



DRILL STEM TEST REPORT

Prepared For: **H&C Oil Operating, Inc.**

PO Box 86
Plainville, KS 67663

ATTN: Marc Downing

Shaw #9-1

9 7s 23w Graham KS

Start Date: 2013.11.26 @ 18:53:00

End Date: 2013.11.27 @ 03:14:00

Job Ticket #: 53599 DST #: 1

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

Printed: 2013.11.29 @ 11:50:44



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

H&C Oil Operating, Inc.

9 7s 23w Graham KS

PO Box 86
Plainville, KS 67663

Shaw #9-1

Job Ticket: 53599

DST#: 1

ATTN: Marc Downing

Test Start: 2013.11.26 @ 18:53:00

GENERAL INFORMATION:

Formation: **LKC H-J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:25:30

Time Test Ended: 03:14:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Chuck Kreuzer Jr.

Unit No: 61

Interval: 3813.00 ft (KB) To 3875.00 ft (KB) (TVD)

Reference Elevations: 2427.00 ft (KB)

Total Depth: 3875.00 ft (KB) (TVD)

2422.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8673

Inside

Press@RunDepth: 62.42 psig @ 3816.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.11.26

End Date:

2013.11.27

Last Calib.: 2013.11.27

Start Time: 18:53:01

End Time:

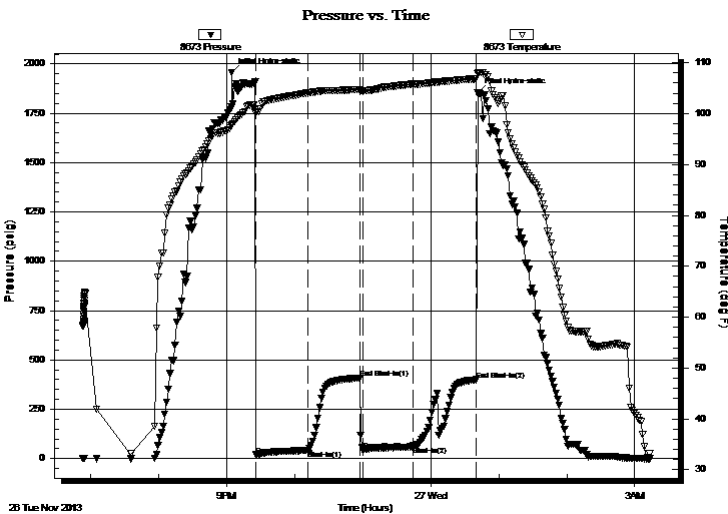
03:14:00

Time On Btm: 2013.11.26 @ 21:04:30

Time Off Btm: 2013.11.27 @ 00:42:00

TEST COMMENT: IF: Weak blow , Built to 3 3/4" over 45 mins.
IS: No blow back over 45 mins.
FF: Weak blow , Built to 3 3/4" over 45 mins.
FS: No blow back over 45 mins.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1957.42	97.82	Initial Hydro-static
21	18.92	100.17	Open To Flow (1)
67	41.66	104.04	Shut-In(1)
113	407.85	104.76	End Shut-In(1)
116	42.93	104.56	Open To Flow (2)
160	62.42	105.79	Shut-In(2)
216	399.20	106.83	End Shut-In(2)
218	1856.00	107.98	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
75.00	Hmco-60%o40%m	0.78
3.00	free oil-100%o	0.04

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

H&C Oil Operating, Inc.

9 7s 23w Graham KS

PO Box 86
Plainville, KS 67663

Shaw #9-1

Job Ticket: 53599

DST#: 1

ATTN: Marc Downing

Test Start: 2013.11.26 @ 18:53:00

Tool Information

Drill Pipe:	Length: 3778.00 ft	Diameter: 3.80 inches	Volume: 53.00 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 45000.00 lb
			<u>Total Volume: 53.15 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	3813.00 ft			Final 40000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	62.00 ft			
Tool Length:	82.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3798.00	
Hydraulic tool	5.00			3803.00	
Packer	5.00			3808.00	20.00 Bottom Of Top Packer
Packer	5.00			3813.00	
Stubb	1.00			3814.00	
Perforations	2.00			3816.00	
Recorder	0.00	8673	Inside	3816.00	
Recorder	0.00	8651	Outside	3816.00	
Blank Spacing	31.00			3847.00	
Perforations	25.00			3872.00	
Bullnose	3.00			3875.00	62.00 Bottom Packers & Anchor

Total Tool Length: 82.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

H&C Oil Operating, Inc.

9 7s 23w Graham KS

PO Box 86
Plainville, KS 67663

Shaw #9-1

Job Ticket: 53599

DST#: 1

ATTN: Marc Downing

Test Start: 2013.11.26 @ 18:53:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 58.00 sec/qt

Water Loss: 5.99 in³

Resistivity: ohm.m

Salinity: 1400.00 ppm

Filter Cake: 2.00 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
75.00	Hmco-60%o40%m	0.779
3.00	free oil-100%o	0.042

Total Length: 78.00 ft Total Volume: 0.821 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

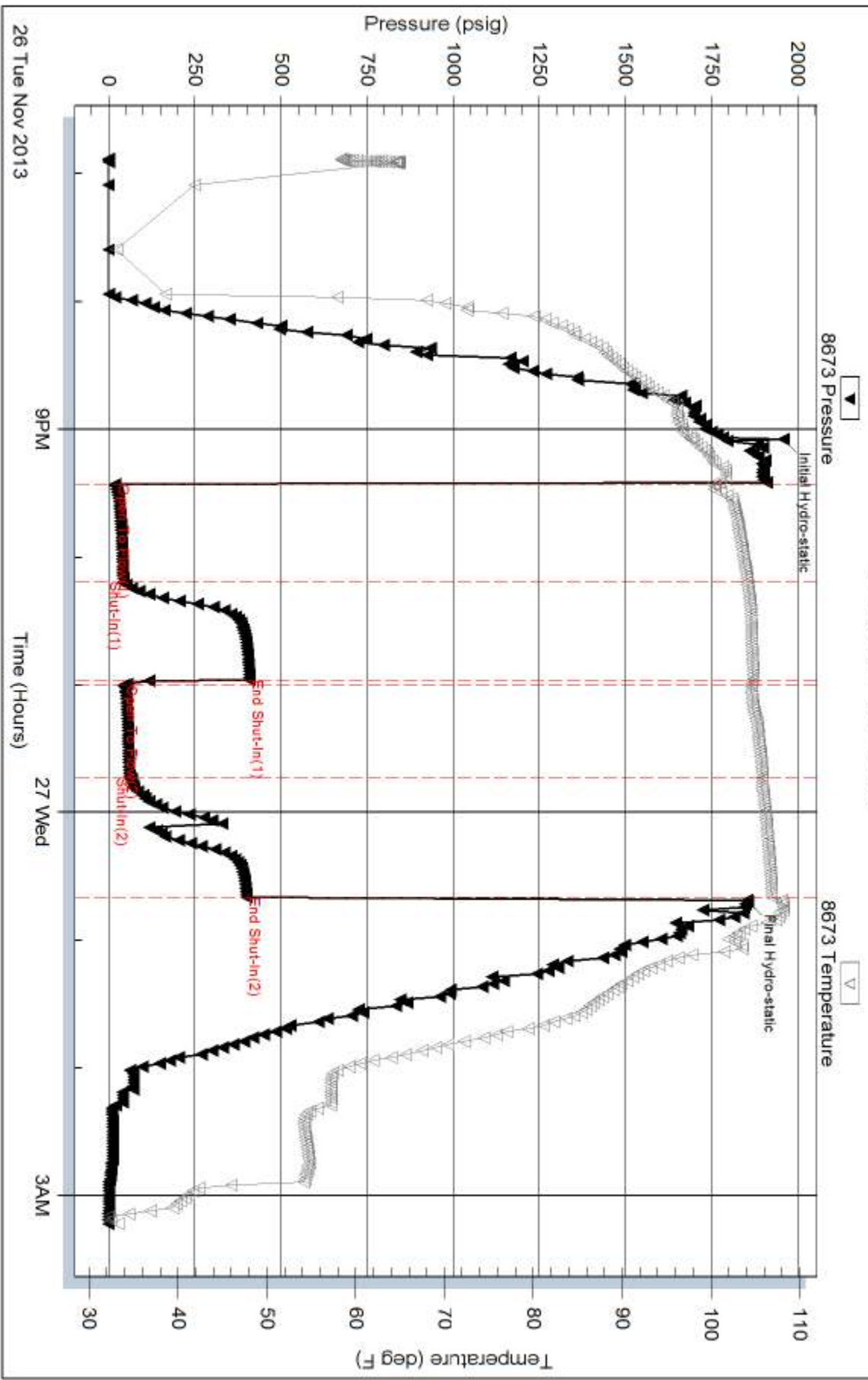
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

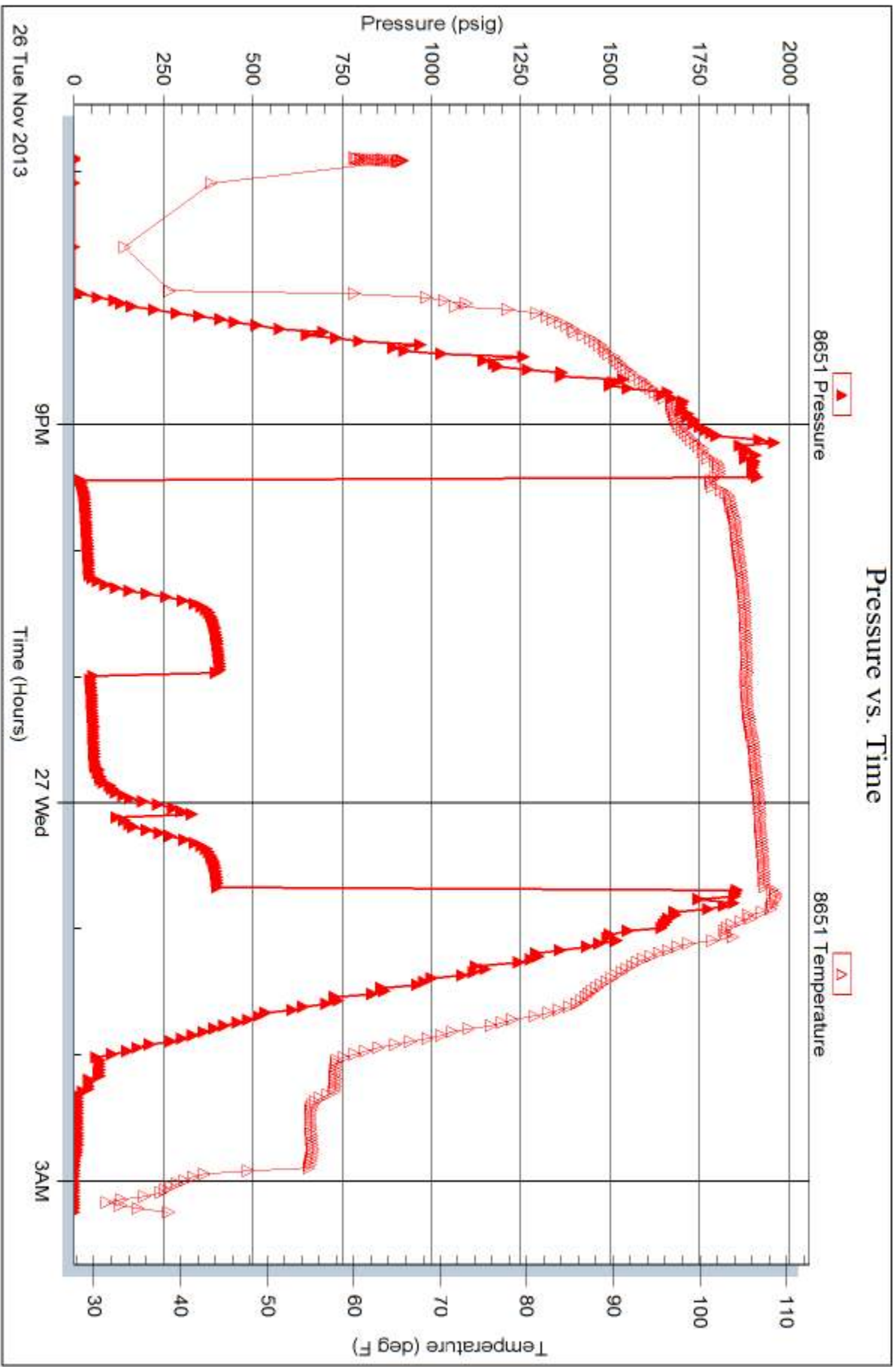


Serial #: 8651

Outside H&C Oil Operating, Inc.

Shaw #9-1

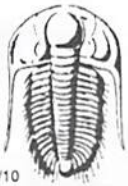
DST Test Number: 1



Triobite Testing, Inc

Ref. No: 53599

Printed: 2013.11.29 @ 11:50:47



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 53599

Well Name & No. Shaw #9-1 Test No. 1 Date 11-26-2012
 Company H&C oil operating, Inc. Elevation 2427 KB 2422 GL
 Address P.O. BOX 86 Plainville, KS. 67663
 Co. Rep / Geo. Marc Downing Rig American Eagle #3
 Location: Sec. 9 Twp. 7s Rge. 23W Co. Graham State Ks

Interval Tested 3813 3875 Zone Tested LKC-H₂O
 Anchor Length 62 Drill Pipe Run 3778 Mud Wt. 9.1
 Top Packer Depth 3808 Drill Collars Run 30 Vis 58
 Bottom Packer Depth 3813 Wt. Pipe Run -0- WL 6.0
 Total Depth 3875 Chlorides 1,400 ppm System LCM 2#

Blow Description IF: Weak blow, Built to 3 3/4 in. over 45 mins.
ISI: No blow back
FF: Weak blow, Built to 3 3/4 in over 45 mins.
FST: No blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>75</u>	<u>HMC0</u>		<u>60</u>		<u>40</u>
<u>3</u>	<u>Free oil</u>				

Rec Total 78 BHT 1060 Gravity _____ API RW _____ @ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic 1957 Test 1150 T-On Location 17:10
 (B) First Initial Flow 19 Jars _____ T-Started 18:53
 (C) First Final Flow 42 Safety Joint _____ T-Open 21:25
 (D) Initial Shut-In 408 Circ Sub _____ T-Pulled 00:35
 (E) Second Initial Flow 43 Hourly Standby _____ T-Out 3:14
 (F) Second Final Flow 62 Mileage 60x2=120x1.55=186 Comments Loaded tools on
 (G) Final Shut-In 399 Sampler 186 x 2 loaded tools = 372 11-27-2013 at 20:15 PM
 (H) Final Hydrostatic 1856 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1522
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1522

Approved By _____ Our Representative Chad King
 Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.