



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Blackhawk Prod. Co  
 1607 Oakmont  
 Hays, KS 67601  
 ATTN: Steve Reed

**10-16s-19w Rush Co.**  
**Carol #1**  
 Job Ticket: 52335      **DST#: 2**  
 Test Start: 2013.07.03 @ 12:41:47

## GENERAL INFORMATION:

Formation: **Cong. Sand**  
 Deviated: No Whipstock: 0.00 ft (KB)  
 Time Tool Opened: 14:04:47  
 Time Test Ended: 17:35:47  
 Interval: **3635.00 ft (KB) To 3640.00 ft (KB) (TVD)**  
 Total Depth: 3640.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Ryan Reynolds  
 Unit No: 48  
 Reference Elevations: 2063.00 ft (KB)  
 2055.00 ft (CF)  
 KB to GR/CF: 8.00 ft

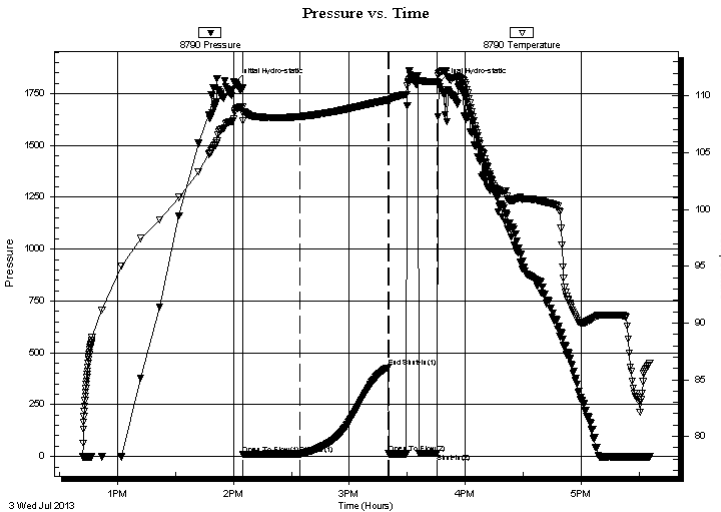
## Serial #: 8790

Inside

Press @ Run Depth: 12.42 psig @ 3636.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2013.07.03      End Date: 2013.07.03      Last Calib.: 2013.07.03  
 Start Time: 12:41:52      End Time: 17:35:46      Time On Btm: 2013.07.03 @ 14:00:47  
 Time Off Btm: 2013.07.03 @ 15:46:17

TEST COMMENT: IF: Weak blow . Surf. - Dead @ 15min.  
 IS: No blow  
 FF: No blow (Fishd tool 10min. into) No blow  
 No FSI.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1801.36	108.67	Initial Hydro-static
4	9.32	107.78	Open To Flow (1)
34	12.42	108.18	Shut-In(1)
79	428.73	109.64	End Shut-In(1)
80	13.26	109.46	Open To Flow (2)
105	15.08	111.26	Shut-In(2)
106	1803.88	111.99	Final Hydro-static

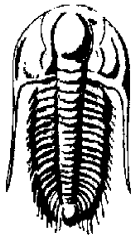
## Recovery

Length (ft)	Description	Volume (bbl)
1.00	Clean oil 100%oil	0.01
3.00	OCM 15%oil, 85%mud	0.04

\* Recovery from multiple tests

## Gas Rates

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



# TRILOBITE TESTING, INC.

## DRILL STEM TEST REPORT

Blackhawk Prod. Co

10-16s-19w Rush Co.

1607 Oakmont  
Hays, KS 67601

**Carol #1**

Job Ticket: 52335

**DST#: 2**

ATTN: Steve Reed

Test Start: 2013.07.03 @ 12:41:47

### GENERAL INFORMATION:

Formation: **Cong. Sand**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 14:04:47

Time Test Ended: 17:35:47

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Reynolds

Unit No: 48

**Interval: 3635.00 ft (KB) To 3640.00 ft (KB) (TVD)**

Reference Elevations: 2063.00 ft (KB)

Total Depth: 3640.00 ft (KB) (TVD)

2055.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8792 Outside**

Press @ Run Depth: psig @ 3636.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.07.03

End Date: 2013.07.03

Last Calib.: 2013.07.03

Start Time: 12:36:18

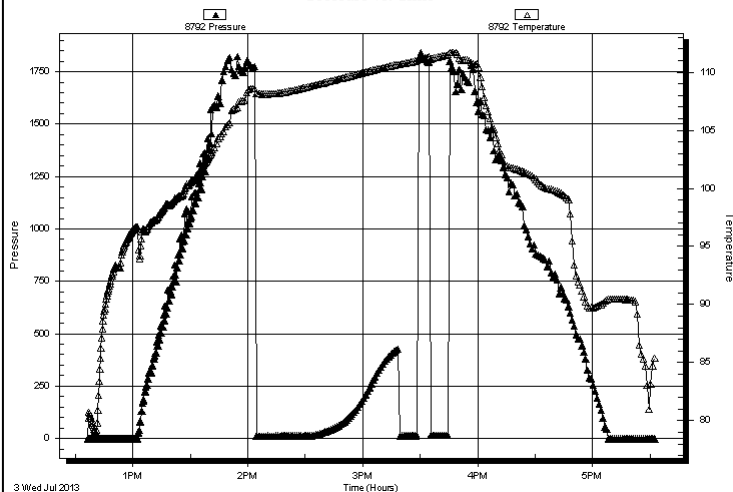
End Time: 17:33:12

Time On Btm:

Time Off Btm:

**TEST COMMENT:** IF: Weak blow. Surf. - Dead @ 15min.  
IS: No blow  
FF: No blow (Fishd tool 10min. into) No blow  
No FSI.

Pressure vs. Time



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
1.00	Clean oil 100%oil	0.01
3.00	OCM 15%oil, 85%mud	0.04

\* Recovery from multiple tests

### Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Blackhawk Prod. Co

**10-16s-19w Rush Co.**

1607 Oakmont  
Hays, KS 67601

**Carol #1**

Job Ticket: 52335

**DST#: 2**

ATTN: Steve Reed

Test Start: 2013.07.03 @ 12:41:47

## 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:

3100 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.80 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3100.00 ppm

Filter Cake: 0.02 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
1.00	Clean oil 100%oil	0.014
3.00	OCM 15%oil, 85%mud	0.042

Total Length: 4.00 ft      Total Volume: 0.056 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #: none

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8790

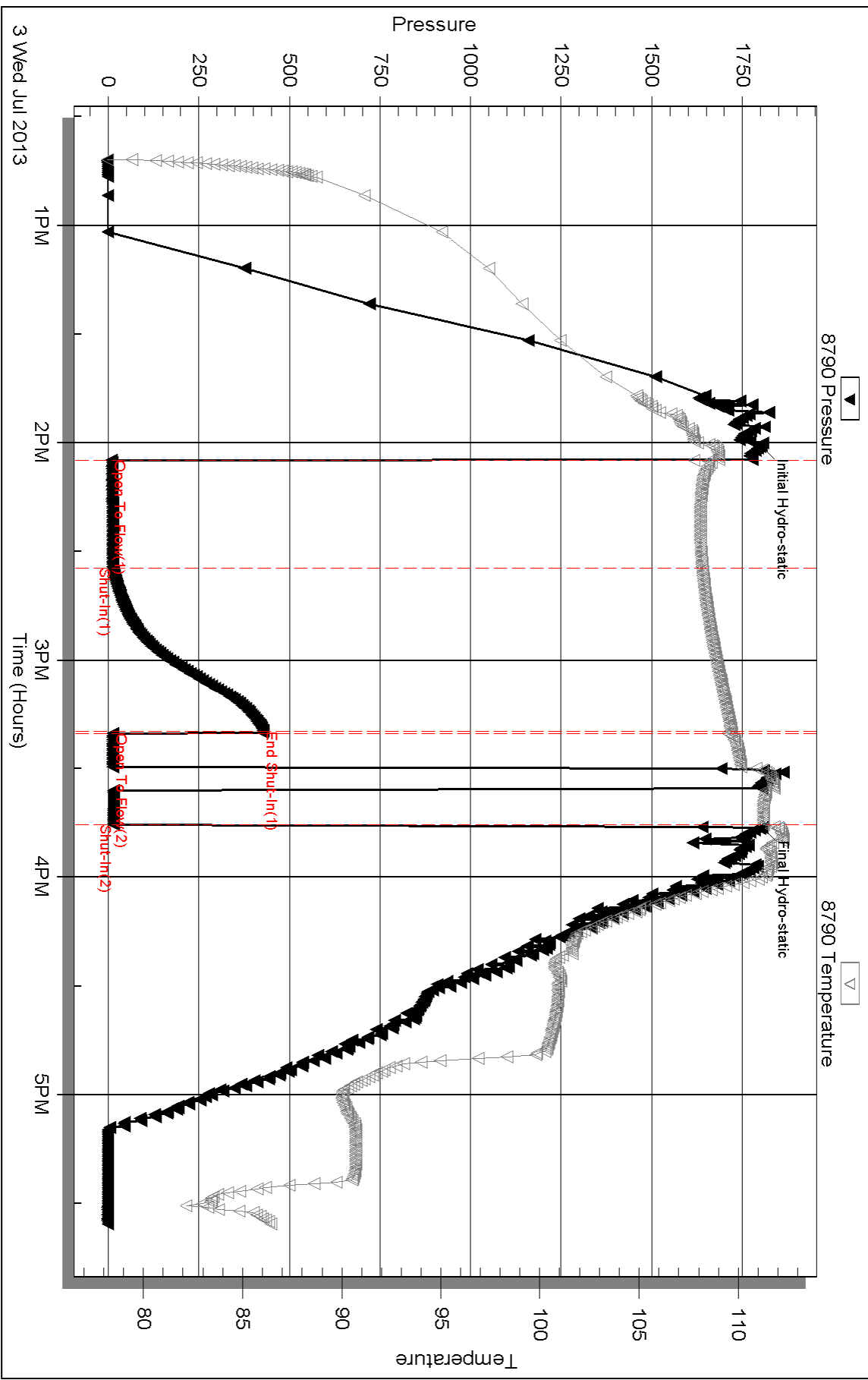
Inside

Blackhawk Prod. Co

Carol #1

DST Test Number: 2

### Pressure vs. Time



Triobite Testing, Inc

Ref. No: 52335

Printed: 2013.07.04 @ 08:15:59

Serial #: 8792

Outside Blackhawk Prod. Co

Carol #1

DST Test Number: 2

