



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1098072
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: _____



1098072

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

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

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

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

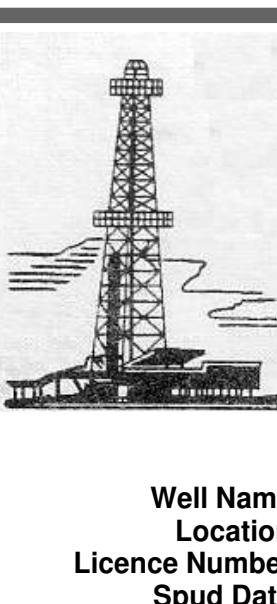
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____ <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Larson Engineering, Inc. dba Larson Operating Company
Well Name	Shirley 2-10
Doc ID	1098072

Tops

Name	Top	Datum
Anhydrite	2178	+692
Base Anhydrite	2241	+649
Heebner	3912	-1042
Lansing	3950	-1080
Stark Sh	4220	-1350
Marmaton	4344	-1474
Pawnee	4464	-1594
Ft Scott	4465	-1595
Cherokee Sh	4489	-1619
Mississippi	4554	-1684



WELLSITE GEOLOGIST'S REPORT

VERNON C. SCHRAG
CONSULTANT GEOLOGIST



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

Well Name: Shirley #2-10
 Location: SW NE SE SE Sec. 10-18s-30w
 Licence Number: API: 15-101-22390
 Spud Date: July 10, 2012
 Surface Coordinates: 698' FSL & 445' FEL

Region: Lane Co., KS
Drilling Completed: July 21, 2012

Bottom Hole Vertical Coordinates: 2863' K.B. Elevation (ft): 2870'
 Ground Elevation (ft): 3800' To: RTD Total Depth (ft): 4640'
 Logged Interval (ft): 3800'
 Formation: Mississippian
 Type of Drilling Fluid: Chemical Premix (Displaced)
 Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR:

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

DRILLING CONTRACTOR:

H. D. Drilling, LLC, Rig #3 (#33935)

DP 4.5" XH (16.6#); DC 6.25" x 2.25" x 560'; Kelly 40.30', Tool Joint 5.5" ; Bit: JZ-QX21 down to 2576', JZ-QX20 to RTD, 7-7/8", extended jets 15-15-15; rpm 80, WOB 30k from 2576', 32k from 4208', 35k from 4268' to RTD; Kelly Bushing 7' above ground level; LeWayne "Lew" Tresner (tool pusher).

SURFACE CASING:

8-5/8" at 262'

CIRCULATION SYSTEM:

Continental EMSCO D-300, duplex, 6 x 14, 58-60 spm, Chemical, premix, displaced 3392-3403'; earth pits, Morgan Mud, Inc., Cade Lines, David Lines.

OPEN HOLE LOGS:

DN (DGA), DI (SP) (Run-1); ML/Sonic (Run-2); 5" detail LTD-3500; 2" DI to surface casing; LogTech-Pioneer Wireline, Hays, KS, D. Schmidt, Log total depth (4640') was even with rotary total depth (4640').

DRILL STEM TEST #1:

Middle Creek: Interval: 4260-4268 (8'); Blow: weak surf IFP, no RB, no blow FFP; Times: 5-15-15-30; Recovery: 1' mud w/oil spots (100%M); HP: 2209-2127; SIP: 23-31; FP: 19-19, 20-21; BHT: 119 F; dual packers, jars, joints, 147' DC; Trilobite Testing, Inc., Jace McKinney.

DRILL STEM TEST #2:

Kans. City "L": Interval: 4268-4284 (16'); Blow: weak incr 4.5" IFP, no RB, weak incr 6" FFP, no RB; Times: 5-15-15-30; Recovery: no GIP, 200' TF; 25' CO (100%O), 114' OCMW (10%O, 40%M, 50%W), 61' SW (100%W, Rw 0.25 @ 80 F, chl 25k); HP: 2171-2122, SIP: 593-578, FP: 37-64, 77-101; BHT: 124 F; dual packers, jars, joints, 147' DC; Trilobite Testing, Inc., Jace McKinney.

DRILL STEM TEST #3:

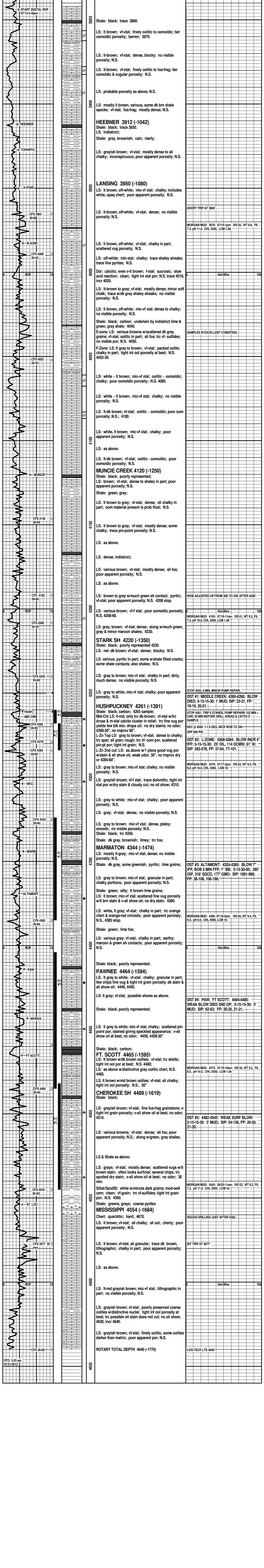
Marmaton: Interval: 4324-4385 (61'); Blow: incr 7" IFP, no RB, BOB 5 min FFP, 1.5" RB decr surf FSIP; Times: 5-15-15-30; Recovery: 395' GIP, 495' TF no water: 318' SGO (10%G, 90%O, 37 grav), 177' GCMO (30%G, 30%M, 40%O); HP: 2245-2015; SIP: 1081-998; FP: 38-108, 106-198; BHT: 125 F; dual packers (shale packer), jars, joints, 147' DC; Trilobite Testing, Inc., Jace McKinney.

DRILL STEM TEST #4:

Pawnee thru Ft. Scott: Interval: 4404-4485 (81'); Blow: weak surf IFP, no RB, no blow 2nd open; Times: 5-15-15-30; Recovery: 5' mud w/oil spots; HP: 2260-2193; SIP: 62-63; FP: 20-20, 21-21; BHT: 115 F; dual packers (shale packer), jars, joints, 147' DC; Trilobite Testing, Inc., Jace McKinney.

DRILL STEM TEST #5:

Cherokee: Interval: 4482-4545 (63'); Blow: weak surf IFP, no RB, no blow 2nd open; Times: 5-15-15-30; Recovery: 5' mud w/oil spots (100%M); HP: 2277-2229; SIP: 54-136; FP: 20-20, 21-20; BHT: 111 F; dual packers, jars, joints, 147' DC; Trilobite Testing, Inc., Jace McKinney.





CHARGE TO: LARSON Engineering
 ADDRESS: _____
 CITY, STATE, ZIP CODE: _____

TICKET
 N° 22792

PAGE 1 OF 1

SERVICE LOCATIONS 1. Lawrence KS WELL/PROJECT NO. 270 LEASE Shirley COUNTY/PARISH Leape STATE KS CITY Dighton DATE 1 AUG 12 OWNER _____
 2. TICKET TYPE SERVICE SALES CONTRACTOR cheyenne RIG NAME/NO. _____ SHIPPED VIA CT DELIVERED TO location ORDER NO. _____
 3. WELL TYPE oil WELL CATEGORY Developments JOB PURPOSE cement and collar WELL PERMIT NO. _____ WELL LOCATION _____
 4. 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 114	45	mi			6.00	270.00
576D		1			Pump Charge	1				1250.00	1250.00
330		1			SMD cement	175	sk			16.50	2887.50
276		1			Fluore	50	lb			2.00	100.00
290		1			D-air	2	gal			35.00	70.00
581		1			Service charge	238	sk			2.00	476.00
583		1			Drayage	23884	lb	526.16	TM	1.00	526.16

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

DATE SIGNED: [Signature] TIME SIGNED: A.M. P.M.

REMIT PAYMENT TO:

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

SURVEY

OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?	AGREE	UN-DECIDED	DIS-AGREE
WE UNDERSTOOD AND MET YOUR NEEDS?			
OUR SERVICE WAS PERFORMED WITHOUT DELAY?			
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?			
ARE YOU SATISFIED WITH OUR SERVICE?	<input type="checkbox"/> YES <input type="checkbox"/> NO		
<input type="checkbox"/> CUSTOMER DID NOT WISH TO RESPOND			

PAGE TOTAL	5573.60
Lane TAX @ 6.3%	192.62
TOTAL	5766.28

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

SWIFT OPERATOR: [Signature] APPROVAL: _____

Thank You!

JOB LOG

SWIFT Services, Inc.

DATE 1 AUG 12 PAGE NO.

CUSTOMER		WELL NO.		LEASE		JOB TYPE		TICKET NO.	
Laddem Engineering		2-10		Shirley		cement port collar		82792	
CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS	
				T	C	TUBING	CASING		
									235 sks SMD cement w/ 1/4" floccle 2 3/8" x 5 1/2" port collar - 2148'
	1100								on loc TEK 114
	1120					1000	1000		test to 1000 psi - hold open port collar
	1125	3	2			300			inj rate 3 @ 300
	1130	3				300			MIX SMD @ 11.2 ppz
		3	28			250			fluid to surface
	1155	3	96			400			- cement to surface -
									} 175 sk mixed 15 to pit
		3	8			400			
	1207								test to 1000 - hold
	1211								Run 4 joints
	1220		20						Reverse hole clean - 2 cement & logs -
									wash truck
									Rack up
	1250								job complete
									Clark TJ, DAN & BLAINE

ALLIED CEMENTING CO., LLC. 034517

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT:
Great Bend

DATE <u>2-10-12</u>	SEC. <u>10</u>	TWP. <u>18</u>	RANGE <u>30</u>	CALLED OUT	ON LOCATION <u>8:30pm</u>	JOB START <u>8:30pm</u>	JOB FINISH <u>9:00pm</u>
LEASE <u>Shirley</u>	WELL # <u>2-10</u>	LOCATION <u>Amey Ks Y2 W, Y2 N,</u>			COUNTY <u>Lane</u>	STATE <u>KS</u>	
OLD OR <input checked="" type="checkbox"/> NEW (circle one)				<u>Winto</u>		<u>1.01</u>	<u>6.3</u>

CONTRACTOR <u>HD #3</u>	OWNER <u>same</u>
TYPE OF JOB <u>Surface</u>	
HOLE SIZE <u>12 1/4"</u> T.D. <u>265'</u>	CEMENT
CASING SIZE <u>8 1/8"</u> DEPTH <u>269.75'</u>	AMOUNT ORDERED <u>175 sks com 320cc</u>
TUBING SIZE _____ DEPTH _____	<u>270 gel</u>
DRILL PIPE _____ DEPTH _____	
TOOL _____ DEPTH _____	
PRES. MAX _____ MINIMUM _____	COMMON <u>175 sks @ 16.25 2843.75</u>
MEAS. LINE _____ SHOE JOINT _____	POZMIX _____ @ _____
CEMENT LEFT IN CSG. <u>15'</u>	GEL <u>350 @ 21.25 63.25</u>
PERFS. _____	CHLORIDE <u>650 @ 58.20 397.20</u>
DISPLACEMENT <u>16.3 661</u>	ASC _____ @ _____
EQUIPMENT _____	_____ @ _____
PUMP TRUCK CEMENTER <u>Lakena Winto (C)</u>	_____ @ _____
# <u>366</u> HELPER <u>Kevin Eddy (CB) 2</u>	_____ @ _____
BULK TRUCK	_____ @ _____
# <u>540/287</u> DRIVER <u>Brandan Wilson (C)</u>	_____ @ _____
BULK TRUCK	_____ @ _____
# _____ DRIVER _____	_____ @ _____
	HANDLING <u>189.24 473 @ 2.10 397.40</u>
	MILEAGE <u>267 hrs @ 30 @ 2.25 544.32</u>
	TOTAL <u>4,198.42</u>

REMARKS:
Mix 175 sks cement
Displace with water
Cement did circulate

Thank you

CHARGE TO Larson Engineering LLC
STREET _____
CITY _____ STATE _____ ZIP _____

To Allied Cementing Co., LLC.
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME LEWIS T. JESNER
SIGNATURE [Signature]

231.62

SERVICE	
DEPTH OF JOB <u>265.75'</u>	
PUMP TRUCK CHARGE _____	<u>1125.00</u>
EXTRA FOOTAGE _____ @ _____	
MILEAGE <u>30 @ 7.00</u>	<u>210.00</u>
MANIFOLD _____ @ _____	
<u>L. W. Int'l. 30 @ 4.00</u>	<u>120.00</u>
	TOTAL <u>1455.00</u>

PLUG & FLOAT EQUIPMENT

_____	@ _____
_____	@ _____
_____	@ _____
_____	@ _____
_____	@ _____

TOTAL _____

SALES TAX (If Any) 205.17

TOTAL CHARGES 5,653.42

DISCOUNT 28% 1,582.95 (ID IN 30 DAYS)

4,070.46



DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc.**

562 W State Rd 4
Olmitz KS 67564-8561

ATTN: Vern Schrag

Shirley #2-10

10-18s-30w Lane, KS

Start Date: 2012.07.17 @ 01:05:00

End Date: 2012.07.17 @ 06:57:15

Job Ticket #: . DST #: 1

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

Printed: 2012.07.23 @ 16:30:50



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Larson Engineering Inc.
 562 W State Rd 4
 Olmitz KS 67564-8561
 ATTN: Vern Schrag

10-18s-30w Lane, KS
Shirley #2-10
 Job Ticket: . **DST#: 1**
 Test Start: 2012.07.17 @ 01:05:00

GENERAL INFORMATION:

Formation: **Middle Creek**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 03:52:00
 Time Test Ended: 06:57:15
 Interval: **4260.00 ft (KB) To 4268.00 ft (KB) (TVD)**
 Total Depth: 4268.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Jace McKinney
 Unit No: 46
 Reference Elevations: 2870.00 ft (KB)
 2863.00 ft (CF)
 KB to GR/CF: 7.00 ft

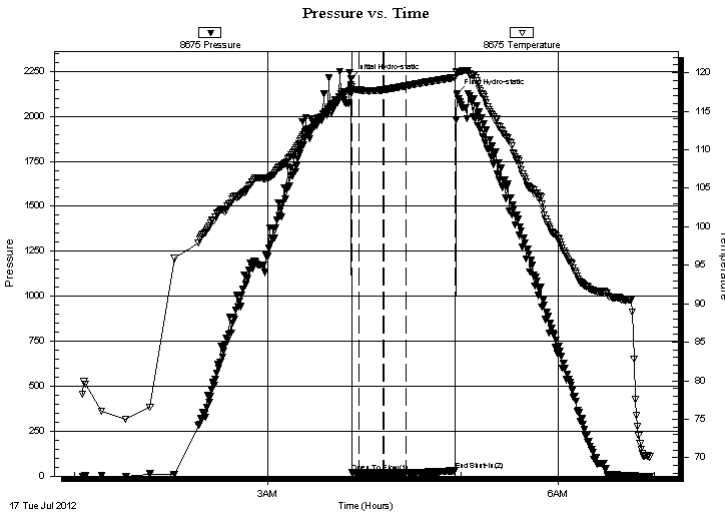
Serial #: 8675

Inside

Press @ RunDepth: 20.73 psig @ 4261.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.07.17 End Date: 2012.07.17 Last Calib.: 2012.07.17
 Start Time: 01:05:15 End Time: 06:57:15 Time On Btm: 2012.07.17 @ 03:51:45
 Time Off Btm: 2012.07.17 @ 04:57:15

TEST COMMENT: Built to 1/4" blow
 No return blow
 No blow
 No return blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2208.83	118.12	Initial Hydro-static
1	18.97	117.46	Open To Flow (1)
5	19.25	117.77	Shut-In(1)
20	22.59	117.78	End Shut-In(1)
21	20.04	117.79	Open To Flow (2)
34	20.73	118.30	Shut-In(2)
65	30.72	119.39	End Shut-In(2)
66	2127.09	119.97	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1.00	100% Mud w with few oil spots	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering Inc.

10-18s-30w Lane, KS

562 W State Rd 4
Olmitz KS 67564-8561

Shirley #2-10

Job Ticket: .

DST#: 1

ATTN: Vern Schrag

Test Start: 2012.07.17 @ 01:05:00

Tool Information

Drill Pipe:	Length: 4108.53 ft	Diameter: 3.80 inches	Volume: 57.63 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:	30000.00 lb
Drill Collar:	Length: 147.03 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose:	66000.00 lb
			<u>Total Volume: 58.35 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	23.06 ft			String Weight: Initial	56000.00 lb
Depth to Top Packer:	4260.00 ft			Final	56000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	8.00 ft				
Tool Length:	35.50 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			4233.50	
Shut In Tool	5.00			4238.50	
Hydraulic tool	5.00			4243.50	
Jars	5.00			4248.50	
Safety Joint	2.50			4251.00	
Packer	5.00			4256.00	27.50 Bottom Of Top Packer
Packer	4.00			4260.00	
Stubb	1.00			4261.00	
Recorder	0.00	8675	Inside	4261.00	
Recorder	0.00	8650	Outside	4261.00	
Perforations	4.00			4265.00	
Change Over Sub	0.00			4265.00	
Drill Pipe	0.00			4265.00	
Change Over Sub	0.00			4265.00	
Bullnose	3.00			4268.00	8.00 Bottom Packers & Anchor

Total Tool Length: 35.50



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc.

10-18s-30w Lane, KS

562 W State Rd 4
Olmitz KS 67564-8561

Shirley #2-10

Job Ticket: .

DST#: 1

ATTN: Vern Schrag

Test Start: 2012.07.17 @ 01:05:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 61.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1.00	100% Mud with few oil spots	0.005

Total Length: 1.00 ft Total Volume: 0.005 bbl

Num Fluid Samples: 0

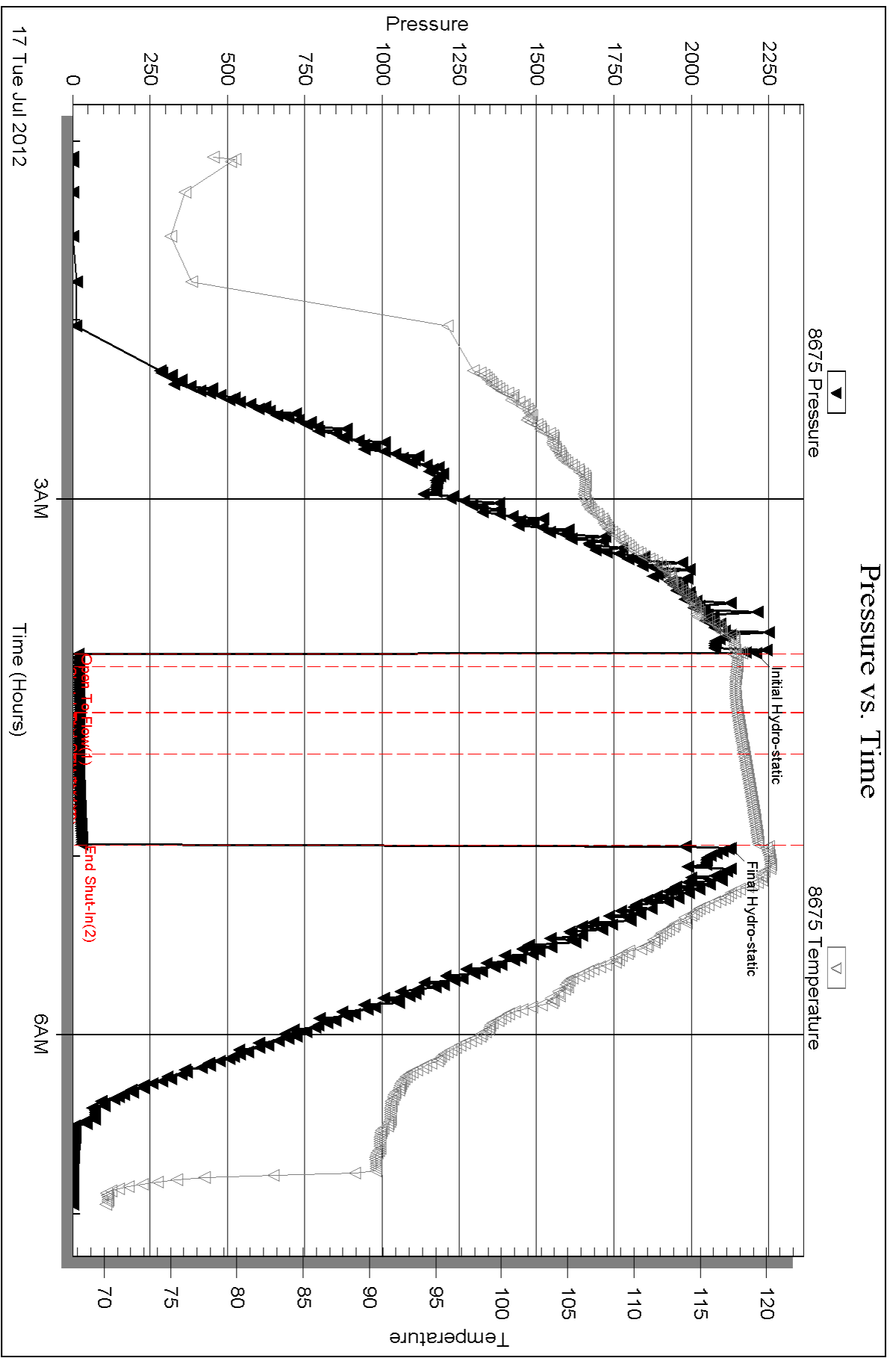
Num Gas Bombs: 0

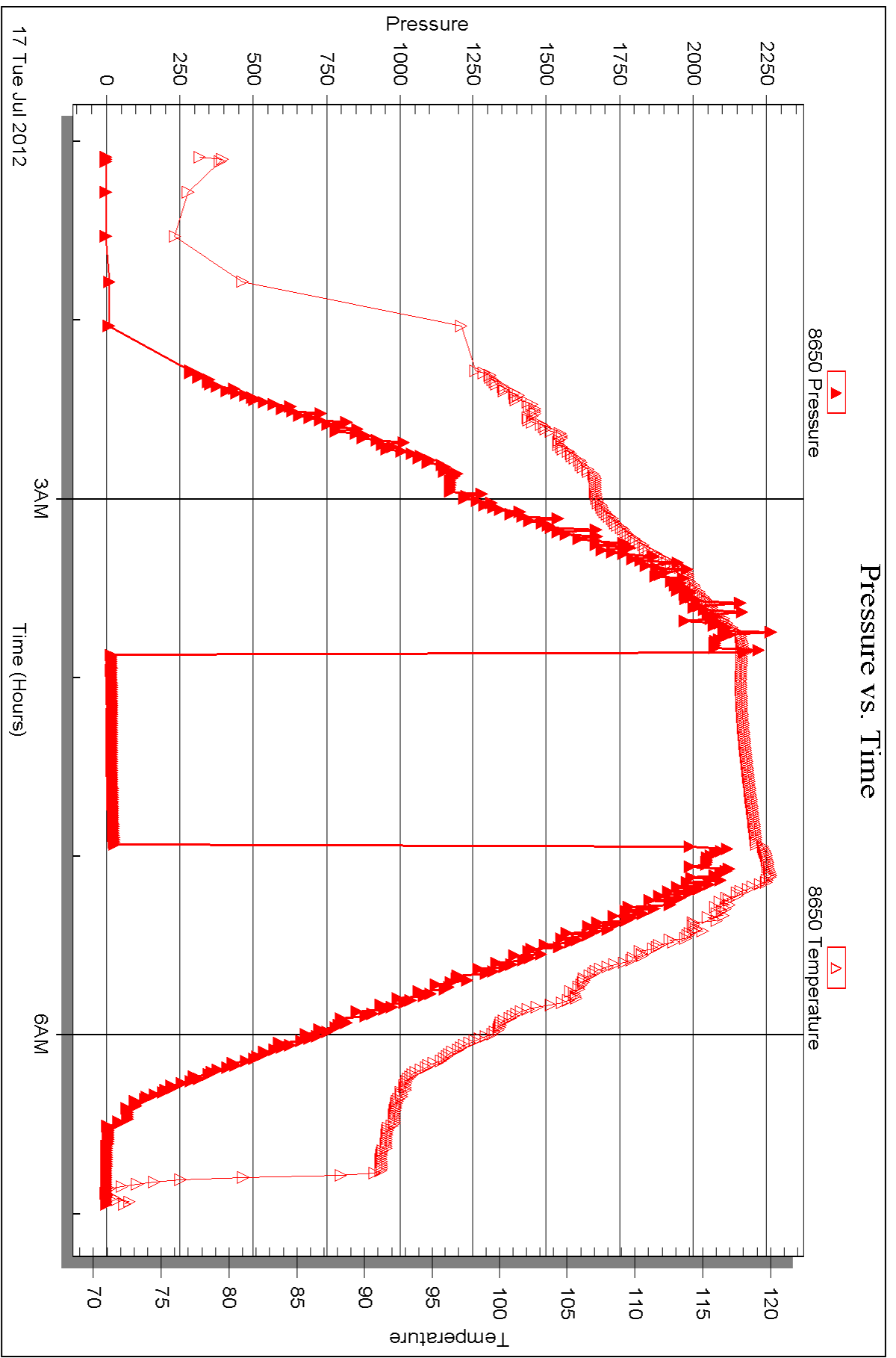
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc.**

562 W State Rd 4
Olmitz KS 67564-8561

ATTN: Vern Schrag

Shirley #2-10

10-18s-30w Lane, KS

Start Date: 2012.07.17 @ 18:05:00

End Date: 2012.07.17 @ 23:25:30

Job Ticket #: 48331 DST #: 2

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

Printed: 2012.07.23 @ 16:30:10



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Larson Engineering Inc.
 562 W State Rd 4
 Olmitz KS 67564-8561
 ATTN: Vern Schrag

10-18s-30w Lane, KS
Shirley #2-10
 Job Ticket: 48331 **DST#: 2**
 Test Start: 2012.07.17 @ 18:05:00

GENERAL INFORMATION:

Formation: **Kansas City Upper "**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 20:12:00
 Time Test Ended: 23:25:30
Interval: 4268.00 ft (KB) To 4284.00 ft (KB) (TVD)
 Total Depth: 4284.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Jace McKinney
 Unit No: 46
 Reference Elevations: 2870.00 ft (KB)
 2863.00 ft (CF)
 KB to GR/CF: 7.00 ft

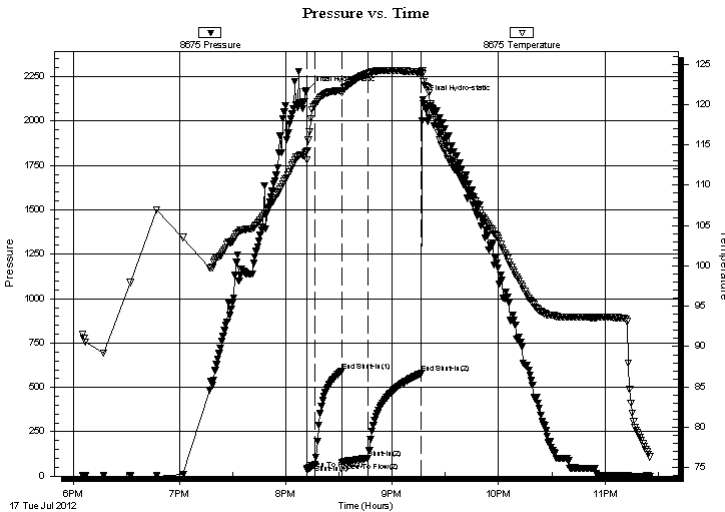
Serial #: 8675

Inside

Press @ Run Depth: 100.75 psig @ 4269.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.07.17 End Date: 2012.07.17 Last Calib.: 2012.07.17
 Start Time: 18:05:15 End Time: 23:25:30 Time On Btm: 2012.07.17 @ 20:11:30
 Time Off Btm: 2012.07.17 @ 21:17:15

TEST COMMENT: Built to 4 1/2" blow
 No return blow
 Built to 6" blow
 No return blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2170.51	114.15	Initial Hydro-static
1	37.25	114.28	Open To Flow (1)
5	63.97	119.96	Shut-In(1)
20	593.33	121.71	End Shut-In(1)
21	77.38	121.46	Open To Flow (2)
35	100.75	123.85	Shut-In(2)
65	577.65	123.99	End Shut-In(2)
66	2121.98	123.84	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
61.00	100% Water	0.30
114.00	ocmw 10%O 40%M 50%W	0.82
25.00	100% Clean Oil	0.35

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering Inc.

10-18s-30w Lane, KS

562 W State Rd 4
Olmitz KS 67564-8561

Shirley #2-10

Job Ticket: 48331

DST#: 2

ATTN: Vern Schrag

Test Start: 2012.07.17 @ 18:05:00

Tool Information

Drill Pipe:	Length: 4108.46 ft	Diameter: 3.80 inches	Volume: 57.63 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:	30000.00 lb
Drill Collar:	Length: 147.03 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose:	68000.00 lb
			<u>Total Volume: 58.35 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	14.99 ft			String Weight: Initial	58000.00 lb
Depth to Top Packer:	4268.00 ft			Final	60000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	16.00 ft				
Tool Length:	43.50 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			4241.50	
Shut In Tool	5.00			4246.50	
Hydraulic tool	5.00			4251.50	
Jars	5.00			4256.50	
Safety Joint	2.50			4259.00	
Packer	5.00			4264.00	27.50 Bottom Of Top Packer
Packer	4.00			4268.00	
Stubb	1.00			4269.00	
Recorder	0.00	8675	Inside	4269.00	
Recorder	0.00	8650	Outside	4269.00	
Perforations	12.00			4281.00	
Change Over Sub	0.00			4281.00	
Drill Pipe	0.00			4281.00	
Change Over Sub	0.00			4281.00	
Bullnose	3.00			4284.00	16.00 Bottom Packers & Anchor

Total Tool Length: 43.50



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc.

10-18s-30w Lane, KS

562 W State Rd 4
Olmitz KS 67564-8561

Shirley #2-10

Job Ticket: 48331

DST#: 2

ATTN: Vern Schrag

Test Start: 2012.07.17 @ 18:05:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

33 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.97 in³

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 bbbl
61.00	100% Water	0.300
114.00	ocmw 10%O 40%M 50%W	0.815
25.00	100% Clean Oil	0.351

Total Length: 200.00 ft Total Volume: 1.466 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

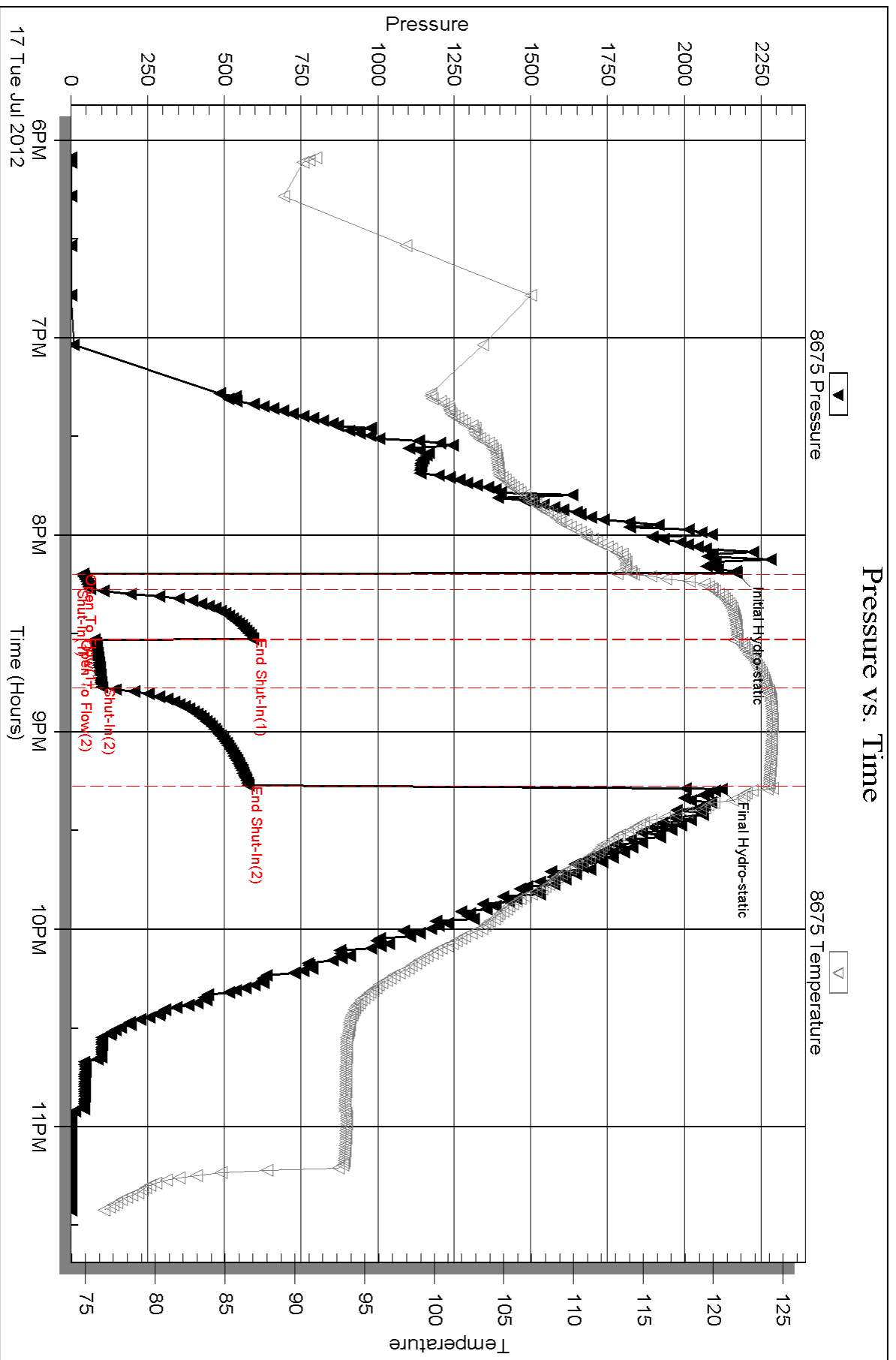
Laboratory Name:

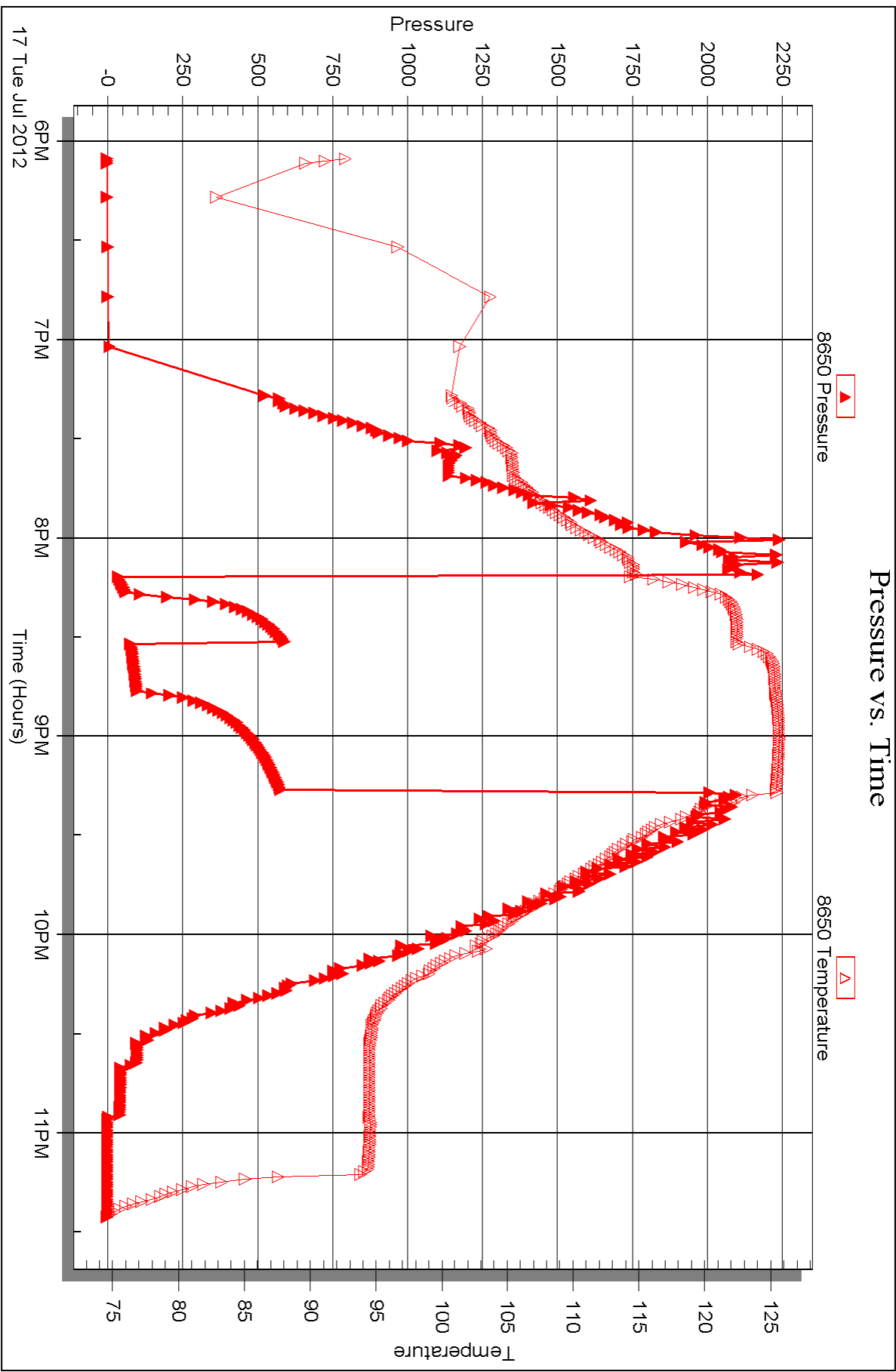
Laboratory Location:

Recovery Comments: API 35 @ 80 F = 33

RW .25 @ 80 F = 25,000

Pressure vs. Time







DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc.**

562 W State Rd 4
Olmitz KS 67564-8561

ATTN: Vern Schrag

Shirley #2-10

10-18s-30w Lane, KS

Start Date: 2012.07.18 @ 15:55:00

End Date: 2012.07.18 @ 22:20:45

Job Ticket #: 48332 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.07.23 @ 16:29:26



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering Inc.

10-18s-30w Lane, KS

562 W State Rd 4
Olmitz KS 67564-8561

Shirley #2-10

Job Ticket: 48332

DST#: 3

ATTN: Vern Schrag

Test Start: 2012.07.18 @ 15:55:00

Tool Information

Drill Pipe:	Length: 4171.82 ft	Diameter: 3.80 inches	Volume: 58.52 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: 30000.00 lb
Drill Collar:	Length: 147.03 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose: 76000.00 lb
			<u>Total Volume: 59.24 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	22.35 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4324.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	61.00 ft			
Tool Length:	88.50 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			4297.50	
Shut In Tool	5.00			4302.50	
Hydraulic tool	5.00			4307.50	
Jars	5.00			4312.50	
Safety Joint	2.50			4315.00	
Packer	5.00			4320.00	27.50 Bottom Of Top Packer
Packer	4.00			4324.00	
Stubb	1.00			4325.00	
Recorder	0.00	8675	Inside	4325.00	
Recorder	0.00	8650	Outside	4325.00	
Perforations	24.00			4349.00	
Change Over Sub	1.00			4350.00	
Drill Pipe	31.00			4381.00	
Change Over Sub	1.00			4382.00	
Bullnose	3.00			4385.00	61.00 Bottom Packers & Anchor

Total Tool Length: 88.50



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc.

10-18s-30w Lane, KS

562 W State Rd 4
Olmitz KS 67564-8561

Shirley #2-10

Job Ticket: 48332

DST#: 3

ATTN: Vern Schrag

Test Start: 2012.07.18 @ 15:55:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

37 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 65.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.38 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	395 Feet Gas In Pipe	0.000
177.00	gcmo 30%G 30%M 40%O	1.143
318.00	Clean Oil 10%G 90%O	4.461

Total Length: 495.00 ft Total Volume: 5.604 bbl

Num Fluid Samples: 0

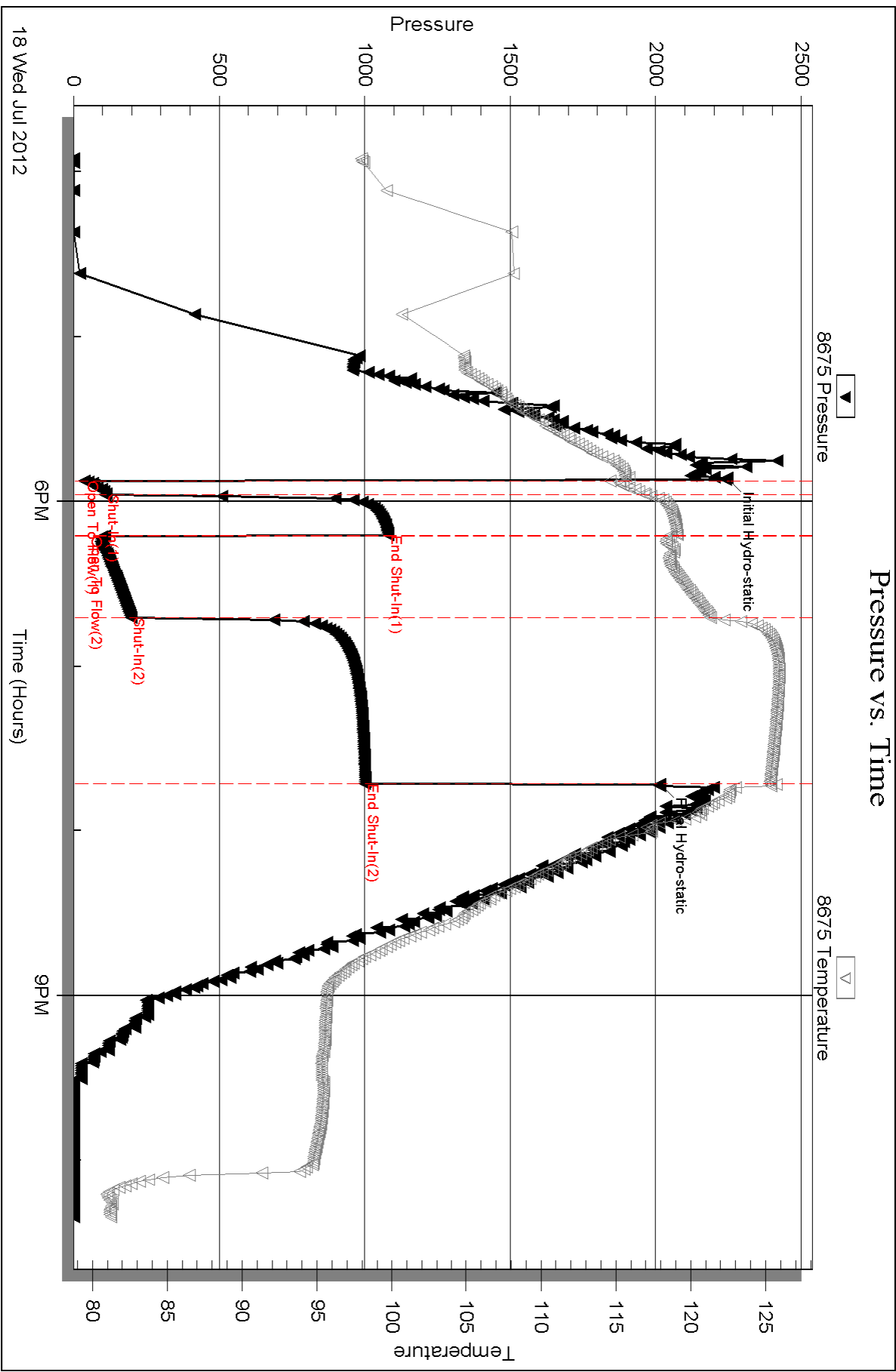
Num Gas Bombs: 0

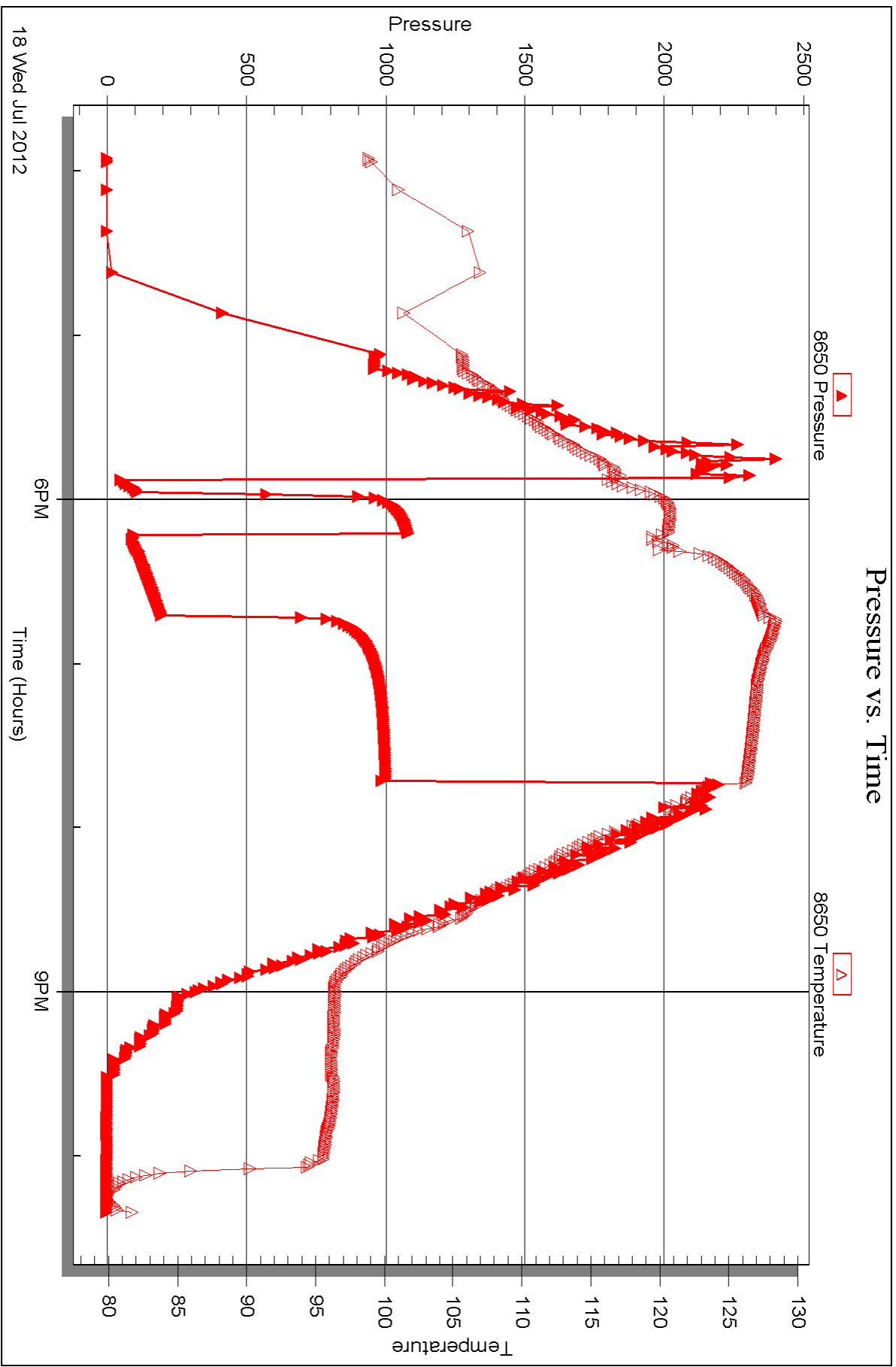
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API: 40 @ 90 F = 37







DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc.**

562 W State Rd 4
Olmitz KS 67564-8561

ATTN: Vern Schrag

Shirley #2-10

10-18s-30w Lane, KS

Start Date: 2012.07.19 @ 14:05:00

End Date: 2012.07.19 @ 19:21:15

Job Ticket #: 48333 DST #: 4

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

Printed: 2012.07.23 @ 16:28:38



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Larson Engineering Inc.
 562 W State Rd 4
 Olmitz KS 67564-8561
 ATTN: Vern Schrag

10-18s-30w Lane, KS
Shirley #2-10
 Job Ticket: 48333 **DST#: 4**
 Test Start: 2012.07.19 @ 14:05:00

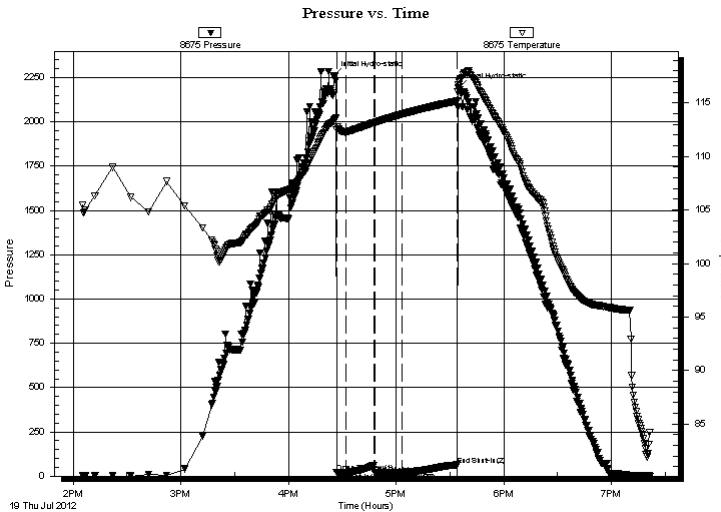
GENERAL INFORMATION:

Formation: **Pawnee & Fort Scott**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 16:26:45
 Time Test Ended: 19:21:15
 Interval: **4404.00 ft (KB) To 4485.00 ft (KB) (TVD)**
 Total Depth: 4485.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Jace McKinney
 Unit No: 46
 Reference Elevations: 2870.00 ft (KB)
 2863.00 ft (CF)
 KB to GR/CF: 7.00 ft

Serial #: 8675 Inside
 Press @ Run Depth: 20.92 psig @ 4405.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.07.19 End Date: 2012.07.19 Last Calib.: 2012.07.19
 Start Time: 14:05:15 End Time: 19:21:15 Time On Btm: 2012.07.19 @ 16:25:30
 Time Off Btm: 2012.07.19 @ 17:34:45

TEST COMMENT: Built to 1/4" blow
 No return blow
 No blow
 No return blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2259.84	113.43	Initial Hydro-static
2	19.78	112.54	Open To Flow (1)
7	20.30	112.32	Shut-In(1)
23	62.34	113.18	End Shut-In(1)
23	20.63	113.17	Open To Flow (2)
38	20.92	113.96	Shut-In(2)
69	62.96	115.19	End Shut-In(2)
70	2192.83	116.68	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	100% Mud w ith few oil spots	0.02

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering Inc.

10-18s-30w Lane, KS

562 W State Rd 4
Olmitz KS 67564-8561

Shirley #2-10

Job Ticket: 48333

DST#: 4

ATTN: Vern Schrag

Test Start: 2012.07.19 @ 14:05:00

Tool Information

Drill Pipe:	Length: 4234.31 ft	Diameter: 3.80 inches	Volume: 59.40 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: 30000.00 lb
Drill Collar:	Length: 147.03 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose: 76000.00 lb
			<u>Total Volume: 60.12 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	4.84 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4404.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	81.00 ft			
Tool Length:	108.50 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			4377.50	
Shut In Tool	5.00			4382.50	
Hydraulic tool	5.00			4387.50	
Jars	5.00			4392.50	
Safety Joint	2.50			4395.00	
Packer	5.00			4400.00	27.50 Bottom Of Top Packer
Packer	4.00			4404.00	
Stubb	1.00			4405.00	
Recorder	0.00	8675	Inside	4405.00	
Recorder	0.00	8650	Outside	4405.00	
Perforations	13.00			4418.00	
Change Over Sub	1.00			4419.00	
Drill Pipe	62.00			4481.00	
Change Over Sub	1.00			4482.00	
Bullnose	3.00			4485.00	81.00 Bottom Packers & Anchor

Total Tool Length: 108.50



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc.

10-18s-30w Lane, KS

562 W State Rd 4
Olmitz KS 67564-8561

Shirley #2-10

Job Ticket: 48333

DST#: 4

ATTN: Vern Schrag

Test Start: 2012.07.19 @ 14:05:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	100% Mud with few oil spots	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

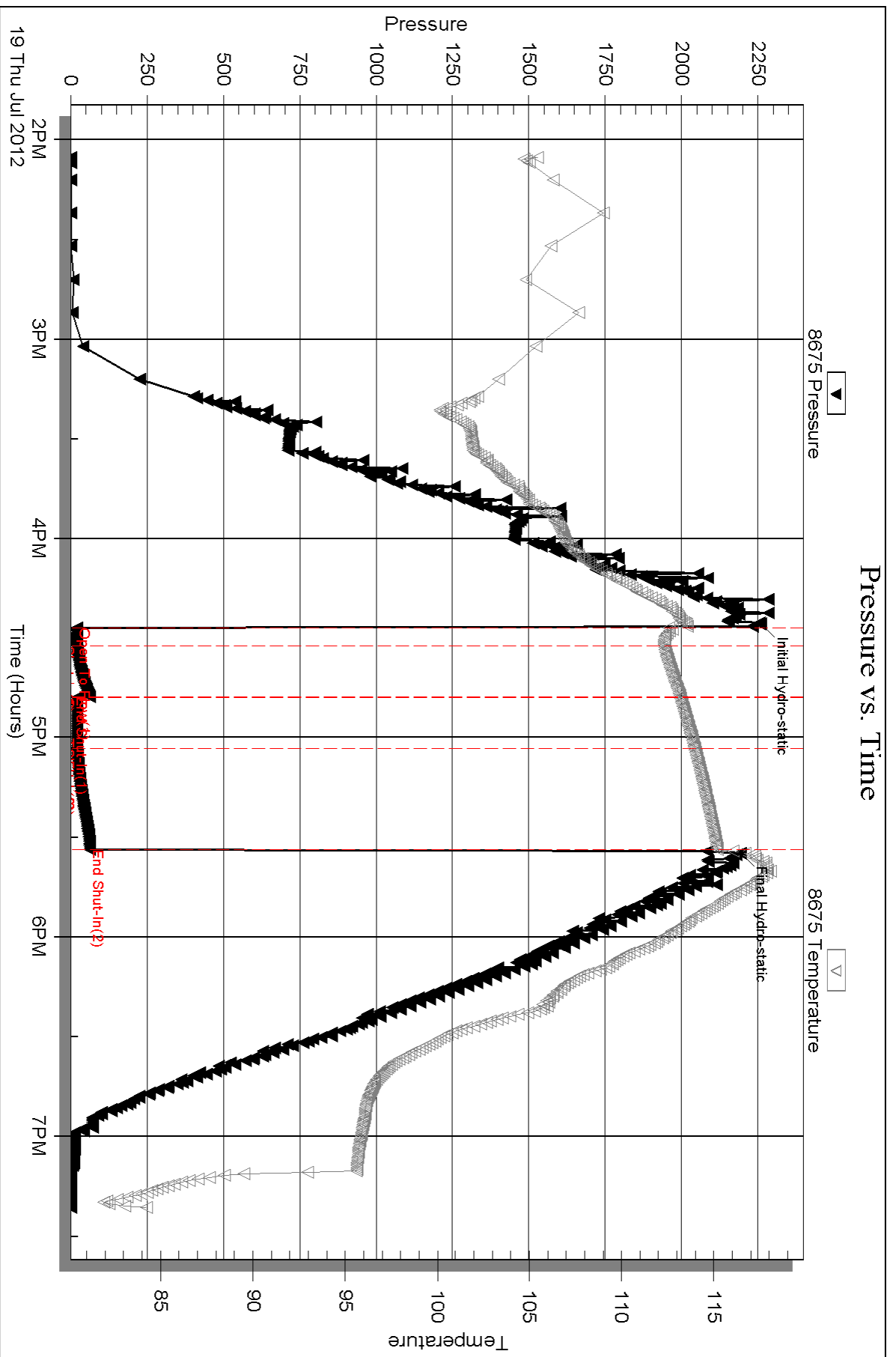
Num Gas Bombs: 0

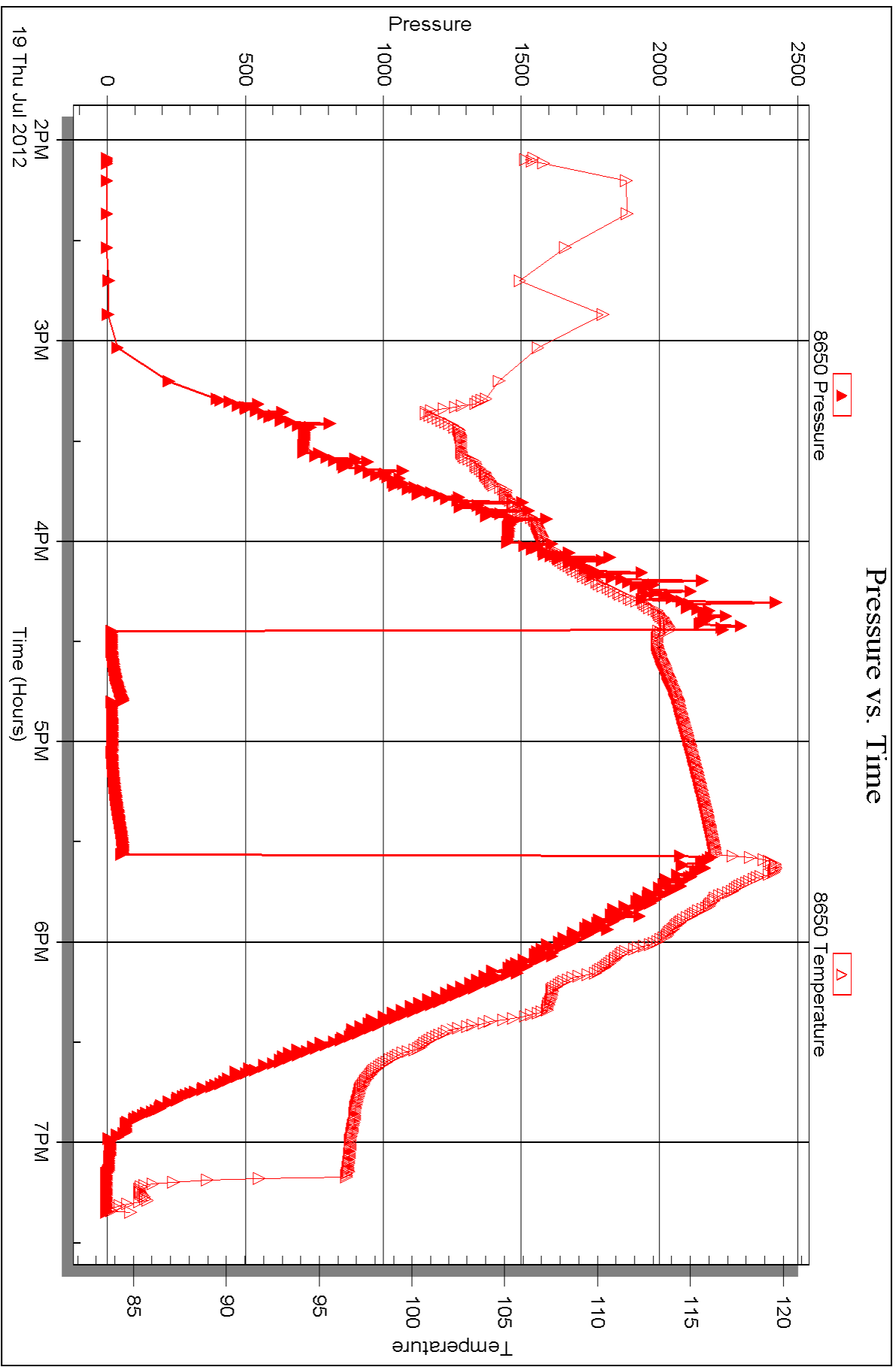
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc.**

562 W State Rd 4
Olmitz KS 67564-8561

ATTN: Vern Schrag

Shirley #2-10

10-18s-30w Lane, KS

Start Date: 2012.07.20 @ 06:25:00

End Date: 2012.07.20 @ 11:33:00

Job Ticket #: 48334 DST #: 5

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

Printed: 2012.07.23 @ 16:27:43



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Larson Engineering Inc.
562 W State Rd 4
Olmitz KS 67564-8561
ATTN: Vern Schrag

10-18s-30w Lane, KS
Shirley #2-10
Job Ticket: 48334 **DST#: 5**
Test Start: 2012.07.20 @ 06:25:00

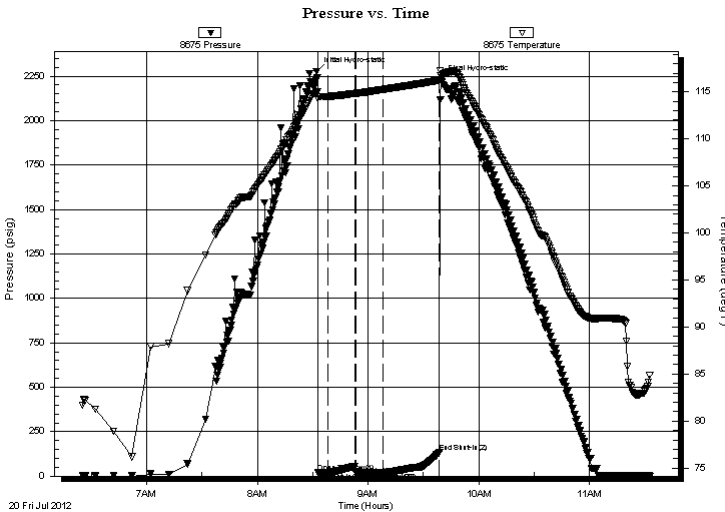
GENERAL INFORMATION:

Formation: **Cherokee**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 08:33:00
Time Test Ended: 11:33:00
Interval: **4482.00 ft (KB) To 4545.00 ft (KB) (TVD)**
Total Depth: 4545.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Reset)
Tester: Jace McKinney
Unit No: 46
Reference Elevations: 2870.00 ft (KB)
2863.00 ft (CF)
KB to GR/CF: 7.00 ft

Serial #: 8675 Inside
Press @ Run Depth: 20.03 psig @ 4483.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2012.07.20 End Date: 2012.07.20 Last Calib.: 2012.07.20
Start Time: 06:25:15 End Time: 11:33:00 Time On Btm: 2012.07.20 @ 08:32:00
Time Off Btm: 2012.07.20 @ 09:39:30

TEST COMMENT: Built to 1/4" blow
No return blow
No blow
No return blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2277.40	114.94	Initial Hydro-static
1	19.75	114.26	Open To Flow (1)
7	19.92	114.51	Shut-In(1)
21	54.47	114.83	End Shut-In(1)
22	20.53	114.81	Open To Flow (2)
37	20.03	115.26	Shut-In(2)
67	135.95	116.25	End Shut-In(2)
68	2229.37	116.74	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	100% Mud w ith oil spots	0.02

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering Inc.

10-18s-30w Lane, KS

562 W State Rd 4
Olmitz KS 67564-8561

Shirley #2-10

Job Ticket: 48334

DST#: 5

ATTN: Vern Schrag

Test Start: 2012.07.20 @ 06:25:00

Tool Information

Drill Pipe:	Length: 4328.44 ft	Diameter: 3.80 inches	Volume: 60.72 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:	30000.00 lb
Drill Collar:	Length: 147.03 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose:	72000.00 lb
			<u>Total Volume: 61.44 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	20.97 ft			String Weight: Initial	62000.00 lb
Depth to Top Packer:	4482.00 ft			Final	62000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	63.00 ft				
Tool Length:	90.50 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			4455.50	
Shut In Tool	5.00			4460.50	
Hydraulic tool	5.00			4465.50	
Jars	5.00			4470.50	
Safety Joint	2.50			4473.00	
Packer	5.00			4478.00	27.50 Bottom Of Top Packer
Packer	4.00			4482.00	
Stubb	1.00			4483.00	
Recorder	0.00	8675	Inside	4483.00	
Recorder	0.00	8650	Outside	4483.00	
Perforations	26.00			4509.00	
Change Over Sub	1.00			4510.00	
Drill Pipe	31.00			4541.00	
Change Over Sub	1.00			4542.00	
Bullnose	3.00			4545.00	63.00 Bottom Packers & Anchor

Total Tool Length: 90.50



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc.

10-18s-30w Lane, KS

562 W State Rd 4
Olmitz KS 67564-8561

Shirley #2-10

Job Ticket: 48334

DST#: 5

ATTN: Vern Schrag

Test Start: 2012.07.20 @ 06:25:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	100% Mud with oil spots	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

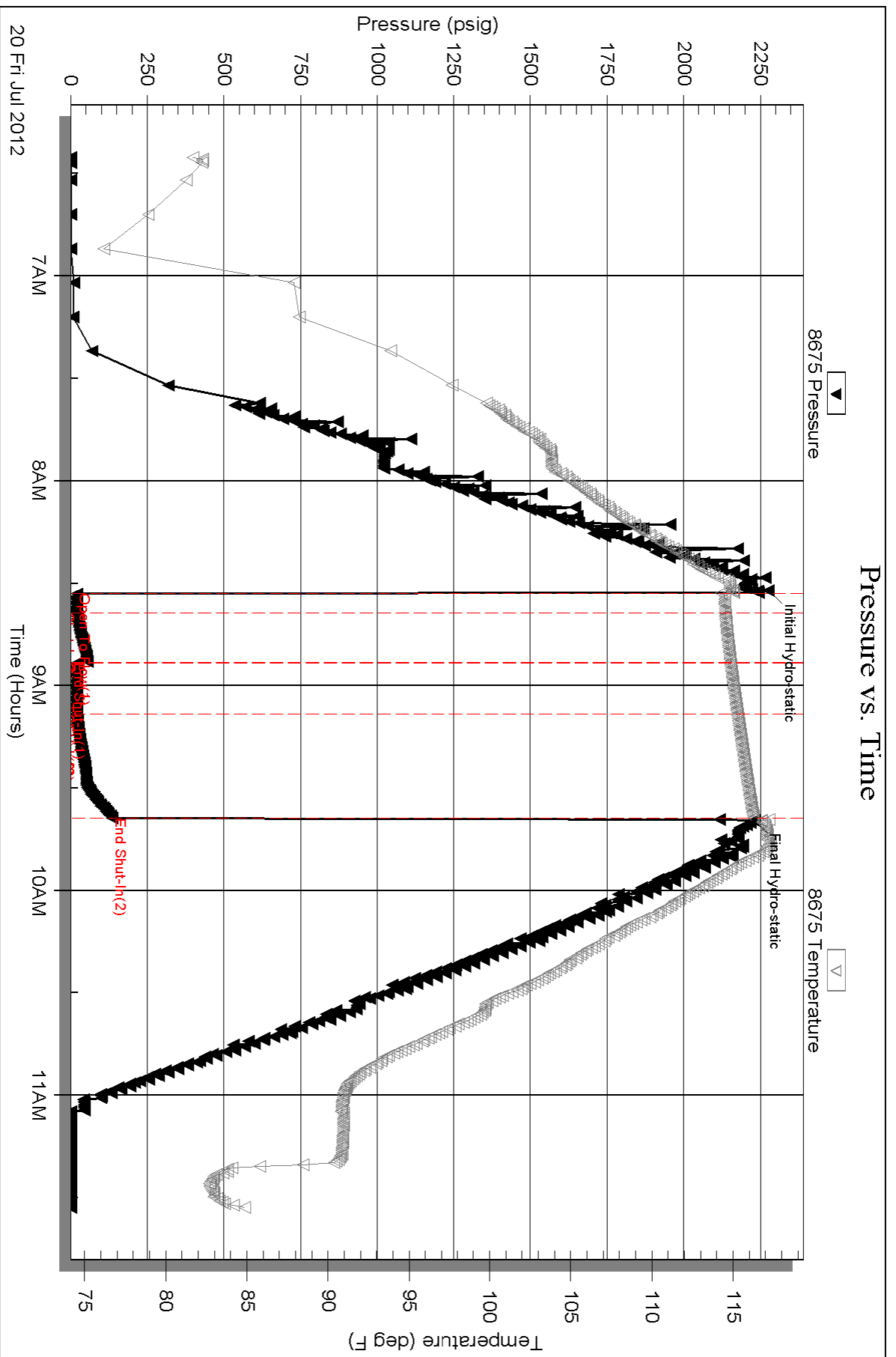
Num Gas Bombs: 0

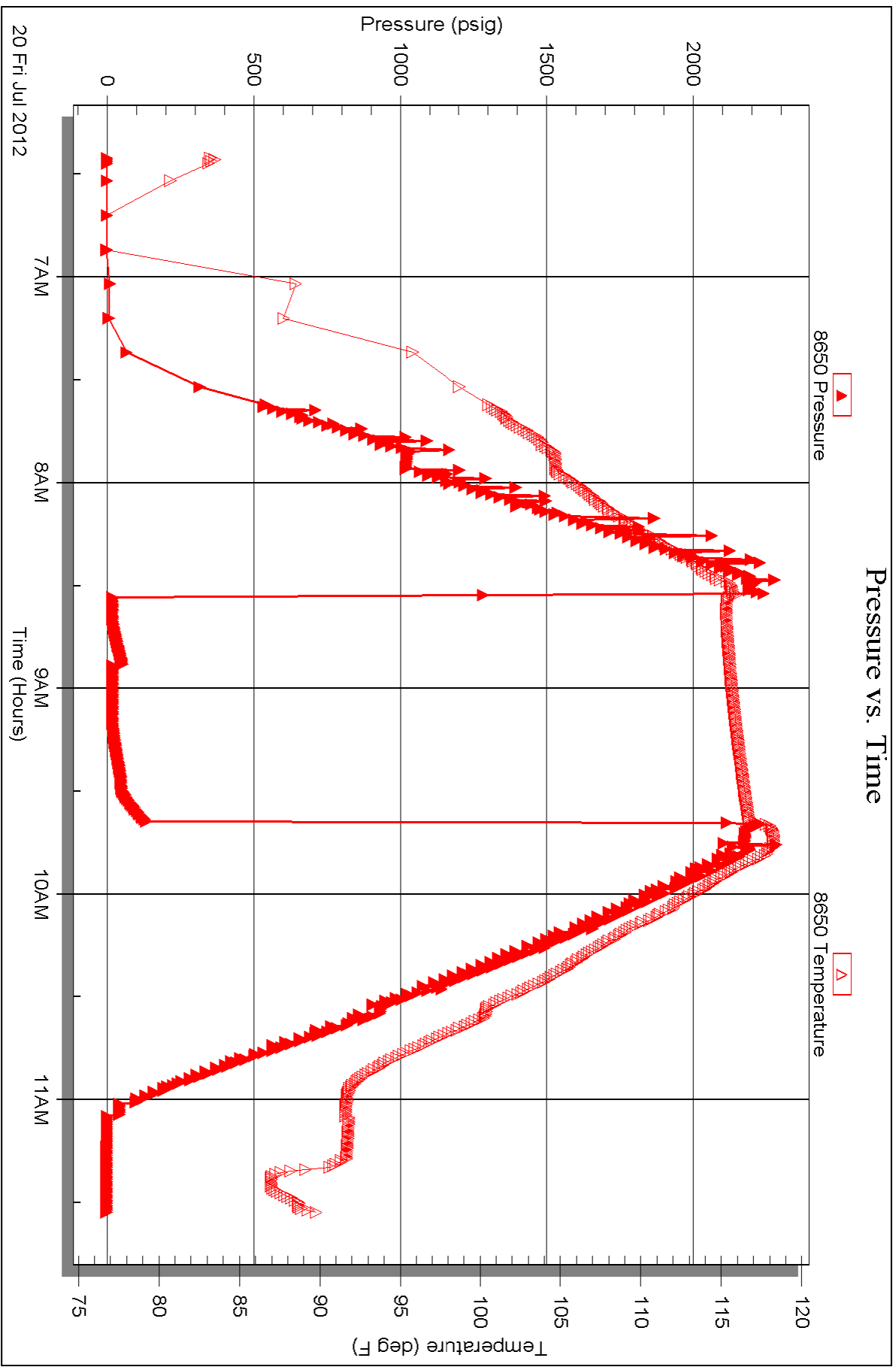
Serial #:

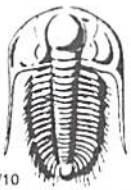
Laboratory Name:

Laboratory Location:

Recovery Comments:







TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 48330

Well Name & No. Shirley 2-10 Test No. 1 Date 7/17/12
 Company Larson Engineering Inc Elevation 2870 KB 2873 GL
 Address 562 W State Rd 4 Olmitz KS 67564-8561
 Co. Rep / Geo. Vern Schrag Rig H10 Rig 3
 Location: Sec. 10 Twp. 785 Rge. 30w Co. Lane State KS

Interval Tested 4260 - 4268 Zone Tested Middle Creek
 Anchor Length 8 Drill Pipe Run 4108.53 Mud Wt. 9.3
 Top Packer Depth 4256 Drill Collars Run 147.03 Vis 61
 Bottom Packer Depth 4260 Wt. Pipe Run _____ WL 7.2
 Total Depth 4268 Chlorides 2,500 ppm System LCM 1.5

Blow Description Built to 1/4" below
No return below
No below
No return below

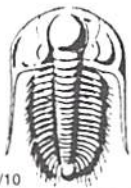
Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>Mud with few oil spots</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 1 BHT 119 Gravity _____ API RW _____ @ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic 2,209 Test 1250 T-On Location 23:25
 (B) First Initial Flow 19 Jars 250 T-Started 1:05
 (C) First Final Flow 19 Safety Joint 75 T-Open 3:51
 (D) Initial Shut-In 23 Circ Sub N/C T-Pulled 4:56
 (E) Second Initial Flow 20 Hourly Standby _____ T-Out 6:57
 (F) Second Final Flow 21 Mileage 40 RT 62 Comments _____
 (G) Final Shut-In 31 Sampler _____
 (H) Final Hydrostatic 2,127 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1637
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1637

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

Approved By Vern C 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.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 48331

Well Name & No. Shirley 2-10 Test No. 2 Date 7/17/12
 Company Larson Engineering Inc. Elevation 2870 KB 2863 GL
 Address 562 W state Rd 4 Olmitz KS 67564 - 8561
 Co. Rep / Geo. Vern Schrag Rig AD Rig 3
 Location: Sec. 10 Twp. 18S Rge. 30W Co. Lane State KS

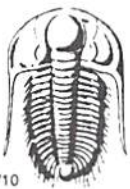
Interval Tested 4268 - 4284 Zone Tested Kansas City Upper "L" Zone
 Anchor Length 16 Drill Pipe Run 4108.96 Mud Wt. 9.3
 Top Packer Depth 4264 Drill Collars Run 147.03 Vis 62
 Bottom Packer Depth 4268 Wt. Pipe Run _____ WL 8.0
 Total Depth 4284 Chlorides 3,200 ppm System LCM 1.0
 Blow Description Built to 4 1/2" below
No return below
Built to 6" below
No return below

Rec	Feet of	%gas	%oil	%water	%mud
<u>25</u>	<u>Clean Oil</u>	<u>100</u>			
<u>114</u>	<u>OCMW</u>	<u>10</u>	<u>50</u>	<u>40</u>	
<u>61</u>	<u>water</u>		<u>100</u>		
____	____	____	____	____	____
____	____	____	____	____	____

Rec Total 200 BHT 124 Gravity 33 API RW 25 @ 80 °F Chlorides 25,000 ppm
 (A) Initial Hydrostatic 2,171 Test 1250 T-On Location 17:05
 (B) First Initial Flow 37 Jars 250 T-Started 18:05
 (C) First Final Flow 64 Safety Joint 75 T-Open 20:12
 (D) Initial Shut-In 593 Circ Sub N/C T-Pulled 21:17
 (E) Second Initial Flow 77 Hourly Standby _____ T-Out 23:26
 (F) Second Final Flow 101 Mileage 40RT 62 Comments _____
 (G) Final Shut-In 578 Sampler _____
 (H) Final Hydrostatic 2,122 Straddle _____ Ruined Shale Packer _____
 Initial Open 5 Shale Packer _____ Ruined Packer _____
 Initial Shut-In 15 Extra Packer _____ Extra Copies _____
 Final Flow 15 Extra Recorder _____ Sub Total 0
 Final Shut-In 30 Day Standby _____ Total 1637
 Accessibility _____ MP/DST Disc't _____

Approved By Vern C Schrag Sub Total 1637 Our Representative [Signature]

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 48332

Well Name & No. Shirley 2-10 Test No. 3 Date 7/18/12
 Company Larson Engineering Inc Elevation 2870 KB 2863 GL
 Address 562 W State Rd 4 Olmitz KS 67564-8561
 Co. Rep / Geo. Vern Schraeg Rig HD Rig 3
 Location: Sec. 10 Twp. 18s Rge. 30w Co. Lane State KS

Interval Tested 4324-4385 Zone Tested Marmaton
 Anchor Length 61 Drill Pipe Run 4171.84 Mud Wt. 9.4
 Top Packer Depth 4320 Drill Collars Run 147.03 Vis 65
 Bottom Packer Depth 4324 Wt. Pipe Run _____ WL 9.4
 Total Depth 4385 Chlorides 4,000 ppm System LCM 1

Blow Description Built to 7" below
No return below
B.O.B. in 5 min.

Bled off 5 min. Built to 1/4" return below. Died to weak surface return below

Rec	Feet of	%gas	%oil	%water	%mud
<u>0</u>	<u>395 GIP</u>				
<u>318</u>	<u>clean oil</u>	<u>10</u>	<u>90</u>		
<u>177</u>	<u>GCMO</u>	<u>30</u>	<u>40</u>		<u>30</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 495 BHT 125 Gravity 37 API RW - @ - ° F Chlorides _____ ppm

(A) Initial Hydrostatic 2,245 Test 1250 T-On Location 14:35
 (B) First Initial Flow 38 Jars 250 T-Started 15:55
 (C) First Final Flow 108 Safety Joint 75 T-Open 17:52
 (D) Initial Shut-In 1,081 Circ Sub N/C T-Pulled 19:43
 (E) Second Initial Flow 104 Hourly Standby _____ T-Out 22:21
 (F) Second Final Flow 198 Mileage 40RT 62 Comments _____
 (G) Final Shut-In 1,998 Sampler _____
 (H) Final Hydrostatic 2,015 Straddle _____ Ruined Shale Packer _____
 Shale Packer 250 Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 5 Extra Recorder _____ Sub Total 0
 Initial Shut-In 15 Day Standby _____ Total 1887
 Final Flow 30 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 60 Sub Total 1887

Approved By Vern Schraeg Our Representative [Signature]
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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 48333

Well Name & No. Shirley 2-10 Test No. 4 Date 7/19/12
 Company Harson Engineering Inc Elevation 2870 KB 2863 GL
 Address 562 W State Rd 40 Olmitz KS 67564-8561
 Co. Rep / Geo. Dean Schrag Rig HO Rig 3
 Location: Sec. 10 Twp. 18S Rge. 30W Co. Lane State KS

Interval Tested 4404 - 4485 Zone Tested Pawnee & Fort Scott
 Anchor Length 81 Drill Pipe Run 4234.31 Mud Wt. 9.2
 Top Packer Depth 4400 Drill Collars Run 147.03 Vis 54
 Bottom Packer Depth 4404 Wt. Pipe Run _____ WL 8.0
 Total Depth 4485 Chlorides 2,500 ppm System LCM 1.5
 Blow Description Built to 1/4" below
No return below
No below
No return below

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>100% Mud with few oil spots</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

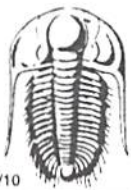
Rec Total 5 BHT 115 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2,260</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>13:30</u>
(B) First Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>14:05</u>
(C) First Final Flow <u>20</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>16:27</u>
(D) Initial Shut-In <u>62</u>	<input checked="" type="checkbox"/> Circ Sub <u>w/c</u>	T-Pulled <u>17:35</u>
(E) Second Initial Flow <u>21</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>19:21</u>
(F) Second Final Flow <u>21</u>	<input checked="" type="checkbox"/> Mileage <u>40RT</u> 62	Comments _____
(G) Final Shut-In <u>63</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>2,193</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
	<input checked="" type="checkbox"/> Shale Packer 250	<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>15</u>	<input type="checkbox"/> Day Standby _____	Total <u>1887</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1887</u>	

Approved By Dean C. Schrag

Our Representative [Signature]

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 48334

Well Name & No. Shirley 2-10 Test No. 5 Date 7/20/12
 Company Larson Engineering Inc Elevation 2870 KB 2863 GL
 Address 5122 W state Rd 4 Olmitz KS 67564-8561
 Co. Rep / Geo. Vern Schrag Rig HD Rig 3
 Location: Sec. 10 Twp. 18S Rge. 30W Co. Lane State K5

Interval Tested 4482 - 4545 Zone Tested Cherokee
 Anchor Length 63 Drill Pipe Run 4328.44 Mud Wt. 9.2
 Top Packer Depth 4478 Drill Collars Run 147.03 Vis 54
 Bottom Packer Depth 4482 Wt. Pipe Run _____ WL 8.0
 Total Depth 4545 Chlorides 2,500 ppm System LCM 1.5

Blow Description Built to 1/4" below
No return below
No below
No return below

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>Mud with few oil spots</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 5 BHT 111 Gravity _____ API RW _____ @ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2,277</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>5:30</u>
(B) First Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>6:25</u>
(C) First Final Flow <u>20</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>8:33</u>
(D) Initial Shut-In <u>54</u>	<input checked="" type="checkbox"/> Circ Sub <u>M/C</u>	T-Pulled <u>9:38</u>
(E) Second Initial Flow <u>21</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>11:33</u>
(F) Second Final Flow <u>20</u>	<input checked="" type="checkbox"/> Mileage <u>40BT</u> 62	Comments _____
(G) Final Shut-In <u>136</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2,229</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input checked="" type="checkbox"/> Shale Packer 250	<input type="checkbox"/> Ruined Packer
	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Open <u>5</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Initial Shut-In <u>15</u>	<input type="checkbox"/> Day Standby	Total <u>1887</u>
Final Flow <u>15</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't _____
Final Shut-In <u>30</u>	Sub Total <u>1887</u>	

Approved By Vern Schrag Our Representative [Signature]
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CHARGE TO: **LARSON ENGINEERING**
 ADDRESS:
 CITY, STATE, ZIP CODE:

TICKET
 No 23166

PAGE 1 OF 2

SERVICE LOCATIONS: 1. **NESS CITY, KS**

WELL/PROJECT NO.: **SHIRLEY 2-10** LEASE: **LANE** COUNTY/PARISH: **KS** CITY: **Amy, KS** DATE: **21 July 12** OWNER:

TICKET TYPE: SERVICE SALES CONTRACTOR: **H-D DRILLING RIG # 2** RIG NAME/NO.: **5 1/2 LONGSTRING** SHIPPED VIA: **DELIVERED TO:** ORDER NO.:

WELL TYPE: **DIL** WELL CATEGORY: **DEVELOPMENT** JOB PURPOSE: **5 1/2 LONGSTRING** WELL PERMIT NO.: WELL LOCATION: **1/2W, 1/8N, W1E10**

REFERRAL LOCATION: INVOICE INSTRUCTIONS:

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING		DESCRIPTION	QTY.		U/M		UNIT PRICE	AMOUNT
		LOC	ACCT		DF					
575				MILEAGE #110	45		MIL		6.00	270.00
578				Pump CHARGE	1.508		4636 FT.		1570.00	1500.00
280				FLOCHECK 21	500		gal		2.50	1250.00
221				LIQUID KCL	2.50				25.00	50.00
419				ROTATING HEAD RENTAL	1.508				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: **22 July 12** TIME SIGNED: **0130** 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?				1	3270.00
WE UNDERSTOOD AND MET YOUR NEEDS?				2	5265.00
OUR SERVICE WAS PERFORMED WITHOUT DELAY?				subtotal	8535.00
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?				Lane TAX 6.3%	382.10
ARE YOU SATISFIED WITH OUR SERVICE?	<input type="checkbox"/> YES	<input type="checkbox"/> NO		TOTAL	8917.10

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!**



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

TICKET CONTINUATION

TICKET No. 23166

PRICE REFERENCE	SECONDARY REFERENCE / PART NUMBER	ACCOUNTING			TIME	DESCRIPTION	WELL		DATE	PAGE	OF	AMOUNT
		LOC	ACCT	DF			QTY	U/M				
276						FLOCELE	40	lbs				80. ⁰⁰
283						SALT	800	lbs				160. ⁰⁰
284						CALSEAL	7	bx				245. ⁰⁰
277						CALSEAL	1100	lbs				825. ⁰⁰
292						HALAD 322	150	lbs				1162. ⁵⁰
325						STANDARD CEMENT EA2	155	bx				2092. ⁵⁰
581						SERVICE CHARGE						310. ⁰⁰
583						MILEAGE CHARGE	773	lb				390. ⁰⁰
						TOTAL WEIGHT						
						LOADED MILES	75					
						TON MILES	390	lb				
CONTINUATION TOTAL											5265. ⁰⁰	

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



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

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

Sam Brownback, Governor

November 05, 2012

Thomas Larson
Larson Engineering, Inc. dba Larson Operating
Company
562 W STATE RD 4
OLMITZ, KS 67564-8561

Re: ACO1
API 15-101-22390-00-00
Shirley 2-10
SE/4 Sec.10-18S-30W
Lane County, Kansas

Dear Production Department:

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

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

Respectfully,
Thomas Larson