



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1097504  
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: \_\_\_\_\_



1097504

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> <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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Form	ACO1 - Well Completion
Operator	H & C Oil Operating Inc.
Well Name	Billips 27-1
Doc ID	1097504

Tops

Name	Top	Datum
Top Anhydrite	1760	+411
Base Anhydrite	1794	+377
Topeka	3160	-989
Heebner	3371	-1200
Toronto	3395	-1224
LKC	3407	-1236
BKC	3619	-1448
Arbuckle	3754	-1583

Conservation Division  
Finney State Office Building  
130 S. Market, Rm. 2078  
Wichita, KS 67202-3802



Phone: 316-337-6200  
Fax: 316-337-6211  
<http://kcc.ks.gov/>

Mark Sievers, Chairman  
Thomas E. Wright, Commissioner  
Shari Feist Albrecht, Commissioner

Sam Brownback, Governor

October 15, 2012

Charles Ramsay  
H & C Oil Operating Inc.  
PO BOX 86  
PLAINVILLE, KS 67663-0086

Re: ACO1  
API 15-065-23859-00-00  
Billips 27-1  
NW/4 Sec.27-08S-22W  
Graham County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,  
Charles Ramsay

COMPANY H+C Oil Operating, Inc.  
WELL Billups # 27-1  
FIELD Wildcat

LOCATION 330' FUL + 90' FUL  
SEC. 27 TWP. 4S RGE. 22W

COUNTRY Graham  
STATE Kansas

OPERATOR H+C Oil Operating, Inc.  
CONTRACTOR American Energy, King H 3  
COMM. 9-21-12

CASING RECORD  
SURF: 6 5/8" @ 3835'  
TOTAL DEPTH LOG: 3832'

FORMATION TOPS AND STRUCTURAL POSITION  
FORMATION SAMPLER TOP SAMPLE TOP ELECTRICAL LOG SUB-SEA DATHM STRUCTURAL POSITION

Top Anhydrite	1763	1760	4911	f2
Base Anhydrite	1797	1794	4377	f2
Topokan	3159	3160	-989	-1
Hefner	3370	3371	-1220	-1
Toronto	3393	3393	-1224	-1
LKC	3408	3408	-1234	-1
BKC	3418	3418	-1418	-1
Arbuckle	3754	3754	-1583	-1

REFERENCE WELL FOR STRUCTURE H+C Oil Operating, Inc.  
Frank # 27-1 330' FUL + 2210' FEL Sec. 27-4S-22W

DRILL STEM TESTS

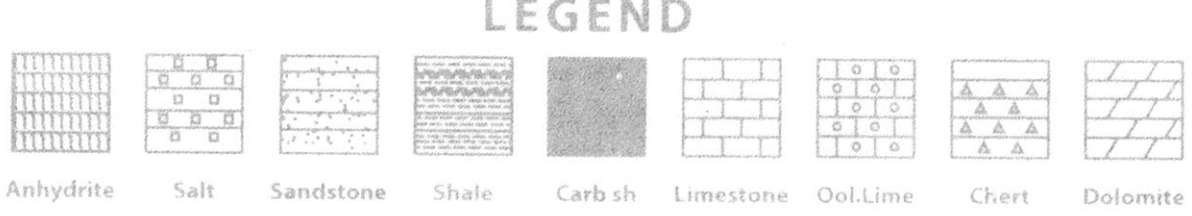
No	Interval	FFP Time	SSP Time	FFP Time	SSP Time	HP/FFP	RECOVER

REMARKS AND RECOMMENDATIONS  
Due to structural position, DST recovery & log evaluation, it was decided to set 5 1/2" production casing for completion.

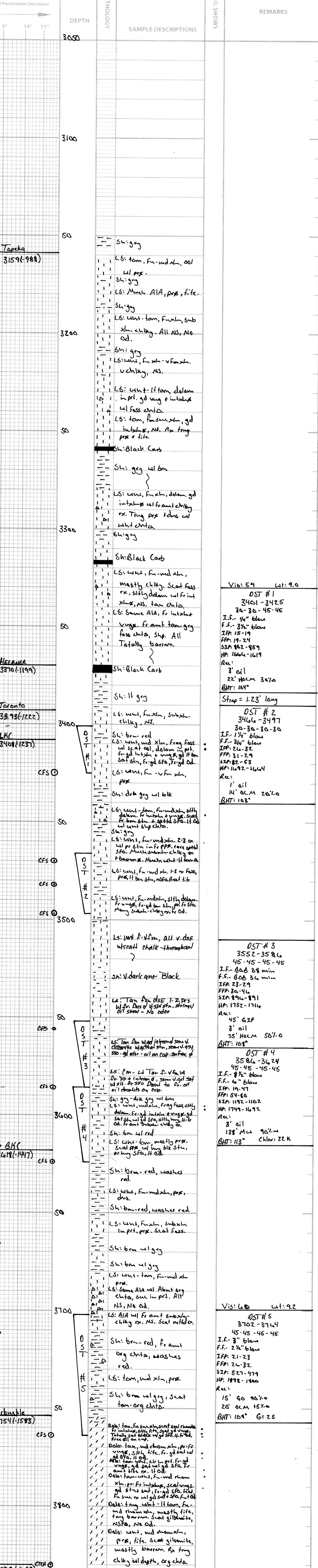
Arbuckle: 3754-64  
LKC "S": 3574-78  
LKC "A": 3410-14

McDon

LEGEND



DRILLING TIME IN MINUTES PER FOOT  
Rate of Penetration Decreases  
5" 10" 15"



CTD: 388 @ (1659)  
LTD: 3832 @ (1661)

McDon

# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

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

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

No. 6014

Date	9-28-12	27	8	22	GRAHAM	KANSAS	On Location	10:15pm
Lease	BILLIPS		Well No.	27-1		Location Bogue - St. Oed - 3 1/2 W - S/INTO		
Contractor	A & E # 3		Owner H & C Oil					
Type Job	PROD. STRING		To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cement and helper to assist owner or contractor to do work as listed.					
Hole Size	8 7/8"		T.D.	3832		Charge To	H & C OIL OPERATING INC.	
Csg.	5 1/2"		Depth	3829		Street	PO Box 86	
Tbg. Size			Depth			City	PLAINVILLE State	
Tool			Depth			The above was done to satisfaction and supervision of owner agent or contractor.		
Cement Left in Csg.			Shoe Joint	20.68		Cement Amount Ordered	400 QMDC - 1/4 # FLO - SEAL	
Meas Line			Displace	93 Bbls		Common	150 com - 10 3/4" SACT - 5 GILSONITE	
EQUIPMENT								
Pumptrk #	No.	Cementier	Common 150					
	5	Helper	POZ 400 QMDC					
Bulktrk #	No.	Driver	Gel.					
	8	Driver	Calcium					
Bulktrk #	No.	Driver	Hulls					
	12	Driver	Salt 13					
JOB SERVICES & REMARKS								
Remarks:								
Rat Hole	Flowseal 100#							
Mouse Hole	Kol-Seal 250#							
Centralizers	Mud CLR 48 500 GAL.							
Baskets	CFL-117 or CD110 CAF-38							
D/V or Port Collar	Sand							
	Handling 470							
	Mileage FLOAT EQUIPMENT							
	Guide Shoe 1 Float Shoe							
	Centralizer							
	Baskets 2							
	AFU Inserts							
	Float Shoe							
	Latch Down 1							
	Pumptrk Charge Prod Long String							
	Mileage 46							
	Tax							
	Discount							
	Total Charge							

Signature of Client  
 Signature of Quality Oilwell Cementing, Inc.





## DRILL STEM TEST REPORT

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

PO Box 86  
Plainville, KS 67663

ATTN: Marc Downing

### **Billips #27-1**

### **27-8s-22w Graham,KS**

Start Date: 2012.09.24 @ 09:55:30

End Date: 2012.09.24 @ 15:36:30

Job Ticket #: 47935                      DST #: 1

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

Printed: 2012.10.02 @ 08:36:38





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

H&C Oil Operating, Inc.

**27-8s-22w Graham,KS**

PO Box 86  
Plainville, KS 67663

**Billips #27-1**

Job Ticket: 47935

**DST#: 1**

ATTN: Marc Downing

Test Start: 2012.09.24 @ 09:55:30

## GENERAL INFORMATION:

Formation: **LKC "A"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:30:30

Time Test Ended: 15:36:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

**Interval: 3401.00 ft (KB) To 3425.00 ft (KB) (TVD)**

Reference Elevations: 2172.00 ft (KB)

Total Depth: 3425.00 ft (KB) (TVD)

2166.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 6.00 ft

**Serial #: 8354 Inside**

Press @ Run Depth: 23.89 psig @ 3404.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.09.24

End Date:

2012.09.24

Last Calib.:

2012.09.24

Start Time: 10:05:30

End Time:

15:36:30

Time On Btm:

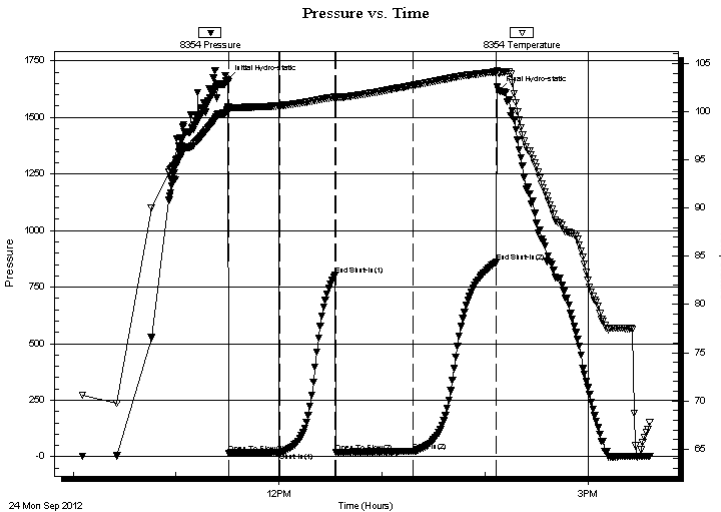
2012.09.24 @ 11:30:10

Time Off Btm:

2012.09.24 @ 14:08:00

**TEST COMMENT:** IF-Weak 1/4 inch blow throughout.  
ISI-No Return.  
FF-Weak building blow . Built to 3 & 1/2 inches.  
FSI-No Return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1666.12	100.41	Initial Hydro-static
1	15.41	100.13	Open to Flow (1)
31	18.59	100.63	Shut-In(1)
63	802.21	101.52	End Shut-In(1)
63	18.69	101.41	Open To Flow (2)
108	23.89	102.75	Shut-In(2)
157	859.23	104.14	End Shut-In(2)
158	1618.70	103.96	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
22.00	30%Oil/70%Mud	0.31
3.00	100% Oil	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.

**27-8s-22w Graham,KS**

PO Box 86  
Plainville, KS 67663

**Billips #27-1**

Job Ticket: 47935

**DST#: 1**

ATTN: Marc Downing

Test Start: 2012.09.24 @ 09:55:30

## Tool Information

Drill Pipe:	Length: 3399.00 ft	Diameter: 3.80 inches	Volume: 47.68 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 22000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 5000.00 lb
			<u>Total Volume: 47.68 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 42000.00 lb
Depth to Top Packer:	3401.00 ft			Final 42000.00 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			3382.00	
Shut In Tool	5.00			3387.00	
Hydraulic tool	5.00			3392.00	
Packer	5.00			3397.00	20.00 Bottom Of Top Packer
Packer	4.00			3401.00	
Stubb	1.00			3402.00	
Perforations	2.00			3404.00	
Recorder	0.00	8354	Inside	3404.00	
Recorder	0.00	8520	Outside	3404.00	
Perforations	18.00			3422.00	
Bullnose	3.00			3425.00	24.00 Bottom Packers & Anchor

**Total Tool Length: 44.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

H&C Oil Operating, Inc.

**27-8s-22w Graham,KS**

PO Box 86  
Plainville, KS 67663

**Billips #27-1**

Job Ticket: 47935

**DST#: 1**

ATTN: Marc Downing

Test Start: 2012.09.24 @ 09:55:30

## 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: 59.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.37 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
22.00	30%Oil/70%Mud	0.309
3.00	100% Oil	0.042

Total Length: 25.00 ft      Total Volume: 0.351 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

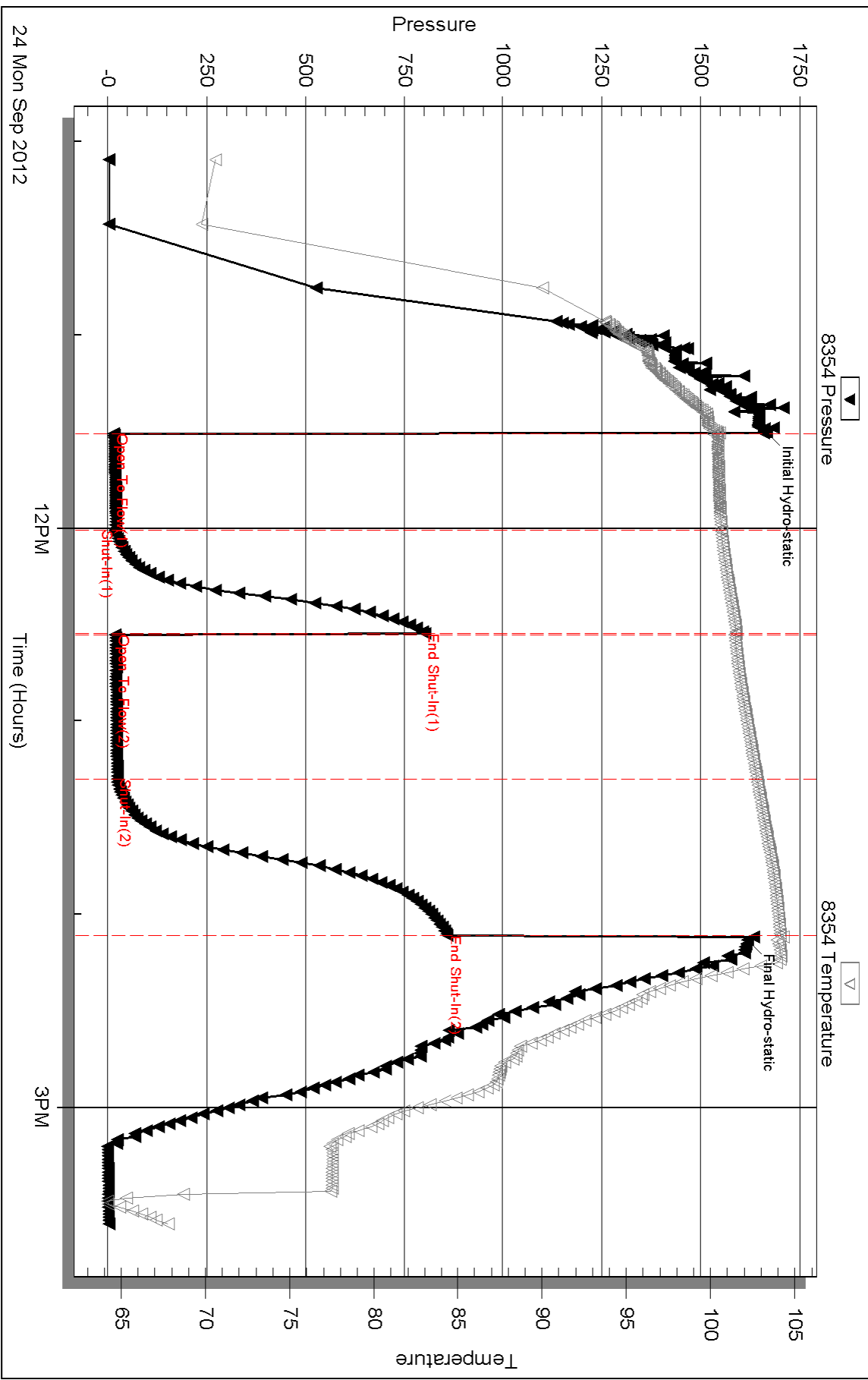
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

# Pressure vs. Time

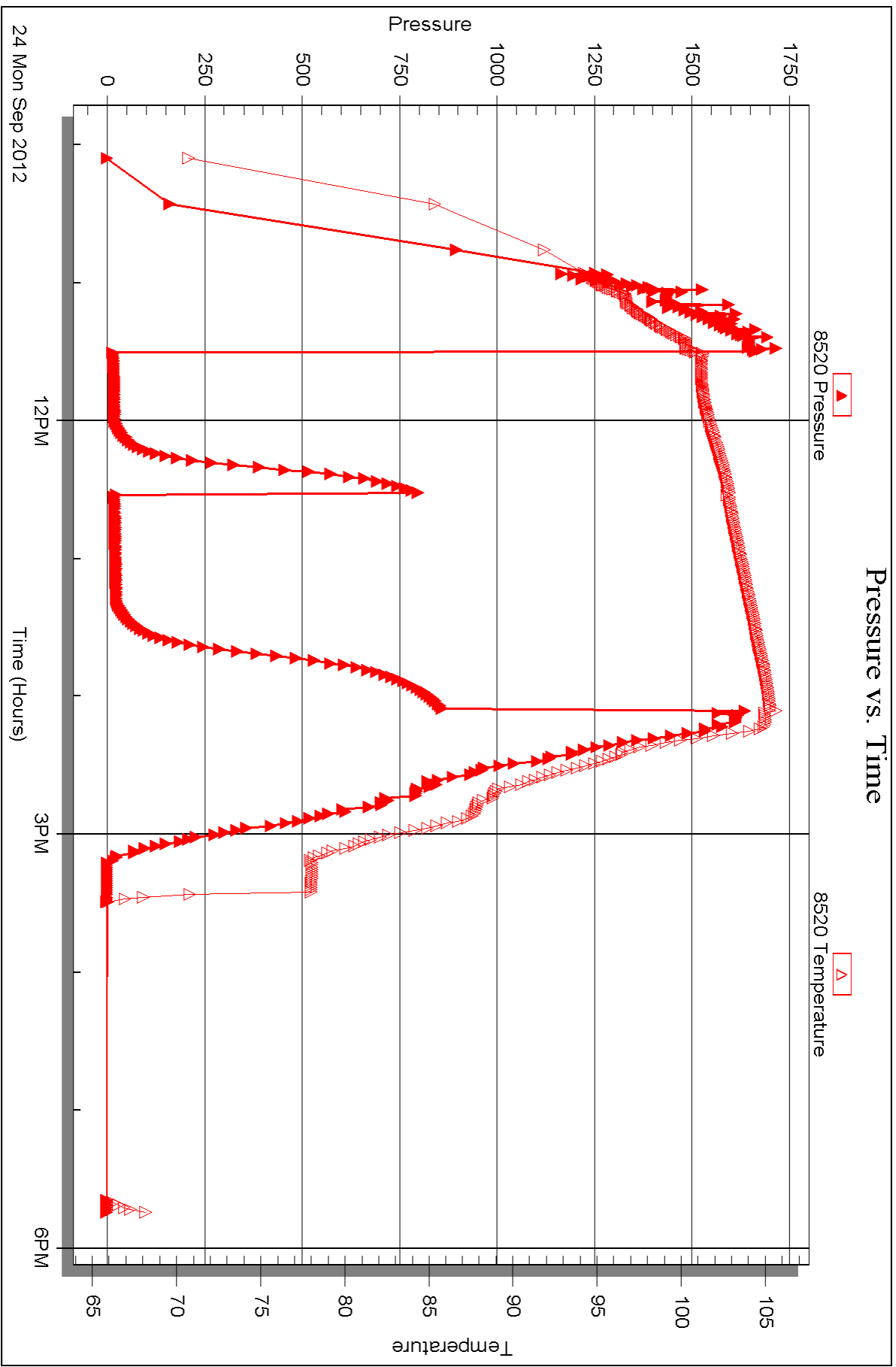


Serial #: 8520

Outside H&C Oil Operating, Inc.

Bilips #27-1

DST Test Number: 1





## DRILL STEM TEST REPORT

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

PO Box 86  
Plainville, KS 67663

ATTN: Marc Downing

### **Billips #27-1**

### **27-8s-22w Graham,KS**

Start Date: 2012.09.25 @ 03:52:30

End Date: 2012.09.25 @ 09:13:00

Job Ticket #: 47936                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.10.02 @ 08:35:02



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

H&C Oil Operating, Inc.

**27-8s-22w Graham,KS**

PO Box 86  
Plainville, KS 67663

**Billips #27-1**

Job Ticket: 47936

**DST#: 2**

ATTN: Marc Downing

Test Start: 2012.09.25 @ 03:52:30

## GENERAL INFORMATION:

Formation: **LKC "E&F"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:36:30

Time Test Ended: 09:13:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

**Interval: 3466.00 ft (KB) To 3497.00 ft (KB) (TVD)**

Reference Elevations: 2172.00 ft (KB)

Total Depth: 3497.00 ft (KB) (TVD)

2166.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 6.00 ft

**Serial #: 8354**

**Inside**

Press @ Run Depth: 28.93 psig @ 3469.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.09.25

End Date:

2012.09.25

Last Calib.:

2012.09.25

Start Time: 04:02:30

End Time:

09:13:00

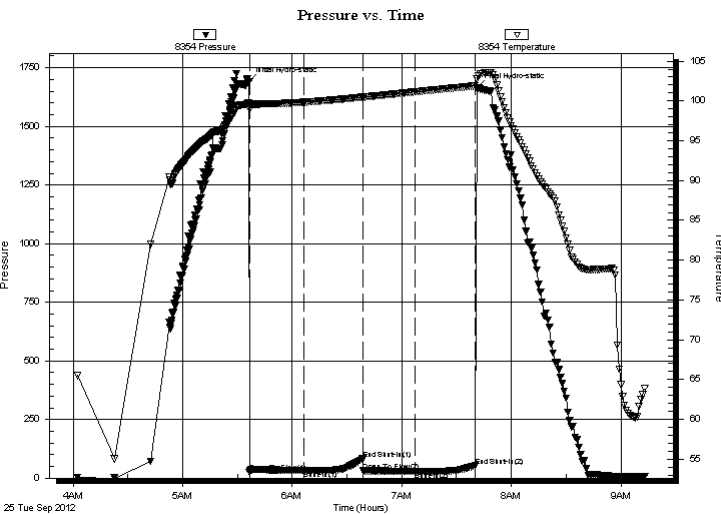
Time On Btm:

2012.09.25 @ 05:36:20

Time Off Btm:

2012.09.25 @ 07:41:00

**TEST COMMENT:** IF-Very weak building blow . Built to 1 & 1/4 inches.  
IS-No Return.  
FF-Very weak building blow . Built to 3/4 inch.  
FS-No Return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1692.35	99.81	Initial Hydro-static
1	25.94	98.96	Open To Flow (1)
31	32.26	99.84	Shut-In(1)
63	81.96	100.48	End Shut-In(1)
63	31.27	100.48	Open To Flow (2)
91	28.93	101.14	Shut-In(2)
124	52.53	101.90	End Shut-In(2)
125	1663.52	102.76	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
14.00	20%Oil/80%Mud	0.20
1.00	100%Oil	0.01

## Gas Rates

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







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

H&C Oil Operating, Inc.

**27-8s-22w Graham,KS**

PO Box 86  
Plainville, KS 67663

**Billips #27-1**

Job Ticket: 47936

**DST#: 2**

ATTN: Marc Downing

Test Start: 2012.09.25 @ 03:52:30

## Tool Information

Drill Pipe:	Length: 3459.00 ft	Diameter: 3.80 inches	Volume: 48.52 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	22000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	6000.00 lb
			<u>Total Volume: 48.52 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	13.00 ft			String Weight: Initial	42000.00 lb
Depth to Top Packer:	3466.00 ft			Final	42000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	31.00 ft				
Tool Length:	51.00 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			3447.00	
Shut In Tool	5.00			3452.00	
Hydraulic tool	5.00			3457.00	
Packer	5.00			3462.00	20.00 Bottom Of Top Packer
Packer	4.00			3466.00	
Stubb	1.00			3467.00	
Perforations	2.00			3469.00	
Recorder	0.00	8354	Inside	3469.00	
Recorder	0.00	8520	Outside	3469.00	
Perforations	25.00			3494.00	
Bullnose	3.00			3497.00	31.00 Bottom Packers & Anchor

**Total Tool Length: 51.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

H&C Oil Operating, Inc.

**27-8s-22w Graham,KS**

PO Box 86  
Plainville, KS 67663

**Billips #27-1**

Job Ticket: 47936

**DST#: 2**

ATTN: Marc Downing

Test Start: 2012.09.25 @ 03:52:30

## 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: 59.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.38 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
14.00	20%Oil/80%Mud	0.196
1.00	100%Oil	0.014

Total Length: 15.00 ft      Total Volume: 0.210 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

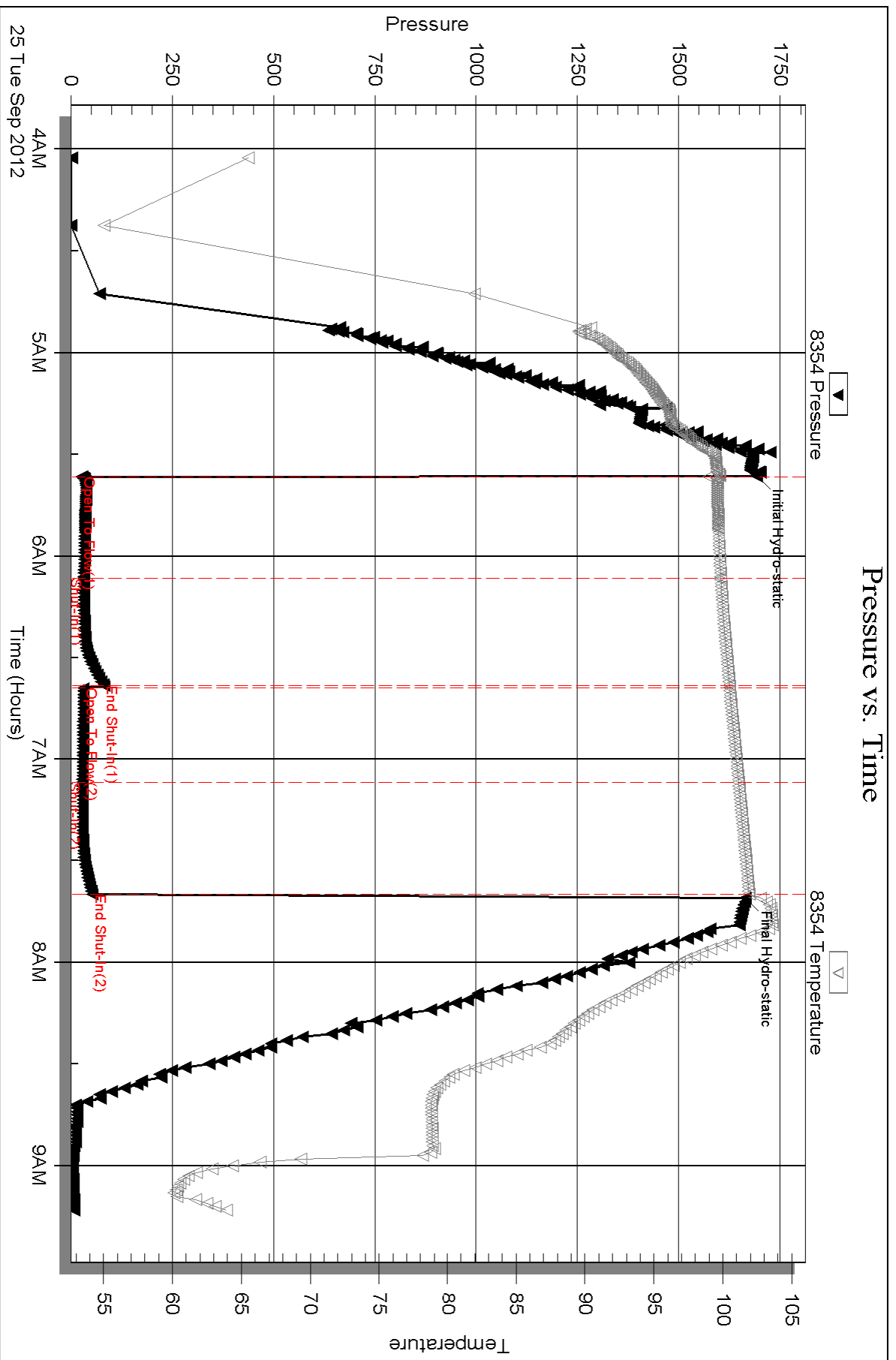
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time

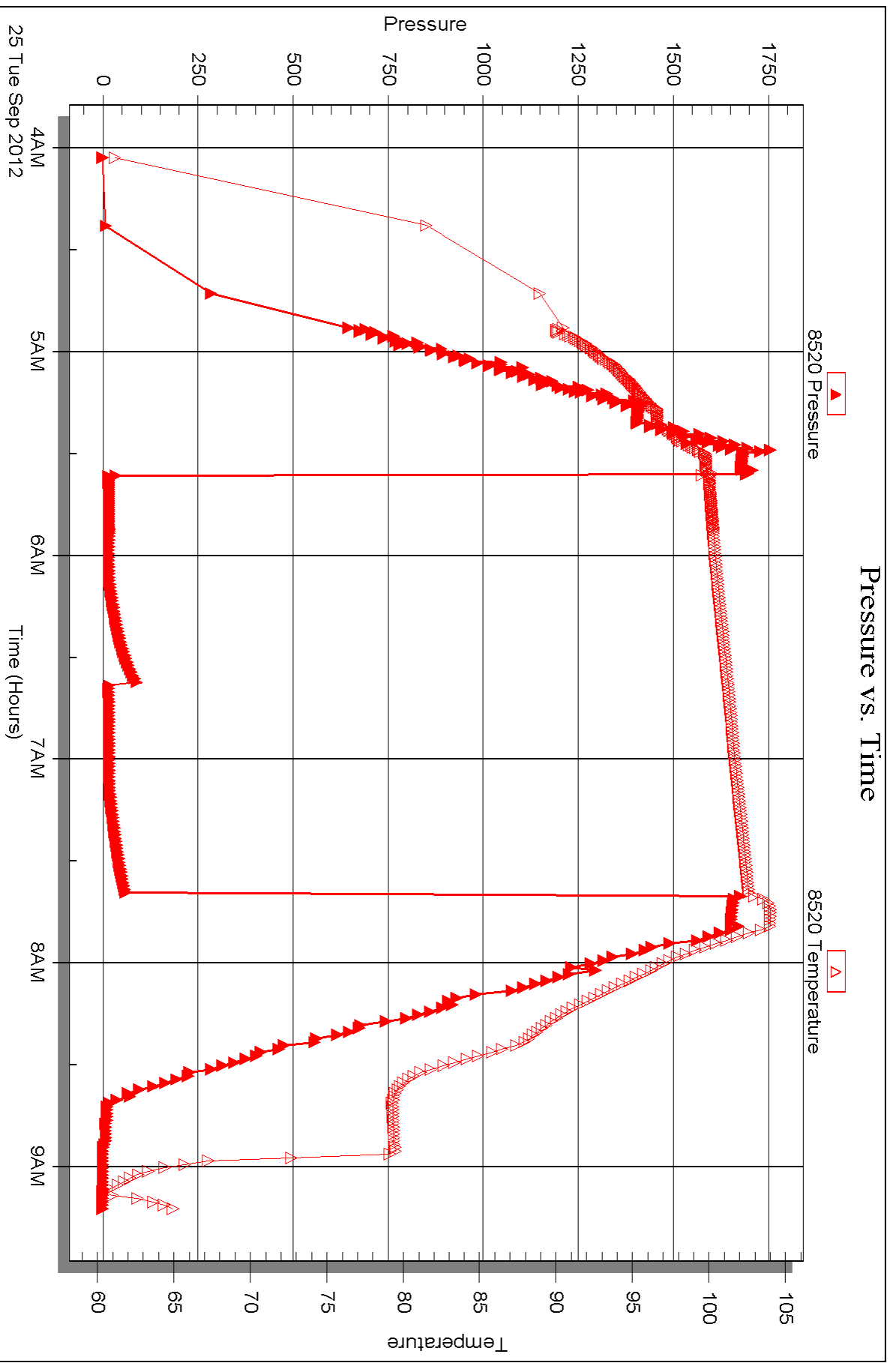


Serial #: 8520

Outside H&C Oil Operating, Inc.

Bilips #27-1

DST Test Number: 2





## DRILL STEM TEST REPORT

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

PO Box 86  
Plainville, KS 67663

ATTN: Marc Downing

### **Billips #27-1**

### **27-8s-22w Graham,KS**

Start Date: 2012.09.25 @ 21:09:30

End Date: 2012.09.26 @ 04:23:30

Job Ticket #: 47937                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.10.02 @ 08:34:19



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

H&C Oil Operating, Inc.

**27-8s-22w Graham,KS**

PO Box 86  
Plainville, KS 67663

**Billips #27-1**

Job Ticket: 47937

**DST#: 3**

ATTN: Marc Downing

Test Start: 2012.09.25 @ 21:09:30

## GENERAL INFORMATION:

Formation: **LKC "I&J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:21:00

Time Test Ended: 04:23:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

**Interval: 3552.00 ft (KB) To 3586.00 ft (KB) (TVD)**

Reference Elevations: 2172.00 ft (KB)

Total Depth: 3586.00 ft (KB) (TVD)

2166.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 6.00 ft

**Serial #: 8354 Inside**

Press @ Run Depth: 45.63 psig @ 3555.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.09.25

End Date: 2012.09.26

Last Calib.: 2012.09.26

Start Time: 21:19:30

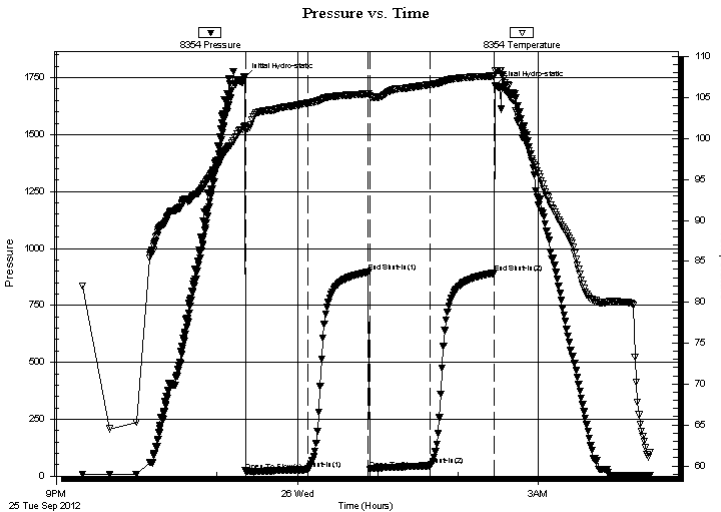
End Time: 04:23:30

Time On Btm: 2012.09.25 @ 23:20:30

Time Off Btm: 2012.09.26 @ 02:28:00

**TEST COMMENT:** IF-Weak building blow . BOB in 38 minutes.  
IS-No Return.  
FF-Weak building blow . BOB in 36 minutes 30 seconds.  
FS-No Return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1752.06	101.54	Initial Hydro-static
1	23.18	101.25	Open To Flow (1)
47	28.65	104.32	Shut-In(1)
93	896.41	105.46	End Shut-In(1)
94	29.58	105.21	Open To Flow (2)
139	45.63	106.58	Shut-In(2)
187	891.08	107.65	End Shut-In(2)
188	1715.68	108.23	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
75.00	50%Oil/50%Mud	1.05
3.00	100%Oil	0.04
0.00	45' G.I.P.	0.00

## Gas Rates

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







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

H&C Oil Operating, Inc.

**27-8s-22w Graham,KS**

PO Box 86  
Plainville, KS 67663

**Billips #27-1**

Job Ticket: 47937

**DST#: 3**

ATTN: Marc Downing

Test Start: 2012.09.25 @ 21:09:30

## Tool Information

Drill Pipe:	Length: 3554.00 ft	Diameter: 3.80 inches	Volume: 49.85 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 5000.00 lb
			<u>Total Volume: 49.85 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 42000.00 lb
Depth to Top Packer:	3552.00 ft			Final 42000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	34.00 ft			
Tool Length:	54.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Change Over Sub	1.00			3533.00	
Shut In Tool	5.00			3538.00	
Hydraulic tool	5.00			3543.00	
Packer	5.00			3548.00	20.00 Bottom Of Top Packer
Packer	4.00			3552.00	
Stubb	1.00			3553.00	
Perforations	2.00			3555.00	
Recorder	0.00	8354	Inside	3555.00	
Recorder	0.00	8520	Outside	3555.00	
Perforations	28.00			3583.00	
Bullnose	3.00			3586.00	34.00 Bottom Packers & Anchor

**Total Tool Length: 54.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

H&C Oil Operating, Inc.

**27-8s-22w Graham,KS**

PO Box 86  
Plainville, KS 67663

**Billips #27-1**

Job Ticket: 47937

**DST#: 3**

ATTN: Marc Downing

Test Start: 2012.09.25 @ 21:09:30

## 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: 59.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
75.00	50%Oil/50%Mud	1.052
3.00	100%Oil	0.042
0.00	45' G.I.P.	0.000

Total Length: 78.00 ft      Total Volume: 1.094 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8354

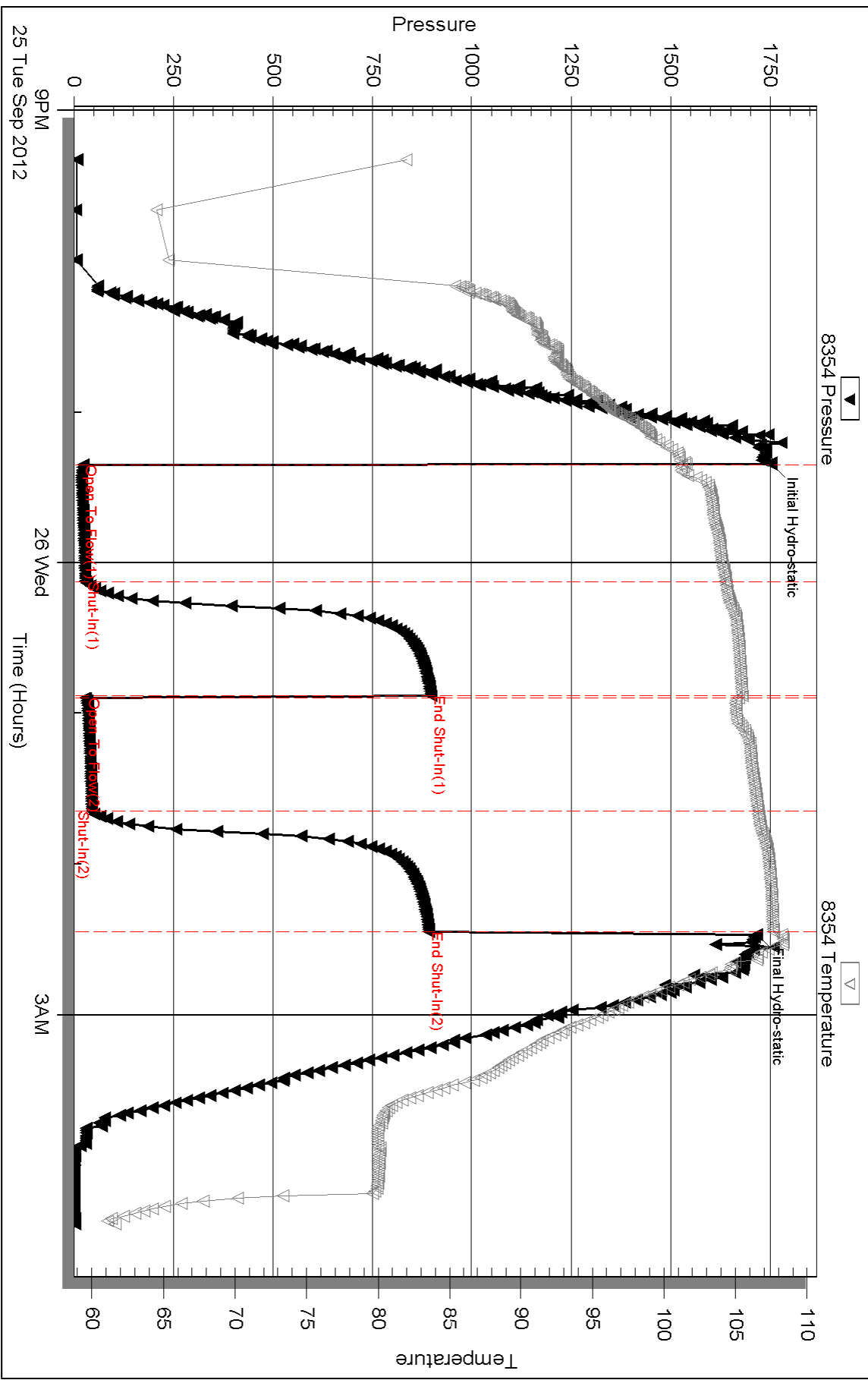
Inside

H&C Oil Operating, Inc.

Bilips #27-1

DST Test Number: 3

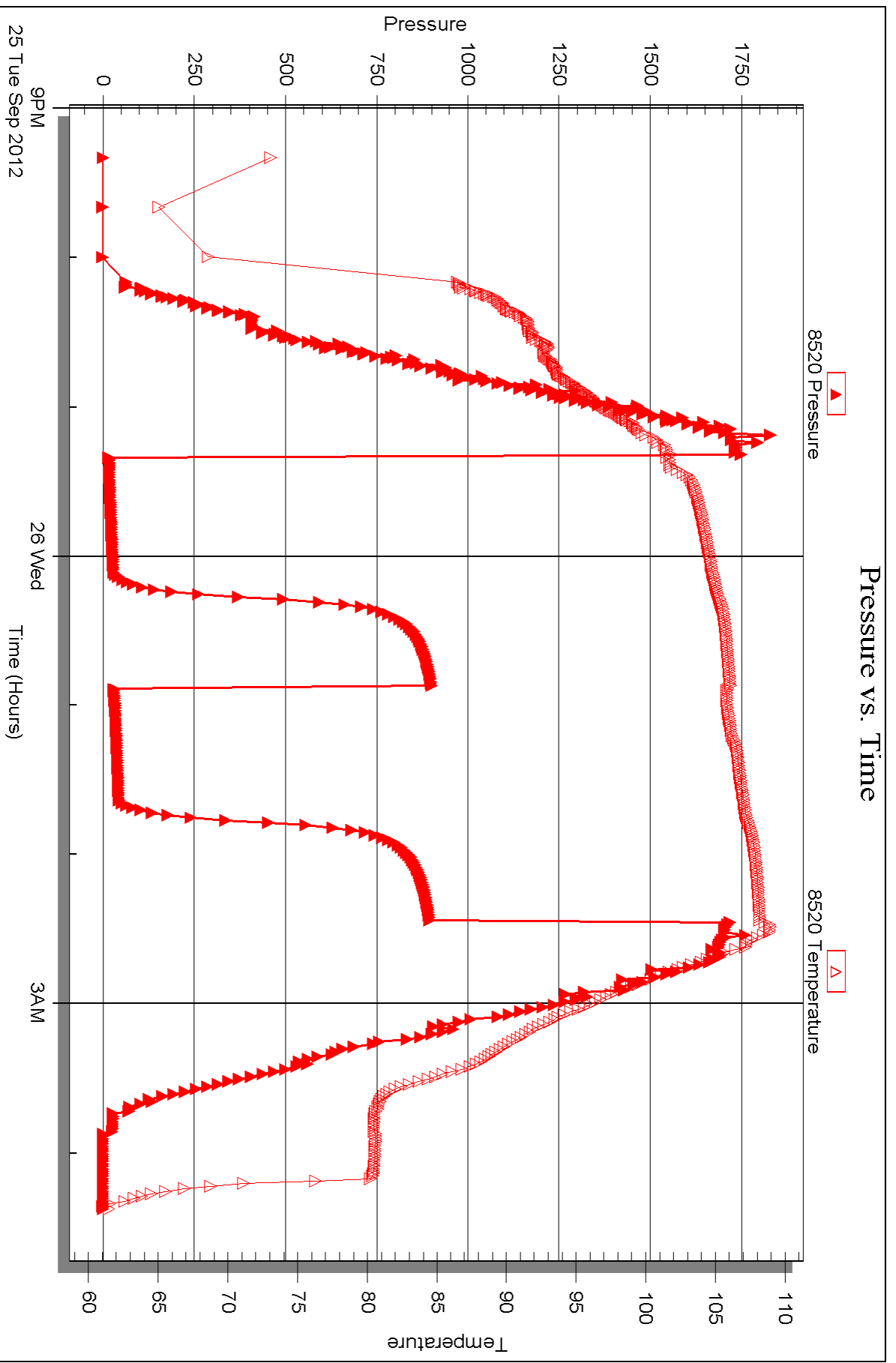
### Pressure vs. Time



Triobite Testing, Inc

Ref. No: 47937

Printed: 2012.10.02 @ 08:34:23





## DRILL STEM TEST REPORT

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

PO Box 86  
Plainville, KS 67663

ATTN: Marc Downing

### **Billips #27-1**

### **27-8s-22w Graham,KS**

Start Date: 2012.09.26 @ 12:17:30

End Date: 2012.09.26 @ 18:28:30

Job Ticket #: 47938                      DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.10.02 @ 08:33:28



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

H&C Oil Operating, Inc.

**27-8s-22w Graham,KS**

PO Box 86  
Plainville, KS 67663

**Billips #27-1**

Job Ticket: 47938

**DST#: 4**

ATTN: Marc Downing

Test Start: 2012.09.26 @ 12:17:30

## GENERAL INFORMATION:

Formation: **LKC "K&L"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:44:40

Time Test Ended: 18:28:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

**Interval: 3586.00 ft (KB) To 3624.00 ft (KB) (TVD)**

Reference Elevations: 2172.00 ft (KB)

Total Depth: 3624.00 ft (KB) (TVD)

2166.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 6.00 ft

**Serial #: 8354 Inside**

Press @ Run Depth: 80.01 psig @ 3589.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.09.26

End Date: 2012.09.26

Last Calib.: 2012.09.26

Start Time: 12:27:30

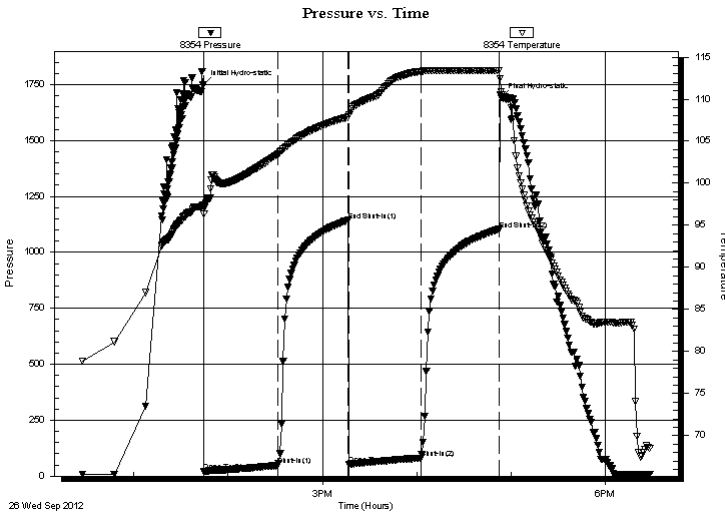
End Time: 18:28:30

Time On Btm: 2012.09.26 @ 13:44:30

Time Off Btm: 2012.09.26 @ 16:53:30

**TEST COMMENT:** IF-Very weak building blow . Built to 8 & 1/2 inches.  
ISI-No Return.  
FF-Very weak building blow . Built to 6 inches.  
FSI-No Return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1748.88	97.37	Initial Hydro-static
1	19.32	96.35	Open To Flow (1)
47	47.40	103.48	Shut-In(1)
92	1142.39	107.85	End Shut-In(1)
93	53.73	108.15	Open To Flow (2)
138	80.01	113.29	Shut-In(2)
188	1102.36	113.38	End Shut-In(2)
189	1692.21	110.90	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
138.00	90%Water/10%Mud	1.94
3.00	100%Oil	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.

**27-8s-22w Graham,KS**

PO Box 86  
Plainville, KS 67663

**Billips #27-1**

Job Ticket: 47938

**DST#: 4**

ATTN: Marc Downing

Test Start: 2012.09.26 @ 12:17:30

## Tool Information

Drill Pipe:	Length: 3586.00 ft	Diameter: 3.80 inches	Volume: 50.30 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 5000.00 lb
			<u>Total Volume: 50.30 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 42000.00 lb
Depth to Top Packer:	3586.00 ft			Final 42000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	38.00 ft			
Tool Length:	58.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Change Over Sub	1.00			3567.00	
Shut In Tool	5.00			3572.00	
Hydraulic tool	5.00			3577.00	
Packer	5.00			3582.00	20.00 Bottom Of Top Packer
Packer	4.00			3586.00	
Stubb	1.00			3587.00	
Perforations	2.00			3589.00	
Recorder	0.00	8354	Inside	3589.00	
Recorder	0.00	8520	Outside	3589.00	
Perforations	32.00			3621.00	
Bullnose	3.00			3624.00	38.00 Bottom Packers & Anchor

**Total Tool Length: 58.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

H&C Oil Operating, Inc.

**27-8s-22w Graham,KS**

PO Box 86  
Plainville, KS 67663

**Billips #27-1**

Job Ticket: 47938

**DST#: 4**

ATTN: Marc Downing

Test Start: 2012.09.26 @ 12:17:30

## 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:

22000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: 0.29 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
138.00	90%Water/10%Mud	1.936
3.00	100%Oil	0.042

Total Length: 141.00 ft

Total Volume: 1.978 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

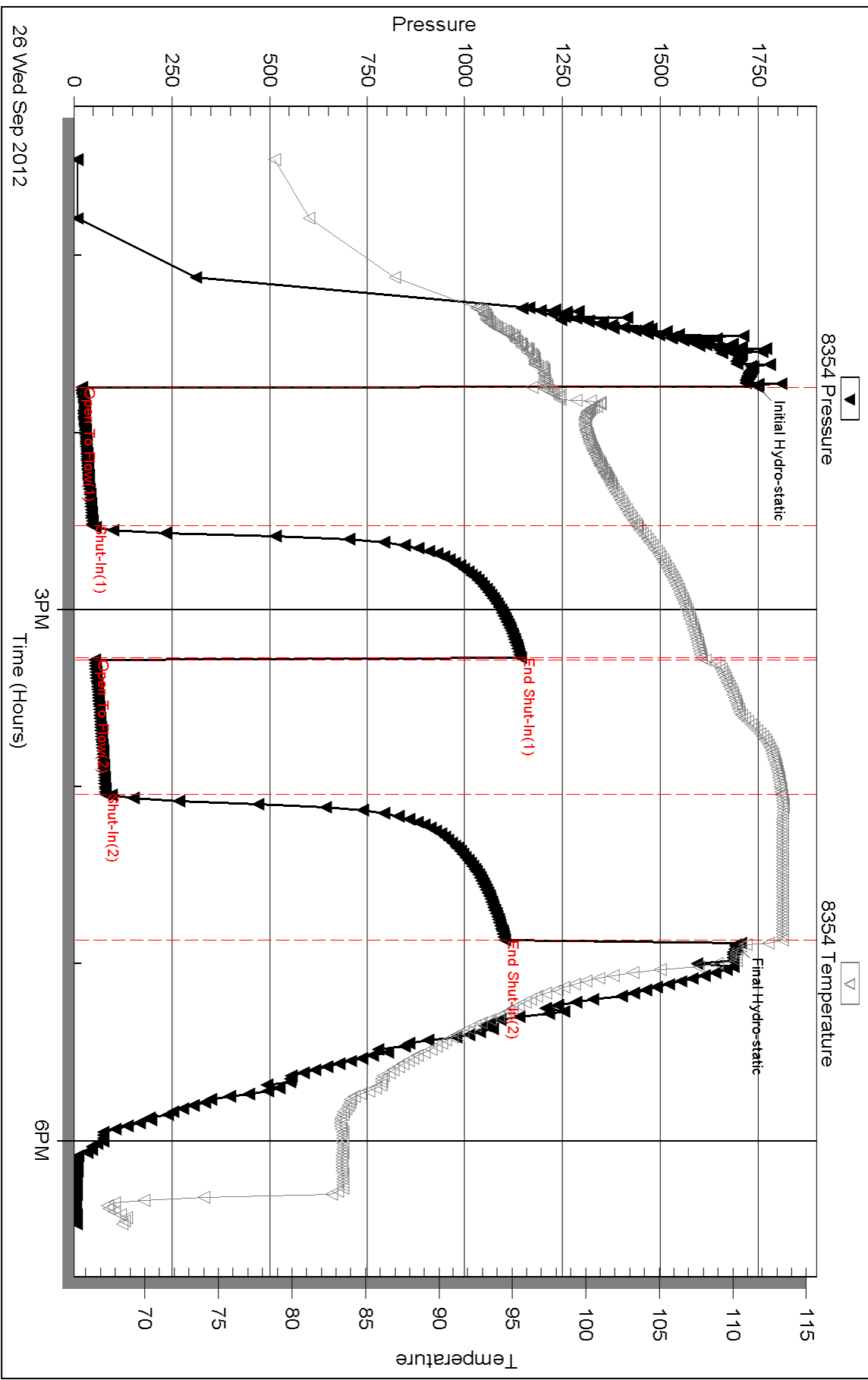
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time



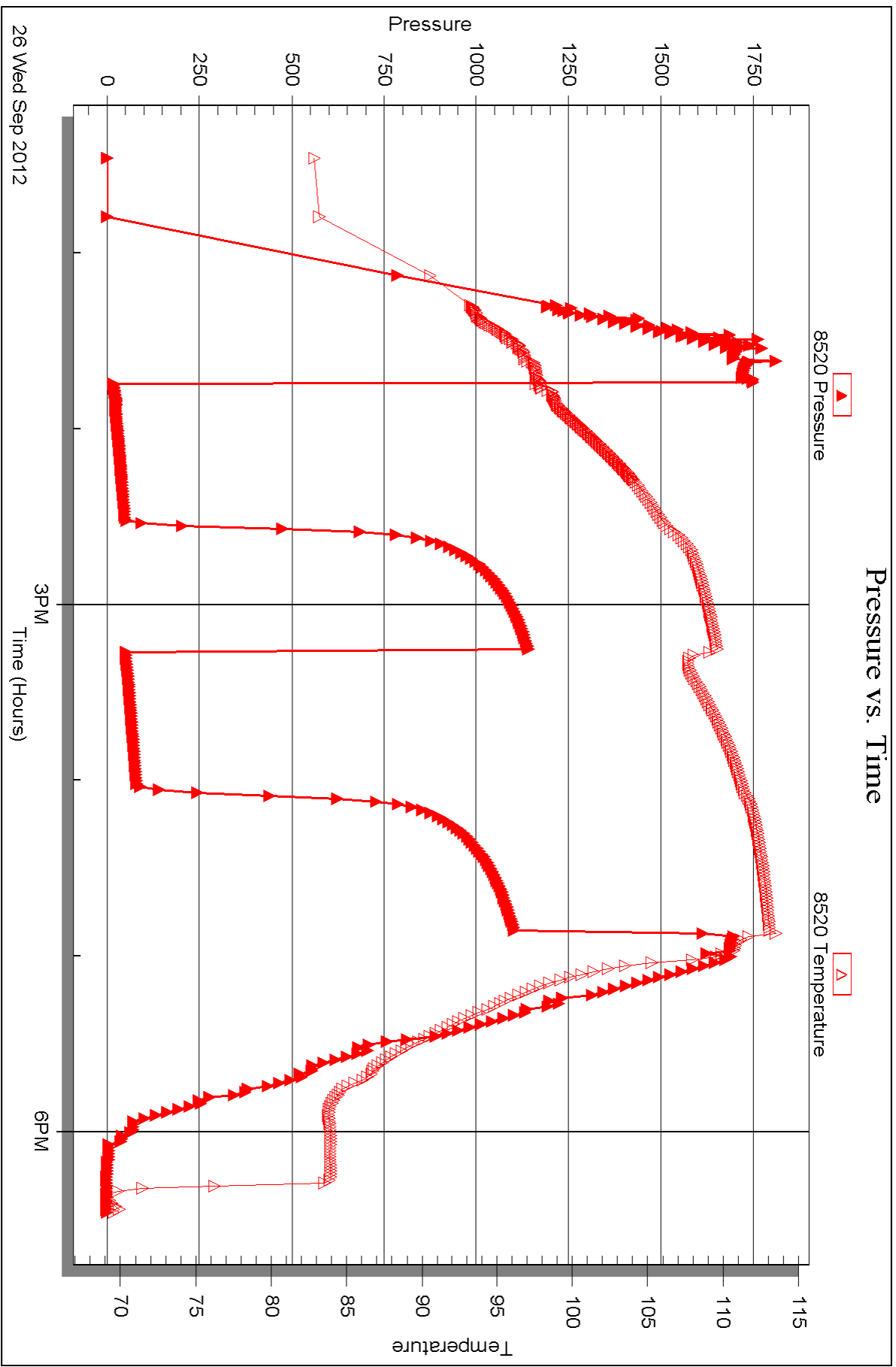
Serial #: 8520

Outside

H&C Oil Operating, Inc.

Billips #27-1

DST Test Number: 4



26 Wed Sep 2012

Triobite Testing, Inc

Ref. No: 47938

Printed: 2012.10.02 @ 08:33:33



## DRILL STEM TEST REPORT

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

PO Box 86  
Plainville, KS 67663

ATTN: Marc Downing

### **Billips #27-1**

### **27-8s-22w Graham,KS**

Start Date: 2012.09.27 @ 12:57:30

End Date: 2012.09.27 @ 19:33:00

Job Ticket #: 47939                      DST #: 5

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

Printed: 2012.10.02 @ 08:32:40



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

H&C Oil Operating, Inc.

**27-8s-22w Graham,KS**

PO Box 86  
Plainville, KS 67663

**Billips #27-1**

Job Ticket: 47939

**DST#: 5**

ATTN: Marc Downing

Test Start: 2012.09.27 @ 12:57:30

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:45:30

Time Test Ended: 19:33:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

**Interval: 3702.00 ft (KB) To 3764.00 ft (KB) (TVD)**

Reference Elevations: 2172.00 ft (KB)

Total Depth: 3764.00 ft (KB) (TVD)

2166.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 6.00 ft

**Serial #: 8354 Inside**

Press @ Run Depth: 31.82 psig @ 3741.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.09.27 End Date: 2012.09.27

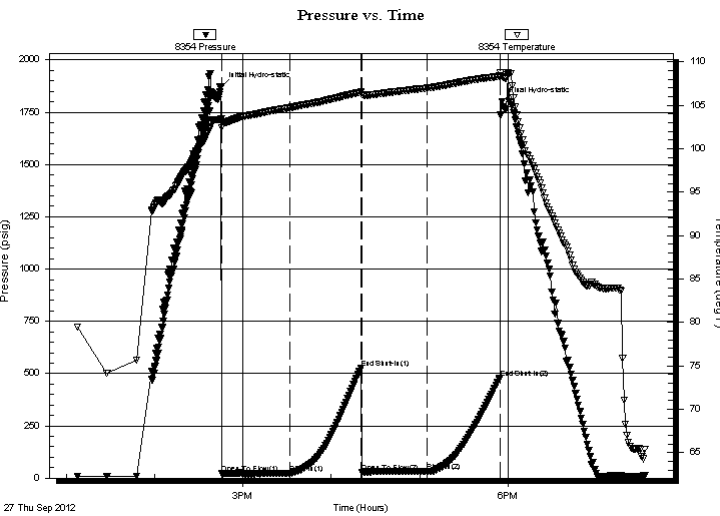
Last Calib.: 2012.09.27

Start Time: 13:07:30 End Time: 19:33:00

Time On Btm: 2012.09.27 @ 14:45:20

Time Off Btm: 2012.09.27 @ 17:56:00

**TEST COMMENT:** IF-Very weak building blow . Built to 3 inches.  
IS-No Return.  
FF-Very weak building blow . Built to 2 & 1/2 inches.  
FS-No Return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1872.17	103.45	Initial Hydro-static
1	21.18	102.43	Open To Flow (1)
47	23.29	104.72	Shut-In(1)
95	526.61	106.50	End Shut-In(1)
96	26.13	106.25	Open To Flow (2)
140	31.82	106.98	Shut-In(2)
190	479.26	108.34	End Shut-In(2)
191	1800.12	108.29	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	15%Oil/85%Mud	0.28
15.00	10%Gas/90%Oil	0.21

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

H&C Oil Operating, Inc.

**27-8s-22w Graham,KS**

PO Box 86  
Plainville, KS 67663

**Billips #27-1**

Job Ticket: 47939

**DST#: 5**

ATTN: Marc Downing

Test Start: 2012.09.27 @ 12:57:30

## Tool Information

Drill Pipe:	Length: 3708.00 ft	Diameter: 3.80 inches	Volume: 52.01 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	22000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	5000.00 lb
			<u>Total Volume: 52.01 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial	44000.00 lb
Depth to Top Packer:	3702.00 ft			Final	44000.00 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	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3683.00	
Shut In Tool	5.00			3688.00	
Hydraulic tool	5.00			3693.00	
Packer	5.00			3698.00	20.00 Bottom Of Top Packer
Packer	4.00			3702.00	
Stubb	1.00			3703.00	
Perforations	5.00			3708.00	
Change Over Sub	1.00			3709.00	
Drill Pipe	31.00			3740.00	
Change Over Sub	1.00			3741.00	
Recorder	0.00	8354	Inside	3741.00	
Recorder	0.00	8520	Outside	3741.00	
Perforations	20.00			3761.00	
Bullnose	3.00			3764.00	62.00 Bottom Packers & Anchor

**Total Tool Length: 82.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

H&C Oil Operating, Inc.

**27-8s-22w Graham,KS**

PO Box 86  
Plainville, KS 67663

**Billips #27-1**

Job Ticket: 47939

**DST#: 5**

ATTN: Marc Downing

Test Start: 2012.09.27 @ 12:57:30

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

25 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	15%Oil/85%Mud	0.281
15.00	10%Gas/90%Oil	0.210

Total Length: 35.00 ft      Total Volume: 0.491 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

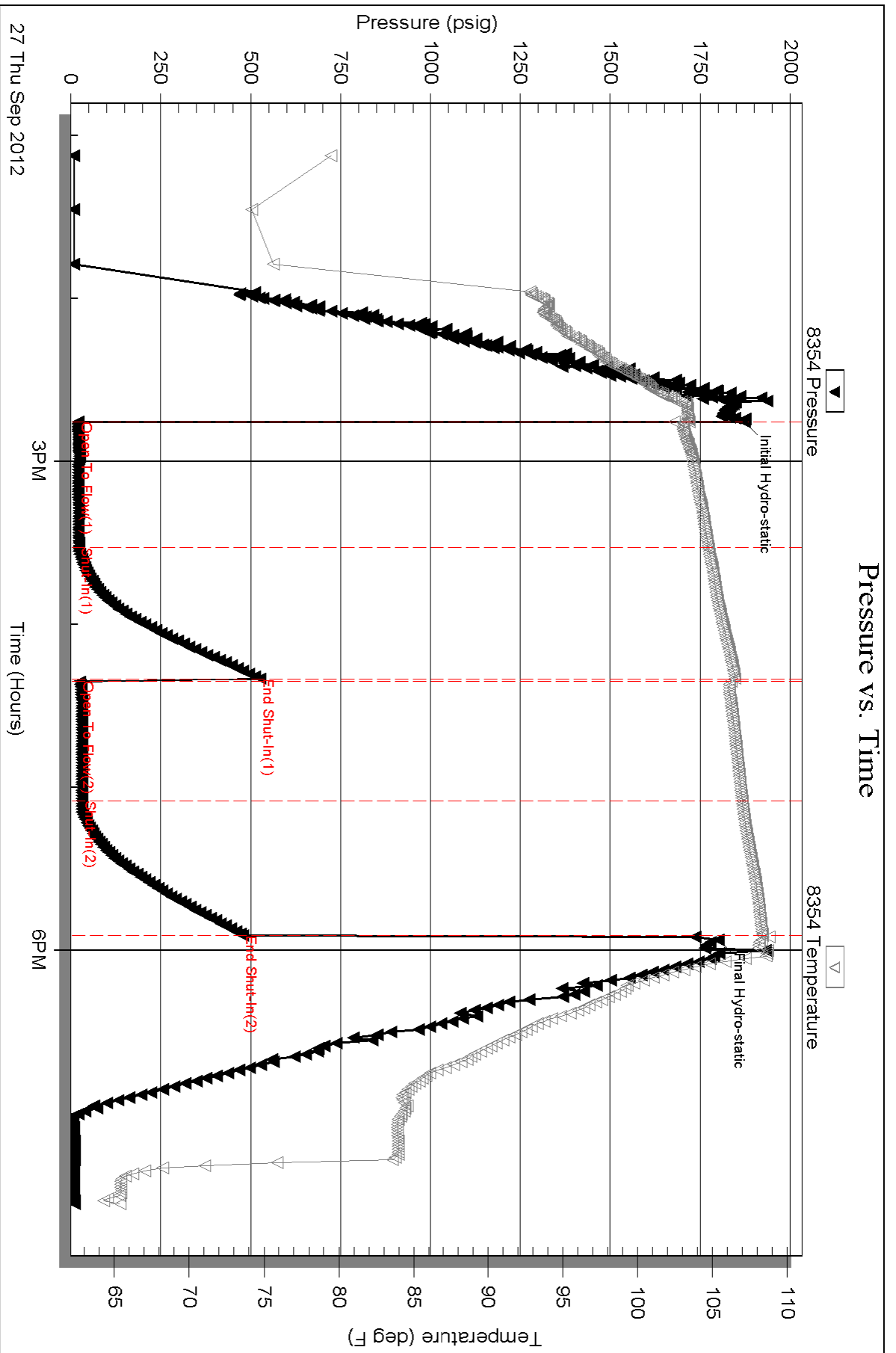
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





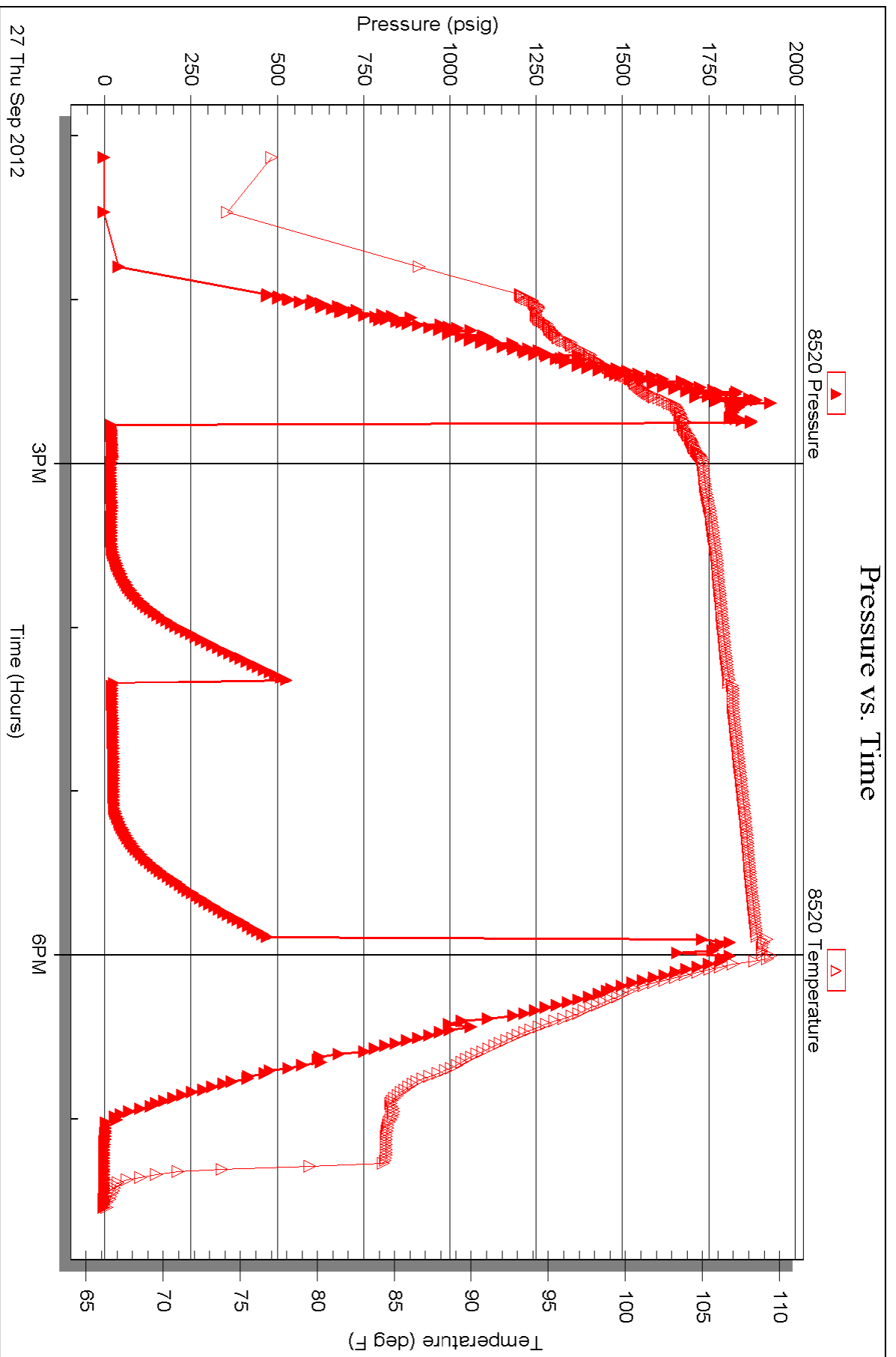
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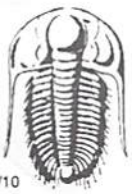
Outside

H&C Oil Operating, Inc.

Billips #27-1

DST Test Number: 5





# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 47935

Well Name & No. Billips #27-1 Test No. 1 Date 9-24-12  
 Company H+C Oil Operating, Inc. Elevation 2172 KB 2166 GL  
 Address P.O. Box 86 Parnville, KS 67663  
 Co. Rep / Geo. Marc Downing Rig American Eagle 3  
 Location: Sec. 27 Twp. 8S Rge. 22W Co. Graham State KS

Interval Tested 3401-3425 Zone Tested LKC "A"  
 Anchor Length 24' Drill Pipe Run 3399 Mud Wt. 9.0  
 Top Packer Depth 3396 Drill Collars Run 0 Vis 59  
 Bottom Packer Depth 3401 Wt. Pipe Run 0 WL 6.4  
 Total Depth 3425 Chlorides 700 ppm System LCM 2#

Blow Description IF-Weak 1/4 inch blow throughout.  
IST- No Return,  
FF- weak building blow. Built to 3 1/2 inches.  
FST- No Return,

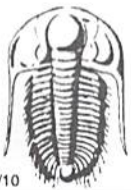
Rec	Feet of	%gas	%oil	%water	%mud
<u>3</u>	<u>Oil</u>				
<u>22</u>	<u>HOCM</u>		<u>30%</u>		<u>70</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 25 BHT 104 Gravity 1150 API RW 158.10 @ 1150 °F Chlorides 700 ppm

(A) Initial Hydrostatic 1666  Test 1150 T-On Location 0900  
 (B) First Initial Flow 15  Jars 1015  
 (C) First Final Flow 19  Safety Joint 1130  
 (D) Initial Shut-In 802  Circ Sub 1405  
 (E) Second Initial Flow 19  Hourly Standby 1530  
 (F) Second Final Flow 24  Mileage 51X2 158.10 Comments Part-0955  
 (G) Final Shut-In 859  Sampler Slid 6'-8' Before  
 (H) Final Hydrostatic 1619  Straddle Opening Tool,  
 Ruined Shale Packer  
 Ruined Packer  
 Extra Copies  
 Initial Open 30  Shale Packer  
 Extra Recorder  
 Initial Shut-In 30  Extra Packer  
 Final Flow 45  Day Standby  
 Final Shut-In 45  Accessibility  
 Sub Total 1308.10 MP/DST Disc't

Approved By \_\_\_\_\_ Our Representative D. Rash

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 47936

Well Name & No. Billips #271 Test No. 2 Date 9-25-12  
 Company H+C Oil Operating, Inc. Elevation 2172 KB 2166 GL  
 Address P.O. Box 86 Plainville, KS 67663  
 Co. Rep / Geo. Marc Downing Rig American Eagle 3  
 Location: Sec. 27 Twp. 8S Rge. 22W Co. Graham State KS

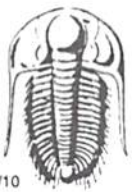
Interval Tested 3466-3497 Zone Tested LKC "E4F"  
 Anchor Length 31 Drill Pipe Run 3459 Mud Wt. 9.0  
 Top Packer Depth 3461 Drill Collars Run 0 Vis 59  
 Bottom Packer Depth 3466 Wt. Pipe Run 0 WL 6.4  
 Total Depth 3497 Chlorides 700 ppm System LCM 2#  
 Blow Description FF- Very weak building blow, Built to 1 1/4 inches.  
IST- No Return.  
FF- Very weak building blow, Built to 3/4 inch.  
FST- No Return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>Oil</u>	<u>100</u>			
<u>14</u>	<u>OCM</u>	<u>20</u>		<u>80</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 15 BHT 103 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1692  Test 1150 T-On Location 0300  
 (B) First Initial Flow 26  Jars \_\_\_\_\_ T-Started 0410  
 (C) First Final Flow 32  Safety Joint \_\_\_\_\_ T-Open 0536  
 (D) Initial Shut-In 82  Circ Sub \_\_\_\_\_ T-Pulled 0740  
 (E) Second Initial Flow 31  Hourly Standby \_\_\_\_\_ T-Out 0915  
 (F) Second Final Flow 29  Mileage 51X2 158.10 Comments Best-0352  
 (G) Final Shut-In 53  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1669  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 1308.10  
 Final Flow 30  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 30 Sub Total 1308.10

Approved By \_\_\_\_\_ Our Representative D. Rash  
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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 47937

Well Name & No. Billips #27-1 Test No. 3 Date 9-25-12  
 Company HTC Oil Operating, Inc. Elevation 2172 KB 2166 GL  
 Address P.O. Box 88 Plainville, KS 67663  
 Co. Rep / Geo. Marc Downing Rig American Eagle 3  
 Location: Sec. 27 Twp. 8S Rge. 22W Co. Graham State KS

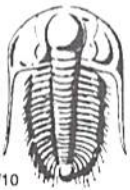
Interval Tested 3552-3586 Zone Tested LKC "T4J"  
 Anchor Length 34' Drill Pipe Run 3554 Mud Wt. 9.0  
 Top Packer Depth 3547 Drill Collars Run 0 Vis 59  
 Bottom Packer Depth 3552 Wt. Pipe Run 0 WL 6.8  
 Total Depth 3586 Chlorides 800 ppm System LCM 2#  
 Blow Description IF-Weak building blow. BOB in 38 minutes,  
ISI-No Return,  
FF-Weak building blow. BOB in 36 minutes 30 seconds,  
FST-No Return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>3</u>	<u>091</u>	<u>100</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>75</u>	<u>HOCM</u>	<u>50</u>	<u>0</u>	<u>50</u>	<u>0</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of <u>45' G.I.P.</u>	%gas	%oil	%water	%mud
Rec Total <u>78</u>	BHT <u>108</u>	Gravity	API RW	@	° F Chlorides ppm

(A) Initial Hydrostatic 1752  Test 1150 T-On Location 2045  
 (B) First Initial Flow 23  Jars 2130  
 (C) First Final Flow 29  Safety Joint 2320  
 (D) Initial Shut-In 896  Circ Sub 0225  
 (E) Second Initial Flow 30  Hourly Standby 0430  
 (F) Second Final Flow 46  Mileage 51X2 158.10 Comments BATT-2109  
 (G) Final Shut-In 891  Sampler  
 (H) Final Hydrostatic 1716  Straddle  Ruined Shale Packer  
 Shale Packer  Ruined Packer  
 Extra Packer  Extra Copies  
 Initial Open 45  Extra Recorder  
 Initial Shut-In 45  Day Standby Sub Total 0  
 Final Flow 45  Accessibility Total 1308.10  
 Final Shut-In 45  Sub Total 1308.10 MP/DST Disc't

Approved By \_\_\_\_\_ Our Representative

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 47938

Well Name & No. Billips #27-1 Test No. 4 Date 9-26-12  
 Company H+C Oil Operating, Inc. Elevation 2172 KB 2166 GL  
 Address P.O. Box 86 Plainville, KS 67663  
 Co. Rep / Geo. Marc Downing Rig American Eagle 3  
 Location: Sec. 27 Twp. 8S Rge. 22W Co. Graham State KS

Interval Tested 3586-3624 Zone Tested LHC "K+L"  
 Anchor Length 38' Drill Pipe Run 3586 Mud Wt. 9.3  
 Top Packer Depth 3581 Drill Collars Run 0 Vis 60  
 Bottom Packer Depth 3586 Wt. Pipe Run 0 WL 6.2  
 Total Depth 3624 Chlorides 1000 ppm System LCM 2#

Blow Description IF - Very weak building blow. Built to 8 1/2 inches.  
ISF - No Return.  
FF - Very weak building blow. Built to 6 inches.  
FST - No Return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>3</u>	<u>Oil</u>	<u>100</u>			
<u>138</u>	<u>Muddy water</u>		<u>90</u>		<u>10</u>

Rec Total 141 BHT 113 Gravity API RW 1.294 @ 76 °F Chlorides 22000 ppm

(A) Initial Hydrostatic 1749  Test 1150 T-On Location 1145  
 (B) First Initial Flow 19  Jars 1230  
 (C) First Final Flow 47  Safety Joint 1345  
 (D) Initial Shut-In 1142  Circ Sub 1650  
 (E) Second Initial Flow 54  Hourly Standby 1830  
 (F) Second Final Flow 80  Mileage 5182 158.10 Comments BHT-1217  
 (G) Final Shut-In 1102  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1692  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Initial Open 45  Ruined Shale Packer \_\_\_\_\_  
 Initial Shut-In 45  Ruined Packer \_\_\_\_\_  
 Final Flow 45  Extra Copies \_\_\_\_\_  
 Final Shut-In 45 Sub Total 0  
 Total 1308.10  
 Sub Total 1308.10 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative D. Rash

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 47939

Well Name & No. Billips #27-1 Test No. 5 Date 9-27-12  
 Company H+C Oil Operating, Inc. Elevation 2172 KB 2166 GL  
 Address P.O. Box 86 Plainville, KS 67663  
 Co. Rep / Geo. Marc Downing Rig American Eagle 3  
 Location: Sec. 27 Twp. 8S Rge. 22W Co. Graham State KS

Interval Tested 3702-3764 Zone Tested Ambuckle  
 Anchor Length 62' Drill Pipe Run 3708 Mud Wt. 9.2  
 Top Packer Depth 3697 Drill Collars Run 0 Vis 60+  
 Bottom Packer Depth 3702 Wt. Pipe Run 0 WL 6.8  
 Total Depth 3764 Chlorides 900 ppm System LCM 2#

Blow Description IF - Very weak building blow. Built to 3 inches.  
~~FF - No Return.~~

FF - Very weak building blow. Built to 2 1/2 inches.  
~~FF - No Return.~~

Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>Cassy Oil</u>	<u>10</u>	<u>90</u>		
<u>20</u>	<u>OCM</u>		<u>15</u>		<u>85</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 35 BHT 108 Gravity 25 API RW @      °F Chlorides      ppm

(A) Initial Hydrostatic 1872  Test 1150 T-On Location 1230  
 (B) First Initial Flow 21  Jars      T-Started 1315  
 (C) First Final Flow 23  Safety Joint      T-Open 1446  
 (D) Initial Shut-In 527  Circ Sub      T-Pulled 1750  
 (E) Second Initial Flow 26  Hourly Standby      T-Out 1930  
 (F) Second Final Flow 32  Mileage 51X2 158.10 Comments Bart-1257  
 (G) Final Shut-In 459  Sampler       
 (H) Final Hydrostatic 1800  Straddle       Ruined Shale Packer       
 Shale Packer       Ruined Packer       
 Extra Packer       Extra Copies       
 Extra Recorder      Sub Total 0  
 Day Standby      Total 1308.10  
 Accessibility      MP/DST Disc't     

Initial Open 45  
 Initial Shut-In 45  
 Final Flow 45  
 Final Shut-In 45  
 Sub Total 1308.10

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

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