



## DRILL STEM TEST REPORT

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

Po Box 86  
Plainville KS 67663

ATTN: Marc Downing

### **Rice-Davis #6-1**

#### **6-9s-22w Graham KS**

Start Date: 2014.08.02 @ 23:36:00

End Date: 2014.08.03 @ 11:43:15

Job Ticket #: 59328                      DST #: 1

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.08.06 @ 15:15:53



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

H & C Oil Operating Inc

**6-9s-22w Graham KS**

Po Box 86  
Plainville KS 67663

**Rice-Davis #6-1**

Job Ticket: 59328

**DST#: 1**

ATTN: Marc Downing

Test Start: 2014.08.02 @ 23:36:00

## GENERAL INFORMATION:

Formation: **LKC "C-D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:14:30

Time Test Ended: 11:43:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Cody Bloedorn

Unit No: 73

**Interval: 3675.00 ft (KB) To 3717.00 ft (KB) (TVD)**

Reference Elevations: 2262.00 ft (KB)

Total Depth: 3717.00 ft (KB) (TVD)

2257.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8648**

**Inside**

Press@RunDepth: 871.42 psig @ 3712.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.08.02

End Date:

2014.08.03

Last Calib.:

2014.08.03

Start Time:

23:36:05

End Time:

11:43:15

Time On Btm:

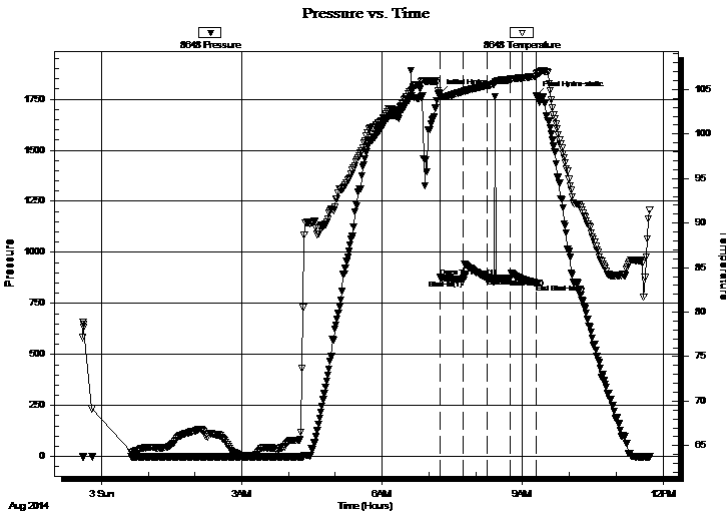
2014.08.03 @ 07:14:15

Time Off Btm:

2014.08.03 @ 09:17:45

**TEST COMMENT:** 30 - IF- 1/2" blow , died back to 1/4" - 15' of fill in hole  
30 - IS- No return  
30 - FF- No blow for 10 minutes, flushed tool. Surged and died  
30 - FS- No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1777.28	104.50	Initial Hydro-static
1	877.16	104.06	Open To Flow (1)
30	864.99	104.77	Shut-In(1)
60	876.60	105.42	End Shut-In(1)
61	874.95	105.44	Open To Flow (2)
90	871.42	106.15	Shut-In(2)
123	844.24	106.49	End Shut-In(2)
124	1765.75	106.73	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1860.00	Mud, 100%M	25.82

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

H & C Oil Operating Inc

**6-9s-22w Graham KS**

Po Box 86  
Plainville KS 67663

**Rice-Davis #6-1**

Job Ticket: 59328

**DST#: 1**

ATTN: Marc Downing

Test Start: 2014.08.02 @ 23:36:00

## Tool Information

Drill Pipe:	Length: 3656.00 ft	Diameter: 3.80 inches	Volume: 51.28 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: 30000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 66000.00 lb
			<u>Total Volume: 51.43 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 45000.00 lb
Depth to Top Packer:	3675.00 ft			Final 45000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	42.00 ft			
Tool Length:	63.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3655.00	
Shut In Tool	5.00			3660.00	
Hydraulic tool	5.00			3665.00	
Packer	5.00			3670.00	21.00 Bottom Of Top Packer
Packer	5.00			3675.00	
Stubb	1.00			3676.00	
Perforations	3.00			3679.00	
Change Over Sub	1.00			3680.00	
Drill Pipe	31.00			3711.00	
Change Over Sub	1.00			3712.00	
Recorder	0.00	8648	Inside	3712.00	
Recorder	0.00	8940	Outside	3712.00	
Perforations	2.00			3714.00	
Bullnose	3.00			3717.00	42.00 Bottom Packers & Anchor

**Total Tool Length: 63.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

H & C Oil Operating Inc

**6-9s-22w Graham KS**

Po Box 86  
Plainville KS 67663

**Rice-Davis #6-1**

Job Ticket: 59328

**DST#: 1**

ATTN: Marc Downing

Test Start: 2014.08.02 @ 23:36:00

## 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: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1200.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1860.00	Mud, 100%M	25.818

Total Length: 1860.00 ft      Total Volume: 25.818 bbl

Num Fluid Samples: 0

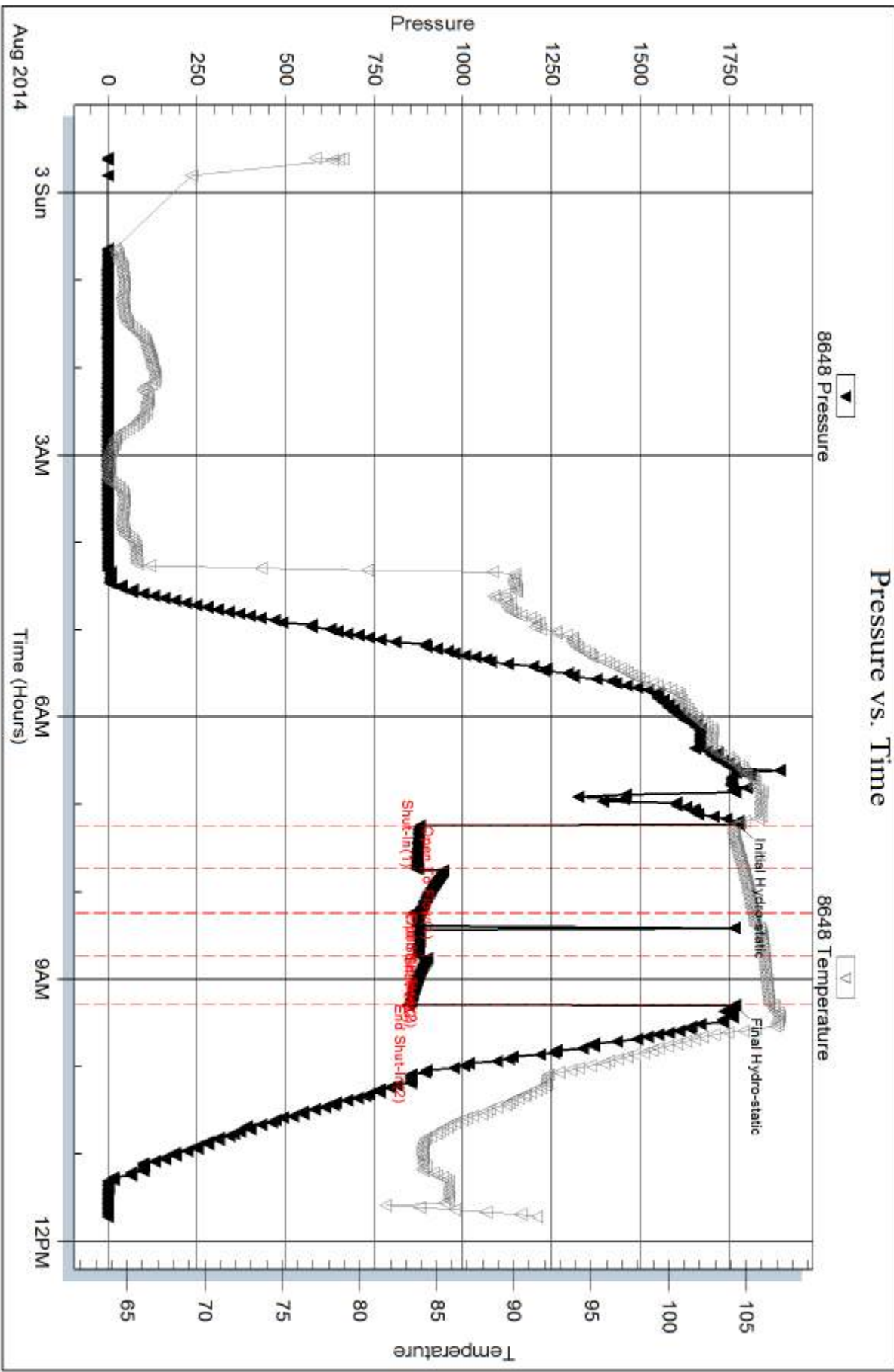
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

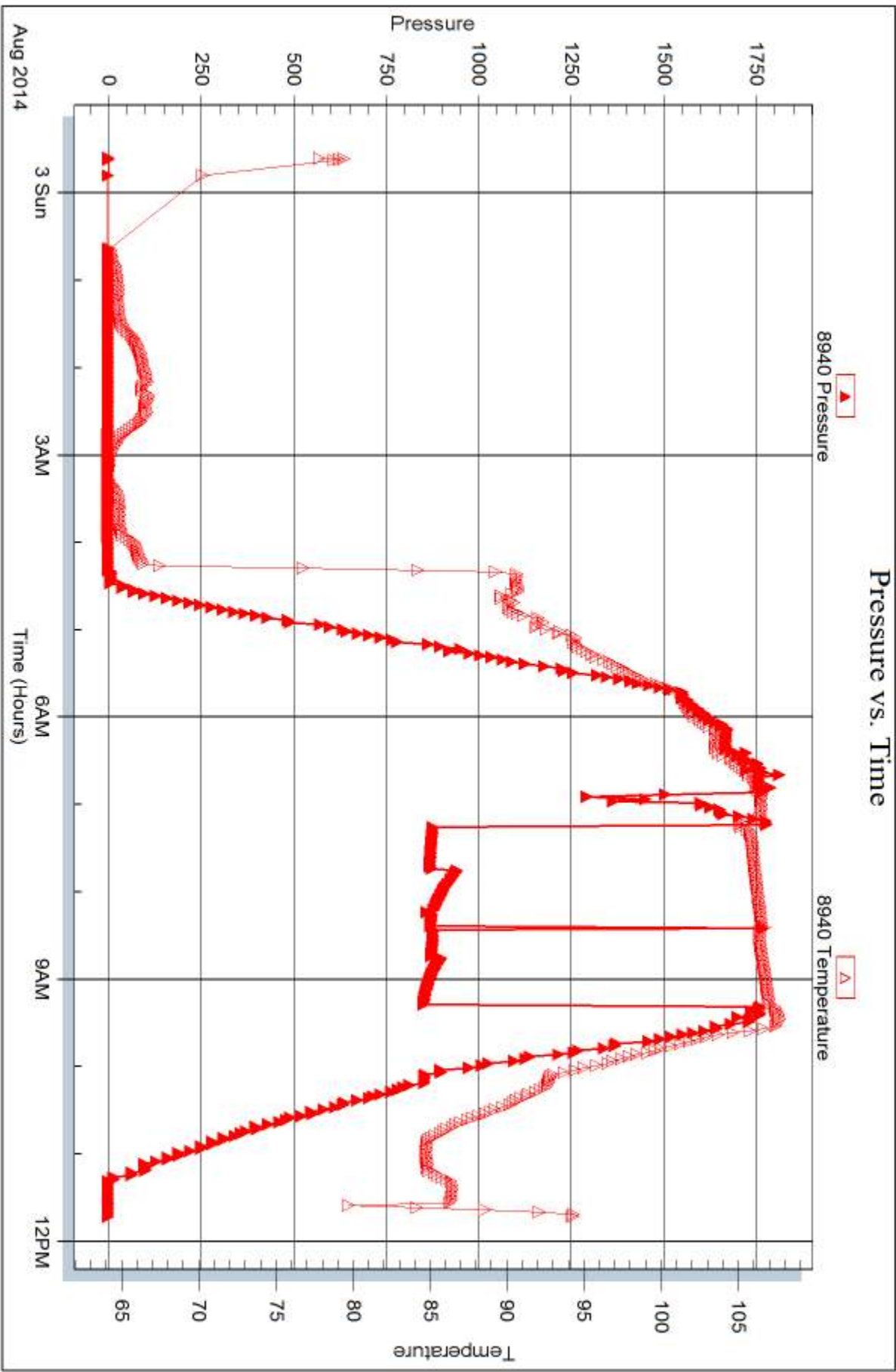


Serial #: 8940

Outside H & C Oil Operating Inc

Rice-Davis #6-1

DST Test Number: 1





## DRILL STEM TEST REPORT

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

Po Box 86  
Plainville KS 67663

ATTN: Marc Downing

### **Rice-Davis #6-1**

### **6-9s-22w Graham KS**

Start Date: 2014.08.04 @ 06:42:00

End Date: 2014.08.04 @ 14:36:30

Job Ticket #: 59329                      DST #: 2

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.08.06 @ 15:15:19





**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

H & C Oil Operating Inc

**6-9s-22w Graham KS**

Po Box 86  
Plainville KS 67663

**Rice-Davis #6-1**

Job Ticket: 59329

**DST#: 2**

ATTN: Marc Downing

Test Start: 2014.08.04 @ 06:42:00

## GENERAL INFORMATION:

Formation: **LKC "H-K"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:30:30

Time Test Ended: 14:36:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Cody Bloedorn

Unit No: 73

**Interval: 3767.00 ft (KB) To 3850.00 ft (KB) (TVD)**

Reference Elevations: 2262.00 ft (KB)

Total Depth: 3850.00 ft (KB) (TVD)

2257.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8648**

**Inside**

Press@RunDepth: 72.63 psig @ 3835.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.08.04

End Date:

2014.08.04

Last Calib.:

2014.08.04

Start Time: 06:42:05

End Time:

14:36:29

Time On Btm:

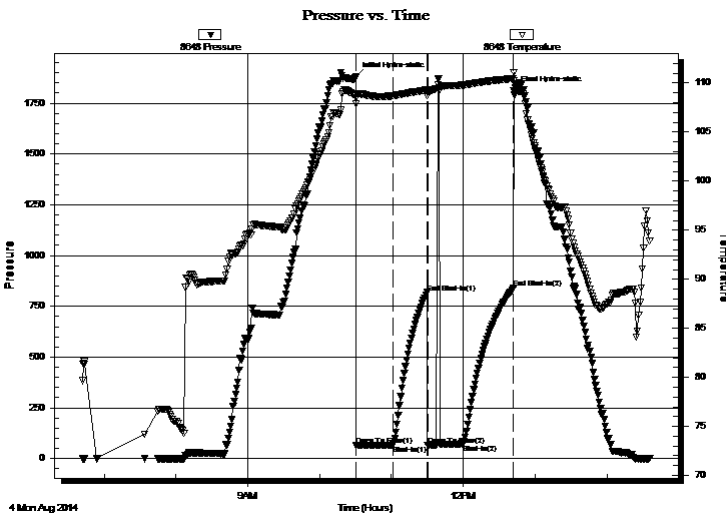
2014.08.04 @ 10:30:15

Time Off Btm:

2014.08.04 @ 12:42:15

**TEST COMMENT:** 30 - IF- 3/4" blow . died back to 1/2" blow  
30 - IS- No return  
30 - FF- No blow for 10 minutes, flushed tool, surged and died  
30 - FS- No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1883.40	108.73	Initial Hydro-static
1	63.70	107.85	Open To Flow (1)
31	66.36	108.68	Shut-In(1)
60	818.06	109.28	End Shut-In(1)
60	65.63	108.75	Open To Flow (2)
90	72.63	109.78	Shut-In(2)
132	838.62	110.46	End Shut-In(2)
132	1810.51	111.09	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	Mud - Oil spots, 100%M	0.10

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC**

**DRILL STEM TEST REPORT**

H & C Oil Operating Inc

**6-9s-22w Graham KS**

Po Box 86  
Plainville KS 67663

**Rice-Davis #6-1**

ATTN: Marc Downing

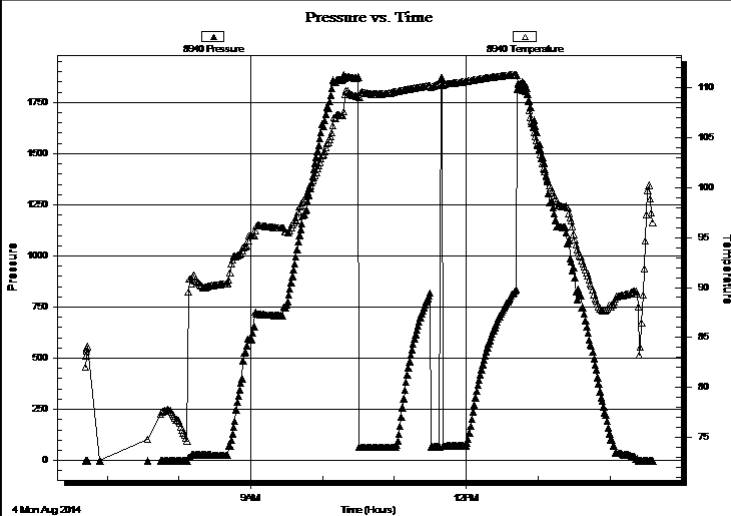
Job Ticket: 59329 **DST#: 2**  
Test Start: 2014.08.04 @ 06:42:00

**GENERAL INFORMATION:**

Formation: **LKC "H-K"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 10:30:30  
 Time Test Ended: 14:36:30  
 Interval: **3767.00 ft (KB) To 3850.00 ft (KB) (TVD)**  
 Total Depth: 3850.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Cody Bloedorn  
 Unit No: 73  
 Reference Elevations: 2262.00 ft (KB)  
 2257.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8940 Outside**  
 Press@RunDepth: psig @ 3835.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.08.04 End Date: 2014.08.04 Last Calib.: 2014.08.04  
 Start Time: 06:42:05 End Time: 14:36:29 Time On Btm:  
 Time Off Btm:

TEST COMMENT: 30 - IF- 3/4" blow . died back to 1/2" blow  
 30 - IS- No return  
 30 - FF- No blow for 10 minutes, flushed tool, surged and died  
 30 - FS- No return



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
20.00	Mud - Oil spots, 100%M	0.10

**Gas Rates**

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

H & C Oil Operating Inc

**6-9s-22w Graham KS**

Po Box 86  
Plainville KS 67663

**Rice-Davis #6-1**

Job Ticket: 59329

**DST#: 2**

ATTN: Marc Downing

Test Start: 2014.08.04 @ 06:42:00

## Tool Information

Drill Pipe:	Length: 3725.00 ft	Diameter: 3.80 inches	Volume: 52.25 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:	30000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	44000.00 lb
			<u>Total Volume: 52.40 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial	44000.00 lb
Depth to Top Packer:	3767.00 ft			Final	60000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	83.00 ft				
Tool Length:	104.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3747.00	
Shut In Tool	5.00			3752.00	
Hydraulic tool	5.00			3757.00	
Packer	5.00			3762.00	21.00 Bottom Of Top Packer
Packer	5.00			3767.00	
Stubb	1.00			3768.00	
Perforations	3.00			3771.00	
Change Over Sub	1.00			3772.00	
Drill Pipe	62.00			3834.00	
Change Over Sub	1.00			3835.00	
Recorder	0.00	8648	Inside	3835.00	
Recorder	0.00	8940	Outside	3835.00	
Perforations	12.00			3847.00	
Bullnose	3.00			3850.00	83.00 Bottom Packers & Anchor

**Total Tool Length: 104.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

H & C Oil Operating Inc

**6-9s-22w Graham KS**

Po Box 86  
Plainville KS 67663

**Rice-Davis #6-1**

Job Ticket: 59329

**DST#: 2**

ATTN: Marc Downing

Test Start: 2014.08.04 @ 06:42:00

## 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: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.00 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1200.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	Mud - Oil spots, 100%M	0.098

Total Length: 20.00 ft      Total Volume: 0.098 bbl

Num Fluid Samples: 0

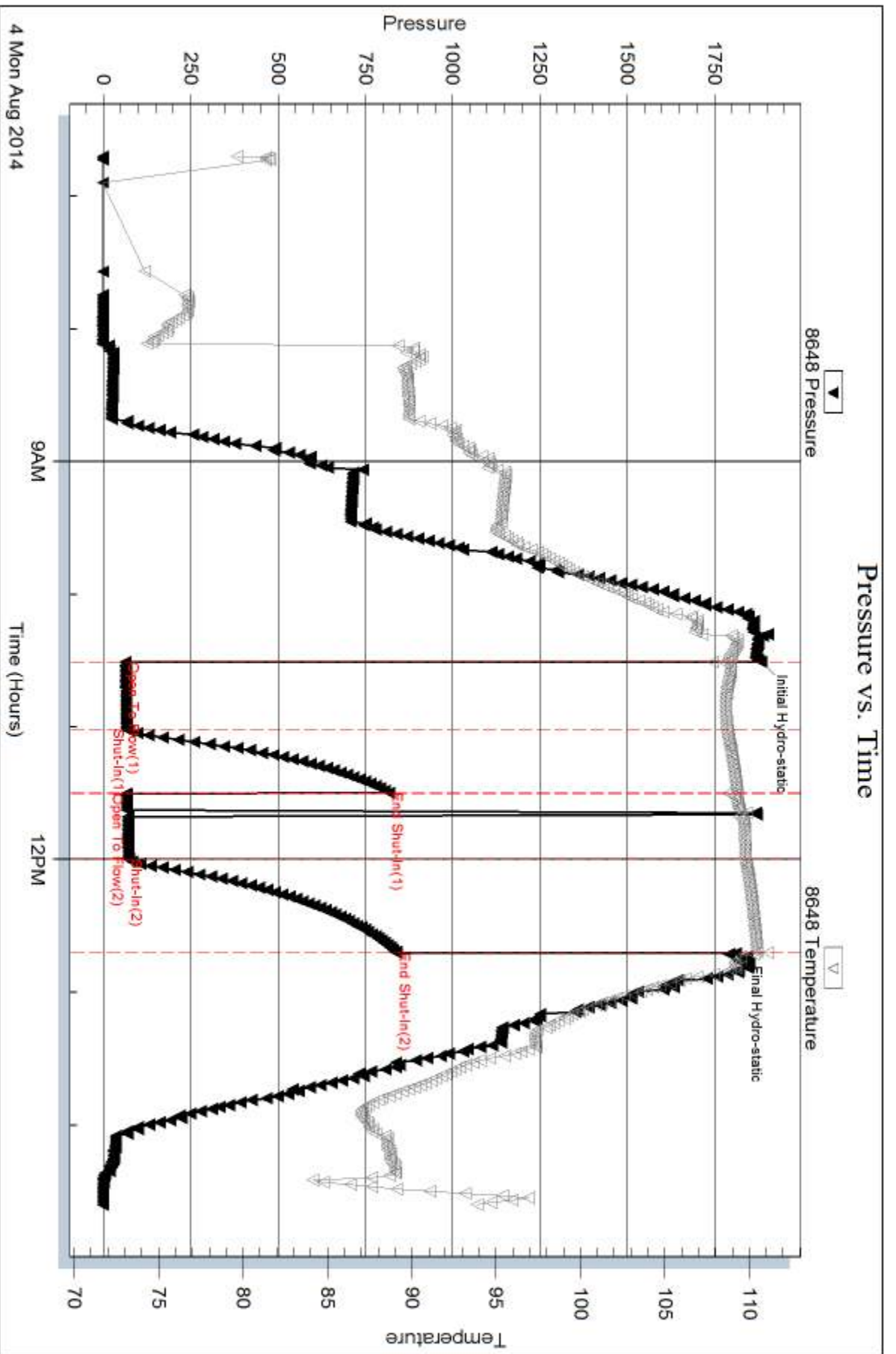
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Had 8' of fill in bottom of hole.

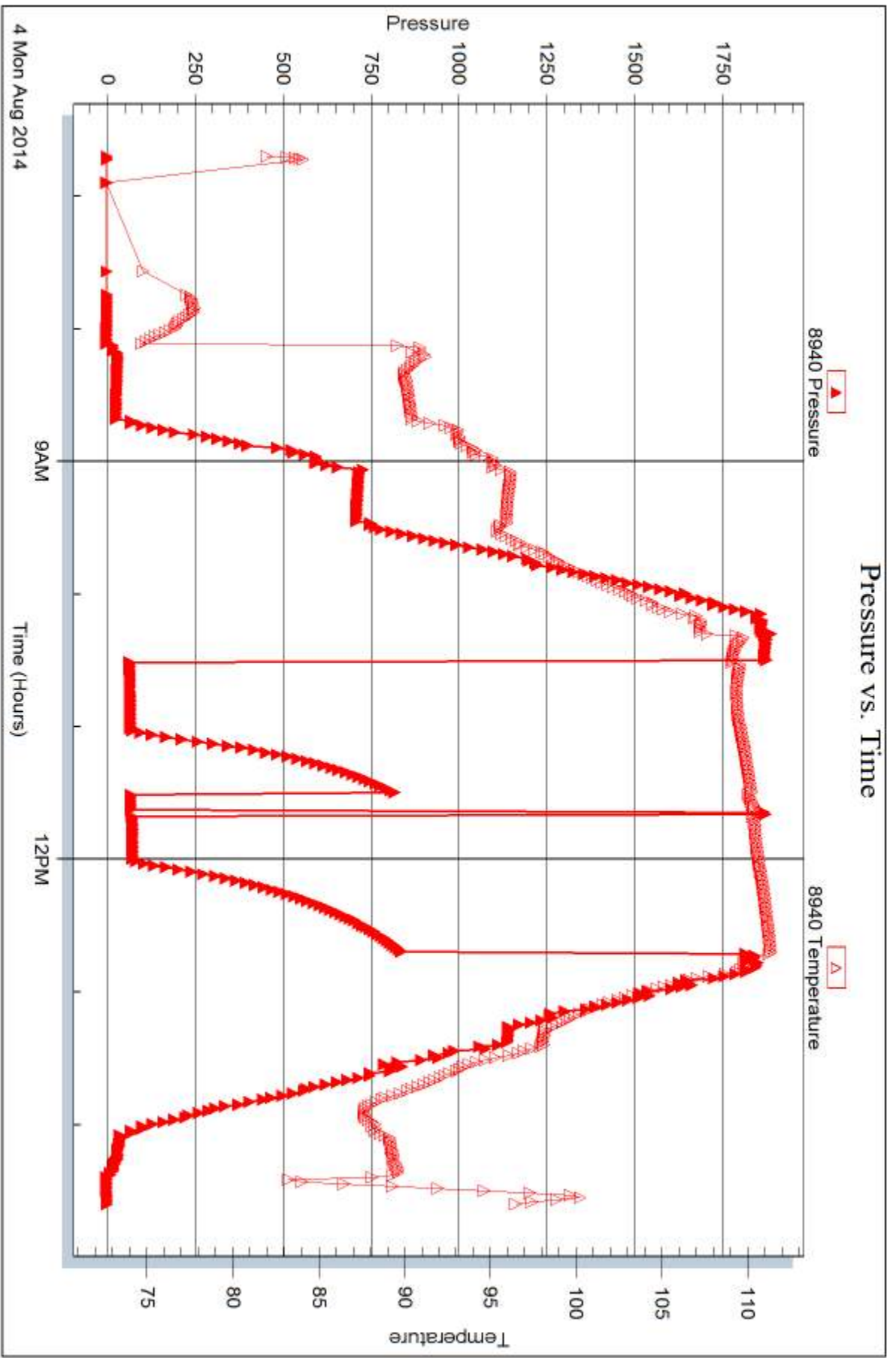


Serial #: 8940

Outside H & C Oil Operating Inc

Rice-Davis #6-1

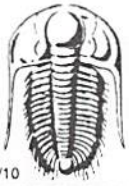
DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 59329

Printed: 2014.08.06 @ 15:15:21



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 59328

Well Name & No. Rice-Davis Unit 6-1 Test No. 1 Date 8-2-14  
 Company H&C Oil Operating Inc Elevation 2362 KB 2357 GL  
 Address Po Box 86, Plainville KS, 67663  
 Co. Rep / Geo. Marc Downing Rig American Eagle #3  
 Location: Sec. 6 Twp. 9s Rge. 22w Co. Graham State KS

Interval Tested 3675-3717 Zone Tested LKC "C-D"  
 Anchor Length 42' Drill Pipe Run 3656 Mud Wt. 8.9  
 Top Packer Depth 3670 Drill Collars Run 30' Vis 48  
 Bottom Packer Depth 3675 Wt. Pipe Run — WL 7.2  
 Total Depth 3717 Chlorides 1200 ppm System LCM 2  
 Blow Description IF- 1/2" blow, died back to 1/4" = 15' Fill  
ISI - No return  
FF - No blow for 10 minutes, flushed tool, surged & died  
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
1860	Mud			100	

Rec Total 1860' BHT 106° Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic 1777  Test 950 T-On Location 2240  
 (B) First Initial Flow 877  Jars — T-Started 2336  
 (C) First Final Flow 864  Safety Joint — T-Open 0715  
 (D) Initial Shut-In 876  Circ Sub — T-Pulled 0915  
 (E) Second Initial Flow 874  Hourly Standby 3.25h 325 ? T-Out 1143  
 (F) Second Final Flow 871  Mileage 114RT 176.70  
 (G) Final Shut-In 844  Sampler —  
 (H) Final Hydrostatic 1765  Straddle —

Initial Open 30  Shale Packer —  Ruined Shale Packer —  
 Initial Shut-In 30  Shale Packer —  Ruined Packer —  
 Final Flow 30  Extra Packer —  Extra Copies —  
 Final Shut-In 30  Extra Recorder — Sub Total 0  
 Day Standby — Total —  
 Accessibility — MP/DST Disc't —  
 Sub Total —

Approved By \_\_\_\_\_

Our Representative Cody Black



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 59329

Well Name & No. Rice - Davis Unit 6-1 Test No. 2 Date 8-4-14  
 Company H&C Oil Operating Inc Elevation 2362 KB 2357 GL  
 Address Po Box 86, Plainville KS, 67663  
 Co. Rep / Geo. Marc Downing Rig American Eagle #3  
 Location: Sec. 6 Twp. 9S Rge. 22W Co. Graham State KS

Interval Tested 3767-3850 Zone Tested LKC "H-K"  
 Anchor Length 8.3' Drill Pipe Run 3725' Mud Wt. 9.0  
 Top Packer Depth 3762 Drill Collars Run 30' Vis 51  
 Bottom Packer Depth 3767 Wt. Pipe Run - WL 6.0  
 Total Depth 3850 Chlorides 1200 ppm System LCM 1

Blow Description IF- 3/4" blow, died back to 1/2" 8' of Fill  
ISI - No return  
FF - No blow for 10 minutes, flushed tool. surged & died  
FBI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>Mud - oil spots</u>			<u>100</u>	
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 20' BHT 110° Gravity - API RW - @ - F Chlorides - ppm

(A) Initial Hydrostatic <u>1883</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>0625</u>
(B) First Initial Flow <u>63</u>	<input type="checkbox"/> Jars	T-Started <u>0642</u>
(C) First Final Flow <u>66</u>	<input type="checkbox"/> Safety Joint	T-Open <u>1030</u>
(D) Initial Shut-In <u>818</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>1230</u>
(E) Second Initial Flow <u>65</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1436</u>
(F) Second Final Flow <u>72</u>	<input checked="" type="checkbox"/> Mileage <u>114RT</u> 176.70	Comments _____
(G) Final Shut-In <u>838</u>	<input type="checkbox"/> Sampler	<input type="checkbox"/> Ruined Shale Packer
(H) Final Hydrostatic <u>1810</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	Total <u>1326.70</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby	MP/DST Disc't _____
	<input type="checkbox"/> Accessibility	
	Sub Total <u>1326.70</u>	

Approved By \_\_\_\_\_ Our Representative Cody Bloodorn

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.