



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1183482
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: _____

1183482

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
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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> _____ <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Larson Engineering, Inc. dba Larson Operating Company
Well Name	Shapland A 1-27
Doc ID	1183482

Tops

Name	Top	Datum
Anhydrite	2062	+649
Base Anhydrite	2096	+615
Heebner	3892	-1181
Lansing	3929	-1218
Stark Sh	4201	-1490
Marmaton	4322	-1611
Pawnee	4400	-1689
Ft Scott	4451	-1740
Cherokee Sh	4476	-1765
Mississippi	4535	-1824

ALLIED OIL & GAS SERVICES, LLC 061920

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999
SOUTHLAKE, TEXAS 76092

SERVICE POINT: Greentown

DATE <u>10-19-13</u>	SEC <u>27</u>	TWP <u>18</u>	RANGE <u>28</u>	CALLED OUT	ON LOCATION	JOB START <u>11:00am</u>	JOB FINISH <u>12pm</u>
LEASE <u>Shogland A</u>		WELL# <u>1-27</u>	LOCATION <u>3 Feet of Dighton, south on</u>		COUNTY <u>Logan</u>	STATE <u>KS</u>	
OLD OR NEW (Circle one) <u>NEW</u>			<u>Mustang Rd, East on 130rd, Kan</u>				

CONTRACTOR HD 3 OWNER _____

TYPE OF JOB Surface

HOLE SIZE 12 1/4 T.D. _____

CASING SIZE 8 5/8 DEPTH 275.13

TUBING SIZE _____ DEPTH _____

DRILL PIPE 4 1/2 DEPTH _____

TOOL _____ DEPTH _____

PRES. MAX _____ MINIMUM _____

MEAS. LINE _____ SHOE JOINT _____

CEMENT LEFT IN CSG. 15 Ft

PERFS. _____

DISPLACEMENT 12.86 bbis fresh water

CEMENT
AMOUNT ORDERED 175 SKS Class A
3 1/2 cc 2 1/2 gal

EQUIPMENT

PUMP TRUCK CEMENTER Josh Isaac
366 HELPER Charles Kuyum

BULK TRUCK
609-112 DRIVER Tina Dickson

BULK TRUCK
_____ DRIVER _____

COMMON <u>175</u>	@ <u>17.90</u>	<u>3132.⁵⁰</u>
POZMIX _____	@ _____	_____
GEL <u>3</u>	@ <u>23.40</u>	<u>70.20</u>
CHLORIDE <u>6</u>	@ <u>64.00</u>	<u>384.00</u>
ASC _____	@ _____	_____
_____	@ _____	_____
_____	@ _____	_____
_____	@ _____	_____
_____	@ _____	_____
_____	@ _____	_____
HANDLING <u>188.24</u>	@ <u>2.48</u>	<u>468.92</u>
MILEAGE <u>8.63 x 20 x</u>	<u>2.60</u>	<u>449.92</u>
		TOTAL <u>4503.⁸⁴</u>

REMARKS:

On location - Rig up - had surface seeping
Run 8 5/8 casing, great circulation w/ big mud
pump 5 bbls fresh water Annul
Mix 175 SKS Class A 3 1/2 cc 2 1/2 gal
Displace 12.86 bbis fresh water
Shut in
Cement did circulate
Rig down

SERVICE

DEPTH OF JOB <u>278</u>		
PUMP TRUCK CHARGE _____	<u>1512.25</u>	
EXTRA FOOTAGE _____	@ _____	_____
MILEAGE <u>Hum 20</u>	@ <u>7.70</u>	<u>154.⁰⁰</u>
MANIFOLD _____	@ _____	_____
<u>Hum 20</u>	@ <u>4.40</u>	<u>88.⁰⁰</u>
_____	@ _____	_____
		TOTAL <u>1754.²⁵</u>

CHARGE TO: Larson Engineering

STREET _____

CITY _____ STATE _____ ZIP _____

PLUG & FLOAT EQUIPMENT

_____	@ _____	_____
_____	@ _____	_____
_____	@ _____	_____
_____	@ _____	_____
_____	@ _____	_____
		TOTAL _____

To: Allied Oil & Gas Services, 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.

SALES TAX (If Any) _____

TOTAL CHARGES 6258.⁹²

DISCOUNT 1877.⁴² IF PAID IN 30 DAYS

4380.⁶⁸

PRINTED NAME X LEWYNE TRESNER

SIGNATURE X Lewyne Tresner

Thank you!



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

TICKET 25748

PAGE 1 OF 1

SERVICE LOCATIONS
 1. NESS CITY KS
 WELL/PROJECT NO. 1-27 LEASE SHAPLAND A COUNTY/PARISH LANE CO. STATE KS CITY DIXON KS DATE 11 01 13 OWNER
 2. TICKET TYPE SERVICE SALES CONTRACTOR WOOD WEST WELL SERV. RIG NAME/NO. PENNY SHIPPED VIA DELIVERED TO 2E MUSTANG RD, 25. RD 130, 1E. N. TATO ORDER NO. (CLOSE DATE)
 3. WELL TYPE OIL WELL WELL CATEGORY DEVELOPMENT JOB PURPOSE CEMENT WELL PERMIT NO. WELL LOCATION 34-27
 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 115	40	ml	1	@	6.00	240.00
576D		1			Pump CHARGES - PORT COLLIER	1	e	5	1/2	1500.00	1500.00
330		1			SMD	190	SKS			18.50	3575.00
276		1			FLOCELE	50	lbs			2.50	125.00
290		1			D-AIR	2	gal			42.00	84.00
581		1			SERVICE CHARGE CEMENT	225	SKS			2.00	450.00
583		1			DRAYAGE	225	SKS	40	ML	1.00	447.80

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
 DATE SIGNED 11 01 13 TIME SIGNED 1435 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?					
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				TOTAL	6628.07

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

JOB LOG

SWIFT Services, Inc.

DATE 11.01.13 PAGE NO. 7

CUSTOMER LARSON ENGINEERING WELL NO. 1-27 LEASE SHAPPELLAND JOB TYPE CEMENT PORT COLLAR TICKET NO. 25748

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1200							ON LOCATION WELD WEST LEADY
								2 7/8 x 5 1/2 PORT COLLAR (PC) @ 2051' TUB 7.93232 Bbl
								RULED UP TO WELL
	1215	.50-0	1.75	BE	✓	1000	1000	TEST WELL
								WAIT ON CEMENT
	1225	3	7		✓		400	OPEN PC & GET INJECTION RATES
	1230	4	8		✓	400		MIX CEMENT + PUMP
		4	15		✓	400	CIRL	CIRCUITRY AND
		4	40		✓	400	CIRL	
		4	94		✓	400	CIRL	CEMENT TO PET 170 SRS EN WELL
		4	105		✓	400	CIRL	ON FLUSIL 20 SRS CEMENT TO PET
	1256	4-0	111		✓	400	DUMP	CLOSE PC
		.5-0	111.50		✓	1000		TEST PC HELD
								WASH UP
								TICKET
	1437							JOB COMPLETED
								THANK YOU DUSTY, DAVE & ROB,



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

TICKET 25781

SERVICE LOCATIONS: 1. **NESS CITY, KS.**
 WELL/PROJECT NO.:
 LEASE: **SHAPLAND A1-27** COUNTY/PARISH: **LANE** STATE: **KS.** CITY: **DIGHTON, KS.** DATE: **30 OCT 13** OWNER:
 2. TICKET TYPE: SERVICE SALES CONTRACTOR: **HD DRILLING RIG #3** RIG NAME/NO.:
 3. WELL TYPE: **OIL** WELL CATEGORY: **DEVELOPMENT** JOB PURPOSE: **5' LONG STRING** WELL PERMIT NO.:
 4. REFERRAL LOCATION: INVOICE INSTRUCTIONS: **2E, 2S, 1E, N1/20**

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.		U/M		UNIT PRICE	AMOUNT
		LOC	ACCT	DF							
575					MILEAGE #115	35	MIL			6.00	210.00
578					PUMP CHARGE					1500.00	1500.00
281					FLO CHECK 21	500	9AL			3.00	1500.00
221					LIQUID KCL	2	9AL			25.00	50.00
419					ROTATING HEAD RENTAL	1	JOB			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
 DATE SIGNED: **30 OCT 13** TIME SIGNED: **1600** 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	3460.00
WE UNDERSTOOD AND MET YOUR NEEDS?				2	5340.35
OUR SERVICE WAS PERFORMED WITHOUT DELAY?				subtotal	8800.35
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?				Lane TAX 7.15%	463.00
ARE YOU SATISFIED WITH OUR SERVICE?	<input type="checkbox"/> YES	<input type="checkbox"/> NO		TOTAL	9263.35
<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!



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

TICKET CONTINUATION

TICKET No. 25781

PRICE REFERENCE	SECONDARY REFERENCE / PART NUMBER	ACCOUNTING			TIME	DESCRIPTION	WELL		DATE	PAGE	OF
		LOC	ACCT	DE			QTY	UM			
276						FLDCELE	50	lbs	30 Oct 13	2	2
283						SALT	800	lbs			
284						CALSEAL	7	lbs ^{5x}			
292						HALAD 302	150	lbs			
277						GILSONITE	1100	lbs			
290						D-AIR	1 1/2	sqx			
325						STANDARD CEMENT EA-2	155	sq			
581						SERVICE CHARGE		CUBIC FEET			
583						MILEAGE CHARGE	17	TON MILES			
						LOADED MILES	35				
						TON MILES	304.85				
CONTINUATION TOTAL										5340	35

JOB LOG

SWIFT Services, Inc.

DATE 30 OCT 13 PAGE NO.

CUSTOMER
LARSON ENGINEERING

WELL NO.

LEASE
SHAPLAND A 1-25

JOB TYPE
5'2 LONGSTRING

TICKET NO.
25781

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1300							ON LOCATION
								RIDE 4605 SHOE JT. 42.48 PORT COLLAR @ 2051
	1340							CIRCULATE
	1430	6	15		✓			Pump 15 BBL KCL
		6	12		✓			Pump 500 gal FLOCHECK
		6	5		✓			Pump 5 BBL KCL
	1446		7					PLUG RH - 30 sx
	1449	4	30		✓			MIX 125 sx EA-2
	1503							WASH OUT Pump & LINES.
	1505	6			✓			START DISPLACING PLUG
	1523	Ø	108½		✓		1500	PLUG DOWN LATCH PLUG IN.
	1525							RELEASE PSI - DRY
	1529							WASH TRUCK
	1600							JOB COMPLETE
								THANKS #115
								JASON DAVE JOAN



DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W. State Rd 4
Olmitz KS. 67564

ATTN: Vern Schrag

Shapland "A" # 1-27

27-18s-28w Lane,KS

Start Date: 2013.10.24 @ 13:54:00

End Date: 2013.10.24 @ 18:42:24

Job Ticket #: 49067 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.10.31 @ 13:36:22



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

27-18s-28w Lane, KS
Shapland "A" # 1-27
 Job Ticket: 49067 **DST#: 1**
 Test Start: 2013.10.24 @ 13:54:00

GENERAL INFORMATION:

Formation: **LKC " H "**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 15:51:55
 Time Test Ended: 18:42:24
Interval: 4100.00 ft (KB) To 4130.00 ft (KB) (TVD)
 Total Depth: 4130.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Will MacLean
 Unit No: 58
 Reference Elevations: 2711.00 ft (KB)
 2702.00 ft (CF)
 KB to GR/CF: 9.00 ft

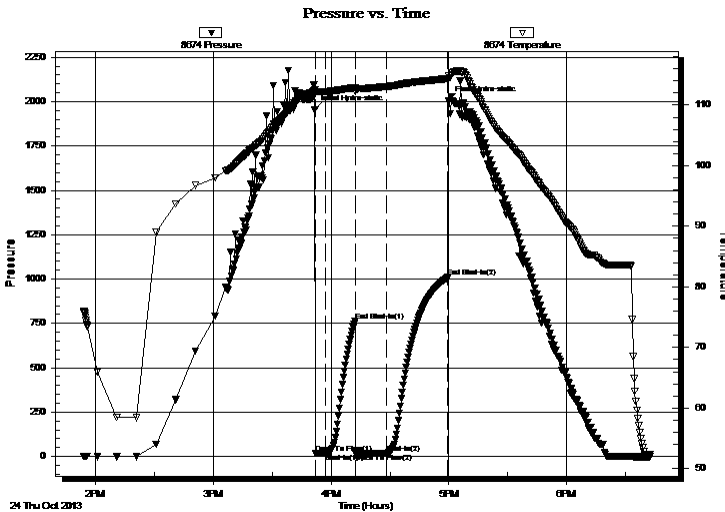
Serial #: 8674

Inside

Press @ Run Depth: 19.73 psig @ 4101.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.10.24 End Date: 2013.10.24 Last Calib.: 2013.10.24
 Start Time: 13:54:00 End Time: 18:42:24 Time On Btm: 2013.10.24 @ 15:51:40
 Time Off Btm: 2013.10.24 @ 16:59:40

TEST COMMENT: IF- Weak Surface Blow 1/4"
 IS- No Blow
 FF- No Blow
 FS- No Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1954.80	112.49	Initial Hydro-static
1	17.54	112.01	Open To Flow (1)
6	18.24	112.23	Shut-In(1)
21	764.23	112.86	End Shut-In(1)
21	17.07	112.27	Open To Flow (2)
37	19.73	113.05	Shut-In(2)
68	1009.94	114.38	End Shut-In(2)
68	2006.86	114.78	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	100% m with Oil Spots	0.01

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

27-18s-28w Lane, KS

Shapland "A" # 1-27

Job Ticket: 49067

DST#: 1

Test Start: 2013.10.24 @ 13:54:00

GENERAL INFORMATION:

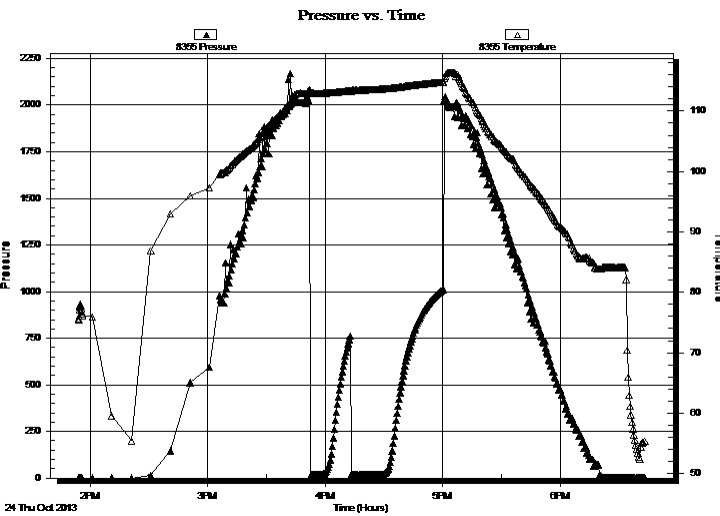
Formation: **LKC "H"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 15:51:55 Tester: Will MacLean
 Time Test Ended: 18:42:24 Unit No: 58
 Interval: **4100.00 ft (KB) To 4130.00 ft (KB) (TVD)** Reference Elevations: 2711.00 ft (KB)
 Total Depth: 4130.00 ft (KB) (TVD) 2702.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 9.00 ft

Serial #: 8355

Outside

Press @ Run Depth: psig @ 4101.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.10.24 End Date: 2013.10.24 Last Calib.: 2013.10.24
 Start Time: 13:54:05 End Time: 18:43:29 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF- Weak Surface Blow 1/4"
 IS- No Blow
 FF- No Blow
 FS- No Blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
2.00	100% m with Oil Spots	0.01

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering Inc

27-18s-28w Lane,KS

562 W. State Rd 4
Olmitz KS. 67564

Shapland "A" # 1-27

Job Ticket: 49067

DST#: 1

ATTN: Vern Schrag

Test Start: 2013.10.24 @ 13:54:00

Tool Information

Drill Pipe:	Length: 3951.00 ft	Diameter: 3.80 inches	Volume: 55.42 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 148.00 ft	Diameter: 2.25 inches	Volume: 0.73 bbl	Weight to Pull Loose: 20000.00 lb
			<u>Total Volume: 56.15 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	4100.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	57.00 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			4074.00	
Shut In Tool	5.00			4079.00	
Hydraulic tool	5.00			4084.00	
Jars	5.00			4089.00	
Safety Joint	2.00			4091.00	
Packer	5.00			4096.00	27.00 Bottom Of Top Packer
Packer	4.00			4100.00	
Stubb	1.00			4101.00	
Recorder	0.00	8355	Outside	4101.00	
Recorder	0.00	8674	Inside	4101.00	
Perforations	24.00			4125.00	
Bullnose	5.00			4130.00	30.00 Bottom Packers & Anchor

Total Tool Length: 57.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

27-18s-28w Lane, KS

562 W. State Rd 4
Olmitz KS. 67564

Shapland "A" # 1-27

Job Ticket: 49067

DST#: 1

ATTN: Vern Schrag

Test Start: 2013.10.24 @ 13:54:00

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: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.52 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	100% m with Oil Spots	0.010

Total Length: 2.00 ft Total Volume: 0.010 bbl

Num Fluid Samples: 0

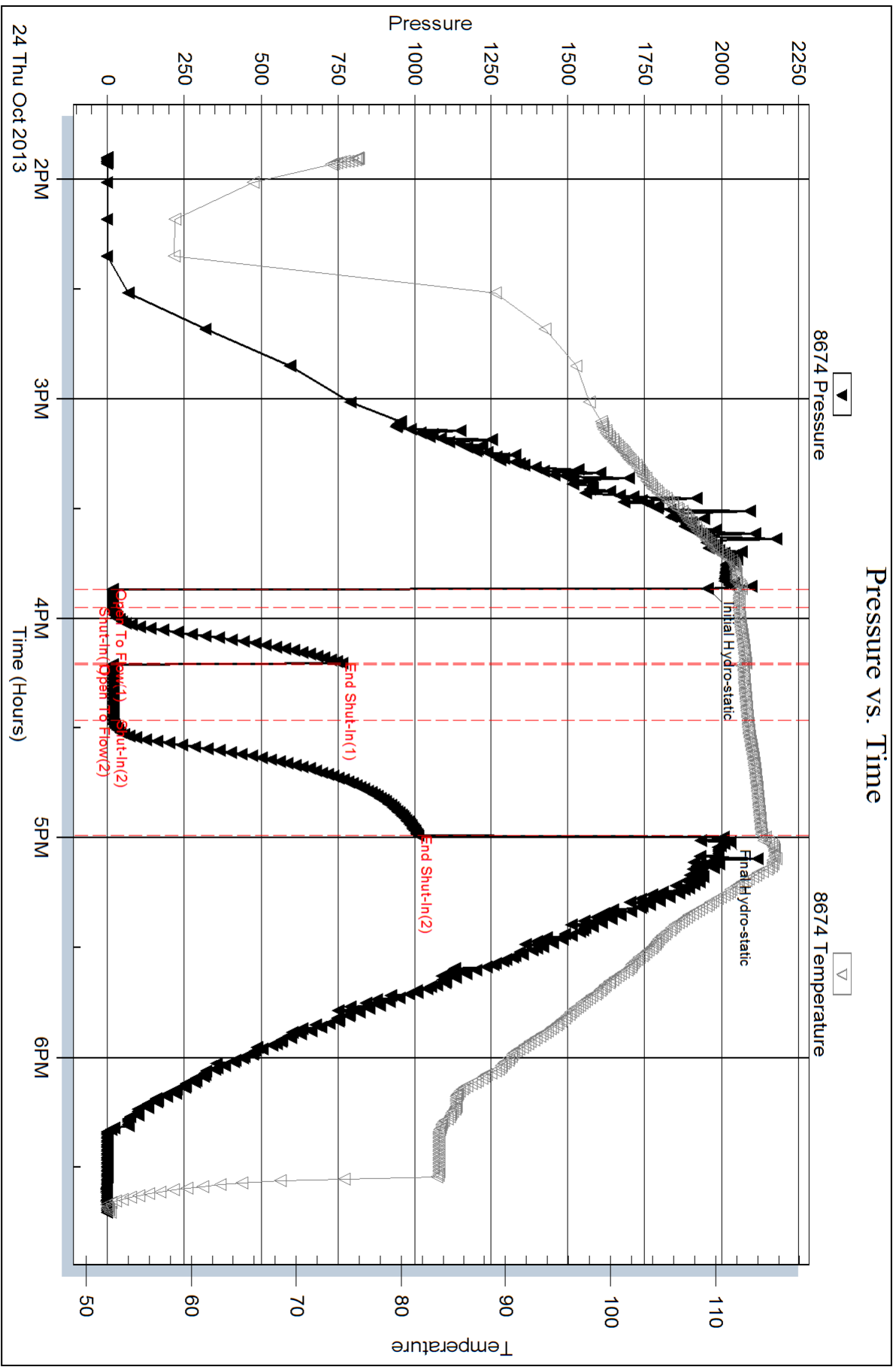
Num Gas Bombs: 0

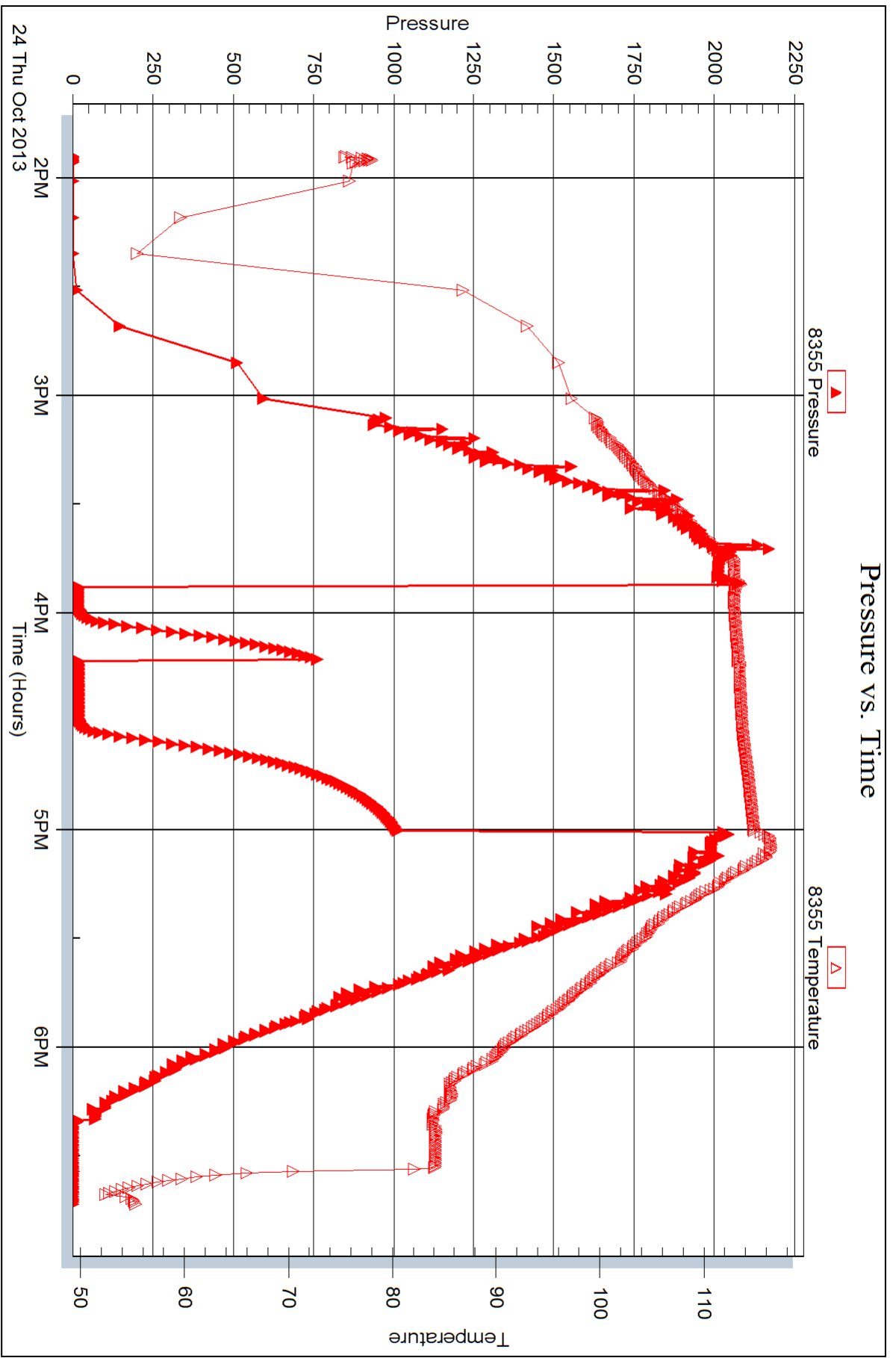
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W. State Rd 4
Olmitz KS. 67564

ATTN: Vern Schrag

Shapland "A" # 1-27

27-18s-28w Lane,KS

Start Date: 2013.10.25 @ 05:40:00

End Date: 2013.10.25 @ 10:53:09

Job Ticket #: 49068 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.10.31 @ 13:35:38



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

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

27-18s-28w Lane, KS
Shapland "A" # 1-27
Job Ticket: 49068 **DST#: 2**
Test Start: 2013.10.25 @ 05:40:00

GENERAL INFORMATION:

Formation: **LKC " J "**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 07:26:55
Time Test Ended: 10:53:09
Interval: **4173.00 ft (KB) To 4187.00 ft (KB) (TVD)**
Total Depth: 4187.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Reference Elevations: 2711.00 ft (KB)
2702.00 ft (CF)
KB to GR/CF: 9.00 ft
Test Type: Conventional Bottom Hole (Reset)
Tester: Will MacLean
Unit No: 58

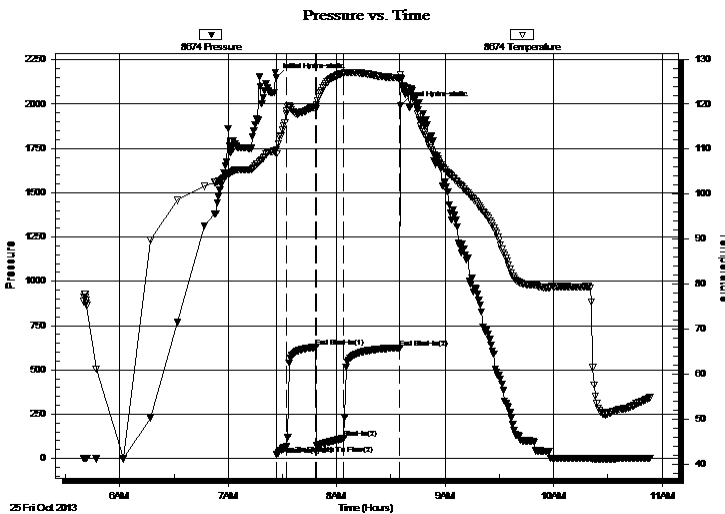
Serial #: 8674

Inside

Press @ Run Depth: 113.76 psig @ 4174.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2013.10.25 End Date: 2013.10.25 Last Calib.: 2013.10.25
Start Time: 05:40:00 End Time: 10:53:09 Time On Btm: 2013.10.25 @ 07:26:40
Time Off Btm: 2013.10.25 @ 08:35:10

TEST COMMENT: IF- Weak Surface Blow Built to 5"
IS- No Blow
FF- Weak Surface Blow Built to BOB in 14 min
FS- Weak Surface Blow in 8 min Built to 1/2"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2148.07	109.87	Initial Hydro-static
1	24.84	108.95	Open To Flow (1)
6	67.06	118.58	Shut-In(1)
22	627.42	119.30	End Shut-In(1)
23	72.44	119.90	Open To Flow (2)
38	113.76	126.88	Shut-In(2)
69	624.65	125.83	End Shut-In(2)
69	1990.69	126.63	Final Hydro-static

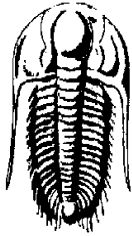
Recovery

Length (ft)	Description	Volume (bbl)
62.00	OMCW 2%oil 12%m 86%w	0.30
62.00	OMCW 5%oil 30%m 65%w	0.30
62.00	OGWCM 6%oil 9%g 29%w 56%m	0.65
37.00	GWMCO 4%g 14%w 33%m 49%oil	0.52
15.00	GO 4%g 96%oil	0.21
0.00	134' of GIP	0.00

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

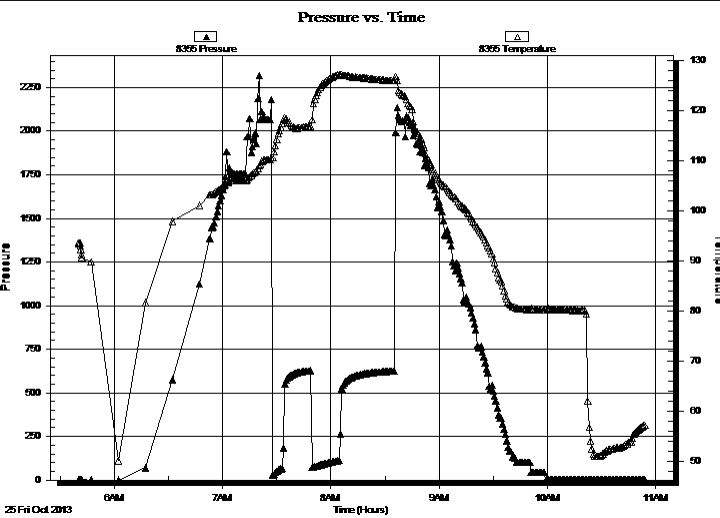
27-18s-28w Lane, KS
Shapland "A" # 1-27
Job Ticket: 49068 **DST#: 2**
Test Start: 2013.10.25 @ 05:40:00

GENERAL INFORMATION:

Formation: LKC " J "	
Deviated: No Whipstock: ft (KB)	Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 07:26:55	Tester: Will MacLean
Time Test Ended: 10:53:09	Unit No: 58
Interval: 4173.00 ft (KB) To 4187.00 ft (KB) (TVD)	Reference Elevations: 2711.00 ft (KB)
Total Depth: 4187.00 ft (KB) (TVD)	2702.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good	KB to GR/CF: 9.00 ft

Serial #: 8355	Outside		
Press @RunDepth: psig @ 4174.00 ft (KB)		Capacity: 8000.00 psig	
Start Date: 2013.10.25	End Date: 2013.10.25	Last Calib.: 2013.10.25	
Start Time: 05:40:05	End Time: 10:54:29	Time On Btm:	
		Time Off Btm:	

TEST COMMENT: IF- Weak Surface Blow Built to 5"
IS- No Blow
FF- Weak Surface Blow Built to BOB in 14 min
FS- Weak Surface Blow in 8 min Built to 1/2"



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

Recovery		
Length (ft)	Description	Volume (bbl)
62.00	OMCW 2%oil 12%m 86%w	0.30
62.00	OMCW 5%oil 30%m 65%w	0.30
62.00	OGWCM 6%oil 9%g 29%w 56%m	0.65
37.00	GWMCO 4%g 14%w 33%m 49%oil	0.52
15.00	GO 4%g 96%oil	0.21
0.00	134' of GIP	0.00

* 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

27-18s-28w Lane,KS

562 W. State Rd 4
Olmitz KS. 67564

Shapland "A" # 1-27

Job Ticket: 49068

DST#: 2

ATTN: Vern Schrag

Test Start: 2013.10.25 @ 05:40:00

Tool Information

Drill Pipe:	Length: 4014.00 ft	Diameter: 3.80 inches	Volume: 56.31 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	26000.00 lb
Drill Collar:	Length: 148.00 ft	Diameter: 2.25 inches	Volume: 0.73 bbl	Weight to Pull Loose:	14000.00 lb
			<u>Total Volume: 57.04 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial	52000.00 lb
Depth to Top Packer:	4173.00 ft			Final	52000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	14.00 ft				
Tool Length:	41.00 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			4147.00	
Shut In Tool	5.00			4152.00	
Hydraulic tool	5.00			4157.00	
Jars	5.00			4162.00	
Safety Joint	2.00			4164.00	
Packer	5.00			4169.00	27.00 Bottom Of Top Packer
Packer	4.00			4173.00	
Stubb	1.00			4174.00	
Recorder	0.00	8355	Outside	4174.00	
Recorder	0.00	8674	Inside	4174.00	
Perforations	8.00			4182.00	
Bullnose	5.00			4187.00	14.00 Bottom Packers & Anchor

Total Tool Length: 41.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

27-18s-28w Lane,KS

562 W. State Rd 4
Olmitz KS. 67564

Shapland "A" # 1-27

Job Ticket: 49068

DST#: 2

ATTN: Vern Schrag

Test Start: 2013.10.25 @ 05:40:00

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:

35000 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.52 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
62.00	OMCW 2%oil 12%m 86%w	0.305
62.00	OMCW 5%oil 30%m 65%w	0.305
62.00	OGWCM 6%oil 9%g 29%w 56%m	0.651
37.00	GWMCO 4%g 14%w 33%m 49%oil	0.519
15.00	GO 4%g 96%oil	0.210
0.00	134' of GIP	0.000

Total Length: 238.00 ft Total Volume: 1.990 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

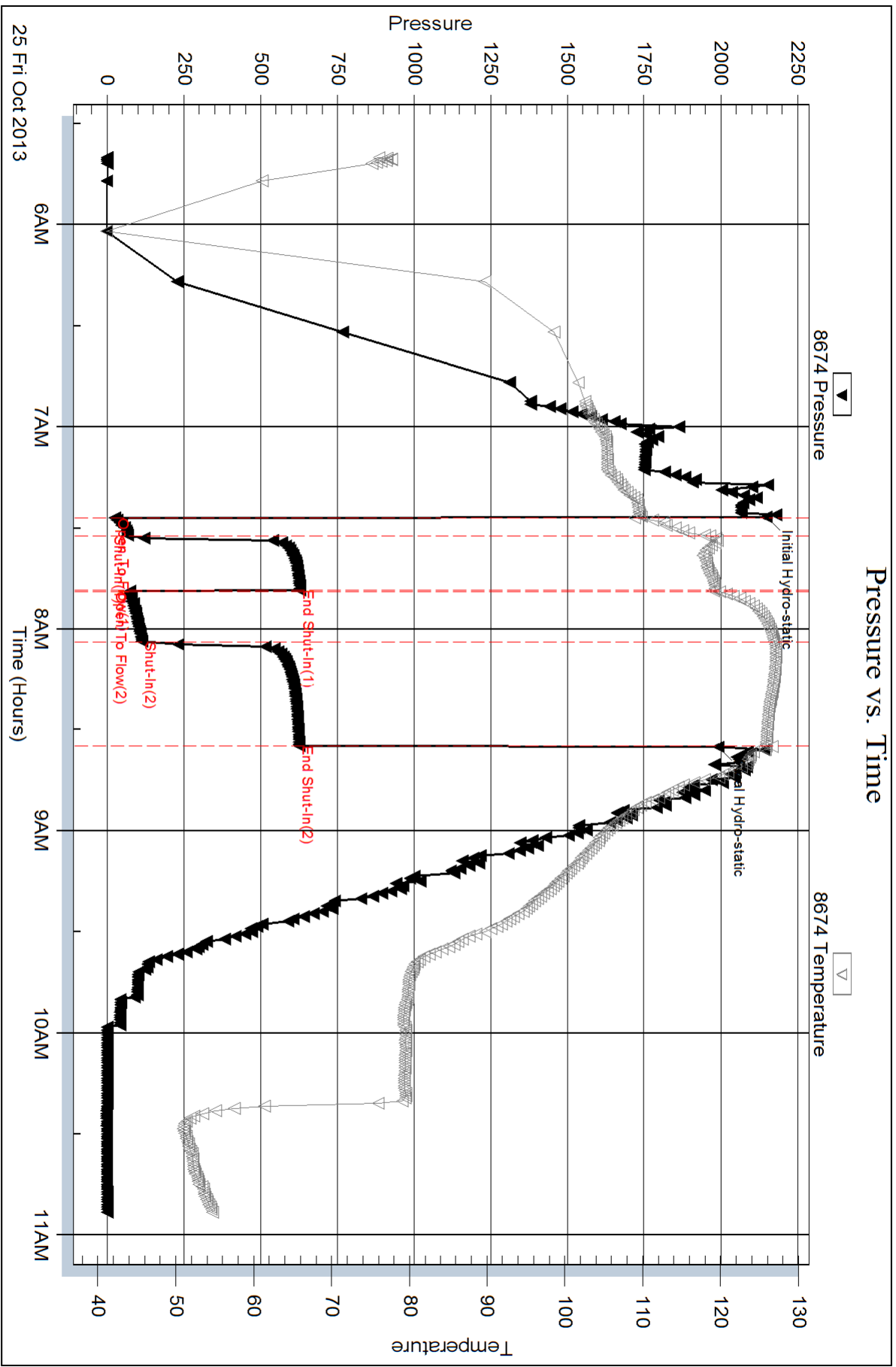
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API is 36 @ 50f = 37

RW is .233 @ 58f = 35000

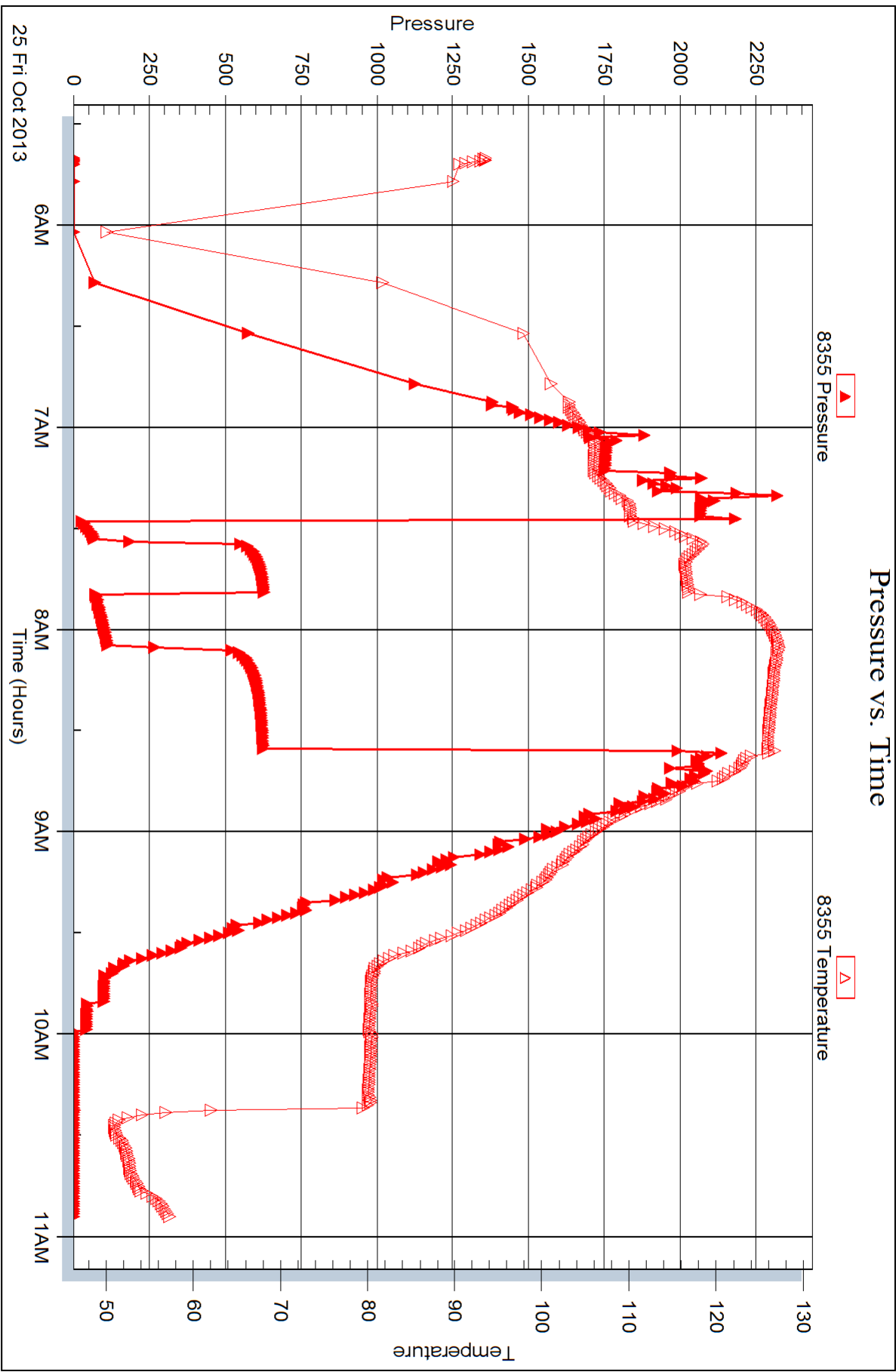


Serial #: 8355

Outside Larson Engineering Inc

Shapland "A" # 1-27

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W. State Rd 4
Olmitz KS. 67564

ATTN: Vern Schrag

Shapland "A" # 1-27

27-18s-28w Lane,KS

Start Date: 2013.10.25 @ 18:50:00

End Date: 2013.10.26 @ 00:19:39

Job Ticket #: 49069 DST #: 3

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

Printed: 2013.10.31 @ 13:35:05



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Larson Engineering Inc

27-18s-28w Lane, KS

562 W. State Rd 4
Olmitz KS. 67564

Shapland "A" # 1-27

Job Ticket: 49069

DST#: 3

ATTN: Vern Schrag

Test Start: 2013.10.25 @ 18:50:00

GENERAL INFORMATION:

Formation: **LKC " K "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:33:10

Time Test Ended: 00:19:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 58

Interval: **4201.00 ft (KB) To 4215.00 ft (KB) (TVD)**

Reference Elevations: 2711.00 ft (KB)

Total Depth: 4215.00 ft (KB) (TVD)

2702.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 9.00 ft

Serial #: 8674 **Inside**

Press @ RunDepth: 34.13 psig @ 4202.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.10.25

End Date:

2013.10.26

Last Calib.:

2013.10.26

Start Time: 18:50:00

End Time:

00:19:39

Time On Btm:

2013.10.25 @ 20:32:55

Time Off Btm:

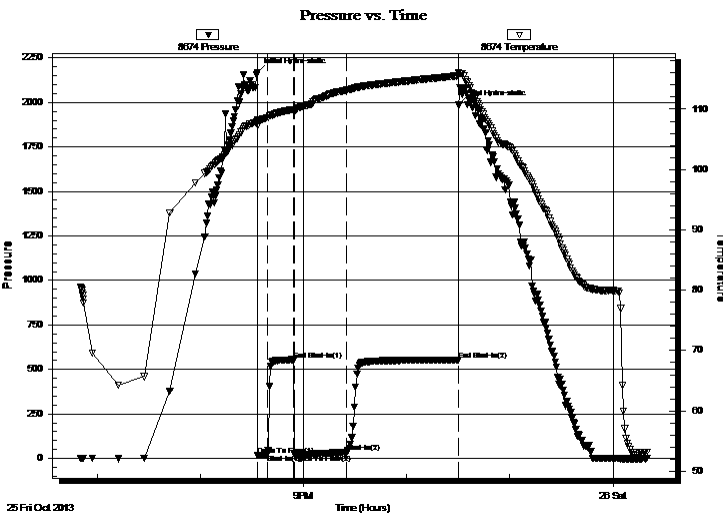
2013.10.25 @ 22:30:10

TEST COMMENT: IF- Weak Surface Blow Built to 1/2"

IS- No Blow

FF- Weak Surface Blow Built to 1 1/2"

FS- No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2168.39	108.23	Initial Hydro-static
1	17.68	107.32	Open To Flow (1)
6	20.82	108.56	Shut-In(1)
22	554.41	109.95	End Shut-In(1)
22	21.88	109.75	Open To Flow (2)
52	34.13	113.14	Shut-In(2)
117	553.73	115.53	End Shut-In(2)
118	1984.96	116.08	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
29.00	WOGCM 2%w 5%oil 6%g 87%m	0.14
1.00	100%oil	0.00

Gas Rates

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

* Recovery from multiple tests



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

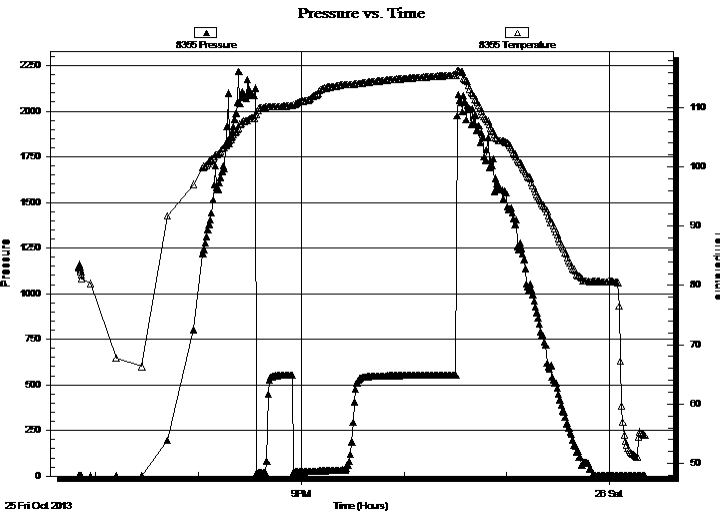
27-18s-28w Lane, KS
Shapland "A" # 1-27
 Job Ticket: 49069 **DST#: 3**
 Test Start: 2013.10.25 @ 18:50:00

GENERAL INFORMATION:

Formation: **LKC " K "**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 20:33:10 Tester: Will MacLean
 Time Test Ended: 00:19:39 Unit No: 58
 Interval: **4201.00 ft (KB) To 4215.00 ft (KB) (TVD)** Reference Elevations: 2711.00 ft (KB)
 Total Depth: 4215.00 ft (KB) (TVD) 2702.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 9.00 ft

Serial #: 8355 **Outside**
 Press @ Run Depth: psig @ 4202.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.10.25 End Date: 2013.10.26 Last Calib.: 2013.10.26
 Start Time: 18:50:05 End Time: 00:20:44 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF- Weak Surface Blow Built to 1/2"
 IS- No Blow
 FF- Weak Surface Blow Built to 1 1/2"
 FS- No Blow



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

Recovery		
Length (ft)	Description	Volume (bbl)
29.00	WOGCM 2%w 5%oil 6%g 87%m	0.14
1.00	100%oil	0.00

* 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

27-18s-28w Lane,KS

562 W. State Rd 4
Olmitz KS. 67564

Shapland "A" # 1-27

Job Ticket: 49069

DST#: 3

ATTN: Vern Schrag

Test Start: 2013.10.25 @ 18:50:00

Tool Information

Drill Pipe:	Length: 4044.00 ft	Diameter: 3.80 inches	Volume: 56.73 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	24000.00 lb
Drill Collar:	Length: 148.00 ft	Diameter: 2.25 inches	Volume: 0.73 bbl	Weight to Pull Loose:	10000.00 lb
			<u>Total Volume: 57.46 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial	54000.00 lb
Depth to Top Packer:	4201.00 ft			Final	54000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	14.00 ft				
Tool Length:	41.00 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			4175.00	
Shut In Tool	5.00			4180.00	
Hydraulic tool	5.00			4185.00	
Jars	5.00			4190.00	
Safety Joint	2.00			4192.00	
Packer	5.00			4197.00	27.00 Bottom Of Top Packer
Packer	4.00			4201.00	
Stubb	1.00			4202.00	
Recorder	0.00	8355	Outside	4202.00	
Recorder	0.00	8674	Inside	4202.00	
Perforations	8.00			4210.00	
Bullnose	5.00			4215.00	14.00 Bottom Packers & Anchor

Total Tool Length: 41.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

27-18s-28w Lane,KS

562 W. State Rd 4
Olmitz KS. 67564

Shapland "A" # 1-27

Job Ticket: 49069

DST#: 3

ATTN: Vern Schrag

Test Start: 2013.10.25 @ 18:50:00

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: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.54 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
29.00	WOGCM 2%w 5%oil 6%g 87%m	0.143
1.00	100%oil	0.005

Total Length: 30.00 ft Total Volume: 0.148 bbl

Num Fluid Samples: 0

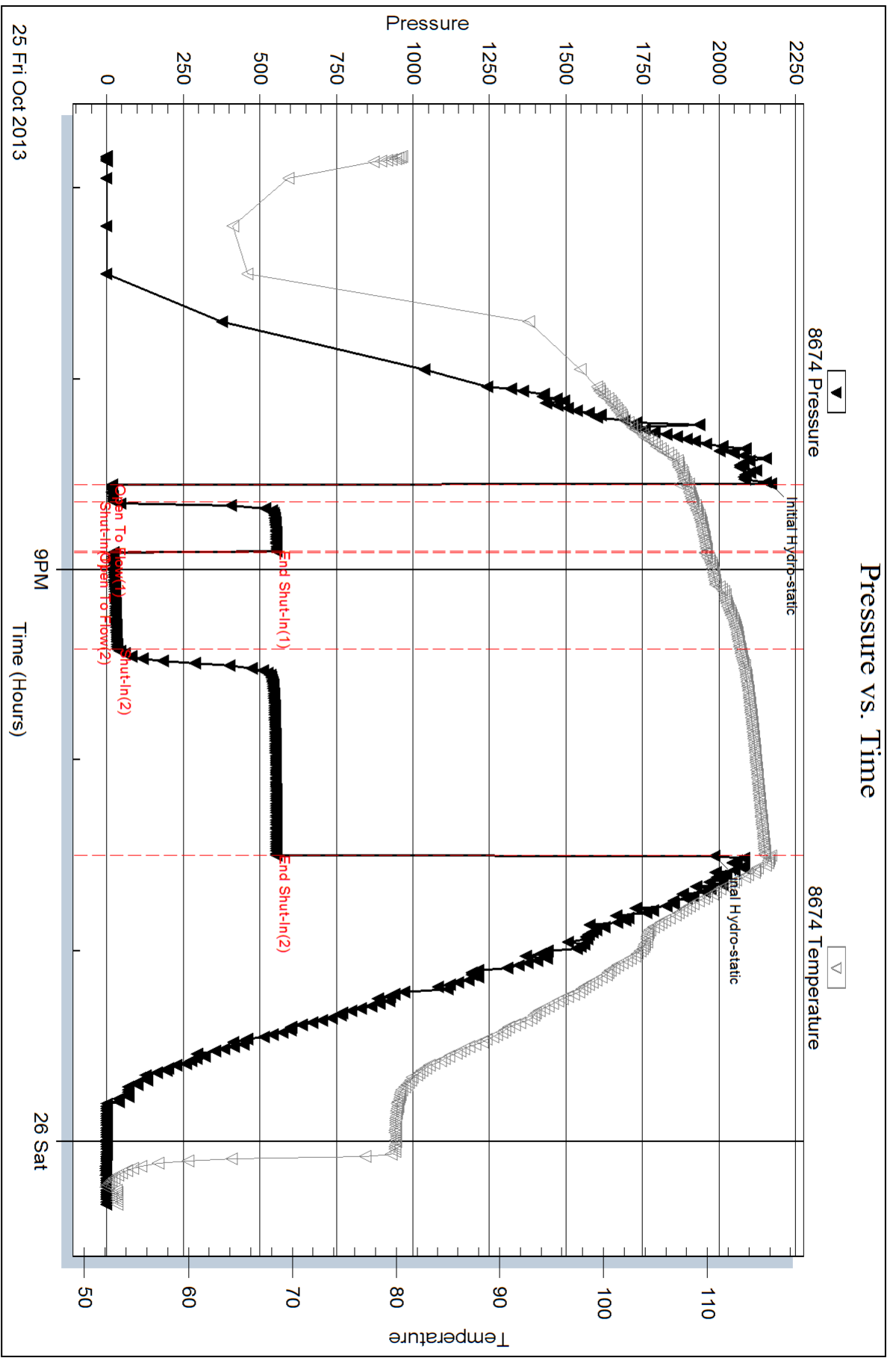
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

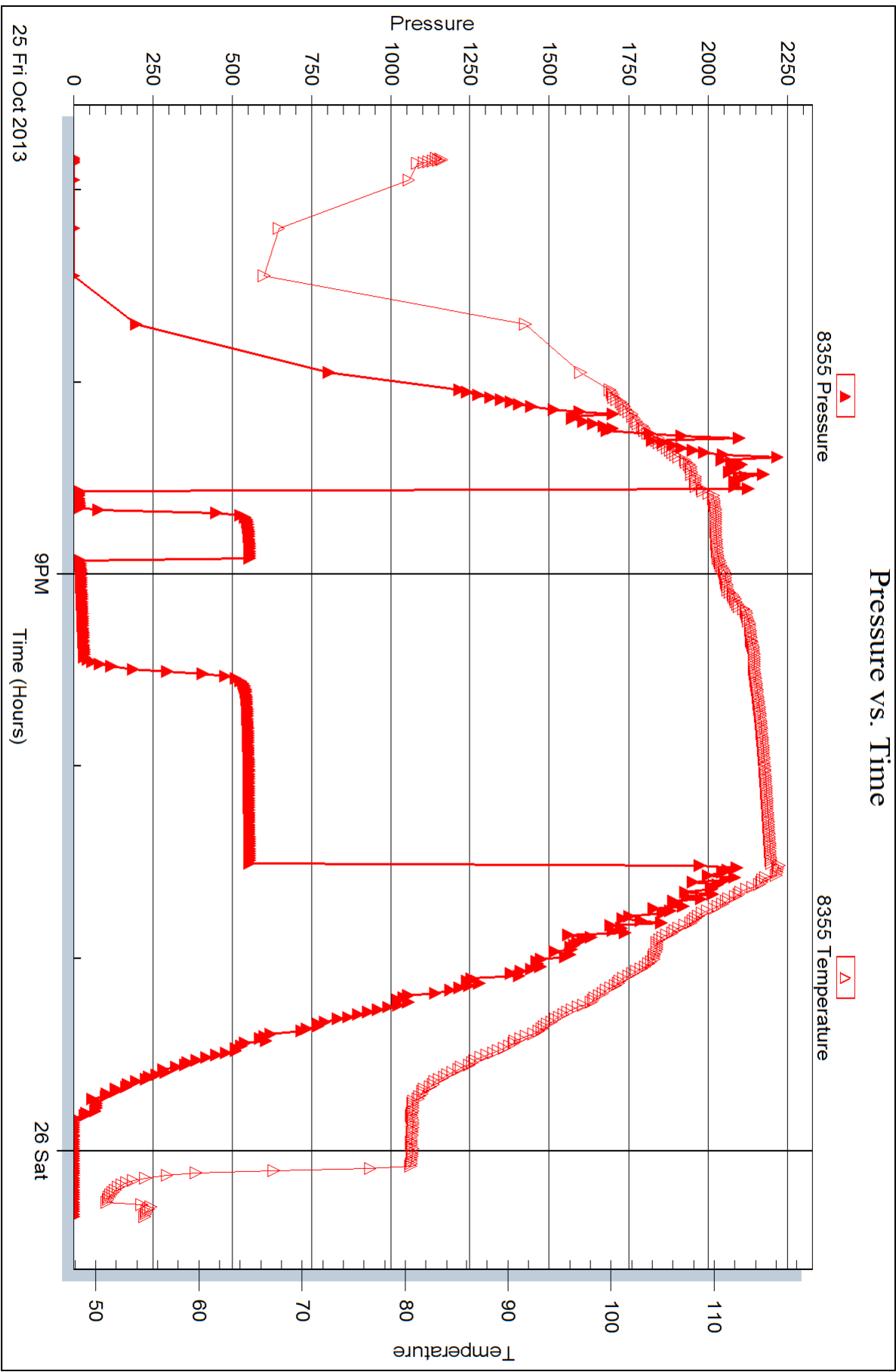


Serial #: 8355

Outside Larson Engineering Inc

Shapland "A" # 1-27

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 49069

Printed: 2013.10.31 @ 13:35:07



DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W. State Rd 4
Olmitz KS. 67564

ATTN: Vern Schrag

Shapland "A" # 1-27

27-18s-28w Lane,KS

Start Date: 2013.10.26 @ 06:46:00

End Date: 2013.10.26 @ 12:27:09

Job Ticket #: 49070 DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.10.31 @ 13:34:29



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

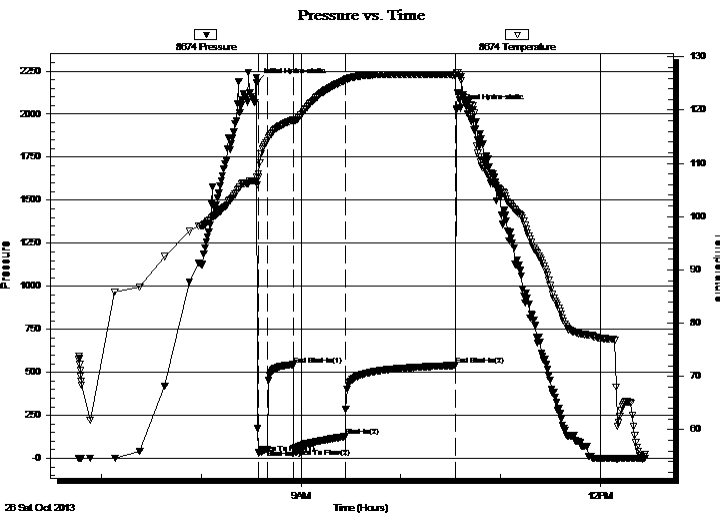
27-18s-28w Lane, KS
Shapland "A" # 1-27
 Job Ticket: 49070 **DST#: 4**
 Test Start: 2013.10.26 @ 06:46:00

GENERAL INFORMATION:

Formation: **LKC " K "**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 08:34:10 Tester: Will MacLean
 Time Test Ended: 12:27:09 Unit No: 58
 Interval: **4214.00 ft (KB) To 4220.00 ft (KB) (TVD)** Reference Elevations: 2711.00 ft (KB)
 Total Depth: 4220.00 ft (KB) (TVD) 2702.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 9.00 ft

Serial #: 8674 Inside
 Press @ Run Depth: 128.65 psig @ 4215.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.10.26 End Date: 2013.10.26 Last Calib.: 2013.10.26
 Start Time: 06:46:00 End Time: 12:27:09 Time On Btm: 2013.10.26 @ 08:33:25
 Time Off Btm: 2013.10.26 @ 10:33:25

TEST COMMENT: IF- Weak Surface Blow Built to 3 3/4"
 IS- No Blow
 FF- Weak Surface Blow Built to 7 1/4"
 FS- No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2183.81	107.48	Initial Hydro-static
1	32.28	107.36	Open To Flow (1)
7	54.61	114.29	Shut-In(1)
22	544.23	118.09	End Shut-In(1)
22	56.91	117.80	Open To Flow (2)
54	128.65	125.58	Shut-In(2)
120	539.79	126.59	End Shut-In(2)
120	2033.43	127.08	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
124.00	MCW 9% <i>m</i> 91% <i>w</i>	0.61
125.00	MCW 35% <i>m</i> 65% <i>w</i> with Skim of Oil on	1.53

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Larson Engineering Inc

27-18s-28w Lane, KS

562 W. State Rd 4
Olmitz KS. 67564

Shapland "A" # 1-27

ATTN: Vern Schrag

Job Ticket: 49070

DST#: 4

Test Start: 2013.10.26 @ 06:46:00

GENERAL INFORMATION:

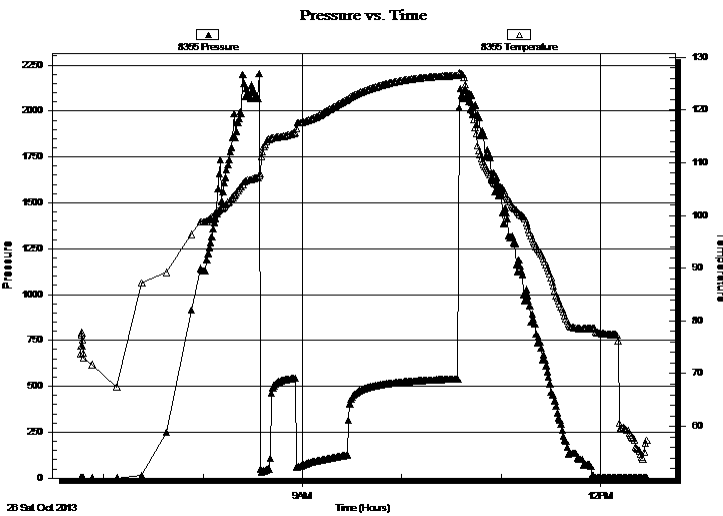
Formation: **LKC " K "**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 08:34:10
 Tester: Will MacLean
 Time Test Ended: 12:27:09
 Unit No: 58
 Interval: **4214.00 ft (KB) To 4220.00 ft (KB) (TVD)**
 Reference Elevations: 2711.00 ft (KB)
 Total Depth: 4220.00 ft (KB) (TVD)
 2702.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good
 KB to GR/CF: 9.00 ft

Serial #: 8355

Outside

Press @RunDepth: psig @ 4215.00 ft (KB)
 Capacity: 8000.00 psig
 Start Date: 2013.10.26 End Date: 2013.10.26 Last Calib.: 2013.10.26
 Start Time: 06:46:05 End Time: 12:28:14 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF- Weak Surface Blow Built to 3 3/4"
 IS- No Blow
 FF- Weak Surface Blow Built to 7 1/4"
 FS- No Blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
124.00	MCW 9% <i>m</i> 91% <i>w</i>	0.61
125.00	MCW 35% <i>m</i> 65% <i>w</i> with Skim of Oil on	1.53

* 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

27-18s-28w Lane,KS

562 W. State Rd 4
Olmitz KS. 67564

Shapland "A" # 1-27

Job Ticket: 49070

DST#: 4

ATTN: Vern Schrag

Test Start: 2013.10.26 @ 06:46:00

Tool Information

Drill Pipe:	Length: 4045.00 ft	Diameter: 3.80 inches	Volume: 56.74 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	28000.00 lb
Drill Collar:	Length: 148.00 ft	Diameter: 2.25 inches	Volume: 0.73 bbl	Weight to Pull Loose:	8000.00 lb
			<u>Total Volume: 57.47 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial	54000.00 lb
Depth to Top Packer:	4214.00 ft			Final	54000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	6.00 ft				
Tool Length:	33.00 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			4188.00	
Shut In Tool	5.00			4193.00	
Hydraulic tool	5.00			4198.00	
Jars	5.00			4203.00	
Safety Joint	2.00			4205.00	
Packer	5.00			4210.00	27.00 Bottom Of Top Packer
Packer	4.00			4214.00	
Stubb	1.00			4215.00	
Recorder	0.00	8355	Outside	4215.00	
Recorder	0.00	8674	Inside	4215.00	
Bullnose	5.00			4220.00	6.00 Bottom Packers & Anchor

Total Tool Length: 33.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

27-18s-28w Lane, KS

562 W. State Rd 4
Olmitz KS. 67564

Shapland "A" # 1-27

Job Ticket: 49070

DST#: 4

ATTN: Vern Schrag

Test Start: 2013.10.26 @ 06:46:00

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: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.56 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
124.00	MCW 9%m 91%w	0.610
125.00	MCW 35%m 65%w with Skim of Oil on Top	1.535

Total Length: 249.00 ft Total Volume: 2.145 bbl

Num Fluid Samples: 0

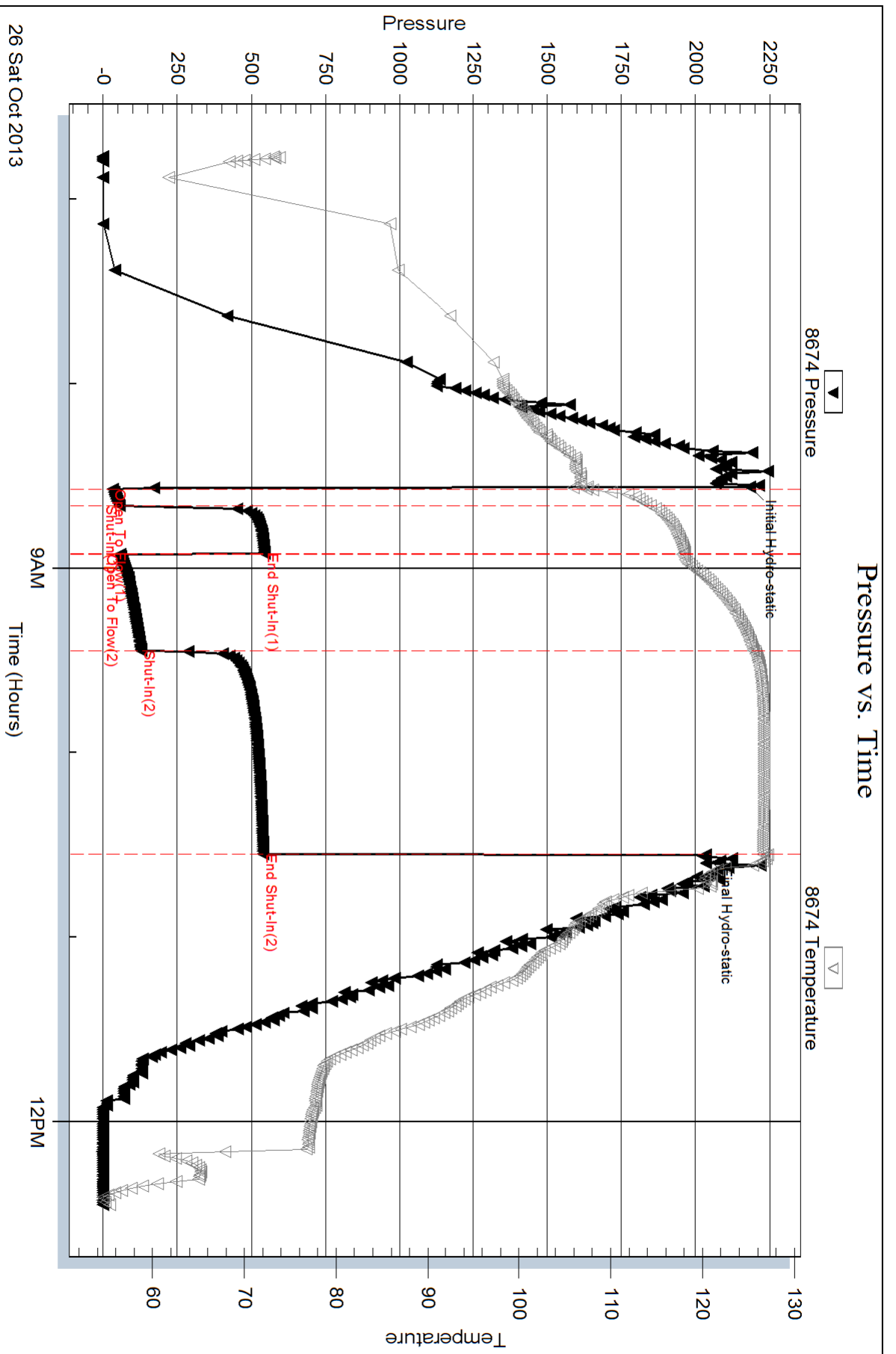
Num Gas Bombs: 0

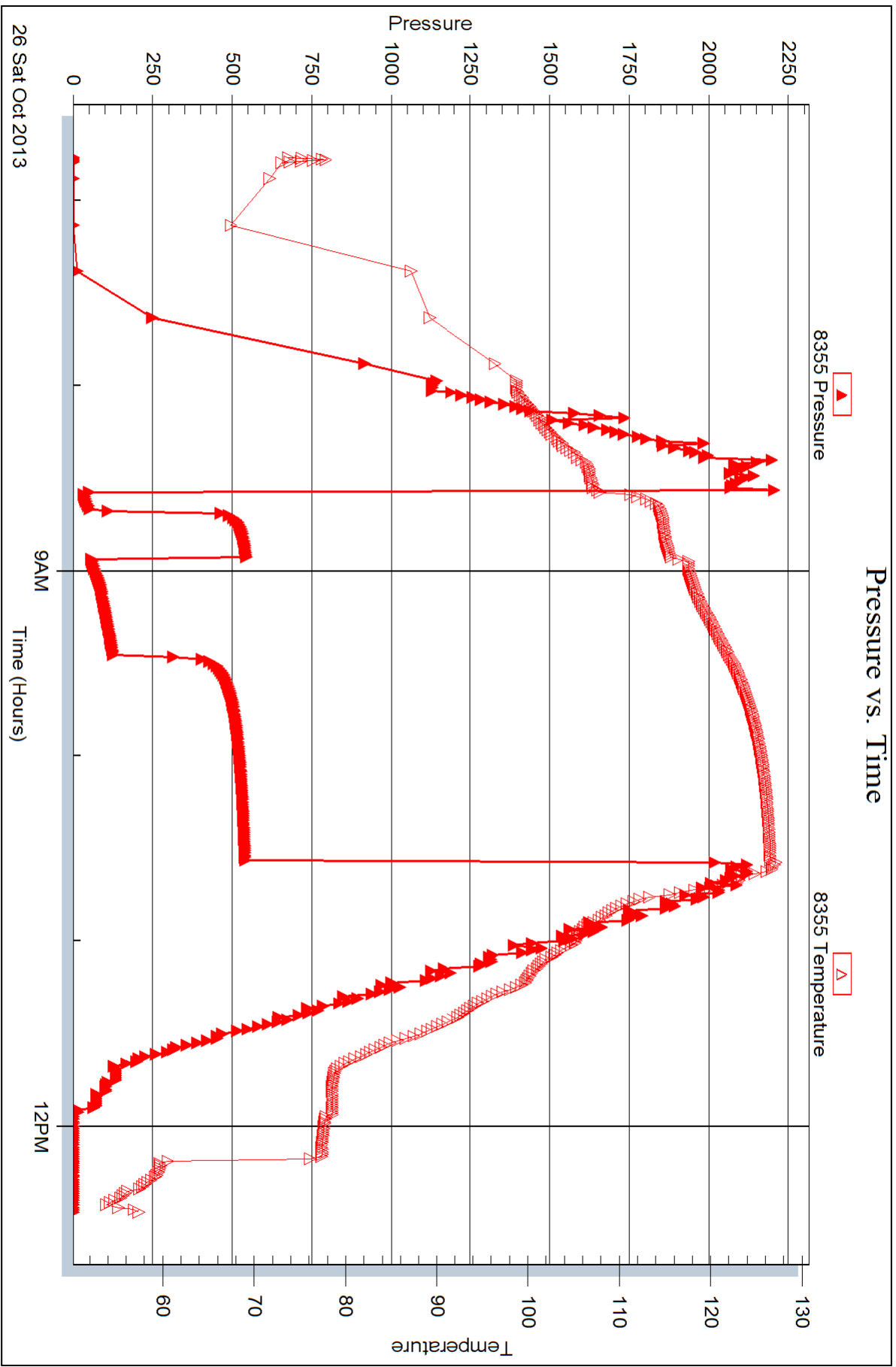
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW is .186 @ 60f = 42,200







DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W. State Rd 4
Olmitz KS. 67564

ATTN: Vern Schrag

Shapland "A" # 1-27

27-18s-28w Lane,KS

Start Date: 2013.10.26 @ 22:42:00

End Date: 2013.10.27 @ 04:32:39

Job Ticket #: 49071 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.10.31 @ 13:33:58



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

27-18s-28w Lane, KS
Shapland "A" # 1-27
 Job Ticket: 49071 **DST#: 5**
 Test Start: 2013.10.26 @ 22:42:00

GENERAL INFORMATION:

Formation: **LKC " L "**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 00:24:55 Tester: Will MacLean
 Time Test Ended: 04:32:39 Unit No: 58
 Interval: **4239.00 ft (KB) To 4251.00 ft (KB) (TVD)** Reference Elevations: 2711.00 ft (KB)
 Total Depth: 4239.00 ft (KB) (TVD) 2702.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 9.00 ft

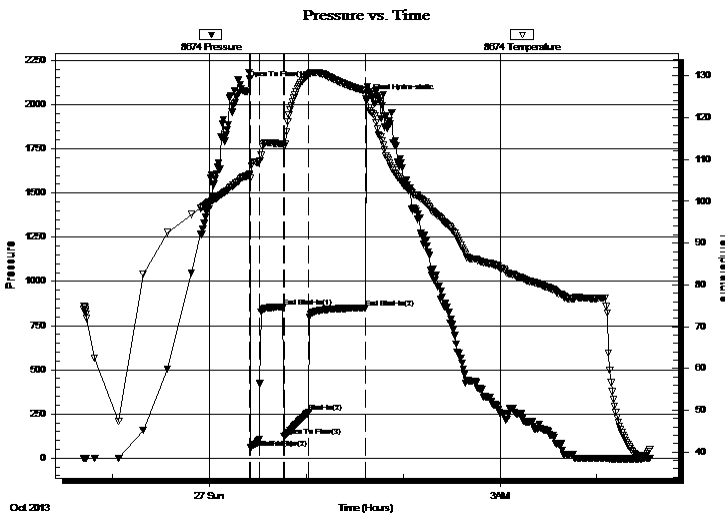
Serial #: 8674

Inside

Press @ Run Depth: 106.57 psig @ 4241.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.10.26 End Date: 2013.10.27 Last Calib.: 2013.10.27
 Start Time: 22:42:00 End Time: 04:32:39 Time On Btm:
 Time Off Btm: 2013.10.27 @ 01:36:55

TEST COMMENT: IF- Surface Blow Built to BOB in 1 1/4min
 IS- Weak Surface Blow Built to 4 3/4"
 FF- Surface Blow Built to BOB in 2 3/4min
 FS- Weak Surface Blow Built to 1 3/4"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2147.33	106.46	Open To Flow (1)
1	58.61	105.54	Open To Flow (2)
6	106.57	109.38	Shut-In(1)
21	856.30	113.77	End Shut-In(1)
22	122.41	113.27	Open To Flow (3)
37	260.14	130.33	Shut-In(2)
72	849.99	126.42	End Shut-In(2)
72	2032.78	126.74	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	OGCM 15%oil 40%g 45%m	0.30
124.00	MGCO 7%m 45%g 48%oil	0.96
434.00	MGCO 3%m 40%g 57%oil	6.09
250.00	GO 35%g 65%oil	3.51
0.00	742' of GIP	0.00

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Larson Engineering Inc

562 W. State Rd 4
Olmitz KS. 67564

ATTN: Vern Schrag

27-18s-28w Lane, KS

Shapland "A" # 1-27

Job Ticket: 49071

DST#: 5

Test Start: 2013.10.26 @ 22:42:00

GENERAL INFORMATION:

Formation: **LKC "L "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:24:55

Time Test Ended: 04:32:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 58

Interval: **4239.00 ft (KB) To 4251.00 ft (KB) (TVD)**

Total Depth: 4239.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2711.00 ft (KB)

2702.00 ft (CF)

KB to GR/CF: 9.00 ft

Serial #: **8355** Outside

Press @ Run Depth: psig @ 4241.00 ft (KB)

Start Date: 2013.10.26

End Date:

2013.10.27

Start Time: 22:42:05

End Time:

04:33:44

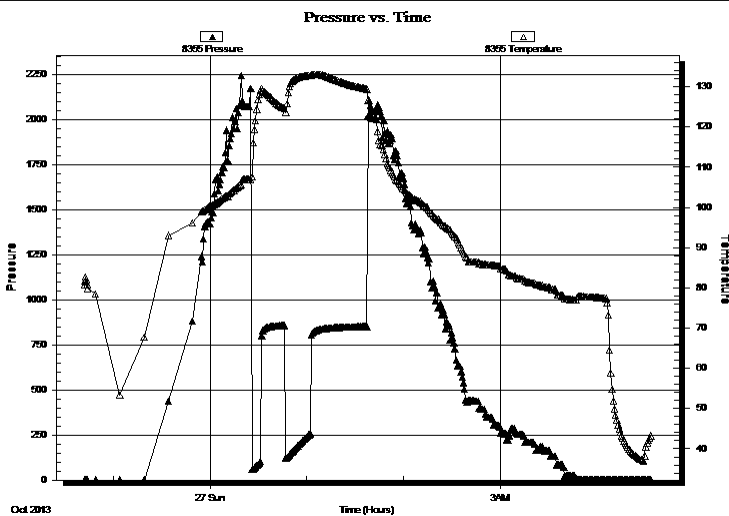
Capacity: 8000.00 psig

Last Calib.: 2013.10.27

Time On Btm:

Time Off Btm:

TEST COMMENT: IF- Surface Blow Built to BOB in 1 1/4 min
IS- Weak Surface Blow Built to 4 3/4"
FF- Surface Blow Built to BOB in 2 3/4 min
FS- Weak Surface Blow Built to 1 3/4"



PRESSURE SUMMARY

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

Length (ft)	Description	Volume (bbl)
62.00	OGCM 15%oil 40%g 45%m	0.30
124.00	MGCO 7%m 45%g 48%oil	0.96
434.00	MGCO 3%m 40%g 57%oil	6.09
250.00	GO 35%g 65%oil	3.51
0.00	742' of GIP	0.00

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering Inc

27-18s-28w Lane,KS

562 W. State Rd 4
Olmitz KS. 67564

Shapland "A" # 1-27

Job Ticket: 49071

DST#: 5

ATTN: Vern Schrag

Test Start: 2013.10.26 @ 22:42:00

Tool Information

Drill Pipe:	Length: 4076.00 ft	Diameter: 3.80 inches	Volume: 57.18 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 26000.00 lb
Drill Collar:	Length: 148.00 ft	Diameter: 2.25 inches	Volume: 0.73 bbl	Weight to Pull Loose: 12000.00 lb
			<u>Total Volume: 57.91 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	4239.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	12.00 ft			
Tool Length:	39.00 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			4213.00	
Shut In Tool	5.00			4218.00	
Hydraulic tool	5.00			4223.00	
Jars	5.00			4228.00	
Safety Joint	2.00			4230.00	
Packer	5.00			4235.00	27.00 Bottom Of Top Packer
Packer	4.00			4239.00	
Stubb	1.00			4240.00	
Perforations	1.00			4241.00	
Recorder	0.00	8355	Outside	4241.00	
Recorder	0.00	8674	Inside	4241.00	
Perforations	5.00			4246.00	
Bullnose	5.00			4251.00	12.00 Bottom Packers & Anchor

Total Tool Length: 39.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

27-18s-28w Lane,KS

562 W. State Rd 4
Olmitz KS. 67564

Shapland "A" # 1-27

Job Ticket: 49071

DST#: 5

ATTN: Vern Schrag

Test Start: 2013.10.26 @ 22:42:00

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: 57.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.94 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3400.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
62.00	OGCM 15%oil 40%g 45%m	0.305
124.00	MGCO 7%m 45%g 48%oil	0.956
434.00	MGCO 3%m 40%g 57%oil	6.088
250.00	GO 35%g 65%oil	3.507
0.00	742' of GIP	0.000

Total Length: 870.00 ft Total Volume: 10.856 bbf

Num Fluid Samples: 0

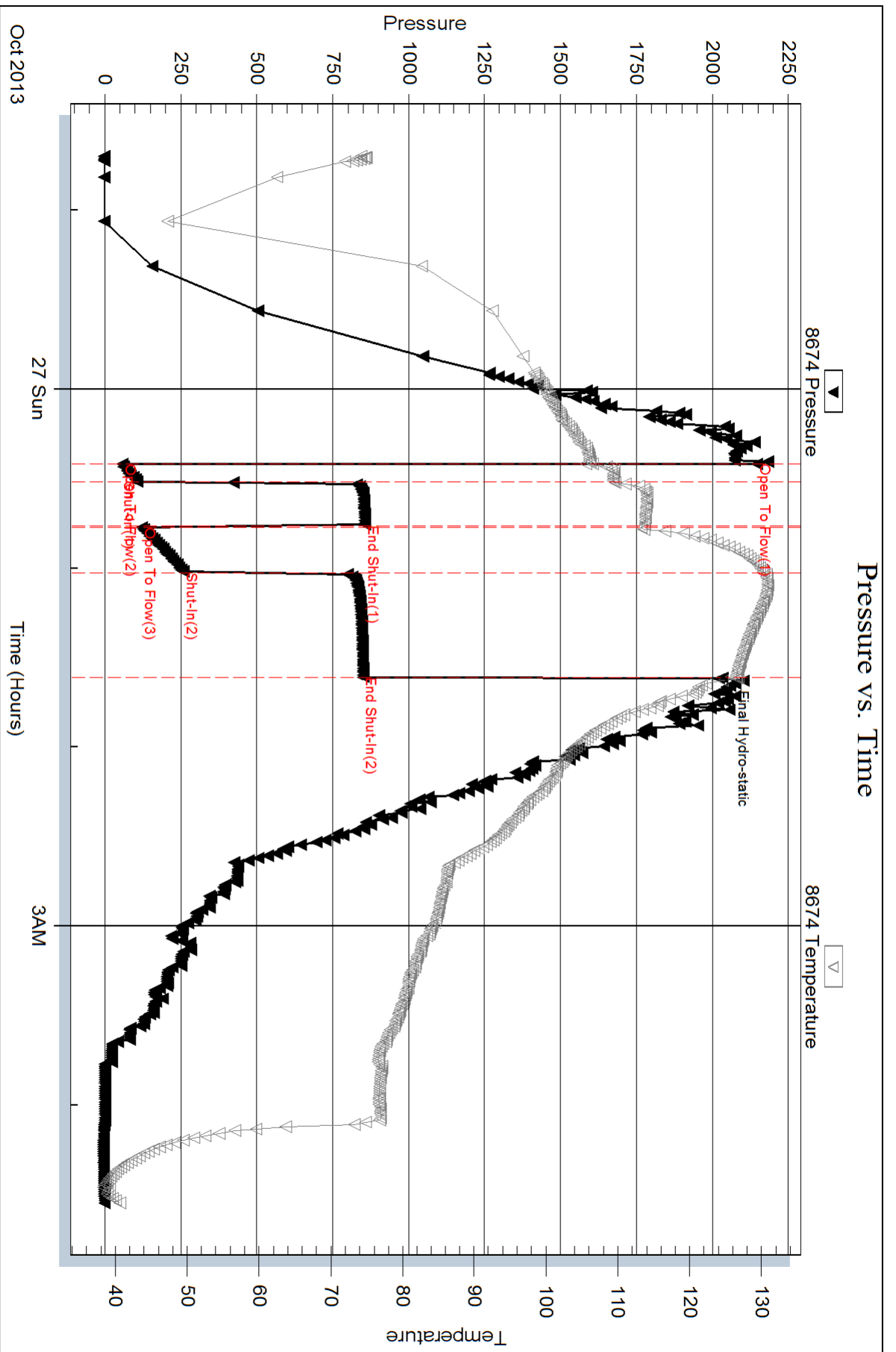
Num Gas Bombs: 0

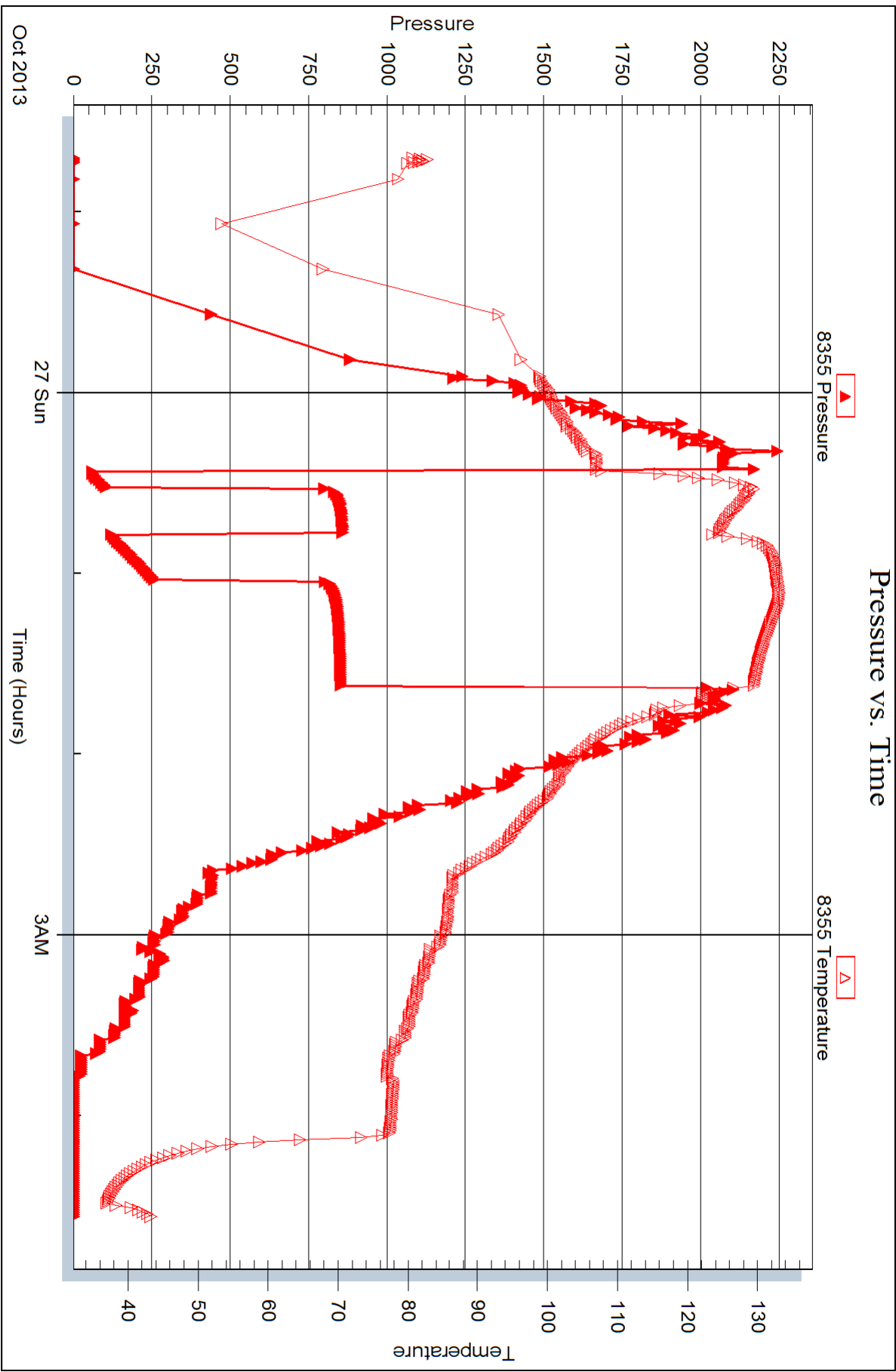
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API is 35 @ 40f = 37







DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W. State Rd 4
Olmitz KS. 67564

ATTN: Vern Schrag

Shapland "A" # 1-27

27-18s-28w Lane,KS

Start Date: 2013.10.28 @ 02:36:00

End Date: 2013.10.28 @ 07:28:24

Job Ticket #: 49072 DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.10.31 @ 13:33:30

Larson Engineering Inc

27-18s-28w Lane,KS

Shapland "A" # 1-27

DST # 6

Marmanton

2013.10.28



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

27-18s-28w Lane, KS
Shapland "A" # 1-27
 Job Ticket: 49072 **DST#: 6**
 Test Start: 2013.10.28 @ 02:36:00

GENERAL INFORMATION:

Formation: **Marmanton**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 04:33:40
 Time Test Ended: 07:28:24
 Interval: **4296.00 ft (KB) To 4390.00 ft (KB) (TVD)**
 Total Depth: 4390.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Will MacLean
 Unit No: 58
 Reference Elevations: 2711.00 ft (KB)
 2702.00 ft (CF)
 KB to GR/CF: 9.00 ft

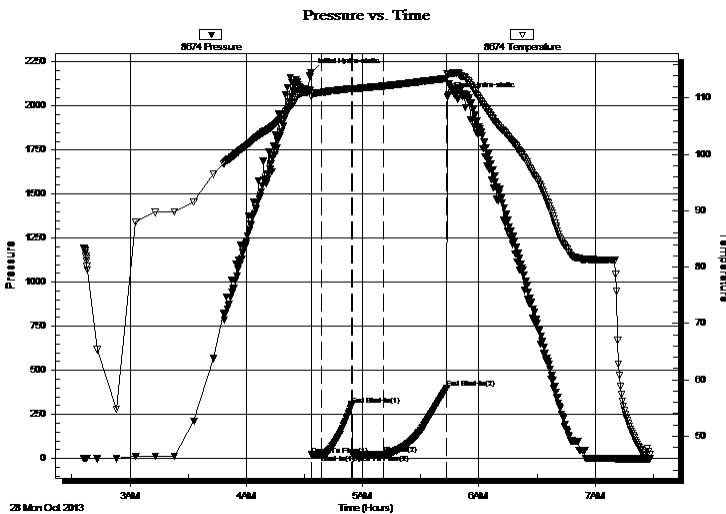
Serial #: 8674

Inside

Press @ Run Depth: 23.53 psig @ 4297.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.10.28 End Date: 2013.10.28 Last Calib.: 2013.10.28
 Start Time: 02:36:00 End Time: 07:28:24 Time On Btm: 2013.10.28 @ 04:33:25
 Time Off Btm: 2013.10.28 @ 05:43:40

TEST COMMENT: IF- Weak Surface Blow Built to 1/2"
 IS- No Blow
 FF- Weak Surface Blow
 FS- No Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2190.40	111.34	Initial Hydro-static
1	20.68	110.22	Open To Flow (1)
6	21.29	110.99	Shut-In(1)
21	304.64	111.68	End Shut-In(1)
22	21.97	111.51	Open To Flow (2)
38	23.53	112.11	Shut-In(2)
70	399.11	113.46	End Shut-In(2)
71	2051.06	114.26	Final Hydro-static

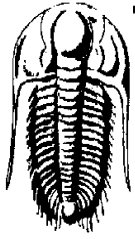
Recovery

Length (ft)	Description	Volume (bbl)
10.00	WCM 2%w 98%m with Skim of Oil on	T0.05

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

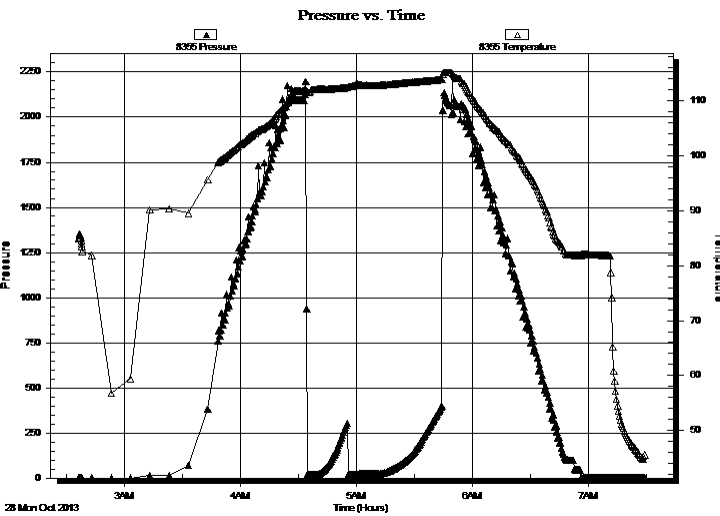
27-18s-28w Lane, KS
Shapland "A" # 1-27
 Job Ticket: 49072 **DST#: 6**
 Test Start: 2013.10.28 @ 02:36:00

GENERAL INFORMATION:

Formation: **Marmanton**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 04:33:40
 Time Test Ended: 07:28:24
 Interval: **4296.00 ft (KB) To 4390.00 ft (KB) (TVD)**
 Total Depth: 4390.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Will MacLean
 Unit No: 58
 Reference Elevations: 2711.00 ft (KB)
 2702.00 ft (CF)
 KB to GR/CF: 9.00 ft

Serial #: 8355 Outside
 Press @ Run Depth: psig @ 4297.00 ft (KB)
 Start Date: 2013.10.28 End Date: 2013.10.28
 Start Time: 02:36:05 End Time: 07:29:29
 Capacity: 8000.00 psig
 Last Calib.: 2013.10.28
 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF- Weak Surface Blow Built to 1/2"
 IS- No Blow
 FF- Weak Surface Blow
 FS- No Blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
10.00	WCM 2%w 98%w with Skim of Oil on	T0.05

* 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

27-18s-28w Lane, KS

562 W. State Rd 4
Olmitz KS. 67564

Shapland "A" # 1-27

Job Ticket: 49072

DST#: 6

ATTN: Vern Schrag

Test Start: 2013.10.28 @ 02:36:00

Tool Information

Drill Pipe:	Length: 4139.00 ft	Diameter: 3.80 inches	Volume: 58.06 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	28000.00 lb
Drill Collar:	Length: 148.00 ft	Diameter: 2.25 inches	Volume: 0.73 bbl	Weight to Pull Loose:	10000.00 lb
			<u>Total Volume: 58.79 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial	56000.00 lb
Depth to Top Packer:	4296.00 ft			Final	56000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	94.00 ft				
Tool Length:	121.00 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			4270.00	
Shut In Tool	5.00			4275.00	
Hydraulic tool	5.00			4280.00	
Jars	5.00			4285.00	
Safety Joint	2.00			4287.00	
Packer	5.00			4292.00	27.00 Bottom Of Top Packer
Packer	4.00			4296.00	
Stubb	1.00			4297.00	
Recorder	0.00	8355	Outside	4297.00	
Recorder	0.00	8674	Inside	4297.00	
Perforations	24.00			4321.00	
Change Over Sub	1.00			4322.00	
Drill Pipe	62.00			4384.00	
Change Over Sub	1.00			4385.00	
Bullnose	5.00			4390.00	94.00 Bottom Packers & Anchor

Total Tool Length: 121.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

27-18s-28w Lane, KS

562 W. State Rd 4
Olmitz KS. 67564

Shapland "A" # 1-27

Job Ticket: 49072

DST#: 6

ATTN: Vern Schrag

Test Start: 2013.10.28 @ 02:36:00

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: 7.96 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3400.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	WCM 2%w 98%m with Skim of Oil on Top	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0

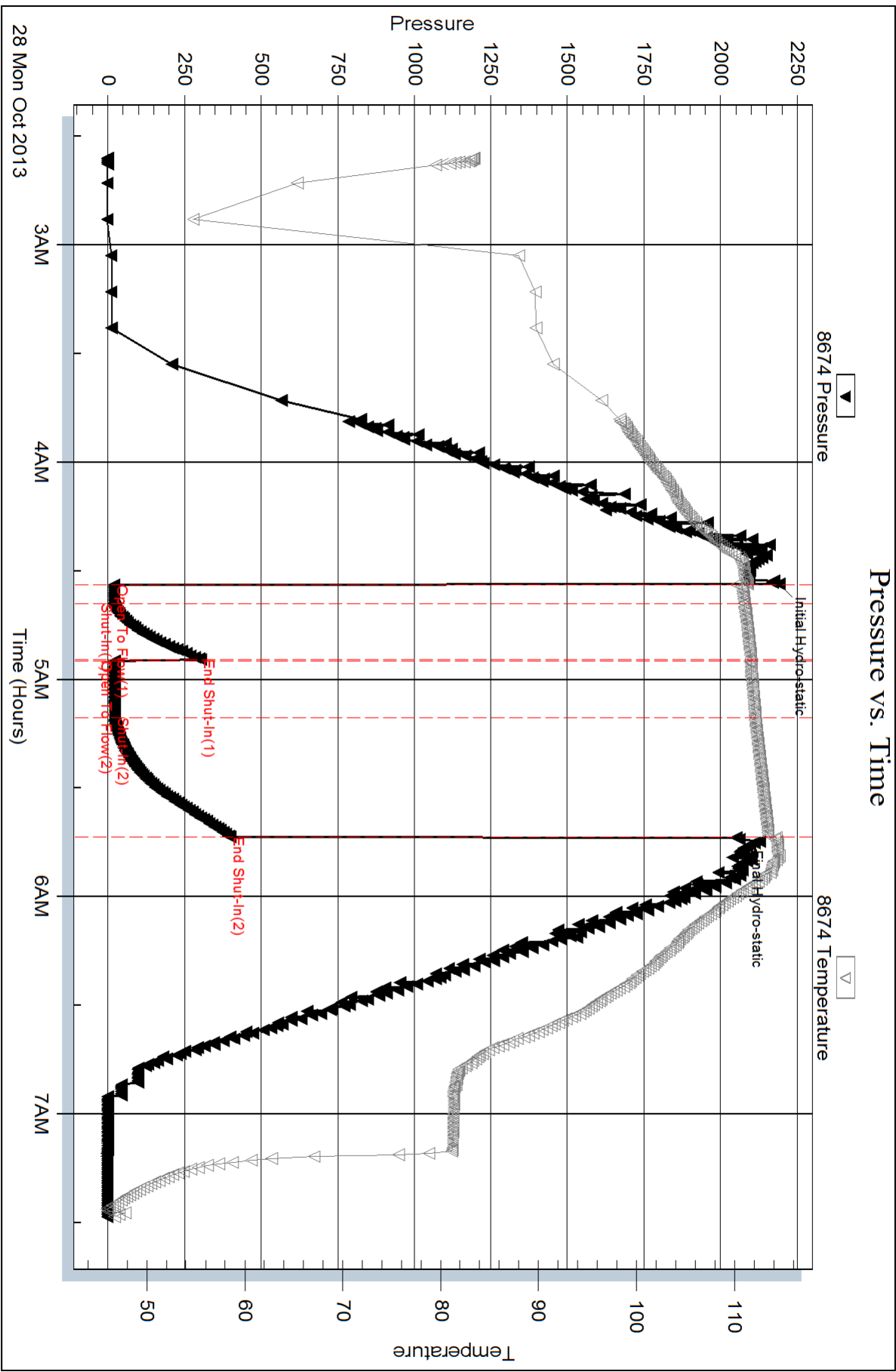
Num Gas Bombs: 0

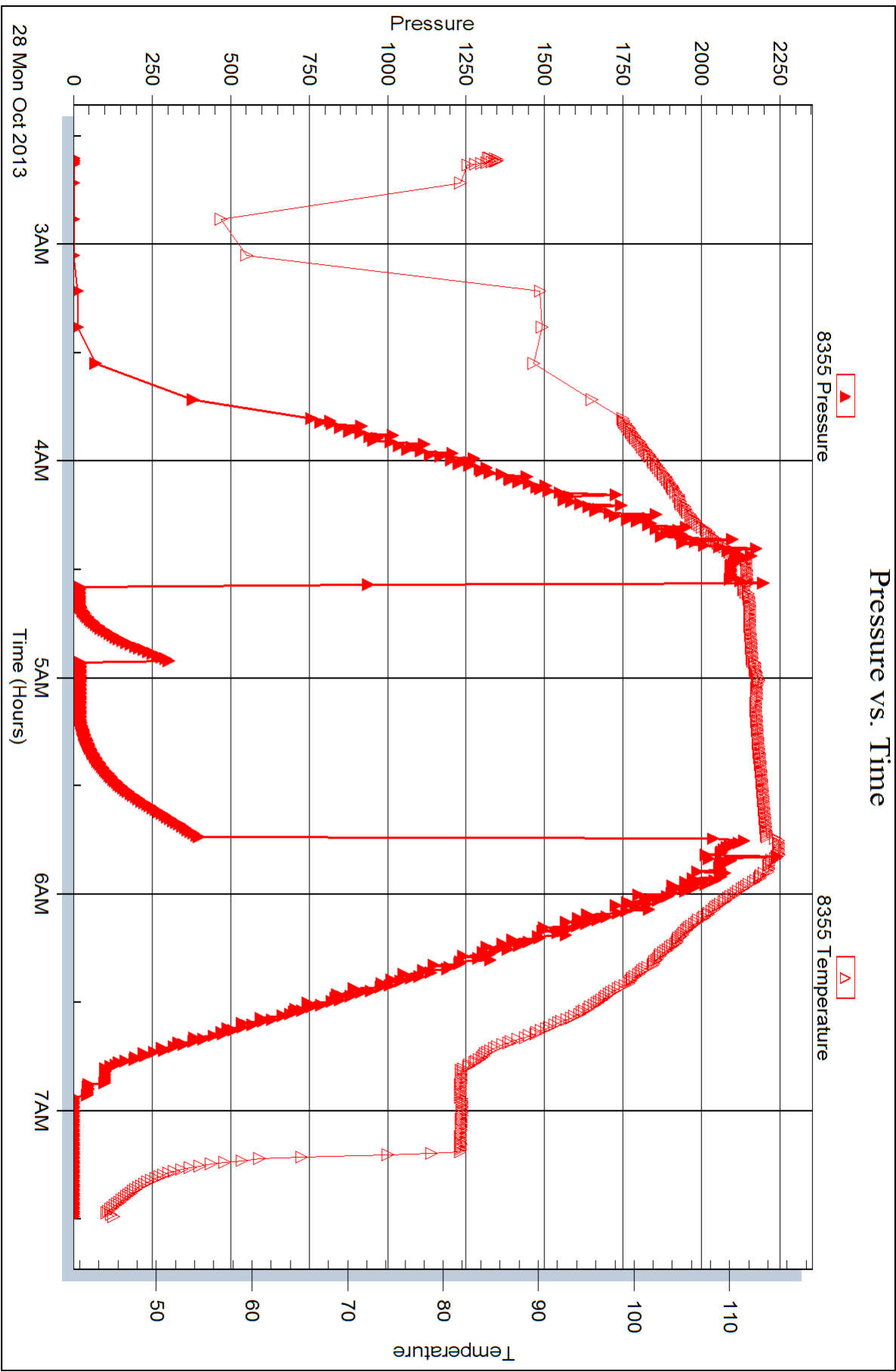
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W. State Rd 4
Olmitz KS. 67564

ATTN: Vern Schrag

Shapland "A" # 1-27

27-18s-28w Lane,KS

Start Date: 2013.10.29 @ 09:04:00

End Date: 2013.10.29 @ 14:39:54

Job Ticket #: 49073 DST #: 7

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.10.31 @ 13:32:46



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Larson Engineering Inc

27-18s-28w Lane, KS

562 W. State Rd 4
Olmitz KS. 67564

Shapland "A" # 1-27

ATTN: Vern Schrag

Job Ticket: 49073

DST#: 7

Test Start: 2013.10.29 @ 09:04:00

GENERAL INFORMATION:

Formation: **Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:58:40

Time Test Ended: 14:39:54

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 58

Interval: **4396.00 ft (KB) To 4535.00 ft (KB) (TVD)**

Reference Elevations: 2711.00 ft (KB)

Total Depth: 4535.00 ft (KB) (TVD)

2702.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 9.00 ft

Serial #: **8674**

Inside

Press @ Run Depth: 32.89 psig @ 4398.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.10.29

End Date:

2013.10.29

Last Calib.:

2013.10.29

Start Time: 09:04:00

End Time:

14:39:54

Time On Btm:

2013.10.29 @ 10:58:25

Time Off Btm:

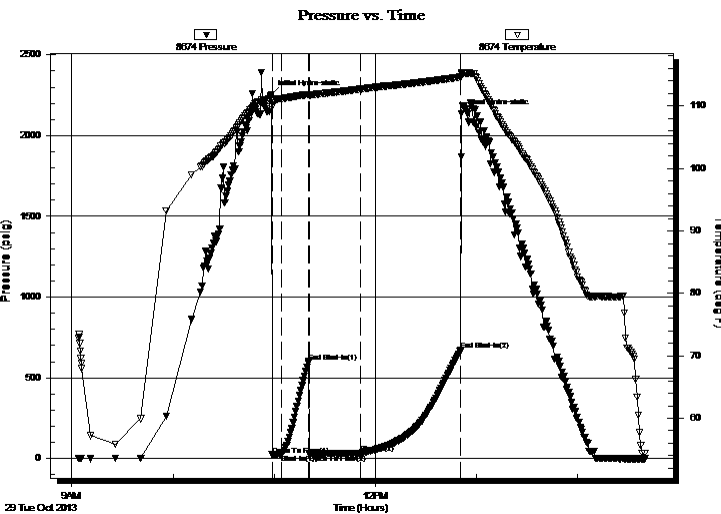
2013.10.29 @ 12:51:10

TEST COMMENT: IF- Weak Surface Blow Built to 3/4"

IS- No Blow

FF- Weak Surface

FS- No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2254.29	110.85	Initial Hydro-static
1	22.92	109.89	Open To Flow (1)
6	25.07	111.18	Shut-In(1)
22	600.02	111.85	End Shut-In(1)
23	27.48	111.63	Open To Flow (2)
53	32.89	112.68	Shut-In(2)
113	671.55	114.62	End Shut-In(2)
113	2134.02	115.11	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	100% m with Oil Spots	0.07

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Larson Engineering Inc

562 W. State Rd 4
Olmitz KS. 67564

ATTN: Vern Schrag

27-18s-28w Lane, KS

Shapland "A" # 1-27

Job Ticket: 49073

DST#: 7

Test Start: 2013.10.29 @ 09:04:00

GENERAL INFORMATION:

Formation: **Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:58:40

Time Test Ended: 14:39:54

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 58

Interval: 4396.00 ft (KB) To 4535.00 ft (KB) (TVD)

Reference Elevations: 2711.00 ft (KB)

Total Depth: 4535.00 ft (KB) (TVD)

2702.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 9.00 ft

Serial #: 8355 Outside

Press @ Run Depth: psig @ 4398.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.10.29

End Date:

2013.10.29

Last Calib.:

2013.10.29

Start Time: 09:04:05

End Time:

14:41:14

Time On Btm:

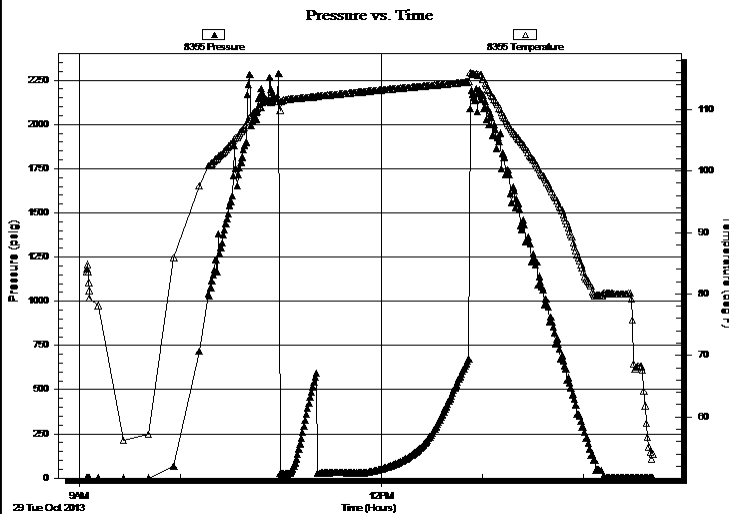
Time Off Btm:

TEST COMMENT: IF- Weak Surface Blow Built to 3/4"

IS- No Blow

FF- Weak Surface

FS- No Blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
15.00	100% m with Oil Spots	0.07

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering Inc

27-18s-28w Lane, KS

562 W. State Rd 4
Olmitz KS. 67564

Shapland "A" # 1-27

Job Ticket: 49073

DST#: 7

ATTN: Vern Schrag

Test Start: 2013.10.29 @ 09:04:00

Tool Information

Drill Pipe:	Length: 4233.00 ft	Diameter: 3.80 inches	Volume: 59.38 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 148.00 ft	Diameter: 2.25 inches	Volume: 0.73 bbl	Weight to Pull Loose: 14000.00 lb
			<u>Total Volume: 60.11 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4396.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	139.00 ft			
Tool Length:	166.00 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			4370.00	
Shut In Tool	5.00			4375.00	
Hydraulic tool	5.00			4380.00	
Jars	5.00			4385.00	
Safety Joint	2.00			4387.00	
Packer	5.00			4392.00	27.00 Bottom Of Top Packer
Packer	4.00			4396.00	
Stubb	1.00			4397.00	
Perforations	1.00			4398.00	
Recorder	0.00	8355	Outside	4398.00	
Recorder	0.00	8674	Inside	4398.00	
Perforations	5.00			4403.00	
Change Over Sub	1.00			4404.00	
Drill Pipe	125.00			4529.00	
Change Over Sub	1.00			4530.00	
Bullnose	5.00			4535.00	139.00 Bottom Packers & Anchor
Total Tool Length:	166.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

27-18s-28w Lane,KS

562 W. State Rd 4
Olmitz KS. 67564

Shapland "A" # 1-27

Job Ticket: 49073

DST#: 7

ATTN: Vern Schrag

Test Start: 2013.10.29 @ 09:04:00

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: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.59 in³

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
15.00	100% m with Oil Spots	0.074

Total Length: 15.00 ft Total Volume: 0.074 bbl

Num Fluid Samples: 0

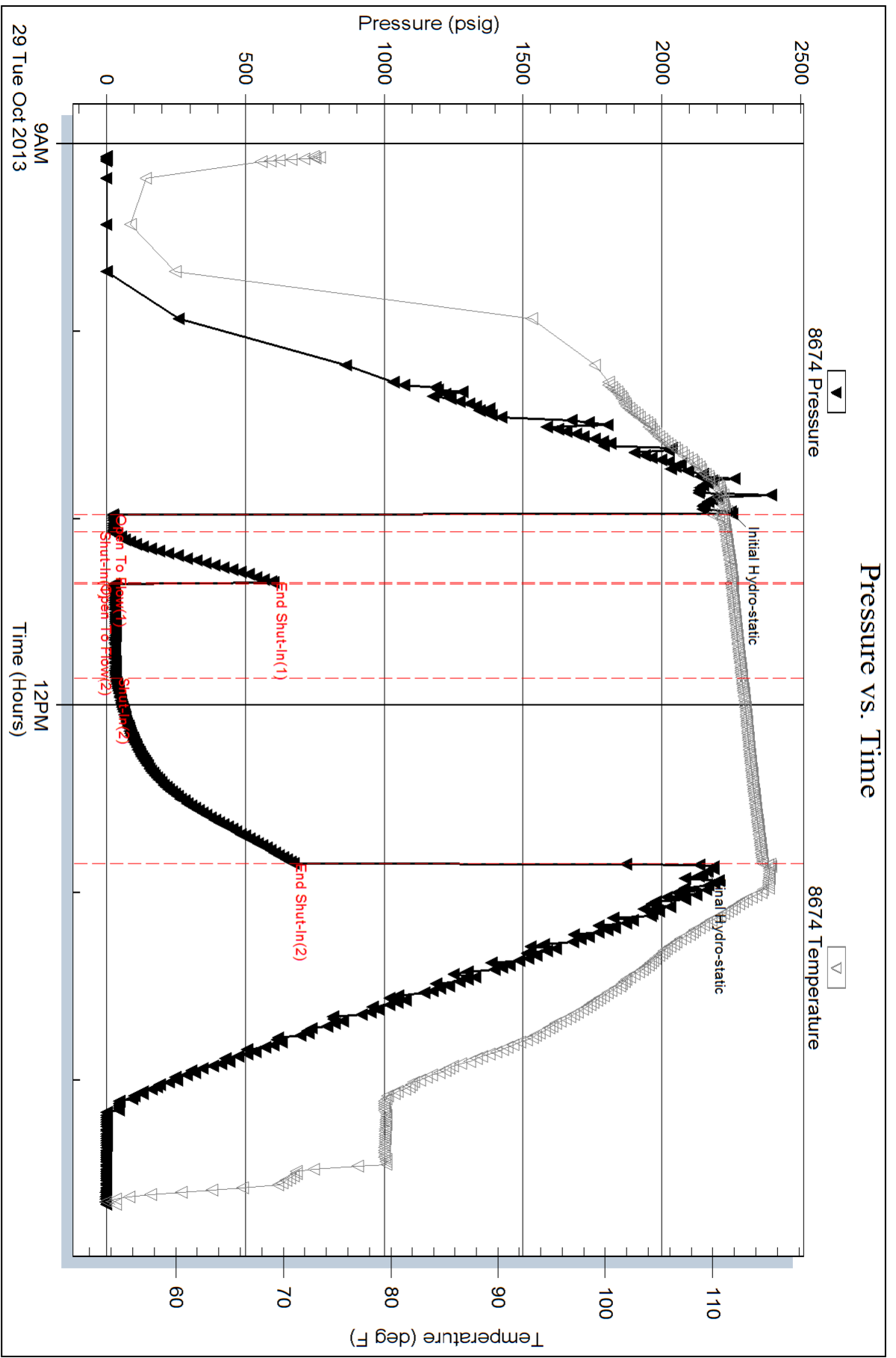
Num Gas Bombs: 0

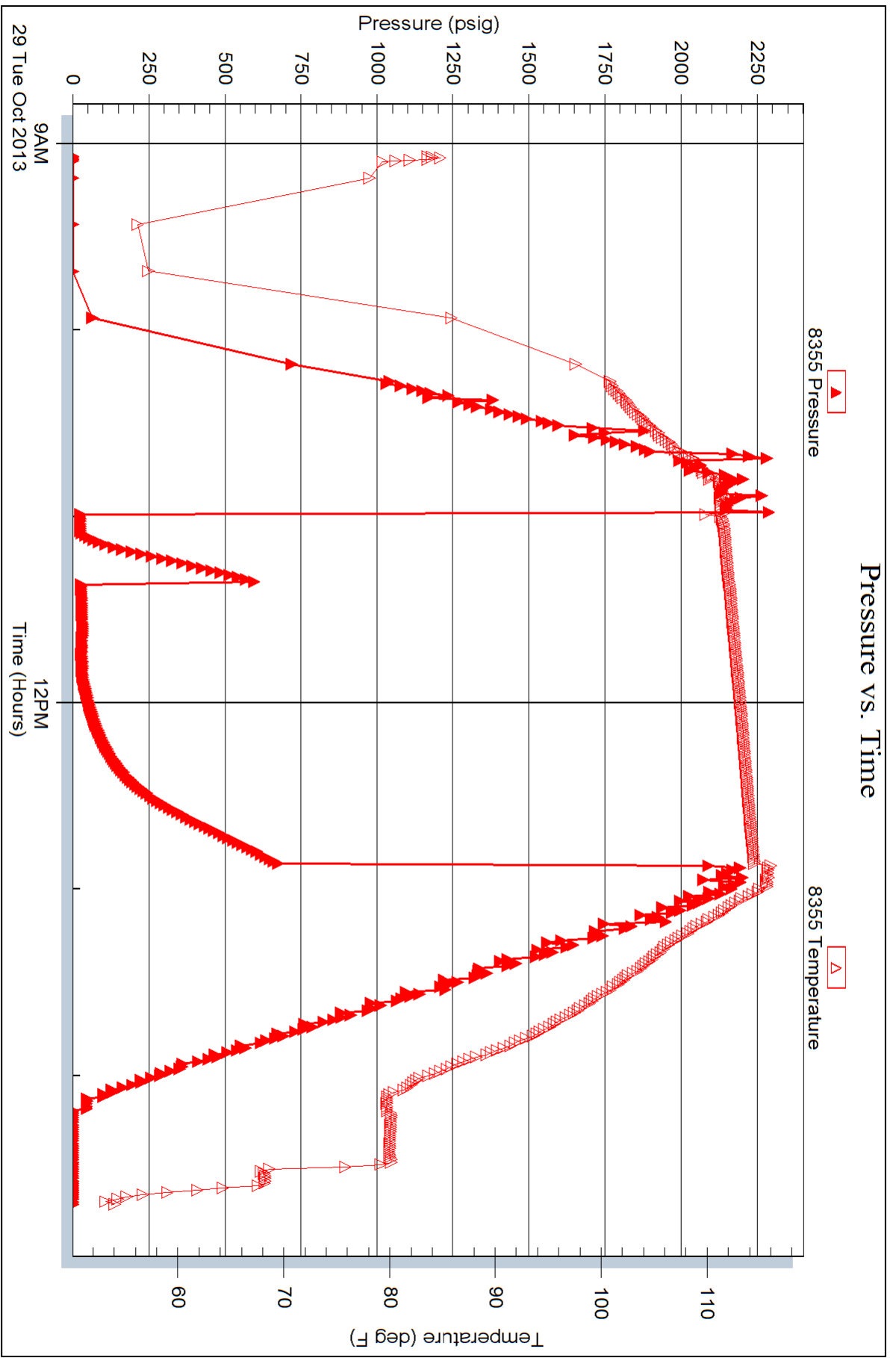
Serial #:

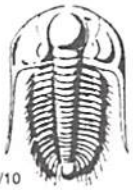
Laboratory Name:

Laboratory Location:

Recovery Comments:







TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49067

Well Name & No. Shapland "A" #1-27 Test No. DST #1 Date 10-24-13
 Company Larson Engineering Inc Elevation 2711 KB 2702 GL
 Address 562 W. State Rd 4 Olmitz KS 67564
 Co. Rep / Geo. Vern Schrag Rig H-D Rig #3
 Location: Sec. 27 Twp. 18s Rge. 28W Co. Lane State KS

Interval Tested 4100-4130 Zone Tested LRC "H"
 Anchor Length 30 Drill Pipe Run 3951 Mud Wt. 9.1
 Top Packer Depth 4096 Drill Collars Run 148 Vis 58
 Bottom Packer Depth 4100 Wt. Pipe Run 0 WL 7.6
 Total Depth 4130 Chlorides 2000 ppm System LCM 116
 Blow Description IF- Weak Surface Blow Built to 1/4"
ISI- No Blow
FF- No Blow
FSI- No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>Mud with o.i 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	Feet of	%gas	%oil	%water	%mud

Rec Total 2 BHT 114 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

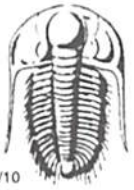
(A) Initial Hydrostatic 1954 Test 1250 T-On Location 13:26
 (B) First Initial Flow 17 Jars 250 T-Started 13:54
 (C) First Final Flow 18 Safety Joint 75 T-Open 15:51
 (D) Initial Shut-In 764 Circ Sub NIC T-Pulled 16:59
 (E) Second Initial Flow 17 Hourly Standby _____ T-Out 18:42
 (F) Second Final Flow 19 Mileage 58 R/T 89.90 Comments _____
 (G) Final Shut-In 1009 Sampler _____
 (H) Final Hydrostatic 2006 Straddle _____
 Shale Packer _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

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

Sub Total 1664.90

Approved By Vernon 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. 49068

Well Name & No. Shapland "A" #1-27 Test No. DST #2 Date 10-25-13
 Company Larson Engineering Inc Elevation 2711 KB 2702 GL
 Address 562 W. State Rd 4 Olmitz KS 67564
 Co. Rep / Geo. Vern Schrag Rig H-D Rig #3
 Location: Sec. 27 Twp. 18S Rge. 28W Co. Lane State KS

Interval Tested 4173-4187 Zone Tested LRC "J"
 Anchor Length 14 Drill Pipe Run 4014 Mud Wt. 9.1
 Top Packer Depth 4169 Drill Collars Run 148 Vis 58
 Bottom Packer Depth 4173 Wt. Pipe Run 0 WL 7.6
 Total Depth 4187 Chlorides 2000 ppm System LCM 116
 Blow Description IF- Wear Surface Blow Built to 5"
ISI- No Blow
FF- Wear Surface Blow Built to BOB in 14 min
FSI- Wear Surface Blow in 8 min Built to 1/2"

Rec	Feet of	%gas	%oil	%water	%mud
15	60	4	96		
37	OGWCMO	4	49	14	33
62	OGWCM	9	6	29	56
62	OMCW		5	65	30
62	OMCW		2	86	12

Rec Total 238 BHT 126 Gravity 37 API RW 233 @ 58 °F Chlorides 35000 ppm

(A) Initial Hydrostatic 2148 Test 1250 T-On Location 5:10
 (B) First Initial Flow 24 Jars 250 T-Started 5:40
 (C) First Final Flow 67 Safety Joint 75 T-Open 7:26
 (D) Initial Shut-In 627 Circ Sub MC T-Pulled 8:35
 (E) Second Initial Flow 72 Hourly Standby _____ T-Out 10:53
 (F) Second Final Flow 113 Mileage 58 RIT 89.90 Comments _____
 (G) Final Shut-In 624 Sampler _____ API is 36e soft = 37
 (H) Final Hydrostatic 1990 Straddle _____ 134' of GIP
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Initial Open 5 Shale Packer _____
 Initial Shut-In 15 Extra Packer _____
 Final Flow 15 Extra Recorder _____ Sub Total 0
 Final Shut-In 30 Day Standby _____ Total 1664.90
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1664.90

Approved By Vern C Schrag Our Representative Will Mar

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49069

Well Name & No. Shapland A #1-27 Test No. DST #3 Date 10-25-13
 Company Larson Engineering Inc Elevation 2711 KB 2702 GL
 Address 562 W. State Rd 4 Olmitz KS 67564
 Co. Rep / Geo. Vern Schrag Rig H-D Rig #3
 Location: Sec. 27 Twp. 18S Rge. 26W Co. Lane State KS

Interval Tested 4201 - 4215 Zone Tested LRC "K"
 Anchor Length 14 Drill Pipe Run 4044 Mud Wt. 9.2
 Top Packer Depth 4197 Drill Collars Run 148 Vis 56
 Bottom Packer Depth 4201 Wt. Pipe Run 0 WL 7.6
 Total Depth 4215 Chlorides 2000 ppm System LCM 116
 Blow Description IF - Weak Surface Blow Built to 1/2"
ISI - No Blow
FF - Weak Surface Blow Built to 1 1/2"
FSI - No Blow

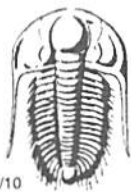
Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>Oil</u>	<u>100</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>29</u>	<u>WOCM</u>	<u>6</u>	<u>5</u>	<u>2</u>	<u>87</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 30 BHT 116 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2168</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>18:20</u>
(B) First Initial Flow <u>17</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>18:50</u>
(C) First Final Flow <u>20</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>20:33</u>
(D) Initial Shut-In <u>554</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIC</u>	T-Pulled <u>22:30</u>
(E) Second Initial Flow <u>21</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>00:19</u>
(F) Second Final Flow <u>34</u>	<input checked="" type="checkbox"/> Mileage <u>58 RIT</u> 89.90	Comments _____
(G) Final Shut-In <u>553</u>	<input type="checkbox"/> Sampler	_____
(H) Final Hydrostatic <u>1984</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>5</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>15</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1664.90</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't _____
	Sub Total <u>1664.90</u>	

Approved By Vern C. Schrag Our Representative Phil M...

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49070

Well Name & No. Shepland "A" #1-27 Test No. DST #4 Date 10-26-13
 Company Larson Engineering Inc Elevation 2711 KB 2702 GL
 Address 562 W. State Rd 4 Olmitz KS 67564
 Co. Rep / Geo. Vern Schrag Rig H-D Rig #3
 Location: Sec. 27 Twp. 18s Rge. 28W Co. Lane State KS

Interval Tested 4214-4220 Zone Tested LRC "K"
 Anchor Length 6 Drill Pipe Run 4045 Mud Wt. 9.2
 Top Packer Depth 4210 Drill Collars Run 148 Vis 56
 Bottom Packer Depth 4214 Wt. Pipe Run 0 WL 7.6
 Total Depth 4220 Chlorides 2000 ppm System LCM 115
 Blow Description IF- Weak Surface Blow Built to 3 3/4"
ISI- No Blow
FF- Weak Surface Blow Built to 7 1/4"
FST- No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>125</u>	<u>MCW with SK in at Old on Top</u>			<u>65%</u>	<u>35%</u>
<u>MCW 124</u>	<u>MCW</u>		<u>91</u>	<u>9</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 249 BHT 126 Gravity _____ API RW 186 @ 60 °F Chlorides 42,200 ppm

(A) Initial Hydrostatic <u>2183</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>6:20</u>
(B) First Initial Flow <u>32</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>6:46</u>
(C) First Final Flow <u>54</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>8:34</u>
(D) Initial Shut-In <u>544</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIC</u>	T-Pulled <u>10:33</u>
(E) Second Initial Flow <u>56</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>12:27</u>
(F) Second Final Flow <u>128</u>	<input checked="" type="checkbox"/> Mileage <u>58 R/T</u> 89.90	Comments _____
(G) Final Shut-In <u>539</u>	<input type="checkbox"/> Sampler	<input type="checkbox"/> Ruined Shale Packer
(H) Final Hydrostatic <u>2033</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Packer
Initial Open <u>5</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>15</u>	<input type="checkbox"/> Extra Packer	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	Total <u>1664.90</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	MP/DST Disc't _____
	<input type="checkbox"/> Accessibility	
	Sub Total <u>1664.90</u>	

Approved By Vern Schrag Our Representative Will M...

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49071

Well Name & No. Shapland "A" #1-27 Test No. DST #5 Date 10-26-13
 Company Larson Engineering Inc Elevation 2711 KB 2702 GL
 Address 562 W. State Rd. 4 Olmitz KS 67564
 Co. Rep / Geo. Vern Schrag Rig H-D Rig #3
 Location: Sec. 27 Twp. 18s Rge. 28w Co. Lane State KS

Interval Tested 4239-4251 Zone Tested LRC "L"
 Anchor Length 12 Drill Pipe Run 4076 Mud Wt. 9.3
 Top Packer Depth 4235 Drill Collars Run 198 Vis 57
 Bottom Packer Depth 4239 Wt. Pipe Run 0 WL 8.0
 Total Depth 4251 Chlorides 3400 ppm System LCM 116

Blow Description IF- Surface Blow to BOB in 1 1/4 min
ISI- Weak Surface Built to 4 3/4"
FF- Surface Blow Built to BOB in 2 3/4 min
FSI- Weak Surface Blow Built to 1 3/4"

Rec	Feet of	%gas	%oil	%water	%mud
<u>250</u>	<u>G-O</u>				
<u>434</u>	<u>MO-CO</u>	<u>40%</u>	<u>57%</u>		<u>3%</u>
<u>124</u>	<u>MO-CO</u>	<u>45%</u>	<u>48%</u>		<u>7%</u>
<u>62</u>	<u>OG-CM</u>	<u>40%</u>	<u>15%</u>		<u>45%</u>
Rec	Feet of <u>742' of G-IP</u>	%gas	%oil	%water	%mud

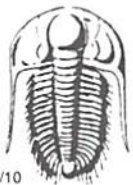
Rec Total _____ BHT 126 Gravity 37 API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2147 Test 1250 T-On Location 22:12
 (B) First Initial Flow 58 Jars 250 T-Started 22:42
 (C) First Final Flow 106 Safety Joint 75 T-Open 00:24
 (D) Initial Shut-In 856 Circ Sub T-Pulled 1:36
 (E) Second Initial Flow 122 Hourly Standby T-Out 4:32
 (F) Second Final Flow 260 Mileage 58 RIT 89.90 Comments API is 35 e 407 = 37
 (G) Final Shut-In 849 Sampler Ruined Shale Packer
 (H) Final Hydrostatic 2032 Straddle Ruined Packer
 Shale Packer Extra Copies
 Extra Packer Sub Total 0
 Extra Recorder Total 1664.90
 Day Standby MP/DST Disc't _____
 Accessibility
 Sub Total 1664.90

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

Approved By Vern Schrag Our Representative Vin

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49072

Well Name & No. Shapland "A" #1-27 Test No. DST #6 Date 10-28-13
 Company Larson Engineering Inc Elevation 2711 KB 2702 GL
 Address 562 W. State Rd 4 Olmitz KS 67564
 Co. Rep / Geo. Vern Schrag Rig H-D Rig #3
 Location: Sec. 27 Twp. 18S Rge. 28W Co. Lane State KS

Interval Tested 4296 - 4390 Zone Tested Marmanton
 Anchor Length 94 Drill Pipe Run 4139 Mud Wt. 9.2
 Top Packer Depth 4292 Drill Collars Run 148 Vis 61
 Bottom Packer Depth 4296 Wt. Pipe Run 0 WL 8.0
 Total Depth 4390 Chlorides 3400 ppm System LCM 1/6
 Blow Description IF - Weak Surface Blow Built to 1/2"
ISJ - No Blow
FF - Weak Surface Blow
FST - No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>WCM with a skin of oil on top</u>			<u>2</u>	<u>98</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 2 BHT 114 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2190</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>2:02</u>
(B) First Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>2:36</u>
(C) First Final Flow <u>21</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>4:33</u>
(D) Initial Shut-In <u>304</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>5:43</u>
(E) Second Initial Flow <u>21</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>7:28</u>
(F) Second Final Flow <u>23</u>	<input checked="" type="checkbox"/> Mileage <u>58 RIT</u> 89.90	Comments _____
(G) Final Shut-In <u>399</u>	<input type="checkbox"/> Sampler _____	_____
(H) Final Hydrostatic <u>2051</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Open <u>5</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Packer _____
Initial Shut-In <u>15</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
Final Flow <u>15</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby _____	Total <u>1664.90</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1664.90</u>	

Approved By Vern Schrag Our Representative Will M...

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49073

Well Name & No. Shapland "A" #1-27 Test No. DST #17 Date 10-29-13
 Company Larson Engineering Inc Elevation 2711 KB 2702 GL
 Address 562 W. State Rd 4 Olmitz KS 67564
 Co. Rep / Geo. Vern Schrag Rig H-D Rig #3
 Location: Sec. 27 Twp. 18S Rge. 28W Co. Lane State KS

Interval Tested 4396-4535 Zone Tested Cherokee
 Anchor Length 139 Drill Pipe Run 4233 Mud Wt. 9.2
 Top Packer Depth 4392 Drill Collars Run 148 Vis 62
 Bottom Packer Depth 4396 Wt. Pipe Run 0 WL 7.6
 Total Depth 4535 Chlorides 3000 ppm System LCM 1
 Blow Description IF- Weak Surface Blow Built to 30"
ISI- No Blow
FF- Weak Surface Blow Built to 14"
FSI- No Blow

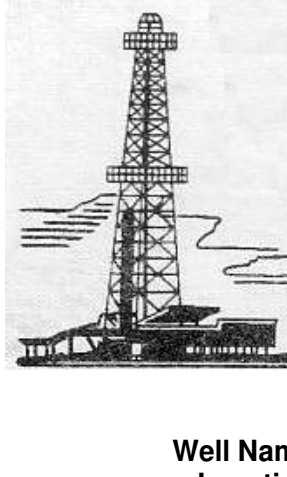
Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>Mud with Oil Spots</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 15 BHT 115 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2254</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>8:02</u>
(B) First Initial Flow <u>22</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>9:04</u>
(C) First Final Flow <u>25</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>10:58</u>
(D) Initial Shut-In <u>600</u>	<input checked="" type="checkbox"/> Circ Sub <u>W/C</u>	T-Pulled <u>12:51</u>
(E) Second Initial Flow <u>27</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>14:39</u>
(F) Second Final Flow <u>32</u>	<input checked="" type="checkbox"/> Mileage <u>58 / RTT</u> 89.90	Comments _____
(G) Final Shut-In <u>671</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2134</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<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>1664.90</u>
Final Flow <u>30</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't _____
Final Shut-In <u>60</u>	Sub Total <u>1664.90</u>	

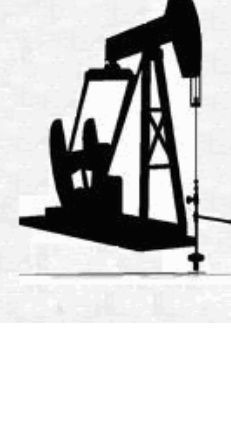
Approved By Vern Schrag Our Representative Nim Min

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. SCHRAAG
CONSULTANT GEOLOGIST



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

Well Name: Shapland A #1-27
Location: SW SW NE NW SEC. 27-18s-28w
Licence Number: API: 15-101-22465
Spud Date: October 19, 2013
Surface Coordinates: 1190' FNL 1414' FWL

Region: Lane Co., KS
Drilling Completed: October 30, 2013

Bottom Hole Coordinates:
Ground Elevation (ft): 2704' K.B. Elevation (ft): 2711'
Logged Interval (ft): 3800' To: RTD Total Depth (ft): 4605'
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
Olmits, KS 67564-8561

DRILLING CONTRACTOR:

H. D. Drilling, LLC, Rig #3

DP 4.5" XH (16.6#); DC 6.25" x 2.25" x 560', Kelly 40.30', Tool Joint 5.5"; Bit: JZ-HA20-Q, 7-7/8"; jets 15-15-14; rpm 80, WOB 35k; Kelly Bushing 7' above ground level; LeWayne "Lew" Tresner (tool pusher).

CASING:

Set 8-5/8" casing at 256'
Set 5-1/2" prod. casing

CIRCULATION SYSTEM:

Continental EMSCO D-300, duplex, 6 x 14, 60-62 spm, Chemical, premix, displaced 3389 to 3407'; earth pits, Morgan Mud, Inc., David 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, Jerrod Long & J. Hendrickson, Log total depth (4608') was three feet long to rotary total depth (4605').

DRILL STEM TEST #1:

LKC "H-zone": Interval: 4100-4130 (30'): Blow: weak incr 1/4" IFP, no RB, no blow FFP, no RB; Times: 5-15-30; Recovery: 2' mud w/oil spots; (100%M); Pressures: HP: 1954-2006, SIP: 764-1009, FP: 17-18, 17-19; BHT: 114 F; Trilobite Testing, Inc., Scott City, KS, Will MacLean.

DRILL STEM TEST #2:

LKC "J-zone": Interval: 4173-4187 (14'): Blow: weak incr 5" IFP, no RB, weak incr BOB 14 min FFP, 1/2" RB FSP; Times: 5-15-30; Recovery: 238' TF, 137' GIP, 15' GO (4%G, 96%O, 37 grav.), 37' MCO (4%G, 49%O, 14%W, 33%M), 62' OWCM (9%G, 6%O, 29%W, 56%M), 62' OMCW (5%O, 65%W, 30%M), 62' OMCW (2%O, 86%W, 12%M, Rw 0.233 at 58 F, chlorides 35k); Pressures: HP: 2148-1990, SIP: 627-624, FP: 24-67, 72-113; BHT: 126 F; Trilobite Testing, Inc., Scott City, KS, Will MacLean.

DRILL STEM TEST #3:

LKC "K-zone": Interval: 4201-4215 (14'): Blow: weak incr 1/2" IFP, no RB, weak incr 1-1/2" FFP, no RB; Times: 5-15-30; Recovery: 1' oil (100%O), 29' WOGCM (6%G, 5%O, 2%W, 87%M); Pressures: HP: 2168-1984, SIP: 554-553, FP: 17-20, 21-34; BHT: 116 F; Trilobite Testing, Inc., Scott City, KS, Will MacLean.

DRILL STEM TEST #4:

LKC "K-zone": Interval: 4314-4220 (6'): Blow: weak incr 3-3/4" IFP, no RB, weak incr 7-1/4" FFP, no RB; Times: 5-15-30-60; Recovery: 249' TF: 125' MW (65%W, 35%M), 124' MW (91%W, 9%M, Rw 0.186 at 60 F, chlorides 42k); Pressures: HP: 2183-2033, SIP: 544-539, FP: 32-54, 56-128; BHT: 126 F; Trilobite Testing, Inc., Scott City, KS, Will MacLean.

DRILL STEM TEST #5:

LKC Middle Creek & "L-zone": Interval: 4239-4251 (12'): Blow: BOB 1-1/4 min IFP, RB 4-3/4" ISIP, BOB 2-3/4 min FFP, RB 1-3/4" FSIP; Times: 5-15-30-60; Recovery: 742' GIP, 870' TF: 250' GO (35%G, 65%O, 37 grav.), 434' MGO (40%G, 57%O, 3%M), 124' MGO (45%G, 48%O, 7%M), 62' OGCM (40%G, 15%O, 45%M); Pressures: HP: 2147-2032, SIP: 856-849, FP: 58-106, 122-260; BHT: 126 F; Trilobite Testing, Inc., Scott City, KS, Will MacLean.

DRILL STEM TEST #6:

Marmaton: Interval: 4296-4390 (94'): Blow: weak incr 1/2" IFP, no RB, weak surf blow FFP, no RB; Times: 5-15-30-60; Recovery: 10' mud w/show oil on top (2%W, 98%M); Pressures: HP: 2190-2051, SIP: 304-399, FP: 20-21, 21-23; BHT: 114 F; Trilobite Testing, Inc., Scott City, KS, Will MacLean.

DRILL STEM TEST #7:

Pawnee thru Cherokee: Interval: 4396-4535 (139'): Blow: weak incr 3/4" IFP, no RB, weak incr 1/4" FFP, no RB; Times: 5-15-30-60; Recovery: 15' mud w/oil spots (100%M); Pressures: HP: 2254-2134, SIP: 600-671, FP: 22-25, 27-32; BHT: 115 F; Trilobite Testing, Inc., Scott City, KS, Will MacLean.

