# DRILL STEM TEST REPORT

Iuka-Carmi Development

PO Box 847
Pratt, KS 67124

ATTN: Dave Williams

**33-29S-15W Pratt,KS**

**Mary Howell Ryan1-33**

Job Ticket: 44037 **DST#: 1**

Test Start: 2011.11.16 @ 08:45:15

## GENERAL INFORMATION:

Formation: **Lansing "B"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 11:41:15
Time Test Ended: 17:15:45

Test Type: Conventional Bottom Hole (Initial)
Tester: Leal Cason
Unit No: 45

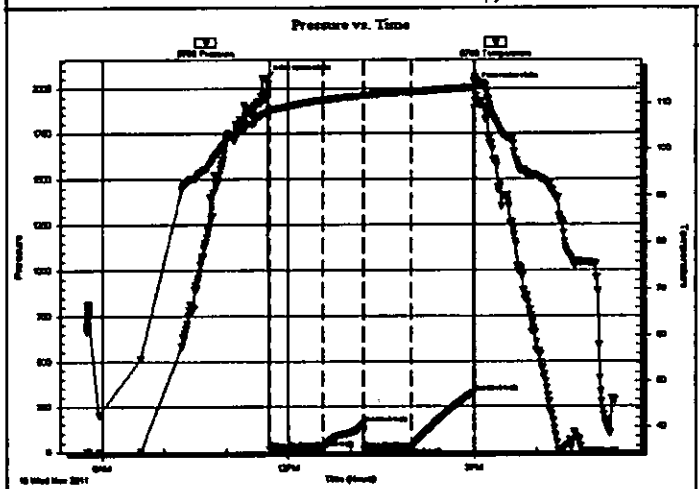
**Interval: 4071.00 ft (KB) To 4093.00 ft (KB) (TVD)**
Total Depth: 4093.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 1984.00 ft (KB)
1971.00 ft (CF)
KB to GR/CF: 13.00 ft

**Serial #: 6798** Inside
Press@RunDepth: 23.73 psig @ 4072.00 ft (KB)
Start Date: 2011.11.16 End Date: 2011.11.16
Start Time: 08:45:16 End Time: 17:15:45

Capacity: 8000.00 psig
Last Calib.: 2011.11.16
Time On Btm 2011.11.16 @ 11:39:15
Time Off Btm: 2011.11.16 @ 15:00:30

TEST COMMENT: IF: Fair Blow , BOB in 7 minutes
ISI: 1 inch Blow back
FF: Weak Blow , BOB in 30 minutes
FSI:No Blow back




## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|---|---|---|---|
| 0 | 2054.22 | 108.06 | Initial Hydro-static |
| 2 | 12.48 | 108.59 | Open To Flow (1) |
| 54 | 19.16 | 110.72 | Shut-In(1) |
| 93 | 152.34 | 111.71 | End Shut-In(1) |
| 94 | 15.32 | 111.78 | Open To Flow (2) |
| 139 | 23.73 | 112.57 | Shut-In(2) |
| 200 | 326.39 | 113.43 | End Shut-In(2) |
| 202 | 2012.52 | 115.70 | Final Hydro-static |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 0.00 | 1178 GIP | 0.00 |
| 25.00 | SGCM 2%G 98%M | 0.35 |
| | | |
| | | |
| | | |
| | | |

## Gas Rates

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

TRILOBITE TESTING, INC

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Iuka-Carmi Development

PO Box 847
Pratt, KS 67124

ATTN: Dave Williams

**33-29S-15W Pratt,KS**

**Mary Howell Ryan1-33**

Job Ticket: 44037 **DST#: 1**

Test Start: 2011.11.16 @ 08:45:15

## Tool Information

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Drill Pipe: | Length: | 4052.00 ft | Diameter: | 3.80 inches | Volume: | 56.84 bbl | Tool Weight: | | 2100.00 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: | 0.00 ft | Diameter: | 0.00 inches | Volume: | 0.00 bbl | Weight to Pull Loose: | | 45000.00 lb |
| | | | | | Total Volume: | 56.84 bbl | Tool Chased | | ft |
| Drill Pipe Above KB: | | 8.00 ft | | | | | String Weight: | Initial | 40000.00 lb |
| Depth to Top Packer: | | 4071.00 ft | | | | | | Final | 42000.00 lb |
| Depth to Bottom Packer: | | ft | | | | | | | |
| Interval between Packers: | | 22.00 ft | | | | | | | |
| Tool Length: | | 49.00 ft | | | | | | | |
| Number of Packers: | | 2 | Diameter: | 6.75 inches | | | | | |

Tool Comments:

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths | |
|---|---|---|---|---|---|---|
| Shut In Tool | 5.00 | | | 4049.00 | | |
| Hydraulic tool | 5.00 | | | 4054.00 | | |
| Jars | 5.00 | | | 4059.00 | | |
| Safety Joint | 2.00 | | | 4061.00 | | |
| Packer | 5.00 | | | 4066.00 | 27.00 | Bottom Of Top Packer |
| Packer | 5.00 | | | 4071.00 | | |
| Stubb | 1.00 | | | 4072.00 | | |
| Recorder | 0.00 | 6798 | Inside | 4072.00 | | |
| Recorder | 0.00 | 8367 | Outside | 4072.00 | | |
| Perforations | 18.00 | | | 4090.00 | | |
| Bullnose | 3.00 | | | 4093.00 | 22.00 | Bottom Packers & Anchor |
| **Total Tool Length:** | **49.00** | | | | | |

TRILOBITE TESTING, INC

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Iuka-Carmi Development

PO Box 847
Pratt, KS 67124

ATTN: Dave Williams

**33-29S-15W Pratt,KS**

**Mary Howell Ryan1-33**

Job Ticket: 44037 **DST#: 1**

Test Start: 2011.11.16 @ 08:45:15

## 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: | 57.00 sec/qt | Cushion Volume: | bbl | | |
| Water Loss: | 7.98 in³ | Gas Cushion Type: | | | |
| Resistivity: | ohm.m | Gas Cushion Pressure: | psig | | |
| Salinity: | 6000.00 ppm | | | | |
| Filter Cake: | 0.20 inches | | | | |

## Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|---|---|---|
| 0.00 | 1178 GIP | 0.000 |
| 25.00 | SGCM 2%G 98%M | 0.351 |

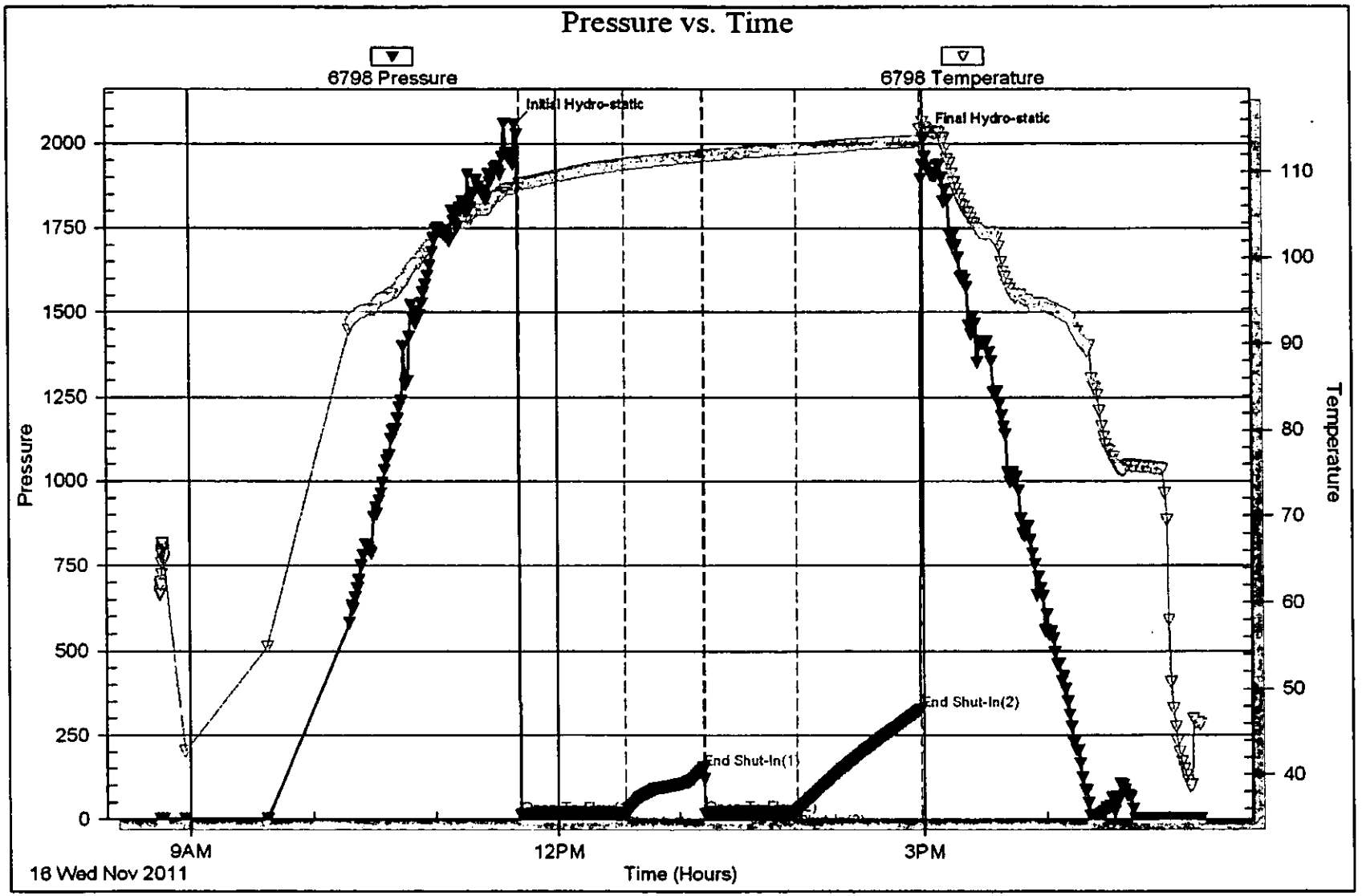
Total Length: 25.00 ft Total Volume: 0.351 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:

Serial #: 6798 Inside Iuka-Carmi Development Mary Howell Ryan 1-33 DST Test Number: 1




Trilobite Testing, Inc Ref. No: 44037 Printed: 2011.11.23 @ 16:06:31

# DRILL STEM TEST REPORT

Iuka-Carmi Development

PO Box 847
Pratt, KS 67124

ATTN: Dave Williams

**33-29S-15W Pratt,KS**

**Mary Howell Ryan1-33**

Job Ticket: 44038 **DST#: 2**

Test Start: 2011.11.17 @ 03:58:07

## GENERAL INFORMATION:

Formation: **Lansing "F"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 07:58:07
Time Test Ended: 13:49:22

Test Type: Conventional Bottom Hole (Reset)
Tester: Leal Cason
Unit No: 45

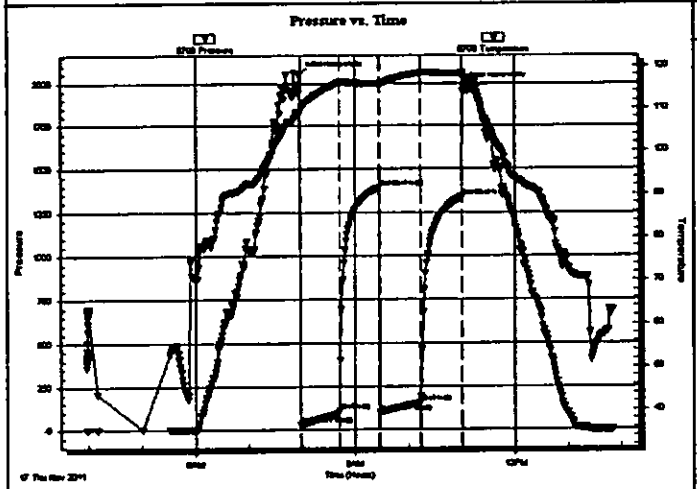
**Interval: 4149.00 ft (KB) To 4201.00 ft (KB) (TVD)**
Total Depth: 4201.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 1984.00 ft (KB)
1971.00 ft (CF)
KB to GR/CF: 13.00 ft

**Serial #: 6798** Inside
Press@RunDepth: 156.07 psig @ 4150.00 ft (KB)
Start Date: 2011.11.17 End Date: 2011.11.17
Start Time: 03:58:08 End Time: 13:49:22

Capacity: 8000.00 psig
Last Calib.: 2011.11.17
Time On Btm: 2011.11.17 @ 07:56:52
Time Off Btm: 2011.11.17 @ 11:02:22

TEST COMMENT: IF: Fair Blow , 6 inches
ISI: No Blow back
FF: Weak Blow , 4 inches
FSI: No Blow back




## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|---|---|---|---|
| 0 | 2048.95 | 109.05 | Initial Hydro-static |
| 2 | 27.37 | 109.18 | Open To Flow (1) |
| 45 | 107.31 | 116.05 | Shut-In(1) |
| 91 | 1393.32 | 115.76 | End Shut-In(1) |
| 92 | 98.33 | 115.32 | Open To Flow (2) |
| 138 | 156.07 | 118.29 | Shut-In(2) |
| 184 | 1339.72 | 118.08 | End Shut-In(2) |
| 186 | 1982.06 | 116.91 | Final Hydro-static |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 240.00 | Water | 3.37 |
| 20.00 | MCW 45%M 55%W | 0.28 |
| | | |
| | | |
| | | |
| | | |

* Recovery from multiple tests

## Gas Rates

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

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Iuka-Carmi Development

PO Box 847
Pratt, KS 67124

ATTN: Dave Williams

**33-29S-15W Pratt,KS**

**Mary Howell Ryan1-33**

Job Ticket: 44038 **DST#: 2**

Test Start: 2011.11.17 @ 03:58:07

## Tool Information

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Drill Pipe: | Length: | 4147.00 ft | Diameter: | 3.80 inches | Volume: | 58.17 bbl | |
| Heavy Wt. Pipe: | Length: | 0.00 ft | Diameter: | 0.00 inches | Volume: | 0.00 bbl | |
| Drill Collar: | Length: | 0.00 ft | Diameter: | 0.00 inches | Volume: | 0.00 bbl | |
| | | | | | Total Volume: | 58.17 bbl | |

| | |
|---|---|
| Drill Pipe Above KB: | 25.00 ft |
| Depth to Top Packer: | 4149.00 ft |
| 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 Weight: | 2100.00 lb |
| Weight set on Packer: | 25000.00 lb |
| Weight to Pull Loose: | 45000.00 lb |
| Tool Chased | ft |
| String Weight: Initial | 40000.00 lb |
| Final | 40000.00 lb |

Tool Comments:

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths | |
|---|---|---|---|---|---|---|
| Shut In Tool | 5.00 | | | 4127.00 | | |
| Hydraulic tool | 5.00 | | | 4132.00 | | |
| Jars | 5.00 | | | 4137.00 | | |
| Safety Joint | 2.00 | | | 4139.00 | | |
| Packer | 5.00 | | | 4144.00 | 27.00 | Bottom Of Top Packer |
| Packer | 5.00 | | | 4149.00 | | |
| Stubb | 1.00 | | | 4150.00 | | |
| Recorder | 0.00 | 6798 | Inside | 4150.00 | | |
| Recorder | 0.00 | 8367 | Outside | 4150.00 | | |
| Perforations | 11.00 | | | 4161.00 | | |
| Change Over Sub | 1.00 | | | 4162.00 | | |
| Drill Pipe | 30.00 | | | 4192.00 | | |
| Change Over Sub | 1.00 | | | 4193.00 | | |
| Perforations | 5.00 | | | 4198.00 | | |
| Bullnose | 3.00 | | | 4201.00 | 52.00 | Bottom Packers & Anchor |
| **Total Tool Length:** | **79.00** | | | | | |

TRILOBITE TESTING, INC

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Iuka-Carmi Development

PO Box 847
Pratt, KS 67124

ATTN: Dave Williams

**33-29S-15W Pratt,KS**

**Mary Howell Ryan1-33**

Job Ticket: 44038 **DST#: 2**

Test Start: 2011.11.17 @ 03:58:07

## 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: | 110000 ppm |
| Viscosity: | 60.00 sec/qt | Cushion Volume: | bbl | | |
| Water Loss: | 7.97 in³ | Gas Cushion Type: | | | |
| Resistivity: | ohm m | Gas Cushion Pressure: | psig | | |
| Salinity: | 6000.00 ppm | | | | |
| Filter Cake: | 0.20 inches | | | | |

## Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|---|---|---|
| 240.00 | Water | 3.367 |
| 20.00 | MCW 45%M 55%W | 0.281 |

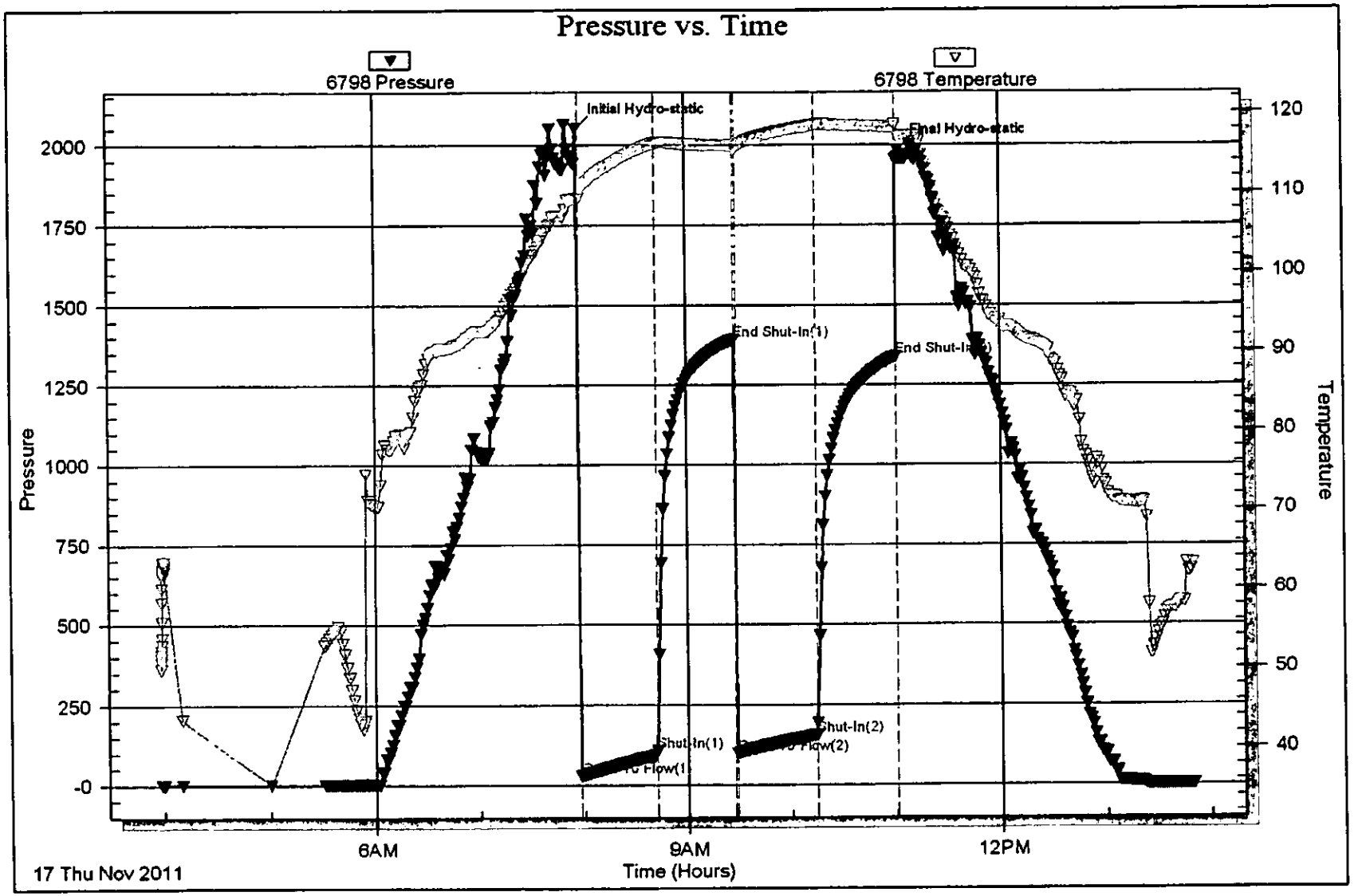
Total Length: 260.00 ft Total Volume: 3.648 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: RW was .095 @ 55 degrees

Serial #: 6798 Inside Iuka-Carmi Development Mary Howell Ryan1-33 DST Test Number: 2




Trilobite Testing, Inc Ref. No: 44038 Printed: 2011.11.23 @ 16:06:50

# DRILL STEM TEST REPORT

TRILOBITE TESTING, INC

Iuka-Carmi Development

PO Box 847
Pratt, KS 67124

ATTN: Dave Williams

**33-29S-15W Pratt,KS**

**Mary Howell Ryan1-33**

Job Ticket: 44039 DST#: 3

Test Start: 2011.11.18 @ 18:20:59

## GENERAL INFORMATION:

Formation: Cherokee Sand
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 20:33:59
Time Test Ended: 01:46:44

Test Type: Conventional Bottom Hole (Reset)
Tester: Leal Cason
Unit No: 45

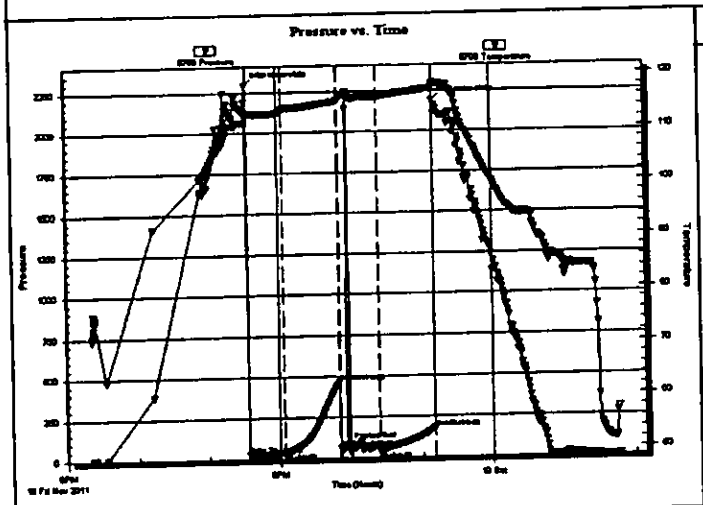
**Interval: 4544.00 ft (KB) To 4578.00 ft (KB) (TVD)**
Total Depth: 4578.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 1984.00 ft (KB)
1971.00 ft (CF)
KB to GR/CF: 13.00 ft

**Serial #: 6798** **Inside**
Press@RunDepth: 35.64 psig @ 4545.00 ft (KB)
Start Date: 2011.11.18 End Date: 2011.11.19
Start Time: 18:21:00 End Time: 01:46:44

Capacity: 8000.00 psig
Last Calib.: 2011.11.19
Time On Btm 2011.11.18 @ 20:32:59
Time Off Btm 2011.11.18 @ 23:09:59

TEST COMMENT: IF: Weak Surface Blow
ISI: No Blow
FF: Weak Surface Blow, Dead @ 2 minutes, Flushed Tool, No Blow
FSI: No Blow




## PRESSURE SUMMARY

| Time (Mn.) | Pressure (psig) | Temp (deg F) | Annotation |
|---|---|---|---|
| 0 | 2295.15 | 112.01 | Initial Hydro-static |
| 1 | 27.92 | 112.73 | Open To Flow (1) |
| 31 | 33.20 | 113.61 | Shut-In(1) |
| 77 | 465.55 | 115.11 | End Shut-In(1) |
| 78 | 54.77 | 115.25 | Open To Flow (2) |
| 83 | 66.89 | 116.15 | Flushed Tool |
| 111 | 35.64 | 115.90 | Shut-In(2) |
| 157 | 177.88 | 117.38 | End Shut-In(2) |
| 157 | 2185.75 | 118.11 | Final Hydro-static |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 30.00 | SGCM 2%G 98%M | 0.42 |
| | | |
| | | |
| | | |
| | | |
| | | |

* Recovery from multiple tests

## Gas Rates

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

TRILOBITE TESTING, INC

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Iuka-Carmi Development

PO Box 847
Pratt, KS 67124

ATTN: Dave Williams

**33-29S-15W Pratt,KS**

**Mary Howell Ryan1-33**

Job Ticket: 44039 **DST#: 3**

Test Start: 2011.11.18 @ 18:20:59

## Tool Information

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Drill Pipe: | Length: | 4523.00 ft | Diameter: | 3.80 inches | Volume: | 63.45 bbl | Tool Weight: | 2100.00 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: | 0.00 ft | Diameter: | 0.00 inches | Volume: | 0.00 bbl | Weight to Pull Loose: | 45000.00 lb |
| | | | | | Total Volume: | 63.45 bbl | Tool Chased | 3.00 ft |
| Drill Pipe Above KB: | | 6.00 ft | | | | | String Weight: Initial | 42000.00 lb |
| Depth to Top Packer: | | 4544.00 ft | | | | | Final | 42000.00 lb |
| Depth to Bottom Packer: | | ft | | | | | | |
| Interval between Packers: | | 34.00 ft | | | | | | |
| Tool Length: | | 61.00 ft | | | | | | |
| Number of Packers: | | 2 | Diameter: | 6.75 inches | | | | |

Tool Comments:

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths | |
|---|---|---|---|---|---|---|
| Shut In Tool | 5.00 | | | 4522.00 | | |
| Hydraulic tool | 5.00 | | | 4527.00 | | |
| Jars | 5.00 | | | 4532.00 | | |
| Safety Joint | 2.00 | | | 4534.00 | | |
| Packer | 5.00 | | | 4539.00 | 27.00 | Bottom Of Top Packer |
| Packer | 5.00 | | | 4544.00 | | |
| Stubb | 1.00 | | | 4545.00 | | |
| Recorder | 0.00 | 6798 | Inside | 4545.00 | | |
| Recorder | 0.00 | 8367 | Outside | 4545.00 | | |
| Perforations | 30.00 | | | 4575.00 | | |
| Bullnose | 3.00 | | | 4578.00 | 34.00 | Bottom Packers & Anchor |
| **Total Tool Length:** | **61.00** | | | | | |

TRILOBITE TESTING, INC

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Iuka-Carmi Development

PO Box 847
Pratt, KS 67124

ATTN: Dave Williams

**33-29S-15W Pratt,KS**

**Mary Howell Ryan1-33**

Job Ticket: 44039 **DST#: 3**

Test Start: 2011.11.18 @ 18:20:59

## Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 56.00 sec/qt
Water Loss: 23.94 in³
Resistivity: ohm m
Salinity: 14000.00 ppm
Filter Cake: 0.20 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: deg API
Water Salinity: ppm

## Recovery Information

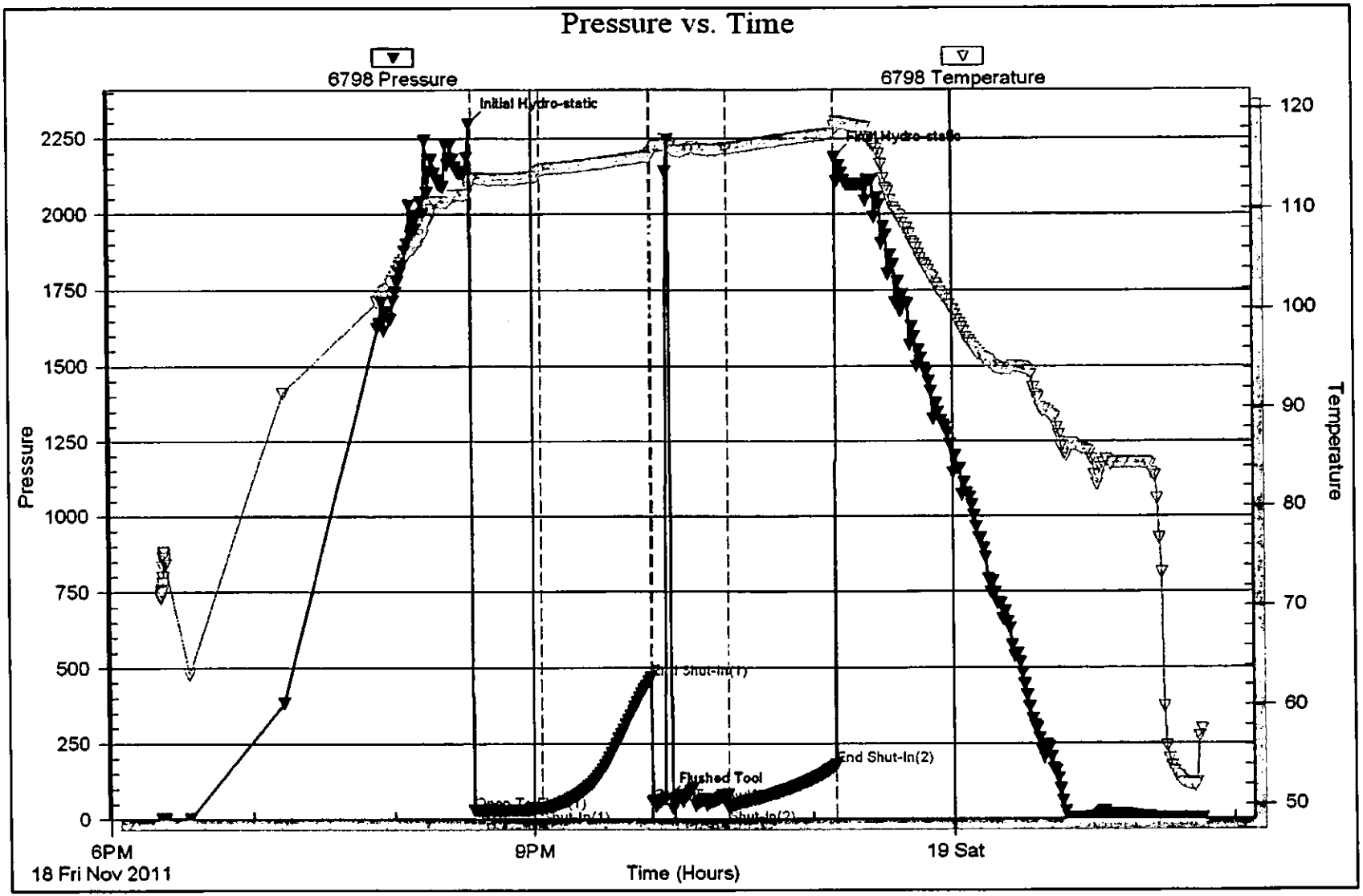
Recovery Table

| Length ft | Description | Volume bbl |
|---|---|---|
| 30.00 | SGOM 2%G 98%M | 0.421 |

Total Length: 30.00 ft Total Volume: 0.421 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 6798 Inside Iuka-Carmi Development Mary Howell Ryan1-33 DST Test Number: 3




Trilobite Testing, Inc Ref. No: 44039 Printed: 2011.11.23 @ 16:07:05

# DRILL STEM TEST REPORT

TRILOBITE TESTING, INC

Iuka-Carmi Development

PO Box 847
Pratt, KS 67124

ATTN: Dave Williams

**33-29S-15W Pratt,KS**

**Mary Howell Ryan1-33**

Job Ticket: 44040 DST#: 4

Test Start: 2011.11.20 @ 23:30:19

## GENERAL INFORMATION:

Formation: **Cherokee Sand**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 02:18:19
Time Test Ended: 07:48:23

Test Type: Conventional Straddle (Reset)
Tester: Leal Cason
Unit No: 45

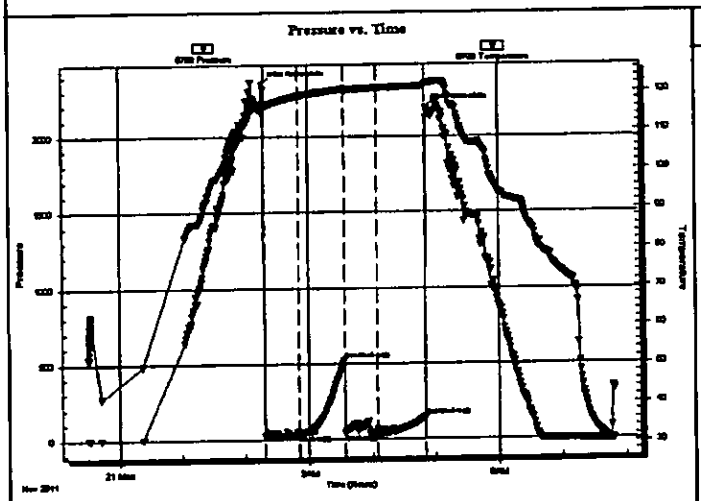
**Interval: 4532.00 ft (KB) To 4586.00 ft (KB) (TVD)**
Total Depth: 4880.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 1984.00 ft (KB)
1971.00 ft (CF)
KB to GR/CF: 13.00 ft

**Serial #: 6798** Inside
Press@RunDepth: 30.89 psig @ 4533.00 ft (KB)
Start Date: 2011.11.20 End Date: 2011.11.21
Start Time: 23:30:20 End Time: 07:48:22

Capacity: 8000.00 psig
Last Calib.: 2011.11.21
Time On Btm: 2011.11.21 @ 02:16:19
Time Off Btm: 2011.11.21 @ 04:51:34

TEST COMMENT: IF: Weak Surface Blow
ISI: No Blow
FF: Weak Surface Blow
FSI: No Blow




## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|---|---|---|---|
| 0 | 2347.15 | 116.56 | Initial Hydro-static |
| 2 | 24.76 | 116.42 | Open To Flow (1) |
| 34 | 31.44 | 118.84 | Shut-In(1) |
| 78 | 523.91 | 120.52 | End Shut-In(1) |
| 78 | 43.98 | 120.31 | Open To Flow (2) |
| 109 | 30.89 | 120.78 | Shut-In(2) |
| 155 | 149.29 | 121.33 | End Shut-In(2) |
| 156 | 2187.66 | 122.00 | Final Hydro-static |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 25.00 | SGCM 1%G 99%M | 0.35 |
| | | |
| | | |
| | | |
| | | |
| | | |

* Recovery from multiple tests

## Gas Rates

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

# DRILL STEM TEST REPORT

TRILOBITE TESTING, INC

Iuka-Carmi Development

PO Box 847
Pratt, KS 67124

ATTN: Dave Williams

**33-29S-15W Pratt,KS**

**Mary Howell Ryan1-33**

Job Ticket: 44040 **DST#: 4**

Test Start: 2011.11.20 @ 23:30:19

## GENERAL INFORMATION:

Formation: **Cherokee Sand**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 02:18:19
Time Test Ended: 07:48:23

Test Type: Conventional Straddle (Reset)
Tester: Leal Cason
Unit No: 45

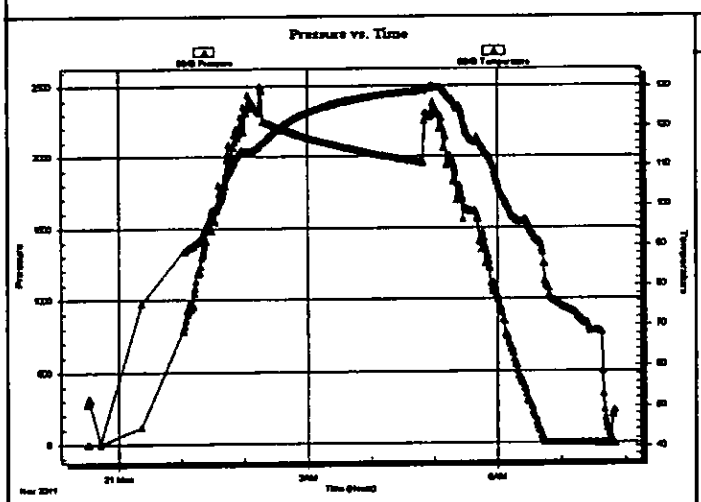
**Interval: 4532.00 ft (KB) To 4586.00 ft (KB) (TVD)**
Total Depth: 4880.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 1984.00 ft (KB)
1971.00 ft (CF)
KB to GR/CF: 13.00 ft

**Serial #: 8649** **Below (Straddle)**
Press@RunDepth: psig @ 4877.00 ft (KB)
Start Date: 2011.11.20 End Date: 2011.11.21
Start Time: 23:30:20 End Time: 07:49:19

Capacity: 8000.00 psig
Last Calib.: 2011.11.21
Time On Btm:
Time Off Btm:

TEST COMMENT: IF: Weak Surface Blow
ISI: No Blow
FF: Weak Surface Blow
FSI: No Blow




## PRESSURE SUMMARY

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

## Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 25.00 | SGCM 1%G 99%M | 0.35 |
| | | |
| | | |
| | | |
| | | |
| | | |

* Recovery from multiple tests

## Gas Rates

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

TRILOBITE TESTING, INC

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Iuka-Carmi Development

PO Box 847
Pratt, KS 67124

ATTN: Dave Williams

**33-29S-15W Pratt,KS**

**Mary Howell Ryan1-33**

Job Ticket: 44040 **DST#: 4**

Test Start: 2011.11.20 @ 23:30:19

## Tool Information

| | | | | | | |
|---|---|---|---|---|---|---|
| Drill Pipe: | Length: | 4525.00 ft | Diameter: | 3.80 inches | Volume: | 63.47 bbl |
| Heavy Wt. Pipe: | Length: | 0.00 ft | Diameter: | 0.00 inches | Volume: | 0.00 bbl |
| Drill Collar: | Length: | 0.00 ft | Diameter: | 0.00 inches | Volume: | 0.00 bbl |
| | | | | Total Volume: | | 63.47 bbl |

| | |
|---|---|
| Drill Pipe Above KB: | 19.00 ft |
| Depth to Top Packer: | 4532.00 ft |
| Depth to Bottom Packer: | 4586.00 ft |
| Interval between Packers: | 54.00 ft |
| Tool Length: | 374.00 ft |
| Number of Packers: | 3 Diameter: 6.75 inches |

| | |
|---|---|
| Tool Weight: | 2100.00 lb |
| Weight set on Packer: | 25000.00 lb |
| Weight to Pull Loose: | 52000.00 lb |
| Tool Chased | ft |
| String Weight: Initial | 50000.00 lb |
| Final | 50000.00 lb |

Tool Comments:

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths | |
|---|---|---|---|---|---|---|
| Shut In Tool | 5.00 | | | 4511.00 | | |
| Hydraulic tool | 5.00 | | | 4516.00 | | |
| Jars | 5.00 | | | 4521.00 | | |
| Safety Joint | 2.00 | | | 4523.00 | | |
| Packer | 5.00 | | | 4528.00 | 26.00 | Bottom Of Top Packer |
| Packer | 4.00 | | | 4532.00 | | |
| Stubb | 1.00 | | | 4533.00 | | |
| Recorder | 0.00 | 6798 | Inside | 4533.00 | | |
| Recorder | 0.00 | 8367 | Outside | 4533.00 | | |
| Perforations | 5.00 | | | 4538.00 | | |
| Change Over Sub | 1.00 | | | 4539.00 | | |
| Drill Pipe | 32.00 | | | 4571.00 | | |
| Change Over Sub | 1.00 | | | 4572.00 | | |
| Perforations | 13.00 | | | 4585.00 | | |
| Blank Off Sub | 1.00 | | | 4586.00 | 54.00 | Tool Interval |
| Packer | 3.00 | | | 4589.00 | | |
| Perforations | 2.00 | | | 4591.00 | | |
| Change Over Sub | 1.00 | | | 4592.00 | | |
| Drill Pipe | 284.00 | | | 4876.00 | | |
| Change Over Sub | 1.00 | | | 4877.00 | | |
| Recorder | 0.00 | 8649 | Below | 4877.00 | | |
| Bullnose | 3.00 | | | 4880.00 | 294.00 | Bottom Packers & Anchor |
| **Total Tool Length:** | **374.00** | | | | | |

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Iuka-Carmi Development

PO Box 847
Pratt, KS 67124

ATTN: Dave Williams

**33-29S-15W Pratt,KS**

**Mary Howell Ryan1-33**

Job Ticket: 44040 DST#: 4

Test Start: 2011.11.20 @ 23:30:19

## 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: | 37.00 sec/qt | Cushion Volume: | bbl | | |
| Water Loss: | 8.79 in³ | Gas Cushion Type: | | | |
| Resistivity: | ohmm | Gas Cushion Pressure: | psig | | |
| Salinity: | 9000.00 ppm | | | | |
| Filter Cake: | 0.20 inches | | | | |

## Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|---|---|---|
| 25.00 | SGOM 1%G 99%M | 0.351 |

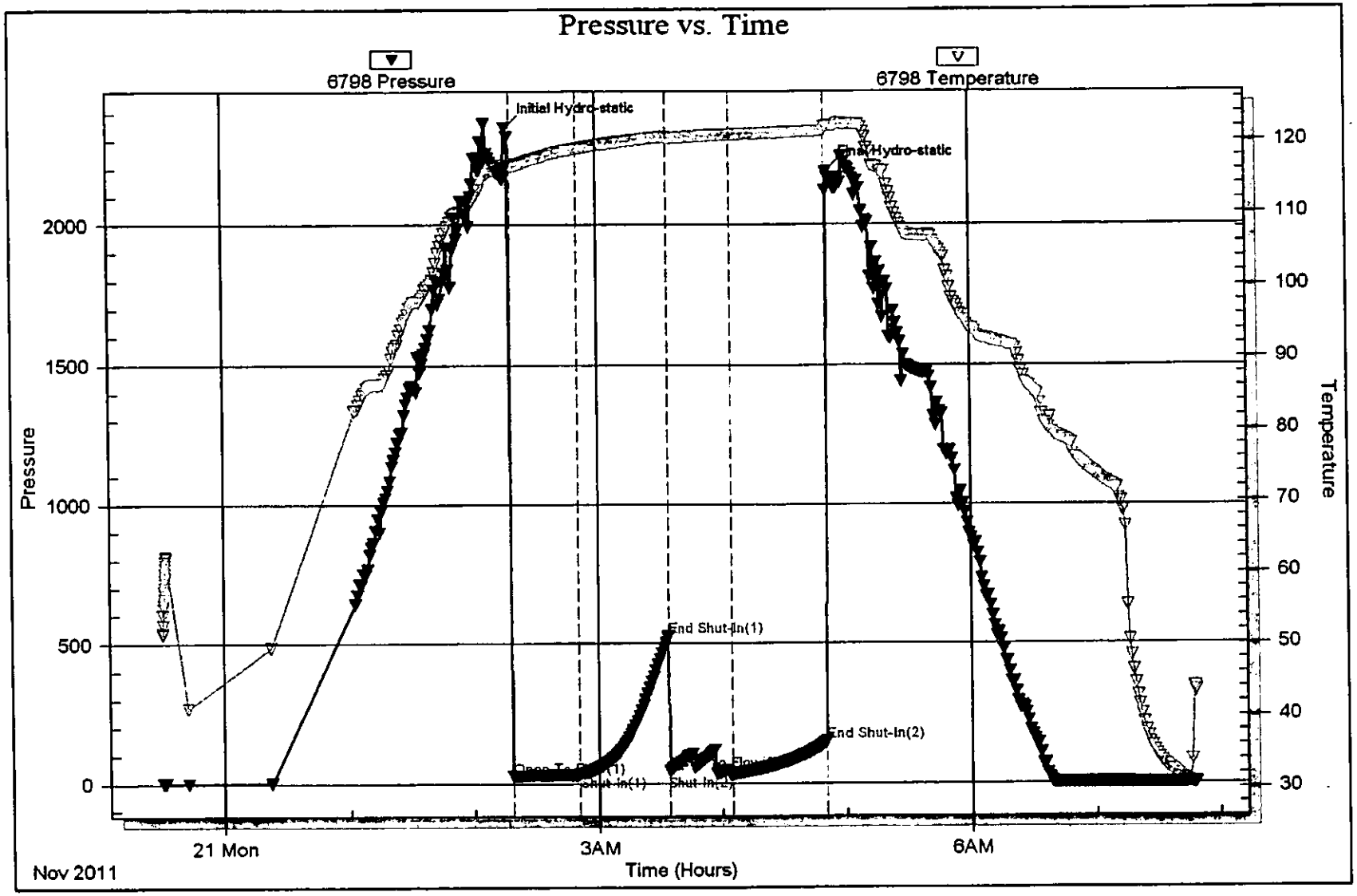
Total Length: 25.00 ft Total Volume: 0.351 bbl

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

Laboratory Name: Laboratory Location:

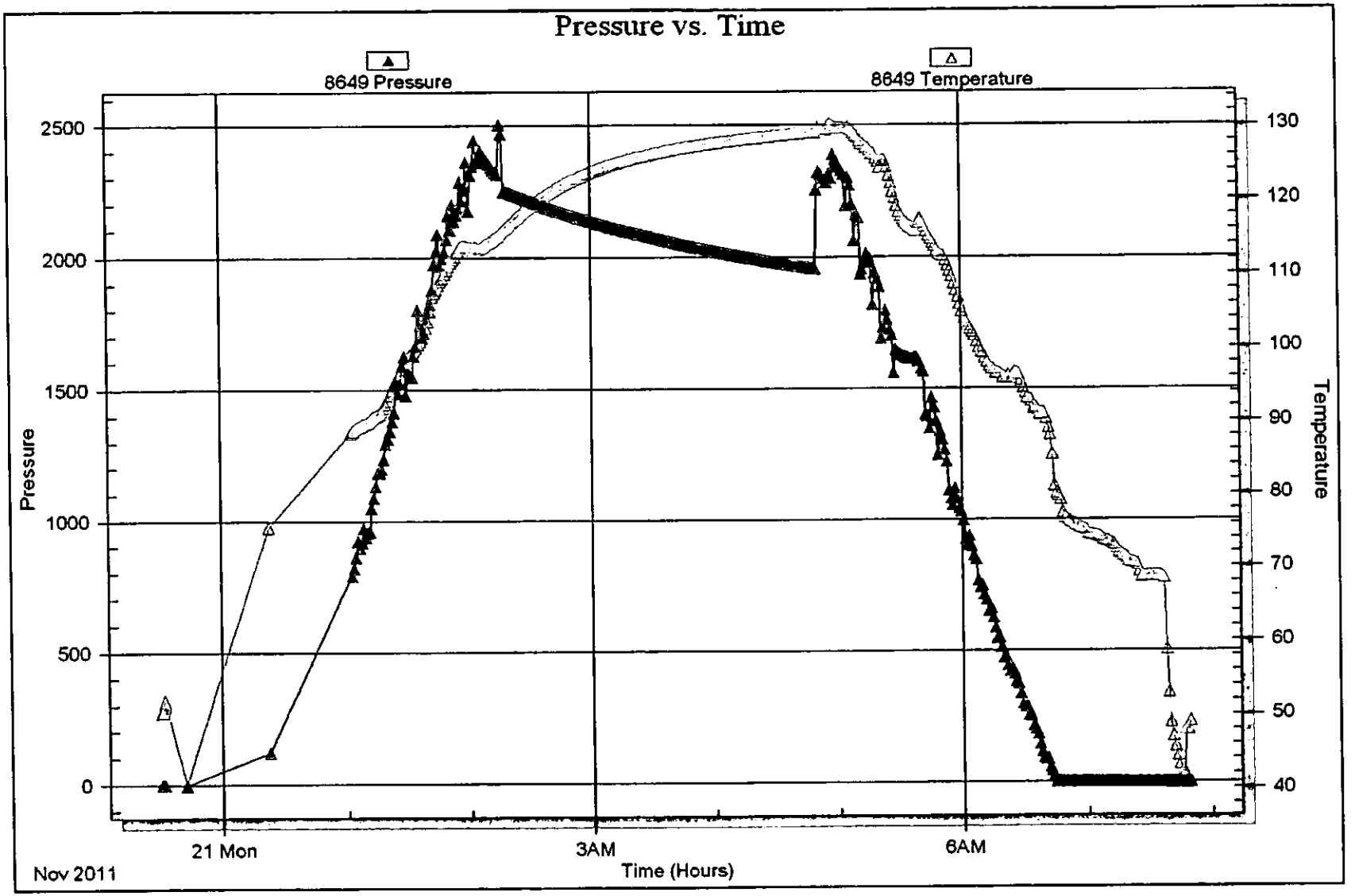
Recovery Comments:

Serial #: 6798 Inside Iuka-Carmi Development Mary How ell Ryan 1-33 DST Test Number: 4




Trilobite Testing, Inc Ref. No: 44040 Printed: 2011.11.23 @ 16:07:27

Serial #: 8649 Below (Straddle) Marmi Development Mary Howell Ryan 1-33 DST Test Number: 4




Trilobite Testing, Inc Ref. No: 44040 Printed: 2011.11.23 @ 16:07:27

# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

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RECEIVED
NOV 18 2011
BY:

# Test Ticket

NO. 44037 16632

Well Name & No. ~~Inka Carmi Development~~ Mary Howell Ryan 1-33 Test No. 1 Date 11/16/11

Company Inka Carmi Development Elevation 1984 KB 1971 GL

Address Po Box 847 Pratt, KS 67124

Co. Rep / Geo. Dave Williams Rig #1 Ninnescah 101

Location: Sec. 33 Twp. 29S Rge. 15W Co. Pratt State KS

Interval Tested 4071 – 4093 Zone Tested Lansing "B"

Anchor Length 22 Drill Pipe Run 4052 Mud Wt. 9.1

Top Packer Depth 4066 Drill Collars Run 0 Vis 57

Bottom Packer Depth 4071 Wt. Pipe Run 0 WL 8.6

Total Depth 4093 Chlorides 6000 ppm System LCM

Blow Description IF: Fair Blow, BOB in 7 minutes
ISI: 1 inch Blowback
FF: Weak Blow, BOBin 30 minutes
FSI: NO Blowback

| | | | | | | |
|---|---|---|---|---|---|---|
| Rec 1178 | Feet of GIP | | %gas | %oil | %water | %mud |
| Rec 25 | Feet of SGCM | 2 | %gas | %oil | %water | 98 %mud |
| Rec | Feet of | | %gas | %oil | %water | %mud |
| Rec | Feet of | | %gas | %oil | %water | %mud |
| Rec | Feet of | | %gas | %oil | %water | %mud |

Rec Total 25 BHT 115 Gravity N/C API RW N/C @ N/C °F Chlorides N/C ppm

| | | | | | |
|---|---|---|---|---|---|
| (A) Initial Hydrostatic | 2054 | ☑ Test | 1225 | T-On Location | 07:00 |
| (B) First Initial Flow | ~~12~~ 12 | ☑ Jars | 250 | T-Started | 08:45 |
| (C) First Final Flow | 19 | ☑ Safety Joint | 75 | T-Open | 11:41 |
| (D) Initial Shut-In | 152 | ☐ Circ Sub | | T-Pulled | 14:58 |
| (E) Second Initial Flow | 15 | ☐ Hourly Standby | 1/4hr 25 | T-Out | 17:15 |
| (F) Second Final Flow | 24 | ☑ Mileage | 60 84 | Comments | |
| (G) Final Shut-In | 326 | ☐ Sampler | | | |
| (H) Final Hydrostatic | 2012 | ☐ Straddle | | ☐ Ruined Shale Packer | |
| | | ☐ Shale Packer | | ☐ Ruined Packer | |
| Initial Open | 45 | ☐ Extra Packer | | ☐ Extra Copies | |
| Initial Shut-In | 45 | ☐ Extra Recorder | | Sub Total | 0 |
| Final Flow | 45 | ☐ Day Standby | | Total | 1659 |
| Final Shut-In | 60 | ☐ Accessibility | | MP/DST Disc't | |
| | | Sub Total | 1659 | | |

Approved By Dave P. Williams Our Representative

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RECEIVED NOV 18 2011 BY:

# Test Ticket

NO. 44038

Well Name & No. 1 Mary Howell Ryan 1-33 Test No. 2 Date 11/17/11

Company Iuka - Carmi Development Elevation 1984 KB 1971 GL

Address PO Box 847 Pratt, KS 67124

Co. Rep / Geo. Dave Williams Rig Ninnescah 101

Location: Sec. 33 Twp. 29S Rge. 15W Co. Pratt State KS

Interval Tested 4149 – 4201 Zone Tested Lansing "F"

Anchor Length 52 Drill Pipe Run 4147 Mud Wt. 9.1

Top Packer Depth 4144 Drill Collars Run 0 Vis 60

Bottom Packer Depth 4149 Wt. Pipe Run 0 WL 8.0

Total Depth 4201 Chlorides 6000 ppm System LCM

Blow Description IF: Fair Blow, 6 inches

ISI: No Blowback

FF: Weak Blow, 4 inches

FSI: No Blowback

| | | | | | |
|---|---|---|---|---|---|
| Rec 20 | Feet of MCW | %gas | %oil 55 | %water 45 | %mud |
| Rec ~~240~~ 240 | Feet of water | %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 ~~240~~ BHT 117 Gravity N/C API RW @ 0.095 @ 55 °F Chlorides 110,000 ppm

| | | | | | |
|---|---|---|---|---|---|
| (A) Initial Hydrostatic | 2049 | ☑ Test | 1225 | T-On Location | 03:30 |
| (B) First Initial Flow | 27 | ☑ Jars | 250 | T-Started | 03:58 |
| (C) First Final Flow | 107 | ☑ Safety Joint | 75 | T-Open | 07:58 |
| (D) Initial Shut-In | 1393 | ☐ Circ Sub | | T-Pulled | 11:00 |
| (E) Second Initial Flow | 98 | ☐ Hourly Standby | 1¼ hr 25 | T-Out | 13:49 |
| (F) Second Final Flow | 156 | ☑ Mileage | 60 84 | Comments | |
| (G) Final Shut-In | 1340 | ☐ Sampler | | | |
| (H) Final Hydrostatic | 1982 | ☐ Straddle | | ☐ Ruined Shale Packer | |
| | | ☐ Shale Packer | | ☐ Ruined Packer | |
| Initial Open | 45 | ☐ Extra Packer | | ☐ Extra Copies | |
| Initial Shut-In | 45 | ☐ Extra Recorder | | Sub Total | 0 |
| Final Flow | 45 | ☐ Day Standby | | Total | 1209 |
| Final Shut-In | 45 | ☐ Accessibility | | MP/DST Disc't | |
| | | Sub Total | 1209 | | |

Approved By David P. Williams Our Representative

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RECEIVED NOV 21 2011 BY:

# Test Ticket

NO. 44039

Well Name & No. I Mary Howell Ryan 1-33 Test No. 3 Date 11/18/11

Company Iuka Carmi Development Elevation 1984 KB 1971 GL

Address PO Box 847 Pratt, KS 67124

Co. Rep / Geo. Dave Williams Rig Ninnescah 101

Location: Sec. 33 Twp. 29S Rge. 15W Co. Pratt State KS

Interval Tested 4544 - 4578 Zone Tested Cherokee Sand

Anchor Length 34 Drill Pipe Run 4523 Mud Wt. 9.3

Top Packer Depth 4539 Drill Collars Run 0 Vis 56

Bottom Packer Depth 4544 Wt. Pipe Run 0 WL 24.0

Total Depth 4578 Chlorides 14000 ppm System LCM

Blow Description IF: Weak surface Blow

~~ISI~~ ISI: NO Blow

FF: Weak Surface Blow, Dead @ 2 minutes, Flushed Tool, NO Blow

FSI: NO Blow

| | | | | | | |
|---|---|---|---|---|---|---|
| Rec 30 | Feet of 5GCM | 2 %gas | %oil | %water | 98 %mud | |
| 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 30 BHT 116° Gravity N/C API RW N/C @ N/C °F Chlorides N/C ppm

| | | | | | |
|---|---|---|---|---|---|
| (A) Initial Hydrostatic | 2295 | ☑ Test | 1225 | T-On Location | 17:30 |
| (B) First Initial Flow | 28 | ☑ Jars | 250 | T-Started | 18:20 |
| (C) First Final Flow | 33 | ☑ Safety Joint | 75 | T-Open | 20:33 |
| (D) Initial Shut-In | 465 | ☐ Circ Sub | | T-Pulled | 23:09 |
| (E) Second Initial Flow | 54 | ☐ Hourly Standby | | T-Out | 01:46 |
| (F) Second Final Flow | 36 | ☑ Mileage | 60 ↑ 84 | Comments | |
| (G) Final Shut-In | 178 | ☐ Sampler | | | |
| (H) Final Hydrostatic | 2186 | ☐ Straddle | | ☐ Ruined Shale Packer | |
| | | ☐ Shale Packer | | ☐ Ruined Packer | |
| Initial Open | 30 | ☐ Extra Packer | | ☐ Extra Copies | |
| Initial Shut-In | 45 | ☐ Extra Recorder | | Sub Total | 0 |
| Final Flow | 30 | ☐ Day Standby | | Total | 1634 |
| Final Shut-In | 45 | ☐ Accessibility | | MP/DST Disc't | |
| | | Sub Total | 1634 | | |

Approved By Dave Williams Our Representative

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

RECEIVED NOV 22 2011 BY:

4/10

## Test Ticket

NO. 44040

Well Name & No. 1 Mary Howel Ryan 1-33 Test No. 4 Date 11/20/11

Company Inka Carmi Development Elevation 1984 KB 1971 GL

Address PO BOX 847 Pratt, KS 67124

Co. Rep / Geo. Dave Williams Rig Ninnescah 101

Location: Sec. 33 Twp. 29S Rge. 15W Co. Pratt State KS

Interval Tested 4532 - 4586 Zone Tested cherokee sand

Anchor Length 54 Drill Pipe Run 4525 Mud Wt. 9.3

Top Packer Depth 4528 Drill Collars Run 0 Vis 37

Bottom Packer Depth 4586 Wt. Pipe Run 0 WL 8.8

Total Depth 4880 Chlorides 9000 ppm System LCM 2#

Blow Description IF: weak surface Blow

ISI: No Blow

FF: weak surface Blow

FSI: No Blow

| | | | | | | |
|---|---|---|---|---|---|---|
| Rec 25 | Feet of SGCM | 1 %gas | %oil | %water | 99 %mud |
| 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 25 BHT 122° Gravity N/C API RW N/C @ N/C °F Chlorides N/C ppm

| | | | |
|---|---|---|---|
| (A) Initial Hydrostatic 2347 | ☑ Test 1225 | T-On Location 23:00 |
| (B) First Initial Flow 25 | ☑ Jars 250 | T-Started 23:30 |
| (C) First Final Flow 31 | ☑ Safety Joint 75 | T-Open 02:18 |
| (D) Initial Shut-In 524 | ☐ Circ Sub | T-Pulled 04:50 |
| (E) Second Initial Flow 44 | ☐ Hourly Standby | T-Out 07:48 |
| (F) Second Final Flow 31 | ☑ Mileage (60) 84 | Comments |
| (G) Final Shut-In 149 | ☐ Sampler | |
| (H) Final Hydrostatic 2188 | ☑ Straddle 600 | ☐ Ruined Shale Packer |
| | ☐ Shale Packer | ☐ Ruined Packer |
| Initial Open 30 | ☐ Extra Packer | ☐ Extra Copies |
| Initial Shut-In 45 | ☐ Extra Recorder | Sub Total 0 |
| Final Flow 30 | ☐ Day Standby | Total 2234 |
| Final Shut-In 45 | ☐ Accessibility | MP/DST Disc't |
| | Sub Total 2234 | |

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