



## DRILL STEM TEST REPORT

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

PO Box 86  
Plainville KS 67663

ATTN: Marc Downing

**L.D.N. #19-1**

**19-17s-26w Ness,KS**

Start Date: 2013.05.08 @ 11:53:53

End Date: 2013.05.08 @ 18:57:08

Job Ticket #: 53207                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

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**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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**19-17s-26w Ness, KS**

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**L.D.N. #19-1**

ATTN: Marc Downing

Job Ticket: 53207

**DST#: 1**

Test Start: 2013.05.08 @ 11:53:53

## GENERAL INFORMATION:

Formation: **Ft. Scott**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:35:08

Time Test Ended: 18:57:08

Test Type: Conventional Bottom Hole (Initial)

Tester: Tate Lang

Unit No: 55

**Interval: 4360.00 ft (KB) To 4384.00 ft (KB) (TVD)**

Reference Elevations: 2517.00 ft (KB)

Total Depth: 4384.00 ft (KB) (TVD)

2505.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 12.00 ft

**Serial #: 6667 Inside**

Press @ Run Depth: 35.35 psig @ 4361.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.05.08

End Date: 2013.05.08

Last Calib.: 2013.05.08

Start Time: 11:54:08

End Time: 18:57:08

Time On Btm: 2013.05.08 @ 14:34:38

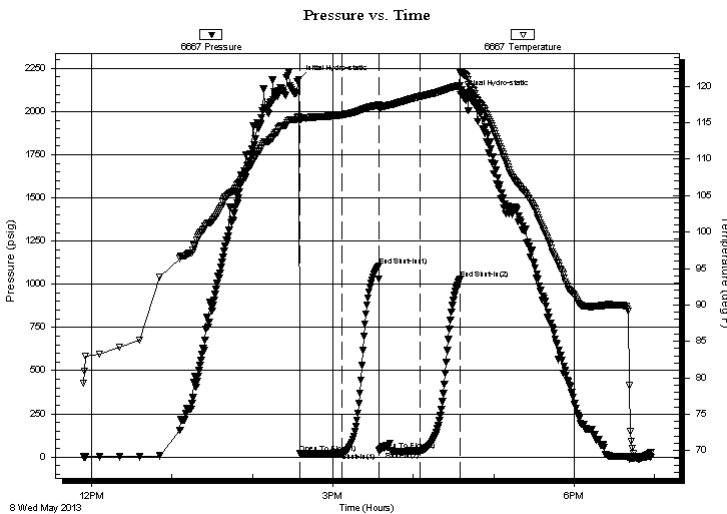
Time Off Btm: 2013.05.08 @ 16:35:08

**TEST COMMENT:** Weak surface blow

Dead no blow

Dead no blow

Dead no blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2186.32	115.83	Initial Hydro-static
1	20.47	115.40	Open To Flow (1)
32	24.92	116.10	Shut-In(1)
60	1106.56	117.42	End Shut-In(1)
60	38.15	117.11	Open To Flow (2)
91	35.35	118.59	Shut-In(2)
120	1028.95	120.08	End Shut-In(2)
121	2098.67	121.91	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	2%W 98%M w ith oil spots	0.05

## Gas Rates

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





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**TOOL DIAGRAM**

H&C Oil Operating Inc.

**19-17s-26w Ness, KS**

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**L.D.N. #19-1**

Job Ticket: 53207

**DST#: 1**

ATTN: Marc Downing

Test Start: 2013.05.08 @ 11:53:53

## Tool Information

Drill Pipe:	Length: 4045.00 ft	Diameter: 3.80 inches	Volume: 56.74 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: 310.00 ft	Diameter: 2.25 inches	Volume: 1.52 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 58.26 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4360.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	24.00 ft			
Tool Length:	44.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			4341.00	
Shut In Tool	5.00			4346.00	
Hydraulic tool	5.00			4351.00	
Packer	5.00			4356.00	20.00 Bottom Of Top Packer
Packer	4.00			4360.00	
Stubb	1.00			4361.00	
Recorder	0.00	6667	Inside	4361.00	
Recorder	0.00	8368	Outside	4361.00	
Perforations	18.00			4379.00	
Bullnose	5.00			4384.00	24.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>44.00</b>				



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**FLUID SUMMARY**

H&C Oil Operating Inc.

**19-17s-26w Ness, KS**

PO Box 86  
Plainville KS 67663

**L.D.N. #19-1**

Job Ticket: 53207

**DST#: 1**

ATTN: Marc Downing

Test Start: 2013.05.08 @ 11:53:53

## 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: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	2%W 98%M with oil spots	0.049

Total Length: 10.00 ft      Total Volume: 0.049 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

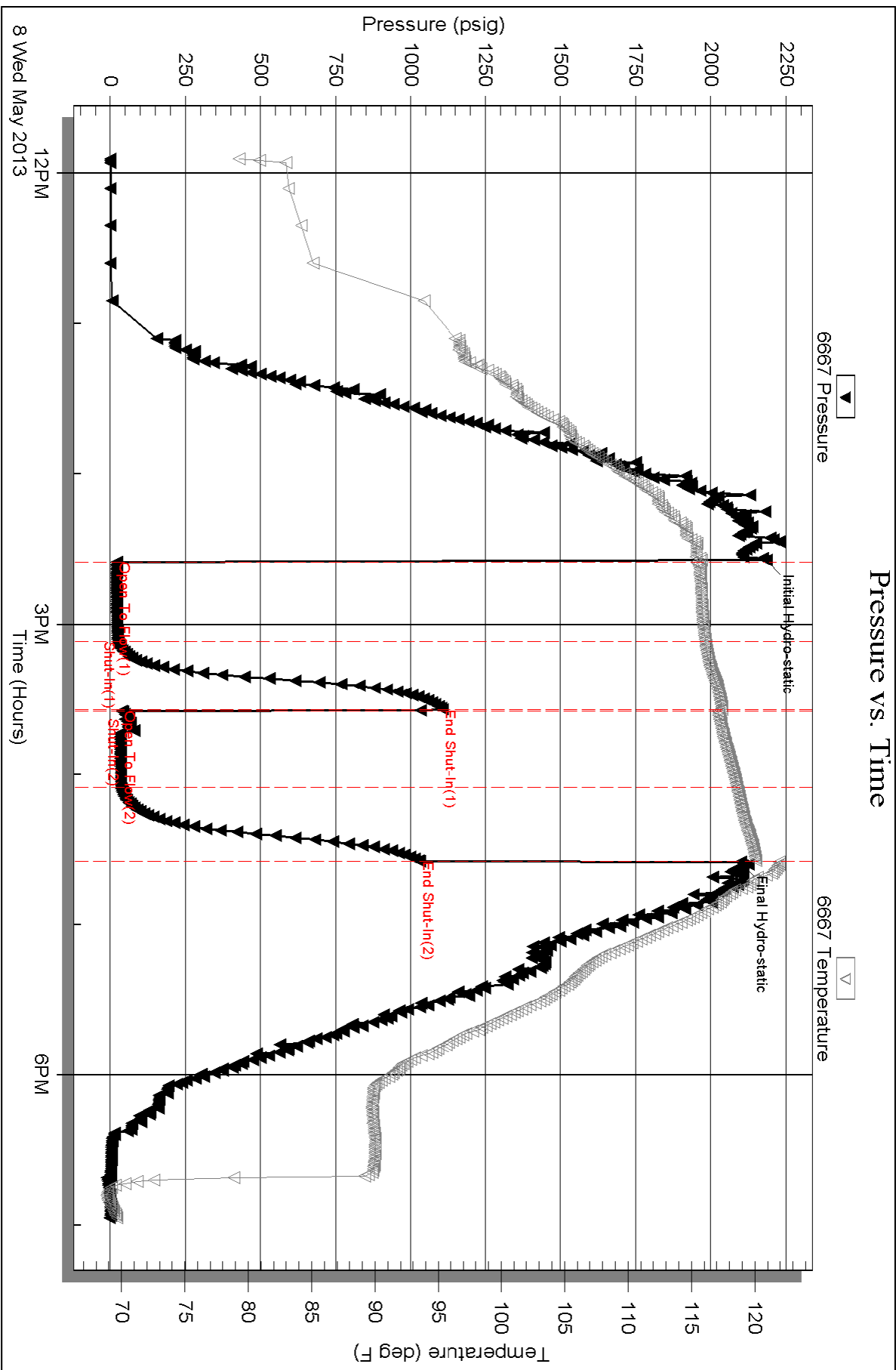
Serial #: 6667

Inside

H&C Oil Operating Inc.

L.D.N. #19-1

DST Test Number: 1

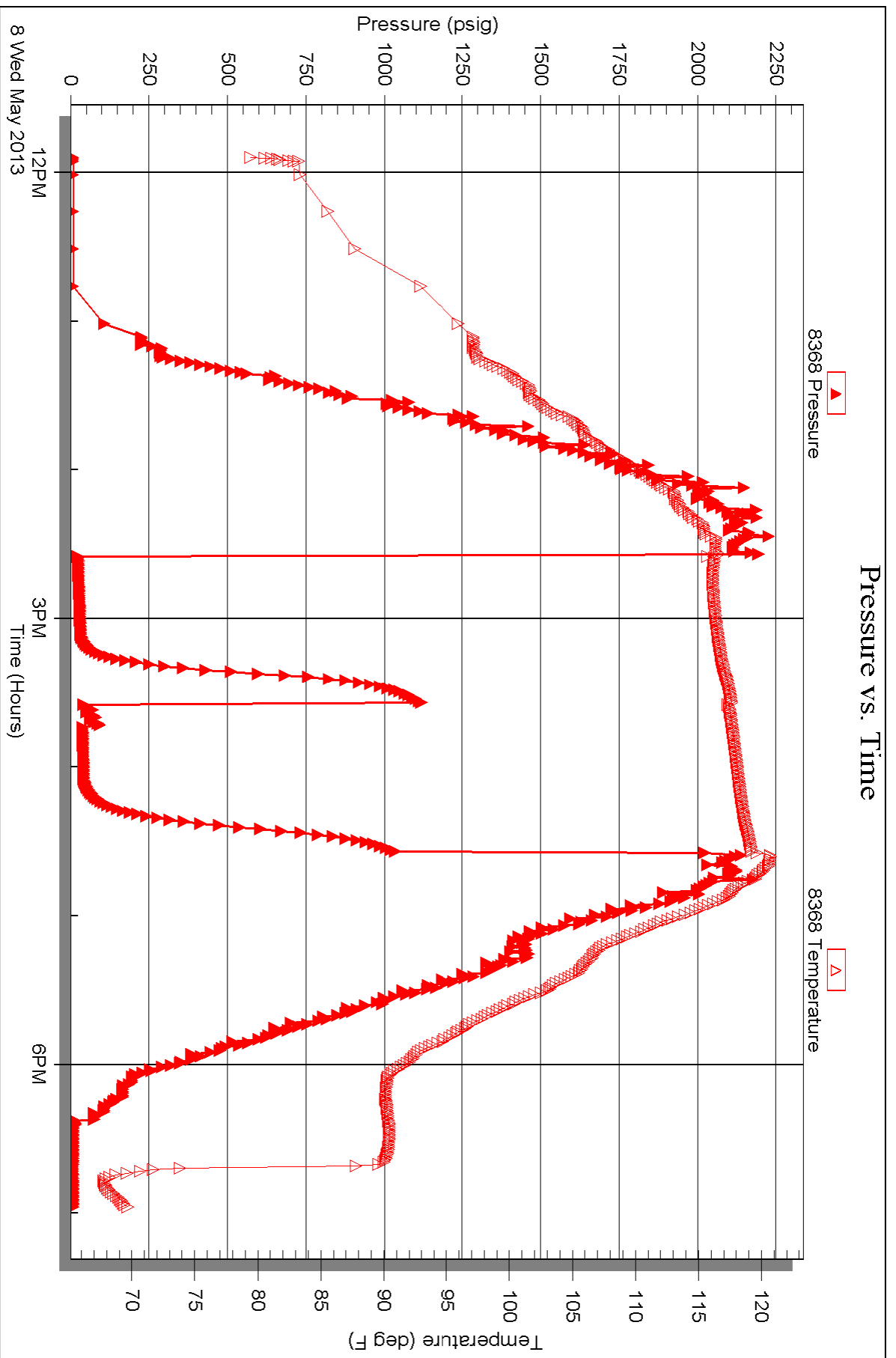


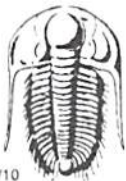
Serial #: 8368

Outside H&C Oil Operating Inc.

L.D.N. #19-1

DST Test Number: 1





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 53207

Well Name & No. Washington #19-1 Test No. 1 Date 5-8-13  
 Company H&C Oil Operating INC. Elevation 2505 KB 2517 GL  
 Address PO Box 86 Plainville MS, 67663  
 Co. Rep / Geo. Marc Downing Rig H2 Rig #3  
 Location: Sec. 19 Twp. 17 Rge. 26 Co. Ness State MS

Interval Tested 4360 4384 Zone Tested Ft. Scotty  
 Anchor Length 24 Drill Pipe Run 4045 Mud Wt. 9.4  
 Top Packer Depth 4356 Drill Collars Run 300 Vis 56  
 Bottom Packer Depth 4360 Wt. Pipe Run 0 WL 8.0  
 Total Depth 4384 Chlorides 400 ppm System LCM 2<sup>nd</sup>

Blow Description Weak surface blow  
Dead no blow  
Dead no blow  
Dead no blow

Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>10</u>	Feet of <u>VSWCM with oil spots</u>	%gas	%oil <u>2</u>	%water <u>98</u>	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 10 BHT 121 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2186  Test 1250 T-On Location 10:30  
 (B) First Initial Flow 20  Jars \_\_\_\_\_ T-Started 11:53  
 (C) First Final Flow 25  Safety Joint \_\_\_\_\_ T-Open 14:35  
 (D) Initial Shut-In 1107  Circ Sub N/C T-Pulled 16:35  
 (E) Second Initial Flow 30  Hourly Standby \_\_\_\_\_ T-Out 18:55  
 (F) Second Final Flow 35  Mileage 95 RT x2 <sup>294.50</sup> Comments Load tools  
 (G) Final Shut-In 1029  Sampler \_\_\_\_\_ 5-9-13  
 (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 30  Day Standby \_\_\_\_\_ Total 1544.50  
 Final Flow 30  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 30 Sub Total 1544.50

Approved By \_\_\_\_\_ Our Representative [Signature]  
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