



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita KS 67202

ATTN: Paul Gunzelman

Keller Aust #1-28

28-11s-20w Ellis,KS

Start Date: 2012.10.28 @ 09:37:00

End Date: 2012.10.28 @ 16:25:39

Job Ticket #: 51021 DST #: 1

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

Printed: 2012.11.05 @ 13:28:32



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Company Inc.

28-11s-20w Ellis, KS

250 N. Water STE 300
Wichita KS 67202

Keller Aust #1-28

Job Ticket: 51021

DST#: 1

ATTN: Paul Gunzelman

Test Start: 2012.10.28 @ 09:37:00

GENERAL INFORMATION:

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

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:03:00

Time Test Ended: 16:25:39

Test Type: Conventional Bottom Hole (Initial)

Tester: Cody Bloedorn

Unit No: 39

Interval: 3525.00 ft (KB) To 3598.00 ft (KB) (TVD)

Reference Elevations: 2212.00 ft (KB)

Total Depth: 3598.00 ft (KB) (TVD)

2207.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8372

Inside

Press @ RunDepth: 53.20 psig @ 3595.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.10.28

End Date:

2012.10.28

Last Calib.:

2012.10.28

Start Time:

09:37:05

End Time:

16:25:40

Time On Btm:

2012.10.28 @ 12:02:50

Time Off Btm:

2012.10.28 @ 15:02:30

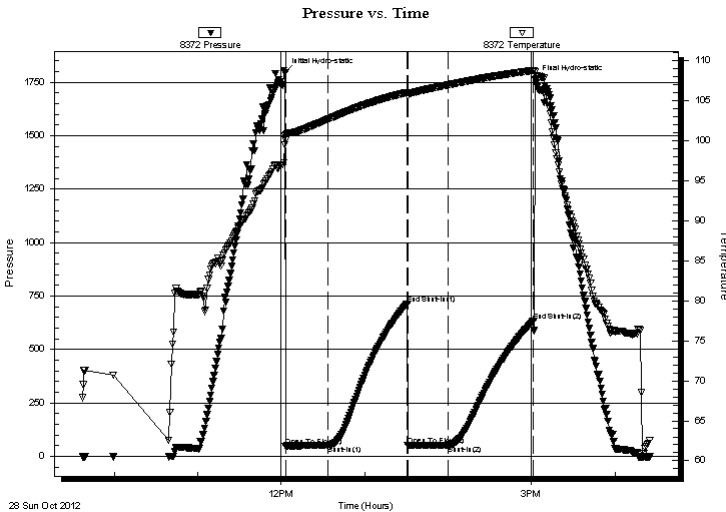
TEST COMMENT: 30 - IF- Built to 1/2" in 10 Min. and stayed at 1/2"

60 - IS- No blow back

30 - FF- 1/4" blow

60 - FS- No blow back.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1795.64	100.61	Initial Hydro-static
1	48.51	100.07	Open To Flow (1)
31	51.30	102.72	Shut-In(1)
88	712.77	106.06	End Shut-In(1)
88	50.81	105.62	Open To Flow (2)
118	53.20	107.00	Shut-In(2)
179	634.66	108.82	End Shut-In(2)
180	1763.63	108.62	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud w ith Oil Spots, 100%M	0.05

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company Inc.

28-11s-20w Ellis,KS

250 N. Water STE 300
Wichita KS 67202

Keller Aust #1-28

Job Ticket: 51021

DST#: 1

ATTN: Paul Gunzelman

Test Start: 2012.10.28 @ 09:37:00

Tool Information

Drill Pipe:	Length: 3487.00 ft	Diameter: 3.80 inches	Volume: 48.91 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 52000.00 lb
			<u>Total Volume: 49.06 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 48000.00 lb
Depth to Top Packer:	3525.00 ft			Final 48000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	73.00 ft			
Tool Length:	97.00 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			3502.00	
Shut In Tool	5.00			3507.00	
Hydraulic tool	5.00			3512.00	
Safety Joint	3.00			3515.00	
Packer	5.00			3520.00	24.00 Bottom Of Top Packer
Packer	5.00			3525.00	
Stubb	1.00			3526.00	
Perforations	5.00			3531.00	
Change Over Sub	1.00			3532.00	
Blank Spacing	62.00			3594.00	
Change Over Sub	1.00			3595.00	
Recorder	0.00	8372	Inside	3595.00	
Recorder	0.00	8017	Outside	3595.00	
Bullnose	3.00			3598.00	73.00 Bottom Packers & Anchor

Total Tool Length: 97.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company Inc.

28-11s-20w Ellis,KS

250 N. Water STE 300
Wichita KS 67202

Keller Aust #1-28

Job Ticket: 51021

DST#: 1

ATTN: Paul Gunzelman

Test Start: 2012.10.28 @ 09:37:00

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: 52.00 sec/qt

Cushion Volume:

bbf

Water Loss: 6.76 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3500.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
10.00	Mud with Oil Spots, 100%M	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8372

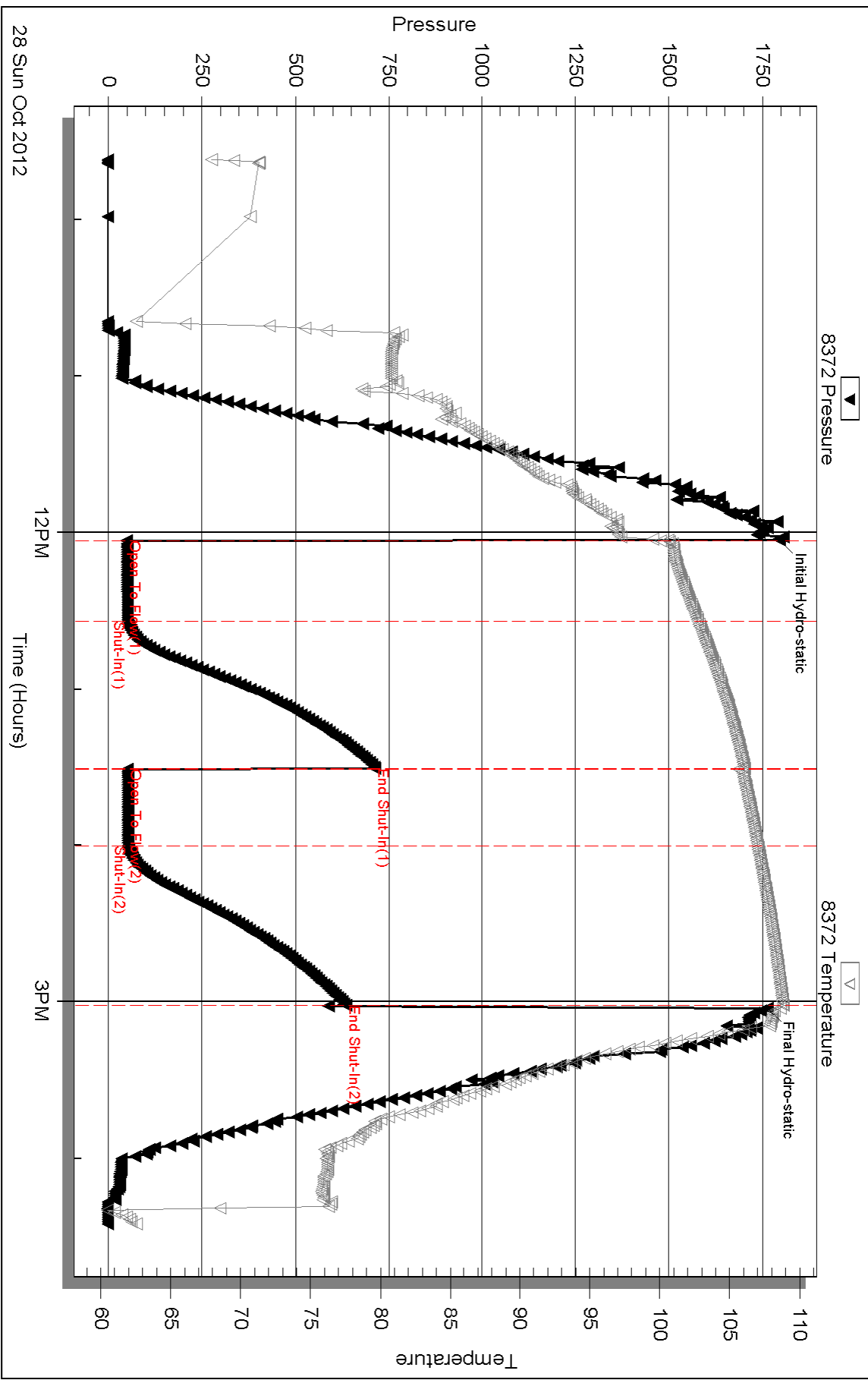
Inside

Murfin Drilling Company Inc.

Keller Aust #1-28

DST Test Number: 1

Pressure vs. Time



28 Sun Oct 2012

Triobite Testing, Inc

Ref. No: 51021

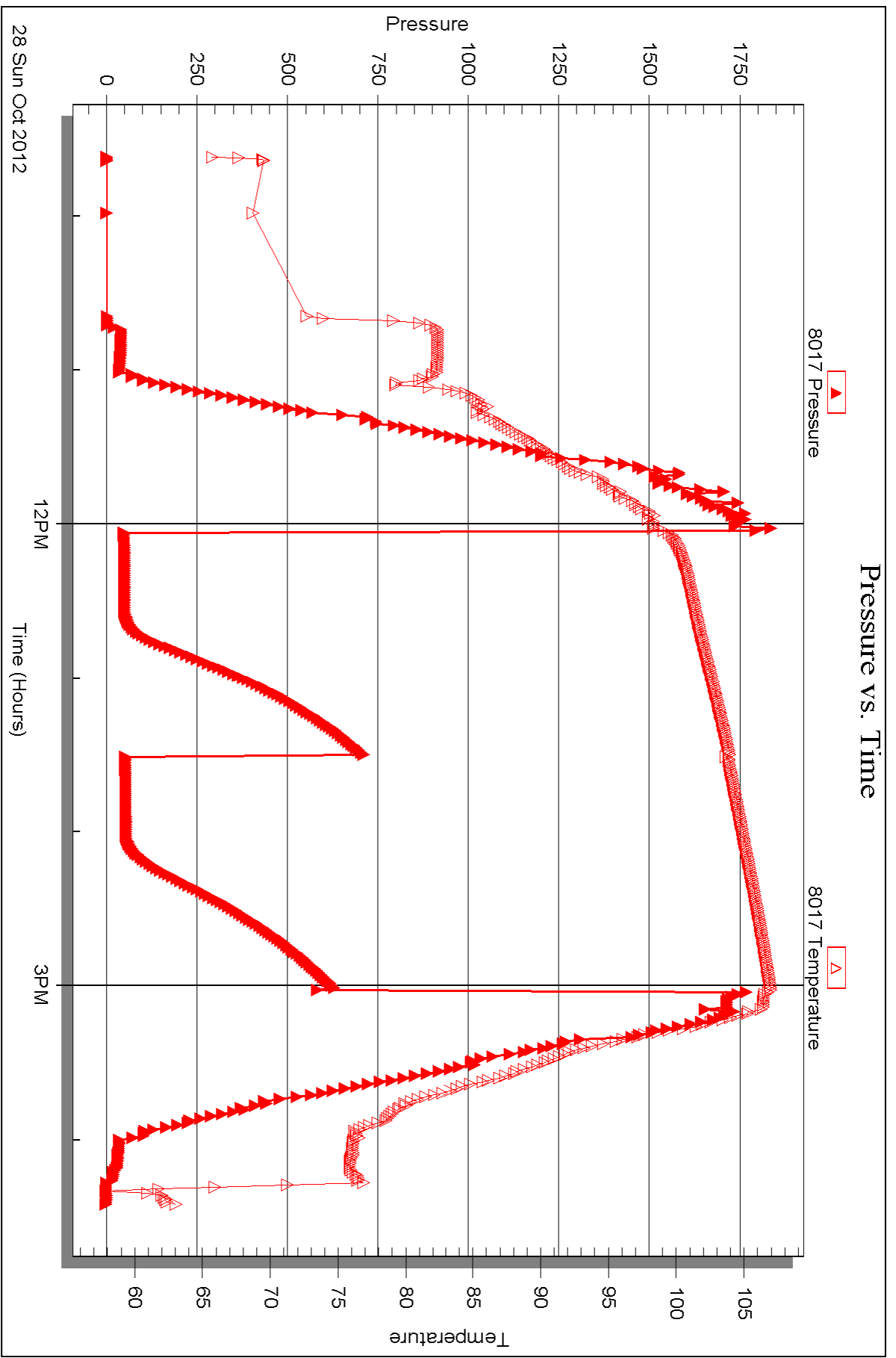
Printed: 2012.11.05 @ 13:28:36

Serial #: 8017

Outside Murfin Drilling Company Inc.

Keller Aust #1-28

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 51021

Printed: 2012.11.05 @ 13:28:36



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita KS 67202

ATTN: Paul Gunzelman

Keller Aust #1-28

28-11s-20w Ellis,KS

Start Date: 2012.10.29 @ 11:26:05

End Date: 2012.10.29 @ 17:23:39

Job Ticket #: 49362 DST #: 2

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

Printed: 2012.11.05 @ 13:27:10

Murfin Drilling Company Inc. 28-11s-20w Ellis,KS Keller Aust #1-28 DST # 2 LKC "I-K" 2012.10.29



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Company Inc.

28-11s-20w Ellis, KS

250 N. Water STE 300
Wichita KS 67202

Keller Aust #1-28

Job Ticket: 49362

DST#: 2

ATTN: Paul Gunzelman

Test Start: 2012.10.29 @ 11:26:05

GENERAL INFORMATION:

Formation: **LKC "I-K"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:59:40

Time Test Ended: 17:23:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Andy Carreira

Unit No: 39

Interval: 3684.00 ft (KB) To 3744.00 ft (KB) (TVD)

Reference Elevations: 2212.00 ft (KB)

Total Depth: 3744.00 ft (KB) (TVD)

2207.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8372 Inside

Press @ Run Depth: 18.37 psig @ 3691.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.10.29 End Date: 2012.10.29

Last Calib.: 2012.10.29

Start Time: 11:26:05 End Time: 17:23:40

Time On Btm: 2012.10.29 @ 12:59:10

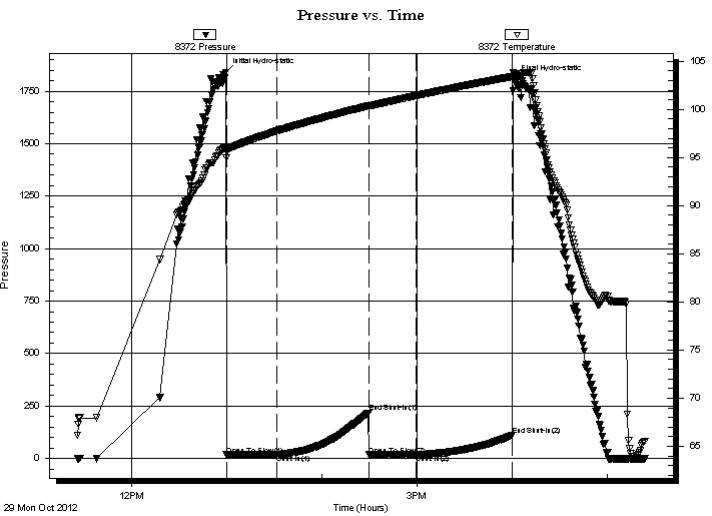
Time Off Btm: 2012.10.29 @ 16:01:09

TEST COMMENT: IF:(30min) Blow died in 6 min.

IS:(60min) No Return

FF:(30min) No Blow

FS:(60min) No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1840.17	96.13	Initial Hydro-static
1	16.72	94.97	Open To Flow (1)
33	17.91	97.73	Shut-In(1)
91	218.07	100.37	End Shut-In(1)
91	16.98	100.28	Open To Flow (2)
121	18.37	101.43	Shut-In(2)
181	110.84	103.41	End Shut-In(2)
182	1807.35	103.71	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
3.00	Mud w / oil spks in tool	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 Company Inc.

28-11s-20w Ellis,KS

250 N. Water STE 300
Wichita KS 67202

Keller Aust #1-28

Job Ticket: 49362

DST#: 2

ATTN: Paul Gunzelman

Test Start: 2012.10.29 @ 11:26:05

Tool Information

Drill Pipe:	Length: 3645.00 ft	Diameter: 3.80 inches	Volume: 51.13 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 58000.00 lb
			<u>Total Volume: 51.28 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 51000.00 lb
Depth to Top Packer:	3684.00 ft			Final 51000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	60.00 ft			
Tool Length:	83.00 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			3662.00	
Shut In Tool	5.00			3667.00	
Hydraulic tool	5.00			3672.00	
Safety Joint	3.00			3675.00	
Packer	5.00			3680.00	23.00 Bottom Of Top Packer
Packer	4.00			3684.00	
Stubb	1.00			3685.00	
Perforations	5.00			3690.00	
Change Over Sub	1.00			3691.00	
Recorder	0.00	8372	Inside	3691.00	
Recorder	0.00	8017	Outside	3691.00	
Drill Pipe	32.00			3723.00	
Perforations	18.00			3741.00	
Bullnose	3.00			3744.00	60.00 Bottom Packers & Anchor

Total Tool Length: 83.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company Inc.

28-11s-20w Ellis,KS

250 N. Water STE 300
Wichita KS 67202

Keller Aust #1-28

Job Ticket: 49362

DST#: 2

ATTN: Paul Gunzelman

Test Start: 2012.10.29 @ 11:26:05

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: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.37 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4600.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
3.00	Mud w / oil spks in tool	0.015

Total Length: 3.00 ft Total Volume: 0.015 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

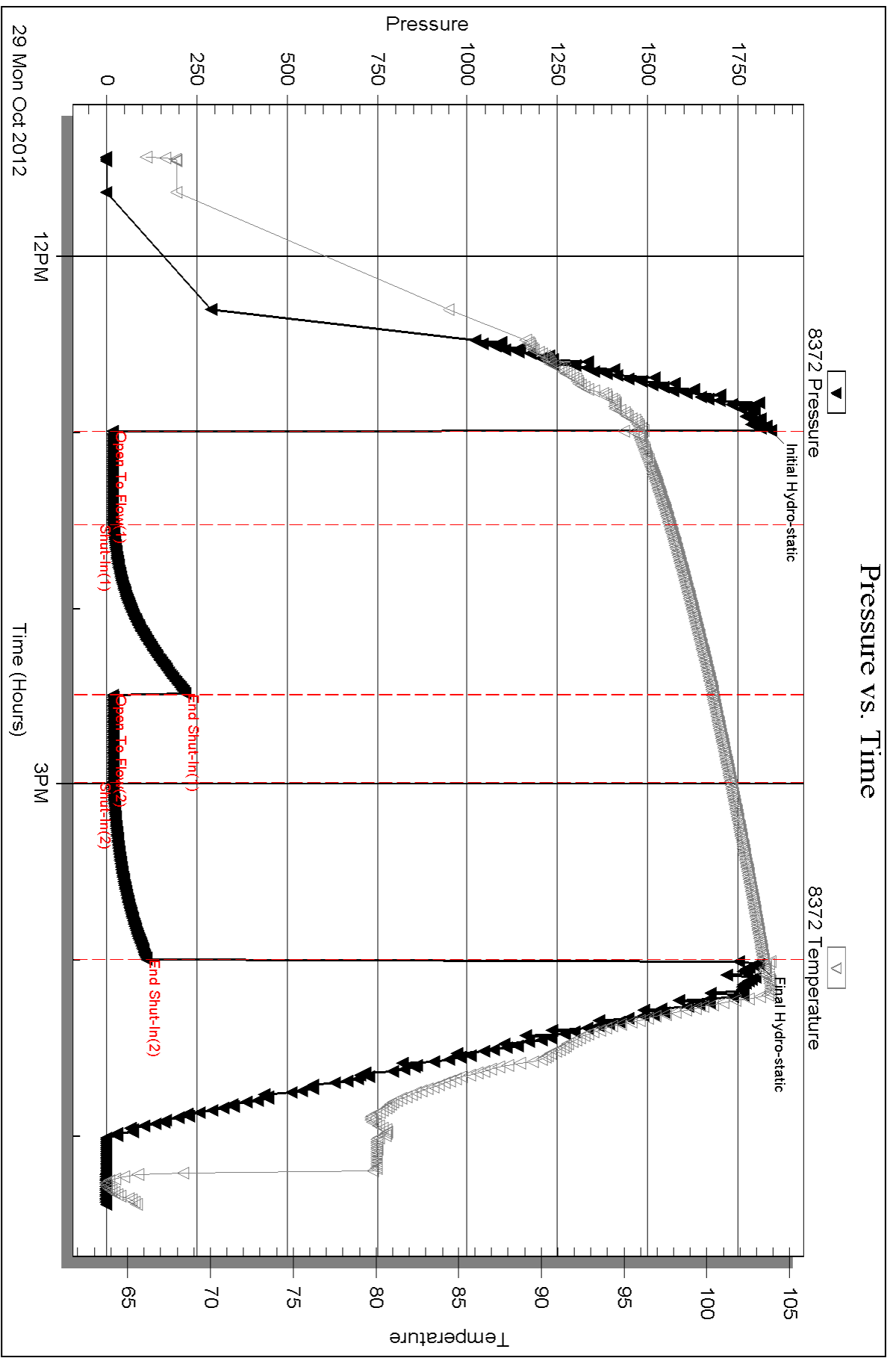
Serial #: 8372

Inside

Murfin Drilling Company Inc.

Keller Aust #1-28

DST Test Number: 2

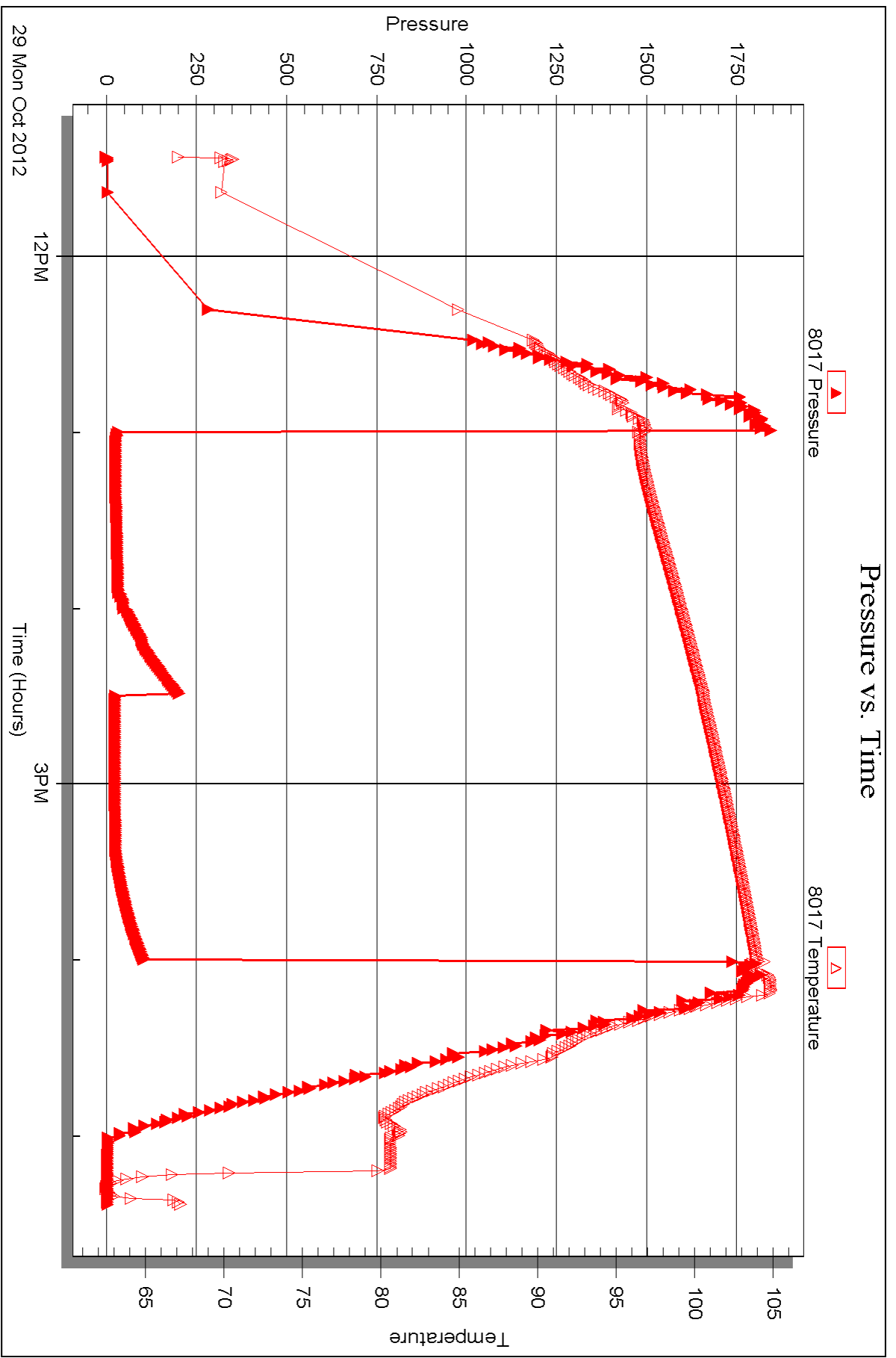


Serial #: 8017

Outside Murfin Drilling Company Inc.

Keller Aust #1-28

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 49362

Printed: 2012.11.05 @ 13:27:18



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita KS 67202

ATTN: Paul Gunzelman

Keller Aust #1-28

28-11s-20w Ellis,KS

Start Date: 2012.10.30 @ 05:50:05

End Date: 2012.10.30 @ 14:00:09

Job Ticket #: 49363 DST #: 3

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

Printed: 2012.11.05 @ 13:26:10



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Company Inc.

28-11s-20w Ellis, KS

250 N. Water STE 300
Wichita KS 67202

Keller Aust #1-28

Job Ticket: 49363

DST#: 3

ATTN: Paul Gunzelman

Test Start: 2012.10.30 @ 05:50:05

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:45:20

Time Test Ended: 14:00:09

Test Type: Conventional Bottom Hole (Reset)

Tester: Cody Bloedorn

Unit No: 39

Interval: 3825.00 ft (KB) To 3858.00 ft (KB) (TVD)

Reference Elevations: 2212.00 ft (KB)

Total Depth: 3858.00 ft (KB) (TVD)

2207.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8372 Inside

Press @ Run Depth: 155.80 psig @ 3826.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.10.30

End Date: 2012.10.30

Last Calib.: 2012.10.30

Start Time: 05:50:05

End Time: 14:00:10

Time On Btm: 2012.10.30 @ 07:45:10

Time Off Btm: 2012.10.30 @ 11:45:50

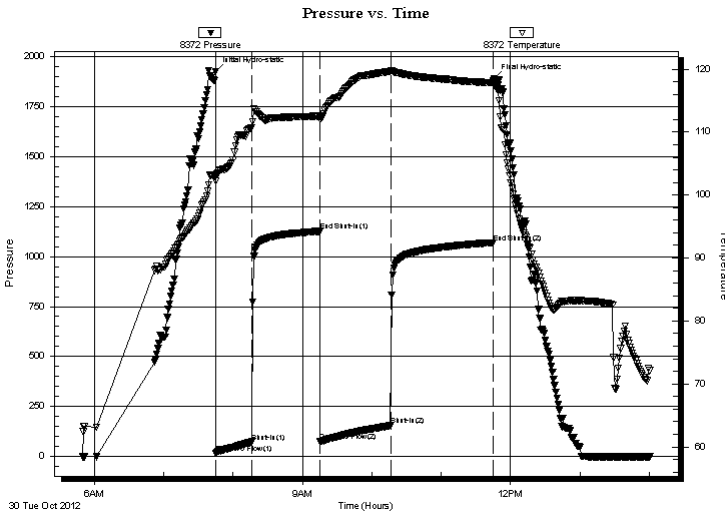
TEST COMMENT: IF:(30min) 2" blow in 6 min. 6" in 15 min. 8" in 19 min. BOB in 27 min.

ISl:(60min) No Return

FF:(60min) 2" blow in 5 min. 6" in 15 min. 8" in 21 min. BOB in 31 min.

FSl:(90min) No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1925.12	103.12	Initial Hydro-static
1	16.74	102.17	Open To Flow (1)
32	73.35	110.61	Shut-In(1)
91	1127.23	112.56	End Shut-In(1)
91	75.95	112.03	Open To Flow (2)
152	155.80	119.67	Shut-In(2)
240	1070.66	117.84	End Shut-In(2)
241	1891.73	117.55	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	OSMW o=tr m=20% w =80%	0.56
60.00	MCWO m=10% o=20% w =70%	0.84
135.00	MCGO g=5% m=10% o=85%	1.89
85.00	GO g=15% o=85%	1.19

* 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 Company Inc.

28-11s-20w Ellis,KS

250 N. Water STE 300
Wichita KS 67202

Keller Aust #1-28

Job Ticket: 49363

DST#: 3

ATTN: Paul Gunzelman

Test Start: 2012.10.30 @ 05:50:05

Tool Information

Drill Pipe:	Length: 3802.00 ft	Diameter: 3.80 inches	Volume: 53.33 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 53.48 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3825.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	33.00 ft			
Tool Length:	56.00 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			3803.00	
Shut In Tool	5.00			3808.00	
Hydraulic tool	5.00			3813.00	
Safety Joint	3.00			3816.00	
Packer	5.00			3821.00	23.00 Bottom Of Top Packer
Packer	4.00			3825.00	
Stubb	1.00			3826.00	
Recorder	0.00	8372	Inside	3826.00	
Recorder	0.00	8017	Outside	3826.00	
Perforations	29.00			3855.00	
Bullnose	3.00			3858.00	33.00 Bottom Packers & Anchor

Total Tool Length: 56.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company Inc.

28-11s-20w Ellis,KS

250 N. Water STE 300
Wichita KS 67202

Keller Aust #1-28

Job Ticket: 49363

DST#: 3

ATTN: Paul Gunzelman

Test Start: 2012.10.30 @ 05:50:05

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:

20000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbf

Water Loss: 6.38 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4600.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
60.00	OSMW o=tr m=20% w=80%	0.559
60.00	MCWO m=10% o=20% w=70%	0.842
135.00	MCGO g=5% m=10% o=85%	1.894
85.00	GO g=15% o=85%	1.192

Total Length: 340.00 ft

Total Volume: 4.487 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

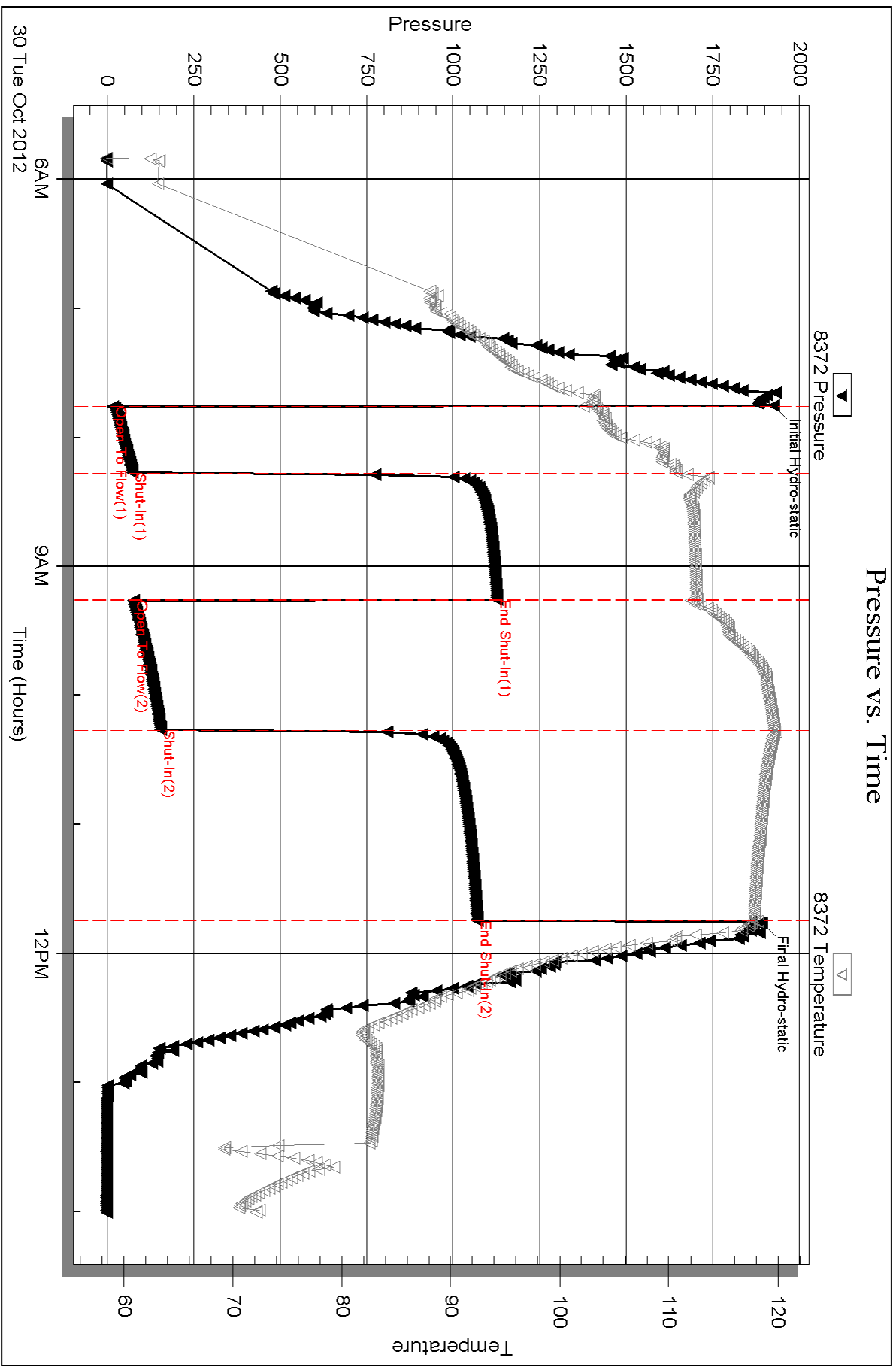
Serial #: 8372

Inside

Murfin Drilling Company Inc.

Keller Aust #1-28

DST Test Number: 3

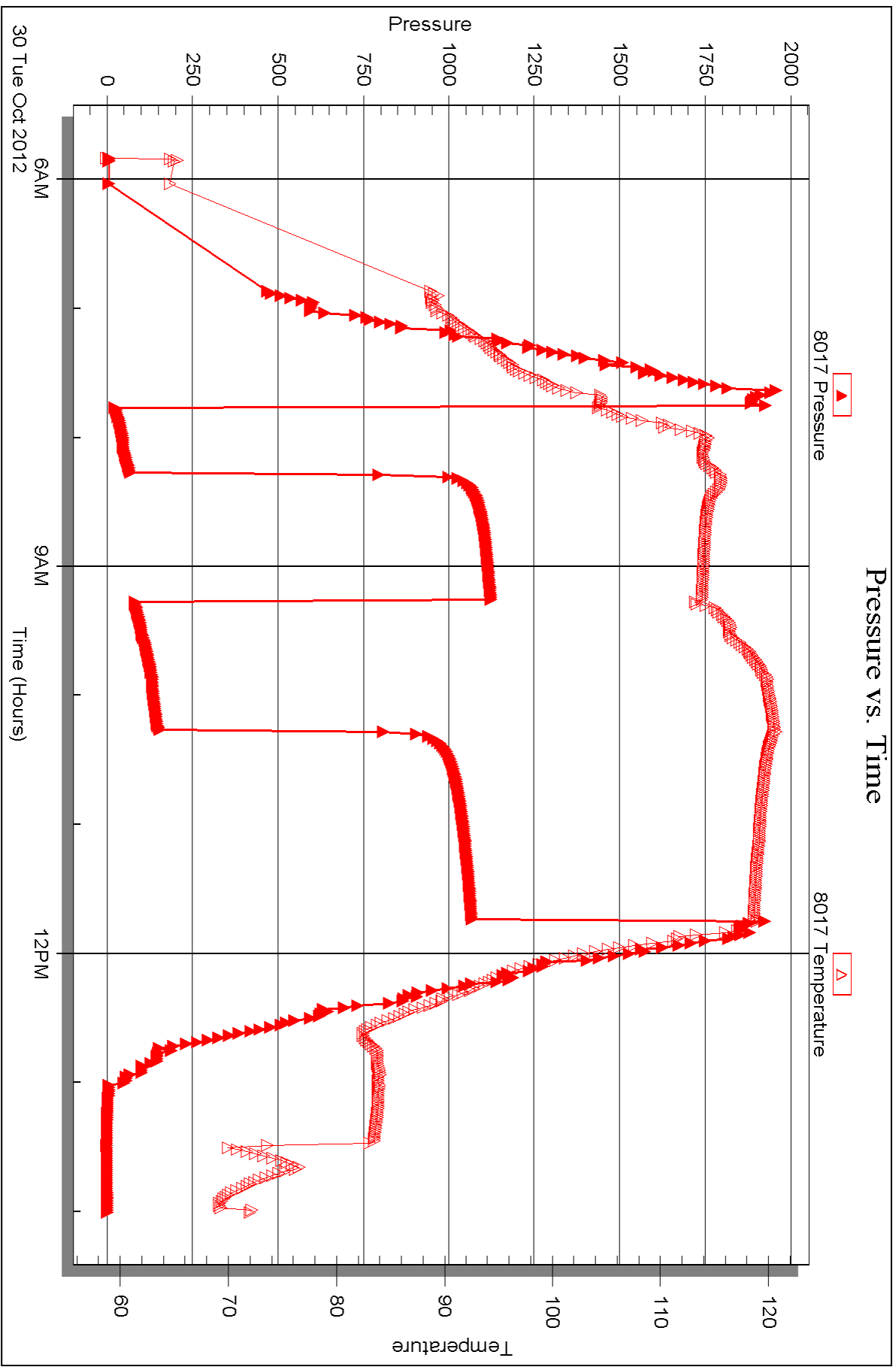


Serial #: 8017

Outside Murfin Drilling Company Inc.

Keller Aust #1-28

DST Test Number: 3





DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita KS 67202

ATTN: Paul Gunzelman

Keller Aust #1-28

28-11s-20w Ellis,KS

Start Date: 2012.10.30 @ 18:51:05

End Date: 2012.10.31 @ 01:19:50

Job Ticket #: 49364 DST #: 4

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

Printed: 2012.11.05 @ 13:25:26



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Company Inc.

28-11s-20w Ellis,KS

250 N. Water STE 300
Wichita KS 67202

Keller Aust #1-28

Job Ticket: 49364

DST#: 4

ATTN: Paul Gunzelman

Test Start: 2012.10.30 @ 18:51:05

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:35:40

Time Test Ended: 01:19:50

Test Type: Conventional Bottom Hole (Reset)

Tester: Cody Bloedorn

Unit No: 39

Interval: 3858.00 ft (KB) To 3864.00 ft (KB) (TVD)

Reference Elevations: 2212.00 ft (KB)

Total Depth: 3864.00 ft (KB) (TVD)

2207.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8372 Inside

Press @ RunDepth: 32.43 psig @ 3859.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.10.30

End Date:

2012.10.31

Last Calib.: 2012.10.31

Start Time: 18:51:05

End Time:

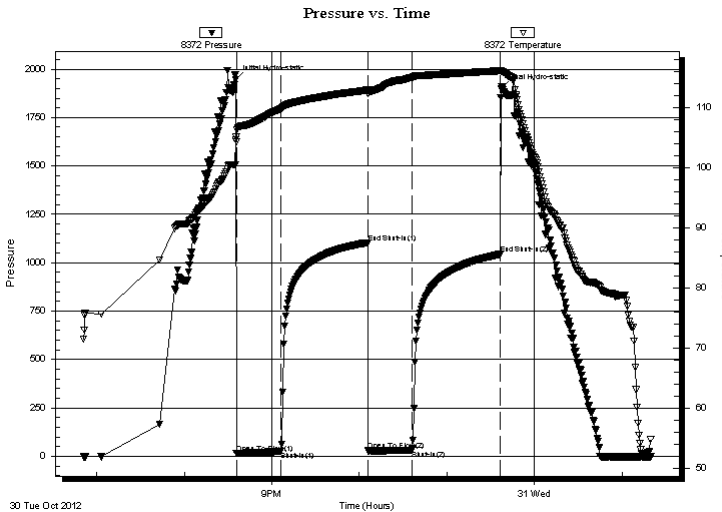
01:19:50

Time On Btm: 2012.10.30 @ 20:35:20

Time Off Btm: 2012.10.30 @ 23:37:20

TEST COMMENT: IF:(30min) Weak Surface Blow , died in 27 min
ISl:(60min) No Return
FF:(30min) No Blow
FSl:(60min) No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1946.61	104.66	Initial Hydro-static
1	17.50	104.44	Open To Flow (1)
31	25.94	109.88	Shut-In(1)
91	1104.41	112.98	End Shut-In(1)
91	29.40	112.38	Open To Flow (2)
121	32.43	115.10	Shut-In(2)
181	1043.71	116.20	End Shut-In(2)
182	1899.29	116.10	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	MW m=20% w=80%	0.10

* 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 Company Inc.

28-11s-20w Ellis,KS

250 N. Water STE 300
Wichita KS 67202

Keller Aust #1-28

Job Ticket: 49364

DST#: 4

ATTN: Paul Gunzelman

Test Start: 2012.10.30 @ 18:51:05

Tool Information

Drill Pipe:	Length: 3808.00 ft	Diameter: 3.80 inches	Volume: 53.42 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 53.57 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	4.00 ft			String Weight: Initial 51000.00 lb
Depth to Top Packer:	3858.00 ft			Final 51000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	6.00 ft			
Tool Length:	29.00 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			3836.00	
Shut In Tool	5.00			3841.00	
Hydraulic tool	5.00			3846.00	
Safety Joint	3.00			3849.00	
Packer	5.00			3854.00	23.00 Bottom Of Top Packer
Packer	4.00			3858.00	
Stubb	1.00			3859.00	
Recorder	0.00	8372	Inside	3859.00	
Recorder	0.00	8017	Outside	3859.00	
Perforations	2.00			3861.00	
Bullnose	3.00			3864.00	6.00 Bottom Packers & Anchor

Total Tool Length: 29.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company Inc.

28-11s-20w Ellis,KS

250 N. Water STE 300
Wichita KS 67202

Keller Aust #1-28

Job Ticket: 49364

DST#: 4

ATTN: Paul Gunzelman

Test Start: 2012.10.30 @ 18:51:05

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:

20000 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: 5200.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	MW m=20% w=80%	0.098

Total Length: 20.00 ft Total Volume: 0.098 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

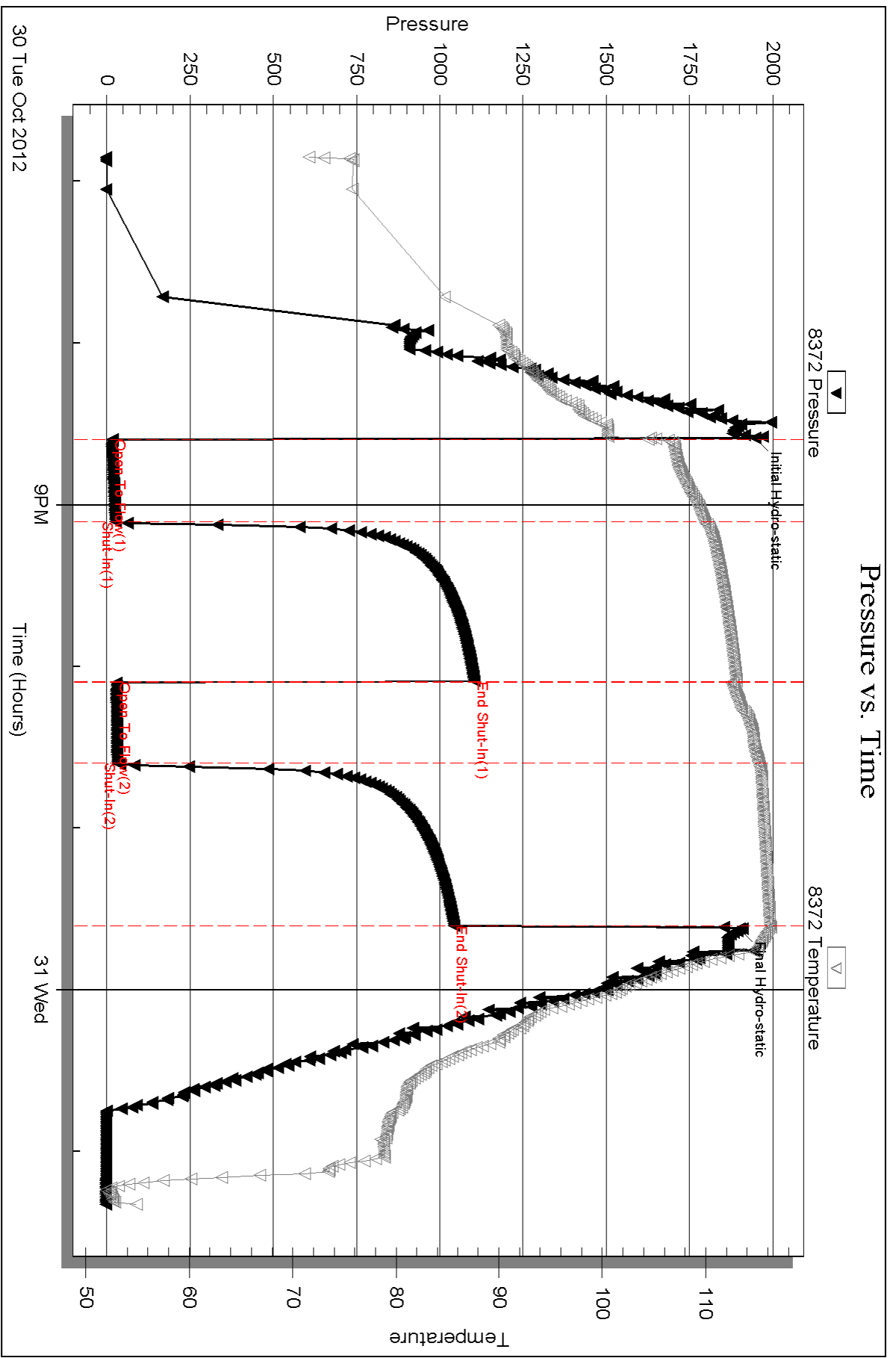
Serial #: 8372

Inside

Murfin Drilling Company Inc.

Keller Aust #1-28

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 49364

Printed: 2012.11.05 @ 13:25:30



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita KS 67202

ATTN: Paul Gunzelman

Keller Aust #1-28

28-11s-20w Ellis,KS

Start Date: 2012.10.31 @ 07:14:05

End Date: 2012.10.31 @ 14:49:39

Job Ticket #: 49365 DST #: 5

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

Printed: 2012.11.05 @ 13:24:39



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Company Inc.

28-11s-20w Ellis,KS

250 N. Water STE 300
Wichita KS 67202

Keller Aust #1-28

ATTN: Paul Gunzelman

Job Ticket: 49365

DST#: 5

Test Start: 2012.10.31 @ 07:14:05

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:59:50

Time Test Ended: 14:49:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Andy Carreira

Unit No: 39

Interval: 3864.00 ft (KB) To 3870.00 ft (KB) (TVD)

Total Depth: 3598.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2212.00 ft (KB)

2207.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8372

Inside

Press @ Run Depth: 145.22 psig @ 3865.00 ft (KB)

Start Date: 2012.10.31

End Date: 2012.10.31

Start Time: 07:14:05

End Time: 14:49:40

Capacity: 8000.00 psig

Last Calib.: 2012.10.31

Time On Btm: 2012.10.31 @ 08:59:40

Time Off Btm: 2012.10.31 @ 13:00:59

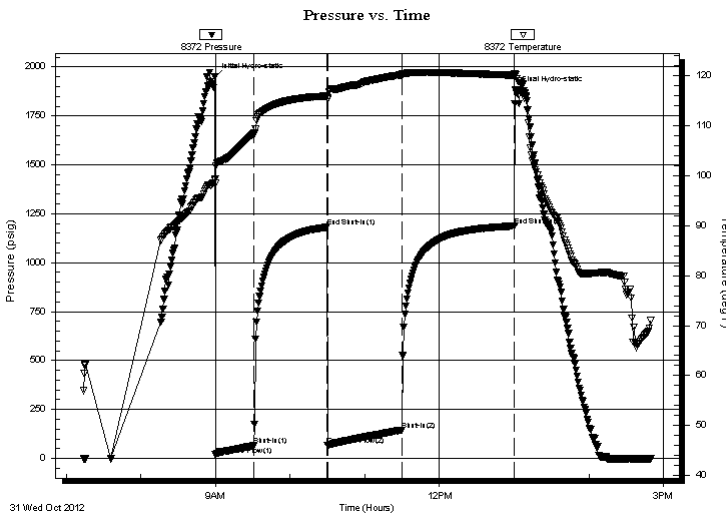
TEST COMMENT: IF:(30min) 2" blow in 6 min. 6" in 20 min. Built to 8" in 28 min.

ISl:(60min) No Return

FF:(60min) 2" blow in 5 min. 6" in 17 min. 8" in 24 min. BOB in 39 min.

FSl:(90min) No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1947.57	99.37	Initial Hydro-static
1	17.72	98.50	Open To Flow (1)
32	65.36	108.41	Shut-In(1)
91	1181.49	115.94	End Shut-In(1)
91	66.74	115.32	Open To Flow (2)
151	145.22	120.19	Shut-In(2)
241	1187.74	120.09	End Shut-In(2)
242	1881.44	120.15	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
275.00	MW m=10% w=90%	3.58

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 Company Inc.

28-11s-20w Ellis,KS

250 N. Water STE 300
Wichita KS 67202

Keller Aust #1-28

Job Ticket: 49365

DST#: 5

ATTN: Paul Gunzelman

Test Start: 2012.10.31 @ 07:14:05

Tool Information

Drill Pipe:	Length: 3840.00 ft	Diameter: 3.80 inches	Volume: 53.87 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	22000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume: 54.02 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial	51000.00 lb
Depth to Top Packer:	3864.00 ft			Final	53000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	6.00 ft				
Tool Length:	29.00 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			3842.00	
Shut In Tool	5.00			3847.00	
Hydraulic tool	5.00			3852.00	
Safety Joint	3.00			3855.00	
Packer	5.00			3860.00	23.00 Bottom Of Top Packer
Packer	4.00			3864.00	
Stubb	1.00			3865.00	
Recorder	0.00	8372	Inside	3865.00	
Recorder	0.00	8017	Outside	3865.00	
Perforations	2.00			3867.00	
Bullnose	3.00			3870.00	6.00 Bottom Packers & Anchor

Total Tool Length: 29.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company Inc.

28-11s-20w Ellis,KS

250 N. Water STE 300
Wichita KS 67202

Keller Aust #1-28

Job Ticket: 49365

DST#: 5

ATTN: Paul Gunzelman

Test Start: 2012.10.31 @ 07:14:05

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:

16000 ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5200.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
275.00	MW m=10% w=90%	3.575

Total Length: 275.00 ft

Total Volume: 3.575 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

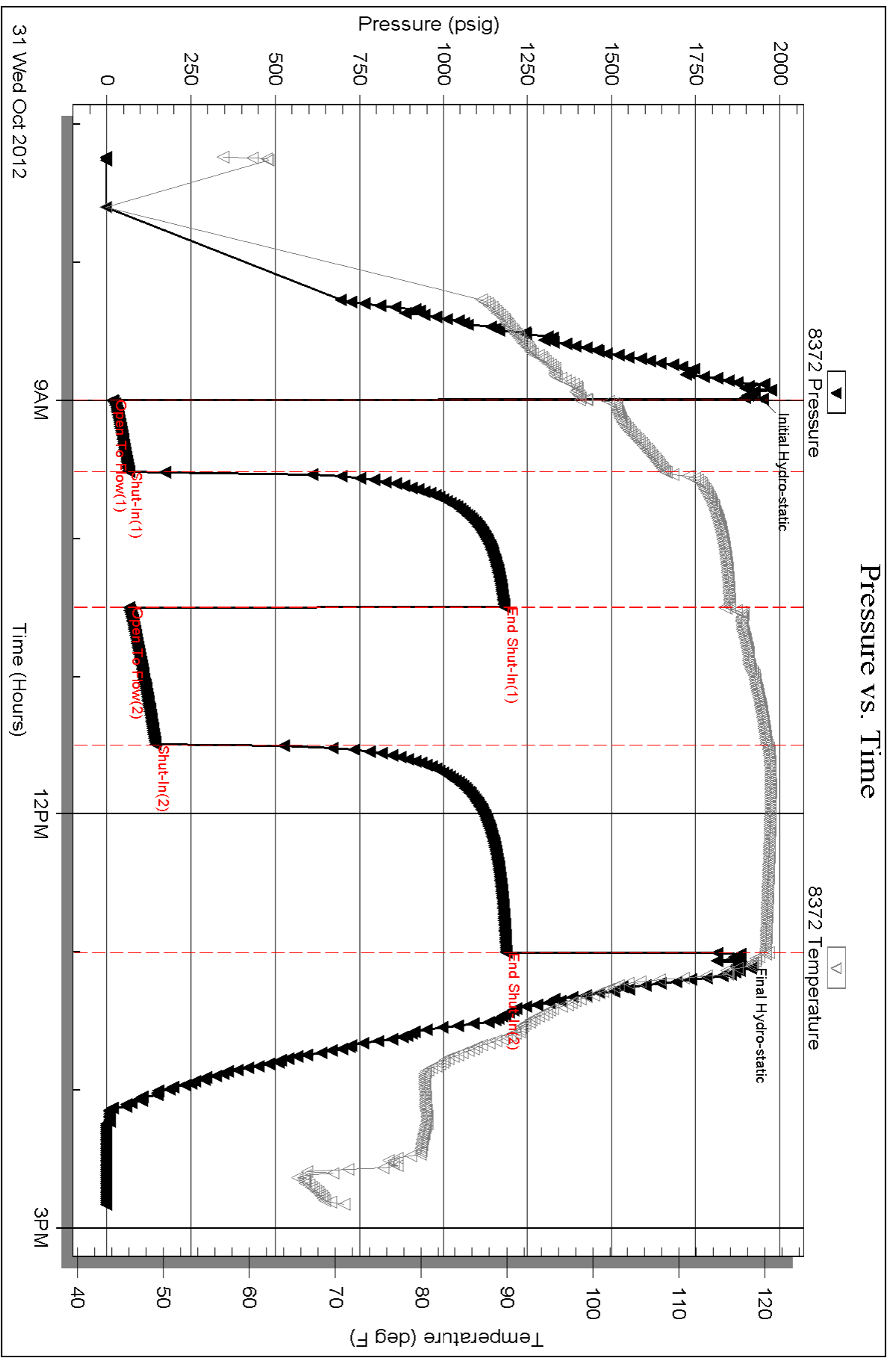
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Inside

Murfin Drilling Company Inc.

Keller Aust #1-28

DST Test Number: 5

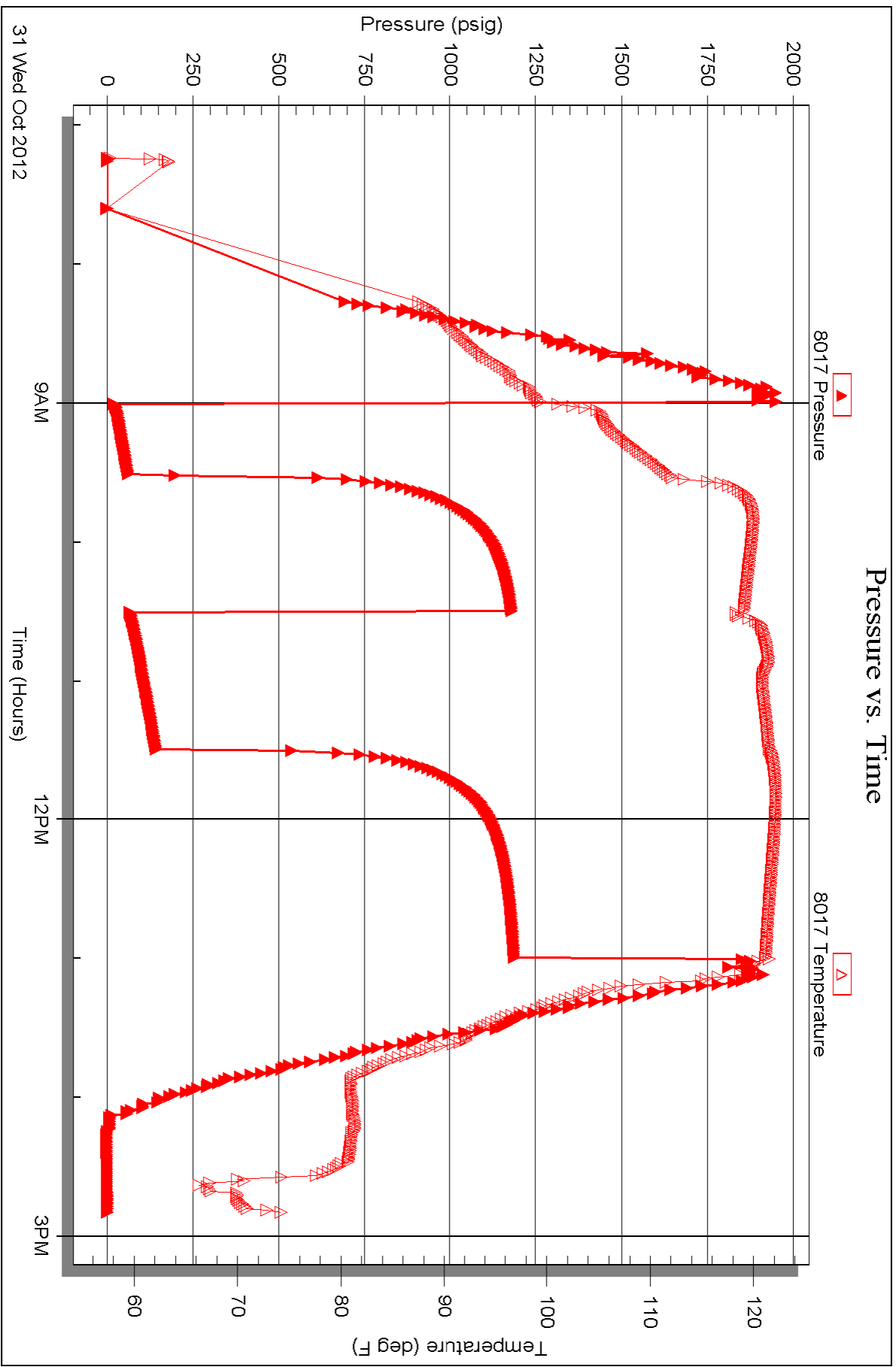


Serial #: 8017

Outside Murfin Drilling Company Inc.

Keller Aust #1-28

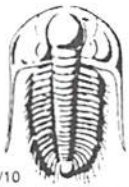
DST Test Number: 5



Triobite Testing, Inc

Ref. No: 49365

Printed: 2012.11.05 @ 13:24:44



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 51021

4/10

Well Name & No. Keller - Aust 1-28 Test No. 1 Date 10-28-12
 Company Murfin Drilling Company, Inc Elevation 2212 KB 2207 GL
 Address 250 N Water STE 300, Wichita KS, 67202
 Co. Rep / Geo. Paul Gunzelman ~~Wichita~~ Rig Murfin 16
 Location: Sec. 28 Twp. 11s Rge. 20w Co. ELLIS State KS

Interval Tested 3525 ~~3525~~ 3598 Zone Tested LKC A-D
 Anchor Length 73' Drill Pipe Run 3487' Mud Wt. 8.8
 Top Packer Depth 3520 Drill Collars Run 31 Vis 52
 Bottom Packer Depth 3525 Wt. Pipe Run — WL 6.8
 Total Depth 3598 Chlorides 3500 ppm System LCM —

Blow Description IF - Built to 1/2" in 10 Min. & stayed @ 1/2"
ISI - No blow back.
FF - 1/4" blow
FSI - No blow back.

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

Rec Total 10' BHT 108° Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic 1795 Test 1150 T-On Location 7:35am
 (B) First Initial Flow 48 Jars _____ T-Started 9:37am
 (C) First Final Flow 51 Safety Joint 75 T-Open 12:03pm
 (D) Initial Shut-In 712 Circ Sub _____ T-Pulled 3:03pm
 (E) Second Initial Flow 50 Hourly Standby _____ T-Out 4:25pm
 (F) Second Final Flow 53 Mileage 60RT 93 Comments _____
 (G) Final Shut-In 634 Sampler _____
 (H) Final Hydrostatic 1763 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1318
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1318

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

Approved By _____ Our Representative Cody [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. 49362

Well Name & No. Keller - Aust #1-28 Test No. 2 Date 10-29-12
 Company Mue Fin Delg. Co. Inc. Elevation 2212 KB 2207 GL
 Address 250 N Water, STE 300 Wichita Ks. 67202
 Co. Rep / Geo. Paul Gunzelman Rig Mue Fin 16
 Location: Sec. 28 Twp. 11S Rge. 20W Co. Ellis State Ks

Interval Tested 3684 - 3744 Zone Tested LKC "I-K"
 Anchor Length 60' Drill Pipe Run 3645' Mud Wt. 9.1
 Top Packer Depth 3679 Drill Collars Run ~~30~~ 31 Vis 57
 Bottom Packer Depth 3684 Wt. Pipe Run 0 WL 6.4
 Total Depth 3744 Chlorides 4600 ppm System LCM 0

Blow Description IT: Blow size in 6 min.
ISI: No Return
FF: No Blow
FSI: No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>3</u>	<u>Feet of mud w/ oil spks in tool</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

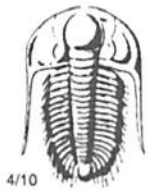
Rec Total 3 BHT 103 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1840 Test 1150 T-On Location 11:07
 (B) First Initial Flow 16 Jars T-Started 11:26
 (C) First Final Flow 17 Safety Joint 75 T-Open 13:00
 (D) Initial Shut-In 218 Circ Sub T-Pulled 16:00
 (E) Second Initial Flow 16 Hourly Standby T-Out 17:24
 (F) Second Final Flow 18 Mileage 60RT 93 Comments _____
 (G) Final Shut-In 110 Sampler _____
 (H) Final Hydrostatic 1807 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Initial Open 30 Ruined Shale Packer _____
 Initial Shut-In 60 Ruined Packer _____
 Final Flow 30 Extra Copies _____
 Final Shut-In 60 Sub Total 0
 Total 1318
 Sub Total 1318 MP/DST Disc't _____

Approved By _____ Our Representative Paul Gunzelman

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. 49363

Well Name & No. Keller - Aust #1-28 Test No. 3 Date 10-30-12
 Company Murfin Drilg Co, Inc Elevation 2212 KB 2207 GL
 Address 250 N Water STE 300 Wichita Ks. 67202
 Co. Rep / Geo. Paul Gunzelman Rig Murfin 16
 Location: Sec. 28 Twp. 11S Rge. 20W Co. Ellis State Ks

Interval Tested 3825-3858 Zone Tested Arbuckle
 Anchor Length 33' Drill Pipe Run 3802 Mud Wt. 9.1
 Top Packer Depth 3820 Drill Collars Run 31 Vis 57
 Bottom Packer Depth 3825 Wt. Pipe Run 0 WL 6.4
 Total Depth 3858 Chlorides 4600 ppm System LCM 0
 Blow Description IF: 2" blow in 6min, 6" in 15min, 8" in 19min, BOB in 27min
FSI: NO Return
FF: 2" blow in 5min, 6" in 15min, 8" in 21min BOB in 31min
FSI: NO Return

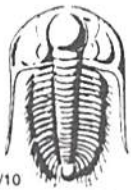
Rec	Feet of	%gas	%oil	%water	%mud
85	BO	15	85		
135	MCGO	5	85		10
60	MCWO		20	70	10
60	OSMN			80	20

Rec Total 340 BHT 117 Gravity 20 API RW .41 @ 56 ° F Chlorides 20,000 ppm

(A) Initial Hydrostatic 1925 Test ← 1150 T-On Location 05:16
 (B) First Initial Flow 16 Jars T-Started 05:50
 (C) First Final Flow 73 Safety Joint ← 75 T-Open 07:45
 (D) Initial Shut-In 1127 Circ Sub T-Pulled 11:45
 (E) Second Initial Flow 75 Hourly Standby T-Out 14:00
 (F) Second Final Flow 155 Mileage GORTE 93 Comments _____
 (G) Final Shut-In 1070 Sampler _____
 (H) Final Hydrostatic 1891 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Initial Open 30 Ruined Shale Packer _____
 Initial Shut-In 60 Ruined Packer _____
 Final Flow 60 Extra Copies _____
 Final Shut-In 90 Sub Total 0
 Total 1318
 Sub Total 1318 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. 49364

Well Name & No. Keller - Aust #1-28 Test No. 4 Date 10-30-12
 Company Murfin Delg. Co. inc Elevation 2212 KB 2207 GL
 Address 250 N Water STE 300 Wichita Ks 67202
 Co. Rep / Geo. Paul Gunzelman Rig Murfin 16
 Location: Sec. 28 Twp. 11s Rge. 20W Co. Ellis State Ks

Interval Tested 3858-3864 Zone Tested Arbuckle
 Anchor Length 6' Drill Pipe Run 3808 Mud Wt. 9.3
 Top Packer Depth 3853 Drill Collars Run 31 Vis 5.6
 Bottom Packer Depth 3858 Wt. Pipe Run 0 WL 6.0
 Total Depth 3864 Chlorides 5200 ppm System LCM 3
 Blow Description IF: Weak surface blow, died in 27 min
ISI: NO Return
FF: NO Blow
FSI: NO Return

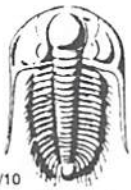
Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>Feet of MW</u>			<u>80</u>	<u>20</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 20 BHT 116° Gravity _____ API RW .57 @ 50 °F Chlorides 20,000 ppm

(A) Initial Hydrostatic <u>1946</u>	<input checked="" type="checkbox"/> Test <u>←</u> 1150	T-On Location <u>18:13</u>
(B) First Initial Flow <u>17</u>	<input checked="" type="checkbox"/> Jars <u>←</u> 250	T-Started <u>18:51</u>
(C) First Final Flow <u>25</u>	<input checked="" type="checkbox"/> Safety Joint <u>←</u> 75	T-Open <u>20:36</u>
(D) Initial Shut-In <u>1104</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>23:36</u>
(E) Second Initial Flow <u>29</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>01:20</u>
(F) Second Final Flow <u>32</u>	<input checked="" type="checkbox"/> Mileage <u>← 60RT</u> 93	Comments _____
(G) Final Shut-In <u>1043</u>	<input type="checkbox"/> Sampler _____	_____
(H) Final Hydrostatic <u>1899</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>1568</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1568</u>	

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49365

Well Name & No. Keller - Aust #1-28 Test No. 5 Date 10-31-12
 Company Murfin Delg. Co. Inc Elevation 2212 KB 2207 GL
 Address 250 N WATER STE 300 Wichita Ks. 67202
 Co. Rep / Geo. Paul Bunzelman Rig Murfin 16
 Location: Sec. 28 Twp. 11s Rge. 20W Co. Ellis State Ks

Interval Tested 3864 - 3870 Zone Tested Rebuckle
 Anchor Length 6 Drill Pipe Run 3840 Mud Wt. 9.3
 Top Packer Depth 3859 Drill Collars Run 31 Vis 56
 Bottom Packer Depth 3864 Wt. Pipe Run 0 WL 6.0
 Total Depth 3870 Chlorides 5200 ppm System LCM 3
 Blow Description IF: 2" blow in 6min. 6" in 20min. Built to 8" in 28min
ISI: NO Return
FP: 2" blow in 5min. 6" in 17min, 8" in 24min BOB in 39min
FST: NO Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>275'</u>	<u>MW</u>			<u>90%</u>	<u>10%</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 275' BHT 120° Gravity _____ API RW .45 @ 64 ° F Chlorides 16000 ppm

(A) Initial Hydrostatic <u>1947</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>07:09</u>
(B) First Initial Flow <u>17</u>	<input type="checkbox"/> Jars _____	T-Started <u>07:14</u>
(C) First Final Flow <u>65</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>09:00</u>
(D) Initial Shut-In <u>1181</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>13:00</u>
(E) Second Initial Flow <u>66</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>14:50</u>
(F) Second Final Flow <u>145</u>	<input checked="" type="checkbox"/> Mileage <u>GORTE</u> 93	Comments _____
(G) Final Shut-In <u>1187</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1881</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>60</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby _____	Total <u>1318</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1318</u>	

Approved By _____ Our Representative Paul Bunzelman
 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.