



1366554

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			
Geologist Report / Mud Logs	<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)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____				
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i>			PRODUCTION INTERVAL: Top _____ Bottom _____	

Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:
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# QUALITY OILWELL CEMENTING, INC.

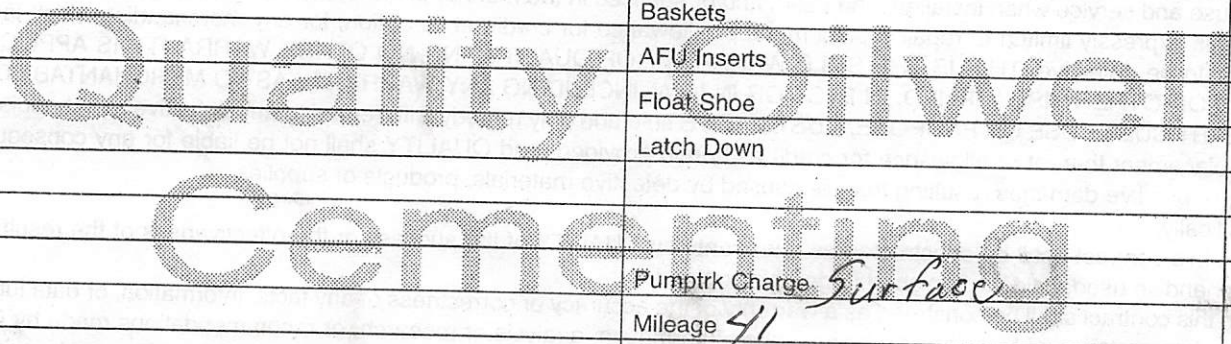
Federal Tax I.D.# 20-2886107

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

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

No. 147

Date	4-10-17	Sec.	4	Twp.	13	Range	24	County	Trego	State	KS	On Location		Finish	10:45pm
Lease	Wanker SHR			Well No.	1-4			Location	Waxahatchee 45 MP SW 2000 1/2 W 1/2						
Contractor	Munich #16			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			Charge To	Phillips Exploration										
Hole Size	12 1/4		T.D.	220		Street									
Csg.	8 5/8		Depth	219		City									
Tbg. Size			Depth			State									
Tool			Depth			The above was done to satisfaction and supervision of owner agent or contractor.									
Cement Left in Csg.	10'		Shoe Joint			Cement Amount Ordered	150 8/20 3/4 2 1/4								
Meas Line			Displace	13 BCL											
<b>EQUIPMENT</b>															
Pumptrk	5	No.	Cementer	Craig		Common	120								
			Helper			Poz. Mix	30								
Bulktrk		No.	Driver	Brett		Gel.	3								
Bulktrk		No.	Driver	David		Calcium	6								
<b>JOB SERVICES &amp; REMARKS</b>															
Remarks:															
Rat Hole															
Mouse Hole															
Centralizers															
Baskets															
D/V or Port Collar															
8 5/8 on bottom Est Circulation						Hulls									
Mix 150 SK + Displace						Salt									
Cement Circulation						Flowseal									
						Kol-Seal									
						Mud CLR 48									
						CFL-117 or CD110 CAF 38									
						Sand									
						Handling 159									
						Mileage									
						<b>FLOAT EQUIPMENT</b>									
						Guide Shoe 8 5/8 Swage									
						Centralizer									
						Baskets									
						AFU Inserts									
						Float Shoe									
						Latch Down									
						Pumptrk Charge Surface									
						Mileage 41									
						Tax									
						Discount									
						Total Charge									
X Signature	Ag Oil														



# 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. 207

Date	4-19-17	Sec.	4	Twp.	13	Range	24	County	Trego	State	KS	On Location		Finish	1:00 P.M.
------	---------	------	---	------	----	-------	----	--------	-------	-------	----	-------------	--	--------	-----------

Location Wakeway 45 m<sup>2</sup> SW 200 15 Winto

Lease	<u>Wanker</u>	Well No.	<u>1-4</u>	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.
Contractor	<u>Martin #16</u>		<u>Top Stage</u>	Charge To	<u>Jim Phillips</u>
Type Job	<u>DV Job</u>			Street	
Hole Size	<u>7 7/8</u>	T.D.	<u>4451</u>	City	
Csg.	<u>5 1/2 14#</u>	Depth	<u>4448.76</u>	State	
Tbg. Size		Depth		The above was done to satisfaction and supervision of owner agent or contractor.	
Tool	<u>DV Tool</u>	Depth	<u>2004</u>	Cement Amount Ordered <u>350 @ 120 QMDC 1/4# FB</u>	
Cement Left in Csg.		Shoe Joint		500 gal mud clear	
Meas Line		Displace	<u>49 BCL</u>	Common <u>350 @ 120 QMDC</u>	

**EQUIPMENT**

Pumptrk	<u>20</u>	No.		Cement Helper	<u>Conig</u>
Bulktrk		No.		Driver	<u>Brett</u>
Bulktrk	<u>21</u>	No.		Driver	<u>David</u>

**JOB SERVICES & REMARKS**

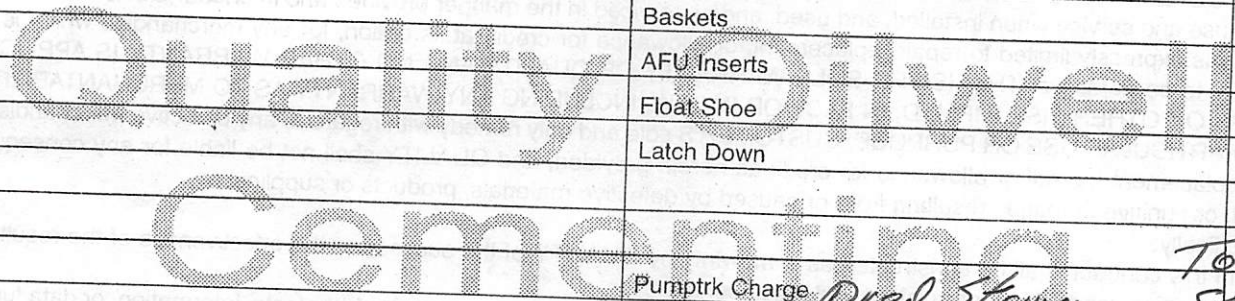
Remarks:	
Rat Hole	<u>305K</u>
Mouse Hole	<u>155K</u>
Centralizers	
Baskets	
D/V or Port Collar	
	<u># Pump 109 BCL mud flush, Plug Retriever mousehole. Cement 5 1/2 with 305K. Displace Plug. Cement (circulated). Plug landed @ 1500ft.</u>

**FLOAT EQUIPMENT**

Handling	<u>350</u>
Mileage	
Guide Shoe	
Centralizer	
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	

Pumptrk Charge	<u>Prod String</u>	<u>Top Stage</u>
Mileage	<u>41</u>	
Tax		
Discount		
Total Charge		

X Signature [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. 206

Date	Sec.	Twp.	Range	County	State	On Location	Finish
4-18-17	4	13	24	Trego	KS		8:45pm

Location Wakarusa 45 MPD SW 200 1st Winto

Lease Wanker Well No. 1-4

Contractor Martin #16

Type Job DV Job Bottom Stage

Hole Size 7 7/8 T.D. 4451

Csg. 5 1/2 Depth 4448.76

Tbg. Size \_\_\_\_\_ Depth \_\_\_\_\_

Tool DV Tool #57 Depth 2004

Cement Left in Csg. 31.32 Shoe Joint 31.32

Meas Line \_\_\_\_\_ Displace 107 3/4 BCL

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.

Charge To Jim Phillips

Street \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_

The above was done to satisfaction and supervision of owner agent or contractor.

Cement Amount Ordered 175 com 10 Salt 5 Gibonite

**EQUIPMENT**

Pumptrk	No.	Cementor	Helper
20		<u>raig</u>	
Bulktrk	No.	Driver	Driver
		<u>Brett</u>	
Bulktrk	No.	Driver	Driver
15		<u>David</u>	

500 gal mud clear 20 BCL KCL

Common 175

Poz. Mix \_\_\_\_\_

Gel KCL 2 gal

Calcium \_\_\_\_\_

**JOB SERVICES & REMARKS**

Remarks: \_\_\_\_\_

Rat Hole \_\_\_\_\_

Mouse Hole \_\_\_\_\_

Centralizers \_\_\_\_\_

Baskets \_\_\_\_\_

D/V or Port Collar \_\_\_\_\_

5 1/2 sex @ 4448.76 - Bull @ 4417.44

Est. Circulation Pump 10 BCL mud flush

+ 20 BCL KCL Mix 175 SK + Displace

Pump 54 BCL water 45 BCL water 9 BCL

water to land plug

Plug landed @ 1500 #

LiH pressure 1000 #

Hulls \_\_\_\_\_

Salt 16

Flowseal \_\_\_\_\_

Kol-Seal 875 #

Mud CLR 48 500 gal

CFL-117 or CD110 CAF 38 \_\_\_\_\_

Sand \_\_\_\_\_

Handling 199

Mileage \_\_\_\_\_

**FLOAT EQUIPMENT** 5 1/2

Guide Shoe \_\_\_\_\_

Centralizer 9 Turbo's

Baskets 3 Caged

AFB Inserts DV Tool

Float Shoe 1

Latch Down 1

30 Scratchers

Pumptrk Charge prod string Bottom Stage

Mileage 41

X Signature [Signature]

Tax \_\_\_\_\_  
Discount \_\_\_\_\_  
Total Charge \_\_\_\_\_

# Geo Log Header

## WellSight Systems

Scale 1:240 (5"=100') Imperial  
Measured Depth Log

Well Name: Wanker #1-4 SHR  
 API: 15-195-23018-00-00  
 Location: 1350' FSL & 1350' FEL  
 License Number: 31160  
 Spud Date: 04-10-17  
 Surface Coordinates:  
 Bottom Hole Coordinates:  
 Ground Elevation (ft): 2487' K.B. Elevation (ft): 2492'  
 Logged Interval (ft): 3300' To: RTD' Total Depth (ft): 4450'  
 Formation: Mississippi  
 Type of Drilling Fluid: Chemical/Polymer/Gel  
 Region: Trego Co., Ks.  
 Drilling Completed: 04-18-17

Printed by STRIP.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

### OPERATOR

Company: PHILLIPS EXPLORATION CO., LC.  
 Address:

### GEOLOGIST

Name: Patrick J. Deenihan  
 Company:  
 Address: P.O. Box 781929  
 Wichita, KS 67278

### DSTs

DST # 1 3874' - 3916' 30"-45"-45"-60"  
 IFP: BOB in 3 min. ISI: 1 1/4" Blow Back  
 FFP: BOB in 5 min. FSP: 3/4" Blow Back

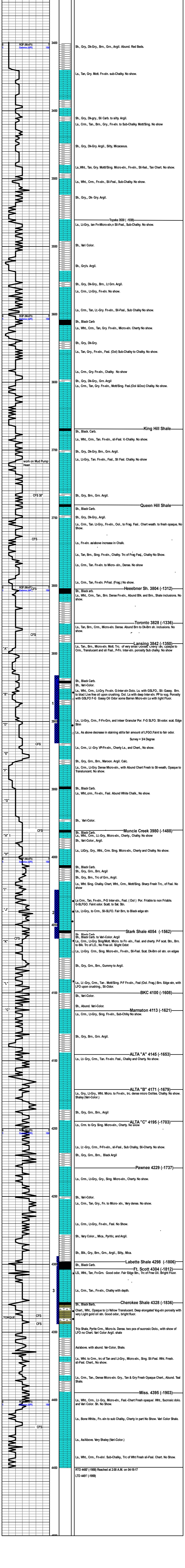
REC: 120' SWOCM (20% Oil, 10% Wtr., 70% Mud)  
 950' Clean Oil.  
 FIF: 38#/171# SIF: 183#/348# GRAV. 24 deg.  
 ISIP: 1224# FSP: 1209# BHT: 124 deg.  
 IHP: 1991# FHP: 1925#

DST # 2 4024' - 4060' 30"-45"-45"-60"  
 IFP: BOB in 12" ISP: No Blow Back  
 FFP: 10" Blow FSP: no Blow Back

REC: 40' MO (50% Oil, 50 % Mud) 140' Clean Oil.  
 FIF: 23#/34# SIF: 39#/50# Grav. 25 deg.  
 ISIP: 250# FSP: 181# BHT: 121 deg.  
 IHP: 2093# FHP: 2076#

DST # 3 4294' - 4343' 30"-45"-30"-45"  
 IFP: 1/2" ISP: No Blow Back  
 FFP: No Blow FSP: No Blow Back

REC: 6" Free Oil, 10'OCM ( 5% oil-95% Mud)  
 FIF: 18#/20# SIF: 21#/22# BHT: 121 deg.  
 ISIP: 71# FSP: 41#  
 IHP: 2244# FHP: 2224#





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Phillips Exploration Company L.C.

**S4-13S-24W Trego Co Ks**

211 Cedar Ridge CT  
 PO BOX 850  
 Andover KS, 67002+0850  
 ATTN: Pat Deenihan/ J.B. P

**Wanker #1-4 SHR**

Job Ticket: 63524

**DST#: 3**

Test Start: 2017.04.17 @ 10:19:00

## GENERAL INFORMATION:

Formation: **Mississippi**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 12:09:30  
 Time Test Ended: 16:20:30  
 Interval: **4294.00 ft (KB) To 4343.00 ft (KB) (TVD)**  
 Total Depth: 4343.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Spencer J. Staab  
 Unit No: 84  
 Reference Elevations: 2492.00 ft (KB)  
 2487.00 ft (CF)  
 KB to GR/CF: 5.00 ft

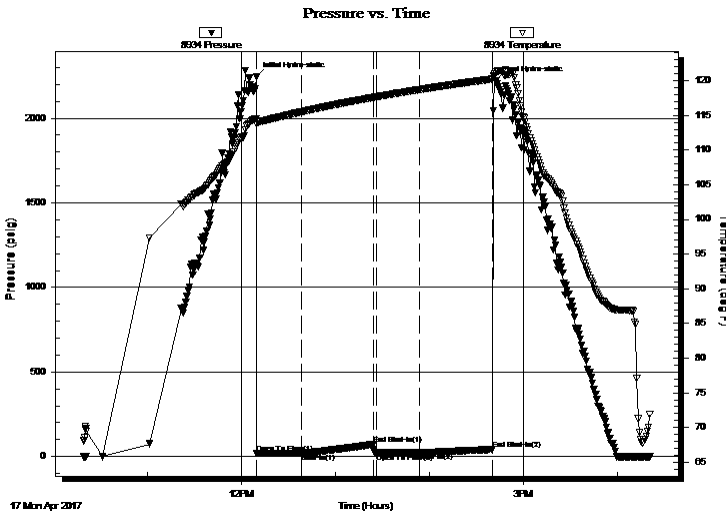
## Serial #: 8934

Inside

Press@RunDepth: 22.42 psig @ 4305.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2017.04.17 End Date: 2017.04.17 Last Calib.: 2017.04.17  
 Start Time: 10:19:05 End Time: 16:20:29 Time On Btm: 2017.04.17 @ 12:09:15  
 Time Off Btm: 2017.04.17 @ 14:42:15

TEST COMMENT: 30-IF-Very Weak Blow ; Built from a surface blow to 1/2 inch  
 45-ISI-No Blow Back  
 30-FF-Few Bubbles; died  
 45-FSI-No Blow Back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2244.10	114.56	Initial Hydro-static
1	18.75	113.76	Open To Flow (1)
29	20.34	115.51	Shut-In(1)
75	71.34	117.60	End Shut-In(1)
77	21.06	117.66	Open To Flow (2)
105	22.42	118.72	Shut-In(2)
151	41.06	120.24	End Shut-In(2)
153	2224.44	121.24	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	OCM 5% O 95%M	0.05

\* Recovery from multiple tests

## Gas Rates

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







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Phillips Exploration Company L.C.

**S4-13S-24W Trego Co Ks**

211 Cedar Ridge CT  
PO BOX 850  
Andover KS, 67002+0850  
ATTN: Pat Deenihan/ J.B. P

**Wanker #1-4 SHR**

Job Ticket: 63524

**DST#: 3**

Test Start: 2017.04.17 @ 10:19:00

## Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 56.00 sec/qt

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

Resistivity: ohm.m

Salinity: 2400.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: deg API

ppm

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	OCM 5% O 95%M	0.049

Total Length: 10.00 ft      Total Volume: 0.049 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 3# LCM

Serial #: 8934

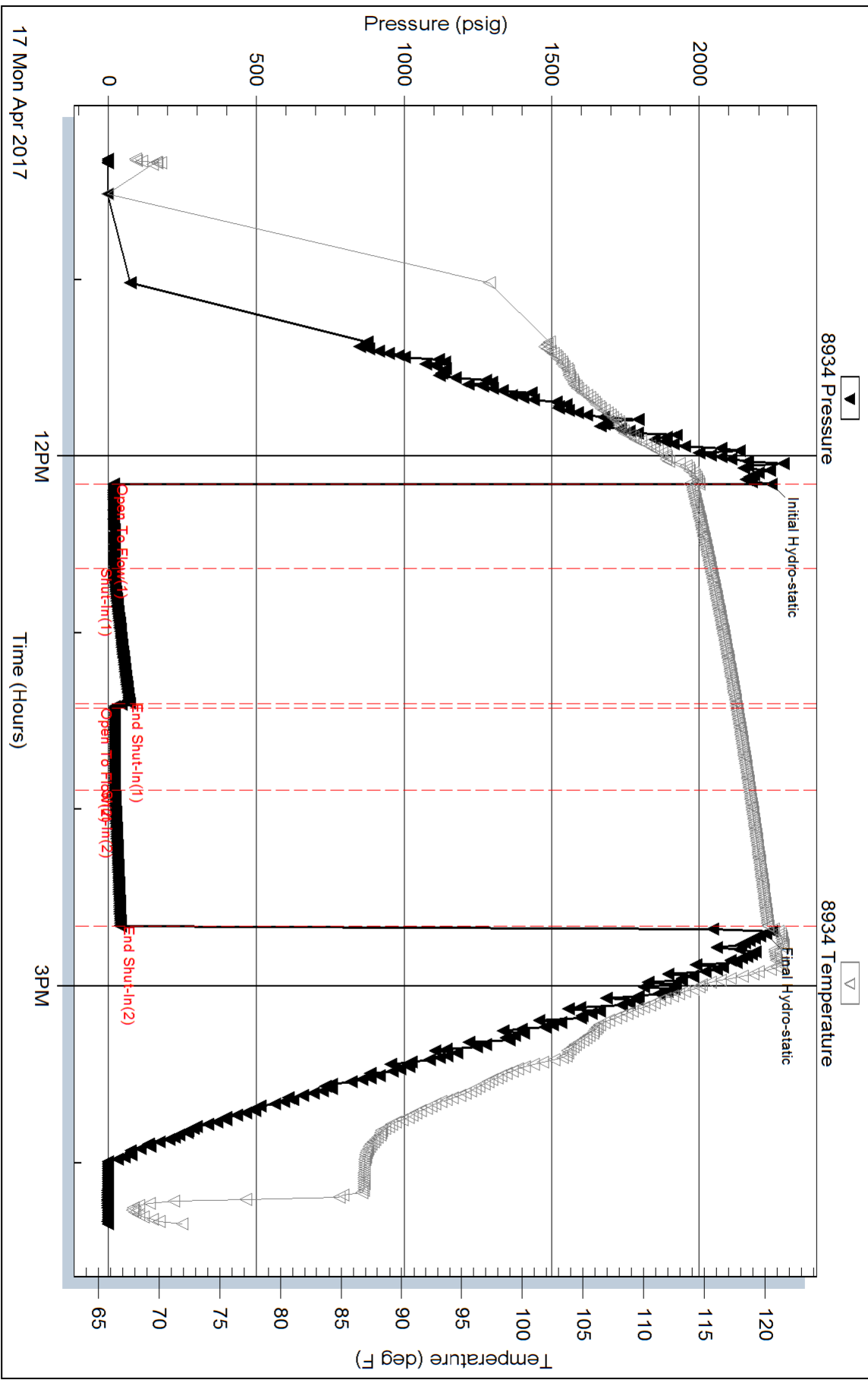
Inside

Phillips Exploration Company L.C.

Wanker #1-4 SHR

DST Test Number: 3

### Pressure vs. Time



Triobite Testing, Inc

Ref. No: 63524

Printed: 2017.04.17 @ 16:59:50

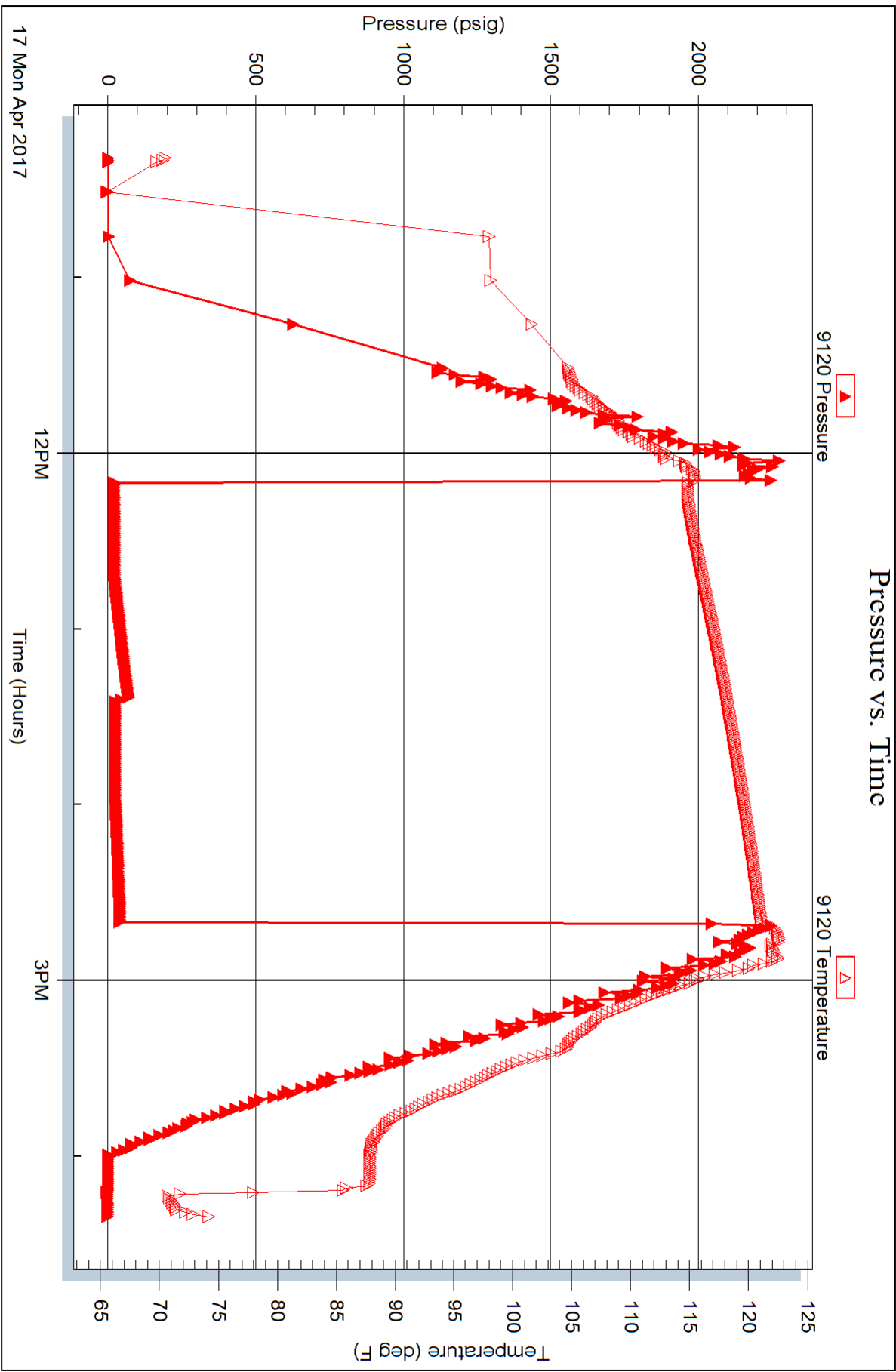
Serial #: 9120

Inside

Phillips Exploration Company L.C.

Wanker #1-4 SHR

DST Test Number: 3





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Phillips Exploration Company L.C.

**S4-13S-24W Trego Co Ks**

211 Cedar Ridge CT  
PO BOX 850  
Andover KS, 67002+0850  
ATTN: Pat Deenihan/ J.B. P

**Wanker #1-4 SHR**

Job Ticket: 63523

**DST#: 2**

Test Start: 2017.04.16 @ 02:58:00

## GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:14:30

Time Test Ended: 09:53:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Spencer J. Staab

Unit No: 84

**Interval: 4024.00 ft (KB) To 4060.00 ft (KB) (TVD)**

Reference Elevations: 2492.00 ft (KB)

Total Depth: 4060.00 ft (KB) (TVD)

2487.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8934 Outside**

Press@RunDepth: 50.88 psig @ 4028.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.04.16

End Date:

2017.04.16

Last Calib.:

2017.04.16

Start Time: 02:58:05

End Time:

09:52:59

Time On Btm:

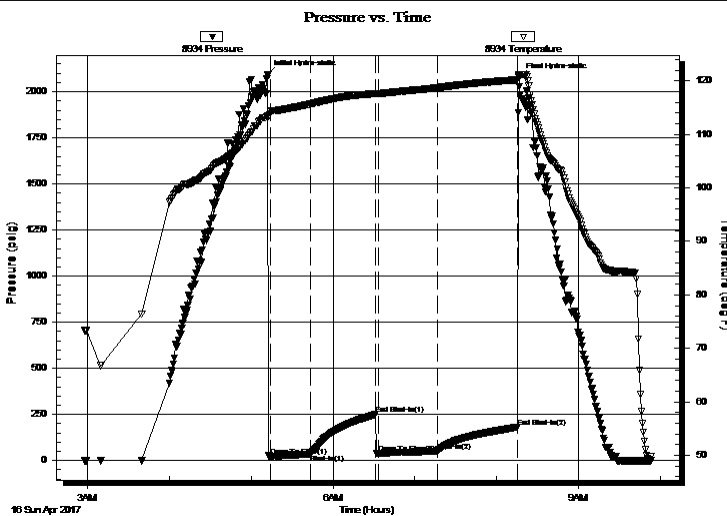
2017.04.16 @ 05:12:15

Time Off Btm:

2017.04.16 @ 08:16:15

**TEST COMMENT:** 30-IF-BOB in 12 minutes; Fair Blow throughout  
45-ISI-No Blow Back  
45-FF-Fair Blow Throughout; Built to 10 inches  
60-FSI-No Blow Back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2093.59	113.54	Initial Hydro-static
3	23.26	114.19	Open To Flow (1)
32	34.92	115.67	Shut-In(1)
79	250.26	117.61	End Shut-In(1)
81	39.08	117.61	Open To Flow (2)
124	50.88	118.69	Shut-In(2)
184	181.05	120.20	End Shut-In(2)
184	2076.87	121.15	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
40.00	Muddy Oil 50%M 50%O	0.27
140.00	Clean Oil	1.96

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE TESTING, INC.**

## DRILL STEM TEST REPORT

Phillips Exploration Company L.C.

**S4-13S-24W Trego Co Ks**

211 Cedar Ridge CT  
 PO BOX 850  
 Andover KS, 67002+0850  
 ATTN: Pat Deenihan/ J.B. P

**Wanker #1-4 SHR**

Job Ticket: 63523

**DST#: 2**

Test Start: 2017.04.16 @ 02:58:00

### GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:14:30

Time Test Ended: 09:53:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Spencer J. Staab

Unit No: 84

**Interval: 4024.00 ft (KB) To 4060.00 ft (KB) (TVD)**

Total Depth: 4060.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2492.00 ft (KB)

2487.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 9120 Inside**

Press@RunDepth: psig @ 4028.00 ft (KB)

Start Date: 2017.04.16

End Date:

2017.04.16

Start Time: 02:58:15

End Time:

09:53:00

Capacity: 8000.00 psig

Last Calib.:

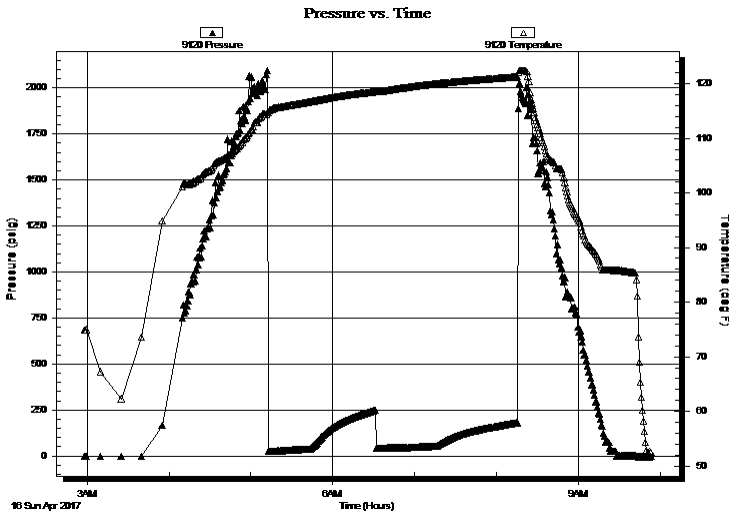
2017.04.16

Time On Btm:

Time Off Btm:

**TEST COMMENT:** 30-IF-BOB in 12 minutes; Fair Blow throughout  
 45-ISI-No Blow Back  
 45-FF-Fair Blow Throughout; Built to 10 inches  
 60-FSI-No Blow Back

### PRESSURE SUMMARY



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

### Recovery

Length (ft)	Description	Volume (bbl)
40.00	Muddy Oil 50%M 50%O	0.27
140.00	Clean Oil	1.96

### Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Phillips Exploration Company L.C.

**S4-13S-24W Trego Co Ks**

211 Cedar Ridge CT  
PO BOX 850  
Andover KS, 67002+0850  
ATTN: Pat Deenihan/ J.B. P

**Wanker #1-4 SHR**

Job Ticket: 63523

**DST#: 2**

Test Start: 2017.04.16 @ 02:58:00

## Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 60.00 sec/qt  
Water Loss: 6.00 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 600.00 ppm  
Filter Cake: inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psig

Oil API: 25 deg API  
Water Salinity: ppm

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
40.00	Muddy Oil 50%M 50%O	0.270
140.00	Clean Oil	1.964

Total Length: 180.00 ft      Total Volume: 2.234 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments: 2# LCM  
Gravity= 25 degrees at 60degrees

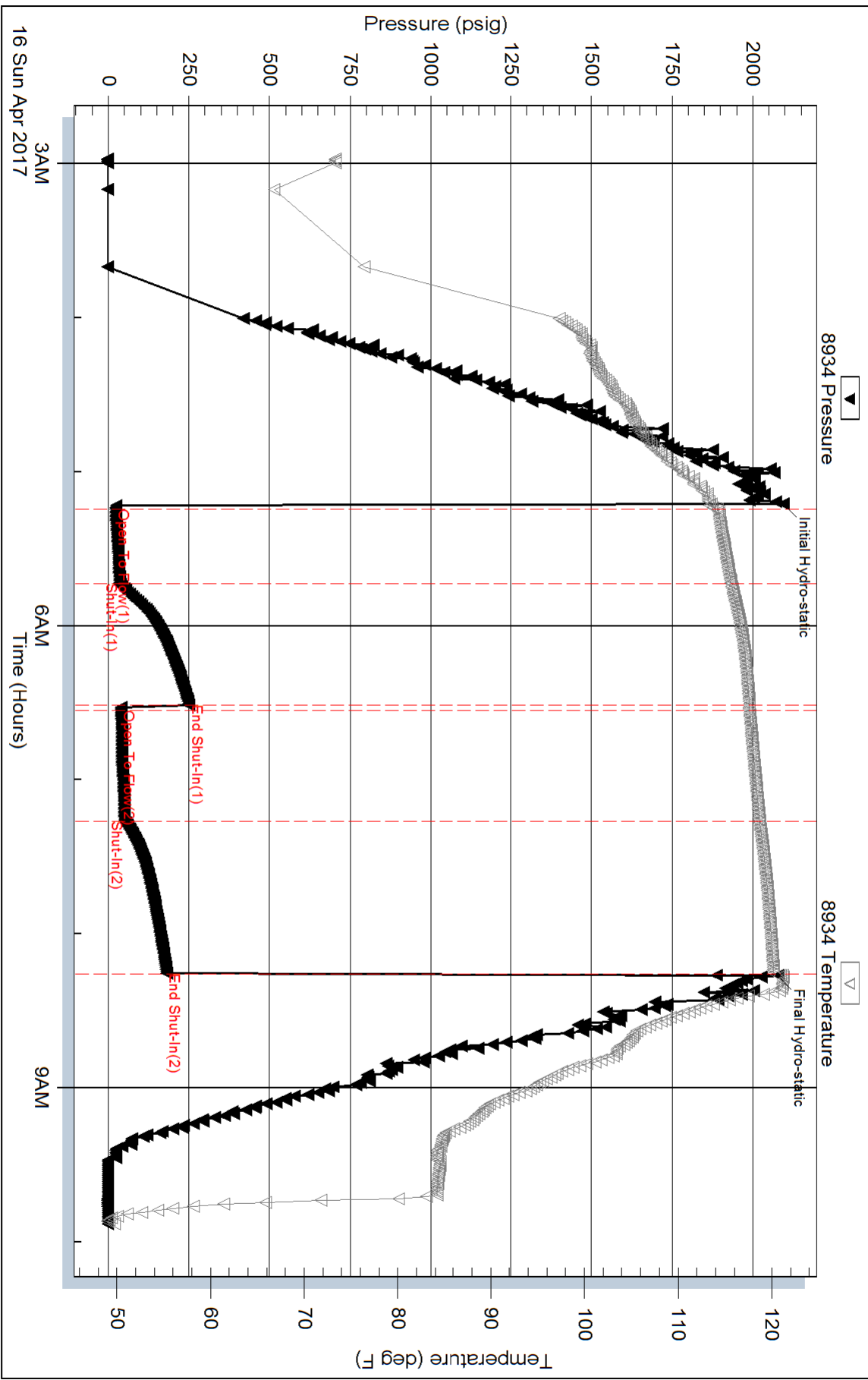
Serial #: 8934

Outside Phillips Exploration Company L.C.

Wanker #1-4 SHR

DST Test Number: 2

### Pressure vs. Time





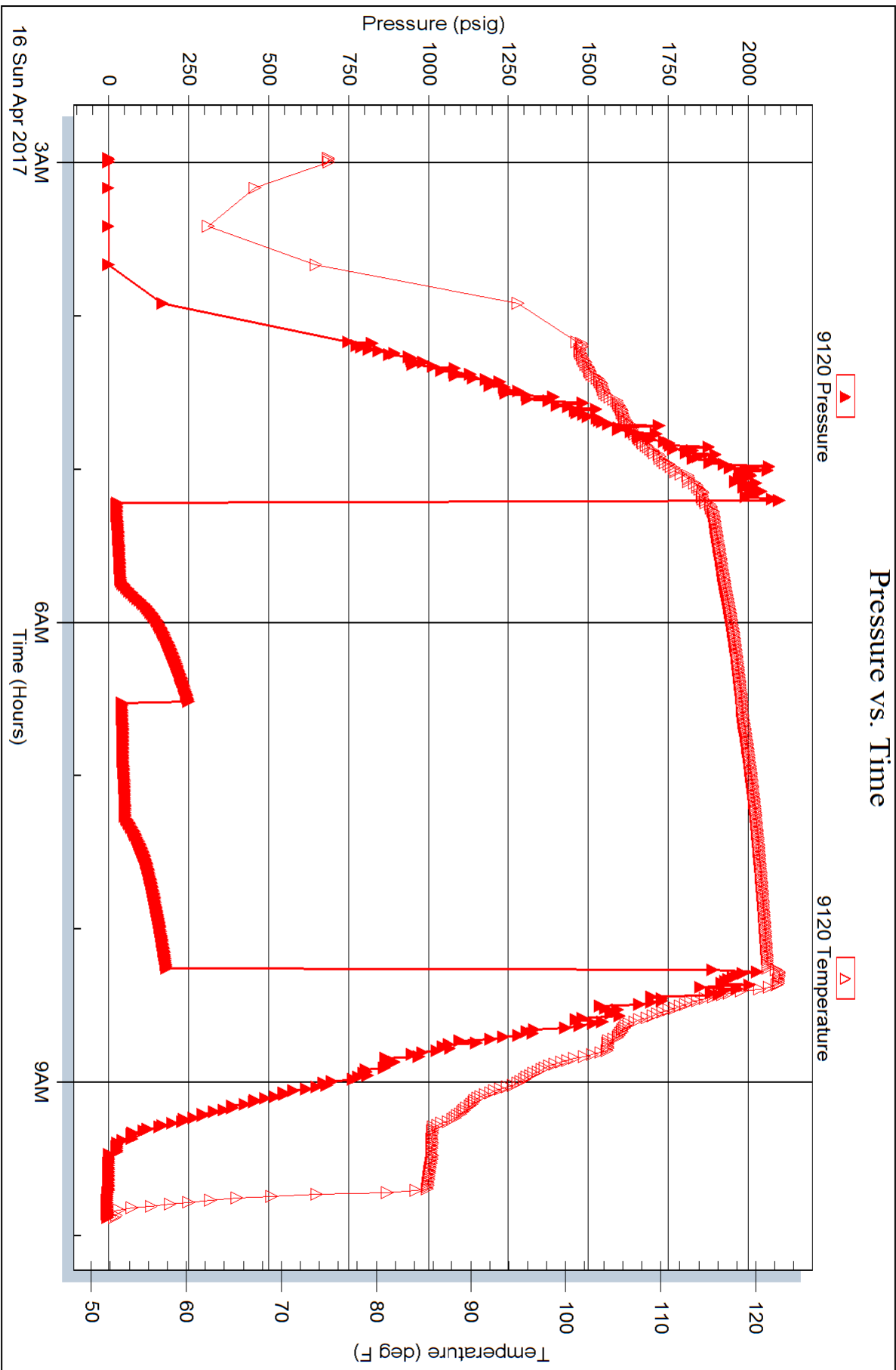
Serial #: 9120

Inside

Phillips Exploration Company L.C.

Wanker #1-4 SHR

DST Test Number: 2





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Phillips Exploration Company L.C.

**S4-13S-24W Trego Co Ks**

211 Cedar Ridge CT  
PO BOX 850  
Andover KS, 67002+0850  
ATTN: Pat Deenihan

**Wanker #1-4 SHR**

Job Ticket: 63522

**DST#: 1**

Test Start: 2017.04.15 @ 02:59:00

## GENERAL INFORMATION:

Formation: **Lansing 'H' zone**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:28:45

Time Test Ended: 11:21:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Spencer J. Staab

Unit No: 84

**Interval: 3874.00 ft (KB) To 3916.00 ft (KB) (TVD)**

Reference Elevations: 2492.00 ft (KB)

Total Depth: 3916.00 ft (KB) (TVD)

2487.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8934**

**Inside**

Press@RunDepth: 348.32 psig @ 3878.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.04.15

End Date:

2017.04.15

Last Calib.:

2017.04.15

Start Time:

02:59:05

End Time:

11:21:14

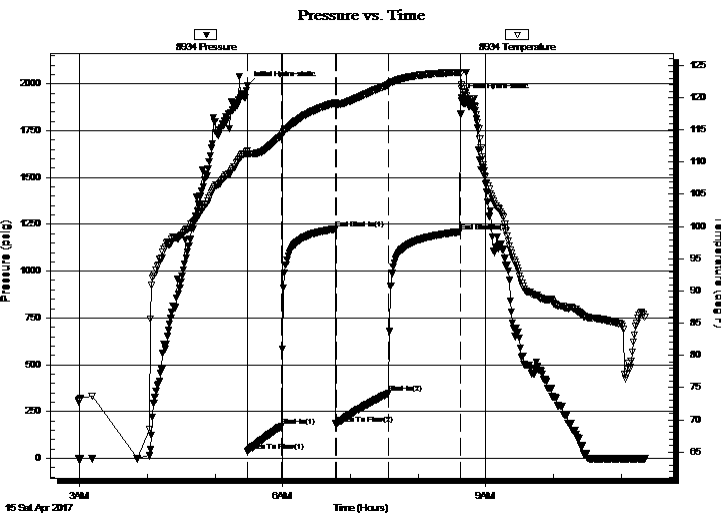
Time On Btm:

2017.04.15 @ 05:28:30

Time Off Btm:

2017.04.15 @ 08:38:15

**TEST COMMENT:** 30-IF-BOB in 3 minutes; Blew throughout  
45-ISI-Weak Blow Back started 5 minutes in; Built from a surface blow to 1 and 1/2 inches  
45-FF-BOB in 5 minutes; Blew throughout  
60-FSI-Weak Blow Back started 1 minute in; Built from a surface blow to 3/4 inch



## PRESSURE SUMMARY

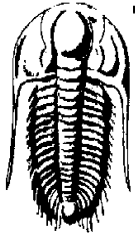
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1991.84	111.76	Initial Hydro-static
1	38.97	111.13	Open To Flow (1)
31	171.22	114.17	Shut-In(1)
78	1224.62	119.17	End Shut-In(1)
79	183.05	118.89	Open To Flow (2)
126	348.32	122.01	Shut-In(2)
189	1209.62	123.92	End Shut-In(2)
190	1925.11	121.97	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	SWOCM 10%W 20%O 70%M	1.39
950.00	Clean Oil 100%O	13.33

## Gas Rates

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



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# DRILL STEM TEST REPORT

Phillips Exploration Company L.C.

**S4-13S-24W Trego Co Ks**

211 Cedar Ridge CT  
PO BOX 850  
Andover KS, 67002+0850  
ATTN: Pat Deenihan

**Wanker #1-4 SHR**

Job Ticket: 63522

**DST#: 1**

Test Start: 2017.04.15 @ 02:59:00

## GENERAL INFORMATION:

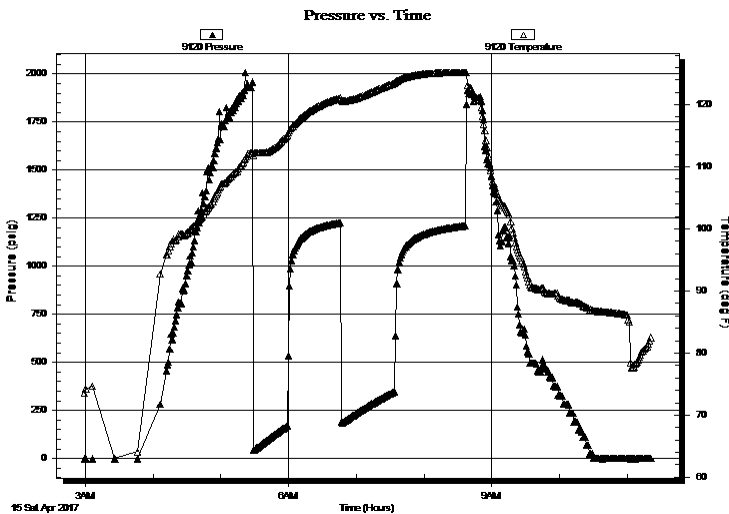
Formation: **Lansing 'H' zone**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 05:28:45  
 Time Test Ended: 11:21:15  
 Interval: **3874.00 ft (KB) To 3916.00 ft (KB) (TVD)**  
 Total Depth: 3916.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Spencer J. Staab  
 Unit No: 84  
 Reference Elevations: 2492.00 ft (KB)  
 2487.00 ft (CF)  
 KB to GR/CF: 5.00 ft

## Serial #: 9120

Inside

Press@RunDepth: psig @ 3878.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2017.04.15 End Date: 2017.04.15 Last Calib.: 2017.04.15  
 Start Time: 02:59:15 End Time: 11:21:15 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** 30-IF-BOB in 3 minutes; Blew throughout  
 45-ISI-Weak Blow Back started 5 minutes in; Built from a surface blow to 1 and 1/2 inches  
 45-FF-BOB in 5 minutes; Blew throughout  
 60-FSI-Weak Blow Back started 1 minute in; Built from a surface blow to 3/4 inch



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	SWOCM 10%W 20%O 70%M	1.39
950.00	Clean Oil 100%O	13.33

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Phillips Exploration Company L.C.

**S4-13S-24W Trego Co Ks**

211 Cedar Ridge CT  
PO BOX 850  
Andover KS, 67002+0850  
ATTN: Pat Deenihan

**Wanker #1-4 SHR**

Job Ticket: 63522

**DST#: 1**

Test Start: 2017.04.15 @ 02:59:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

24 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 61.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	SWOCM 10%W 20%O 70%M	1.392
950.00	Clean Oil 100%O	13.326

Total Length: 1070.00 ft      Total Volume: 14.718 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 2# LCM

Gravity= 24degrees @ 80 degrees

Serial #: 8934

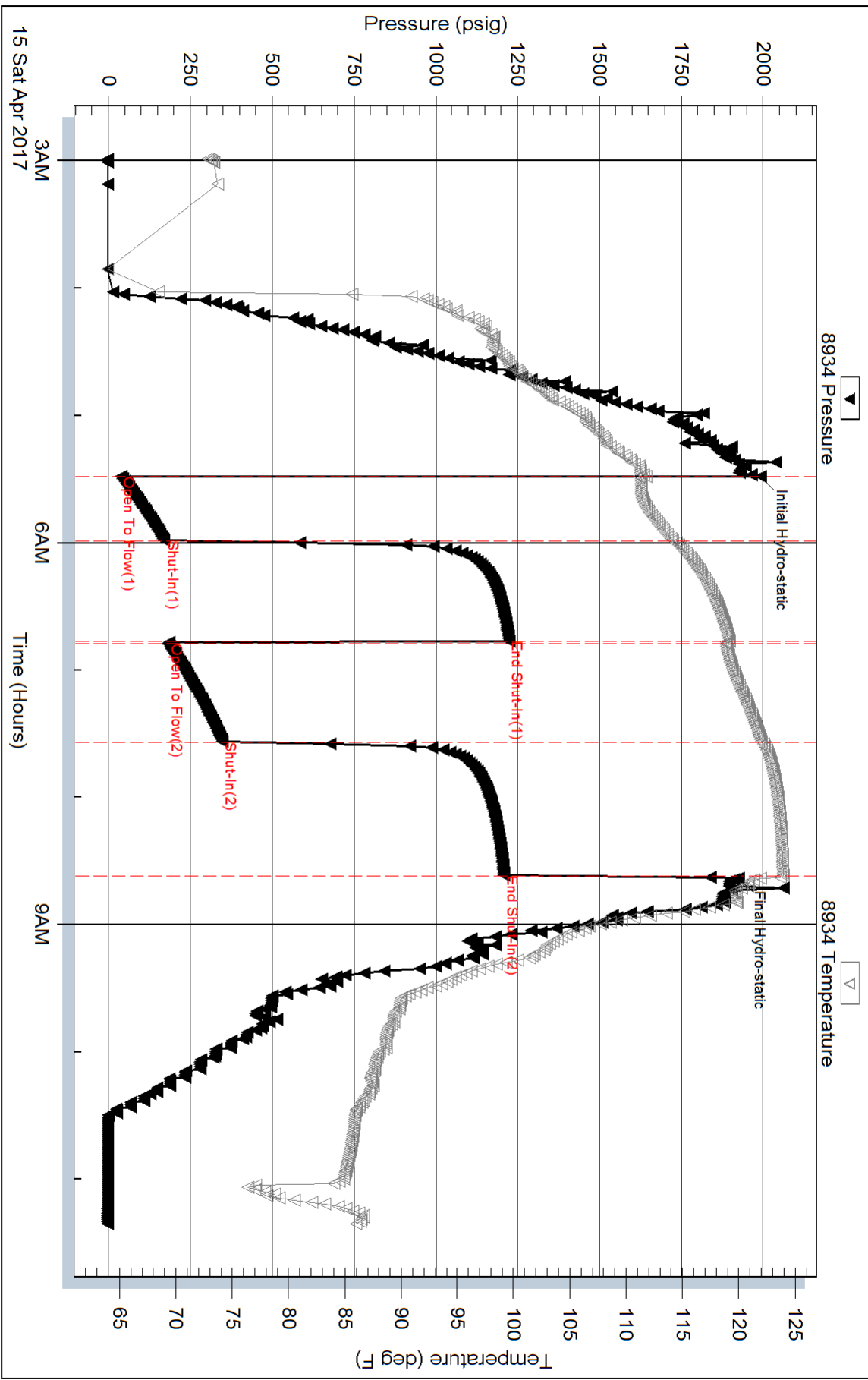
Inside

Phillips Exploration Company L.C.

Wanker #1-4 SHR

DST Test Number: 1

# Pressure vs. Time



Serial #: 9120

Inside

Phillips Exploration Company L.C.

Wanker #1-4 SHR

DST Test Number: 1

