



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1203352  
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

Form must be Typed  
Form must be Signed  
All blanks must be Filled

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

- New Well       Re-Entry       Workover
- Oil       WSW       SWD       SIOW
- Gas       D&A       ENHR       SIGW
- OG       GSW       Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic       Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

- Deepening       Re-perf.       Conv. to ENHR       Conv. to SWD
- Plug Back       Conv. to GSW       Conv. to Producer
- Commingled      Permit #: \_\_\_\_\_
- Dual Completion      Permit #: \_\_\_\_\_
- SWD      Permit #: \_\_\_\_\_
- ENHR      Permit #: \_\_\_\_\_
- GSW      Permit #: \_\_\_\_\_

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE       NW       SE       SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx)      (e.g. -xxx.xxxxx)

Datum:  NAD27       NAD83       WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite:

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested  
Date: \_\_\_\_\_
- Confidential Release Date: \_\_\_\_\_
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

1203352

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
Cores Taken	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Electric Log Run	<input type="checkbox"/> Yes <input type="checkbox"/> No			
List All E. Logs Run:				

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate				
<input type="checkbox"/> Protect Casing				
<input type="checkbox"/> Plug Back TD				
<input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD:      Size: \_\_\_\_\_ Set At: \_\_\_\_\_ Packer At: \_\_\_\_\_ Liner Run:  Yes  No

Date of First, Resumed Production, SWD or ENHR. \_\_\_\_\_ Producing Method:  
 Flowing    Pumping    Gas Lift    Other *(Explain)* \_\_\_\_\_

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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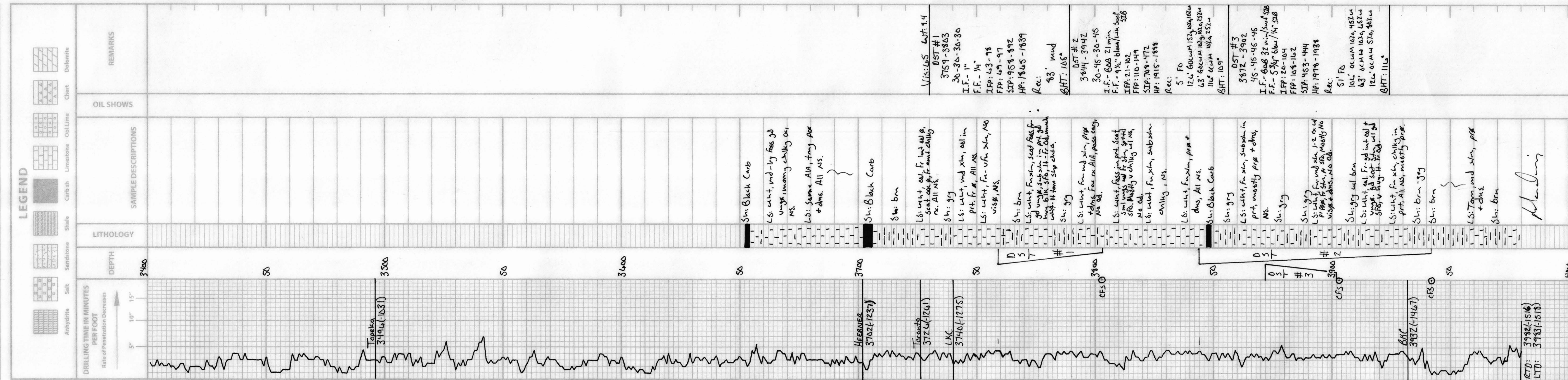
<b>Marc A. Downing</b>		<b>Geologic Report</b>	
<b>Consulting Petroleum Geologist</b>		<b>Drilling Time and Sample Log</b>	
Operator <b>H&amp;C Oil Operating, Inc.</b>		Elevation KB 2465 DF GL 2458	
Lease <b>Miller</b> No. 16-1		Casing Record Surface 8 5/8" @ 263' Production None	
API # <b>15-065-24031-0000</b>		Electrical Surveys CNL/CDL, DIL, MEL	
Field <b>Wildcat</b>		Location <b>330' FNL &amp; 1980' FEL</b>	
Sec. <b>16</b>	Twp. <b>7s</b>	Rge. <b>23w</b>	
County <b>Graham</b>		State <b>Kansas</b>	
<b>Formation</b>	<b>Sample tops</b>	<b>Log Tops</b>	<b>Datum</b> <b>Struct Comp</b>
Top Anhydrite	2154	2154	+311 -1
Base Anhydrite	2188	2186	+279 -1
Topeka	3496	3498	-1033 -1
Heebner	3702	3703	-1238 -4
Toronto	3726	3728	-1263 -5
LKC	3740	3741	-1276 -1
BKC	3932	3934	-1469 -1
Total Depth	3982	3983	-1518
Reference Well For Structural Comparison	H&C Oil Operating, Inc.		
Mills #9-1	330' FSL & 2310' FEL		Sec. 9-7s-23w

Drilling Contractor	<b>American Eagle, Rig #2</b>	
Commenced	<b>4-24-14</b>	Completed <b>5-1-14</b>
Samples Saved From	<b>3650</b>	To <b>RTD</b>
Drilling Time Kept From	<b>3400</b>	To <b>RTD</b>
Samples Examined From	<b>3650</b>	To <b>RTD</b>
Geological Supervision From	<b>3400</b>	To <b>RTD</b>

**Summary and Recommendations**

Due to structural position, DST recovery, and log evaluation, it was decided to plug and abandon the well.

Respectfully Submitted,  
  
Marc A. Downing





## 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:

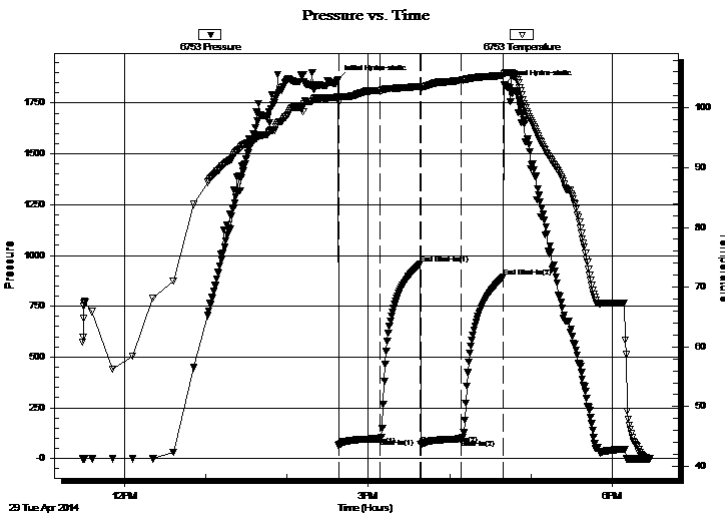
2014.04.29 @ 14:37:30

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

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

## 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: 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
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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 bbbl
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:

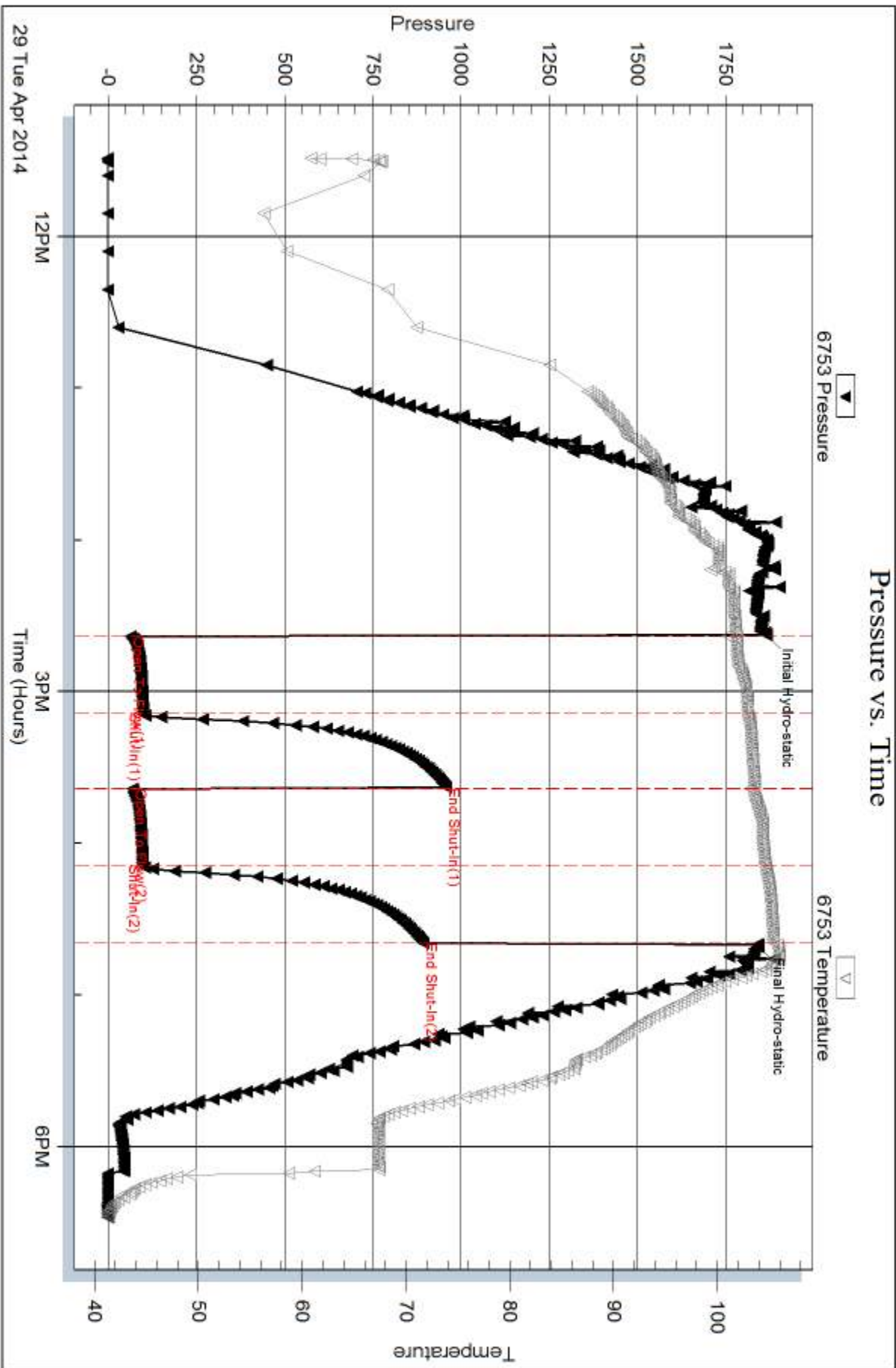
Serial #: 6753

Inside

H&C Oil Operating Inc.

Miller #16-1

DST Test Number: 1



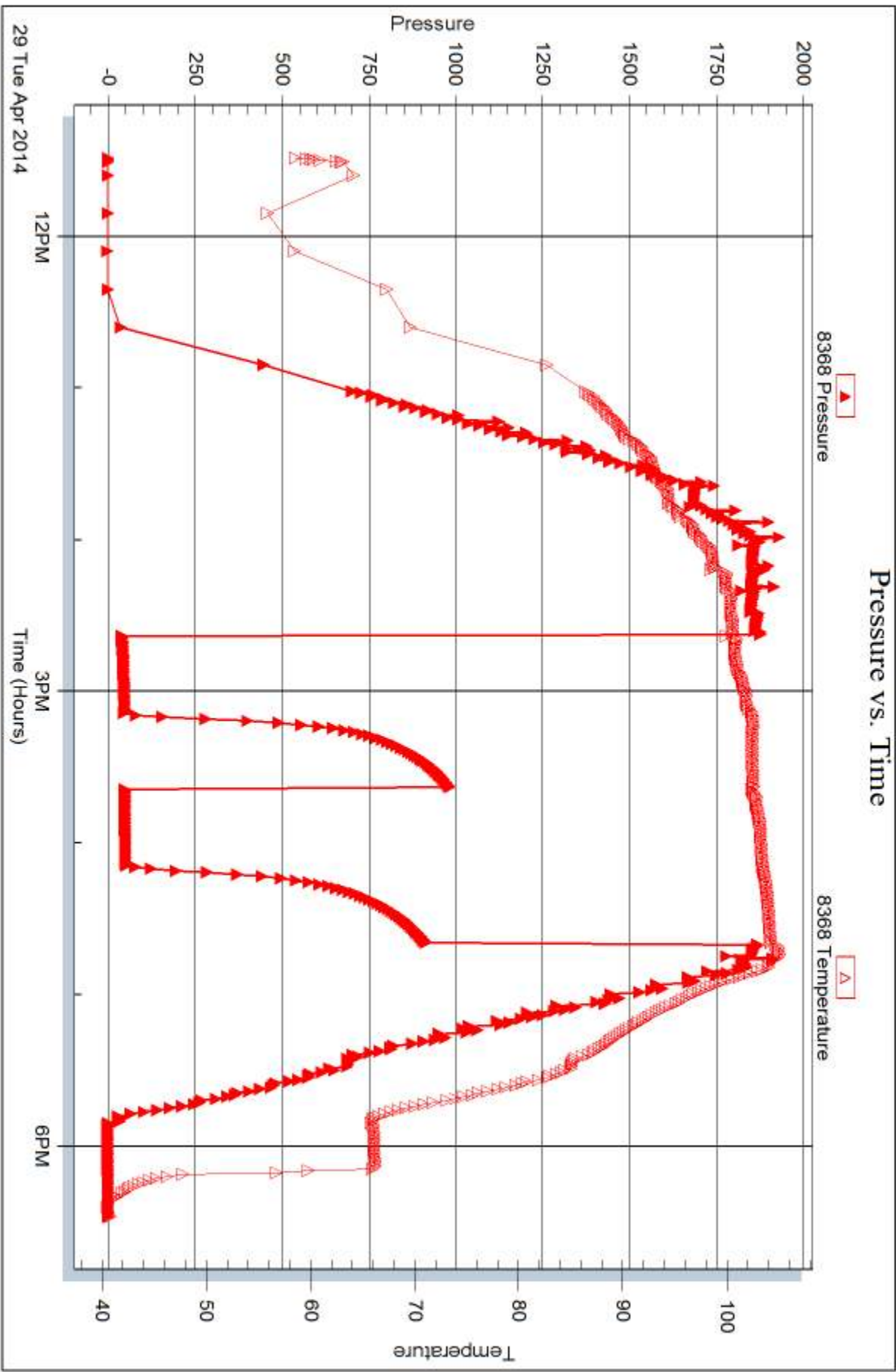
Serial #: 8368

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



## 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

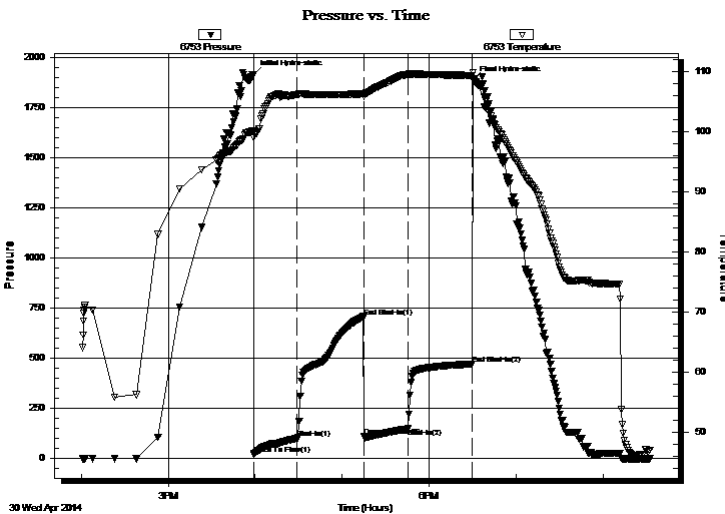
**TEST COMMENT:** 30 - IF - Surface blow built to bottom of the bucket in 21 mins.

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

**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**



**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: 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

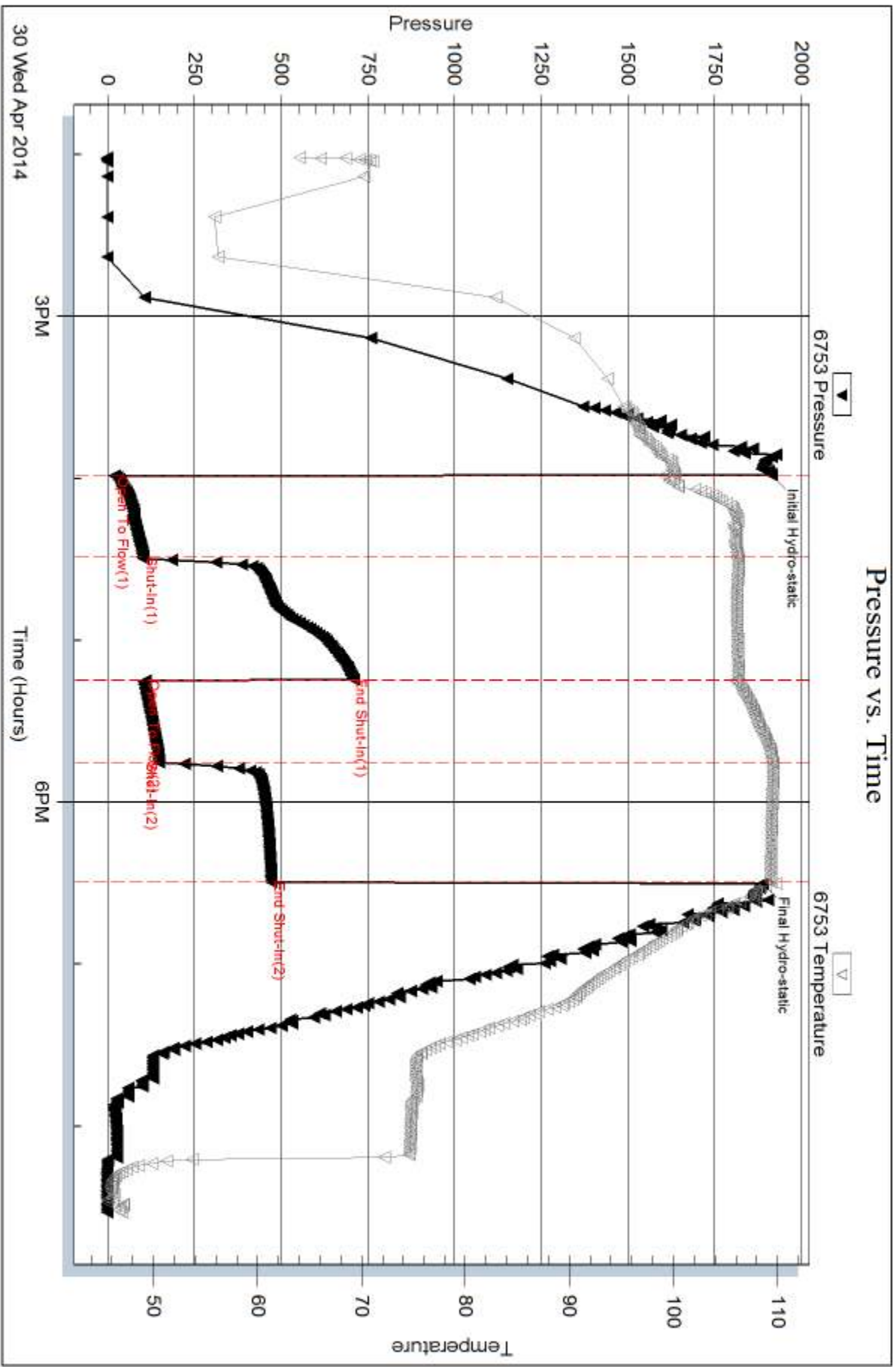
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





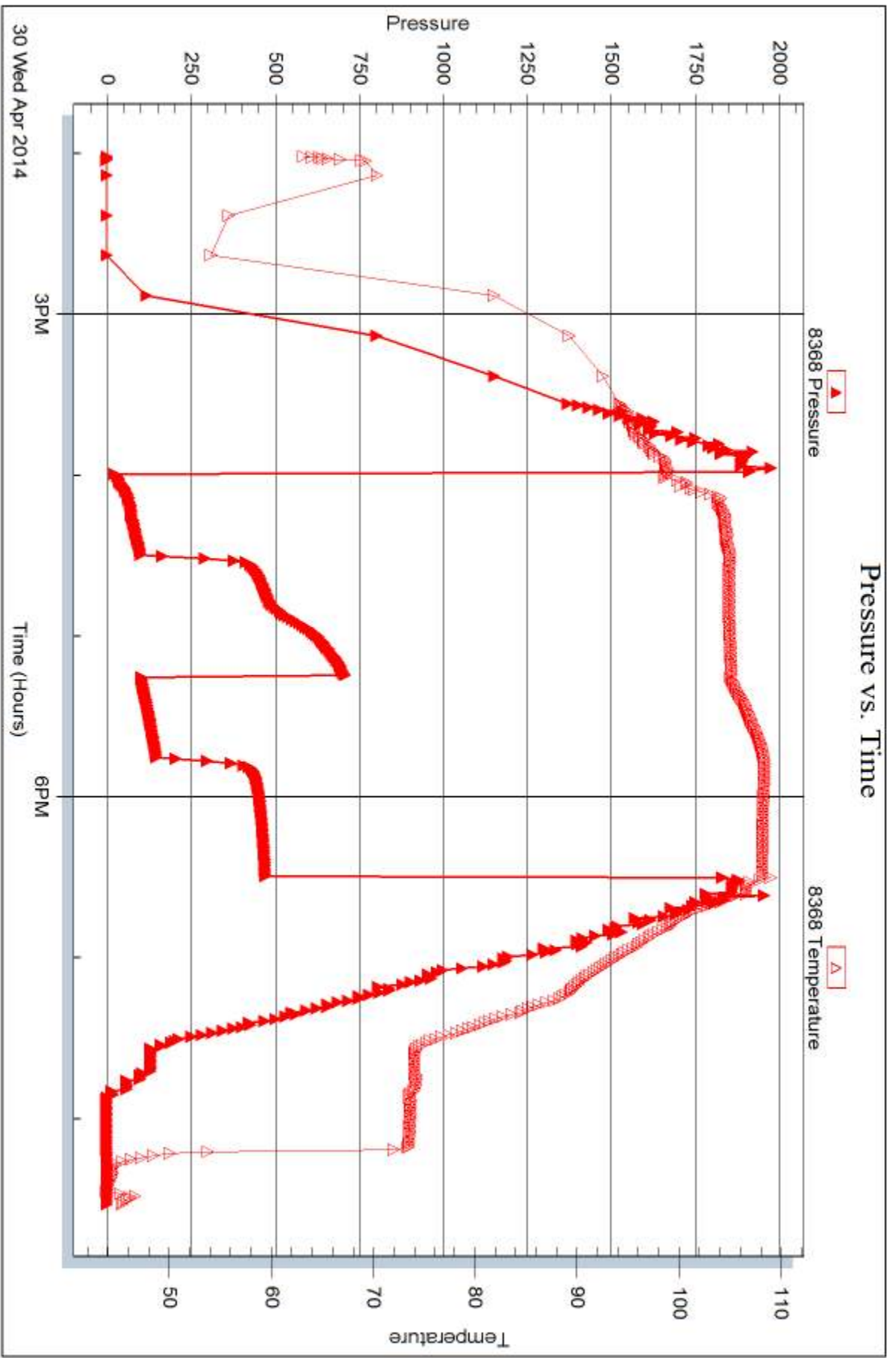
Serial #: 8368

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:

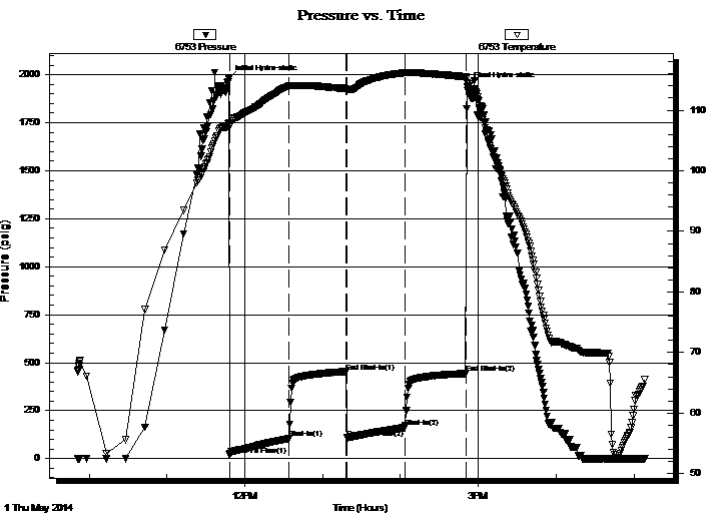
Formation: **J**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 11:48:00  
 Time Test Ended: 17:08:45  
 Interval: **3872.00 ft (KB) To 3902.00 ft (KB) (TVD)**  
 Total Depth: 3983.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Straddle (Initial)  
 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	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
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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

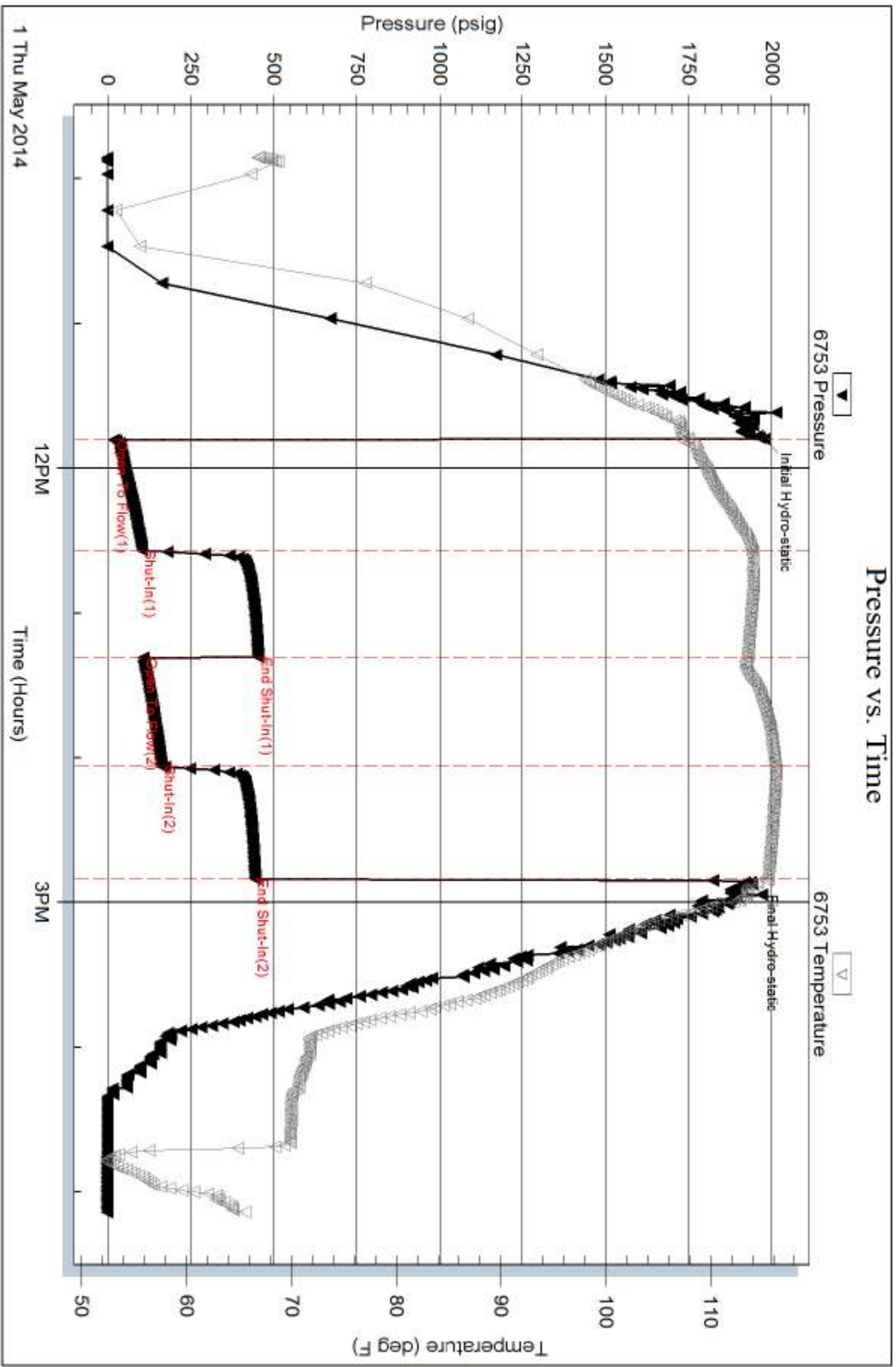
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 63ft of Gas In Pipe





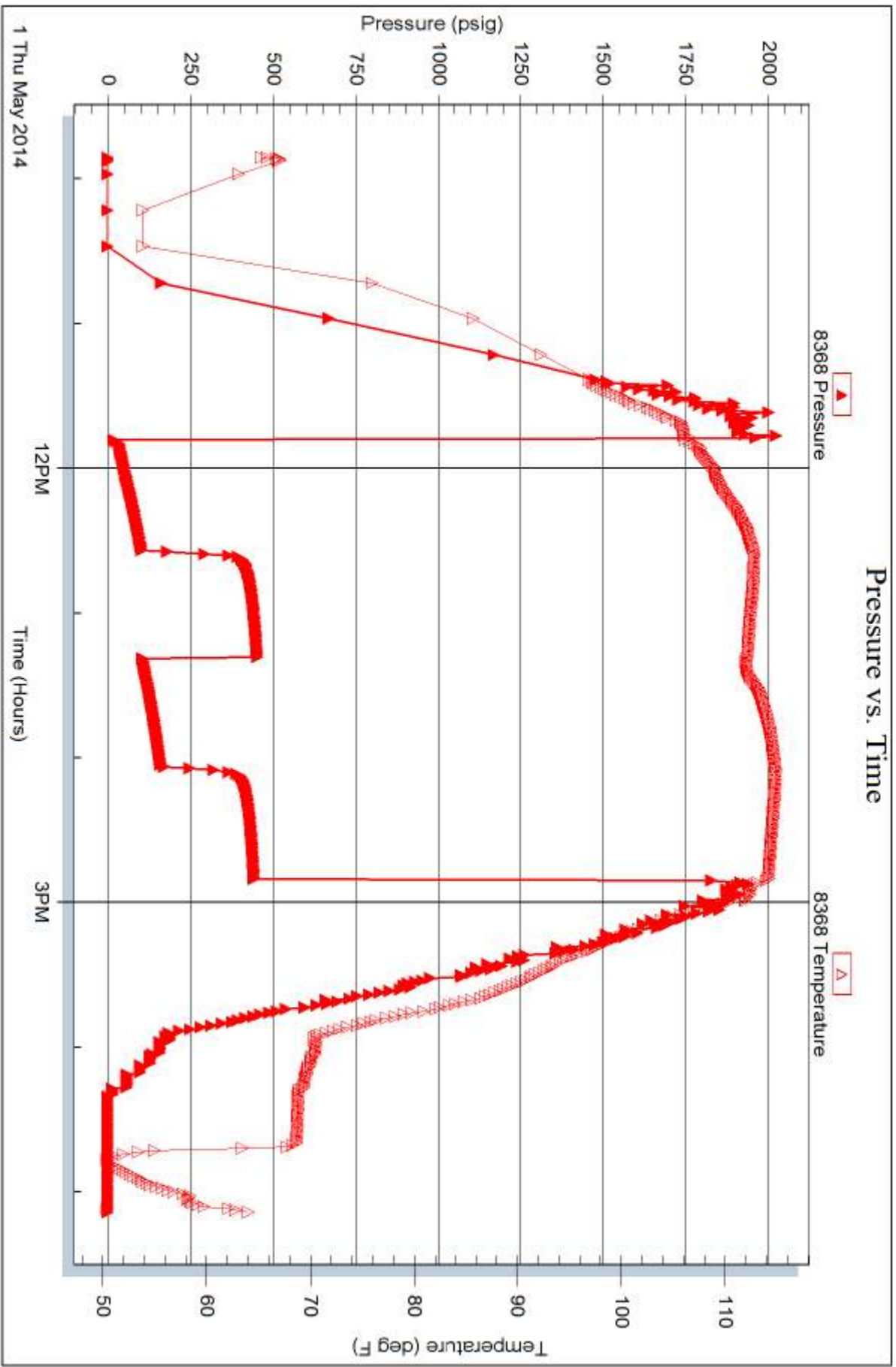
Serial #: 8368

Inside

H&C Oil Operating Inc.

Miller #16-1

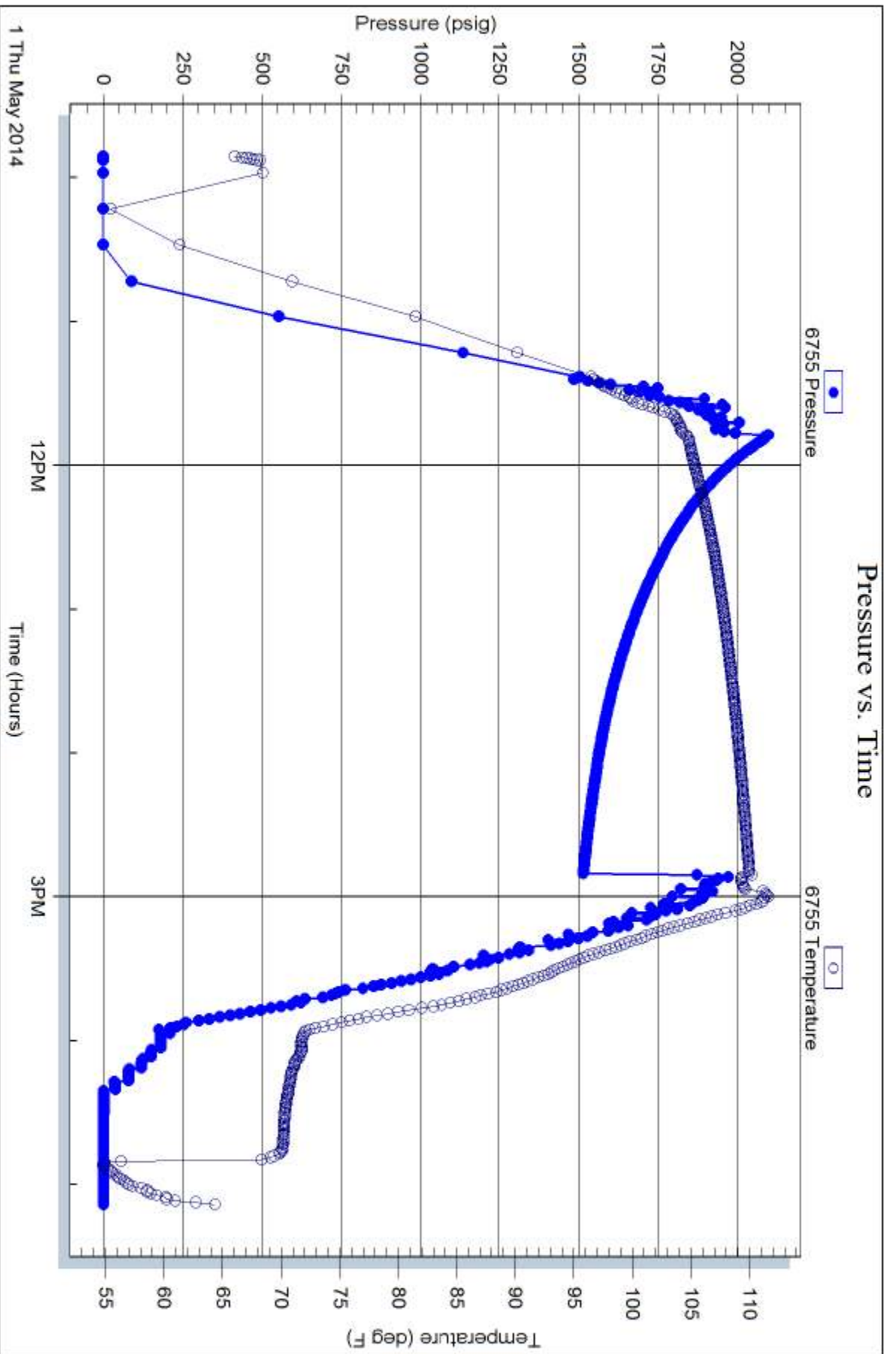
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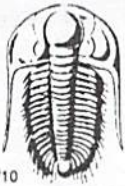


Trilobite Testing, Inc

Ref. No: 55219

Printed: 2014.05.02 @ 13:20:54





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 55217

Well Name & No. Miller #116-1 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
83'	Mud			100	

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 \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1345.30 Sub Total 0  
 Total 1345.30 MP/DST Disc't \_\_\_\_\_

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
<u>116'</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>	
<u>88'126</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  
 (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 \_\_\_\_\_

Initial Open 30  Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Initial Shut-In 45  Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Final Flow 30  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Final Shut-In 45  Day Standby \_\_\_\_\_ Total 1345.30  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_

Sub Total 1345.30

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

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# 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

Initial Open 45  Extra Packer  Extra Copies  
 Initial Shut-In 45  Extra Recorder Sub Total 0  
 Final Flow 45  Day Standby Total 1945.30  
 Final Shut-In 45  Accessibility MP/DST Disc't

Sub Total 1945.30

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

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# QUALITY OILWELL CEMENTING, INC.

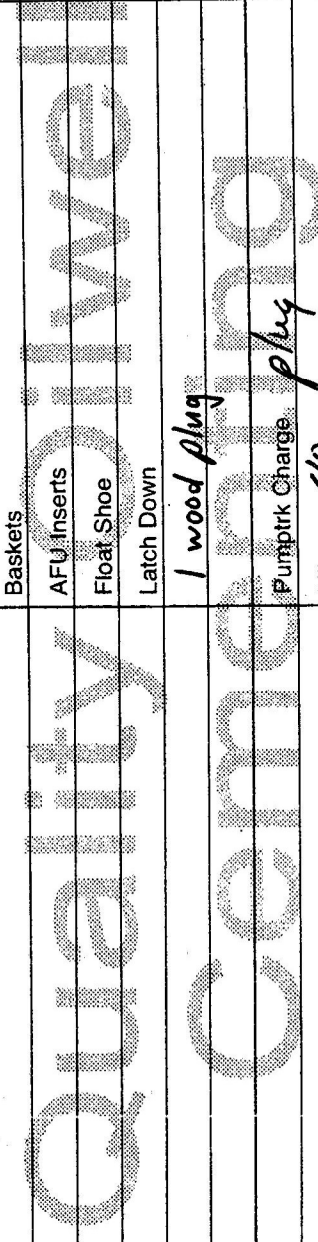
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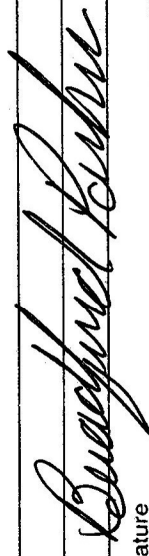
No. 216

Home Office P.O. Box 32 Russell, KS 67665

Phone 785-483-2025  
Cell 785-324-1041

Date <b>5-2-14</b>		Sec. <b>16</b>	Twp. <b>7</b>	Range <b>23</b>	County <b>Graham</b>	State <b>KS</b>	On Location	Finish <b>2:45AM</b>
Lease <b>Miller</b>		Well No. <b>16-1</b>			Location <b>Hill city, 6N to w Rd, 2 1/4 w, S12</b>			
Contractor <b>American Eagle</b>								
Type Job <b>Plug</b>								
Hole Size								
T.D.								
Csg.								
Tbg. Size								
Tool								
Cement Left in Csg.								
Shoe Joint								
Meas Line								
<b>EQUIPMENT</b>								
Pumptrk <b>17</b>	No.	Cementer <b>Helper</b>	<b>Lammie W.</b>					
Bulktrk <b>14</b>	No.	Driver <b>Chad</b>						
Bulktrk <b>Ph</b>	No.	Driver <b>Travis</b>						
<b>JOB SERVICES &amp; REMARKS</b>								
Common <b>123</b>								
Poz. Mix <b>82</b>								
Gel. <b>7</b>								
Calcium								
Hulls								
Salt								
Flowseal <b>50#</b>								
Kol-Seal								
Mud CLR <b>48</b>								
CFL-117 or CD110 CAF <b>38</b>								
Sand								
Handling <b>212</b>								
Mileage <b>FLOAT EQUIPMENT</b>								
Guide Shoe								
Centralizer								
Baskets								
AFU inserts								
Float Shoe								
Latch Down								
<b>1 wood plug</b>								
Pumptrk Charge <b>plug</b>								
Mileage <b>40</b>								
Tax								
Discount								
Total Charge								



  
 X Signature

# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025

Home Office P.O. Box 32 Russell, KS 67665

No. 023

Cell 785-324-1041

Date	4-24-14	Sec.	16	Twp.	7	Range	23	County	Cherokee	State	KS	On Location		Finish	Case
Lease	Miller		Well No.		16-1		Location		Hill City on well 2/Hill State						
Contractor	American Bag Co														
Type Job	Surface														
Hole Size	17 1/4														
Csg.	8 5/8														
Tbg. Size															
Tool															
Cement Left in Csg.	15'														
Meas Line	Displace 151236														
<b>EQUIPMENT</b>															
Pumptrk	No.	Cementary Helper													
Bulktrk	No.	Driver	3												
Bulktrk	No.	Driver	5												
<b>JOB SERVICES &amp; REMARKS</b>															
Remarks:															
Rat Hole															
Mouse Hole															
Centralizers															
Baskets															
DN or Port Collar															
8 5/8 on bottom P3H Circulation															
Mix Messy Displace															
Cement Checked!															
<b>FLOAT EQUIPMENT</b>															
Guide Shoe															
Centralizer															
Baskets															
AFU Inserts															
Float Shoe															
Latch Down															
Pumptrk Charge Surface															
Mileage 42															
Tax															
Discount															
Total Charge															
X Signature	Quality Cementing														