



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Grand Mesa Operating Company

**21-16s-33w**

1700 N Waterfront PKWY  
BLDG 600 Wichita KS  
67206-5514  
ATTN: John Goldsmith

**Unruh 1-21**

Job Ticket: 44335

**DST#: 4**

Test Start: 2011.10.23 @ 12:25:00

## GENERAL INFORMATION:

Formation: **Atoka**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 14:55:15  
 Time Test Ended: 20:36:15  
 Interval: **4662.00 ft (KB) To 4702.00 ft (KB) (TVD)**  
 Total Depth: 4702.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Jace McKinney  
 Unit No: 28  
 Reference Elevations: 3082.00 ft (KB)  
 3077.00 ft (CF)  
 KB to GR/CF: 5.00 ft

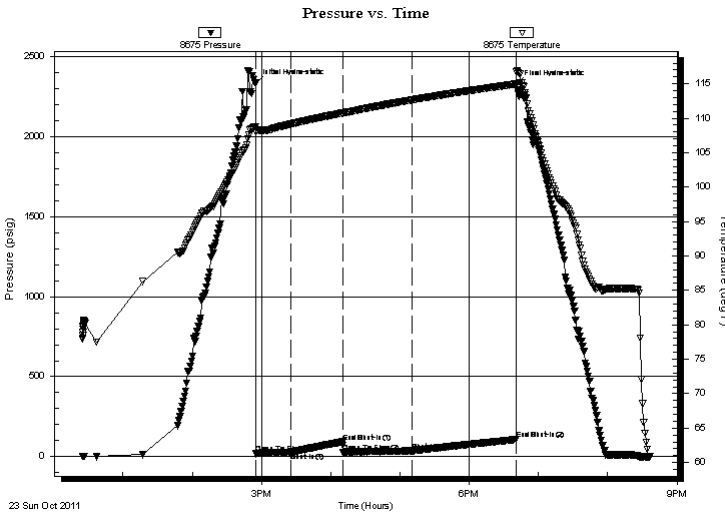
## Serial #: 8675

Inside

Press @ Run Depth: 34.88 psig @ 4663.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2011.10.23 End Date: 2011.10.23 Last Calib.: 2011.10.23  
 Start Time: 12:25:01 End Time: 20:36:15 Time On Btm: 2011.10.23 @ 14:54:45  
 Time Off Btm: 2011.10.23 @ 18:41:00

TEST COMMENT: Built to 2 1/2" blow  
 No return blow  
 Built to 2 1/2" blow  
 No return blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2335.57	108.75	Initial Hydro-static
1	18.41	108.06	Open To Flow (1)
31	26.92	109.12	Shut-In(1)
76	92.37	110.74	End Shut-In(1)
76	24.39	110.72	Open To Flow (2)
136	34.88	112.64	Shut-In(2)
226	106.99	114.95	End Shut-In(2)
227	2325.83	116.71	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
40.00	gcom 10%G 20%O 70%M	0.20

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE**  
TESTING, INC

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Grand Mesa Operating Company

**21-16s-33w**

1700 N Waterfront PKWY  
BLDG 600 Wichita KS  
67206-5514  
ATTN: John Goldsmith

**Unruh 1-21**

Job Ticket: 44335

**DST#: 4**

Test Start: 2011.10.23 @ 12:25:00

## Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 56.00 sec/qt

Water Loss: 7.97 in<sup>3</sup>

Resistivity: 0.00 ohm.m

Salinity: 3600.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: deg API

ppm

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
40.00	gcom 10%G 20%O 70%M	0.197

Total Length: 40.00 ft      Total Volume: 0.197 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

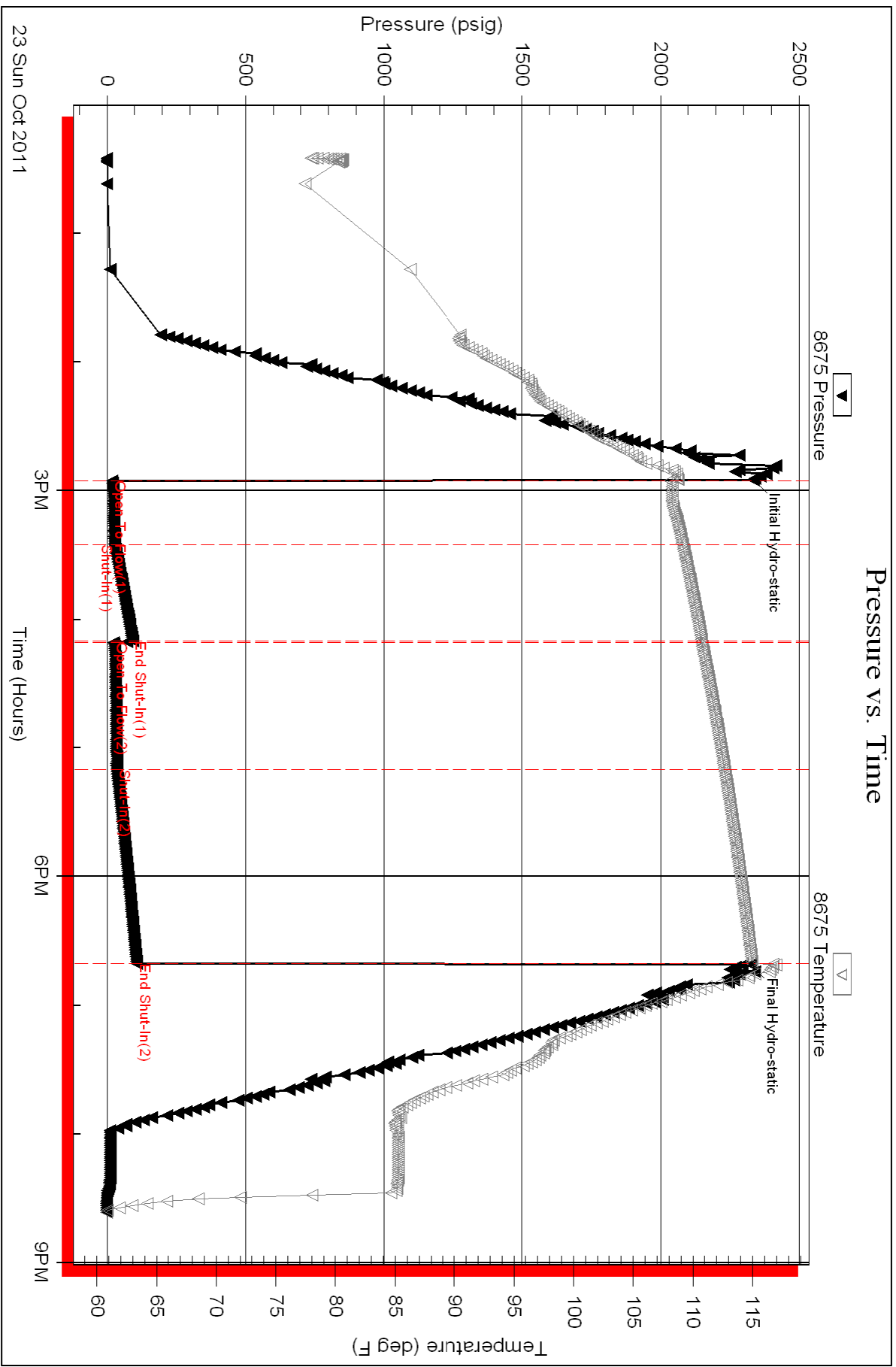
Serial #: 8675

Inside

Grand Mesa Operating Company

Unruh 1-21

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 44335

Printed: 2011.10.24 @ 08:42:47