



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1209538  
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: \_\_\_\_\_

1209538

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 <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  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: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
--	---

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> _____ <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone ~~795-483-2025~~

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

No. 4069

Cell 785-324-1041

Date	8-30-10	Sec.	18	Twp.	11	Range	23	County	Trego	State	KS	On Location		Finish	5:00pm
Lease	Morden	Well No.	1-18			Location Wakeand 3rd EFRD 2nd 1/4 W. N.T.D.									

Contractor	Morden #K0	Owner	To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.		
Type Job	Surface	Hole Size	12 1/4	T.D.	220
Csg.	8 5/8	Depth	218	Charge To	Phillips Exploration
Tbg. Size		Depth		Street	
Tool		Depth		City	State
Cement Left in Csg.	15'	Shoe Joint		The above was done to satisfaction and supervision of owner agent or contractor.	
Meas Line		Displace	138 L	Cement Amount Ordered	160 com 3 1/2 cc 2 1/2 cc

**EQUIPMENT**

Pumptrk	9	No.	Cement Helper	4	Common	160
Bulktrk		No.	Driver		Poz. Mix	
Bulktrk	8	No.	Driver		Gel.	3

**JOB SERVICES & REMARKS**

Remarks:		Calcium	5
Rat Hole		Hulls	
Mouse Hole		Salt	
Centralizers		Flowseal	
Baskets		Kol-Seal	
D/V or Port Collar		Mud CLR 48	
8 5/8 Casing on Bottom Fast Circulation.		CFL-117 or CD110 CAF 38	
Mix 160 SF 4" Displace Cement Circulated		Sand	
		Handling	168
		Mileage	

**FLOAT EQUIPMENT**

Guide Shoe	
Centralizer	
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	

Quality Oilwell

Cementing

Pumptrk Charge	Surface	Tax	
Mileage	46	Discount	
8 5/8 Sware		Total Charge	

X Signature Ag [Signature]

# 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. 4231

Date	9-5-10	Sec.	18	Twp.	11	Range	23	County	Trego	State	Ks	On Location	2:00 PM
Lease	Maden			Well No.	#1-18			Location	Wakeny Ks - 6N to B Rd, 2W				
Contractor	Murfin Rig #16							Owner	IKS w/s				
Type Job	plug							To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.					
Hole Size	7 7/8"			T.D.	4000'			Charge To	Phillips Exploration				
Csg.				Depth				Street					
Tbg. Size	4 1/2"			Depth	1950'			City	State				
Tool				Depth				The above was done to satisfaction and supervision of owner agent or contractor.					
Cement Left in Csg.				Shoe Joint				Cement Amount Ordered	220 SK 60/40 4% Gel 1/4# F.S.				
Meas Line				Displace	H2O/mud								

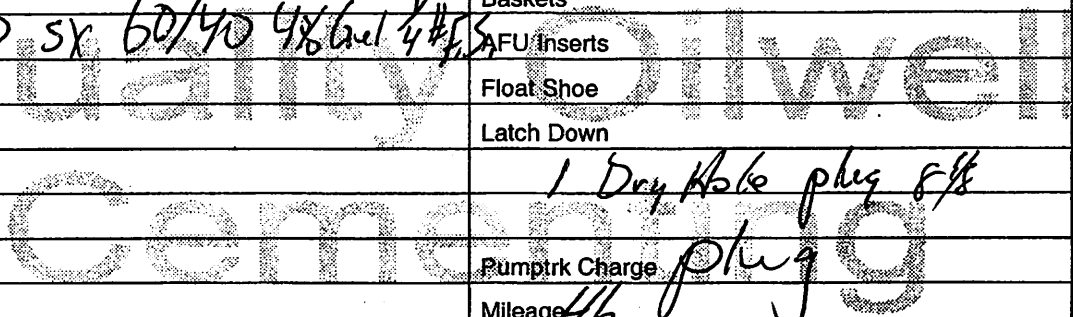
**EQUIPMENT**

Pumptrk	9	No.	Cementer	Brandon	Common	132
Bulktrk	4	No.	Driver	Cisco	Poz. Mix	88
Bulktrk	4	No.	Driver	Rick	Gel.	9

**JOB SERVICES & REMARKS**

Remarks:	Calcium
Rat Hole	Hulls
Mouse Hole	Salt
Centralizers	Flowseal 50#
Baskets	Kol-Seal
D/V or Port Collar	Mud CLR 48
1950' - 25 SK	CFL-117 or CD110 CAF 38
972' - 100 SK	Sand
268' - 40 SK	Handling 229
40' - 10 SK	Mileage
Rathole - 30 SK	<b>FLOAT EQUIPMENT</b>
Mousehole - 15 SK	Guide Shoe
	Centralizer
	Baskets
	AFU/inserts
	Float Shoe
	Latch Down
	1 Dry Hole plug 8 1/8"
	Pumptrk Charge plug
	Mileage 46

220 SK 60/40 4% Gel 1/4# F.S.



X Signature *Andy Gibb*

Tax  
Discount  
Total Charge



## DRILL STEM TEST REPORT

Prepared For: **Phillips Exploration**

1601 Sagebrush  
Wichita Ks. 67230

ATTN: Jim Phillips

**18-11s-23w Trego,Ks**

**Moden #1-18**

Start Date: 2010.09.02 @ 20:30:00

End Date: 2010.09.03 @ 02:34:00

Job Ticket #: 37993                      DST #: 1

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

Printed: 2014.06.12 @ 10:21:19



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Phillips Exploration  
1601 Sagebrush  
Wichita Ks. 67230  
ATTN: Jim Phillips

**Moden #1-18**  
**18-11s-23w Trego, Ks**  
Job Ticket: 37993 **DST#: 1**  
Test Start: 2010.09.02 @ 20:30:00

## GENERAL INFORMATION:

Formation: **LKC-B-C**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 22:21:00  
Time Test Ended: 02:34:00  
Interval: **3710.00 ft (KB) To 3755.00 ft (KB) (TVD)**  
Total Depth: 3755.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Chuck Kreuzer Jr.  
Unit No: 36  
Reference Elevations: 2322.00 ft (KB)  
2317.00 ft (CF)  
KB to GR/CF: 5.00 ft

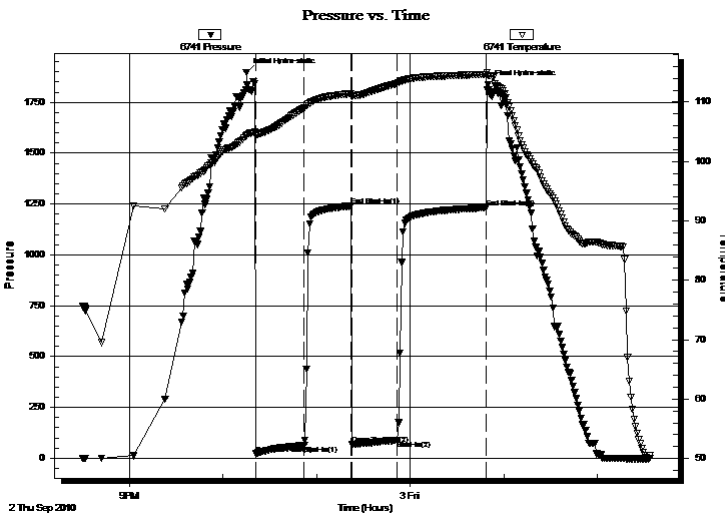
## Serial #: 6741

Inside

Press@RunDepth: 87.15 psig @ 3715.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2010.09.02 End Date: 2010.09.03 Last Calib.: 2010.09.03  
Start Time: 20:30:01 End Time: 02:34:00 Time On Btm: 2010.09.02 @ 22:15:00  
Time Off Btm: 2010.09.03 @ 00:50:00

TEST COMMENT: IF: 1/2 in. weak blow built to 2 1/4 in.  
IS: No blow back  
FF: Weak blow built to 1/2 in.  
FS: No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1897.29	104.34	Initial Hydro-static
6	21.56	104.33	Open To Flow (1)
37	63.72	109.01	Shut-In(1)
67	1240.32	111.41	End Shut-In(1)
68	68.08	110.87	Open To Flow (2)
97	87.15	113.10	Shut-In(2)
154	1231.90	114.64	End Shut-In(2)
155	1836.60	114.42	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
125.00	mcw -20% m80% w	1.22
1.00	oil	0.01

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Phillips Exploration

**Moden #1-18**

1601 Sagebrush  
Wichita Ks. 67230

**18-11s-23w Trego, Ks**

ATTN: Jim Phillips

Job Ticket: 37993

**DST#: 1**

Test Start: 2010.09.02 @ 20:30:00

## Tool Information

Drill Pipe:	Length: 3645.00 ft	Diameter: 3.80 inches	Volume: 51.13 bbl	Tool Weight: 1800.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 28000.00 lb
Drill Collar:	Length: 59.00 ft	Diameter: 2.25 inches	Volume: 0.29 bbl	Weight to Pull Loose: 55000.00 lb
			<u>Total Volume: 51.42 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 51000.00 lb
Depth to Top Packer:	3710.00 ft			Final 51000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	45.00 ft			
Tool Length:	68.00 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			3692.00	
Hydraulic tool	5.00			3697.00	
Safety Joint	3.00			3700.00	
Packer	5.00			3705.00	23.00 Bottom Of Top Packer
Packer	5.00			3710.00	
Stubb	1.00			3711.00	
Perforations	3.00			3714.00	
Change Over Sub	1.00			3715.00	
Recorder	0.00	6752	Inside	3715.00	
Recorder	0.00	6741	Inside	3715.00	
Blank Spacing	31.00			3746.00	
Change Over Sub	1.00			3747.00	
Perforations	5.00			3752.00	
Bullnose	3.00			3755.00	45.00 Bottom Packers & Anchor

**Total Tool Length: 68.00**





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Phillips Exploration

**Moden #1-18**

1601 Sagebrush  
Wichita Ks. 67230

**18-11s-23w Trego, Ks**

Job Ticket: 37993

**DST#: 1**

ATTN: Jim Phillips

Test Start: 2010.09.02 @ 20:30:00

### 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:

23000 ppm

Viscosity: 63.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.37 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 300.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
125.00	mcw -20%m80%w	1.216
1.00	oil	0.014

Total Length: 126.00 ft

Total Volume: 1.230 bbl

Num Fluid Samples: 0

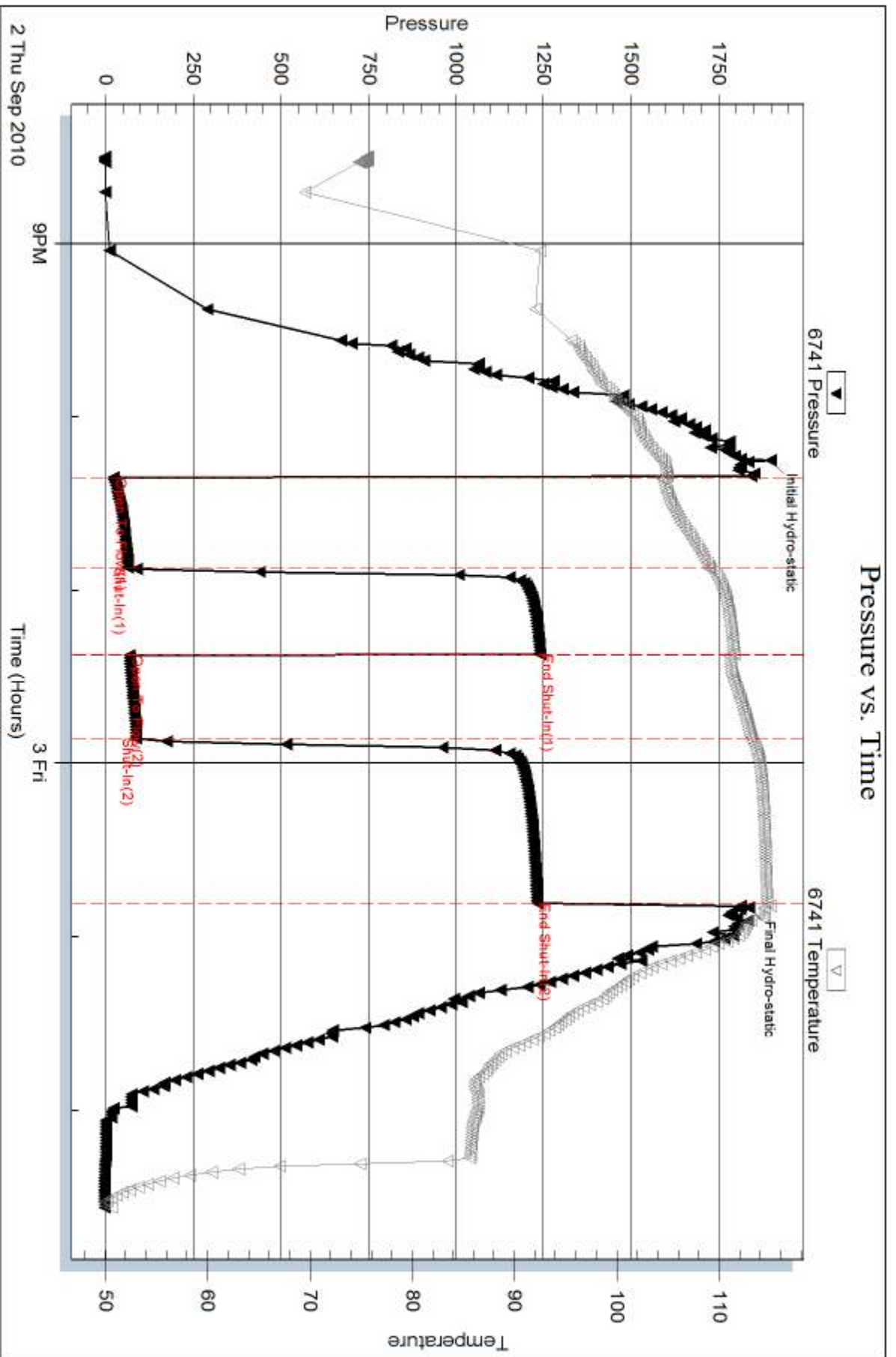
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



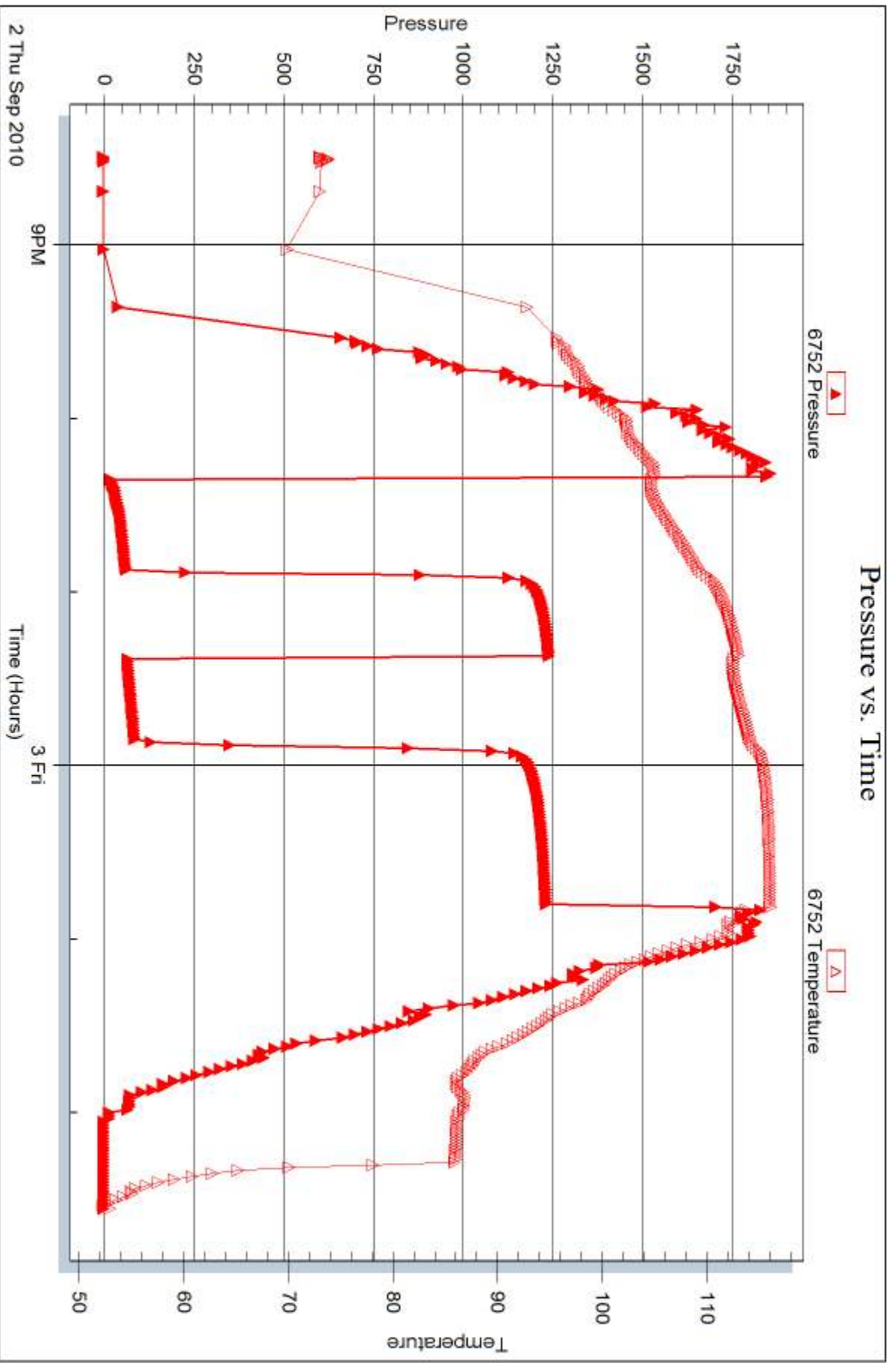
Serial #: 6752

Inside

Phillips Exploration

18-11s-23w Trego,Ks

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 37993

Printed: 2014.06.12 @ 10:21:20



## DRILL STEM TEST REPORT

Prepared For: **Phillips Exploration**

1601 Sagebrush  
Wichita Ks. 67230

ATTN: Jim Phillips

**18-11s-23w Trego,Ks**

**Moden #1-18**

Start Date: 2010.09.03 @ 14:25:00

End Date: 2010.09.03 @ 19:23:30

Job Ticket #: 37994                      DST #: 2

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

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**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Phillips Exploration  
1601 Sagebrush  
Wichita Ks. 67230  
ATTN: Jim Phillips

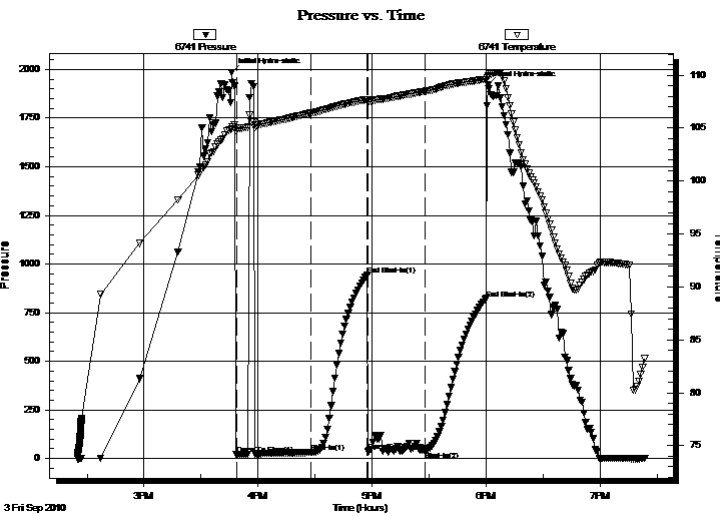
**Moden #1-18**  
**18-11s-23w Trego, Ks**  
Job Ticket: 37994 **DST#: 2**  
Test Start: 2010.09.03 @ 14:25:00

## GENERAL INFORMATION:

Formation: **LKC- I-J**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 15:48:30  
Time Test Ended: 19:23:30  
Interval: **3842.00 ft (KB) To 3882.00 ft (KB) (TVD)**  
Total Depth: 3882.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Chuck Kreuzer Jr.  
Unit No: 36  
Reference Elevations: 2322.00 ft (KB)  
2317.00 ft (CF)  
KB to GR/CF: 5.00 ft

**Serial #: 6741 Inside**  
Press@RunDepth: 36.73 psig @ 3847.60 ft (KB) Capacity: 8000.00 psig  
Start Date: 2010.09.03 End Date: 2010.09.03 Last Calib.: 2010.09.03  
Start Time: 14:25:01 End Time: 19:23:30 Time On Btm: 2010.09.03 @ 15:46:00  
Time Off Btm: 2010.09.03 @ 18:01:00

**TEST COMMENT:** IF: Weak blow , Died in 5 mins. Flushed tool. Weak blow , Died in 5 mins.  
IS: No blow back  
FF: No blow over  
FS: No blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1985.27	104.97	Initial Hydro-static
3	19.40	104.75	Open To Flow (1)
42	31.18	106.41	Shut-In(1)
72	944.57	107.72	End Shut-In(1)
72	36.10	107.39	Open To Flow (2)
102	36.73	108.48	Shut-In(2)
134	822.69	109.61	End Shut-In(2)
135	1919.75	109.89	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Phillips Exploration

**Moden #1-18**

1601 Sagebrush  
Wichita Ks. 67230

**18-11s-23w Trego, Ks**

ATTN: Jim Phillips

Job Ticket: 37994

**DST#: 2**

Test Start: 2010.09.03 @ 14:25:00

## Tool Information

Drill Pipe:	Length: 3778.00 ft	Diameter: 3.80 inches	Volume: 53.00 bbl	Tool Weight: 1800.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 28000.00 lb
Drill Collar:	Length: 59.00 ft	Diameter: 2.25 inches	Volume: 0.29 bbl	Weight to Pull Loose: 55000.00 lb
			<u>Total Volume: 53.29 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3842.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	40.20 ft			
Tool Length:	63.20 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			3824.00	
Hydraulic tool	5.00			3829.00	
Safety Joint	3.00			3832.00	
Packer	5.00			3837.00	23.00 Bottom Of Top Packer
Packer	5.00			3842.00	
Stubb	1.00			3843.00	
Perforations	4.00			3847.00	
Change Over Sub	0.60			3847.60	
Recorder	0.00	6752	Inside	3847.60	
Recorder	0.00	6741	Inside	3847.60	
Blank Spacing	31.00			3878.60	
Change Over Sub	0.60			3879.20	
Bullnose	3.00			3882.20	40.20 Bottom Packers & Anchor

**Total Tool Length: 63.20**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Phillips Exploration  
1601 Sagebrush  
Wichita Ks. 67230  
ATTN: Jim Phillips

**Moden #1-18**  
**18-11s-23w Trego,Ks**  
Job Ticket: 37994      **DST#: 2**  
Test Start: 2010.09.03 @ 14:25:00

### 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: 59.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.97 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3200.00 ppm			
Filter Cake: 2.00 inches			

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl

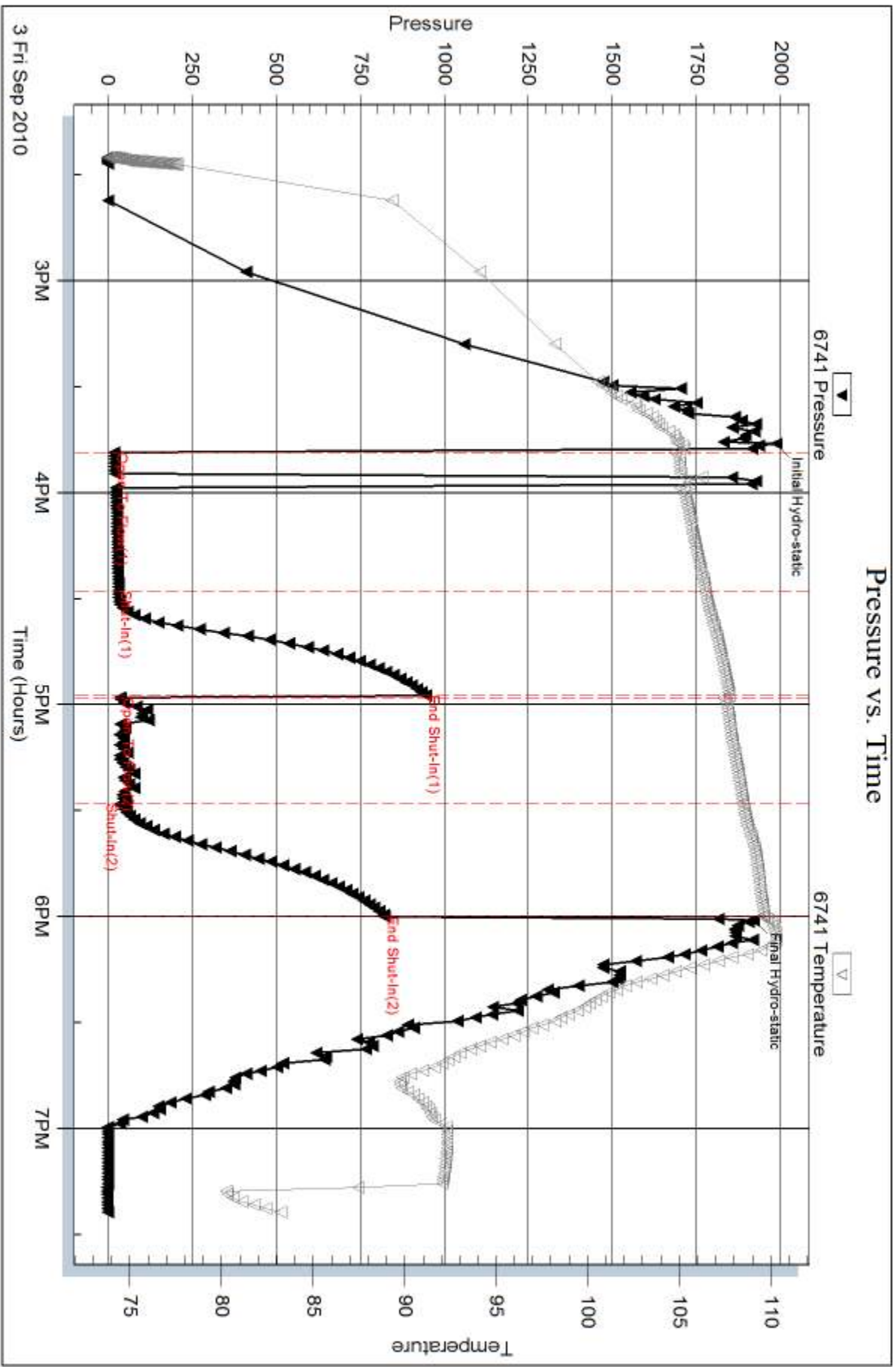
Total Length:                      ft      Total Volume:                      0.049 bbl

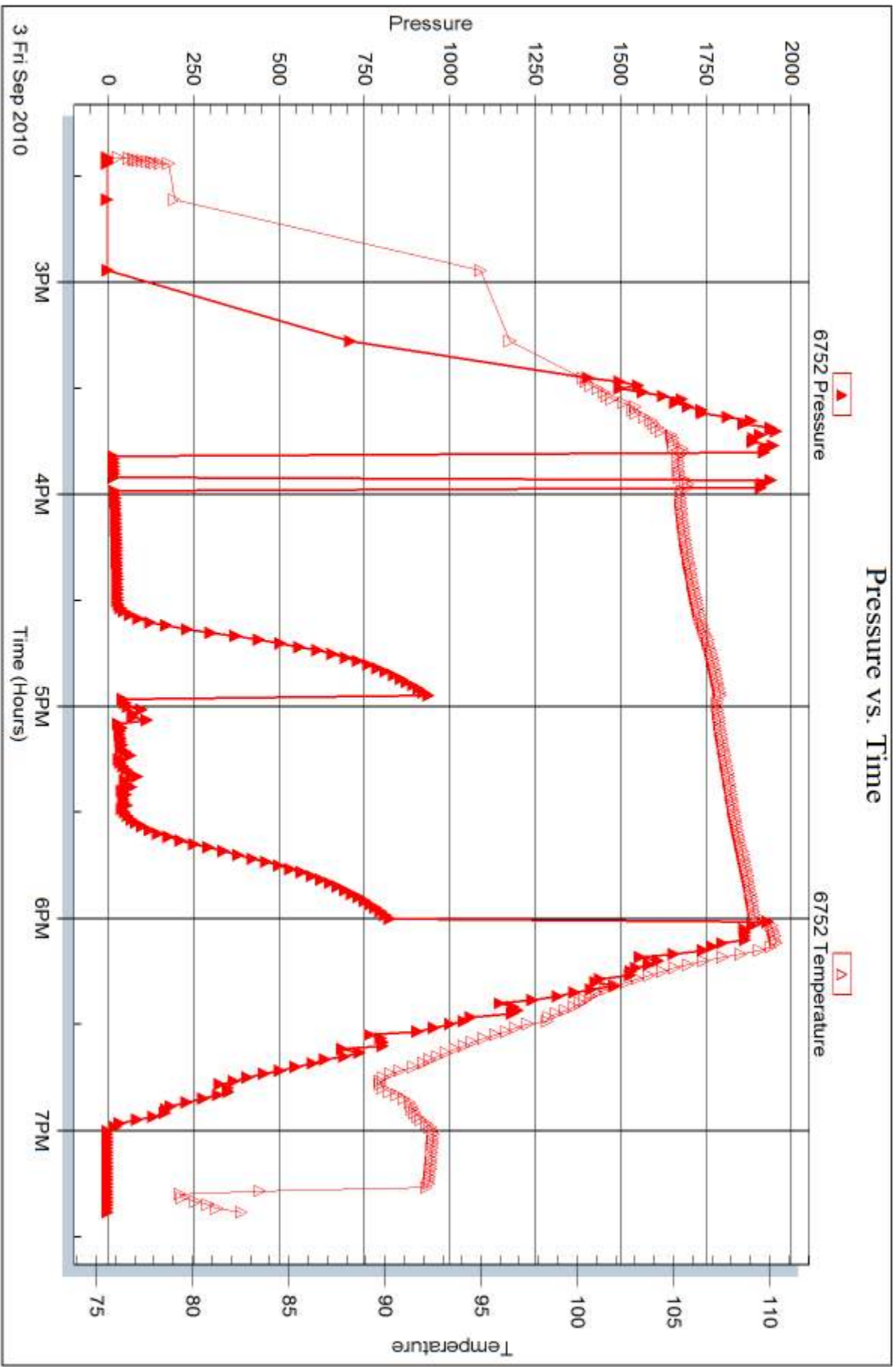
Num Fluid Samples: 0                      Num Gas Bombs:      0                      Serial #:

Laboratory Name:                      Laboratory Location:

Recovery Comments:









## DRILL STEM TEST REPORT

Prepared For: **Phillips Exploration**

1601 Sagebrush  
Wichita Ks. 67230

ATTN: Jim Phillips

**18-11s-23w Trego,Ks**

**Moden #1-18**

Start Date: 2010.09.04 @ 03:10:00

End Date: 2010.09.04 @ 08:39:00

Job Ticket #: 37995                      DST #: 3

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
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Printed: 2014.06.12 @ 10:19:38



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Phillips Exploration  
 1601 Sagebrush  
 Wichita Ks. 67230  
 ATTN: Jim Phillips

**Moden #1-18**  
**18-11s-23w Trego, Ks**  
 Job Ticket: 37995 **DST#: 3**  
 Test Start: 2010.09.04 @ 03:10:00

## GENERAL INFORMATION:

Formation: **LKC-K**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 04:49:30  
 Time Test Ended: 08:39:00  
 Interval: **3883.00 ft (KB) To 3909.00 ft (KB) (TVD)**  
 Total Depth: 3909.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Chuck Kreuzer Jr.  
 Unit No: 36  
 Reference Elevations: 2322.00 ft (KB)  
 2317.00 ft (CF)  
 KB to GR/CF: 5.00 ft

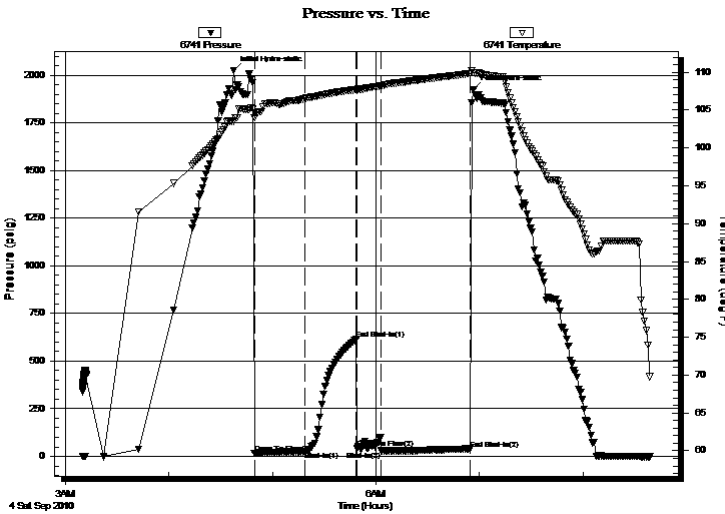
## Serial #: 6741

Inside

Press@RunDepth: 28.17 psig @ 3886.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2010.09.04 End Date: 2010.09.04 Last Calib.: 2010.09.04  
 Start Time: 03:10:01 End Time: 08:39:00 Time On Btm: 2010.09.04 @ 04:37:30  
 Time Off Btm: 2010.09.04 @ 06:56:30

TEST COMMENT: IF: Weak surface blow, Died in 4 mins.  
 IS: No blow back over 30 mins.  
 FF: No blow over 30 mins.  
 FS: No back blow over 30 mins.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2025.26	103.56	Initial Hydro-static
12	16.15	103.98	Open To Flow (1)
41	23.97	106.53	Shut-In(1)
71	614.71	107.72	End Shut-In(1)
72	40.01	107.61	Open To Flow (2)
86	28.17	108.24	Shut-In(2)
137	38.84	109.85	End Shut-In(2)
139	1925.50	109.98	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Phillips Exploration

**Moden #1-18**

1601 Sagebrush  
Wichita Ks. 67230

**18-11s-23w Trego, Ks**

ATTN: Jim Phillips

Job Ticket: 37995

**DST#: 3**

Test Start: 2010.09.04 @ 03:10:00

## Tool Information

Drill Pipe:	Length: 3806.00 ft	Diameter: 3.80 inches	Volume: 53.39 bbl	Tool Weight:	1800.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	28000.00 lb
Drill Collar:	Length: 59.00 ft	Diameter: 2.25 inches	Volume: 0.29 bbl	Weight to Pull Loose:	55000.00 lb
			<u>Total Volume: 53.68 bbl</u>	Tool Chased	2.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial	50000.00 lb
Depth to Top Packer:	3883.00 ft			Final	50000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	26.00 ft				
Tool Length:	49.00 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			3865.00	
Hydraulic tool	5.00			3870.00	
Safety Joint	3.00			3873.00	
Packer	5.00			3878.00	23.00 Bottom Of Top Packer
Packer	5.00			3883.00	
Stubb	1.00			3884.00	
Perforations	2.00			3886.00	
Recorder	0.00	6752	Inside	3886.00	
Recorder	0.00	6741	Inside	3886.00	
Perforations	20.00			3906.00	
Bullnose	3.00			3909.00	26.00 Bottom Packers & Anchor

**Total Tool Length: 49.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Phillips Exploration

**Moden #1-18**

1601 Sagebrush  
Wichita Ks. 67230

**18-11s-23w Trego, Ks**

Job Ticket: 37995

**DST#: 3**

ATTN: Jim Phillips

Test Start: 2010.09.04 @ 03:10:00

## 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: 59.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.97 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3200.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl

Total Length:                      ft      Total Volume:                      0.074 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time

