



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1230181  
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: \_\_\_\_\_

1230181

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

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

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

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

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

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

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

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

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

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

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

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

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

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

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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Form	ACO1 - Well Completion
Operator	Larson Engineering, Inc. dba Larson Operating Company
Well Name	Rhonda 1-16
Doc ID	1230181

Tops

Name	Top	Datum
Anhydrite	2154	+666
B Anhydrite	2180	+640
Heebner	3904	-1084
Lansing	3948	-1128
Stark Sh	4218	-1398
Pawnee	4416	-1596
Ft. Scott	4465	-1645
Cherokee Sh	4491	-1671
Mississippi	4562	-1742





**CONSOLIDATED**  
Oil Well Services, LLC

270662

TICKET NUMBER 47669  
LOCATION Dakota  
FOREMAN Damen

PO Box 884, Chanute, KS 66720  
620-431-9210 or 800-467-8676

**FIELD TICKET & TREATMENT REPORT**  
**CEMENT**

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
8/20/14	4802	Rhonda 1-16	16	18	29	Leone
CUSTOMER Larson Eng.			Dighton KS Hickman 34N W5			
MAILING ADDRESS			TRUCK #	DRIVER	TRUCK #	DRIVER
CITY			731	Cory		
STATE			693	Lance		
ZIP CODE				Bill		

JOB TYPE Surface HOLE SIZE 12 1/4 HOLE DEPTH 264 CASING SIZE & WEIGHT 8 5/8 24"  
 CASING DEPTH 264.10 DRILL PIPE \_\_\_\_\_ TUBING \_\_\_\_\_ OTHER \_\_\_\_\_  
 SLURRY WEIGHT 14.8 SLURRY VOL \_\_\_\_\_ WATER gal/sk \_\_\_\_\_ CEMENT LEFT in CASING 20'  
 DISPLACEMENT 15.54 DISPLACEMENT PSI \_\_\_\_\_ MIX PSI \_\_\_\_\_ RATE \_\_\_\_\_

REMARKS: Safety Meeting Rig up on HD #3 Run Casing Break Circulation with  
Rig Pump Hook up To Pump Truck mix 175 SKs Com 3% EC 2% Gel Wash up  
Pump + Lines Displace with 15.54 bbl water Shut in Rig Down

Cement Did Circulate

Approx 5 bbl To Pit

Thanks Damen & Crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
54015	1	PUMP CHARGE	\$ 1150.00	\$ 1150.00 ✓
5406	40	MILEAGE	\$ 5.25	\$ 210.00 ✓
5407A	8.23	Ton Mileage Delivery	\$ 1.75	\$ 144.03 ✓
11045	175 SKs	Class A Cement	\$ 18.55	\$ 3246.25 ✓
1102	494 #	Calcium Chloride	\$ .91	\$ 449.34 ✓
1118B	329 #	Bentonite	\$ .27	\$ 88.73 ✓
			Sub Total	\$ 5735.97 ✓
			Less 10%	\$ 573.59 ✓
			Sub Total	\$ 5162.38 ✓
			SALES TAX	244.49 ✓
			ESTIMATED TOTAL	5406.74 ✓

**Completed**

Revin 3737 AUTHORIZATION Damen TITLE Pusher DATE 8-20-14

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.



CHARGE TO: Larson Engineering  
 ADDRESS:  
 CITY, STATE, ZIP CODE:

TICKET 26465

SERVICE LOCATIONS 1. Ness City KS	WELL/PROJECT NO. 1-16	LEASE Rhonda	COUNTY/PARISH Lane	STATE KS	CITY Dighton	DATE 9-1-14	OWNER Same
	TICKET TYPE <input checked="" type="checkbox"/> SERVICE <input type="checkbox"/> SALES	CONTRACTOR H-D Drilling	RIG NAME/NO. #3	SHIPPED VIA	DELIVERED TO Location	ORDER NO.	
	WELL TYPE Oil	WELL CATEGORY Development	JOB PURPOSE Cement 5 1/2" Longstring	WELL PERMIT NO.	WELL LOCATION Dighton KS Hwy 1/2 W, E into		
REFERRAL LOCATION	INVOICE INSTRUCTIONS						

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.		U/M		UNIT PRICE	AMOUNT
		LOC	ACCT	DF							
575		1			MILEAGE Trk #112					6.00	240.00
578		1			Pump Charge - Longstring			1	job	1500.00	1500.00
419		1			Rotating Head Rental			5/2	lin	200.00	200.00

**LEGAL TERMS:** Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, **PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY** provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

X *[Signature]*  
 DATE SIGNED 9-1-14 TIME SIGNED 1400 B.P.M.

REMIT PAYMENT TO:  
 SWIFT SERVICES, INC.  
 P.O. BOX 466  
 NESS CITY, KS 67560  
 785-798-2300

SURVEY	AGREE	UN-DECIDED	DIS-AGREE	P1	1940.00
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?				PAGE TOTAL	2 6629.90
WE UNDERSTOOD AND MET YOUR NEEDS?				Subtotal	8569.90
OUR SERVICE WAS PERFORMED WITHOUT DELAY?				Lane TAX 7.15%	441.44
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?				TOTAL	9011.34
ARE YOU SATISFIED WITH OUR SERVICE?	<input type="checkbox"/> YES <input type="checkbox"/> NO		<input type="checkbox"/> CUSTOMER DID NOT WISH TO RESPOND		

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.

SWIFT OPERATOR *David Kuehn* APPROVAL \_\_\_\_\_

Thank You!



PO Box 466  
Ness City, KS 67560  
Off: 785-798-2300

TICKET CONTINUATION

TICKET No. 26465

CUSTOMER Larson Engineering WELL Rhonda 1-16 DATE 9-1-14 PAGE 2 OF 2

PRICE REFERENCE	SECONDARY REFERENCE / PART NUMBER	ACCOUNTING			TIME	DESCRIPTION	QTY.		UM		UNIT PRICE	AMOUNT	
		LOC	ACCT	DE									
325		1				Standard Cement		155	sk		14.50	2247.50	
284		1				Calseal	5	%		7	sk	35.00	245.00
283		1				Salt	10	%		800	lbs	00.20	160.00
292		1				Halcoat-322	3/4	%		100	lbs	8.00	800.00
277		1				Coat Seal (Gilsonite)	7	lbs		1100	lbs	00.75	825.00
276		1				Floccle	1/8	lb		25	lbs	2.50	62.50
280		1				Flocclecks 21				500	gal	3.00	1500.00
221		1				Liquid HCL				2	gal	25.00	50.00
290		1				N-Air				2	gal	42.00	84.00
581		1				SERVICE CHARGE				CUBIC FEET 155		2.00	310.00
583		1				MILEAGE CHARGE	TOTAL WEIGHT 17295	LOADED MILES 40		TON MILES 345.90		1.00	345.90

CONTINUATION TOTAL 6629.90

JOB LOG

SWIFT Services, Inc.

DATE 9-1-14 PAGE NO.

CUSTOMER Larson Engineering WELL NO. 1-16 LEASE Rhonda JOB TYPE Cement 5 1/2" Longstring TICKET NO. 26465

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1345							on location 5 1/2 15.5"
								RTD - 4611 LTD - Set @ 4609 TP - 4612 cent Basket SJ - 42.43 P.C. - 2109
	1350							Rig Running Casing
	1615							Drop Ball circulate - Rotate -
	1715	6 3/4	15	✓		300		Pump 15 bbl KCL Flush
		6 3/4	12	✓		300		Pump 500 gal Flocheck 21
		6 3/4	5	✓		300		Pump 5 bbl KCL Flush
			7					Plug RH (30 stks)
	1730	4 1/2	32	✓		200		mix 125 stks EA-2 w/7" coal seal @ 15.3 fpg
								wash out Pump + Lines Release <del>Top</del> Plug Latch Down Plug
	1745	6 3/4	∅	✓		100		Start Displacement
		6 3/4	86	✓		350		Lift Pressure
		6 3/4	108	✓		800		Max Lift Pressure
	1800	6 3/4	108.7	✓		1500		Land Latch Down Plug
								Release Pressure - Hold -
								wash up trucks
	1830							Job Complete
								Thank You Dave Flint Issac





CHARGE TO: **LARSON ENGINEERING**  
 ADDRESS:  
 CITY, STATE, ZIP CODE:

TICKET 27822

PAGE 1 OF

SERVICE LOCATION: **NESS CITY, KS**  
 WELL/PROJECT NO.:  
 LEASE: **RHONDA 1-16**  
 COUNTY/TOWNSHIP: **LANE**  
 STATE: **KS**  
 CITY: **DIGHTON, KS.**  
 DATE: **4/SEP/14**  
 OWNER:  
 TICKET TYPE:  SERVICE  SALES  
 CONTRACTOR: **WILD WEST WELL SERV**  
 RIG NAME/NO.:  
 SHIPPED VIA:  
 DELIVERED TO:  
 ORDER NO.:  
 WELL TYPE: **OIL**  
 WELL CATEGORY: **DEVELOPMENT**  
 JOB PURPOSE: **CEMENT PORT COLLAR**  
 WELL PERMIT NO.:  
 WELL LOCATION: **4W, 1/2N, E INTO**  
 REFERRAL LOCATION:  
 INVOICE INSTRUCTIONS:

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.		UM		UNIT PRICE	AMOUNT
		LOC	ACCT	DF							
575					MILEAGE #115	40		mi		6.00	240.00
576D					Pump CHARGE	1				1500.00	1500.00
276					FLOCELE	53		lbs		2.50	132.50
290					D-AIR	2		gal		42.00	84.00
330					SMD CEMENT	210		sk		18.50	3885.00
581					CEMENT SERVICE CHARGE	250		sk		2.00	500.00
583					DRAYAGE	24915	16	49%	35	1.00	498.35

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 MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS  
 X  
 DATE SIGNED: **4 SEP 14** TIME SIGNED: **1715**  A.M.  P.M.

REMIT PAYMENT TO:  
 SWIFT SERVICES, INC.  
 P.O. BOX 466  
 NESS CITY, KS 67560  
 785-798-2300

SURVEY	AGREE	UN-DECIDED	DIS-AGREE	PAGE TOTAL	AMOUNT
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?				6839	80
WE UNDERSTOOD AND MET YOUR NEEDS?					
OUR SERVICE WAS PERFORMED WITHOUT DELAY?					
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?				Lane TAX 7.15%	293.26
ARE YOU SATISFIED WITH OUR SERVICE?	<input type="checkbox"/> YES	<input type="checkbox"/> NO		TOTAL	7133.06
<input type="checkbox"/> CUSTOMER DID NOT WISH TO RESPOND					

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.  
 SWIFT OPERATOR: *[Signature]* APPROVAL: *[Signature]* Thank You!

JOB LOG

SWIFT Services, Inc.

DATE 4 Sep 14 PAGE NO.

CUSTOMER LARSON ENGINEERING

WELL NO.

LEASE RHONDA 1-16

JOB TYPE CEMENT PORT COLLAR

TICKET NO. 27822

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1515							ON LOCATION
								PORT COLLAR @ 2109
	1546				✓		1000	TEST-HELD
	1550							OPEN PORT COLLAR
	1558	4	116	✓	✓	400		MIX 210 SX SMD
		3	7½	✓		250		DISPLACE CEMENT
								CIRCULATE 20 SX TO PIT
	1626				✓		1000	CLOSE PORT COLLAR TEST-HELD
								RUN 5 JTS.
	1636	4	22		✓		300	REVERSE CLEAN.
	1645							WASH TRUCK
	1715							JOB COMPLETE
								THANKS # 115
								JASON DAVE & JOHN



## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, INC.**

562 W State RD4  
Olmitz KS 67564

ATTN: Vern Schrag

### **Rhonda #1-16**

#### **16-18s-29w Lane,KS**

Start Date: 2014.08.25 @ 08:00:00

End Date: 2014.08.25 @ 13:49:15

Job Ticket #: 57454                      DST #: 1

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.09.04 @ 08:35:40



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Larson Engineering, INC.

**16-18s-29w Lane, KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 57454

**DST#: 1**

ATTN: Vern Schrag

Test Start: 2014.08.25 @ 08:00:00

## GENERAL INFORMATION:

Formation: **LKC E**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:16:15

Time Test Ended: 13:49:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Justin Harris

Unit No: 65

**Interval: 4026.00 ft (KB) To 4047.00 ft (KB) (TVD)**

Reference Elevations: 2820.00 ft (KB)

Total Depth: 4047.00 ft (KB) (TVD)

2814.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 6.00 ft

**Serial #: 8846 Inside**

Press@RunDepth: 45.98 psig @ 4042.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.08.25 End Date: 2014.08.25

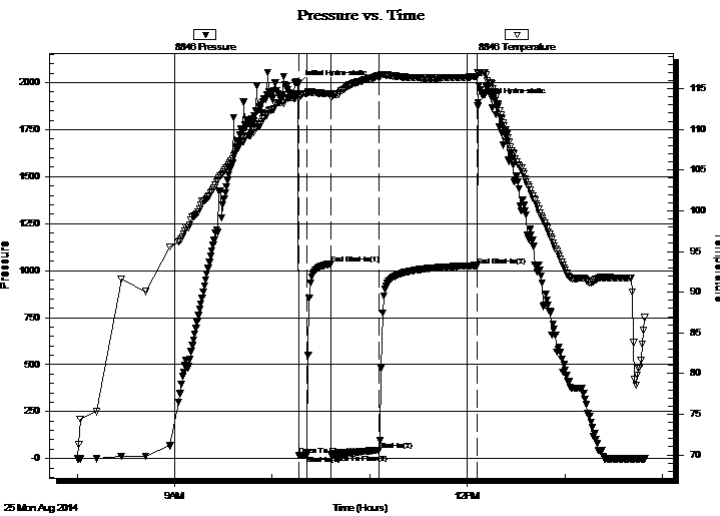
Last Calib.: 2014.08.25

Start Time: 08:00:15 End Time: 13:49:15

Time On Btm: 2014.08.25 @ 10:16:00

Time Off Btm: 2014.08.25 @ 12:06:30

**TEST COMMENT:** 05: Weak Surface blow .  
15: No Return.  
30: Weak Surface blow .  
60: No Return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1991.13	114.37	Initial Hydro-static
1	16.56	113.91	Open To Flow (1)
5	19.05	114.39	Shut-In(1)
20	1036.21	114.36	End Shut-In(1)
21	21.25	113.97	Open To Flow (2)
50	45.98	116.51	Shut-In(2)
110	1027.40	116.52	End Shut-In(2)
111	1893.51	116.78	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	clean oil	0.02
63.00	gocm 5%g 5%o 90%m	0.31

## Gas Rates

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



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Larson Engineering, INC.

16-18s-29w Lane, KS

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 57454

**DST#: 1**

ATTN: Vern Schrag

Test Start: 2014.08.25 @ 08:00:00

## GENERAL INFORMATION:

Formation: **LKC E**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:16:15

Time Test Ended: 13:49:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Justin Harris

Unit No: 65

**Interval: 4026.00 ft (KB) To 4047.00 ft (KB) (TVD)**

Reference Elevations: 2820.00 ft (KB)

Total Depth: 4047.00 ft (KB) (TVD)

2814.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 6.00 ft

**Serial #: 8737 Outside**

Press@RunDepth: psig @ 4042.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.08.25

End Date:

2014.08.25

Last Calib.:

2014.08.25

Start Time: 08:00:15

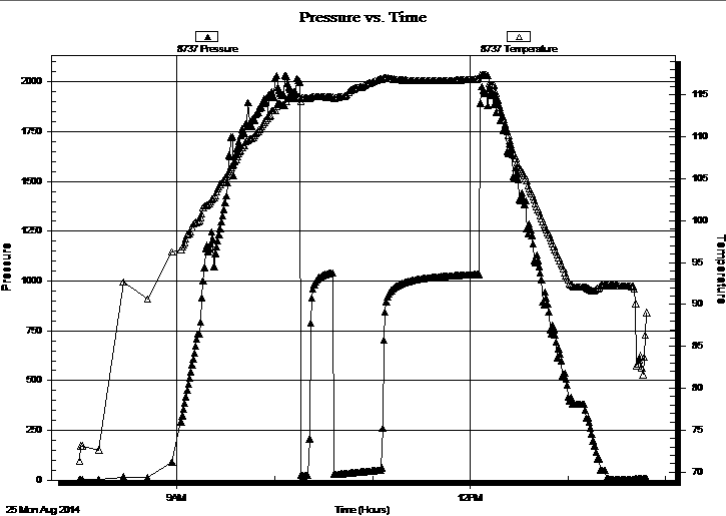
End Time:

13:48:45

Time On Btm:

Time Off Btm:

TEST COMMENT: 05: Weak Surface blow .  
15: No Return.  
30: Weak Surface blow .  
60: No Return.



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	clean oil	0.02
63.00	gocm 5%g 5%o 90%m	0.31

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Engineering, INC.

**16-18s-29w Lane, KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 57454

**DST#: 1**

ATTN: Vern Schrag

Test Start: 2014.08.25 @ 08:00:00

## Tool Information

Drill Pipe:	Length: 3887.00 ft	Diameter: 3.80 inches	Volume: 54.52 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 123.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose:	65000.00 lb
			<u>Total Volume:</u> - bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial	55000.00 lb
Depth to Top Packer:	4026.00 ft			Final	56000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	21.00 ft				
Tool Length:	49.00 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			3999.00	
Shut In Tool	5.00			4004.00	
Hydraulic tool	5.00			4009.00	
Jars	5.00			4014.00	
Safety Joint	3.00			4017.00	
Packer	5.00			4022.00	28.00 Bottom Of Top Packer
Packer	4.00			4026.00	
Stubb	1.00			4027.00	
Perforations	15.00			4042.00	
Recorder	0.00	8846	Inside	4042.00	
Recorder	0.00	8737	Outside	4042.00	
Bullnose	5.00			4047.00	21.00 Bottom Packers & Anchor

**Total Tool Length: 49.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Larson Engineering, INC.

**16-18s-29w Lane, KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 57454

**DST#: 1**

ATTN: Vern Schrag

Test Start: 2014.08.25 @ 08:00:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

26 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.32 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2700.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	clean oil	0.025
63.00	gocm 5%g 5%o 90%m	0.310

Total Length: 68.00 ft      Total Volume: 0.335 bbl

Num Fluid Samples: 0

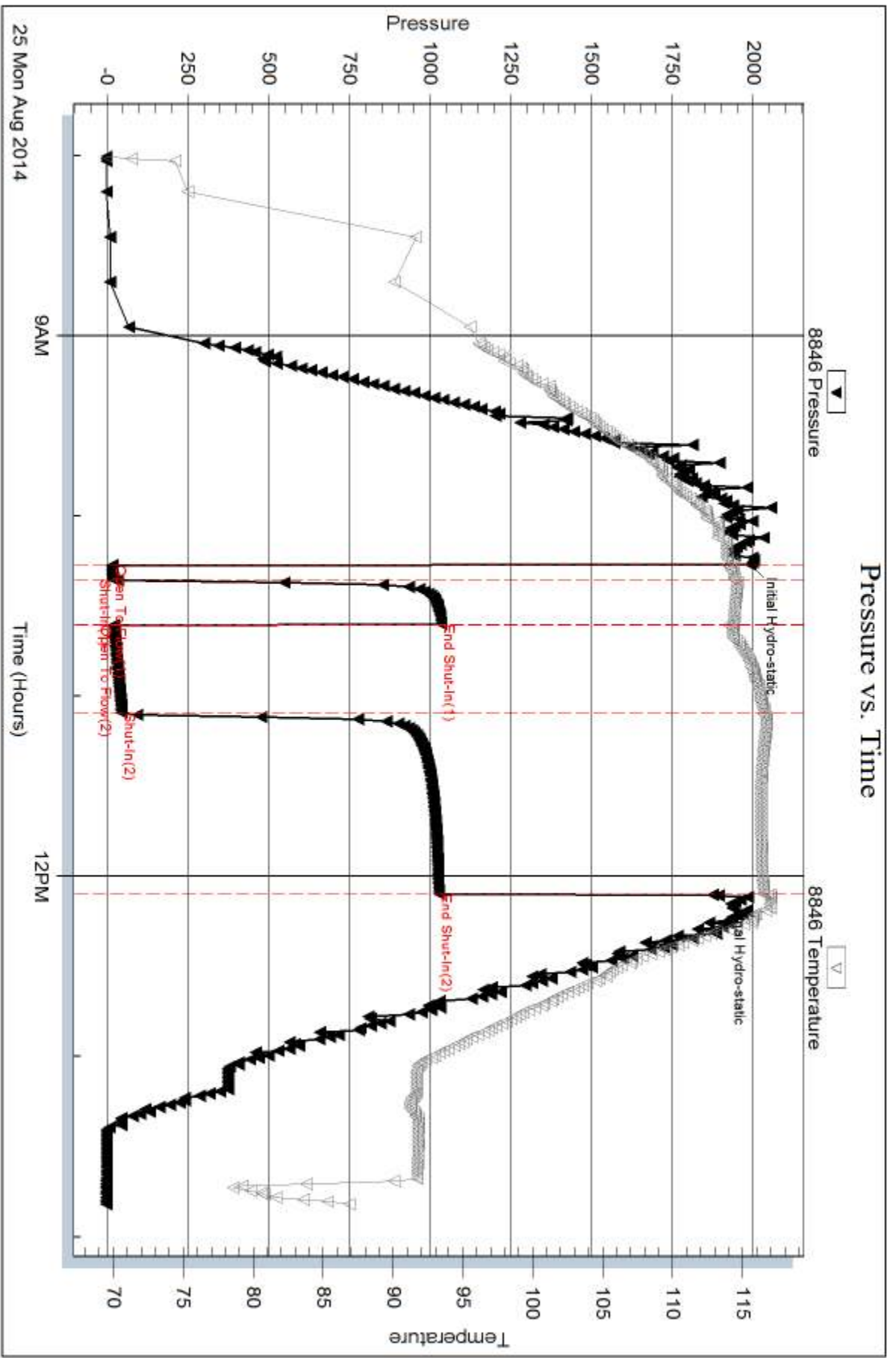
Num Gas Bombs: 0

Serial #:

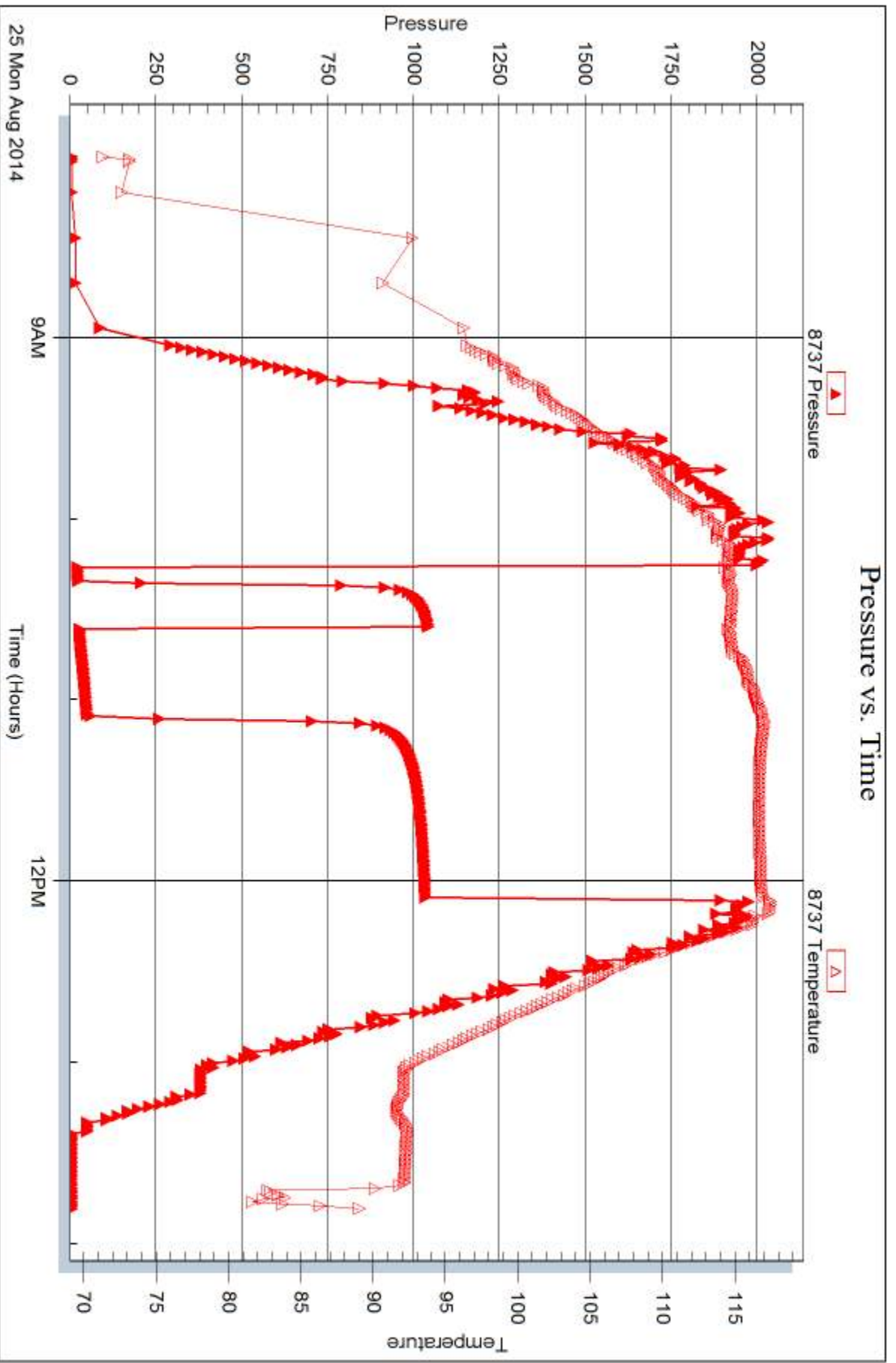
Laboratory Name:

Laboratory Location:

Recovery Comments:









## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, INC.**

562 W State RD4  
Olmitz KS 67564

ATTN: Vern Schrag

### **Rhonda #1-16**

#### **16-18s-29w Lane,KS**

Start Date: 2014.08.26 @ 06:48:00

End Date: 2014.08.26 @ 12:13:45

Job Ticket #: 57455                      DST #: 2

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.09.04 @ 08:34:57



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Larson Engineering, INC.

**16-18s-29w Lane, KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 57455

**DST#: 2**

ATTN: Vern Schrag

Test Start: 2014.08.26 @ 06:48:00

## GENERAL INFORMATION:

Formation: **LKC I**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:42:45

Time Test Ended: 12:13:45

Test Type: Conventional Bottom Hole (Reset)

Tester: Justin Harris

Unit No: 65

**Interval: 4155.00 ft (KB) To 4190.00 ft (KB) (TVD)**

Reference Elevations: 2820.00 ft (KB)

Total Depth: 4190.00 ft (KB) (TVD)

2814.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 6.00 ft

## Serial #: 8846

Inside

Press@RunDepth: 172.64 psig @ 4185.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.08.26

End Date:

2014.08.26

Last Calib.:

2014.08.26

Start Time: 06:48:15

End Time:

12:13:45

Time On Btm:

2014.08.26 @ 08:42:30

Time Off Btm:

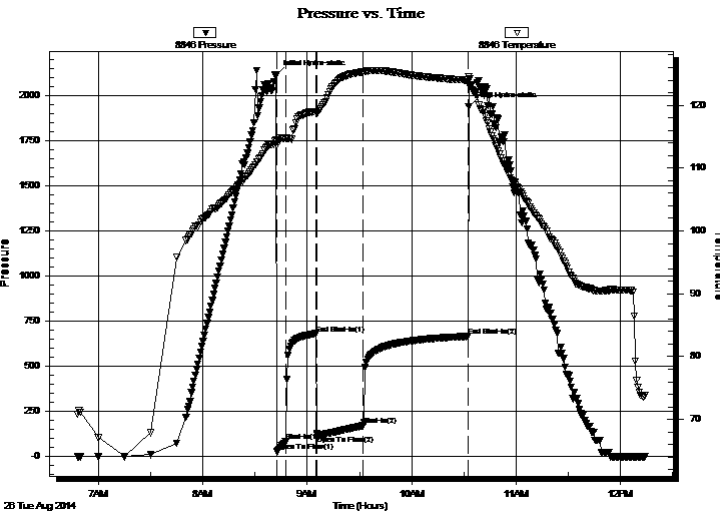
2014.08.26 @ 10:32:45

TEST COMMENT: 05: Weak surface blow build to 5 1/2".

15: No Return.

30: B.O.B in 18 min.

60: No Return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2116.80	114.57	Initial Hydro-static
1	26.91	113.68	Open To Flow (1)
6	83.18	114.61	Shut-In(1)
23	681.51	118.96	End Shut-In(1)
24	120.84	118.84	Open To Flow (2)
50	172.64	125.33	Shut-In(2)
110	667.12	124.00	End Shut-In(2)
111	1940.82	124.55	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
315.00	mcw 40% m 60% w with oil spots	3.30

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Engineering, INC.

**16-18s-29w Lane, KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 57455

**DST#: 2**

ATTN: Vern Schrag

Test Start: 2014.08.26 @ 06:48:00

## Tool Information

Drill Pipe:	Length: 4013.00 ft	Diameter: 3.80 inches	Volume: 56.29 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 123.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 68000.00 lb
			<u>Total Volume: 56.89 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4155.00 ft			Final 59000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	35.00 ft			
Tool Length:	63.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

**Length (ft) Serial No. Position Depth (ft) Accum. Lengths**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4128.00	
Shut In Tool	5.00			4133.00	
Hydraulic tool	5.00			4138.00	
Jars	5.00			4143.00	
Safety Joint	3.00			4146.00	
Packer	5.00			4151.00	28.00 Bottom Of Top Packer
Packer	4.00			4155.00	
Stubb	1.00			4156.00	
Perforations	29.00			4185.00	
Recorder	0.00	8846	Inside	4185.00	
Recorder	0.00	8737	Outside	4185.00	
Bullnose	5.00			4190.00	35.00 Bottom Packers & Anchor

**Total Tool Length: 63.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Larson Engineering, INC.

**16-18s-29w Lane, KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 57455

**DST#: 2**

ATTN: Vern Schrag

Test Start: 2014.08.26 @ 06:48:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

13000 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.33 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2700.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
315.00	mcw 40% m 60% w with oil spots	3.298

Total Length: 315.00 ft      Total Volume: 3.298 bbl

Num Fluid Samples: 0

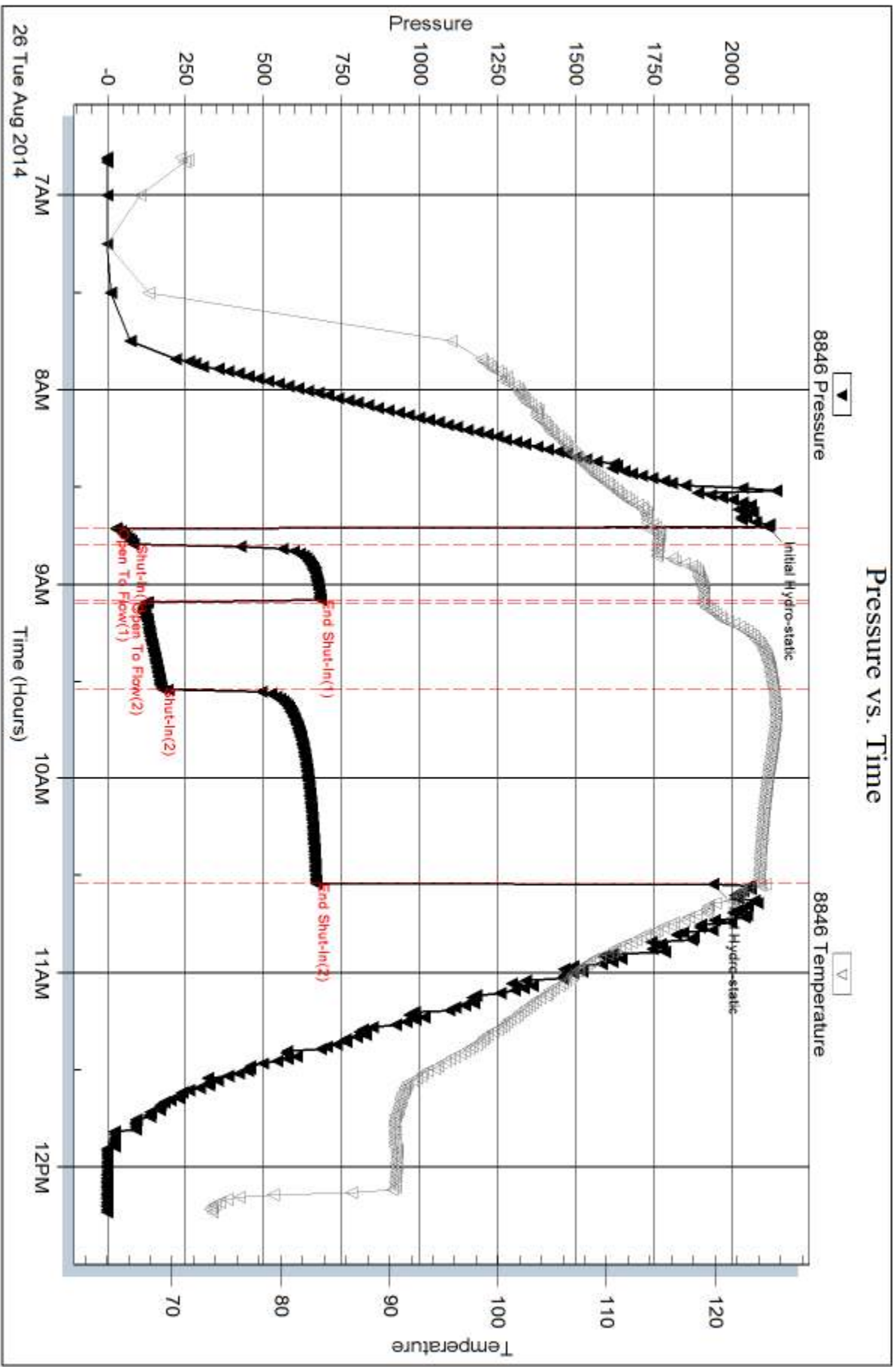
Num Gas Bombs: 0

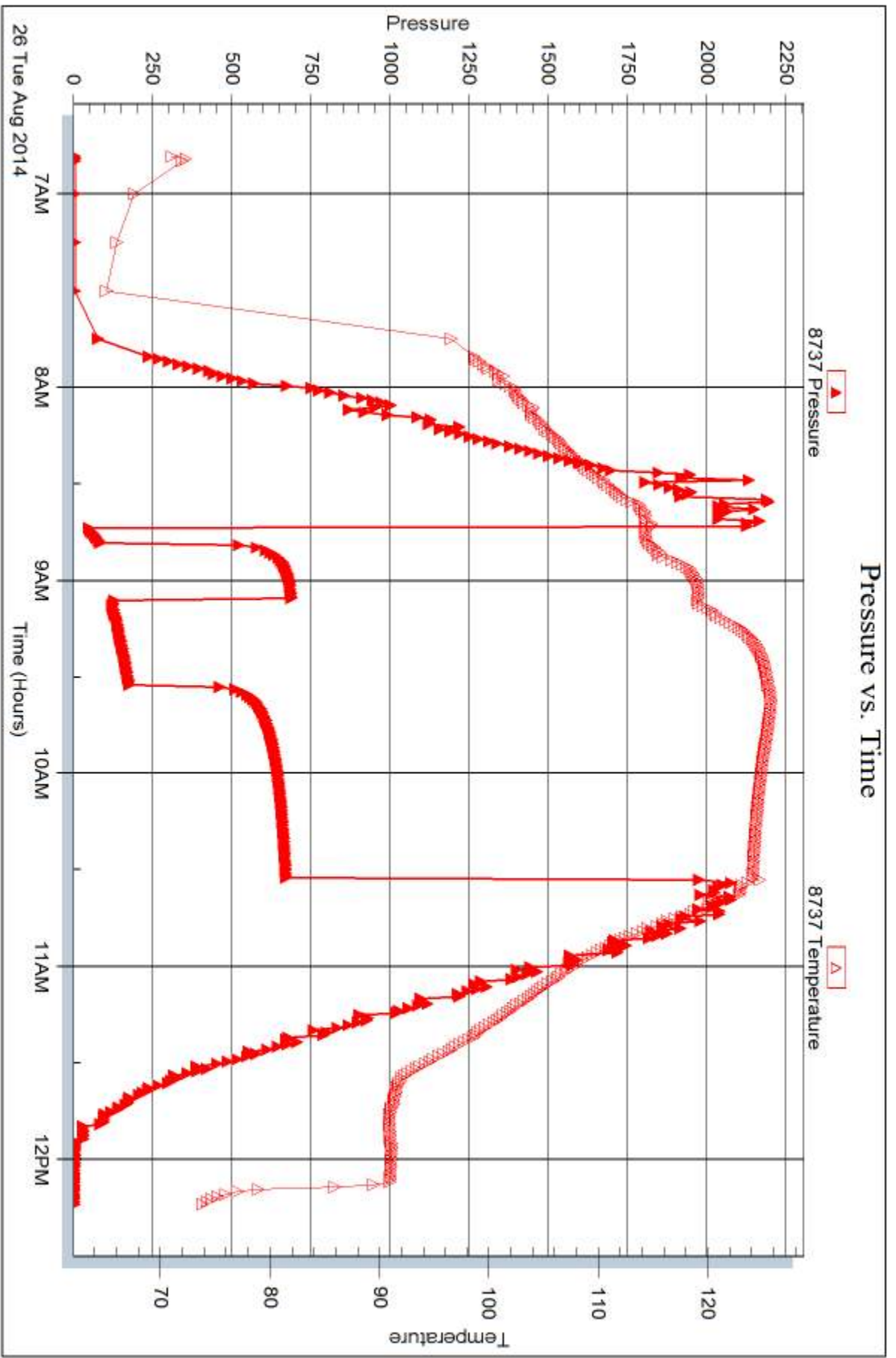
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Api Rw .45 @ 83 temp =13000









## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, INC.**

562 W State RD4  
Olmitz KS 67564

ATTN: Vern Schrag

### **Rhonda #1-16**

#### **16-18s-29w Lane,KS**

Start Date: 2014.08.26 @ 20:04:00

End Date: 2014.08.27 @ 01:04:00

Job Ticket #: 57456                      DST #: 3

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.09.04 @ 08:33:10



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Larson Engineering, INC.

**16-18s-29w Lane, KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 57456

**DST#: 3**

ATTN: Vern Schrag

Test Start: 2014.08.26 @ 20:04:00

## GENERAL INFORMATION:

Formation: **LKC J**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 21:52:15  
 Time Test Ended: 01:04:00  
 Interval: **4194.00 ft (KB) To 4201.00 ft (KB) (TVD)**  
 Total Depth: 4201.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Poor  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Justin Harris  
 Unit No: 65  
 Reference Elevations: 2820.00 ft (KB)  
 2814.00 ft (CF)  
 KB to GR/CF: 6.00 ft

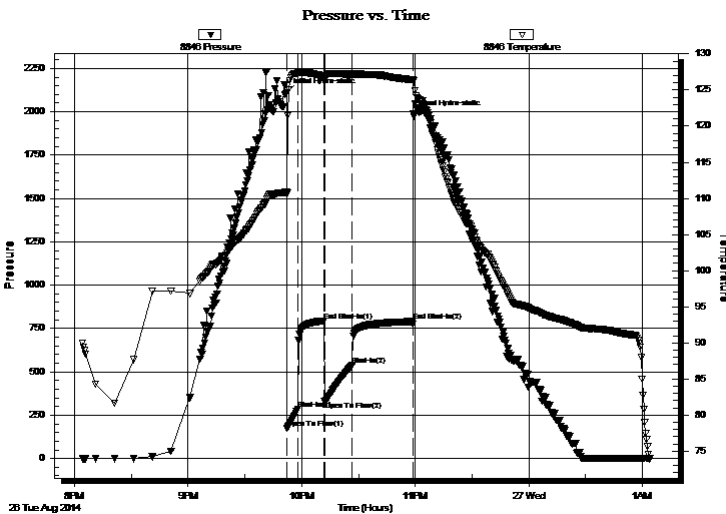
## Serial #: 8846

Inside

Press@RunDepth: 539.89 psig @ 4196.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.08.26 End Date: 2014.08.27 Last Calib.: 2014.08.27  
 Start Time: 20:04:15 End Time: 01:04:00 Time On Btm: 2014.08.26 @ 21:52:00  
 Time Off Btm: 2014.08.26 @ 22:59:00

TEST COMMENT: 05: B.O.B in 2 min.  
 15: No Return.  
 15: B.O.B in 2 min.  
 30: No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2109.05	110.84	Initial Hydro-static
1	172.71	110.68	Open To Flow (1)
6	282.60	127.33	Shut-In(1)
20	793.94	126.57	End Shut-In(1)
20	331.65	126.33	Open To Flow (2)
35	539.89	127.16	Shut-In(2)
67	790.68	126.42	End Shut-In(2)
67	1986.19	126.42	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	mcw 5% m 95% w	0.02
1008.00	mcw 10% m 90% w	13.06
126.00	mcw 30% m 70% w	1.77

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Engineering, INC.

**16-18s-29w Lane, KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 57456

**DST#: 3**

ATTN: Vern Schrag

Test Start: 2014.08.26 @ 20:04:00

## Tool Information

Drill Pipe:	Length: 4075.00 ft	Diameter: 3.80 inches	Volume: 57.16 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 123.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 57.76 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4194.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	7.00 ft			
Tool Length:	35.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4167.00	
Shut In Tool	5.00			4172.00	
Hydraulic tool	5.00			4177.00	
Jars	5.00			4182.00	
Safety Joint	3.00			4185.00	
Packer	5.00			4190.00	28.00 Bottom Of Top Packer
Packer	4.00			4194.00	
Stubb	1.00			4195.00	
Perforations	1.00			4196.00	
Recorder	0.00	8846	Inside	4196.00	
Recorder	0.00	8737	Outside	4196.00	
Bullnose	5.00			4201.00	7.00 Bottom Packers & Anchor

**Total Tool Length: 35.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Larson Engineering, INC.

**16-18s-29w Lane,KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 57456

**DST#: 3**

ATTN: Vern Schrag

Test Start: 2014.08.26 @ 20:04:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

19000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.92 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	mcw 5%m 95%w	0.025
1008.00	mcw 10%m 90%w	13.065
126.00	mcw 30%m 70%w	1.767

Total Length: 1139.00 ft      Total Volume: 14.857 bbl

Num Fluid Samples: 0

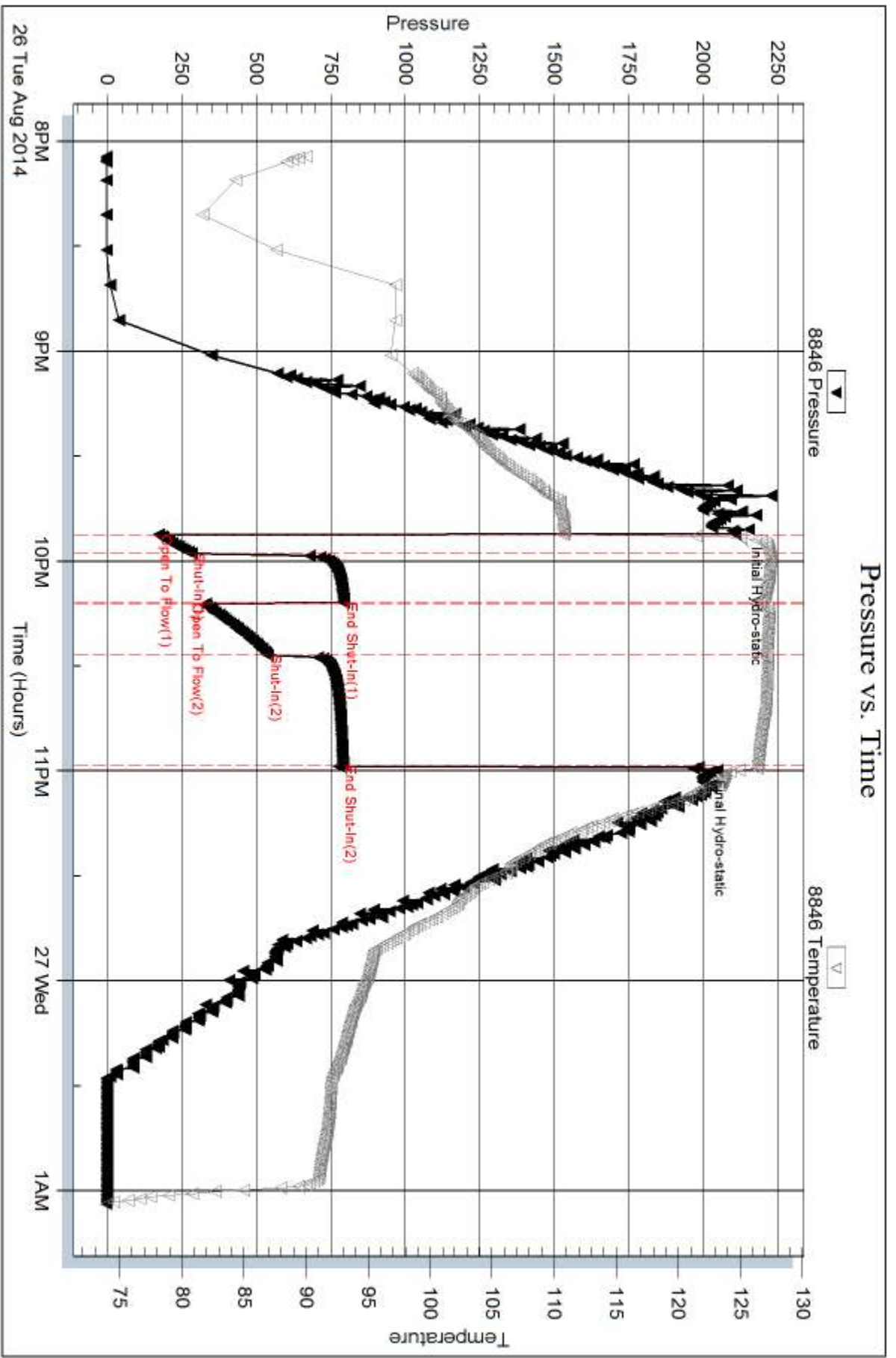
Num Gas Bombs: 0

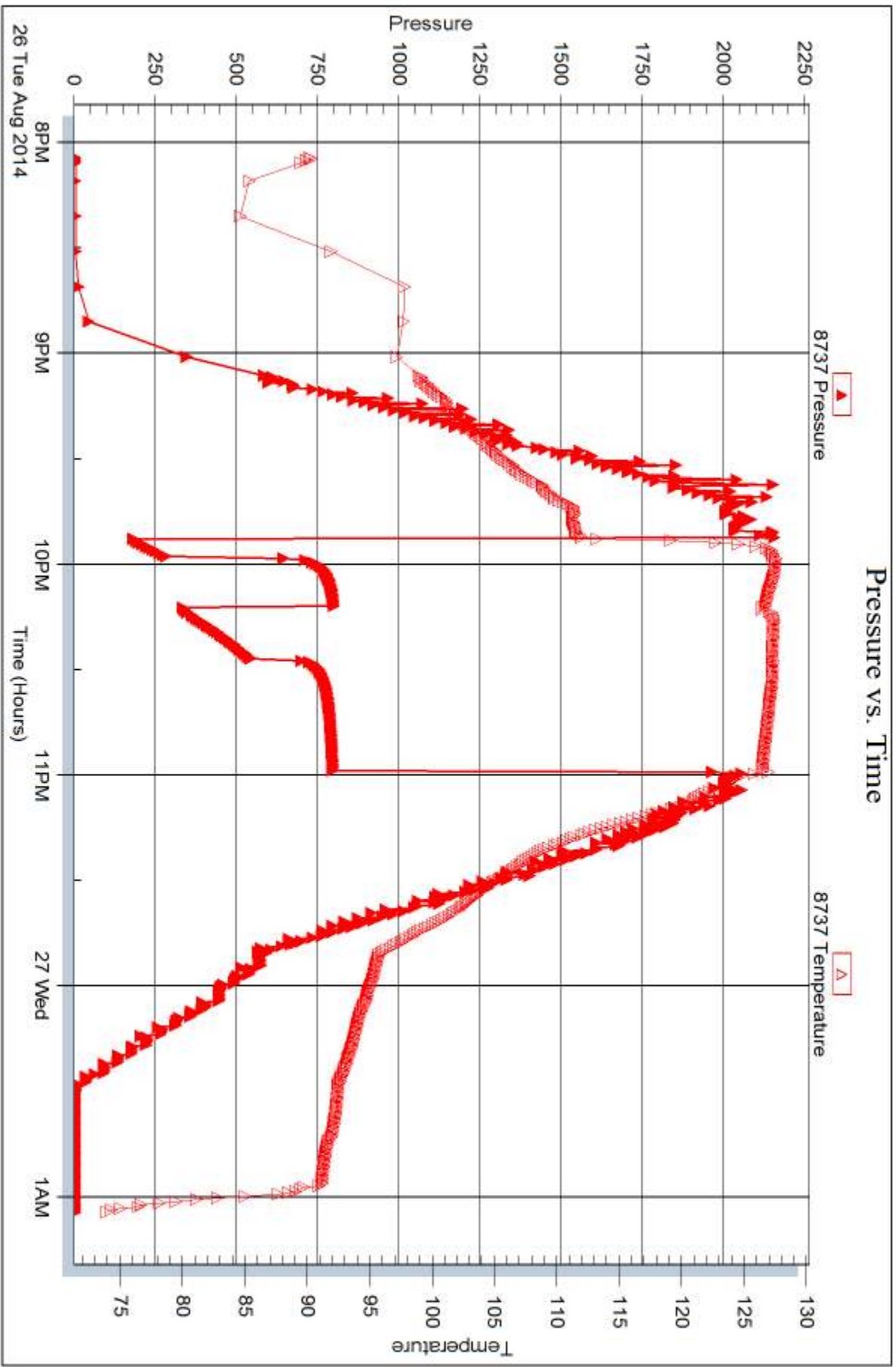
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API RW .37 @ 72 temp =19000







## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, INC.**

562 W State RD4  
Olmitz KS 67564

ATTN: Vern Schrag

### **Rhonda #1-16**

#### **16-18s-29w Lane,KS**

Start Date: 2014.08.27 @ 10:34:00

End Date: 2014.08.27 @ 15:57:15

Job Ticket #: 57457                      DST #: 4

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.09.04 @ 08:32:42





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Larson Engineering, INC.

**16-18s-29w Lane, KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 57457

**DST#: 4**

ATTN: Vern Schrag

Test Start: 2014.08.27 @ 10:34:00

## GENERAL INFORMATION:

Formation: **LKC K**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:22:00

Time Test Ended: 15:57:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Justin Harris

Unit No: 65

**Interval: 4217.00 ft (KB) To 4233.00 ft (KB) (TVD)**

Reference Elevations: 2820.00 ft (KB)

Total Depth: 4233.00 ft (KB) (TVD)

2814.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 6.00 ft

**Serial #: 8846**

**Inside**

Press@RunDepth: 81.11 psig @ 4228.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.08.27

End Date:

2014.08.27

Last Calib.:

2014.08.27

Start Time: 10:34:15

End Time:

15:57:15

Time On Btm:

2014.08.27 @ 12:21:30

Time Off Btm:

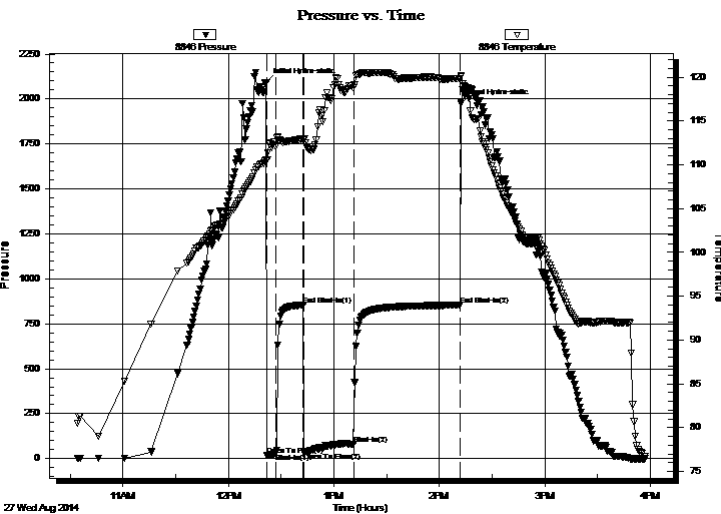
2014.08.27 @ 14:12:15

TEST COMMENT: 05: Weak blow build to 1".

15: No Return.

15: Weak blow build to 1 1/2".

30: No Return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2090.31	110.62	Initial Hydro-static
1	16.94	110.57	Open To Flow (1)
6	29.46	112.10	Shut-In(1)
21	854.97	113.01	End Shut-In(1)
22	33.07	112.82	Open To Flow (2)
50	81.11	118.83	Shut-In(2)
111	854.07	119.85	End Shut-In(2)
111	1972.95	120.21	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
151.00	mcw 40% m 60% w	1.00

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Larson Engineering, INC.

**16-18s-29w Lane, KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 57457

**DST#: 4**

ATTN: Vern Schrag

Test Start: 2014.08.27 @ 10:34:00

## GENERAL INFORMATION:

Formation: **LKC K**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:22:00

Time Test Ended: 15:57:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Justin Harris

Unit No: 65

**Interval: 4217.00 ft (KB) To 4233.00 ft (KB) (TVD)**

Reference Elevations: 2820.00 ft (KB)

Total Depth: 4233.00 ft (KB) (TVD)

2814.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 6.00 ft

**Serial #: 8737 Outside**

Press@RunDepth: psig @ 4228.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.08.27 End Date: 2014.08.27

Last Calib.: 2014.08.27

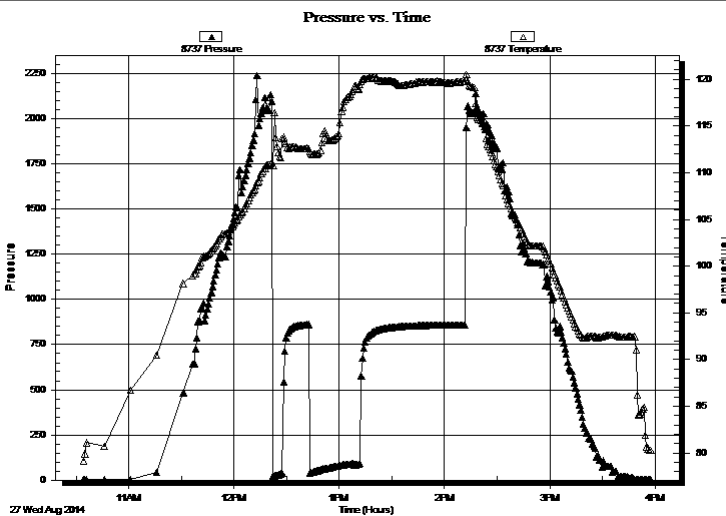
Start Time: 10:34:15 End Time: 15:57:30

Time On Btm:

Time Off Btm:

**TEST COMMENT:** 05: Weak blow build to 1".  
15: No Return.  
15: Weak blow build to 1 1/2".  
30: No Return.

## PRESSURE SUMMARY



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

## Recovery

Length (ft)	Description	Volume (bbl)
151.00	mcw 40% m 60% w	1.00

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Engineering, INC.

**16-18s-29w Lane, KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 57457

**DST#: 4**

ATTN: Vern Schrag

Test Start: 2014.08.27 @ 10:34:00

## Tool Information

Drill Pipe:	Length: 4076.00 ft	Diameter: 3.80 inches	Volume: 57.18 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 123.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 57.78 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4217.00 ft			Final 59000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	16.00 ft			
Tool Length:	44.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4190.00	
Shut In Tool	5.00			4195.00	
Hydraulic tool	5.00			4200.00	
Jars	5.00			4205.00	
Safety Joint	3.00			4208.00	
Packer	5.00			4213.00	28.00 Bottom Of Top Packer
Packer	4.00			4217.00	
Stubb	1.00			4218.00	
Perforations	10.00			4228.00	
Recorder	0.00	8846	Inside	4228.00	
Recorder	0.00	8737	Outside	4228.00	
Bullnose	5.00			4233.00	16.00 Bottom Packers & Anchor

**Total Tool Length: 44.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Larson Engineering, INC.

**16-18s-29w Lane, KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 57457

**DST#: 4**

ATTN: Vern Schrag

Test Start: 2014.08.27 @ 10:34:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

16000 ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.93 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
151.00	mcw 40%m 60%w	0.998

Total Length: 151.00 ft

Total Volume: 0.998 bbl

Num Fluid Samples: 0

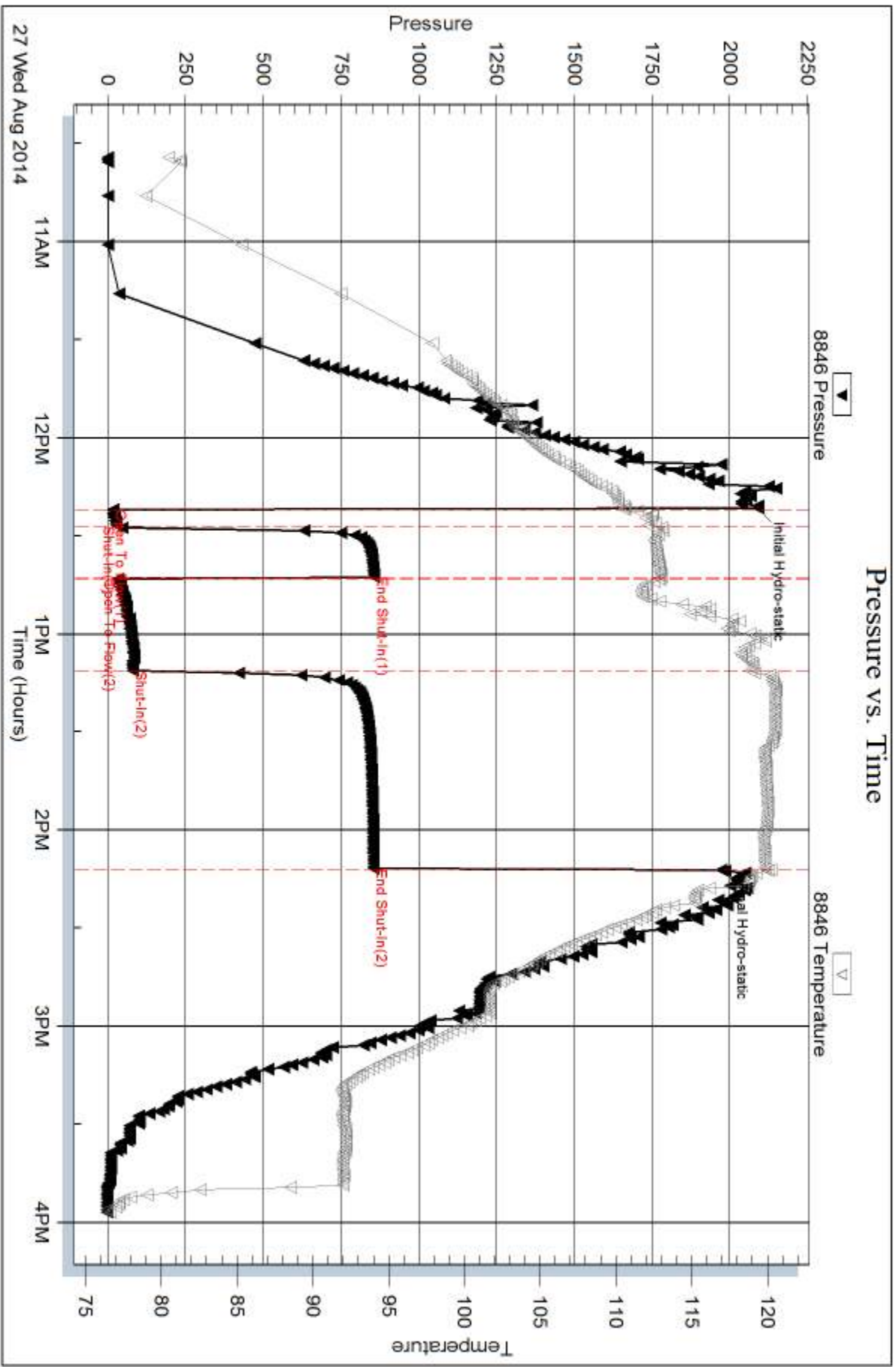
Num Gas Bombs: 0

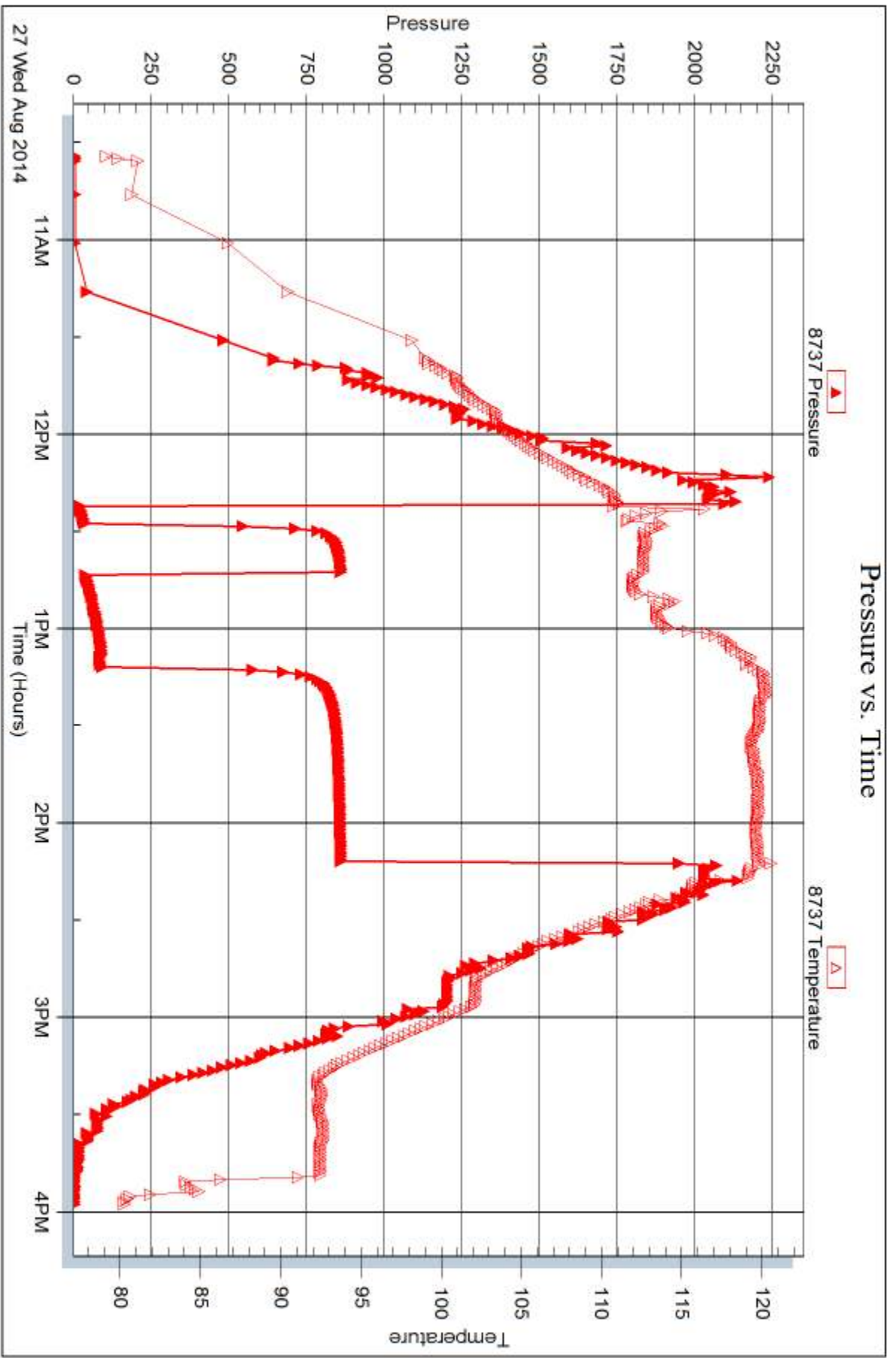
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, INC.**

562 W State RD4  
Olmitz KS 67564

ATTN: Vern Schrag

### **Rhonda #1-16**

#### **16-18s-29w Lane,KS**

Start Date: 2014.08.28 @ 04:25:00

End Date: 2014.08.28 @ 09:06:15

Job Ticket #: 59120                      DST #: 5

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.09.04 @ 08:32:12



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Larson Engineering, INC.

**16-18s-29w Lane, KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 59120

**DST#: 5**

ATTN: Vern Schrag

Test Start: 2014.08.28 @ 04:25:00

## GENERAL INFORMATION:

Formation: **LKC L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:24:45

Time Test Ended: 09:06:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 65

**Interval: 4257.00 ft (KB) To 4275.00 ft (KB) (TVD)**

Reference Elevations: 2820.00 ft (KB)

Total Depth: 4275.00 ft (KB) (TVD)

2814.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 6.00 ft

**Serial #: 8846**

**Inside**

Press@RunDepth: 15.84 psig @ 4270.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.08.28

End Date:

2014.08.28

Last Calib.:

2014.08.28

Start Time: 04:25:15

End Time:

09:06:15

Time On Btm:

2014.08.28 @ 06:24:30

Time Off Btm:

2014.08.28 @ 07:31:15

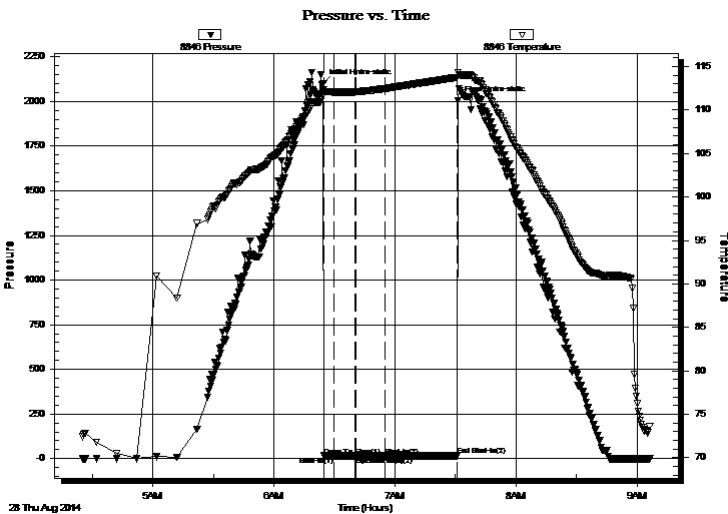
TEST COMMENT: 05: Weak surface blow .

15: No Return.

15: No Blow .

30: No Return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2100.07	112.27	Initial Hydro-static
1	15.08	111.74	Open To Flow (1)
6	15.38	112.07	Shut-In(1)
16	15.60	112.08	End Shut-In(1)
16	15.61	112.09	Open To Flow (2)
31	15.84	112.47	Shut-In(2)
67	16.50	113.78	End Shut-In(2)
67	2006.83	114.33	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1.00	mud	0.00

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Larson Engineering, INC.

**16-18s-29w Lane,KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 59120

**DST#: 5**

ATTN: Vern Schrag

Test Start: 2014.08.28 @ 04:25:00

## GENERAL INFORMATION:

Formation: **LKC L**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 06:24:45  
 Time Test Ended: 09:06:15  
 Interval: **4257.00 ft (KB) To 4275.00 ft (KB) (TVD)**  
 Total Depth: 4275.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Poor

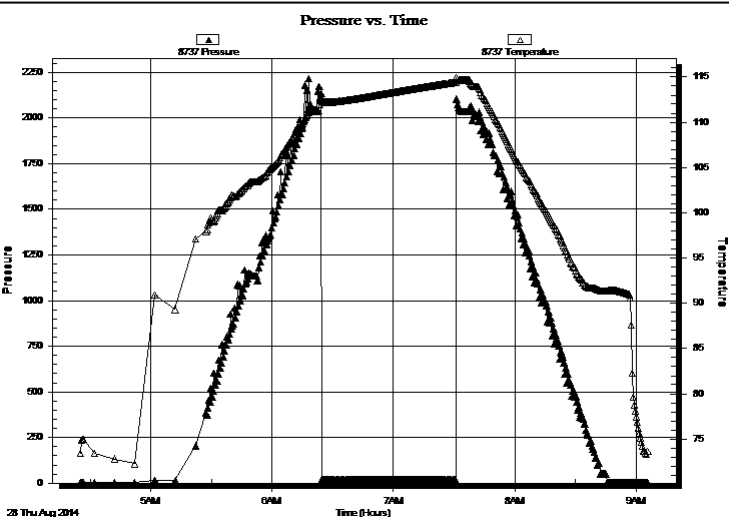
Test Type: Conventional Bottom Hole (Reset)  
 Tester: Mike Roberts  
 Unit No: 65  
 Reference Elevations: 2820.00 ft (KB)  
 2814.00 ft (CF)  
 KB to GR/CF: 6.00 ft

**Serial #: 8737**

**Outside**

Press@RunDepth: psig @ 4270.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.08.28 End Date: 2014.08.28 Last Calib.: 2014.08.28  
 Start Time: 04:25:15 End Time: 09:06:00 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** 05: Weak surface blow .  
 15: No Return.  
 15: No Blow .  
 30: No Return.



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
1.00	mud	0.00

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Engineering, INC.

**16-18s-29w Lane, KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 59120

**DST#: 5**

ATTN: Vern Schrag

Test Start: 2014.08.28 @ 04:25:00

## Tool Information

Drill Pipe:	Length: 4110.00 ft	Diameter: 3.80 inches	Volume: 57.65 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 123.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	4.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	4257.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	18.00 ft			
Tool Length:	46.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4230.00	
Shut In Tool	5.00			4235.00	
Hydraulic tool	5.00			4240.00	
Jars	5.00			4245.00	
Safety Joint	3.00			4248.00	
Packer	5.00			4253.00	28.00 Bottom Of Top Packer
Packer	4.00			4257.00	
Stubb	1.00			4258.00	
Perforations	12.00			4270.00	
Recorder	0.00	8846	Inside	4270.00	
Recorder	0.00	8737	Outside	4270.00	
Bullnose	5.00			4275.00	18.00 Bottom Packers & Anchor

**Total Tool Length: 46.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Larson Engineering, INC.

**16-18s-29w Lane, KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 59120

**DST#: 5**

ATTN: Vern Schrag

Test Start: 2014.08.28 @ 04:25:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.32 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2700.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1.00	mud	0.005

Total Length: 1.00 ft      Total Volume: 0.005 bbl

Num Fluid Samples: 0

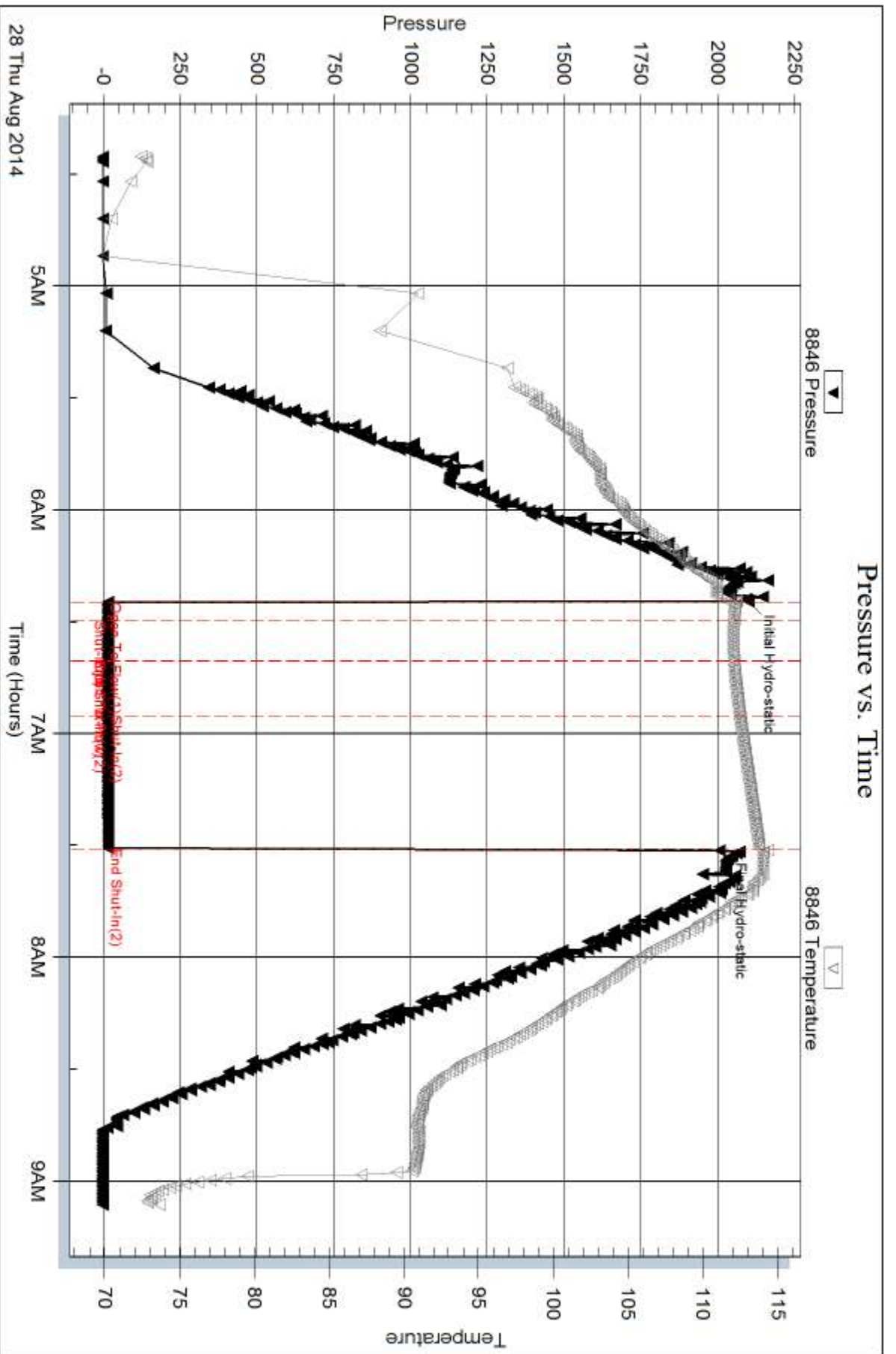
Num Gas Bombs: 0

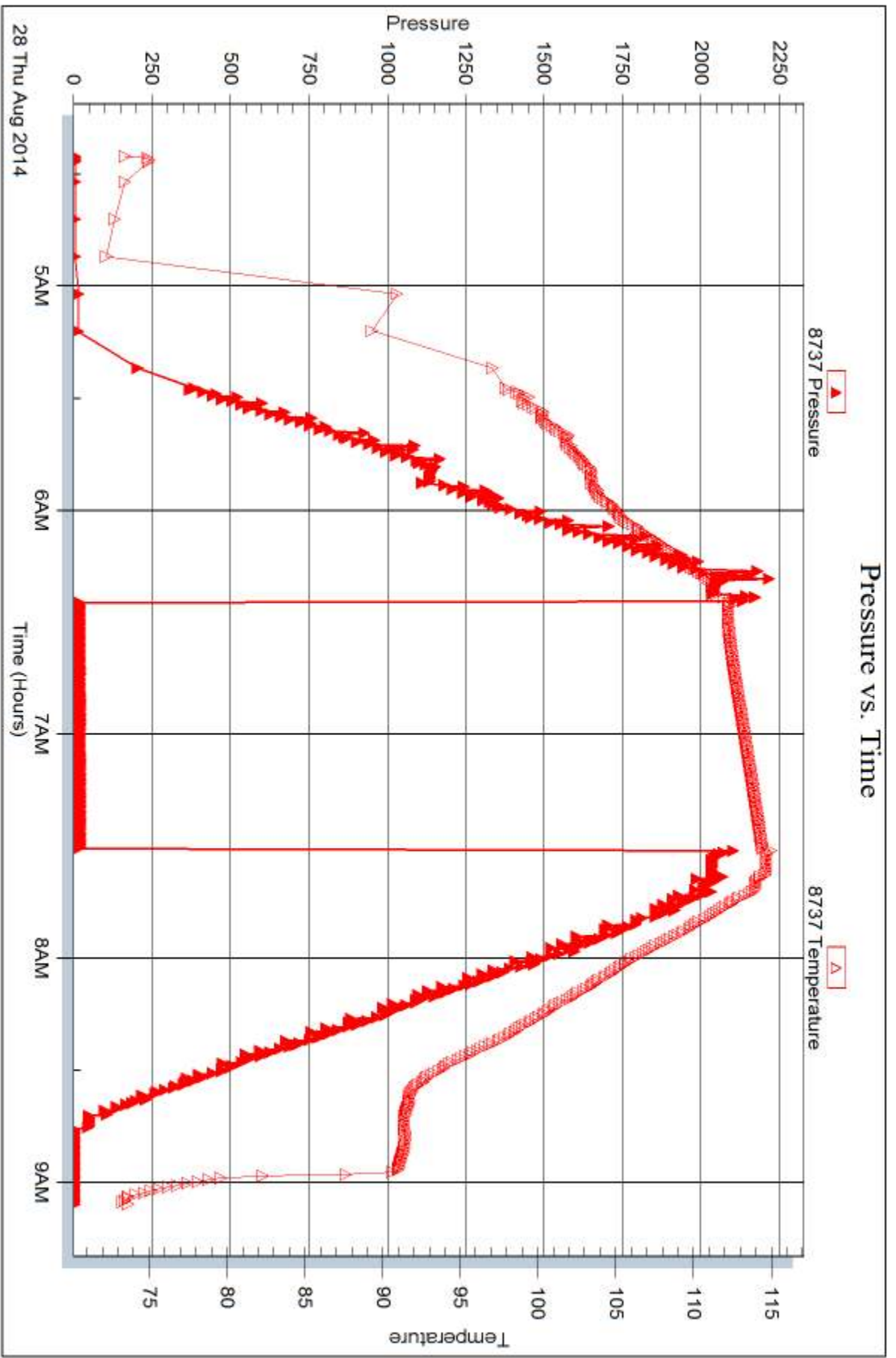
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, INC.**

562 W State RD4  
Olmitz KS 67564

ATTN: Vern Schrag

### **Rhonda #1-16**

#### **16-18s-29w Lane,KS**

Start Date: 2014.08.28 @ 00:10:15

End Date: 2014.08.28 @ 06:28:15

Job Ticket #: 59120                      DST #: 6

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

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**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Larson Engineering, INC.

**16-18s-29w Lane, KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 59120

**DST#: 6**

ATTN: Vern Schrag

Test Start: 2014.08.28 @ 00:10:15

## GENERAL INFORMATION:

Formation: **Pleasanton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:30:00

Time Test Ended: 06:28:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 65

**Interval: 4300.00 ft (KB) To 4342.00 ft (KB) (TVD)**

Reference Elevations: 2820.00 ft (KB)

Total Depth: 4342.00 ft (KB) (TVD)

2814.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 6.00 ft

**Serial #: 8846**

**Inside**

Press@RunDepth: 61.00 psig @ 4304.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.08.28

End Date:

2014.08.28

Last Calib.:

2014.08.29

Start Time: 00:10:15

End Time:

06:28:15

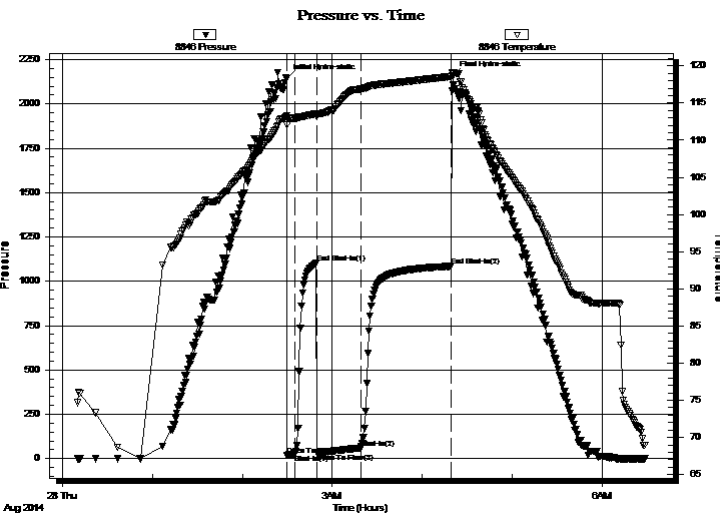
Time On Btm:

2014.08.28 @ 02:29:45

Time Off Btm:

2014.08.28 @ 04:20:15

TEST COMMENT: IF: Built to 1/2" blow  
IS: No return blow  
FF: Built to 4" blow  
FS: No return blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2143.28	113.27	Initial Hydro-static
1	19.59	112.06	Open To Flow (1)
6	27.07	112.96	Shut-In(1)
20	1100.86	113.62	End Shut-In(1)
20	31.74	113.17	Open To Flow (2)
50	61.00	116.87	Shut-In(2)
110	1085.04	118.59	End Shut-In(2)
111	2157.76	119.13	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
40.00	free oil	0.20
32.00	ocm 10%o 90%m	0.16

\* Recovery from multiple tests

## Gas Rates

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



# DRILL STEM TEST REPORT

Larson Engineering, INC.

16-18s-29w Lane, KS

562 W State RD4  
Olmitz KS 67564

Rhonda #1-16

Job Ticket: 59120

DST#: 6

ATTN: Vern Schrag

Test Start: 2014.08.28 @ 00:10:15

## GENERAL INFORMATION:

Formation: **Pleasanton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:30:00

Time Test Ended: 06:28:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 65

Interval: **4300.00 ft (KB) To 4342.00 ft (KB) (TVD)**

Reference Elevations: 2820.00 ft (KB)

Total Depth: 4342.00 ft (KB) (TVD)

2814.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 6.00 ft

**Serial #: 8737 Outside**

Press@RunDepth: psig @ 4304.00 ft (KB)

Start Date: 2014.08.28

End Date: 2014.08.28

Capacity: 8000.00 psig

Start Time: 00:10:15

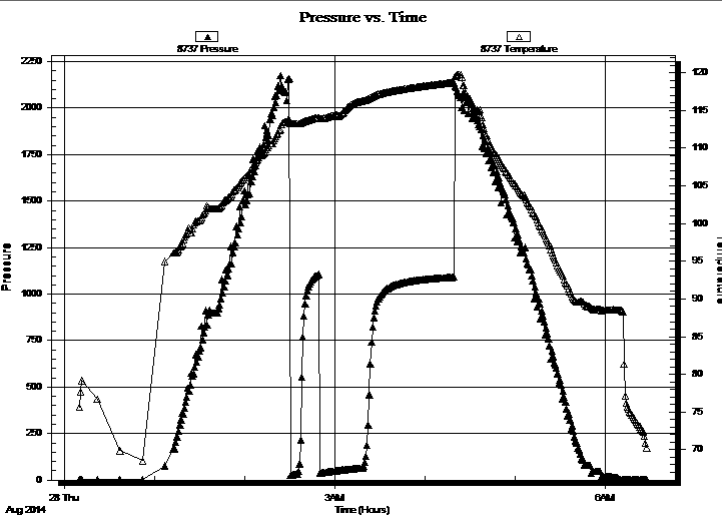
End Time: 06:28:00

Last Calib.: 1899.12.30

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: Built to 1/2" blow  
IS: No return blow  
FF: Built to 4" blow  
FS: No return blow



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
40.00	free oil	0.20
32.00	ocm 10%o 90%m	0.16

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Engineering, INC.

**16-18s-29w Lane, KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 59120

**DST#: 6**

ATTN: Vern Schrag

Test Start: 2014.08.28 @ 00:10:15

## Tool Information

Drill Pipe:	Length: 4170.00 ft	Diameter: 3.80 inches	Volume: 58.49 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 123.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 59.09 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	4300.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	42.00 ft			
Tool Length:	70.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4273.00	
Shut In Tool	5.00			4278.00	
Hydraulic tool	5.00			4283.00	
Jars	5.00			4288.00	
Safety Joint	3.00			4291.00	
Packer	5.00			4296.00	28.00 Bottom Of Top Packer
Packer	4.00			4300.00	
Stubb	1.00			4301.00	
Perforations	3.00			4304.00	
Recorder	0.00	8846	Inside	4304.00	
Recorder	0.00	8737	Outside	4304.00	
Change Over Sub	1.00			4305.00	
Blank Spacing	31.00			4336.00	
Change Over Sub	1.00			4337.00	
Bullnose	5.00			4342.00	42.00 Bottom Packers & Anchor

**Total Tool Length: 70.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Larson Engineering, INC.

**16-18s-29w Lane, KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 59120

**DST#: 6**

ATTN: Vern Schrag

Test Start: 2014.08.28 @ 00:10:15

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

31 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.76 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
40.00	free oil	0.197
32.00	ocm 10%o 90%m	0.157

Total Length: 72.00 ft      Total Volume: 0.354 bbl

Num Fluid Samples: 0

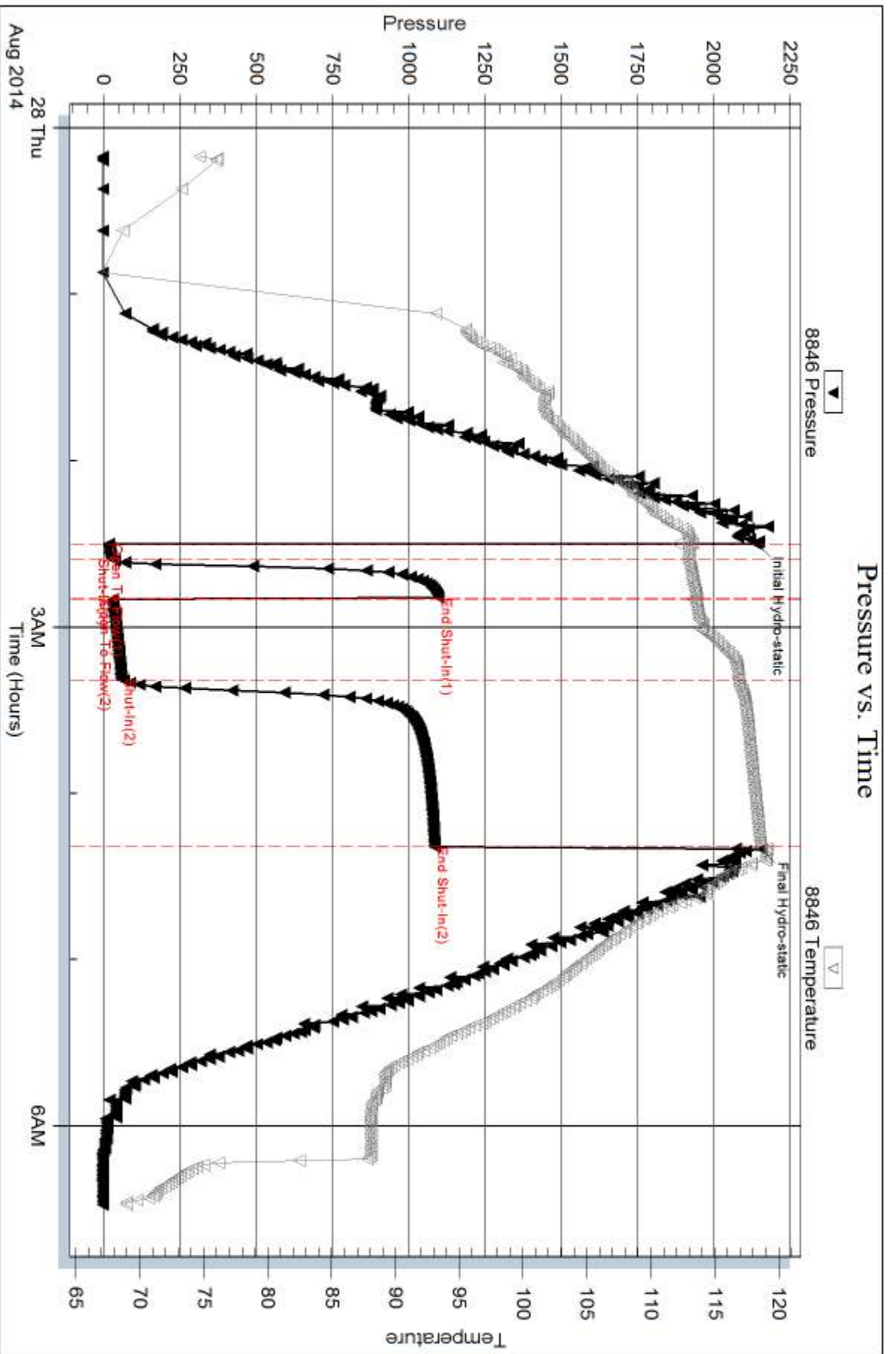
Num Gas Bombs: 0

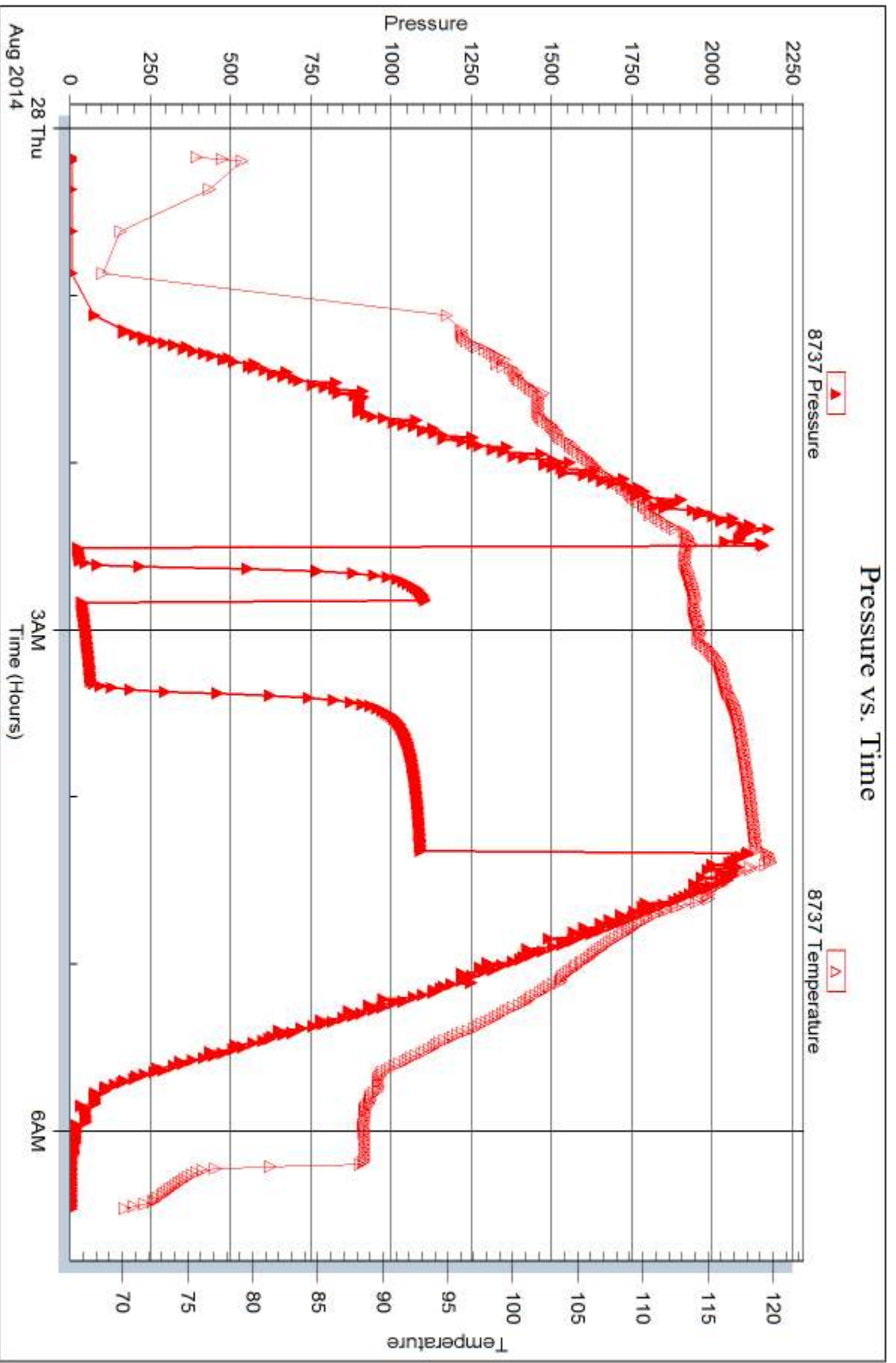
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API= 33@80 corrected to 31 @ 60







## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, INC.**

562 W State RD4  
Olmitz KS 67564

ATTN: Vern Schrag

### **Rhonda #1-16**

#### **16-18s-29w Lane,KS**

Start Date: 2014.08.29 @ 17:09:15

End Date: 2014.08.29 @ 21:05:00

Job Ticket #: 59121                      DST #: 7

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.09.04 @ 08:31:23



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Larson Engineering, INC.

**16-18s-29w Lane, KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 59121

**DST#: 7**

ATTN: Vern Schrag

Test Start: 2014.08.29 @ 17:09:15

## GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened:

Time Test Ended: 21:05:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 65

**Interval: 4341.00 ft (KB) To 4390.00 ft (KB) (TVD)**

Reference Elevations: 2820.00 ft (KB)

Total Depth: 4390.00 ft (KB) (TVD)

2814.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 6.00 ft

**Serial #: 8846** Inside

Press@RunDepth: psig @ 4352.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.08.29

End Date:

2014.08.29

Last Calib.:

2014.08.29

Start Time:

17:09:15

End Time:

21:05:00

Time On Btm:

2014.08.29 @ 18:51:45

Time Off Btm:

2014.08.29 @ 19:01:00

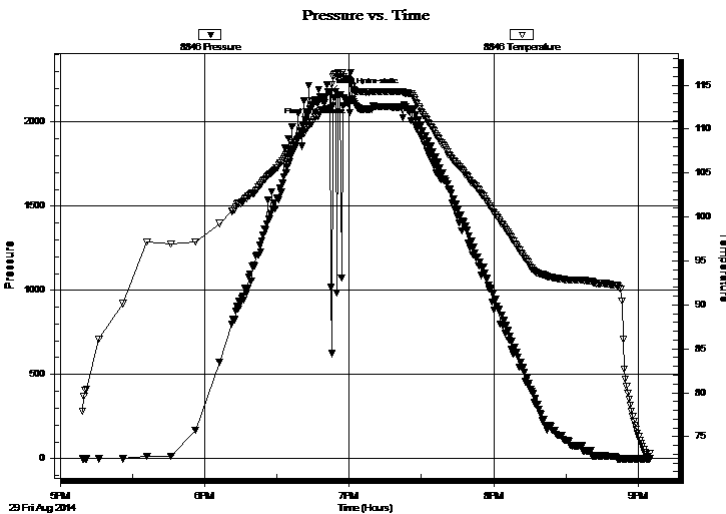
TEST COMMENT: IF:PACKER FAILURE

IS:

FF:

FS:

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2177.51	112.20	Initial Hydro-static
10	2136.19	114.90	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
339.00	mud 100 % m	3.63

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

Larson Engineering, INC.

**16-18s-29w Lane, KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 59121

**DST#: 7**

ATTN: Vern Schrag

Test Start: 2014.08.29 @ 17:09:15

**GENERAL INFORMATION:**

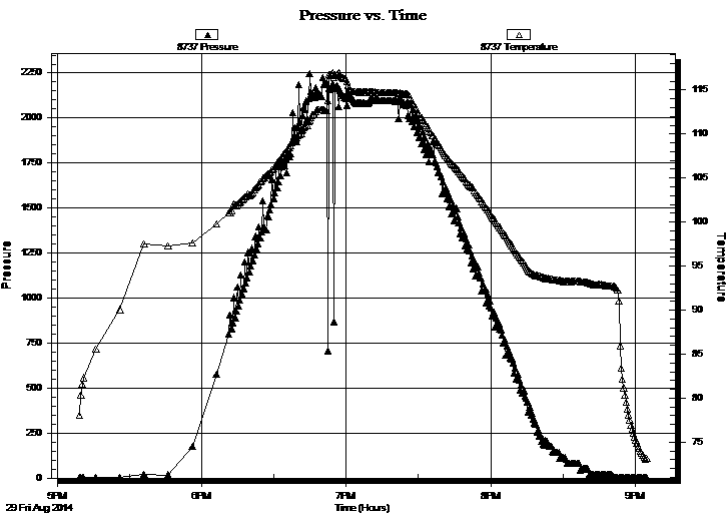
Formation: <b>Marmaton</b>					
Deviated: No	Whipstock:	ft (KB)	Test Type:	Conventional Bottom Hole (Reset)	
Time Tool Opened:			Tester:	Mike Roberts	
Time Test Ended:	21:05:00		Unit No:	65	
<b>Interval: 4341.00 ft (KB) To 4390.00 ft (KB) (TVD)</b>			Reference Elevations:	2820.00 ft (KB)	
Total Depth:	4390.00 ft (KB) (TVD)			2814.00 ft (CF)	
Hole Diameter:	7.88 inches	Hole Condition: Poor	KB to GR/CF:	6.00 ft	

**Serial #: 8737**

**Outside**

Press@RunDepth:	psig @ 4352.00 ft (KB)	Capacity:	8000.00 psig
Start Date:	2014.08.29	End Date:	2014.08.29
Start Time:	17:09:15	End Time:	21:04:45
		Last Calib.:	2014.08.29
		Time On Btm:	
		Time Off Btm:	

TEST COMMENT: IF:PACKER FAILURE  
IS:  
FF:  
FS:



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
339.00	mud 100 % m	3.63

\* Recovery from multiple tests

**Gas Rates**

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Engineering, INC.

**16-18s-29w Lane, KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 59121

**DST#: 7**

ATTN: Vern Schrag

Test Start: 2014.08.29 @ 17:09:15

## Tool Information

Drill Pipe:	Length: 4202.00 ft	Diameter: 3.80 inches	Volume: 58.94 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer:	lb
Drill Collar:	Length: 123.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose:	lb
			<u>Total Volume: 59.54 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial	lb
Depth to Top Packer:	4341.00 ft			Final	lb
Depth to Bottom Packer:	ft				
Interval between Packers:	49.00 ft				
Tool Length:	73.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

## Tool Description

**Length (ft) Serial No. Position Depth (ft) Accum. Lengths**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4318.00	
Shut In Tool	5.00			4323.00	
Hydraulic tool	5.00			4328.00	
Jars	5.00			4333.00	
Safety Joint	3.00			4336.00	
Packer	5.00			4341.00	24.00 Bottom Of Top Packer
Packer - Shale	0.00			4341.00	
Stubb	1.00			4342.00	
Perforations	10.00			4352.00	
Recorder	0.00	8846	Inside	4352.00	
Recorder	0.00	8737	Outside	4352.00	
Change Over Sub	1.00			4353.00	
Blank Spacing	31.00			4384.00	
Change Over Sub	1.00			4385.00	
Bullnose	5.00			4390.00	49.00 Anchor Tool

**Total Tool Length: 73.00**





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Larson Engineering, INC.

**16-18s-29w Lane, KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 59121

**DST#: 7**

ATTN: Vern Schrag

Test Start: 2014.08.29 @ 17:09:15

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.57 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2600.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
339.00	mud 100 % m	3.635

Total Length: 339.00 ft      Total Volume: 3.635 bbl

Num Fluid Samples: 0

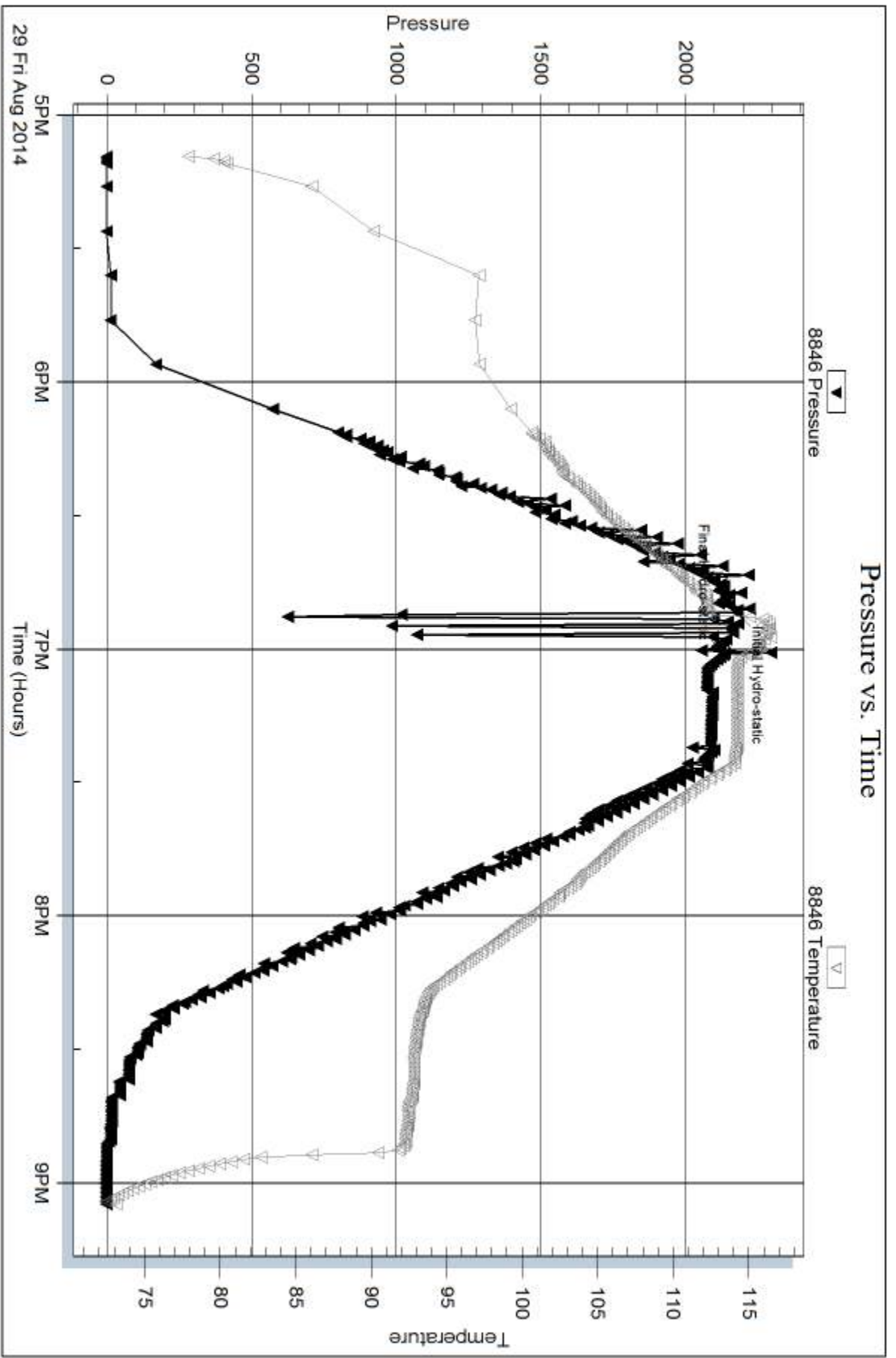
Num Gas Bombs: 0

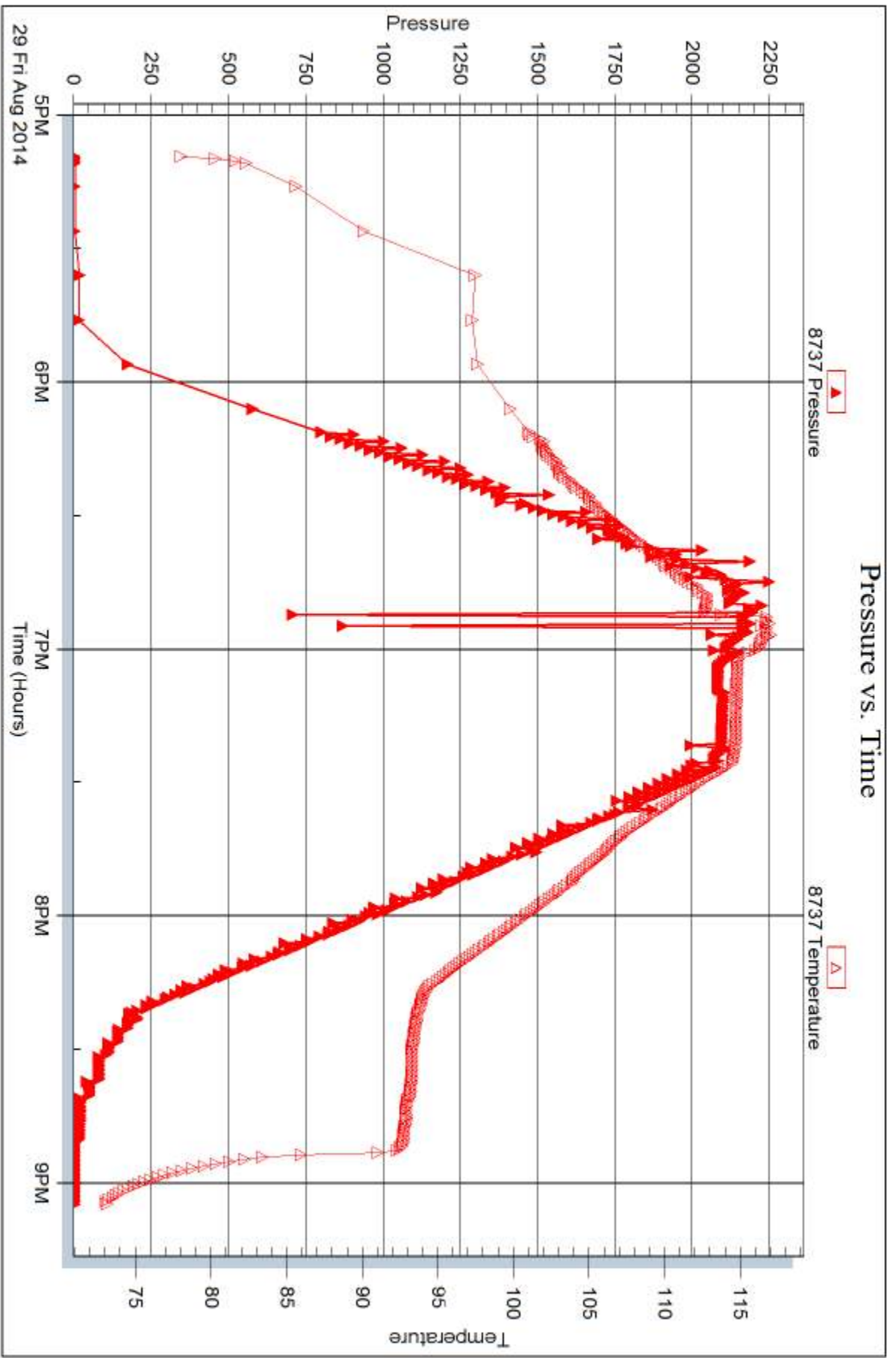
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, INC.**

562 W State RD4  
Olmitz KS 67564

ATTN: Vern Schrag

### **Rhonda #1-16**

#### **16-18s-29w Lane,KS**

Start Date: 2014.08.29 @ 21:41:15

End Date: 2014.08.30 @ 02:49:45

Job Ticket #: 59122                      DST #: 8

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.09.04 @ 08:30:52



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Larson Engineering, INC.

**16-18s-29w Lane, KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 59122

**DST#: 8**

ATTN: Vern Schrag

Test Start: 2014.08.29 @ 21:41:15

## GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:15:15

Time Test Ended: 02:49:45

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 65

**Interval: 4302.00 ft (KB) To 4390.00 ft (KB) (TVD)**

Reference Elevations: 2820.00 ft (KB)

Total Depth: 4390.00 ft (KB) (TVD)

2814.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 6.00 ft

**Serial #: 8737 Outside**

Press@RunDepth: 96.35 psig @ 4305.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.08.29

End Date:

2014.08.30

Last Calib.: 2014.08.30

Start Time: 21:41:15

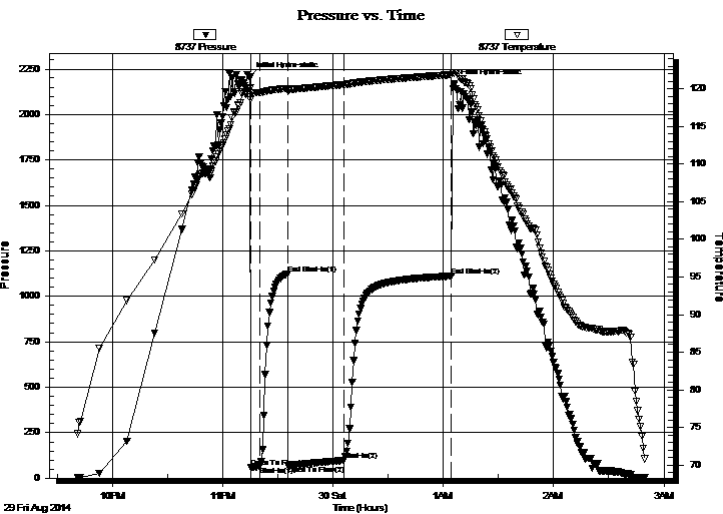
End Time:

02:49:45

Time On Btm: 2014.08.29 @ 23:15:00

Time Off Btm: 2014.08.30 @ 01:05:45

TEST COMMENT: IF: Built to 1/2" blow  
IS: No return blow  
FF: Built to 4 1/2" blow  
FS: No return blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2205.86	120.10	Initial Hydro-static
1	56.79	118.52	Open To Flow (1)
5	64.28	119.49	Shut-In(1)
21	1123.59	120.06	End Shut-In(1)
21	68.93	119.67	Open To Flow (2)
51	96.35	120.54	Shut-In(2)
110	1111.46	121.86	End Shut-In(2)
111	2170.20	122.07	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
40.00	free oil	0.20
40.00	ocm 5%o 95%m	0.20

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Engineering, INC.

**16-18s-29w Lane, KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 59122

**DST#: 8**

ATTN: Vern Schrag

Test Start: 2014.08.29 @ 21:41:15

## Tool Information

Drill Pipe:	Length: 4171.00 ft	Diameter: 3.80 inches	Volume: 58.51 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 123.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 59.11 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	4302.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	88.00 ft			
Tool Length:	112.00 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			4279.00	
Shut In Tool	5.00			4284.00	
Hydraulic tool	5.00			4289.00	
Jars	5.00			4294.00	
Safety Joint	3.00			4297.00	
Packer	5.00			4302.00	24.00 Bottom Of Top Packer
Packer - Shale	0.00			4302.00	
Stubb	1.00			4303.00	
Perforations	2.00			4305.00	
Recorder	0.00	8846	Inside	4305.00	
Recorder	0.00	8737	Outside	4305.00	
Change Over Sub	1.00			4306.00	
Blank Spacing	63.00			4369.00	
Change Over Sub	1.00			4370.00	
Perforations	15.00			4385.00	
Bullnose	5.00			4390.00	88.00 Anchor Tool
<b>Total Tool Length:</b>	<b>112.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Larson Engineering, INC.

**16-18s-29w Lane, KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 59122

**DST#: 8**

ATTN: Vern Schrag

Test Start: 2014.08.29 @ 21:41:15

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

31 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.57 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2600.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
40.00	free oil	0.197
40.00	ocm 5%o 95%m	0.197

Total Length: 80.00 ft      Total Volume: 0.394 bbl

Num Fluid Samples: 0

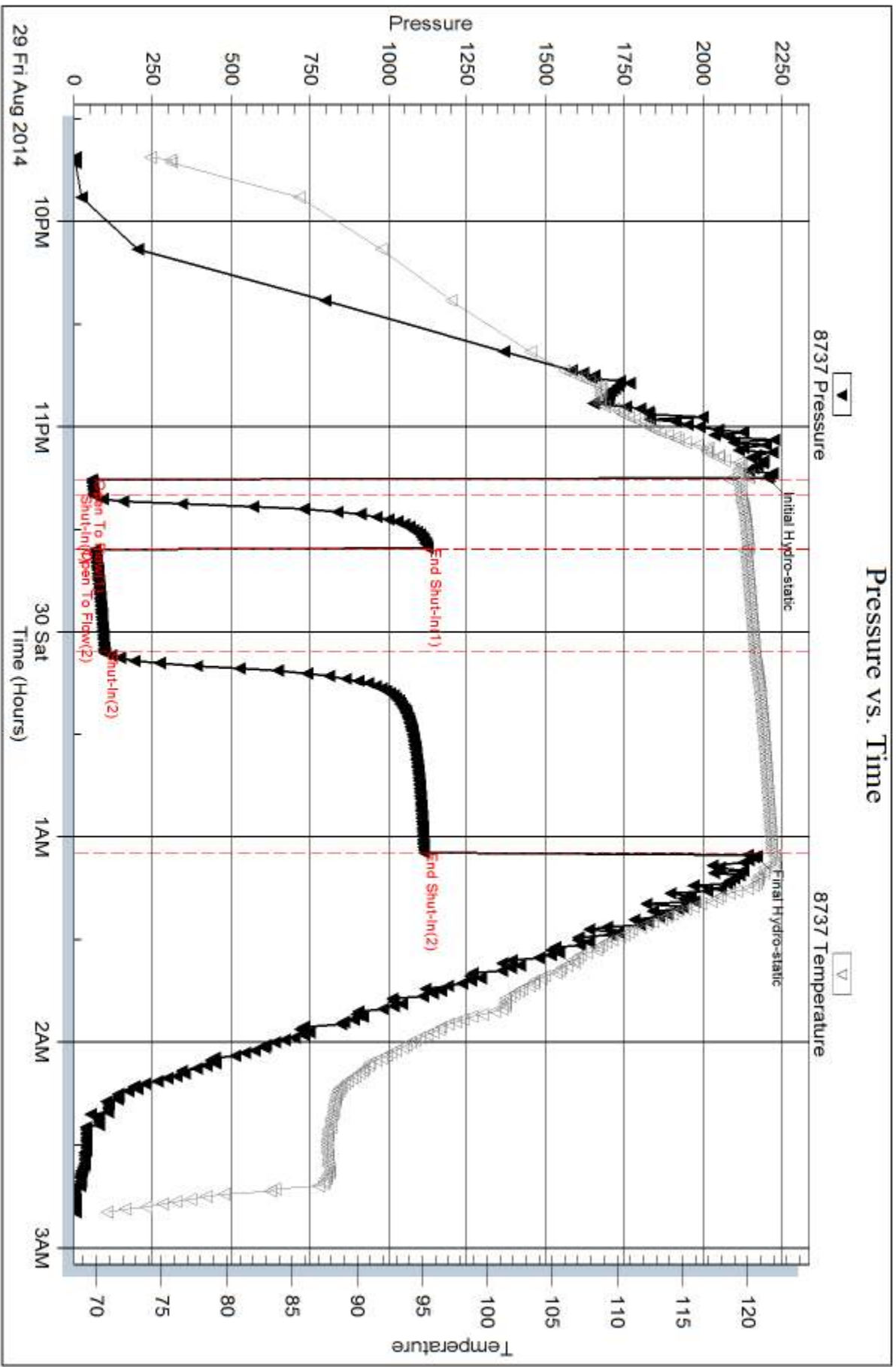
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API= 33@80 corrected to 31 @ 60







## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, INC.**

562 W State RD4  
Olmitz KS 67564

ATTN: Vern Schrag

### **Rhonda #1-16**

#### **16-18s-29w Lane,KS**

Start Date: 2014.08.30 @ 21:51:15

End Date: 2014.08.31 @ 01:03:30

Job Ticket #: 59123                      DST #: 9

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.09.04 @ 08:30:10



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Larson Engineering, INC.

**16-18s-29w Lane, KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 59123

**DST#: 9**

ATTN: Vern Schrag

Test Start: 2014.08.30 @ 21:51:15

## GENERAL INFORMATION:

Formation: **Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened:

Time Test Ended: 01:03:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 65

**Interval: 4435.00 ft (KB) To 4549.00 ft (KB) (TVD)**

Reference Elevations: 2820.00 ft (KB)

Total Depth: 4047.00 ft (KB) (TVD)

2814.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 6.00 ft

**Serial #: 8846 Inside**

Press@RunDepth: psig @ 4438.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.08.30

End Date:

2014.08.31

Last Calib.: 2014.08.31

Start Time: 21:51:15

End Time:

01:03:30

Time On Btm: 2014.08.30 @ 23:22:15

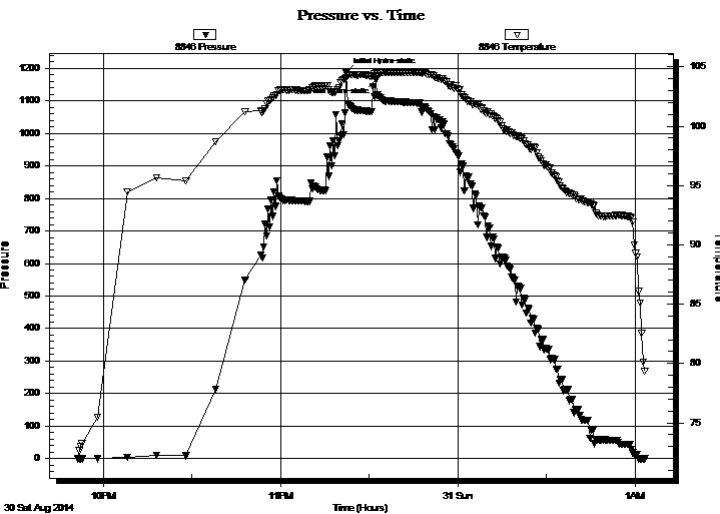
Time Off Btm: 2014.08.30 @ 23:32:15

TEST COMMENT: IF: LOOSE PIPE IN DERRICK

IS:

FF:

FS:



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1187.75	104.11	Initial Hydro-static
10	1164.36	104.51	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)

## Gas Rates

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

\* Recovery from multiple tests



# DRILL STEM TEST REPORT

Larson Engineering, INC.

16-18s-29w Lane, KS

562 W State RD4  
Olmitz KS 67564

Rhonda #1-16

Job Ticket: 59123

DST#: 9

ATTN: Vern Schrag

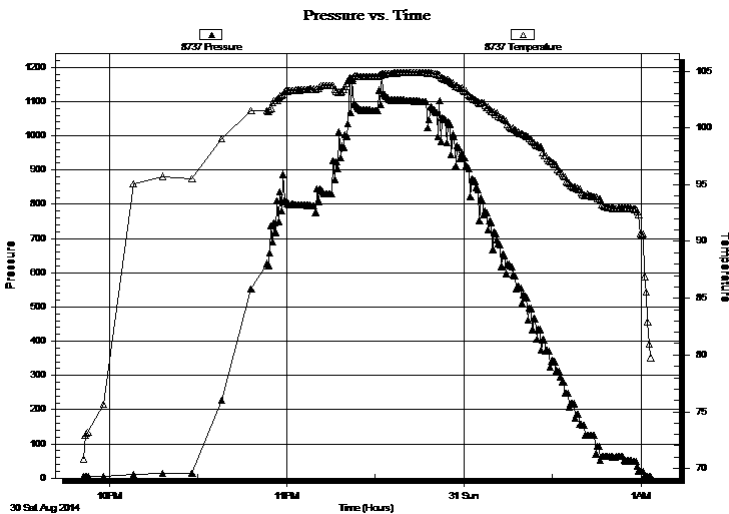
Test Start: 2014.08.30 @ 21:51:15

## GENERAL INFORMATION:

**Formation:** Cherokee  
**Deviated:** No Whipstock: ft (KB)  
**Time Tool Opened:**  
**Time Test Ended:** 01:03:30  
**Interval:** 4435.00 ft (KB) To 4549.00 ft (KB) (TVD)  
**Total Depth:** 4047.00 ft (KB) (TVD)  
**Hole Diameter:** 7.88 inches **Hole Condition:** Poor  
**Test Type:** Conventional Bottom Hole (Reset)  
**Tester:** Mike Roberts  
**Unit No:** 65  
**Reference Elevations:** 2820.00 ft (KB)  
 2814.00 ft (CF)  
**KB to GR/CF:** 6.00 ft

**Serial #: 8737** **Outside**  
**Press@RunDepth:** psig @ 4438.00 ft (KB) **Capacity:** 8000.00 psig  
**Start Date:** 2014.08.30 **End Date:** 2014.08.31 **Last Calib.:** 2014.08.31  
**Start Time:** 21:51:15 **End Time:** 01:03:30 **Time On Btm:**  
**Time Off Btm:**

**TEST COMMENT:** IF: LOOSE PIPE IN DERRICK  
 IS:  
 FF:  
 FS:



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Engineering, INC.

**16-18s-29w Lane,KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 59123

**DST#: 9**

ATTN: Vern Schrag

Test Start: 2014.08.30 @ 21:51:15

## Tool Information

Drill Pipe:	Length: 4296.00 ft	Diameter: 3.80 inches	Volume: 60.26 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer:	lb
Drill Collar:	Length: 123.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose:	lb
			<u>Total Volume: 60.86 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial	lb
Depth to Top Packer:	4435.00 ft			Final	lb
Depth to Bottom Packer:	ft				
Interval between Packers:	114.00 ft				
Tool Length:	142.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments: Came out of hole on stand 42 derrick hand noticed that stands in the derrick was loose and didnt know if any was loose that was in the hole already due to crew change at 11 pm

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

Change Over Sub	1.00			4408.00	
Shut In Tool	5.00			4413.00	
Hydraulic tool	5.00			4418.00	
Jars	5.00			4423.00	
Safety Joint	3.00			4426.00	
Packer	5.00			4431.00	28.00 Bottom Of Top Packer
Packer	4.00			4435.00	
Stubb	1.00			4436.00	
Perforations	2.00			4438.00	
Recorder	0.00	8846	Inside	4438.00	
Recorder	0.00	8737	Outside	4438.00	
Change Over Sub	1.00			4439.00	
Blank Spacing	94.00			4533.00	
Change Over Sub	1.00			4534.00	
Perforations	10.00			4544.00	
Bullnose	5.00			4549.00	114.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>142.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Larson Engineering, INC.

**16-18s-29w Lane, KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 59123

**DST#: 9**

ATTN: Vern Schrag

Test Start: 2014.08.30 @ 21:51:15

### 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: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.33 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2700.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

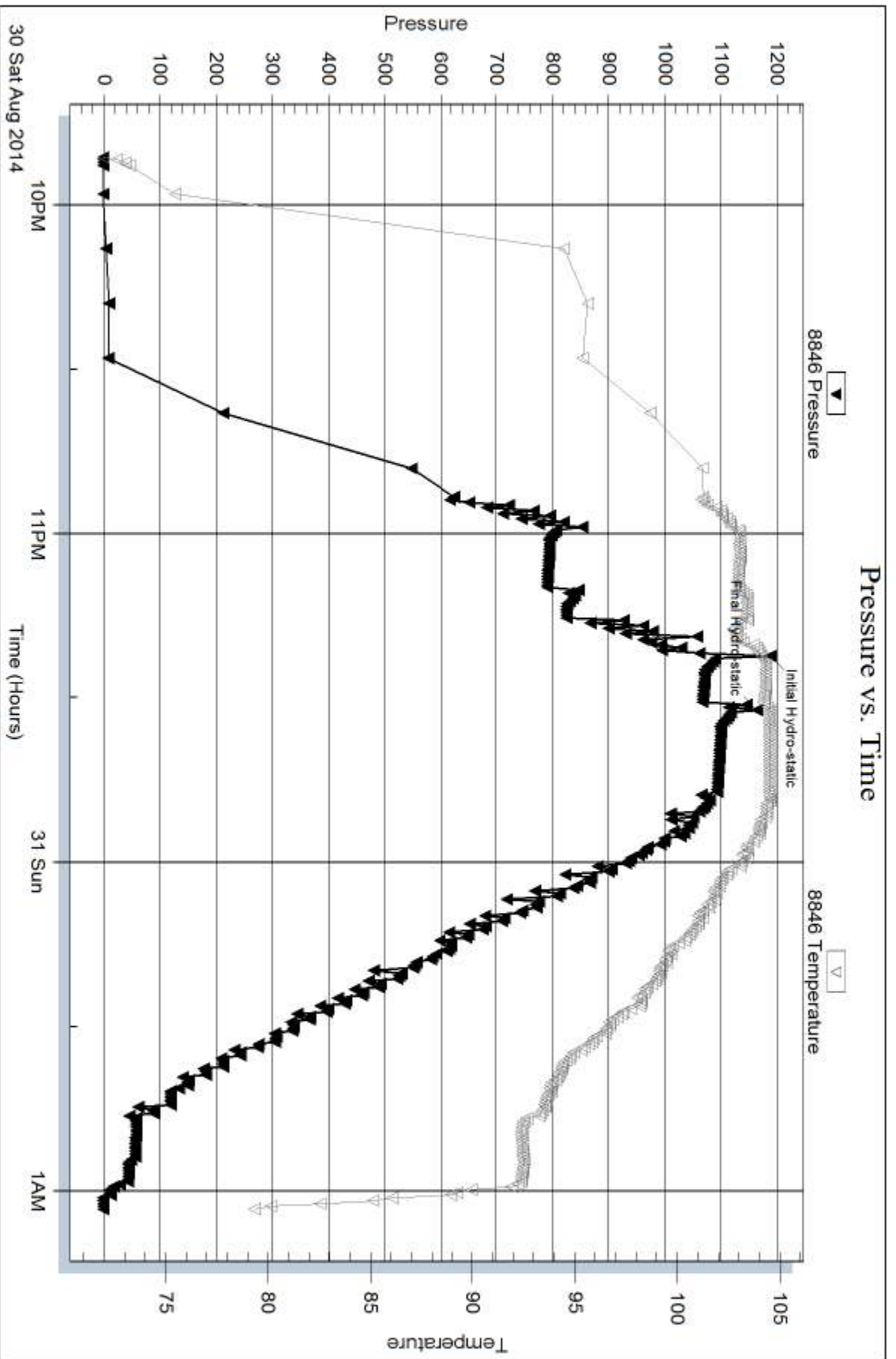
Length ft	Description	Volume bbbl

Total Length:                      ft      Total Volume:                      bbl

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

Laboratory Name:                      Laboratory Location:

Recovery Comments:

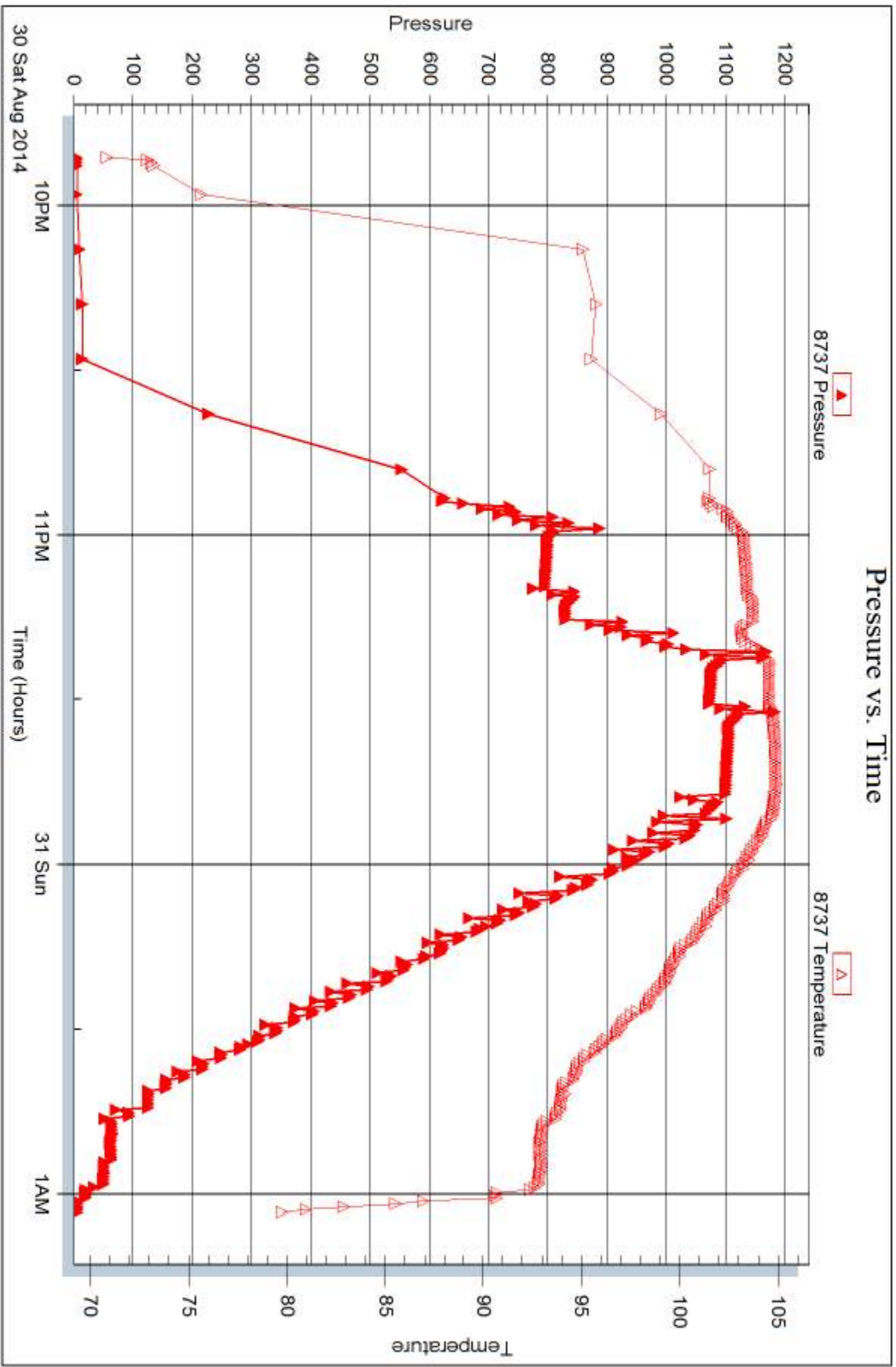


Serial #: 8737

Outside Larson Engineering, INC.

Rhonda #1-16

DST Test Number: 9



Trilobite Testing, Inc

Ref. No: 59123

Printed: 2014.09.04 @ 08:30:11



## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, INC.**

562 W State RD4  
Olmitz KS 67564

ATTN: Vern Schrag

### **Rhonda #1-16**

#### **16-18s-29w Lane,KS**

Start Date: 2014.08.31 @ 01:17:15

End Date: 2014.08.31 @ 07:36:30

Job Ticket #: 59124                      DST #: 10

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.09.04 @ 08:29:37





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Larson Engineering, INC.

**16-18s-29w Lane, KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 59124

**DST#: 10**

ATTN: Vern Schrag

Test Start: 2014.08.31 @ 01:17:15

## GENERAL INFORMATION:

Formation: **Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:43:30

Time Test Ended: 07:36:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 65

**Interval: 4435.00 ft (KB) To 4549.00 ft (KB) (TVD)**

Reference Elevations: 2820.00 ft (KB)

Total Depth: 4539.00 ft (KB) (TVD)

2814.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 6.00 ft

**Serial #: 8846**

**Inside**

Press@RunDepth: 88.79 psig @ 4451.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.08.31

End Date:

2014.08.31

Last Calib.: 2014.08.31

Start Time: 01:17:15

End Time:

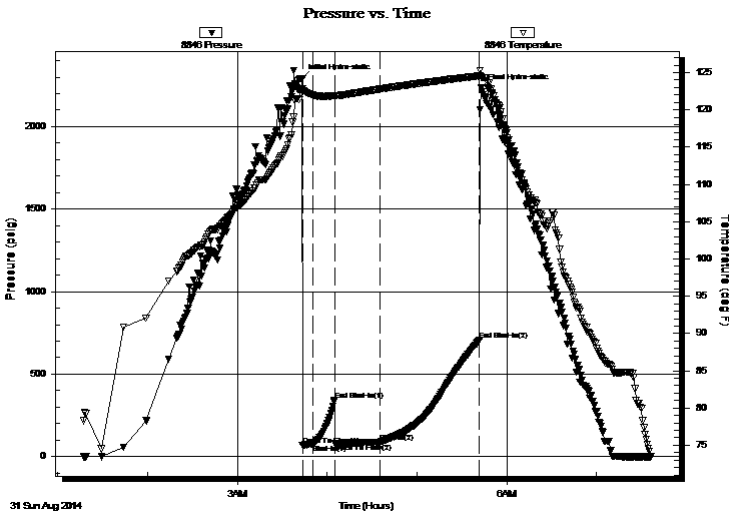
07:36:30

Time On Btm: 2014.08.31 @ 03:43:15

Time Off Btm: 2014.08.31 @ 05:42:45

TEST COMMENT: IF: Built to 1" blow  
IS: No return blow  
FF: Built to 1 1/2" blow  
FS: No return blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2292.60	122.87	Initial Hydro-static
1	68.38	122.42	Open To Flow (1)
7	75.63	122.00	Shut-In(1)
22	342.04	121.93	End Shut-In(1)
22	81.07	121.80	Open To Flow (2)
52	88.79	122.79	Shut-In(2)
119	707.02	124.55	End Shut-In(2)
120	2233.28	124.40	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	ocm 30%o 70%m	0.02

\* Recovery from multiple tests

## Gas Rates

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



## DRILL STEM TEST REPORT

Larson Engineering, INC.

**16-18s-29w Lane,KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 59124

**DST#: 10**

ATTN: Vern Schrag

Test Start: 2014.08.31 @ 01:17:15

### GENERAL INFORMATION:

Formation: **Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:43:30

Time Test Ended: 07:36:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 65

**Interval: 4435.00 ft (KB) To 4549.00 ft (KB) (TVD)**

Reference Elevations: 2820.00 ft (KB)

Total Depth: 4539.00 ft (KB) (TVD)

2814.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 6.00 ft

**Serial #: 8737**

**Outside**

Press@RunDepth: psig @ 4451.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.08.31

End Date:

2014.08.31

Last Calib.:

2014.08.31

Start Time: 01:17:15

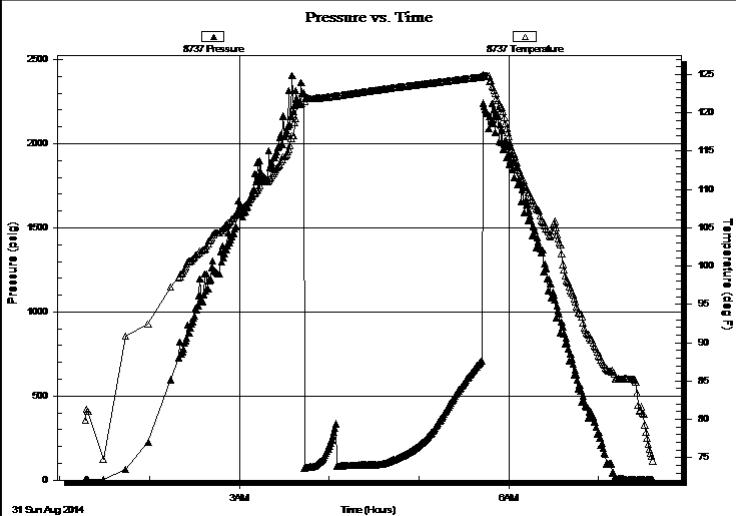
End Time:

07:36:30

Time On Btm:

Time Off Btm:

TEST COMMENT: IF:Built to 1" blow  
IS:No return blow  
FF:Built to 1 1/2" blow  
FS:No return blow



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
5.00	ocm 30%o 70%m	0.02

### Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Engineering, INC.

**16-18s-29w Lane, KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 59124

**DST#: 10**

ATTN: Vern Schrag

Test Start: 2014.08.31 @ 01:17:15

## Tool Information

Drill Pipe:	Length: 4296.00 ft	Diameter: 3.80 inches	Volume: 60.26 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 123.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 60.86 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4435.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	21.00 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
Change Over Sub	1.00			4408.00	
Shut In Tool	5.00			4413.00	
Hydraulic tool	5.00			4418.00	
Jars	5.00			4423.00	
Safety Joint	3.00			4426.00	
Packer	5.00			4431.00	28.00 Bottom Of Top Packer
Packer	4.00			4435.00	
Stubb	1.00			4436.00	
Perforations	15.00			4451.00	
Recorder	0.00	8846	Inside	4451.00	
Recorder	0.00	8737	Outside	4451.00	
Bullnose	5.00			4456.00	21.00 Bottom Packers & Anchor

**Total Tool Length: 49.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Larson Engineering, INC.

**16-18s-29w Lane, KS**

562 W State RD4  
Olmitz KS 67564

**Rhonda #1-16**

Job Ticket: 59124

**DST#: 10**

ATTN: Vern Schrag

Test Start: 2014.08.31 @ 01:17:15

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.32 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2700.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	ocm 30%o 70%m	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbl

Num Fluid Samples: 0

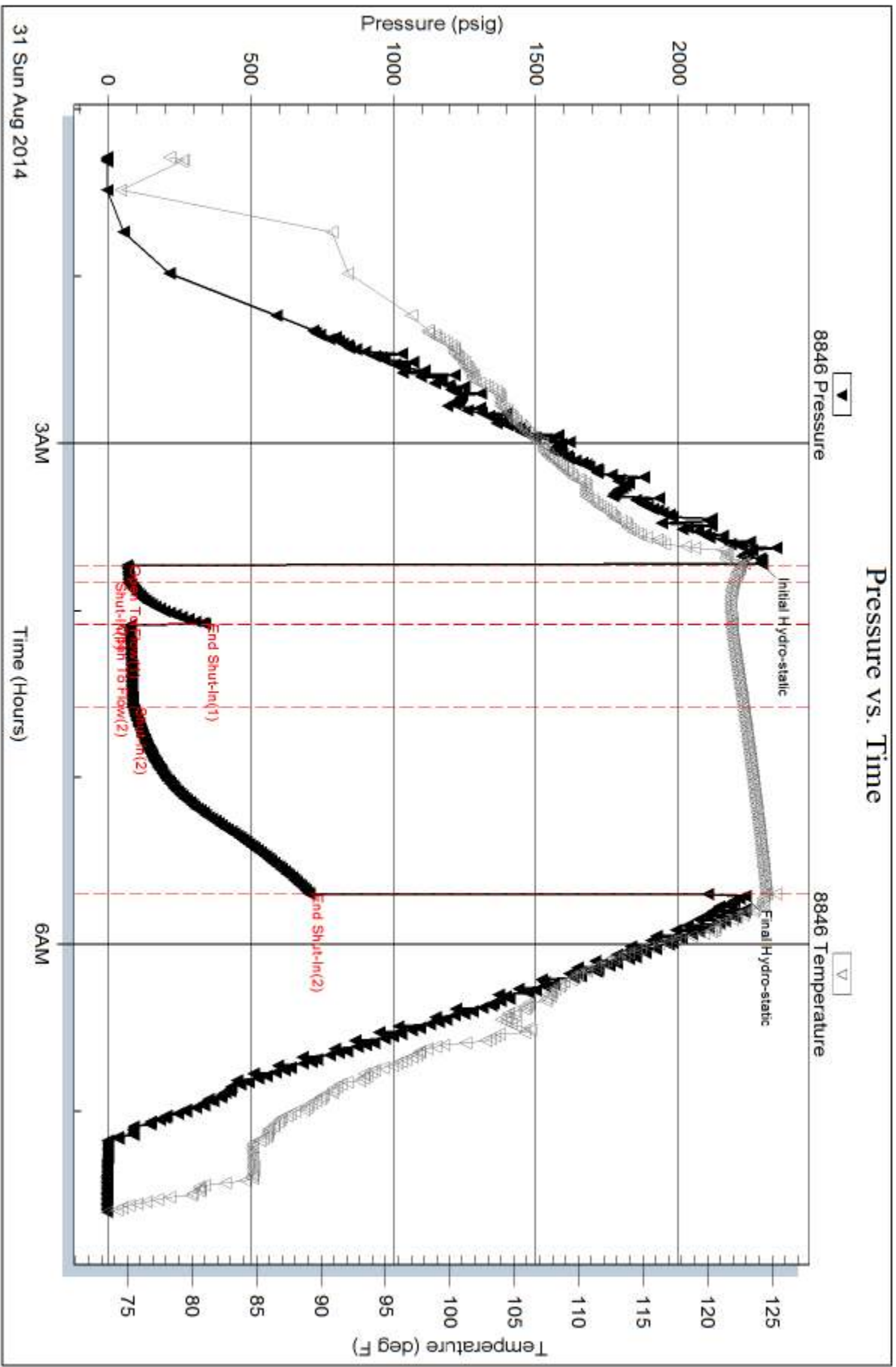
Num Gas Bombs: 0

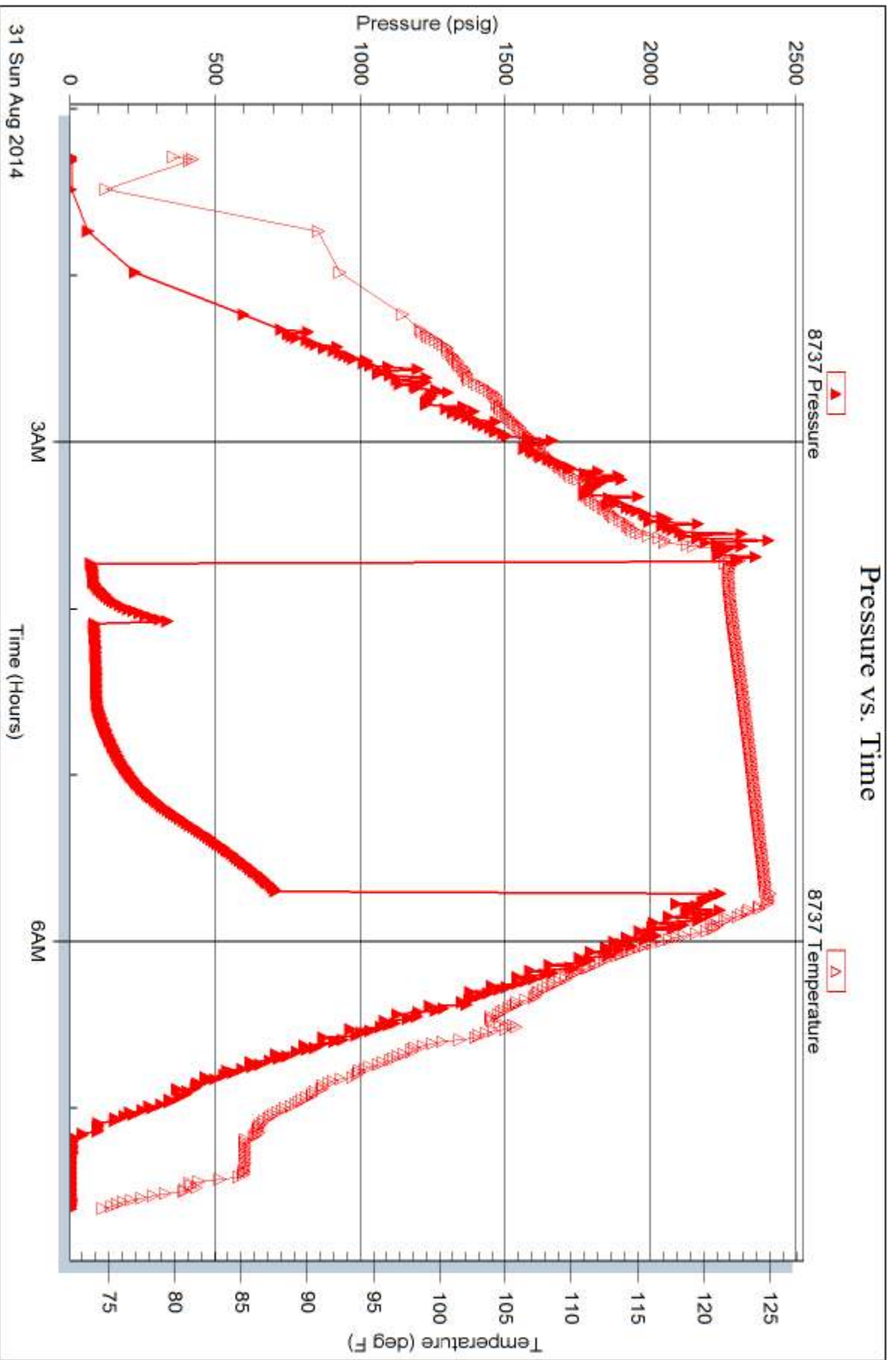
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 57454

4/10

Well Name & No. Rhonda # 1-16 Test No. 1 Date 8-25-14  
 Company Larson Engineering, Inc Elevation 2820 KB 2814 GL  
 Address 542 W state RD 4 Olathe KS 67564  
 Co. Rep / Geo. Vern Schrag Rig HD #3  
 Location: Sec. 16 Twp. 18S Rge. 29W Co. Jane State KS

Interval Tested 4024 4047 Zone Tested Earsing E  
 Anchor Length 21 Drill Pipe Run 3887 Mud Wt. 9.0  
 Top Packer Depth 4021 Drill Collars Run 123 Vis 55  
 Bottom Packer Depth 4024 Wt. Pipe Run Ø WL 7.6  
 Total Depth 4047 Chlorides 2700 ppm System LCM 2  
 Blow Description 5 Weak surface Blow  
15 NO Return  
30 Weak surface Blow  
60 NO Return

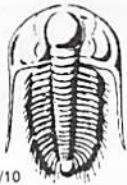
Rec	Feet of	%gas	%oil	%water	%mud
<u>63</u>	<u>gocm</u>	<u>5</u>	<u>5</u>	<u>90</u>	
<u>5</u>	<u>clean oil</u>		<u>100</u>		

Rec Total 68 BHT 117 Gravity 26 API RW 30 @ 100 ° F Chlorides — ppm

(A) Initial Hydrostatic <u>1991</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>6:00</u>
(B) First Initial Flow <u>17</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>8:00</u>
(C) First Final Flow <u>19</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>10:15</u>
(D) Initial Shut-In <u>1036</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>12:05</u>
(E) Second Initial Flow <u>21</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1349</u>
(F) Second Final Flow <u>46</u>	<input checked="" type="checkbox"/> Mileage <u>44RT</u> 68.20	Comments
(G) Final Shut-In <u>1627</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1893</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Open <u>5</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>15</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Day Standby	Total <u>1643.20</u>
Final Shut-In <u>40</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1643.20</u>	

Approved By Vern C Schrag Our Representative

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 57455

Well Name & No. Rhonda # 1-16 Test No. 2 Date 8-26-14  
 Company Larson Engineering, Inc. Elevation 2820 KB 2814 GL  
 Address 562 W State RD 4 Olmitz KS, 67564  
 Co. Rep / Geo. Vern Schrag Rig HD #3  
 Location: Sec. 16 Twp. 18S Rge. 29W Co. lane State KS

Interval Tested 4155 4190 Zone Tested Lansing J  
 Anchor Length 35 Drill Pipe Run 4073 Mud Wt. 9.0  
 Top Packer Depth 4150 Drill Collars Run 123 Vis 55  
 Bottom Packer Depth 4155 Wt. Pipe Run Ø WL 7.4  
 Total Depth 4190 Chlorides 2100 ppm System LCM 2

Blow Description 5 weak surface blow build to 5 1/2"  
15 No Return  
30 ~~NO RETURN~~ B.O.B in 18 min  
60 No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>315</u>	<u>new with oil spot</u>	<u>1</u>	<u>59</u>	<u>40</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 315 ~~315~~ BHT 124 Gravity — API RW 45 @ 83 ° F Chlorides 13000 ppm  
 Test 1250 T-On Location 6:25  
 Jars 250 T-Started 6:48  
 Safety Joint 75 T-Open 8:40  
 Circ Sub N/C T-Pulled 10:30  
 Hourly Standby T-Out 12:13  
 Mileage 44 RT 68.20 Comments \_\_\_\_\_  
 Sampler \_\_\_\_\_  
 Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1643.20

Initial Open 5  
 Initial Shut-In 15  
 Final Flow 30  
 Final Shut-In 60

Total 1643.20  
 MP/DST Disc't \_\_\_\_\_

Approved By Vern Schrag Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 57456

4/10

Well Name & No. Rhonda # 1-16 Test No. 3 Date 8-26-14  
 Company Larson Engineering, Inc. Elevation 2820 KB 2814 GL  
 Address 562 W State RD4 Olmitz KS 67564  
 Co. Rep / Geo. Vern Schrag Rig HD #3  
 Location: Sec. 14 Twp. 18S Rge. 29W Co. lane State KS

Interval Tested 4194 4201 Zone Tested Lansing J  
 Anchor Length 7 Drill Pipe Run 4075 Mud Wt. 9.2  
 Top Packer Depth 4189 Drill Collars Run 123 Vis 50  
 Bottom Packer Depth 4194 Wt. Pipe Run 0 WL 8.0  
 Total Depth 4201 Chlorides 3000 ppm System LCM 2

Blow Description 5 B.O.B in 2 min  
15 No Return  
15 B.O.B in 2 min.  
30 No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>mcw</u>		<u>95</u>	<u>5</u>	
<u>1008</u>	<u>mcw</u>		<u>90</u>	<u>10</u>	
<u>126</u>	<u>mcw</u>		<u>70</u>	<u>30</u>	

Rec Total 1142 BHT 124 Gravity — API RW 37 @ 72 °F Chlorides 19000 ppm

(A) Initial Hydrostatic <u>2109</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>20:00</u>
(B) First Initial Flow <u>173</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>20:04</u>
(C) First Final Flow <u>283</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>21:50</u>
(D) Initial Shut-In <u>794</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>22:55</u>
(E) Second Initial Flow <u>332</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1:04</u>
(F) Second Final Flow <u>540</u>	<input checked="" type="checkbox"/> Mileage <u>44 RT</u> 68.20	Comments
(G) Final Shut-In <u>791</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1986</u>	<input type="checkbox"/> Straddle	

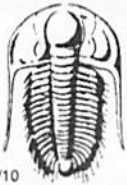
Initial Open 5  
 Initial Shut-In 15  
 Final Flow 15  
 Final Shut-In 30

Ruined Shale Packer  
 Ruined Packer  
 Extra Copies  
 Sub Total 0  
 Total 1643.20  
 MP/DST Disc't

Sub Total 1643.20

Approved By Vern Schrag Our Representative [Signature]

TriLOBITE TESTING Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 57457

4/10

Well Name & No. Rhonda # 1-16 Test No. 4 Date 8-27-14  
 Company Larson Engineering, Inc Elevation 2820 KB 2814 GL  
 Address 562 W State RD4 Olmitz KS 67564  
 Co. Rep / Geo. Vern Schrag Rig HO #3  
 Location: Sec. 14 Twp. 18S Rge. 29W Co. lane State ks

Interval Tested 4217 4233 Zone Tested Lansing K  
 Anchor Length 14 Drill Pipe Run 4076 Mud Wt. 9.2  
 Top Packer Depth 4212 Drill Collars Run 123 Vis 51  
 Bottom Packer Depth 4217 Wt. Pipe Run 8 WL 8  
 Total Depth 4233 Chlorides 3200 ppm System LCM 2

Blow Description 5 weak Blow Build to 1"  
15 No Return.  
30 weak Blow Build to 1 1/2"  
40 No Return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>151</u>	<u>new</u>		<u>60</u>		<u>40</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 151 BHT 120 Gravity — API RW 38 @ 81 °F Chlorides 14000 ppm  
 (A) Initial Hydrostatic 2090  Test 1250 T-On Location 10:00  
 (B) First Initial Flow 17  Jars 250 T-Started 10:39  
 (C) First Final Flow 29  Safety Joint 75 T-Open 12:20  
 (D) Initial Shut-In 855  Circ Sub N/C T-Pulled 14:10  
 (E) Second Initial Flow 33  Hourly Standby \_\_\_\_\_ T-Out 15:57  
 (F) Second Final Flow 81  Mileage 44RT 68.20 Comments \_\_\_\_\_  
 (G) Final Shut-In 854  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1973  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1643.20  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1643.20

Initial Open 5  
 Initial Shut-In 15  
 Final Flow 30  
 Final Shut-In 60

Approved By Vern Schrag Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 57458

4/10

Well Name & No. Rhonda # 1-16 Test No. 5 Date 8-28-14  
 Company Iarson Engineering, Inc. Elevation 2820 KB 2814 GL  
 Address 562 W State RD 4 Olmitz KS, 67564  
 Co. Rep / Geo. Vern Schrag Rig #0 #3  
 Location: Sec. 16 Twp. 18S Rge. 29W Co. Iane State KS

Interval Tested 4257 4275 Zone Tested Iansing L  
 Anchor Length 18 Drill Pipe Run 4110 Mud Wt. 9.0  
 Top Packer Depth 4252 Drill Collars Run 123 Vis 51  
 Bottom Packer Depth 4257 Wt. Pipe Run Ø WL 8.0  
 Total Depth 4275 Chlorides 3200 ppm System LCM 2

Blow Description 5 Weak surface Blow  
15 No Return  
15 No Blow  
30 No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>mud</u>			<u>100</u>	

Rec Total 1 BHT 114 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>200</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>4:15</u>
(B) First Initial Flow <u>15</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>4:25</u>
(C) First Final Flow <u>15</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>6:21</u>
(D) Initial Shut-In <u>16</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>7:24</u>
(E) Second Initial Flow <u>14</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>9:06</u>
(F) Second Final Flow <u>14</u>	<input checked="" type="checkbox"/> Mileage <u>44 RT</u> 68.20	Comments
(G) Final Shut-In <u>17</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2007</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer

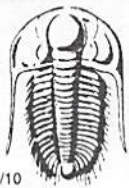
Initial Open 5  
 Initial Shut-In 15  
 Final Flow 15  
 Final Shut-In 30

Extra Packer  
 Extra Recorder  
 Day Standby  
 Accessibility

Sub Total 1643.20  
 Total 1643.20  
 MP/DST Disc't

Approved By [Signature] Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 59120

4/10

Well Name & No. Rhonda #1-16 Test No. 6 Date 8-28-14  
 Company Larson Engineering Inc. Elevation 2820 KB 2814 GL  
 Address 562 W. State Rd 4 Olmitz KS 67564  
 Co. Rep / Geo. Vern Schrag Rig HD 3  
 Location: Sec. 16 Twp. 98s Rge. 29W Co. LENE State KS

Interval Tested 4300-4342 Zone Tested Pleasanton  
 Anchor Length 42 Drill Pipe Run 4170 Mud Wt. 9.0  
 Top Packer Depth 4295 Drill Collars Run 123 Vis 57  
 Bottom Packer Depth 4300 Wt. Pipe Run Ø WL 6.8  
 Total Depth 4342 Chlorides 2500 ppm System LCM 2

Blow Description IF: Built to 1/2" Blow  
IS: No Return Blow  
FF: Built to 4" Blow  
FS: No Return Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>40</u>	<u>Free Oil</u>	<u>100</u>			
<u>32</u>	<u>OCM</u>	<u>10</u>		<u>90</u>	

Rec Total 72 BHT 119 Gravity 31 API RW — @ — ° F Chlorides — ppm

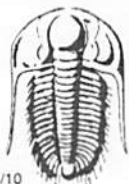
(A) Initial Hydrostatic 2143  Test 120.00 T-On Location 22:30  
 (B) First Initial Flow 19  Jars 250.00 T-Started 00:10  
 (C) First Final Flow 27  Safety Joint 75.00 T-Open 02:30  
 (D) Initial Shut-In 1100  Circ Sub NC T-Pulled 04:20  
 (E) Second Initial Flow 31  Hourly Standby \_\_\_\_\_ T-Out 06:28  
 (F) Second Final Flow 61  Mileage 44 RT 68.20 Comments \_\_\_\_\_  
 (G) Final Shut-In 1085  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2157  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_

Initial Open 5  
 Initial Shut-In 15  
 Final Flow 30  
 Final Shut-In 60

Sub Total 1643.20  
 Total 1643.20  
 MP/DST Disc't \_\_\_\_\_

Approved By Vern Schrag Our Representative Mike Roberts

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 59121

Well Name & No. Rhonda #1-16 Test No. 7 Date 8-29-14  
 Company Larson Engineering Inc. Elevation 2820 KB 2814 GL  
 Address 562 W. State Rd. 9 Olmitz KS 67564  
 Co. Rep / Geo. Vern Schrag Rig HD#3  
 Location: Sec. 16 Twp. 18S Rge. 29W Co. LANE State KS

Interval Tested 4341-4390 Zone Tested Marmaton  
 Anchor Length 49' Drill Pipe Run 4202 Mud Wt. 9.0  
 Top Packer Depth 4336 Drill Collars Run 123 Vis 52  
 Bottom Packer Depth 4341 Wt. Pipe Run Ø WL 7.6  
 Total Depth 4390 Chlorides 2600 ppm System LCM 2

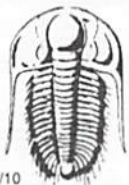
Blow Description IF!  
IS!  
FF!  
FS!  
Packer Failure

Rec	Feet of	%gas	%oil	%water	%mud
<u>339</u>	<u>mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 339 BHT 2127 Gravity 1050 API RW 1250.09 @ 16:00 °F Chlorides 16:00 ppm  
 (A) Initial Hydrostatic 2127  Test 1250.09 T-On Location 16:00  
 (B) First Initial Flow /  Jars 250.09 T-Started 17:09  
 (C) First Final Flow /  Safety Joint 75.09 T-Open 18:20  
 (D) Initial Shut-In /  Circ Sub \_\_\_\_\_ T-Pulled 21:05  
 (E) Second Initial Flow /  Hourly Standby \_\_\_\_\_ T-Out \_\_\_\_\_  
 (F) Second Final Flow /  Mileage 44RT 68.20 Comments \_\_\_\_\_  
 (G) Final Shut-In /  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2136  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer 250.09  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Open \_\_\_\_\_  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Initial Shut-In \_\_\_\_\_  Day Standby \_\_\_\_\_ Total 1693.20  
 Final Flow \_\_\_\_\_  Accessibility 1693.20 MP/DST Disc't \_\_\_\_\_  
 Final Shut-In \_\_\_\_\_ Sub Total 1893.20/-

Approved By \_\_\_\_\_ Our Representative Mike Robert

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 59122

Well Name & No. Rhonda #1-16 Test No. 8 Date 8-29-14  
 Company Larson Engineering Inc. Elevation 2820 KB 2814 GL  
 Address 562 W. State Rd. 4 Olmitz KS 67564  
 Co. Rep / Geo. Vern Schrag Rig HD#3  
 Location: Sec. 16 Twp. 18S Rge. 29W Co. LANE State KS

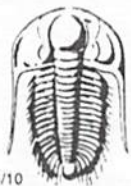
Interval Tested 4302-4390 Zone Tested Marmaton  
 Anchor Length 88 Drill Pipe Run 4171 Mud Wt. 9.0  
 Top Packer Depth 4297 Drill Collars Run 123 Vis 52  
 Bottom Packer Depth 4302 Wt. Pipe Run 0 WL 7.4  
 Total Depth 4390 Chlorides 2600 ppm System LCM 2  
 Blow Description IF: Built to 1/2" Blow  
IS: No Return Blow  
FF: Built to 4 1/2" Blow  
FS: No Return Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>40</u>	<u>Free oil</u>	<u>100</u>			
<u>40</u>	<u>OCM</u>	<u>5</u>		<u>95</u>	
Rec Total	<u>80</u>	BHT <u>122</u>	Gravity <u>31</u>	API RW @ _____ °F	Chlorides _____ ppm

(A) Initial Hydrostatic 2205  Test 1250.00 T-On Location 20:15  
 (B) First Initial Flow 56  Jars 250.00 T-Started 21:41  
 (C) First Final Flow 64  Safety Joint 75.00 T-Open 23:15  
 (D) Initial Shut-In 1123  Circ Sub NC T-Pulled 01:05  
 (E) Second Initial Flow 68  Hourly Standby \_\_\_\_\_ T-Out 02:49  
 (F) Second Final Flow 96  Mileage 4425 68.29 Comments \_\_\_\_\_  
 (G) Final Shut-In 1111  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2120  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer 250.00  Ruined Packer \_\_\_\_\_

Initial Open 5  Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Shut-In 15  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Final Flow 30  Day Standby \_\_\_\_\_ Total 1825.00  
 Final Shut-In 60  Accessibility 1825 MP/DST Disc't \_\_\_\_\_  
 Sub Total 1893.20  
 Approved By Jarrod Ady Our Representative Mike Rohrer

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **59123**

Well Name & No. Rhonda #1-16 Test No. 9 Date 8-30-14  
 Company Larson Engineering Inc Elevation 2820 KB 2814 GL  
 Address 562 W. State Rd. 4 Olmitz KS 67564  
 Co. Rep / Geo. Vern Schrag Rig HD#3  
 Location: Sec. 16 Twp. 18S Rge. 29W Co. Lane State KS

Interval Tested 4435-4549 Zone Tested Cherokee  
 Anchor Length 114 Drill Pipe Run 4296 Mud Wt. 9.0  
 Top Packer Depth 4431 Drill Collars Run 123 Vis 52  
 Bottom Packer Depth 4436 Wt. Pipe Run 0 WL 8.0  
 Total Depth 4549 Chlorides 2700 ppm System LCM 2

Blow Description IF: Came out with tool on stand 42  
IS: Derrick Hand Noticed Stands In Derrick  
FF: WAS LOOSE, Didn't know if any stands  
FS: In Hole WAS LOOSE due to crew change.

Rec	Feet of	%gas	%oil	%water	%mud

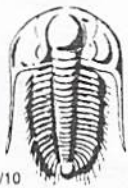
Rec Total 0 BHT \_\_\_\_\_ Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1187  Test 1250.00 T-On Location 21:00  
 (B) First Initial Flow \_\_\_\_\_  Jars 250.00 T-Started 21:51  
 (C) First Final Flow \_\_\_\_\_  Safety Joint 75.00 T-Open \_\_\_\_\_  
 (D) Initial Shut-In \_\_\_\_\_  Circ Sub \_\_\_\_\_ T-Pulled \_\_\_\_\_  
 (E) Second Initial Flow \_\_\_\_\_  Hourly Standby \_\_\_\_\_ T-Out 01:07  
 (F) Second Final Flow \_\_\_\_\_  Mileage 44 RT 68.20/- Comments \_\_\_\_\_  
 (G) Final Shut-In \_\_\_\_\_  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1164  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_

Initial Open \_\_\_\_\_  Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Shut-In \_\_\_\_\_  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Final Flow \_\_\_\_\_  Day Standby \_\_\_\_\_ Total 1443.20  
 Final Shut-In \_\_\_\_\_  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1443.20 11643.20/-

Approved By \_\_\_\_\_ Our Representative Mike Roberts

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 59124

Well Name & No. Rhonda #1-16 Test No. 10 Date 8-31-14  
 Company Larson Engineering Inc Elevation 2820 KB 2814 GL  
 Address 562 W. State Rd. Olmitz KS 67564  
 Co. Rep / Geo. Vern Schrag Rig HD#3  
 Location: Sec. 16 Twp. 18S Rge. 29W Co. Lane State KS

Interval Tested 4435-4549 Zone Tested Cherokee  
 Anchor Length 114 Drill Pipe Run 4296 Mud Wt. 9.0  
 Top Packer Depth 4430 Drill Collars Run 123 Vis 52  
 Bottom Packer Depth 4435 Wt. Pipe Run 0 WL 8.0  
 Total Depth 4549 Chlorides 2700 ppm System LCM 2  
 Blow Description IF: Built to 1" Blow  
IS: NO Return Blow  
FF: Built to 1 1/2" Blow  
FS: NO Return Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>OCM</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	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 125 Gravity — API RW — @ — °F Chlorides — ppm

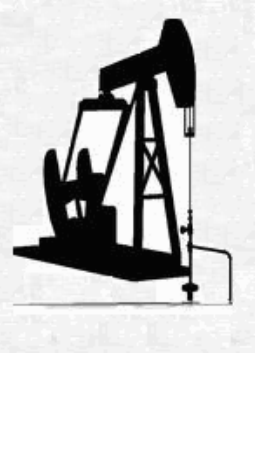
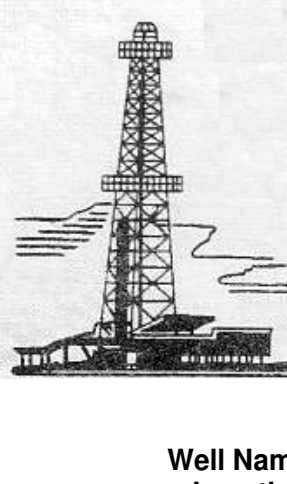
(A) Initial Hydrostatic 2292  Test 1250 T-On Location 21:00  
 (B) First Initial Flow 68  Jars 250 T-Started 01:17  
 (C) First Final Flow 75  Safety Joint 75 T-Open 03:45  
 (D) Initial Shut-In 342  Circ Sub NO T-Pulled 05:35  
 (E) Second Initial Flow 81  Hourly Standby \_\_\_\_\_ T-Out 07:36  
 (F) Second Final Flow 88  Mileage on location Comments \_\_\_\_\_  
 (G) Final Shut-In 707  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2233  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Open 5  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Initial Shut-In 15  Day Standby \_\_\_\_\_ Total 1575  
 Final Flow 30  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 60 Sub Total 1575

Approved By Vern Schrag Our Representative Mike Robert  
 Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# WELLSITE GEOLOGIST'S REPORT

VERNON C. SCHRAG  
CONSULTANT GEOLOGIST



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

Well Name: **RHONDA #1-16**  
 Location: **NE SW NE SW OF SEC. 16-18S-29W**  
 Licence Number: **API: 15-101-22533**  
 Spud Date: **August 20, 2014**  
 Surface Coordinates: **1865' FSL & 1797' FWL**

Region: **Lane Co., KS**  
 Drilling Completed: **August 31, 2014**

Bottom Hole Coordinates: **2813'**  
 Ground Elevation (ft): **2813'** K.B. Elevation (ft): **2820'**  
 Logged Interval (ft): **3800'** To: **RTD** Total Depth (ft): **4611'**  
 Formation: **Mississippi**  
 Type of Drilling Fluid: **Chemical Premix (Displaced)**

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### OPERATOR:

Company: **Larson Engineering Inc.**  
 Address: **562 West State Road 4  
 Olmitz, KS 67564-8561**

### DRILLING CONTRACTOR:

H. D. Drilling, LLC, Rig #3 (Co. Tools)  
 DP 4.5" XH (16.6#); DC 6-1/4" x 2-3/8" x 556', Kelly 40.30', Tool Joint 5.5" ; Bit: JZ-HA20Q, 7-7/8", standard jets 15-15-15; rpm 80, WOB 35k; Kelly Bushing 7' above ground level; LeWayne "Lew" Tresner (tool pusher).

### CASING:

Set 8-5/8" casing at 262'

### CIRCULATION SYSTEM:

Continental EMSCO D-300, duplex, 6 x 14, 60-62 spm, Chemical, premix, earth pits, Morgan Mud, Inc., McCook, NE., Cade Lines.

### OPEN HOLE LOGS:

DN, DI (SP) (Run-1); ML (Run-2); No Sonic; 5" detail LTD-3600; 2" DI to surface casing; LogTech-Pioneer Wireline, Hays, KS, Justin Henrickson, Log total depth (4610') was one foot short to rotary total depth (4611').

### DRILL STEM TEST #1:

LKC (E-zone): Interval: 4026-4047 (21') : Blow: weak surf. IFF, no RB; weak surf incr to 1/4" FFP, no RB; Times: 5-15-30-60; Recovery: 68' TF, no GIP; Grindouts: 5' CO (100%O, grav 26), 63' SOGCM (5%G, 5%O, 90%M); Pressures: HP: 1991-1893, SIP: 1036-1027, FP: 17-19, 21-46; BHT: 117 F; Trilobite Testing, Inc., Scott City, KS, Justin Harris.

### DRILL STEM TEST #2:

LKC (I-zone): Interval: 4155-4190 (35') : Blow: weak incr. 5-1/2" IFF, no RB, BOB 18 min FFP, no RB; Times: 5-15-30-60; Recovery: 320' MW w/oil spots (1%O, 59%W, 40%M, Rw 0.45 at 83 F, chlorides 13k); Pressures: HP: 2117-1941, SIP: 681-668, FP: 27-83, 121-173; BHT: 124 F; Trilobite Testing, Inc., Scott City, KS, Justin Harris.

### DRILL STEM TEST #3:

LKC (J-zone): Interval: 4194-4201 (7') : Blow: BOB 2 min IFF, no RB, BOB 2 min FFP, no RB; Times: 5-15-15-30; Recovery: 1142' TF; Grindouts: 5' MW (95%W, 5%M, Rw 0.37 @ 72 F, chlorides 19k), 1008' MW (90%W, 10%M), 126' MW (70%W, 30%M); Pressures: HP: 2109-1986, SIP: 794-791, FP: 173-283, 332-540; BHT: 126 F; Trilobite Testing, Inc., Scott City, KS, Justin Harris.

### DRILL STEM TEST #4:

LKC (K-zone): Interval: 4217-4233 (16') : Blow: weak incr 1-1/2" IFF, no RB, weak incr 1-1/2" FFP, no RB; Times: 5-15-30-60; Recovery: 151' MW (60%W, 40%M, Rw 0.38 @ 81 F); Pressures: HP: 2090-1973; SIP: 855-854; FP: 17-29, 33-51; BHT: 120 F; Trilobite Testing, Inc., Scott City, KS, Justin Harris.

### DRILL STEM TEST #5:

LKC (L-zone): Interval: 4257-4275 (18') : Blow: weak surf IFF, no RB, no blow 2nd open; Times: 5-15-15-30; Recovery: 1' mud; Pressures: HP: 2100-2007, SIP: 16-17, FP: 15-15, 16-16; BHT: 114 F; Trilobite Testing, Inc., Scott City, KS, Justin Harris.

### DRILL STEM TEST #6:

Pleasanton: Interval: 4300-4342 (42') : Blow: weak incr 1/2" IFF, no RB, weak incr 4" FFP, no RB; Times: 4-1-2" FFP, no RB; Recovery: 40' oil (100%O, 31 grav), 32' SOCM (10%O, 90%M); Pressures: HP: 2143-2157, SIP: 1100-1085, FP: 19-27, 31-61; BHT: 119 F; Trilobite Testing, Inc., Scott City, KS, Mike Roberts.

### DRILL STEM TEST #7:

Marmaton (Altamont): Interval: 4341-4390 (49') : Missrun due to packer seat failure; Recovery: 339' mud; Pressures: HP: 2177-2136; Trilobite Testing, Inc., Scott City, KS, Mike Roberts.

### DRILL STEM TEST #8:

Pleasanton thru Marmaton (Altamont): Interval: 4302-4390 (88') : Blow: weak incr 1/2" IFF, no RB, weak incr 4-1/2" FFP, no RB; Times: 5-15-30-60; Recovery: 40' oil (100%O, 31 grav.), 40' SOCM (5%O, 95%M); Pressures: HP: 2205-2170, SIP: 1123-1111, FP: 56-64, 68-96; BHT: 122 F; Trilobite Testing, Inc., Scott City, KS, Mike Roberts.

### DRILL STEM TEST #9:

Myrick Station thru Cher: Interval: 4435-4549 (114') : Discovered that drill pipe in derrick was loose during trip in hole w/tool. Had to trip out to tighten. Trilobite Testing, Inc., Scott City, KS, Mike Roberts.

### DRILL STEM TEST #10:

Myrick Station thru Cherokee: Interval: 4435-4549 (114') : Blow: weak incr 1/2" IFF, no RB, weak incr 1-1/2" FFP, no RB; Times: 5-15-30-60; Recovery: 5' HOCM (30%O, 70%M); Pressures: HP: 2296-2238, SIP: 342-707, FP: 68-75, 81-88; BHT: 125 F; Trilobite Testing, Inc., Scott City, KS, Mike Roberts.

