



DRILL STEM TEST REPORT

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

250 N Water STE 300
Wichita KS 67202

ATTN: Jeff Christian

Jones 'A' #1-17

17-1s-37w Cheyenne,KS

Start Date: 2013.01.26 @ 09:50:00

End Date: 2013.01.26 @ 16:49:00

Job Ticket #: 49009 DST #: 1

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

Printed: 2013.02.04 @ 15:42:09



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

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

17-1s-37w Cheyenne,KS

Jones 'A' #1-17

Job Ticket: 49009

DST#: 1

Test Start: 2013.01.26 @ 09:50:00

GENERAL INFORMATION:

Formation: **LKC A**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 12:11:00
 Time Test Ended: 16:49:00
 Interval: **4062.00 ft (KB) To 4145.00 ft (KB) (TVD)**
 Total Depth: 4145.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Wilbur Steinbeck
 Unit No: 40
 Reference Elevations: 3149.00 ft (KB)
 3139.00 ft (CF)
 KB to GR/CF: 10.00 ft

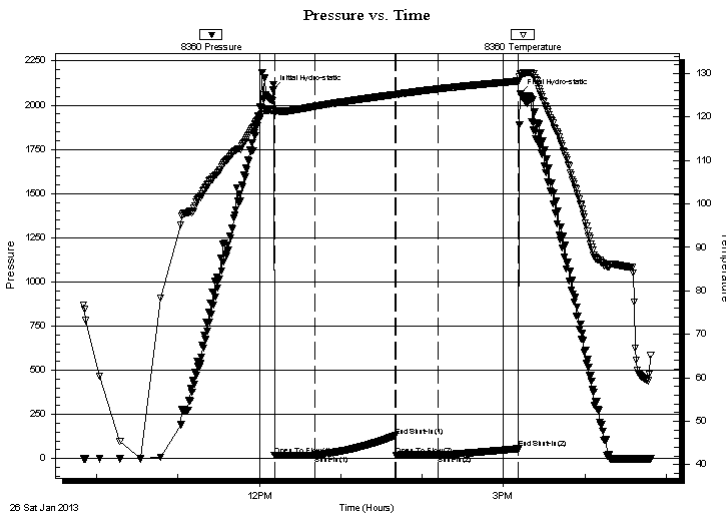
Serial #: 8360

Inside

Press @ Run Depth: 21.38 psig @ 4063.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.01.26 End Date: 2013.01.26 Last Calib.: 2013.01.26
 Start Time: 09:50:15 End Time: 16:49:00 Time On Btm: 2013.01.26 @ 12:10:00
 Time Off Btm: 2013.01.26 @ 15:12:30

TEST COMMENT: 30 IF; Weak blow built to 1/4"
 60 IS; No Blow
 30 FF; No Blow
 60 FS; No Blow

PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 2086.74 | 121.54 | Initial Hydro-static |
| 1 | 18.21 | 120.73 | Open To Flow (1) |
| 31 | 20.11 | 122.48 | Shut-In(1) |
| 90 | 129.18 | 125.18 | End Shut-In(1) |
| 91 | 20.29 | 125.14 | Open To Flow (2) |
| 122 | 21.38 | 126.48 | Shut-In(2) |
| 181 | 56.52 | 128.30 | End Shut-In(2) |
| 183 | 2063.47 | 129.96 | 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

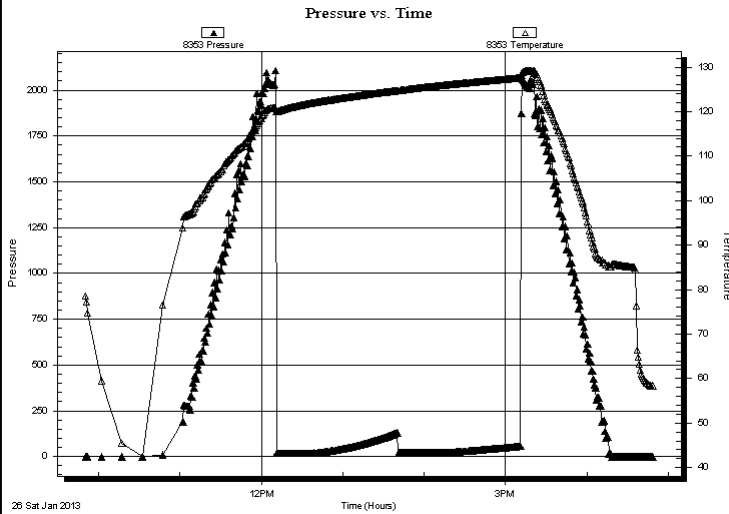
17-1s-37w Cheyenne,KS
Jones 'A' #1-17
Job Ticket: 49009 **DST#: 1**
Test Start: 2013.01.26 @ 09:50:00

GENERAL INFORMATION:

| | | | |
|-------------------|---|----------------------|---|
| Formation: | LKC A | | |
| Deviated: | No Whipstock: | ft (KB) | Test Type: Conventional Bottom Hole (Initial) |
| Time Tool Opened: | 12:11:00 | | Tester: Wilbur Steinbeck |
| Time Test Ended: | 16:49:00 | | Unit No: 40 |
| Interval: | 4062.00 ft (KB) To 4145.00 ft (KB) (TVD) | | Reference Elevations: 3149.00 ft (KB) |
| Total Depth: | 4145.00 ft (KB) (TVD) | | 3139.00 ft (CF) |
| Hole Diameter: | 7.88 inches | Hole Condition: Fair | KB to GR/CF: 10.00 ft |

| | | | |
|-----------------------|------------------------|---------------|--------------|
| Serial #: 8353 | Outside | | |
| Press @ RunDepth: | psig @ 4063.00 ft (KB) | Capacity: | 8000.00 psig |
| Start Date: | 2013.01.26 | End Date: | 2013.01.26 |
| Start Time: | 09:50:15 | End Time: | 16:48:45 |
| | | Last Calib.: | 2013.01.26 |
| | | Time On Btm: | |
| | | Time Off Btm: | |

TEST COMMENT: 30 IF; Weak blow built to 1/4"
 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) |
|----------------|-----------------|------------------|
| | | |



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

17-1s-37w Cheyenne,KS

250 N Water STE 300
Wichita KS 67202

Jones 'A' #1-17

Job Ticket: 49009

DST#: 1

ATTN: Jeff Christian

Test Start: 2013.01.26 @ 09:50:00

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 3509.00 ft | Diameter: 3.80 inches | Volume: 49.22 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: 75000.00 lb |
| | | | <u>Total Volume: 51.85 bbl</u> | Tool Chased 2.00 ft |
| Drill Pipe Above KB: | 8.00 ft | | | String Weight: Initial 70000.00 lb |
| Depth to Top Packer: | 4062.00 ft | | | Final 70000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 83.00 ft | | | |
| Tool Length: | 110.00 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 | | | 4036.00 | |
| Shut In Tool | 5.00 | | | 4041.00 | |
| Hydraulic tool | 5.00 | | | 4046.00 | |
| Jars | 5.00 | | | 4051.00 | |
| Safety Joint | 2.00 | | | 4053.00 | |
| Packer | 5.00 | | | 4058.00 | 27.00 Bottom Of Top Packer |
| Packer | 4.00 | | | 4062.00 | |
| Stubb | 1.00 | | | 4063.00 | |
| Recorder | 0.00 | 8360 | Inside | 4063.00 | |
| Recorder | 0.00 | 8353 | Outside | 4063.00 | |
| Perforations | 15.00 | | | 4078.00 | |
| Change Over Sub | 1.00 | | | 4079.00 | |
| Drill Pipe | 62.00 | | | 4141.00 | |
| Change Over Sub | 1.00 | | | 4142.00 | |
| Bullnose | 3.00 | | | 4145.00 | 83.00 Bottom Packers & Anchor |

Total Tool Length: 110.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

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

17-1s-37w Cheyenne,KS
Jones 'A' #1-17
Job Ticket: 49009 **DST#: 1**
Test Start: 2013.01.26 @ 09:50:00

Mud and Cushion Information

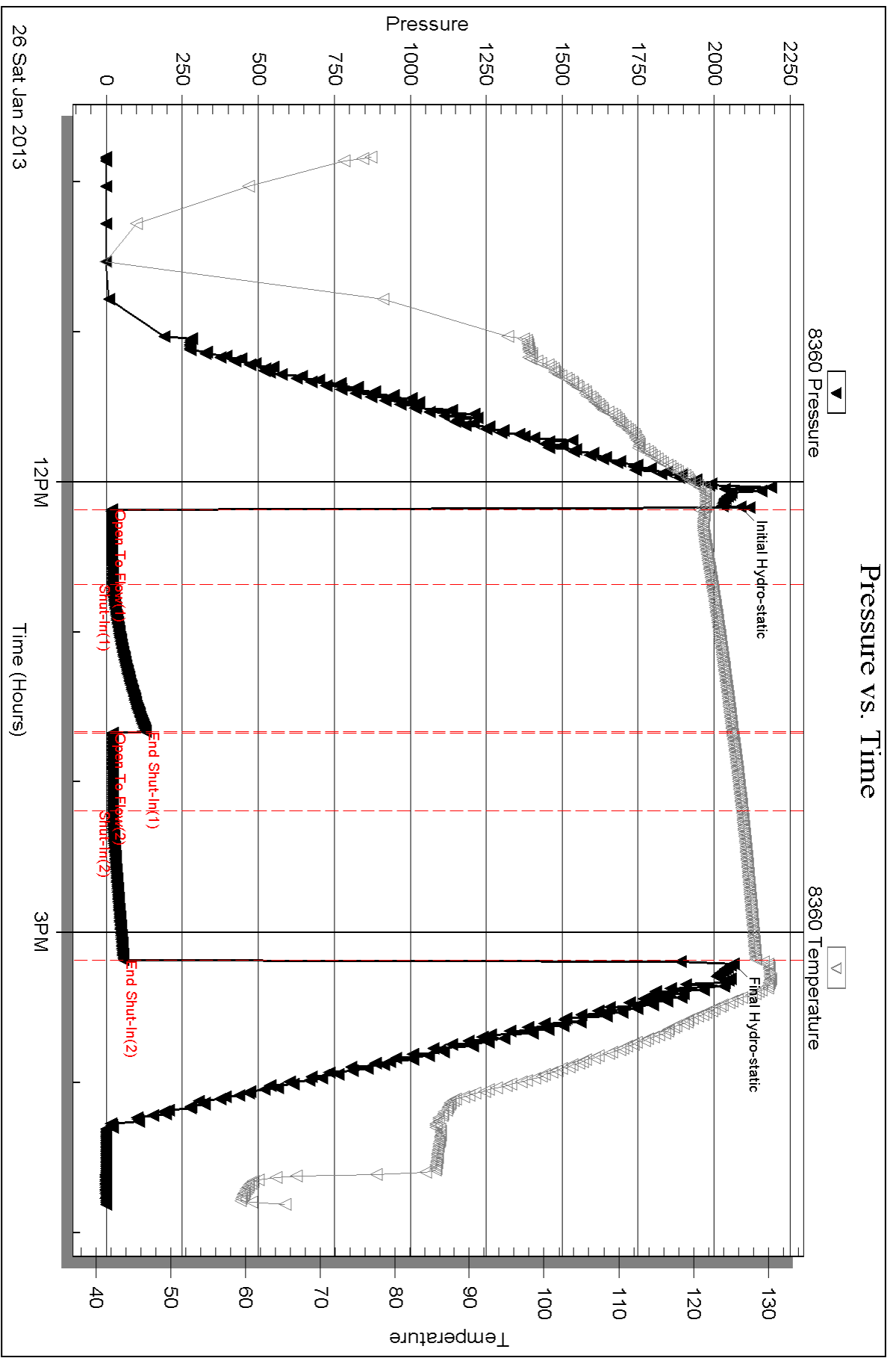
| | | | |
|----------------------------------|----------------------------|-----------------|---------|
| Mud Type: Gel Chem | Cushion Type: | Oil API: | deg API |
| Mud Weight: 9.00 lb/gal | Cushion Length: ft | Water Salinity: | ppm |
| Viscosity: 55.00 sec/qt | Cushion Volume: bbl | | |
| Water Loss: 6.18 in ³ | Gas Cushion Type: | | |
| Resistivity: ohm.m | Gas Cushion Pressure: psig | | |
| Salinity: 1200.00 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:

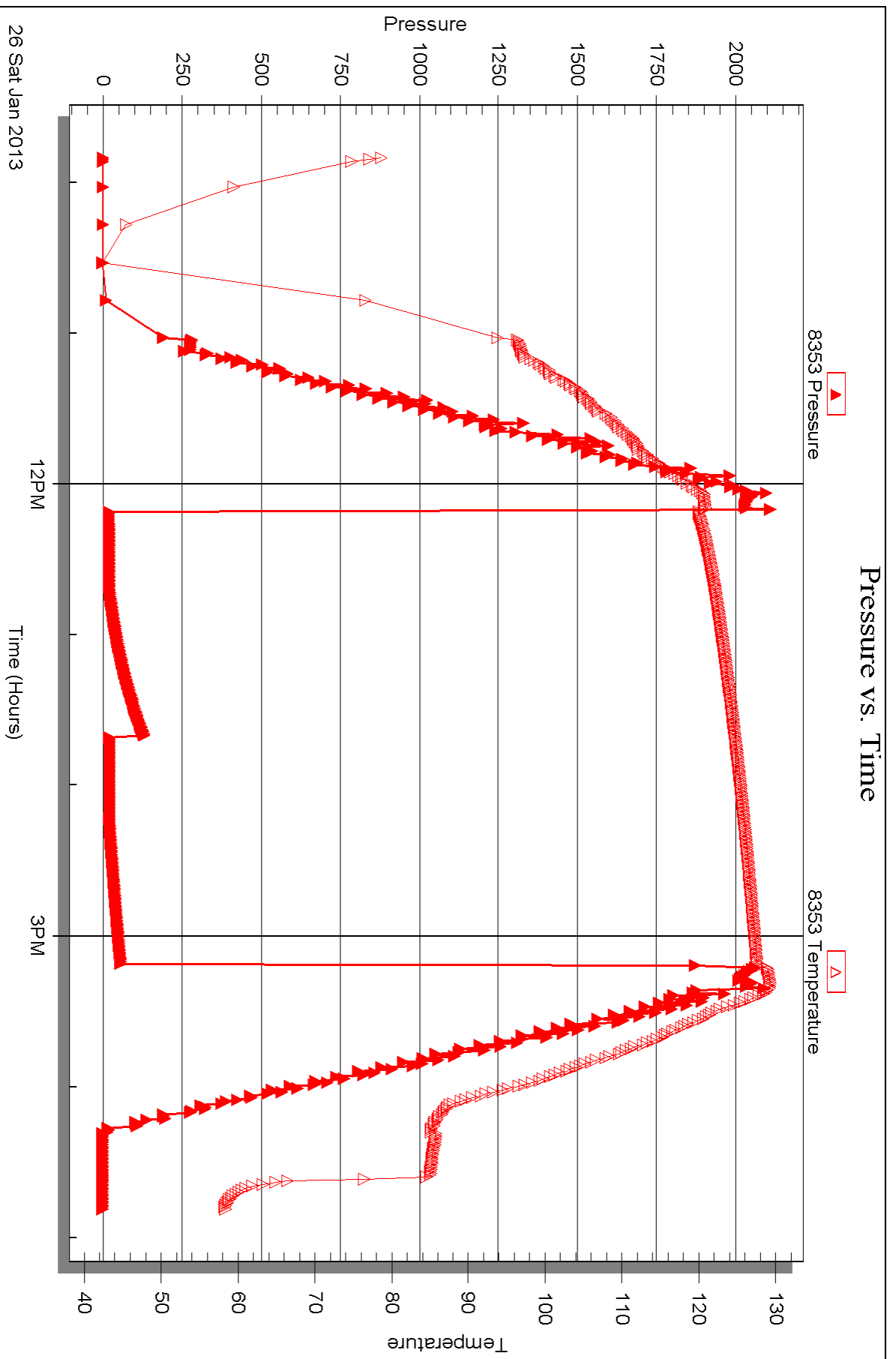


Serial #: 8353

Outside Murfin Drilling Co. Inc.

Jones 'A' #1-17

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 49009

Printed: 2013.02.04 @ 15:42:12



DRILL STEM TEST REPORT

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

250 N Water STE 300
Wichita KS 67202

ATTN: Jeff Christian

Jones 'A' #1-17

17-1s-37w Cheyenne,KS

Start Date: 2013.01.27 @ 00:05:00

End Date: 2013.01.27 @ 08:31:15

Job Ticket #: 49010 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.02.04 @ 15:41:28

Murfin Drilling Co. Inc.

17-1s-37w Cheyenne,KS

Jones 'A' #1-17

DST # 2

LKC D

2013.01.27



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

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

17-1s-37w Cheyenne, KS

Jones 'A' #1-17

Job Ticket: 49010

DST#: 2

Test Start: 2013.01.27 @ 00:05:00

GENERAL INFORMATION:

Formation: **LKC D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:35:15

Time Test Ended: 08:31:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Wilbur Steinbeck

Unit No: 40

Interval: 4130.00 ft (KB) To 4182.00 ft (KB) (TVD)

Reference Elevations: 3149.00 ft (KB)

Total Depth: 4182.00 ft (KB) (TVD)

3139.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8360

Inside

Press @ Run Depth: 125.21 psig @ 4131.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.01.27

End Date:

2013.01.27

Last Calib.: 2013.01.27

Start Time: 00:05:15

End Time:

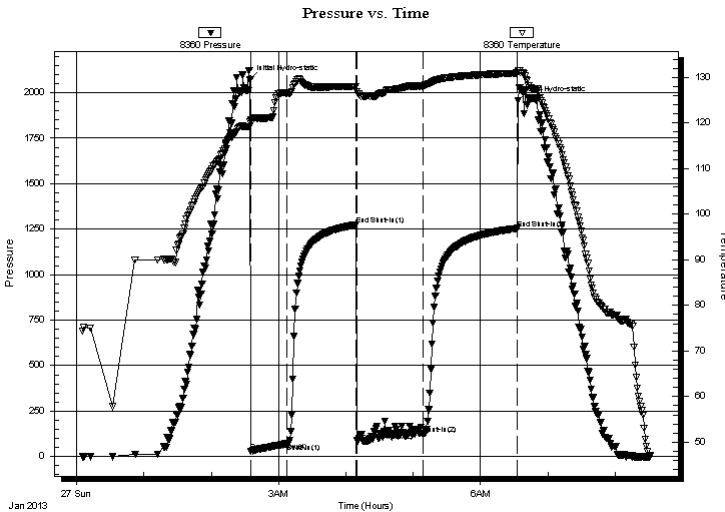
08:31:15

Time On Btm: 2013.01.27 @ 02:34:30

Time Off Btm: 2013.01.27 @ 06:33:45

TEST COMMENT: 30 IF; Built to 6"
60 IS; No Blow
60 FF; Built to 6"
90 FS; No Blow

PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 2072.72 | 120.27 | Initial Hydro-static |
| 1 | 27.47 | 120.50 | Open To Flow (1) |
| 33 | 71.46 | 126.58 | Shut-In(1) |
| 95 | 1273.81 | 127.96 | End Shut-In(1) |
| 96 | 85.91 | 126.98 | Open To Flow (2) |
| 155 | 125.21 | 128.20 | Shut-In(2) |
| 239 | 1254.48 | 130.95 | End Shut-In(2) |
| 240 | 1956.98 | 131.56 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------------|--------------|
| 200.00 | OCM 5%G 35%O 60%M | 0.98 |
| | | |
| | | |
| | | |
| | | |

* 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

17-1s-37w Cheyenne,KS
Jones 'A' #1-17
Job Ticket: 49010 **DST#: 2**
Test Start: 2013.01.27 @ 00:05:00

GENERAL INFORMATION:

Formation: **LKC D**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 02:35:15
Time Test Ended: 08:31:15
Interval: 4130.00 ft (KB) To 4182.00 ft (KB) (TVD)
Total Depth: 4182.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole (Reset)
Tester: Wilbur Steinbeck
Unit No: 40
Reference Elevations: 3149.00 ft (KB)
3139.00 ft (CF)
KB to GR/CF: 10.00 ft

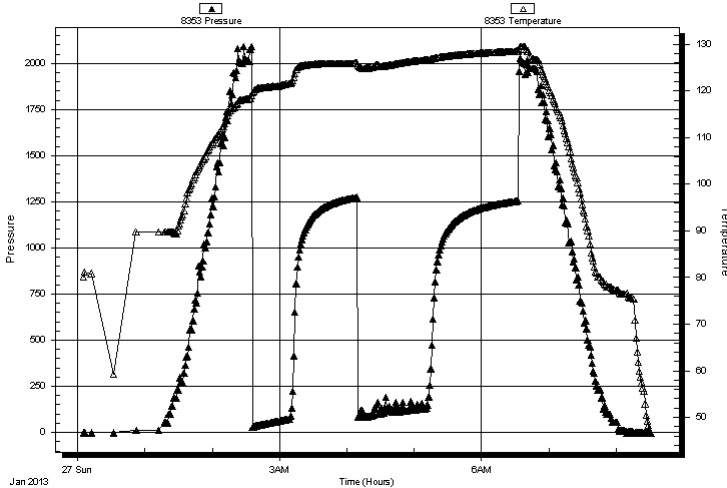
Serial #: 8353 Outside

Press @ RunDepth: psig @ 4131.00 ft (KB)
Start Date: 2013.01.27 End Date: 2013.01.27
Start Time: 00:05:15 End Time: 08:31:15

Capacity: 8000.00 psig
Last Calib.: 2013.01.27
Time On Btm:
Time Off Btm:

TEST COMMENT: 30 IF; Built to 6"
60 ISI; No Blow
60 FF; Built to 6"
90 FSI; No Blow

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------------|--------------|
| 200.00 | OCM 5%G 35%O 60%M | 0.98 |
| | | |
| | | |
| | | |
| | | |
| | | |

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.

17-1s-37w Cheyenne,KS

250 N Water STE 300
Wichita KS 67202

Jones 'A' #1-17

Job Ticket: 49010

DST#: 2

ATTN: Jeff Christian

Test Start: 2013.01.27 @ 00:05:00

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 3584.00 ft | Diameter: 3.80 inches | Volume: 50.27 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: 75000.00 lb |
| | | | <u>Total Volume: 52.90 bbl</u> | Tool Chased 20.00 ft |
| Drill Pipe Above KB: | 15.00 ft | | | String Weight: Initial 68000.00 lb |
| Depth to Top Packer: | 4130.00 ft | | | Final 68000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 52.00 ft | | | |
| Tool Length: | 79.00 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 | | | 4104.00 | |
| Shut In Tool | 5.00 | | | 4109.00 | |
| Hydraulic tool | 5.00 | | | 4114.00 | |
| Jars | 5.00 | | | 4119.00 | |
| Safety Joint | 2.00 | | | 4121.00 | |
| Packer | 5.00 | | | 4126.00 | 27.00 Bottom Of Top Packer |
| Packer | 4.00 | | | 4130.00 | |
| Stubb | 1.00 | | | 4131.00 | |
| Recorder | 0.00 | 8360 | Inside | 4131.00 | |
| Recorder | 0.00 | 8353 | Outside | 4131.00 | |
| Perforations | 15.00 | | | 4146.00 | |
| Change Over Sub | 1.00 | | | 4147.00 | |
| Drill Pipe | 31.00 | | | 4178.00 | |
| Change Over Sub | 1.00 | | | 4179.00 | |
| Bullnose | 3.00 | | | 4182.00 | 52.00 Bottom Packers & Anchor |

Total Tool Length: 79.00



**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

17-1s-37w Cheyenne,KS
Jones 'A' #1-17
Job Ticket: 49010 **DST#: 2**
Test Start: 2013.01.27 @ 00:05:00

Mud and Cushion Information

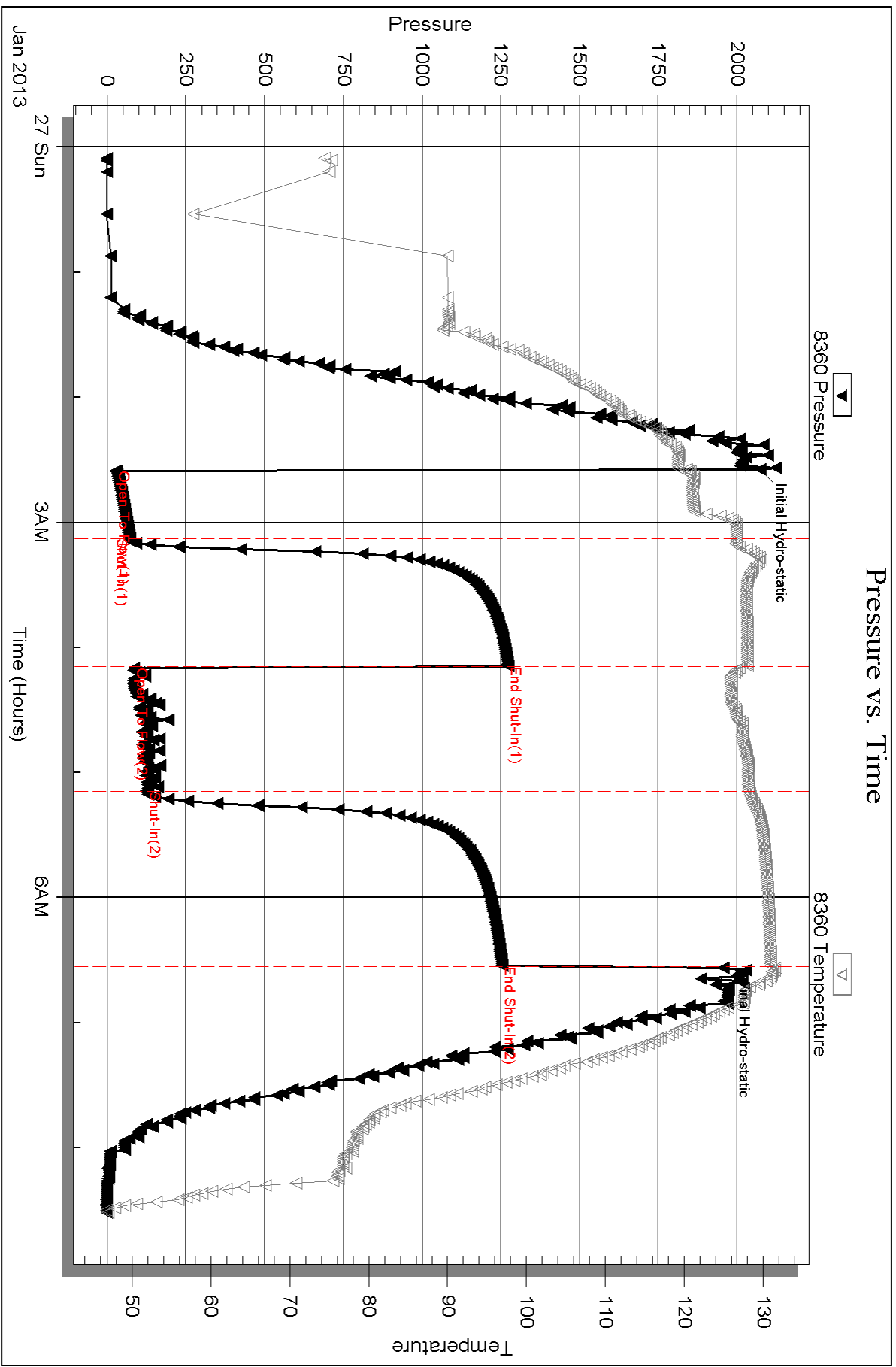
| | | | |
|----------------------------------|----------------------------|-----------------|---------|
| Mud Type: Gel Chem | Cushion Type: | Oil API: | deg API |
| Mud Weight: 9.00 lb/gal | Cushion Length: ft | Water Salinity: | ppm |
| Viscosity: 53.00 sec/qt | Cushion Volume: bbl | | |
| Water Loss: 5.98 in ³ | Gas Cushion Type: | | |
| Resistivity: ohm.m | Gas Cushion Pressure: psig | | |
| Salinity: 1600.00 ppm | | | |
| Filter Cake: inches | | | |

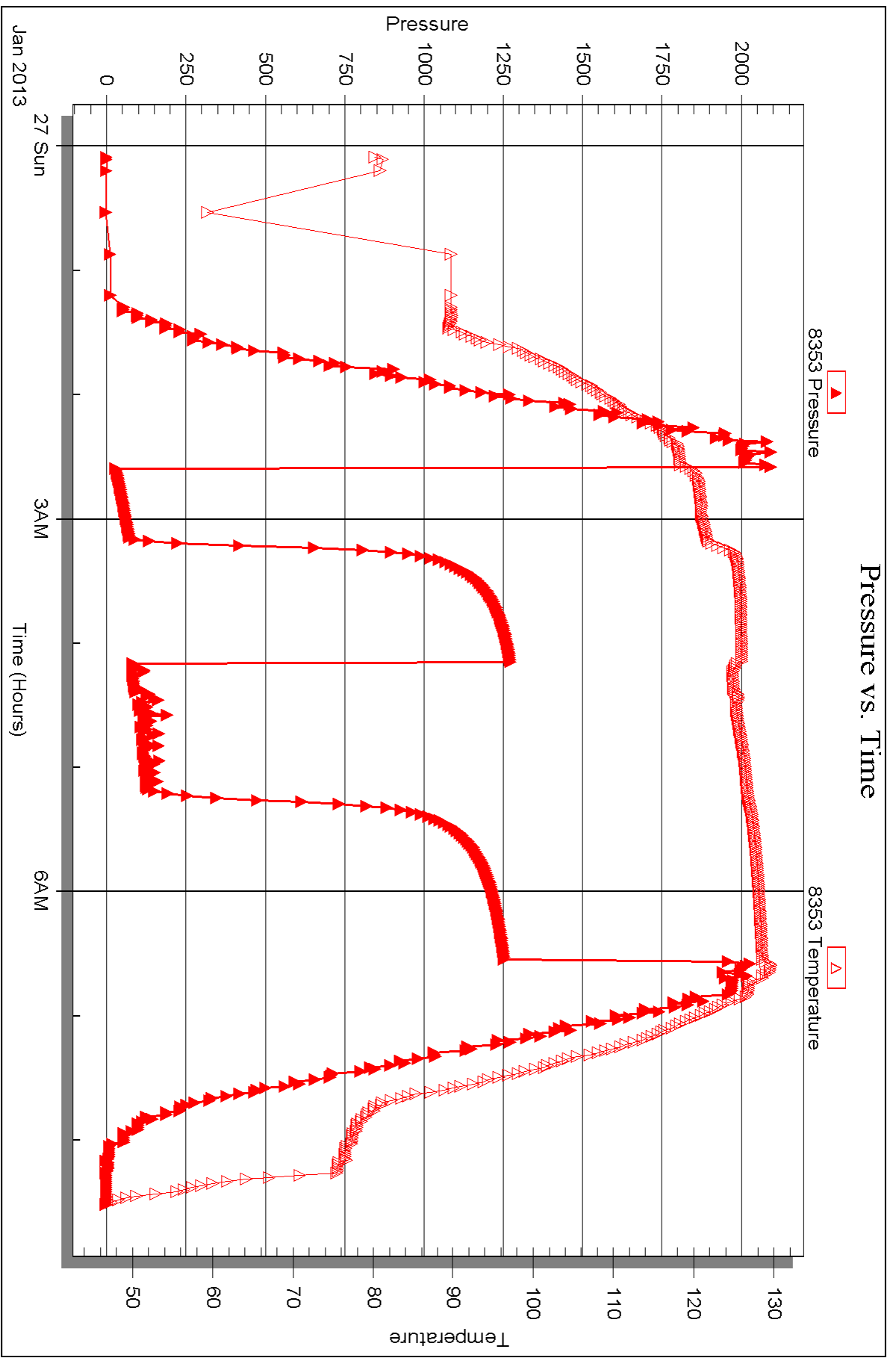
Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|-------------------|---------------|
| 200.00 | OCM 5%G 35%O 60%M | 0.984 |

Total Length: 200.00 ft Total Volume: 0.984 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:







DRILL STEM TEST REPORT

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

250 N Water STE 300
Wichita KS 67202

ATTN: Jeff Christian

Jones 'A' #1-17

17-1s-37w Cheyenne,KS

Start Date: 2013.01.27 @ 21:30:15

End Date: 2013.01.28 @ 04:05:00

Job Ticket #: 49011 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.02.04 @ 15:38:02

Murfin Drilling Co. Inc.

17-1s-37w Cheyenne,KS

Jones 'A' #1-17

DST # 3

LKC,G,H,I

2013.01.27



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

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

17-1s-37w Cheyenne,KS

Jones 'A' #1-17

Job Ticket: 49011

DST#: 3

Test Start: 2013.01.27 @ 21:30:15

GENERAL INFORMATION:

Formation: **LKC G,H,I**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 23:19:30
 Time Test Ended: 04:05:00
 Interval: **4194.00 ft (KB) To 4296.00 ft (KB) (TVD)**
 Total Depth: 4296.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Wilbur Steinbeck
 Unit No: 40
 Reference Elevations: 3149.00 ft (KB)
 3139.00 ft (CF)
 KB to GR/CF: 10.00 ft

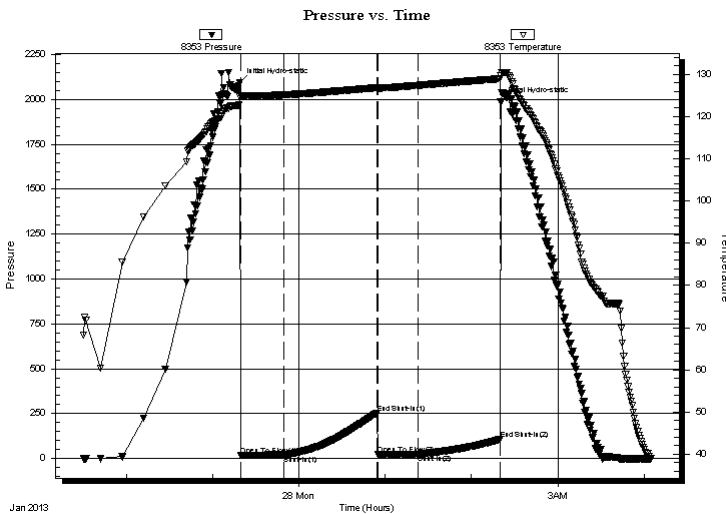
Serial #: 8353

Outside

Press @ Run Depth: 23.52 psig @ 4195.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.01.27 End Date: 2013.01.28 Last Calib.: 2013.01.28
 Start Time: 21:30:15 End Time: 04:05:00 Time On Btm: 2013.01.27 @ 23:18:45
 Time Off Btm: 2013.01.28 @ 02:20:15

TEST COMMENT: 30 IF; Weak 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 | 2094.23 | 124.67 | Initial Hydro-static |
| 1 | 18.00 | 124.83 | Open To Flow (1) |
| 31 | 20.29 | 125.13 | Shut-In(1) |
| 96 | 253.89 | 126.83 | End Shut-In(1) |
| 96 | 21.07 | 126.81 | Open To Flow (2) |
| 124 | 23.52 | 127.37 | Shut-In(2) |
| 181 | 105.87 | 128.95 | End Shut-In(2) |
| 182 | 1985.34 | 129.75 | 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) |
|----------------|-----------------|------------------|
| | | |



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

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

17-1s-37w Cheyenne,KS

Jones 'A' #1-17

Job Ticket: 49011

DST#: 3

Test Start: 2013.01.27 @ 21:30:15

GENERAL INFORMATION:

Formation: **LKC G,H,I**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 23:19:30
 Time Test Ended: 04:05:00
 Interval: **4194.00 ft (KB) To 4296.00 ft (KB) (TVD)**
 Total Depth: 4296.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Wilbur Steinbeck
 Unit No: 40
 Reference Elevations: 3149.00 ft (KB)
 3139.00 ft (CF)
 KB to GR/CF: 10.00 ft

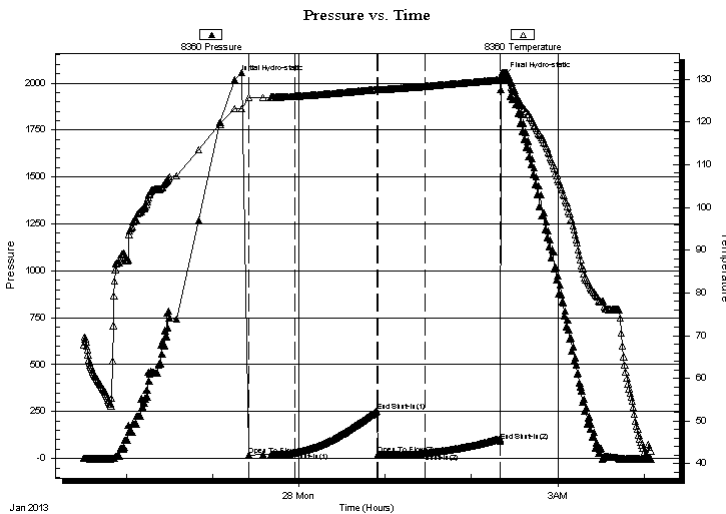
Serial #: 8360

Inside

Press @ Run Depth: 94.14 psig @ 4195.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.01.27 End Date: 2013.01.28 Last Calib.: 2013.01.28
 Start Time: 21:30:10 End Time: 04:05:00 Time On Btm: 2013.01.27 @ 23:15:00
 Time Off Btm: 2013.01.28 @ 02:21:45

TEST COMMENT: 30 IF; Weak 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 | 2019.16 | 123.11 | Initial Hydro-static |
| 10 | 19.01 | 125.78 | Open To Flow (1) |
| 42 | 30.85 | 126.00 | Shut-In(1) |
| 100 | 253.66 | 127.60 | End Shut-In(1) |
| 100 | 21.77 | 127.51 | Open To Flow (2) |
| 133 | 28.04 | 128.31 | Shut-In(2) |
| 185 | 94.14 | 129.83 | End Shut-In(2) |
| 187 | 2034.81 | 131.59 | 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) |
|----------------|-----------------|------------------|
| | | |



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

17-1s-37w Cheyenne,KS

250 N Water STE 300
Wichita KS 67202

Jones 'A' #1-17

Job Ticket: 49011

DST#: 3

ATTN: Jeff Christian

Test Start: 2013.01.27 @ 21:30:15

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: 80000.00 lb |
| | | | <u>Total Volume: 53.79 bbl</u> | Tool Chased 7.00 ft |
| Drill Pipe Above KB: | 14.00 ft | | | String Weight: Initial 70000.00 lb |
| Depth to Top Packer: | 4194.00 ft | | | Final 70000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 102.00 ft | | | |
| Tool Length: | 129.00 ft | | | |
| Number of Packers: | 2 | Diameter: 6.75 inches | | |

Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths |
|------------------|-------------|------------|----------|------------|--------------------------------|
| Change Over Sub | 1.00 | | | 4168.00 | |
| Shut In Tool | 5.00 | | | 4173.00 | |
| Hydraulic tool | 5.00 | | | 4178.00 | |
| Jars | 5.00 | | | 4183.00 | |
| Safety Joint | 2.00 | | | 4185.00 | |
| Packer | 5.00 | | | 4190.00 | 27.00 Bottom Of Top Packer |
| Packer | 4.00 | | | 4194.00 | |
| Stubb | 1.00 | | | 4195.00 | |
| Recorder | 0.00 | 8360 | Inside | 4195.00 | |
| Recorder | 0.00 | 8353 | Outside | 4195.00 | |
| Perforations | 32.00 | | | 4227.00 | |
| Change Over Sub | 1.00 | | | 4228.00 | |
| Drill Pipe | 64.00 | | | 4292.00 | |
| Change Over Sub | 1.00 | | | 4293.00 | |
| Bullnose | 3.00 | | | 4296.00 | 102.00 Bottom Packers & Anchor |

Total Tool Length: 129.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

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

17-1s-37w Cheyenne,KS
Jones 'A' #1-17
Job Ticket: 49011 **DST#: 3**
Test Start: 2013.01.27 @ 21:30:15

Mud and Cushion Information

| | | | |
|----------------------------------|----------------------------|-----------------|---------|
| Mud Type: Gel Chem | Cushion Type: | Oil API: | deg API |
| Mud Weight: 9.00 lb/gal | Cushion Length: ft | Water Salinity: | ppm |
| Viscosity: 55.00 sec/qt | Cushion Volume: bbl | | |
| Water Loss: 6.38 in ³ | Gas Cushion Type: | | |
| Resistivity: ohm.m | Gas Cushion Pressure: psig | | |
| Salinity: 1800.00 ppm | | | |
| Filter Cake: inches | | | |

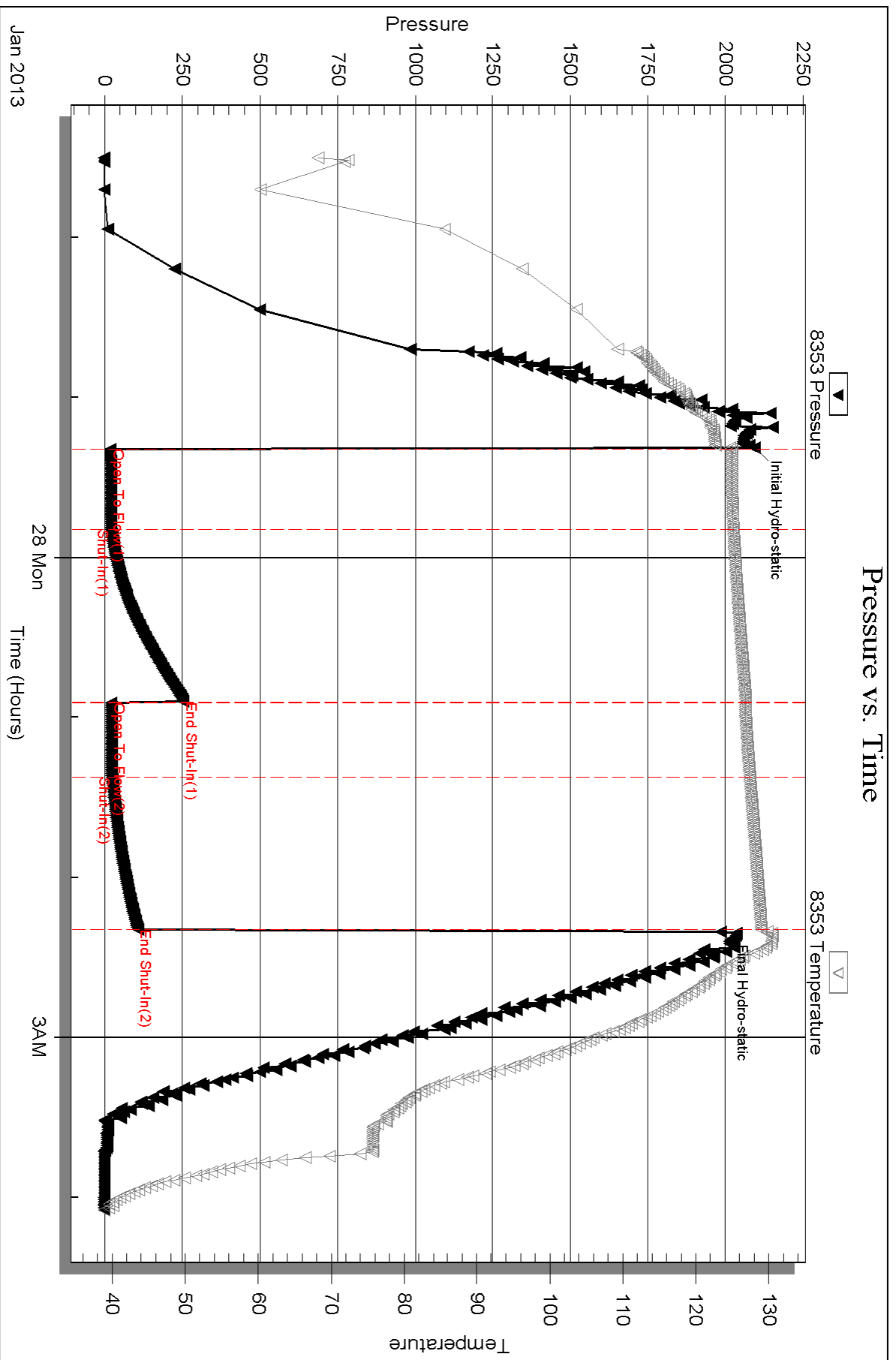
Recovery Information

Recovery Table

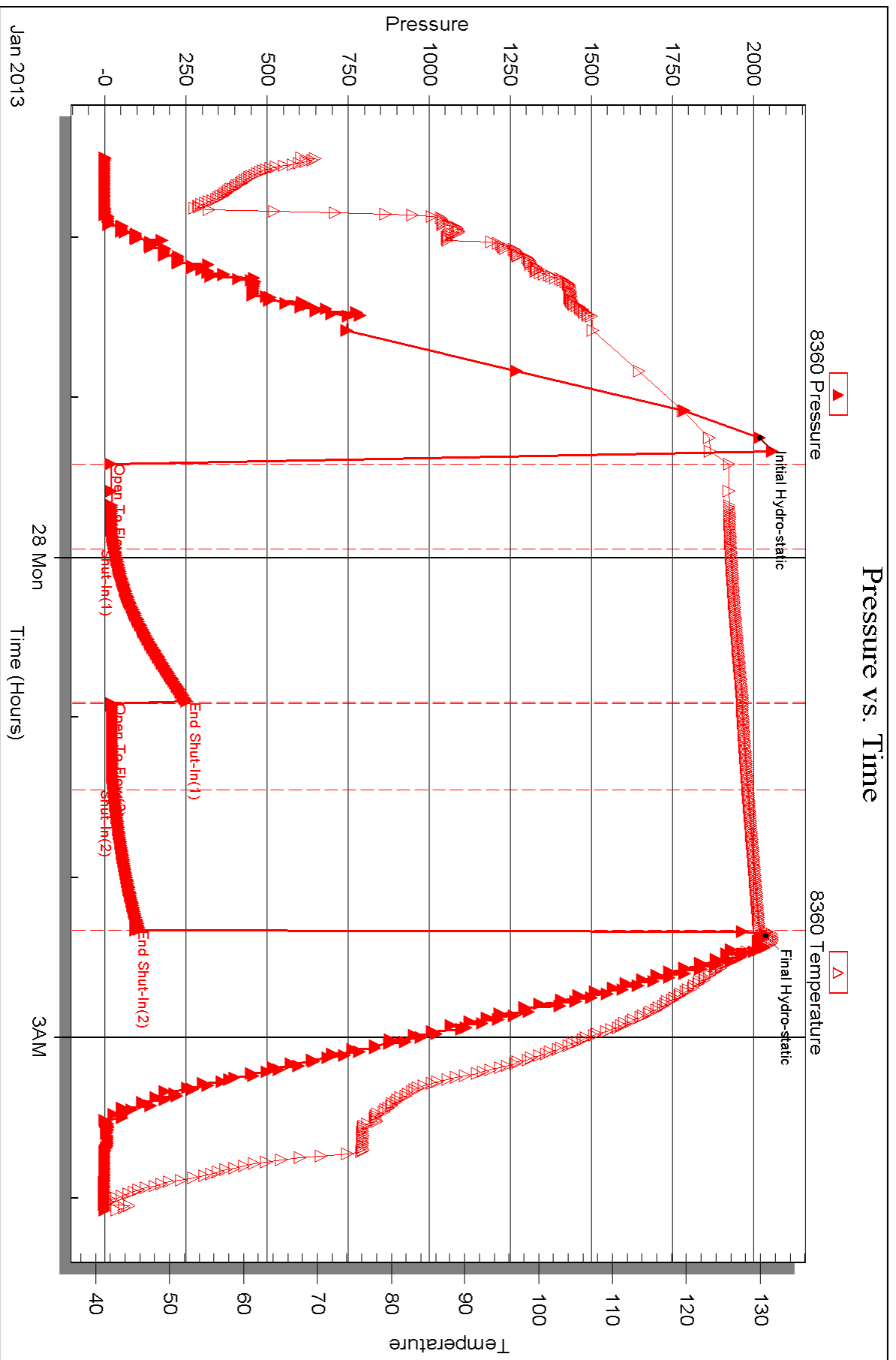
| Length ft | Description | Volume bbl |
|--------------|-------------|---------------|
| 5.00 | Mud | 0.025 |

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:

Pressure vs. Time



Pressure vs. Time





DRILL STEM TEST REPORT

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

250 N Water STE 300
Wichita KS 67202

ATTN: Jeff Christian

Jones 'A' #1-17

17-1s-37w Cheyenne,KS

Start Date: 2013.01.28 @ 11:15:00

End Date: 2013.01.28 @ 19:40:15

Job Ticket #: 49012 DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.02.04 @ 15:36:50



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

17-1s-37w Cheyenne,KS

Jones 'A' #1-17

Job Ticket: 49012

DST#: 4

Test Start: 2013.01.28 @ 11:15:00

GENERAL INFORMATION:

Formation: **LANJ**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 13:34:30
 Time Test Ended: 19:40:15
 Interval: **4276.00 ft (KB) To 4334.00 ft (KB) (TVD)**
 Total Depth: 4334.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Wilbur Steinbeck
 Unit No: 40
 Reference Elevations: 3149.00 ft (KB)
 3139.00 ft (CF)
 KB to GR/CF: 10.00 ft

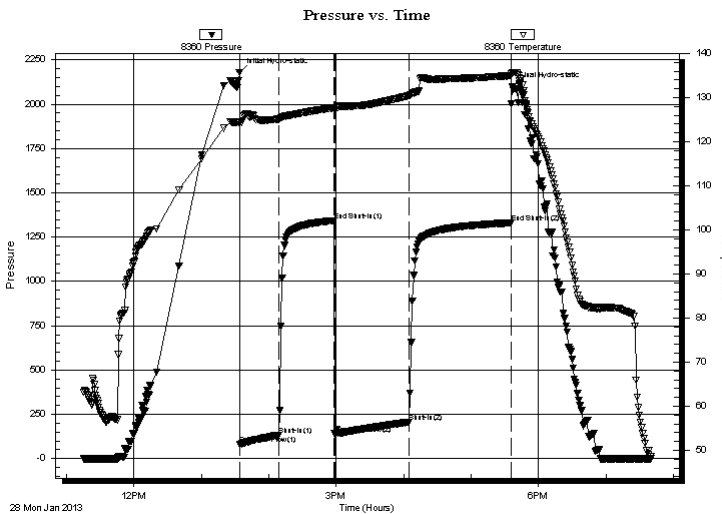
Serial #: 8360

Inside

Press @ Run Depth: 205.61 psig @ 4277.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.01.28 End Date: 2013.01.28 Last Calib.: 2013.01.28
 Start Time: 11:15:10 End Time: 19:40:15 Time On Btm: 2013.01.28 @ 13:33:45
 Time Off Btm: 2013.01.28 @ 17:36:45

TEST COMMENT: 30 IF; Built to 5"
 60 ISI; No Blow
 60 FF; Built to 1 1/2"
 90 FSI; No Blow

PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 2179.54 | 124.44 | Initial Hydro-static |
| 1 | 80.42 | 124.30 | Open To Flow (1) |
| 36 | 133.18 | 125.11 | Shut-In(1) |
| 84 | 1343.10 | 127.67 | End Shut-In(1) |
| 85 | 139.64 | 127.25 | Open To Flow (2) |
| 151 | 205.61 | 130.43 | Shut-In(2) |
| 242 | 1330.46 | 134.96 | End Shut-In(2) |
| 243 | 2099.37 | 135.63 | Final Hydro-static |

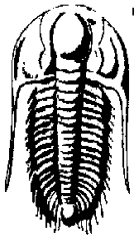
Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|---------------|--------------|
| 20.00 | OCM 20%O 80%M | 0.10 |
| 384.00 | OSM 1%O 99%M | 1.89 |
| | | |
| | | |
| | | |

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.

17-1s-37w Cheyenne, KS

250 N Water STE 300
Wichita KS 67202

Jones 'A' #1-17

Job Ticket: 49012

DST#: 4

ATTN: Jeff Christian

Test Start: 2013.01.28 @ 11:15:00

GENERAL INFORMATION:

Formation: **LANJ**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:34:30

Time Test Ended: 19:40:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Wilbur Steinbeck

Unit No: 40

Interval: **4276.00 ft (KB) To 4334.00 ft (KB) (TVD)**

Reference Elevations: 3149.00 ft (KB)

Total Depth: 4334.00 ft (KB) (TVD)

3139.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: **8353** Outside

Press @ RunDepth: psig @ 4277.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.01.28

End Date: 2013.01.28

Last Calib.: 2013.01.28

Start Time: 11:15:15

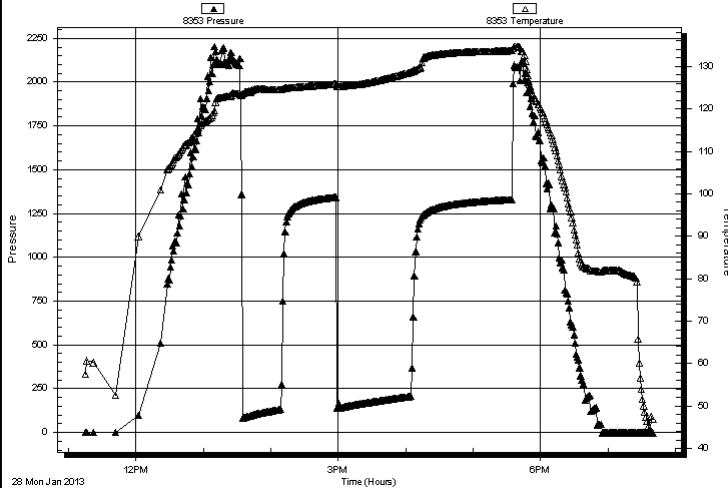
End Time: 19:40:15

Time On Btm:

Time Off Btm:

TEST COMMENT: 30 IF; Built to 5"
60 IS; No Blow
60 FF; Built to 1 1/2"
90 FS; No Blow

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Gas Rates

| Length (ft) | Description | Volume (bbl) |
|-------------|---------------|--------------|
| 20.00 | OCM 20%O 80%M | 0.10 |
| 384.00 | OSM 1%O 99%M | 1.89 |
| | | |
| | | |
| | | |

| | 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.

17-1s-37w Cheyenne,KS

250 N Water STE 300
Wichita KS 67202

Jones 'A' #1-17

Job Ticket: 49012

DST#: 4

ATTN: Jeff Christian

Test Start: 2013.01.28 @ 11:15:00

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 3741.00 ft | Diameter: 3.80 inches | Volume: 52.48 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: 55.11 bbl</u> | Tool Chased 15.00 ft |
| Drill Pipe Above KB: | 26.00 ft | | | String Weight: Initial 70000.00 lb |
| Depth to Top Packer: | 4276.00 ft | | | Final 70000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 58.00 ft | | | |
| Tool Length: | 85.00 ft | | | |
| Number of Packers: | 2 | Diameter: 6.75 inches | | |

Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths |
|------------------|-------------|------------|----------|------------|-------------------------------|
| Change Over Sub | 1.00 | | | 4250.00 | |
| Shut In Tool | 5.00 | | | 4255.00 | |
| Hydraulic tool | 5.00 | | | 4260.00 | |
| Jars | 5.00 | | | 4265.00 | |
| Safety Joint | 2.00 | | | 4267.00 | |
| Packer | 5.00 | | | 4272.00 | 27.00 Bottom Of Top Packer |
| Packer | 4.00 | | | 4276.00 | |
| Stubb | 1.00 | | | 4277.00 | |
| Recorder | 0.00 | 8360 | Inside | 4277.00 | |
| Recorder | 0.00 | 8353 | Outside | 4277.00 | |
| Perforations | 20.00 | | | 4297.00 | |
| Change Over Sub | 1.00 | | | 4298.00 | |
| Drill Pipe | 32.00 | | | 4330.00 | |
| Change Over Sub | 1.00 | | | 4331.00 | |
| Bullnose | 3.00 | | | 4334.00 | 58.00 Bottom Packers & Anchor |

Total Tool Length: 85.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

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

17-1s-37w Cheyenne,KS
Jones 'A' #1-17
Job Ticket: 49012 **DST#: 4**
Test Start: 2013.01.28 @ 11:15:00

Mud and Cushion Information

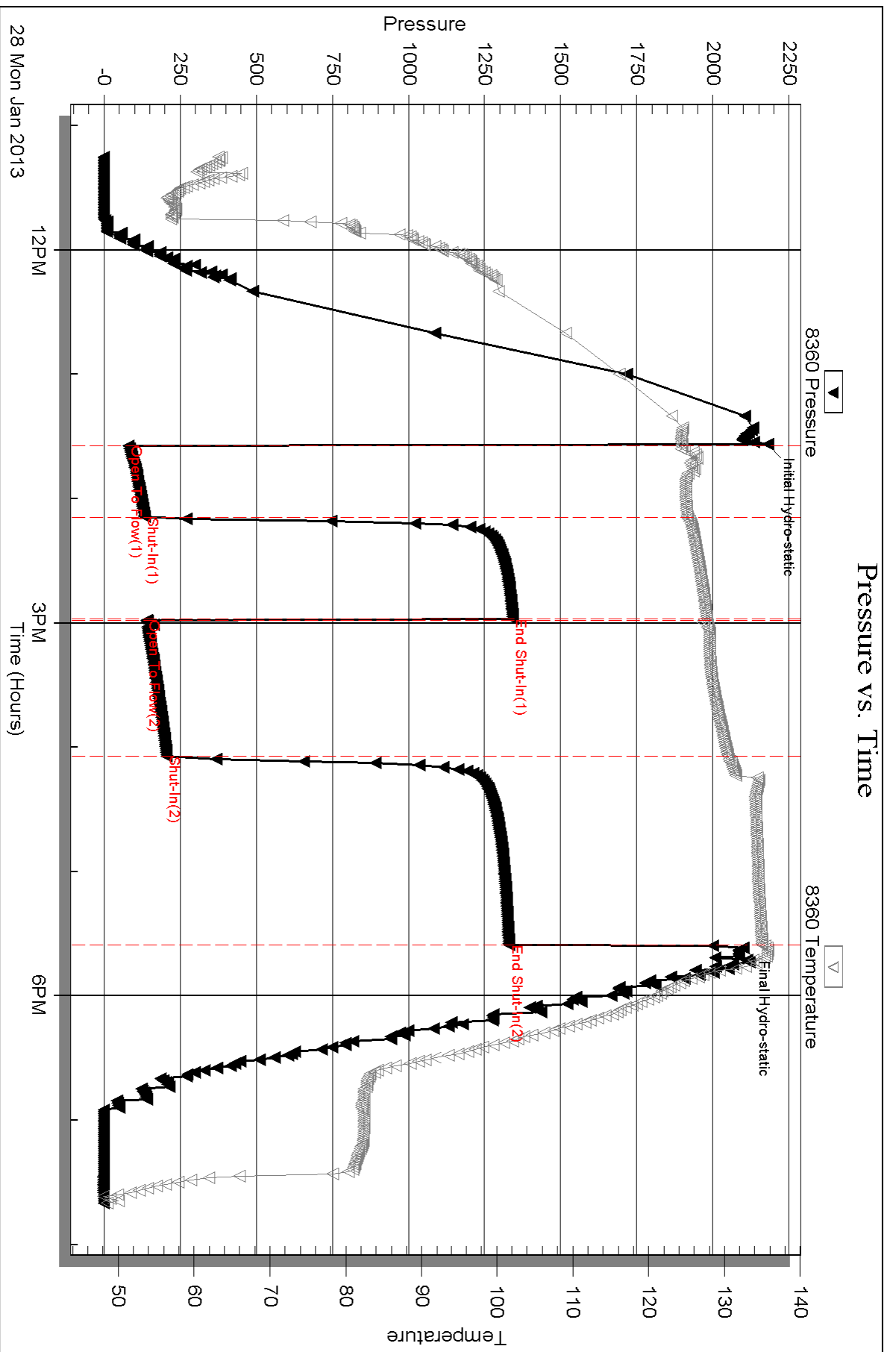
| | | | |
|----------------------------------|----------------------------|-----------------|---------|
| Mud Type: Gel Chem | Cushion Type: | Oil API: | deg API |
| Mud Weight: 9.00 lb/gal | Cushion Length: ft | Water Salinity: | ppm |
| Viscosity: 55.00 sec/qt | Cushion Volume: bbl | | |
| Water Loss: 6.39 in ³ | Gas Cushion Type: | | |
| Resistivity: ohm.m | Gas Cushion Pressure: psig | | |
| Salinity: 1800.00 ppm | | | |
| Filter Cake: inches | | | |

Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|---------------|---------------|
| 20.00 | OCM 20%O 80%M | 0.098 |
| 384.00 | OSM 1%O 99%M | 1.888 |

Total Length: 404.00 ft Total Volume: 1.986 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

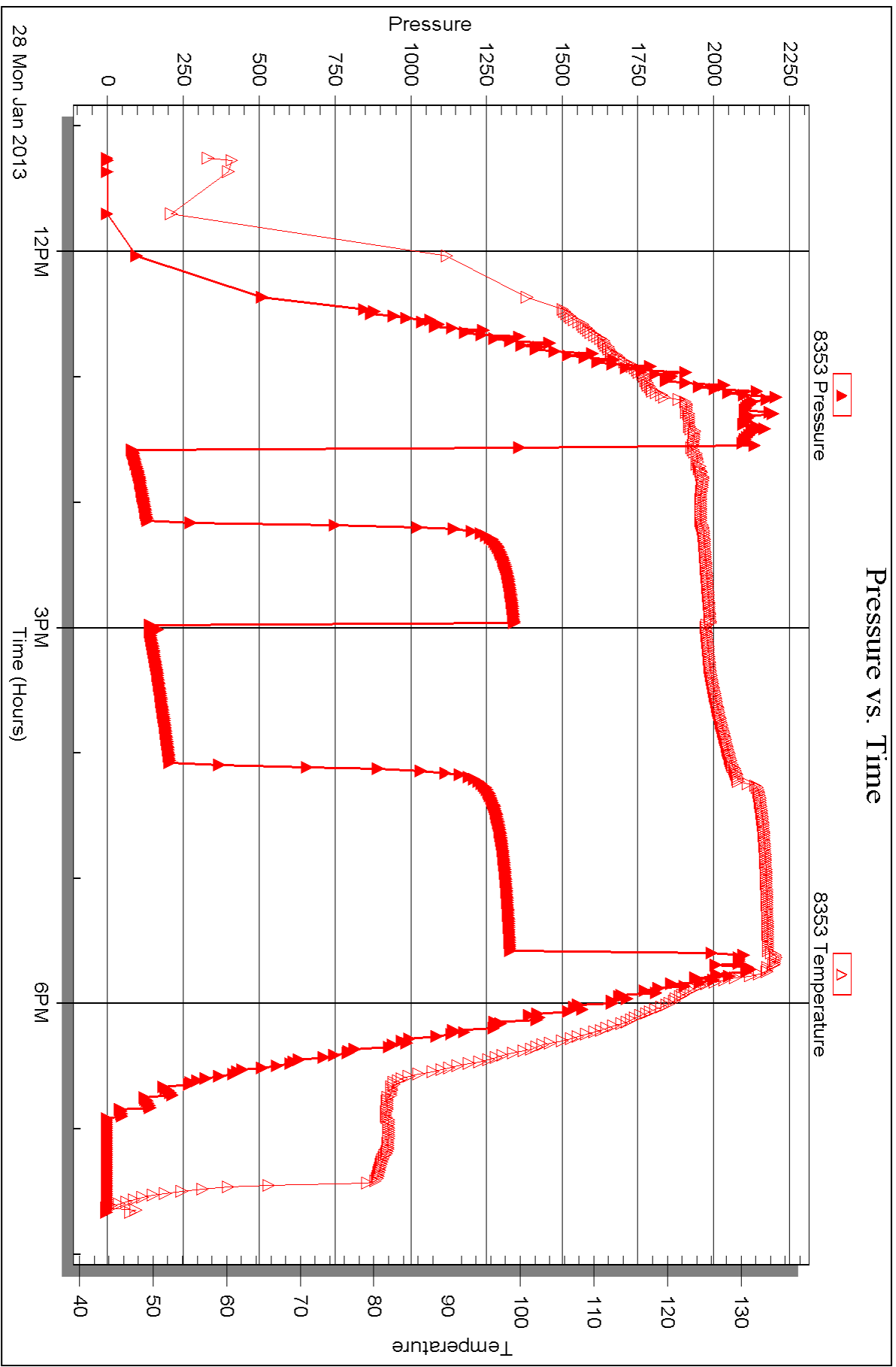


Serial #: 8353

Outside Murfin Drilling Co. Inc.

Jones 'A' #1-17

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 49012

Printed: 2013.02.04 @ 15:36:54



DRILL STEM TEST REPORT

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

250 N Water STE 300
Wichita KS 67202

ATTN: Jeff Christian

Jones 'A' #1-17

17-1s-37w Cheyenne,KS

Start Date: 2013.01.29 @ 14:50:15

End Date: 2013.01.29 @ 23:05:45

Job Ticket #: 49013 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.02.04 @ 15:15:07



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

17-1s-37w Cheyenne,KS

Jones 'A' #1-17

Job Ticket: 49013

DST#: 5

Test Start: 2013.01.29 @ 14:50:15

GENERAL INFORMATION:

Formation: **Pawnee**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 16:39:30
 Time Test Ended: 23:05:45
 Interval: **4478.00 ft (KB) To 4526.00 ft (KB) (TVD)**
 Total Depth: 4526.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Wilbur Steinbeck
 Unit No: 40
 Reference Elevations: 3149.00 ft (KB)
 3139.00 ft (CF)
 KB to GR/CF: 10.00 ft

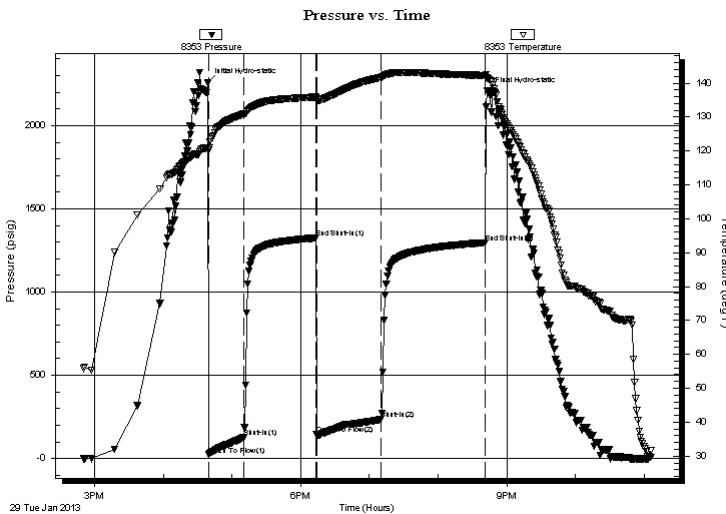
Serial #: 8353

Outside

Press @RunDepth: 234.32 psig @ 4479.00 ft (KB)
 Start Date: 2013.01.29 End Date: 2013.01.29
 Start Time: 14:50:15 End Time: 23:05:45
 Capacity: 8000.00 psig
 Last Calib.: 2013.01.29
 Time On Btm: 2013.01.29 @ 16:38:45
 Time Off Btm: 2013.01.29 @ 20:43:15

TEST COMMENT: 30 IF; BOB in 10 min
 60 IS; Built to 3"
 60 FF; BOB in 14 min
 90 FS; BOB in 25 min

PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 2255.81 | 121.03 | Initial Hydro-static |
| 1 | 21.14 | 120.22 | Open To Flow (1) |
| 32 | 124.33 | 130.84 | Shut-In(1) |
| 95 | 1324.85 | 135.88 | End Shut-In(1) |
| 95 | 142.78 | 135.34 | Open To Flow (2) |
| 152 | 234.32 | 141.72 | Shut-In(2) |
| 243 | 1296.49 | 142.27 | End Shut-In(2) |
| 245 | 2202.79 | 141.42 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-----------------------|--------------|
| 288.00 | MGCO 30%M 35%G 35%O | 1.42 |
| 363.00 | GO 45%G 55%O 300' GIP | 2.85 |
| | | |
| | | |
| | | |

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

17-1s-37w Cheyenne,KS

Jones 'A' #1-17

Job Ticket: 49013

DST#: 5

Test Start: 2013.01.29 @ 14:50:15

GENERAL INFORMATION:

Formation: **Pawnee**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 16:39:30
 Time Test Ended: 23:05:45
 Interval: **4478.00 ft (KB) To 4526.00 ft (KB) (TVD)**
 Total Depth: 4526.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Wilbur Steinbeck
 Unit No: 40
 Reference Elevations: 3149.00 ft (KB)
 3139.00 ft (CF)
 KB to GR/CF: 10.00 ft

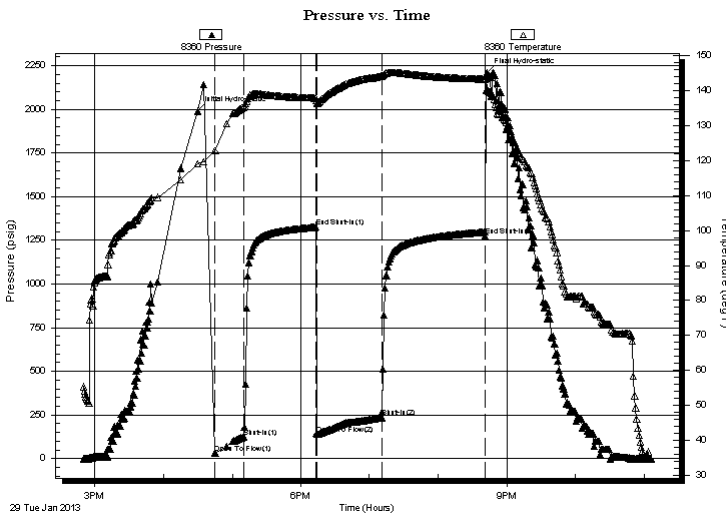
Serial #: 8360

Inside

Press @RunDepth: 1274.53 psig @ 4479.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.01.29 End Date: 2013.01.29 Last Calib.: 2013.01.29
 Start Time: 14:50:10 End Time: 23:05:45 Time On Btm: 2013.01.29 @ 16:30:00
 Time Off Btm: 2013.01.29 @ 20:42:45

TEST COMMENT: 30 IF; BOB in 10 min
 60 IS; Built to 3"
 60 FF; BOB in 14 min
 90 FS; BOB in 25 min

PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1991.09 | 119.16 | Initial Hydro-static |
| 15 | 28.69 | 122.95 | Open To Flow (1) |
| 40 | 124.38 | 135.35 | Shut-In(1) |
| 103 | 1325.56 | 137.97 | End Shut-In(1) |
| 105 | 140.58 | 136.32 | Open To Flow (2) |
| 161 | 234.77 | 144.27 | Shut-In(2) |
| 252 | 1274.53 | 143.35 | End Shut-In(2) |
| 253 | 2211.73 | 140.42 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-----------------------|--------------|
| 288.00 | MGCO 30%M 35%G 35%O | 1.42 |
| 363.00 | GO 45%G 55%O 300' GIP | 2.85 |
| | | |
| | | |
| | | |

* 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

17-1s-37w Cheyenne,KS
Jones 'A' #1-17
Job Ticket: 49013 **DST#: 5**
Test Start: 2013.01.29 @ 14:50:15

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 3932.00 ft | Diameter: 3.80 inches | Volume: 55.16 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: 75000.00 lb |
| | | | <u>Total Volume: 57.79 bbl</u> | Tool Chased 0.00 ft |
| Drill Pipe Above KB: | 15.00 ft | | | String Weight: Initial 70000.00 lb |
| Depth to Top Packer: | 4478.00 ft | | | Final 72000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 48.00 ft | | | |
| Tool Length: | 75.00 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 | | | 4452.00 | |
| Shut In Tool | 5.00 | | | 4457.00 | |
| Hydraulic tool | 5.00 | | | 4462.00 | |
| Jars | 5.00 | | | 4467.00 | |
| Safety Joint | 2.00 | | | 4469.00 | |
| Packer | 5.00 | | | 4474.00 | 27.00 Bottom Of Top Packer |
| Packer | 4.00 | | | 4478.00 | |
| Stubb | 1.00 | | | 4479.00 | |
| Recorder | 0.00 | 8360 | Inside | 4479.00 | |
| Recorder | 0.00 | 8353 | Outside | 4479.00 | |
| Perforations | 10.00 | | | 4489.00 | |
| Change Over Sub | 1.00 | | | 4490.00 | |
| Drill Pipe | 32.00 | | | 4522.00 | |
| Change Over Sub | 1.00 | | | 4523.00 | |
| Bullnose | 3.00 | | | 4526.00 | 48.00 Bottom Packers & Anchor |

Total Tool Length: 75.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

17-1s-37w Cheyenne,KS

250 N Water STE 300
Wichita KS 67202

Jones 'A' #1-17

Job Ticket: 49013

DST#: 5

ATTN: Jeff Christian

Test Start: 2013.01.29 @ 14:50:15

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: 75.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbbl |
|--------------|-----------------------|----------------|
| 288.00 | MGCO 30%M 35%G 35%O | 1.416 |
| 363.00 | GO 45%G 55%O 300' GIP | 2.851 |

Total Length: 651.00 ft Total Volume: 4.267 bbl

Num Fluid Samples: 0

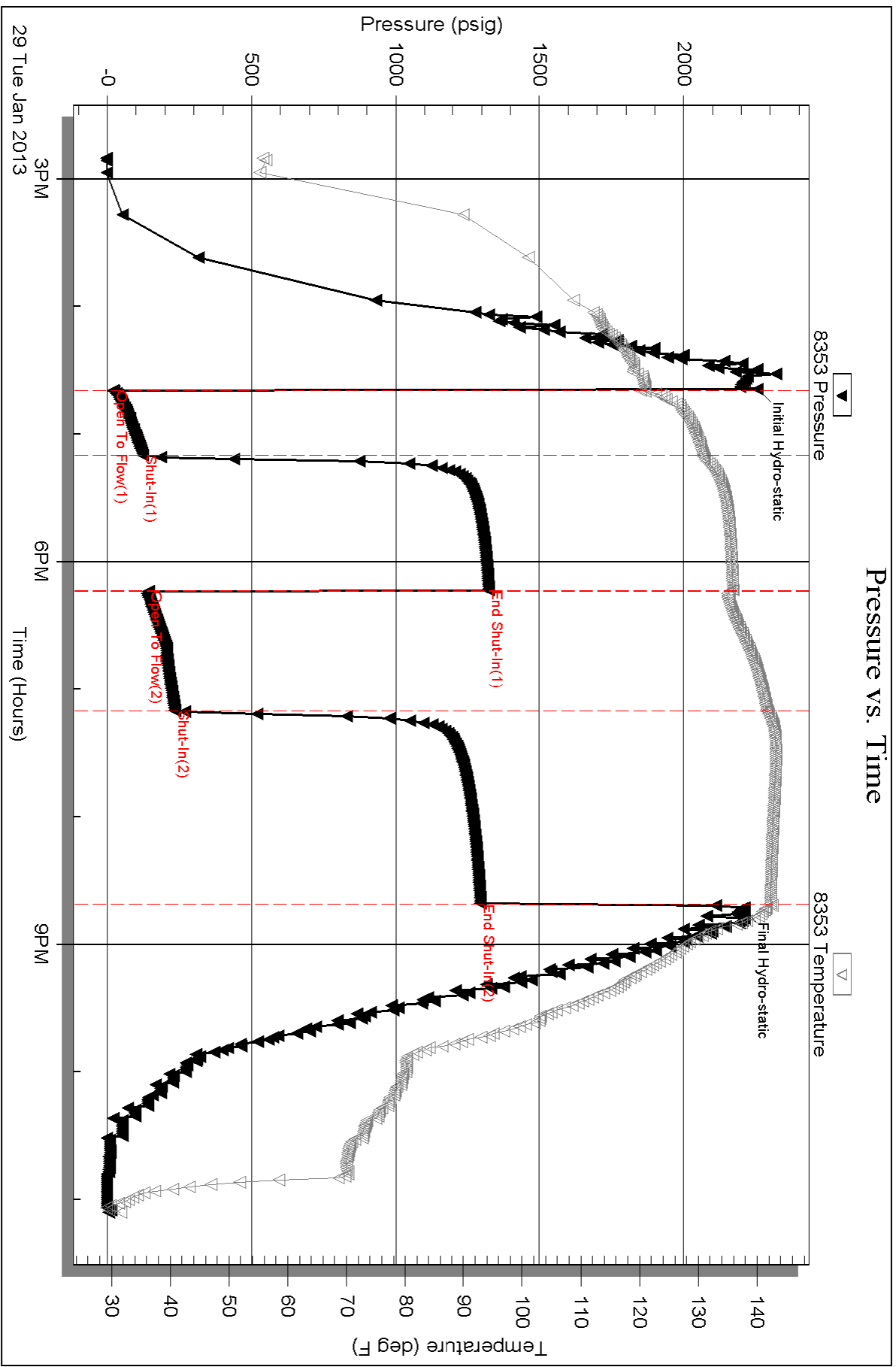
Num Gas Bombs: 0

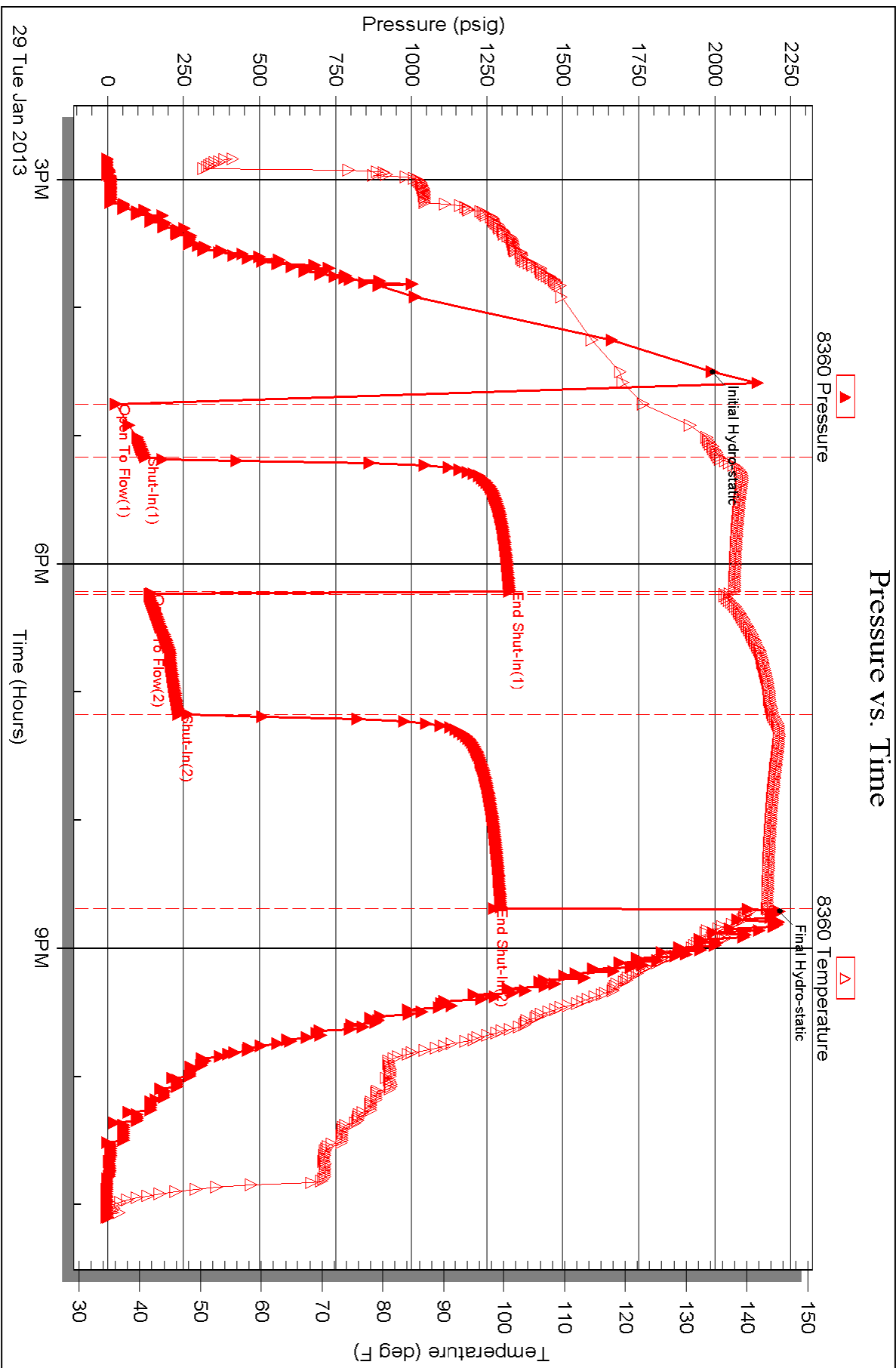
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity 36.8@62 DEG=36.6







TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49009

Well Name & No. Jones 'A' #1-17 Test No. 1 Date 1-26-13
 Company Murfin Drilling Co. Inc. Elevation 3149 KB 3139 GL
 Address 250 N WATER STE 300 Wichita Ks 67202
 Co. Rep / Geo. Jeff Rig Murfin #14
 Location: Sec. 17 Twp. 15 Rge. 37w Co. Cherokee State Ks

Interval Tested 4062 4145 Zone Tested LANA
 Anchor Length 83 Drill Pipe Run 3509 Mud Wt. 9.2
 Top Packer Depth 4057 Drill Collars Run 534 Vis 55
 Bottom Packer Depth 4062 Wt. Pipe Run 0 WL 6.4
 Total Depth 4145 Chlorides 1200 ppm System LCM 4

Blow Description IF Weak Blow built to 1/4"
ISI No Blow
FF No Blow
FSI No Blow

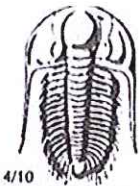
| Rec | Feet of | %gas | %oil | %water | %mud |
|----------|------------|------|------|------------|------|
| <u>5</u> | <u>Mud</u> | | | <u>100</u> | |
| | | | | | |
| | | | | | |
| | | | | | |

Rec Total 5 BHT 130 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

| | | |
|-------------------------------------|---|--|
| (A) Initial Hydrostatic <u>2067</u> | <input checked="" type="checkbox"/> Test 1250 | T-On Location <u>4:10</u> |
| (B) First Initial Flow <u>18</u> | <input checked="" type="checkbox"/> Jars 250 | T-Started <u>9:50</u> |
| (C) First Final Flow <u>20</u> | <input checked="" type="checkbox"/> Safety Joint 75 | T-Open <u>12:00</u> |
| (D) Initial Shut-In <u>129</u> | <input checked="" type="checkbox"/> Circ Sub <u>NA</u> | T-Pulled <u>15:00</u> |
| (E) Second Initial Flow <u>20</u> | <input checked="" type="checkbox"/> Hourly Standby <u>2 1/2 hrs</u> 250 | T-Out <u>16:40</u> |
| (F) Second Final Flow <u>21</u> | <input checked="" type="checkbox"/> Mileage <u>130 RT</u> 201.50 | Comments <u>Expected to be on</u> |
| (G) Final Shut-In <u>57</u> | <input type="checkbox"/> Sampler | <u>depth at 5:15 they</u> |
| (H) Final Hydrostatic <u>2063</u> | <input type="checkbox"/> Straddle | <u>wait on bank until 9:50</u> |
| | <input type="checkbox"/> Shale Packer | <input type="checkbox"/> Ruined Shale Packer |
| | <input type="checkbox"/> Extra Packer | <input type="checkbox"/> Ruined Packer |
| | <input type="checkbox"/> Extra Recorder | Sub Total <u>0</u> |
| | <input type="checkbox"/> Day Standby | Total <u>1776.50</u> |
| | <input type="checkbox"/> Accessibility | MP/DST Disc't _____ |
| | Sub Total <u>1776.50</u> | |

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49010

Well Name & No. Jones 'A' 1-17 Test No. 2 Date 1-26-13
 Company Murphy Drilling Co Inc Elevation 3149 KB 3139 GL
 Address 250 N Water stc 300 Wichita KS 67202
 Co. Rep / Geo. Jeff Christian Rig Martin 14
 Location: Sec. 17 Twp. 15 Rge. 37w Co. Cherokee State KS

Interval Tested 4130 4182 Zone Tested Law D
 Anchor Length 52 Drill Pipe Run 3584 Mud Wt. 9.3
 Top Packer Depth 4125 Drill Collars Run 534 Vis 53
 Bottom Packer Depth 4130 Wt. Pipe Run 0 WL 6.0
 Total Depth 4182 Chlorides 1,600 ppm System LCM 4

Blow Description IF Built to 6'
ISI No Blow
FF Built to 6''
FSI No Blow

| Rec | Feet of | %gas | %oil | %water | %mud |
|------------|------------|----------|-----------|-----------|------|
| <u>200</u> | <u>0cm</u> | <u>5</u> | <u>35</u> | <u>60</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 200 BHT 132 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

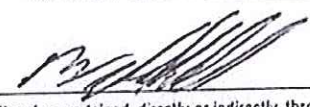
| | | |
|-------------------------------------|--|--|
| (A) Initial Hydrostatic <u>2073</u> | <input checked="" type="checkbox"/> Test <u>1250</u> | T-On Location <u>23:15</u> |
| (B) First Initial Flow <u>27</u> | <input checked="" type="checkbox"/> Jars <u>250</u> | T-Started <u>12:05</u> |
| (C) First Final Flow <u>71</u> | <input checked="" type="checkbox"/> Safety Joint <u>75</u> | T-Open <u>2:35</u> |
| (D) Initial Shut-In <u>1274</u> | <input checked="" type="checkbox"/> Circ Sub <u>NA</u> | T-Pulled <u>6:35</u> |
| (E) Second Initial Flow <u>86</u> | <input type="checkbox"/> Hourly Standby | T-Out <u>8:30</u> |
| (F) Second Final Flow <u>125</u> | <input checked="" type="checkbox"/> Mileage <u>130 RT</u> 201.50 | Comments _____ |
| (G) Final Shut-In <u>1254</u> | <input type="checkbox"/> Sampler | <input type="checkbox"/> Ruined Shale Packer |
| (H) Final Hydrostatic <u>1957</u> | <input type="checkbox"/> Straddle | <input type="checkbox"/> Ruined Packer |

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

Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1776.50

Extra Copies _____
 Sub Total 0
 Total 1776.50
 MP/DST Disc't _____

Approved By _____

Our Representative 

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49011

Well Name & No. Jones 'A' 1-17 Test No. 3 Date 1-27-13
 Company Murfin Drilling Co Inc Elevation 3149 KB 3139 GL
 Address 250 N Water STE 300 Olathe KS 67202
 Co. Rep / Geo. Jeff Christian Rig Murfin 14
 Location: Sec. 17 Twp. 1s Rge. 37W Co. Cherokee State KS

Interval Tested 4194 4296 Zone Tested L, H, G, F
 Anchor Length 102 Drill Pipe Run 3647 Mud Wt. 9.1
 Top Packer Depth 4189 Drill Collars Run 534 Vis 55
 Bottom Packer Depth 4194 Wt. Pipe Run 0 WL 6.4
 Total Depth 4296 Chlorides 1800 ppm System LCM 4

Blow Description 1F Weak Surface Blow Dred in 5min
151 No Blow
FF No Blow
151 No Blow

| Rec | Feet of | %gas | %oil | %water | %mud |
|----------|------------|------|------|--------|------|
| <u>5</u> | <u>Mud</u> | | | | |
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |

Rec Total 5 BHT 132 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2019 Test 1250
 (B) First Initial Flow 19 Jars 250
 (C) First Final Flow 31 Safety Joint 75
 (D) Initial Shut-In 254 Circ Sub NA
 (E) Second Initial Flow 22 Hourly Standby
 (F) Second Final Flow 28 Mileage 130 RT 201.50
 (G) Final Shut-In 94 Sampler
 (H) Final Hydrostatic 2035 Straddle
 Shale Packer
 Extra Packer
 Extra Recorder
 Day Standby
 Accessibility

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

T-On Location 20:00
 T-Started 21:00
 T-Open 23:25
 T-Pulled 23:5
 T-Out 4:10

Comments _____
 Ruined Shale Packer
 Ruined Packer
 Extra Copies
 Sub Total 0
 Total 1776.50
 MP/DST Disc't _____

Sub Total 1776.50

Approved By _____ Our Representative [Signature]

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P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49012

Well Name & No. Jones 'A' 1-17 Test No. 4 Date 1-28-13
 Company Merlin Drilling Co Inc Elevation 3149 KB 3139 GL
 Address 250 N Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Jeff Christen Rig Merlin 14
 Location: Sec. 17 Twp. 15 Rge. 37w Co. Cherokee State ks

Interval Tested 4276 4334 Zone Tested Lan J
 Anchor Length 58' Drill Pipe Run 3741 Mud Wt. 9.1
 Top Packer Depth 4271 Drill Collars Run 534 Vis 55
 Bottom Packer Depth 4276 Wt. Pipe Run 0 WL 6.4
 Total Depth 4334 Chlorides 1800 ppm System LCM 4
 Blow Description IF Built to 5"
IS1 No Blow
PF Built to 1 1/2"
FS1 No Blow

| Rec | Feet of | %gas | %oil | %water | %mud |
|------------|------------|-----------|------|-----------|------|
| <u>20</u> | <u>OCM</u> | <u>20</u> | | <u>60</u> | |
| <u>384</u> | <u>OSM</u> | <u>1</u> | | <u>99</u> | |
| | | | | | |
| | | | | | |
| <u>7</u> | | | | | |

Rec Total 404 BHT 136 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2180 Test 1250 T-On Location 10:45
 (B) First Initial Flow 80 Jars 250 T-Started 11:15
 (C) First Final Flow 133 Safety Joint 75 T-Open 1:25
 (D) Initial Shut-In 1343 Circ Sub NA T-Pulled 5:25
 (E) Second Initial Flow 140 Hourly Standby _____ T-Out 11:50
 (F) Second Final Flow 206 Mileage 130 RT 201.50 Comments _____
 (G) Final Shut-In 1330 Sampler _____
 (H) Final Hydrostatic 2099 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 30 Extra Recorder _____ Sub Total 0
 Initial Shut-In 60 Day Standby _____ Total 1776.50
 Final Flow 60 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 90 Sub Total 1776.50

Approved By _____

Our Representative [Signature]

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Test Ticket

NO. 49013

Well Name & No. Jones 'A' 1-17 Test No. 5 Date 1-29-13
 Company Morfin Drilling Co Inc Elevation 3149 KB 3139 GL
 Address 250 N Water STE 300 Wichita Ks 67202
 Co. Rep / Geo. Jeff Christian Rig Morfin 14
 Location: Sec. 17 Twp. 1s Rge. 37w Co. Cherokee State Ks

Interval Tested 4478 4526 Zone Tested Panzer
 Anchor Length 48 Drill Pipe Run 3932 Mud Wt. 9.1
 Top Packer Depth 4473 Drill Collars Run 534 Vis 75
 Bottom Packer Depth 4478 Wt. Pipe Run 0 WL 5.6
 Total Depth 4526 Chlorides 800 ppm System LCM 2

Blow Description IF BOB in 10 min
ISI Built to 3"
FF BOB in 14 min
FSI BOB in 25 min

| Rec | Feet of | %gas | %oil | %water | %mud |
|------------|--------------|-----------|-----------|--------|-----------|
| <u>363</u> | <u>60</u> | <u>45</u> | <u>55</u> | | |
| <u>288</u> | <u>MOC O</u> | <u>35</u> | <u>35</u> | | <u>30</u> |
| <u>300</u> | <u>OIP</u> | | | | |
| | | | | | |
| | | | | | |

Rec Total 651 BHT 140 Gravity 36.80620 = 36.6 API RW @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1199 Test 1250 T-On Location 14:20
 (B) First Initial Flow 29 Jars 250 T-Started 14:50
 (C) First Final Flow 124 Safety Joint 75 T-Open 18:35
 (D) Initial Shut-In 1326 Circ Sub NA T-Pulled 22:35
 (E) Second Initial Flow 141 Hourly Standby _____ T-Out 23:00
 (F) Second Final Flow 235 Mileage 130 RT 201.50 Comments _____
 (G) Final Shut-In 1275 Sampler _____
 (H) Final Hydrostatic 2212 Straddle _____

Initial Open 30 Ruined Shale Packer _____
 Initial Shut-In 60 Ruined Packer _____
 Final Flow 60 Extra Packer _____
 Final Shut-In 90 Extra Recorder _____
 Sub Total 0 Total 1776.50
 Day Standby _____
 Accessibility _____
 Sub Total 1776.50 MP/DST Disc't _____

Approved By _____ Our Representative [Signature]

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