: **4074.00 ft (KB) To 4150.00 ft (KB) (TVD)**
Total Depth: 4150.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Initial)
Tester: Wilbur Steinbeck
Unit No: 150
Reference Elevations: 3285.00 ft (KB)
3275.00 ft (CF)
KB to GR/CF: 10.00 ft

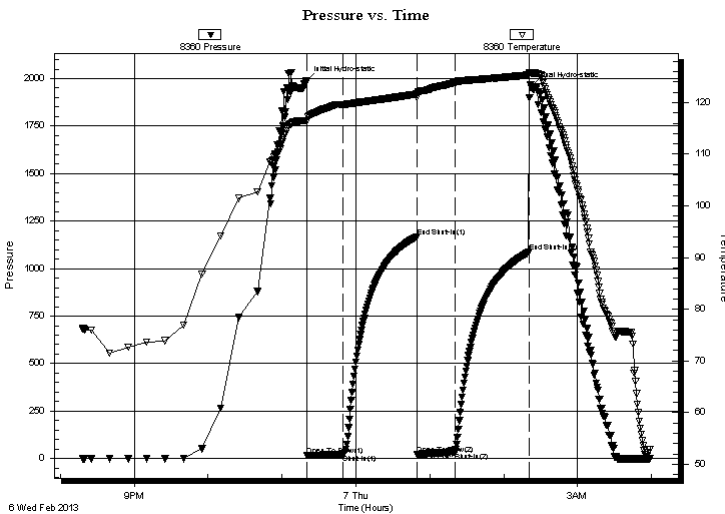
Serial #: 8360

Inside

Press @ Run Depth: 31.68 psig @ 4075.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2013.02.06 End Date: 2013.02.07 Last Calib.: 2013.02.07
Start Time: 20:18:05 End Time: 03:58:44 Time On Btm: 2013.02.06 @ 23:19:45
Time Off Btm: 2013.02.07 @ 02:22:15

TEST COMMENT: 30 IF; Surface Blow died in 5 min
60 IS; No Blow
30 FF; No Blow
60 FS; No Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1988.59	116.52	Initial Hydro-static
1	16.72	116.40	Open To Flow (1)
30	20.03	119.63	Shut-In(1)
90	1166.82	121.64	End Shut-In(1)
90	22.36	121.57	Open To Flow (2)
121	31.68	123.90	Shut-In(2)
181	1086.03	125.34	End Shut-In(2)
183	1955.16	125.72	Final Hydro-static

Recovery

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

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
250 N Water STE 300
Wichita KS 67202
ATTN: Jeff Christian

30-1s-36w Rawlins,KS

Culwell D #1-30

Job Ticket: 49014 **DST#: 1**
Test Start: 2013.02.06 @ 20:18:00

GENERAL INFORMATION:

Formation: **Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:20:15

Time Test Ended: 03:58:45

Test Type: Conventional Bottom Hole (Initial)

Tester: Wilbur Steinbeck

Unit No: 150

Interval: 4074.00 ft (KB) To 4150.00 ft (KB) (TVD)

Reference Elevations: 3285.00 ft (KB)

Total Depth: 4150.00 ft (KB) (TVD)

3275.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8353 Outside

Press @RunDepth: psig @ 4075.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.06 End Date: 2013.02.07

Last Calib.: 1899.12.30

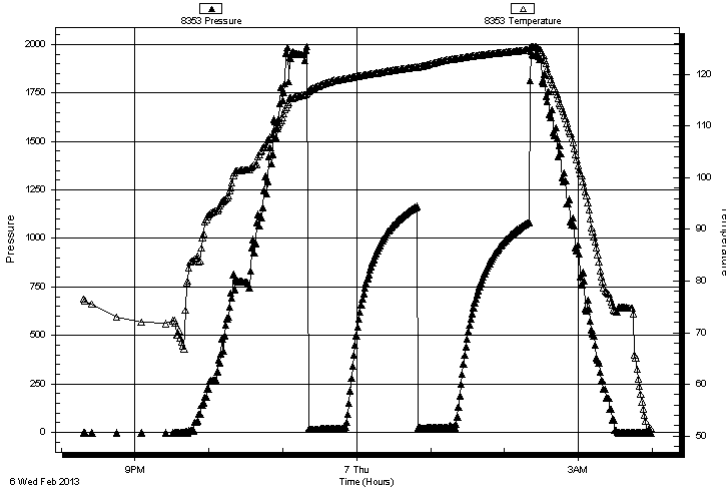
Start Time: 20:18:15 End Time: 03:58:45

Time On Btm:

Time Off Btm:

TEST COMMENT: 30 IF; Surface Blow died in 5 min
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	Mud	0.02

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co Inc
250 N Water STE 300
Wichita KS 67202
ATTN: Jeff Christian

30-1s-36w Rawlins,KS
Culwell D #1-30
Job Ticket: 49014 **DST#: 1**
Test Start: 2013.02.06 @ 20:18:00

Tool Information

Drill Pipe:	Length: 3521.00 ft	Diameter: 3.80 inches	Volume: 49.39 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 534.00 ft	Diameter: 2.25 inches	Volume: 2.63 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 52.02 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4074.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	76.00 ft			
Tool Length:	103.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			4048.00	
Shut In Tool	5.00			4053.00	
Hydraulic tool	5.00			4058.00	
Jars	5.00			4063.00	
Safety Joint	2.00			4065.00	
Packer	5.00			4070.00	27.00 Bottom Of Top Packer
Packer	4.00			4074.00	
Stubb	1.00			4075.00	
Recorder	0.00	8360	Inside	4075.00	
Recorder	0.00	8353	Outside	4075.00	
Perforations	5.00			4080.00	
Change Over Sub	1.00			4081.00	
Drill Pipe	64.00			4145.00	
Change Over Sub	1.00			4146.00	
Bullnose	4.00			4150.00	76.00 Bottom Packers & Anchor

Total Tool Length: 103.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc
250 N Water STE 300
Wichita KS 67202
ATTN: Jeff Christian

30-1s-36w Rawlins,KS
Culwell D #1-30
Job Ticket: 49014 **DST#: 1**
Test Start: 2013.02.06 @ 20:18:00

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: 59.00 sec/qt	Cushion Volume: bbl		
Water Loss: 4.78 in ³	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	Mud	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

Serial #: 8360

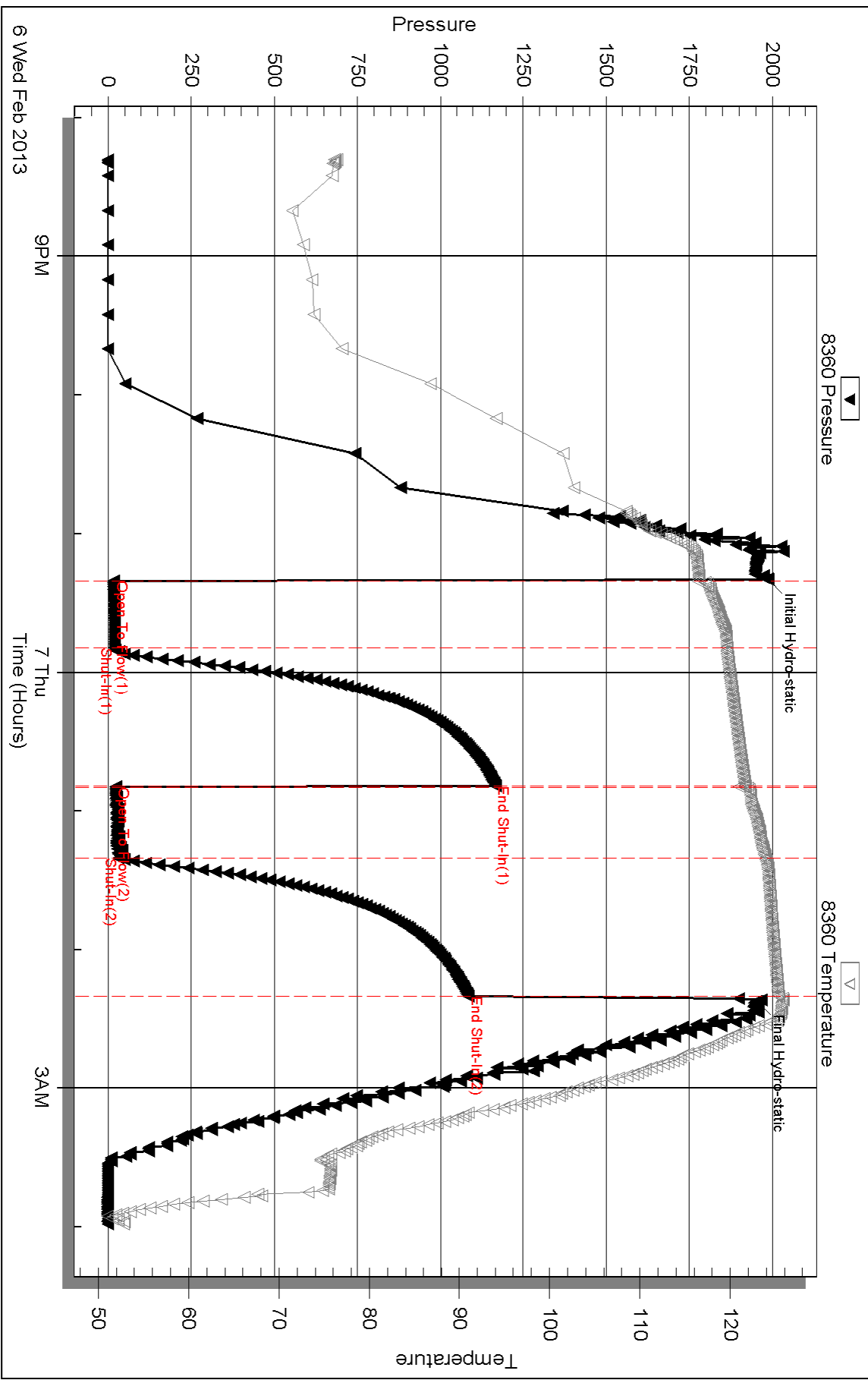
Inside

Murfin Drilling Co Inc

Oilwell D#1-30

DST Test Number: 1

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 49014

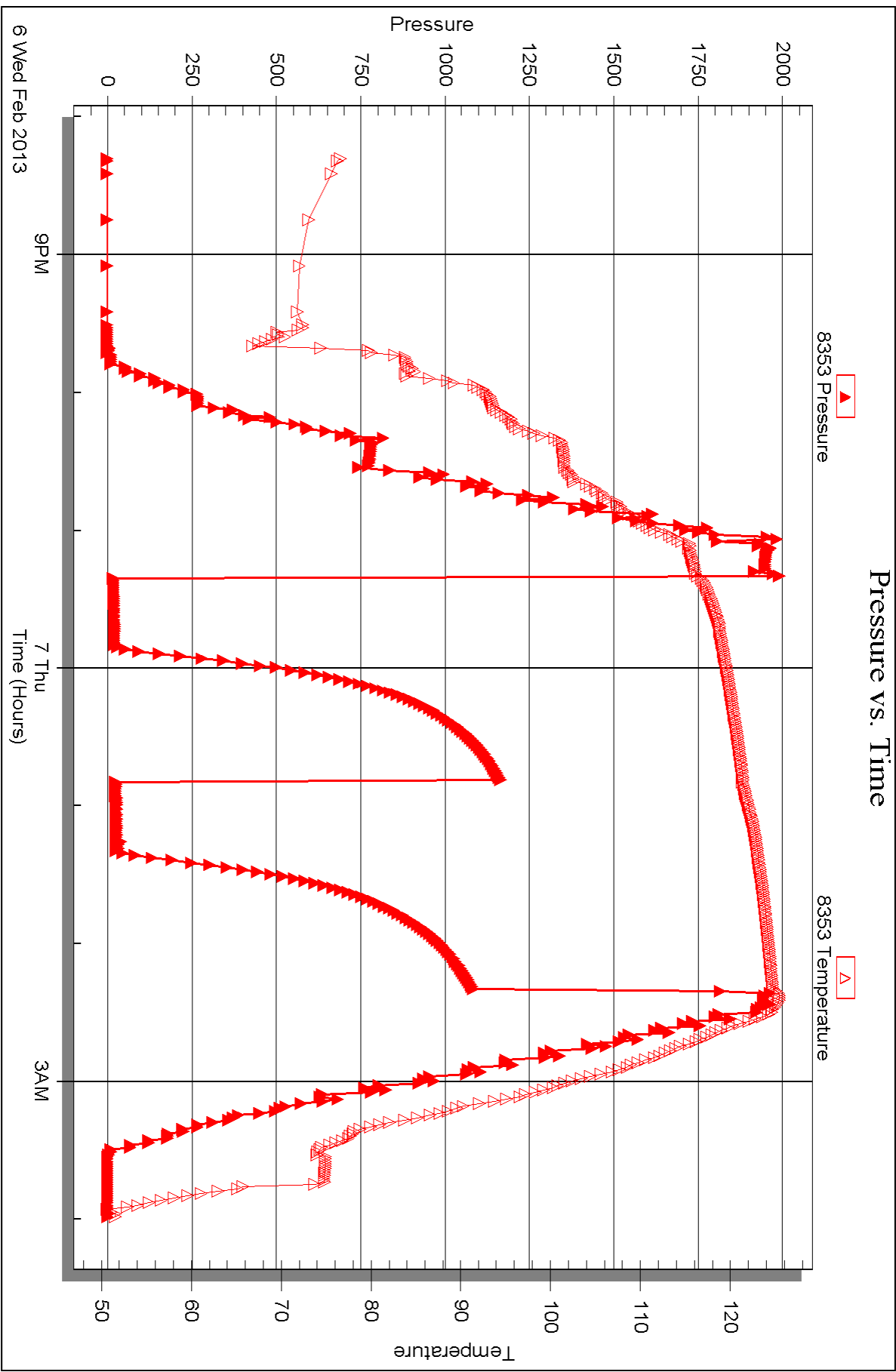
Printed: 2013.02.19 @ 09:56:33

Serial #: 8353

Outside Murfin Drilling Co Inc

Oilwell D#1-30

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water STE 300
Wichita KS 67202

ATTN: Jeff Christian

Culwell D #1-30

30-1s-36w Rawlins,KS

Start Date: 2013.02.07 @ 14:40:00

End Date: 2013.02.07 @ 22:23:30

Job Ticket #: 49015 DST #: 2

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

Printed: 2013.02.19 @ 09:55:33

Murfin Drilling Co Inc
30-1s-36w Rawlins,KS
Culwell D #1-30
DST # 2
LKC A
2013.02.07



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
250 N Water STE 300
Wichita KS 67202
ATTN: Jeff Christian

30-1s-36w Rawlins,KS

Culwell D #1-30

Job Ticket: 49015

DST#: 2

Test Start: 2013.02.07 @ 14:40:00

GENERAL INFORMATION:

Formation: **LKC A**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 17:15:15
 Time Test Ended: 22:23:30
 Interval: **4177.00 ft (KB) To 4252.00 ft (KB) (TVD)**
 Total Depth: 4252.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Wilbur Steinbeck
 Unit No: 150
 Reference Elevations: 3285.00 ft (KB)
 3275.00 ft (CF)
 KB to GR/CF: 10.00 ft

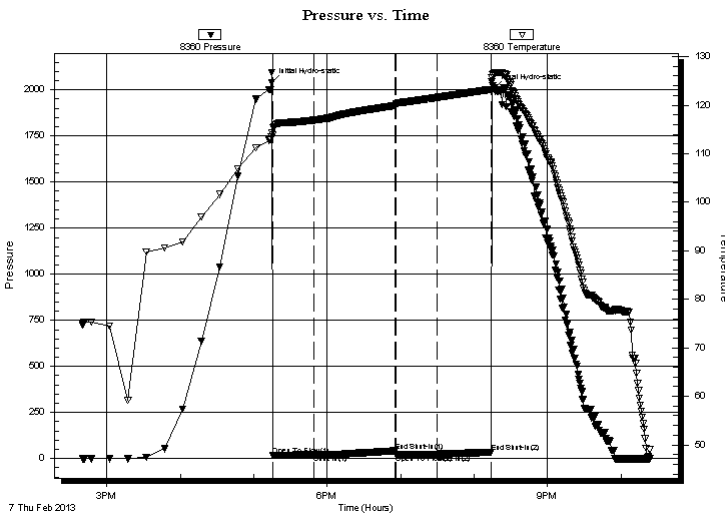
Serial #: 8360

Inside

Press @ Run Depth: 24.37 psig @ 4178.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.02.07 End Date: 2013.02.07 Last Calib.: 2013.02.07
 Start Time: 14:40:05 End Time: 22:23:29 Time On Btm: 2013.02.07 @ 17:14:45
 Time Off Btm: 2013.02.07 @ 20:16:15

TEST COMMENT: 30 IF; Surface Blow Died In 25 Min
 60 IS; No Blow
 30 FF; No Blow
 60 FS; No Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2038.34	114.20	Initial Hydro-static
1	16.78	113.78	Open To Flow (1)
35	20.33	116.90	Shut-In(1)
101	41.86	119.91	End Shut-In(1)
101	21.67	119.94	Open To Flow (2)
135	24.37	121.57	Shut-In(2)
179	34.59	123.22	End Shut-In(2)
182	2008.07	126.45	Final Hydro-static

Recovery

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

* Recovery from multiple tests

Gas Rates

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



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DRILL STEM TEST REPORT

Murfin Drilling Co Inc
 250 N Water STE 300
 Wichita KS 67202
 ATTN: Jeff Christian

30-1s-36w Rawlins,KS
Culwell D #1-30
 Job Ticket: 49015 **DST#: 2**
 Test Start: 2013.02.07 @ 14:40:00

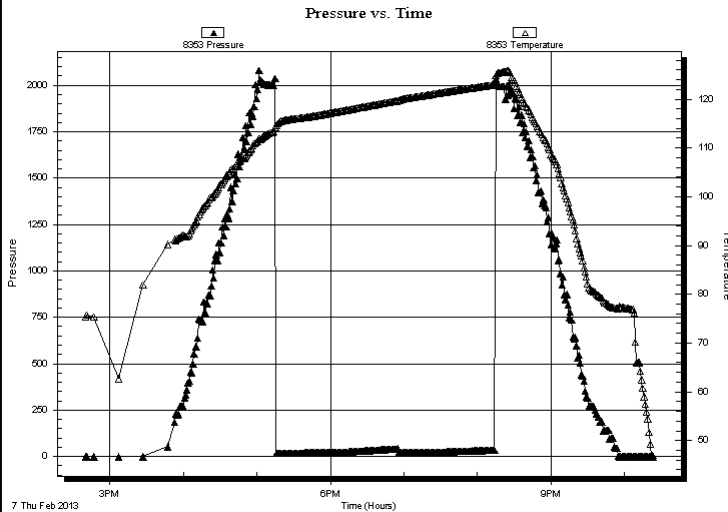
GENERAL INFORMATION:

Formation: **LKC A**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 17:15:15
 Time Test Ended: 22:23:30
 Interval: **4177.00 ft (KB) To 4252.00 ft (KB) (TVD)**
 Total Depth: 4252.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole (Reset)
 Tester: Wilbur Steinbeck
 Unit No: 150
 Reference Elevations: 3285.00 ft (KB)
 3275.00 ft (CF)
 KB to GR/CF: 10.00 ft

Serial #: 8353 **Outside**
 Press @ Run Depth: psig @ 4178.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.02.07 End Date: 2013.02.07 Last Calib.: 2013.02.07
 Start Time: 14:40:15 End Time: 22:23:30 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30 IF; Surface Blow Died In 25 Min
 60 IS; No Blow
 30 FF; No Blow
 60 FS; No Blow



PRESSURE SUMMARY

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

Recovery

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

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co Inc

30-1s-36w Rawlins,KS

250 N Water STE 300
Wichita KS 67202

Culwell D #1-30

Job Ticket: 49015

DST#: 2

ATTN: Jeff Christian

Test Start: 2013.02.07 @ 14:40:00

Tool Information

Drill Pipe:	Length: 3647.00 ft	Diameter: 3.80 inches	Volume: 51.16 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 534.00 ft	Diameter: 2.25 inches	Volume: 2.63 bbl	Weight to Pull Loose:	lb
			<u>Total Volume: 53.79 bbl</u>	Tool Chased	2.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial	72000.00 lb
Depth to Top Packer:	4177.00 ft			Final	lb
Depth to Bottom Packer:	ft				
Interval between Packers:	75.00 ft				
Tool Length:	102.00 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			4151.00	
Shut In Tool	5.00			4156.00	
Hydraulic tool	5.00			4161.00	
Jars	5.00			4166.00	
Safety Joint	2.00			4168.00	
Packer	5.00			4173.00	27.00 Bottom Of Top Packer
Packer	4.00			4177.00	
Stubb	1.00			4178.00	
Recorder	0.00	8360	Inside	4178.00	
Recorder	0.00	8353	Outside	4178.00	
Perforations	5.00			4183.00	
Change Over Sub	1.00			4184.00	
Drill Pipe	63.00			4247.00	
Change Over Sub	1.00			4248.00	
Bullnose	4.00			4252.00	75.00 Bottom Packers & Anchor

Total Tool Length: 102.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc
250 N Water STE 300
Wichita KS 67202
ATTN: Jeff Christian

30-1s-36w Rawlins,KS
Culwell D #1-30
Job Ticket: 49015 **DST#: 2**
Test Start: 2013.02.07 @ 14:40:00

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: 50.00 sec/qt	Cushion Volume: bbl		
Water Loss: 5.78 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 600.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

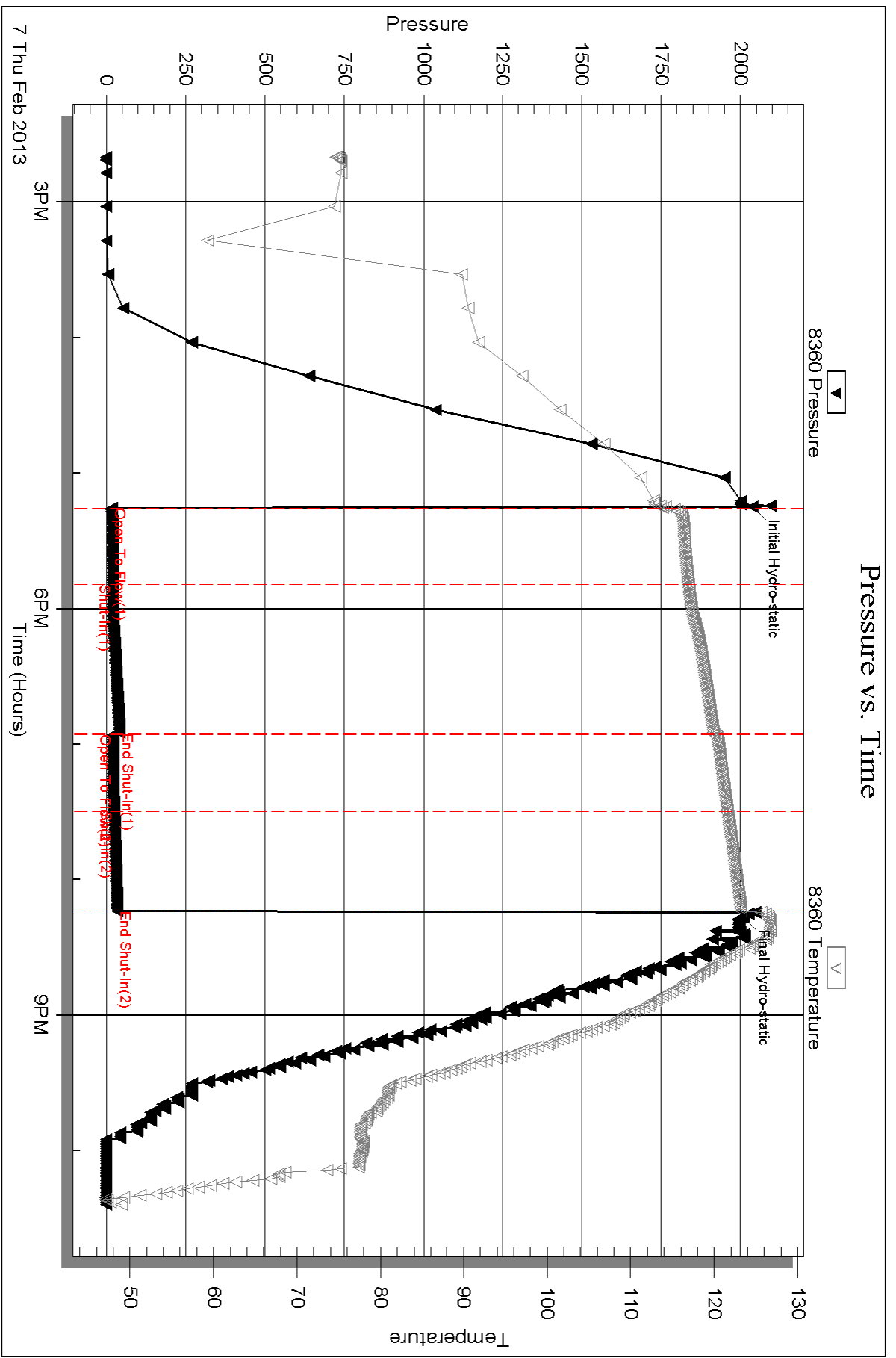
Serial #: 8360

Inside

Murfin Drilling Co Inc

Oilwell D#1-30

DST Test Number: 2

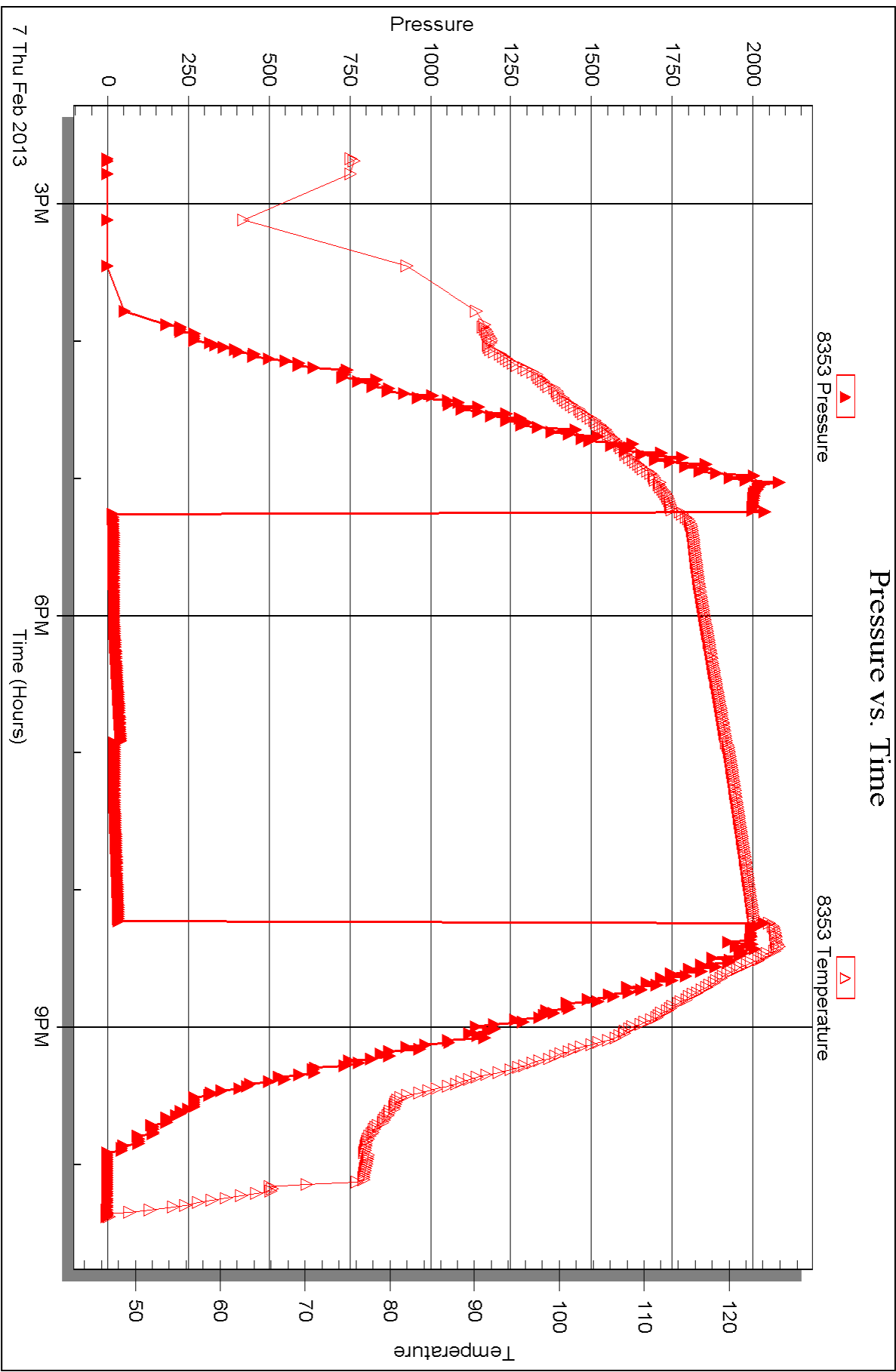


Serial #: 8353

Outside Murfin Drilling Co Inc

Oilwell D#1-30

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water STE 300
Wichita KS 67202

ATTN: Jeff Christian

Culwell D #1-30

30-1s-36w Rawlins,KS

Start Date: 2013.02.08 @ 06:10:00

End Date: 2013.02.08 @ 14:36:15

Job Ticket #: 49016 DST #: 3

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

Printed: 2013.02.19 @ 09:54:56



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
 250 N Water STE 300
 Wichita KS 67202
 ATTN: Jeff Christian

30-1s-36w Rawlins, KS

Culwell D #1-30

Job Ticket: 49016

DST#: 3

Test Start: 2013.02.08 @ 06:10:00

GENERAL INFORMATION:

Formation: **LKC D**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 08:43:00
 Time Test Ended: 14:36:15
 Interval: **4234.00 ft (KB) To 4290.00 ft (KB) (TVD)**
 Total Depth: 4290.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Wilbur Steinbeck
 Unit No: 150
 Reference Elevations: 3285.00 ft (KB)
 3275.00 ft (CF)
 KB to GR/CF: 10.00 ft

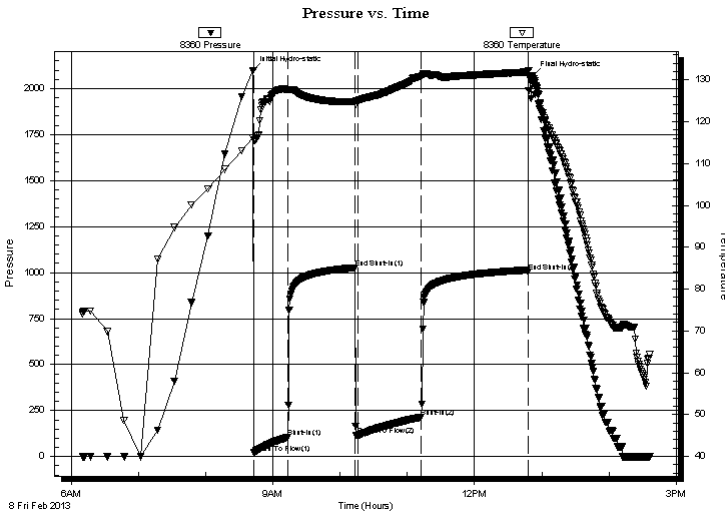
Serial #: 8360

Inside

Press @ Run Depth: 214.56 psig @ 4235.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.02.08 End Date: 2013.02.08 Last Calib.: 2013.02.08
 Start Time: 06:10:05 End Time: 14:36:14 Time On Btm: 2013.02.08 @ 08:42:15
 Time Off Btm: 2013.02.08 @ 12:52:00

TEST COMMENT: 30 IF; Built to 8"
 60 IS; Surface Blow
 60 FF; Built to 9"
 90 FS; Surface Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2098.40	116.23	Initial Hydro-static
1	20.87	115.56	Open To Flow (1)
31	105.14	127.61	Shut-In(1)
91	1026.37	124.77	End Shut-In(1)
94	116.79	125.08	Open To Flow (2)
150	214.56	130.81	Shut-In(2)
246	1004.83	131.89	End Shut-In(2)
250	2069.65	129.01	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
96.00	OSWCM 1%O 4%W 95%M	0.47
319.00	OSM 1%O 99%M	1.57

* 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: Jeff Christian

30-1s-36w Rawlins, KS
Culwell D #1-30
 Job Ticket: 49016 **DST#: 3**
 Test Start: 2013.02.08 @ 06:10:00

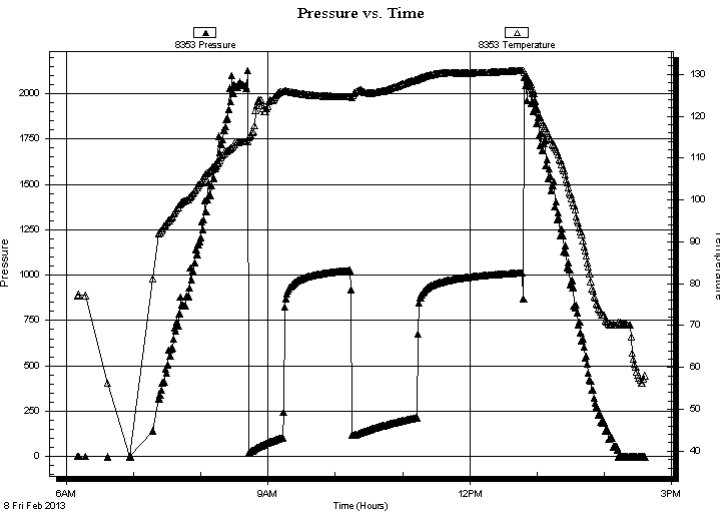
GENERAL INFORMATION:

Formation: **LKC D**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 08:43:00 Tester: Wilbur Steinbeck
 Time Test Ended: 14:36:15 Unit No: 150
 Interval: **4234.00 ft (KB) To 4290.00 ft (KB) (TVD)** Reference Elevations: 3285.00 ft (KB)
 Total Depth: 4290.00 ft (KB) (TVD) 3275.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 10.00 ft

Serial #: 8353

Press @ Run Depth: psig @ ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.02.08 End Date: 2013.02.08 Last Calib.: 2013.02.08
 Start Time: 06:10:15 End Time: 14:36:15 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30 IF; Built to 8"
 60 IS; Surface Blow
 60 FF; Built to 9"
 90 FS; Surface Blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
96.00	OSWCM 1%O 4%W 95%M	0.47
319.00	OSM 1%O 99%M	1.57

* 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

30-1s-36w Rawlins,KS

250 N Water STE 300
Wichita KS 67202

Culwell D #1-30

Job Ticket: 49016

DST#: 3

ATTN: Jeff Christian

Test Start: 2013.02.08 @ 06:10:00

Tool Information

Drill Pipe:	Length: 3679.00 ft	Diameter: 3.80 inches	Volume: 51.61 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 534.00 ft	Diameter: 2.25 inches	Volume: 2.63 bbl	Weight to Pull Loose: 84000.00 lb
			<u>Total Volume: 54.24 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4234.00 ft			Final 74000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	56.00 ft			
Tool Length:	83.00 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			4208.00	
Shut In Tool	5.00			4213.00	
Hydraulic tool	5.00			4218.00	
Jars	5.00			4223.00	
Safety Joint	2.00			4225.00	
Packer	5.00			4230.00	27.00 Bottom Of Top Packer
Packer	4.00			4234.00	
Stubb	1.00			4235.00	
Recorder	0.00	8360	Inside	4235.00	
Recorder	0.00	8353	Outside	4235.00	
Perforations	15.00			4250.00	
Change Over Sub	1.00			4251.00	
Drill Pipe	32.00			4283.00	
Change Over Sub	1.00			4284.00	
perforations	2.00			4286.00	
Bullnose	4.00			4290.00	56.00 Bottom Packers & Anchor
Total Tool Length:	83.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc
250 N Water STE 300
Wichita KS 67202
ATTN: Jeff Christian

30-1s-36w Rawlins,KS
Culwell D #1-30
Job Ticket: 49016 **DST#: 3**
Test Start: 2013.02.08 @ 06:10:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 50.00 sec/qt	Cushion Volume: bbl		
Water Loss: 5.79 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 600.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
96.00	OSWCM 1%O 4%W 95%M	0.472
319.00	OSM 1%O 99%M	1.569

Total Length: 415.00 ft Total Volume: 2.041 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:

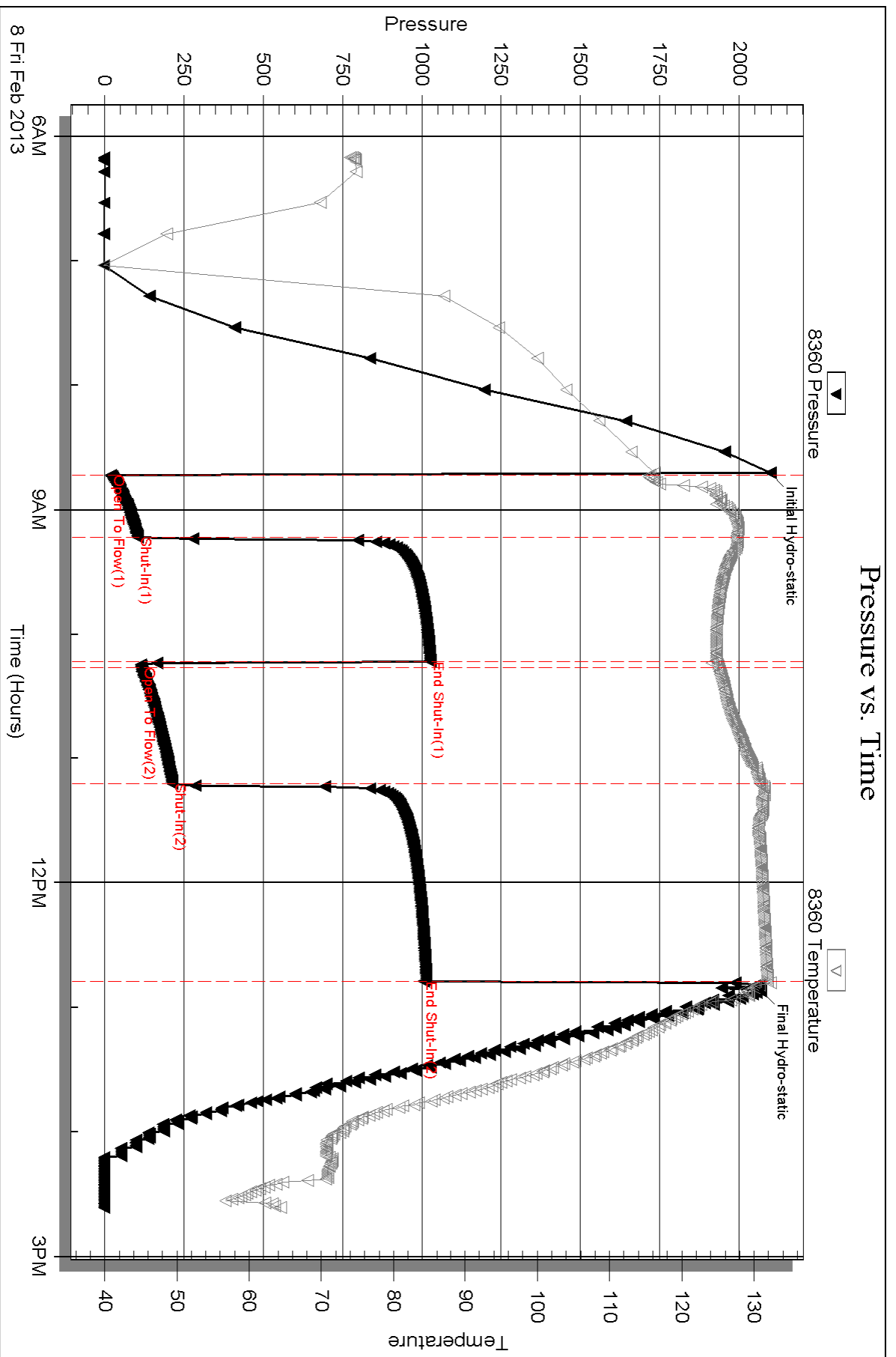
Serial #: 8360

Inside

Murfin Drilling Co Inc

Oilwell D#1-30

DST Test Number: 3

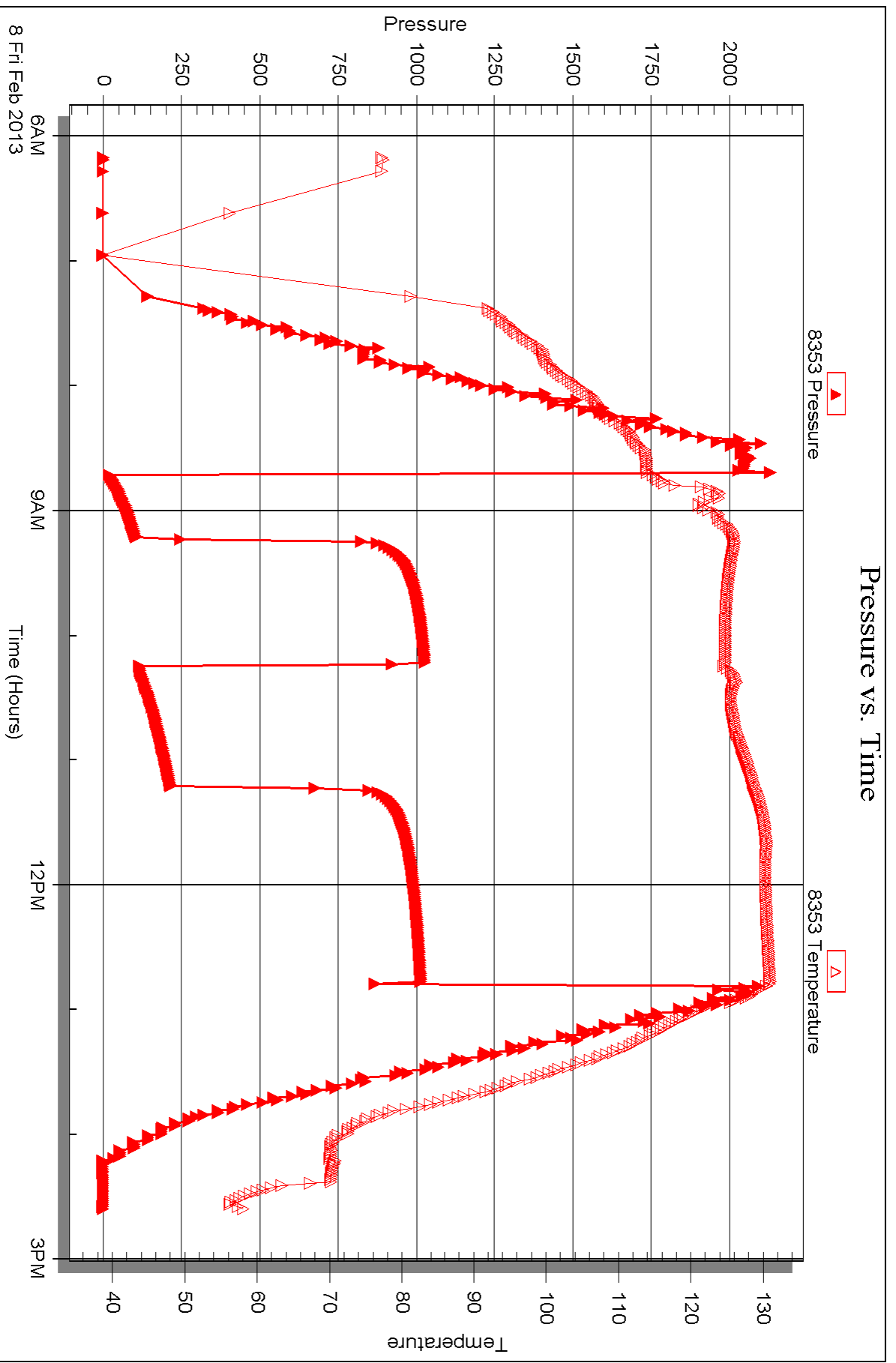


Serial #: 8353

Murfin Drilling Co Inc

Oilwell D#1-30

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 49016

Printed: 2013.02.19 @ 09:55:00



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water STE 300
Wichita KS 67202

ATTN: Jeff Christian

Culwell D #1-30

30-1s-36w Rawlins,KS

Start Date: 2013.02.09 @ 03:40:00

End Date: 2013.02.09 @ 11:24:45

Job Ticket #: 49017 DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.02.19 @ 09:46:32



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
 250 N Water STE 300
 Wichita KS 67202
 ATTN: Jeff Christian

30-1s-36w Rawlins,KS

Culwell D #1-30

Job Ticket: 49017

DST#: 4

Test Start: 2013.02.09 @ 03:40:00

GENERAL INFORMATION:

Formation: **LKC G,H,I**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 06:19:00
 Time Test Ended: 11:24:45
 Interval: **4302.00 ft (KB) To 4400.00 ft (KB) (TVD)**
 Total Depth: 4150.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Wilbur Steinbeck
 Unit No: 150
 Reference Elevations: 3285.00 ft (KB)
 3275.00 ft (CF)
 KB to GR/CF: 10.00 ft

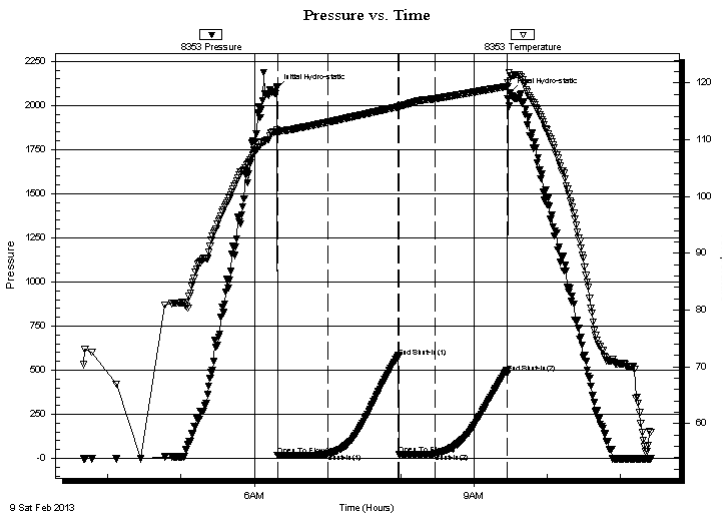
Serial #: 8353

Outside

Press @ RunDepth: 27.73 psig @ 4303.00 ft (KB)
 Start Date: 2013.02.09 End Date: 2013.02.09
 Start Time: 03:40:15 End Time: 11:24:45
 Capacity: 8000.00 psig
 Last Calib.: 2013.02.09
 Time On Btm: 2013.02.09 @ 06:18:30
 Time Off Btm: 2013.02.09 @ 09:29:30

TEST COMMENT: 30 IF; Built to 1/4" died in 5 min
 60 ISI; No Blow
 30 FF; No Blow
 60 FSI; No Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2097.46	111.76	Initial Hydro-static
1	16.91	111.36	Open To Flow (1)
42	28.18	113.11	Shut-In(1)
100	576.76	115.82	End Shut-In(1)
100	21.74	115.86	Open To Flow (2)
130	27.73	117.25	Shut-In(2)
189	481.97	119.44	End Shut-In(2)
191	2073.07	121.21	Final Hydro-static

Recovery

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

Gas Rates

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

* Recovery from multiple tests



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
 250 N Water STE 300
 Wichita KS 67202
 ATTN: Jeff Christian

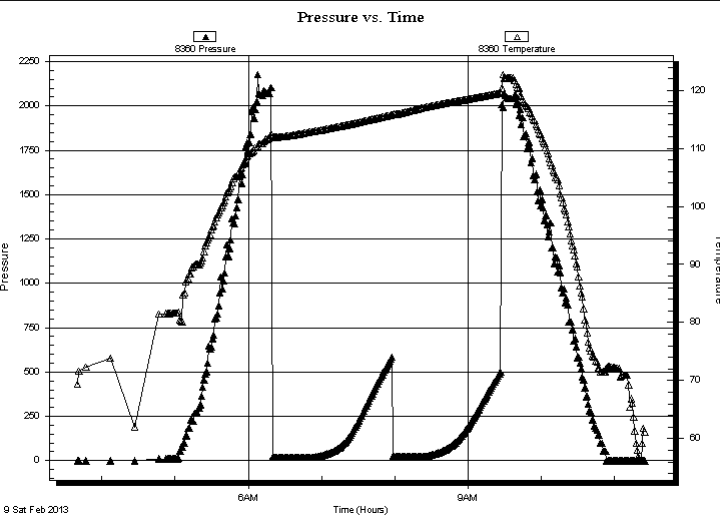
30-1s-36w Rawlins, KS
Culwell D #1-30
 Job Ticket: 49017 **DST#: 4**
 Test Start: 2013.02.09 @ 03:40:00

GENERAL INFORMATION:

Formation: **LKC G,H,I**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 06:19:00
 Time Test Ended: 11:24:45
 Interval: **4302.00 ft (KB) To 4400.00 ft (KB) (TVD)**
 Total Depth: 4150.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Wilbur Steinbeck
 Unit No: 150
 Reference Elevations: 3285.00 ft (KB)
 3275.00 ft (CF)
 KB to GR/CF: 10.00 ft

Serial #: 8360 Inside
 Press @ Run Depth: psig @ 4303.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.02.09 End Date: 2013.02.09 Last Calib.: 2013.02.09
 Start Time: 03:40:15 End Time: 11:24:45 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30 IF; Built to 1/4" died in 5 min
 60 IS; No Blow
 30 FF; No Blow
 60 FS; No Blow



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

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

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co Inc
250 N Water STE 300
Wichita KS 67202
ATTN: Jeff Christian

30-1s-36w Rawlins,KS
Culwell D #1-30
Job Ticket: 49017 **DST#: 4**
Test Start: 2013.02.09 @ 03:40:00

Tool Information

Drill Pipe:	Length: 3772.00 ft	Diameter: 3.80 inches	Volume: 52.91 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 534.00 ft	Diameter: 2.25 inches	Volume: 2.63 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 55.54 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4302.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	98.00 ft			
Tool Length:	125.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			4276.00	
Shut In Tool	5.00			4281.00	
Hydraulic tool	5.00			4286.00	
Jars	5.00			4291.00	
Safety Joint	2.00			4293.00	
Packer	5.00			4298.00	27.00 Bottom Of Top Packer
Packer	4.00			4302.00	
Stubb	1.00			4303.00	
Recorder	0.00	8360	Inside	4303.00	
Recorder	0.00	8353	Outside	4303.00	
Perforations	25.00			4328.00	
Change Over Sub	1.00			4329.00	
Drill Pipe	64.00			4393.00	
Change Over Sub	1.00			4394.00	
perforations	2.00			4396.00	
Bullnose	4.00			4400.00	98.00 Bottom Packers & Anchor
Total Tool Length:	125.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc
250 N Water STE 300
Wichita KS 67202
ATTN: Jeff Christian

30-1s-36w Rawlins,KS
Culwell D #1-30
Job Ticket: 49017 **DST#: 4**
Test Start: 2013.02.09 @ 03:40:00

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: 47.00 sec/qt	Cushion Volume: bbl		
Water Loss: 5.79 in ³	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	Mud	0.025

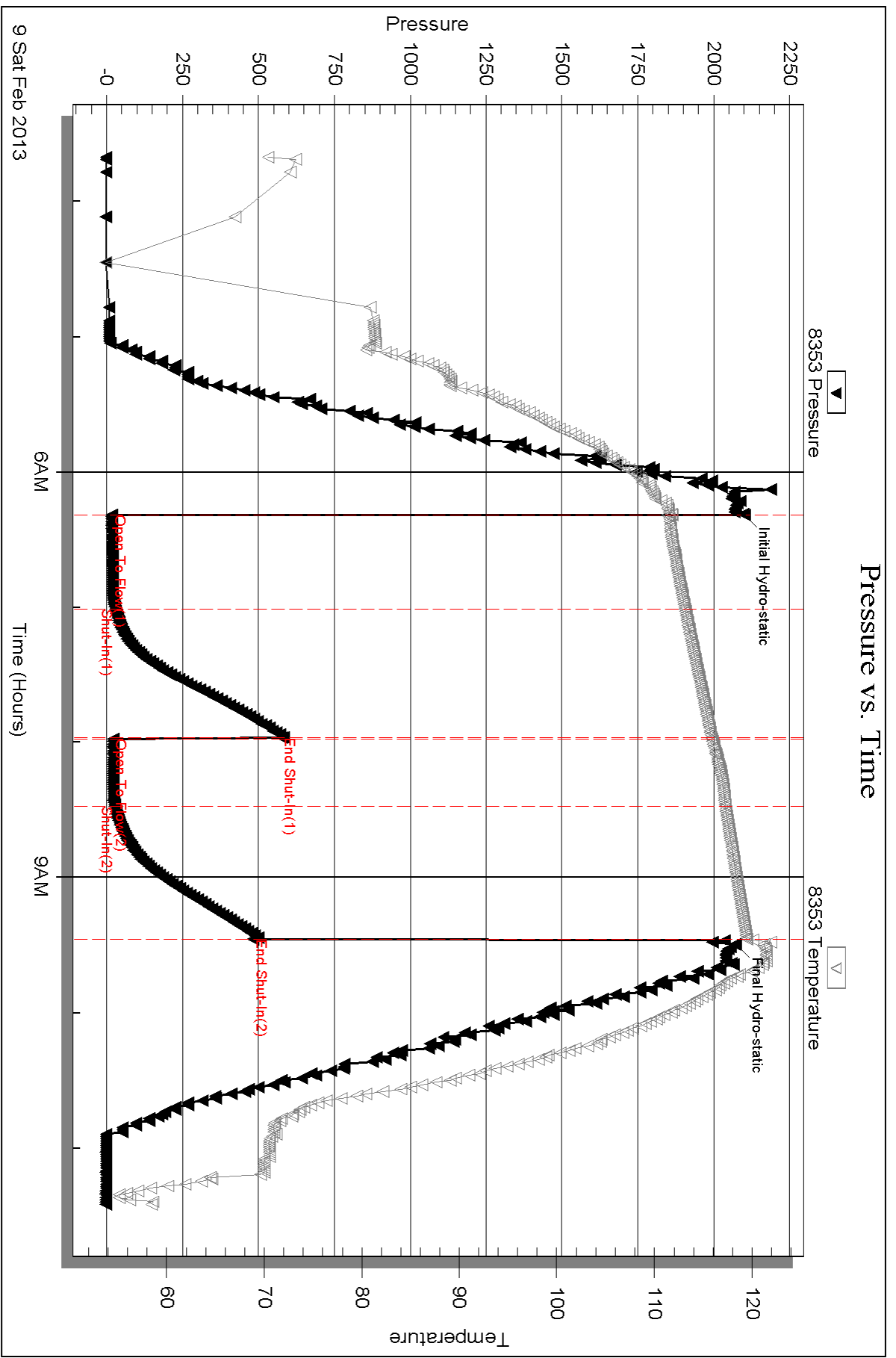
Total Length: 5.00 ft Total Volume: 0.025 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

Serial #: 8353

Outside Murfin Drilling Co Inc

Oilwell D#1-30

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 49017

Printed: 2013.02.19 @ 09:46:35

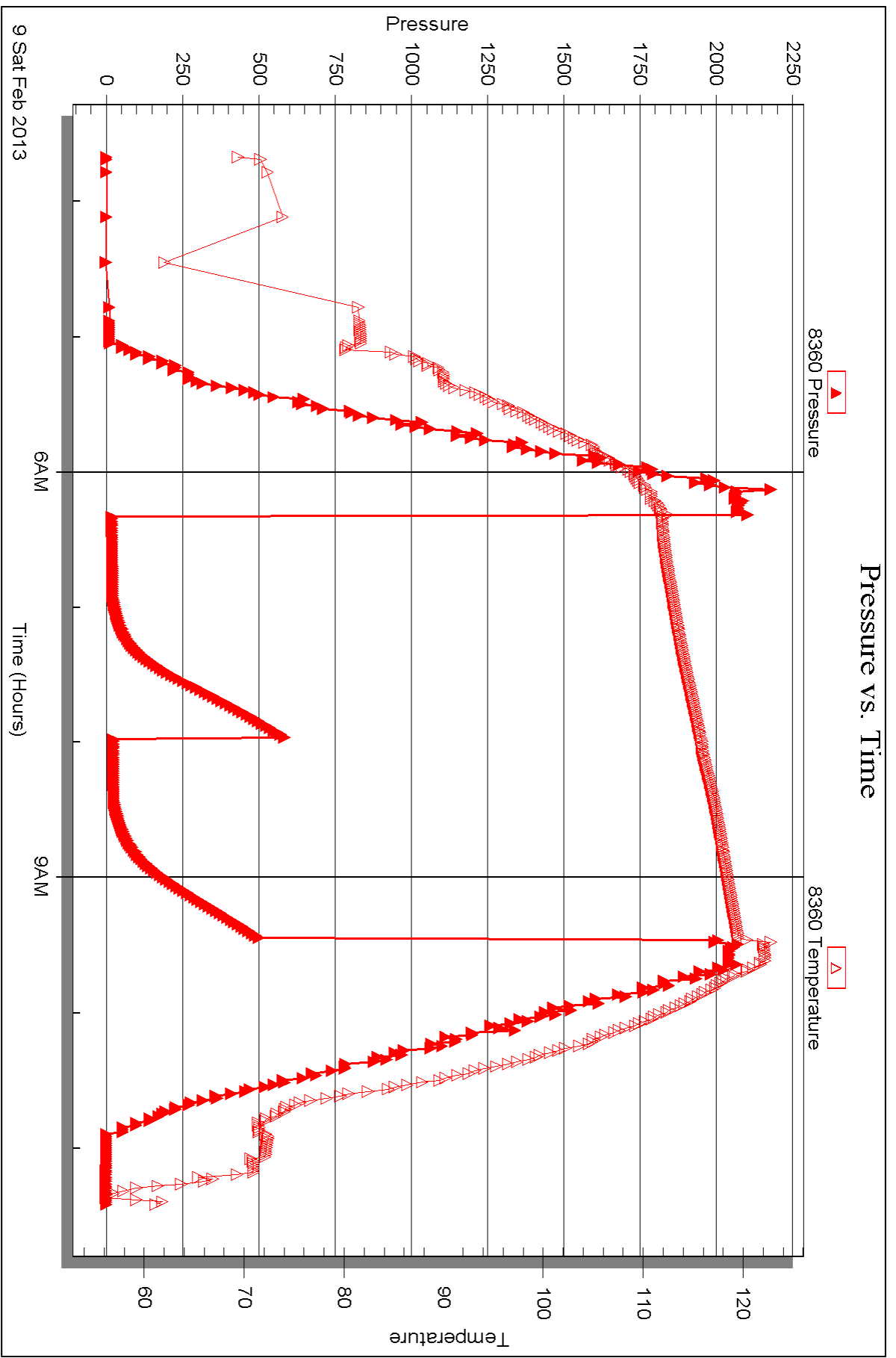
Serial #: 8360

Inside

Murfin Drilling Co Inc

Oilwell D#1-30

DST Test Number: 4





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water STE 300
Wichita KS 67202

ATTN: Jeff Christian

Culwell D #1-30

30-1s-36w Rawlins,KS

Start Date: 2013.02.09 @ 18:45:00

End Date: 2013.02.10 @ 03:34:15

Job Ticket #: 49018 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.02.19 @ 09:45:55



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
 250 N Water STE 300
 Wichita KS 67202
 ATTN: Jeff Christian

30-1s-36w Rawlins,KS

Culwell D #1-30

Job Ticket: 49018

DST#: 5

Test Start: 2013.02.09 @ 18:45:00

GENERAL INFORMATION:

Formation: **LKC J**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 21:17:15
 Time Test Ended: 03:34:15
 Interval: **4382.00 ft (KB) To 4435.00 ft (KB) (TVD)**
 Total Depth: 4435.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Wilbur Steinbeck
 Unit No: 150
 Reference Elevations: 3285.00 ft (KB)
 3275.00 ft (CF)
 KB to GR/CF: 10.00 ft

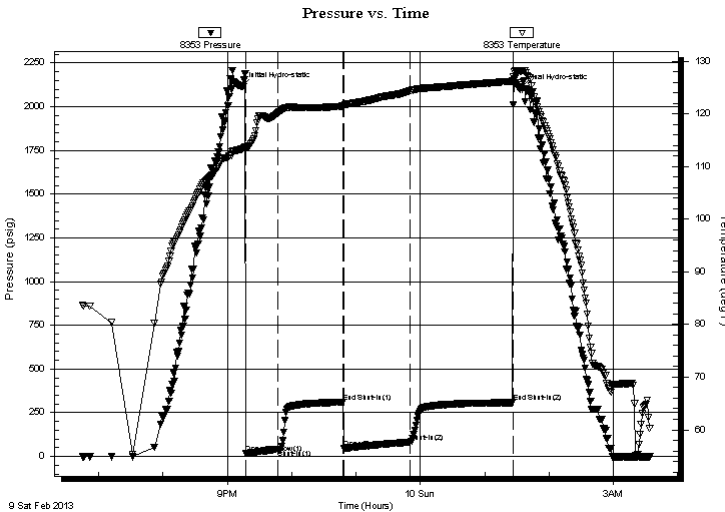
Serial #: 8353

Outside

Press @ RunDepth: 81.97 psig @ 4383.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.02.09 End Date: 2013.02.10 Last Calib.: 2013.02.10
 Start Time: 18:45:15 End Time: 03:34:15 Time On Btm: 2013.02.09 @ 21:13:30
 Time Off Btm: 2013.02.10 @ 01:33:00

TEST COMMENT: 30 IF; Built to 3"
 60 IS; No Blow
 60 FF; Built to 2 1/2"
 90 FS; No Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2116.58	113.32	Initial Hydro-static
4	16.74	113.59	Open To Flow (1)
34	41.03	120.16	Shut-In(1)
95	310.41	121.50	End Shut-In(1)
96	46.04	121.58	Open To Flow (2)
157	81.97	124.39	Shut-In(2)
253	307.86	126.25	End Shut-In(2)
260	2101.38	128.16	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
130.00	OCM 2%O 98%O	0.64

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
250 N Water STE 300
Wichita KS 67202
ATTN: Jeff Christian

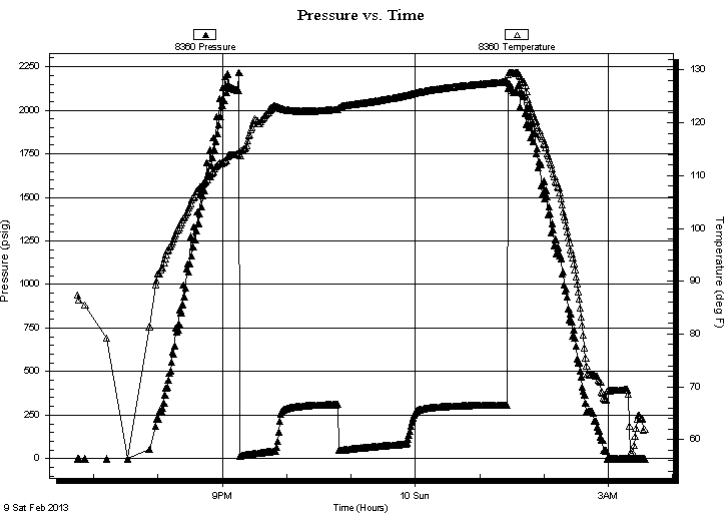
30-1s-36w Rawlins,KS
Culwell D #1-30
Job Ticket: 49018 **DST#: 5**
Test Start: 2013.02.09 @ 18:45:00

GENERAL INFORMATION:

Formation: **LKC J**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 21:17:15 Tester: Wilbur Steinbeck
Time Test Ended: 03:34:15 Unit No: 150
Interval: 4382.00 ft (KB) To 4435.00 ft (KB) (TVD) Reference Elevations: 3285.00 ft (KB)
Total Depth: 4435.00 ft (KB) (TVD) 3275.00 ft (CF)
Hole Diameter: 7.88 inchesHole Condition: Fair KB to GR/CF: 10.00 ft

Serial #: 8360 Inside
Press @RunDepth: psig @ 4383.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2013.02.09 End Date: 2013.02.10 Last Calib.: 2013.02.10
Start Time: 18:45:15 End Time: 03:34:00 Time On Btm:
Time Off Btm:

TEST COMMENT: 30 IF; Built to 3"
60 IS; No Blow
60 FF; Built to 2 1/2"
90 FS; No Blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
130.00	OCM 2%O 98%O	0.64

* 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
250 N Water STE 300
Wichita KS 67202
ATTN: Jeff Christian

30-1s-36w Rawlins,KS
Culwell D #1-30
Job Ticket: 49018 **DST#: 5**
Test Start: 2013.02.09 @ 18:45:00

Tool Information

Drill Pipe:	Length: 3837.00 ft	Diameter: 3.80 inches	Volume: 53.82 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 534.00 ft	Diameter: 2.25 inches	Volume: 2.63 bbl	Weight to Pull Loose:	80000.00 lb
			<u>Total Volume: 56.45 bbl</u>	Tool Chased	1.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial	72000.00 lb
Depth to Top Packer:	4382.00 ft			Final	72000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	53.00 ft				
Tool Length:	80.00 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			4356.00	
Shut In Tool	5.00			4361.00	
Hydraulic tool	5.00			4366.00	
Jars	5.00			4371.00	
Safety Joint	2.00			4373.00	
Packer	5.00			4378.00	27.00 Bottom Of Top Packer
Packer	4.00			4382.00	
Stubb	1.00			4383.00	
Recorder	0.00	8360	Inside	4383.00	
Recorder	0.00	8353	Outside	4383.00	
Perforations	13.00			4396.00	
Change Over Sub	1.00			4397.00	
Drill Pipe	32.00			4429.00	
Change Over Sub	1.00			4430.00	
perforations	1.00			4431.00	
Bullnose	4.00			4435.00	53.00 Bottom Packers & Anchor
Total Tool Length:	80.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc
250 N Water STE 300
Wichita KS 67202
ATTN: Jeff Christian

30-1s-36w Rawlins,KS
Culwell D #1-30
Job Ticket: 49018 **DST#: 5**
Test Start: 2013.02.09 @ 18:45:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 47.00 sec/qt	Cushion Volume: bbl		
Water Loss: 4.59 in ³	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
130.00	OCM 2%O 98%O	0.639

Total Length: 130.00 ft Total Volume: 0.639 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

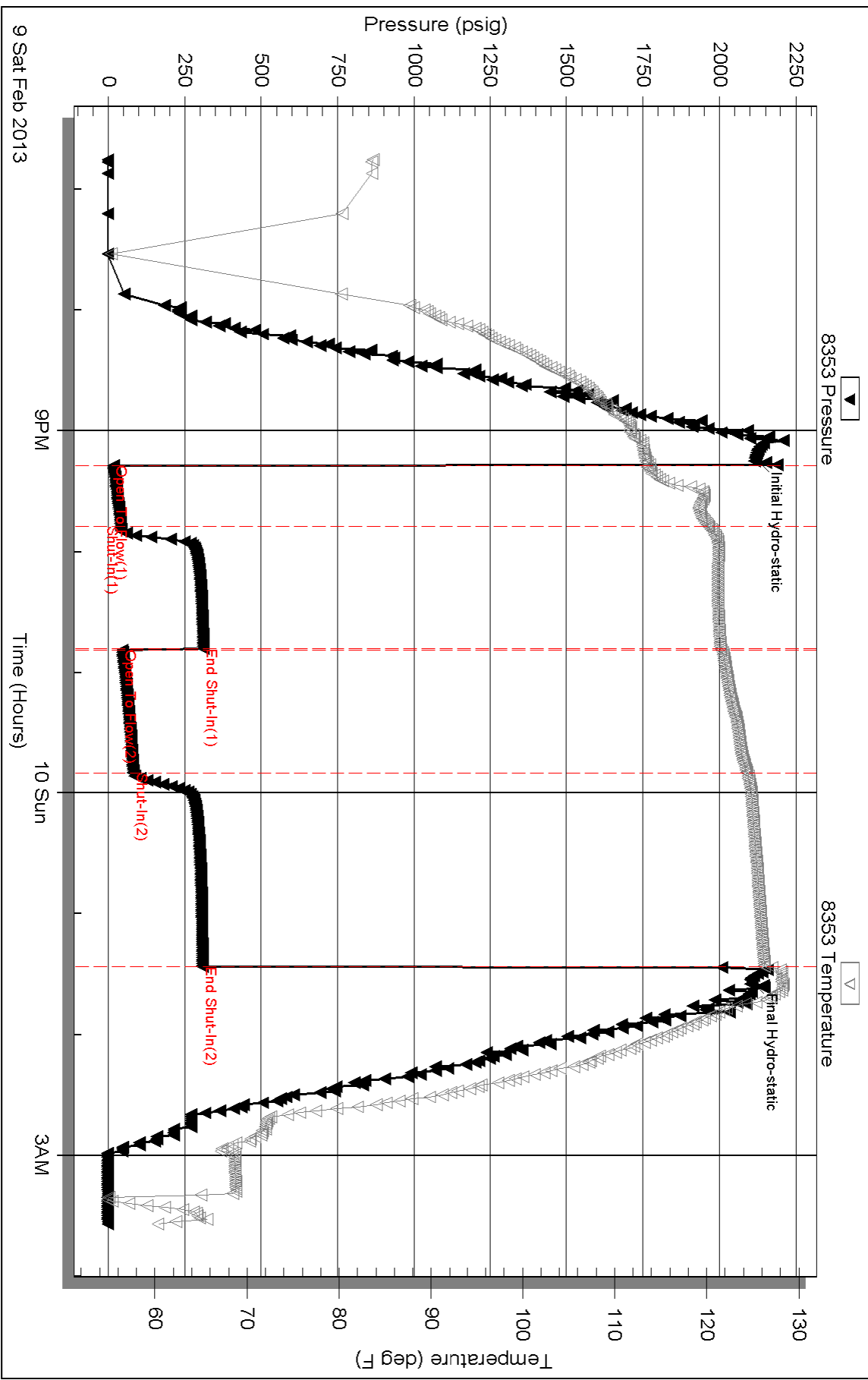
Serial #: 8353

Outside Murfin Drilling Co Inc

Oilwell D#1-30

DST Test Number: 5

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 49018

Printed: 2013.02.19 @ 09:45:58

Serial #: 8360

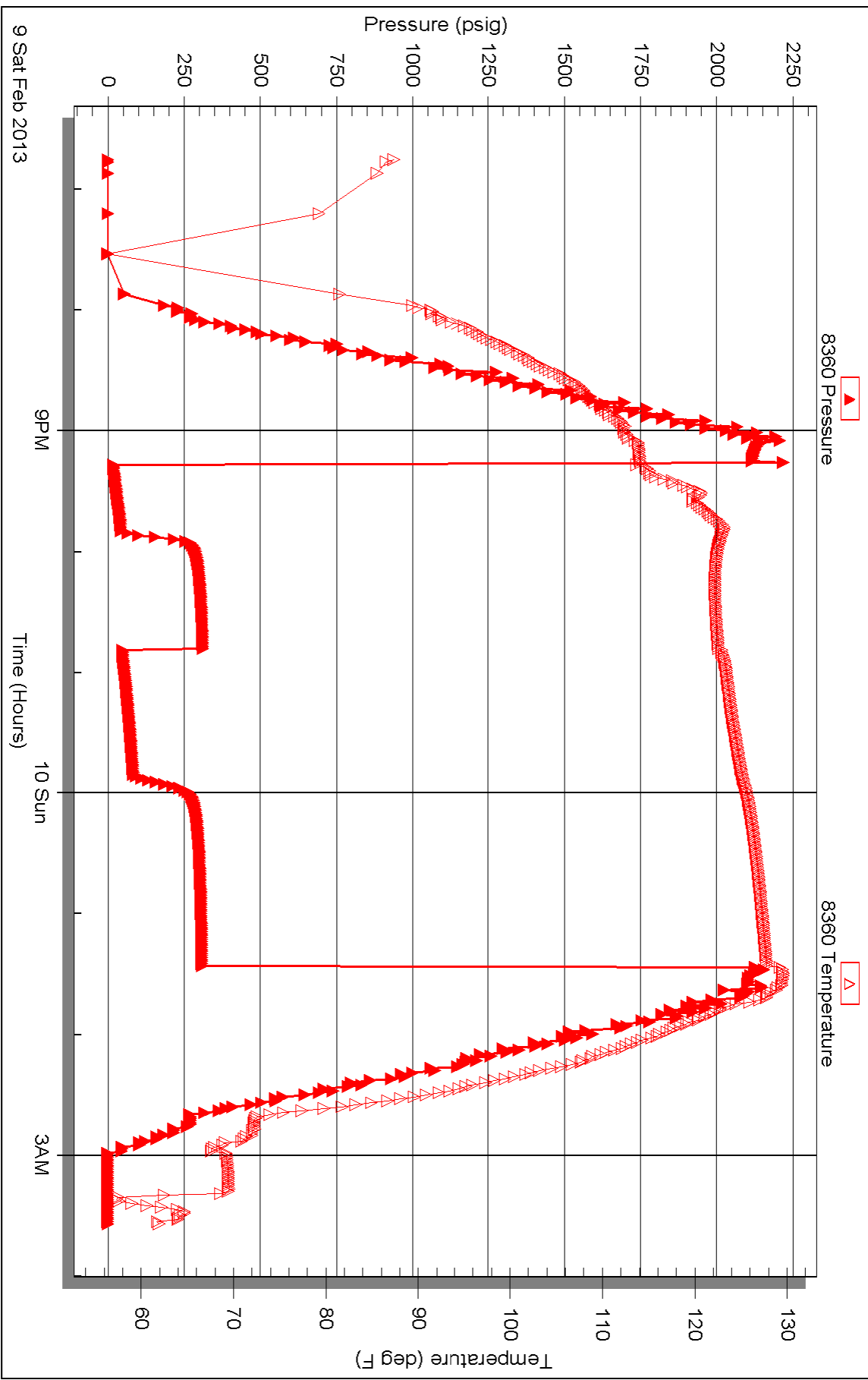
Inside

Murfin Drilling Co Inc

Oilwell D#1-30

DST Test Number: 5

Pressure vs. Time





TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49014

Well Name & No. Culwell 'D' 1-30 Test No. 1 Date 2-6-13
 Company Murfin Drilling Co Inc Elevation 3285 KB 3275 GL
 Address 250 N Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Jeff Christian Rig Murfin 14
 Location: Sec. 30 Twp. 1s Rge. 36w Co. Rawlins State KS

Interval Tested 4074 4150 Zone Tested Orced
 Anchor Length 76 Drill Pipe Run 3521 Mud Wt. 9.1
 Top Packer Depth 4069 Drill Collars Run 534 Vis 59
 Bottom Packer Depth 4074 Wt. Pipe Run 0 WL 4.8
 Total Depth 4150 Chlorides 800 ppm System LCM S

Blow Description IF: Surface Blow Diced in 5min
1st: No Blow
FF: No Blow
FSI: No Blow

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

Rec Total 5 BHT 126 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>1,989</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>19:10</u>
(B) First Initial Flow <u>17</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>20:18</u>
(C) First Final Flow <u>20</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>23:20</u>
(D) Initial Shut-In <u>1167</u>	<input checked="" type="checkbox"/> Circ Sub <u>NA</u>	T-Pulled <u>2:20</u>
(E) Second Initial Flow <u>22</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>4:00</u>
(F) Second Final Flow <u>32</u>	<input checked="" type="checkbox"/> Mileage <u>125 RT</u> 193.75	Comments _____
(G) Final Shut-In <u>1086</u>	<input type="checkbox"/> Sampler	<input type="checkbox"/> Ruined Shale Packer _____
(H) Final Hydrostatic <u>1955</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Packer _____

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

Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Sub Total 1768.75
 MP/DST Disc't _____

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



TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49015

Well Name & No. Collwell D 1-30 Test No. 2 Date 2-7-13
 Company Murphy Drilling Elevation 3285 KB 3275 GL
 Address 250 N Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Jeff Christian Rig Murphy 14
 Location: Sec. 30 Twp. 1s Rge. 36w Co. Kansas State KS

Interval Tested 4177 4252 Zone Tested LKC A
 Anchor Length 75 Drill Pipe Run 3647 Mud Wt. 9.1
 Top Packer Depth 4172 Drill Collars Run 534 Vis 50
 Bottom Packer Depth 4177 Wt. Pipe Run 0 WL 5.8
 Total Depth 4252 Chlorides 600 ppm System LCM 6

Blow Description 1F; Surface Blow Died 25 min
1S1; No Blow
1F; No Blow
1S1; No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>0.5M</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 127 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2038 Test 1250 T-On Location 17:40
 (B) First Initial Flow 17 Jars 250 T-Started 15:00
 (C) First Final Flow 20 Safety Joint 75 T-Open 18:35
 (D) Initial Shut-In 42 Circ Sub NA T-Pulled 20:35
 (E) Second Initial Flow 22 Hourly Standby T-Out 22:40
 (F) Second Final Flow 24 Mileage 125 RT 193.75 Comments _____
 (G) Final Shut-In 35 Sampler _____
 (H) Final Hydrostatic 2,008 Straddle _____ Ruined Shale Packer _____

Initial Open 30 Shale Packer _____ Ruined Packer _____
 Initial Shut-In 60 Extra Packer _____ Extra Copies _____
 Final Flow 30 Extra Recorder _____ Sub Total 0
 Final Shut-In 60 Day Standby _____ Total 1768.75
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1768.75

Approved By _____ Our Representative [Signature]

Trilobite Testing Inc. shall not be liable for damaged or 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.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49016

Well Name & No. Colwell D 1-30 Test No. 3 Date 2-8-13
 Company Martin Drilling Elevation 3285 KB 3215 GL
 Address 250 N Wafer STE 300 Wichita KS 67202
 Co. Rep / Geo. Jeff Christian Rig Martin 14
 Location: Sec. 30 Twp. 7S Rge. 36W Co. Rawlins State KS

Interval Tested 4234 4290 Zone Tested LKC 'D'
 Anchor Length 56 Drill Pipe Run 3679 Mud Wt. 9.1
 Top Packer Depth 4229 Drill Collars Run 534 Vis 50
 Bottom Packer Depth 4234 Wt. Pipe Run 0 WL 5.8
 Total Depth 4290 Chlorides 600 ppm System LCM 6

Blow Description 1F; Built to 8in
1S; Surface Blow
1F; Built to 9in
1S; Surface Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>319</u>	<u>OSM</u>	<u>1</u>		<u>99</u>	
<u>96</u>	<u>OSWCM</u>	<u>1</u>	<u>4</u>	<u>95</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 415 BHT 129 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2098</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>6:10</u>
(B) First Initial Flow <u>21</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>6:30</u>
(C) First Final Flow <u>105</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>9:05</u>
(D) Initial Shut-In <u>1026</u>	<input checked="" type="checkbox"/> Circ Sub <u>NA</u>	T-Pulled <u>13:05</u>
(E) Second Initial Flow <u>117</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>14:55</u>
(F) Second Final Flow <u>215</u>	<input checked="" type="checkbox"/> Mileage <u>125KT</u> 193.75	Comments _____
(G) Final Shut-In <u>1005</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2070</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer

Initial Open 30 Shale Packer _____ Ruined Packer _____
 Initial Shut-In 60 Extra Packer _____ Extra Copies _____
 Final Flow 60 Extra Recorder _____ Sub Total 0
 Final Shut-In 90 Day Standby _____ Total 1768.75
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1768.75

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



TRIBOLITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49017

Well Name & No. Culwell D 1-30 Test No. 4 Date 2-9-13
 Company Murkin Drilling Elevation 3285 KB 3275 GL
 Address 250 N Wafer STE 300 Wichita KS 67202
 Co. Rep / Geo. Jeff Christian Rig Murkin 14
 Location: Sec. 30 Twp. 1s Rge. 36w Co. Rawlins State Ks

Interval Tested 4302 4400 Zone Tested LKC G'H'T
 Anchor Length 98 Drill Pipe Run 3,772 Mud Wt. 9.3
 Top Packer Depth 4297 Drill Collars Run 534 Vis 47
 Bottom Packer Depth 4302 Wt. Pipe Run 0 WL 5.8
 Total Depth 4400 Chlorides 700 ppm System LCM 6

Blow Description IF; Built to 1/4" Dsd 5m4
IS; No Blow
FP; No Blow
FS; No Blow

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

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

(A) Initial Hydrostatic 2097 Test 1250 T-On Location 3:30
 (B) First Initial Flow 17 Jars 250 T-Started 3:40
 (C) First Final Flow 28 Safety Joint 75 T-Open 6:20
 (D) Initial Shut-In 577 Circ Sub NA T-Pulled 9:20
 (E) Second Initial Flow 22 Hourly Standby _____ T-Out 11:20
 (F) Second Final Flow 28 Mileage 125 RT 193.75 Comments _____
 (G) Final Shut-In 482 Sampler _____
 (H) Final Hydrostatic 2073 Straddle _____
 Shale Packer _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Packer _____
 Extra Copies _____

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

Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1768.75

Sub Total 1768.75
 Total 1768.75
 MP/DST Disc't _____

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49018

Well Name & No. Colwell D 1-30 Test No. 5 Date 2-9-13
 Company Murfin Drilling Elevation 3285 KB 3275 GL
 Address 250 N Water Ste 300 Wichita ks 67202
 Co. Rep / Geo. Jeff Christman Rig Murfin 14
 Location: Sec. 30 Twp. 1s Rge. 36w Co. Rawlins State ks

Interval Tested 4382 4435 Zone Tested LKC J
 Anchor Length 53 Drill Pipe Run 3837 Mud Wt. 9.2
 Top Packer Depth 4377 Drill Collars Run 543 Vis 4.7
 Bottom Packer Depth 4382 Wt. Pipe Run 0 WL 4.6
 Total Depth 4435 Chlorides 800 ppm System LCM 6
 Blow Description IF Built to 3'
ISI No Blow
FF Built to 2 1/2"
FSI No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>130</u>	<u>0cm</u>		<u>2</u>	<u>98</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 130 BHT 128 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2117</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>18:30</u>
(B) First Initial Flow <u>17</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>18:45</u>
(C) First Final Flow <u>41</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>21:20</u>
(D) Initial Shut-In <u>310</u>	<input checked="" type="checkbox"/> Circ Sub <u>NA</u>	T-Pulled <u>1:20</u>
(E) Second Initial Flow <u>46</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>3:30</u>
(F) Second Final Flow <u>82</u>	<input checked="" type="checkbox"/> Mileage <u>125 RT</u> 193.75	Comments _____
(G) Final Shut-In <u>308</u>	<input type="checkbox"/> Sampler _____	<input type="checkbox"/> Ruined Shale Packer _____
(H) Final Hydrostatic <u>3101</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Packer _____
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Extra Copies _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer _____	Sub Total <u>0</u>
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder _____	Total <u>1768.75</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby _____	MP/DST Disc't _____
	<input type="checkbox"/> Accessibility _____	
	Sub Total <u>1768.75</u>	

Approved By _____ Our Representative Will Hill

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