



## DRILL STEM TEST REPORT

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

PO Box 86  
Plainville KS 67663

ATTN: Marc Downing

### **Miller #16-1**

### **16-7s-23w Graham,KS**

Start Date: 2014.04.29 @ 11:29:00

End Date: 2014.04.29 @ 18:28:00

Job Ticket #: 55217                      DST #: 1

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

Printed: 2014.05.02 @ 13:22:54



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

H&C Oil Operating Inc.

**16-7s-23w Graham,KS**

PO Box 86  
Plainville KS 67663

**Miller #16-1**

Job Ticket: 55217

**DST#: 1**

ATTN: Marc Downing

Test Start: 2014.04.29 @ 11:29:00

## GENERAL INFORMATION:

Formation: **LKC - C & D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:38:00

Time Test Ended: 18:28:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 54

**Interval: 3759.00 ft (KB) To 3803.00 ft (KB) (TVD)**

Reference Elevations: 2465.00 ft (KB)

Total Depth: 3803.00 ft (KB) (TVD)

2458.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

**Serial #: 6753**

**Inside**

Press@RunDepth: 97.27 psig @ 3760.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.04.29

End Date:

2014.04.29

Last Calib.:

2014.04.29

Start Time: 11:29:05

End Time:

18:27:59

Time On Btm:

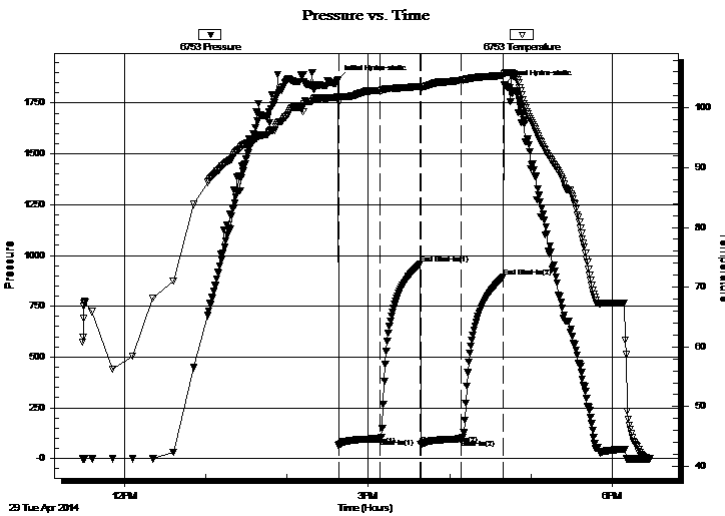
2014.04.29 @ 14:37:30

Time Off Btm:

2014.04.29 @ 16:40:00

**TEST COMMENT:** 30 - IF - Surface blow built up to 1"  
30 - ISI - No Return  
30 - FF - Surface blow built up to 1/4"  
30 - FSI - No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1865.31	101.88	Initial Hydro-static
1	63.33	100.97	Open To Flow (1)
31	98.32	102.89	Shut-In(1)
61	958.64	103.61	End Shut-In(1)
61	69.48	103.14	Open To Flow (2)
91	97.27	104.62	Shut-In(2)
122	892.36	105.42	End Shut-In(2)
123	1839.64	105.74	Final Hydro-static

## Recovery

## Gas Rates

Length (ft)	Description	Volume (bbl)
83.00	Mud - 100M	0.89

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

H&C Oil Operating Inc.

**16-7s-23w Graham,KS**

PO Box 86  
Plainville KS 67663

**Miller #16-1**

Job Ticket: 55217

**DST#: 1**

ATTN: Marc Downing

Test Start: 2014.04.29 @ 11:29:00

## Tool Information

Drill Pipe:	Length: 3742.26 ft	Diameter: 3.80 inches	Volume: 52.49 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.38 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 52.64 bbl</u>	Tool Chased	10.00 ft
Drill Pipe Above KB:	32.64 ft			String Weight: Initial	49000.00 lb
Depth to Top Packer:	3759.00 ft			Final	50000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	44.00 ft				
Tool Length:	63.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments: Chased tool 10ft to bottom

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			3745.00	
Hydraulic tool	5.00			3750.00	
Packer	4.00			3754.00	19.00 Bottom Of Top Packer
Packer	5.00			3759.00	
Stubb	1.00			3760.00	
Recorder	0.00	8368	Inside	3760.00	
Recorder	0.00	6753	Inside	3760.00	
Perforations	6.00			3766.00	
Change Over Sub	1.00			3767.00	
Drill Pipe	31.00			3798.00	
Change Over Sub	1.00			3799.00	
Bullnose	4.00			3803.00	44.00 Bottom Packers & Anchor

**Total Tool Length: 63.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

H&C Oil Operating Inc.

**16-7s-23w Graham,KS**

PO Box 86  
Plainville KS 67663

**Miller #16-1**

Job Ticket: 55217

**DST#: 1**

ATTN: Marc Downing

Test Start: 2014.04.29 @ 11:29:00

## 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: 65.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1200.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
83.00	Mud - 100M	0.888

Total Length: 83.00 ft      Total Volume: 0.888 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

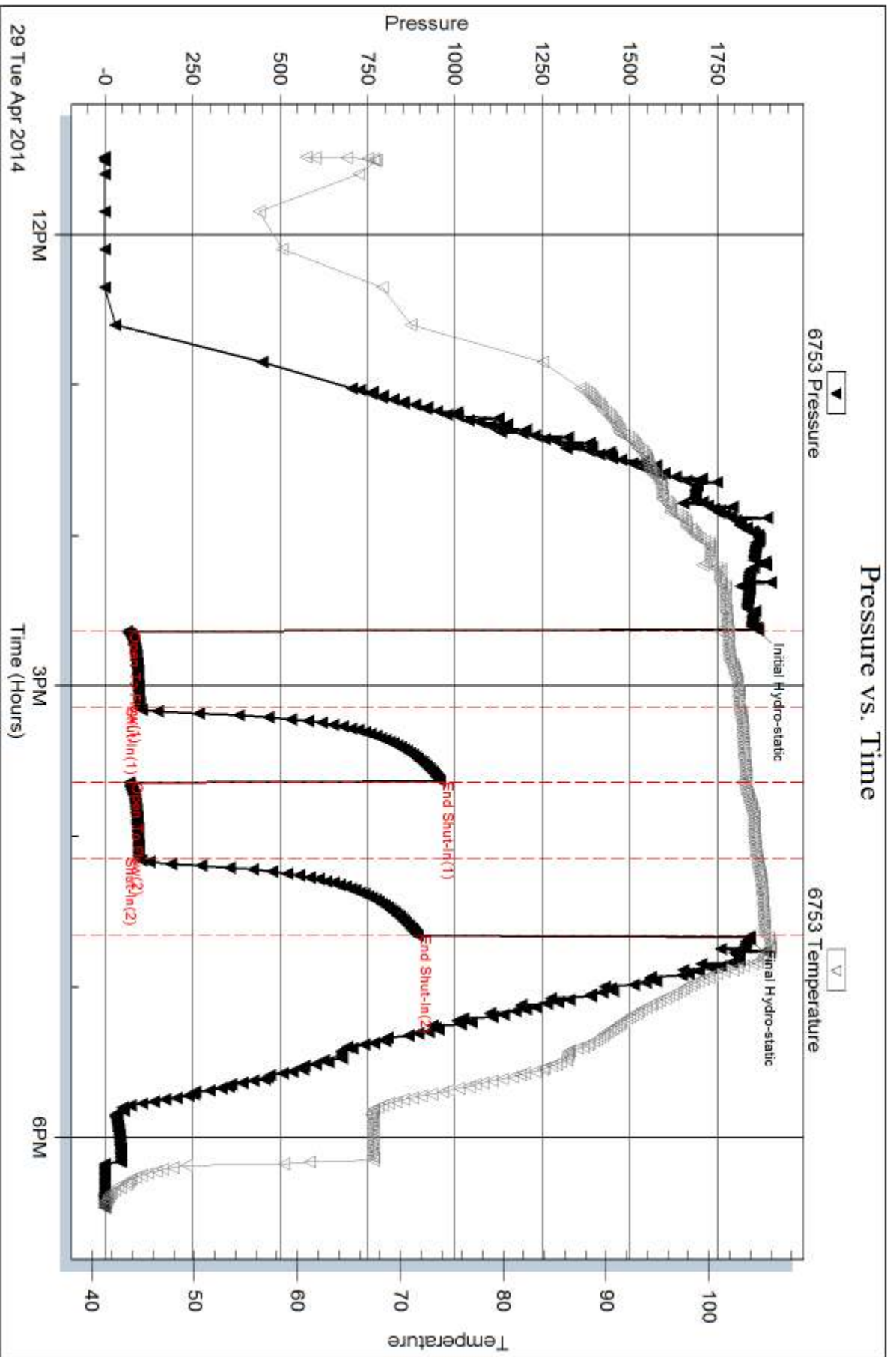
Serial #: 6753

Inside

H&C Oil Operating Inc.

Miller #16-1

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 55217

Printed: 2014.05.02 @ 13:22:56

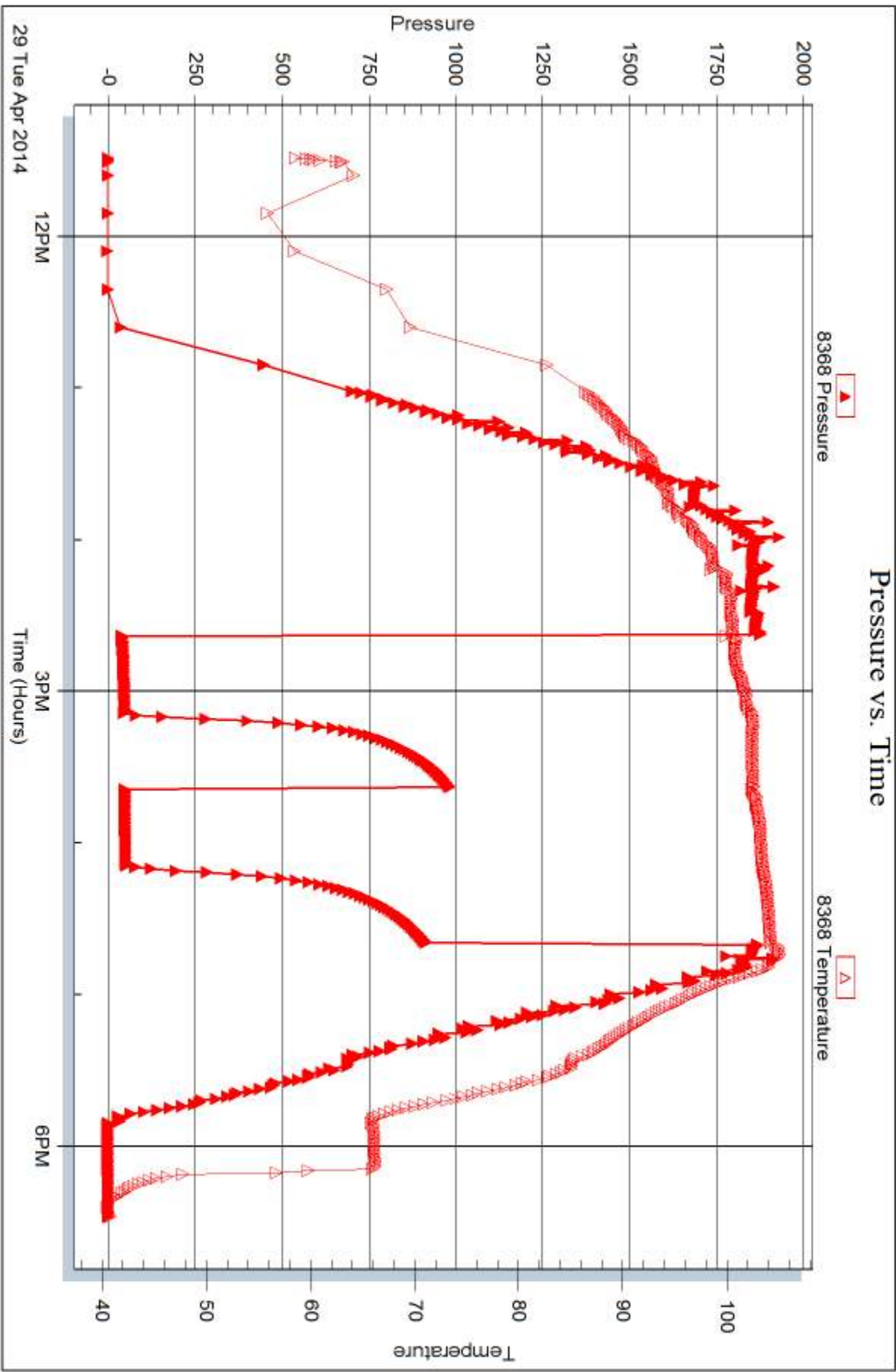
Serial #: 8368

Inside

H&C Oil Operating Inc.

Miller #16-1

DST Test Number: 1





## DRILL STEM TEST REPORT

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

PO Box 86  
Plainville KS 67663

ATTN: Marc Downing

**Miller #16-1**

**16-7s-23w Graham,KS**

Start Date: 2014.04.30 @ 14:01:00

End Date: 2014.04.30 @ 20:31:45

Job Ticket #: 55218                      DST #: 2

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

Printed: 2014.05.02 @ 13:21:58





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

H&C Oil Operating Inc.

**16-7s-23w Graham,KS**

PO Box 86  
Plainville KS 67663

**Miller #16-1**

Job Ticket: 55218

**DST#: 2**

ATTN: Marc Downing

Test Start: 2014.04.30 @ 14:01:00

## GENERAL INFORMATION:

Formation: **LKC - H,I,J,K**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:59:00

Time Test Ended: 20:31:45

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 54

**Interval: 3844.00 ft (KB) To 3942.00 ft (KB) (TVD)**

Reference Elevations: 2465.00 ft (KB)

Total Depth: 3942.00 ft (KB) (TVD)

2458.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

**Serial #: 6753**

**Inside**

Press@RunDepth: 148.96 psig @ 3845.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.04.30

End Date: 2014.04.30

Last Calib.: 2014.04.30

Start Time: 14:01:05

End Time: 20:31:44

Time On Btm: 2014.04.30 @ 15:58:45

Time Off Btm: 2014.04.30 @ 18:30:15

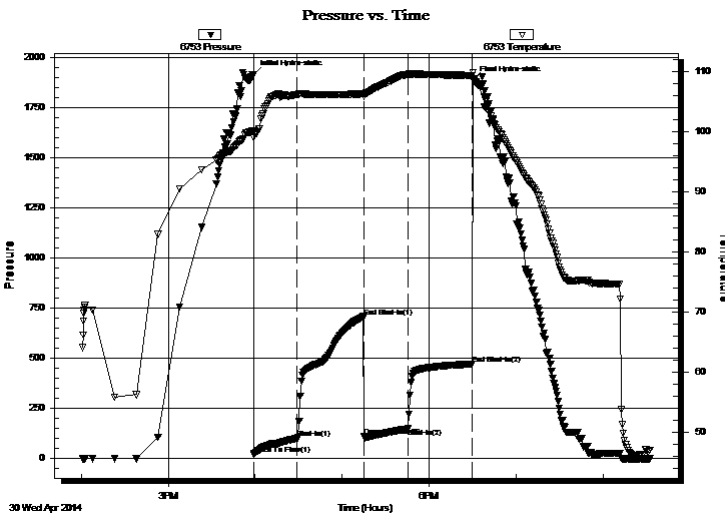
**TEST COMMENT:** 30 - IF - Surface blow built to bottom of the bucket in 21 mins.

45 - ISI - No Return

30 - FF - Surface blow built to 9 1/2"

45 - FSI - Got a weak return in 40 min.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1915.09	100.13	Initial Hydro-static
1	20.69	99.00	Open To Flow (1)
31	102.27	106.17	Shut-In(1)
76	708.46	106.26	End Shut-In(1)
76	110.25	105.89	Open To Flow (2)
107	148.96	109.49	Shut-In(2)
151	471.74	109.35	End Shut-In(2)
152	1888.21	109.83	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
126.00	GOCWM - 70M - 10W - 10o - 15g	1.49
63.00	GOCWM - 55M - 25W - 10o - 10g	0.88
116.00	OCWM - 65M - 25W - 10o	1.63
5.00	Free Oil - 100o - On top	0.07

## Gas Rates

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



**TRILOBITE TESTING, INC.**

## DRILL STEM TEST REPORT

H&C Oil Operating Inc.  
PO Box 86  
Plainville KS 67663  
ATTN: Marc Downing

**16-7s-23w Graham,KS**

**Miller #16-1**

Job Ticket: 55218      **DST#: 2**  
Test Start: 2014.04.30 @ 14:01:00

### GENERAL INFORMATION:

Formation: **LKC - H,I,J,K**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:59:00

Time Test Ended: 20:31:45

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 54

**Interval: 3844.00 ft (KB) To 3942.00 ft (KB) (TVD)**

Total Depth: 3942.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2465.00 ft (KB)

2458.00 ft (CF)

KB to GR/CF: 7.00 ft

**Serial #: 8368 Inside**

Press@RunDepth: psig @ 3845.00 ft (KB)

Start Date: 2014.04.30      End Date: 2014.04.30

Start Time: 14:01:05      End Time: 20:31:44

Capacity: 8000.00 psig

Last Calib.: 2014.04.30

Time On Btm:

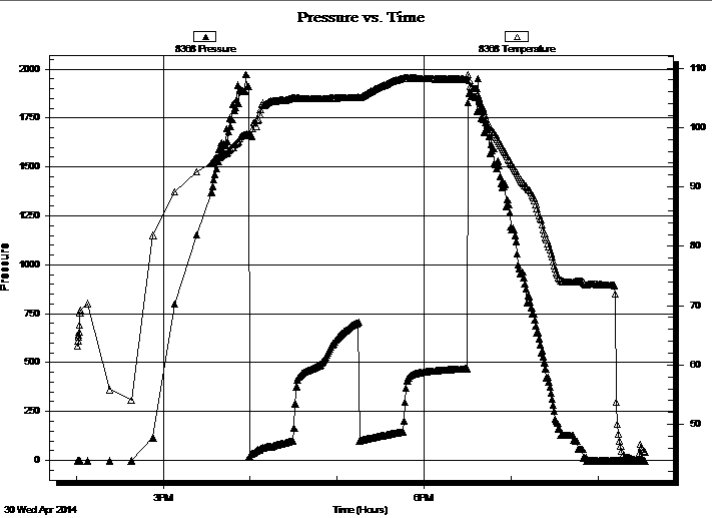
Time Off Btm:

TEST COMMENT: 30 - IF - Surface blow built to bottom of the bucket in 21 mins.

45 - ISI - No Return

30 - FF - Surface blow built to 9 1/2"

45 - FSI - Got a weak return in 40 min.



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
126.00	GOCWM - 70M - 10W - 10o - 15g	1.49
63.00	GOCWM - 55M - 25W - 10o - 10g	0.88
116.00	OCWM - 65M - 25W - 10o	1.63
5.00	Free Oil - 100o - On top	0.07

### Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

H&C Oil Operating Inc.

**16-7s-23w Graham,KS**

PO Box 86  
Plainville KS 67663

**Miller #16-1**

Job Ticket: 55218

**DST#: 2**

ATTN: Marc Downing

Test Start: 2014.04.30 @ 14:01:00

## Tool Information

Drill Pipe:	Length: 3802.62 ft	Diameter: 3.80 inches	Volume: 53.34 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.38 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 53.49 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3844.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	98.00 ft			
Tool Length:	117.00 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			3830.00	
Hydraulic tool	5.00			3835.00	
Packer	4.00			3839.00	19.00 Bottom Of Top Packer
Packer	5.00			3844.00	
Stubb	1.00			3845.00	
Recorder	0.00	8368	Inside	3845.00	
Recorder	0.00	6753	Inside	3845.00	
Perforations	28.00			3873.00	
Change Over Sub	1.00			3874.00	
Drill Pipe	63.00			3937.00	
Change Over Sub	1.00			3938.00	
Bullnose	4.00			3942.00	98.00 Bottom Packers & Anchor

**Total Tool Length: 117.00**



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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

H&C Oil Operating Inc.

**16-7s-23w Graham,KS**

PO Box 86  
Plainville KS 67663

**Miller #16-1**

Job Ticket: 55218

**DST#: 2**

ATTN: Marc Downing

Test Start: 2014.04.30 @ 14:01:00

## 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: 47.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2200.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
126.00	GOCWM - 70M - 10W - 10o - 15g	1.491
63.00	GOCWM - 55M - 25W - 10o - 10g	0.884
116.00	OCWM - 65M - 25W - 10o	1.627
5.00	Free Oil - 100o - On top	0.070

Total Length: 310.00 ft

Total Volume: 4.072 bbl

Num Fluid Samples: 0

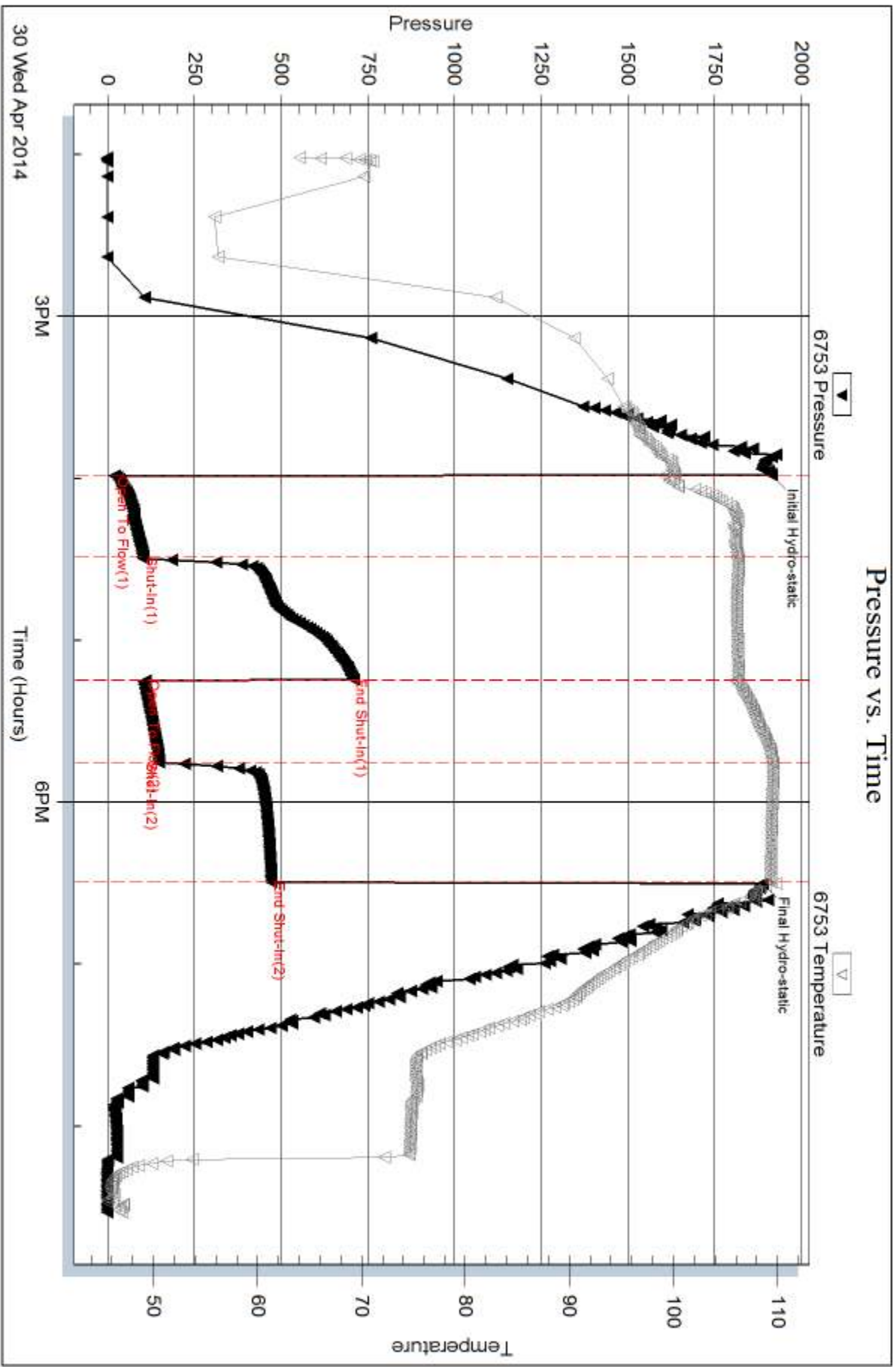
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



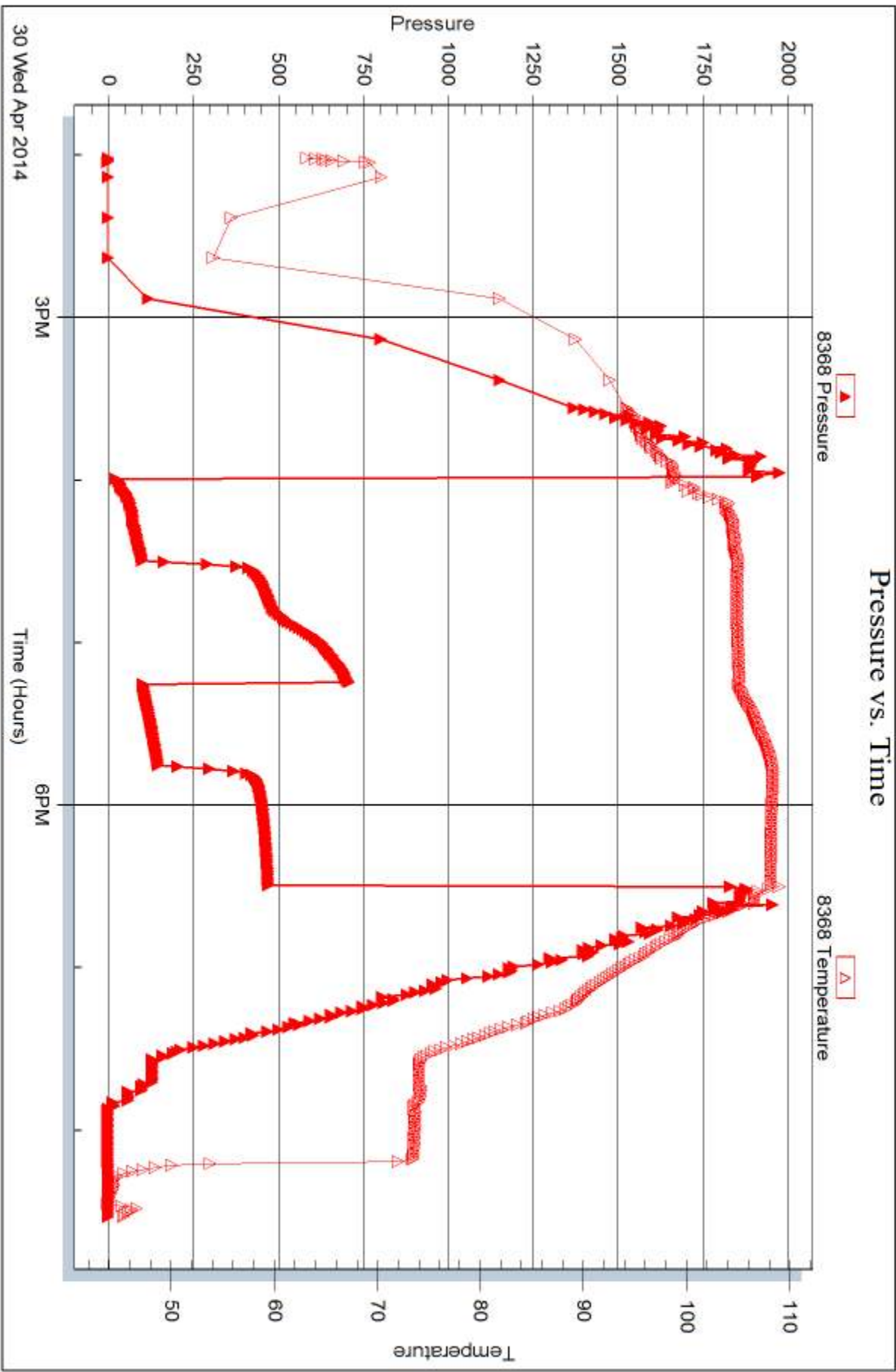
Serial #: 8368

Inside

H&C Oil Operating Inc.

Miller #16-1

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 55218

Printed: 2014.05.02 @ 13:21:59



## DRILL STEM TEST REPORT

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

PO Box 86  
Plainville KS 67663

ATTN: Marc Downing

**Miller #16-1**

**16-7s-23w Graham,KS**

Start Date: 2014.05.01 @ 09:51:00

End Date: 2014.05.01 @ 17:08:45

Job Ticket #: 55219                      DST #: 3

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

Printed: 2014.05.02 @ 13:20:53

H&C Oil Operating Inc.  
16-7s-23w Graham,KS  
Miller #16-1  
DST # 3  
J  
2014.05.01



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

H&C Oil Operating Inc.

**16-7s-23w Graham,KS**

PO Box 86  
Plainville KS 67663

**Miller #16-1**

Job Ticket: 55219

**DST#: 3**

ATTN: Marc Downing

Test Start: 2014.05.01 @ 09:51:00

## GENERAL INFORMATION:

Formation: **J**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 11:48:00  
 Time Test Ended: 17:08:45  
 Interval: **3872.00 ft (KB) To 3902.00 ft (KB) (TVD)**  
 Total Depth: 3983.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Straddle (Initial)  
 Tester: Royal Fisher  
 Unit No: 54  
 Reference Elevations: 2465.00 ft (KB)  
 2458.00 ft (CF)  
 KB to GR/CF: 7.00 ft

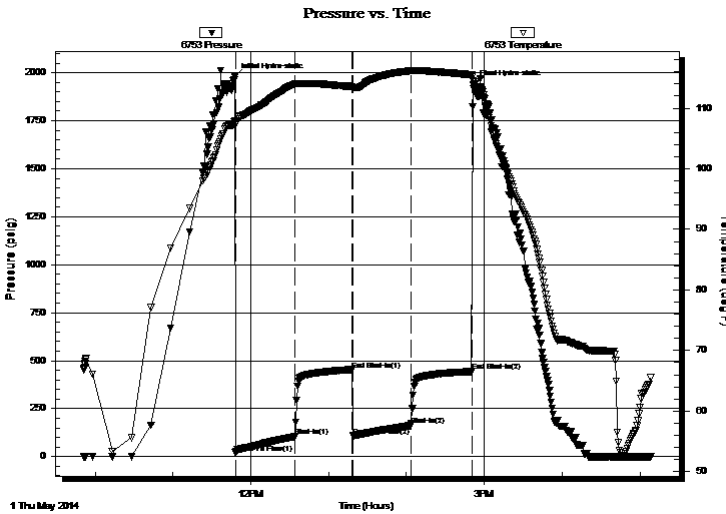
## Serial #: 6753

Inside

Press@RunDepth: 162.14 psig @ 3873.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.05.01 End Date: 2014.05.01 Last Calib.: 2014.05.01  
 Start Time: 09:51:05 End Time: 17:08:44 Time On Btm: 2014.05.01 @ 11:47:45  
 Time Off Btm: 2014.05.01 @ 14:51:30

TEST COMMENT: 45 - IF - Surface blow built to bottom of the bucket in 32 mins.  
 45 - ISI - Faint Return started 20 mins. into and stayed at a faint return  
 45 - FF - Surface blow built to 5 3/4"  
 45 - FSI - Faint Return started 10 mins. in and built to 1/4"

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1977.68	107.89	Initial Hydro-static
1	19.56	107.30	Open To Flow (1)
46	104.15	113.96	Shut-In(1)
91	452.95	113.56	End Shut-In(1)
91	107.69	113.40	Open To Flow (2)
136	162.14	116.17	Shut-In(2)
183	443.61	115.51	End Shut-In(2)
184	1937.58	114.57	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
126.00	OCMW - 15M - 80W - 5o	1.49
63.00	OCMW - 25M - 65W - 10o	0.88
106.00	OCVM - 45M - 45W - 10o	1.49
51.00	Free Oil - 100o	0.72

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

H&C Oil Operating Inc.

PO Box 86  
Plainville KS 67663

ATTN: Marc Downing

**16-7s-23w Graham,KS**

**Miller #16-1**

Job Ticket: 55219

**DST#: 3**

Test Start: 2014.05.01 @ 09:51:00

## GENERAL INFORMATION:

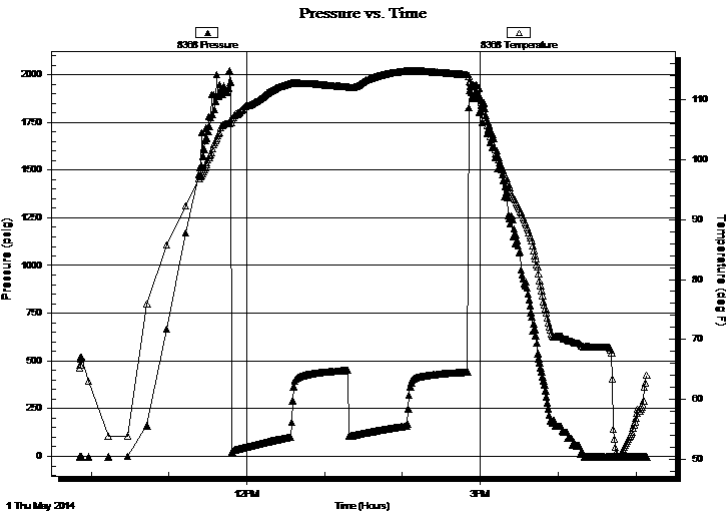
Formation: **J**  
 Deviated: **No Whipstock:** ft (KB)  
 Time Tool Opened: 11:48:00  
 Time Test Ended: 17:08:45  
**Interval:** **3872.00 ft (KB) To 3902.00 ft (KB) (TVD)**  
 Total Depth: 3983.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Good  
 Test Type: Conventional Straddle (Initial)  
 Tester: Royal Fisher  
 Unit No: 54  
 Reference Elevations: 2465.00 ft (KB)  
 2458.00 ft (CF)  
 KB to GR/CF: 7.00 ft

## Serial #: 8368

**Inside**

Press@RunDepth: psig @ 3873.00 ft (KB)  
 Capacity: 8000.00 psig  
 Start Date: 2014.05.01 End Date: 2014.05.01 Last Calib.: 2014.05.01  
 Start Time: 09:51:05 End Time: 17:08:44 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** 45 - IF - Surface blow built to bottom of the bucket in 32 mins.  
 45 - ISI - Faint Return started 20 mins. into and stayed at a faint return  
 45 - FF - Surface blow built to 5 3/4"  
 45 - FSI - Faint Return started 10 mins. in and built to 1/4"



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
126.00	OCMW - 15M - 80W - 5o	1.49
63.00	OCMW - 25M - 65W - 10o	0.88
106.00	OCWM - 45M - 45W - 10o	1.49
51.00	Free Oil - 100o	0.72

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

H&C Oil Operating Inc.

**16-7s-23w Graham,KS**

PO Box 86  
Plainville KS 67663

**Miller #16-1**

Job Ticket: 55219

**DST#: 3**

ATTN: Marc Downing

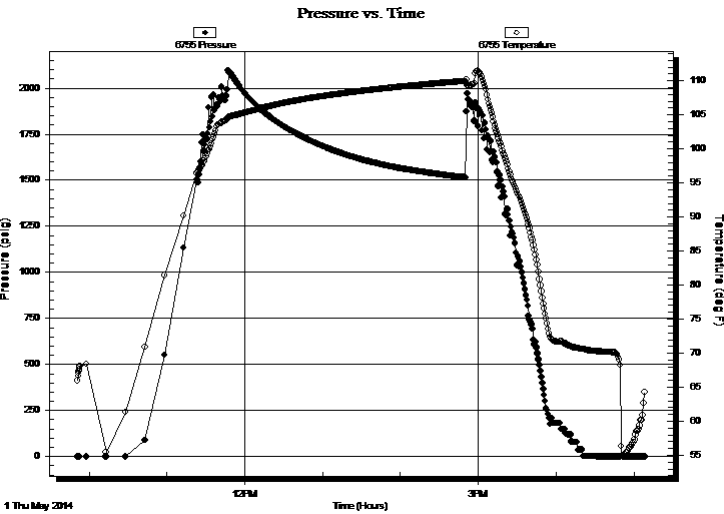
Test Start: 2014.05.01 @ 09:51:00

## GENERAL INFORMATION:

Formation: **J**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 11:48:00  
 Time Test Ended: 17:08:45  
 Interval: **3872.00 ft (KB) To 3902.00 ft (KB) (TVD)**  
 Total Depth: 3983.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Straddle (Initial)  
 Tester: Royal Fisher  
 Unit No: 54  
 Reference Elevations: 2465.00 ft (KB)  
 2458.00 ft (CF)  
 KB to GR/CF: 7.00 ft

**Serial #: 6755 Below (Straddle)**  
 Press@RunDepth: psig @ 3920.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.05.01 End Date: 2014.05.01 Last Calib.: 2014.05.01  
 Start Time: 09:51:05 End Time: 17:08:44 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** 45 - IF - Surface blow built to bottom of the bucket in 32 mins.  
 45 - ISI - Faint Return started 20 mins. into and stayed at a faint return  
 45 - FF - Surface blow built to 5 3/4"  
 45 - FSI - Faint Return started 10 mins. in and built to 1/4"



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
126.00	OCMW - 15M - 80W - 5o	1.49
63.00	OCMW - 25M - 65W - 10o	0.88
106.00	OCWM - 45M - 45W - 10o	1.49
51.00	Free Oil - 100o	0.72

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

H&C Oil Operating Inc.

**16-7s-23w Graham,KS**

PO Box 86  
Plainville KS 67663

**Miller #16-1**

Job Ticket: 55219

**DST#: 3**

ATTN: Marc Downing

Test Start: 2014.05.01 @ 09:51:00

## Tool Information

Drill Pipe:	Length: 3833.43 ft	Diameter: 3.80 inches	Volume: 53.77 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.38 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 62000.00 lb
			<u>Total Volume: 53.92 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.81 ft			String Weight: Initial 51000.00 lb
Depth to Top Packer:	3872.00 ft			Final 53000.00 lb
Depth to Bottom Packer:	3902.00 ft			
Interval between Packers:	30.00 ft			
Tool Length:	135.00 ft			
Number of Packers:	3	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			3858.00	
Hydraulic tool	5.00			3863.00	
Packer	4.00			3867.00	19.00 Bottom Of Top Packer
Packer	5.00			3872.00	
Stubb	1.00			3873.00	
Recorder	0.00	6753	Inside	3873.00	
Recorder	0.00	8368	Inside	3873.00	
Perforations	25.00			3898.00	
Blank Off Sub	1.00			3899.00	
Stubb	3.00			3902.00	30.00 Tool Interval
Packer	5.00			3907.00	
Stubb	1.00			3908.00	
Perforations	11.00			3919.00	
Change Over Sub	1.00			3920.00	
Recorder	0.00	6755	Below	3920.00	
Drill Pipe	63.00			3983.00	
Change Over Sub	1.00			3984.00	
Bullnose	4.00			3988.00	86.00 Bottom Packers & Anchor

**Total Tool Length: 135.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

H&C Oil Operating Inc.

**16-7s-23w Graham,KS**

PO Box 86  
Plainville KS 67663

**Miller #16-1**

Job Ticket: 55219

**DST#: 3**

ATTN: Marc Downing

Test Start: 2014.05.01 @ 09:51:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

34 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

64000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2200.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
126.00	OCMW - 15M - 80W - 5o	1.491
63.00	OCMW - 25M - 65W - 10o	0.884
106.00	OCWM - 45M - 45W - 10o	1.487
51.00	Free Oil - 100o	0.715

Total Length: 346.00 ft      Total Volume: 4.577 bbl

Num Fluid Samples: 0

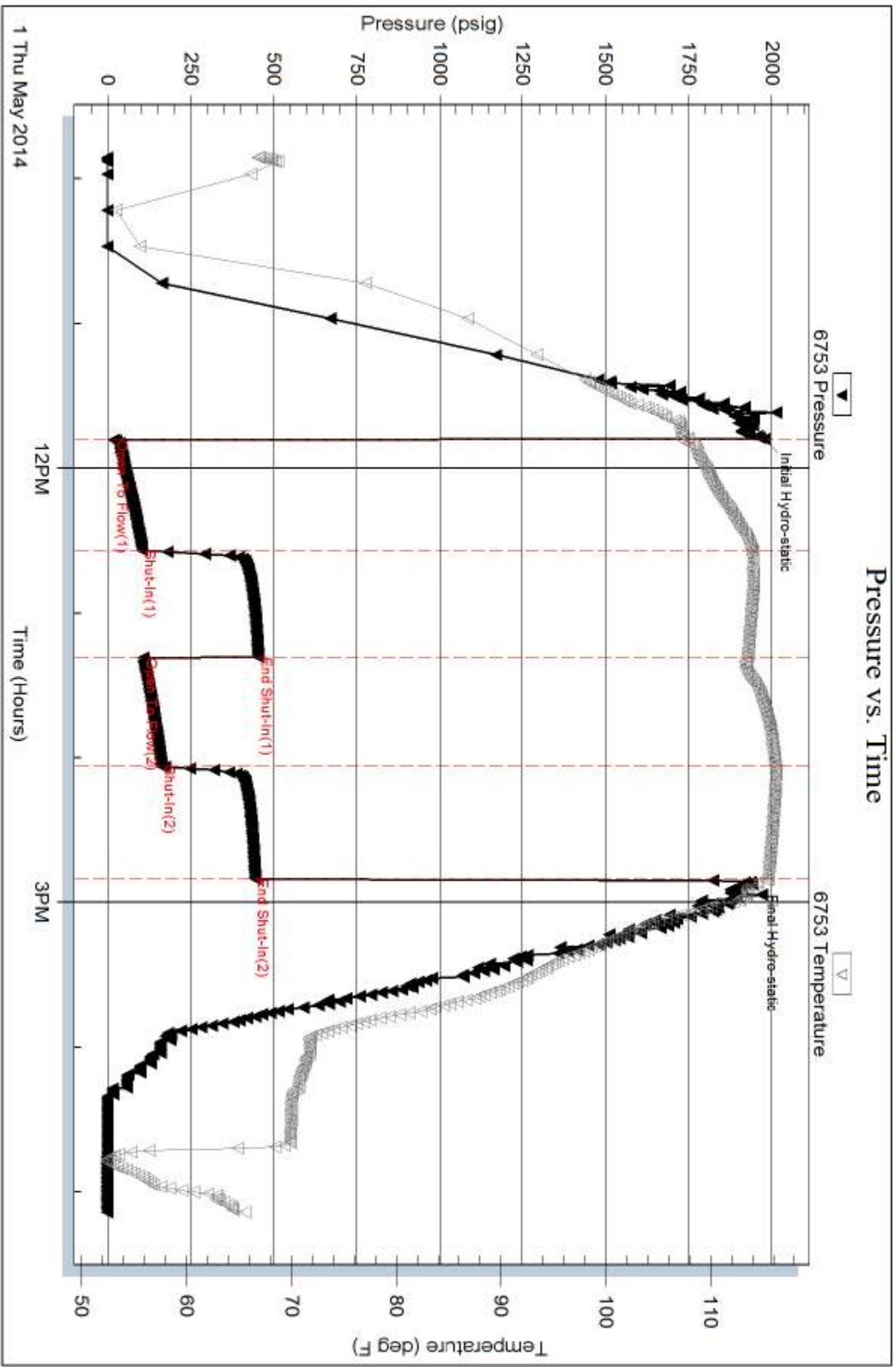
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 63ft of Gas In Pipe



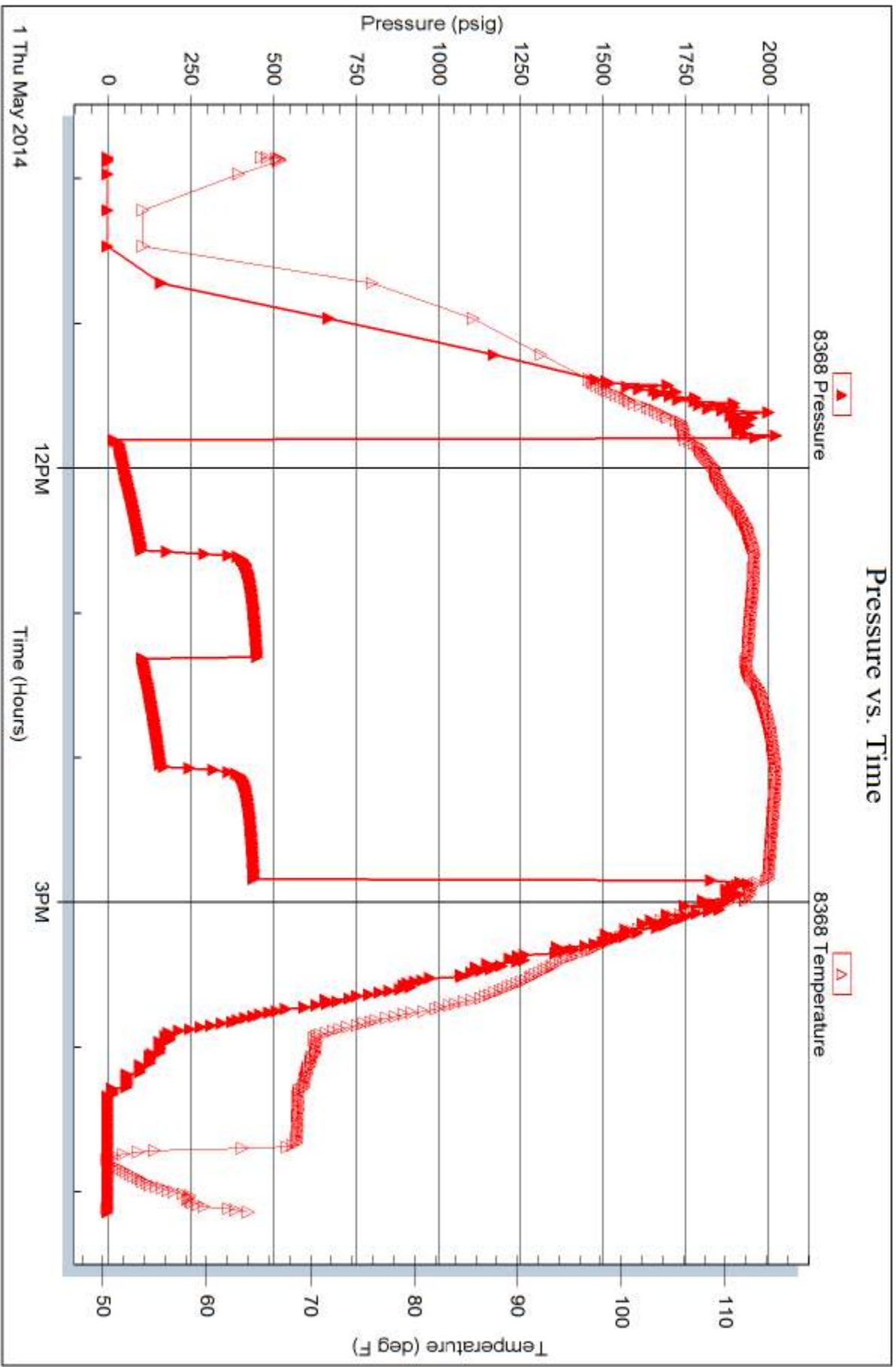
Serial #: 8368

Inside

H&C Oil Operating Inc.

Miller #16-1

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 55219

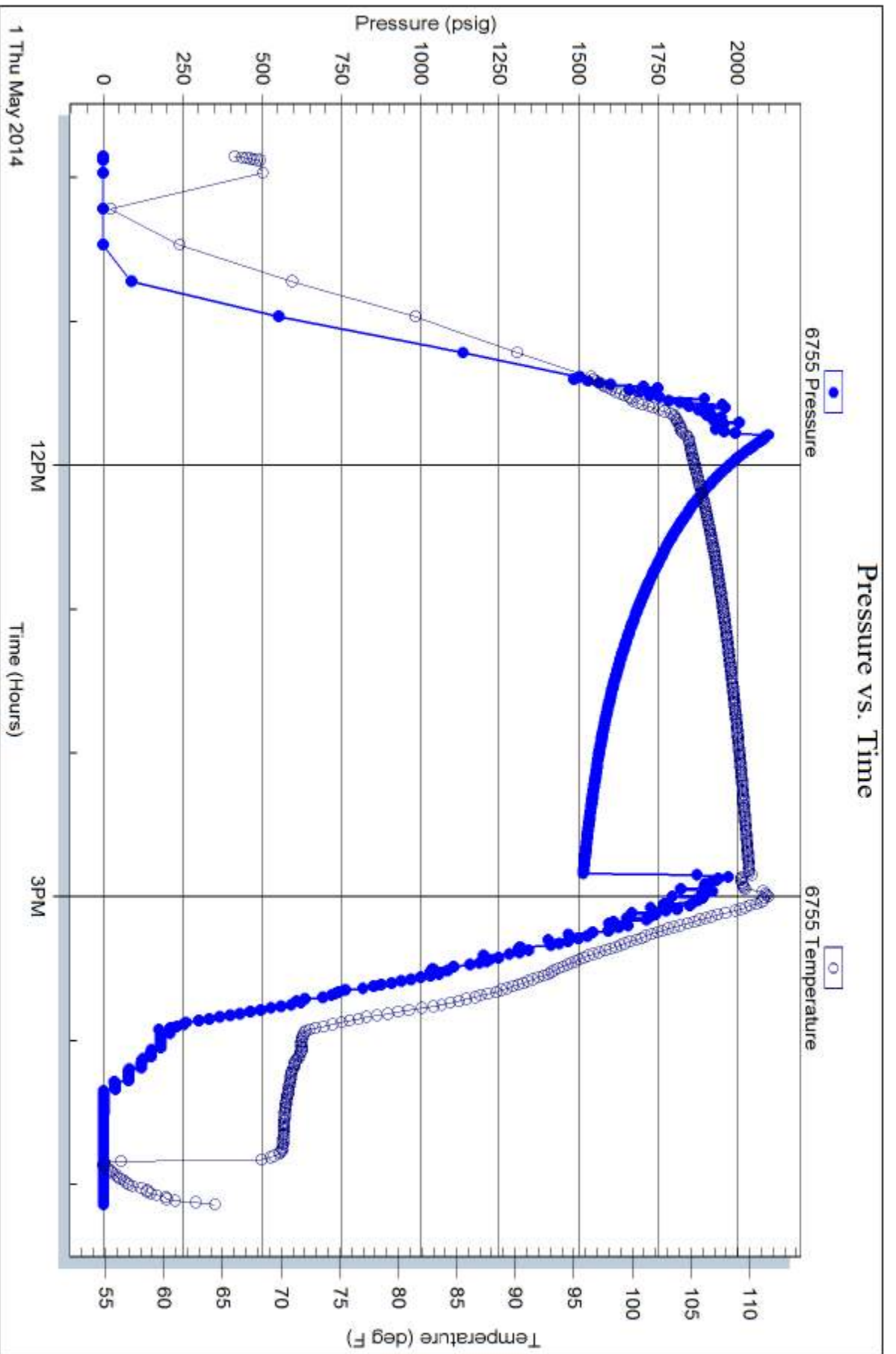
Printed: 2014.05.02 @ 13:20:54

Serial #: 6755

Below (Stratton) Operating Inc.

Miller #16-1

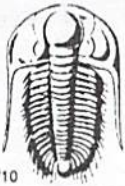
DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 55219

Printed: 2014.05.02 @ 13:20:55



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 55217

Well Name & No. Miller #16-1 Test No. 1 Date 4-29-14  
 Company H+C Oil Operating Inc. Elevation 2465 KB 2458 GL  
 Address PO Box 86 Plainville KS 67663  
 Co. Rep / Geo. Marc Downing Rig American Eagle #2  
 Location: Sec. 16 Twp. 7S Rge. 23 W Co. Graham State KS

Interval Tested 3759 - 3803 Zone Tested LKC - C+D  
 Anchor Length 44' Drill Pipe Run 3742.26' Mud Wt. 9.35  
 Top Packer Depth 3754 Drill Collars Run ~~30.38~~ 30.38 Vis 65  
 Bottom Packer Depth 3759 Wt. Pipe Run 0 WL 6.2  
 Total Depth 3803 Chlorides 1200 ppm System LCM 2#

Blow Description IF - Surface blow built up to 1"  
ISI - No return  
FF - Surface blow built up to 1/4"  
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>83'</u>	<u>Mud</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 83' BHT 105°F Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1865  Test 1150 T-On Location 9:25 am  
 (B) First Initial Flow 63  Jars \_\_\_\_\_ T-Started 11:29 am  
 (C) First Final Flow 98  Safety Joint \_\_\_\_\_ T-Open 2:38 pm  
 (D) Initial Shut-In 958  Circ Sub N/C T-Pulled 4:38 pm  
 (E) Second Initial Flow 69  Hourly Standby \_\_\_\_\_ T-Out 6:28 pm  
 (F) Second Final Flow 97  Mileage 126 R/T 195.30 Comments Chased tool  
 (G) Final Shut-In 892  Sampler \_\_\_\_\_ 10ft to bottom.  
 (H) Final Hydrostatic 1839  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1345.30  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 30  
 Final Flow 30  
 Final Shut-In 30  
 Sub Total 1345.30

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

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.





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **55218**

4/10

Well Name & No. Miller #16-1 Test No. 2 Date 4-30-14  
 Company H & C Oil Operating Inc. Elevation 2465 KB 2458 GL  
 Address PO Box 86 Plainville KS 67663  
 Co. Rep / Geo. Marc Downing Rig American Eagle #2  
 Location: Sec. 16 Twp. 7S Rge. 23 W Co. Graham State KS

Interval Tested 3844-3942 Zone Tested LKC - H, I, J, K.  
 Anchor Length 98' Drill Pipe Run 3802.62' Mud Wt. 9.4  
 Top Packer Depth 3839 Drill Collars Run 30.38' Vis 47  
 Bottom Packer Depth 3844 Wt. Pipe Run 0 WL 6.0  
 Total Depth 3942 Chlorides 2,200 ppm System LCM 2#  
 Blow Description IF - Surface blow built to bottom of bucket in 21 mins.  
ISI - No Return  
FF - Surface blow built to 9 1/2"  
FSI - Got a weak return in 40 mins.

Rec	Feet of	%gas	%oil	%water	%mud
<del>116</del> <u>98'</u>	<u>OCWM -</u>	<u>10</u>	<u>25</u>	<u>65</u>	
<u>63'</u>	<u>OCWM-Gas</u>	<u>10</u>	<u>25</u>	<u>55</u>	
<del>88</del> <u>126'</u>	<u>OCWM-Gas</u>	<u>5</u>	<u>10</u>	<u>70</u>	
<u>5'</u>	<u>Free Oil</u>	<u>100</u>			

Rec Total 310' BHT 109°F Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1915  Test 1150 T-On Location 11:10am  
 (B) First Initial Flow 20  Jars \_\_\_\_\_ T-Started 2:01pm  
 (C) First Final Flow 102  Safety Joint \_\_\_\_\_ T-Open 3:59pm  
 (D) Initial Shut-In 708  Circ Sub N/C T-Pulled ~~6:29pm~~ 6:29pm  
 (E) Second Initial Flow 110  Hourly Standby \_\_\_\_\_ T-Out 8:32pm  
 (F) Second Final Flow 148  Mileage 126 RIT 195.30 Comments Rig had to end up doing a short trip, cir. 1 1/2 hrs  
 (G) Final Shut-In 471  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1888  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1345.30  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1345.30

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



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 55219

Well Name & No. Miller #16-1 Test No. 3 Date 5-1-14  
 Company H+C Oil Operating Inc. Elevation 2465 KB 2458 GL  
 Address PO Box 86 Plainville KS 67663  
 Co. Rep / Geo. Marc Downing Rig American Eagle #2  
 Location: Sec. 16 Twp. 7S Rge. 23 W Co. Graham State KS

Interval Tested 3872-3902 Zone Tested J  
 Anchor Length 30' anchor 81' Tail Drill Pipe Run 3833.43' Mud Wt. 9.3  
 Top Packer Depth 3867 Drill Collars Run 30.38' Vis 50  
 Bottom Packer Depth 3872 Wt. Pipe Run 0 WL 6.0  
 Total Depth 3983 Chlorides 2,200 ppm System LCM 3#

Blow Description IF - Surface blow built to bottom of bucket 32 mins.  
ISI - Gota faint return 20 mins. into and stayed at a faint return  
FF - Surface blow built to 5 3/4"  
FSI - Faint return started 10 mins. in and built to 1/4"

Rec	Feet of	%gas	%oil	%water	%mud
<u>51'</u>	<u>Free Oil</u>	<u>100</u>			
<u>106'</u>	<u>OCwm</u>	<u>10</u>	<u>45</u>	<u>45</u>	
<u>63'</u>	<u>OCmw</u>	<u>10</u>	<u>65</u>	<u>25</u>	
<u>126'</u>	<u>OCmw</u>	<u>5</u>	<u>80</u>	<u>15</u>	
	<u>63' of Gas in Pipe</u>				

Rec Total 346 BHT 115°F Gravity 34@60°F API RW .118 @ 72°F Chlorides 64,000 ppm

(A) Initial Hydrostatic 1977  Test 1150 T-On Location 9:00 am  
 (B) First Initial Flow 19  Jars T-Started 9:51 am  
 (C) First Final Flow 104  Safety Joint T-Open 11:48 am  
 (D) Initial Shut-In 452  Circ Sub N/C T-Pulled 2:48 pm  
 (E) Second Initial Flow 107  Hourly Standby T-Out 5:09 pm  
 (F) Second Final Flow 162  Mileage 126 R/T 195.30 Comments Picked up tool - after test.  
 (G) Final Shut-In 443  Sampler  
 (H) Final Hydrostatic 1937  Straddle 600  Ruined Shale Packer  
 Shale Packer  Ruined Packer  
 Extra Packer  Extra Copies  
 Extra Recorder Sub Total 0  
 Day Standby Total 1945.30  
 Accessibility MP/DST Disc't

Initial Open 45  
 Initial Shut-In 45  
 Final Flow 45  
 Final Shut-In 45

Sub Total 1945.30

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

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